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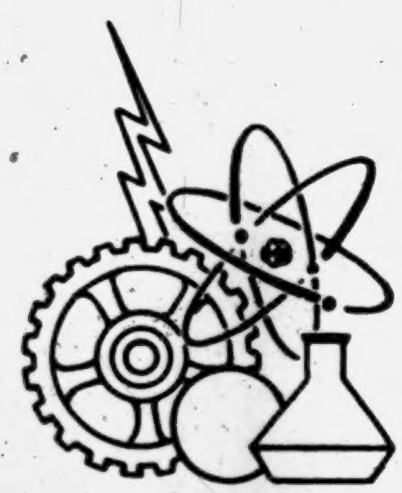
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Official Gazette

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

July 7, 1964 • Volume 804 • Number 1



PUBLISHED WEEKLY BY AUTHORITY OF CONGRESS

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 7, 1964 Volume 804 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1964

Examiner affirmed	267
Examiner affirmed in part	54
Examiner reversed	80
Total	401

Adjudicated Patents

(Ct. Cl.) Adams Patent No. 2,322,210 (136—100), for battery. Claim 1 *Held* valid and infringed. *Adams* v. *United States*, 330 F.2d 622; 141 USPQ 361.

(D.C. Ohio) Prutzman Patent No. 2,585,273 (219—719), for rear view mirrors. Claims 1 to 6 *Held* invalid. *Gilbreath* v. *Beach*, 228 F. Supp. 359; 140 USPQ 555.

(D.C. Ohio) Prutzman Patent No. 2,708,086 (248—205), for rear view mirrors. Claim 1 *Held* invalid. *Id.*

(D.C. Mass) Turner Patent No. 2,779,985 (24—72.5), for floating holder for blankets, *Held* invalid and not infringed. *Turner* v. *Daniels*, 228 F. Supp. 426; 140 USPQ 649.

Classification of References Listed in Patents

In patents issued on applications which are allowed on or after August 3, 1964, the classification of each of the references cited by the Examiner will be given in the list of references appearing in the printed patent. While this procedure is not fully equivalent to a listing of all the classes and subclasses searched by the Examiner, it will serve to indicate where the most pertinent art was found, and in view of this fact, no further consideration will be given, at least for the present, to the proposal to list the field of search in printed patents.

EDWARD J. BRENNER,
Commissioner of Patents.

June 12, 1964.

Listing of Prior Art Cited by Applicants

Pursuant to the Commissioner's Notice of May 19, 1964 (802 O.G. 601), and under the conditions set forth therein the citation of references submitted by applicants, attorneys, or agents will be printed in the patent of all applications allowed after August 1, 1964, unless a specific request to the contrary is received. The submitted list of prior art will be printed under a separate category from the listing of references cited by the Examiner, except that references cited by the Examiner and included in the submitted citations will not appear in the separate category of the printed patent.

Only citations submitted prior to the closing of prosecution of the application before the Examiner will be considered for listing in the printed patent.

No reference citation will be printed unless the supplied information includes the name, number, and date for domestic patents; the country, number, and date for foreign patents; and the title, date and page numbers for publications.

The submitted list will not be removed from the file when applicant so requests unless the citations have been filed in a separate paper.

EDWARD J. BRENNER,
Commissioner.

June 22, 1964.

Patents Available for Licensing

In accordance with the provision of 10 C.F.R. § 81.10–81.12, the U.S. Atomic Energy Commission is prepared to grant nonexclusive, revocable, royalty-free licenses under the following patents.

Applications for licenses should be addressed to the Assistant General Cousel for Patents, U.S. Atomic Energy Commission, Washington, D.C. 20545, indicating the State of incorporation, if a business firm, or citizenship, if an individual.

3,123,165.	3– 3–64.	Friction-Free Balance.
3,123,328.	3– 3–64.	Support structure.
3,123,435.	3– 3–64.	Improved Process of Preparing Uranium carbide.
3,123,436.	3– 3–64.	Preparation of PuF_3.
3,123,532.	3– 3–64.	Control Rod Positioned by Fluid Flow Through the Rod Channel.
3,123,533.	3– 3–64.	Pressure Relief Device for Neutronic Reactors.
3,123,535.	3– 3–64.	Device for Production of Nuclear Energy from U^{233}.
3,123,862.	3–10–64.	Ultra-High Pressure Device.
3,124,172.	3–10–64.	Fractionating Column Product Collector Control.
3,124,513.	3–10–64.	Control Rod Drive.
3,124,514.	3–10–64.	Core Reflector for Nuclear Reactor.
3,124,538.	3–10–64.	Method for Conversion of Cesium Alum to Radiation Source Material.
3,124,625.	3–10–64.	Graphite Production Utilizing Uranyl Nitrate Hexahydrate.
3,125,409.	3–17–64.	The Recovery of Uranium From Gas Mixture.
3,125,492.	3–17–64.	Plasma Heating and Confining System.
3,125,497.	3–17–64.	Purification Process for Uranium Carbide.
3,125,678.	3–17–64.	Fast Neutron Dosimeter for High Temperature Operation by Measurement of the Amount of Cesium 137 Formed From a Thorium Wire.

New Applications Received During May 1964

Patents	7,158
Designs	446
Plant Patents	6
Reissues	10
Total	7,620

Issue—July 7, 1964

Patents	870—	No. 3,139,622 to No. 3,140,491, incl.
Designs	56—	No. 198,560 to No. 198,615, incl.
Plant Patents	6—	No. 2,416 to No. 2,421, incl.
Reissues	5—	No. 25,611 to No. 25,615, incl.
Total	937	

3,125,760.	3–17–64.	Fuel Locating and Suspending System for Neutronic Reactor Core.
3,126,251.	3–24–64.	Plutonium Recovery From Neutron-Bombarded Uranium Fuel.
3,127,763.	4– 7–64.	Compact Cascade Impacts.
3,127,872.	4– 7–64.	Experimental Animal Watering Device.
3,128,234.	4– 7–64.	Modular Core Units for a Neutronic Reactor.
3,128,405.	4– 7–64.	Extractor for High Energy Charged Particles.
3,129,329.	4–14–64.	Fast Neutron Spectrometer Using Spaced Semiconductors for Measuring Total Energy of Neutrons Captured.
3,130,315.	4–21–64.	Method and Apparatus for Producing and Analyzing Polarized Gamma Radiation.
3,130,304.	4–21–64.	Deep Water Isotopic Current Analyser.
3,130,306.	4–21–64.	Nuclear Radiation Dosimeter Using Composite Filter and a Single Element Filter.
3,130,307.	4–21–64.	Neutron Flux Intensity Detection.
3,130,491.	4–28–64.	Bonding Method.
3,130,841.	4–28–64.	Article Handling Device.
3,131,139.	4–28–64.	Radiation Induced Vulcanization of Rubber Latex.
3,132,076.	5– 5–64.	Nuclear Reactor.
3,132,996.	5–12–64.	Contra-Rotating Plasma System.
3,132,997.	5–12–64.	Homogeneous Reactor Fueled With Suspended Particulate in the Coolant.
3,133,248.	5–12–64.	Electrometer Utilizing A.-C. and D.-C. Voltage Balancing.
3,133,867.	5–19–64.	Neutronic Reactor Fuel Element.
3,134,019.	5–19–64.	Radiation Detecting With Shutter Glass.

REVISED EXAMINING PROCEDURES EFFECTIVE JULY 1, 1964

On June 22, 1964, the memorandum reproduced below was distributed to the Patent Examining Corps. It is presented here for the information of all applicants and their representatives.

Optimum Examining Procedure—Memorandum No. 4

In the last few years, examining procedures have been extensively revised for the purpose of reducing to a minimum the total examining time necessary to bring each application to an equitable conclusion.

Under the broad title of compact prosecution, the guiding principle has been cooperative effort by Office and all applicants and patent practitioners to do everything essential to bring every case to an equitable conclusion in the minimum total time.

On June 8, 1964, Commissioner Edward J. Brenner in an address to the Examining Corps outlined further revisions of procedure which will become effective July 1, 1964, designed to reduce further both the processing time needed for each application and its total time of pendency in the Patent Office.

This Optimum Examining Procedure Memorandum No. 4 specifies the procedures by which the new policies will be effectuated. Issued to all employees in the Examining Corps on June 22, 1964, it will be published in an early issue of the OFFICIAL GAZETTE for the information of the public.

By direction of the Commissioner, the procedures of this Memorandum override and replace any contrary directives either in the Manual of Patent Examining Procedure, or in OEP Memoranda No. 1, No. 2 and No. 3 previously issued.

It is hoped that a completely revised issue of the MPEP may be possible soon.

(1) The first major change under Commissioner Brenner's program concerns the priority of examination for pending applications. Like the "third action special" program followed since 1961, it is directed toward disposing of older cases more quickly, but goes much farther.

Hereafter, each Examiner will give priority to that application in his docket, whether amended or new, which has the *oldest effective U.S. filing date*. Except as rare circumstances may justify Group Supervisors in granting individual exceptions, this basic policy applies to all applications.

Whether a given application has an effective U.S. filing date earlier than its actual filing date is determined by whether the disclosure of a parent case adequately supports any claim or claims of the later case. Examiners are responsible for making this determination. If at any time an Examiner determines that the "effective filing date" status of any application differs from what the records show, he should so inform the Clerk of Group, who should promptly amend the records to show the correct status, with the date of correction.

The new order of examination for each Examiner will continue top priority for those special cases having a fixed 60-day due date, such as Examiner's Answers and Decisions on Motions. Most other cases still remaining in the "special" category (for example, reissues, interference cases, cases made special by petition, cases ready for final conclusion, etc.) will continue in this category, with the first effective U.S. filing date normally controlling priority.

(2) The second major change involves the "more thorough first action" feature of compact prosecution. The heavy emphasis upon this more thorough first action is continued.

In addition, however, policy now emphasizes that the Examiner wherever possible must point out allowable claims or claimed subject matter or ways in which claims might be amended to make them allowable.

Further, while interviews before a first response are normally discouraged, an Examiner's suggestion of allowable subject matter may justify his indicating the possible desirability of an earlier interview to accelerate early agreement on allowable claims.

The first search should be such that the Examiner need not ordinarily make a second search of the prior art, unless necessitated by amendments to the claims by the applicant in the first response, except to check to determine whether any reference which would appear to be substantially more pertinent than the prior art cited in the first Office action has become available subsequent to the initial prior art search. It should cover the invention as described and claimed, including the inventive concepts toward which the claims appear to be directed. It should not be extended merely to add immaterial variants.

While attorneys note favorably a higher proportion of better first actions now being received, they comment also that too many superficial or poorly phrased first actions leave them still at sea about the Examiner's full attitude.

It is of highest importance, therefore, that this and later actions cover completely the questions of major importance, namely (1) whether there is adequate disclosure to support a patent, and (2) whether any inventive subject matter present is defined adequately to support a legally enforceable contract.

Intensive effort by individual Examiners and by those in supervisory position to aid and direct Examiners in adopting the most effective and rapid examining procedures for each action is urgently needed. The Commissioner has stated that success in our drive for improvement will hinge on "the capability and willingness of each Examiner to accept new methods and ideas in practice and procedure, and to wholeheartedly implement new concepts."

Shortening the time of prosecution following the first action is the major objective of the third and fourth major changes.

(3) The third change requires that, except in rare circumstances where the Group Supervisors may authorize exceptions, *all* second actions on the merits shall be *final*.

Current experience indicates that with the full cooperation of the applicant, this measure can be adopted without sacrificing any of applicant's rights.

For foreign applicants, the practice explained in Item 2 of OEP Memorandum No. 3, published April 14, 1964, 801 O.G. 267, gives full protection for those who comply with U.S. Patent Office procedural requirements.

Attorneys who have cooperatively revised their own procedures to incorporate in their first responses all changes of whatever character which they consider necessary to make each application completely ready for issue or appeal, regardless of what the Examiner's next action may be, have found this practice extremely effective in expediting cases to early conclusion.

To offset any increased rigor of prosecution due to earlier final rejection, Examiners are authorized to grant one interview after final rejection.

While the Office will continue rigorous enforcement of Rule 116, citation of new art by the Examiner in a final rejection will obviate further showing under Rule 116(b) for any amendment necessitated by the new art.

(4) The fourth change aids in shortening prosecution time by routine setting of *four-month shortened statutory periods for response* in nearly all first and subsequent rejections.

An exception will be made where a new reference is cited as a ground of rejection in the second Office action on the merits, the applicant in such cases being permitted the full statutory period of six months from the date of the Office action, except that where the new reference is necessitated by an amendment to the claims in applicant's first response, the normal four-month period will apply.

A related change directs that in case of an action consisting of only a requirement for restriction or in which the only rejection is for multiplicity, the period for response shall be set to expire two months from the date of the Office action.

Extension of time for reply will be governed by the provisions of Rule 136(b).

For the guidance of attorneys in knowing when their cases will be reached for action, the dates cited in the OFFICIAL GAZETTE for each Group will consist of (1) effective U.S.

filing date of the *oldest* case awaiting action in any Examiner's docket, and (2) date of the oldest case awaiting *first* action.

It is apparent from the above stated priority of examination that only the old cases already under amendment will be acted upon for some months to come. It is hoped that thereafter, as a response to an action in any case is received, the case may be acted upon within the next month.

(5) The fifth major change affects interference practice. Effective July 1, 1964, interferences will not be declared between pending applications if there is a difference of more than three months in the effective filing dates of the oldest and next oldest applications, in the case of inventions of a simple character, or a difference of more than six months in the effective filing dates of the applications in other cases. If an interference is declared, all applications having the same interfering subject matter should be included.

June 22, 1964.

H. B. WHITMORE,
Superintendent of the Examining Corps.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7- 5-62	7- 3-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Aso; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	10-29-62	11- 5-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Ozo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1- 4-63	1- 2-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7- 2-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	8-28-62	10-19-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-11-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	8-29-62	7-13-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11- 5-62	11- 6-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	9-18-62	9- 5-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-29-62	11-19-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	11- 8-62	10- 1-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	5- 2-62	5- 9-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	9-13-62	9-11-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9- 5-62	9- 4-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	12- 5-62	12- 3-62

CONDITION OF PATENT APPLICATIONS AS OF MAY 31, 1964

Total number of pending applications (excluding Designs)	210, 122
Total number of Design applications pending	6, 073
Total number of applications awaiting action (excluding Designs)	125, 460
Total number of Design applications awaiting action	2, 002
Date of oldest new application awaiting action	May 2, 1962
Date of oldest amended application awaiting action	May 9, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,423,076 to 2,424,957, inclusive
Plant Patents	Numbers 740 to 780, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner... Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	5- 6-63	5- 7-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner..... Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	1- 9-63	1-11-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner..... Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10- 3-62	9-19-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner. Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-18-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner..... Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12- 5-62	10- 3-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner..... Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	12-31-62	2-15-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Supervisory Examiner..... Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	2- 5-63	1-21-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner..... Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	2-25-63	3- 5-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner..... Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	4-30-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner..... Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	2-15-63	1-29-63
PHYSICS, GROUP 430—R. L. EVANS, Supervisory Examiner..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11- 1-62	11-20-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner..... Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-11-63	4-10-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner..... Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-25-63	2-18-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner..... Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-28-63	3-25-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner..... Printing; Typewriters; Stationery; Material Treatment.	11-16-62	12-12-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner..... Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	3- 4-63	3- 4-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner..... Industrial Arts; Household, Personal and Fine Arts.	12-16-63	12-19-63

U.S. Court of Customs and Patent Appeals

IN RE LESLIE E. SODERQUIST

No. 7112. Decided February 6, 1964

[51 CCPA —; 326 F.2d 1016; 140 USPQ 387]

1. PATENTABILITY—COMBINING REFERENCES—OBVIOUSNESS.

"It is not necessary in a combination rejection that the structure of one reference be substituted bodily in that of the reference with which it is combined. • • • Rather, the question is whether what applicant has done would be obvious from the references in combination."

2. SAME—CLAIMS—UNDEFINED FEATURES CANNOT BE READ INTO CLAIMS.

"We do not find any patentable significance in appellant's attempt to distinguish over George on the ground that the segments of his own holding or gripping means move outwardly to engage the inner surfaces of the articles being handled rather than inwardly. As appellant concedes, the claims do not recite that the holding means is adapted to engage the inner surface of a tire band rather than the outer surface thereof. The mere fact that the specification does disclose engagement of the inner surface of the band is not controlling since undefined features disclosed in a pending application cannot be read into the claims to distinguish from the prior art."

3. SAME—PARTICULAR SUBJECT MATTER—"PRESS FOR SHAPING AND CURING PNEUMATIC TIRES."

The refusal of certain claims in an application entitled "Press for Shaping and Curing Pneumatic Tires," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 851,859.

AFFIRMED.

Mack D. Cook II, Hamilton & Cook, for appellant.

Clarence W. Moore (*J. F. Nakamura* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 23 and 24 of appellant's application, Serial No. 851,859, filed November 9, 1959, for a "Press for Shaping and Curing Pneumatic Tires." Six claims stand allowed.

Appellant's application relates to tire presses for shaping and curing unvulcanized tire bands. It discloses in association with the press certain apparatus for loading and positioning tire bands therein. The press has a lower mold section mounted on a base and a separable upper mold section carried on a movable cross head for raising the upper mold section to open the press. The loading and positioning apparatus includes a loading platform for receiving a ring-like tire band on its edge, a boom arm extending laterally from the upper portion of a vertical upright mast which projects above the press, and a mandrel suspended from the end of the boom arm for lifting the tire band off the platform and depositing it in the lower mold of the press. A stationary downwardly-extending piston rod, held in the end of the boom arm by a collar, extends into a cylinder which is vertically movable thereon and carries the mandrel so that it can be made to raise a tire band from the loading platform and lower it into the lower mold section. The boom arm is rotated horizontally about the upright mast by a pneumatically operated piston rod and

cylinder to carry the tire band rearwardly from raised position above the loading platform to a position over the lower mold section. The mandrel is in the nature of an expansible chuck having four segments, and includes a piston in the lower end of the cylinder for moving the segments either radially outwardly to grip the inner surface of the tire band or inwardly to release the tire band. Electrical switches are arranged to operate when elements of the loading device are in proper positions to actuate suitable master controllers and valve control means to control such functions as lowering the mandrel into a tire band and expanding of the mandrel to grip the band.

Claim 23 is representative and reads:

23. Apparatus for loading and positioning of unvulcanized tire bands into a shaping and curing press, said press having separable upper and lower mold sections which when open are adapted to receive an uncured band in registry with a mold section and having at least one stationary upright member thereon besides a mold section, comprising, a rigid boom arm mounted on and extending laterally from said upright member, a collar on said boom arm, means to rotate said boom arm into said press so that said collar is aligned axially with a mold section, a vertical shaft supported by said collar, band holding means at the lower end of said shaft, piston and cylinder means located coaxially of said shaft and between said shaft and said band holding means, and means to introduce pressure fluid into said piston and cylinder means to move said band holding means up and down a vertical axis defined by said shaft and to release a band engaged by said holding means onto a mold section.

The references relied on by the Board are:

Heintz, 2,318,310, May 4, 1943.
George, 2,807,125, September 24, 1957.

Heintz relates to a tire retreading vulcanizer, including a tire molding press provided with loading and unloading apparatus. The press includes fixed lower and movable upper heated press heads or mold sections hinged together with the latter adapted to be raised and lowered by piston and cylinder mechanism operated by fluid pressure. The loading and unloading apparatus comprises an articulated arm, pivoted at one end of an upright post projecting from the upper mold section, and three hooks suspended from the other end of the arm for engaging the lower flange of a rim on which a tire to be retreaded is mounted. The upright post is maintained vertical during the swinging movement of the upper mold through a parallelogram linkage. With the hooks in engagement therewith, the tire is raised from the floor, or other platform adjacent the forward side of the vulcanizer, by operating the piston and cylinder mechanism to open the mold until the tire clears the front edge of the lower mold. The tire is then manually swung rearwardly to a position over the lower mold by manually folding the articulated arm, after which the tire is deposited in the lower mold section by lowering the upper mold section a relatively slight amount.

George discloses a device for picking up bottles from one conveyor, carrying them to a position above a second conveyor, and depositing them in a crate on the second conveyor. That device includes two spaced transfer heads suspended at diametrically opposite locations from a cradle rotatably mounted on a vertical shaft projecting upwardly between the conveyors. Piston and cylinder mechanisms, operated by compressed air, are adapted for alternately rotating the cradle in 180° steps around the upright shaft to move the transfer heads in a circular path from one conveyor to the other. The transfer heads include means for gripping bottles on the first conveyor

and releasing them in a crate on the second conveyor. An arrangement of pistons and cylinders, actuated by compressed air, is provided for lowering and raising the transfer heads simultaneously when they are in position over the respective conveyors, and for operating the gripping mechanism on the heads. The arrangement for each head includes an upper vertical cylinder having its lower end attached to the bottom plate of the cradle, a piston in said cylinder, a piston rod extending downwardly through the lower end of the cylinder, an intermediate cylinder having a piston therein attached to the aforementioned piston rod, and a lowermost cylinder and piston mechanism on the transfer head. The upper piston and cylinder mechanism controls lowering of the transfer head to the conveyor receiving the bottles. The intermediate mechanism controls lowering of the head to a gripping position above the conveyor supplying the bottles. The latter conveyor is at a higher level than the other, thus requires less vertical movement of the head. In each case, the lowermost piston and cylinder mechanism controls operation of the head between gripping and releasing conditions.

The appealed claims stand rejected as unpatentable over Heintz in view of George, the Board concluding there was no reversible error in the Examiner's holding that the George transfer device would be an obvious alternative to the transfer device of Heintz, and further finding no way in which the claims distinguish patentably over the structure resulting from a combination of the references.

Appellant contends that the combination of the Heintz and George patents is impróper, and that the structure resulting from such combination does not meet the claims on appeal.

On the first point, we note that Heintz discloses a transfer mechanism for lifting a tire from a support, raising the tire and moving it to a position above a lower vulcanizer mold, then lowering it into the mold. That mechanism includes pneumatic operating means for aiding in the transfer operation and is deecribed as for use with power-operated molding presses such as those "for retreading pneumatic tires and performing analogous operations." Although George shows his power-operated apparatus adapted to control the lifting, moving and lowering of bottles, he states it is not restricted to the transfer of bottles but may be used for the transfer of other uniform articles. It seems clear to us, as it did to the Examiner and Board, that those patents together suggest using the George type transfer device for loading and positioning tires in the power-operated molding press for retreading tires shown in Heintz as well as in power-operated presses for performing "analogous operations," as referred to by Heintz, including shaping and curing of tire bands. On that issue, appellant argues that:

> The George reference, if a reference properly combined with Heintz, could only provide *a tire carcass loader which is carried by a laterally shiftable upper mold head.*

We do not agree with that contention. [1] It is not necessary in a combination rejection that the structure of one reference be substituted bodily in that of the reference with which it is combined. *In re Billingsley*, 47 CCPA 1108, 279 F.2d 689, 126 USPQ 370; *In re Mason*, 44 CCPA 727, 240 F.2d 362, 112 USPQ 328. Rather, the question is whether what applicant has done would be obvious from the references in combination. Here we are convinced that it would be obvious to one skilled in the art to mount the upright support member of the

George device on the floor or a stationary base, as shown in that patent, rather than on a movable mold.

The facts here clearly distinguish from those in *In re Shaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326, cited by appellant. There an electronic amplifier employed in a titration system operated in a different manner than the electro-mechanical amplifier which it replaced in the prior art system to solve a problem "which was not recognized in the prior art," and produced "a new, unobvious, and unexpected result." On that basis a rejection on the combination of a reference showing the old system and a reference disclosing the electronic amplifier itself was held improper. Here there is no showing of any such unobvious cooperation or result. We think, instead, that the situation is correctly analyzed by the Board:

> Appellant has not presented in the appealed claims any structural or cooperative relationship between his article transfer device and the press, other than the press being a passive receiver of the transferred article. Hence, if there is a problem in the art of positioning the transfer device relative to the press, the claims do not offer any solution thereof. However, we discern no such problem in proportioning the transfer mechanism and the opening movement of the press such that each could carry out its normal function free of mechanical interference that would exceed the skill expected of one who designs presses and transfer mechanisms therefor.

Appellant also urges that the gripping head of George, "if a 'band holding means,' could only be elements having some form of *radially inwardly movable segments adapted to frictionally engage the outer wall or surface of the band*." He further states:

> • • • True, the claims do not recite that the segments • • • [of the band holding means] are radially outwardly movable and adapted to frictionally engage the inner surfaces of an uncured tire band • • •. But, the specification does • • •. And, the rejected claims, in calling for "piston and cylinder means located coaxially of said shaft *and between said shaft* and said band holding means," recite a structure which is operative to move the segments • • • radially outwardly, away from the shaft • • •.

[2] We do not find any patentable significance in appellant's attempt to distinguish over George on the ground that the segments of his own holding or gripping means move outwardly to engage the inner surfaces of the articles being handled rather than inwardly. As appellant concedes, the claims do not recite that the holding means is adapted to engage the inner surface of a tire band rather than the outer surface thereof. The mere fact that the specification does disclose engagement of the inner surface of the band is not controlling since undefined features disclosed in a pending application cannot be read into the claims to distinguish from the prior art. *In re Richards*, 38 CCPA 900, 187 F.2d 643, 89 USPQ 64.

It is further noted that in oral argument before the court, appellant emphatically urged that claims 23 and 24 are not limited to a holding device which grips the inside of a band. In fact, he specifically stated that he desired the appealed claims, in addition to those already allowed, because the appealed claims cover constructions where the holder engages the outside of tire bands as well as constructions where the holder engages the inside of the bands.

The Board listed the recitations in claim 24 and specifically applied elements of the George patent thereto. Referring to that action, appellant makes the following statement in his brief:

> The Board's reconstruction of the George patent • • • completely overlooks the "*between said shaft* and said band holding means" limitation of the rejected claims.

The Solicitor answers that contention as follows:

> * * * The Board's failure to refer to that limitation is not thought to warrant the conclusion that it was overlooked by the Board. The Board obviously discussed the transfer apparatus in terms of the most significant limitations claimed and evidently saw no patentable significance in the limitation alleged to have been overlooked. Had appellant called upon the Board to consider the limitation, the Board might well have pointed out that the term "between" defines "an intermediate position in relation to two other objects" (Webster's Third New International Dictionary), that appellant discloses a piston and cylinder mechanism 65 * * *, of which only the lower end of the cylinder is concentrically between the shaft 35 and band holding means 31, and that George's lower piston and cylinder mechanism 41 or 41*a* * * * occupies an intermediate position vertically in relation to the upper portion of piston rod 43 and the article holding means. * * *

The piston and cylinder mechanisms 41 and 41*a* referred to by the Solicitor are the intermediately positioned piston and cylinder means which are operable by pressure fluid to control vertical movement of the gripping means or mandrel at the supply conveyor disposed at the higher level. The lowermost piston and cylinder mechanisms of George, located between the intermediate piston and cylinder mechanisms and the respective gripping means, is operated by fluid pressure to cause release of the gripping means. Consequently, we do not find the recitation that the claimed "piston and cylinder means" are "between said shaft and said band holding means" to patentably distinguish over the prior art.

The Board found that claim 24 "adds to claim 23 only a platform for supporting the band and a means to 'indicate' when a band is on the platform and the boom has been rotated to thereafter allow the band holding means to descend so as to engage a band on the platform," and concluded that those recitations do not patentably differentiate from the references. We think that conclusion is clearly correct. Indeed, appellant does not argue that the additional recitations in claim 24 render that claim patentable if claim 23 is not patentable, although he did urge orally that, if claim 23 is patentable claim 24 also is.

[3] The decision is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE ELVIN G. BOICE

No. 7111. Decided February 6, 1964

[51 CCPA —; 326 F.2d 1014; 140 USPQ 885]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"COUPLING."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Coupling" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 515,979.

AFFIRMED.

Carl T. Mack, Stone & Mack, for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of

Appeals affirming the rejection of claims 6 and 7 of application Serial No. 515,979, filed June 16, 1955, for "Coupling."

The couplings are for use in making up tool joints for deep well drilling.

The problem to which the invention is directed is thus stated:

> When the drill stem is rotated in the earth during the drilling operation, the tool joint, being usually of larger outside diameter than the pipe sections which it connects, engages the wall of the bore hole, and tends to wear rapidly.

The object of the invention is to alleviate the wear and this is done by cutting grooves in the exterior face of the portion of the joint member where the wear is likely to occur and filling them with hard metal such as one containing tungsten carbide particles. One end of the joint member so protected is provided with a conical shoulder to be engaged by an elevator. One aspect of the invention is that the grooves—or at least some of them—are extended into the conical elevator shoulder.

Claim 6 reads:

> 6. A tool joint member comprising a cylindrical metal body having an axial bore therethrough, a conical elevator shoulder on one end of the said cylindrical body, the said cylindrical body having a plurality of narrow, substantially axially extending, circumferentially disposed grooves in the exterior surface thereof, the said conical elevator shoulder having a plurality of substantially radially extending, circumferentially disposed grooves in its exterior surface, each registering with the said grooves in the said cylindrical body to form therewith a continuous groove extending along the said conical surface and cylindrical body surface, and hard metal welded into each of the said grooves, the said hard metal being surrounded by the metal of the said body.

Claim 7 differs only in broadening the description of the grooves to say that *some* rather than each of the grooves in the body register with the grooves in the conical shoulder.

The Patent Office relies on the following references:

Neuhaus, 2,334,350, November 16, 1943.
Lewis et al., 2,653,061, September 22, 1953.

Neuhaus discloses a "Wear-Resisting Tool Joint" the coupling body and conical elevator shoulder being protected against abrasive wear by bands or substantially rectangular inserts of tungsten carbide.

Lewis et al. discloses a "Wear Resistant Tool Joint" the body and elevator of which are protected from wear by inserts of tungsten carbide.

In view of the obvious closeness of the art, the issue becomes one of the patentability of the particular shape and location of the hard metal inserts, as defined in appellant's claims.

Both reference patents issued to Hughes Tool Co. of Houston, Texas. Five years after the issuance of the Neuhaus patent, when the application for the Lewis et al. patent was filed on July 15, 1948, those applicants had the following to say about the Neuhaus structure:

> Through the use of the invention of the [Neuhaus] patent * * * a greatly enhanced life of a tool joint or drill collar is had. It has been found, however, that undercutting of the lands between adjacent bands of hard facing material takes place and that such undercutting is followed by a breaking away of the hard facing material with the result that rapid deterioration of the hard facing takes place followed by the rapid wearing away of the underlying and adjacent metal which the hard facing material is designed to protect.

The structure above discussed was only one of the two specific embodiments disclosed by Neuhaus, one in which the hard metal is in the form of *circumferential* bands surrounding the body and the face of the elevator shoulder like a series of barrel hoops set in grooves

cut in the body, the "lands" being the steel of the body between said grooves. Lewis et al., to overcome the reported difficulties caused by undercutting, proposed to cure the defect by adding to the circumferential bands of hard metal one or more *axially-extending* grooves transecting the lands and filled with hard metal. The drawings show four such axial strips of hard metal evenly spaced around the periphery and extending over the elevator shoulder. As a matter of fact, the longitudinal cross-section through a Lewis et al. axial hard metal wear strip looks exactly like the corresponding drawing in appellant's application.

The other embodiment of Neuhaus has, instead of circumferential bands, deposits of hard metal in a ring of rectangular pockets extending around the body. Each pocket has sides whose linear ratio is about 1.5:2 with the long dimension extending axially of the joint. The spaces between pockets is less than their width. The disclosure is that these pockets may be cut directly into the body. Reference is made by Neuhaus to prior unsatisfactory use of hard plating on the surface of the body which tends to break away and the patent then states:

> * * * I have found that if the hard facing is extended below the surface of the tool joint so that it will not project therefrom, and also if the hard facing material is protected by side walls to which it may be firmly attached, the previous difficulty with hard surfacing of the joint is overcome.

We observe that the Lewis et al. patent makes no reference to the second form of the Neuhaus patent above discussed and directed its criticism only to the first or band form.

The rejection is that the claims are unpatentable over the recess form of Neuhaus in view of either Lewis et al. or the other Neuhaus form. The argument is that the pockets of Neuhaus are within the language "narrow grooves" since there is nothing definite about the term "narrow" and the pockets are longer than they are wide; that the pockets and the teaching of the disclosure anticipate appellant's contention that an advantage of his invention is that the hard metal is protected by being "surrounded by the metal of said body," as the claims state; that both references recognize the need for protecting the conical shoulder from wear; and that Lewis et al. discloses axial wear strips in "narrow" grooves extending along the body and over the shoulder of the conical surface.

We have carefully considered appellant's arguments to see whether any one is a sound reason for disagreeing with the rejection. The most we find is argument that it would not occur to one of ordinary skill in the art—who admittedly would be presumed to know all that the two references teach—to combine their teachings to the extent necessary to meet the claim limitations to narrow axial grooves along the body, extending over the elevator shoulder, and filled with hard metal. Appellant states his position to be that "it would not be an obvious expedient to extend Neuhaus' recesses and hard metal deposits * * * into the conical shoulder. Such a variation is not suggested by the prior art * * *." Yet Lewis et al. shows precisely that. We are obliged to agree with the Patent Office view that the claimed subject matter is obvious.

It may be that there are specific size relationships in the embodiment of appellant's invention described in his specification which produce unexpectedly superior results; but if there are, they are not defined in his claims nor is any argument predicated on them beyond the contention that his "invention" would not be obvious from the

teachings of the references. We are bound to treat the invention as it is claimed.

[1] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE JOHN PAVLECKA

No. 7056. Decided February 6, 1964. Petition for rehearing denied April 1, 1964

[51 CCPA —; 327 F.2d 504; 140 USPQ 378]

1. PATENTABILITY—OBVIOUSNESS—35 U.S.C. 103.

"Where we have quoted from the Board's opinion statements that 'no invention' would be involved in making certain substitutions, etc., we have interpreted it as meaning that they would have been obvious within the purview of 35 U.S.C. 103 so as to relate the rejections to the conditions of patentability as laid down by statute."

2. SAME—PARTICULAR SUBJECT MATTER—"INTERLOCKED PANEL STRUCTURE."

The refusal of certain claims in an application entitled "Interlocked Panel Structure," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 632,601.

AFFIRMED.

John Pavlecka, pro se.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 4, 23, 24, 36–38, 41, 45, 47, 48, 50, 53 and 55–59 in application Serial No. 632,601, filed January 4, 1957, entitled "Interlocked Panel Structure." Twenty-six claims were allowed by the Examiner.

The invention relates to joints for fastening together panels, walls and the like. The joints are particularly useful where the interior space between panels is inaccessible and when simple assemblage is desired. Basically the joint comprises a mortise-and-tenon, assembled frontally and keyed with linear rods of various shapes. The following drawings from appellant's specification illustrate one embodiment:

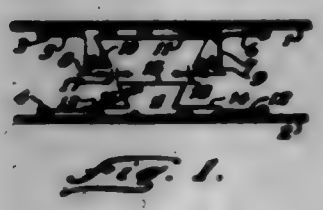


FIG. 1.

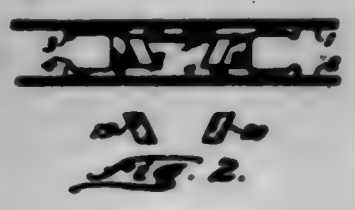


FIG. 2.

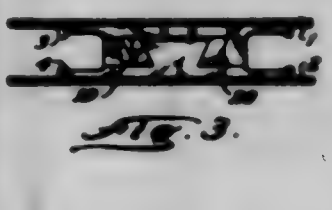


FIG. 3.

In FIG. 1, 1 and 2 are portions of walls or panels being assembled; 3 and 4 are stringers attached to the walls or panels; and 8 and 9 are shoulders with reentrant portions such as 10 defining, with base 11, a dovetail mortise. Tenon 16 is narrower at its widest point than the mortise opening (note dimensioning arrows) thus permitting frontal entry of the tenon. FIG. 2 shows the mortise-and-tenon in juxtaposed engaged relation with marginal lands 8 and 13, 9 and 14 (FIG. 1) in abutment. Blocking keys 19 and 20 are inserted (FIG. 3) preventing exit of the tenon from the mortise and rigidly holding the resultant joint.

Appellant discloses variations in shape and size of both mortises-and-tenons and blocking keys. However, all disclosed embodiments have in common an oversized mortise into which a tenon is frontally insertable, the unit held rigid by a suitably shaped blocking key inserted longitudinally of the mortise-and-tenon.

FIGS. 4 and 16 show two of the many variations.

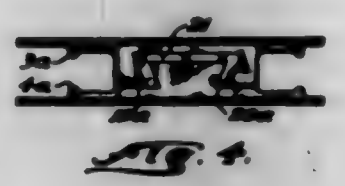


FIG. 4.

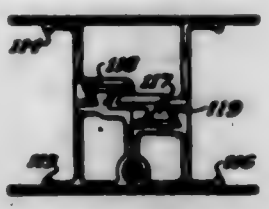


FIG. 16.

In FIG. 4, the blocking keys 19*a* and 20*a* are connected by web 21 forming a unitary C-shaped key. FIG. 16 shows a single panel (upper unnumbered edge), which is attached to stringer 114 and connected via zig-zag key 119 and stringers 115 and 116 to two panels (lower unnumbered edges). Blocking key 119 serves the dual function of holding the lower two abutting panels to one another and parallel to the upper single panel. Appellant's disclosure also shows embodiments wherein panels are joined at corners and airfoils are fastened together.

All claims on appeal have in common recitation of the mortise-and-tenon wherein frontal entry of the tenon is made possible by an oversized mortise, the unit held rigid by linear blocking keys. The claims differ only in features such as arrangement of panels, position of stringers on panels, number of stringers on panels, number of mortises-and-tenons per stringer, etc. Appellant conceded at oral argument that the claims would stand or fall together since but one inventive concept is involved. Claim 4 is representative and reads:

> 4. In a structure, a panel, a structural member extending along one face of said panel, a stringer extending on said panel face in opposed alinement with said structural member, said structural member and said stringer bearing marginal shoulders and ledges at a distance from said panel face and between said shoulders and ledges bearing reentrant mortise-and-tenon instrumentalities, said instrumentalities having each mortise thereof wider than each tenon and being entered into each other in a direction normal to said panel face and into confronting positions of said shoulders with said ledges and with a gap between at least the reentrant portions thereof, a linear key or keys slid endwise into each gap and by engagement at said reentrant portions of said instrumentalities said key or keys blocking said structural member and stringer against separation in said normal direction and urging each into abutment with the other at said shoulders and ledges thereof for relative immobility and coaction as a unitary stress member for said panel.

The sole ground of rejection is unpatentability over the following art:

Guimonneau, 1,388,181, August 23, 1921.
London, 2,164,138, June 27, 1939.
French patent, 924,327, August 1, 1947.
Swedish patent, 121,639, May 11, 1948.

The claims were rejected as follows:

(1) Claims 4, 23, 24, 38, 41, 45, 47 and 55—unpatentable over London in view of Guimonneau;

(2) Claim 53—unpatentable over London in view of Swedish patent;

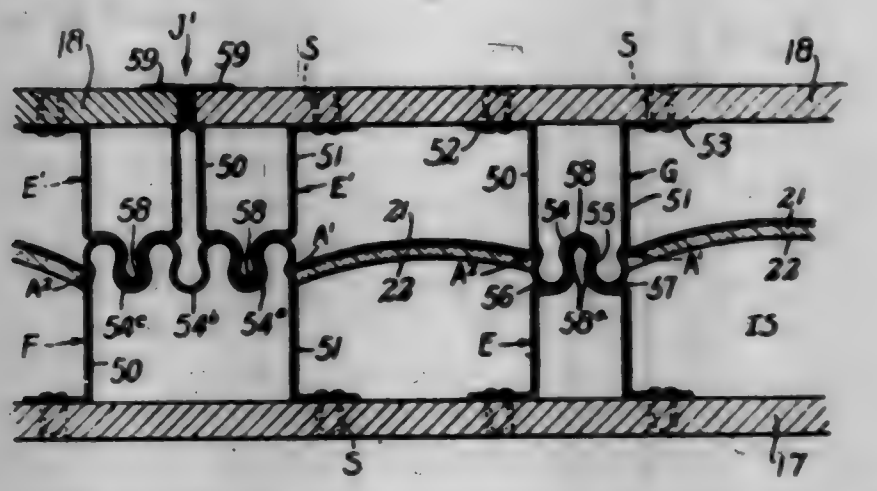
(3) Claims 36, 37, 48 and 50—unpatentable over Swedish patent; and

(4) Claims 56–59—unpatentable over French patent in view of Guimonneau.

Rejection (1)

London teaches a structure utilizing mortises-and-tenons for snapping together panels or walls. FIG. 4, relied on by the Examiner and the Board and reproduced in part below, shows mortises 54 into which are inserted tenons 58.

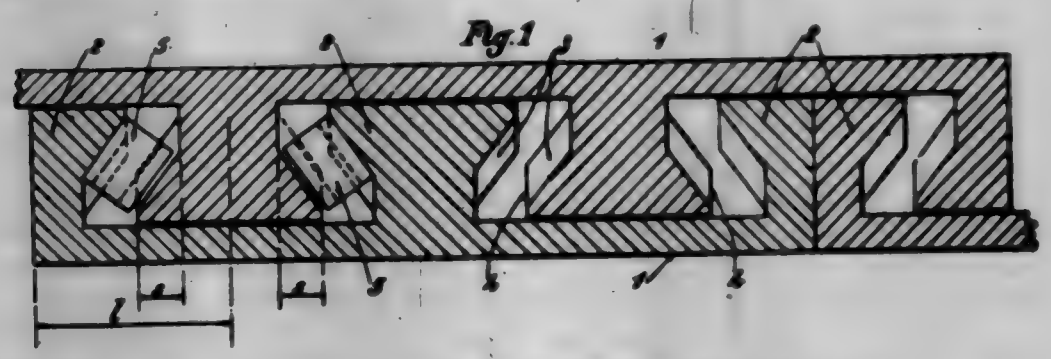
FIG. 4



The Examiner recognized the differences in appellant's and London's mortise-and-tenon, stating:

The mortise-and-tenon joint of London is recognized not to be the precise type of mortise-and-tenon joint as that claimed by appellant, but the London mortise elements 54', 54b, 54c and tenon elements 58 are resilient, thus permitting these London components to be "entered into each other in a direction normal to said panel face and into confronting positions of said shoulders with said ledges" as claimed.

Guimonneau is cited to show the frontal entry dovetail aspect of appellant's invention. FIG. 1 of the reference is reproduced below:



The Guimonneau patent, entitled "Building Wall," states:

This invention relates to a dismountable wall built without using mortar. According to this invention, molded blocks or slabs of a thickness adapted to form one part of that of the wall to be built are provided on one side with dovetail tenons which are placed between similar tenons on similar blocks oppositely arranged and adapted to form the other part of the thickness of the wall, the laterally inclined faces of said dovetail tenons being also inclined vertically so as to provide between adjacent tenons on opposite blocks downwardly tapering chambers into which downwardly tapering wedges are dropped so as to lock the blocks together. The design of the blocks is such that in building the wall the joints may be staggered in the vertical as well as in the horizontal direction.

* * * * * * *

As shown in FIG. 1, each block or slab 1 of a suitable thickness to form a part of the thickness of the wall is provided on one face with a plurality of projections or tenons 2 extending parallelly to the small sides of the slab from the bottom face to the top face and at right angles to the general plane thereof. These

tenons may have the general shape of dovetails the larger bases of which are all in the same plane parallel to the other flat face of the block and they are spaced at an equal distance apart from each other. The inclined faces 3 of each dovetail tenon are not perpendicular to the upper and lower faces of the block. Said inclined faces are also slightly inclined with respect to the vertical line so that the area of the horizontal section of the tenon is greater at the bottom than at the top. However, the two sides 4 of each tenon are perpendicular to the vertical faces of the blocks, i.e. the lateral projection s remains constant throughout the entire height of the block.

The Examiner states:

The Guimonneau patent shows a mortise-and-tenon joint upon which the following portion of * * * [claims 4, 23, 24, 38, 41, 45, 47 and 55] is considered directly readable. It is believed that the substitution of the Guimonneau joints for those of London would be obvious to any skilled workman in this art if it were found that the resiliency of the London mortise-and-tenon means was unsatisfactory. The Guimonneau mortise (FIG. 1) is wider than his tenon 2 and the tenons are positioned in the mortises by direct frontal entry * * *. The claimed "linear key or keys slid endwise into each gap and by engagement at said reentrant portions of said instrumentalities * * * said panel" (end of claim 4) is readable on the Guimonneau wedges or blocks 5 which are inserted into the reentrant gap between the opposed faces of each mortise and tenon. It is believed obvious that these wedges 5 could be inserted in a direction axial to the view of element 5, FIG. 1, a point argued by appellant. It is the Examiner's position * * * that the Guimonneau wedges 5 are the full equivalents of the claimed "keys" or "blocks" or "chocks," since they may obviously be inserted longitudinally as well as vertically.

The Board sustained the Examiner stating:

In our opinion no invention would be involved in substituting for the resilient mortise and tenon joints utilized to hold the several panels of London together, mortise and tenon joints which are formed by direct frontal entry of the tenons into the mortises and by insertion of one or more blocks, which function as locking keys, endwise into the reentrant portions of the gap between each tenon and mortise, as suggested by Guimonneau.

Appellant's arguments with regard to the "wedge" shape of Guimonneau's blocks (5), and the lack of confronting "shoulders" and "ledges" urged into abutment with each other in London, are considered to be without patentable significance. Though Guimonneau shows his keys as wedge shaped, it is obvious that the keying function which he discloses does not require such shape. Moreover, London clearly discloses portions directly adjacent each of his tenons (58) and mortises (54) which may be termed "shoulders" and "ledges," and which are urged into abutment with each other.

Appellant argues that the resilient tongue-and-groove arrangement of London is not the equivalent of his mortise-and-tenon structure; that it is not obvious to substitute in London's structure the Guimonneau wedge-block; and that the Guimonneau wedges, in any event, do not function like the linear keys of appellant.

We have considered all of appellant's arguments but are constrained to agree with the Board. In our opinion, appellant's inventive concept is suggested by Guimonneau; and we see no reason why one skilled in the art would not recognize the applicability of Guimonneau's dovetail mortise-and-tenon for use in the London structure. We realize that the wedges taught by Guimonneau are not identical with the linear keys of appellant. However, like appellant's keys, Guimonneau's wedges serve to hold the mortise-and-tenon as a joint in like fashion to appellant's joint. We see nothing unobvious in employing linear non-tapered blocking keys vis-a-vis tapered wedges in view of the keying concept taught by Guimonneau. As pointed out by the Solicitor,

The ordinary architectural designer may fairly be presumed in law to know of the London and Guimonneau building joints * * *. Moreover, he may reasonably be assumed to understand their operative principles and have imaginative

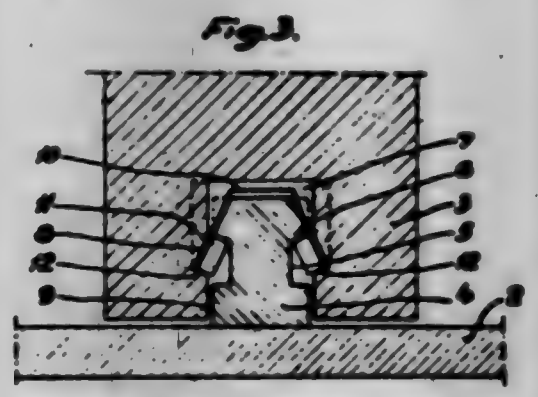
capacity beyond the mere slavish substitution of an exact element of one in another. As stated by this court in determining whether claims were patentable in view of a combination and modification of prior patents, "proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein" *In re Bascom* 43 CCPA 837, 230 F.2d 612.

We cannot see that appellant has done anything unobvious. Keyed mortise-and-tenon joints are old (Guimonneau); mortise-and-tenon joints broadly are old in the panelling art (London). Notwithstanding appellant's arguments to the contrary, all elements of appellant's combination function as taught by the art. The slight difference in key design is not in our opinion unobvious within the meaning of 35 U.S.C. 103. We therefore sustain rejection (1).

Rejection (2)

Claim 53 differs from the claims in rejection (1), supra, in reciting a web connecting two blocking keys (resulting in a key as shown in appellant's FIG. 4, supra) and also in reciting that the tenon is in two parts with abutting faces attached to different panels.[1] The webbed key thus not only locks together the mortise-and-tenon, but also locks the two halves of the tenon.

The Examiner cited the Swedish patent, FIG. 3 of which is reproduced below, to show the concept of blocking keys 11 connected by chordal web 10.



The Examiner stated:

Claim 53 is considered unpatentable over London in view of Guimonneau, applied as noted supra, and in view of the Swedish patent. The Swedish patent shows it is old to interconnect a pair of blocking members 11 similar to those shown by Guimonneau by a web means 10. To apply the interconnecting web concept of the Swedish patent to hold pairs of wedges 5 of Guimonneau in position appears to require no more than choice.

The Board chose to rely only on London and the Swedish patent, stating:

As indicated by the Examiner, the Swedish patent discloses a joint wherein the mortise portion (7) is oversize for frontal entry of a tenon (4) thereinto, and chocks (11) are provided in the reentrant clearances between each tenon and mortise, said chocks being connected together by a web (10) which occupies the "chordal clearance" between each tenon and mortise. It is felt that it would be quite obvious to one having ordinary skill in this art to employ joints as shown by the Swedish patent in place of the resilient joints of London, where such resiliency is not desired.

Appellant argues that the webbed keying block of the Swedish patent must be inserted *frontally* and thus does not function as appellant's *linearly* inserted keys. Further appellant argues that the web portion 10 of the Swedish structure does not function to hold the

[1] Referring to appellant's FIG. 4, supra, the lower panel (lowermost unnumbered edge) is two pieces, each supporting one-half the tenon which itself is split in two.

tenon itself together since the Swedish patent does not teach a split tenon.

We agree with the rejection. We note that claim 53 does not require that the keys be insertable linearly; it merely calls for "a linear key." Such does not distinguish from the Swedish keys, albeit they are inserted frontally. Although we agree with appellant that the Swedish patent does not expressly teach holding a split tenon by the web portion of the key, we see nothing unobvious in such expedient. Elementary mechanics dictates that a chordal web will tend to compress the tenon horizontally. Appellant simply uses this obvious fact to advantage. Furthermore, the key is merely complementary to the action of the mortise in holding two half-tenons together and this is shown in Guimonneau, a reference applied by the Examiner, whose rejection the Board affirmed though it felt that reference to be unnecessary. We thus sustain rejection (2).

Rejection (3)

Claim 36 is the parent claim, claims 37, 48 and 50 being dependent therefrom. Claim 36 differs from the claims of rejection (1), supra, only in reciting "one or more of duplicate linear keys." Claim 37 recited multiple mortises-and-tenons per stringer with webs connecting the multiple keys. Claim 48 recites abutment of marginal lands (see discussion of appellant's FIG. 2, supra). Claim 50 recites webs connecting linear keys.

The Examiner relied on the Swedish patent in view of Guimonneau; the Board relied on the Swedish patent alone. The Board stated:

> Notwithstanding the Examiner's rejection of claims 36, 37, 48 and 50 as unpatentable over the Swedish patent in view of Guimonneau, it is our opinion that all of the structure defined in claims 36, 48 and 50 is clearly found in the Swedish patent *alone* * * *. In this regard it should be noted that the recitation in claim 36, "inserted slidably," has no patentable import in an article claim and, hence, can in no way negative the disclosure of the Swedish patent. With regard to claim 37, it is considered that the provision of multiple mortises and tenons (e.g., one behind the other) on the extremities of the elements (3) and (4) shown in FIGURES 1–3 of the Swedish patent would be well within the province of one having ordinary skill in this art.

Appellant argues that the term "inserted slidably" is a structural limitation, thus patentably significant, and that multiple mortises-and-tenons are not taught or suggested.

We agree with appellant that "inserted slidably" is a structural limitation, but we do not see that it patentably distinguishes over the structure of the Swedish patent. As pointed out by the Solicitor, "slidably" per se carries no connotation of direction so that the frontal insertion in the Swedish structure is "slidable" as is appellant's longitudinal insertion. As to multiple mortises-and-tenons, we agree with the Examiner [2] who stated:

> As the balance of claim 37 calls for a plurality of the mortise-and-tenon joints, it is considered that using a plurality of joints of the Swedish type would require no more than a mere duplication of the relationships shown by the Swedish patent, and as such, would be unpatentable, particularly in view of Guimonneau who shows the use of a plurality of such joints for joining panel-like members 1—1, FIG. 1, to be old in this art.

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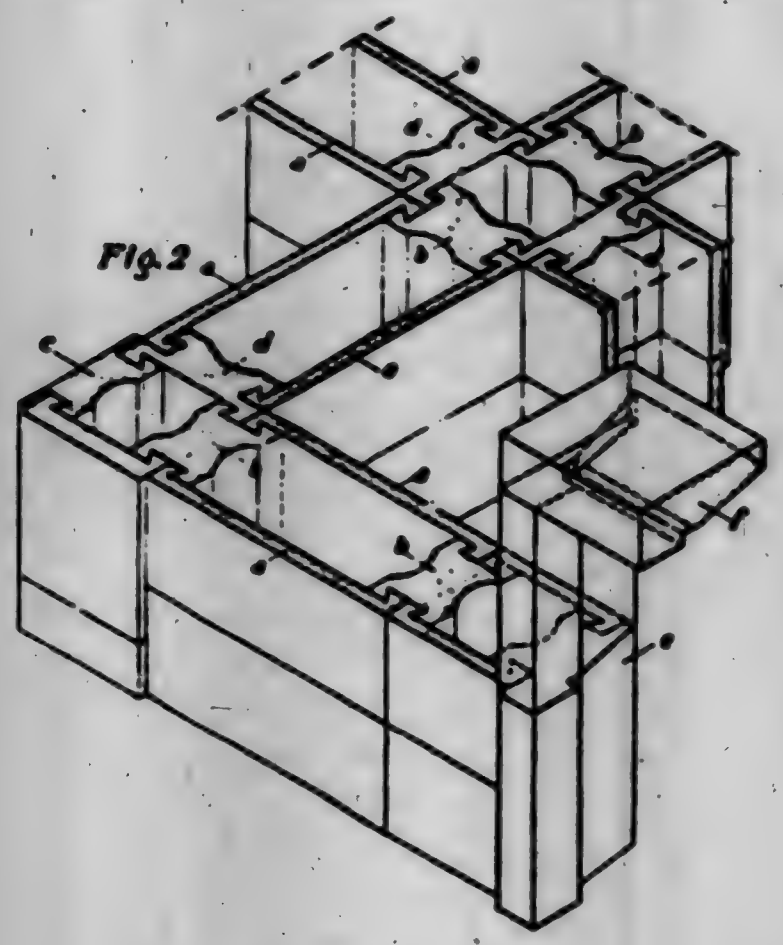
[2] Appellant's brief points out that the Board's analysis of "multiple mortises and tenons (e.g., one behind the other)" is "devious and unrealistic" since the multiplicity claimed is fairly read to be side-by-side rather than end-to-end. Appellant states, "what good would key blocking portions do in spaces between mortises and tenons arranged one behind each other?" arguing that the claim must be read in light of the disclosure.

We agree with appellant that multiple mortises-and-tenons, in claim 37, contemplates side-by-side multiplicity. We also agree that the Swedish patent per se does not suggest such expedient. However, we agree with the Examiner that Guimonneau fairly teaches such multiple mortises-and-tenons and that the Swedish patent suggests web interconnection of blocking keys.

In all other respects, we agree with the Board and sustain rejection (3).

Rejection (4)

Claims 56–59 define appellant's mortise-and-tenon joint in combination with various arrangements of parallel disposed panels. The claims are rejected as unpatentable over the French patent in view of Guimonneau. FIG. 2 of the French patent adequately describes the teaching therein for purposes of this appeal and is reproduced below:



The Examiner carefully outlines the rejection in his answer:

Claims 56–59 are considered unpatentable over the French patent * * * in view of Guimonneau. Claim 58[*] is exemplarily applied to the references in the following manner.

The claimed four panels meeting in two pairs at two coextensive parting lines spaced apart from each other is read as panels a—a in the foreground of FIG. 2 of the French patent. The claimed "structural member extending interjacent said panel pairs along said parting lines and having a profile extremity at a distance from each pair" is read as element *b*; the base portions of the dovetail mortises therein being read as the claimed "profile at a distance." The "stringers extending side-by-side on each pair of said meeting panels and bearing profile extremities in joint opposed alinement with the structural member extremity distant therefrom, said stringer and structural member extremities having longitudinal reentrant mortise-and-tenon formations thereon congruent with [each] other" are read as the dovetail elements on the edges of the panels *a* and the co-operating dovetail mortise in member *b* of the French patent. * * *

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[*] Claim 58:

58. In a structure, four panels meeting in two pairs at two coextensive parting lines spaced apart from each other, a structural member extending interjacent said panel pairs along said parting lines and having a profile extremity at a distance from each pair, stringers extending side-by-side on each pair of said meeting panels and bearing profile extremities in joint opposed alinement with the structural member extremity distant therefrom, said stringer and structural member extremities having longitudinal reentrant mortise-and-tenon formations thereon congruent with each other and having each mortise thereof oversize for frontal entry of a tenon thereinto with reentrant clearances therebetween, and one or more linear keys telescoped slidably into said clearances between said formations entered into each other for blocking said stringers relatively immovably against separation frontally from said structural member and for laterally locking said side-by-side stringers to each other, said blocking and locking by said one or more keys causing said stringers and said structural member to coact as a unitary stress member between said panels.

The dovetail joint shown by the French patent is not designed for joining the dovetail elements by "frontal entry" as claimed. However, the Guimonneau patent shows that the use of a plurality of dovetail joints which permit frontal entry is old in the laterally spaced panel construction art. It is still considered that using dovetail joints having a design such as that shown by Guimonneau in place of those shown on the French patent would be an obvious expedient to a skilled workman in this art. Note that the Guimonneau patent shows "having each mortise thereof oversize for frontal entry of a tenon thereinto with re-entrant clearances therebetween," as elements 2 with the claimed clearance shown between elements 3. The claimed "one or more linear keys telescoped slidably into said clearances between said formations entered into each other for blocking said stringers relatively immovably against separation frontally from said structural member" is shown as the tapered blocks or wedges 5 of Guimonneau. It is noted in regard to the wedges 5 that the same extend a considerable percentage of the length of their coacting faces 3 and that there is ample room for them to extend entirely across the faces 3 without changing their coaction in the Guimonneau structure. The additional functional phrase "and for laterally locking said side-by-side stringers to each other, said blocking and locking by said one or more keys causing said stringers and said structural member to coact as a unitary stress member between said panels," is considered to be as readable on the structure shown by the references as combined as it does on appellant's claimed structure.

The other claims, i.e., claims 56, 57 and 59 of this group are deemed similarly readable on the reference structures.

The Board added:

Insofar as the Examiner's rejection of claims 56–59 as unpatentable over the French patent in view of Guimonneau is concerned, we are in full agreement therewith. Manifestly no invention would be involved in substituting the dovetail type joints of Guimonneau, which enable joining of the dovetail elements by "frontal entry," for the joint arrangement shown by the French patent. Appellant's contention that elements (*b*) of the French patent do not have a profile extremity at a distance from element (*a*) is without merit. The profile extremity of the ends of each element (*b*) necessarily includes the edges defining the mortises as well as the portions abutting elements (*a*). It follows, therefore, that elements (*b*) do, in fact, have profile extremities at a distance from each panel [elements (*a*)] (sic), as called for in these claims. It is to be noted that the claims do not specify how great the "distance" is. Similarly, the dovetail elements on the edges of elements (*a*) may properly be read as stringers bearing profile extremities.

We have considered appellant's arguments but find no error in the rejection. We thus sustain rejection (4).

[1] Where we have quoted from the Board's opinion statements that "no invention" would be involved in making certain substitutions, etc., we have interpreted it as meaning that they would have been obvious within the purview of 35 U.S.C. 103 so as to relate the rejections to the conditions of patentability as laid down by statute.

[2] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HENRI RIAT, RENE DEMONTMOLLIN AND EUGEN JOHANN KOLLER

No. 7010. Decided February 20, 1964

[51 CCPA —; 327 F.2d 685; 140 USPQ 471]

1. CLAIM—UNDUE BREADTH—EVIDENCE—*In re Cavallito et al.* DISTINGUISHED.

"Whether a disclosure gives reasonable assurance that all of the compounds embraced by the claims would be useful for the purposes intended must be determined by the particular circumstances of each case, including the nature of the compounds per se and the supporting disclosure. Here, in contrast to *Cavallito* [48 CCPA 711, 282 F.2d 357, 127 USPQ 202] which involved pharmaceutical compounds where unpredictability is particularly notorious, we are concerned with azo dyestuffs which constitute an art recognized genus. We

find no suggestion in the record of any compound encompassed by the generic claims which would not be a dyestuff. Both of the appealed claims are drawn to azo dyes and the Examiner stated that 'azo dyes are well known.'"

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—AZO DYESTUFFS.

The decision of the Board of Appeals refusing certain claims to water-soluble azo dyestuffs, as being unduly broad and indefinite and as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 751,147.

REVERSED.

Wenderoth, Lind & Ponack, I. M. Aisenberg (*A. Ponack* of counsel) for appellants.

Clarence W. Moore (*Joseph Schimmel* of counsel), for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

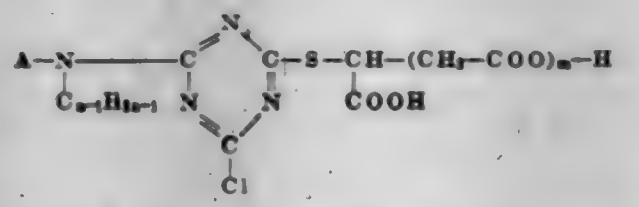
WORLEY, *Chief Judge*, delivered the opinion of the court.

Riat et al. appeal [1] from an affirmance by the Board of Appeals of the Examiner's rejection of claims 10 and 19 as being unduly broad and indefinite, and as unpatentable over the prior art. One claim has been allowed.

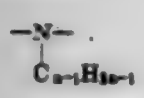
The claimed invention relates to azo dyestuffs having at least two acidic functional groups imparting water-solubility, at least one of which is a sulfonic acid group. The dyes are characterized by a chloro-triazine substituent linked to an azo dyestuff residue (chromophore) via an amine group, said triazine substituent being further substituted by a mercapto alkylene radical containing one or two carboxyl groups.

Claim 19 reads:

19. An organic water-soluble dyestuff of the formula



wherein A is an organic azo dyestuff residue, a ring carbon atom of which is directly bonded to the nitrogen atom of the

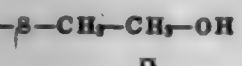


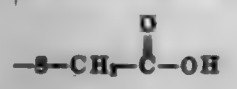
group, m is one of the numerals 0 and 1, and n is one of the numerals 1 and 2, said dyestuff containing a total of at least two and at most five acid water-solublizing groups, at least one of which is a sulfonic acid group.

The single reference is

Fasciati, 2,795,576, June 11, 1957.

Fasciati discloses a number of dyestuffs including a species which would fall within the genus of the two claims in issue but for a difference in the mercapto (or thiol) radical as follows:

Fasciati: 

Riat et al: 

That difference may be delineated as that between an alcohol terminal group (—CH_2OH) and a carboxylic acid terminal group (—COOH) on the thiol radical.

[1] Serial No. 751,147, filed July 28, 1958.

Two issues are before us: whether the claims comply with 35 U.S.C. 112; and whether it would be obvious to substitute a carboxylic acid terminal group for the alcohol terminal group of Fasciati.

With respect to the rejection based on 35 U.S.C. 112, we note that the principal objections are to the phrases "an organic azo dyestuff residue" in claim 19, and "the radical of a coupling component" in claim 10, both of which have been held to be too broad and indefinite.

The Board reasoned that if the difference between a carboxylic acid group and a hydroxyl group in the mercapto radical will cause a difference in dyeing properties, then at least as great a difference in properties may be expected by a similar change in substituents on the chromophore moiety of the dyestuff. The Board therefore was not "convinced that 'all the dyes corresponding to the definitions set forth in the claims possess the disclosed properties'" and that said properties would not be altered by the presence of undisclosed substituents, citing *In re Cavallito et al.*, 48 CCPA 711, 282, F.2d 357, 127 USPQ 202. The Solicitor relies on that case as demonstrating that the burden is on the applicants to justify the conclusion that changes in the chromophore moiety will have no effect on the usefulness of the claimed compounds.

In Cavallito appellants urged that certain variable substituents were extraneous and formed no part of their inventive concept. This court stated:

> Appellants' argument would be more persuasive if their application established with certainty that the basic formula defined in the appealed claims will impart useful hypotensive properties to the wide variety of compounds embraced by the claims; or, in other words, that the various possible substituents are in fact "garbage substituents" in the sense that they do not materially affect the desired hypotensive property.

[1] Whether a disclosure gives reasonable assurance that all of the compounds embraced by the claims would be useful for the purposes intended must be determined by the particular circumstances of each case, including the nature of the compounds per se and the supporting disclosure. Here, in contrast to Cavallito which involved pharmaceutical compounds where unpredictability is particularly notorious, we are concerned with azo dyestuffs which constitute an art-recognized genus. We find no suggestion in the record of any compound encompassed by the generic claims which would not be a dyestuff. Both of the appealed claims are drawn to azo dyes and the Examiner stated that "azo dyes are well known."

We note that the specification has been drawn broadly to an azo chromophore and narrowly to the triazine component having the substituent in question. It does not appear to include any suggestion that the azo component is critical. In fact, it seems to us that the patent application teaches away from the criticality of the azo component since it indicates, aside from azo dyes, such diverse applicable classes of dyes as stilbene, dioxazine, thioxanthone, azine, xanthone, phthalocyanine and anthraquinone dyes.

We are unable to agree that the invention defined in the claims is inconsistent in scope with the invention disclosed.

Turning to the rejection based on obviousness, we observe that the Examiner stated:

> • • • In the present situation, the function of the dye is known, the application of the triazine substituent is old and the employment of mercaptans as secondary condensation reactants for said triazine is also well known. Invention if any, in the present case, is deemed to lie in a known dye employing carboxylated

methyl mercaptan as a reactant for said secondary condensation of the triazine. * * *

The Board added:

* * * We agree with the Examiner that there is nothing unobvious in the use of a mercapto group containing a carboxylic acid rather than one containing a hydroxy group, as both of these groups are quite commonly employed in dye chemistry. * * *

Appellants argue that the mere fact that those groups are commonly employed in dye chemistry does not make them equivalent.

The Solicitor argues:

* * * It is of importance to note that the appellants' disclosure states that the two groups imparting solubility in water, that is, the sulfonic acid group and one carboxylic acid group may be present in the thiol radical. Hence, the function of the carboxylic acid substituent is to impart water solubility. While it is true that the Examiner mentioned the fact that the application discloses the equivalency of the hydroxyl and carboxyl group for that purpose, the Board referred to the fact that "both of these groups are quite commonly employed in dye chemistry." The basis for the statement of the Board, though not delineated in the decision can be found in Karrer's Organic Chemistry, pub. in 1946 (2d English Edition) where on page 468 the equivalency of hydroxy and carboxy groups as salt forming groups is fully disclosed. Further attention is invited to U.S. Patent No. 2,283,326[1] of May 19, 1942 (appendix), where these groups are clearly indicated as equivalents in imparting water solubility to the dyestuffs. * * *

We are unable to find any prior art teaching in this *record* that a carboxylic acid group and a hydroxy group are "equivalents in imparting water solubility to the dyestuffs" as argued by the Solicitor, nor that such other properties as leveling and brilliancy are related to water solubility.

Appellants rely on an affidvait to establish that their dyestuffs exhibit unobvious properties. The affidavit compares a dye disclosed by Fasciati with the species falling within claims 10 and 19 that is closest thereto, and with three other dyes including the species of claim 13, which also falls within claims 10 and 19.

The Examiner, in allowing species claim 13 based on that affidavit stated:

* * * Applicants assert that dyeing with the new dyes produces better *leveling* properties and a dyeing with better *brilliancy*. These features are believed persuasive with regards to the patentability of claim 13, which has been allowed. However, this demonstration is not adequately persuasive with regards to claims of the *breadth* of claims 10 and 19. Due to the slight difference in leveling and brilliancy properties of the exhibit dyeings, it is not seen how applicants can assert the same degree of distinction in all the compounds encompassed by the *generic* claims, regardless of the substituents involved. [Emphasis supplied.]

We note the absence of any assertion by the Examiner that the affidavit was not equally convincing with respect to the *other species* compared. On the contrary, the Examiner appears to have equated the differences between *all* of the compared species and the prior art, refusing to allow claims 10 and 19 not because of an absence of a showing of unobvious properties but rather on the basis of noncompliance with 35 U.S.C. 112.

We are unable, *on this record*, to sustain the Board's finding that it would be obvious to substitute a —COOH group for the —CH_2—OH group in the corresponding dyestuff disclosed by Fasciati.

[2] The decision of the Board is reversed.

REVERSED.

[1] Appellants and the Solicitor incorporated copies of certain U.S. patents as appendices to their briefs, but subsequently withdrew them.

U.S. Court of Customs and Patent Appeals

CLINTON W. MACMULLEN AND ALFRED MARZOCCHI *v.* THOMAS R. SANTELLI
THOMAS R. SANTELLI *v.* CLINTON W. MACMULLEN AND ALFRED MARZOCCHI

No. 7035, No. 7036. Decided February 6, 1964

[51 CCPA —; 326 F.2d 1008; 140 USPQ 374]

1. INTERFERENCE—PRIORITY.

MacMullen and Marzocchi *Held* entitled to priority as having actually reduced to practice the invention defined by the nine counts in issue before the Santelli filing date.

APPEAL from the Patent Office. Interference No. 89,543.

MODIFIED.

Henry W. Foulds, Jr. (*R. T. McLean* and *Martin J. Brown* of counsel) for MacMullen and Marzocchi.

Carrol Palmer (*Robert M. Krone* of counsel) for Santelli.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *Judge*, delivered the opinion of the court.

These appeals are from the decision of the Board of Patent Interferences in Interference No. 89,543. The Board awarded priority as to three counts to the party MacMullen et al. and the remaining counts to the party Santelli. Both parties appeal.

MacMullen et al. were issued a patent [1] from which Santelli copied nine claims in his pending application.[2] These claims constitute the counts in issue here. Santelli is the senior party by virtue of the earlier filing date of his application, but the Board found that MacMullen et al. could rely on their parent application,[3] which had an earlier filing date than the Santelli application, to support counts 2, 4 and 8. Priority was awarded on the basis of the filing dates of the applications, rather than on the basis of testimony, although MacMullen et al. took testimony.

The issue in No. 7035 is whether the testimony of MacMullen et al. is sufficient to establish a reduction to practice before the filing date of Santelli.

The issue in No. 7036 is whether the parent MacMullen et al. application establishes a constructive reduction to practice of the invention of counts 2, 4 and 8 before the Santelli filing date.

The invention relates to a method of coating glass surfaces, more particularly glass fibers, and the organosilicon coating compositions used. Hydrocarbon-substituted trihalosilanes are hydrolyzed in aqueous alkali and then acidified to a pH of 2 to 6 to form stable solutions of the alkaline hydrolysis products of the organotrihalosilanes. The stable solution is applied to a glass surface and a coating of insoluble organosilicon compound is deposited. Subsequent heating cures the coating by polymerizing the organosilicon compound.

It appears that the organosilicon composition is unstable at a pH in the range of 9 to 11. The word "unstable" describes a solution in which the dissolved siliconate precipitates into solid particles which fall to the bottom of the container. To avoid much precipitation at the unstable range when lowering the pH of a solution from strongly alkaline (pH 13), at which the material is stable, to the stable acid range (pH 2–6), the acidification is carried out rapidly. In addition, the unstable range of pH 9 to 11 is avoided by adding the alkaline

[1] No. 2,723,211 issued November 8, 1955 on application Serial No. 348,552, filed April 13, 1953.
[2] Serial No. 279,695, filed March 31, 1952.
[3] Serial No. 119,569, filed October 4, 1949.

material to the acid neutralizer. Count 5 specifies that the pH is reduced by "adding said hydrolysis products to an aqueous acid." If the acid is added to the alkaline hydrolysis products, the composition will have to pass through the unstable range of pH 9 to 11, at which time some precipitation will occur, the amount depending on the rapidity of the acidification. The counts containing the express limitation of a method of "rapidly reducing the pH" were awarded to Santelli, and those without the limitation were awarded to MacMullen et al. In addition, two counts are drawn to a stable composition: one "having a pH of from 2–6" and the other "having a pH of about 4." The more narrowly defined count was awarded to Santelli. Since the parent MacMullen et al. application disclosed a composition at pH 6, the broader composition count was awarded to MacMullen et al.

Counts 1 and 8 are representative and read:

1. The method of treating a glass surface to produce a coating of insoluble organosilicon compounds thereon which comprises preparing an aqueous alkaline solution of the hydrolysis products of a hydrocarbon-substituted trihalosilane, rapidly reducing the pH of said solution to a value between 2 and 6 to produce a stable acidic solution of said hydrolysis products, applying said acidic solution to said glass surface to cause a coating of insoluble organosilicon compounds to be deposited on said surface, and curing said coating at an elevated temperature below the softening point of said glass to complete polymerization of said compounds.

8. A composition for treating materials to render them water-repellent, said composition being a stable aqueous sol of hydrocarbon substituted silane triol having a pH of from 2–6.

Considering first the testimony involved in No. 7035, appellants pose three questions to be resolved:

1. Whether certain experiments performed by Titus on July 12 to July 14, 1950, in Syracuse, New York, were an actual reduction to practice of counts 8 and 9.

2. Whether a trial run performed by Meyer and Marzocchi on August 8, 1950 at Huntingdon, Pennsylvania was an actual reduction to practice of counts 1, 2, 3, 4 and 8.

3. Whether a plant run performed at Ashton, Rhode Island on April 10, 1951 was an actual reduction to practice of all the counts.

As to the first question, Titus was a research chemist employed by Cowles Detergent Company who reported to Marzocchi, one of the appellants. In July 12–14, 1950, Titus carried out a series of tests which he entitled in his notebook "Determination of the Stability of 1% Solutions of Vinyl Sodium Siliconate of Various pH's."[4] The tests "indicate that a pH of 3, 4 or 5 of the material is quite stable over a reasonably long period of time."

The Board refused to consider these tests as an actual reduction to practice of the composition counts because "these two counts recite a water repellent utility which Titus did not establish." There was no question, however, that the compositions were found to be stable and met the counts but for the recitation in the preamble of the ultimate utility of the aqueous compositions. Titus testified that during the period of his work with siliconates the goal was water repellency. He testified:

* * * In the beginning we began to work with metals, hoping to put films on them. It didn't work, so we rejected that. Then came paper and cloth, to try to get a water repellency. That didn't work well enough to bother with, so we didn't bother with it anymore. Finally we got started to work on glass cloth, and we put all our efforts on it.

[4] The terms "vinyl sodium siliconate," "vinyl siloxanolate" and "vinyl siliconate" appear to be used interchangeably in the record to designate the alkaline hydrolysis products of vinyl trichlorosilane.

The record fails to show any tests for water repellency with the stable compositions by Titus. A test conducted by Titus three days after the stability tests showed a "lack of water repellency" using a somewhat different vinyl siliconate at pH 7. Santelli contends that the Titus testimony shows that the stability tests on which MacMullen et al. rely for a reduction to practice of counts 8 and 9 were not considered at that time sufficient to conclude that pH 4 was the optimum for stability of the solutions. Further stability tests were developed and the July 12–14 tests were followed by later tests to further establish the facts concerning optimum pH for stability.

MacMullen et al. argue that it was unnecessary to establish a water repellency utility for the compositions because it was "a matter of common knowledge at the time [that] silicone materials were useful for rendering materials water repellent."

MacMullen et al. further rely on a letter from L. P. Biefeld to Marzocchi, dated May 11, 1950, as showing that the compositions were water repellent. We note that this letter relates to tests at pH 7, which is outside the scope of counts 8 and 9, and therefore cannot be considered to attribute a water repellency property to the solutions tested July 12–14, 1950.

As it will appear from the view we take of the case, it is unnecessary to decide whether the July 12–14, 1950 tests by Titus constitute a reduction to practice of counts 8 and 9.

As to the trial run at Huntingdon, Pennsylvania on August 8, 1950, the Board found no actual reduction to practice.

In this run, a large batch of a material identified as SS–2D was prepared by Titus on August 1, 1950 "for test at O Corning-Fiberglas Corp." On August 8, Meyer, an employee of Owens-Corning Fiberglas Corporation,[5] noted that "SS–2D (vinyl derivative of siloxanolate) was employed as the starting material in the run." The Board found "no corroboration of Marzocchi's testimony that the Titus batch was used in the test." The Board also found the pH of the treating bath was not always within the range of the counts, but "a more serious objection to holding that this run is an actual reduction to practice of counts 1, 2, 3, 4 and 8" was the lack of conviction of success. Meyer testified that Marzocchi had "a question in his mind that we had really made a good finish." Meyer's report stated "The cloth was fairly stiff" and mechanical difficulties were encountered, but "exceptionally high impact strengths" were obtained and "wet flexure strengths" were "far superior to the control panels." Marzocchi's report of the run stated it was "a very poor indication of the applicability of Cowles SS–2D to this material." The Board said:

> • • • If Marzocchi did not consider the test successful, this Board cannot be called upon, at a later date, to give this test a status which the inventor did not attribute to it at that time: *Smith* v. *Nevin*, 22 CCPA 748, 78 F.2d 940, 452 OG 469, 23 USPQ 353, 357.

Again, under the view we take of the case, it is unnecessary to decide whether the August 8, 1950 run at Huntingdon was, per se, an actual reduction to practice.

On April 10, 1951, another run was made at Ashton, R.I. MacMullen et al. claim that this plant run was a reduction to practice of the subject matter of all of the counts.

This run was carried out in what is termed a "coronizing unit."

[5] Hereinafter referred to as OCF.

The report of Gagnon, an OCF employee who was present, states that a 128-yard cut of cloth was "heat cleaned at 1200° F. and went directly into the pad box containing the SS–2D solution." Pad rolls then squeezed off excess solution and the cloth was run into a drying oven at 250° F. The solution was made by adding 5 gallons of "Cowles SS–2D" to diluted Muriatic acid. The pH was adjusted to 4 with sodium hydroxide. The report states that "due to faulty pH readings, the bath precipitated." Apparently another 5 gallons of SS–2D was used to make a new batch with the result that the "entire run was very successful." The report pointed out that the critical pH of 10 is a "difficulty" which would be overcome "with ample education and some experience" and that there was a "possibility" of other problems. The Board did not question the conviction of success of this run, but found no corroborating proof of how the SS–2D "originated and how it reached OCF at Ashton." The Board said:

> • • • not one witness testified to how the particular sample asserted to be Cowles SS–2D and used in the April 10, 1951 Ashton trial, came to Ashton and how he knew that material to be what he said it was. Stated another way, despite the voluminous record, there is absent the corroboration required by law that the sample used in that test was in fact that stated to be the alkaline hydrolysis product of vinyl trichlorosilane of Cowles SS–2D • • •.

MacMullen et al. refer to the report of Frazer, an employee in charge of the plant control laboratory at the Cowles' Lockport, New York plant which describes the preparation of a large batch of Cowles SS–2D on March 29, 1951. The report states: "285 lb. net of filtered batch shipped in 30 gal. plain steel drum 3/30/51 by truck to Owens-Corning Fiberglas, Ashton, R.I."

Santelli contends that "Cowles SS–2D" varied in composition and method of preparation and that no one could testify as to the chemical composition used at Ashton. For support, Santelli relies on some calculations placed of record by MacMullen et al. indicating that the "Old Formula 7/19/51" included 10 moles of sodium hydroxide per mole of vinyl trichlorosilane and the "New Formula 11/1/51" reduced the ratio to 8 to 1.

Santelli also argues that "there was still doubt that the operations at Ashton were successful for their intended purpose." As to counts 8 and 9, Santelli argues that no tests of water repellency were made in the April 10th operations.

We are of the opinion that the run at Ashton, R.I. on April 10, 1951 constitutes an actual reduction to practice. There is nothing in the record to indicate that the term "SS–2D" was ever used to designate anything except alkaline hydrolysis products of vinyl trichlorosilane. On the other hand, there are many, many instances in the record showing SS–2D as the alkaline hydrolysis products of vinyl trichlorosilane. The fact that the amount of alkali employed was changed at least once does not alter the chemical composition or formula of the hydrolysis products in any material respect. The counts clearly do not define any precise amounts of alkali. We find no merit in the contention of Santelli that the composition of SS–2D varied. Whatever variations were made, the record indicates that every batch of Cowles SS–2D contained a "hydrocarbon-substituted silane triol" as defined in the counts. The pH and stability may have varied, but SS–2D was always a hydrocarbon-substituted silane triol.

The reports of the run at Ashton show that the properties of the SS–2D used were the same as the properties of SS–2D made at other

times. The Gagnon report shows that the optimum pH of 4, as defined in the counts, was employed during the run; that pH 10 was critical and must be avoided to prevent precipitation; that precipitation did occur "due to faulty pH readings"; that "the SS–2D was added to the acid solution" just as count 5 requires; and that the SS–2D was "alkaline." We find nothing in the record to indicate that SS–2D was not the vinyl siliconate which several witnesses testified that it was. The Board admitted that "Meyer testified that he knew Cowles' SS–2D to be a vinyl derivative of siloxanolate," and thus within the alkaline hydrolysis products used in the method of the counts, but it found no proof that the Cowles' SS–2D used at Ashton was in fact such a material. There is no basis for assuming that it was not. The fact that a shorthand description of the material was used is no reason to believe that SS–2D somehow changed from the composition consistently made under that designation. The witness Titus testified that "SS" stands for "soluble siliconate" and the number stands for the number of carbon atoms in the compound. This definition indicates that *all* "SS-number" compositions met the language of the composition counts 8 and 9 of "hydrocarbon-substituted silane triol." Even if it be assumed that Meyer obtained his knowledge of the composition through Marzocchi, an inventor, the corroboration of Frazer and Titus indicates that SS–2D means the alkaline hydrolysis product of vinyl trichlorosilane.

While the Gagnon report does not show that the final product was tested for water repellency, this is not necessary for a reduction to practice of counts 8 and 9. Even though the preamble of counts 8 and 9 suggests the ultimate purpose of the composition is water repellency, it is clear that the aqueous compositions themselves are not water-repellent. The Gagnon report shows utility as a fabric finish since "the entire run was very unsuccessful" with SS–2D "as a substitute for the present 114 Finish." Finish 114 is shown by the record to contain a chromium complex for the purpose of improving the properties of the cloth, including water repellency. The tests for water absorption, wet flexural strength and contact angle appear to be tests of water repellency. The record shows numerous favorable comparisons between hydrocarbon-substituted silane triols and the previously used water-repellent finishing material. The report of Bacon, Manager of the Reinforced Plastic Section of the Products Development Laboratory at OCF at the time, indicates a realization that "a water system of * * * SS–2D" is useful because of good wet strength retention.

No one testified that the SS–2D used at Ashton came from many particular source. It seems likely that the batch prepared by Frazer on March 29, 1951 and sent to Ashton on March 30, 1951 was the material used on April 10, 1951. So far as the record shows, the only batch large enough to provide the ten gallons of SS–2D used at Ashton (the first 5 gallons precipitated, requiring a new mix) within several months of the date of the Ashton run, was the batch prepared by Frazer on March 29. However, even if the Frazer batch of March 29 was not the SS–2D used, we are convinced that the Marzocchi testimony that SS–2D made according to the method of the counts was used at Ashton has been corroborated. There is no fixed single formula in proving corroboration. *Phillips et al.* v. *Carlson*, 47 CCPA 1007, 278 F.2d 732, 126 USPQ 146. The record does not show that SS–2D ever varied from "hydrocarbon-substituted silane triol" or

"an aqueous alkaline solution of the hydrolysis products of a hydrocarbon-substituted trihalosilane," as called for in the counts. Titus tested SS–2D at the pH designated in the counts and determined the stability. The Huntingdon run illustrated the superior flexural strength and the properties of the product made by the method of the counts. The report of corroborating witness Gagnon shows that the method steps of the counts were used at Ashton with SS–2D. Considering the record as a whole, we are persuaded that MacMullen et al. actually reduced to practice the method of counts 1 to 7 with the composition of counts 8 and 9 by the time of the Ashton run on April 10.

[1] Since we find that MacMullen et al. actually reduced the invention to practice before the Santelli filing date, it is unnecessary to decide whether the invention of counts 2, 4 and 8 was constructively reduced to practice in the parent application of MacMullen et al. The affirmance of the decision of the Board in No. 7036 is a result of our view of the testimony, and is not based on a consideration of the parent application.

For the foregoing reasons, the decision of the Board in No. 7035 is *reversed* and the decision in No. 7036 is *affirmed*.

MODIFIED.

U.S. Court of Customs and Patent Appeals

IN RE DONALD I. GONSER

No. 7064. Decided February 13, 1964. Petition for Rehearing Denied April 1, 1964

[51 CCPA —: 327 F.2d 500: 140 USPQ 415]

1. PATENTABILITY—OBVIOUSNESS—CONSIDERATION OF PROBLEM SOLVED BY INVENTION—OBVIOUS MEANS—35 U.S.C. 103.

"We are aware that determining obviousness under 35 U.S.C. 103 often requires consideration of the problem solved by an invention as well as the means for solving such problem. • • • However, assuming, arguendo, that appellant has solved a problem in the electrotherapy art, it does not follow that the means employed in the solution are unobvious. • • • Unobviousness appears to be urged by appellant on the basis of his determination that in electrotherapy different patients respond to different radiation frequencies. The claims before us, however, define *apparatus* which differs from the prior art only in notoriously old elements, not processes of treatment. In our view the *apparatus* claimed is obvious within the meaning of Section 103."

2. SAME—PARTICULAR SUBJECT MATTER—"ELECTROTHERAPY APPARATUS."

The refusal of certain claims in an application entitled "Electrotherapy Apparatus," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 620,482.

AFFIRMED.

Robert G. Mentag (*Albert W. Rinehart* of counsel) for appellant.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1 and 2 in application Serial No. 620,482, filed November 5, 1956, entitled "Electrotherapy Apparatus."

The invention is a device for treating humans by electrotherapy.

It is in essence a means for producing radio frequency radiation for passage into a patient allegedly to stimulate glandular activity. Appellant's specification states:

> It is well known that persons subjected to radio frequency radiations experience an increase in endocrine glandular activity and it is thought that stimulation of certain glands provides relief to persons suffering from a number of ailments. * * * Machines of known construction are not believed to be sufficiently flexible in use to permit optimum results to be obtained upon patients requiring varying degrees of treatment. Moreover, some machines are likely to subject a patient to severe and harmful electrical shocks and/or radio frequency burns in the event of electrical failure of parts of such machines, or by misuse on the part of the operator.
>
> An object of this invention is to provide electrotherapy apparatus utilizing low voltage, low frequency energy modulated by superimposed radio frequency voltages to obtain penetration of a patient's tissues by radio frequency radiations.

The appealed claims read:

> 1. Electrotherapy apparatus comprising low voltage, pulse energy generator means; radio frequency oscillator means; means for feeding the pulse energy of said generator means to said oscillator means so that the output of the latter comprises discrete bursts of radio frequency modulated pulses having wave form characteristics similar to the pulse energy of said generator means; means for radiating the output of said oscillator means and means for varying the frequency of said oscillator means.
>
> 2. Apparatus as set forth in claim 1 including means for varying the pulse energy of said generator means.

Simply described, appellant's apparatus consists of three principal parts: (1) a full wave rectifier which produces pulsed sinusoidal [1] unidirectional current, claimed by appellant as "low voltage, pulse energy generator means"; (2) vacuum tube oscillator for generating a high frequency voltage wave form; and (3) a flexible, rubber-covered metal plate which serves as an electrode for radiation transmission, claimed by appellant as "means for radiating the output of said oscillator means." A variable transformer ("Variac") in the generator circuit and means for varying the capacitance in the LC tank circuit portion of the oscillator permit the operator to adjust the magnitude of both generated unidirectional current pulses and the frequency of radiation produced by the oscillator, respectively.

The apparatus allegedly functions as follows: Pulsed unidirectional current from the generator is fed into the radio-frequency oscillator wherein high frequency voltage waves are superimposed upon the pulse-wave pattern. The resultant pulses then radiate from the rubber-covered electrode plate to the patient's body. Appellant alleges that his device is free from harmful characteristics of prior art machines which cause electrical shocks and radio-frequency burns.

The sole ground of rejection is unpatentability under 35 U.S.C. 103, over the following reference:

Milinowski, 2,276,995, Mar. 17, 1942.

Milinowski teaches an electrotherapy device consisting of the same three principal parts described above. Milinowski's generator produces unidirectional current pulses as does appellant's; however, rather than *sinusoidal* wave patterns, Milinowski's generator produces discrete bursts of square wave pattern,[2] so formed by periodic energization of rectifier triodes by means of a rotating contactor with

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[1] Since unidirectional current is involved, the wave form takes the shape of contiguous series of half-loop sine waves.

[2] Appellant, too, contemplates use of, inter alia, square wave form voltage patterns. The specification states:

> The wave form produced by the generator * * * need not necessarily be restricted to the half loop arrangement just described, but may be changed where desired by the substitution for the arrangement shown of saw tooth, *square wave*, or other known wave form generators. [Emphasis ours.]

projecting studs which contact knife-edge points to complete the generator circuit.[1] The generator is coupled with a radio frequency oscillator, the latter terminating in two electrodes from which radiations are emitted. In describing the operation of his device, Milinowski states that pulses from the generator are applied via transformer to the plates of the oscillator tubes of the high frequency oscillator circuit while the latter "functions to supply high voltage ultra high frequency waves *during each pulse*" [emphasis ours] to the outlet electrodes. Milinowski's device does not provide for variable control of either pulse magnitude or frequency of high frequency waves.

The Examiner stated in his answer:

Claim 1 stands rejected as unpatentable over FIG. 1 of Milinowski. The claim is applied to the reference as follows. Milinowski discloses an electrotherapy apparatus comprising low voltage, pulse energy generator means * * *, radio frequency oscillator means * * *, means * * * for feeding the pulse energy of said generator means to the oscillator means and means * * * for radiating the output of said oscillator means. As for the functional statement "so that the output of the latter comprises discrete bursts of radio frequency modulated pulses having wave form characteristics similar to the pulse energy of said generator means," it is noted that Milinowski states * * * that the pulses applied to the oscillator causes the oscillator to supply high frequency waves *during each pulse* to the electrodes * * *. This clearly indicates that the radio frequency output of the oscillator is superimposed upon the pulses from the pulse producing circuit and thereby results in the generation of an output with the shape of the output pulses "similar" to the pulses from the pulse producing circuit. In other words, the statement of function recited in the claim is, of necessity, inherent in the apparatus of Milinowski. It is seen, therefore, that Milinowski meets the functional as well as the structural limitations recited. With regard to the last means recited in the claim, i.e., "means for varying the frequency of said oscillator means," it is quite obvious that the frequency of the oscillator * * * of Milinowski may be varied by changing the value of the appropriate element such as capacitor * * * or inductance * * *. To make a circuit element such as a capacitor, inductor, resistor, etc., adjustable is an expedient requiring no inventive concept since it produces no new or unexpected results.

* * * * * * *

Claim 2 stands rejected as unpatentable over Milinowski. Claim 2 adds the limitation of "means for varying the pulse energy of said generator means." Milinowski states * * * that the pulse width (and thereby the pulse energy) of the pulse generator is determined by the width of [the] stud * * * and speed of [the] contactor * * *. It is obvious that either characteristic may be changed as desired to produce a predetermnied pulse width.

The Board fully accepted the Examiner's position, finding it necessary to add but the following:

The provision in the reference of variable frequency determining components for the radio frequency oscillator, for the purpose of enabling the frequency of said oscillator to be adjusted as desired, would represent merely a conventional oscillator expedient, of which we may well take judicial notice. In this sense, in conformity with the view of the Examiner, we see nothing beyond obvious adoption of an old and known feature, for merely expected results, in such provision for Milinowski.

Whether that portion of claim 1 reading "so that the output . . . pulse energy of said generator means," * * * be regarded merely as functional in character, or as having some structural connotation as part of the specified function for the feeding "means" involved (see *In re Chandler*, 45 CCPA 911; 117 USPQ 361; 254 F.2d 396; 1958 CD 291; 732 OG 274), would appear to be immaterial here, since in any case a wave form within the terms of said claim portion, and thus structure for producing the same, are disclosed in the reference. The oscillator * * * being controlled through [the] transformer * * * in accordance with the pulses from low frequency pulse generator * * * will clearly have an output comprising high frequency oscillations with an envelope of the

[1] Pulse duration and frequency are thus functions of the thickness of the studs and rotation velocity of the contactor, respectively.

[square wave] pulse form * * *. Thus, there are modulated pulses in the sense of pulses produced by a modulation action, these are in discrete bursts of radio frequency energy, and they have the form corresponding to that of the low frequency pulses, as represented by said [square wave form] * * *. This is all that is required by the language of the involved part of the claim.

Appellant argues that Milinowski neither teaches nor suggests the following aspects of the claimed invention: *low* voltage generator means; superimposition of high frequency voltage waves on low voltage pulses; means for varying both the frequency of high frequency waves of the oscillator and the pulse energy of the generator, i.e., variable capacitance and variable rectifier feed ("Variac").

For reasons hereinafter stated, we see no merit in appellant's arguments. As to *low* voltage generator means, appellant states that Milinowski's apparatus generates *high* voltage whereas his device is disclosed and claimed as a *low* voltage generator. In this regard, the Examiner stated in his answer:

The "low voltage, plus energy generating means" reads on the generator * * * of Milinowski. It is clearly obvious that the voltage from this generator is "low" from [the disclosure] * * * of Milinowski, wherein it is stated that such voltage is *stepped up* before it is applied to the plates of the oscillator tubes.

The Solicitor adds in his brief that appellant's disclosure sheds no light on the final output voltage contemplated by appellant; that the only relevant disclosure states "Variac" output voltage to be from 0 to 135 volts. Plate voltages in the rectifier diodes are not disclosed, nor does appellant disclose the voltage of his oscillator output. The Solicitor further notes that Milinowski employs conventional 110 volt alternating current; that the generator through transformers may deliver current at up to 3000 volts; and that Milinowski suggests the use of a step-down transformer with the pulse generator.

Because of the paucity of disclosure of appellant's voltage parameters, we are unable to conclude that the relative term "low" with relation to voltage of generated pulses patentably distinguishes appellant's device from that of Milinowski. We are unable to find that appellant operates in voltage ranges significantly different from those taught or suggested by Milinowski.

As to appellant's argument concerning superimposition of high frequency voltage waves on low voltage pulses, we note, as did the Board, that the claims call only for "means for feeding the pulse energy of said generator means to said oscillator means so that the output of the latter comprises *discrete bursts* of *radio frequency modulated pulses* having wave form characteristics *similar to the pulse energy* of said generator means." [Emphasis ours.] The Examiner stated that Milinowski's apparatus inherently produces such bursts. The Board noted that Milinowski's modulated wave form would have the same envelope as the generated pulses, i.e., square, which is all the claim requires. Appellant's arguments before us in no way rebut either the Examiner's or the Board's position, with which we agree.

Finally, appellant contends that it is unobvious to use a variable capacitor and a "Variac" in his apparatus since Milinowski does not suggest their need. Appellant argues that one skilled in the art would not make the pulse generating means and radio frequency generating means variable without appellant's teaching that such is desirable, and that appellant attains unexpected results with his apparatus.

[1] We are aware that determining obviousness under 35 U.S.C. 103 often requires consideration of the problem solved by an invention

as well as the means for solving such problem. See *In re Conover*, 49 CCPA 1205, 304 F.2d 680, 134 USPQ 238. However, assuming, arguendo, that appellant has solved a problem in the electrotherapy art, it does not follow that the means employed in the solution are unobvious. The "Variac" is a notoriously old device for varying voltage, as is the variable capacitor in circuits for varying frequency. Unobviousness appears to be urged by appellant on the basis of his determination that in electrotherapy different patients respond to different radiation frequencies.[4] The claims before us, however, define *apparatus* which differs from the prior art only in notoriously old elements, not processes of treatment. In our view the *apparatus* claimed is obvious within the meaning of Section 103.

As for alleged unexpected results in using the "Variac" and a variable capacitor, suffice it to say that the inclusion thereof in electrotherapy apparatus results simply in *variable* pulse generaion and *variable* frequency from the oscillator. There is nothing "unexpected" in this.

[2] The decision of the Board is affirmed.

AFFIRMED.

[4] Appellant's brief states that effective therapy requires that the radiations emitted by the apparatus be *in resonance with the body tissues sought to be affected*. Since resonance frequencies must be empirically determined with each patient, it is necessary to provide apparatus with variable frequency and power adjustment.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM CARLS

No. 7092. Decided February 13, 1964

[51 CCPA —; 327 F.2d 522; 140 USPQ 418]

PATENTABILITY—PARTICULAR SUBJECT MATTER—VALVE.

The refusal of claims to an air control valve, as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 576,990.

REVERSED.

Barnes, Kisselle, Raisch & Choate (*Chester L. Davis, Jr.*, and *Robert A. Choate* of counsel) for appellant.

Clarence W. Moore (*L.F. Parker* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1, 9, 10, 11, 12, 13, 14 and 15, the only remaining claims of appellant's application, Serial No. 576,990, filed April 9, 1956 for a Valve. The application relates to the construction of an air control valve of the spool type designed for "directing fluid to control apparatus such as cylinders and the like for machine tool operations and other industrial applications."

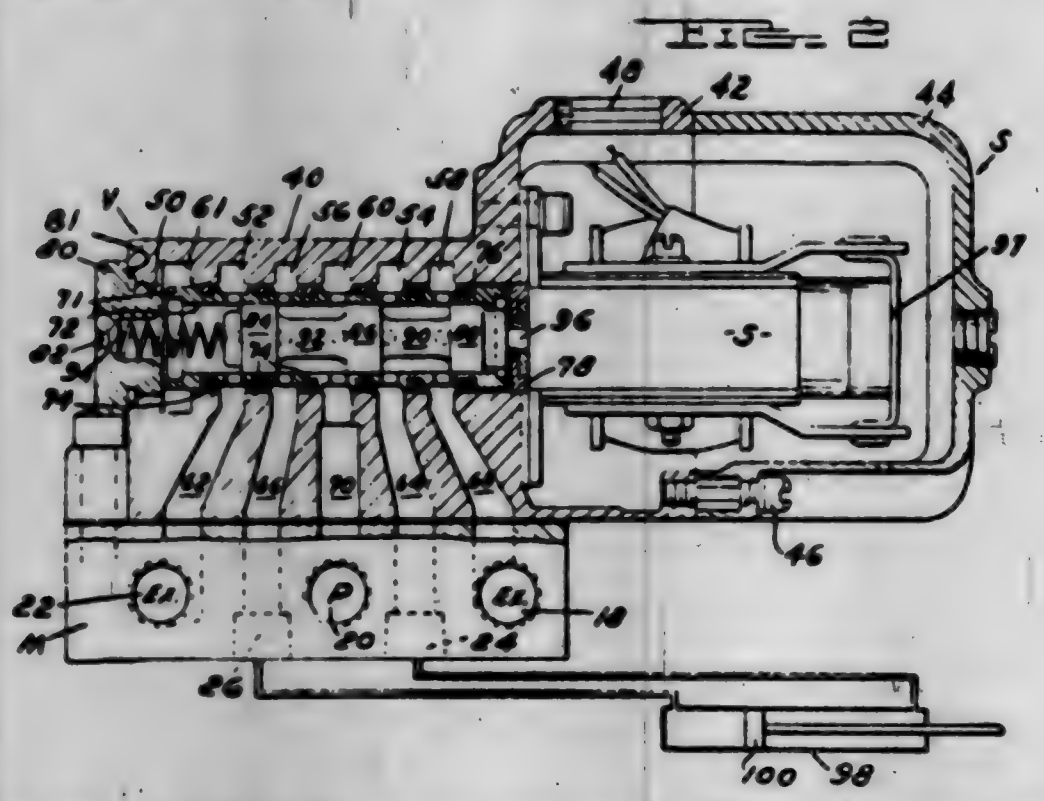
Claims 1 and 9 are representative and read:

1. An air control valve comprising, a housing having a bore and spaced annular ports along said bore for pressure and exhaust connections to a source of supply and a work motor, a sleeve of relatively hard, wear-resistant material inserted in said bore having annular bosses thereon spaced to register with the annular portions of the housing between said ports, *said sleeve having a substantial clearance axially with said housing and also between its outer diameter and the inner diameter of the bore of said housing to provide a mechanical and thermal insulation space*, said annular bosses having grooves for receiving

O-rings and O-rings in said grooves extending outwardly from said housing to seal the space between said sleeve and said housing bore and thus create composite ports between said sleeve and said housing, a valve spool having a lapped fit therewith, and passages formed in said sleeve wherein said spool may direct fluid between said ports, depending on the position of said valve spool.

9. An air control valve comprising, a housing having a bore and spaced interior annular lands and ports along said bore for pressure and exhaust connections to a source of supply and a work motor, a sleeve of relatively hard, wear-resistant material inserted in said bore having annular bosses thereon spaced to register with the annular lands of the housing between said ports, *said sleeve having a substantial clearance between its outer diameter and the inner diameter of the bore of said housing to provide mechanical and thermal insulation space therebetween*, said annular bosses having grooves for receiving O-rings, and O-rings in said grooves extending radially outward from said sleeve into said space to contact the annular lands of the bore of the housing and also to create composite ports between said sleeve and said housing; a valve spool having a lapped fit within said sleeve, passageways formed in said sleeve wherein said spool may direct fluid between said ports, depending on the position of the valve spool within the sleeve, means at each end of said bore positively positioned to confine said sleeve in said bore, *said sleeve being dimensioned axially smaller than the distance between said confining means, wherein said sleeve is in a floating position within said bore on all surfaces.* [Emphasis ours.]

Appellant's valve is best illustrated in an enlarged FIG. 2 of his application reproduced below:



As shown in FIG. 2 the valve includes an axially movable spool comprising lands 84, 86 and 88 connected by restricted portions 90 and 92. The movable spool is reciprocally mounted in the inner bore 72 of a sleeve 71 which in turn is mounted in the main bore 50 of the main portion 40 of a valve housing. The spool is biased in one direction by a spring 94 and is movable in the other direction against the spring bias by a solenoid S. A fluid source, an exhaust passage, and opposed faces of a piston 100 in a power cylinder 98 communicate with the interior of sleeve 71 through various passageways in the housing and ports in the sleeve. The sleeve has both endwise and radial clearance with the bore of the housing and has spaced annular grooves in its outer surface, which grooves receive O-rings 76. The O-rings create a seal between the ports in the valve housing and the endwise clearance of the sleeve prevents it from receiving a binding pressure axially. This is said to insure a floating position in relation to the housing "in

all directions controlled by the resilience of the interposed O-rings." By reciprocating or shifting the movable spool, selected passageways are interconnected to actuate the piston.

The clearance between the floating sleeve 71 and the valve housing 40 is said "to compensate for any warping or change in dimension of the housing." If the housing 40 becomes warped at all the clearance is said to prevent a disturbance of "the character of the bore 72 of the sleeve 71." Thus appellant considers it unnecessary to conform the coefficient of expansion of the main housing V with sleeve 71 and the movable spool. As a result "the main housings can be made of aluminum castings; and the sleeve and spool can be formed of high-grade steel reducing the weight and also the cost."

The references relied on by the Examiner and the Board are:

Moog, 2,767,689, October 13, 1956.
Gerwig, 2,781,782, February 19, 1957.
Berninger et al.,[1] 2,791,237, May 7, 1957.

The Moog patent discloses an electrohydraulic servo valve having a movable control spool reciprocally mounted in a tubular sleeve or bushing which, in turn, is mounted in a bore of a housing. It is stated in the patent that the bushing "comprises a tubular member preferably formed of steel and having an outer diameter slightly less than the inside diameter of [the] bore."

The patent to Gerwig relates to a valve which appellant concedes to be "of the same general type under consideration." Gerwig's valve sleeve contains a control spool mounted within a bore of a main housing. The sleeve is of less axial extent than the bore of the housing. A spring diaphragm in one end of the housing holds the sleeve against axial movement.

The Examiner rejected claims 1 and 9 through 15 as unpatentable over Moog in view of Gerwig. It was his view that the Moog patent shows it to be old in the valve art to provide *diametrical* clearance between a valve sleeve and a bore to prevent binding of the sleeve valve. Since he considered that Gerwig showed a valve sleeve mounted within a valve casing bore, the sleeve being of less axial dimension than the bore to allow for "unrestricted thermal expansion of the parts," the Examiner found no "invention" to apply Gerwig's end or axial clearance to Moog's valve.

In affirming the Examiner's rejection, the Board adopted the reasons of the Examiner. It further stated:

> * * * Moog evidences a clear appreciation of the problem of binding in a valve arrangement of the general type with which we are here concerned, and * * * discloses a solution therefor embracing consideration of sufficient clearance between parts of the valve to prevent the binding, and this at temperatures expected in operation. Thus, it would appear that Moog represents a disclosure of the fundamentals of the basic concept here involved. While it may be that this reference affirmatively refers only to diametrical clearance for the sleeve, it stands to reason that the factor of binding prevention which is the subject of the patentee's appreciation would inherently involve aspects of end clearance for said sleeve as well. As to this aspect, Gerwig in an analogous organization clearly discloses such end clearance, of an amount as illustrated which reasonably would inherently permit longitudinal expansion and contraction effects under normal expected operation without the production of binding, and we agree with the Examiner that this would suggest as an obvious unpatentable matter the provision of end clearance for the sleeve in the Moog valve.

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[1] The Berninger et al. patent was relied on by the Patent Office in connection with that feature of dependent claim 14 whereby a "solenoid is operably associated with said valve spool." Appellant in his brief did not consider the Berninger et al. patent in detail stating that "for purposes of this appeal the patentability of claim 14 depends on the patentability of claim 9." Thus since claim 14 stands or falls with claim 9, we shall restrict ourselves to a consideration of the Moog and Gerwig patents.

Appellant contends that the record is devoid of any teaching or suggestion that it would have been obvious at the time of appellant's invention to modify the valve disclosure in the Moog patent by providing the spring diaphragm of the Gerwig patent or, for that matter, any end clearance between the sleeve and the housing.

We think the issue is simply whether it would be obvious to a person having ordinary skill in the valve art with knowledge of the art of record to modify the Moog valve by providing within the bore of the main housing of the patentee's valve an axial or end clearance between the sleeve therein and the main housing. A careful analysis of the art convinces us that it would not be obvious.

Appellant states that, as a result of the provision of a diametrical clearance and an axial or end clearance, his sleeve is in a floating relation to his housing bore. It is this feature of a "floating" sleeve, due to the aforesaid diametrical and axial clearance, which avoids the adverse effects of warping or change in dimensions of the valve housing which otherwise causes binding or sticking of the valves. We think it clear that the Moog patent does not disclose any concept of a "floating" sleeve. This in effect has not been denied by the Patent Office since the Solicitor concedes in his brief, as the Board did by implication in its decision, that Moog does not disclose that there is any substantial end clearance between his valve housing and his sleeve.

The Solicitor however refers to the statements in the Moog patent that the sleeve or bushing is formed of "an outer diameter slightly less than the inside diameter of the bore" and that "inasmuch as bushing * * * is mounted in O-rings in [the valve] body * * *, there is no binding thereof by the valve body to impair operation" of the spool at low temperatures. It is contended that Moog thus recognized the problem of valve spool binding due to distortion of the valve housing relative to the sleeve and proposed a slight clearance between these parts as a solution to this problem.

We do not consider that a teaching of a slight diametrical clearance in the Moog patent would suggest the concept of a "floating" sleeve, nor do we think that Gerwig would suggest modifying Moog to achieve a "floating" sleeve relationship. Although the Examiner refers to Gerwig's sleeve being of less axial dimension than the bore to allow for "unrestrained thermal expansion of the parts," we find no such reference to "unrestrained thermal expansion of the parts" in the Gerwig patent.

Furthermore, although the drawings of Gerwig show the sleeve of less axial length than the bore in which it is disposed, one end of the sleeve contacts the housing and the other end is engaged by a spring diaphragm disposed between it and the housing. In his only description of that aspect of his construction, the patentee states that the "sleeve * * * is fitted within the chamber * * * and is *held against axial movement* between flange * * * and a spring diaphragm * * * bearing against cover * * *." [Emphasis ours.] It seems to us that that statement constitutes a teaching contrary to the provision of a construction permitting the sleeve to move in an axial direction, which feature is essential to appellant's floating sleeve concept. Certainly, it does not suggest that the sleeve in the Moog valve be provided with such end clearance between the sleeve and the housing as will result in a floating sleeve construction having the advantages disclosed.

For these reasons the decision of the Board is *reversed*.

REVERSED.

REISSUES

JULY 7, 1964

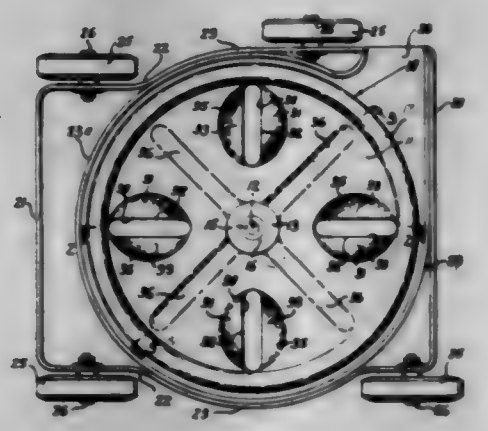
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,611
ROTARY LAWN MOWER BLADE

Samuel Belfiore, 233 Gates Ave., Elyria, Ohio, assignor of one-third to Raphael L. Boose, Wakeman, Ohio

Original No. 3,097,469, dated July 16, 1963, Ser. No. 203,595, June 19, 1962. Application for reissue Sept. 16, 1963, Ser. No. 309,363

2 Claims. (Cl. 56—295)



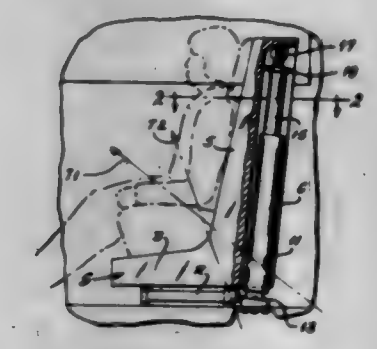
1. A rotary lawn mower blade comprising a disc having a central opening for the rotating shaft of a lawn mower; reinforcing washers on each side of said disc surrounding said opening, [radical] *radial* reinforcing ribs stamped in said disc and extending from said washers to points adjacent to the periphery of said disc, said disc having a plurality of radial slots therein, a pair of concaved cutting cups formed one on either side of each slot with the cups of each pair being oppositely concaved, the edges of each cup being arcuate axially of the disc and straight radially of the disc to define cutting edges adjacent each slot on each side of said disc, said concaved cups tapering rearwardly into fluid relation with the surface of the disc to provide a suction effect, and a relatively large annular bead about the periphery of said disc.

25,612
ROCKETS AND SEAT EJECTING APPARATUS

James T. Thorp, Webster Groves, Mo., assignor to Lambert Engineering Company, St. Louis, Mo., a corporation of Missouri

Original No. 3,079,111, dated Feb. 26, 1963, Ser. No. 54,657, Sept. 8, 1960. Application for reissue Jan. 6, 1964, Ser. No. 344,799

20 Claims. (Cl. 244—122)



4. An ejecting seat having a back and a bottom, a plurality of elongate rockets mounted on and beneath the seat bottom so as to extend front to back in generally parallel relationship to the bottom of the seat, said rockets being mounted in spaced relationship on opposite sides of the front to back center line of the seat, each rocket having a separate nozzle adjacent the back of the seat and said nozzles being canted downward, rearward and laterally outward with respect to the longitudinal axes of the rockets.

25,613
DRAPERY HEADING SEAM

Cavour Langdon Truesdale, Richmond, Va., assignor to Plastic Products, Incorporated, Richmond, Va., a corporation of Virginia

Original No. 3,084,738, dated Apr. 9, 1963, Ser. No. 72,073, Nov. 28, 1960. Application for reissue June 21, 1963, Ser. No. 290,885

8 Claims. (Cl. 160—330)



11. A drapery comprising a main panel of plastic material, a reinforcing member containing a thermoplastic material, first and second strips of plastics, said reinforcing member and said strips being joined by a series of substantially vertical lines of heat sealing spaced at intervals along the lengths of said reinforcing member and said strips, said lines of heat sealing defining a series of vertically disposed pockets between said first and second strips, said lines of heat sealing combining said reinforcing member and said strips in a series of tear-resisting joints, thereby resisting separation of said strips from said reinforcing member, said reinforcing member being disposed against said main panel, said first strip being disposed in overlying relation to said reinforcing member and extending therebelow and being attached to said main panel at a plurality of longitudinally spaced points below the lower edge of said reinforcing member, said second strip being disposed in overlying relation to a portion of the width of said first strip, the top of said second strip being sealed along the top of said main panel.

25,614
MEANS OF GROUTING AND CONCRETING

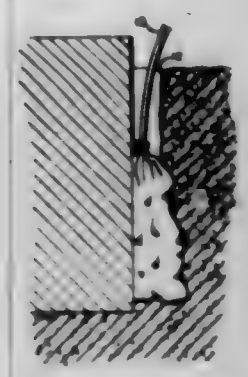
Lee A. Turzillo, Bath, Ohio
(2078 Glengary Road, Akron, Ohio)

Original No. 3,099,911, dated Aug. 6, 1963, Ser. No. 766,001, Oct. 8, 1958. Application for reissue Sept. 18, 1963, Ser. No. 309,910

6 Claims. (Cl. 61—35)

1. A method of grouting a situs within a soil structure comprising placing a porous, expandible, flexible bag in unexpanded condition [at] *in* the situs and then injecting a flowable grout under pressure into said bag to expand the bag against soil surrounding the situs and

continuing the injection of the flowable grout under pressure until a small fraction only of the flowable grout oozes out through the pores of the bag and the expanded bag conforms itself in shape to the surrounding soil areas contacting the expanded bag according to the strengths, weakness and voids of the surrounding soil structure without the substantial flow of grout from the desired situs



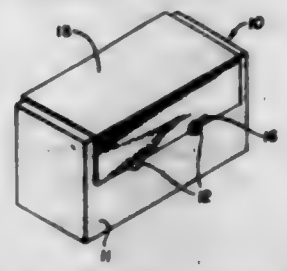
into crevices in the soil, and permitting the flowable grout which has oozed through the porous bag and the flowable grout within the bag to solidify in pressure contact with areas of the situs, whereby the solidified grouting possesses a higher skin friction to said surrounding structure by reason of the direct pressure contact of the solidified grout with the surrounding structure.

25,615

METHOD OF ADDING A CASING TO A REFRACTORY ARTICLE

Charles B. Reynolds, Saratoga, Calif., and Walter M. Ekland and Donald C. Burklo, Columbiana, Ohio, assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Original No. 3,083,453, dated Apr. 2, 1963, Ser. No. 696,771, Nov. 15, 1957. Application for reissue May 27, 1963, Ser. No. 284,290
17 Claims. (Cl. 29—470.7)



1. The method of applying a metal casing to a nonacid refractory brick which comprises forming in said brick at least one shallow discontinuous depression in a longitudinal face, placing on said brick a U-shaped metal casing composed of a web and two arms, said casing being disposed over three longitudinal faces of said brick such that one of said arms is disposed above said depression, applying heat to said casing above said shallow depression, and pressing and locally deforming said metal casing into said shallow depression while heating.

PLANT PATENTS

GRANTED JULY 7, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,416

GLADIOLUS PLANT

Carl Fischer, St. Charles, Minn., assignor to Imperial Flowers Limited, Leamington, Ontario, Canada, a corporation of Canada

Filed May 23, 1963, Ser. No. 282,824
1 Claim. (Cl. Plt.—85)

A new and distinct variety of gladiolus plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a robust plant habit, an unusual and distinct floret form ranging from broad to narrow, good flower head length, a distinctive and attractive Aureolin general color tonality of the flowers, said flowers having blotches of Scarlet, with a broad Blood Red blotch line on the broad florets and a Blood Red midrib on the lower petals of the narrow florets, and a habit of producing strong bulbs.

2,417

GLADIOLUS PLANT

Carl Fischer, St. Charles, Minn., assignor to Imperial Flowers Limited, Leamington, Ontario, Canada, a corporation of Canada

Filed May 23, 1963, Ser. No. 282,825
1 Claim. (Cl. Plt.—85)

A new and distinct variety of gladiolus plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an extremely vigorous plant habit, the ability to open exceptionally well from tight buds, good adaptability to both summer and winter climates and temperatures over a wide range of latitude, and particularly in the Southern latitudes of the United States, and a distinctive and attractive Rhodamine Pink general color tonality of the flowers, said flower color becoming slightly deeper on the lip petals as the flowers age, and the lip petals having a small white blotch, and the reverse of the florets having a streak of Amaranth Rose radiating outwardly from the calyx.

2,418

PEACH TREE

Frederic W. Anderson, Merced, Calif., assignor to L. E. Cooke Co., San Gabriel, Calif., a corporation

Filed June 13, 1963, Ser. No. 287,728
1 Claim. (Cl. Plt.—43)

A new and distinct variety of peach tree, as illustrated and described, characterized by its dwarf size, averaging six to eight feet in height; and further characterized by the productive bearing of large size, yellow fleshed freestone fruit having yellow skin partially mottled with orange red; the variety being a sib of and very similar to the Golden Prolific nectarine, but being a peach.

2,419

NECTARINE TREE

John M. Garabedian, Fresno, Calif., assignor to Peach & Willow Farms, Fresno, Calif., a corporation of California

Filed July 5, 1963, Ser. No. 293,218
1 Claim. (Cl. Plt.—41)

A new and distinct variety of nectarine tree, substantially as illustrated and described, characterized by regular and productive bearing of large, uniform, globose, clingstone fruit having yellow flesh with red adjacent the stone, and yellow skin largely overspread with red which is streaked and mottled; and further characterized, in comparison to the Gold King nectarine, by fruit having a deeper ventral suture toward the apex, and by a harvest period about four weeks later.

2,420

PLUM TREE

John M. Garabedian, Fresno, Calif., assignor to Peach & Willow Farms, Fresno, Calif., a corporation of California

Filed July 5, 1963, Ser. No. 293,219

1 Claim. (Cl. Plt.—38)

A new and distinct variety of plum tree substantially as illustrated and described, characterized by flowering about five days after the Santa Rosa and by the regular and productive bearing of large clingstone fruit having very firm red flesh and black skin blushed blue-gray, the fruit hanging on the tree for a substantial period of time while remaining in excellent market condition; and further characterized in comparison to the Duarte by a harvest approximately three weeks later, by firmer flesh, and by smooth black skin as distinguished from the mottled brownish-black skin of said Duarte.

2,421

ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Aug. 26, 1963, Ser. No. 304,786

1 Claim. (Cl. Plt.—11)

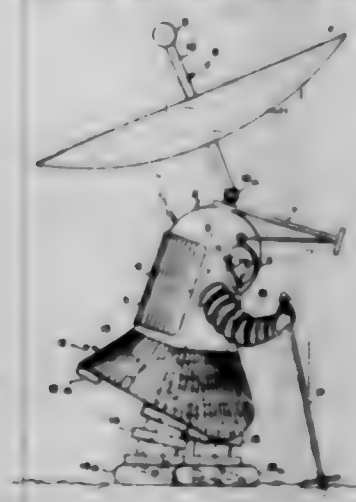
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a free-flowing habit, with consequent profusion of flowers on each plant, a large, double and cupped flower form, a distinctive and attractive general color tonality of the flowers corresponding to Persian Lilac, very lightly overcast with Pale Persian Lilac, and a rich centifolia flower fragrance.

PATENTS

GRANTED JULY 7, 1964

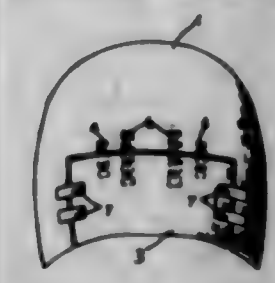
GENERAL AND MECHANICAL

3,139,622
MOON CAPSULE SUIT
Otto Schueller, 1953 E. Botans Drive, Dayton 28, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 17, 1961, Ser. No. 103,664
1 Claim. (Cl. 2—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



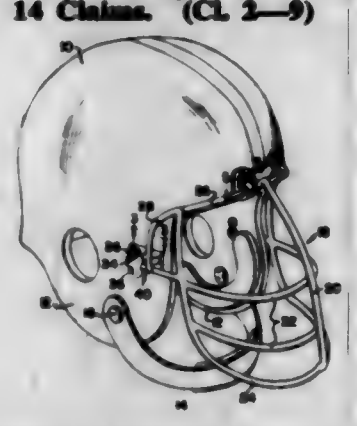
A self-sufficient, life-support system including a moon capsule suit comprising a pressure capsule adapted to house a prospective space man therein in an emergency mechanical pressure suit, said capsule incorporating extensible arm sections exteriorly thereof, a pair of extensible leg sections adapted to accommodate the legs of the space man loosely therein and extending in depending relation from said pressurized capsule in open communication with the interior of said pressurized capsule, and combined solar radiation protection and power source means provided on said capsule insuring protection of the space man from solar radiation comprising an umbrella element pivotally mounted over said capsule and concave in the direction to face the sun, the umbrella having a reflective surface adapted to reflect the radiation from the sun onto a concentrator element, said combined radiation protection means further comprising a protective radiation shield affixed in depending relation to said pressurized capsule in partial surrounding relation to said pair of extensible leg sections in spaced relation thereto.

3,139,623
FOOTBALL HELMET BACK FLAP
George W. Joseph, Jr., 2086 Magee St., Lakewood, Ohio
Filed Jan. 19, 1962, Ser. No. 169,783
4 Claims. (Cl. 2—3)



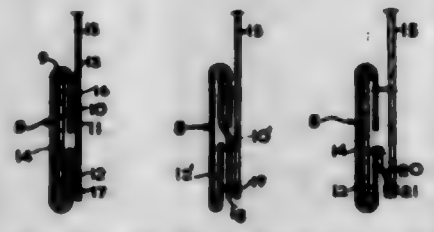
1. In a football helmet the combination consisting of a helmet having at its middle lower back a cut-out portion, a flap which is hingedly connected to the helmet at the upper center of the cut-out, operable means to hold the flap in a flush position with the helmet, and a stop-bar mechanism to prevent the flap from entering the interior of the helmet, but allowing the flap to rotate outwardly.

3,139,624
FACE GUARD FOR FOOTBALL HELMET
Delby C. Humphrey, 700 Indiana Ave., Terre Haute, Ind.
Filed Mar. 18, 1963, Ser. No. 265,873
14 Claims. (Cl. 2—9)



1. In combination; a football helmet, a grid-like face mask for the helmet, means pivotally connecting the face mask to the helmet at the top of the helmet in front on a transverse horizontal axis so that face mask can be swung in a vertical plane about said axis between operative and inoperative positions on the helmet, said face mask including portions which extend along and embrace the sides of the helmet a substantial distance below the top of the helmet when the face mask is in operative position, and means mounted on the sides of the helmet at the level thereof embraced by said portion of the mask having means to detachably engage said portions and abutment means to abuttingly engage said portions for positively halting the face mask on said helmet in said operative position thereon when the face mask is moved from inoperative position into operative position to prevent movement of the face mask beyond said operative position and for releasably retaining the face mask in said operative position to prevent accidental movement of the face mask from said operative position to inoperative position.

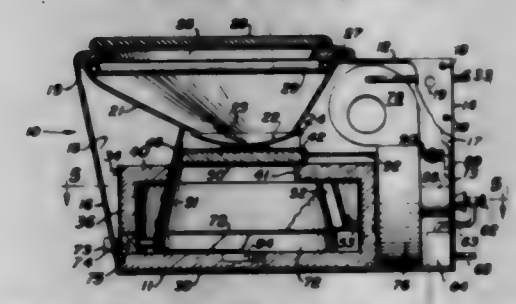
3,139,625
CUFF FOR GARMENTS
Marcus Mauly Isaacs, Coogee, New South Wales, Australia (583 Pacific Highway, St. Leonards, New South Wales, Australia)
Filed Oct. 18, 1962, Ser. No. 231,393
Claims priority, application Australia Nov. 9, 1961
3 Claims. (Cl. 2—232)



1. A garment having a cuffless lower edge, and a separate cuff secured to the outer surface of said lower edge

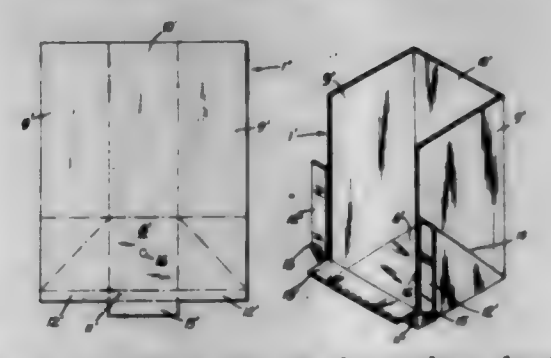
of the garment, said cuff comprising a liner band of textile material substantially the full width of the cuff and having upper and lower edges, a length of cuff material folded over the upper and the lower edges of the liner band for forming upper and lower hems on the inner surface of the liner band, two lines of externally invisible stitching securing respectively the upper hem to the upper edge of the liner band and the upper edge of the lower hem to the liner band intermediate its edges, and two lines of externally invisible stitching securing the upper and lower cuff hems to the garment adjacent the upper edge of the cuff and adjacent the lower edge of the garment respectively.

3,139,626
INCINERATOR TOILET
Ernest Bayne Blankenship, P.O. Box 35164, Dallas 35, Tex.
Filed July 27, 1961, Ser. No. 127,397
5 Claims. (Cl. 4—131)



1. In an incinerator type toilet including an outer cabinet and a substantially closed combustion chamber interiorly spaced from the walls of said outer cabinet, at least one air intake port in a wall of said outer cabinet, means driving air through said air intake port into said outer cabinet, an exhaust duct extending interiorly of said outer cabinet and communicating the interior of said outer cabinet with the atmosphere exterior thereof, an air passageway about the periphery of said combustion chamber and having one wall common therewith and having an intake portion sealed from the interior of said outer cabinet and communicating with the atmosphere exterior thereof and having an exhaust portion in communication with said duct, a venturi outlet on said exhaust portion of said air passageway within said duct, an opening communicating the interior of said combustion chamber with said air passageway and means within the said air passageway providing heat within said combustion chamber.

3,139,627
LINER FOR A SHOWER STALL
Harry Lawrence Rice, deceased, late of New York, N.Y., by Helen Rice, Administratrix, New York, N.Y., assignor to Rubber and Plastics Compound Co., Inc., New York, N.Y.
Substituted for abandoned application Ser. No. 28,965, May 13, 1960. This application Aug. 8, 1962, Ser. No. 217,242
2 Claims. (Cl. 4—146)



1. A substantially rectangular impervious sheet having two longitudinal lines marking off the sheet into three substantially equal panels, the center panel being slightly longer at one end than the other two panels by a distance equal to a curb width, a marking across the center panel defining the extra length, two transverse markings at the ends of the panels near the extra length, the nearer one of the transverse marks being about as far from the ends of the outer panels as the farther end of the center panel, and the second transverse mark being substantially as far from the first transverse mark as the width of the panels, said sheet being foldable along the markings to form a shower stall liner.

3,139,628
AUTOMATIC WATER REFILL SYSTEM FOR SWIMMING POOL
John A. Richards, 3525 E. 93rd, Seattle, Wash.
Filed May 9, 1960, Ser. No. 27,659
9 Claims. (Cl. 4—172)

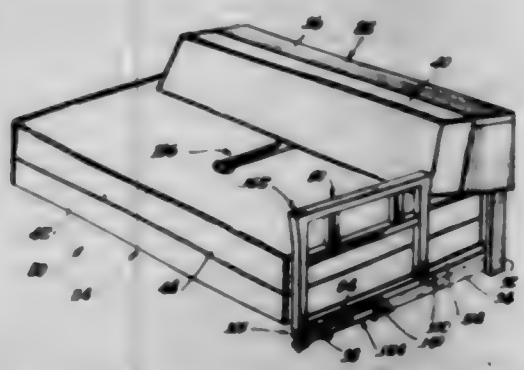


1. In a swimming pool, a length of pipe having the general shape of an inverted L and secured to the pool so that one section occupies a generally horizontal position spaced above and approximately parallel with the deck of the pool and the other section is disposed in a vertical position located within the confines of the pool spaced from and approximately parallel with a side wall of the latter which is adjacent said deck, the one end of said horizontal section being connected to the upper end of said vertical section, the other end of said horizontal section being connected with a main-fed service pipe and the lower end of said vertical section being submerged below the water within the pool, a valve housed in the horizontal section, a float housed entirely within the upright section so as to be completely contained therein, openings in the pipe permitting free flow of water between the pool and the interior of the pipe so that the float will rise and fall with changes in the water level of the pool and so that replenishing water will issue from said interior into the pool upon an opening of the valve, and an interconnection between the float and the valve acting to open the latter from an otherwise closed condition automatically as the float falls upon a drop of the water in the pool below a predetermined level.

3,139,629
SWING BED
Ewald A. Kamp, Chicago, and Sam Panger, Oak Lawn, Ill., assignors to The Englander Company, Inc., Chicago, Ill., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,846
5 Claims. (Cl. 5—17)

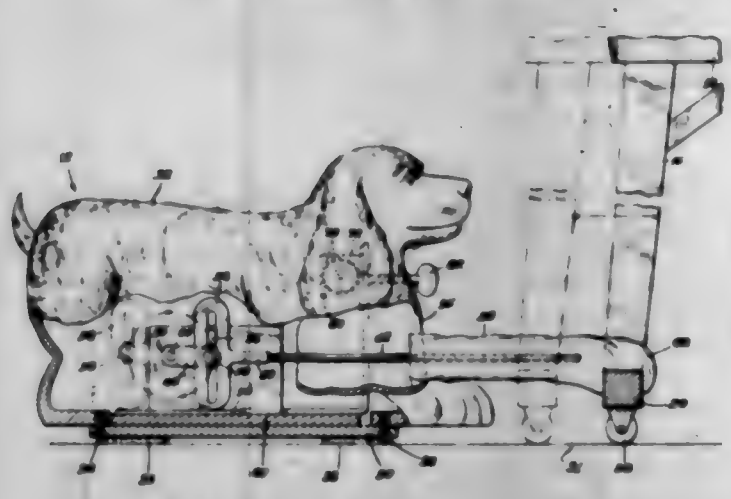
3. In a convertible bed arrangement, the combination comprising: a stationary framework structure including a backrest and a laterally projecting formation; a movable framework structure adapted to support bed elements; a plurality of rollable support assemblies supporting said movable framework structure for movement relative to said stationary framework structure; interacting track and roller means aligned laterally of said stationary framework structure and connected individually to said laterally projecting formation and to said movable framework structure for directing sliding movement of said movable framework structure relative to said sta-

tionary framework structure; pivot means for said movable framework structure connected to a portion of said interacting track and roller means for sliding movement with said movable framework structure; a tiltable arm; a fulcrum for said tiltable arm fixed with respect to said pivot means to be movable therewith and for connecting said arm to said movable framework structure; a first engaging member on said arm; cooperating second engaging members on each of said stationary and mov-



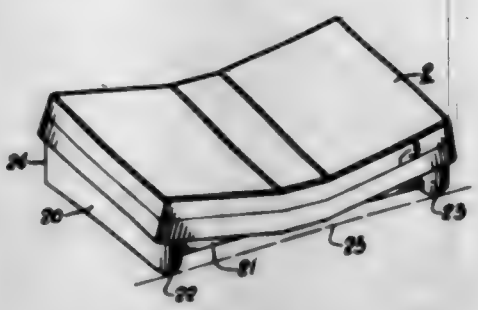
able framework structures for cooperative engagement by said first engaging member; and means on said movable framework structure for selectively tilting said arm to direct interengagement of said first engaging member with a selected second engaging member whereby to lock said movable framework structure to said stationary framework structure for preventing relative sliding movement or to said pivot means through said arm for preventing relative swinging movement.

3,139,630
RHYTHM ROCKER
Max L. Hunt, 630 N. 3rd Ave., St. Charles, Ill.
Filed June 15, 1961, Ser. No. 117,440
1 Claim. (Cl. 5—109)



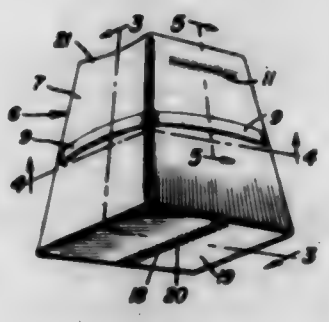
A cradle engine for use with a cradle mounted on wheels, said cradle engine comprising, in combination, a base, friction means mounted on the bottom of said base, a hollow figure mounted on said base, said hollow figure having an elongated external limb aperture, an electric motor mounted on said base within said hollow figure, a speed reduction transmission mechanically connected to said electric motor, said speed reduction transmission having an output shaft having an axis of rotation substantially parallel to the plane of the base, a crank mounted on said output shaft for rotation therewith, a pin mounted on said crank for rotation about the axis of rotation of said shaft, a slide plate mounted on said base below the pin, a slide slideably engageable with the slide plate and having a slot slideably receiving the pin, said slot having a length greater than the distance from the pin to its axis of rotation, an external movable limb being a portion of said animal figure and being movably positioned in said limb aperture, said limb being connected to said slide for movement therewith through a two-inch stroke, and means on said limb for connecting the limb with the cradle, whereby the limb is connectable to the cradle at a variety of heights and the rotation of the output shaft by the electric motor reciprocates the limb and the cradle.

3,139,631
PILLOW CONTOURING BASE
Augustine John Kiefer, Ben Avon, Pa.
(1900 Brighton Road, Pittsburgh 12, Pa.)
Filed June 8, 1961, Ser. No. 115,703
1 Claim. (Cl. 5—337)



An external pillow contouring base to be covered by and support an ordinary rectangular bed pillow consisting of a lightweight hollow structure of generally rectangular shape having an upwardly extending pair of oppositely disposed front and back walls and an upwardly extending pair of oppositely disposed end walls forming continuous perimetral top and bottom edges, a flat intermediate section on the top of said front and rear walls, said end walls being of greater height than said flat intermediate front and back walls, support means connecting selected of said walls to carry a bed pillow, and a projection on each of said end walls extending beyond said front wall and then turn inwardly toward each other and then return to join said front wall in spaced relation to each other, the supported bed pillow overlying said front wall and said projections permitting said projections to function as a shoulder stop to prevent the user from turning over.

3,139,632
BODY REST
Thomas D. Johns, 707 3rd St., Webb City, Mo., assignor of fifty percent to Max H. Glover, Webb City, Mo.
Filed May 4, 1962, Ser. No. 192,584
6 Claims. (Cl. 5—341)



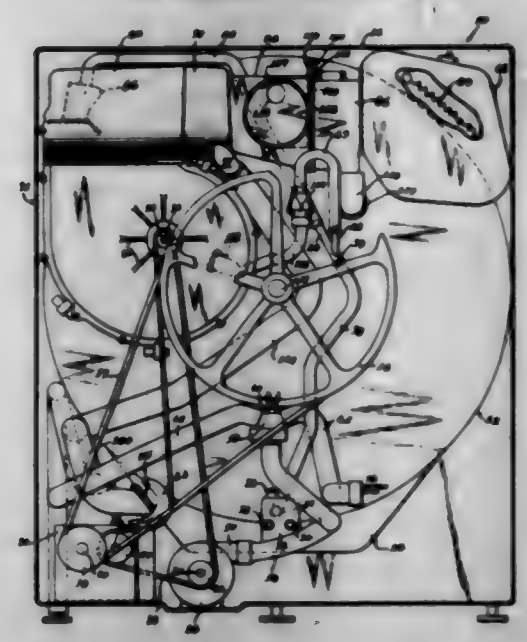
1. For use at the beach while reclining and sunbathing, a body rest which when in use becomes a prop and permits the user to locate the same beneath a selected arm pit, said rest comprising a substantially truncated pyramidal cushion characterized by compressibly resilient padding completely enclosed in a waterproof cover, said cover being provided in an upper portion of one side with a depending enclosed pocket and being further provided with a slit affording communication with the mouth of said pocket, rigidifying and stabilizing means embedded in said padding and functioning to permit the overall cushioned rest to maintain its intended self-standing position.

3,139,633

METHOD AND MEANS FOR DISPOSING OF LINT IN A LAUNDRY APPARATUS

Rhine G. Fecho, Baroda, and Charles H. Wade, Benton Harbor, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware

Filed Nov. 14, 1960, Ser. No. 68,819
22 Claims. (Cl. 8—158)



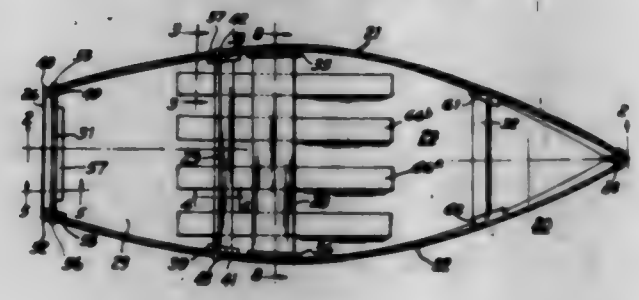
2. The method of laundering which includes the steps of selectively introducing and draining liquid into and from a treatment zone, cyclically washing, rinsing and drying materials to be laundered in said treatment zone, operating an air-translation and lint separating means, drawing a supply of lint-laden air from the treatment zone during the drying periods of operation, discharging the air away from the treatment zone in the form of a stream, centrifugally separating lint from the stream, introducing liquid into the air-translation means concurrently with the introduction of liquid into the treatment zone to add liquid to the stream and effect a lint washdown of the air-translating and lint-separating means, and draining lint-laden liquid from the separating means.

3,139,634

COLLAPSIBLE BOAT

John B. Craft, 709 W. Atlantic, Philidelphia, Pa.

Filed July 5, 1962, Ser. No. 207,630
5 Claims. (Cl. 9—2)



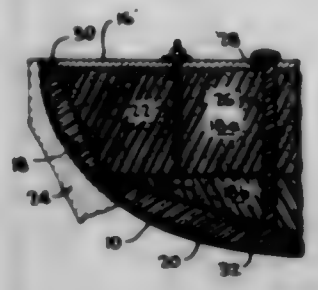
1. A collapsible boat which comprises a pair of elongated side planks of board-like material forming sides thereof, a waterproof fabric strip hinging forward ends of said side planks together, a waterproof fabric bottom sheet attached to lower edges of the side planks and linking the side planks, a transom strip of waterproof material attached to and linking rear edges of the side planks and integral with the bottom sheet, a seat board releasably received between the side planks, means for holding the seat board in position closely spaced above lower edges of the side planks, a back rest member releasably received between the side planks, hook members at opposite ends of the back rest member overlying upper edges of the side planks and engageable with outer faces of the side planks, each side plank being held between one of the ends of the back rest and the hook member associated therewith, and means for holding the back rest member in position adjacent the seat board.

3,139,635

FLOTATION HULL

George H. Duffer, Shepherdstown, W. Va., assignor to Renaer, Inc., Williamsport, Md., a corporation of Maryland

Filed July 5, 1962, Ser. No. 207,669
3 Claims. (Cl. 9—6)



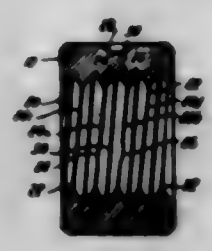
3. A flotation hull structure comprising an inner core of low density unicellular plastic foam having a rigid frame imbedded therein, with portions of the frame projecting outwardly from said core, a sheet material shell defining an upwardly opening cavity receiving said core, said projecting frame portions supporting said core within the cavity in spaced relation from the sides and bottom of said shell, and being united at their areas of contact to the said shell, and unicellular plastic foam of greater density than said foam of the inner core interposed between said inner core foam and the skin and united to both, said greater density foam affording a sheath of relatively denser and tougher material than the inner core foam between the latter and the shell.

3,139,636

METHOD OF DISPLACING THREAD PORTION TO PRODUCE LOCK THREAD

Gail C. Abbott, % Grip Nut Co., South Whitley, Ind.

Original application Aug. 14, 1956, Ser. No. 603,921, now Patent No. 3,029,856, dated Apr. 17, 1962. Divided and this application Feb. 23, 1962, Ser. No. 185,176
3 Claims. (Cl. 10—86)



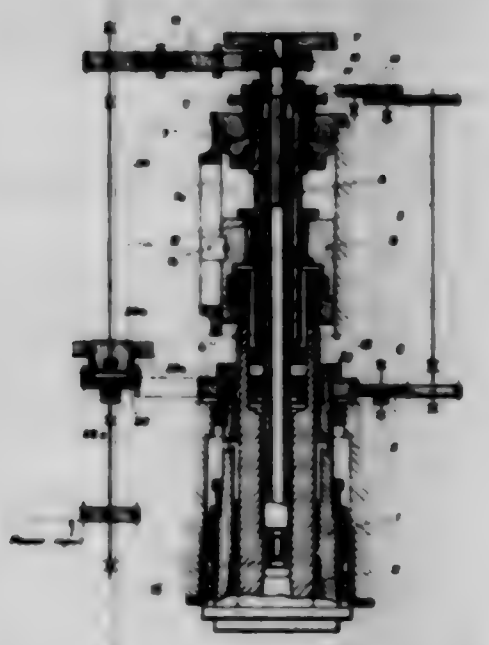
1. A method of fabricating from a standard polygonal nut a self-locking nut adapted to be threaded upon and from a complementary externally threaded member wherein said standard nut is formed with a threaded bore having an uninterrupted crest, a minor thread diameter that is substantially constant along the entire length of the threaded portion of the bore, and a pitch and major diameter that is substantially constant over the major portion of the length of the threaded bore portion, said method comprising the steps of indenting the exterior of said nut at a plurality of symmetrically spaced side regions by applying radially directed forces substantially opposite

the root of said threaded bore wherein each force is applied over a gradually increasing area of said nut and wherein the dimension of the area of initial indenting force application extending parallel to the thread axis is less than the pitch of said threaded bore to provide a radial force component for forming a discrete radially inwardly displaced discontinuity only in the major root diameter of said threaded bore, and to provide axially directed force components to oppositely axially displace discrete portions of said thread crests at each side of the inwardly displaced root portion and adjacent the point of force application without substantial radial displacement of said crest whereby the minor diameter of said threaded bore is maintained substantially constant and the pitch between each displaced root portion and adjacently disposed axially displaced crest portions is made greater than the normal standard nut thread pitch.

3,139,637
DIFFERENTIAL FEED MEANS FOR TOOL SPINDLE

Willi Miskenberg, Moenchen-Gladbach-Rheindahlen, Germany, assignor to Maschinenfabrik Frurip G.m.b.H., Rheydt, Rhineland, Germany

Filed Sept. 23, 1960, Ser. No. 58,863
Claims priority, application Germany Sept. 24, 1959
6 Claims. (Cl. 10—139)

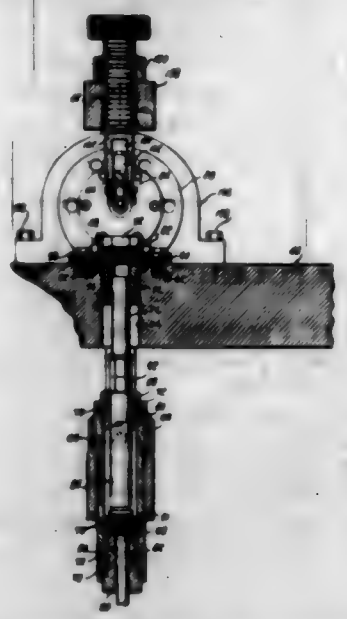


1. In a boring mechanism: a non-axially movable but rotatable main spindle, a hollow boring spindle having a tool receiving end and axially displaceably mounted in and connected to said main spindle so as to rotate therewith, a non-axially movable but rotatable feeding spindle coaxially arranged with regard to said boring spindle, thread means connecting the feeding spindle to the boring spindle whereby rotation of the feeding spindle will cause axial movement of the boring spindle, means drivingly connecting said feeding spindle with said main spindle for rotation of said feeding spindle in response to rotation of the main spindle thereby to impart an axial movement upon said boring spindle, an inner spindle rotatably arranged within said feeding spindle and said boring spindle and coaxial therewith and connected to the latter for axial movement therewith, said inner spindle having a tool receiving end adjacent the tool receiving end of said boring spindle, main drive means, coupling means operable for selectively drivingly connecting said main drive means individually with said main spindle and said inner spindle and with both thereof simultaneously for driving one or both of said main spindle and said inner spindle in rotation.

3,139,638
NUT FEEDING AND ORIENTING MEANS AT WORK STATION

Gail C. Abbott, % Grip Nut Co., South Whitley, Ind.

Original application Dec. 13, 1956, Ser. No. 628,040, now Patent No. 3,084,359, dated Apr. 9, 1963. Divided and this application Apr. 3, 1962, Ser. No. 189,949
4 Claims. (Cl. 10—162)

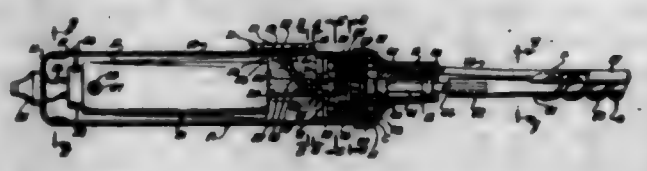


1. A device for feeding nuts to and orienting them at a work station comprising a nut receiving station having a member formed with a vertically disposed through opening and a side opening normally intersecting said through opening, means for feeding a plurality of nuts seriatim through said side opening and into said through opening, said through opening being of such size as to receive only one nut at a time and being of such polygonal configuration as to establish a predetermined angular orientation of each nut therein, means at said receiving station for supporting each nut in said through opening, a fixedly mounted nut indexing fixture at said work station providing a downwardly opening recess having a cross-section corresponding to that of said through opening and being spaced vertically above and in alignment with said through opening, said recess being of such size as to receive only one nut at a time and being of such polygonal configuration as to retain the nut angular orientation established by said through opening, and means operable to supportingly engage the bottom surface of an angularly oriented nut in said through opening to vertically lift said nut through said through opening and into said recess, and means at said work station providing a piloting member coaxially disposed in said recess and adapted to extend into the bore of a nut lifted into said recess for accurately aligning the nut in said recess.

3,139,639
MOTOR-DRIVEN ROTARY TOOTHBRUSH WITH REVERSING GEAR

John Reuben Albright, 2620 La Cuesta Drive, Hollywood 46, Calif.

Filed June 17, 1963, Ser. No. 288,285
9 Claims. (Cl. 15—23)



1. A motor-driven rotary toothbrush comprising, in combination: an elongated case; a motor; a drive shaft projecting from one end of said motor; pivot means mounting said motor within said case near one end of

the case and at a distance from said end of the motor for tilting movements on an axis transverse to the axis of said shaft; a drive pinion on said shaft; a driven shaft aligned with said drive shaft and projecting from the other end of the case; a rotary brush coupled to said driven shaft; reversible gearing comprising a forward drive pinion and a reversing pinion on opposite sides of said drive pinion, normally in radially opposed, spaced relation thereto and selectively engageable by tilting said motor in opposite directions about said transverse axis, and gearing for transmitting drives from said forward drive and reversing pinions respectively to said driven shaft; and actuator means for tilting said motor.

3,139,640

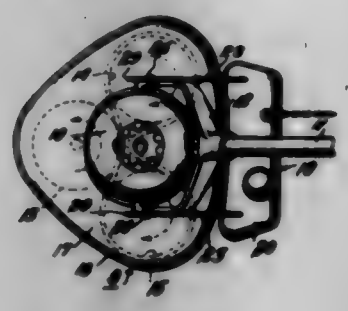
FLOOR POLISHING AND WAX DISPENSING MACHINE

Axel Albert Forsberg, Stockholm, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Continuation of application Ser. No. 552,652, Dec. 12, 1955, which is a continuation of application Ser. No. 156,745, Apr. 19, 1950. This application Oct. 4, 1960, Ser. No. 60,485

Claims priority, application Sweden July 1, 1949

2 Claims. (Cl. 15—50)



1. In a floor polishing or treating machine of the class described having first, second and third members which are mounted for rotation about vertical axes and movable over a surface to be treated, means for rotating said members including provisions for rotating said first and second members in the same direction, a handle, means for pivotally mounting the lower end of said handle on said machine for movement about a horizontal axis, said handle extending obliquely upward from and rearward of said machine at an angle to the vertical during normal forward and rearward movement of said machine on the surface, the axis of rotation of each of said members being located at the apex of a triangle with the axis of rotation of said third member being disposed at the forward part of said machine and the axes of rotation of said first and second members being disposed at the rear of said machine in the same vertical plane perpendicular to the vertical plane in which said handle is vertically movable, the first and second members being disposed at opposite sides of the vertical plane in which said handle is vertically movable, the combination of a device for holding a body of treating fluid and applying such fluid to the surface, said device having an opening for discharging fluid therefrom, and means for supporting said device on said machine to locate the discharge opening above the surface at a region which is rearward of said first and second members in a positioning vertical plane which is parallel to the vertical plane in which said handle is vertically movable and intersects the rear peripheral edge of one of said first and second members at a point at which it is moving toward a line connected the axes of said first and second members, said positioning vertical plane in which said outlet is located being disposed between the vertical plane in which said handle is vertically movable and the parallel vertical plane passing through the axis of rotation of said one of said first and second members.

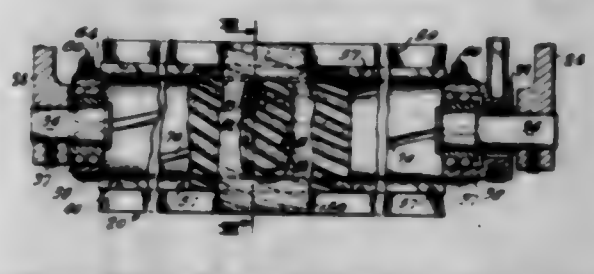
3,139,641

CYLINDRICAL BRUSH CONSTRUCTION

John E. Grogan and Gerard A. Parseghian, Toledo, Ohio, assignors to Power Brushes, Inc., Toledo, Ohio, a corporation of Ohio

Filed June 22, 1961, Ser. No. 118,854

9 Claims. (Cl. 15—182)



3. A disposable cylindrical finishing brush assembly adapted to be mounted on a rotatable shaft having a continuous external cylindrical mounting surface at least at each end of said brush assembly, said brush assembly comprising:

(1) a pre-twisted complementary pair of elongated semi-cylindrical brush strip holding members provided with

(*a*) a plurality of pairs of integral external radially projecting longitudinal extending ribs of uniform cross section throughout their entire lengths,

(*b*) said ribs near the end of said holding members being removed to provide an outer cylindrical continuous substantially semi-cylindrical surface,

(*c*) said pair of semi-cylindrical members each having a continuous semi-cylindrical inner surface of less than 180°,

(*d*) said inner semi-cylindrical surface having a diameter substantially equal to the diameter of said continuous external cylindrical surface of said rotatable shaft on which said holding members are to be mounted,

(*e*) a plurality of elongated brushing element strips located between adjacent pairs of said ribs to provide a plurality of rows of radially extending brushing elements to provide an uninterrupted completely cylindrical brushing surface,

(*f*) deformable means along said ribs for anchoring said strips between said adjacent pairs of said ribs,

(*g*) said semi-cylindrical members being twisted not more than 180° between their ends, whereby their ribs extend slightly helically and said brush strips therein form a helical pattern; and

(2) circumferential removable strap means surrounding said outer continuous semi-cylindrical surfaces at said ends of said holding members for frictionally clamping said pair of holding members to said continuous external cylindrical surface of said shaft, whereby said strap means draw the adjacent edges of said holding members, which are spaced because they are less than 180° in extent, together to prevent slipping between said members and said shaft.

3,139,642

TWISTED TUFT ROTARY BRUSH

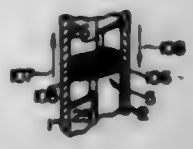
Brooks E. Nelson, Chagrin Falls, and Willard A. Gray, Westlake, Ohio, assignors to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed May 3, 1961, Ser. No. 107,442

28 Claims. (Cl. 15—198)

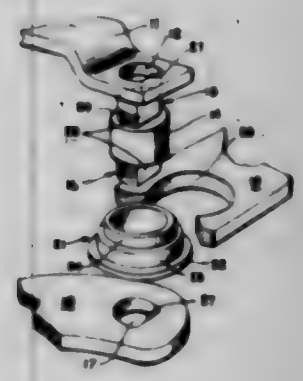
27. A twisted tuft rotary brush comprising a ring, a

series of looped twisted tufts threaded on said ring, and



means laterally to compress the loops of said tufts to loosen the twisted portions thereof.

3,139,643
WINDSHIELD CLEANER
Joseph P. Tries, Buffalo, and James R. Blewett, East Amherst, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Nov. 22, 1961, Ser. No. 154,247
3 Claims. (Cl. 15—250.27)



1. In windshield cleaning apparatus comprising a wiper, a rotating drive shaft provided with an outstanding arm, transmission means operatively connecting the shaft to the wiper for operating the latter; said transmission means including a crank pin with an axially extending stud on each end and a rod bearing intermediate its ends, said rod bearing being of greater diameter than each of said studs forming a radially extending circumferential shoulder intermediate each of said studs and said rod bearing, each stud having a fluted peripheral portion and a single flat face, a second arm, said two arms formed with openings to matchingly receive the two studs and thereby predetermine the correct interplacement of the two arms and a connecting rod having at one end journal support on the rod bearing of the crank pin and means for connecting said connecting rod to a wiper at its other end.

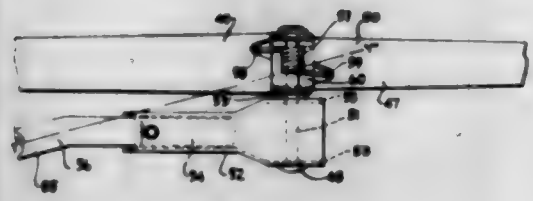
3,139,644
WINDSHIELD WIPER
George O. Smith, 110—21 73rd Road, Forest Hills, N.Y.
Filed Apr. 9, 1962, Ser. No. 186,236
6 Claims. (Cl. 15—250.30)

1. A windshield wiper assembly that comprises a resilient flexible roller; a flexible shaft passing through the length of said roller; said roller being adapted thereby to free rotation about said shaft; an arched spring support member; the terminal ends of said support member being adapted to receive the terminal ends of said flexible shaft; an oscillating arm, one end of which is connected to said arched spring support member at a point between the opposite ends thereof; the opposed end of said arm being connected to the outer terminus of an axis about which said arm is adapted to oscillate in a prescribed arc exerting simultaneously a fixed, inflexible impressment toward said arched spring element and roller; thus inducing a spring bias in said arched spring member when the roller is in contact with a windshield surface; said axis being connected at its inner terminus to means for effecting the



oscillation of said arm; and means disposed about said axis for mounting said assembly on a vehicle.

3,139,645
WINDSHIELD WIPER
Anthony C. Scinta, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Feb. 2, 1961, Ser. No. 86,720
7 Claims. (Cl. 15—250.32)

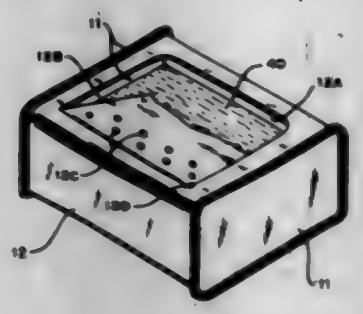


1. In combination with a wiper arm having a first longitudinal axis, a wiper having sides with a second longitudinal axis lying therebetween, a clip having a first portion attached to said arm and colinear therewith and an asymmetrical second portion rigid with said first portion attached to said wiper in telescopic engagement and contiguous therewith, a pin extending substantially perpendicularly to said second axis at an angle to said first axis, said pin being affixed between the sides of said wiper for pivotally mounting said wiper on said clip about an axis transverse to said second portion and rigid about an axis perpendicular to said pin, said clip being asymmetrical to cause said first axis to lie at an angle to said second axis and to cross the portion of said pin lying substantially centrally between said sides to thereby cause the wiper to lay over equally in both directions of wiper travel.

3,139,646
PAINT CAN
Robert H. Vernon, Ambler, Pa., assignor to Arvon Products Company, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 3, 1962, Ser. No. 214,649
5 Claims. (Cl. 15—257.06)

1. A combined paint can and roller tray of resilient sheet material having a side, a slot of generally U-shaped configuration in said side, said slot defining a flap portion, a plurality of openings in said flap, removable sealing means over each of said openings, and removable means to seal said slot, whereby said flap is capable of resilient depression into the interior of said can after said sealing means have been removed, and said openings pro-

vide excess paint run-offs and roller friction means after said sealing means over said openings have been removed,



said openings extending through said flap, and said flap resiliently biased to tend to close said slot.

3,139,647

DRAPERY SUSPENSION DEVICES

James R. Ciulella, 76 Lund Ave., Waterbury, Conn.

Filed May 15, 1962, Ser. No. 194,845
6 Claims. (Cl. 16—87.4)



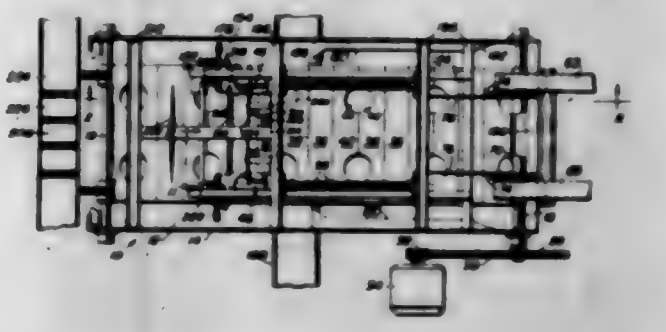
1. In a drapery suspension device, of the type including a slide carrier engageable with a traverse rod for relative longitudinal sliding movement and including a substantially vertically extending hanger means for depending from the rearward side of said traverse rod; said device being for use with a drapery hook comprising a drapery engaging part, and a hook part of substantially inverted V-shaped having downwardly divergent legs and a bight connecting said legs, one of said legs having a free end and the other of said legs being connected to said drapery engaging part; the improvement comprising a relatively thin horizontal base wall portion, means connecting said base wall portion to said hanger means for disposition below said traverse rod in forwardly extending relation to said hanger means, and a relatively thin vertical forward wall portion extending upwardly from the forward end of said base wall portion for disposition in a vertical plane parallel to the longitudinal direction of sliding movement of said slide carrier having an upwardly opening notch in its upper edge for receiving and supporting said bight of said hook part, and said base wall portion having a vertical hole rearwardly spaced from said vertical wall having its axis disposed in a transverse vertical plane normal to said base and to said vertical wall and centered in said notch for receiving said one leg of said hook part through downward insertion of its free end therethrough, said hole being of such size as to receive and support said leg therein at an inclined angle to the vertical axis of said hole, and said notch being of such size as to centrally position said bight and said leg in said transverse vertical plane and restrain movement of said hook part relatively to said transverse vertical plane.

3,139,648

FISH CUTTING AND CLEANING MACHINE

Emory C. Rice, Sr., Box 86, Reedville, Va.

Filed June 29, 1962, Ser. No. 206,450
16 Claims. (Cl. 17—3)



1. A fish cutting and cleaning machine comprising an endless conveyer means which carries fish through cutting and cleaning operations, means for moving said endless conveyer means in a continuous endless path, said conveyer means having a horizontal upper flight, a plurality of fish holding and cutting units secured to said conveyer means in spaced apart relation, means actuated by each unit as said unit passes thereby at the beginning of said horizontal flight for feeding a fish to each passing unit at the commencement of each operation, longitudinally extending cam means in the path of said units for actuating each unit to securely hold the fish fed thereto, a second longitudinally extending cam means, shorter than said first cam means, and ending before said first cam means, for subsequently actuating said unit to simultaneously cut the head, tail and belly edge tissue therebetween from the held fish, means located beyond the end of said second cam means for removing the cut debris from the said unit to said conveyer means, means for sequentially cleaning the fish while still held in the unit, spring means for actuating said unit, when said unit has moved beyond said first cam means, to release the fish held therein, and means for sequentially removing the released fish from said unit.

3,139,649

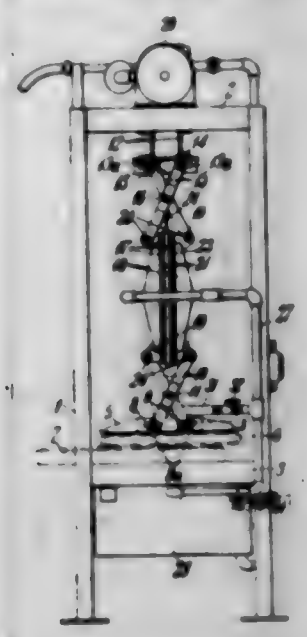
PRESSES FOR MOLDING OR FORMING CONCRETE AND OTHER PLASTIC AND MOULDABLE MATERIALS

Laurence Arthur Leech, London, England, assignor to Millars' Machinery Company, Limited, London, England

Filed Oct. 4, 1961, Ser. No. 142,828
Claims priority, application Great Britain Oct. 26, 1960
5 Claims. (Cl. 18—16)

2. A press for molding or forming concrete and other plastic materials comprising a mold box, a perforated pressure pad mounted for movement toward and away from said box, an actuating means arranged in spaced relationship to said pressure pad in a plane at right angles to said pressure pad, said actuating means including a pair of plates disposed in parallel spaced relation, compressible sealing means between said plates, said plates and compressible sealing means defining a chamber, an extensible pivoted linkage means connected between said plates and said perforated pressure pad, a fixed support located in spaced relationship to the side of the actuating means remote from said perforated pressure pad, extensible means pivotally connected between said fixed support and said plates, and a source of suction connected to said chamber and to said perforated pressure pad for drawing said plates closer together by evacuation of the chamber, the movement of said plates together extending

said pivoted linkage means and said extensible means for moving the perforated pad toward said mold box



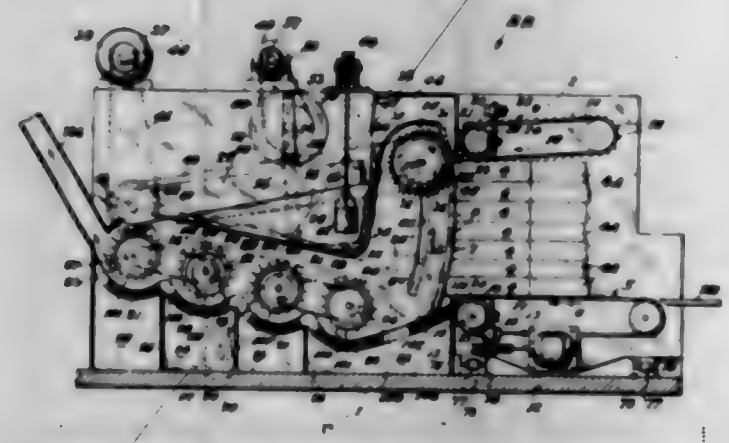
while simultaneously drawing off air or moisture from material in the mold box through said perforated pad.

3,139,650

PROCESS AND APPARATUS FOR BREAKING AND TEASING COMPRESSED FIBROUS MATERIAL

Hermann Diesel, Ingolstadt, Germany, assignor to Rapp & Seidt Maschinenbau, Esslingen (Neckar), Germany

Filed Mar. 16, 1961, Ser. No. 96,221
9 Claims. (Cl. 19—145.5)



1. A process for breaking packages of compressed fibrous material with reciprocating plucking instrumentalities which comprises the steps of moving a first package into the path of said reciprocating instrumentalities to remove from the package tufts of fibrous material; and moving additional packages into the path of said instrumentalities upon completed breaking of the preceding package.

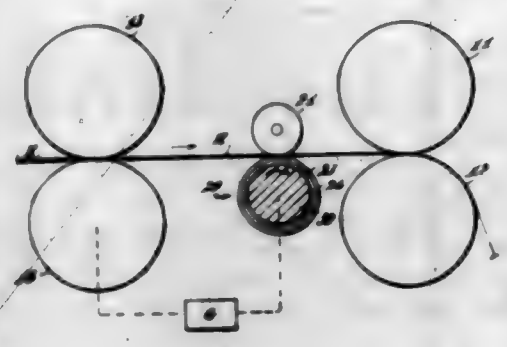
3,139,651

TEXTILE DRAFTING

Samuel L. Abbott, Wilton, N.H., assignor to Abbott Machine Co., Inc., Wilton, N.H., a corporation of New Hampshire

Filed May 28, 1962, Ser. No. 198,246
3 Claims. (Cl. 19—259)

1. A slip draft apparatus of the kind including roving feeding means controlling the rate of entry of roving into the rear of a drafting zone and drafting means gripping the roving at the front of the drafting zone and intermediate carrier mechanism comprising opposed carrier elements having moving surfaces in nipping engagement with the roving and allowing fibers of the roving to be slipped forward relative to said nipping surfaces and to other fibers of the roving thereat, characterized by driving mechanism comprising means tending to drive one of said carrier elements at a substantially higher surface speed than that of fibers nipped thereby and still controlled by the feeding means, and a force-limiting connection between said driving means and said one driven



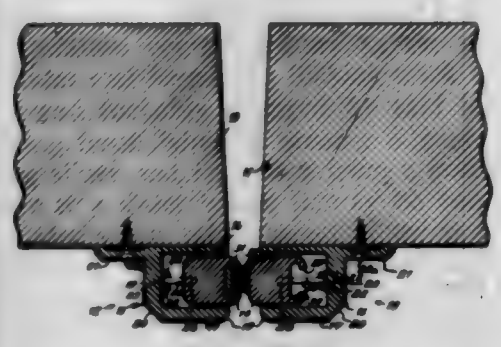
carrier element for limiting the driving force transmitted from the driving means to said one driven carrier element for preventing the surface of said one driven carrier element from slipping forwardly relative to the roving, the other said carrier element being driven frictionally through its participation in said nipping engagement.

3,139,652

ASTRAGAL

Frank L. Michaels, Hebron, Ky., assignor to The Michaels Art Bronze Company, Inc., Erlanger, Ky., a corporation of Kentucky

Filed May 16, 1962, Ser. No. 195,249
2 Claims. (Cl. 20—68)



1. An astragal comprising a channel member having spaced parallel side walls and a base,

means defining a groove on the base within the channel member which is centered between said side walls,

a bar which is generally rectangular in cross section with rounded corners,

one face of said bar having a dove-tail slot therein which extends the full length of said bar,

said bar disposed with the major portion thereof within the channel member in slip-fit relation to said side walls and with the face having said dove-tail slot therein projecting from said channel member,

an arcuate wire spring having the central portion thereof seated within said groove on the base of the channel member and having one end thereof fastened to the bar and the other end resting in slip-fit relation on the inwardly directed face of the bar,

means to limit outward movement of the bar under the action of the spring,

a strip having a base fitting into said dove-tail slot and having pile projecting outwardly beyond the face of the bar from said slot.

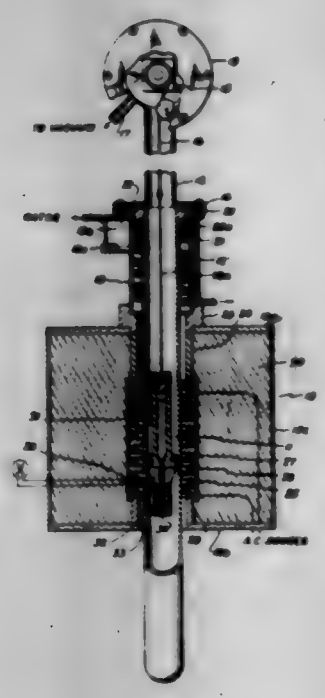
and the sides of the bar in slip-fit relation to the side walls of said channel member being planar, whereby the bar may be reversed within said channel member by removing the pile strip from said dove-tail slot, turning said bar through 180° and then reinserting it into said channel member to expose the face of the bar opposite that having the dove-tail slot therein.

3,139,653

APPARATUS FOR THE GROWTH OF PREFERENTIALLY ORIENTED SINGLE CRYSTALS OF METALS

Theodore H. Orem, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of Commerce

Original application Aug. 6, 1959, Ser. No. 832,127, now Patent No. 3,060,065, dated Oct. 23, 1962. Divided and this application May 10, 1961, Ser. No. 109,233
2 Claims. (Cl. 22—57)



1. In combination, a vertical furnace, a vertical mold having a matrix for a specimen, a vertical seed receptacle having a cylindrical cavity the longitudinal axis of which is canted a small amount not more than about five degrees from the vertical, means for holding said vertical mold and said vertical seed receptacle in vertical alignment, a passageway connecting said matrix and said cylindrical cavity together, and means for moving said vertically-aligned mold and seed receptacle through said vertical furnace so as to grow a monocrystalline specimen from a seed in said seed receptacle.

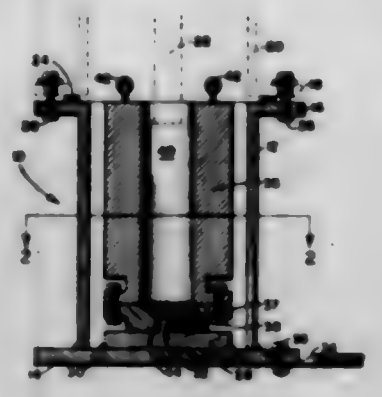
3,139,654

MOLD ASSEMBLY

Norman A. Harris, Henderson, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

Filed May 28, 1959, Ser. No. 816,415
7 Claims. (Cl. 22—61)

1. In an arc melting furnace of the cold mold type, a mold assembly comprising; a shell having a sidewall and a bottom, means for attaching said shell to electrode positioning apparatus, a massive mold of common metal having high heat conductivity freely standing on said bottom interiorly of said shell and spaced apart from the interior surface of said sidewall, said mold having a cavity extending thereinto from its top, the mass of metal constituting said mold being sufficient to act as a heat sink during melting of metal in said cavity in said mold without other than incidental cooling, and means for



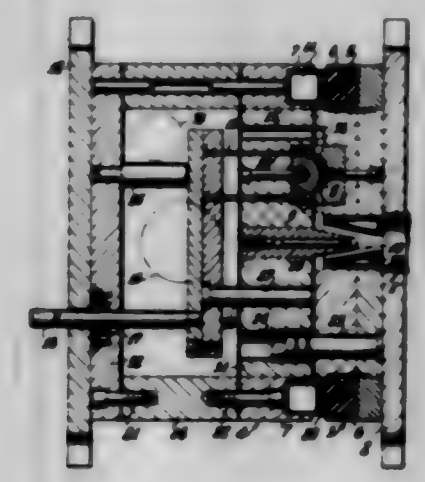
providing connection of an electric current lead to said bottom of said shell.

3,139,655

VACUUM DIE CASTING APPARATUS

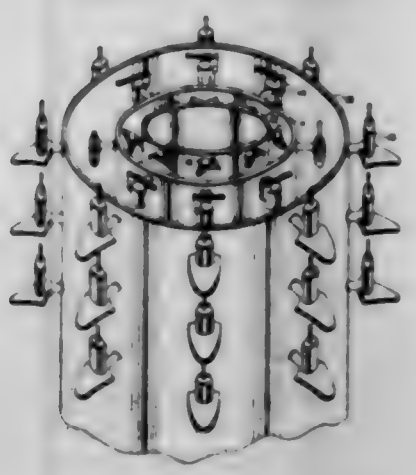
Gordon M. Cooper and Frederick D. Fanning, both of North Little Rock, Ark., assignors to The United States Time Corporation, Waterbury, Conn., a corporation of Connecticut

Filed Jan. 4, 1961, Ser. No. 80,629
5 Claims. (Cl. 22—73)



1. A vacuum molding apparatus comprising a base, a first mold member secured to the base, a second mold member movable relatively toward and from the first mold member, the mold members having matching faces between which faces a mold is defined, a tube connected to one of the mold members for injection of molten metal into the mold, a chamber adjacent to one of said mold members and partially defined by the mold member to which it is adjacent, a vacuum tube from the chamber to the face of the mold member to which the chamber is adjacent, sealing means including a flexible hollow air-tight gasket on one of said mold members which forms a vacuum seal between the mold members when their faces are positioned apart and close together, the hollow of the gasket forming a cooling tube, means to pump cooling liquid through the cooling tube in the gasket, means on the base positioning and holding said mold members in closely spaced relation with each other so that the faces of the molds are separated and the gasket forms a vacuum seal between the gasket and the other mold member, means to create a vacuum in the chamber while the mold members are in such spaced position, and means on the base for thereafter moving said mold members into fixed contact with each other so that their faces touch and form the mold.

3,139,656
PATTERN FOR INVESTMENT MOLD AND MOLD MADE THEREFROM
Claude H. Watts, Lyndhurst, and Robert R. Miller, Cleveland, Ohio, assignors to Precision Metalsmiths, Inc.
Filed Oct. 6, 1961, Ser. No. 143,374
2 Claims. (Cl. 22—134)



2. A refractory mold suitable for casting molten material comprising a first tubular sprue passageway, a plurality of pattern cavities around said first passageway and in communication therewith, a second tubular sprue passageway surrounded by said first sprue passageway, a plurality of pattern cavities between said passageways and in communication with said second passageway, and a pouring cup having upper and lower pouring levels in respective communication with said first and second sprue passageways.

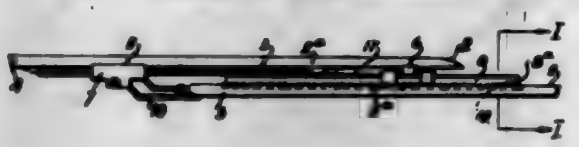
3,139,657
CURING EPOXIDE RESIN COMPOSITIONS
George P. Maly, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Jan. 11, 1960, Ser. No. 1,437
16 Claims. (Cl. 22—193)

10. Method for fabricating shell molds and like structures which comprises forming a porous and permeable mass about an unheated mold pattern, said mass consisting essentially of between about 85 to 98 parts sand having an AFS fineness number between about 20 and 200 and between about 2 and 15 parts of an epoxide resin as a film having a thickness no greater than about 0.01 inch on the grains of said sand, thereafter cure hardening said resin by passing a normally gaseous epoxide resin curing agent in contact with said film, ceasing said contact, exhausting said gaseous agent from said mass and removing said pattern from the resultant consolidated shell.

3,139,658
PRODUCTION OF TUNGSTEN OBJECTS
Abner Brenner, Chevy Chase, Md., and Walter E. Reid, Jr., and Jean H. Conner, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Dec. 8, 1961, Ser. No. 158,144
1 Claim. (Cl. 22—200)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The method of forming an object composed of substantially pure tungsten including the steps of depositing tungsten onto a heated, solid, thin-walled master by subjecting the master to a vaporous mixture comprising tungsten hexafluoride and hydrogen, slowly cooling the coated object for the purpose of preventing cracking of said object, to a suitable temperature for inspection and measurement of said object, thereafter increasing the thickness of the object wall without cracking same by slowly reheating said object and master in an atmosphere of tungsten hexafluoride and hydrogen, and depositing tungsten to the desired wall thickness by repetitions of the foregoing steps as necessary and desirable, slowly cooling said coated object, dissolving said master with an acid and recovering an object of substantially pure tungsten.

3,139,659
SLIDE FASTENERS
Ian M. Matheson, Wellington, New Zealand (R.D. 1, Silverdale, Auckland, New Zealand)
Filed May 23, 1961, Ser. No. 111,936
6 Claims. (Cl. 24—206)

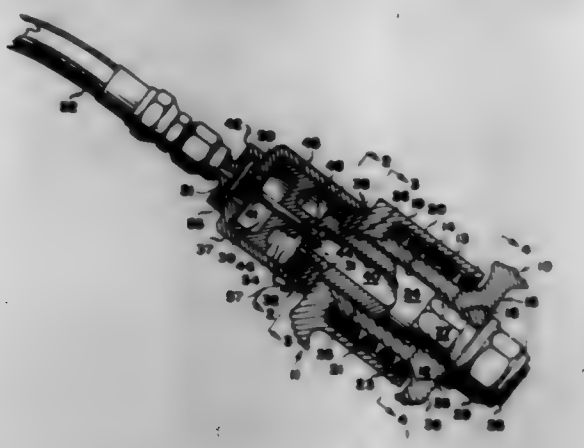


1. An adjustable fastener for the waist band of garments or the like where the ends of the material overlap providing an inner and an outer lap of material each having a top edge and a free end, the fastener comprising a supporting slider fixed to the outer surface of the inner lap of material at its free end facing the inner surface of said outer lap, an elongated rib-like strip of material secured full length on the inner surface of said outer lap having a shape complementary to the shape of said support slider and forming a support track adapted to be guidingly engaged by said support slider extending from a position near the free end of said outer lap in a direction generally parallel to the top edge of the lap to hold said inner lap against said outer lap in all positions of adjustment of the fastener and to positively position the top edge of said outer lap with respect to the top edge of said inner lap, a locking slider secured to the free end of said outer lap, an elongated rib-like strip of material secured full length on the outer surface of said inner lap having a locking configuration complementary to the shape of said locking slider and forming a locking track adapted to be guidingly and lockably engaged by said locking slider, said locking track lying in general alignment with said supporting slider and extending from a position adjacent said supporting slider where it may be engaged by said locking slider when said support slider is engaged with said support track to a position remote from said support slider, each said track at its end adjacent the free end of its respective lap of material being unobstructed whereby the fastener is separable.

3,139,660
STRUCTURAL DISCONNECTION APPARATUS
Curtis W. Foster, North Hollywood, Wilfred Kenyon, Santa Monica, and Marvin A. Pringle, La Canada, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 20, 1961, Ser. No. 104,272
1 Claim. (Cl. 24—211)

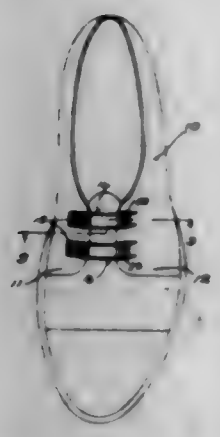
Structural disconnection apparatus for structurally joining two structural members and selectively permitting guided disconnection thereof comprising: a pair of structural guidance members, each adapted to be secured to a respective one of such structural members, one of said guidance members having a spherically concave surface, the other of said guidance members having a spherically convex surface in engagement with said concave surface; a bolt having an end head passable through at least one of said guidance members; said end head provided with an annular groove; a plurality of bolt head segments removably disposed in said groove and radially extending from said bolt, said segments being axially engageable between said end head and one of such structural mem-

bers; a cylinder having an open end and a closed end, said open end being in peripheral axially-removable engagement with said segments for maintaining radial engagement of said segments with said bolt; retainer means effectively connected between said bolt and said cylinder for preventing axial movement of said cylinder with respect to said segments; a piston reciprocably disposed within said cylinder and adapted to axially bear against said end head; selectively actuatable power means coupled to said piston for causing said piston to exert sufficient



axial force to release said retainer means and axially remove said cylinder from engagement with said segments; said guidance members each having a body portion parallel to the axis of said bolt and to each other, one of said body portions being laterally encompassed by the other of said body portions; and bearing means disposed between and in anti-friction engagement with said body portions of said guidance members whereby relative disconnecting movement of said guidance members is antifrictionally guided by said bearing means and body portions.

3,139,661
SHOE FASTENING DEVICES
Billy Sixty, Sr., 2255 N. 34th St., Milwaukee, Wis.
Filed Jan. 22, 1962, Ser. No. 167,829
1 Claim. (Cl. 24—230)



In combination with a shoe having flaps, a spring rod element formed with two loops, a transverse rod portion connecting said loops on a plane therewith, said transverse portion and the loops attached to the free end of an elastic band, said band anchored to a flap of said shoe, a pair of straight rods integral with said loops and extending away and in alignment with said elastic band, said rods being spring-pressed for spreading engagement and arced to approximate the transverse contour of the shoe at the flap zone, a pair of eyes in the ends of said rods, a keeper plate on the opposite flap of said shoe, and upward and inturned ends on said keeper plate for retention of the spreading ends of said rod elements.

3,139,662
SUSPENDER FASTENERS
Alan Edward Barton, Mickleover, England, assignor to Geral Limited, Derby, England
Filed Nov. 14, 1962, Ser. No. 237,701
Claims priority, application Great Britain Nov. 25, 1961
5 Claims. (Cl. 24—246)



1. A suspender fastener comprising a body member in the form of a flat piece of stiff but flexible material, therebeing, at least one slot passing entirely through the body member near its top for reception of a loop of a supporting strap, therebeing an aperature passing entirely through said body member below said slot, said aperture having a narrow neck in its upper part and being of widened bulbous shape in its lower part, a stiff but flexible tab member hinged at its upper end to the body member and shaped to fit tightly in the aperture completely about the perimeter of at least the bulbous portion thereof, said tab member being swingable in an arc about its hinge to an opened position out of said aperture to permit a layer of fabric to be suspended to be laid over the body member covering at least the bulbous portion of said aperture, said tab member being then swingable in an arc about its hinge to a closed position in which it enters said aperture carrying the fabric layer therethrough and frictionally clamps the fabric layer against the edges of said bulbous portion of the aperture, said tab member when in said closed position lying wholly within the confines of said body member without protruding from the plane thereof, said aperture and said tab member each have registering edges formed with profiled formations presenting walls disposed at an angle to one another, the edges of the aperture and tab member being complementary to co-operate with each other in gripping firmly a fabric layer inserted between the tab member and the body member.

3,139,663
CONCRETE CASTING MACHINE
Joseph I. Boswell, Vicksburg, and Tilden Burks, Greenville, Miss., George F. Dixon, Jr., Carlisle, Pa., and Goode S. Lee, Warren County, Miss., assignors to the United States of America as represented by the Secretary of the Army
Filed Sept. 29, 1961, Ser. No. 141,914
6 Claims. (Cl. 25—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a cyclic machine for producing large concrete mats having a plurality of pallets on which the mats are formed and carried, each pallet passing successively through stations for placing reinforcing fabric thereon, for oiling the pallet, for casting a mat thereon, for curing the mat, for removing the mat therefrom and for cleaning the pallet the improvement comprising:

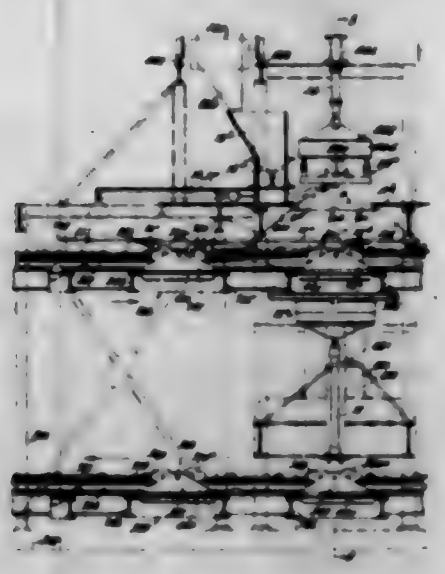
(*a*) a pair of endless chains disposed in parallel relation to each other and extending through said stations;

(*b*) mechanism for driving said endless chains synchronously with each other;

(*c*) a plurality of pallet carrying cradles mounted on dollies and disengageably connected to said endless chains;

(*d*) a pair of cradle tracks, said dollies running on said tracks, said tracks generally parallel to said chains but spaced farther therefrom adjacent said mat casting station, whereby said cradles and dollies disengage from said chains adjacent said station;

(*e*) reciprocating transfer rod means, at the casting station adjacent said cradle tracks and parallel there-



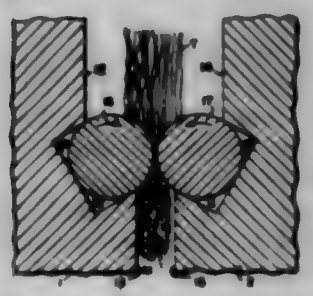
to, actuated when each cradle disengages from said chains, for sequentially centering and depositing the cradle at the casting station during a predetermined interval while a concrete mat is cast on the pallet, and thereafter when the succeeding cradle disengages from said chain advancing said cradle until it re-engages the endless chains at the position thereon which it previously occupied.

3,139,664

TOW FIBER CRIMPING APPARATUS

George A. Carruthers, Harleysville, Pa., assignor to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania

Filed Mar. 27, 1962, Ser. No. 182,764
10 Claims. (Cl. 28—1)



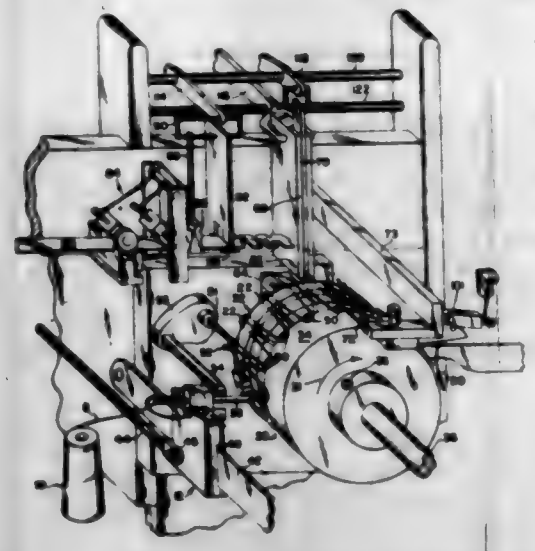
1. Apparatus for crimping the individual fibers of synthetic tow comprising a pair of substantially tangent rolls, means engaging the rolls adjacent their nip defining an open sided passage for tow delivered from the rolls and presenting opposed parallel surfaces extending in the direction of the roll axes a distance substantially greater than the width of the tow, said surfaces being relatively movable with the rolls in the plane of the common axis of the latter and spaced apart to frictionally engage the crimped tow at spaced points, yielding means biasing the rolls and said roll engaging means toward each other, and means for driving the rolls in opposite directions in engagement with the tow to project it into said passage to form an obstruction therein operative to decelerate the tow as it passes thereinto from the rolls.

3,139,665

APPARATUS FOR MANUFACTURING ELASTIC TIES AND THE LIKE

Verris C. Wardell, 1 New York Ave., Rockville Centre, N.Y.

Filed Jan. 29, 1960, Ser. No. 5,508
2 Claims. (Cl. 29—33)



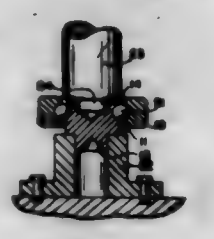
1. In an arrangement for making elastic fastening ties, a revolvable reel assembly, means for rotating said reel assembly, a cord guide adapted to wind elastic cord on the reel assembly, means for imparting to the cord guide a reciprocating movement in timed relation to the rotation of the reel assembly whereby the elastic cord is wound onto the reel in a sinuous configuration, means associated with the reel assembly to receive and retain the elastic cord in said sinuous configuration as the reel assembly is rotated, cord shear means to successively sever the cord retained on the reel assembly into a plurality of U-shaped segments of uniform length, tip attaching means to attach a tip to each end of said U-shaped cord segments in sequence, and means operative to remove the finished cord segments from the reel assembly.

3,139,666

METHODS OF MAKING BEARING DEVICES

Anthony G. Laciejewski, Cleveland, Ohio, assignor to Freeway Washer & Stamping Company

Filed Feb. 2, 1962, Ser. No. 170,708
9 Claims. (Cl. 29—148.4)



1. The method of making a bearing member which comprises providing a plurality of balls, providing an outer race member having a bore therein with an inner groove formed therein for accommodating said balls, providing an inner race member of bendable metal, forming an annular shoulder around the outer wall of said inner race member, forming a central recess extending partially through said inner race member along its axis toward, but spaced from, a first end of the inner race, to provide an annular wall at the opposite end of the inner race member around said recess, inserting said balls arranged in a circle between said race members and concentric therewith to position the balls on said shoulder and in said annular groove of the outer race member, supporting said inner race member, and by means of a bending punch having the same curvature as said balls bending only

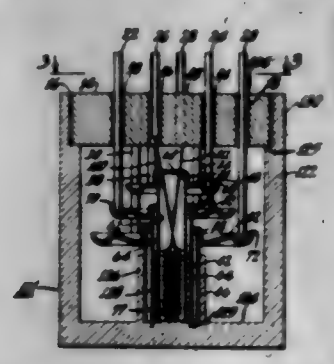
said annular wall radially outward to bend the same in a gradual curve complementing the curvature of said balls and overlapping said balls to retain them between the inner and outer race members against axial displacement, said bending being sufficient to confine said balls by such complementarily curved wall without binding the balls so as to permit their movement between the race members and without expanding the inner race member at said shoulder.

3,139,667

METHOD OF MAKING ELECTRON TUBES

Harry V. Knauf, Jr., Mountainside, and George M. Rose, Jr., Mountain Lakes, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Application Oct. 31, 1958, Ser. No. 771,006, now Patent No. 3,007,760, dated Nov. 7, 1961, which is a division of application Ser. No. 737,785, May 26, 1958, now Patent No. 3,004,185, dated Oct. 10, 1961. Divided and this application Feb. 2, 1961, Ser. No. 86,785
14 Claims. (Cl. 29—155.5)



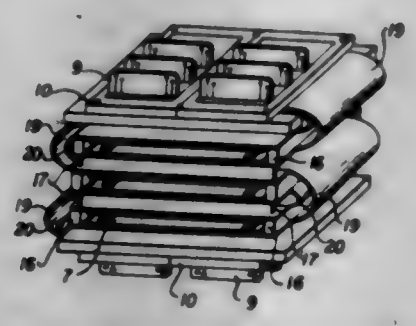
1. Method of making an electron tube mount comprising the steps of assembling tubular electrodes in concentric relation, assembling electrode supports in loose contact relation with said electrodes, supporting an insulating wafer having openings therethrough in spaced relation to said supports with said openings aligned with portions of said supports, extending wires through said openings into contact relation with said supports and the walls of said openings, supplying brazing material in a position to flow between parts to be bonded and heating the resultant structure to a temperature sufficient to bond simultaneously said electrodes to said supports, said supports to said wires and said wires to said wafer, to provide a substantially strain-free structure.

3,139,668

PACKAGE METHOD FOR PRODUCING A MEMORY SYSTEM

William A. Reimer, Villa Park, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed May 14, 1962, Ser. No. 194,246
6 Claims. (Cl. 29—155.5)



1. A package method for producing a multi-plane semipermanent twistor memory system comprising the components; at least one pair of substantially rectangularly-shaped solenoids cards arranged in parallel planes and each having multi-turn printed wiring and associated termination pads disposed on at least one surface thereof, at least one strip of twistor tape having a plurality of twistor wires encapsulated in a flat and flexible material and each having two ends, said strip being folded in a substantially corrugated pattern so as to lie adjacent to each parallel solenoid card and over the external surfaces of the top and bottom solenoid card of the package, a plurality of virtual solenoids each comprising a conducting sheet and serving as coding plates to the system, said virtual solenoids being placed intermediate said planes, and connector means fastened to said twistor wire ends for connecting the package to an external circuit, said means lying adjacent the outer surfaces of the outermost solenoid cards, said method comprising the steps of:

(1) placing said substantially rectangularly-shaped solenoid cards side by side on a flat surface with a spacing between each card,

(2) applying said strip of twistor tape over the cards so as to form a two-ply package and so that the main of said printed wiring of said solenoid cards extends in a direction perpendicular to the direction of the twistor wires,

(3) folding said two-ply package in a substantially corrugated pattern so that the folds thereto occur at the spacings between said solenoid cards and a multi-plane package is formed,

(4) inserting said virtual solenoids between the planes formed in step (3),

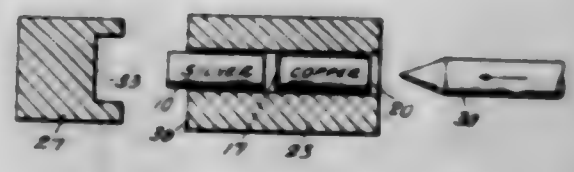
(5) and soldering said twistor wire ends to said connector means.

3,139,669

METHOD OF MAKING AN ELECTRICAL CONTACT

Childress B. Gwyn, Jr., Export, Pa., assignor to Gibson Electric Company, Delmont, Pa., a corporation of Pennsylvania

Filed Feb. 23, 1960, Ser. No. 10,427
3 Claims. (Cl. 29—155.55)



1. A method of making an electrical make-and-break contact element having a head and a shank, which comprises

(*a*) providing a first die member having an enlarged cavity of a diameter of the desired diameter of said head and a second die member having a bore of a diameter of the desired diameter of said shank in aligned, juxtaposed relation;

(*b*) placing a pair of aligned metallic segments in said bore, a first of said segments being constituted of copper for forming the shank of said contact element and the second of said segments being constituted of fine silver for forming the head of said contact element;

(*c*) interposing an alloying element constituted of a material selected from the group consisting of tin and silver brazing media between said segments within said bore;

(*d*) applying a compressive force against the outer end of said copper shank segment within said bore to force the end of said copper shank segment adjacent the silver head segment into the latter thereby producing a mushroom-like configuration mechanically interlocking said segments, and simultaneously expanding the silver head segment substantantially throughout said cavity, the alloying element defining an alloying interface therebetween; and

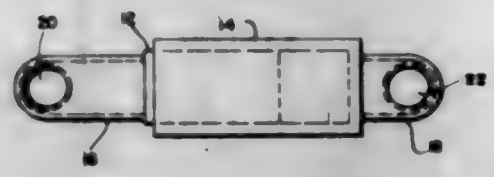
(*e*) heat treating the thus interlocked segments to melt the alloying element and effect wetting and alloying of the head and shank segment to form an integral composite contact element.

3,139,670

PROCESS FOR MAKING A DASHPOT ASSEMBLY

Peter D. George, 31 Channing St., Quincy, Mass.

Filed June 19, 1961, Ser. No. 118,040
1 Claim. (Cl. 29—156.4)



The method of manufacturing a dashpot assembly comprising the steps of,

(*a*) machining a piston and cylinder from ductile material to approximate size,

(*b*) mounting the machined cylinder in a close fitting harness to restrain the outer walls of the cylinder,

(*c*) driving axially through the open end of the cylinder a punch of a material harder than said piston and cylinder and having a rounded circular head slightly larger than the cylinder opening,

(*d*) forcing said piston through a restricted circular opening of a hardened metal annulus,

(*e*) coating the walls of said piston and cylinder with silicon,

(*f*) burnishing the walls of the cylinder with molybdenum disulphide,

(*g*) finally assembling said piston within said cylinder.

3,139,671

METHOD FOR ATTACHING A COMPOSITION METAL-CERAMIC MATERIAL TO A BACKING MEMBER

Robert H. Herron and Norman E. Jannasch, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Apr. 16, 1962, Ser. No. 187,907
7 Claims. (Cl. 29—182.3)



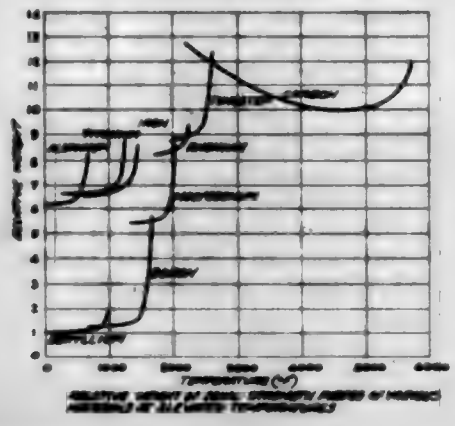
1. A composite article comprising: a rigid metallic backing member; a substantially single layer of spaced apart generally uniform spherical metallic bodies adjacent the surface of said backing member positioned in such manner that the bodies for the most part do not contact each other, said bodies being of a size greater than approximately 60 mesh; metal solidified from a molten state bonding said spheres to said surface of said backing member, said solidified metal forming a bridge whose cross section is substantially less than the diameter of said spheres so that the areas bounded by said surface of said backing member, bridge, and adjacent surface of said spheres form acute angles; and a layer of powdered material keyed and sintered into said bounded areas forming said acute angles beneath said spherical bodies.

3,139,672

ROCKET NOZZLES AND THE LIKE

David M. Scruggs and Robert H. Herron, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Feb. 10, 1961, Ser. No. 88,481
5 Claims. (Cl. 29—182.5)



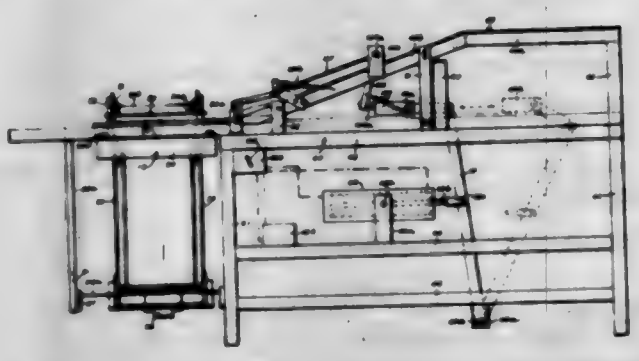
1. A rocket flame confining and directing structure and the like in which the surface exposed to the flame is a metal-ceramic composite mixture consisting principally of a tungsten metal matrix having from about 0.10 percent to about 3.0 percent by weight of nickel based on the tungsten concentrated at the grain boundaries of the tungsten; said limit of about 3% by weight of nickel operative to insure a bond between tungsten grains resistant to melting at temperatures greater than the melting point of nickel; and said composite also including from about 10.0 volume percent to about 50.0 volume percent of beryllia dispersed throughout the tungsten at its grain boundaries.

3,139,673

MACHINE FOR ASSEMBLING CONNECTOR PLATES IN TERMINAL BLOCK

John S. Zdanis, Watertown, Conn., assignor to The Siemon Company

Filed Dec. 20, 1962, Ser. No. 246,273
6 Claims. (Cl. 29—203)



1. An assembly machine for inserting connector plates in an elongated block having spaced apart oppositely disposed support slots for receiving connector plates, comprising, in combination, a frame, vertically movable support means for an elongated terminal block, a carriage member horizontally movable in and out of said frame and over said vertically movable support means supporting a terminal block, said carriage having a pair of spaced apart arms with spaced apart oppositely disposed receiving means for opposite ends of a connector plate, said spaced apart receiving means in the arms having like spacing to that of the slots in the terminal block, releasable support means on at least one of said arms for movement to drop a supported end of a connector plate from said receiving means into a slot in said block, an inclined trough on said frame for receiving a stock of connector plates to be inserted in said connector receiving means on said arms of the carriage, said trough having its lower end proximal above said carriage and feed means

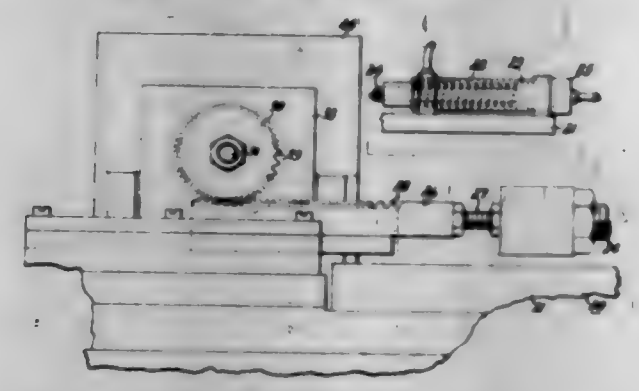
for feeding a connector plate from said trough into said receiving means on said carriage arms, whereby said receiving means in the arms of the carriage are filled with connector plates as the carriage moves out from the frame, said terminal block support means moving a terminal block in position under the connector plates in said arms of the carriage for receiving the connector plates therein when said releasable support means is released.

3,139,674

FASTENER ASSEMBLY APPARATUS

Richard W. Lyday, Brookville, and Cletus L. Moorman, Trotwood, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 22, 1961, Ser. No. 118,836
11 Claims. (Cl. 29—208)



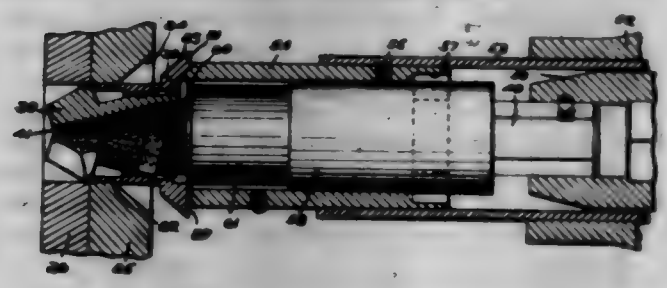
1. Inserter mechanism to assemble plastic fastening devices each with an elongated head portion to fit into holes provided for access to a continuously-extending longitudinal cavity of an extruded elastomeric sealing strip means which is movable at a predetermined speed longitudinally thereof, comprising, a rotatable assembly head journalled on a mounting portion to have the sealing strip means located substantially radially and tangentially adjacent to said assembly head, reciprocable means included with and carried by said assembly head to move slightly faster than movement of the sealing strip means, said reciprocable means having hollow ends temporarily to retain the fastening devices individually therewith, and a guide portion fixed to said assembly head and having an end projecting therefrom to effect fastening device ejection in response to predetermined retraction of reciprocable means upon completion of fastening device insertion during simultaneous movement of both the sealing strip means and assembly head.

3,139,675

TOOL FOR LOCKING, UNLOCKING AND EXTRACTING AN EXPANDABLE BLIND BOLT

James Henry Devine, Brookline, Mass., and Evelyn Yurcomen Devine, 300 Washington St., Brookline, Mass.; said James Henry Devine assignor to D-Y Trust, Boston, Mass., a trust of Massachusetts

Filed July 28, 1960, Ser. No. 44,224
1 Claim. (Cl. 29—240)



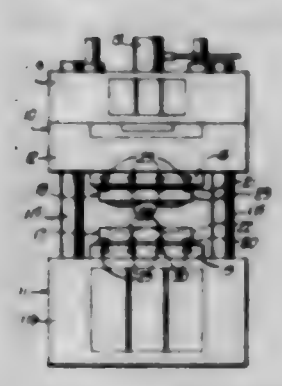
A tool for contracting and extracting the expandable, internally-threaded nut segments of a bolt having a centering sleeve surrounding the nut segments and having a head portion shaped to be engaged by a holding member; said tool comprising a holding sleeve and a driven member disposed in said sleeve and rotatable therein; said driven member having a conical, threaded extractor at its outer ends, adapted for screw-threaded engagement with the internal threads of said expanded nut segments, whereby said segments are contracted; and said holding sleeve having an end member shaped to engage the head portion of said centering sleeve, so that the centering sleeve may be held stationary while the extractor of the driven member is being threaded into said nut segments.

3,139,676

DIE RAISING AND CHANGING DEVICE

Raymond B. Grover, 108 N. 1st St., Fairbury, Ill.

Filed Nov. 22, 1961, Ser. No. 154,287
5 Claims. (Cl. 29—256)



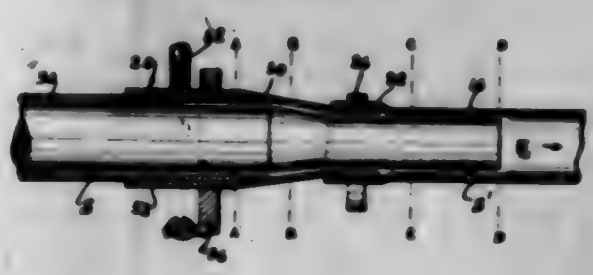
1. A machine tool assembly comprising a machine tool of the type provided with a bolster plate having T-slots in its surface, said T-slots each having a head and a throat portion; a die on said bolster plate adapted to be fastened with said T-slots; and a die changing device for raising and lowering said die relative to said bolster plate, said device including a first elongated member inserted within said head portion of said T-slot, a second elongated member inserted within said throat portion of said T-slot, means moving said members relative to each other, and roller means operatively associated with said second elongated member for engaging the bottom of said die to raise and lower said die relative to said tool.

3,139,677

METHOD AND APPARATUS FOR INSERTING RESILIENT RODS INTO FLEXIBLE TUBES

Milton Goldstein, Freeport, N.Y.
(364 E. Broadway, Long Beach, Long Island, N.Y.)

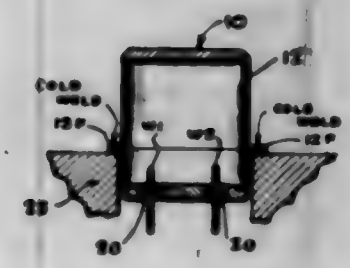
Filed Mar. 23, 1959, Ser. No. 801,207
15 Claims. (Cl. 29—451)



5. A method for inserting an elongated compressible core into tubing of smaller internal cross-sectional area normal to its axis than the cross-sectional area of the core normal to its axis, which method comprises holding said core in elongated form confined in a confining zone having its confining wall peripherally spaced away from the outer peripheral surface of the core; connecting said tubing, which is to receive the core, in continuous gas-tight communication with said confining zone; compressing said core to a cross-sectional area normal to its axis smaller than the inside cross-sectional area of

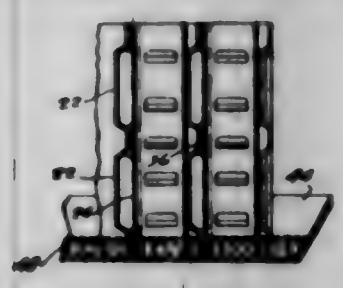
said tubing normal to its axis and propelling said compressed core through said tubing by feeding into said confining zone holding said core, and thereby around at least a major part of the longitudinal outer-peripheral surface of that length of said core which is within said zone, a stream of core-propellant gas at a pressure sufficient to compress the core and propel it through the tubing by suction acting on the leading end portion of the core, said suction being developed by the speed of flow of said core-propellant gas over said peripheral surface and around said leading end portion of said core.

3,139,678
METHOD OF COLD PRESSURE WELDING ELECTRICAL ENCLOSURE MEMBERS
Myron L. Anthony and Robert F. Gill, Jr., La Grange, Ill., assignors to Scully-Anthony Corporation, La Grange, Ill., a corporation of Illinois
Filed Aug. 30, 1961, Ser. No. 134,909
1 Claim. (Cl. 29—470.1)



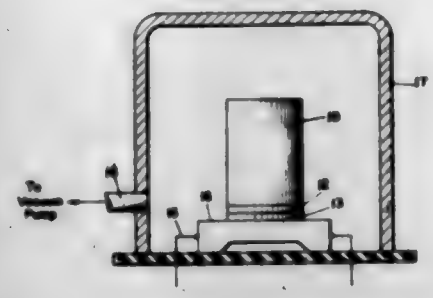
In a method of assembling electrical enclosures including the step of cold pressure welding enclosure parts presenting aluminum surfaces where the weld joints are to be formed between opposed enclosure parts, chemically cleaning each such aluminum surface that is to be part of a weld joint between opposed enclosure parts thereby to expose the bare pure aluminum metal for effective deliberate oxidation, deliberately developing a substantially continuous aluminum oxide surface from said bare pure aluminum by treatment thereof with nitric acid, preserving intact each such aluminum oxide surface until welding is to be effected thereon, and thereafter completing cold pressure weld joints for said enclosure parts, which joints embrace the aluminum oxide surfaces deliberately formed aforesaid by means of nitric acid treatment.

3,139,679
METHOD FOR FORMING HEAT-EXCHANGE DEVICES
Stanley Saj, 820 Brunner St., Peru, Ill.
Filed May 16, 1961, Ser. No. 110,487
1 Claim. (Cl. 29—471.1)



A method for center sealing a radiator core formed of a plurality of metallic radiator units having a series of nested longitudinally-extending upright marginal corrugations and an intermediate centrally-disposed nested series of corrugations extending parallel thereto; the steps of inserting a strip of solder between each adjacent pair of nested central corrugations, clamping said units together in nesting relationship, and dipping only said longitudinally-extending marginal corrugations at their respective edges in molten metal to seal the same one to the other and to melt said solder strip by heat of conduction to seal said center corrugations of each unit, one to another, in nested relation.

3,139,680
METHOD OF BONDING CONTACTS TO THERMOELECTRIC BODIES
Samuel J. Scuro, Verona, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 8, 1963, Ser. No. 257,351
2 Claims. (Cl. 29—472.9)



1. In a process for forming a thermoelectric device of a zinc antimonide thermoelectric element and a low resistance copper clad steel contact element, the steps comprising

(*a*) assembling the elements with a surface of the zinc antimonide element in intimate contact with the steel surface of the contact element,

(*b*) bonding the assembly in a vacuum system at a pressure of 10^{-3} mm. Hg while applying heat directly to the copper surface of the contact element maintained within a range of 425–450° C. for upwardly of five minutes to provide a fused joint between the surface of the zinc antimonide element and the steel surface of the contact element.

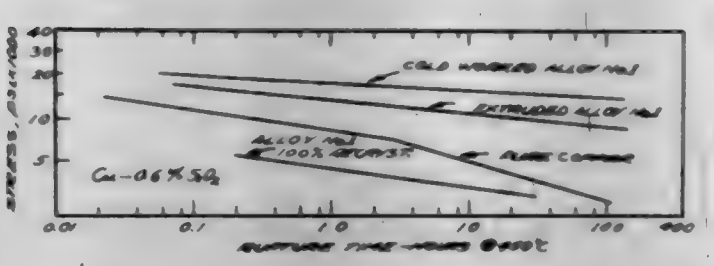
3,139,681
METHOD OF MANUFACTURING NUCLEAR REACTOR FUEL ELEMENTS
David E. Goslee, Towson, and Louis Frank and Aldo C. Pezzi, Baltimore, Md., assignors to Martin-Marietta Corporation, a corporation of Maryland
No Drawing. Filed May 13, 1958, Ser. No. 734,837
3 Claims. (Cl. 29—474.3)

1. A method of manufacturing a flat plate fuel element for a nuclear reactor which comprises the steps of enclosing a core of particulate material in a substantially cylindrical elongated metal sheath to form a tubular assembly, said assembly being sealed so as to permit the escape of gas therefrom, rolling said assembly so as to form a flat plate, and heating the plate so produced to sinter said particulate material and form a metallurgical bond between said core and said sheath, said particulate material consisting of particles of a matrix metal selected from the group consisting of aluminum and stainless steel, and particles of an oxide of a fissionable metal selected from the group consisting of uranium dioxide, uranosic oxide, thorium dioxide and plutonium dioxide, said sheath being composed of the same material as said matrix metal.

3,139,682
STRENGTH RECOVERY OF DISPERSION HARDENED ALLOYS
Nicholas J. Grant, 10 Leslie Road, Winchester, Mass.
Filed June 24, 1960, Ser. No. 38,521
1 Claim. (Cl. 29—552.2)

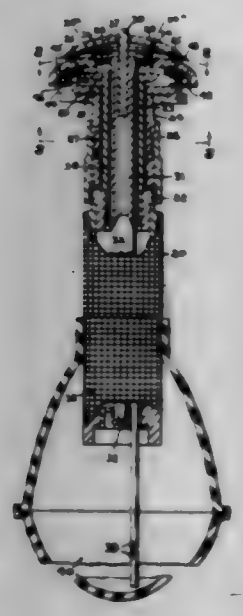
A method of fabricating a wrought metal product at elevated temperatures which tend to impair the physical properties of at least a portion of the metal product being

fabricated, such as occurs in welding, and at fabrication temperatures in excess of the recovery and recrystallization temperature of the metal product which comprises, providing a metal product to be fabricated comprising a metal selected from the group consisting of Fe, Ni, Co, Fe-base, Ni-base and Co-base alloys; Cu, Ag, Au, Cu-base, Ag-base and Au-base alloys; Pt, Pd, Ru, Rh, Ir and Pt-base, Pd-base, Ru-base, Rh-base and Ir-base alloys; and Mg, Zn, Cd, Al, Pb, Sn and Mg-base, Zn-base, Cd-base, Al-base, Pb-base and Sn-base alloys, having dispersed substantially uniformly therethrough about 0.1 to 15 volume percent of a stable insoluble disperse refractory oxide phase characterized by a negative free energy



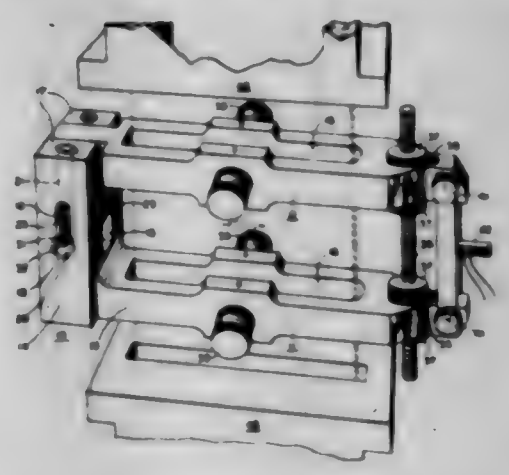
of formation at about 25° C. of at least about 90,000 calories per gram atom of oxygen and a particle size not exceeding about 0.3 micron, fabricating at least a portion of said metal product containing said disperse refractory oxide phase at an elevated fabrication temperature which tends to impair the physical properties of said portion, and then subjecting said fabricated portion to strain hardening, the amount of strain hardening being inversely related to the volume of the disperse refractory oxide phase present, whereby at least said strain hardened portion is characterized by improved high temperature strength properties equal to or above the original properties prior to impairment thereof by high temperature heating.

3,139,683
SAFETY RAZOR WITH FLUID DISTRIBUTING MANIFOLD
Joseph Waldman, 404 Meadowbrook Lane, Erdenheim, Philadelphia, Pa.
Filed Apr. 2, 1963, Ser. No. 270,821
6 Claims. (Cl. 30—41)



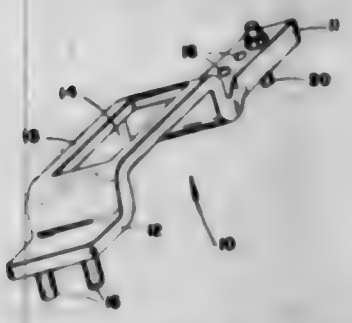
1. In a safety razor of the type having a head assembly including a blade support, a blade edge guard having a forward edge underlying and projecting forward of the position of the cutting edge of the blade to be used, a blade cover clamp for clamping the blade against the said blade support, and a handle secured to and extending downward from the said head assembly, the combination comprising, a fluid distributor manifold secured to said razor head assembly immediately beneath the said blade edge guard and having an inlet and a plurality of spaced apart outlets, a resiliently compressible and expandible hollow bulb fluid reservoir carried by the lower end of the handle and acting as an extension thereof, said blade edge guard being apertured therethrough from the under surface to the upper surface thereof to form a plurality of spaced apart openings aligned with and acting as continuations of said manifold apertures, and conduit means extending from within said bulb to the inlet of said manifold, said bulb being compressible by hand squeezing action of the shaver without altering hand position from that normally employed during the shaving process to cause fluid stored therein to flow to said manifold and outward therethrough through the said plurality of manifold outlets onto the skin being shaved in front of the cutting edge of the razor blade along substantially the entire blade length.

3,139,684
EXTENSOMETER FOR MEASURING DEFLECTION OF A CRACKED PLATE SPECIMEN
Richard W. Boyle, 5446 Taney Ave., Alexandria, Va.
Filed Aug. 29, 1961, Ser. No. 134,783
3 Claims. (Cl. 33—143)
(Granted under Title 35, U.S. Code (1952), sec. 266)



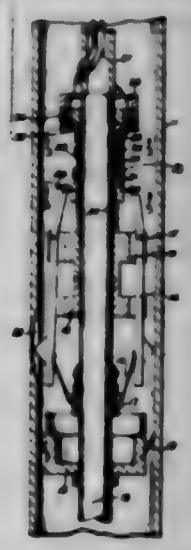
1. An extensometer adaptor for determining the growth of a crack from a notch formed in a test specimen which comprises first and second sections, said first section including a slotted arm with a bifurcated end portion extending therefrom at about a right angle, said second section including a slotted arm with a solid end portion extending therefrom at about a right angle thereto, said end portion of said second section mating with the end portion of said first section with the slots of each arm portion of each of said sections extending in the same direction with their slots along the same axis through the length of the arms, said second section being pivotally connected with the bifurcated end of said first section by a pin, said pin having triangular ends to form a knife edge, a pivot bushing cooperating with said pin to provide a pivot about a fulcrum at the mated ends, spring means associated with said bifurcated end portion of said first section and said pin to force said knife edge of said pin against the pivot bushing, said first and second sections adapted for relative movement along a line through the pivot upon rupture of said test specimen, means associated with said slots in each arm to secure the adaptor to said specimen with the arm of each of said sections secured on opposite sides of said notch in said specimen, and means associated with said arms to record a movement of said arms as a crack is formed at said notch in said specimen.

3,139,685
BRAKE GAUGE
Roy E. Wasley, San Carlos, Calif.
(9136 NE. Glisan St., Portland, Oreg.)
Filed Mar. 28, 1961, Ser. No. 98,859
1 Claim. (Cl. 33—178)



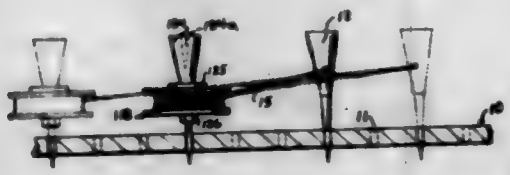
A brake gauge for gauging the adjustment of automobile brake shoe assemblies to fit with predetermined clearance in brake drums in either new or worn condition, comprising a divided elongated body member having a pair of parallel leg portions with an opening therebetween to straddle a projecting axle spindle in diametral position on a shoe assembly associated with said axle, a perpendicular gauge pin fixedly mounted on one end of said body member, a calibrated rotatable eccentric perpendicular gauge pin movable to a plurality of predetermined positions along the other end of said body member, confronting sides of said gauge pins forming an outside caliper for the shoes and the opposite sides forming an inside caliper for the drum, and mechanical indexing means on said body member to locate said eccentric pin in said positions, said positions being spaced apart equal distances from each other in accordance with the uniform increment of size variation of standard brake drums and spaced from said fixed gauge pin distances corresponding to the diameters of the standard sizes of brake drums, the sum of the thicknesses of the two gauge pins being equal to said spacing of said positions so that an inside diameter measurement in a brake drum with the eccentric pin at one of said positions corresponds to an outside diameter measurement on a mating brake shoe assembly with the eccentric pin in the next outer of said positions, and rotation of said eccentric pin in the brake shoe measurement introduces clearance space between the drum and brake shoes in terms of diametral measurement.

3,139,686
TUBING TESTER WITH RATCHET CONTACTS
Arthur H. Brandon, 1450 Ramillo Ave.,
Long Beach, Calif.
Filed Sept. 7, 1962, Ser. No. 222,157
4 Claims. (Cl. 33—178)



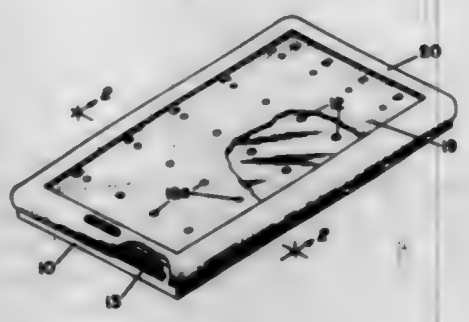
1. A tubing tester comprising a vertically extending mandrel, a plurality of fingers, means pivotally mounting the fingers on the mandrel for outward swinging movement,
spring means urging each finger outwardly independently of each other,
ratchet means mounted on said mandrel for partial rotation thereon,
a plurality of contact bars on said ratchet means,
and a plurality of contacts mounted on said mandrel adjacent said contact bars for engagement by the contact bars,
one end of said fingers engaging said ratchet means to partially rotate the ratchet means on swinging movement of a finger.

3,139,687
ATHLETIC VISUAL TRAINING AID
Edwin W. Hamer, 825 92nd NE., Bellevue, Wash.
Filed Feb. 18, 1960, Ser. No. 9,511
2 Claims. (Cl. 35—7)



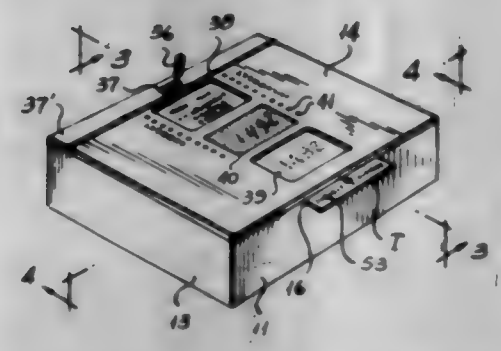
1. A visual aid comprising, a board with a plurality of holes exposed to the front thereof, an indicator adapted to be selectively inserted in said holes, a line secured at one end to said indicator, and a self winding reel assembly operatively receiving the other end of said line and adapted to be selectively inserted in said holes for indicating a starting position, whereby the line will show the path of said indicator from said starting position to a selected one of said holes.

3,139,688
EDUCATIONAL APPARATUS
Robert W. Roop, Sewell, N.J., assignor to General Atronics Corporation, Bala-Cynwyd, Pa., a corporation of Pennsylvania
Filed June 9, 1961, Ser. No. 121,291
12 Claims. (Cl. 35—9)



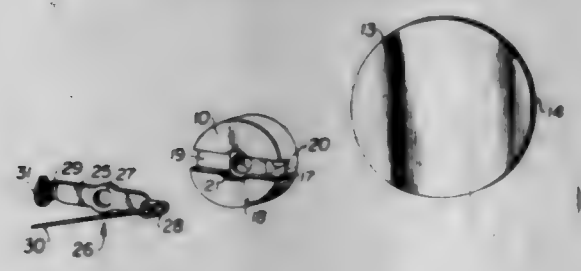
1. Educational apparatus comprising: a block having an internal cavity and a plurality of apertures leading into said cavity; a code panel pierced by holes in such a pattern as to align with only some of said apertures upon insertion of said panel in said cavity; and a probe insertable into said cavity through any one of said apertures, said probe comprising means for firmly limiting its maximum penetration into any aperture having no hole aligned therewith and means for producing a force tending to reduce said penetration upon maximum penetration only into said apertures aligned with said holes.

3,139,689
TESTING
Marie L. Quintel, 125—10 Queens Blvd., Kew Gardens 15, N.Y., and Carl Weiss, Wantagh, N.Y.; said Weiss assignor to said Quintel
Filed Nov. 6, 1962, Ser. No. 235,757
7 Claims. (Cl. 35—9)



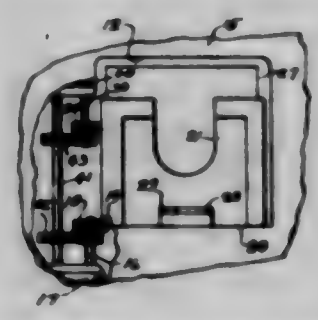
6. In combination, a case, a reusable testing member disposed in said case and having spaced and simultaneously fully exposed zones, one of said zones being provided with normally invisible indicia capable of being rendered visible by a pre-established treatment applied to said one zone and invisible after said treatment, said other zone being provided with permanent visible indicia correlated with said invisible indicia, said case being provided with openings defining said zones to permit simultaneous full viewing thereof and having an exposed area adapted to receive indicia of a possible like character as the invisible indicia, and treatment applying means disposed within said case and operable for applying said treatment to said one zone to render said invisible indicia visible for comparison with indicia on said area and for terminating said treatment whereby said indicia of said one zone is rendered invisible to condition said member for reuse.

3,139,690
GOLFING AID
Miriam L. Halt, 1120 W. 29th St., Lorain, Ohio
Filed Sept. 19, 1960, Ser. No. 57,828
2 Claims. (Cl. 40—1.5)



1. A golfing aid comprising, a generally cylindrically contoured ceramic magnet having front and rear faces, the front face of the magnet including an annular outwardly projecting disc receiving ridge disposed concentrically with the remainder of the magnet, a flat disc of paramagnetic material carried by the magnet in abutment with said rim, said disc having a rear face in such abutment and an engraved front face identifying the owner of the golfing aid, said magnet including a slot extending from the rear face to a slot base wall intermediate the front and rear bases of the magnet, said base wall being flat and generally parallel to the front and rear walls of the magnet, said slot including generally planer side walls disposed substantially normal to the base and extending from the base to the rear wall of the magnet, each of said planer side walls include an enlarged central portion contoured to the shape of a segment of a cylinder concentric with the remainder of the magnet, a pin having an elongated base and a pair of upstanding arms at opposite ends of the base, said base including spaced portions adapted to frictionally engage the planer portion of the walls and an enlarged central portion between the spaced portions, the central portion of the pin defining spaced segments of a cylinder and in frictional engagement with the walls of the enlarged central portion of the magnet slot, said pin including a pointed pinning portion pivotally connected to one of said upstanding arms, and a pin receiving lock carried by the other of the upstanding arms and normally maintaining the pin portion in a position generally paralleling the base of the pin.

3,139,691
PROJECTOR AND SLIDE TRAY THEREFOR
William D. Diemer, 5132 S. Greenwood, Chicago, Ill.
Filed Oct. 9, 1959, Ser. No. 845,368
1 Claim. (Cl. 40—79)



In a slide projector having a tunnel for the movement of slide trays therethrough, a tray advancing mechanism adapted to operatively engage and alternately and individually advance through said tunnel a conventional wide-slotted tray having a gear track with laterally-projecting gear teeth along the lower edge thereof and a narrow-slotted tray having a lateral gear track with laterally-projecting gear teeth spaced above the lower edge thereof, said projector providing a first drive gear positioned and arranged to engage exclusively the lower gear track of said wide-slotted tray, said projector also providing a second drive gear positioned and arranged to engage exclusively the lateral gear track of said narrow-slotted tray, means provided by said projector for rotatably supporting said first and second drive gears for rotation in spaced planes each extending parallel with the bottom surface of trays advancing through said tunnel, and means provided by said projector for simultaneously rotating said first and second gears in the same direction, said second drive gear having a slower peripheral speed of rotation than said first drive gear, said means for supporting said gears comprising a power-driven first shaft supporting said first drive gear, and a second shaft disposed above said first shaft and rotatably supporting said second drive gear.

3,139,693
CARTRIDGE POWERED SPEAR GUN
Charles A. Sellers, 8700 Oakdale, Waco, Tex., and Joe N. Shaw, Box 563, Valley Mills, Tex.
Filed Mar. 14, 1963, Ser. No. 265,118
2 Claims. (Cl. 42—1)

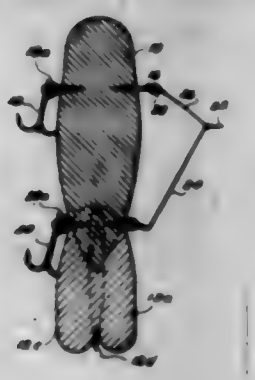
2. In a breech loading cartridge powered spear gun, a receiver having firing pin means and trigger and safety lock means for the firing pin means, a short barrel extension on the receiver having a bore and a rear flat end wall provided with an opening for the firing pin means, a barrel unit engageable within the bore of the short barrel extension and having a rear flat end wall in opposed closely spaced relation to said rear wall and also having a rear end breech loading chamber for a cartridge, the space between the rear end walls of the barrel unit and said bore receiving the rim of the cartridge

with said rim clamped between said walls in alignment with said opening for the firing pin means, means to releasably lock said barrel unit within said bore, said barrel unit having an inner barrel sleeve directly in advance of the breech loading chamber and communicating therewith and an outer barrel sleeve surrounding the inner sleeve in spaced substantially concentric rela-



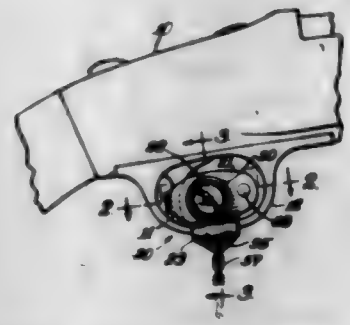
tion thereto, and a spear projectile having a rear tubular portion engageable within the annular space between said barrel sleeves and substantially coextensive lengthwise therewith and a forward solid portion arranged immediately forwardly in assembly of the forward end of the inner barrel sleeve to receive directly the force of explosion therefrom.

3,139,693
FISH LURE
Albert C. Newman, 2721½ Euclid, Long Beach, Calif.
Filed Sept. 5, 1961, Ser. No. 136,022
5 Claims. (Cl. 43—42.39)



1. A fish lure comprising:
an elongated, buoyant body having a weight distribution causing said body to normally float in water with its longitudinal axis in a substantially vertical position;
said buoyant body having an elongated body member with a forward end portion and a rearward end portion;
a pair of line attachment devices on said body member adjacent said forward and rearward end portions, respectively;
guide fins on said body member which are positioned adjacent said rearward end portion and which resist lateral movement of the buoyant body through the water;
and a bridle element attached to and extending between said devices and adapted for attachment to a retrieving line at a point on said bridle element located between said devices said bridle element transmitting a force to said body member to keep said longitudinal axis in a plane substantially perpendicular to said retrieving line whereby a pull on said line tends initially to move said vertically disposed body member broadside through the water along the axis of said line and thence upwardly out of the water to a point of instability effecting lateral tipping of said body member away from said axis of said line, continued pulling on said line tending to urge said body member along a path substantially coincident with the longitudinal axis of said body member and laterally away from said axis of said line.

3,139,694
SAFETY DEVICE FOR FIREARMS
Edward E. Schaefer, 1534 Park Ave., River Forest, Ill.
Filed Oct. 30, 1961, Ser. No. 148,360
9 Claims. (Cl. 42—70)



1. A safety device adapted for use with a firearm, or the like, having a trigger and a surrounding trigger guard having a generally oval-shaped open area, comprising a pair of elongated plate members of smaller size than said open area and adapted to be loosely received therein and to embrace said trigger, said plate members having clamp portions adapted to engage a portion of said guard for securing the device thereon, removable means carried by said plate members for urging the latter toward each other and said clamp portions into engagement with said guard and spacing means carried at each end of said plate members for maintaining the latter spaced from each other at opposite sides of said trigger, said spacing means providing an abutment at one end of said plate members for limiting movement of said trigger when said device is disposed in operable relation with said trigger and guard, whereby said device is effective to restrict movement of said trigger, thereby to prevent accidental discharge of said firearm.

3,139,695
FISHING LURE
Stephen Makowski, 1945 S. Troy St., Chicago, Ill.
Filed May 9, 1963, Ser. No. 279,161
7 Claims. (Cl. 43—42.36)

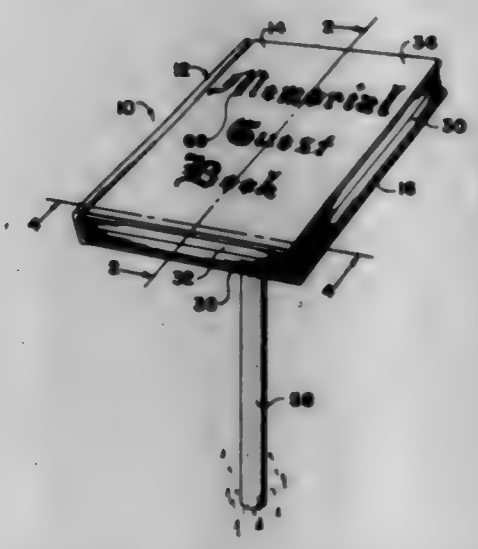


1. A fishing lure comprising a tubular member flattened in one plane over a portion of its length and flattened in another plane over another portion of its length, a rod rigidly secured to the member and extending lengthwise of the member and projecting beyond one end of the member, the projected part of the rod being eccentric to the longitudinal axis of the member and having a hook thereon.

ERRATUM

For Class 43—42.39 see:
Patent No. 3,139,693

3,139,696
MEMORIAL GUEST BOOK HOLDER
Mabel G. Stucky and Harold M. Balzer, Buhler, Kans.
Filed Oct. 9, 1961, Ser. No. 143,761
4 Claims. (Cl. 45—60)



1. A memorial guest book holder comprising, in combination, a hollow book-shaped member having a lid and a base hingedly secured together at one side thereof with the top and bottom thereof overhanging the other side and the ends thereof, said lid and said base of said member having mating tapered edges meeting intermediate said sides and said ends and sloping outwardly and downwardly from the interior of said member, an anchor secured to said other side of said lid adjacent one end of said member and projecting inwardly into said member, another anchor on said other side of said base projecting inwardly into said member and positioned beneath said first-named anchor, a relatively long helical spring secured in its end portions to said anchors, a plurality of relatively small and spaced apertures in said bottom of said base portion of said member forming air vents, a cylindrical and integrally formed mounting stud on said bottom of said base of said member and projecting therefrom, the outer end portion of said mounting stud being reduced in diameter and forming a ledge, and a tubular mounting shaft telescopically receiving in one end portion said outer end portion of said mounting stud and engaging said ledge, the other end portion of said shaft terminating in a relatively sharp point for driving same into the ground, said holder being constructed and adapted to receive a guest book or the like within said book-shaped member with said spring being positioned across said guest book when said lid portion is opened to hold the pages of said book in position.

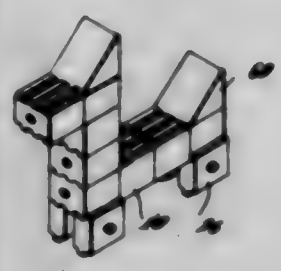
3,139,697
TOY HAND GRENADE
Christopher W. Mier, 447 Norway Ave., Trenton, N.J.
Filed Nov. 1, 1962, Ser. No. 234,742
3 Claims. (Cl. 46—17)

1. A toy hand grenade comprising:
(*a*) a hollow shell including a plurality of normally joined body sections having connections opening on impact of the shell against a hard surface to separate the sections from one another;
(*b*) means in one of said sections for supporting a percussion cap;
(*c*) a hammer pivoted in said one section under spring load tending to bias the same to a cap-detonating position; and
(*d*) an abutment rigid with a second section of said shell,



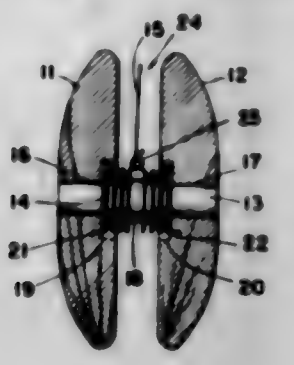
(1) said abutment engaging the hammer against movement to its cap-detonating position when said sections are joined,
(2) said abutment being moved clear of the hammer to free the same for detonation of the cap in response to said separation of the sections.

3,139,698
SET OF BUILDING BLOCKS WHEREIN EACH BLOCK HAS CONNECTING MEANS ON THREE SURFACES THEREOF
Arnold F. Arnold, Miller Place, N.Y., assignor to Parker Brothers, Inc., Salem, Mass., a corporation of Maine
Filed May 22, 1961, Ser. No. 111,592
6 Claims. (Cl. 46—25)



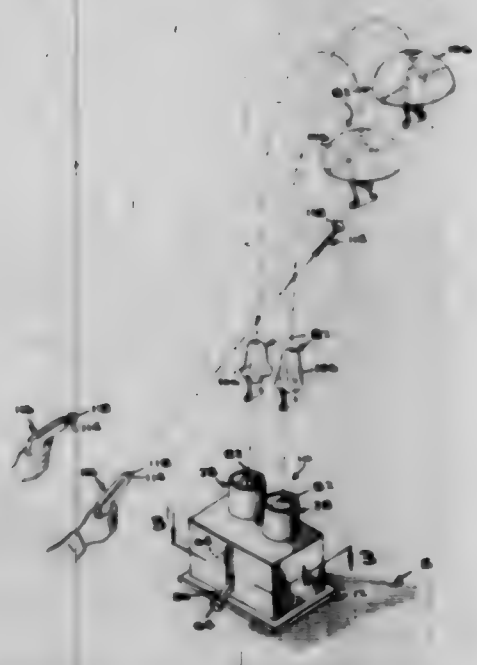
1. In a set of building blocks, the combination of a plurality of hollow blocks of several predetermined geometrical shapes, each block having walls which delimit its shape, the block with the least number of walls having no less than three walls, the block with the greatest number of walls having no more than six walls, each of said blocks having at least one wall but no more than two walls which embody a plurality of tongues and grooves of right section, enabling joining the blocks wall-to-wall by engagement of the tongues on a wall of one block within the grooves on a wall of another block while permitting relative displacement of the joined blocks in the plane of the adjoining walls, one of the remaining walls containing a hole perpendicular to its surface, and another mounting a pin perpendicular to its surface, said pin corresponding substantially in diameter to said hole, said hole and pin enabling joining the blocks wall-to-wall by engagement of the pin on a wall of one block within a hole in the wall of another block while permitting relative rotation of the blocks about an axis perpendicular to the plane of the adjoining walls, said tongues and pins being hollow extensions of the hollow interior of the blocks and elastically interengageable with the grooves and holes, respectively.

3,139,699
TETHERED TOP WITH A SPRING MOUNTED ON THE SHAFT FOR REWINDING THE CORD
Nicholas John Chuy, 5339 Burlingame, Detroit, Mich.; Ruth Chuy, heir of Nicholas Chuy, deceased
Filed Oct. 23, 1961, Ser. No. 146,895
1 Claim. (Cl. 46—61)



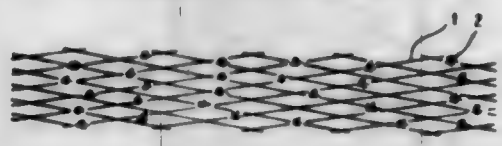
A toy of the class described comprising: a pair of spaced apart annular discs; each disc having an axial bore therethrough; a shaft having the ends thereof fixedly mounted in the bores of the discs for connecting the discs together; each of said discs having undercuts on the inner sides thereof circumferentially surrounding said bores for providing a clearance in each disc around said shaft; a spring mounted around said shaft; said spring including two coiled sections; one of said spring sections being coiled in a direction opposite to the other spring section; said spring having an intermediate section provided with an eyelet and connecting the inner ends of the two coiled sections; the outer end of each coiled spring section being provided with a lateral projection secured to the adjacent disc within the undercut on the disc and adjacent the shaft; and a string secured to said eyelet.

3,139,700
PARACHUTE TARGET GAME APPARATUS
Everett A. Wyrick, 5416 Colonial Oak Circle, Mobile, Ala.
Filed June 1, 1962, Ser. No. 199,339
5 Claims. (Cl. 46—86)



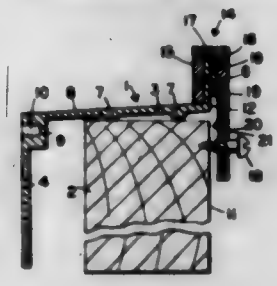
1. Parachute game apparatus comprising a casing having a bottom wall and a top wall, a launching tube arranged in an upright direction disposed within the casing so that the lower end rests upon the bottom wall and having the portion adjacent the open upper end extending through the top wall and projecting beyond the top wall, a horizontally-disposed spring-biased bar extending transversely across and projecting out of said tube and connected to said tube for limited upward-and-downward movement therealong, a lever extending transversely over the projecting portion of said bar and compressing said bar and having one end connected to said casing for pivotal upward-and-downward movement of said lever about a horizontal axis and having the portion adjacent the upper end extending out and beyond said casing, hand-operable means on the other end of said lever for effecting the downward movement of the lever, a latch element connected to said casing and operable to engage said lever to hold the latter in the downward movement position and to be released from said lever and permit the lever to execute its upward movement under the action of the spring associated with said bar, and a target comprising a body carrying a folded parachute inserted into said launching tube and resting upon said bar, said lever upon release of said latch element therewith executing its upward movement under the action of the spring associated with said bar and projecting said target out of said launching tube followed by opening up the folded parachute.

3,139,701
METHOD OF CULTIVATING PLANT SEEDLINGS
Hikaru Nishiuchi, Sakai City, Japan, assignor to Takara Yoshi Co. Ltd., Osaka City, Japan, a corporation of Japan
Filed May 31, 1961, Ser. No. 113,785
2 Claims. (Cl. 47—58)



1. The method of cultivating plants which comprises the steps of disposing on the ground in its contracted position a network of elongated elements which may be expanded and contracted in area, growing plants within the area of said network which cling thereto, removing said network from the ground with said plants clinging to it, subsequently expanding said network, and replanting said plants with said network in its expanded position.

3,139,702
THERMAL BARRIER FOR SKYLIGHTS
Max Wasserman, Newton, Mass., assignor, by mesne assignments, to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed May 11, 1959, Ser. No. 812,213
5 Claims. (Cl. 50—116)



1. A condensation barrier adapted for use in a skylight construction, said condensation barrier having a skylight supporting frame providing a continuous upwardly extending metal flange on the inner edge of said frame forming a condensation gutter comprising, a continuous extrusion of low heat conductive material, providing an inverted U-shaped portion with one leg on the inner and one leg on the outer surface of said flange, said inner leg extending over the entire inner surface of said flange,

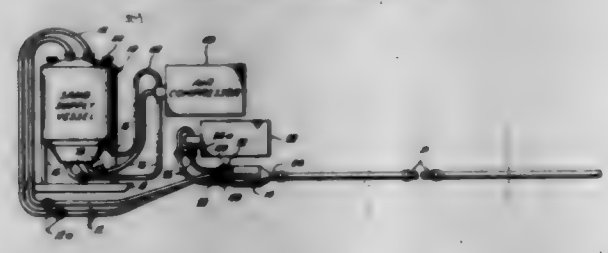
and means spacing the outer surface of said inner leg from the inner surface of said flange.

3,139,703
SHEET METAL COVER FOR EXISTING WINDOW FRAME
Rudolf Hilt, 203 Lehigh St., Hokendauqua, Pa.
Filed Apr. 26, 1961, Ser. No. 105,716
1 Claim. (Cl. 50—118)



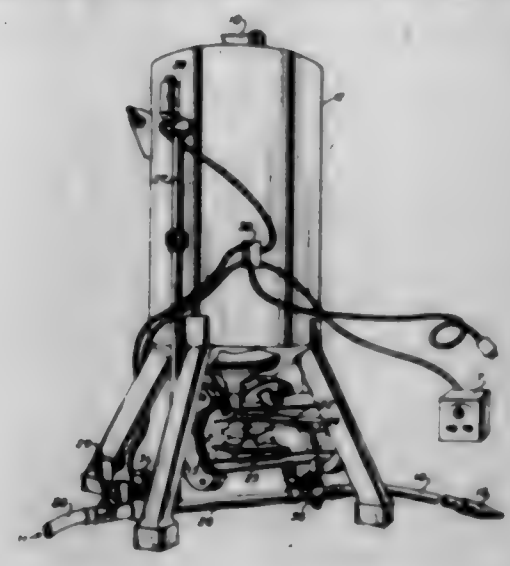
In a sheet metal cover for the trim at the side of a window or door, a continuous integral sheet metal shape having a portion adapted to lie against the siding of the building and under the metal siding to be applied, a portion extending outwardly from the building transversely from the portion adapted to lie under the metal siding which portion is adapted to extend along the end of the metal siding, a portion bent transversely to the portion just mentioned adapted to extend across the front of the trim and a portion bent transversely to the portion adapted to extend across the front of the trim for covering the inner edge of the trim, in combination with siding extending over the portion adapted to lie against the old siding of the building, there being a cut extending from the edge of the portion adapted to lie against the siding of the building toward the trim, said metal siding extending through said cut with its upper portion behind the portion of said trim cover adapted to lie against the siding of the building and its lower portion in front of the portion of the trim cover adapted to lie against the siding of the building.

3,139,704
PIPELINE CLEANING APPARATUS
James D. McCune, La Porte, Tex., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Original application Sept. 21, 1961, Ser. No. 139,787. Divided and this application Aug. 28, 1962, Ser. No. 219,595
14 Claims. (Cl. 51—8)



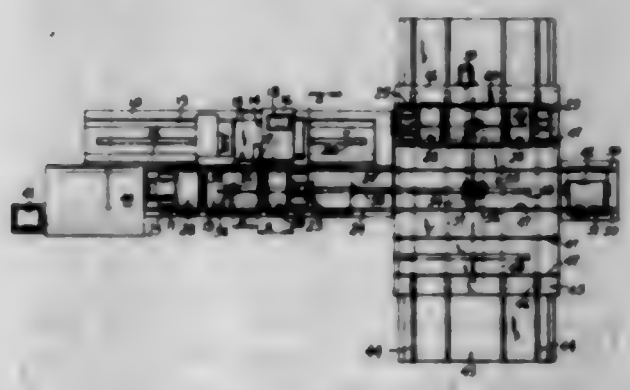
5. Apparatus for cleaning the internal surface of pipe comprising means for forming a mixture of abrasive particles and gas at a pressure to prevent settling of the particles during flow of the mixture at said pressure and including means for varying the amount of abrasive per unit volume of the mixture, means for agitating the mixture while introducing additional pressured gas into the mixture to maintain the abrasive particles in a substantially uniform state of suspension and means for introducing the mixture in an agitated condition into one end of a pipe.

3,139,705
SANDBLAST MACHINE WITH PRECISION SAND-FEED, REMOTELY STARTED AND STOPPED
Howard Histed, 1826 Moraga St., San Francisco, Calif.
Filed Dec. 10, 1962, Ser. No. 243,690
17 Claims. (Cl. 51—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



11. A sand blasting machine comprising:
(*a*) a source of fluid pressure,
(*b*) a sand storage tank connected to (*a*) and provided with a gravity sand feed orifice in its base,
(*c*) a sand blasting nozzle connected to (*b*) for directing sand under fluid pressure to a surface to be blasted,
(*d*) a rigid sand feed chamber located between (*b*) and (*c*) for receiving sand by gravity from (*b*) and maintained under pressure from (*a*),
(*e*) mechanical-electrical means located in said chamber (*d*) for controlling the sand feed rate through said orifice,
(*f*) said means (*e*) for controlling the sand feed rate includes a horizontal feed plate supported adjacent said sand feed orifice and spaced therefrom so that sand falling on said plate when motionless will build up into a conical pile until it blocks the outlet of said orifice, and
(*g*) means for vibrating said horizontal feed plate (*f*) so that said conical sand pile will be reduced in heighth to permit sand to flow through said orifice, over the feed plate (*f*) and into the nozzle connection (*c*).

3,139,706
ROLL GRINDER HAVING LOADING AND UNLOADING ROLL-CONVEYING MEANS
Gunnar V. Hultgren, Milford, Conn., assignor to Farrel-Birmingham Company, Incorporated, Ansonia, Conn.
Filed Mar. 26, 1963, Ser. No. 268,893
10 Claims. (Cl. 51—49)



1. In a grinding machine for grinding an elongated workpiece and having a grinding wheel head assembly for

reciprocating movement lengthwise of the workpiece on a path provided on a bed part, the combination of a second bed part, a first guide means on said second bed part extending parallel to the aforementioned path of the head assembly, a main carriage, a plurality of second guide means independent of and parallel to one another on the carriage and extending axially of said first guide means, said carriage being movable rectilinearly and transversely of said first guide means to selectively align therewith any one of said second guide means, a third bed part having means to guide said movement of the carriage, and a plurality of workpiece-supporting subcarriages for movement from the main carriage on any one of said second guide means to said first guide means and then back to the main carriage on a different one of said second guide means after a grinding operation and selective movement of the main carriage, each subcarriage being adapted to support a workpiece for a grinding operation thereon, said first guide means receiving sequentially each workpiece-supporting subcarriage in a position in which the workpiece may be ground by the grinding wheel head assembly.

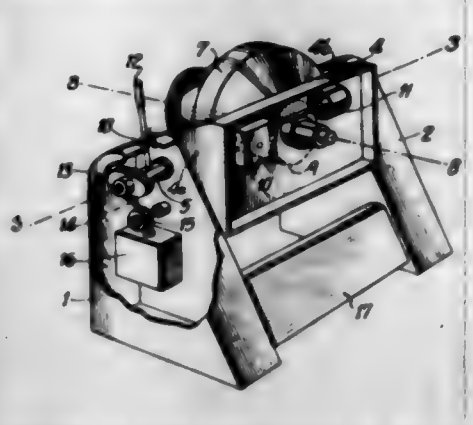
3,139,707
METALLIC O-RING POLISHING MACHINE
Julian N. Andrews, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Oct. 17, 1962, Ser. No. 231,243
12 Claims. (Cl. 51—60)



1. Apparatus for the polishing of metal O-rings, including a support, a plurality of rollers mounted on said support in angularly disposed relation to one another and in a common plane, said rollers being rotatable and capable of relative movement in said common plane, an O-ring if disposed in said plane being adapted to be gripped at spaced points on its periphery by said rollers, means for rotating at least one of said rollers to rotate a gripped O-ring, a carriage on said support adapted to be advanced on a gripped ring, and dual polishing means on said carriage engageable with opposite faces of a gripped O-ring.

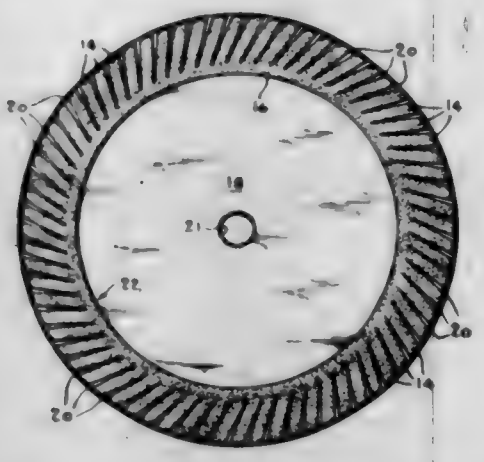
3,139,708
DEVICE FOR THE TREATMENT OF SMALL GOODS
Hans Ostiker, Oberdorfstrasse 21, Horgen, Switzerland
Filed Jan. 6, 1959, Ser. No. 785,285
Claims priority, application Switzerland Jan. 8, 1958
7 Claims. (Cl. 51—164)

6. A tumbler for treating small goods comprising a stationary support, a U-shaped carrier having a web portion and legs extending therefrom, means enabling said carrier to be connected to and supported by said support on a pivot axis, a drum disposed between said legs, a drive shaft connected to said drum to rotate the same on an axis substantially normal to said pivot axis, supporting means for said drive shaft on said web portion, the pivot axis of said carrier extending substantially through the center of gravity of said drum, drive means for said drive shaft including a motor mounted on said web portion and drivingly connected with said drive shaft, and a balancing means connected to said carrier for counterbalanc-



ing the weight of said carrier and of the drive means including means for automatically varying the effective countertorque in dependence on the angular position of said carrier.

3,139,709
SEGMENTED ABRASIVE RIM DISC AND METHOD FOR MAKING THE SAME
Roy J. Walters, 4985 Voltaire St., San Diego, Calif.
Filed Apr. 15, 1963, Ser. No. 272,989
2 Claims. (Cl. 51—195)

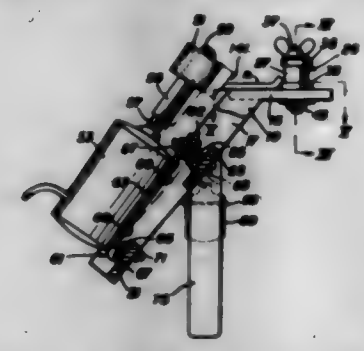


1. An abrasive rim disc comprising, a flexible backing disc adapted to be attached to and rotated by a power tool, a flat strip bent to a flat ring shaped form and having one of its faces bonded to the peripheral portion of the face of said backing disc and having the other of its faces covered with abrasive material, said strip being unitary on the inner radial side of said disc and forming a plurality of spaced apart segments on the outer radial side of said disc to thereby form a plurality of grooves each of them defined by two of said segments and said backing disc.

3,139,716
SHARPENER FOR LAWNMOWER BLADES
Don L. Ralston, 4428 Beatty Cove, Memphis, Tenn., assignor of one-half to Dr. S. I. Wener, Memphis, Tenn.
Filed June 4, 1963, Ser. No. 285,479
4 Claims. (Cl. 51—249)

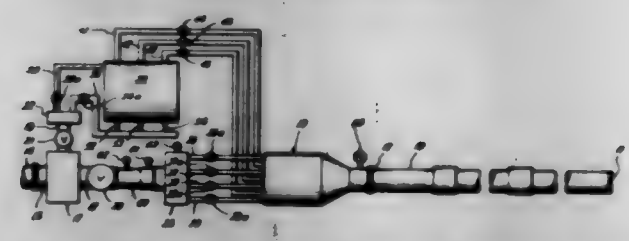
4. A tool for use in sharpening the blade of a rotary type lawnmower comprising a base member for sliding along the length of said blade, a guide member mounted on said base member for engaging the back edge of said blade, a grinding wheel, a hand drill motor including a rotatable shaft, means mounting said grinding wheel on said shaft for rotation therewith, a frame rigidly attached to said base member, hinge means including a first hinge half attached to said frame and a second hinge half, means removably mounting said drill motor on said

second hinge half whereby said drill motor is pivotally mounted from said frame, actuating means coupled to



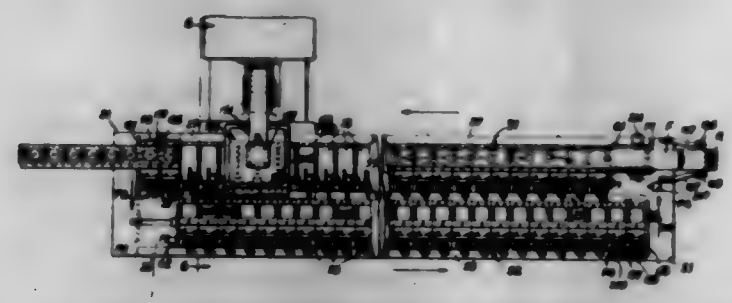
said second hinge half for moving said drill motor to carry said grinding wheel into and out of sharpening engagement with the front edge of said blade.

3,139,711
PIPELINE CLEANING SYSTEMS
Carl Richard Soderberg, Jr., Old Greenwich, Conn., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 28, 1962, Ser. No. 219,977
9 Claims. (Cl. 51—317)



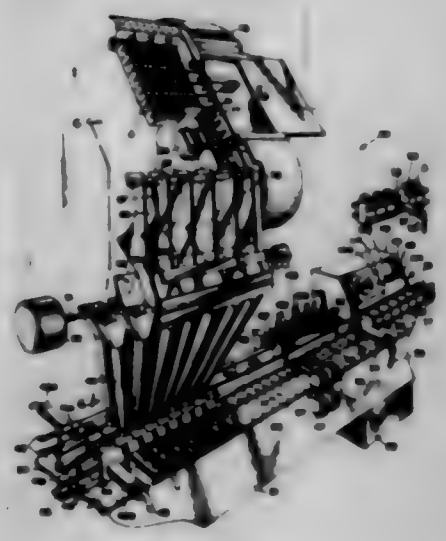
1. A method of performing internal cleaning of pipe line comprising the steps of: flowing gas at low pressure into a section of pipe line open to the atmosphere at a determined flow throughput, measuring the upstream pressure and determining therefrom the initial flow conductivity of the section of pipe line; scouring the interior of the section of pipe line with abrasive action to decrease its relative roughness; flowing gas at low pressure into the section of pipe line open to the atmosphere after such scouring at a determined flow throughput, measuring the upstream pressure and determining therefrom the flow conductivity of the section of pipe line; and comparing the initial flow conductivity with subsequently obtained flow conductivities until such subsequent flow conductivities are substantially constant whereupon such scouring is discontinued.

3,139,712
PACKAGING
Irvin S. De Wonkin, St. Louis, Mo., assignor to Beltx Corporation, St. Louis, Mo., a corporation of Missouri
Original application May 18, 1959, Ser. No. 813,874, now Patent No. 3,030,752, dated Apr. 24, 1962. Divided and this application May 29, 1961, Ser. No. 113,355
5 Claims. (Cl. 53—33)



1. The method of packaging an article on a card having a flap joined thereto along a fold, said flap having a window opening therein, said card and flap having a coating of an electronically heat-sealable synthetic plastic on one face thereof, comprising the steps of applying the flap coated face up over an electrode having a recess therein, the window opening in the flap registering with said recess, applying a film of flexible transparent electronically heat-sealable synthetic plastic over said flap, applying an article to the film above said window opening and recess, folding the card coated face down over the article, applying a second electrode to the card and pressing to clamp together the margin of the card, the film and the flap around the recess and concomitantly to stretch the film substantially taut over the article, the article and the portion of the film stretched over the article projecting down through the window opening in the flap and being accommodated in said recess, and applying high frequency electrical energy to the electrodes to effect electronic sealing of the coating on the card and flap and the film around the article with the margin of the card, the film and the flap clamped between said electrodes.

3,139,713
PILL COUNTING AND FILLING MECHANISM
Leland H. Merrill, 3940 N. Lake Shore Drive, Chicago, Ill., and Charles F. Brom, Chicago, Ill.; said Brom assignor to said Merrill
Filed Mar. 5, 1963, Ser. No. 177,469
4 Claims. (Cl. 53—55)



1. A mechanism of the class described comprising
(*a*) a continuous moving receptacle conveyor,
(*b*) a series of guide rails
disposed longitudinally above the conveyor and defining two parallel paths
extending forwardly from a single path for the movement of predetermined groups of receptacles from a counted position in the single conveyor path into filling positions in the respective parallel paths,
(*c*) separate means for holding and for spacing groups of receptacles in article-receiving position in the same transverse relationship in each of the parallel conveyor paths,
(1) a motor-activated stop for each path movable transversely of the path
into and out of position to check the advancing receptacle of that group,
(2) a series of motor-activated pins
spaced along the conveyor rearwardly of the stop
at predeterminedly fixed spaced intervals slightly greater than the corresponding dimension of a receptacle, with

(3) the series of pin motors being connected for successive activation by the electrically-controlled mechanisms

(*d*) parallel rows of stationary article-discharge chutes positioned along the conveyor above each of the respective parallel paths, and connected to

(*e*) parallel rows of depending stationary article-discharge tubes having their lower ends disposed for registration with the respective receptacles as they come into filling position on the respective conveyor paths,

(*f*) a single receptacle diverter-gate
hinged on a vertical axis above the conveyor in interposition between the two parallel paths and the single path for back and forth swinging to alternate the advance of groups of receptacles from the single conveyor path into the respective parallel conveyor paths,

(*g*) a single article diverter-gate
located intermediate the chutes and the tubes swingable for alternating the flow of articles into one or the other of the rows of receptacles on the respective conveyor paths,

(*h*) article-delivery means for depositing predetermined quantities of articles in the discharge chutes,

(*i*) motors for driving
the conveyor and the article-delivery means, and

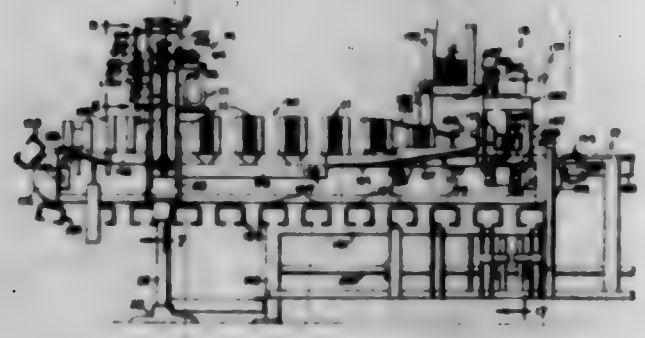
(*j*) electrically-controlled mechanisms
for effecting the coordinated operation of the diverter-gates, the article-delivery means and the receptacle-holding and spacing means.

3,139,714

MACHINE FOR LOADING STACKS OF PACKAGES IN CARTONS

Marion Hall, 913 Woodland Drive, Rockford, Ill.; Lillian E. Hall, administratrix of said Marion Hall, deceased

Filed Feb. 28, 1962, Ser. No. 176,228
13 Claims. (Cl. 53—159)



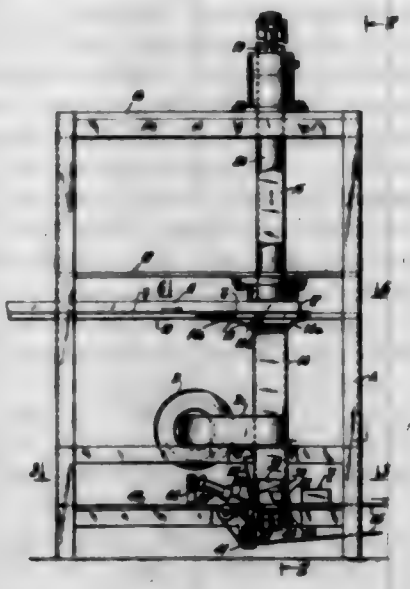
1. In a machine for loading stacks of flat packages of predetermined size in cartons and closing the latter, the combination of, a base, a carrier supported on said base, a plurality of holders spaced along said carrier and mounted thereon for back and forth swinging between upright positions and reclining positions, one end of each holder opening upwardly in the upright position and laterally in the reclining positon, mechanism for advancing said carrier along a predetermined path to present said holders successively to a receiving station and then to a loading station, a device disposed along said path and operable to maintain said holders upright at said receiving station and overturn the holders into the reclining position as the holders advance toward the loading station, mechanism for stacking a predetermined number of packages in each holder at said receiving station, the other end of each holder having an opening therein smaller than said predetermined size whereby said other end supports the packages in the holder, a retaining member for holding the stacks against falling through said one end as and after each holder is overturned, means for supporting an empty carton open at both ends at said loading station with one of said carton ends adjacent and alined with said one holder end, an insert ram supported on said base on one side of said holder in alinement with said smaller opening and for back and forth movement through said holder toward and away from the carton, a back-up ram supported on said base in alinement with the other of said carton ends and movable back and forth through the carton toward and away from said holder, mechanism for moving said rams first into engagement with opposite ends of said stack, then in unison toward the carton to carry the stack into the carton, and finally in opposite directions away from the carton, means for closing the carton ends tightly over the stack ends, and means for holding the stack tightly together in the carton after the rams are moved in said opposite directions and until the carton ends are at least partially closed.

3,139,715

CARTON FORMING AND CLOSING APPARATUS

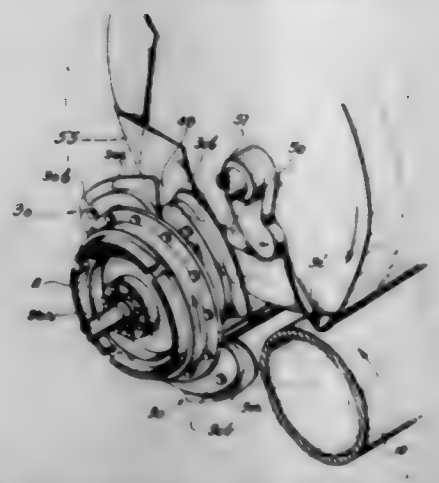
Stuart Otto, 34 Sylvan Road N., Westport, Conn.; Margaret G. Otto, executrix of said Stuart Otto, deceased

Filed Feb. 16, 1961, Ser. No. 89,781
11 Claims. (Cl. 53—192)



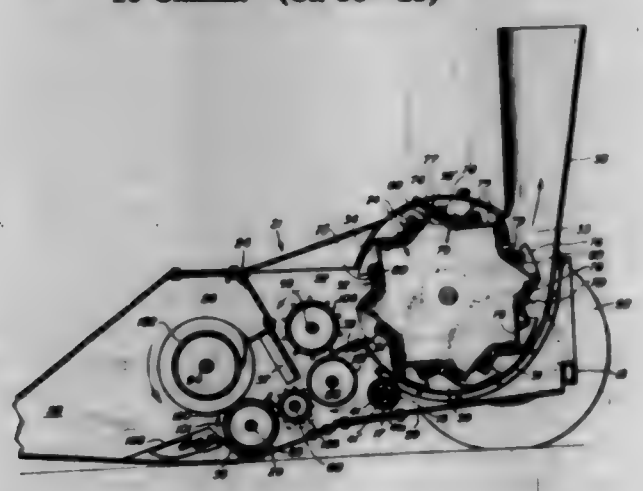
1. An apparatus for forming, filling and closing a carton made from a cut and scored blank which includes a hinged cover and at least one flap hinged to a wall adjacent the wall to which the cover is hinged comprising a forming die having a die passage therethrough between an upper inlet end and a lower discharge end, a chute having a passage therethrough for filling the carton to be set up, the relative movement between the forming die and the chute bringing the chute into engagement with a blank stationed therebetween and causing the forming die to set up the carton as the blank passes through the passage of the forming die from the inlet to the discharge end, the carton being filled through the chute after the carton is set up and while the lower end of the chute is still in telescoping relation with the carton, cover closing means at the discharge end of the forming die passage for engaging the cover after the chute and carton are separated and before the carton is removed from beneath the lower discharge end of the forming die, means bending said flap inwardly beneath the cover and cooperating with the cover closing means for bending the free end of the cover to facilitate tucking it in the carton, and means for imparting reciprocatory motion to said flap bending means to move it from an initial position into its operative position while the carton is in position below the lower discharge end of the forming die.

3,139,716
INTERLOCKING CRIMPING MACHINES
Roger F. Turnbull, Hoquiam, Wash., assignor to Lamb Grays Harbor Co., Inc., Hoquiam, Wash.
Filed Mar. 15, 1962, Ser. No. 179,953
5 Claims. (Cl. 53—389)



1. Means for crimping the projecting end portion of the wrapping material of a wrapped roll against the end surface of the roll, comprising in combination, means for supporting and axially rotating said wrapped roll, a crimping head rotatably mounted adjacent and parallel with the end surface of the wrapped roll and driven in the opposite direction; said head having a plurality of radial, angularly spaced crimp forming blades extended therefrom in such spacing as to successively engage successive arcuate portions of the projecting roll wrapper, each to form the engaged portion inwardly against the end of the roll in a crimp, each formed crimp having its forward end portion overlapped with the trailing end portion of the next previously formed crimp, and a crimp interlocking blade equipped with means for its support and rotation opposite to the wrapped roll in a plane parallel with the roll end surface, and in timing with the passage of a crimping head blade across the roll end in its formation of a crimp, said interlocking blade being positioned to enter and move longitudinally along the base of the trough as it is formed between adjacent crimps and to swing free of the trough for the flattening of the last formed crimp against the trailing end of the next previously formed crimp by the crimp forming blade.

3,139,717
FORAGE HARVESTER
Raymond C. Fischer, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 10, 1962, Ser. No. 186,503
16 Claims. (Cl. 56—23)



1. In a harvester comprising, a chassis, a mower on the chassis for cutting ground borne crops, a pickup roller rotatably mounted on said chassis adjacent the ground behind the mower in crop-receiving relation thereto, an upper roller rotatably mounted on said chassis above said pickup roller, the peripheries of said rollers being adjacent to each other and defining intake and discharge sides, a chamber structure mounted on said chassis and having a front opening in receiving relation to said discharge side of said rollers, rotary cutting means mounted in said chamber structure, said chamber structure having a material discharge opening, and drive means to rotate said rolls in a direction for grasping the material and moving it into said front opening of the chamber, said cutting means adapted to chop the material and exit it through said material discharge opening.

3,139,718
ROW CROP ATTACHMENT
Calvin P. Rickerd, La Grange, Raymond C. Fischer, Hinsdale, and Ernest C. Carlson, Wheaton, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 10, 1962, Ser. No. 186,504
8 Claims. (Cl. 56—119)

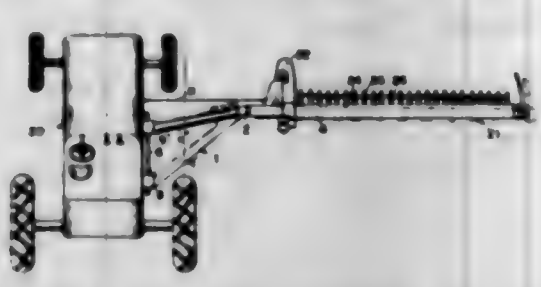


1. A two-row crop attachment for a harvesting machine having a sickle operative along a line transverse to the direction of movement of the harvesting machine comprising: a center divider including a tray of a width slightly less than the distance between crop rows and being adapted for mounting over said sickle such that it is generally close to the ground; and unitary prostrating means adapted to be mounted on the harvesting machine in an overlying spaced relationship with said center divider, and including a mounting bar extending forwardly and in spaced relation to the center divider and a pair of bars one of which is mounted on said mounting bar and the other of said pair of bars is adapted to be mounted from the harvesting machine and diverges forwardly from a vertex.

3,139,719
MOWING ATTACHMENT FOR AGRICULTURAL MACHINES
Kurt Pflücke, Berthelsdorf, and Theodor Ehlert, Neustadt, Saxony, Germany, assignors to VEB Fortschritt, Erntebergungsmaschinen, Neustadt, Saxony, Germany, a corporation of Germany
Filed Nov. 8, 1961, Ser. No. 150,964
5 Claims. (Cl. 56—288)

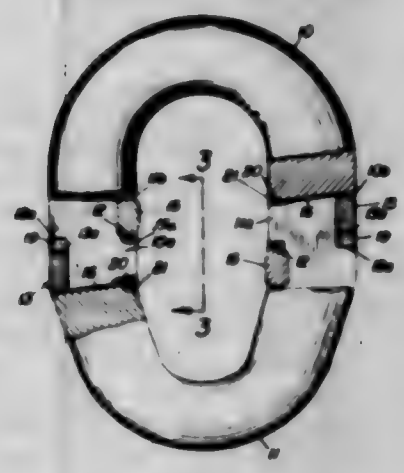
1. An outrigger attachment for an agricultural vehicle, comprising an elongated support, a blade longitudinally movable on said support and provided with cutting teeth, a set of fixed rake teeth on said support adjacent said cutting teeth, a link member articulated to said vehicle for pivotal movement about a first substantially horizontal axis, and sliding displacement therealong, a hinge

member articulated to said support for relative pivotal movement about a second substantially horizontal axis, a bent arm interconnecting said members, each of said members having fastening means for securing respective extremities of said arm in a plurality of different rotary positions relative thereto, at least one of said extremities



being also axially adjustable relatively to the respective member, and an elongated element connecting said blade with a reciprocating drive on said vehicle, each of said members being provided with a socket receiving the respective extremity of said arm with freedom of rotary and axial adjustment.

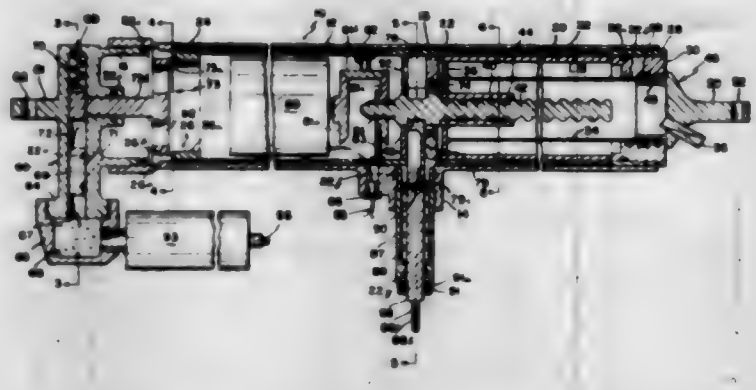
3,139,720
CONNECTING MEANS FOR CHAIN LINKS AND THE LIKE
William K. Robbins, 13453 Moorpark St., Sherman Oaks, Calif.
Filed Jan. 30, 1961, Ser. No. 85,735
5 Claims. (Cl. 59—84)



1. A connector comprising in combination two separable sections, one section providing a laterally opening side wall-providing socket and the other a laterally projecting stud movable into said socket, said stud and socket having longitudinal load-sustaining planar shoulders disposed substantially normal to the connector axis, said planar stud and socket shoulders being spacedly opposed when the sections are assembled, and an assembly-maintaining and load-sustaining weld in the space between said planar shoulders and bonded to the latter so as to be in compression therebetween when the connector is under longitudinal load.

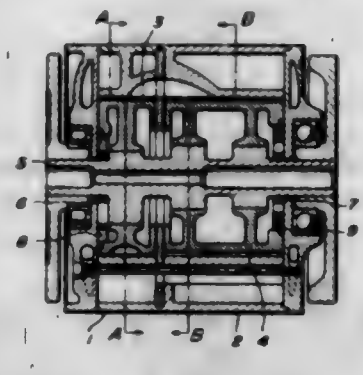
3,139,721
CANOPY ACTUATOR AND EJECTOR DEVICE
Richard P. Daubenspeck, Pacific Palisades, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 16, 1962, Ser. No. 180,369
12 Claims. (Cl. 60—6)

1. A device, charged with high pressure air or other gaseous medium, for counterbalancing and moving a first element in relation to a second element, said device comprising a housing member having a cylinder, a base member joined to said housing member and adapted for joining to said second element, an ejector tube forming a piston within the cylinder of said housing member, holding means for releasably holding said ejector tube within said housing member, an actuator tube forming a piston within and coaxial with said ejector tube, an end plug joined to said actuator tube and adapted for joining to said first element, drive means within said housing member for axially extending and retracting said actuator tube to actuate said first element in relation to said second element, means for disengaging said actuator tube from said drive means to permit said device to exert a counterbalancing force on said first element, said



counterbalancing force being produced by the gaseous charge within said device acting against said actuator tube and tending to move said actuator tube from said ejector tube, a latch plug slidable within said base member for releasably retaining said holding means, and a ballistic initiator, said ballistic initiator upon detonation moving said latch plug permitting said holding means to release said ejector tube and said actuator tube from said housing member for ejection from said housing member by the energy of said gaseous charge and high pressure products of combustion from said ballistic initiator acting against said ejector tube and said actuator tube.

3,139,722
ROTARY PISTON TYPE COMPOUND INTERNAL COMBUSTION ENGINES
Motoaki Yokoi, Ashiya-shi, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Mar. 6, 1962, Ser. No. 177,887
Claims priority, application Japan Mar. 10, 1961
2 Claims. (Cl. 60—15)



1. A rotary piston type compound internal combustion engine comprising a pair of juxtaposed rotary piston units having a common rotary shaft and each including a casing having a multi-lobe epitrochoidal inner peripheral surface, said rotary shaft being journaled in said casing, and a rotor mounted on said rotary shaft eccentrically with respect thereto and rotatable at a predetermined ratio relative to said shaft, said rotor being substantially polygonal having edges cooperating with said inner periphery of said casing, it being arranged so that one of said rotary piston units operates as an internal combus-

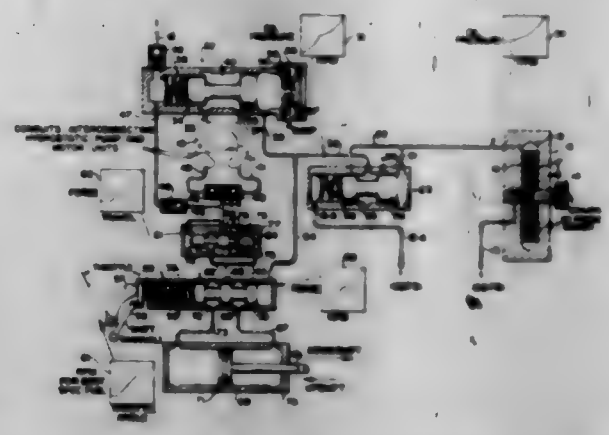
tion engine simultaneously while the other rotary piston unit operates as a compressor, and then said one rotary piston unit operates as the compressor for said other unit simultaneously while said other unit operates as an internal combustion engine the compressed air exit port of the second unit being in communication with the inlet port of the first unit, the exhaust gas from the first unit being introduced into the working chambers of the second unit to expand therein for the purpose of increasing the torque of the engine.

3,139,723

CONTROL SYSTEM FOR INFINITELY VARIABLE AUTOMATIC TRANSMISSION

John R. Hellowell, Dearborn, Mich., assignor to Fairchild Stratos Corporation, Hagerstown, Md., a corporation of Maryland

Filed Feb. 26, 1963, Ser. No. 175,523
17 Claims. (Cl. 60—19)



1. In a control system for an infinitely variable hydrostatic transmission of the type having a pump and motor with interconnecting fluid pressure and return conduits, and an associated prime mover, in combination, a centrifugal pressure governor driven by the prime mover at a speed directly proportional to the prime mover speed, said governor serving to produce an output pressure which varies as the square of speed from a minimum equal to a regulated pressure supply to a maximum, a modulating valve connected to the output of said governor, said modulating valve producing a pressure output substantially linear with respect to prime mover speed from idling speed to the prime mover maximum, a pilot valve for determining the ratio setting of the transmission, means applying the output pressure from said modulating valve to said pilot valve to urge said pilot valve to position to effect shifting of the ratio in one direction and means applying a pressure proportional to prime mover throttle setting to urge said pilot valve in the opposite direction to a position to effect shifting of the transmission ratio in the opposite direction.

3,139,724

DUAL FUEL COMBUSTION SYSTEM

Anthony J. Nerad, Alplaus, and Zachary D. Sheldon, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 29, 1958, Ser. No. 783,595
8 Claims. (Cl. 60—35.4)

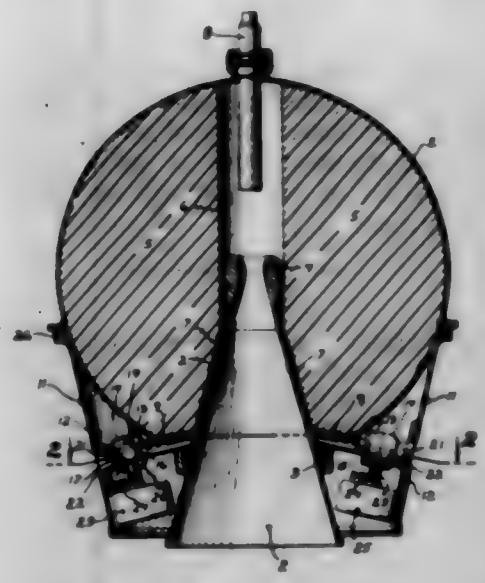
1. The method of burning a higher energy borohydride fluid fuel and a lower energy fuel in a combustion chamber adapted for a flow of air therethrough and having a recirculation zone therein defining an upstream and downstream portion of said chamber which comprises the steps of injecting the lower energy fuel through injection means in the upstream portion of said combustion chamber for combustion thereof, injecting the borohydride fuel through injecting means downstream of said lower energy fuel injection means for the combustion thereof to prevent recirculation of said borohydride fuel and the products of combustion thereof into the upstream portion of said combustion chamber.

3,139,725

STEERABLE SOLID PROPELLANT ROCKET MOTOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Carl W. Raggio, Jr.

Filed Oct. 31, 1961, Ser. No. 150,382
9 Claims. (Cl. 60—35.54)



1. A steerable solid propellant rocket motor, comprising: a propellant chamber body of essentially spherical shape; a frusto conical skirt converging therefrom; a main nozzle diverging from said chamber within said skirt, said main nozzle having an inner portion extending into said body; a solid propellant charge initially filling said body and having a central bore receiving the inner portion of said main nozzle and spaced therefrom; a set of diverter ducts extending laterally from said body to said skirt and communicating with the bore of said propellant charge; steering nozzles at the extremities of said diverter ducts having discharge ends penetrating the exterior surface of said skirt; valve means interposed in said ducts; and means for operating said valve means to effect selective operation of said steering nozzles.

3,139,726

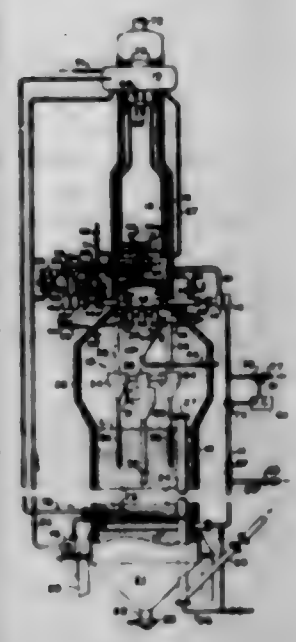
COMBUSTION WITH FLUIDIZATION AND AFTER-BURNING

Joseph G. Wilson, Riverside, Conn., Robert F. Dutton, Hartsdale, N.Y., Terrell W. Haymon, Darien, Conn., and Justin C. Dygert, Walnut Creek, Calif., assignors to Shell Oil Company, a corporation of Delaware

Filed June 1, 1959, Ser. No. 817,416
23 Claims. (Cl. 60—39.82)

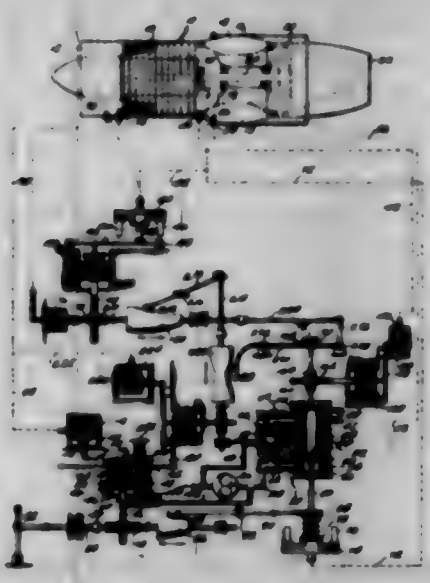
1. In the process which comprises the incomplete combustion of fuel within a closed fluidization-combustion zone containing a bed of finely-divided solid particles maintained in the fluidized state by flowing upwardly therethrough a fluidizing gas which contains a combustion reactant, wherein there is discharged from said bed an exit gas which contains entrained solid particles, carbon dioxide and carbon monoxide and is incapable of self-sustained normal combustion at the exit temperature when mixed with supplemental air, the improvement of recovering heat and work energy from said exit gas sufficient to supply the said fluidizing gas by: maintaining said fluidization-combustion zone at a substantial superatmospheric pressure sufficient to permit expansion of the exit

gas in a gas turbine, substantially separating said entrained particles from the exit gas by inertia without substantially lowering the exit gas temperature, expanding the resulting clean gas substantially at the said exit temperature in expansion gas turbine means and thereby generating shaft power, discharging the clean gas from the turbine means at reduced pressure and mixing the turbine



exhaust gas with supplemental air, subjecting the resulting mixture to oxidizing conditions within a boiler having fluid-confining heat-transfer walls to cause further combustion with oxidation of carbon monoxide and thereby heating said heat-transfer walls by radiation and convection, compressing said fluidizing gas to said superatmospheric pressure by using said shaft power, and admitting the compressed gas into said fluidization-combustion zone.

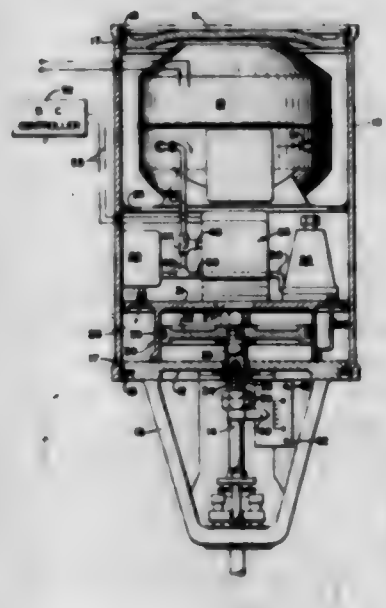
3,139,727
FUEL CONTROL FOR JET ENGINES
Bruce N. Terell, Wethersfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 3, 1955, Ser. No. 491,824
12 Claims. (Cl. 60—39.28)



1. For a gas turbine power plant having a compressor and fuel supply means including a conduit, valve means in said conduit for regulating fuel flow to said power plant, means for controlling said valve means as a function of compressor speed, compressor inlet pressure and compressor discharge pressure, first acceleration limit means positioned as a function of compressor inlet temperature for limiting the opening of said valve means in accordance with said function, and second acceleration limit means, independent of said first acceleration limit means, positioned as a function of compressor inlet temperature, compressor speed and compressor inlet pressure for limiting the opening of said valve means in accordance with said last-mentioned function.

2. For a gas turbine power plant having a compressor and fuel supply means including a conduit, valve means in said conduit for regulating fuel flow to said power plant, means for controlling said valve means as a function of compressor speed and compressor discharge pressure, means connected to said valve means for scheduling fuel flow to maintain selected compressor speeds throughout the range of operation of said compressor, and means for biasing the selection as a function of compressor inlet pressure.

3,139,728
SELF-CONTAINED VALVE ACTUATOR
Frederic A. Lang, Landenberg, and Eugene F. Holben, North Wales, Pa., assignors, by direct and mesne assignments, to Conoflow Corporation, a corporation of Pennsylvania
Filed Apr. 18, 1963, Ser. No. 273,861
9 Claims. (Cl. 60—57)



1. Apparatus for individually actuating a valve comprising:
(A) a sealed intermittently operable electric motor driven gas compressor,
(B) a high pressure gas reservoir and a relatively low pressure reservoir both sealingly connected to said compressor, said high pressure reservoir adapted to be maintained by said compressor,
(C) a gas driven power cylinder having a piston therein for driving a valve stem and being movable in one direction and the opposite direction,
(D) a gas operated positioner sealingly connected to said cylinder and said high pressure gas reservoir for transmitting high pressure gas to one side of said piston for movement of said piston in one direction,
(1) said positioner having vents therein sealingly connected to said low pressure reservoir,
(E) means on the other side of said piston for effecting resistance to movement of said piston in said one direction and for causing movement of said piston in the opposite direction when said high pressure gas on said one side is vented to said low pressure reservoir,
(F) a transducer sealingly connected between said high pressure gas reservoir and said positioner for converting an external signal to the transmission of a gas pressure of preselected value to said positioner,

(G) means sealingly connected between said transducer and said high pressure gas reservoir for transmitting a constant gas pressure to said transducer,

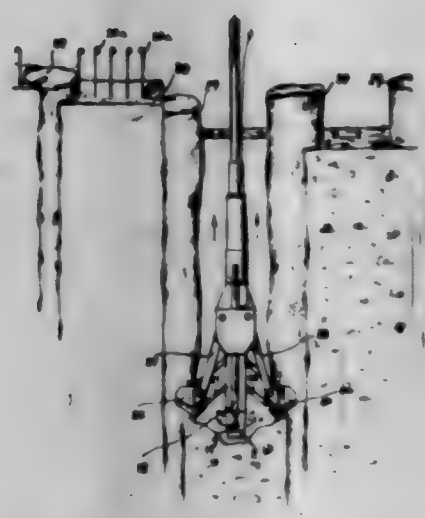
whereby said apparatus, all being sealingly interconnected, is operable regardless of pressures external of said apparatus.

3,139,729

METHOD AND APPARATUS FOR CONSTRUCTING SUBTERRANEAN CONCRETE WALLS

Giosuè Miotti, Milan, Italy, assignor to Messrs. I.C.O.S. Impresa Costruzioni Opere Specializzate S.p.A., Milan, Italy

Filed Jan. 8, 1960, Ser. No. 1,198
Claims priority, application Italy Jan. 10, 1959
10 Claims. (Cl. 61—35)



1. Apparatus for excavating soil from between vertical cylindrical concrete elements previously cast in subsoil when constructing impermeable subterranean concrete partition walls comprising an excavating tool having a central chisel, lateral half-moon-shaped blades the convex side of which faces the chisel and which have upper and lower cutting edges arranged in such a way as to widen the excavation produced by the central chisel and at the same time to scrape the two cylindrical concrete elements bordering on the excavation, and means for feeding a thixotropic substance into the excavation made by said excavating tool.

3,139,730

ROCK ANCHOR

Chester I. Williams, 571 NE. Lombard St., Portland, Oreg., and Duane Williams, Boise, Idaho; said Duane Williams assignor to said Chester I. Williams.

Filed Feb. 17, 1955, Ser. No. 488,792
3 Claims. (Cl. 61—45)



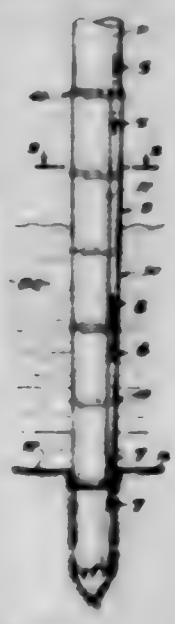
2. As an article of manufacture, anchoring means for a concreted mass of stony material in which a drilled hole is formed, said anchoring means comprising a tie rod, a cone-shaped member mounted at the inner end of the tie rod and abutting a securing means at the inner end of the tie rod, shell means complementally formed to the cone-shaped member, detachable tightening means comprising detachable tubular means abutting the outer peripheral face of the shell means and positioned axially with respect to the tie rod, washer means abutting the detachable tubular member, and detachable securing means complementally formed to the outer threaded end of the tie rod, said shell means and said detachable tubular member having a diameter less than that of the drilled hole whereby the anchoring means is adapted to be positioned within the drilled hole, and upon said operator-operated detachable securing means being axially moved with respect to the axis of the tie rod, the detachable tubular member forces the shell means into the contiguous peripheral wall of the drilled hole as the shell means is forced axially with respect to the cone-shaped member, and upon detachment of said detachable tightening means including said detachable securing means, the washer and the detachable tubular member, the tie rod is affixed within the drilled hole and supported by the cone-shaped member and shell means.

3,139,731

BAND-TYPE BARRIER ENCASEMENT FOR PROTECTING TIMBERS AGAINST MARINE BORER ATTACK

Orval E. Liddell, P.O. Box 1533, Avalon, Calif.

Filed Jan. 5, 1959, Ser. No. 785,885
9 Claims. (Cl. 61—54)



1. In a piling construction: a partially submerged, structure-bearing wooden pile, a sheet of substantially waterproof, pliable material wrapped around said pile in substantially circumferential configuration, said sheet having a pair of opposite longitudinal edges in juxtaposition extending generally longitudinally of said pile, vertical stiffeners affixed to said opposite longitudinal edges of said sheet, and band members that extend about said pile at vertically spaced portions thereof to cause said sheet to closely surround said pile for substantially the full vertical length of said sheet to define a generally circumferential water-filled space between said pile and said sheet, with water circulation between said space and the water surrounding said sheet being restricted to thereby render the water in said space stagnant to prevent marine borer attack on the submerged portion of said pile encased by said sheet.

3,139,732

BOAT STABILIZING AND LIFTING DEVICE

Walter A. Thompson, Dawson, Minn.

Filed May 5, 1961, Ser. No. 126,362
2 Claims. (Cl. 61—65)

1. A small boat-stabilizing and lifting device, comprising a pair of front and rear boat-lifting cradles spaced from each other for respectively underlying the front and rear portions of a boat, a supporting structure constructed to permit a boat to be floated into overlying

relation with the cradles, means movably mounting the cradles on the supporting structure for upward and downward movement, stop means on the frame for normally supporting the cradles, a pair of front and rear linkages each including a first vertically swingable link, a pair of first pivots swingably mounting said first links on the frame, each of said linkages also including a second vertically swingable link having an upper end pivoted on the respective cradle and having a lower end disposed below said first pivot and swingably secured to the first link, said first link of the rear linkage extending diagonally downwardly to cause rapid upward move-



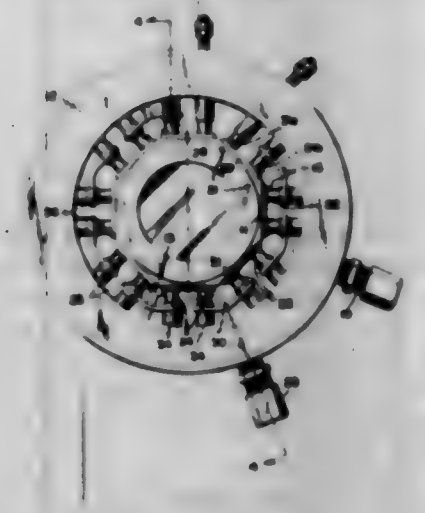
ment of the rear cradle upon initial movement of the rear linkage and upward swinging of the first link thereof, the first link of the front linkage extending substantially vertically downwardly to cause restricted upward movement of the front cradle upon initial movement of the front linkage and then more pronounced upward movement of the front cradle upon further movement of said front linkage, and controllable means producing swinging of said first links forwardly and upwardly, whereby the rear cradle may be lifted to stabilize the boat and may be additionally lifted together with the front cradle to lift the boat out of the water.

3,139,733

THERMOELECTRIC COOLING DEVICE FOR HEAT CONDUCTIVE LIGHT TRANSPARENT SURFACES

Simon E. Mayer, Lexington, Ian M. Ritchie, Wakefield, and Abraham I. Mlavsky, Belmont, Mass., assignors to Transitron Electronic Corporation, Wakefield, Mass.

Filed Jan. 15, 1962, Ser. No. 166,300
10 Claims. (Cl. 62—3)



1. A means for conducting heat from an electron emissive glass surface comprising a heat-conductive light-transparent glass sheet having one side parallel and closely spaced in thermal contact with said surface,

a thin layer of an optically and thermally conductive material interposed between and contiguous with said surface and side,

and means at the periphery of said sheet for conducting heat therefrom,

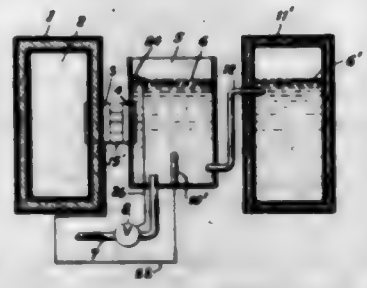
said means comprising a first heat conductive ring surrounding and in clamping engagement with said glass sheet and a plurality of thermoelectric devices thermally connected to said ring.

3,139,734

METHOD AND MEANS FOR MOUNTING AND CONTROLLING PELTIER ELEMENTS

Alexander Köckens, Willistrasse 43, Hamburg 39, Germany, and Wolfgang Nielsens, Sandbeide-15, Hamburg-Neugraben, Germany

Filed Mar. 16, 1962, Ser. No. 180,288
Claims priority, application Germany Mar. 16, 1961
2 Claims. (Cl. 62—3)



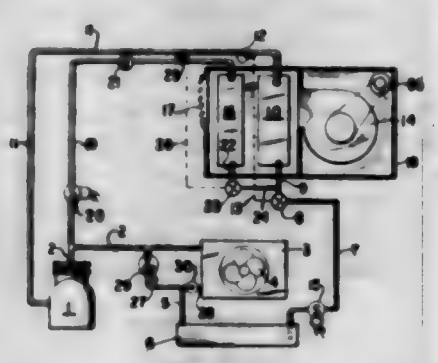
1. In cooling means utilizing the Peltier effect, means defining a cooling chamber, means defining a substantially uninsulated water container, a power supplied Peltier element connected with its cold side to said cooling chamber and having its warm side in direct metallic heat conductive connection with said water container, means defining a hot water tank, means connecting said hot water tank with said water container so as to maintain substantially the same water level in said container and tank whereby water is withdrawn from said water container when water is tapped from said hot water tank, and heat sensitive means associated with said water container to automatically cause reduction of the power supply to the Peltier element when the temperature in the water container rises toward a predetermined value whereby total interruption of the cooling effect of the Peltier element in the cooling chamber is prevented regardless of the rate of water tapping from the hot water tank.

3,139,735

VAPOR COMPRESSION AIR CONDITIONING SYSTEM OR APPARATUS AND METHOD OF OPERATING THE SAME

Hyman Malkoff, Levittown, Pa., and Daniel E. Kramer and Otto J. Nussbaum, Trenton, N.J., assignors to Kramer Trenton Co., Trenton, N.J., a corporation of New Jersey

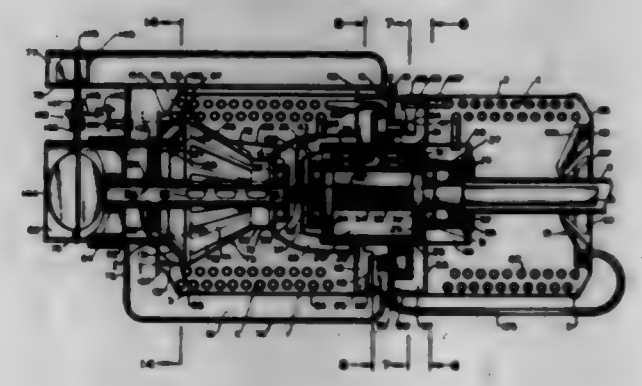
Filed Apr. 16, 1962, Ser. No. 187,691
12 Claims. (Cl. 62—173)



1. An air conditioning system designed and adapted for automatic regulation of both temperature and humidity within a chamber or space, said system comprising a closed refrigerant circuit including a compressor, a main air cooled condenser, a liquid receiver, an evaporator, a supply conduit connecting the receiver with the evaporator inlet, a thermostatic expansion valve in the said supply conduit, a suction conduit connecting the evaporator outlet with the compressor intake, a feeler bulb operatively adjacent the outlet of the evaporator for controlling the expansion valve, means for causing a flow of air through the evaporator, a refrigerant condensing

element disconnected from the main condenser and operatively connected to the evaporator for raising the temperature of said air flow in certain cycles of system operation, automatic means for refrigerant flow connection of the condensing element with and disconnection of it from the hot gas compressor discharge, and automatic pressure regulated means for controlling the flow from the compressor to the condensing element to maintain a predetermined temperature of the said condensing element.

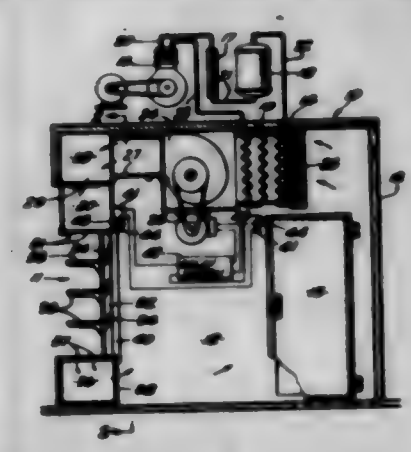
3,139,736
VEHICLE AIR-CONDITIONING UNITS
Roy R. Hansen, 155 Cumberland Drive, Maryland Heights, Mo., assignor of one-fourth to William H. Anderson, Glencoe, Mo., one-fourth to Joseph H. Schlerman and one-fourth to George A. Blase, both of St. Louis County, Mo.
Filed May 14, 1962, Ser. No. 194,296
17 Claims. (Cl. 62—189)



1. An air-conditioning device for automotive vehicles and similar mobile devices having a compartment in which the condition of the air is to be maintained within a selected range, said device comprising an inner rotatable housing having an outer spirally shaped housing, a first stationary shaft extending into one end of said inner housing, a rotatable shaft disposed around and extending along said first stationary shaft, a compressor mounted on one end of said rotatable shaft and being rotatable therewith, a control device mounted on said compressor and being rotatable therewith, a rotatable condenser extending coaxially with said rotatable shaft and being secured to said control device, a second stationary shaft extending into the other end of said inner housing in coaxial relation to the first stationary shaft, an evaporator rotatably mounted on said second stationary shaft and being rigidly secured to said control device for rotation therewith, means for establishing a flow of air over the evaporator so that cooled air is delivered from the evaporator, and air-flow control means mounted within said housing and being stationary with respect to said rotatable evaporator, said air-flow control means being adapted to throttle the volume of air being delivered from the evaporator responsive to changes in the speed of rotation of the evaporator.

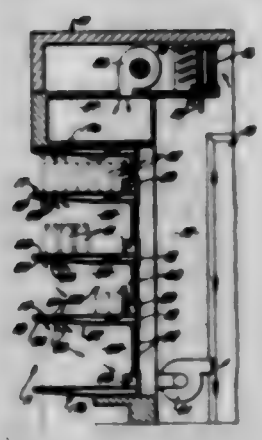
3,139,737
REFRIGERATED DISPLAY AND STORAGE FIXTURE
Daniel D. Wile, Whittier, Calif., assignor to Recold Corporation, Los Angeles, Calif., a corporation of California
Filed Sept. 17, 1962, Ser. No. 224,048
5 Claims. (Cl. 62—256)

1. In a refrigerated fixture having a refrigerated storage chamber and a refrigerated open front display case with refrigeration means having air circulating means and with access doors into said storage chamber and between said storage chamber and said display case, an improvement comprising: control means associated with each of the access doors and with the air circulating means, said control means operative for interrupting the operation of the air circulating means upon the opening



of an access door so that air is not drawn from outside the fixture or cooled air discharged to outside the fixture by said air circulating means.

3,139,738
REFRIGERATED DISPLAY FIXTURE
Hyrum T. Jarvis, La Habra, Calif., assignor to Recold Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 3, 1963, Ser. No. 270,429
10 Claims. (Cl. 62—256)

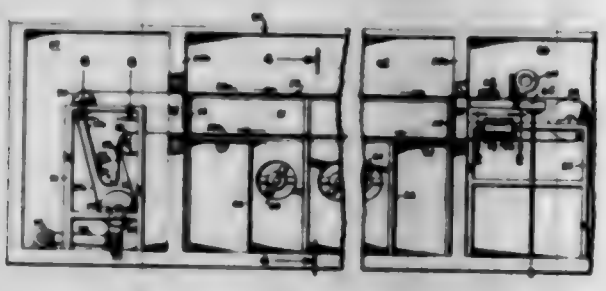


1. A refrigerated display fixture comprising a plurality of vertically spaced hollow shelves having front and rear portions; each of said shelves having an imperforate upper surface each of said shelves except the lowermost shelf having openings on the bottom near said front portion; a perforate duct positioned on top of and at the rear portion of each said shelf except the uppermost shelf; each said perforate duct substantially spaced from the said shelf thereabove; and means for conducting refrigerated air to said shelves, for discharging the air out said openings, for drawing into each of said perforate ducts the air discharged from the shelf thereabove, and for conducting the air out of said ducts.

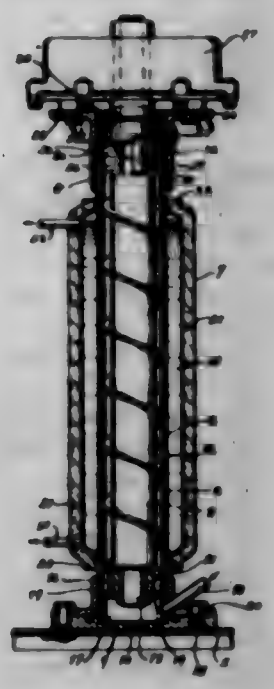
3,139,739
UPDRAFT CONTINUOUS FREEZER FOR COMESTIBLES
Bert N. Robinson, Mercer Island, Wash., assignor to W. E. Stone & Co., Inc., Seattle, Wash., a corporation of Washington
Filed Feb. 15, 1963, Ser. No. 173,833
13 Claims. (Cl. 62—383)

8. In a continuous freezer for a comestible product, an endless perforated-belt conveyor having an upper return course overlying a lower product-carrying course which discharges into the mouth of an open downwardly extending loop formed in the conveyor between the discharge end of the product-carrying course and the be-

ginning of said return course, means for passing a gaseous cooling medium upwardly through both said courses in a freezing zone located intermediate their ends, product-to-conveyor transport means extending transversely of said conveyor and located between said freezing zone and the beginning of said product-carrying course, product-from-conveyor transport means extending transversely of said conveyor from within said loop for receiving frozen product discharging from said product-carrying course, collection means between said return course and said product-to-conveyor transport means, and conveyor defrosting and cleaning means above said return course and directing defrosting and cleaning media downwardly toward said collection means.

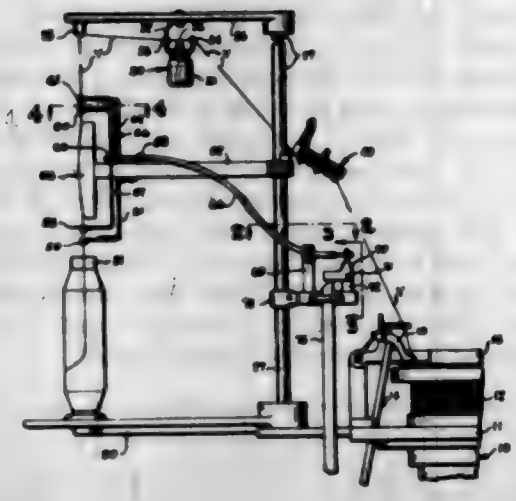


3,139,740
AUGER TYPE ICE CHIP MAKING MACHINE
Michael J. Swatsick, 1900 Nebraska Ave., St. Louis 4, Mo.
Filed Apr. 30, 1962, Ser. No. 191,109
12 Claims. (Cl. 62—320)



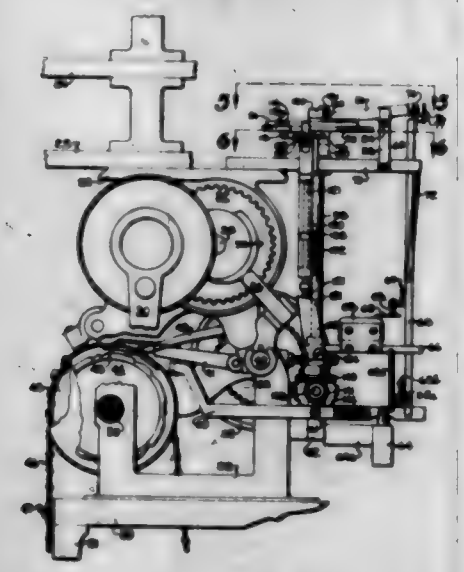
1. An ice chip making machine comprising structure defining a freezing chamber and an ice-receiving compartment located thereabove, a shaft mounted in said freezing chamber, means for rotating said shaft, a helical auger blade provided on said shaft for conveying a freezing mass through said chamber into said ice-receiving compartment, and an ice-compressing and crushing member spacedly mounted above said auger blade and defining the upper end of said ice-receiving compartment for compressing a freezing mass delivered thereagainst by said blade, said ice-compressing and crushing member having a downwardly directed spiral of greater than one hundred and eighty degrees formed on its under-surface, said ice-compressing and crushing member also having a vertical ice-deflecting surface extending downwardly from the upper end of the said spiral.

3,139,741
YARN TREATING METHOD AND APPARATUS FOR KNITTING MACHINES
Henry M. Strub, Jr., Charlotte, N.C., assignor to The Duplan Corporation, Winston-Salem, N.C., a corporation of Delaware
Filed Apr. 2, 1957, Ser. No. 650,203
10 Claims. (Cl. 66—125)



8. A method of knitting women's seamless hosiery on a circular knitting machine having a yarn supply which comprises continuously feeding a heat-shrinkable thermoplastic yarn from said yarn supply to a heating means located between the yarn supply and the knitting needles, heating said yarn to at least partially plasticize it, and continuously knitting said yarn into fabric.

3,139,742
APPARATUS FOR VARYING THE NUMBER OF COURSES IN KNITTED ARTICLES
William Howard Lewis, Asheboro, N.C., assignor to Acme-McCrary Corporation, Asheboro, N.C., a corporation of North Carolina
Filed Aug. 1, 1962, Ser. No. 214,041
6 Claims. (Cl. 66—155)



1. In a circular hosiery knitting machine having a pattern chain comprising a plurality of interconnected links with each link normally representing a predetermined number of courses to be knit in the hose, a rotatable sprocket drivingly supporting said chain, a ratchet carried by said sprocket, a pawl normally positioned in racking engagement with said ratchet, and means continuously imparting reciprocation to said pawl to normally move said pattern chain in a uniform step-by-step manner, the combination therewith of a pattern chain idler comprising

(1) a movable control member positioned adjacent said pawl and being operable to at times move said pawl out of racking engagement with said ratchet and thereby prevent movement of said pattern chain,
(2) a solenoid operatively connected to said control member for controlling movement thereof,
(3) a switch connected to said solenoid for controlling movement thereof, and
(4) pattern controlled means operatively connected to said switch for at times actuating said switch to in turn actuate said solenoid and operate said control member to thus move said pawl out of racking engagement with said ratchet for predetermined intervals of time during the knitting of selected portions of the hose and thereby increase the effective length of said pattern chain and correspondingly increase the number of courses knit in the selected portions of the hose in accordance with the length of time said control member maintains said pawl out of racking engagement with said ratchet.

3,139,743

PRESSURE REDUCING VALVE AND BURNER BLOCK FITTED ON A GAS LIGHTER CONTAINER

Emile Gilberton, Paris, France, assignor to Etablissements General & Cie, Venissieux, France, a company of France

Filed Dec. 7, 1961, Ser. No. 157,803
Claims priority, application France Jan. 10, 1961
5 Claims. (Cl. 67—7.1)



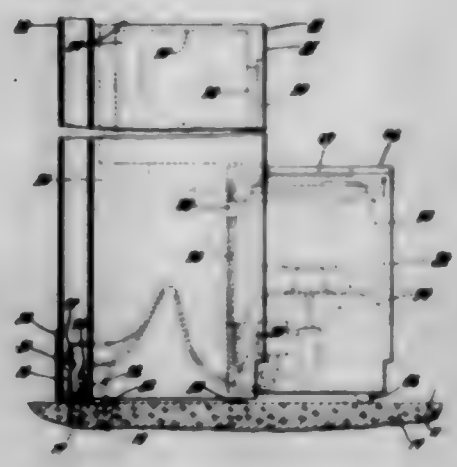
1. Apparatus comprising a container having an opening and otherwise closed, a neck projecting integrally from said container and surrounding the opening, said container including a web portion between the opening and the neck, a packing within the neck supported on the web portion, a one piece valve burner assembly adapted for controlling the flow of ignitable fluid in said container, said assembly including a tapered body portion having one end smaller than the opening and another end larger than the opening, said tapered body portion being inserted in the opening in force fit relation with the web portion of the container to deform said web portion and form a fluid-tight seal therewith, and means on said body portion for limiting entry of said body portion within said container and for concurrently compressing said packing to provide a second fluid-tight seal between the assembly and the container.

3,139,744

WASHER UNIT AND DRYER UNIT COMBINED IN A UNITARY CABINET

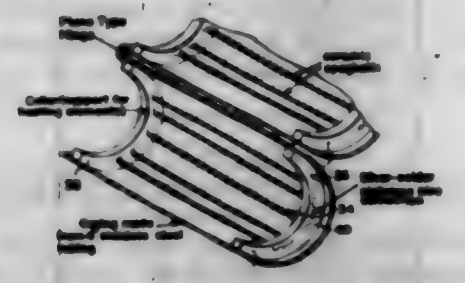
Martha J. Van Alstyne, Birmingham, and William A. Hanffan, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 194,949, May 15, 1962. This application July 11, 1963, Ser. No. 294,372
9 Claims. (Cl. 68—58)



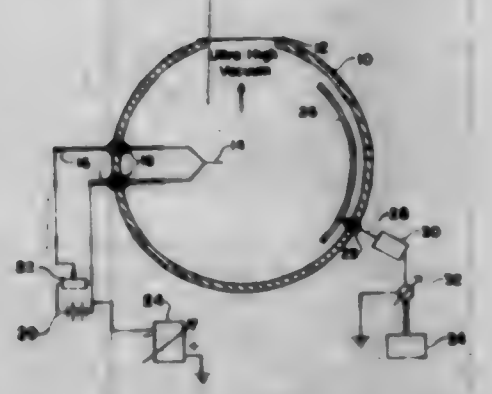
9. In combination:
(a) a unitary cabinet member including walls defining an article drying machine within the upper portion thereof and a compartment therebelow having an open upright side,
(b) said cabinet member adapted to be associated with a source of water supply,
(c) an article washing machine member disposed in said compartment beneath said drying machine and movably attached to said unitary cabinet member for movement between an operating position in said compartment and a loading position outside the compartment,
(d) said washing machine member comprising a box-like structure closing the open upright side of said compartment and having an open top water receiving article washing receptacle mounted therein and operable when said washing machine member is in said operating position,
(e) water conducting means adapted to be connected to said source of water supply and communicating with said receptacle for directing water thereinto,
(f) the top wall of said box-like structure of the washing machine member having an opening therein leading to said open top receptacle,
(g) said opening in the top wall of said box-like structure of the washing machine member being concealed by walls of said unitary cabinet member and normally inaccessible from exteriorly thereof when said washing machine member is in said operating position,
(h) said box-like washing machine member being shiftable part way out of said compartment and back thereinto while attached to the cabinet member and while said water conducting means is connected to said water supply and communicating with said receptacle,
(i) a safety device on one of said members,
(j) said device being located adjacent the path of travel of said washing machine member at least during return shifting thereof into said operating position, and
(k) the safety device preventing return movement of said washing machine member back into said compartment whenever an obstruction exists intermediate said cabinet member and the opening in said top wall of said box-like structure of the washing machine member.

3,139,745
GAS CHROMATOGRAPHIC UNIT
Douglas C. Sievers and John N. Roper, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 8, 1960, Ser. No. 74,525
4 Claims. (Cl. 73—23.1)



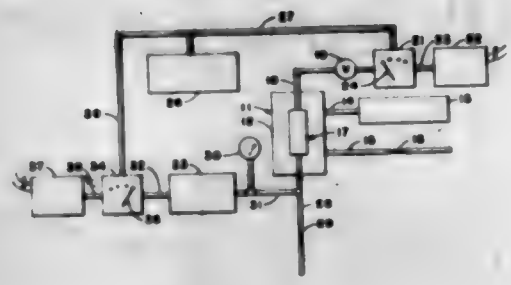
4. Gas chromatographic apparatus comprising a cylindrical radiant heating unit made up of two hemicylindrical walls hinged together along the locus of one end of a diameter of said cylindrical radiant heating unit with circumferentially placed heating rods wrapped with coiled wire connecting collar portions positioned inside said unit at each end of said hemicylindrical walls, said walls being heat reflective on the inside, spiral-shaped carrier gas conducting means centrally positioned within said heating unit, a carrier gas return channel axially positioned within said carrier gas conducting means, said heating unit connected at one extremity thereof to gas chromatographic detecting means, and means for injecting sample and carrier gas into said gas conducting means inside said heating unit.

3,139,746
GAS DENSITY MEASURING
Hans Georg Noller, Cologne, Germany, assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed May 10, 1961, Ser. No. 109,033
8 Claims. (Cl. 73—30)



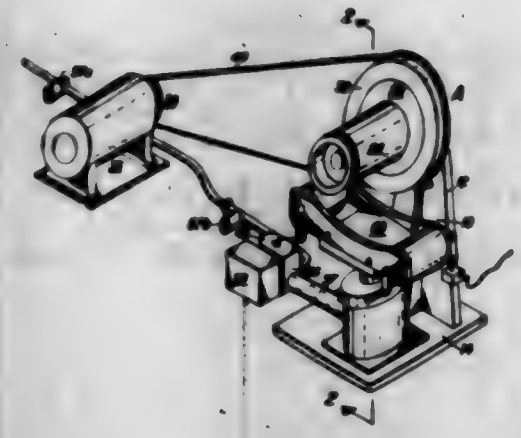
1. The process of measuring the density of gases in high vacuum comprising adsorbing a layer of gas on the surface of a point electrode of emissive material, heating said emissive point from about 300° K. to 2500° K. at a rate which is linearly proportional to time to sequentially desorb the components of said gas layer, measuring the changes in work function resulting from said desorption process by measuring the emission current from said point as a function of the temperature of said point so that the information can be plotted as a curve having a temperature axis and an emission current axis wherein the distance along the emission current axis provides the quantitative density of the various gas components and the distance along the temperature axis provides the qualitative identification of the various gas components.

3,139,747
FLOW REGULATOR
Howard H. Ferrell and Carroll F. Knutson, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,752
9 Claims. (Cl. 73—38)



1. Apparatus for controlling flow conditions in a work area which comprises means for selectively producing a constant volume output, means for driving said output means, a conduit disposed between said constant output means and said work area for directing flow therebetween, an outflow conduit for channeling flow away from said area, a restriction in said outflow conduit, means for selectively producing and automatically maintaining a constant pressure output independently of changes in the volumetric output of said means for selectively producing a constant volume output, means for actuating said last-named means, and channeling means for directing flow from said constant pressure output means to said outflow conduit at a point between said restriction and said work area.

3,139,748
TESTER FOR ANTI-FRICTION BEARINGS
Rudolph J. Sturm, Jr., St. Paul, Minn., assignor to Great Northern Railway Company, St. Paul, Minn., a corporation of Minnesota
Filed Aug. 22, 1962, Ser. No. 218,636
10 Claims. (Cl. 73—67)



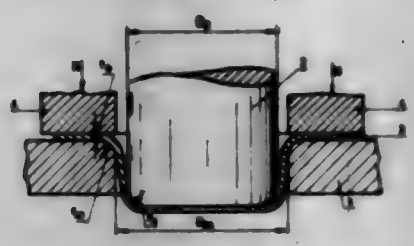
1. In a device for monitoring the noise level of anti-friction bearings under simulated operating conditions, means including support means for rotating the inner race of an anti-friction bearing, a saddle engageable with the outer race of the said bearing, said saddle including means for rotating said outer race independently of the rotation of said inner race, means for advancing said saddle into clamping loading engagement with said outer race, and means for detecting the noise level produced by said bearing when its races are simultaneously and independently rotated.

3,139,749

PROCESS FOR THE DETERMINATION OF THE DEEP DRAWING QUALITY OF SHEET MATERIAL

Johannes Hubertus Zust, Delft, Netherlands, assignor to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands

Filed May 17, 1961, Ser. No. 110,621
Claims priority, application Netherlands May 23, 1960
6 Claims. (Cl. 73—87)



1. A method of determining the deep drawing quality of sheet materials comprising the steps of: selecting a circular disc of the sheet material having a thickness t_o, placing the disc on a die defining a circular bore of diameter D_m, said die having a radius R_m at the edge of the die at the bore, selecting a cylindrical punch having the diameter D_s and the radius R_s at the edge of the punch at one end thereof, and drawing the disc through the die bore with the punch at the said one end to form a substantially cylindrical cup, and repeating the steps with other circular discs of the sheet material such that each parameter

$$C_q=\frac{D_m-t_o}{D_s+t_o};\ C_s=\frac{r_m}{t_o}$$

and

$$C_s=\frac{D_s+t_o}{2r_s+t_o}$$

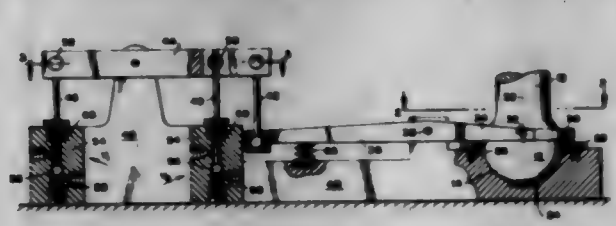
remains substantially constant throughout the method, and wherein C_q represents the clearance parameter, C_s represents the punch edge radius parameter and C_r represents the die edge parameter.

3,139,750

HYDRAULIC FORCE BALANCE APPARATUS

Max R. Smith, Ridgecrest, Calif., and Melvin D. Howell, 1106 1st Place, China Lake, Calif.; said Smith assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 24, 1961, Ser. No. 133,746
2 Claims. (Cl. 73—141)
(Granted under Title 35, U.S. Code (1952), sec. 266)



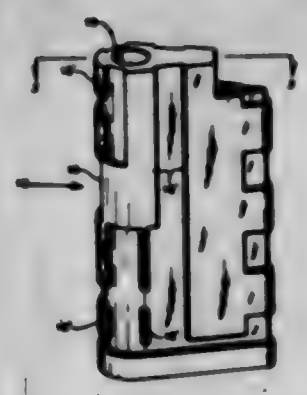
1. Apparatus for testing the variable axial thrust of a rocket motor comprising; a support member to which the motor is affixed and having a ball at one end thereof through the center of which the thrust force is adapted to be applied, a spherical socket in which said ball is seated, and means for supplying liquid under pressure to said socket for forcing said ball in a direction opposite to the direction of the thrust force with a magnitude substantially in balance therewith, said means comprising a source of liquid under pressure, a first valve for admitting said liquid under pressure to the socket and a second valve for discharging liquid therefrom, and means responsive to movement of said member for controlling the operation of said valves, whereby the hydraulic force on said ball varies in accordance with the variable thrust, said last named means comprising a first lever operatively connected to said support and a second lever operatively connected to said first lever, and valves being operatively connected to said second lever.

3,139,751

ALL WEATHER VORTEX FREE-AIR THERMOMETER

Paul Rosenthal, Teaneck, and John W. Kurrock, Cheektowaga, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 26, 1961, Ser. No. 106,822
4 Claims. (Cl. 73—349)



2. A free-air thermometer of the vortex type comprising:

a thermometer body having interior passages therein,

an airfoil-shaped housing having exterior and interior surfaces enclosing said body and having apertures therethrough communicating with said interior passages,

a plurality of electrical resistance elements imbedded in and interposed between said surfaces of said housing for supplying heat in a predetermined distribution to said surfaces,

a source of electrical energy,

means connecting said resistance elements to said source of electrical energy,

a plurality of lands and adjacent indented areas provided on the surface of said thermometer body, said lands being in intimate contact with said interior surface of said housing whereby the thermal paths including said lands present relatively low thermal impedance and the thermal paths including said indented areas present relatively high thermal impedance.

3,139,752

DUAL THERMOELEMENT SYSTEM FOR MEASURING RAPIDLY CHANGING FLUID TEMPERATURES AND THERMO-ELEMENTS THEREFOR

Warren H. Giedt, San Francisco, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 16, 1959, Ser. No. 799,719
2 Claims. (Cl. 73—389)

2. A temperature sensing system for determining the instantaneous temperature t_g of a fluid comprising: first and second thermal elements having unequal thermal capacities, and so disposed in said fluid that the total surface heat transfer conductances of said elements are equal; the output of said thermal elements being connected with

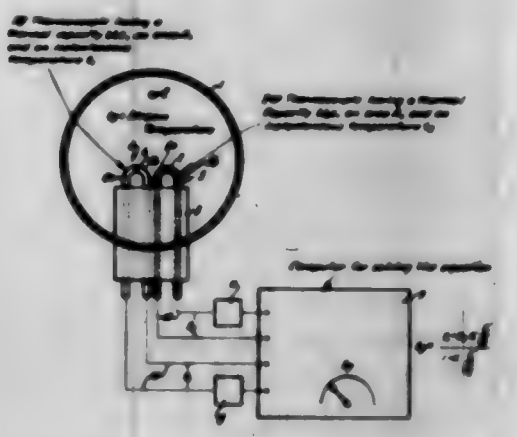
a computer for calculating said instantaneous temperature t_s in accordance with the formula:

$$t_s = \frac{t_1 - t_2 K \frac{t'_1}{t'_2}}{1 - K \frac{t'_1}{t'_2}}$$

wherein

t_s = fluid stream temperature varying in general with time T

t_1 = instantaneous temperature indicated by the first sensing element



t_2 = instantaneous temperature indicated by the second sensing element

$$t'_1 = \frac{dt_1}{dT}$$

$$t'_2 = \frac{dt_2}{dT}$$

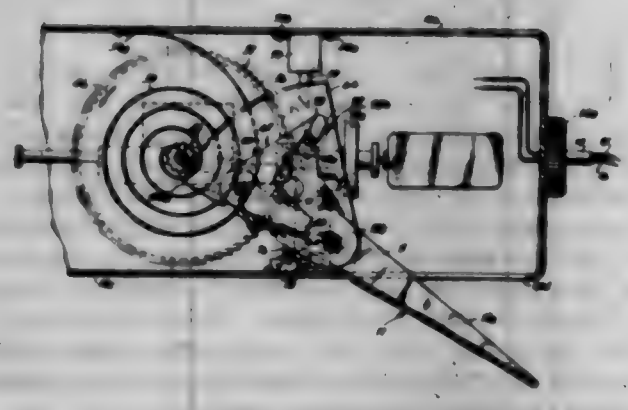
and

$$K = \frac{K_1}{K_2}$$

where

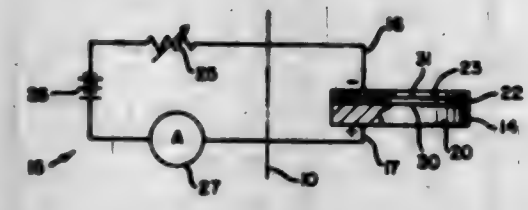
K_1 = thermal capacity of the first sensing element, and
K_2 = thermal capacity of the second sensing element.

3,139,733
DIGITAL METER
Harvey J. Brashear, 371 Central Park W., New York, N.Y.
Filed Feb. 28, 1962, Ser. No. 174,205
5 Claims. (Cl. 73—362)



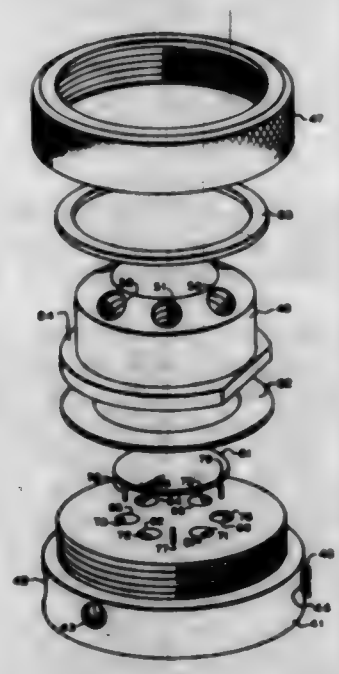
2. Temperature measuring device comprising a potentiometer having a movable contact, indicating means coupled to said contact and giving an indication varying in accordance with the position of said contact, a thermistor, a bridge circuit including as opposing arms said thermistor and said potentiometer and having output terminals, said contact having a bridge balancing position depending upon the temperature of said thermistor, means connected across said output terminals and adapted to produce a signal only when said bridge circuit is in balance and electromechanical means coupling said signal means and said contact and operative in response to a signal to prevent movement of said contact.

3,139,754
ELECTRONIC VACUUM GAUGE
Burnell V. Dora, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 15, 1961, Ser. No. 117,422
3 Claims. (Cl. 73—398)



1. A vacuum gauge having a sensing head comprising a metallic substrate, a semiconductor layer intimately bonded to a surface of the substrate and consisting of an oxide of said substrate, and a metallic layer intimately bonded to said semiconductor layer; means for applying a bias voltage to said substrate and to said metallic layer, and means responsive to current flowing through the sensing head for indicating ambient pressure; said head and said bias voltage means and said current responsive means being connected together in electrical series.

3,139,755
PNEUMATICALLY-ACTUATED DIAPHRAGM VALVE
Marvin E. Reinecke and Emmerich Guenther, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Original application Sept. 1, 1960, Ser. No. 53,530. Divided and this application Dec. 19, 1960, Ser. No. 76,931
8 Claims. (Cl. 73—422)



1. A fluid-motor actuated valve system for distributing a first fluid to a selected conduit comprising, in combination: a first body having two opposite faces; at least first, second, and third spaced passages in said first body; each of said spaced passages communicating between the first of said faces and a separate point intermediate the faces thereof; each of said spaced passages there forking into

two diverging passages terminating in the second of said faces so that said first spaced passage communicates with said first and second diverging passages, said second spaced passage communicates with said third and fourth diverging passages, and said third spaced passage communicates with said fifth and sixth diverging passages; a second body having a third face spaced from the second face of said first body; means to secure said first and second bodies, relative to one another in a fixed relationship; a first flexible diaphragm disposed within the area defined by said third face; spacer means disposed between said first and second bodies and provided with an axial hollow in which is disposed said first diaphragm, the latter being protected from deforming compression thereby; at least a first and second cavities in said third face adjacent said diaphragm and positioned opposite the ports of said first, second, third and sixth of said diverging passages in said first body, respectively, so that said first cavity is adjacent to the ports of said second and third diverging passages and said second cavity is adjacent the ports of said sixth and first diverging passages; first and second passages in said second body communicating between said first and second cavities, respectively, and an area external of said second body; a first conduit means connected to supply said first fluid to be distributed under a first pressure to said first spaced passage; a second conduit means connected to receive said first fluid from said second spaced passage; a third conduit means connected to receive said first fluid from said third spaced passage; a fourth conduit means connected to supply, when desired, a second fluid under a second pressure greater than said first pressure through said first passage in said second body to said first cavity to force an adjacent first portion of said diaphragm to seal between said ports of said second and third diverging passages of said first body; said fourth conduit means adapted to vent said first cavity, when desired, whereupon said first fluid pressure will establish communication between said second and third passages in said first body above said diaphragm; a fifth conduit means connected to supply, when desired, a third fluid under a third pressure greater than said first pressure through said second passage in said second body to said second cavity to force an adjacent second portion of said diaphragm to seal between said first and sixth diverging passages of said first body; said fifth means adapted to vent said second cavity, when desired, whereupon said first fluid pressure will establish communication between said first and sixth diverging passages in said first body above said diaphragm.

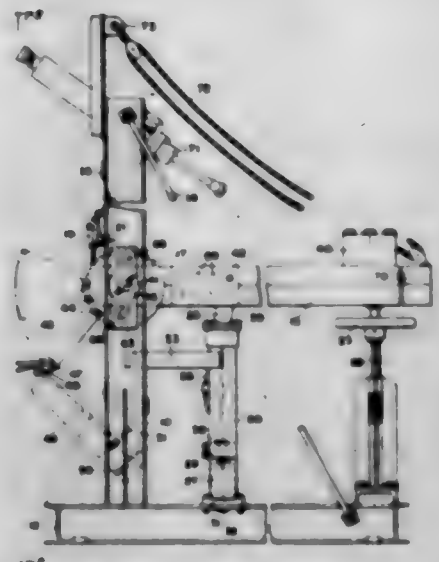
3,139,756

CARTRIDGE OPERATED DEVICE TESTER

Creston P. Langer, Beverly, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed June 13, 1961, Ser. No. 116,894
6 Claims. (Cl. 73—432)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a mechanism for testing a device having parts movable with respect to one another by the firing of an explosive cartridge for operating a load device, the combination therewith of a base supporting a pair of uprights, a load cell mounted on said base and coupled to one of said parts, a test arm pivoted to said uprights at one of its ends and coupled to the other of said parts, said arm extending in the same general direction as does said base and having a weight distribution equivalent to that of said load device, means including a signal plate rotatable with said arm and having equally spaced slots, means fixed with respect to said base and uprights for directing radiant energy rays into one of said slots at a time as it is moved past said means, a voltage emitting device responsive to the intermittently received rays passed through said slots, time responsive means, means for producing a trace which is representative of a distance travelled by said arm, means for simultaneously producing traces which are representative of time and angular



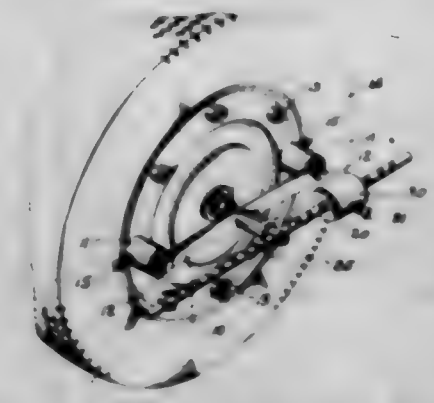
velocity and duration of upward travel of said arm, and photographic means for making a permanent record of said traces.

3,139,757

DRAG STATIC WHEEL BALANCER

Delbert W. Egbert, 3424 14th S., Seattle, Wash.

Filed May 19, 1961, Ser. No. 111,250
4 Claims. (Cl. 73—457)



1. A device for balancing a wheel, said device comprising a cross bar, means on opposite ends of the cross bar for horizontally mounting the cross bar on the wheel diametrically across the face, symmetrically therewith and in perfect balance, a horizontally disposed post fixed to said cross bar and extending outwardly therefrom coaxially with said wheel, a cross rod rotatably mounted on the free end of said post diametrically of said wheel with the ends of the cross rod extending to opposite sides of the vertical axis of said wheel, said cross rod being balanced in its mounting so that it imparts no rotative movement to the wheel while at rest, a balance testing weight selectively applicable to opposite end portions of said cross rod and movable inwardly and outwardly therealong and a graduated scale, on each side of the center of the cross rod to note the distance said weight is positioned outwardly from the axial line of the wheel when rotation of the wheel begins.

3,139,758

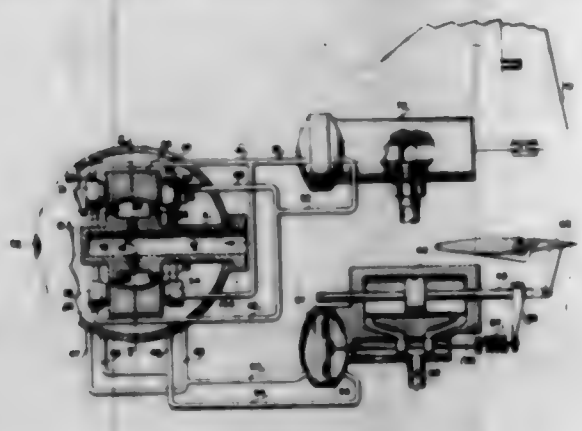
HIGH PRESSURE FLUID RATE GYROSCOPE

Reinhard N. Lahde, Tarzana, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Jan. 23, 1961, Ser. No. 84,822
3 Claims. (Cl. 74—5.6)

1. A gyroscope comprised of a stationary spherically shaped stator, a plurality of chambers spaced about and

set into the spherical surface of the stator in substantially a single plane, an annular rotor surrounding the stator in spaced relation, overlying the chambers and having an inner periphery complementary to the exterior spherical surface of the stator, the rotor having flat sides approximately parallel to the plane in which the chambers on the surface of the spherical stator lie, a plurality of chambers



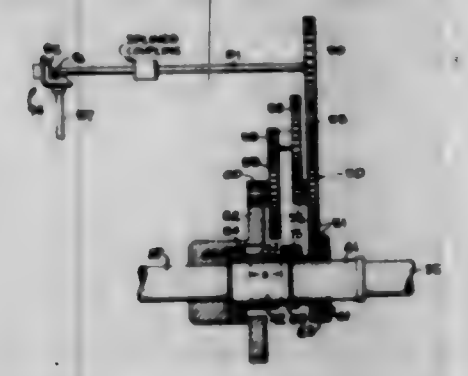
open to the flat sides of the rotor and spaced slightly therefrom, a source of high-pressure fluid, a bleed-orifice for each one of the aforementioned chambers in the spherical stator and the chambers surrounding the flat faces of the rotor, means to conduct the high-pressure fluid to the orifices, a pressure pick-off means from each one of the chambers surrounding the flat sides of the rotor.

3,139,759

AUXILIARY TRANSMISSION FOR TRACTORS

Glenn W. McIntosh, Omaha, and Donald F. Reuterman, Auburn, Nebr., assignors to Auburn Machine Works, Inc., Auburn, Nebr., a corporation of Nebraska

Filed May 10, 1962, Ser. No. 193,817
8 Claims. (Cl. 74—15.6)



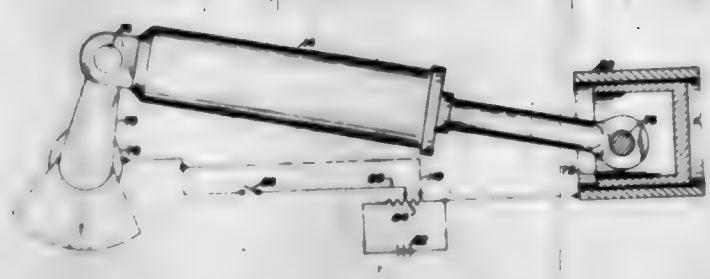
1. An auxiliary transmission for a tractor of the type having a body including forward and rear sections separable along mating surfaces comprising, in combination, a housing having end faces adapted to be connected to the respective mating surfaces of the body, alined input and output shafts projecting into the housing and arranged end to end, a spur gear train in said housing providing speed stepdown and including an input gear and an output gear, a first slidable gear on the input shaft and rotatable therewith for coupling the same to the input gear, a second slidable gear on the output shaft and rotatable therewith for coupling the same to the output gear, and means for moving the slidable gears so that the first slidable gear is coupled to the input gear to initiate rotation of the spur gear train and so that the second slidable gear is thereafter coupled to the output gear, the ends of the shafts having splines thereon, and at least one of said slidable gears being internally splined so that, when the slidable gears are moved in a direction to uncouple the spur gear train, continued movement thereof moves the splined gear into bridging relation with the splines on the shafts for a straight-through drive connection between the input and output shaft.

3,139,760

VARIABLE-STROKE DRIVE MECHANISM

Paul E. Pfeifer, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Nov. 25, 1960, Ser. No. 71,654
10 Claims. (Cl. 74—44)



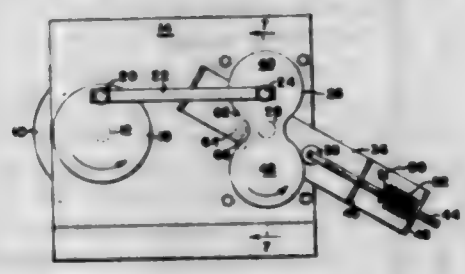
1. In a mechanism comprising a piston and a crank mechanically connected to said piston for imparting reciprocating motion to said piston, the improvement wherein said crank and piston are mechanically connected by a connecting link comprising a tube, a rod extending axially of said tube, a plunger member connected to said rod and disposed within said tube in spaced relationship therewith, a field-responsive fluid disposed in the space between said tube and plunger, means for guiding axial movement of said plunger with respect to said tube, the mutually remote ends of said rod and tube being attached to said crank and piston to mechanically connect said crank and piston, circuit means for applying a field of constant magnitude transversely of said space between said plunger and tube, and means responsive to the position of said crank for reducing the magnitude of said field during a portion of the cycle of said crank.

3,139,761

QUICK REVERSING MECHANISM

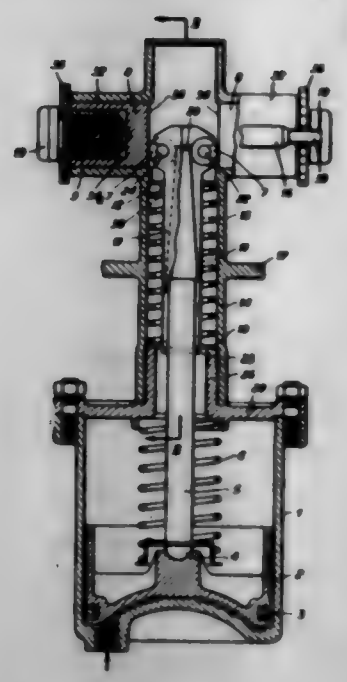
Frank H. Gladroz, Jr., Torrance, Calif., assignor to Electronic Specialty Co., Los Angeles, Calif., a corporation of California

Filed July 31, 1962, Ser. No. 213,668
13 Claims. (Cl. 74—68)



1. A drive for transmitting rotary movement of a prime mover to an output shaft comprising first and second crank arms of equal radial length drivingly connected respectively to said prime mover and to said output shaft, a link interconnecting the radial outer ends of said crank arms whereby rotary movement of said first crank arm is transmitted to the second crank arm except when said link is positioned in a dead spot in alignment with the centers of rotation of said crank arms, and resilient means for exerting an auxiliary rotary force on said second crank arm when said link is in a dead spot position so as to drive said second crank arm through said dead spot independently of the movement of said first crank arm, said resilient means being adapted to exert its auxiliary rotary force on said second crank arm in a rotational direction opposite to the movement of said first crank arm whereby said second crank arm is continuously rotated oppositely to said first crank arm.

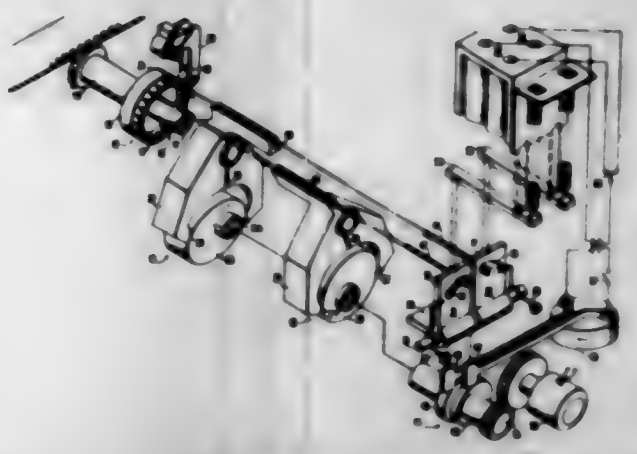
3,139,762
FLUID PRESSURE PISTON ACTUATOR
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation
Filed June 5, 1961, Ser. No. 114,960
Claims priority, application Italy June 24, 1960
5 Claims. (Cl. 74—110)



1. Brake actuating apparatus comprising, in combination, a fluid pressure actuator including a first cylinder and a first piston movable therein; a pair of axially spaced and aligned oppositely directed second cylinders having a common axis substantially perpendicular to the axis of said first cylinder; a pair of second pistons each mounted in a respective second cylinder, said second pistons having opposed facing inner end surfaces which are substantially planar and extend in substantially parallel diametric planes; a piston rod secured to said first piston and having an operating end extending between said facing inner end surfaces, said operating end having opposed longitudinally tapered surfaces each facing a respective inner end surface of a second piston; a pair of rollers each engaged between a respective one of said tapered surfaces and the adjacent second piston end surface for rolling along the engaged surfaces; means mounting said rollers for conjoint movement along the engaged surfaces upon longitudinal movement of said piston rod; damping means restraining such conjoint movement of said rollers to provide for longitudinal movement of the operating end of said rod relative to said rollers to spread said rollers to move said second pistons outwardly in said second cylinders; and means for connecting said second pistons to braking means.

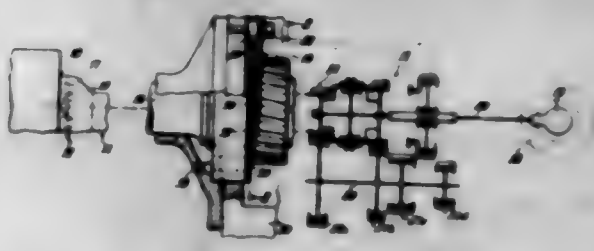
3,139,763
INCREMENTAL DRIVE MECHANISM
Joseph E. Lisinski, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 7, 1961, Ser. No. 115,441
11 Claims. (Cl. 74—125)

1. An incremental drive mechanism comprising: a detent wheel assembly which includes an output shaft; an oscillatory motion generator mounted on the output shaft adjacent to and in line with the detent wheel assembly; a constantly driven input shaft in driving engagement with the motion generator; and a drive control assembly connected to the input shaft, the drive control assembly including a plurality of elements for effecting a driving connection between the motion generator and the detent wheel assembly, the identical elements being employed to drive the detent wheel assembly in either a clockwise or



counterclockwise direction without reversing the direction of rotation of the input shaft.

3,139,764
ANTI-SPIN DEVICE FOR TRANSMISSION MECHANISM
Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1961, Ser. No. 97,329
5 Claims. (Cl. 74—339)

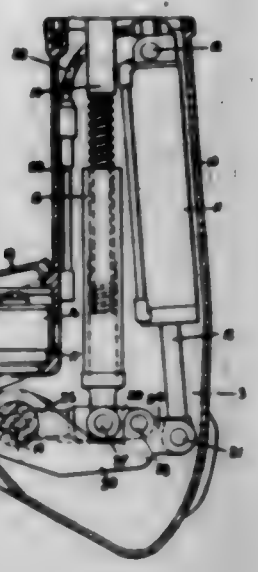


1. In a transmission mechanism, the combination of: a casing containing transmission oil, an input shaft and an output shaft rotatively supported by said casing, gearing rotatively mounted within said casing subject to said transmission oil and interconnected with said input and output shafts, and a temperature responsive frictional drag device mounted within said casing subject to said transmission oil to which said gearing is subjected and at substantially the same temperature and effective to act upon one of said gearing or input shaft for exerting a limited stopping torque in response to a change in temperature of said transmission oil for inhibiting free spin of said gearing.

3,139,765
POWER-ASSISTED STEERING GEAR FOR VEHICLES
Frederick H. Hescock, 128 Dower Road, Sutton Coldfield, England
Filed July 14, 1961, Ser. No. 125,837
Claims priority, application Great Britain July 25, 1960
11 Claims. (Cl. 74—388)

1. A power assisted steering gear for vehicles comprising a steering box housing, a rotatable steering column extending into said housing, said steering column being provided with a threaded portion, a rock shaft mounted in said housing and extending therefrom to operate a steering arm, a first lever fixedly mounted on said rock shaft, said first lever lying generally in a plane including said steering column, a double-acting hydraulic cylinder and piston means mounted in said housing and lying generally parallel to said steering column, means connecting said hydraulic cylinder and piston means to said first lever whereby said first lever will be biased by said hydraulic cylinder and piston means, a link, a control valve in said

housing operable by lineal movement of said link, nut means mounted on said steering column cooperating with said threaded portion so as to be moved longitudinally of said steering column upon rotation of said column, a second lever connecting said nut means to said first lever, one end of said second lever being pivoted to said first lever, and the other end of said second lever being connected to said control valve by means of said link, a hydraulic circuit including a source of hydraulic fluid under pressure, said control valve being positioned in said hydraulic circuit to direct flow of hydraulic fluid under pressure to said cylinder and piston means to bias said first lever in the same direction as it is biased by said second lever.

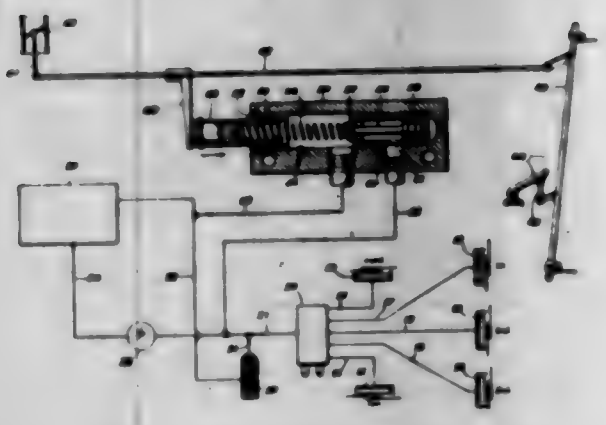


3,139,766

TRANSMISSION CONTROLS

Thorvald G. Granryd, Libertyville, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois

Filed Dec. 5, 1961, Ser. No. 157,227
8 Claims. (Cl. 74—472)



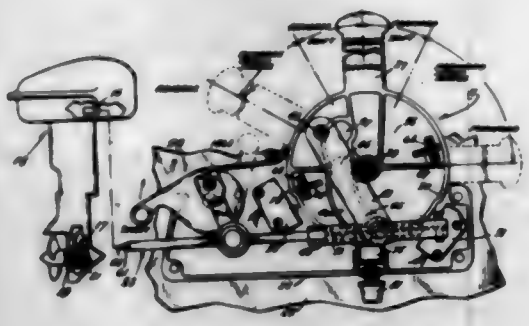
1. A valve means for a clutch control arrangement for a motor vehicle having a hydraulic fluid conduit for delivering hydraulic fluid at a certain pressure to said clutch to effect operation thereof comprising, throttle linkage means for varying the throttle setting of said motor vehicle, said valve means connected to said conduit, said valve means comprising a valve seat effecting fluid communication between the connection of said valve means to said conduit and a vent line, spool means having a valve head thereon slidably carried in said valve means in cooperation with said valve seat, spring means biasing said valve head against said valve seat in a direction opposing any fluid pressure from said conduit on said valve head, spring retaining means operable to vary the biasing force of said spring means, and means carried on said throttle linkage in cooperation with said spring retaining means for operating said spring retaining means to vary the biasing force of said spring means directly with said throttle setting.

3,139,767

SINGLE LEVER ELECTRICAL CONTROL

William J. Shimanckas, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Mar. 2, 1962, Ser. No. 177,918
9 Claims. (Cl. 74—472)



1. A control device for an engine having a throttle and a pair of electrically energized clutches which are selectively operable to effect operation of said engine in neutral, forward drive, and rearward drive conditions, said control device comprising

a frame,

a control member,

means for movably mounting said control member on said frame for movement through an arcuate path from a central neutral position through a shift range on either side of said neutral position and through a speed range extending from each of said shift ranges,

a pair of electrical switch means respectively electrically connectable to said pair of electrical clutches,

means mounting said switch means on said frame in spaced relation to each other,

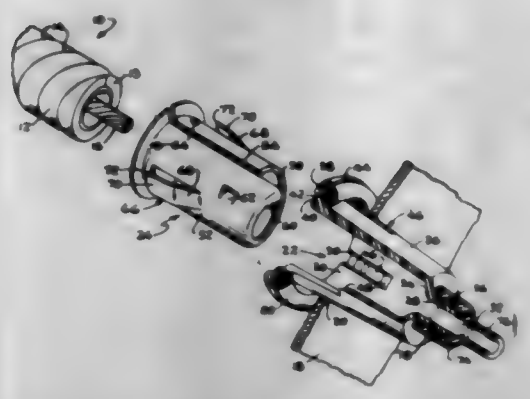
means on said control member for selectively actuating said switch means, said switch actuating means being located in relation to said switch means such that said switch actuating means is inoperably disposed relative to said switch means when said control member is in said neutral position and so that one of said switch means is operated by said switch actuating means during movement of said control member through said shift range on one side of said neutral position to effect operation of said engine in forward drive condition and so that said switch actuating means operates the other of said switch means to effect operation of said engine in rearward drive condition during movement of said control member through said shift range on the other side of said neutral position,

a linearly displaceable speed control member connected to the throttle of said engine to control the setting thereof,

means on said frame mounting said speed control member for movement relative to an idle position, and

means connecting said speed control member to said control member for retaining said speed control member in said idle position during movement of said control member through said shift ranges and for displacing said speed control member relative to said idle position during movement of said control member through said speed ranges.

3,139,768
CABLE FASTENER ASSEMBLY
Donald L. Biesecker, Arlington Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Dec. 11, 1961, Ser. No. 158,492
7 Claims. (Cl. 74—501)

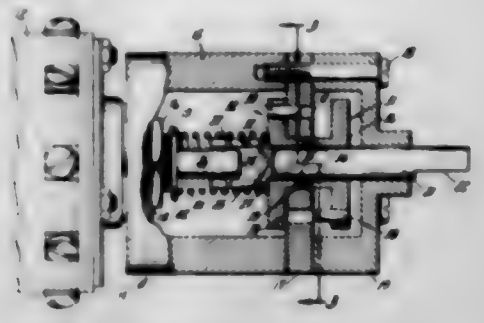


1. A brake cable assembly adapted to pass through a hole in a workplate comprising in combination an annular cable housing sheath member having helical grooves in the outer surface thereof and surroundingly disposed to cable wire means for relative movement thereof, grommet means having an enlarged head of greater diameter than said hole in the workplate and having a first bore of substantial length surroundingly disposed to said sheath member and also having a second bore larger than cable wire means and smaller than said first bore to define an internal shoulder, the outer surface of said grommet means being stepped to provide an end shank portion of reduced outer diameter and a relatively larger tapered shank portion, axially aligned groove means formed in the side walls of said first bore and providing openings adjacent to said head, cable sheath and grommet retention means comprising sheet material means of generally annular shape and disposed intermediate said cable sheath and said grommet means, one end of said sheet material means being formed with inturned flanges arranged in a helical screw configuration complementary to the grooves in said sheath for receipt thereof, said one end being disposed adjacent said internal shoulder and formed with stop tab means to provide limited helical screw assembly of one end of said sheath therewith, the other end of said cable sheath and grommet retention means being formed with head means for cooperation with the head means of said grommet means, a plurality of axially aligned snap-in, flexible, spring tab arms struck out of and formed in said grommet and cable sheath retention means and located for extension through said axially aligned grooves in said grommet means, the end portions of said spring tabs being adapted to move radially inwardly then outwardly upon passage through said hole in said workplate for spring retention against the side of said work panel opposite to said head means of said grommet means, the wall portions of said grommet means adjacent said groove means therein providing a limiting support for the spring tab arms preventing undesirable radial distortion thereof under load, and means formed in the side walls of said cable sheath and grommet retention member preventing unauthorized helical unscrewing movement of said cable sheath after assembly thereof.

3,139,769
ROTARY LOCKING DEVICE
Richard H. Gauchat, 1525 E. 73rd St., Indianapolis, Ind.
Filed Aug. 30, 1962, Ser. No. 220,965
5 Claims. (Cl. 74—565)
(Granted under Title 35, U.S. Code (1952), sec. 266)

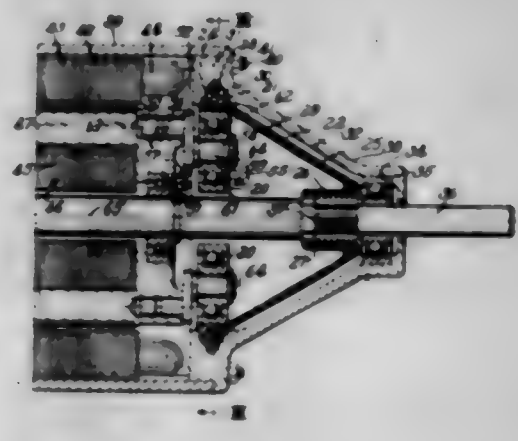
1. A locking device for an electrical component comprising:

a cylindrical housing having an open end and being attached to the shaft end of an electrical component having a rotatable shaft,
a locking plate enclosing said open end of said cylindrical housing and having a plurality of arcuate slots therein,



an attached shaft drivably connected to and in axially slidable engagement with said rotatable shaft of said electrical component, and
rotor means connected to said attached shaft and having first and second stop pins thereon, said pins being angularly displaced from one another whereby axial movement of said attached shaft causes said first and second pins to be positioned in different arcuate slots.

3,139,770
DRIVE MECHANISM INCLUDING SELF-COMPENSATING WAVE GENERATOR
C. Walton Musser, Palos Verdes Estates, Calif., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Aug. 14, 1962, Ser. No. 216,795
21 Claims. (Cl. 74—798)



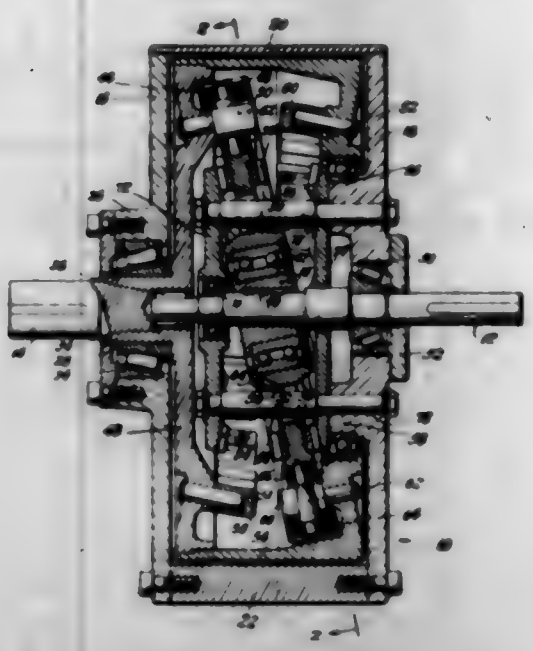
1. In a drive mechanism, a drive rotor, means for turning the drive rotor about an axis, a first element having a circular wall coaxial with the drive rotor, a flex element operatively engaging the circular wall of the first element at a plurality of circumferentially spaced points with intermediate points at which the flex element is out of engagement with the first element, the flex element being coaxial with the drive rotor, an output shaft interconnected with the flex element, and wave generator means mounted on the drive rotor and deflecting the flex element into contact with the first element at said points of contact, said latter means being responsive to torque applied to the output shaft for varying the pressure of the wave generator on the flex element to urge it against the first element.

3,139,771

SPEED-CHANGE MECHANICAL TRANSMISSION

Arthur M. Mareth, % Mareth Engineering Co., Grumman Hill Road, Wilton, Conn.

Filed Feb. 1, 1962, Ser. No. 170,455
11 Claims. (Cl. 74—800)



1. In a balanced force speed changer, an exterior housing a pair of coaxial, axially spaced rotary driven members in the housing connected with each other to have concurrent turning movement and each having an identical set of circumferentially spaced driven faces disposed in circles; a non-turning wobble-type driving member disposed in the housing between and cooperable with the said driven members and having a set of circumferentially spaced inclined driving faces also disposed in a circle and adapted to cooperate simultaneously with both sets of said driven faces at locations spaced 180° apart at all times, the number of driven faces in each set being the same and differing from the number of driving faces by a small number; means including a shaft in the housing, for imparting an orderly cyclic wobbly motion to the driving member to cause sequential engagement between the faces of all of the said sets whereby the driven members are rotatably advanced as the driving member wobbles without rotation; and holding means in and rigid with the housing and engaged with the driving member, enabling the same to have the said wobbly motion while holding it against turning with respect to the housing, said holding means comprising an annulus disposed radially inward of the driven faces of at least one of the said driven members and having crests and troughs disposed in a circle, and further comprising crests and troughs on the driving member, cooperable with those of the annulus, and further comprising a connector device disposed radially outward of the said shaft, connecting the annulus to the said housing.

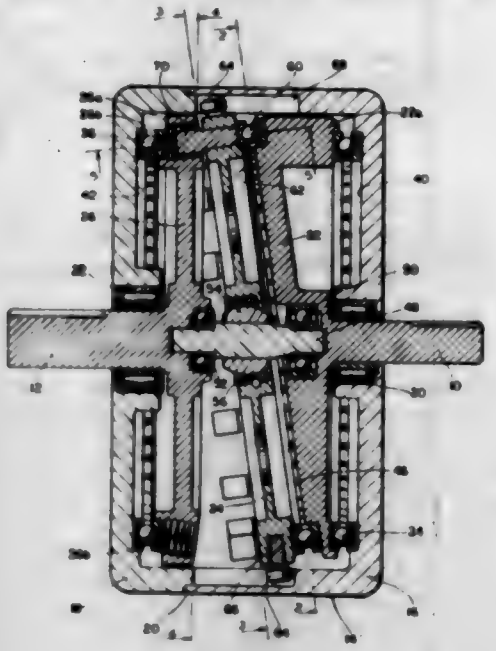
3,139,772

MECHANICAL TRANSMISSION

Arthur M. Mareth, % Mareth Engineering Co., Grumman Hill Road, Wilton, Conn.

Filed May 3, 1963, Ser. No. 285,171
9 Claims. (Cl. 74—800)

1. In a mechanical transmission, a rotary driven member having parts comprising a set of spaced, driven faces carried by it and disposed in a circle along its periphery; a non-turning driving member directly cooperable with the driven member and having parts comprising a set of spaced inclined driving faces carried by it and also disposed in a circle along its periphery, said driving faces being adapted to cooperate with the said driven faces at an arcuate zone of cooperation, the number of driving faces differing from the number of driven faces and said parts of the driven and driving members being spaced on said members in said circles and being separated by clearance spaces which are located between the driving and driven faces; a stationary frame on which the said members are mounted; means including an anti-friction device having portions interposed between the frame and the driving faces of the driving member, providing a direct-action load carrier experiencing substantially wholly compression and extending substantially directly from the driving faces to the frame, for imparting an accurate



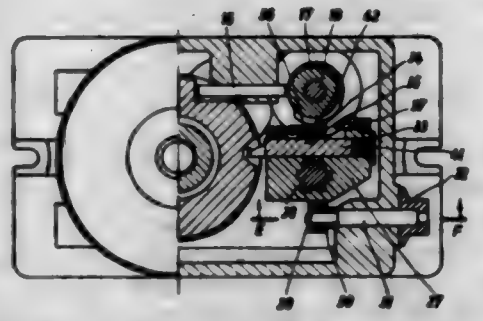
orderly cyclic wobbly motion without rotation to the driving member to cause sequential cooperation between the faces of the said sets whereby the driven member is rotatably advanced as the driving member wobbles without rotation; said parts of one of said members comprising fixed portions and anti-friction roller bearing means, said roller bearing means comprising roller elements movable around said fixed portions and drivingly engageable with the said parts of the other member, said driving engagement effecting the rotary advance of the driven member and constituting a direct interaction between the said members.

3,139,773

TURNTABLE OR INDEXING TABLE, IN PARTICULAR FOR INDEXING ATTACHMENTS

Karl Schubert, Duesseldorf, Germany, assignor to Firma Rheinmetall G.m.b.H., Duesseldorf, Germany

Filed Feb. 10, 1961, Ser. No. 88,553
Claims priority, application Germany Feb. 13, 1960
4 Claims. (Cl. 74—824)



1. A turntable device particularly for indexing attachments, comprising a housing, a turntable mounted by its underside in the housing, a clamping device for fixing said turntable so that it does not move, the table being mounted

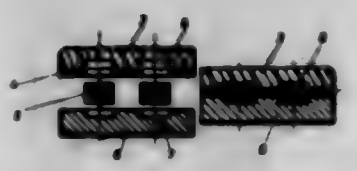
in the housing so that it is sprung axially and freely rotatable, said clamping device having a wedge surface on the underside which can be shifted to press the underside of the table against a seat provided in the housing in opposition to a spring means by downwardly directed pressure of the wedge on the wedge surface, a ball bearing in the housing on which the table is freely rotatable, a bushing on the underside of the turntable and located axially with respect to the latter, the wedge being formed as an annular disc with a radial slot and provided with a conical inner edge in the slot and disposed coaxially with the turntable and compressible by radial pressure and exerting a downwardly directed force component on the bushing during this directed force, said wedge being supported by its upper side to the housing, and a plurality of plates mounted on the bushing and arranged one on the other as indexing plates.

3,139,774
SAW SHARPENING APPARATUS
Edsel H. Sipinen and William A. Gartland, both of Rte. 1, Gladstone, Mich.
Filed July 5, 1963, Ser. No. 292,935
5 Claims. (Cl. 76—40)



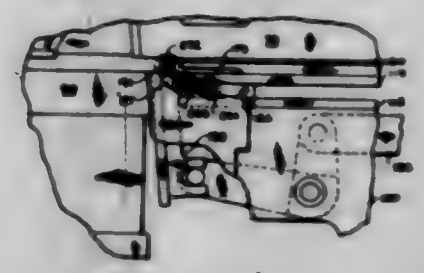
5. An apparatus for sharpening circular saws comprising an overhead hanger frame adapted for mounting on a support therefor generally overhead of the saw to be sharpened, a swingable depending frame pivotally mounted to the overhead hanger frame for swinging in an arc perpendicular to the plane of the saw, a first support mounted to the lower end of the swingable depending frame, a second support means including a pivot member mounting the second support at a point spaced from one end of the second support on the lower end of the first support, said pivot member having a first pivot axis disposed generally parallel to the axis of the swingable depending frame and having a second pivot axis generally perpendicular to the first axis whereby said one end of the second support is respectively swingable vertically and horizontally about said second and first pivot axes, a grinding wheel mounted on said one end of the second support, a motor for operating the grinding wheel mounted on the second support, at least one manually operable rigid member adjustably mounted on one of the supports and extending to engage the other support thereby adjustably limiting downward swinging movement of said one end of the second support which supports the grinding wheel whereby the depth of the tooth gullet in a saw is controlled, at least one manually operable element adjustably mounted on one of the supports for restrictive engagement with the pivot member thereby limiting horizontal swinging movement of said one end of the second support which supports the grinding wheel whereby the latter is presented to a saw tooth at a proper angle, and manually operable means for adjustably shifting the grinding wheel along a path generally paralleling the plane of the saw to be sharpened to adjust the hook angle ground on the saw teeth.

3,139,775
MANUALLY OR POWER DRIVEN APPARATUS FOR THE STRETCHING OR UPSETTING OF SHEETS OR PROFILES
Walter Eckold, St. Andreasberg-Sperrhüttental, Oberharz, Germany
Filed June 13, 1961, Ser. No. 116,856
Claims priority, application Germany June 18, 1960
3 Claims. (Cl. 78—61)



1. A structural unit for a manual or power driven apparatus for the upsetting or stretching of sheet metals or profiles comprising a clamping jaw in the form of a plate member having recesses therein, a plastic plate having recesses therein, and a metallic sole plate between the plastic plate and the plate member and composed of protrusions on both sides thereof to project into the recesses in the plastic plate and the plate member, and which are adhesively bonded to each other.

3,139,776
THREAD ROLLER
Robert G. Friedman, Tiffin, Ohio, assignor to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio
Filed Sept. 26, 1960, Ser. No. 58,199
5 Claims. (Cl. 80—6)



1. A thread roller comprising a frame, a fixed die on said frame, a reciprocating die slidably journaled on said frame for movement between a forward and a rearward position, said dies defining a die space therebetween, a pair of feed tracks extending to an opening adjacent said die space, a pusher reciprocable on said frame from a forward position in which it starts blanks between said dies simultaneously blocking said opening and a rearward position clear of said opening, an injector reciprocable on said frame to a forward position in which it moves a single blank through said opening into said die space simultaneously blocking said tracks and a rearward position clear of said tracks, a drive shaft, first drive means connected to reciprocate said reciprocating die through a predetermined cycle in response to movement of said drive shaft, second drive means connected to reciprocate said pusher in response to movement of said drive shaft, and third drive means connected to reciprocate said injector in response to movement of said drive shaft, said drive means operating to produce the sequential steps of moving said pusher to its rearward position clear of said

opening as said reciprocating die approaches its rearward position, moving said injector forward while said pusher is in its rearward position, moving said pusher forward when said injector is forward and said reciprocating die reaches its rearward position and maintaining said pusher forward until said reciprocating die again approaches its rearward position, and thereafter moving said injector to its rearward position and said reciprocating die toward its forward position, said injector remaining in its rearward position so that said blanks are movable along said tracks under the influence of gravity into position against said pusher for a minimum period of time which is substantially more than one half of the time of said cycle.

3,139,777

WIRE STRIPPING TOOL HAVING HEATED FILAMENTS WHICH OPEN WHEN JAWS ARE CLOSED

Sol Gladoff, Los Angeles, Calif., assignor to Pioneer Magnetics Incorporated, Santa Monica, Calif.

Filed July 27, 1961, Ser. No. 127,351
9 Claims. (Cl. 81—9.5)



1. Apparatus for removing the insulation portion from conductive wire comprising: holding means including first and second jaw members opposingly mounted for gripping insulation to be removed; a filament; first means for yieldably mounting said filament upon said first jaw member, said filament being adapted to be heated to insulation melting temperatures; interposing means, supported by said first jaw member, and positioned to maintain a predetermined separation between said second jaw member and said first means; and second means for closing said jaw members upon an insulated wire, said filament being positioned to contact the insulation portion before said jaw members fully engage the wire, and to be moved away from the insulation portion, as the jaw members firmly grip the insulation to be removed.

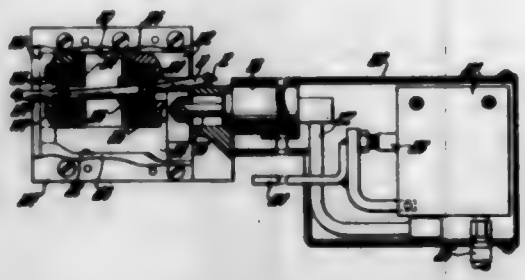
3,139,778

APPARATUS FOR STRIPPING COVERINGS FROM WIRE

George D. Bielinski and Vernon J. Brooks, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 24, 1961, Ser. No. 111,389
6 Claims. (Cl. 81—9.51)

1. Apparatus for removing an outer covering from a wire and the like and comprising a housing, a guideway formed in said housing, a pair of spaced slide blocks slidably mounted in said housing for movement toward and away from one another, clamping means mounted on each slide block for transverse movement relative thereto, cam surfaces formed on said clamping means, cam control surfaces formed in said guideway and being engaged with the cam surfaces of said clamping means during movement of said slide blocks to control transverse displacement of said clamping means, actuating means to move said slide blocks from a first position having a spacing interval therebetween to a second position spaced closely adjacent one another, a wire receiving opening extending longitudinally of said housing and being defined by coaxially aligned grooves formed between said slide blocks and said clamping means, means to position said wire and said covering in said grooves, gripper means provided



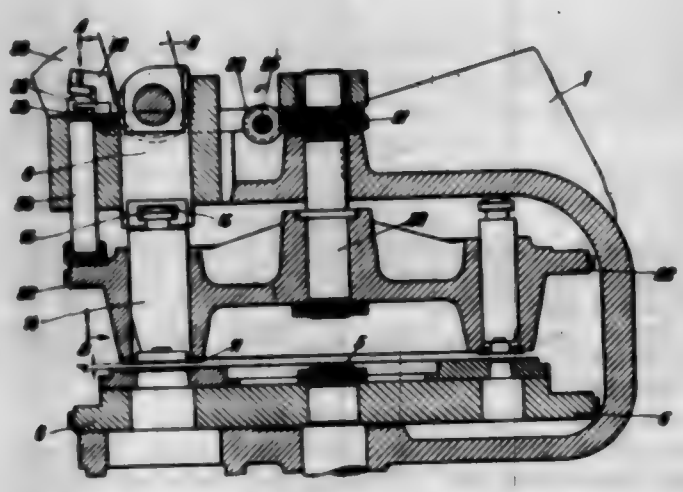
around each of said grooves and being engageable with said outer covering at spaced points thereon by radial inward movement of said clamping means during sliding movement of said slide blocks toward one another, said gripping means being held in engagement with said covering at said spaced points during further inward movement of said slide blocks to bunch and radially outwardly flare the portion of said covering therebetween, and severing means to sever a portion of said bunched and radially outwardly flared portion of the outer covering in said spacing interval.

3,139,779

PUNCH PRESS WITH A ROTATABLE TOOL HEAD

Walter Bredow, Vermarch 2, Alfeld (Leine), Germany

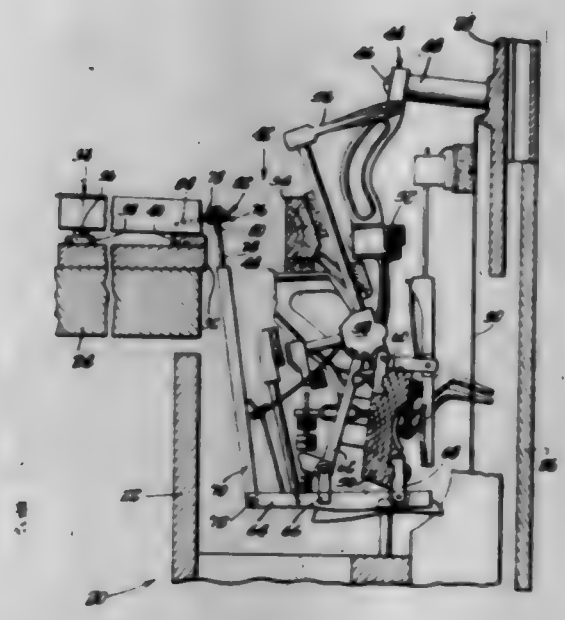
Filed Nov. 17, 1961, Ser. No. 153,102
Claims priority, application Germany Mar. 10, 1961
6 Claims. (Cl. 83—146)



1. In a punch press, a rotatable die plate supporting dies, a rotatable punch plate, a plurality of punches slidingly guided in the punch plate, a ram positively engageable with the head of any selected punch on rotation of the punch plate to bring the selected punch to a working position below the ram, the position and motion of the selected punch depending only on position and motion of the ram, a plurality of stripper rings mounted on the underside of the punch plate to strip punched material from the punches, and means for raising and lowering the

punch plate relative to the die plate to vary the distance between the stripper rings and the die plate while the distance between the selected punch and the die plate remains the same.

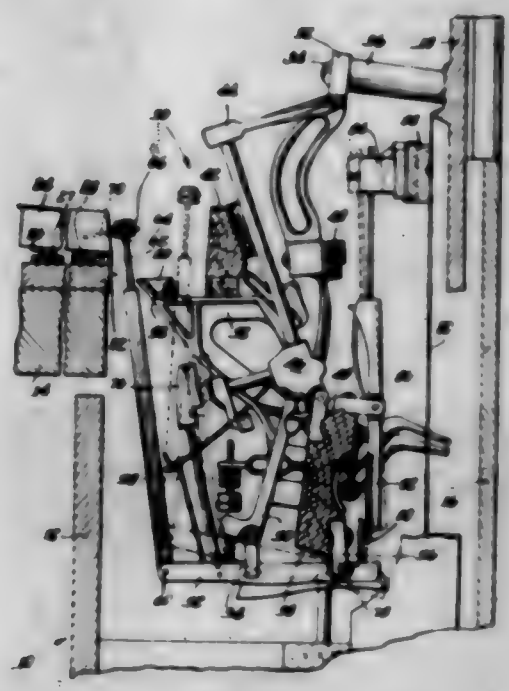
3,139,780
KEYFORK ARRANGEMENT
Clifford W. Andersen and Phillip J. Rochrig, De Kalb, Ill., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Apr. 4, 1961, Ser. No. 102,599
10 Claims. (Cl. 84—240)



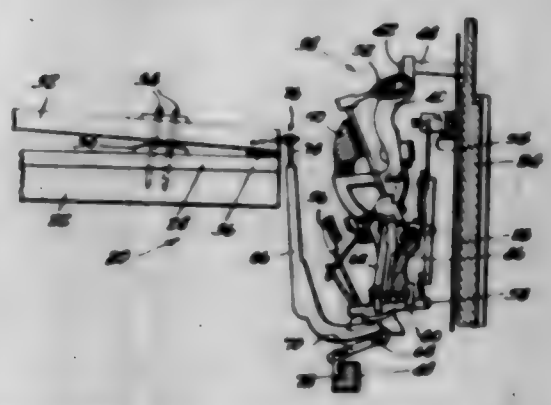
1. In a piano action, the combination comprising: a manually operable key lever fulcrumed intermediate its ends; an endwise reciprocable link; a connecting element on said link adjacent the rear end of said key lever restrained against longitudinal movement relative to said link, said element having a constricted portion defining an endless circumferential groove disposed transversely of said link; a fork rigid with and projecting from the rear end of said key lever, said fork including generally parallel disposed arms having straight confronting edges spaced apart to pass the constricted portion of said element freely; and barb means on said arms aggressively engaging the sidewalls of said groove.

3,139,781
PIANO ACTION
Clifford W. Andersen and Charles S. Corey, De Kalb, Ill., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Original application July 20, 1959, Ser. No. 828,176. Divided and this application June 6, 1961, Ser. No. 115,118
3 Claims. (Cl. 84—240)

1. In a piano action, the combination comprising: a swingably mounted whip; a linear sticker pivotally connected at one end to said whip and upstanding therefrom, said pivotal connection being aligned with the longitudinal axis of said sticker; a key; detachable means operatively connecting the opposite end of said sticker to said key; a plurality of action brackets each having support means thereon directed away from said key; an elongated member received by said support means and disposed transversely of said brackets and of said sticker to hold said sticker rearwardly away from said key upon said detachable means disconnecting said sticker from said key; a swingable damper; a piano string normally damped by said damper; and damper control means fastened to said whip on the side of the fulcrum thereof opposite said sticker for contacting and retracting said damper from said string upon pivoting of said whip during movement of said sticker toward said damper to the position in which it is held by said elongated member.



3,139,782
COUPLING ARRANGEMENT
Clifford W. Andersen, De Kalb, Ill., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Mar. 22, 1962, Ser. No. 181,601
13 Claims. (Cl. 84—240)

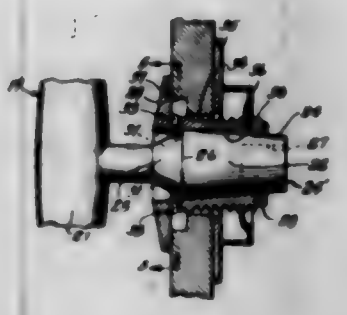


1. A coupling arrangement for use in pianos and analogous musical instruments comprising: a lever fulcrumed for transmitting motion to a link; an endwise reciprocable link situated adjacent one end of said lever; connecting means extending from said lever into coupling relationship with said link, including opposed tines embracing said link, said tines being resiliently spreadable whereby to facilitate coupling and decoupling of said lever and said link; and tough, friction material acting between said tines and said link for use in coupling said link to said lever.

3,139,783
DRUM KEY HOLDER
Philip O. Grant, Williston Park, and William F. Hagner, East Meadow, N.Y.
Continuation of application Ser. No. 76,331, Dec. 16, 1960. This application May 16, 1963, Ser. No. 282,530
1 Claim. (Cl. 84—411)

A drum key holder comprising a plug shaped element having an exteriorly threaded portion for mounting in a side wall opening of a drum, a flange at the outer end of the element for engaging an outer surface of said side

wall, said element having a through bore tapering inwardly from said flange for snugly receiving a drum key having a complementary tapered surface, said element having opposite peripheral slots adjacent to and inwardly of said flange, a U-shaped spring having leg portions freely



disposed in said slots for resiliently urging said key into said tapered bore to thereby prevent vibration of the key in the element during playing of the drum, and nut means carried by the element at the inner surface of the wall for securing the key holder to the drum.

3,139,784
PLASTIC FASTENER HAVING DOUBLE TAPERED POINT

Cletus L. Moorman, Trotwood, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 22, 1961, Ser. No. 118,918
1 Claim. (Cl. 85—5)

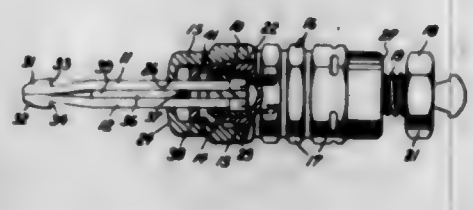


On a nail-like body of solid plastic material exemplified by moldable polyethylene, acetal resin, polyamide and polytetrafluoroethylene as well as phenolic including a solid elongated head portion with a radially outwardly and downwardly extending integral edge to hold a sealing strip of elastomeric material compressed thereunder in part tightly against a rough-edged apertured mounting panel and having a shank-like annular stem portion integral at one end centrally with said head portion and integrally having a free end remote from said head portion with a plurality of continuous axially spaced concentric locking ring means in an intermediate location radially along said stem portion, the improvement which comprises both a first conically tapered surface extending directly from the free end sharply radially outwardly at an angle approaching 45° from axial center line of the stem portion in a location immediately adjacent to the free end for general centering and pre-positioning in the apertured mounting panel, and a second conically tapered surface having a taper substantially less than 45° from the axial center line and approaching a cylindrical configuration, said second surface extending for a distance axially longer than that of said first sharply radially outwardly extending tapered surface, said first and second tapered surfaces being joined along an annular intersection thereof from which said first and second tapered surfaces extend with significantly differing angular relation as to the axial center line of said stem portion, said second tapered surface in a location immediately adjacent to said first tapered surface defining a diameter substantially less than that of any aperture of the panel though said second tapered surface gradually increases structurally solid to a diameter immediately adjacent to the ring means having a diameter slightly greater than that of both the inner diameter of continuous ring means as well as the aperture so that a snug fit for locking engagement is assured between the panel and ring means while the elongated head portion sealingly holds the elastomeric strip on one side of the panel, said second gradually axially longer tapered surface serving to protect said ring means by having structurally solid diameter greater than inner diameter of continuous ring means in immediately adjacent location shielded from internal diameter shearing damage due to non-axial misalignment with rough edges of the panel defining the aperture because the ring means positively can be engaged only outwardly from inner diameter thereof after engagement of said second gradually axially longer tapered surface.

3,139,785
AXIAL LOAD BEARING ANCHORING MEANS FOR FASTENER PINS

Malcolm P. Harwood, North Hollywood, Calif., assignor to Wedgelock Corporation of California, North Hollywood, Calif., a corporation of California

Filed Aug. 30, 1961, Ser. No. 134,952
1 Claim. (Cl. 85—6)



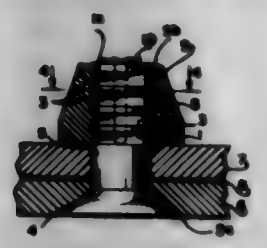
An anchoring means for anchoring a pair of elongated pins in an enlarged head of a stud member, said pins having inner ends with arcuate, outwardly-facing shoulders, said anchoring means comprising:

means defining a cylindrical bore of predetermined length in said head, said bore being open at one end and having a blind, opposite end;

a plurality of axially spaced internal, inwardly-facing annular shoulders in stepped relationship adjacent to said open end; and

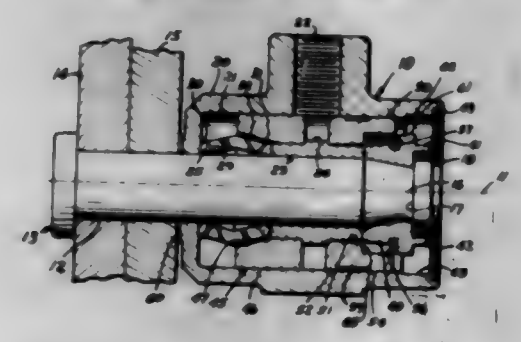
pin holding means in said bore for holding said inner ends of said pins in said bore, said pin holding means including a cylindrical body having an axial bore and a counter bore so as to define an inwardly-facing annular shoulder, said arcuate outwardly-facing shoulders of said pins being in engagement with said inwardly-facing shoulder of said body, said body having an outer configuration complementary to the interior of said bore and including an equal plurality of external, annular, outwardly-facing shoulders in engagement with said inwardly-facing shoulders of said head, said annular shoulders being frusto-conical in relationship to the longitudinal axis of said stud member for resisting axial loads acting to pull said pins outwardly of said stud member, said annular shoulders sloping inwardly toward said inner ends of said pins with the smallest dimension of each shoulder nearest said inner ends.

3,139,786
FASTENING DEVICE
Richard D. Ardell, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Jan. 6, 1958, Ser. No. 707,437
1 Claim. (Cl. 85—7)



A fastening device for securing together two faying surface members having aligned openings and sealant contained between the members comprising in combination a shank having an integral head adjacent one end thereof, a first plurality of annular grooves in the outer surface of the shank adjacent the other end thereof capable of entrapping sealant when the shank is inserted through the aligned openings in the members being secured together, at least one second axially directed groove formed in said shank intersecting each of said first annular grooves and extending to said other end of the shank, and a collar adapted to be swaged into said first groove whereupon said second groove provides hydrostatic pressure relief for any sealant becoming entrapped in said first groove for increase of fastening strength between the shank and collar.

3,139,787
FASTENER ASSEMBLED BY FLUID FORCES
Harry L. Bochman, Jr., Seal Beach, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Aug. 16, 1962, Ser. No. 217,335
16 Claims. (Cl. 85—7)



1. A fastener adapted to be assembled to a shank having a shoulder, in order to exert a force between said shoulder and an object to which the shank is restrained, said fastener comprising: a body having an internal cylinder; a compression sleeve; a stretch sleeve, a segment adapted to engage the shoulder on the shank, the compression sleeve being disposed between the stretch sleeve and the segment, the compression sleeve and stretch sleeve both having an inner opening to pass the shank, the stretch sleeve having an inner relief adapted to be reduced by external swaging forces to axially elongate the stretch sleeve; a swaging sleeve, and a locking sleeve, a cylindrical outer surface on each making a sliding fluid sealing fit with the cylinder, and an inner opening in each, the wall of which makes a sliding fluid sealing fit with the compression sleeve; whereby exertion of fluid pressure within the cylinder between the swaging and locking sleeves forces the swaging sleeve over and upon the stretch sleeve, thereby exerting the aforesaid swaging forces, and forces the locking sleeve over and upon the segment, whereby the stretch sleeve is elongated and bears against the body and against the compression sleeve, and through the latter upon the segment and the shank shoulder, the said elongation of the stretch sleeve thereby axially tensioning the shank, and the locking sleeve holding the segment locked onto the shank.

3,139,788
VISUAL REPRODUCTION SYSTEM OF MULTI-SELECTION CHARACTER
Vernon R. Hughes, Box 99, Jackson Hole, Wyo., and Robert I. Diefenderfer, Jr., Sheridan, Wyo.; said Diefenderfer assignor to said Hughes
Filed May 16, 1962, Ser. No. 195,341
5 Claims. (Cl. 88—17)

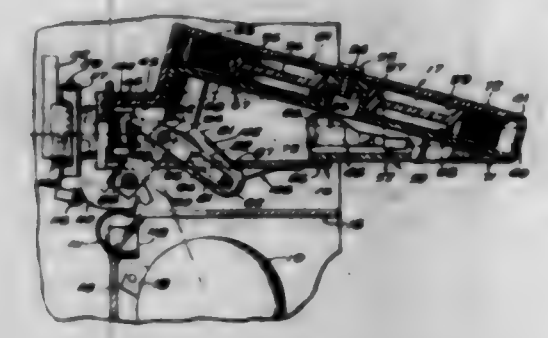


1. A reproduction system of multi-selection character, said system including, in combination, a moving picture projector of the endless-film cartridge receiving type; endless loop conveyor means; plural, mutually spaced, endless-film cartridges, transversely oriented with respect to said conveyor means and slideably mounted upon said conveyor means for selective transverse movement with respect thereto; coin-operated electro-mechanical means, including multiple switch selector means and motor drive means, for driving said conveyor means to position a selected one of said cartridges adjacent said projector for operative engagement therewith in accordance with the selected electrical condition of said multiple switch selector means; means for thereupon automatically slideably translating the selected cartridge transversely with respect to said conveyor means and for operatively engaging the same with said projector; means for automatically actuating said projector to reproduce a moving picture image from the cartridge selected once the same is in operative engagement with said projector; screen means disposed in optical communication with said projector to receive and to visually reproduce said motion picture image; means for automatically stopping said projector once the said motion picture image reproduction is completed; and means for thereupon returning said selected cartridge to its initial position with respect to said conveyor means to complete the cartridge selection cycle selected by said multiple switch selector means preparatory to subsequent selective actuation of the latter.

3,139,789
CARTRIDGE MOTION PICTURE PROJECTOR
Clarence O. Schrader, Sherman Oaks, Calif., assignor to Technicolor Corporation of America, Hollywood, Calif., a corporation of Maine
Filed Apr. 3, 1961, Ser. No. 102,388
10 Claims. (Cl. 88—18.7)

1. In a motion picture projecting apparatus for use with a cartridge containing an endless loop roll of conventional perforated movie film and a side depression in said cartridge between the roll and the loop of film connecting the inner and outer convolutions of the roll, the combination of: a cartridge-receiving socket for removably receiving said cartridge, a source of light adjacent said socket, means positioned in said cartridge depression for reflecting the light from said source through said connecting loop of film, said reflecting means including a toggle pivotally mounted on said socket and having a

stub pin mounted remote from said pivot, a second toggle pivotally mounted on said socket and having an elongated aperture receiving said stub pin, and also a reflecting element pivotally mounted on said stub pin and slidably and pivotally mounted on said socket, whereby movement of either toggle in and out of the said



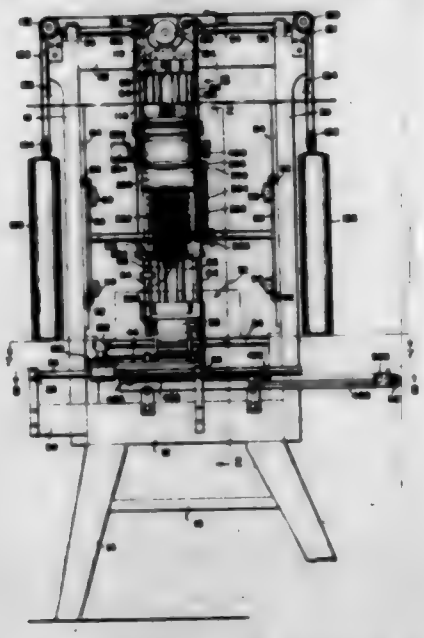
cartridge depression causes like movement of said reflecting element, said reflecting element having a reflecting surface in communication with said light source, means for protruding into said cartridge for engaging the perforations of said connecting loop and moving said film past the reflected light, and a focusing and magnifying lens adjacent said socket.

3,139,790
PHOTOGRAPHIC APPARATUS MECHANISM
Vernon L. Kipping, 540 Melrose Ave., San Francisco 12, Calif.
Filed Feb. 20, 1961, Ser. No. 103,668
6 Claims. (Cl. 88—19.3)



1. In photographic apparatus, guide means for confining a web of film to a fixed path of travel, a light source for said film, and shutter means adjacent said fixed path of travel interposed between said light source and the film traversing said guide means, said shutter means comprising a moveable member having at least one light impervious portion and at least one light transmitting portion and having at least first and second positions of movement, said shutter means in said first position having said light transmitting portion aligned between said light source and said film to transmit light to said film, said shutter means in said second position having said light impervious portion interposed between said light source and said film, said shutter means being adjustable as to the relative extent of the light transmitting and light impervious portions, means for advancing said shutter means between said first and second positions, at least one sprocket tooth on said movable member engageable with sprocket holes formed in said film and positioned to advance said film along said guide means when said shutter means is in second poistion, and reversible means for adjusting the relative extent of said light impervious portion and said light transmitting portion of said shutter means independent of said means for advancing said shutter means.

3,139,791
COMPOSING MACHINE
Vincent R. Bailey, Palm Beach, and Robert H. Isenhower, Ocala, Fla., assignors to Perry Printing Process Company, Ocala, Fla., a corporation of Florida
Filed Jan. 16, 1961, Ser. No. 81,738
6 Claims. (Cl. 88—24)



1. A composing machine for accurately reproducing a layout containing symbols of various size on a surface of light sensitive material utilizing a negative containing symbols of size different from but corresponding to those on said layout including,

means for mounting said layout in a predetermined position, said position defining a finite area in a given plane,

means for projecting an image of at least some of said symbols from said negative onto said layout,

said projecting means including means for varying the size of said projected image,

means for aligning said projected image of said symbols with those on said layout which correspond thereto,

said means for varying the size of said projected image and said means for aligning said projected image mutually embracing means for mounting said projecting means for movement crosswise and fore and aft and vertically with respect to said finite area,

means for interrupting the incidence on said layout of said image in its aligned state,

means for removing said layout from said predetermined position and moving said light sensitive surface into said area of said given plane, and

means for terminating the interruption of the incidence of said image in its said aligned state which is then reproduced on said surface.

3,139,792
DISTANCE DETERMINING AND FIELD FRAMING DEVICE
Stephen J. Wentbe, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 14, 1961, Ser. No. 95,652
3 Claims. (Cl. 88—24)

1. Document copying apparatus comprising:

easel means for supporting a document in an approximately horizontal position, the terms horizontal and vertical being used herein relative to each other and not necessarily defining orientation relative to the earth,

a fixed focus camera focused on a plane at a fixed distance from the camera,

rigid means for supporting said camera vertically above and facing said easel to receive light from a document thereon,

means for coupling said easel means and said rigid means and for vertically adjusting them relative to each other,



wall means carried by said rigid means to one side of the path of said light and having a plurality of horizontal slits above said easel, and

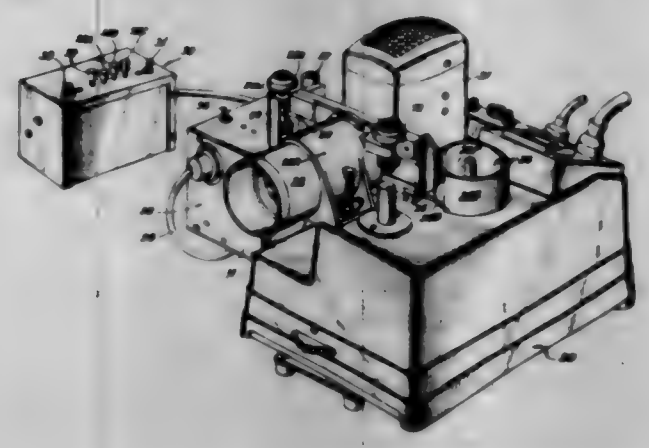
lamp means also carried by said rigid means for sending flat sheets of light through two of said slits obliquely to the said easel, said lamp means and slits being so positioned that said two sheets intersect in a single line at the plane of fixed focus of said camera.

3,139,793

SYSTEM FOR STRIP FILM PROJECTION

Arthur J. Bradford and Arthur E. Eigsti, Chicago, Ill., assignors to Wilding, Inc., a corporation of Michigan

Filed Dec. 19, 1960, Ser. No. 76,685
9 Claims. (Cl. 88—28)



1. In a slide film projector, the combination with means for projecting light along a projection path; of a film track disposed crosswise of said path and having a window intercepting said path, a strip film in said track and having edge index markings thereon at selected points therealong, each of which points having a predetermined spatial relationship to an individual corresponding film section thereof which is to be stopped in centered position across said window, a rotatable drive sprocket at the exit end of said track engageable with a strip film movable in said track to draw successive sections of the film across said window as said sprocket rotates, selectively operable control means including a motor drive for said sprocket and having first means operable to engage said motor drive for continuous rotation of said sprocket and second means operable to brake said sprocket to a stop, and sensing means located at a point having a spatial relationship to said window corresponding to said predetermined spatial relationship between an index marking and a film section corresponding thereto, said sensing means being connected to respond to an index marking for operating said second means.

3,139,794

LAUNCHER AND ROCKET

Vernon M. Barnes, Jr., and Jerry A. Burke, Jr., Chesterfield County, Irving R. King, Henrico County, and Robert L. Wolf, Chesterfield County, Va., assignors to Texaco Experiment Incorporated, Richmond, Va., a corporation of Virginia

Filed Jan. 8, 1962, Ser. No. 164,672
16 Claims. (Cl. 89—1.7)



1. An air traveling reaction propelled device and a launcher therefor comprising a rocket having a body portion adapted to receive a propellant composition, an outlet nozzle at one end of the body and communicating therewith, outlet nozzle sealing plug means, a launching tube adapted to slidably receive the rocket body adjacent the outlet nozzle, releasable means maintaining the sealing plug means in the nozzle sealing position, said releasable means including releasable latch means cooperating with the sealing plug means and with said launching tube to maintain the sealing plug means in sealed relation with the outlet nozzle when the rocket body is received within the launching tube and to release the sealing plug means when the rocket is launched from the launching tube, and means for propelling said rocket from the launching tube.

3,139,795

TANDEM LOADED FIRING TUBES

Samuel Altschuler, Woodland Hills, Calif., assignor to the United States of America as represented by the Secretary of the Army

Filed May 24, 1962, Ser. No. 197,836
2 Claims. (Cl. 89—1.7)



1. In a rocket weapon, a plurality of projectile holding tubes, each of said projectile holding tubes having a plurality of axially aligned rocket projectiles therein, said rocket projectiles spaced in said projectile holding tubes to provide gas expansion chambers at the rear of

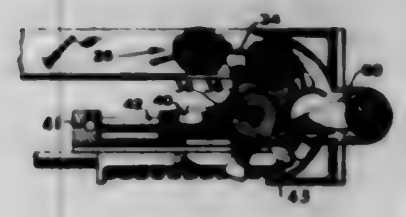
each of said rocket projectiles, a propellent charge in each of said gas expansion chambers, bulkheads positioned between successive gas expansion chambers for isolating said chambers one from the other, each said bulkhead comprising a rearwardly depending skirt and a spacing rod extending forwardly from the skirt, said rod having its rearward end integral with the forward wall of said bulkhead, the forward end of the rod being detachably fixed to the rearward wall of the forward rocket, said bulkhead having a diameter slightly less than the internal diameter of each projectile holding tube, whereby a clearance is formed between said skirt and the wall of said tube, said spacing rod defining a first gas expansion chamber between the forward rocket and said bulkhead, resilient locking means on each of said bulkheads preventing rearward movement of said bulkheads, said locking means responsive to positive pressure aft of said bulkhead to release said bulkhead for forward movement and ejection, ignition means for each of said rocket projectiles, and contact means for sequentially actuating said ignition means to discharge said projectile holding tubes.

3,139,796

GAS OPERATED FEEDER FOR GUN

Robert G. Nutting, Glenview, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Feb. 24, 1956, Ser. No. 567,696
1 Claim. (Cl. 89—33)



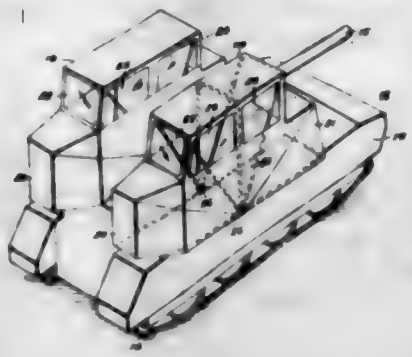
In a machine gun supplied with cartridges by a belt including open links for gripping the cartridges and provided with a barrel for discharge of the cartridges chambered therein, a feeder including a body mounted on the gun, a throat mounted to said body and disposed to receive a cartridge radially thereinto for disposition towards the breech of the barrel, a sprocket device rotatably mounted to said body for engageably moving successive ones of the cartridges in the belt into position for radial removal from links into said throat, a frame slidably mounted to said body for reciprocation between a normal and an actuated position, means actuated by gases from the barrel for moving said frame to the actuated position, a pair of stripper members mounted on said frame for engagement with the cartridge positioned for removal into said throat to push such cartridge from the engaging one of the links into said throat when said frame is moved to the actuated position, spring means for biasing said frame to the normal position, ratchet means for converting movement of said frame to the normal position to unidirectional rotation of said sprocket device for sequentially advancing successive ones of the cartridges in the belt into the position for removal into said throat, said ratchet means including a pair of wheels provided with ratchet teeth and disposed for rotation with said sprocket device, arms pivotally mounted to said sprocket device, links for connecting said arms to said frame for actuation thereby, and a detent slidably disposed in each of said arms and spring-biased for engagement with said teeth to transfer pivotal movement of said arms when actuated by movement of said frame to the normal position to rotation of said sprocket device for advancing the belt.

3,139,797

WEATHER KIT FOR MILITARY VEHICLES

Paul A. Fair, Fallston, Md., and Howard I. Huff, Mickleton, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Oct. 21, 1963, Ser. No. 317,848
11 Claims. (Cl. 89—36)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The combination with a vehicle, and a weapon mounted on said vehicle, of at least one rider shelter, said shelter comprising an assembly including a flat base, at least one rider seat and a rider shelter, mounting means mounting said shelter assembly on top of said vehicle at one side of said weapon, means mounting said seat atop said base, said seat including a seat back, means mounting said seat back for movement from an upright back rest-providing position to a relatively flat inactive position, said shelter including means for collapsing the same from a raised shelter-providing position covering said base and seat to a relatively flat collapsed position, and said base assembly with said seat-back and shelter in said inactive and collapsed positions respectively being movable on said mounting means from an operative horizontal position atop said vehicle to an inoperative vertical poistion alongside said vehicle.

3,139,798

HOIST FOR ROUNDS OF AMMUNITION

Henry Wilhelm Aldrin, Bofors, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a corporation of Sweden

Filed Dec. 12, 1962, Ser. No. 244,206
Claims priority, application Sweden Dec. 23, 1961
10 Claims. (Cl. 89—46)



1. A hoisting device for hoisting cartridges to a gun from a store of ammunition located below the gun, said device comprising a hoist shaft having a loading end and

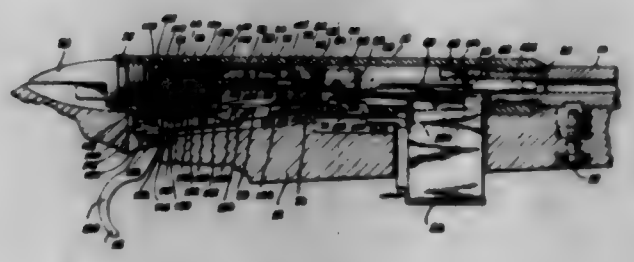
a discharge end for feeding cartridges singly one by one from the store to the gun, a single cartridge sled, guide means slidably guiding said sled along the shaft, said sled including a lug protruding into the shaft for engaging a cartridge therein to hoist the same from the loading end to the discharge end of the shaft, a drive means, and a linkage means coupled to said sled and said drive means for imparting to said sled a reciprocatory movement from one end of the shaft to the other, each reciprocatory movement of the sled constituting a hoisting cycle causing hoisting of one cartridge.

3,139,799

ACTION FOR SEMIAUTOMATIC FIREARMS

Carl H. Benson, New Haven, Conn., assignor to O. F. Mossberg & Sons, Inc., New Haven, Conn., a corporation of Connecticut

Filed Apr. 4, 1962, Ser. No. 185,114
6 Claims. (Cl. 89—197)



1. An action for a semiautomatic firearm, said action comprising

(*a*) a barrel having a cartridge chamber formed in one end,

(*b*) a receiver secured to the barrel, said receiver having an internal longitudinal cavity to accommodate the action and an inclined surface disposed adjacent the cavity,

(*c*) a bolt in the receiver longitudinally reciprocable therein for chambering and ejecting cartridges from the chamber in the barrel, said bolt having an inclined surface for engagement with the inclined surface on the receiver,

(*d*) a bolt-operating member in the receiver rearwardly of the bolt and longitudinally reciprocable therein, said member having an inclined cam surface for camming the bolt into a positive chamber-locking position in which the inclined surface on the bolt engages the inclined surface on the receiver,

(*e*) a firing pin passing through the bolt and the bolt-operating member, and

(*f*) a spring actuated striker in the receiver movable for engagement with the rearward end of the firing pin.

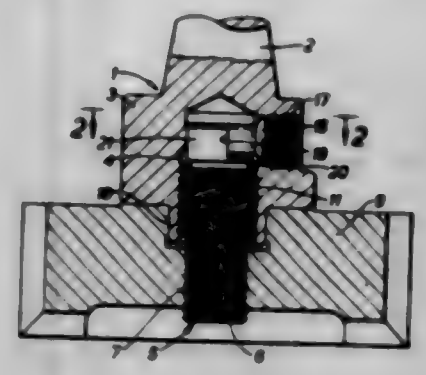
3,139,880

HOLDER FOR MILLING CUTTERS AND LIKE ROTARY TOOLS

Frank Henry Clarkson and John B. Clarkson, Coventry, and Geoffrey Horton, Nuneaton, England, assignors to Clarkson (Engineers) Limited, Nuneaton, England, a British company

Filed Nov. 9, 1961, Ser. No. 151,246
2 Claims. (Cl. 90—11)

1. A tool holder for rotary tools of the character described comprising a body having a mounting shank and an axial bore open at the leading end of said body, said leading end being formed for spigotted engagement with a rotary tool; a co-axial member having a screw engagement of non-locking helix angle in said axial bore of the holder body and having a pair of adjacent side abutment faces disposed within said bore whilst a forward protruding portion of said co-axial member is threaded for receiving a rotary tool in normal screw threaded engagement thereon and in spigotted engagement about and against the forward end of the holder body, said non-locking screw engagement of the co-axial member in the holder body permitting unscrewing of the co-axial member for freeing a rotary tool that has become tightly screwed on said co-axial member



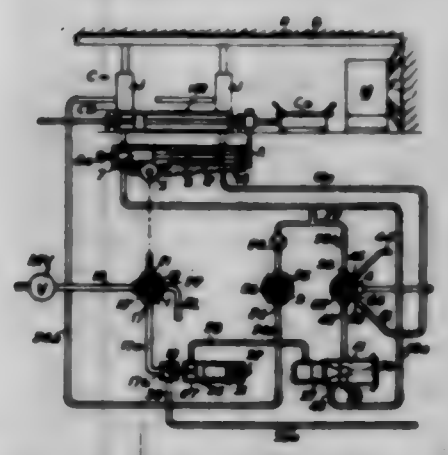
and against the forward end of the holder body; and a pair of separately operable screws disposed side by side in the holder body for movement into and out of corresponding side abutment with said faces of the co-axial member for the purposes of locking the latter against rotation and for enabling release unscrewing rotation thereof to be obtained.

3,139,891

VALVES FOR THE CONTROL OF FLUIDS

Stanley G. Shand and Herbert Bentley-Leak, Hereford, England, assignors to Saunders Valve Company Limited, Cwmbran, Monmouthshire, England, a British company

Filed July 15, 1960, Ser. No. 43,084
Claims priority, application Great Britain July 16, 1959
17 Claims. (Cl. 91—189)



1. A valve assembly for control of equipment of the kind described comprising three plug cocks, means for mechanically actuating the first of the plug cocks between a normal position in which an inlet is connected to an outlet passage, and a pressure release position, a primary trip valve controlling said outlet passage, hydraulically operated means for rotating the second and third of said plug cocks simultaneously between a normal position and a closed position, said first cock when in pressure release position connecting said inlet to said hydraulically operated means in such direction as to rotate said second and third cocks into closed position, and when in its normal position connecting said hydraulically operated means to exhaust, hydraulic means branched off an outlet of said second cock for opening said trip valve when said second cock is in its normal position, said second cock in its closed position connecting said hydraulic means to exhaust, said third cock in its normal position connecting a further inlet to a further outlet and in its closed posi-

tion closing said further inlet and connecting said further outlet to exhaust.

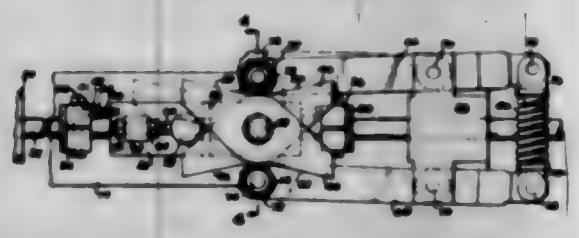
16. The combination with a valve assembly as set forth in claim 1 of a chock, a conveyor, a hydraulic jack carried by said chock, and horizontal hydraulic ram means on said chock, an abutment on said ram means for actuating the mechanical means for operating said first cock, a supply controlled by said second cock operating said jack, a supply for said ram means being controlled by said third cock, said means for mechanically actuating the first of the plug cocks including a pinion coaxial with and secured to the plug of said first plug cock, a rack meshing with said pinion, and means coupled to said rack located in the path of said abutment to be engaged thereby during the last part of the movement of said ram means in the direction of its operation towards said conveyor and displacing said rack to rotate said first plug cock into its normal position.

3,139,882

VELOCITY CONTROL MECHANISM

Daniel J. Beredin, Detroit, Mich., assignor to U.S. Automation Company, Detroit, Mich., a corporation of Michigan

Filed Dec. 20, 1962, Ser. No. 246,117
20 Claims. (Cl. 92—13)



1. In a reciprocating mechanism of the type including a support, a fluid motor on said support and a movable element connected with said motor for reciprocation thereby, means for controlling the velocity of the movable element in at least one direction comprising cam and cam follower members associated one with the support and the other with the movable element, said cam member having an inclined rise portion adapted to be traversed by the follower member in response to movement of the movable element toward the end of its stroke in said one direction, resilient means acting on said follower member and tending to resist movement of the follower member over said rise portion of the cam and thereby opposing the driving force applied by said motor to said movable element in said one direction of reciprocation, said resilient means being sufficiently powerful to reduce the velocity of the movable element substantially as the movable element approaches the end of its stroke in said one direction.

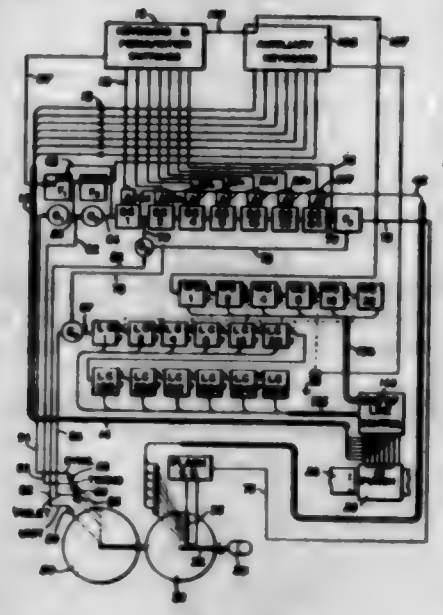
3,139,883

PHOTOGRAPHIC TYPE COMPOSITION

Richard C. O'Brien and Francis Hunstiger, Cleveland, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed June 30, 1960, Ser. No. 40,071
7 Claims. (Cl. 95—4.5)

1. A justification indicator for typesetting apparatus comprising, means providing a first input signal related in magnitude to the total actual space used by characters during composition of a line of predetermined space length, means providing a second input signal related in magnitude to the total number of word spaces in the line multiplied by an arbitrary actual word space value, means representing the total available space in the line, means comparing the total of said first and second input signals with the total space means to determine the adjustment of the width of each word space required to justify the line, and means for adjusting the magnitude of said second input to correspond to the product of the number of word



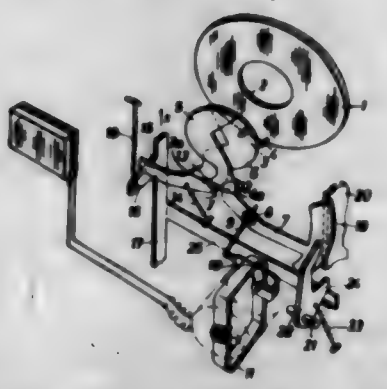
spaces and different trial values of word spaces for determining when the line may be justified properly.

3,139,884

CAMERA WITH AUTOMATIC DIAPHRAGM

Franz Jakob, Unterhaching, near Munich, and Roland Knorr, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Bayerwerk, Germany

Filed Apr. 26, 1961, Ser. No. 105,731
Claims priority, application Germany May 3, 1960
14 Claims. (Cl. 95—10)



8. In a camera, in combination, at least two diaphragm blades; support means supporting one of said blades for movement between a pair of end positions; spring means cooperating with said one blade for urging and moving the same from one of said end positions toward the other of said end positions; manually operable release means cooperating with said one blade for holding the same in opposition to said spring means in said one end position until said release means is actuated by the operator to release said one blade to said spring means which then moves said one blade from said one end position toward said other end position, said manually operable release means having a portion against which a portion of said one blade is continuously urged by said spring means so that the extent of movement of said one blade by said spring means is determined by the extent of movement of said manually operable release means; first stop means operatively connected to said one blade to be moved along a predetermined path while said blade moves from said one toward said other end position; second stop means; and light-responsive means operatively connected to the other of said diaphragm blades for determining the position thereof in accordance with the lighting conditions and also operatively connected to said second stop means for moving the same along said path and for locating said

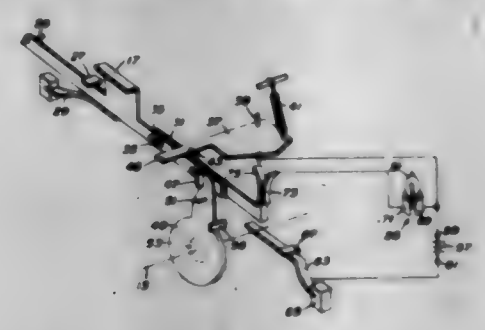
second stop means at a position along said path determined by the lighting conditions, whereby when said manually operable release means is actuated by the operator said spring means will move said one blade from said one end position toward said other end position until said first stop means engages said second stop means whereby said light-responsive means determines the position of said one blade while being required to move only said other diaphragm blade and said second stop means.

3,139,805

FLASH LAMP SYNCHRONIZING MECHANISM

Dean M. Peterson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 24, 1962, Ser. No. 232,810
4 Claims. (Cl. 95—11.5)



1. A flash-and-shutter control mechanism for synchronizing the opening of a camera shutter and the peak illumination of a flash lamp, said camera including

(*a*) an impact-type shutter mechanism wherein a shutter blade is driven to an open position out of capping relation to said camera's aperture for a predetermined interval of time by the impact of a shutter-driving member during the latter's movement from a cocked position to a released position,

(*b*) a trigger device movable from first position engaging said shutter driving member in said cocked position to a second position releasing said shutter driving member for movement to said released position,

(*c*) socket means for receiving a flash lamp, and

(*d*) terminals for electrical connection with a source of voltage,

said control comprising:

(*e*) adjustable means cooperating with said trigger device for controlling the time interval between the release of said shutter driving member by said trigger device and the movement of said shutter blade to said open position,

(*f*) first circuit means connecting said socket means, said terminals, and said trigger in electrical series relation when said trigger is intermediate said first and second positions and at all positions of said trigger between and including said intermediate and said second position, and

(*g*) second circuit means including said shutter driving member and said trigger device for establishing a shunt circuit across said socket means so long as said shutter driving plate is in said cocked position.

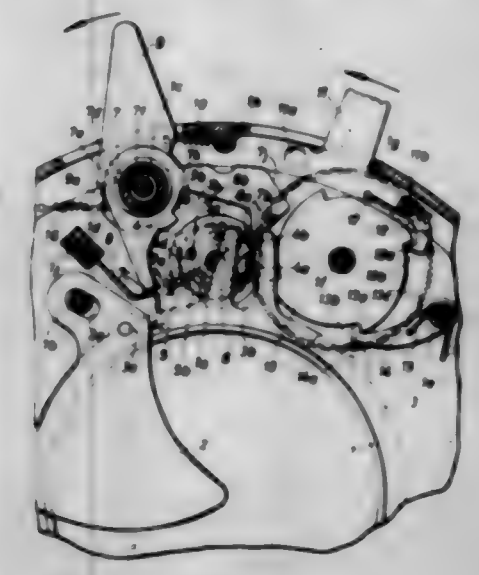
3,139,806

STRUCTURE FOR OPERATING CAMERA SHUTTERS

Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany

Filed May 4, 1959, Ser. No. 810,643
Claims priority, application Germany May 10, 1958
12 Claims. (Cl. 95—63)

1. In a camera, in combination, support means; a plurality of shutter leaves carried by said support means for movement between shutter opening and shutter closing positions; ring means operatively connected to said leaves for moving the latter between said positions thereof, said ring means being carried by said support means for rotary movement between an open end position placing said leaves in said shutter opening position thereof and a closed end position placing said leaves in said shutter closing position thereof; and rotary drive means turnably carried by said support means and directly engaging said ring means for turning the latter from one of said end positions thereof to the other end position thereof and then back to said one end position during a revolution of said rotary drive means, said rotary drive means including



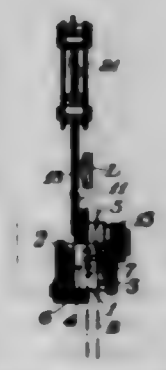
a rotary member fixedly carrying a pin of circular cross section spaced from the axis of rotation of said rotary member, and a portion of said ring means being formed with a straight radial slot whose width equals the diameter of said pin, the latter being located in said slot and remaining therein at all times for moving said ring means from said one end position to said other position and then back to said one end position during a single revolution of said rotary member, said pin being located, when said ring means is in said end positions thereof, respectively in a pair of circumferential end positions where said pin provides substantially no movement of said ring means while continuing to turn through said single revolution with said rotary member.

3,139,807

EXPOSURE AND SENSITIVITY CONTROL APPARATUS

Yoshisabu Sakaki, 5 Kitamachacho 1-chome, Chigusa-ku, and Haruo Tashi, 16 Tokugawayama 2-chome, Chigusa-ku, both of Nagoya, Japan

Filed Sept. 20, 1961, Ser. No. 139,389
Claims priority, application Japan Sept. 29, 1960
3 Claims. (Cl. 95—64)



1. In a camera having a plurality of actuatable diaphragm blades operable relatively to define an exposure

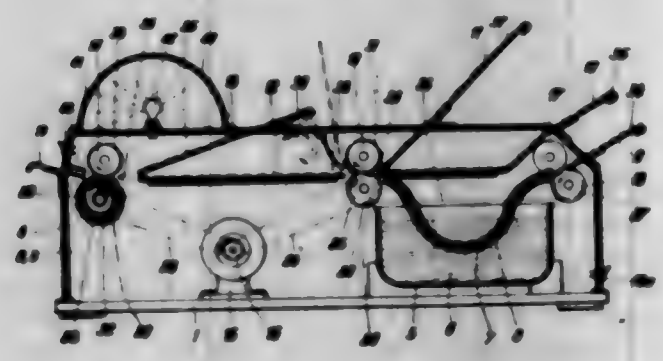
aperture for taking exposures on a photosensitive surface in said camera in operation, an automatic exposure meter energized by light of a scene to be photographed onto said photosensitive surface comprising a coil movable automatically angularly in a direction corresponding to an aperture-closing direction as a function of the light available from said scene, means operably connecting said coil and said blades for actuating them relatively for automatically variably defining the size of said exposure aperture as a function of the angular rotation of said coil, a coil spring operably connected to said coil in opposition to rotation in said aperture-closing direction and urging said coil in an opposite direction, corresponding to a direction for operating said blades for enlarging said aperture, the improvement which comprises an aperture control device comprising a first ring operable selectively manually to variably set the maximum angular position to which said spring will rotate said coil and thereby set the maximum opening of said aperture, means operable manually to variably adjust the tension of said spring to different tensions corresponding to sensitivity factors of different photosensitive surfaces used in said camera in operation thereby compensating for the sensitivity of said photosensitive surface, whereby conditions of equilibrium are reached by said coil in angular rotation thereof compensating for said sensitivity.

3,139,808

METHOD AND APPARATUS FOR MAKING PRINTING FORM SHEETS

Wilhelm Ritzerfeld, Schorlemer Allee 14, Berlin-Dahlem, Germany, and Gerhard Ritzerfeld, Franzensbader Strasse 21, Berlin-Grunewald, Germany

Filed Apr. 25, 1961, Ser. No. 105,321
Claims priority, application Germany Apr. 29, 1960
4 Claims. (Cl. 95—73)



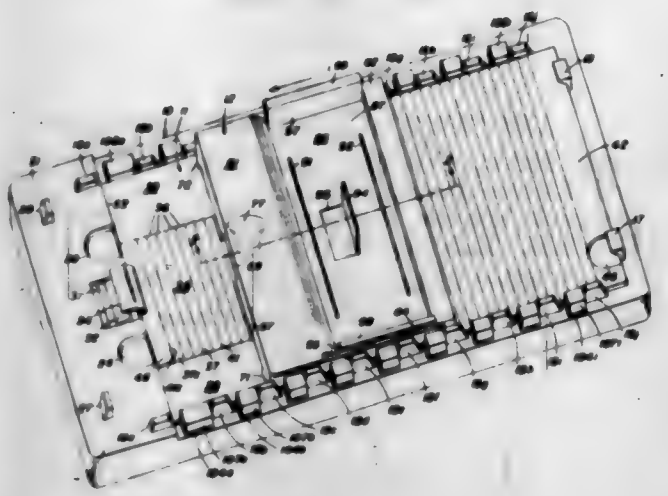
1. An apparatus of the type described, comprising, in combination, a first guide means for a first printing form sheet and having a first outlet portion; a second guide means for a second transfer sheet, said second guide means being spaced from said first guide means and having a second outlet portion located in close proximity to said first outlet portion; and transporting pressure roller means located adjacent to said first and second outlet portions so that portions of said first and second sheets located between said first and second outlet portions and said roller means are superimposed, pressed against each other and transported by said roller means; a tank for a developing liquid; a third guide means for guiding a third light-sensitive sheet having a developable coating through said tank and having a third outlet portion located in close proximity with said second outlet portion and adjacent to said roller means; a pair of pressure rollers located spaced from said roller means, one of said rollers including heating means; a guide member extending between said roller means and said pressure rollers and having an inlet portion for receiving a third sheet transported by said roller means and an outlet portion for supplying the third sheet to said pressure rollers; a fourth guide means for said second sheet and having a fourth outlet portion located in close proximity with said outlet portion of said guide member so that said pressure rollers superimpose portions of said second and third sheets, press the same against each other, and transport the same.

3,139,809

CARD SHINGLING DEVICE AND CLAMP THEREFOR

Howard T. Hodges, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 30, 1961, Ser. No. 85,799
14 Claims. (Cl. 95—85)



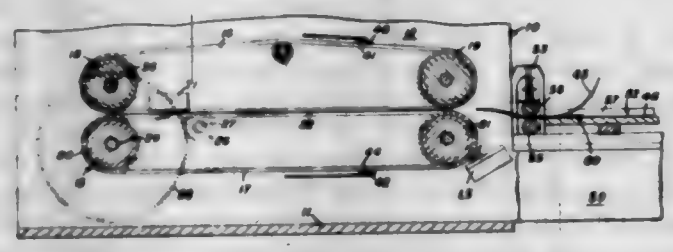
1. A clamp for gripping sheet material comprising a generally rectangular transversely bowed plate formed of resilient material and having a plurality of spaced ears which extend outwardly respectively from the opposed longitudinal edges thereof, the ears along one longitudinal edge of the plate being aligned with ears along the other longitudinal edge of the plate, and a plurality of blocks of yieldable, resilient material secured respectively to said ears on the concave side of said plate.

3,139,810

DIFFUSION TRANSFER APPARATUS WITH A COACTING BELT TRANSFER SYSTEM

George R. Tobin, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 14, 1962, Ser. No. 194,386
9 Claims. (Cl. 95—89)



8. In a diffusion transfer apparatus including drive means and a normally disengaged clutch, the combination comprising:

(*a*) conveyor means moved by said drive means upon engagement of said clutch, for supporting and moving (1) a negative sheet having a photosensitive surface and (2) a receiver sheet having an image receptive surface, from a reception station to a stripping station,

(*b*) means mounted on and movable with said conveyor means for receiving at said reception station one of the ends of each of said sheets with the photosensitive and image receptive surfaces thereof facing each other,

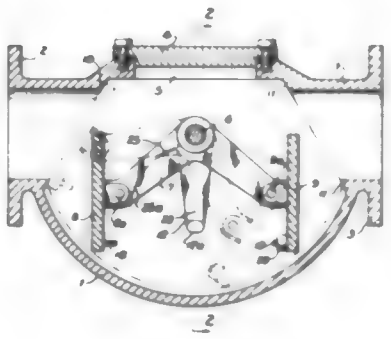
(*c*) timer means adapted to be preset for establishing a predetermined interval of time for image transfer from said negative sheet to said receiver sheet and, for engaging said clutch at the expiration of said predetermined interval of time, and

(*d*) transfer control means operable in response to movement of said receiving means, to a position between said reception station and said stripping station, for disengaging said clutch and for initiating operation of said timer means.

3,139,811
AIR DUCT VALVE FOR SHELTER

Helmut Sickel, Cologne-Hohenberg, and Paul Schierse and Günter Flanke, Lubeck, Germany, assignors to Ewers & Miesmer Hartgusswerk und Maschinenfabrik G.m.b.H., Lubeck, Germany

Filed Oct. 9, 1961, Ser. No. 143,884
Claims priority, application Germany Nov. 8, 1960
9 Claims. (Cl. 98—119)

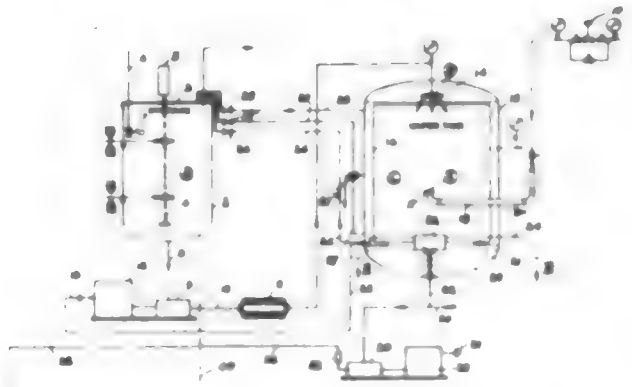


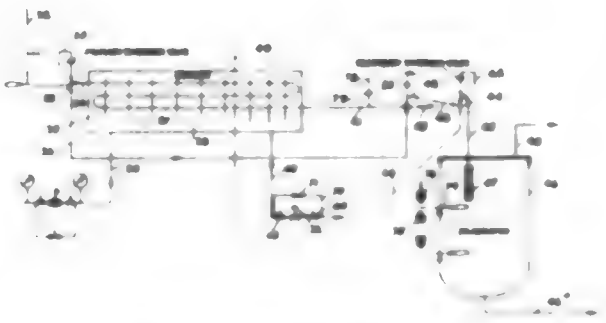
1. An air duct valve for a shelter comprising a symmetrical housing having two flanged open couplings in horizontal center line alignment with one another for inserting said housing into an air duct, and thus providing a straight-line air passage through said housing, two valve seats, one toward and one away from the shelter, respectively, positioned across said center line with each seat being located at the transition from said housing to one of said couplings, a shaft mounted in the central vertical plane of and horizontally transversing said housing and said air passage, a beam of balance pivotally supported at its center point on said shaft, said beam being bent so that its ends lie below the center line of said passageway, two valve heads, means for pivotally supporting said valve heads, respectively, in oppositely facing directions on each end, respectively, of said beam of balance, said beam of balance and said valve heads constituting a tiltable valve head device normally resting in balanced open position with said valve heads substantially vertical with respect to said straight-line air passage and partially projecting into said passage, said tiltable valve head device, upon an air blast striking the front face of one valve head as well as the rear side of the other valve head, being movable by said air blast in a direction whereby one valve head closes said air passage upon being seated on the valve seat toward the shelter, and said tiltable valve head device also being movable in the opposite direction by the suction following the air blast to seat said other valve head on the valve seat away from the shelter and thus protecting the shelter against shock waves resulting from a detonation.

3,139,812
METHOD OF AND APPARATUS FOR THE CONTINUOUS COOKING AND STERILIZATION OF LIQUIDS AND SUSPENSIONS

Richard A. Smith, Gibsonia, and Francis Wojnar, Cheswick, Pa., assignors to H. J. Heinz Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 23, 1958, Ser. No. 737,430
3 Claims. (Cl. 99—251)

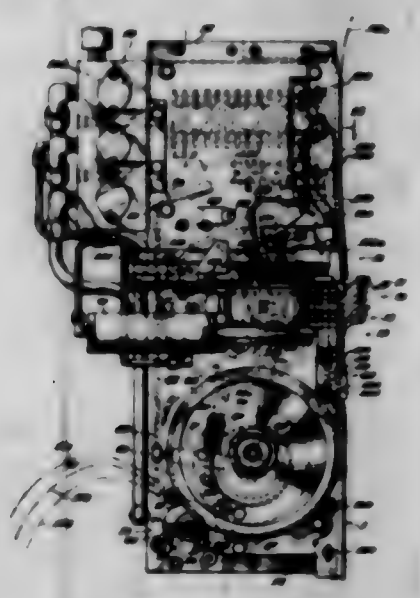




1. A cooking and sterilizing apparatus for liquid food products and food products comprising liquids with solids in suspension therein by a process involving the flash heating of the product in finely-dispersed condition in an atmosphere of steam, followed by holding the product at sterilizing pressure and temperature for a period of time and the subsequent rapid cooling of the product, said apparatus comprising a storage reservoir, a vapor chamber having a dispersing means therein for breaking up and dividing incoming product into dispersed streams, means for forcing the product to be cooked and sterilized under pressure from the storage reservoir to the dispersing means and into the chamber whereby it is discharged into the chamber from the dispersing means in dispersed streams, means for supplying to the interior of the chamber steam under pressure and at a temperature to raise the dispersed product to the required cooking and sterilizing temperature, a sump at the bottom of the vapor chamber into which the product and any condensate from the steam is collected, means for regulating said means for forcing product into the vapor chamber to maintain a controlled liquid level in said sump, a holding section of pipe leading from the sump, a pump connected into the holding section of pipe for moving product from the sump through the holding section, flow controlled means in the holding section for regulating the pump to maintain a constant flow rate through the holding section, an indirect cooler at the discharge end of the holding section into which the product flows from the holding section for reducing the temperature of the product to a predetermined level, a deaerator vessel, a pipe leading from the cooler to the deaerator vessel terminating in a flash nozzle in the deaerator vessel, a back pressure valve in the pipe between the indirect cooler and deaerator by which a controlled

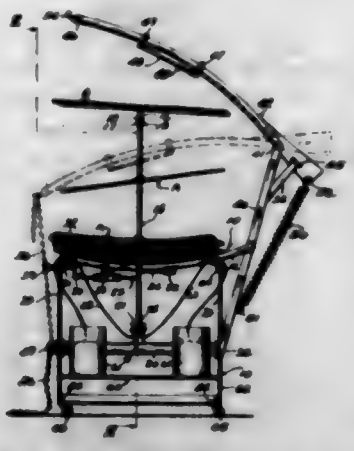
pressure may be maintained on the product in the apparatus between the vapor chamber and said back pressure valve, a primary diversion valve in the discharge end of the holding section and the entering end of the indirect cooler, a bypass leading from the diversion valve to the storage reservoir, said diversion valve selectively connecting the holding section to the indirect cooler or to the bypass, diversion valve operating means, temperature responsive sensing means near the entering end of the holding section controlling the primary diversion valve and its operating means to direct product below a predetermined temperature into the bypass and direct product at the predetermined temperature into the indirect cooler, a secondary diversion valve between the cooler and the deaerator for directing the flow of product from the indirect cooler to either the deaerator or to said bypass, and a second temperature responsive means located in the discharge end of the indirect cooler responsive to the temperature of the product leaving the indirect cooler for controlling the operation of the second diversion valve.

3,139,813
STRAPPING MACHINE
Marchand B. Hall, Olympia Fields, Willard E. Collins, Clarendon Hills, Robert F. Plattner, Chicago Heights, and Edward D. Finnegan, Jr., and Frank C. Weller, Chicago, Ill., assignors to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 2, 1961, Ser. No. 142,351
16 Claims. (Cl. 100—4)



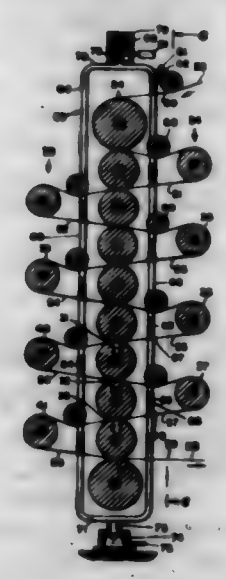
1. The combination in a strapping machine comprising, gripping means for gripping the leading end of a length of strap encircled into a strap loop about an object to be strapped with the leading end of the strap overlapping its supply end, tensioning means for withdrawing the supply end of the strap loop relative to the leading end of the strap loop while the gripping means holds the leading end stationary in order to shrink and tension the strap loop onto the object, joint forming means for forming a joint between the overlapping portions of the strap, said tensioning means having a rotary feed wheel and an idler wheel between which the strap passes while being tensioned, said rotary feed wheel supported on a shaft driven by a power means for tensioning, said idler wheel being mounted on an eccentric shaft which is so aligned relative to the rotary feed wheel that tension in the strap urges rotation of the eccentric shaft and thereby urges the idler wheel bodily toward the rotary feed wheel to increase the grip on the strap passed therebetween as strap tension increases, control means for controlling the operation of said joint forming means, said control means having a portion interconnected to said eccentric shaft providing movement of said portion in response to said rotation of the eccentric shaft as tension in the strap increases, the movement of said portion being sufficient to operate the control means and cause operation of the joint forming means.

3,139,814
DEVICE FOR BALING PAPER OR THE LIKE
Levett Sanders, South Milwaukee, Wis., assignor to Small Business Administration, Washington, D.C.
Filed Apr. 11, 1962, Ser. No. 186,790
13 Claims. (Cl. 100—34)



1. A scrap baling device comprising a table provided with a central opening, a spindle extending through the central opening and having a pointed upper end extending above said table, at least a pair of receptacles for string respectively located adjacent to opposite sides of said table, string extending from said receptacles over said table through the center opening and down to the lower end of said spindle, means on the lower end of said spindle to releasably retain the string ends, releasable clamp means below said table to engage said spindle, and a slotted lever mounted above said table and adapted to force paper over said spindle.

3,139,815
APPARATUS AND METHOD FOR PREVENTING WIND-UP ON ROLLS
Paul E. Du Bois, Central St., Rockport, Maine
Filed Aug. 15, 1962, Ser. No. 217,867
13 Claims. (Cl. 100—39)



1. The method of preventing wind-up on the nip-forming rolls of a calender stack having auxiliary rolls and

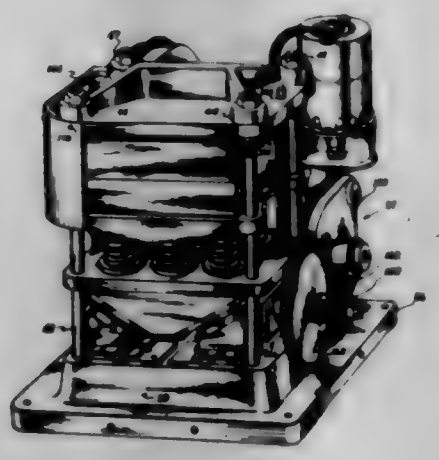
having unsupported, laterally extending web stretches looped around said rolls, said method comprising the steps of

automatically sensing a break occurring at any one of a plurality of spaced transverse locations extending across each one of said laterally extending stretches, just in advance of the nip into which said stretch feeds,

then substantially, instantaneously severing each of said stretches, at the break sensing locations thereon simultaneously, and

then deflecting the severed end of each said stretch away from the entrance of the nip into which said stretch normally feeds.

3,139,816
LAMINATING PRESS
Volney M. Jemison and Don H. Young, Phoenix, Ariz., assignors to Glasmoloid Corporation of America, Clifton, N.J., a corporation of New York
Filed Apr. 23, 1962, Ser. No. 189,440
21 Claims. (Cl. 100—51)



1. In a laminating press of the character described having a stationary platen,

(*a*) a movable platen adapted to be forced against the stationary platen in a laminating operation,

(*b*) a pressure plate assembly carrying said movable platen,

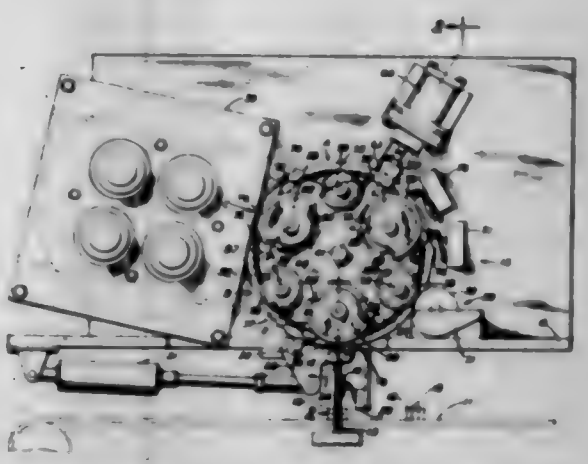
(*c*) said pressure plate assembly comprising a pair of pressure plates with compression means between them,

(*d*) power means for moving said pressure plate assembly in the direction of the fixed platen to apply pressure between said platens proportioned to the relative movement between said pressure plates and the compression of said compression means, and

(*e*) means sensing the compression of said compression means for discontinuing operation of said power means.

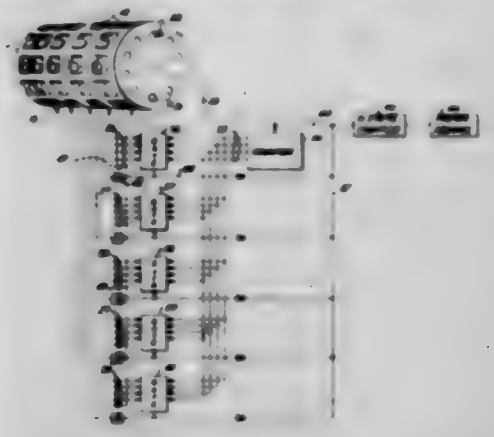
3,139,817
APPARATUS FOR MARKING ARTICLES
Raymond O. Terry, Jr., Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed Mar. 29, 1961, Ser. No. 99,125
11 Claims. (Cl. 101—37)

1. In an article marking mechanism, drive means having a unitary output and facilities for changing the speed of said unitary output, mark transfer means having a marking impression thereon, means driven by said unitary output operating at a first speed for advancing said mark transfer means to an article, means rendered effective by said advancing means for actuating said facilities to change the speed of said unitary output, and means rendered effective by said unitary output operating at a second speed



for actuating said transfer means to apply said impression to said article.

3,139,818
PRINTER
William A. Koehn, Pasadena, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Feb. 23, 1961, Ser. No. 91,179
3 Claims. (Cl. 101—93)

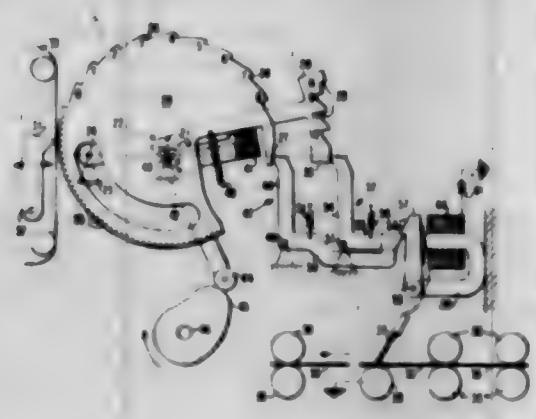


1. Printing mechanism comprising the combination of a type member having a plurality of type characters thereon, a plurality of impression devices associated with said type member for obtaining printing impressions of selected ones of said type characters, means for advancing said type member past said impression devices, means for guiding a record medium between said type member and said impression devices, a counter, said counter being adapted to fill upon reaching a count equal to the number of said impression devices, means for selectively actuating said impression devices, means for selectively presenting pulses indicating that certain of said impression devices are not to effect a printing impression, means responsive to operation of each of said last two mentioned means for actuating said counter, and means responsive to filling of said counter for advancing said record medium past said impression devices.

3,139,819
PRINTING UNIT
Fritz Hilpert, Boblingen, Germany, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 16, 1961, Ser. No. 96,186
Claims priority, application Germany Mar. 31, 1960
2 Claims. (Cl. 101—93)

1. In an apparatus having record analyzing means, a print mechanism operable in response to said analyzing

means comprising a pivotable lever, a type sector rotatably mounted on said lever, said type sector having a plurality of type elements arranged in predetermined groups, said type sector having field selection stops corresponding with said groups carried thereby and said lever having zone selection stops corresponding with the number of type elements in said groups, means for rotating said sector on said lever and for rotating said lever about its pivot,



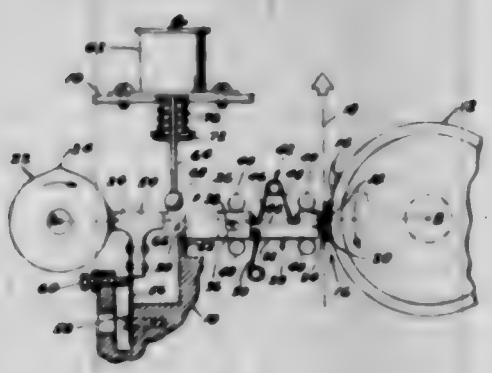
and means for selectively limiting the degree of rotation of said sector and said lever whereby a group and individual type elements therein are positioned at a print location, including first and second selectively operable selection members controllably operable by a control member electrically operable for respectively engaging said type sector and said lever upon successive electrical pulses from an indicia-bearing record or the like.

3,139,820

PRINT HAMMER MECHANISM

Milton J. Kittler, Bloomfield Hills, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan

Filed Oct. 16, 1961, Ser. No. 145,414
2 Claims. (Cl. 101—93)



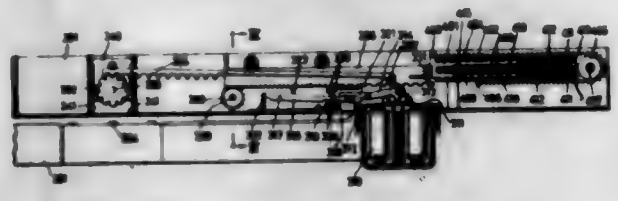
1. In a printer having a frame member, a rotating drum having characters formed thereon and a rotating cam, a print hammer mechanism adapted for actuation on a line between the axes of said cam and said drum, said hammer mechanism comprising a spring-mounted cam follower, a print hammer assembly spaced from said follower, a fixed stop intermediate said follower and said print hammer assembly, and an interposer device adapted to be at times positioned between said cam follower and said print hammer assembly, said print hammer assembly being guided for movement along said line of action and including first and second members connected by lost motion means, first spring means for urging said hammer assembly toward said cam and against said stop, and second spring means for urging said first and second members apart so as to take up said lost motion.

3,139,821

DEVICES FOR SETTING A NUMBER PRINTER BY MEANS OF A DATA TRANSMITTER

Nils Evert Fridolf Holmqvist, Malmo, Sweden, assignor to Aktiebolaget Addo, Malmo, Sweden, a corporation of Sweden

Filed Nov. 21, 1961, Ser. No. 153,935
6 Claims. (Cl. 101—93)



1. A data handling device comprising a data transmitter and a data receiver, said transmitter having a plurality of denominal orders, said receiver having a plurality of denominal orders, the number of said denominal orders in said transmitter being the same as the number of said denominal orders in said receiver, a plurality of movable transmitter contact devices in said transmitter, one for each of said denominal orders, a plurality of digit transmitter contacts in said transmitter, an operating mechanism in said transmitter coupled with said transmitter contact devices for selectively placing a transmitter contact device for each of said denominal orders of said transmitter in electric contact with one of said digit transmitter contacts to represent a selected data to be transmitted to the corresponding denominal order of said receiver, a plurality of digit receiver contacts in said receiver, means individually electrically connecting the corresponding digit transmitter and receiver contacts, a plurality of digit representation means in said receiver one for each of said denominal orders and each being movable through a plurality of setting positions, each position representing one of the digits to be received from the corresponding denominal order of said transmitter, a setting mechanism coupled to said digit representation means for moving each of said digit representation means individually, movable receiver contact means in said receiver coupled to said setting mechanism and shiftable by means of said setting mechanism in a scanning course into electrical contact with said digit receiver contacts in sequence, a plurality of electrically energizable locking means in said receiver, one for each of said denominal orders of said receiver and engageable with said digit representation means for locking said digit representation means corresponding to the same denominal order of said receiver in one of its setting positions during the movement of said digit representation means by means of said setting mechanism when said locking means are energized, electricity source means, means electrically connecting the respective locking means for each of said denominal orders of said receiver individually in series between said transmitter contact device in the corresponding denominal order of said transmitter and one terminal of said electricity source means, and connection means electrically connecting the other terminal of said electricity source means with said receiver contact means.

3,139,822

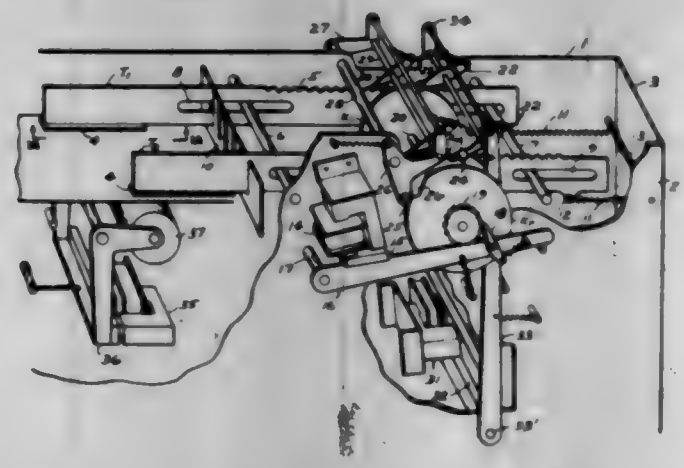
LINE PRINTER

John Erik Ljungberg, Solna, Sweden, assignor to Aktiebolaget Atvidabergs Industrier, Atvidaberg, Sweden, a joint-stock company of Sweden

Filed Nov. 1, 1962, Ser. No. 234,630
Claims priority, application Sweden Dec. 2, 1961
4 Claims. (Cl. 101—93)

1. A line printer for line-printing bits of intelligence stored in an electronic register including circuit means for generating successive indexing pulse trains, each being

indicative of a bit of intelligence to be printed in a line and circuit means for generating between each two indexing pulse trains a selecting pulse indicative of the positions of the bits of intelligence in the line, said line printer comprising a plurality of lengthwise displaceable intelligence carriers, each carrying a row of bits of intelligence to be printed and each having a toothed portion, selecting means to select a carrier to be displaced, and bit-indexing means to select for printing one of the bits on the carrier selected by the carrier-selecting means, said carrier selecting means comprising a plurality of cam discs each associated with one carrier and each having an indexing notch, the indexing notches in the cam discs being staggered in reference to each other, a common shaft mounting said cam discs for rotation in unison with the shaft, and disc stepping means coacting with said shaft, said disc stepping means being controlled by



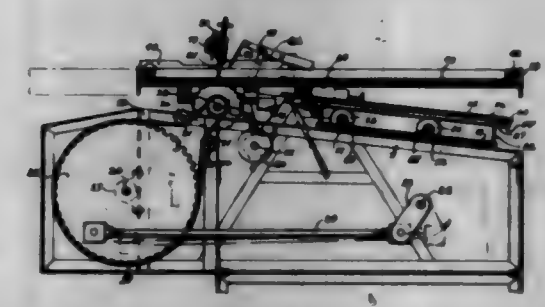
said selecting pulses and controlling said shaft to rotate the same through one step in response to each selecting pulse to place the indexing notch of a selected cam disc in a predetermined angular position, and said indexing means including a plurality of movable cam followers, one for each cam disc and intelligence carrier, each of said cam followers having a pawl simultaneously engaging the teeth of the respective intelligence carrier and the indexing notch of the associated cam disc when the indexing notch is rotated into said predetermined angular position by said disc stepping means, and carrier stepping means controlled by the indexing pulses and controlling said cam followers to actuate the same in accordance with the number of pulses in a pulse train to displace the respective carrier from an inactive position to a position corresponding to said number, thereby placing a selected bit of intelligence on a selected intelligence carrier in position for printing.

3,139,823

SCREEN PRINTING MACHINE

Eugene Landesman, 516 East Drive, University City, Mo.

Filed Nov. 16, 1961, Ser. No. 151,571
9 Claims. (Cl. 101—124)



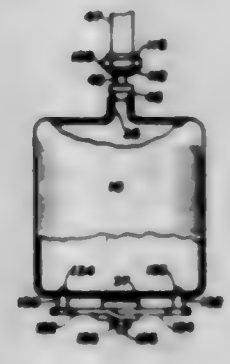
1. A screen printing machine comprising a main frame, a shaft mounted for rotation on said main frame and extending transversely thereof, a work supporting cylinder carried on said shaft, means for driving said shaft alternatingly in one direction of rotation and then in the other, a screen frame mounting a screen disposed in overlying relationship to said cylinder for presenting said screen in contiguity thereto, a squeegee positioned above said screen and cylinder, work-feeding means for feeding a work piece for engagement between said cylinder and screen means for causing reciprocal movement of said work-feeding means toward and away from said cylinder, latch means for effecting intereagagement between said screen frame and said work feeding means, and means for effecting reciprocal travel of said screen frame relative to said cylinder.

3,139,824

SILK SCREEN PRINTING APPARATUS

Charles H. Demrichson, Chicago, Ill., assignor to The American Screen Process Equipment Co., Chicago, Ill., a corporation of Illinois

Filed Apr. 18, 1962, Ser. No. 188,306
14 Claims. (Cl. 101—124)



1. In a silk screen printing apparatus for printing bottles comprising a movable silk screen stencil and squeegee means associated therewith, means for supporting bottles in position adjacent the stencil for printing, and rotary supporting means for lifting individual bottles into contact with said stencil and moving each bottle in coordination with movement of said stencil to print on the peripheral surface of the bottle, each of said bottles having an opening at one end and a base at the opposite end having first and second depressions spaced along a diameter of the bottle; the improvement in said rotary supporting means which comprises first and second supporting members engageable with opposite ends of a bottle positioned therebetween, said first supporting member comprising a movable member having a conical face engageable with the opening of the bottle, said second supporting member comprising a rotatable chuck having first and second supporting points engageable with said first and second depressions in said bottle, and said first and second supporting members being operable to engage opposite ends of a bottle positioned therebetween and to lift said bottle away from said first named supporting means and upon rotation of said chuck to rotate said bottle.

3,139,825

METHOD FOR PREVENTING SILICON DIOXIDE CONTAMINATION OF LITHOGRAPHIC PRINTING MASTERS

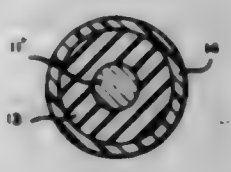
Lewis T. Connolly and Paul F. Swift, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 5, 1962, Ser. No. 185,220
5 Claims. (Cl. 101—149.2)

1. A process for treating a lithographic printing master having superposed thereon a gelatin printing image which comprises treating said gelatin image with an aqueous

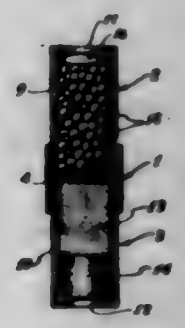
solution containing a water-soluble condensation product of resorcinol and 2-furaldehyde.

3,139,826
INKING ROLLER FOR PRINTING MACHINES
Claude H. Rainwater, Nowata, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 19, 1961, Ser. No. 118,015
23 Claims. (Cl. 101—348)



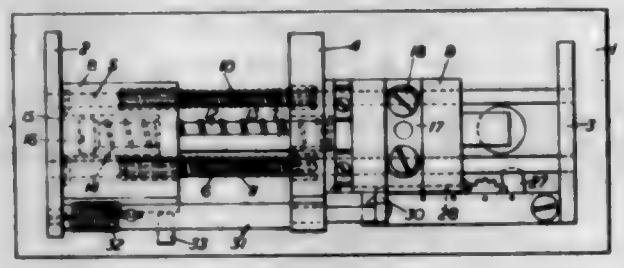
1. In a printing machine, an inking roller comprising a shaft having a cylindrical covering surface mounted concentrically on and along at least a portion thereof, said covering surface being characterized by freedom from glazing and consisting essentially of a normally solid polymer of a 1-olefin hydrocarbon having from 2 to 4 carbon atoms per molecule.

3,139,827
TYPE OF CARTRIDGE FOR FIRE WEAPONS
Hector Mundaca Orozco, Bartolache 1914, Mexico City, Mexico
Filed Nov. 21, 1962, Ser. No. 240,202
3 Claims. (Cl. 102—38)



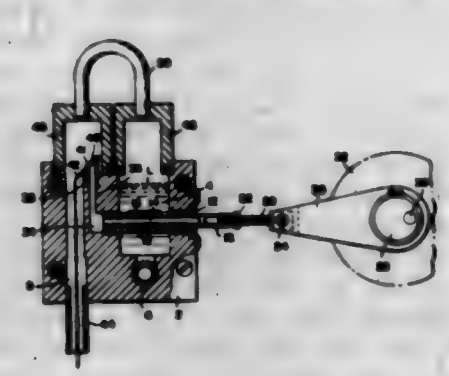
1. A cartridge suitable for carrying all the elements for loading a muzzle loading type of weapon, compriaing an open ended cap having a blind plate located axially at the center of said cap, said cap having two mouths provided with threads, two containers of cylindrical shape and each having a bored bottom wall whose opening is of such diameter as to receive and pass a ram therethrough, said walls forming annular shoulders about said openings, one of said containers being loaded with a charge of powder and a thick cylindrical plug bearing against the bottom wall thereof and covering the opening provided therein, the powder charge being held within the container by means of said plug and said cap and said other of said containers being loaded with a charge of lead shots of a preselected size and a thin plug bearing against the bottom thereof and covering the opening provided therein, the shot charge being held within said other container by means of said thin plug and said cap, whereby each one of said containers may be unscrewed from the said cap individually and emptied into a counterbore provided at the mouth of a gun barrel, the powder being loaded first, followed by said thick plug, and the shots being loaded thereafter, followed by said thin plug, the cartridge being reloadable and reuseable any desired number of times.

3,139,828
INERTIA RESPONSIVE FUZE
John Delaney, Oldham, and Victor Hallsworth, Ashton under Lyne, England, assignors to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
Filed Mar. 7, 1963, Ser. No. 263,528
Claims priority, application Great Britain Mar. 8, 1962
6 Claims. (Cl. 102—78)



1. A missile fuze arming device including a base adapted to be fixed with respect to the missile, a weight mounted on said base for longitudinal slidable movement relative thereto parallel to the accelerational axis of the missile from a safe position to an arming position, biassing means for biassing said weight to said safe position, a detonator carrier mounted on said base for longitudinal slidable movement relative thereto parallel to the accelerational axis of the missile from a safe position to an armed position, a barrier fixed with respect to said base between said weight and said detonator carrier for preventing direct mechanical contact between said weight and said detonator carrier, resilient coupling means passing through said barrier for resiliently coupling said weight to said detonator carrier irrespective of the direction of movement of said weight, delay means for controlling the rate of longitudinal movement of said detonator carrier, stop means mounted on said base and cooperating with both said weight and said detonator carrier, said stop means having a first position, in which said weight and said detonator carrier are both free to move, and a second position, in which said weight is prevented by said stop means from returning to its safe position and said detonator carrier is still free to move, and means operable to move said stop means from said first position to said second position when said weight is in its arming position and said detonator carrier has moved to a predetermined position intermediate its safe and armed positions.

3,139,829
PUMP
Nyyrikki K. Stenberg, Roslyn, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed June 1, 1961, Ser. No. 114,188
1 Claim. (Cl. 103—37)



Pumping means for the delivery of small quantities of liquid comprising means providing a reservoir for the liquid to be delivered, a cylinder having a port providing continuous liquid communication between the reservoir

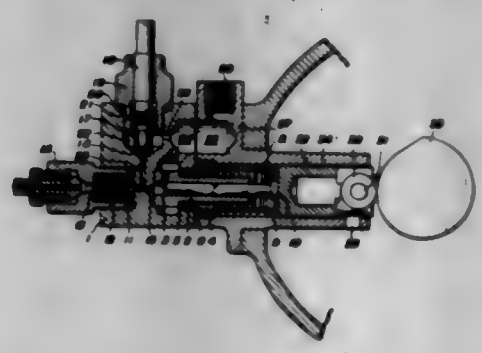
and the cylinder, means providing an upright passage communicating at a lower portion thereof with said cylinder and having at an upper portion thereof a discharge opening at a level above that of liquid in said reservoir, a piston in said cylinder, means reciprocating said piston, said means effecting in a working stroke of the piston, cutting off of said port and then displacement of liquid in said cylinder and upwardly in said upright passage to the discharge opening thereof, and a wick transverse said discharge opening above the level of liquid in said reservoir to absorb a small quantity of upwardly displaced liquid and conduct the same gradually to a point of utilization during periods between working strokes of the piston, said wick being out of contact with liquid in said upright passage except during the upright displacement thereof during working strokes of the piston.

3,139,830

FUEL INJECTION PUMP FOR DIESEL ENGINES

Toshio Umezawa, 478-8 Ozza Tobushi, Ibaragi-shi, Osaka, Japan

Filed June 5, 1963, Ser. No. 295,575
3 Claims. (Cl. 103—42)



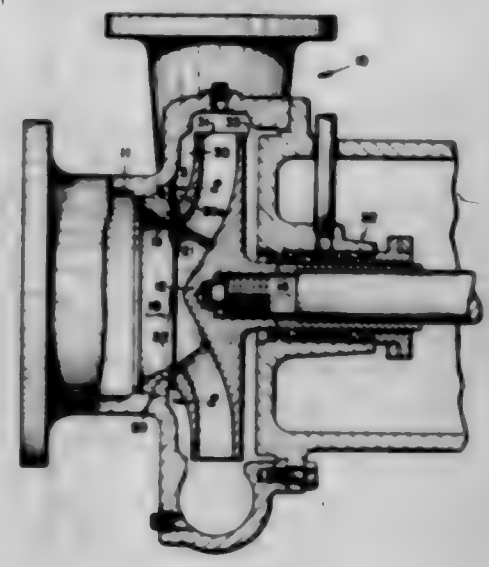
1. A fuel injection pump for a diesel engine comprising a pump body, a barrel supported in said body, said barrel being provided with a bore, a plunger slidably supported in said bore for providing suction and compression strokes in said bore, a freely open passageway being provided in the wall of said barrel at a location at which the plunger passes beyond said passageway during said suction stroke to open said passageway while during said compression stroke the plunger closes said passageway, said passageway being in communication with said bore for permitting fuel to flow into said bore during the suction stroke of said plunger, said pump body being provided with a fuel delivery passageway which extends from said bore, valve means in the fuel delivery passageway for controlling discharge of fuel from said fuel delivery passageway, said plunger, during said compression stroke, exerting pressure on fuel in said bore and said fuel delivery passage to open said valve means to permit discharge of said fuel from said fuel delivery passageway, said body being provided with an excess fuel passageway coupled to said fuel delivery passageway and with a chamber in communication with said excess fuel passageway to permit excess fuel in said fuel delivery passageway to be delivered to said chamber, said body being provided with a fuel inlet passageway opening into said chamber, said chamber being of substantial size relative to the freely open and excess fuel passageways to reduce the pressure of said excess fuel delivered to said chamber, said chamber being in communication with the first said passageway whereby said excess fuel is delivered at reduced pressure to said bore during said suction stroke, and a control valve operatively disposed between said chamber and said excess fuel passageway for regulating communication therebetween, said excess fuel passageway extending perpendicularly away from said fuel delivery passageway, said body being provided with a further chamber and further passage connecting the excess fuel passageway to the first said chamber, said control valve being located in said further chamber, said further passage being parallel to said fuel delivery passageway.

3,139,831

SELF-CLEANING WEARING RING FOR CENTRIFUGAL PUMP PUMPING MIXTURE OF LIQUID AND SOLID

Henry M. Pollak, New York, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 28, 1962, Ser. No. 219,991
1 Claim. (Cl. 103—103)



A nonclogging centrifugal pump for pumping a mixture of solid particles immersive in a fluid, said pump comprising a casing having a central intake side and a peripherally discharge, an impeller within said pump casing having axially spaced front nad rear shrouds, said front shroud having a central intake opening therein communicating with the central intake of the pump casing, a wear ring encircling the central intake, said wear ring having a surface disposed in a plane normal to the axis of the impeller, said surface having radially extending grooves therein of narrow width, said front shroud having an end surface terminating in a plane normal to the axis of the impeller in opposed relation with the said surface of said wear ring, and co-operating with said wear ring to define a pocket therebetween, said wear ring surface and said end surface of said impeller defining an annular open groove whereby pressure fluid from the discharge side of the impeller flows between the intake side of the casing and the front shroud directly through said annular groove to the central intake, said grooves in said wear ring constitute shearing surfaces that cooperate with the aforesaid end surface of the impeller to entrain solids in said pocket and reduce and guide the same into the central intake of the pump.

3,139,832

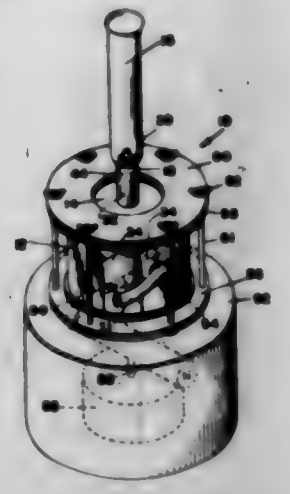
CENTRIFUGAL ENCLOSED INERT PUMP

Alan P. Saunders, Havertown, Pa.
(6 Dalston Gardens, Stanmore, Middlesex, England)

Filed July 24, 1963, Ser. No. 297,433
16 Claims. (Cl. 103—103)

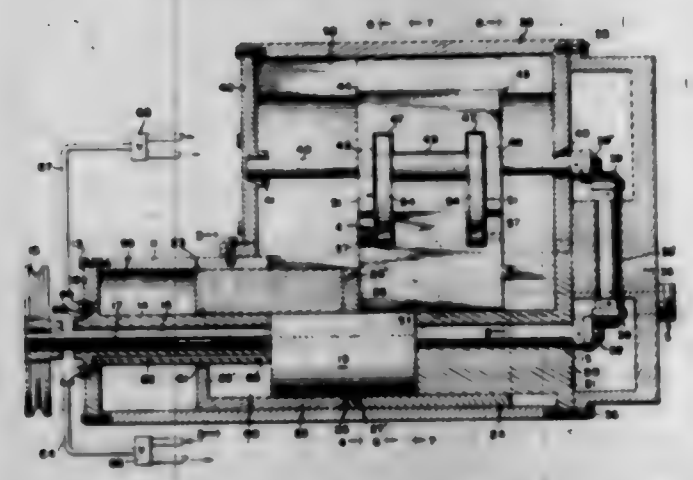
1. A centrifugal pump comprising a glass chamber having an annular wall, a fluid-outlet tube extending tangentially therefrom, an upper wall and a fluid-inlet tube extending vertically therefrom, a rotary glass impeller comprised of crossed tubes in a generally horizontal plane, an impeller-inlet tube at the position of juncture of said crossed tubes extending vertically therefrom and into said fluid-inlet tube and a protuberance depending from said crossed tubes opposite said impeller-inlet tube, a magnet, means removably retaining said magnet in one of

said crossed tubes, a first tubular bearing made of a material which is substantially alkali and acid resistant, is elastic and has a low coefficient of friction interposed between said fluid-inlet and impeller-inlet tubes and a second bearing receiving said protuberance and made of a material which is substantially alkali and acid resistant,



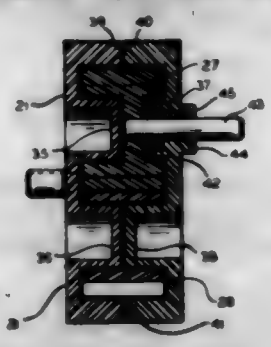
is elastic and has a low coefficient of friction, means to removably clamp said second bearing in place and to seal said chamber so that fluid passing therethrough will contact only glass and said bearing material, and a motor driven magnet adjacent to and beneath said chamber to effect rotation of said impeller.

3,139,833
ROTARY PUMP
Karl F. Ehrlich, Washington, D.C.
(P.O. Box 74, Fort Bragg, N.C.)
Filed July 27, 1959, Ser. No. 829,713
4 Claims. (Cl. 103—120)



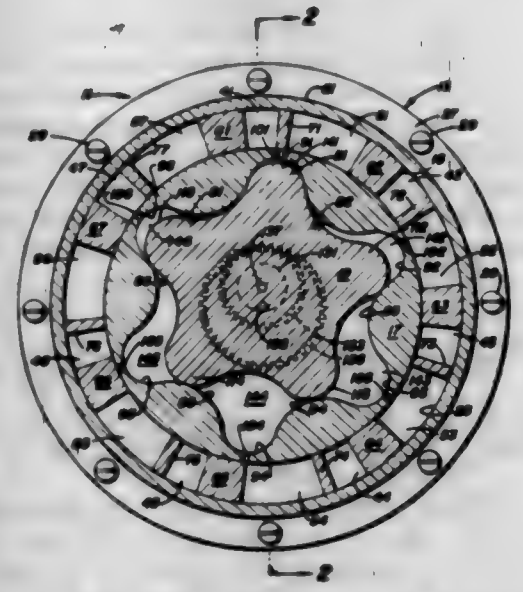
1. A rotary pump comprising a cylindrical pump housing having a central bore, head plates for closing the ends of said pump housing, one of said head plates having inlet and outlet ports extending therethrough in communication with the central bore, a rotor shaft extending through said pump housing, a rotor housing within the central bore of said pump housing, said rotor housing having a longitudinal eccentric bore through which said rotor shaft passes, a rotor eccentrically fixed to said rotor shaft and lying partially within the eccentric bore of said rotor housing proximate the inlet and outlet ports, a stator having a longitudinal slot mounted within the pump housing, one end of said stator being connected to said rotor housing, the stator being provided with a central bore in communication with said inlet and outlet ports, into which bore a portion of said rotor extends, that portion of the central bore of the stator between the adjacent head plates having inlet and outlet ports, the rotor housing and the rotor forming a pumping chamber, means for rotating said rotor shaft, rotor housing and rotor to effect sweeping engagement of the latter with the peripheral wall of the stator, a movable wall member extending through the longitudinal slot in said stator and into the pumping chamber between the inlet and outlet ports, the lower terminal of said movable wall member being in constant engagement with the outer periphery of said rotor, and means connected to said wall member independent of said rotor for moving said wall member vertically in synchronism with said rotor.

3,139,834
GEAR PUMP ASSEMBLY
Oscar C. Blomgren and Oscar C. Blomgren, Jr., North Chicago, Ill., assignors to Coy Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed July 13, 1960, Ser. No. 42,573
16 Claims. (Cl. 103—126)



3. A gear pump assembly including a plurality of housing sections cooperatively defining a drive gear cavity, an idler gear cavity and fluid inlet and outlet spaces, a drive gear and an idler gear each having an internal cylindrical bearing wall, generally cylindrical and hollow bearing bosses projecting into said drive gear cavity and idler gear cavity from at least one of said sections, the internal wall of said drive gear being journalled on the bearing boss in said drive gear cavity and the internal wall of said idler gear being journalled and supported on the bearing boss in said idler gear cavity, movement of said idler gear in a direction parallel to the rotary axis thereof being restricted by contact with the housing sections.

3,139,835
ROTARY PUMP OR MOTOR
William H. Wilkinson, Columbus, Ohio, assignor, by mesne assignments, to Davey Compressor Company, Kent, Ohio, a corporation of Ohio
Filed Aug. 15, 1962, Ser. No. 217,046
23 Claims. (Cl. 103—126)

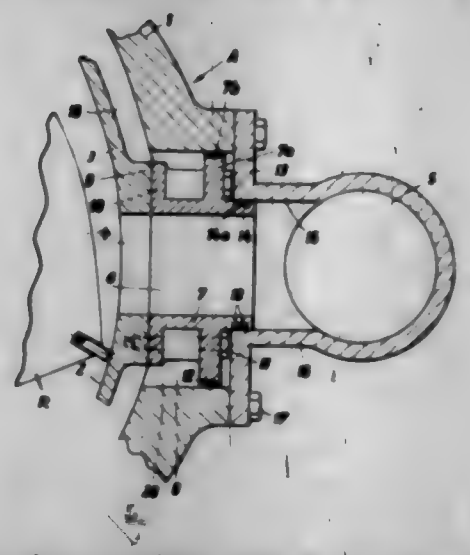


1. In a rotary pump or motor, the combination of: (*a*) a rotary gear element;

(*b*) an internal ring gear element meshing therewith to form varying sized chambers between the outer periphery of said rotary gear element and the inner surface of said internal ring gear element;

(*c*) a porting construction comprising a communication means between successive teeth of said internal ring gear element, said communication means communicating between the inner surface and the periphery of said internal ring gear element, an annular ring contacting the periphery of said internal ring gear element, a plurality of discharge ports and a plurality of intake ports, said discharge ports being alternately arranged with said intake ports in said annular ring, and means on said annular ring for positioning a discharge port in communication with each said communication means on decrease in size of said varying sized chambers and for positioning an intake port in communication with each said communication means on increase in size of said varying sized chambers.

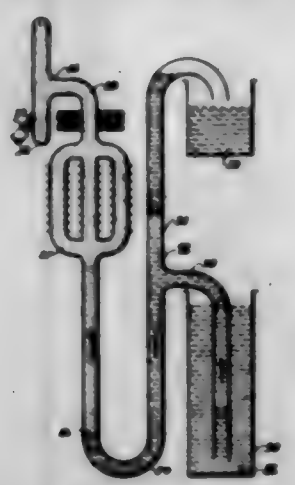
3,139,836
ROTARY PISTON MACHINE
Georg Jungblath, Cologne-Deutz, Germany, assignor to Klöckner-Humboldt-Deutz Aktiengesellschaft, Cologne, Germany
Filed Mar. 4, 1963, Ser. No. 263,991
Claims priority, application Germany Mar. 3, 1962
3 Claims. (Cl. 103—202)



1. A rotary piston machine which includes a rotor and an outer body comprising a housing member and a bushing arranged within said housing member and provided with an inner surface for cooperation with said rotor, said bushing having passage means therein for the passage of a fluid medium therethrough, said housing member being provided with a bore, conduit means connected to said bushing and confining a conduit communicating with said passage means, and manifold means mounted on and connected to said housing member, said conduit means having a peripheral portion sealingly engaging said bore and also having an extension freely expandably extending into and engaging said manifold means.

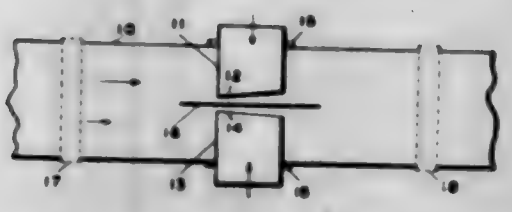
3,139,837
FLUID PISTON ENGINE AND METHOD OF OPERATING SAME
Levi Ybarr, 300 W. Alameda, Tucson, Ariz.
Filed Oct. 14, 1959, Ser. No. 846,451
1 Claim. (Cl. 103—255)

In a fluid piston engine, an inverted U-tube comprising a generator adapted to have heat continuously applied thereto, a condenser placed above said generator, a tube defining a U connecting one leg of said inverted U-tube generator to a bottom portion of said condenser, a second tube defining a U connecting the other leg of said generator to said condenser at a point above its said bottom, a second U-tube comprising a power transmitting portion, having one leg connected to a mid point of said first mentioned U-shaped tube, and a second leg connected to a tube forming part of a pump, and a pump



comprising said tube to which said second leg is connected, and having a pump outlet, a side tube, and check valves in said side tube and pump outlet, said second mentioned U-tube being filled with a liquid different from the liquid in the generator, and forming a power transmitting portion for operation of said pump.

3,139,838
SUCTION PUMP MEANS HAVING OPPOSITE SUCTION TUBES WITH TRANSVERSAL AND PERIPHERAL OPENINGS
Georg S. Mittelstaedt, 274 73rd St., Brooklyn, N.Y.
Filed Feb. 26, 1962, Ser. No. 175,453
11 Claims. (Cl. 103—262)

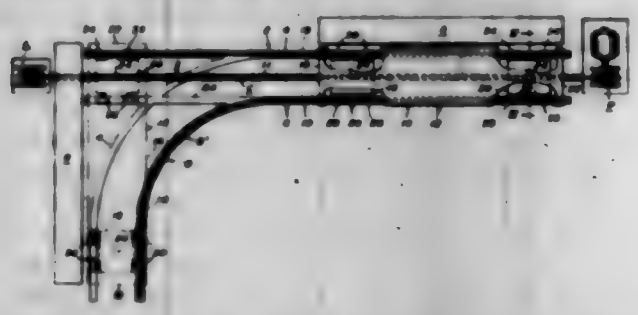


1. Suction pump means comprising a flow tube of the straight line wall type, a flat body midway in the flow tube facing the tube wall, and opposite, open-ended suction tubes with slanted inner ends extending partly across the flow tube toward opposite sides of said flat body and terminating in spaced relation thereto, the upstream sides of the suction tubes as related to flow passage through the flow tube extending further into the flow tube than the downstream sides.

3,139,839
TRANSFER APPARATUS SYSTEM
James E. Ashworth, Palo Alto, Calif., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 11, 1962, Ser. No. 243,937
1 Claim. (Cl. 104—130)

A transfer apparatus system comprising a trackway consisting of a pair of spaced parallel straight rails, one of said rails having a groove in the upper surface thereof extending along its full length, the other one of said rails having a grooved upper surface extending along a portion of its length and a smooth upper surface along the remainder of its length, a car mounted for movement along said trackway, means for propelling said car along said trackway, said car including a pair of freely-swiveling wheel trucks, one at the forward end of said car and one at the rearward end thereof, a wheel axle disposed

transversely in each of said trucks, a flanged wheel on one end and a wheel having a cylindrical tread surface on the other end of each of said axles, a spur branching from said trackway adjacent one end thereof, one of the rails of said spur extending from the grooved portion of said other one of said rails of said trackway and having a groove in its upper surface extending along the length thereof, the other rail of said spur having a smooth upper surface, said remainder of said other one of said rails of said trackway extending beyond said one of the rails of said spur and across the other one of said rails of the spur, the flanged wheel of said forward truck running first along said grooved portion of said other one of said rails of said trackway and then along the grooved rail of said spur with its flange received in the grooves thereof and



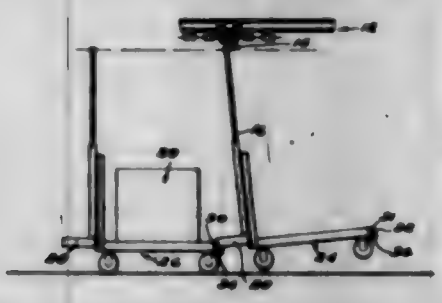
said other wheel of said forward truck running first along said one of said rails of said trackway with its cylindrical tread surface overlying the groove therein and then along said other one of said rails of said spur as said car is propelled along said trackway from the end thereof remote from its said one end, said flanged wheel of said rearward truck running along said one of said rails of said trackway with its flange received in the groove thereof and the other wheel of said rearward truck running first along said grooved portion of said other one of said rails of said trackway with its cylindrical tread surface overlying the groove therein and then along said remainder of said other one of said rails of said trackway as said car is propelled along said trackway from the end thereof remote from its said one end.

3,139,840

BUMPER CONSTRUCTION FOR TOW MAST FLOOR TRUCKS

Clarence A. Delme, Garden City, Mich., assignor to Jervis B. Webb Company, Detroit, Mich., a corporation of Michigan

Filed Nov. 13, 1962, Ser. No. 237,017
5 Claims. (Cl. 104—172)



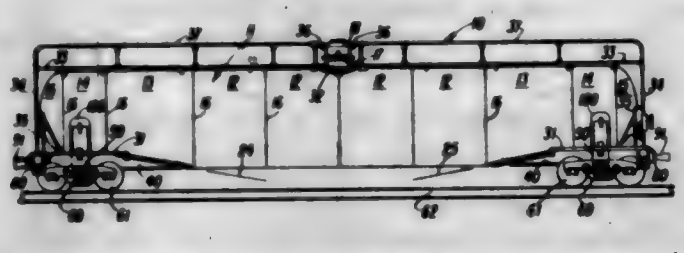
1. In a floor truck tow line system wherein wheeled floor trucks each having an upwardly extending tow mast are driven by pusher members of an overhead tow line and wherein a driven floor truck is employed to push one or more preceding non-driven floor trucks onto a spur line, means for increasing the driving force transmissable from the tow line through a driven floor truck comprising a bumper member secured to the front of the driven truck and projecting forwardly of the base of the tow mast thereof, a bumper surface on the rear of a non-driven truck for pushing engagement by the bumper member of the driven truck, and a ledge member rigidly carried by the non-driven truck and projecting rearwardly of and below the bumper surface thereof and slightly below the level of the bumper member of the driven truck whereby, upon pushing engagement between the driven truck and a preceding non-driven truck, any rearing up movement of the driven truck will result in a pivoting of the driven truck about its bumper member on the ledge member of the non-driven truck and an upward movement of the driven truck tow mast.

3,139,841

RAILWAY TANK CARS

John F. Krause, Jr., Munster, Ind., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Apr. 28, 1961, Ser. No. 106,256
4 Claims. (Cl. 105—369)



1. A railway tank car comprising a longitudinal extending tubular body shell defining independently of other structural elements a complete fluid-tight enclosure, said body shell being of self-supporting rigid construction including a substantially cylindrical central section of relatively large diameter and a pair of generally frusto-conical intermediate transition sections and a pair of substantially cylindrical end sections of relatively small diameter and a pair of end heads, the inner ends of said intermeditae transition sections being respectively joined to the opposite outer ends of said central section and the outer ends of said intermediate transition sections being respectively joined to the opposite inner ends of said end sections and said end heads being respectively joined to the outer ends of said end sections, the top of said central section and the tops of said intermediate transition sections and the tops of said end sections being disposed in a substantially horizontal upper plane, the bottom of said central section being disposed in a substantially horizontal lower plane and the bottoms of said end sections being disposed in a substantially horizontal intermediate plane and the bottoms of said intermediate transition sections being respectively disposed in two other planes generally upwardly and oppositely outwardly inclined from said lower plane, whereby said body shell is of fish-belly configuration, a pair of longitudinally aligned stub draft sills respectively arranged adjacent to the opposite ends of said body shell and respectively provided with hollow outer ends adapted respectively to receive a pair of draft gears, the intermediate portions of said stub draft sills being respectively arranged below said end sections and the inner ends of said stub draft sills being respectively arranged below said intermediate transition sections, a pair of reinforcing plates respectively rigidly connected to the upwardly and outwardly inclined bottoms of said intermediate transition sections, the inner ends of said stub draft sills being respectively rigidly connected to the respectively adjacent ones of said reinforcing plates, a pair of saddle plates respectively arranged below said end sections and respectively embracing the respectively adjacent lower portions thereof and respectively rigidly connected thereto, a pair of laterally extending body bolsters respectively rigidly connected to the intermediate portions of said stub draft sills and a pair of pedestal structures respectively rigidly connecting said body bolsters and the respectively adjacent lower portions of said saddle plates,

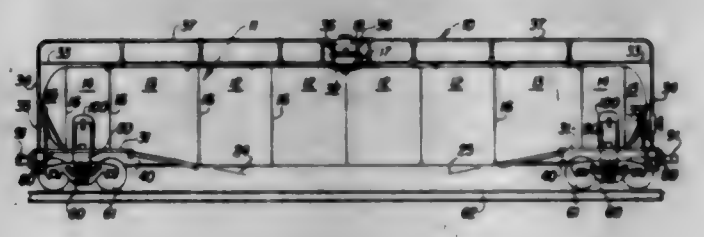
said body shell constituting the only connection between said stub draft sills for the transmission of the total draft force therebetween, said stub draft sills being located principally between said lower and intermediate planes so that the major fraction of the total draft force exerted between said stub draft sills is applied from the inner ends of said stub draft sills through said reinforcing plates to said intermediate transition sections and well above said lower plane and so that the minor fraction of the total draft force exerted between said stub draft sills is applied from the intermediate portions of said stub draft sills through said body bolsters and said pedestal structures and said saddle plates to said end sections, thereby to minimize rotational draft torques between said stub draft sills and said body shell.

3,139,842

RAILWAY TANK CARS

Stuart H. Moyes, Griffith, Ind., and William A. Taylor, Midlothian, Ill., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed June 23, 1961, Ser. No. 119,168
3 Claims. (Cl. 105—360)



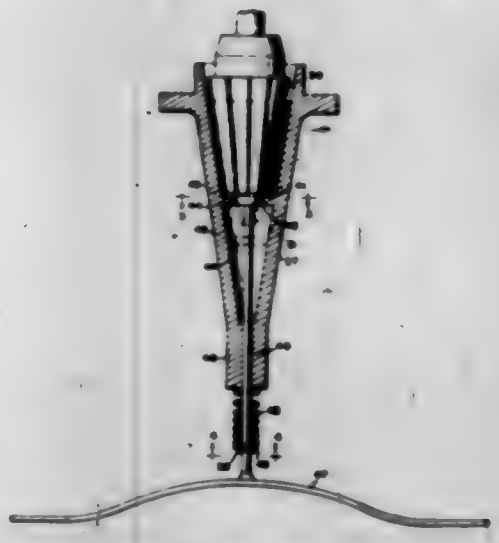
1. A railway tank car comprising a longitudinally extending tubular body shell and defining independently of other structural elements a complete fluid-tight enclosure, said body shell being of self-supporting rigid construction including a substantially cylindrical central section of relatively large diameter and a pair of generally frusto-conical intermediate transition sections and a pair of substantially cylindrical end sections of relatively small diameter and a pair of end heads, the inner ends of said intermediate transition sections being respectively joined to the opposite outer ends of said central section and the outer ends of said intermediate transition sections being respectively joined to the opposite inner end of said end sections and said end heads being respectively joined to the outer ends of said end sections, the top of said central section and the tops of said intermediate transition sections and the tops of said end sections being disposed in a substantially horizontal upper plane, the bottom of said central section being disposed in a substantially horizontal lower plane and the bottoms of said end sections being disposed in a substantially horizontal intermediate plane and the bottoms of said intermediate transition sections being respectively disposed in two other planes generally upwardly and oppositely outwardly inclined from said lower plane, whereby said body shell is of fish-belly configuration, a pair of longitudinally aligned stub draft sills respectively arranged adjacent to the opposite ends of said body shell and respectively provided with hollow outer ends adapted respectively to receive a pair of draft gears, the intermediate portions of said stub draft sills being respectively arranged below said end sections and the inner ends of said stub draft sills extending toward said intermediate transition sections, a pair of reinforcing plates respectively rigidly connected to the upwardly and outwardly inclined bottoms of said intermediate transition sections, the inner ends of said stub draft sills being respectively rigidly connected to the respectively adjacent ones of said reinforcing plates, said body shell constituting the only connection between said stub draft sills for the transmission of the total draft force therebetween, a pair of laterally extending body bolsters respectively rigidly connected to the intermediate portions of said stub draft sills, a pair of pedestal structures respectively arranged below the lower portions of said end sections and respectively rigidly connected thereto and respectively disposed in superimposed relation with respect to said body bolsters, each of said body bolsters including a top plate, each of said pedestal structures including a bottom plate, the bottom plate of each of said pedestal structures being supported upon the top plate of the adjacent one of said body bolsters for ready longitudinal sliding movement with respect thereto, means resiliently urging together the top plates of said body bolsters and the associated bottom plates of said pedestal structures, and a pair of connectors respectively connecting together the top plates of said body bolsters and the associated bottom plates of said pedestal structures, said connectors respectively including means accommodating limited relative longitudinal sliding movements between said top plates and the associated ones of said bottom plates thereby to accommodate substantial longitudinal expansion and contraction of said end sections with respect to each other and to the respective ones of said draft sills while being resiliently urged together by said resilient means without the creation of any substantial shear stresses in said pedestal structures and preventing any substantial lateral movements between said top plates and the adjacent ones of said bottom plates, whereby substantially all of the draft force exerted between said stub draft sills and said body shell is applied through the inner ends of said stub draft sills and through said reinforcing plates, thereby substantially to eliminate rotational draft torques exerted between said stub draft sills and said body shell and applied through said pedestal structures.

3,139,843

CONTAINER FORMING MOLDS

Charles J. Ibex, Baltimore, Md., assignor to The Maryland Baking Co., Baltimore, Md., a corporation of Maryland

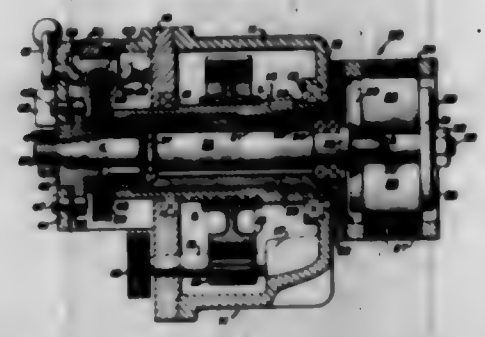
Original application Dec. 5, 1960, Ser. No. 73,633, now Patent No. 3,086,484, dated Apr. 23, 1963. Divided and this application Oct. 4, 1962, Ser. No. 233,170
3 Claims. (Cl. 107—8)



1. In a machine for manufacturing pastry containers having a hollow mold, said mold having a conical inner wall and a longitudinal inlet slot for passage of wafers from the exterior to the interior of the mold, and a cooperating frusto-conical spinner conforming to the upper part of the mold for engaging a wafer on the interior of the mold, a ledge integral with the inner wall of the mold extending around the mold from one side of the slot to the other at a position above the apex of the mold where

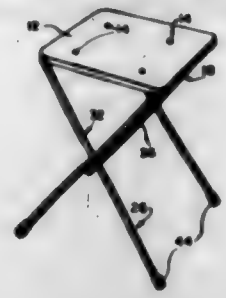
the bottom of the container is to be formed, a circular plate adapted to engage the inner edge of the ledge in operative position and to move downwardly therefrom to a non-operative position between the ledge and the apex below the position of wafers entering the mold through the slot, and means for moving the plate between the operative and inoperative positions.

3,139,844
QUICK CHANGE ROLLER DIE ASSEMBLY
Harvey S. Landers, 207 E. Broadway, Fort Worth, Tex.
Filed June 13, 1962, Ser. No. 202,117
3 Claims. (Cl. 107—14)



1. A pellet mill for use in the preparation of feed for live stock comprising a housing having a front wall, a rear wall, and a hollow bracket positioned externally of the rear wall, said bracket having a wall portion substantially parallel to said rear wall, a first sleeve extending horizontally between openings therefor in the front and rear walls, the rearward end of said first sleeve extending rearwardly beyond said rear wall, said first sleeve being journaled in bearings therefor in the front and rear walls and having drive means thereon whereby it is adapted to be rotated about its axis, a second sleeve of relatively smaller diameter removably inserted in said first sleeve from its forward end and rotatable therewith, said second sleeve having an enlarged, cylindrical forward end portion positioned externally of the housing and having extrusion dies in the peripheral wall thereof, said second sleeve having a cylindrical rearward end portion and a long tapered forward end portion for engagement with correspondingly shaped inner surfaces of said first sleeve whereby said first and second sleeves are positively aligned concentrically and coaxially, a fixed shaft of relatively smaller diameter arranged concentrically and coaxially within said second sleeve and extending beyond opposite ends thereof, a pair of diametrically opposed rollers journaled on stub axles having means connecting them to the forward end of said shaft, eccentrically thereof, whereby said rollers are positioned in opposing relation to said dies, said shaft having its forward end portion journaled in bearings therefor in the forward end portion of said second sleeve whereby said first and second sleeves are movable rotatively about said shaft, said shaft extending rearwardly of said second sleeve and having a tapered rearward end portion which is passed through an opening therefor in a supporting block connected by shear pins to said wall portion of said bracket, said tapered rearward end portion being secured against rotation relative to said supporting block and having a nut threaded on its extreme end rearwardly of said tapered rearward end portion whereby said shaft is removably secured in said housing, a third sleeve of relatively smaller diameter than said second sleeve loosely surrounding said shaft and positioned rearwardly of said first and second sleeves, said third sleeve having an internally enlarged rearward end portion received on a cylindrical boss on said supporting block and having an externally threaded forward end portion in threaded engagement with an internally threaded rearward end portion of said second sleeve whereby said second sleeve is removably secured in said first sleeve and is positively displaced axially relative thereto upon turning said third sleeve, and an external enlargement on said third sleeve intermediate its ends having means thereon for turning said third sleeve.

3,139,845
COLLAPSIBLE STOOL
Joseph John Kolinski, 589 S. Front St., Philadelphia, Pa.
Filed Sept. 26, 1962, Ser. No. 226,335
1 Claim. (Cl. 108—119)

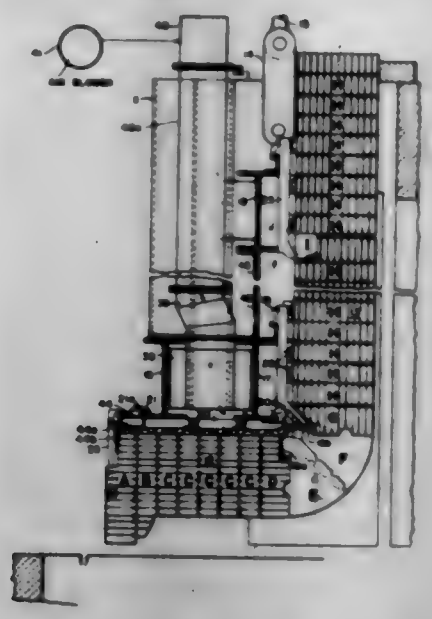


A collapsible stool comprising first and second inverted U-shaped leg members of unitary, bent tubular construction, each of said leg members having a horizontal part and spaced side parts, a horizontal rung member extending between and passing through registering holes in the side parts of said leg members intermediate the ends thereof so as to pivotally interconnect said member, the horizontal spacing between the side parts of one of said members and the vertical spacing between said rung and the horizontal part of said member being less than the corresponding dimensions of the other of said members whereby the horizontal and side parts of said first member may nest within the confines of the corresponding parts of the other of said leg members, a pair of spaced metallic strap members having integral hook parts at one end adapted to engage the horizontal part of the smaller of said leg members and having integral hinge parts at the opposite end of said strap members encircling the horizontal part of the larger of said members, and a platform fixed to the upper sides of said straps to provide a supporting surface when the hook parts of said strap members are engaged with the horizontal part of the smaller of said leg members, the dimension of the side parts of the other smaller of said leg members between said rung and the ends of said side parts being such that said ends opposite said horizontal part lie in the same horizontal plane as the corresponding ends of the side parts of the other of said leg member when said platform is in its horizontal load-supporting position.

3,139,846
MELTING FURNACE BACK WALL CONSTRUCTION
Levi S. Longenecker, 61 Mayfair Drive, Pittsburgh 28, Pa.
Filed July 19, 1960, Ser. No. 43,868
12 Claims. (Cl. 110—99)

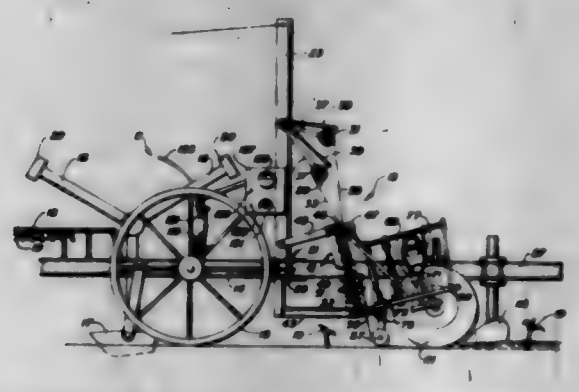
1. In a furnace back wall for suspension over a furnace charging bay, transversely-extending spaced-apart support beams providing a structural support for the back wall, longitudinally-extending spaced-apart hanger castings mounted for sliding movement along said support beams, each hanger casting having a box-like shape in section and a bottom provided with a slotted portion longitudinally therealong, inverted U-shaped metal hangers each having a body portion adapted to extend into the slotted portion of one of said hanger castings and having side lugs adjacent opposite ends of said body portion to span the slotted portion and ride longitudinally along the bottom of said hanger casting, refractory tile members each be-

ing of substantially rectangular shape and having opposed substantially planar wide side faces and opposed relatively narrow edge faces extending between the side faces, each hanger having a pair of opposite legs extending from said body portion, one of said legs having a latching portion, each tile member having a pair of opposed suspension slot portions; one suspension slot portion being open to an outer end of the tile member, having a latching portion, and extending substantially centrally of one side face to receive said one leg and its latching portion of one of said hangers; the other suspension slot of the tile member being also open to the outer end thereof and extending substantially centrally of its other side face to receive the other leg portion of said one hanger, so that the



tile member will be suspended at its outer end from said one hanger independently of other tile members, said tile members being suspended by said hangers as longitudinal tile rows along each of said hanger castings with the tile members of each row having their planar side faces in an abutting relation and having their edge faces in longitudinal alignment along the row, means interlatching the planar side faces of the tile members of each tile row in a face abutting relation with respect to each other within the row, and means interlatching the edge faces of the tile members of each tile row with the edge faces of adjacent tile rows for guided-sliding movement of the tile members of each row longitudinally-endwise with respect to the tile members of adjacent rows.

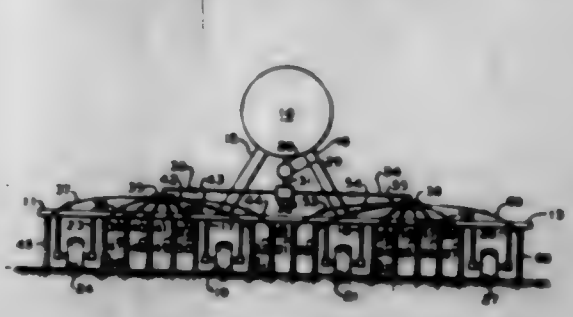
3,139,847
TRANSPLANTER MULCHER
David H. Bucher, 142 Blaine Road, R.D. 1, Waterloo, Iowa, and Kermit Q. Stephenson, 1127 S. Garner St., State College, Pa.
Filed Aug. 1, 1962, Ser. No. 214,129
8 Claims. (Cl. 111—3)



1. Apparatus for planting and depositing mulch around plants comprising, in combination:

(*a*) a frame structure adapted to be moved across the soil;
(*b*) a planting station on said frame for depositing plants in the soil;
(*c*) a supply of mulch sheets carried on said frame;
(*d*) guide means on said frame to align said mulch sheets for deposition upon the soil with their edges overlapping and with the overlapped portion aligned with the plants deposited by said planting station;
(*e*) means mounted on said frame, synchronized with the speed of advance of the apparatus, for sealing the overlapping edges of said mulch sheets between said plants.

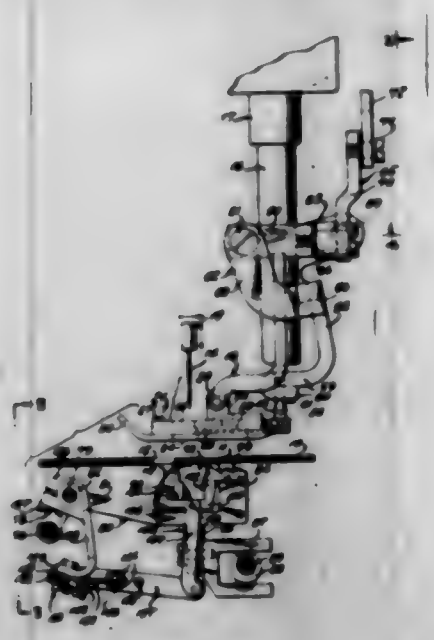
3,139,848
FLUID DISTRIBUTION
Richard O. Welty, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 22, 1962, Ser. No. 204,425
3 Claims. (Cl. 111—7)



2. A dispensing system for the direct application of ammonia to soil comprising, in combination,
a wheeled vehicle;
first and second plurality of shoes supported by said vehicle, said shoes being adapted to produce furrows in the ground as the vehicle is moved forward;
a liquid ammonia storage tank mounted on said vehicle;
a first fluid distributor comprising a body having a cylindrical chamber therein, a fluid inlet passageway disposed in said body and communicating with said cylindrical chamber, the wall of said fluid inlet passageway furthest from the axis of said cylindrical chamber being substantially tangential to the inner wall of said cylindrical chamber, the axis of said fluid inlet passageway being substantially perpendicular to a plane containing said axis of said cylindrical chamber, first and second outlet passageways located in said body, a first restricted passageway disposed in said body and communicating between said cylindrical chamber and said first outlet passageway, a second restricted passageway disposed in said body and communicating between said cylindrical chamber and said second outlet passageway, said first and second restricted passageways being substantially coaxial with said cylindrical chamber;
first conduit means communicating between said liquid ammonia storage tank and said fluid inlet passageway of said first fluid distributor;
second and third fluid distributors each having an inlet and a plurality of outlets;
second conduit means communicating between said first outlet passageways of said first fluid distributor and the inlet of said second fluid distributor;
third conduit means communicating between said second outlet passageway of said first fluid distributor and the inlet of said third fluid distributor;
a first plurality of conduits communicating between the individual outlets of said second fluid distributor and points near the bottom of respective ones of said first plurality of shoes; and

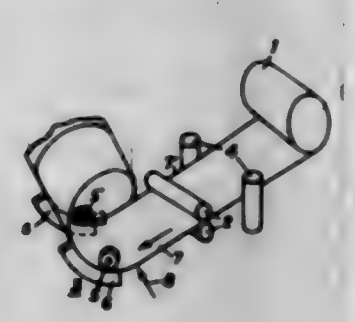
a second plurality of conduits communicating between the individual outlets of said third fluid distributor and points near the bottom of respective ones of said second plurality of shoes.

3,139,849
MULTIPLE NEEDLE THREAD TRIMMER
Saul M. Cohen, Paramus, and Frederick J. Kent, Glen Rock, N.J., assignors to Clinton Industries, Inc., New York, N.Y., a corporation of New York
Filed Aug. 7, 1961, Ser. No. 129,701
11 Claims. (Cl. 112—252)



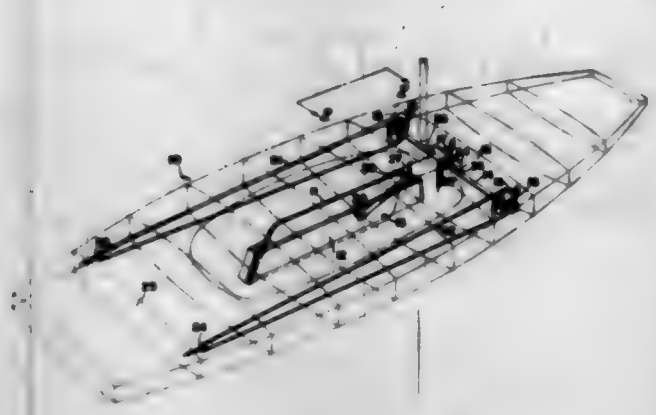
1. A sewing machine comprising a reciprocating needle, a feed dog reciprocating across the path of said needle, a thread cutting member, means moving said thread cutting member in synchronism with said feed dog, and remotely actuatable means for selectively moving said thread cutting member relative to said feed dog independently of the movement thereof.

3,139,850
METHOD AND DEVICE FOR MANUFACTURING HELICALLY FORMED TUBES
Eduard Wiegel, Duesseldorf, Germany, assignor to Intercontinental Enterprises, Duesseldorf, Germany, a corporation of Germany
Filed Jan. 26, 1961, Ser. No. 85,149
Claims priority, application Switzerland Jan. 30, 1960
11 Claims. (Cl. 113—35)



1. In a shaping device for winding a strip of metal stock helically into tubular form having a series of successive convolutions with the opposite edge portions thereof meeting in a helical seam; deforming means for helically winding a strip of metal stock into tubular form, said deforming means only contacting a region of said metal stock along opposed faces thereof closely adjacent its lateral edges, and means cooperable with said deforming means to adjustably position the latter to accommodate for the handling of metal stock of variety of widths and thickness, said deforming means including a pair of spatially separated inner rollers for contacting one face of said metal stock closely adjacent its lateral edges defining an inner surface of said tubular form and a pair of spatially separated abutment members contacting an opposite face of said metal stock closely adjacent its lateral edges defining an outer surface of said tubular form.

3,139,851
CENTERBOARD CONTROL DEVICE
Miroslav Bone, 3430 W. 100th St., Cleveland, Ohio
Filed Apr. 11, 1962, Ser. No. 187,170
8 Claims. (Cl. 114—132)

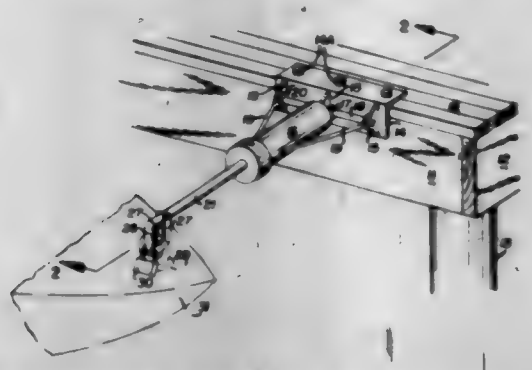


1. In combination with a centerboard positioned in a trunk of a boat, a centerboard control device comprising a first line fixedly secured to said centerboard and extending in a first direction substantially parallel to said centerboard toward one end of the boat, a second line fixedly secured to said centerboard and extending from said centerboard in a second substantially opposite direction substantially parallel to said centerboard toward the other end of the boat, guide means mounted on said trunk in said second direction, a winding shaft spaced from said centerboard and its trunk in said first direction, said first line being fixed to and wound around said shaft in a third direction and said second line being threaded around said guide means and fixed to and wound around said shaft in a fourth direction opposite said third direction, means for rotating said shaft, said rotating means including a sheave fixed to an end of said winding shaft and a cord wrapped around said sheave and around a pulley at the other end of the boat so that the cord extends along one side of the boat, whereby said centerboard will be alternately raised and lowered into and out of said trunk when said shaft is alternately rotated between said third and fourth directions by pulling said cord.

3,139,852
BOAT STANDOFF AND LOCKING DEVICE
Donald J. Morris, Scott St., Lake Milton, Ohio
Filed Nov. 13, 1962, Ser. No. 237,031
3 Claims. (Cl. 114—230)

2. A boat standoff and locking device comprising an elongated body member having a horizontal section and a vertical section, said horizontal section having apertures for receiving fasteners to secure said body member to a dock, said vertical section having at least one projecting apertured bracket thereon, a pivot pin positioned through said apertured bracket and secured thereto, a piston and cylinder assembly, said cylinder having a closed end with a bifurcated apertured extension thereon engaged on said pivot pin with portions of said bifurcated

apertured extension positioned on either side of said apertured bracket, a pair of arms secured to said cylinder



outwardly from said extension the inner ends of said arms having eyelets therein and secured to said pivot pin.

3,139,853
TROLLING MOTOR FOR ATTACHMENT TO OUTBOARD MOTOR

William P. McCarthy, 4603 E. 113th Terrace, Kansas City, and David D. Edie, 16602 E. 3rd St. N., Independence, Mo., assignors of one-third to Richard D. Mather, Kansas City, Mo.

Filed Aug. 5, 1963, Ser. No. 299,989
9 Claims. (Cl. 115—17)



1. In combination with an outboard motor having a propeller shaft, a housing for said shaft and a normally horizontally disposed anti-cavitation plate carried by said housing, a trolling motor mounted upon said plate and lying in substantially the same plane as said plate.

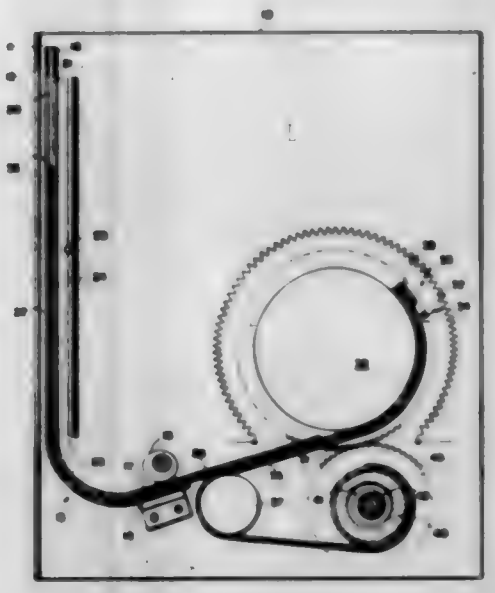
8. A trolling motor for attachment to an outboard motor having an anti-cavitation plate, said trolling motor including an exterior casing; a pair of lugs formed on said exterior casing; and a pair of arms each having one end thereof secured to said anti-cavitation plate, the other ends thereof each being shiftably attached to a corresponding lug.

3,139,854
MOVABLE TAPE INDICATING DEVICE

George D. Hedges, East Oakdale Township, Washington County, Minn., and Earl R. Steengaard, St. Joseph, Wis., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed June 28, 1962, Ser. No. 205,906
12 Claims. (Cl. 116—135)

1. In combination: a feed drum; a tape guide spaced from said drum; an elongated tape of firm, elastic material, the first end of said tape being free and being received in said guide for longitudinal movement, and the second end of said tape being passed around said feed drum and being fastened thereto; and means for preventing buckling of said tape as it is discharged from said drum, including at least one flexible band, means fastening one end of said band to said drum in overlying relation to the portion of said tape which is wound on said drum, to prevent radial movement of said tape with respect to said drum,

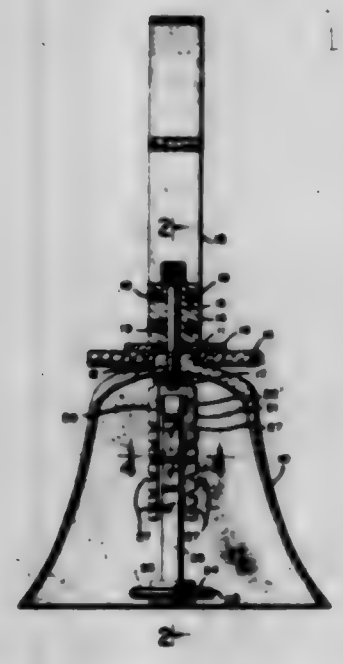


and means maintaining said band in tension as said drum is rotated, whereby rotation of said feed drum in opposite directions is adapted to cause linear movement of said tape in opposite directions in said guide.

3,139,858
BELLS

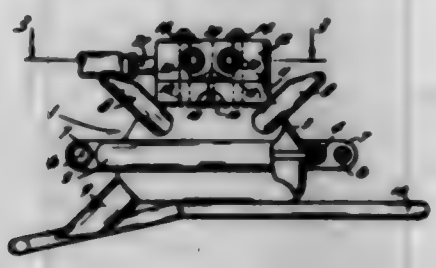
Jacob G. Kunz, deceased, late of Collegeville, Pa., by Montgomery County Bank and Trust Company, Norristown, Pa., and Bertha L. Kunz, executors, Collegeville, Pa., assignors to Schulmerich Electronics, Inc., a corporation of Pennsylvania

Filed Jan. 15, 1963, Ser. No. 252,273
6 Claims. (Cl. 116—171)



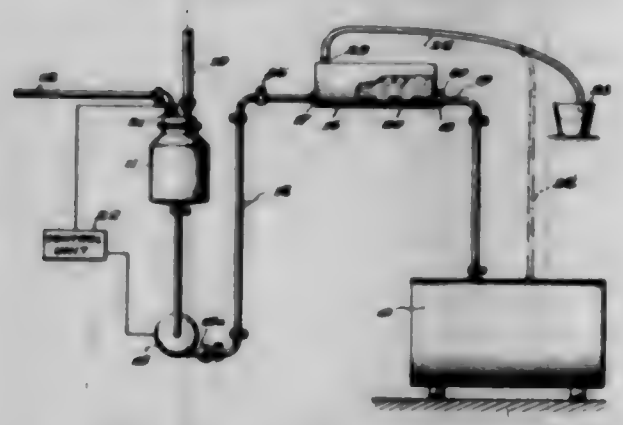
1. In a handbell, the combination including a bell; a clapper having a shaft pivotally mounted within said bell; clapper restraining support means mounted within said bell and located along said clapper shaft, said support having transversely aligned, longitudinally spaced notches therealong; and flexible band restraining means carried on said restraining support means within selected of said notches and located around said clapper shaft when the latter is in its vertical at rest position, said shaft being restrained to different degrees by said band restraining means as said shaft is oscillated toward the walls of said bell depending upon the notches in which said flexible band means is located.

3,139,856
MILKING APPARATUS
Donald E. Lippke, Delavan, Wis., assignor to Perfection Manufacturing Corporation, Delavan, Wis., a corporation of Minnesota
Filed Dec. 6, 1962, Ser. No. 242,671
4 Claims. (Cl. 119—14.36)



2. A milking apparatus for intermittently introducing air into a milk passageway, comprising a milk passageway disposed to conduct milk from a teat cup to a storage location and having an air inlet opening therein, a valve member located wholly outside of the milk passageway and disposed to open and close the air inlet opening, a flexible pressure responsive member operably connected to the valve member, means for exposing one surface of the pressure responsive member to atmospheric pressure, and means for exposing the opposite surface of said pressure responsive member alternately to a vacuum and atmospheric pressure whereby said pressure responsive member is flexed to thereby open and close the valve member with respect to the air inlet opening.

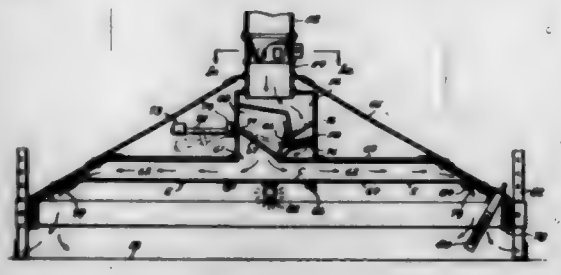
3,139,857
MILK FILTERING ARRANGEMENT
Thomas W. Merritt, St. Charles, and Chester A. Thomas, Oak Park, Ill., assignors to Babcock Bros. Co., a corporation of Illinois
Filed Jan. 8, 1963, Ser. No. 250,467
13 Claims. (Cl. 119—14.46)



1. A milk handling system comprising: evacuated milk receiving means; a milk line connected with said receiving means for delivering milk from milkers to said receiving means; a milk reservoir having an inlet and an outlet; a conduit connected between said receiving means and the inlet of said reservoir; intermittent milk transfer means connected with said conduit for transferring batches of milk from said milk receiving means to said milk reservoir through said conduit; and a milk filter connected with said milk reservoir outlet.

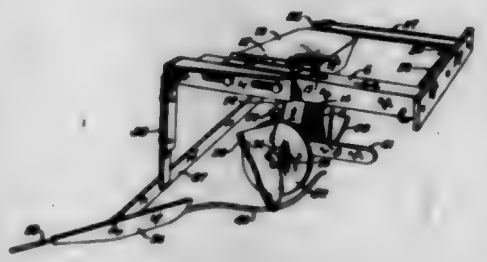
3,139,858
WARM AIR BROODING SYSTEM
Perry S. Martin, Box 6, Harrisonburg, Va.
Filed July 17, 1962, Ser. No. 210,357
1 Claim. (Cl. 119—31)

A fowl brooder including:
a hover structure comprising an upper wall,
a lower wall having a high coefficient of heat absorption and radiation disposed below and spaced from said upper wall,
means mounting said hover structure above a brooding area,



conduit means supplying warm air under predetermined pressure to the space between said walls,
said hover structure also including a side wall for directing air downwardly through an opening between the periphery of said lower wall and said side wall to form a curtain of warm air surrounding said brooding area.

3,139,859
EGG GATHERING APPARATUS
Hasbem Naraghi, P.O. Box 7, Escalon, Calif.
Filed Aug. 27, 1962, Ser. No. 219,455
8 Claims. (Cl. 119—48)

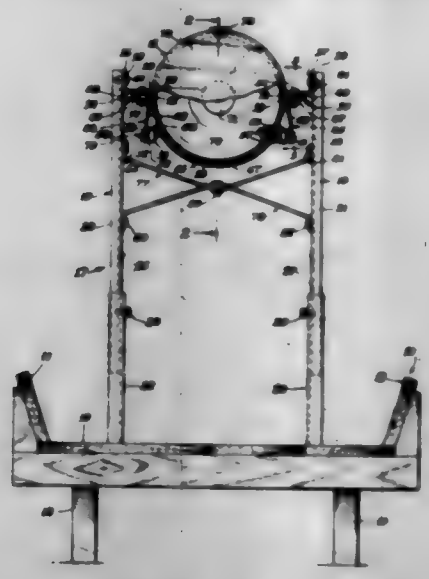


1. Egg gathering apparatus for gathering eggs from a ledge onto which the eggs roll from hens confined in cages adjacent said ledge, which comprises a movable frame mounted adjacent to said ledge, means to drive the frame along said ledge, a tray supported on one side of the frame, an egg gatherer supported on the other side of the frame and overlying said ledge, said egg gatherer comprising a sweep blade adapted to engage the eggs on said ledge and sweep the eggs into said tray, means to rotate said blade as the blade moves over said ledge, and a guide bar supported from the frame and extending on an angle forwardly of and spaced from the blade to substantially pass over the entire upper surface of the ledge and guide eggs to the blade for sweeping into the tray.

3,139,860
BUNK FEEDER
Peter Rutten and Donald E. Rutten, Pinckfield, Ill., assignors to P & D Sales & Mfg. Co., a division of The Neff and Fry Company, a corporation of Ohio
Filed Oct. 25, 1962, Ser. No. 233,046
5 Claims. (Cl. 119—52)

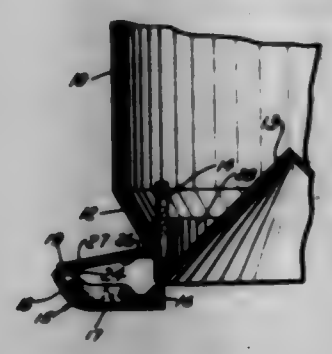
1. A generally horizontally disposed animal feeder comprising two semi-cylindrically shaped members forming a tubular housing, each of said semi-cylindrically shaped members having outwardly projecting horizontally disposed flanges on each side thereof, means removably fastening one of said semi-cylindrical members to the top of the other semi-cylindrical member with the horizontal flanges in overlapping relationship, said tubular housing having discharge openings in the bottom thereof, closure means associated with the bottom of said tubular housing arranged and constructed to open or close said discharge openings, means mounting said closure means for

longitudinal sliding movement, a rail member flanking each side of said tubular housing, said rail members having a horizontally disposed flange for abutment with the overlapping flanges of the two semi-cylindrically shaped members, said means removably fastening said semi-cylindrical members together including the fastening of said rail members thereto, said closure means carried on said



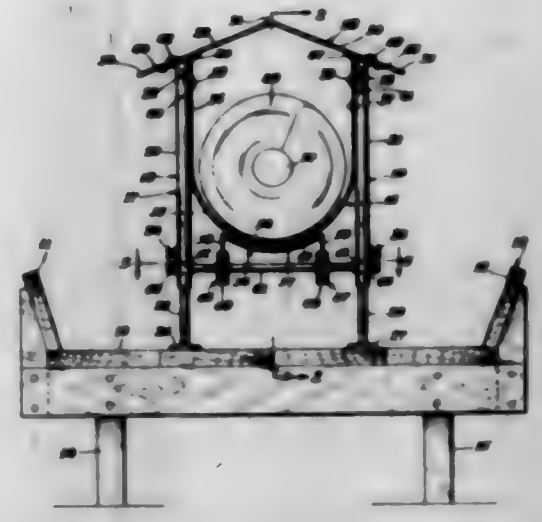
rail members, each of said rail members having a generally vertically disposed depending wall, said vertically disposed depending walls having longitudinally spaced apart, vertically disposed elongated slots therein, roller members adjustably carried in said elongated slots, and said closure means having outwardly projecting flanges for riding on said roller members to thereby facilitate longitudinal sliding movement of said closure means.

3,139,861
ANIMAL FEEDER
Norman J. Oliver, Edward M. Jankowski, and Phillip M. Ryden, Sioux Falls, S. Dak., assignors to Sioux Steel Company, Sioux Falls, S. Dak., a corporation of Delaware
Filed Oct. 22, 1962, Ser. No. 231,928
2 Claims. (Cl. 119—53)



1. In an animal feeder comprising an upright cylindrical container tapering at its lower part to a lower edge defining a discharge opening, a conical bottom for the container having a terminal circular edge spaced from said lower edge to provide a flow space for feed, upright bracket means securing said conical bottom to said container, and a control ring mounted slidably in said discharge opening partially blocking said flow space, the improvement which comprises a plurality of individual segmental feed bowls secured in annular array around said discharge opening, each said bowl having a smoothly rounded interior and a groove adjacent its inner edge portion for receiving said terminal circular edge, fastener means for securing said inner edge portion to said terminal circular edge thereby providing a smooth transition from said circular edge to the bottom surface of said bowl, a shaft extending horizontally through said container, crank arms on said shaft, hangers from said crank arms supporting said control ring in spaced relation with said terminal circular edge, and a handle on said shaft outside the container for turning said crank arms to adjust the size of said flow space.

3,139,862
FEEDER
Peter Rutten and Donald E. Rutten, Plainfield, Ill., assignors to P & D Sales & Mfg. Co., a division of The Noll and Fry Company, a corporation of Ohio
Filed Oct. 3, 1962, Ser. No. 228,117
5 Claims. (Cl. 119—56)



2. A livestock feeding device comprising an elongated receptacle from which livestock may feed, a feed receiving hopper positioned at one end of said elongated receptacle, an elongated container joined to said hopper and extending along and over said elongated receptacle, supporting structure carrying said elongated container at intervals therealong, an auger conveyor mounted in said elongated container and having a portion thereof extending into said feed receiving hopper, means rotatably driving said auger conveyor to deliver feed from said hopper into and through said elongated container, said elongated container having a curved bottom with regularly spaced apart openings therein, said spaced apart openings through said elongated container being formed substantially of the same size, an elongated closure plate being formed to have the cross sectional shape of a curved central portion and downwardly projecting side flanges, the curvature of said curved central portion being formed substantially identical to the curvature of said curved bottom of said elongated container, said curved central portion being formed to have a plurality of regularly spaced apart openings therein, guiding means mounted on said structure journally supporting the side flanges of said elongated closure plate with said curved central portion thereof covering and slidably engaging said curved bottom of said elongated container for sliding movement with respect thereto.

3,139,863
QUICK RELEASE ROPE HOLDER FOR SADDLE
Allen E. Steinbeck, 501 19th Ave., Yuma, Ariz.
Filed May 17, 1963, Ser. No. 281,311
5 Claims. (Cl. 119—110)

1. A quick release rope holder for saddle comprising in combination:

(*a*) a body adapted to be secured to the side of the saddle,

(*b*) a rope support cord having one end fixed to said body,

(c) a vertical bore formed in the top surface of said body removably receiving the other free end of said rope support cord,

(d) a lid pivotally mounted on said body to swing about a horizontal axis to and from said top surface and vertical bore in said body,



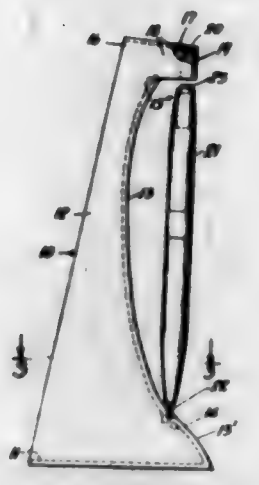
(e) and yielding means interacting between said body and said lid to normally urge said lid against said top surface to releasably engage said free end of said rope support cord when said free end is inserted in said vertical bore.

3,139,864
FOUNTAIN PEN STRUCTURES
Ernst Johan Jens Hourlixen, 1 Alpenstrasse, Lucerne, Switzerland
Original application Feb. 12, 1959, Ser. No. 792,824. Divided and this application Dec. 6, 1961, Ser. No. 157,533
Claims priority, application Denmark July 6, 1953
5 Claims. (Cl. 120—42.4)



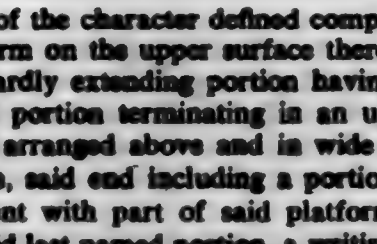
1. An ink reservoir for a ball point fountain pen comprising an elongated tubular casing containing a column of writing ink, and a non-solid plug slidable along the wall of said reservoir and in contact with one end of said column, said plug consisting of at least two layers of different non-solid materials, the first layer adjacent the end of the ink column being substantially immiscible both with the ink of said column and with the adjoining layer, the next outermost layer being immiscible with said first layer, and being impervious to and non-hardening upon exposure to air and of such high viscosity that it is unable to flow out of said reservoir.

3,139,865
STABILIZER SUPPORT FOR MARKING DEVICES
Francis M. Almos, Chatham, N.Y.
Filed May 7, 1963, Ser. No. 278,632
3 Claims. (Cl. 120—108)



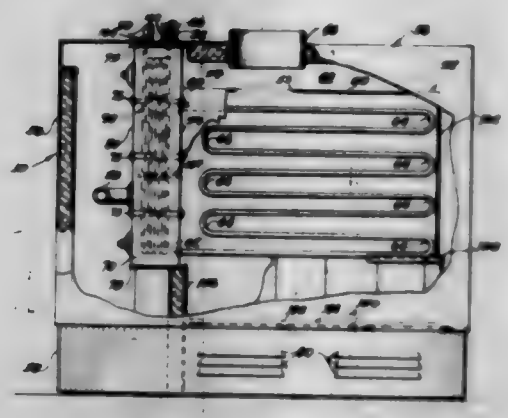
1. A device of the character defined comprising a base having a platform on the upper surface thereof, the base having an upwardly extending portion having contracted side walls, said portion terminating in an upper magnet supporting end arranged above and in wide spaced relation to the base, said end including a portion in perpendicular alinement with part of said platform, a magnet supported in said last named portion, a writing implement shorter in length than the distance between said magnet and platform, and said implement having means at one end attracted by the magnetic flux of said magnet for maintaining the implement supported on said part of the platform in perpendicular stabilized position by said magnetic flux.

3,139,866
STUDDED TUBE CONSTRUCTION WITH STUDS OF AlCr
Gunther Lemm and Eduard John, Oberhausen, Germany, assignors to Babcock & Wilcox, Limited, London, England, a company of Great Britain
Filed May 4, 1959, Ser. No. 810,958
Claims priority, application Germany May 3, 1958
6 Claims. (Cl. 122—6)



1. In a furnace for burning a slag-forming solid fuel under furnace temperatures above the fuel ash fusion temperature and evolving corrosive furnace gases containing H_2S, a furnace wall cooling tube of carbon steel having metallic studs welded at spaced points on the furnace side of said tube, said studs being formed of a low alloy corrosion-resistant steel having chromium and aluminum as major alloying ingredients and the balance substantially all iron, and a layer of refractory material resistant to the reducing action of H_2S arranged to line the furnace side of said tube and of a thickness sufficient to cover substantially all of the length of said studs.

3,139,867
PACKAGE HEATING APPARATUS
John C. Cleaver, River Hills, and Frank Gething, Milwaukee, Wis., assignors to Cleaver-Brooks Company, Milwaukee, Wis.
Filed Jan. 11, 1962, Ser. No. 165,603
8 Claims. (Cl. 122—406)



1. A package boiler having a rectangular base and a tubing header assembly extending vertically upward from one end of said base,

an underpinning structure disposed to extend laterally and longitudinally on said base,

said structure including a plurality of channels each disposed with its web downward and its flanges upward,

a number of fire bricks disposed in said channels in side-by-side relation and extending upward therefrom thereby forming the lower walls of the combustion chamber,

a casing assembly disposed upon the said fire brick and defining the upper side and top walls of the combustion chamber,

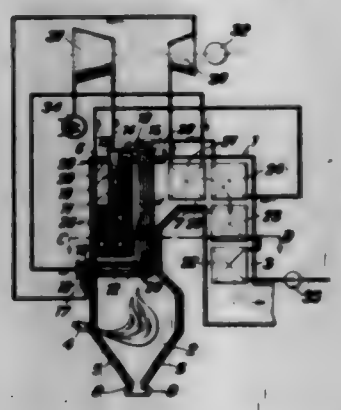
said casing assembly having an offset flange portion along its lower edge which engages the outside upper edge of said fire bricks,

a plurality of tubes connected to said header and extending longitudinally into said casing assembly,

at least one of said tubes being in abutting relation to the top surface of the longitudinally extending fire bricks and

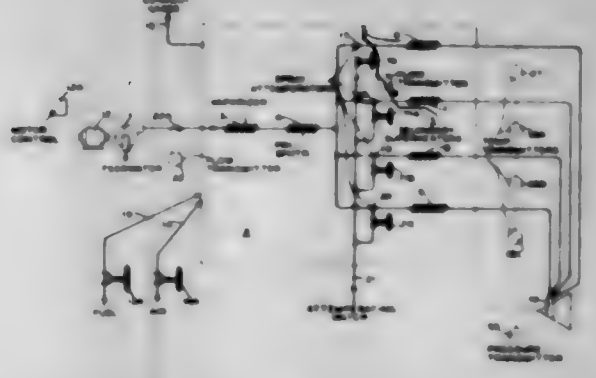
at least another of said tubes being horizontally offset from and vertically below the last-said one tube and in abutting relation to the inside upper face of the longitudinally extending fire bricks.

3,139,868
STEAM POWER PLANT WITH INTERMEDIATE SUPERHEATING
Richard Litwinoff, Winterthur, Switzerland, assignor to Sulzer Freres, Societe Anonyme
Filed Oct. 17, 1960, Ser. No. 62,988
Claims priority, application Switzerland Oct. 22, 1959
1 Claim. (Cl. 122—476)



A steam power plant comprising a combustion chamber, fuel combustion means in said chamber, series-connected evaporating means and superheating means for the evaporation and superheating respectively of a vaporizable working substance such as water, said evaporating means and superheating means being disposed to absorb heat from the combustion of fuel in said chamber, and reheating means for steam partially expanded in a high pressure stage of a plural-stage steam consuming machine, said reheating means comprising a plurality of tube panels disposed in the upper part of said combustion chamber, each of said tube panels comprising two pluralities of parallel-connected tubes, the tubes of each plurality being closely spaced from each other in a common plane extending substantially parallel to the direction of flow of the products of combustion from said combustion means through said combustion chamber, the tubes of the two pluralities of each panel lying moreover in a common plane, the two pluralities of tubes of each of said panels being connected in series with the tubes of the plurality most intensely subjected to radiation from said combustion means being upstream of the other plurality for flow of said partially expanded steam through said reheating means, said tube panels being exposed to radiation from said combustion means, said plant further comprising within the tubes of the plurality of parallel-connected tubes of each of said panels most intensely subjected to radiation from said combustion means a tube connected for flow of working substance therethrough between said evaporating means and the input to said high pressure stage.

3,139,869
METHOD OF REGULATING VAPOR TEMPERATURE
Paul H. Koch, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 25, 1961, Ser. No. 133,996
3 Claims. (Cl. 122—479)

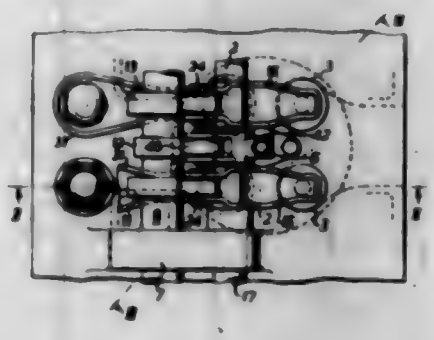


1. The method of regulating vapor temperature in a fuel-fired forced flow vapor generator wherein the entering liquid is vaporized and then passed in parallel flow relation to a plurality of parallel flow vapor superheating circuits, which comprises maintaining the temperatures of the vapor discharging from said superheater circuits at a substantially uniform and constant predetermined value over a wide range of loads by supplying attemperating liquid to one of said circuits in response to an increase in vapor temperature therein above said predetermined temperature value, and by varying the firing rate in response to deviations of the vapor temperature in another of said circuits from said predetermined temperature value in direction tending to increase the firing rate as the vapor temperature in said other circuit drops below said predetermined value and vice versa, while continuously supplying attemperating liquid to said other circuit throughout said predetermined load range in quantities sufficient to assure that said one circuit will always require some attemperating liquid to hold the vapor temperature therein at said predetermined temperature value.

3,139,870
INTERNAL COMBUSTION ENGINES WITH FOUR VALVES

Achille Carlo Sampietro, 60 Martell Drive, Bloomfield Hills, Mich.

Filed Jan. 3, 1962, Ser. No. 164,102
8 Claims. (Cl. 123—32)

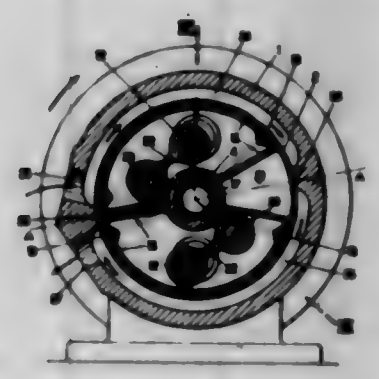


1. An internal combustion engine having a cylinder head with at least one combustion chamber, two inlet ports opening into said chamber on one side of a central longitudinal plane through the chamber, and two exhaust ports opening into said chamber on the opposite side of said plane, spring-loaded inlet and exhaust poppet valves controlling flow of gas through said inlet and exhaust ports respectively, a single camshaft extending above said cylinder head parallel to said longitudinal plane, two cams provided on said camshaft to operate said inlet valves and said exhaust valves, means interposed between each of said cams and a corresponding inlet valve, said means consisting of a separate unitary rigid rocker, means interposed between each cam and a corresponding exhaust valve, said means consisting of a separate unitary, rigid rocker, whereby upon timed rotation of said cam shaft, each of said cams operates in sequence, respective ones of said inlet and exhaust valves.

3,139,871
FLUID MOTOR AND PUMP HAVING EXPANSIBLE CHAMBERS

Jeannine Marie Suzanne Largeot, born Cornet, 46 Ave. Paul Vaillant Couturier, Kremlin-Bicetre, France

Filed Oct. 17, 1961, Ser. No. 145,601
Claims priority, application France Oct. 19, 1960
9 Claims. (Cl. 123—43)



1. A rotating machine of the expansible chamber type comprising a fixed cylinder pierced by inlet and exhaust ports, a hollow rotor mounted to turn within said cylinder on a shaft coaxial therewith, said rotor being provided with at least two ports, each of which is positioned to register successively with said inlet and exhaust ports during each revolution of said rotor, at least two part-cylindrical pistons mounted within said rotor, said pistons defining between them and the walls of said rotor at least two expansible chambers communicating with said rotor ports, crank means rotatably mounted in said rotor, said pistons being rotatably connected to the crank portion of said crank means, and means for causing said crank means to rotate in said rotor as said rotor itself turns, said crank means causing said pistons to oscillate relative to said rotor while turning about the axis of said rotor in the same direction and at the same average speed as said rotor, said oscillation of said pistons in said rotor bringing their ends towards and away from each other to expand and contract said chambers.

3,139,872
SPRING FOR BIASING A ROCKER ARM

Marion Lee Thompson, 2734 Eastvale, Rolling Hills, Calif.

Filed July 23, 1962, Ser. No. 211,630
3 Claims. (Cl. 123—90)



1. In combination, an internal combustion engine, a rocker arm, a rocker arm actuating rod, and a spring for torque biasing the rocker arm into substantially continuous engagement with the actuating rod, which comprises:

(*a*) an internal combustion engine;
(*b*) a rocker arm;
(*c*) a split shaft comprising a pair of substantially semi-cylindrical portions;
(*d*) a movable rod mounted on said engine and adapted to actuate said rocker arm;
(*e*) a spring having a pair of parallel coils spaced apart from each other and adapted to produce a torque;
(*f*) a first leg on each of said coils, each of said first legs having a semi-circular loop disposed so as to surround one semi-cylindrical portion of said split shaft;
(*g*) a finger on each of said coils, each of said fingers being disposed so as to substantially close its adjacent loop, and said fingers being diametrically seated between the flat surfaces of the semi-cylindrical portions of said shaft;
(*h*) a second leg on each of said coils; and
(*i*) a yoke interconnecting said second legs, said yoke being in torque biasing engagement with said rocker arm so as to cause said rocker arm to follow said movable rod.

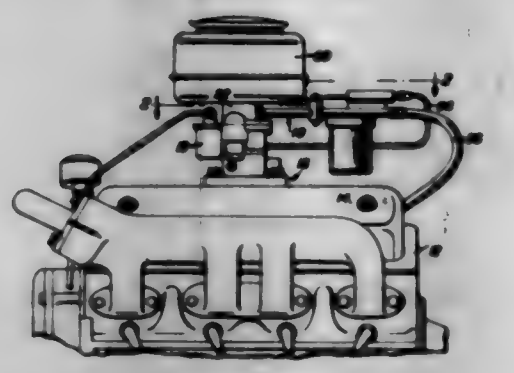
3,139,873
EXHAUST AND WATER INJECTOR FOR INTERNAL COMBUSTION ENGINES

Donald L. Gardner, Box 1365, Prescott, Ariz.

Filed Mar. 19, 1963, Ser. No. 266,351
7 Claims. (Cl. 123—119)

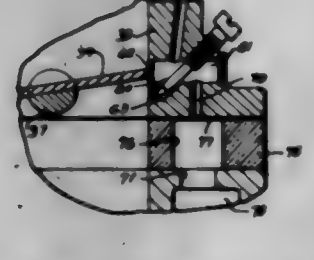
1. In combination with an internal combustion engine having a carburetor with an air intake, an intake manifold and an exhaust pipe, a water injecting device comprising a venturi connected to said air intake, a water

discharge nozzle having its outlet in said venturi, means for discharging exhaust gases from said exhaust pipe into said venturi and across said water discharge nozzle outlet, means for supplying water to said water discharge



nozzle, a control valve in said water supply means controlling the rate of flow of water, operating means for said control valve actuated by vacuum variations in said intake manifold.

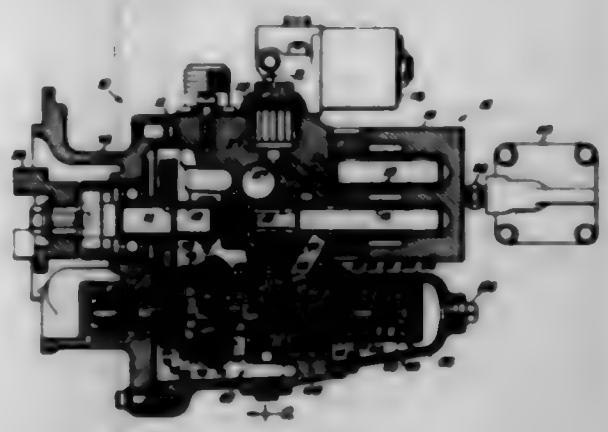
3,139,874
CARBURETOR
John H. Ervin, Florissant, and Forrest W. Cook, Webster Groves, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed May 16, 1963, Ser. No. 280,980
13 Claims. (Cl. 123—122)



1. In a combination, an internal combustion engine having an intake manifold and an exhaust system, a carburetor mounted on said intake manifold, said intake manifold having an exhaust gas passage adjacent to a portion of said carburetor and connected to said exhaust system to convey hot exhaust gases to said carburetor portion, said carburetor having an idle system connected to said intake manifold, a thin corrosion resistant heat conductive shim located between said carburetor portion and said intake manifold and exposed to said exhaust gas passage to protect said carburetor from damage by exhaust gas corrosion, means for spoiling said idle system to prevent said engine at idle from operating at low speeds if said shim is not located between the carburetor and the intake manifold.

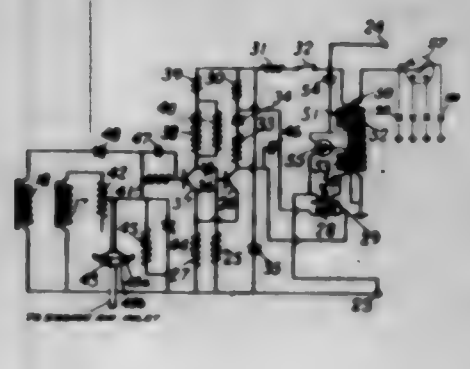
3,139,875
FUEL SUPPLY APPARATUS FOR INTERNAL COMBUSTION ENGINE
Fred W. Link, Columbus, Ind., assignor to Cummins Engine Company, Inc., Columbus, Ind., a corporation of Indiana
Filed Aug. 22, 1961, Ser. No. 133,133
14 Claims. (Cl. 123—140)

1. A fuel supply apparatus for a multi-cylinder internal combustion engine, including a source of fuel under pressure, delivery means for supplying fuel to the respective cylinders of the engine, conduit means connecting said source and said delivery means for supplying fuel to the latter, and means for controlling the pressure of the fuel at said delivery means comprising speed responsive means for variably discharging fuel from said conduit means upstream from said delivery means, and means for modifying such discharge only during low-



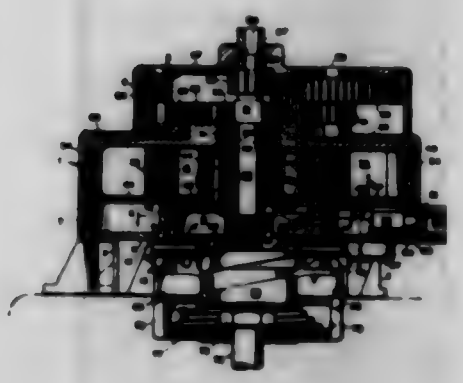
speed operation of the engine for varying the pressure of the fuel at said delivery means and thereby varying the torque of the engine during such low-speed operation.

3,139,876
SPARK IGNITION APPARATUS FOR INTERNAL COMBUSTION ENGINES
Norman Alfred Johns, Walsall, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed July 26, 1961, Ser. No. 127,834
Claims priority, application Great Britain Aug. 16, 1960
6 Claims. (Cl. 123—148)



1. Spark ignition apparatus for an internal combustion engine, comprising in combination a generator having a stator, a rotor driven by the engine, an output coil, and means associated with the stator and rotor for generating across said output coil a voltage which during each revolution of the engine varies from a minimum to a maximum a number of times dependent on the number of engine cylinders, a trigger circuit operable by the voltage across said output coil to produce an output pulse when the voltage across said output coil reaches a predetermined value, a control circuit operable by said output pulse for supplying a sparking voltage to a spark plug of the engine, a second output coil forming a part of the generator, means associated with said stator and rotor for generating a voltage in said second coil at an instant in each voltage cycle before the maximum output voltage is attained across the first-mentioned output coil, the second output coil being associated with the trigger circuit so that in each voltage cycle the voltage generated in said second coil will operate the trigger circuit if the trigger circuit has not previously been operated by the voltage across the first-mentioned output coil.

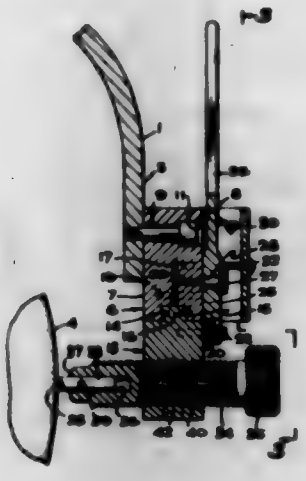
3,139,877
MECHANICAL STARTER MOTOR ENERGIZED BY ENGINE OPERATION
Clinton L. Graybill, Superior, Mont., assignor to Graybill Industries, Inc., Superior, Mont.
Filed Feb. 21, 1961, Ser. No. 90,731
6 Claims. (Cl. 123—179)



1. In a starting device for an internal combustion engine having a crankshaft, an engine cranking clutch member connected to said crankshaft, a spring motor including a tension spring, a rotatable and axially displaceable shaft, drive means connecting said shaft to said spring motor and operable by said shaft in rotation for tensioning said spring, clutch means on said spring motor and operable thereby for clutching engagement with said cranking clutch member to rotate the crankshaft and start the engine, said cranking clutch member being effective upon engine starting to cause disengagement of said clutch means therefrom, a first clutch element fixed on said rotatable shaft, a second clutch element rotatable with said cranking clutch member, an actuating member for effecting axial displacement of said shaft and corresponding displacement of said first clutch element, said actuating member being in threaded connection to said drive means and movable longitudinally of said shaft in the opposite threading and unthreading directions relative to the drive means, operating means between the actuating member and the spring motor adapted and arranged for permitting movement of the actuating member axially relative to the spring motor and for effecting rotation of the actuating member in engine cranking operation of the spring motor, such rotation of the actuating member thereby causing through said threaded connection movement of said actuating member in one of said directions to effect axial displacement of said shaft with corresponding displacement of said first clutch element to clutching engagement with said second clutch element, said clutch elements in engagement rotating said shaft and thereby operating said drive means to tension said spring and coincidentally therewith effect movement of said actuating member in the other of said directions, and yieldable means in operative relation between said shaft and actuating member effective upon the last said movement of the actuating member, to cause axial displacement of said shaft and disengagement of said first clutch element from said second clutch element.

3,139,878
GRINDING WHEEL DRESSERS FOR SURFACE GRINDERS
Donald D. Renfrow, 19469 Hatton St., Reseda, Calif.
Filed June 12, 1962, Ser. No. 201,895
2 Claims. (Cl. 125—11)

1. A device for dressing the grinding wheel of a surface grinder having a back wall disposed at a right angle to the bed of the surface grinder and at a right angle to the axis of rotation of said wheel, said device including: a member having two surfaces at right angles to each other, said member having provisions by which it may be so mounted on said wall that one of said surfaces may be disposed parallel to said axis; a first block mounted on said one of said surfaces; a second block mounted on said first block by means of ways for rectilinear movement with respect to said first block and with respect to said axis, said ways comprising (*a*) a cavity in said first block extending longitudinally of said block and upward and inward from the bottom side thereof and having opposite straight walls diverging from each other as the distance from said bottom side increases, (*b*) a longitudinally extending slot in said first block opening into said cavity throughout the length of said cavity and of said block, (*c*) a tongue on the top surface of said second block extending longitudinally thereof and into said cavity, said tongue being integral with said second block and having a cross-

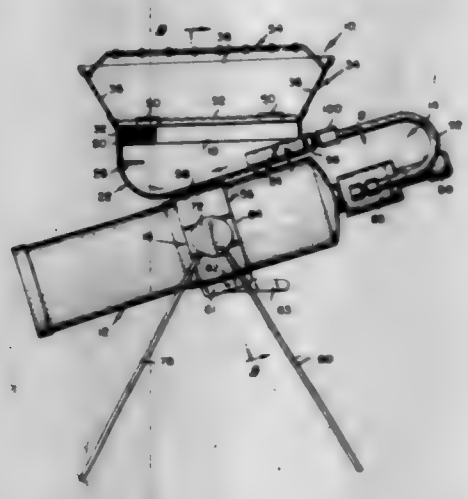


section shaped like a frustum with its base upward, the sides of said tongue contacting the diverging walls of said cavity, and (*d*) a plurality of shoulder screws passing through clearance holes in said first block on one side of said slot and then threaded into said first block on the opposite side of said slot for adjusting the fit of said ways; a rack attached to said second block and extending parallel to said ways; a gear segment rotatably mounted on said first block and meshing with said rack; an arm attached to said segment whereby it may be manually rotated; an elongated member mounted in said second block for translational movement therethrough at a high angle to said axis; means associated with said elongated member for accurately adjusting its longitudinal position with respect to said second block; and a cutting diamond mounted in the end of said elongated member nearest said wheel.

3,139,879
GAS BURNING HEATERS
Konrad E. Bauer, Cleveland, and Roy A. Ouski, Akron, Ohio, assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Dec. 6, 1961, Ser. No. 157,411
6 Claims. (Cl. 126—4)

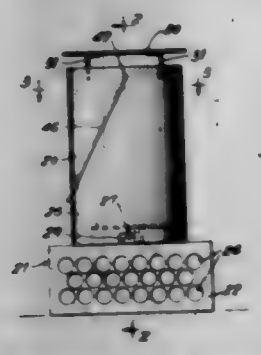
1. A portable gas burning assembly comprising a burner housing, perforated burner means carried by said housing and adapted to generate infra-red radiation by combustion of a fuel-air mixture delivered to said housing, a band secured directly to said housing and having portions closely adjacent said housing and adapted to encircle a fuel tank to support a fuel tank closely adjacent said housing, means for releasably locking said band in tank clamping position, a pair of support members, pivot means at opposite sides of said band mounting said support members on said band for swinging movement about an axis normal to the axis of said band between positions for supporting said tank in a generally horizontal or generally vertical

position, means for locking said members to dispose said tank in one of said positions, and means carried by said



housing for conducting a supply of fuel and air into said housing.

3,139,880
PORTABLE GRILL
Joseph Sangeorge, 304 Standish Ave., Hackensack, N.J.
Filed Oct. 10, 1962, Ser. No. 229,634
5 Claims. (Cl. 126—25)

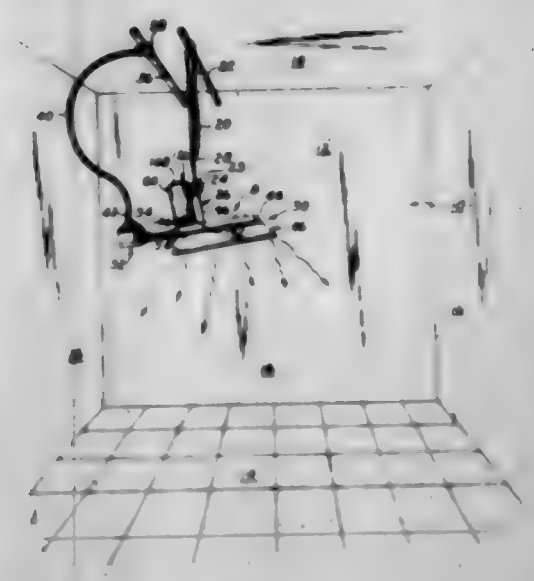


1. A portable grill comprising a support having spaced perforated side walls and a transverse perforated top for permitting the ready passage of combustion air and an elongated tubular chimney having open upper and lower ends for containing charcoal or the like, each of said side walls including an upper portion extending transversely of said chimney and into the lower end of said chimney for retaining fuel in said chimney, means connecting the lower end of said chimney for removable engagement with the upper portions of said side walls and said chimney having a cross-sectional area greater than the transverse perforated top, to provide a substantially clear and uninterrupted draft passage outwardly of said transverse perforated top around the entire under surface and length of said chimney, said side walls being integral with said upper portion extending into the lower end of said chimney and integral with said transverse perforated top, said side walls having free upper edges flanking said transverse perforated top and engaging lower edge portions of said chimney.

3,139,881
INFRARED CHICKEN BROODER
John J. Fannon, Jr., Grosse Pointe Park, Mich., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed May 29, 1962, Ser. No. 198,594
7 Claims. (Cl. 126—92)

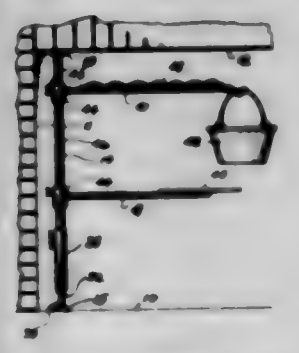
1. In an infrared heater for brooder houses and the like:

(*a*) an apertured member providing a radiant surface;
(*b*) a burner housing providing a plenum chamber on one side of said member;
(*c*) means for supplying a combustible mixture to said plenum chamber and through said apertured member to the opposite side thereof;
(*d*) a reflector surrounding said apertured member and having an interior side exposed to said apertured member;
(*e*) means fixing said reflector to said burner housing;
(*f*) a pilot burner;
(*g*) means fixing said pilot burner on the exterior side of said reflector;
(*h*) an opening formed at least in part by said reflector;



(*i*) means for supplying gas to said pilot burner and being ignitable to produce a pilot flame, said pilot burner being so positioned with respect to said opening that said pilot flame is directed therethrough to ignite the combustible mixture passing through said apertured member;
(*j*) a shield mounted in surrounding relation to said pilot burner for preventing extinguishment of said pilot flame, said shield providing at least one opening to admit air into the region of said pilot burner; and
(*k*) means detachably fixing said shield to said reflector.

3,139,882
FIREPLACE CRANE
James F. White, Rte. 3, Box 693, Anacortes, Wash.
Filed Aug. 17, 1962, Ser. No. 217,691
2 Claims. (Cl. 126—137)

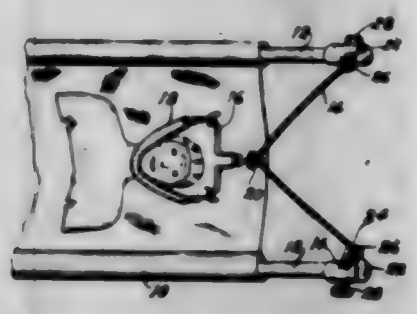


1. A fireplace crane comprising a vertical standard of uniform circular cross-sections formed with encircling grooves at spaced intervals therealong, a tubular extension with one end portion thereof telescopically fitted on the lower end portion of said standard, a closing nut fixed over the other end portion of said tubular extension, a rod threaded adjustably through said nut coaxially of the tubular extension, and formed at its lower end with a wrench including a head that terminates in a conically tapered point, a supporting plate for said standard, formed with a vertical bore seating the tapered point of said

wrench head therein, a rod adjustment securing lock nut threaded onto said rod for tightening against said closing nut; at least one set screw threaded through the upper end portion of said tubular extension adapted to be tightened against said standard to secure the telescopic adjustment of the tubular extension, a radial arm equipped with a mounting hub at its inner end that is fitted on said standard for longitudinal adjustment therealong and for its axial turning adjustment, a set screw threaded through a wall of said hub and selectively applicable to any one of said annular grooves to establish the elevation of use of said radial arm on said standard and adapted to be tightened further against said groove to hold the arm against swinging on said standard.

3,139,883
SURGICAL TRACTION DEVICE FOR STRETCHERS

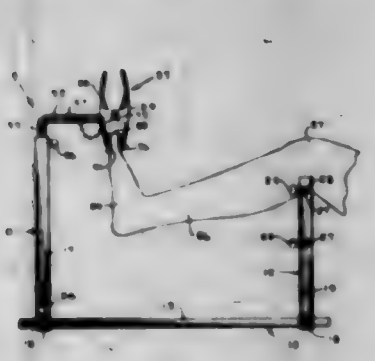
Joseph M. Collins, U.S. Air Force (1453 Aeromed. Evac. Sqdn., Hickam AFB, Honolulu, Hawaii)
Filed Mar. 2, 1962, Ser. No. 177,139
4 Claims. (Cl. 128—75)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A traction device for use with a common litter having side rails and handles extending therefrom, said traction device comprising a cord resilient in an axial direction, means on said cord for attaching the said resilient cord to the said handles transverse to the length of said litter, said means having a transverse portion adapted to abut the ends of said handles and means on said cord for attaching the said resilient cord to a traction bar.

3,139,884
ORTHOPEDIC DEVICE

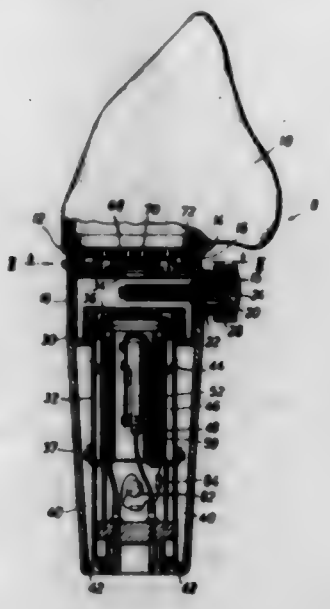
Homer H. Stryker, Kalamazoo, Mich., assignor to Stryker Corporation, a corporation of Michigan
Filed Nov. 6, 1961, Ser. No. 150,328
10 Claims. (Cl. 128—83)



1. An apparatus for supporting a human leg while a cast is being applied to a portion thereof, comprising:
a base structure having a pair of spaced, upright members, and means for adjusting said upright members toward and away from each other;
a support element mounted upon and extending sidewardly from one of said upright members for engaging and supporting a leg adjacent the knee joint thereof;
a clamp and means adjustably supporting said clamp upon the other upright member, said clamp having a pair of pivotally connected levers with padded jaws mounted thereon and arranged for engaging the portion of the foot on said leg adjacent the toes of the foot, said clamp being spaced horizontally from said support element a distance corresponding to the distance between said knee joint and said foot, and at least one of said jaws being movable around the pivot axis of said levers towards and away from said support element; and
resilient means urging said jaws together, said clamp being arranged so that the foot is gripped between said jaws and supported by said clamp when the portion of said leg adjacent said knee joint is resting upon said support element.

3,139,885
DEVICE FOR THE TREATMENT OF DISEASES OF THE RESPIRATORY PASSAGES

Hans Hirtz, Altenberger Strasse 11, Cologne, Germany, and Hanns Joachim Hirtz, Dürener Strasse 211, Cologne-Lindenthal, Germany
Filed May 28, 1962, Ser. No. 198,196
Claims priority, application Germany Nov. 20, 1961
2 Claims. (Cl. 128—212)



1. A mask for the treatment of diseases of the respiratory passages comprising a generally cylindrical housing closed at one end, a cylindrical inner housing disposed within and cooperating with said outer housing to form an annular chamber, said end defining a plurality of openings peripherally disposed about said end providing communication between ambient atmosphere and said annular chamber, a generally cylindrical heating arrangement including an electrical resistance heating element and disposed within said inner housing to form a heating chamber therebetween, openings in said inner housing to provide air passage from said annular chamber to said heating chamber, said air passage continuing through the center of said heating arrangement to pass through the other end of said cylindrical housing, a medicament chamber secured to said cylindrical housing and connecting with said air passage of said heating arrangement, said medicament chamber having a tubule to retain inhalation medication compounds for distribution of said compounds into the heated air received from said air passage, a first flapper valve disposed at said other end of said cylindrical housing to allow passage of air from said cylindrical housing to said medicament chamber and to eliminate its return passage thereto, a flexible face engaging piece con-

nected directly to said medicament chamber, a second flapper valve disposed adjacent an end of said medicament chamber remote from said first flapper valve to allow passage of air from said medicament chamber directly into a space defined by said face engaging piece and to eliminate its return passage thereto, an exhaust valve in the face engaging piece to allow passage of air therefrom and to eliminate its return passage, and an adjustable opening disposed between said second flapper valve and the space defined by said flexible face engaging piece for infeeding fresh air into said flexible face engaging piece.

3,139,886
TAMPON APPLICATOR WITH LUBRICATING FEATURE
Richard B. Tallman and Sarah L. Tallman, both of 1631 Camden Ave., Los Angeles, Calif.
Filed Sept. 12, 1962, Ser. No. 223,028
5 Claims. (Cl. 128—263)

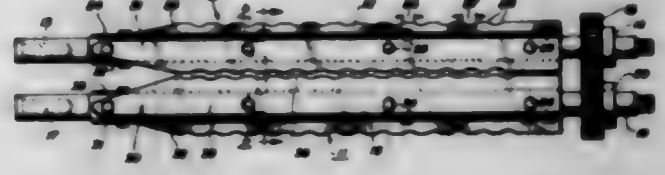


1. For use with a tampon applicator having a forward end normally inserted into a body orifice, a lubricant, means containing said lubricant, said means being openable so as to effect a release of the lubricant in the vicinity of said forward end prior to the insertion of the applicator into a body orifice, said means consisting of a peripheral outwardly opening groove formed about the applicator adjacent the forward end, and removable closure means positioned over said groove in lubricant retaining relation thereto.

4. In combination, a tampon applicator and means for retaining lubricant for selective application to the tampon applicator, said means consisting of a wrapper enclosing said applicator, said wrapper including a plurality of peripherally sealed lubricant containing pockets, said pockets being located generally adjacent the forward end of the applicator, said pockets each having a readily frangible portion therein responsive to the application of a compressive force to said pockets so as to discharge the lubricant on the forward end of the application.

3,139,887
SNAPPING ROLLS FOR A CORN PICKER
Elof K. Karlsson, East Moline, and Ralph L. Sutton, Rock Island, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 26, 1962, Ser. No. 226,223
3 Claims. (Cl. 130—5)

1. For use in a corn picking apparatus, a pair of rotating processing rolls, and a plurality of stalk-engaging plates affixed to each of said rolls, each of said plates comprising a fastening area for abutting said roll in tangential relation therewith and a working area spaced from said fastening area, said working area including a serrated edge defining a series of substantially linear land portions, each pair of adjacent land portions being separated by a depressed portion, said rolls being aligned



so that at a point in the cycle of rotation the plates on one of said rolls are seriatim co-planar with the cooperating plate on said other roll so that the edges of said plates pass adjacent each other.

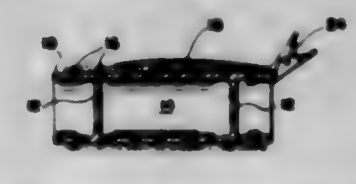
3,139,888
TOBACCO PRODUCT
James Douglas Grossman, Richmond, and Abraham Bavley, Ben Air, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 21, 1962, Ser. No. 246,324
8 Claims. (Cl. 131—17)

1. A tobacco product containing tobacco and from about 0.5 to about 5.0% by weight, based on the tobacco, of a polyisoprenoid alcohol having the formula:

$$H\left[-CH_2-C(CH_3)=CH-CH_2-\right]_n OH$$

where n has a value of from 3 to 9, inclusive.

3,139,889
HAIR CURLER
Frank D. Burnell, 22055 W. Brandon, Farmington, Mich.
Filed June 2, 1961, Ser. No. 114,518
1 Claim. (Cl. 132—39)

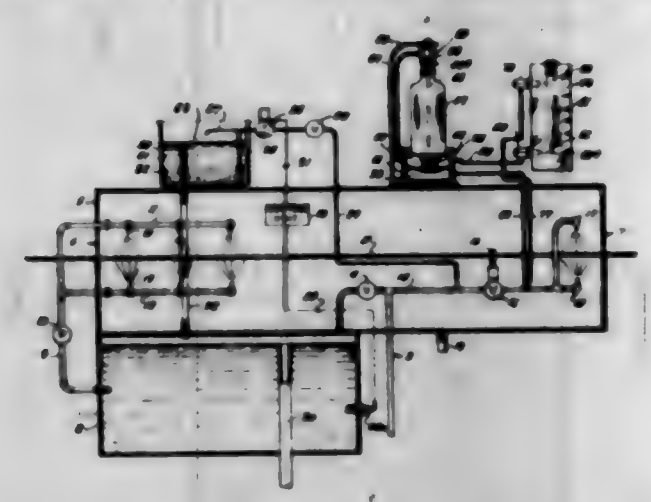


A hair roller formed of a resilient material and comprising a substantially impermeable cylindrical outer wall and a pair of substantially impermeable cylindrical end walls extending transversely to the axis of said cylinder spaced inwardly of the ends thereof, and having their peripheries sealed to said outer wall so as to form a sealed central air chamber between said outer wall and said end walls and a pair of cylindrical open-ended chambers withing said outer wall at opposing ends of said cylinder.

3,139,890
DISHWASHER HAVING MEANS TO INJECT LIQUID ADDITIVE INTO THE RINSE WATER SUPPLY LINE
George Wenzel Mersa, 4914 Cole Ave., Dallas, Tex.
Filed May 11, 1962, Ser. No. 194,925
6 Claims. (Cl. 134—100)

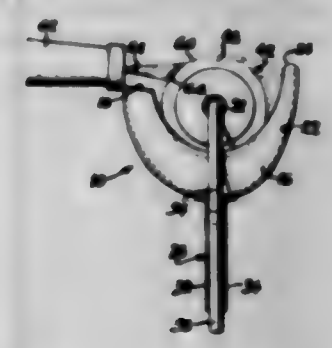
1. The combination with a dishwashing machine having a housing adapted to receive dishes, rinse water spray heads disposed in the housing, a rinse water supply line connected to the spray heads, a valve in the supply line for controlling the flow of rinse water to the spray heads for rinsing the dishes, means for operating said valve to control the flow of rinse water through the supply line; of means for injecting liquid additive into the rinse water supply line when the valve is open including, a fitting extending into the rinse water supply line; a first longitudinal passage through the fitting; a first lateral orifice through the wall of the fitting communicating with said first longi-

tudinal passage; a diaphragm chamber divided into upper and lower chambers by a horizontal diaphragm member, with the first longitudinal passage communicating with the lower chamber; spring means in the upper chamber normally urging the diaphragm downwardly; a liquid additive container; a flow line leading from the container to



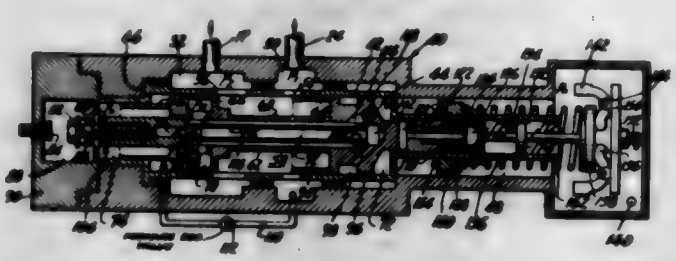
the upper chamber; an upwardly opening check valve controlling communication from the container to the upper chamber; a conduit leading from the upper chamber to the fitting; a second longitudinal passage in said fitting communicating with the conduit and a second lateral orifice through the wall of the fitting communicating with the second longitudinal passage.

3,139,891
PAINT ROLLER CLEANER
Carl O. Faustman, 1700 W. Outer Drive, Dearborn, Mich.
Filed Apr. 1, 1963, Ser. No. 269,456
3 Claims. (Cl. 134—138)



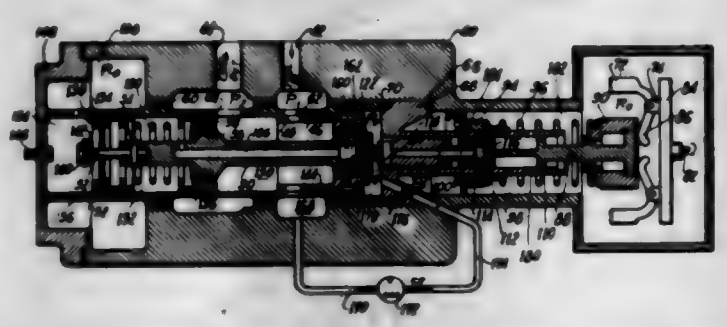
1. A paint roller cleaner for cleaning paint rollers of the type having a roller element rotatably secured at one end to a handle, the handle extending around the end of the roller, thence parallel with the longitudinal axis of the roller and thence outwardly from the roller to form a hand-grippable element, said paint roller cleaner comprising a trough-shaped enclosure to receive the roller element, said trough-shaped enclosure defining front and back wall portions, the front wall portion of the enclosure being receivable between the roller element and the portion of the handle extending parallel thereto, gripping means on the exterior of the enclosure for engaging the paint roller handle in a position to maintain the roller element in spaced apart relationship with respect to the interior surface of the enclosure, and a longitudinally extending flange projecting inwardly from one longitudinal edge of the trough-shaped enclosure, the upper edge of the front wall portion being lower than the upper edge of the back wall portion so that the outer periphery of the roller element extends beyond the upper edge of the front wall portion and said flange to permit impingement of a water spray over said flange tangentially onto the roller element to cause rotation of the roller element while this element is being sprayed with water for cleansing purposes, said flange acting as a guard to catch any fluid which is thrown off the roller and towards the flange.

3,139,892
SERVO GOVERNOR HAVING EMERGENCY CONTROL MEANS
James C. McRoberts, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 22, 1954, Ser. No. 477,036
7 Claims. (Cl. 137—18)



5. In a fuel feed and power control system for an internal combustion engine, a fuel conduit for conducting fuel to the engine, a fuel metering restriction in said conduit, reciprocal governor valve means for controlling the flow of fuel through said restriction, said valve means including first and second valve elements directly responsive to fluid pressures, a regulated fluid pressure source containing fluid at a first pressure communicating with said valve element, restrictive passage means operable to transmit fluid from said first to said second valve element at a second pressure, control means for controlling the level of said second pressure, with said control means including a servo control valve operative with a servo orifice member for controlling the movement of said valve means, said control means including a housing member for said servo valve, with said housing member being adapted to move said orifice member in the event said servo valve becomes inoperative with regard to controlling the movement of said valve means, and an engine speed responsive mechanism connected to said control means for maintaining a given pressure difference between said first and second fluid pressures during equilibrium operation of the engine at any given speed.

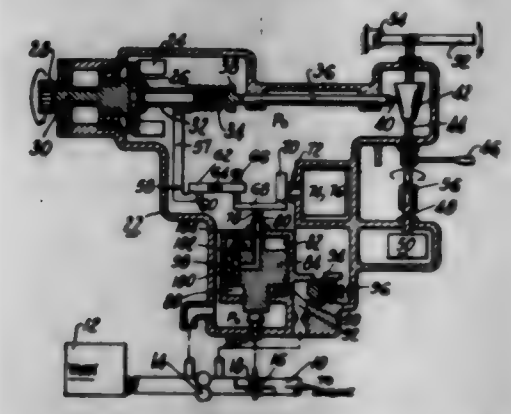
3,139,893
SERVO GOVERNOR HAVING EMERGENCY CONTROL MEANS
Andrew A. Kuzmitz, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 446,335, July 28, 1954. This application Sept. 5, 1957, Ser. No. 682,570
5 Claims. (Cl. 137—18)



1. An engine speed governor comprising motive fluid flow regulating valve means, a chamber adjacent said valve means adapted to receive fluid under pressure, said pressure fluid urging said valve means towards closed position, servo-mechanism for varying the pressure of the fluid in said chamber as a function of a preselected engine speed including manually controlled means for selecting the speed of the engine to be controlled by the

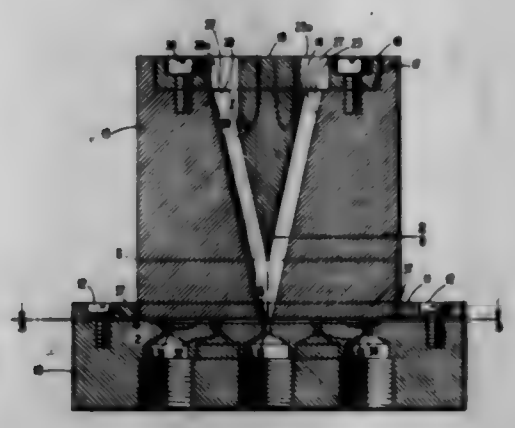
governor, and means urging said valve means towards open position and becoming effective to establish a mechanical connection between said manual means and said valve means in the event of loss of fluid pressure in said chamber.

3,139,894
POWER TURBINE SPEED CONTROL FOR TURBOPROP ENGINES
Richard R. Strebinger, Daryl L. Criswell, and Warner C. Wintrode, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 30, 1960, Ser. No. 18,722
9 Claims. (Cl. 137—34)



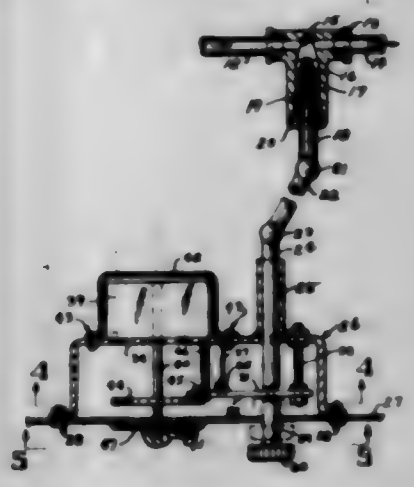
5. A governing system for an engine comprising a fuel conduit to said engine, a fuel valve in said conduit, servomotor means for controlling the position of said fuel valve, and means for controlling said servomotor means including a floating link and a pilot valve attached to said link, a proportional all-speed governor adapted to exert a force on said link including an adjustable speed responsive device for producing a force varying with the speed of said engine and speed selecting means responsive to varying load conditions for producing a force in opposition to said speed force, and an integrating all-speed governor adapted to exert a force on said link including a cam in contact with said link, means driven by said engine for producing a voltage whose amplitude varies with the speed of said engine, means producing a voltage whose amplitude is proportional to a desired speed and for comparing said voltages to produce a speed error signal, amplification means for amplifying said speed error signal, and an electric motor driven by said amplification means for positioning said cam.

3,139,895
PNEUMATIC SWITCH
Robert A. Comparin, Zurich, Switzerland, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1961, Ser. No. 155,671
3 Claims. (Cl. 137—81.5)



1. A pneumatic switch device comprising means providing an inlet chargeable with a first pressure fluid to provide a fluid power stream, at least three outlets arranged in a ring and diverging at equal angles from each other and from the axis of the inlet, and a number of control ports equal to the number of outlets and arranged symmetrically about the inlet upstream of the outlets, said control ports being selectively chargeable with other pressure fluid to control diversion of the stream into selected outlets by directing jets substantially at right angles to said axis for diverting the stream of pressure fluid flowing through the inlet from its original direction to a new direction corresponding to the direction of the vectorial resultant of the fluid pressure jets supplied from the selected control ports.

3,139,896
APPARATUS FOR ADDING A CONTROLLED AMOUNT OF LUBE OIL TO AN ENGINE
Raymond B. Eggen, 14252 Montrose, Detroit 27, Mich.
Filed Oct. 12, 1960, Ser. No. 62,147
1 Claim. (Cl. 137—353)



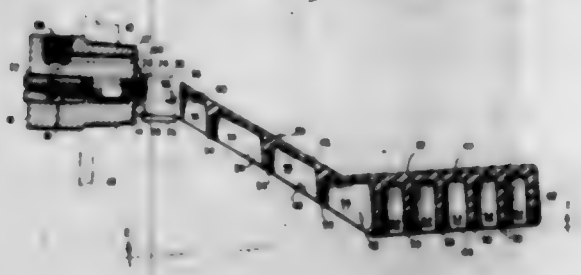
An apparatus for adding a controlled amount of oil from a reserve oil tank to a vehicle engine crankcase comprising: a conduit for connecting said tank to the crankcase; a flow control valve in said conduit and movable between open and closed positions; a first spring means engaging said valve for normally biasing said valve to the closed position; a housing; a holding rod slidably mounted through said housing and having the inner end connected to said valve and the outer end provided with a knob for manually moving the rod to a valve opening position to move the valve to the open position against the closing action of said first spring means; said rod having a notch formed in its periphery; a trip lever having one end pivotally mounted to said housing; a second spring means normally biasing said trip lever against said rod and into releasable locking engagement with said notch to retain said rod in the valve opening position to allow oil to flow from said tank through said conduit and into the crankcase; a timing mechanism in said housing; a driving shaft connected to the timing mechanism; a control knob on said shaft for setting the timing mechanism; and, a rotable cam means on said shaft for engaging said trip lever to move it out of engagement with said notch to release said rod after a predetermined amount of oil has passed through the valve and allow said first spring means to move the valve to the closed position.

3,139,897
FLOAT VALVE
David L. Morgan, Shelton, and Louis A. Gedikis, Bethel, Conn., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,778
2 Claims. (Cl. 137—448)

1. A liquid level responsive valve comprising:
a buoyant plastic lever;

a buoyant plastic float element formed on one end of the lever and projecting at an angle from the end of the lever;

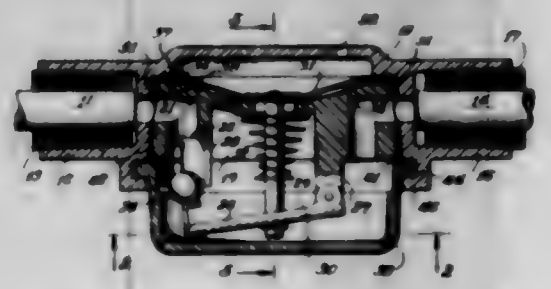
said lever and float element each having a top wall and a pair of spaced depending side walls;



a series of transverse ribs connecting the side walls to define a plurality of air chambers on the lower side of the lever and float element;

and a planar valve face on the end of the lever remote from the float element.

3,139,898
PLASTIC PRESSURE REGULATOR
Bernard M. Wiltgen, Robert J. White, and Tully Trainer, Chicago, Ill., assignors to Milemaster Incorporated of America, Chicago, Ill., a corporation of Illinois
Filed May 12, 1961, Ser. No. 109,574
4 Claims. (Cl. 137—454.6)

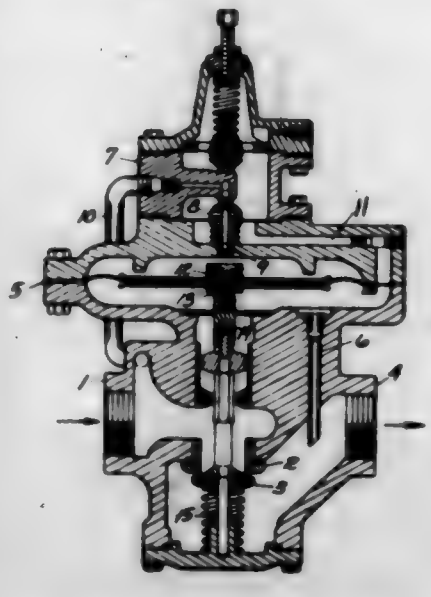


1. A pressure regulator including an inverted cup-shaped shell having inlet and outlet fittings molded integrally therewith of synthetic plastic, an insert also of inverted cuplike shape snugly fitting within the shell and, with the fittings, forming inlet and outlet passages, a diaphragm peripherally secured between the insert and the shell, valving structure controlling flow between the inlet and outlet passages and operatively connected to the center of the diaphragm, said insert and shell being shaped to form a chamber providing for movement of the diaphragm, and a bowl peripherally sealed to the insert and means for pressing the bowl against the insert to press it into the shell to clamp the diaphragm periphery.

3,139,899
PILOT LOADED PRESSURE REGULATOR
Robert Schwerter, Anaheim, Calif., assignor to American Meter Company, Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 22, 1961, Ser. No. 139,364
3 Claims. (Cl. 137—489.5)

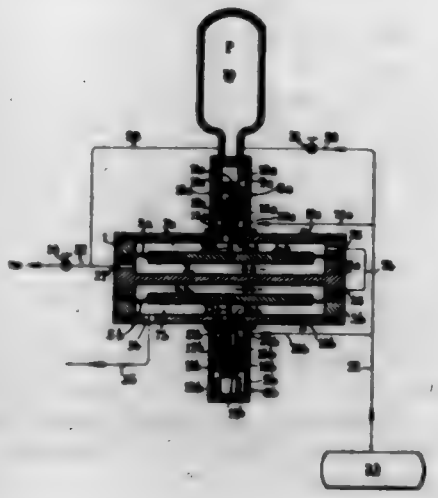
1. In a gas pressure regulator having an inlet, an outlet, a chamber communicating with the outlet and closed by a diaphragm, flow restricting means between the inlet and outlet, operating means for the flow restricting means including a post within the chamber and slidably extending through the center of the diaphragm and having a shoulder within the chamber engaging the inner side of the diaphragm and a valve member outside the chamber and spaced from the outer side of the diaphragm, pilot regulator means supplying a loading pressure greater than the normal outlet pressure of the regulator to the outer side of the diaphragm whereby the diaphragm is normally held against the shoulder and is lifted off the shoulder when the outlet pressure rises above the loading pressure, a cooperating valve member on the diaphragm spaced from said first valve member when the diaphragm rests on the shoulder and closing against the first valve member when the diaphragm is lifted off the shoulder, and a bleed way from the outer to the inner side of the diaphragm shut off by the closing of said cooperating valve member against said first valve member.

3. In a gas pressure regulator having an inlet, an outlet,



flow restricting means between the inlet and outlet, operating means for the flow restricting means including a main diaphragm loaded on one side by the outlet pressure and on the opposite side by a pilot pressure higher than the outlet pressure, a lost motion connection between the main diaphragm and the flow restricting means, a downstream bleed way from the pilot pressure to the outlet pressure, and means responsive to relative motion between the diaphragm and said flow restricting means for shutting off the downstream bleed way upon excessive outlet pressure.

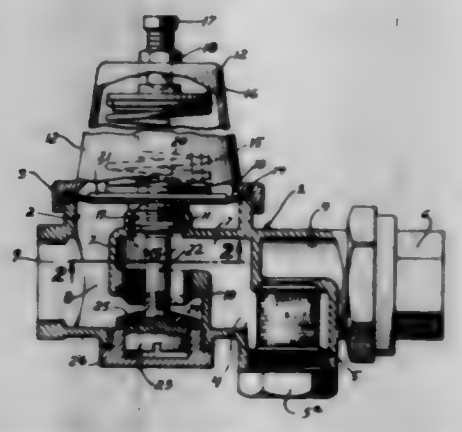
3,139,900
BALANCED AIR LOADED AIR PRESSURE REGULATOR
Paul Karing, Francouville, France, assignor to Bronzavia S.A., Courbevoie, France, a French body corporate
Filed May 31, 1961, Ser. No. 113,893
Claims priority, application France May 30, 1960
3 Claims. (Cl. 137—505.18)



1. In an air pressure regulator adapted to be inserted between a supply service supplying gas under pressure and a utilization apparatus or system; said air pressure

regulator comprising a first and a second regulator consisting respectively of a pilot regulator and a main regulator, each of said first and second regulators comprising a reference pressure chamber and a regulated pressure chamber, said two chambers being separated by a movable wall; two regulating valves; two needles, the ends of each of said needles bearing respectively on the movable wall and the regulating valve of each of said regulators; each of said regulating valves comprising a valve housing having a lateral wall and an end wall, a valve slide movable inside said valve housing, frictionless guiding means interposed between said valve slide and the lateral wall of said valve housing and bellows interposed between said valve slide and the end wall of said valve housing; said valve slide having an annular end and said regulating valve further comprising a fixed annular seating spaced from said annular end by a small regulatable annular interval, inner conduit means communicating with the inside of said annular interval and with the regulated pressure chamber of the corresponding regulator, and outer conduit means communicating with the outside of said annular interval and adapted to be connected to said supply device for communication therewith.

3,139,901
PRESSURE REGULATOR VALVE
Alfred L. Camp, Brea, Calif., assignor to Irving Terry, doing business as The Wilkins Regulator Company, Los Angeles, Calif.
Filed Apr. 2, 1962, Ser. No. 184,462
2 Claims. (Cl. 137—505.18)



1. A regulator valve, comprising:
(*a*) a valve body defining a passage, normally forming an inlet, opposed bores communicating with said passage, a valve chamber communicating with the opposed ends of said bores, and a port, normally forming an outlet, communicating with said chamber;
(*b*) a valve element for one of said bores to permit flow from said passage to said port;
(*c*) a pressure-balancing piston slidable in the other of said bores;
(*d*) a stem connecting said piston and valve element for simultaneous movement thereof;
(*e*) said piston defining an O-ring groove contiguous to said stem, and notched portions at the passage side of said O-ring groove interrupting said groove at diametrically opposite sides thereof and toward said passage, said notched portions having faces converging toward said stem;
(*f*) a flexible O-ring fitting said groove for sealing engagement with the walls of the surrounding bore and adapted, in response to a condition of greater pressure in said passage than in said chamber, to seal said piston in said bore;
(*g*) said O-ring including arcuate portions bridging said notched portions, said notched portions being of sufficient arcuate extent and said O-ring being sufficiently flexible that said O-ring is deflectable over said converging surfaces clear of the walls of the surrounding bore, thereby to permit back flow toward said passage;
(*h*) and a spring-backed diaphragm exposed to said chamber and connected with said piston and valve element, said diaphragm being responsive to pressure in said chamber to close said valve element on rise of pressure in said valve chamber to a predetermined value.

3,139,902
HANDLE STRUCTURE FOR PRESSURE-REGULATOR AND GAUGE FOR GAS CYLINDERS
Jim B. Thomas, 1903 Church St., Nashville 3, Tenn.
Filed Mar. 14, 1961, Ser. No. 95,650
3 Claims. (Cl. 137—557)

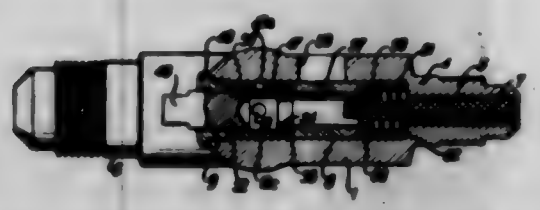


1. A handle structure for containing a pressure-regulator and a pressure gauge comprising:
(*a*) an elongated body member having a front end, a rear end, an upper portion and a lower portion,
(*b*) said body member having a transverse substantially ovoid cross section, said upper portion being narrower than said lower portion, to adapt said body member to be comfortably gripped by an adult, human hand,
(*c*) a fluid input chamber in said lower portion adjacent said front end,
(*d*) a fluid output chamber in said lower portion adjacent said rear end,
(*e*) valve means in said lower portion communicating said input chamber with said output chamber,
(*f*) pressure-regulating means in said lower portion for controlling said valve means to open and close communication between said input chamber and said output chamber,
(*g*) a pressure chamber in said upper portion having a longitudinal axis parallel to the longitudinal axis of said body,
(*h*) a fluid passage between said input chamber and said pressure chamber,
(*i*) a recessed window in said upper portion,
(*j*) means in said upper portion visible through said window for indicating the pressure in said pressure chamber,
(*k*) an inlet in said front end communicating with said input chamber, and
(*l*) an outlet in said rear end communicating with said output chamber, and extending upwardly and rearwardly from said body member at an acute angle with the longitudinal axis of said body member.

3,139,903
EXPANSION VALVE WITH ADJUSTABLE METERING ORIFICE
Harold J. Leas, Milwaukee, Wis., assignor to International Telephone and Telegraph Corporation, Baltimore, Md., a corporation of Maryland
Filed Feb. 21, 1961, Ser. No. 90,699
2 Claims. (Cl. 137—339)

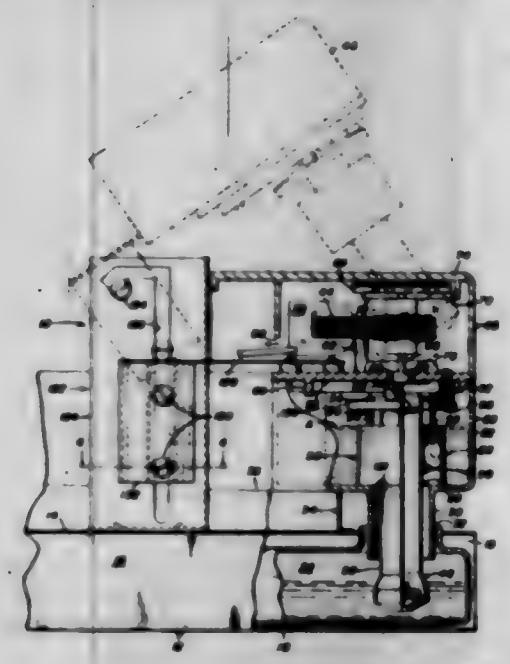
1. In a valve structure: a valve body having an inlet opening and an outlet opening; said inlet opening extending entirely through the valve body; there being a passage between an intermediate portion of said inlet opening and the outlet opening, said passage including a port; a rotary hollow cylinder guided in said inlet opening and overlying said port; said cylinder having angularly spaced

openings optionally registrable with the port to form a metering orifice; the interior of the cylinder being in communication with the inlet opening; a stem for the cylinder extending out of the body and rotatable to adjust the cylinder for registering any one of said angularly spaced openings with the port; one end of said cylinder forming an annular shoulder around the stem; a resilient sealing ring disposed on the shoulder; a packing nut



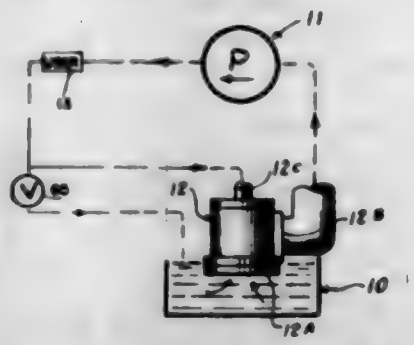
around the stem and forming an abutment for the ring; a packing gland engaging that end of the cylinder opposite the stem; a resilient sealing ring adjacent the side of the gland opposite the cylinder; means resiliently urging the packing gland against the cylinder; a sight glass interposed between the resilient urging means and the packing gland; and sealing means between the sight glass and the resiliently urging means.

3,139,984
MEANS FOR CIRCULATING A LIQUID THROUGH A PROCESSING APPARATUS
Raymond W. Wengel, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 12, 1963, Ser. No. 287,370
11 Claims. (Cl. 137—563)



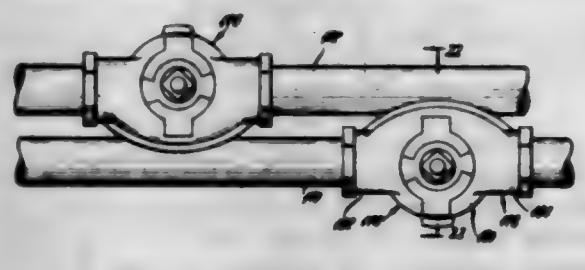
6. An arrangement for circulating a liquid in a treating apparatus comprising:
a treating container for receiving the liquid;
a reservoir disposed below the treating container for holding a supply of the liquid;
first and second conduit means interconnecting the container and reservoir;
pump means at one end of one of said conduit means for pumping liquid from the reservoir upwardly to the container;
means in the container at the upper end of the other of said conduit means for controlling the level of the liquid in the container and movable for draining the liquid in the container back to the reservoir;
and means for guiding the movable controlling means to a position out of the container.

3,139,985
FLUID SUPERCHARGERS
Oscar E. Rosaen, Grosse Pointe Farms, and Nils O. Rosaen, Bloomfield Hills, Mich. (both of 1776 E. Nine Mile Road, Hazel Park, Mich.)
Filed Sept. 11, 1961, Ser. No. 137,330
1 Claim. (Cl. 137—566)



In a fluid system system having a fluid reservoir, a primary pump, a fluid user, conduit means connecting the intake side of said pump with said reservoir, the discharge side of said pump with said fluid user and the discharge side of said fluid user with said reservoir; a supercharging means carried in said conduit means intermediate said reservoir and said pump, said supercharging means comprising
(*a*) a housing having a supply inlet connected with said reservoir and discharge outlet connected with the intake side of said pump,
(*b*) a fluid pressure operated pumping means carried in said housing and conducting means connected with said conduit means intermediate said fluid user and said reservoir whereby fluid pressure produced by said primary pump operates said pumping means,
(*c*) said pumping means being operable to pump fluid from said supply inlet to said discharge outlet,
(*d*) a selectively operable valve means carried in said conduit means intermediate said fluid user and said reservoir downstream of said conducting means whereby to selectively vary fluid pressure to said pumping means to control the operation thereof.
(*e*) a second inlet provided in said housing and connecting said reservoir with said discharge outlet, and
(*f*) a normally closed pressure responsive valve means carried in said second inlet and being operable to open upon the fluid pressure in said conducting means being decreased to a predetermined value whereby upon said pumping means being deactivated a fluid path will be opened directly from said inlet to said discharge outlet and bypassing said pumping means.

3,139,986
DUAL VALVE PLUG ASSEMBLIES
Joe W. Bell, Sulphur Springs, Tex., and Herman H. Fowler, Kearney, Nebr., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1959, Ser. No. 856,265
1 Claim. (Cl. 137—594)



A dual plug valve assembly for use with two parallel non-concentric closely spaced apart tubing strings, wherein said valve assembly rigidly supports said tubing strings

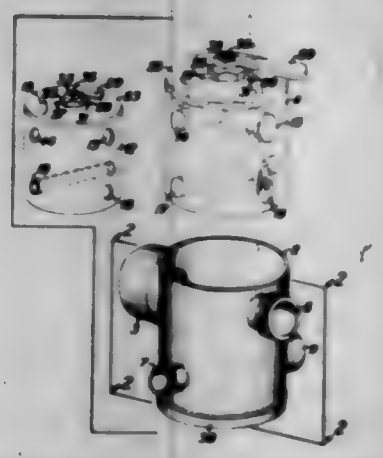
a predetermined distance apart and maintains a minimum predetermined thickness of valve body wall sufficient to withstand the maximum line pressure to which said tubing strings will be subjected, comprising:

(*a*) two longitudinally spaced separate valve body portions formed with straight parallel fluid passages axially aligned with and connected to respective tubing strings, each said body portion having a furrow shaped recess to receive and rigidly mount a portion of the tubing string connected to the other body portion,

(*b*) a plug seating bore in each said body portion intersecting the corresponding body passage, with the axes of said bores spaced laterally outwardly of the axes of said body portion passages,

(*c*) and a rotary plug in each bore, each plug having a straight through passage that in valve open position is laterally offset inwardly with respect to its associated bore and axially aligned with respect to the corresponding body portion passage.

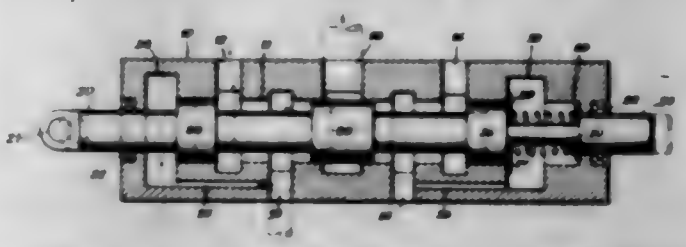
3,139,907
QUARTER TURN HYDRANT LINE TO PUMPER LINE VALVE
Samuel Austin Jones, Main St., P.O. Box 55, Cardiff, Md.
Filed Aug. 5, 1960, Ser. No. 47,882
5 Claims. (Cl. 137—625.29)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A combination valve and key comprising a casing and a hollow key rotatively mounted in said casing, said casing having a first pair of ports aligned in the upper level thereof and a second aligned pair of ports in the lower level thereof transverse to said first pair, said key having an aligned pair of ports and a first transverse port in the upper level and a transversely extending interior tube with a second transverse port in the lower level of said key whereby fluid can flow into said first transverse port, flow down through said key, and flow out said second transverse port at one position of said key and can flow straight through said first pair of ports and said tube in another position of said key.

3,139,908
VALVE FOR HYDRAULICALLY OPERATED CLUTCHES
Don S. Strader, Mount Prospect, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois
Filed Nov. 20, 1961, Ser. No. 153,326
2 Claims. (Cl. 137—625.48)

1. A control valve for alternate operation of a pair of hydraulically operated clutches which require lubrication only during engagement and disengagement thereof and which require a minimum hydraulic pressure for satisfactory operation, comprising: a valve body having a valve bore formed therein, a pressure port, a pair of clutch operating ports, a pair of clutch lubricating ports, said pressure port connected through said valve body into said valve bore substantially longitudinally centrally thereof, said lubricating ports connected through said valve body into said valve bore in a longitudinal spaced relationship one on each side of said pressure port, each of said operating ports connected through said valve body into said valve bore between said pressure port and one of said lubricating ports, a valve spool slidably carried in said valve bore for reciprocating movement therein longitudinally of the valve bore, three lands formed on said valve spool in a spaced-apart relationship to each other so that one lubricating port and one operating port of said pairs of lubricating ports and operating ports are positioned between the center land and one of the other lands when said center land blocks said pressure port in the center neutral position of said valve spool, said lands being spaced apart so that upon the initial movement of said valve spool in either direction from said center neutral position said pressure port is unblocked by said center land before one of the other of said lands block one of said lubricating ports and so that further move-

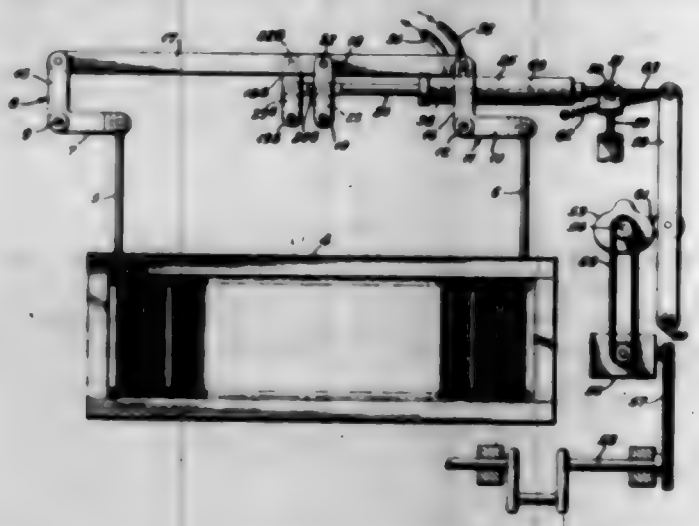


ment of said valve spool in the direction of initial movement thereof causes said one of the other of said lands to block said one of said lubricating ports whereby said pressure port and one of said operating ports are connected in free fluid communication through said valve bore and between said center land and said one of the other of said lands, passageway means providing communication between each of said operating ports and the opposite ends of said valve bore, said opposite ends of said valve bore being formed to have annular grooves communicating with said passageway means, and spring biasing means carried in said valve body and cooperating with said valve spool to bias said spool to said center neutral position wherein said center land blocks said pressure port, said spring bias means having a biasing force equal to the hydraulic force exerted on said one of the other of said lands by said minimum hydraulic pressure whereby when said operating pressure drops below the required minimum said spool will be returned to said center neutral position.

3,139,909
SHEDDING MECHANISM FOR A LOOM
Samuel P. Parker, La Grange, and Joe T. Short, West Point, Ga., assignors to Callaway Mills Company, La Grange, Ga., a corporation of Georgia
Continuation of application Ser. No. 839,346, Sept. 11, 1959. This application Feb. 21, 1961, Ser. No. 90,888
3 Claims. (Cl. 139—55)

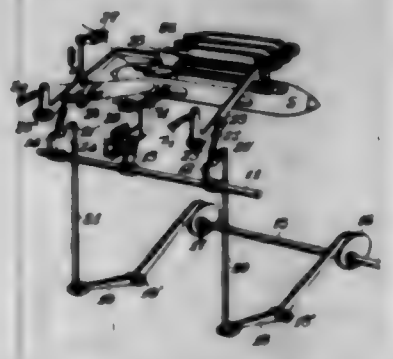
1. In a loom having a harness, operating means for raising and lowering said harness comprising: a double acting cylinder and piston assembly; a piston rod secured to the piston; means securing one element of said assembly to a stationary portion of the loom; a source of fluid under pressure; valve means secured to one element of said assembly for movement therewith and including a valve element normally occupying a neutral position with respect to said cylinder and preventing flow of fluid from said source to said cylinder, said valve element being movable from said neutral position in one direction with respect to said cylinder for directing fluid under pressure from said source to said cylinder to cause one element of said assembly to follow the movement of said valve element in said one direction until the extent of

movement corresponds to that of said valve element and said valve element is thereby returned to said neutral position, said valve element being movable from said neutral position in the opposite direction with respect to said cylinder for directing fluid under pressure from said source to said cylinder at the opposite side of said piston to cause one element of said assembly to follow the movement of said valve element in such opposite direction until the extent of movement of said one element of said assembly corresponds to that of said valve element



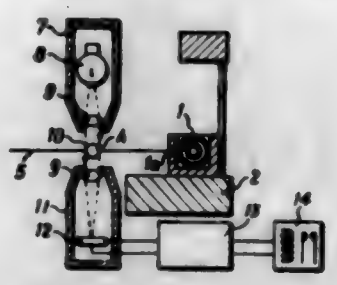
and said valve element is thereby again returned to said neutral position; a cam; means for driving said cam in synchronism with the loom; a cam follower following the contour of said cam and connected to said movable valve element for moving the same with respect to the cylinder to cause one element of said assembly to partake of reciprocating movement corresponding to the contour of said cam; and linkage means connecting said assembly to said harness to raise and lower the harness upon reciprocation of one element of said assembly.

3,139,910
MECHANISM FOR THREADING THE TRAILING YARN OF A BOBBIN THROUGH AN EYE OF A SHUTTLE
Seiji Kondo and Ribei Nishikawa, Kariya, and Masaru Yoshida, Gifu, Japan, assignors to Toyoda Automatic Loom Works, Ltd., Kariya, Japan, a corporation of Japan
Filed Apr. 3, 1962, Ser. No. 184,785
Claims priority, application Japan Apr. 5, 1961
2 Claims. (Cl. 139—259)



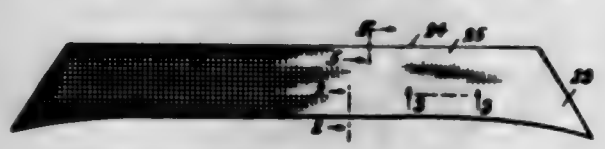
1. A mechanism for threading weft yarn through the eye of a shuttle in a weaving loom having a detector acting to feel a bobbin in a shuttle, and also having a conventional weft replenishing mechanism, said mechanism comprising a pivoted lever adapted to be operatively connected to the detector, a yarn controller on said pivoted lever and adapted to be lowered to engage and move the trailing yarn from a new bobbin inserted into the shuttle to a position in the vicinity of the shuttle eye, a pair of scissors connected to said lever and actuated by the downward movement of the latter, a suction pipe having one end opening toward the shuttle eye and adapted to be connected to a source of suction, and a yarn gripper operatively connected to said pivoted lever and associated with said suction pipe and adapted to grip the yarn drawn through the shuttle eye into the suction pipe.

3,139,911
PHOTOELECTRIC WEFT DETECTING MEANS
Max Breitmeier, Goldackerweg 14, Zurich 9/47, Switzerland
Filed Sept. 12, 1960, Ser. No. 55,398
Claims priority, application Switzerland Sept. 14, 1959
15 Claims. (Cl. 139—370)



1. A method of determining proper functioning of weft threads in looms, comprising the steps of moving weft thread through a plurality of warp threads and in a predetermined path of travel to assume a predetermined position at a given instant of time, and applying detecting means to said predetermined position at least at said given instant of time without actually physically contacting said weft thread to determine the presence of said weft thread.

3,139,912
COLLAR HAVING THERMOPLASTIC "GUT" YARN
Thomas Dow Ainslie, Metuchen, N.J., assignor to Phillips-Van Heusen Corporation, New York, N.Y., a corporation of New York
Filed Mar. 16, 1962, Ser. No. 180,204
2 Claims. (Cl. 139—385.5)

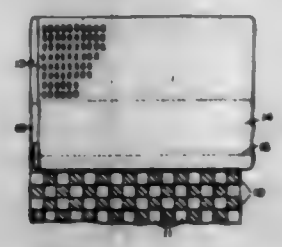


2. In a multi-ply collar fabric comprising a body area and a fold line area, each fabric repeat in the body area of the fabric being composed of two face warps engaging with weft threads to form a fabric ply and two back warps engaging with weft threads to form a second fabric ply, one binder warp extending between the weft threads in both plies, and one gut warp between the plies, each fabric repeat in the fold line area of the fabric being composed of front and back plies, the front ply being composed of four warps engaging weft threads, the back ply being composed of two warps engaging weft threads, two binder warps for each repeat and no gut threads, at least some of the gut threads in the body of the fabric being composed at least in part of a normally deformable material having a permanent set when subjected to a chemical change.

3,139,913
BED CLOTHING AND THE LIKE
Alfred Walter Bayes, Hyde, England, assignor to Ashton Brothers & Company Limited, a corporation of Great Britain
Filed Jan. 17, 1961, Ser. No. 83,265
2 Claims. (Cl. 139—391)

1. A heat insulating textile fabric particularly adapted for use as a blanket for bed clothing, comprising a closely

woven textile base having a looped pile on both of its faces, said loops being arranged in a multiplicity of groups, each group containing a plurality of closely adjacent individual loops defining a firm resilient pile adapted to remain substantially constant in depth, said groups being so arranged on the textile base that they define a dentilated



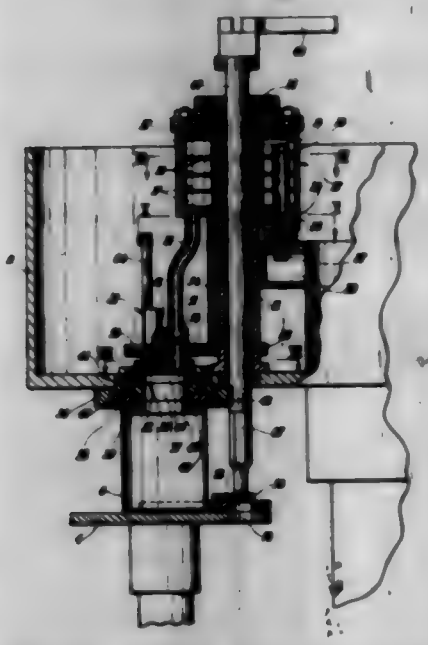
surface having a plurality of relatively small non-looped areas surrounded by looped areas, whereby when the fabric is sandwiched between two other surfaces a layer of heat-insulating air pockets is formed on each side of said textile base between it and the adjacent one of said other surfaces, the textile base serving to prevent flow of air by convection from one layer of air pockets to the other.

3,139,914

SYRUPING APPARATUS FOR USE IN CONNECTION WITH THE CANNING OF FRUIT, VEGETABLES AND OTHER FOOD PRODUCTS

David William Bingham, Brighton, Victoria, Australia, assignor to D. W. Bingham and Company Proprietary Limited, Victoria, Australia, a corporation of Victoria

Filed Nov. 30, 1961, Ser. No. 156,106
Claims priority, application Australia Nov. 30, 1960
11 Claims. (Cl. 141—45)



11. Improved vacuum syruping apparatus for filling containers with syrup or other liquid, comprising a main supply bowl for syrup carrying a series of circumferentially spaced filling heads located within the bowl so as to project through the bottom thereof, each filling head having an associated vacuum and liquid control valve assembly immersed in the syrup when the latter is contained in the bowl, said bowl being positioned above a series of circumferentially spaced platforms adapted to receive the containers to be filled, a vacuum pump for creating a partial vacuum in each container so as to cause liquid from the bowl to enter the container under atmospheric pressure, each filling head having means for automatically closing a vacuum passage in said valve assembly prior to admitting the liquid to a container, each filling head having an independent liquid separator associated therewith for trapping any liquid that may be entrained in the outflowing air stream passing to said vacuum pump, each liquid separator being divided internally by a series of baffles to form a series of communicating compartments, the last of said compartments being provided with an outlet port and an air inlet port communicating with an air inlet conduit leading to said control valve assembly, the first of said compartments having an outlet pipe connected to said outlet port, a vacuum valve and a drain valve associated with said outlet port, said outlet port extending through a valve plate attached to the separator, said valve plate being slidably engaged by said vacuum valve and said drain valve, spring means urging both said vacuum valve and said drain valve against said valve plate, a vacuum manifold on said bowl connected to said vacuum pump, said vacuum valve communicating with said manifold and said drain valve communicating with said bowl to return liquid trapped in the separator back to the bowl.

3,139,915

NO-CONTAINER NO-FILL ARRANGEMENT FOR RECEPTACLE FILLING MACHINES

Everett S. Minard, Laguna Beach, Calif., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

Filed May 12, 1961, Ser. No. 109,743
10 Claims. (Cl. 141—94)



1. A detection and actuating arrangement for a multi-stationed, high speed receptacle filling machine of the type having a plurality of product filling assemblies with associated filling valves operable by means of a movable camming surface overlying and moving along a path in synchronism with a plurality of receptacles, a rotatable feed star having pockets for individually feeding receptacles beneath said product filling assemblies and a conveyor for transporting uniformly spaced receptacles to said pockets, comprising detecting means for detecting in advance of a product filling assembly the presence or absence of a receptacle in a pocket of said star wheel, memory means operative for recording the absence and presence of receptacles in each pocket as detected by said detecting means, and means including a camming surface operative by said memory means upon each pocket of said star wheel being rotated to a predetermined position prior to entrance of receptacles beneath said filling assemblies for camming said product filling valve during an indicated presence of a receptacle and preventing a camming of the product filling valve during an indicated absence of a receptacle said detecting means affecting said memory means differently only upon a change of conditions with respect to the absence and presence of a receptacle.

3,139,916

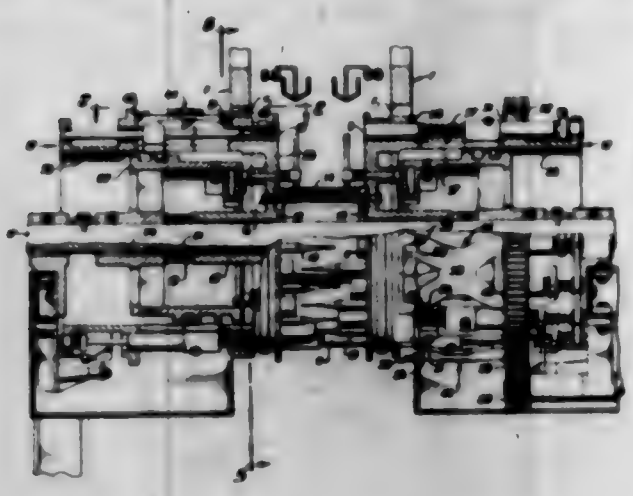
QUICK CHANGE TORQUE PLATE MOUNTING

William H. Kagley, Dinuba, Calif., assignor to Lindsay Ripe Olive Company, Lindsay, Calif., a corporation of California

Filed June 8, 1962, Ser. No. 201,215
3 Claims. (Cl. 146—27)

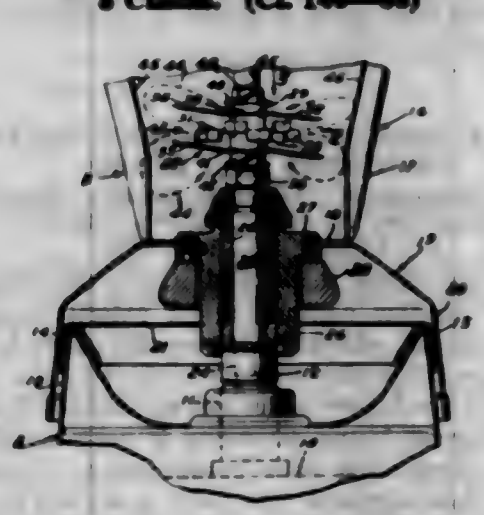
1. In an article handling machine the combination of: a rotary drum assembly formed of axially separated gen-

erally annular members, bridging means interconnecting said members, one of said annular members embodying a peripheral edge region having a radial plane surface terminating at an annular cylindrical surface whereby said edge region presents a shoulder generally right angular in cross section, portions of said machine substantially circumscribing said edge region of said annular member outwardly of and adjacent said cylindrical surface, a torque plate rigidifying said assembly, said torque plate embodying a flange at one end presenting a notch generally right angular in cross section having intersecting faces confronting and bearing upon the respective surfaces of the peripheral edge region of said one annular member, said flange having an unthreaded bore therethrough the axis



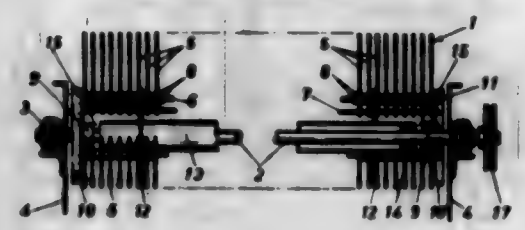
of which bore is oblique to said radial plane surface, a threaded bore in the peripheral edge region of said one annular member opening to and having an axis coincident with the axis of said unthreaded bore, said flange embodying an external flat tension face spaced from said frame member in a direction axially of said drum assembly, a machine bolt extending through said unthreaded bore and threaded into said threaded bore with its head seating upon said tension face and permanently exposed externally thereof for accessibility by a tool and rigidly but removably securing the torque plate and said one annular member together with a force compressing the respective confronting surfaces and faces together, and means rigidly but removably securing the torque plate and the other said annular member together.

3,139,917
APPARATUS FOR REDUCING MATERIALS
Austin E. Elmore, South Pasadena, Calif., assignor of one-half to Leland F. Smoot, La Canada, Calif., and one-half to Glenn H. Morehouse, Glendale, Calif.
Filed Aug. 8, 1961, Ser. No. 130,133
8 Claims. (Cl. 146—68)



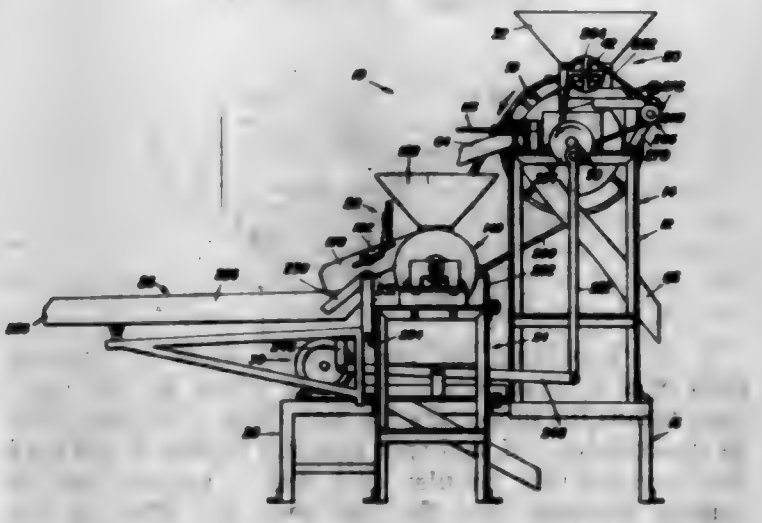
1. Apparatus of the character described, comprising: a container having a bottom wall and a side wall; a rotatable shaft in said container extending above said bottom wall; an impeller disc spaced above said bottom wall carried by said shaft, said impeller disc having alternately upwardly and downwardly extending peripheral tangential vanes coacting with said side wall for circulating a material in the container in a substantially radial outward path from said shaft towards said side wall, said side wall deflecting the material from the outward flow path into return paths toward said shaft positioned above and below said outward path; and a plurality of cutting blades carried by and rotatable with said shaft, said blades extending above and below said impeller disc into the respective return paths of movement of said material.

3,139,918
STRAW CUTTER
Anton Bertil Gröneberg, Villa Karlsborg, Ottsm, Sweden
Filed Jan. 11, 1963, Ser. No. 250,838
Claims priority, application Sweden Jan. 22, 1962
4 Claims. (Cl. 146—121)



1. A rotary cutter for disintegrating straw and the like comprising: a rotatable shaft; an end disk secured to said shaft at each end thereof; a metal tube surrounding said shaft and extending substantially the length of said shaft between said end disks, the inside diameter of said tube being considerably larger than the outside diameter of said shaft; means at each end of said tube mounting the same for rotation with said shaft, the remainder of said tube being free of said shaft; a plurality of rows of cutter arms disposed outwardly of said tube between said end disks and extending radially outwardly; a plurality of intermediary disks disposed between said end disks; at least one clamping bolt associated with each row of arms and extending through said end disks, arms and intermediary disks; and spacer sleeves on each clamping bolt for maintaining said arms and intermediary disks in predetermined, spaced relationship.

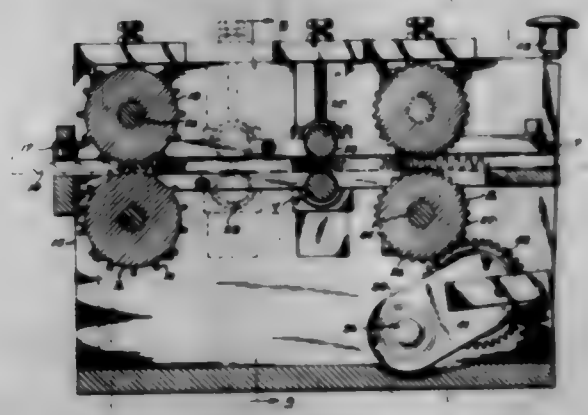
3,139,919
COMBINATION COFFEE PULPER, WASHING AND SELECTING MACHINE
Juan A. Rivera, P.O. Box 1269, Bayamon, Puerto Rico
Filed Aug. 3, 1961, Ser. No. 129,164
19 Claims. (Cl. 146—280)



19. A machine for processing grains having outer shells enclosing coated beans, comprising, restrictive feeding

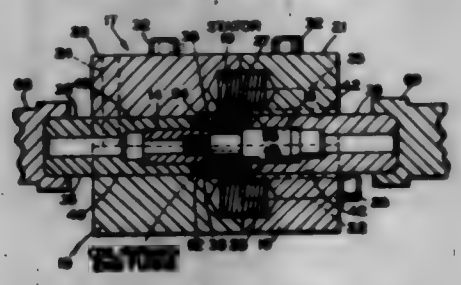
means for passing grains below a predetermined maximum grain size, hulling means responsive to reception of said grains from said restrictive feeding means for removal of the outer shells of only those grains above a predetermined minimum size to expose the coated beans enclosed therein, means for removing the coatings from the beans exposed by the hulling means and selecting means for separating said beans from the unshelled grains below said predetermined minimum size.

3,139,920
MACHINE FOR FORMING A HEAT TRANSFER CORE STRUCTURE
Gordon F. Baird, Jamestown, N.Y., assignor to Blackstone Corporation, Jamestown, N.Y., a corporation of New York
Filed Dec. 9, 1960, Ser. No. 75,032
8 Claims. (Cl. 153—3)



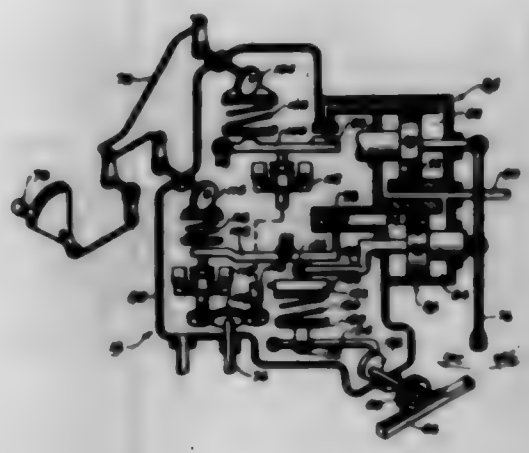
1. A mechanism for fabricating a ribbon-like metal strip for use in a heat exchange core comprising an elongated cage for receiving said strip from a pair of driven forming rolls, a pair of pusher rolls projecting into said cage to engage and move said strip from one end thereof toward the other, a pair of packing rolls projecting into said cage adjacent said pusher rolls and serving to engage and compact the shapes produced by said forming rolls, and a pair of adjusting rolls projecting into said cage adjacent said packing rolls and remote from said pusher rolls, said adjusting rolls engaging said strip and serving to expand the shapes produced by said forming rolls to a predetermined extent.

3,139,921
METHOD AND APPARATUS FOR FORMING END TURNS ON A WIRE WOUND UNIT
George I. Roberts, Maywood, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Mar. 6, 1961, Ser. No. 93,618
3 Claims. (Cl. 153—10)



1. An apparatus for compressing wires at opposite ends of a circular core; comprising a pair of split bearings, means for supporting the wire turns at opposite ends of the core, one of said split bearings having a first bore for receiving the circular core and a second bore of smaller diameter than the first bore, the other of said split bearings having a third bore of said smaller diameter, means slidably mounted in said second and third bores for applying compressive forces to the wire turns at the opposite ends of the core so as to cause said wire turns to be axially compressed within said second and third bores to an outer diameter which is effectively limited by said second and third bores to said smaller diameter, and said first-mentioned supporting means including forming elements to limit the inner diameter of the compressed wire turns at the opposite ends of said core.

3,139,922
COMPENSATED CONTROLLER
Joseph L. Peczkowski, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 19, 1959, Ser. No. 847,330
15 Claims. (Cl. 158—36)



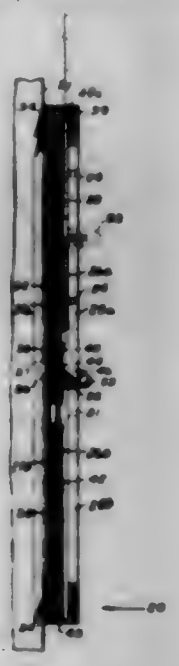
6. A controller operative to position an output member in response to an error input force comprising: type 0 and type 1 servo motors connected to said output member and responsive to said error input force to control said output member as a function of said error input force; and means connected to said type 0 servo motor for varying the gain thereof in proportion to a response characteristic of the device to be controlled.

7. Control apparatus for use with a gas turbine engine having a compressor, a turbine for driving said compressor, a combustion section delivering exhaust products to said turbine, and a fuel control valve positionable to control a supply of fuel to said combustion section comprising: a comparator operative to produce an error force reflective of the difference between desired and actual compressor speed; a type 0 and a type 1 servo motors having interconnected output members operative to position said fuel control valve; said servo motors being connected to said comparator and responsive to said error force; and means responsive to compressor speed connected to said type 0 servo motor operative to vary the gain thereof in response to variations in compressor speed.

3,139,923
STORM SHIELD AND SCREEN UNIT FOR WINDOWS AND DOORS
Milton Gutteson, 107 3rd Ave., Bradley Beach, N.J.
Filed Oct. 20, 1961, Ser. No. 146,612
1 Claim. (Cl. 160—39)

A combined storm shield and screen construction for a louvered window comprising an exterior rectangular frame plate within which the louvered window is adapted to be mounted, a connecting plate surrounding and perpendicular to the frame plate, and an interior rectangular shield and screen frame extending in perpendicular relation to the connecting plate comprised of a top rail, a bottom rail and opposed side rails, said rails each comprising four parallel perimetric flanges, which define an inner channel, a center channel, and an outer channel, an upper and a lower flexible screen panel, each including

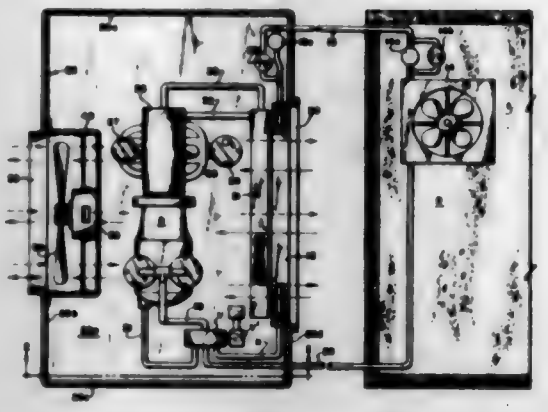
a flexible upper and lower horizontal frame member and flexible vertical side members surrounding a screen, removably positioned in the outer channel, the upper horizontal frame member of said lower panel having a groove extending longitudinally of the top edge thereof and the lower horizontal frame member of said upper panel having a corresponding tongue on the bottom edge thereof, the combined height of the assembled screen panels being slightly less than the distance between the top and bottom of the outer channel, an upper and a lower flexible storm shield panel each including plastic upper and lower horizontal frame members and flexible vertical side members surrounding a transparent flexible storm shield, removably positioned in the center channel, the upper horizontal frame member of said lower storm shield panel having a groove extending longitudinally of the top edge thereof and the lower horizontal frame member of the upper



storm shield panel having a corresponding tongue on the bottom edge thereof, the combined height of the assembled storm shield panels being slightly less than the distance between the top and bottom of the center channel, a hollow transverse bushing on each side of the inner face of the upper horizontal frame member of the lower storm shield panel, a bolt transversely movable in each bushing, the innermost of said four flanges being relatively thick and having oppositely aligned vertically spaced pairs of openings therein selectively engageable by said bolts, said side rails having central cut away portions defining a central opening through at least three of said four flanges through which any of said panels may be flexed and removed from or inserted into any selected channel, said outer channel providing storage space and in its upper portion a space into which said lower storm shield panel may be fully or partially raised and held at a selected height by said bolts.

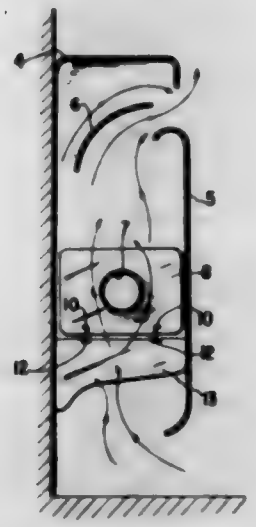
3,139,924
INTERNAL COMBUSTION ENGINE DRIVEN HEAT PUMP
Earl F. Schreiner, St. Petersburg, Fla., assignor to I.C.E.D. Incorporated, St. Petersburg, Fla., a corporation of Florida
Filed Dec. 8, 1960, Ser. No. 74,656
8 Claims. (Cl. 165—29)

1. In a refrigerating system including a refrigerant compressor, first and second heat exchangers connected with said compressor in a refrigerant circuit and adapted to serve either as a condenser or evaporator, an engine for driving said compressor, valve means to selectively reverse the order of flow of refrigerant from the discharge of said compressor through said first and second heat exchangers whereby one exchanger serves as a refrigerant condenser while the other exchanger serves as a refrigerant evaporator and vice versa, means forming an air flow path including therein said compressor, engine and said first heat exchanger, said first exchanger being at one end of said path, and means for forcing air selectively in



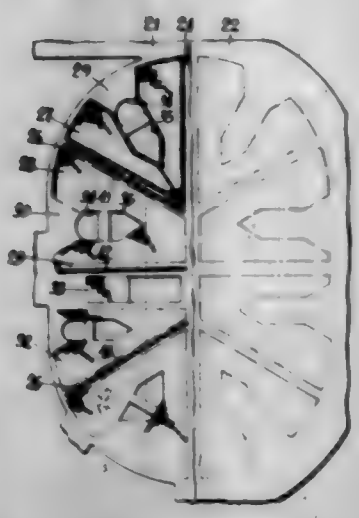
opposite directions through said path whereby air may be passed through said path in one direction to initially flow over said first exchanger when said first exchanger is operating as a condenser and to reverse the direction of air flow through said path when said first exchanger is operating as an evaporator.

3,139,925
BASEBOARD RADIATOR
Israel Kramer, Trenton, N.J., assignor to Kramer Trenton Co., Trenton, N.J., a corporation of New Jersey
Filed May 23, 1961, Ser. No. 112,088
6 Claims. (Cl. 165—67)



1. A heat radiating assembly designed and adapted for incorporation in baseboard radiators having an enclosing housing with back and front and supporting means for the assembly within the housing, said assembly comprising, a longitudinal tube for the flow of heated fluid, radiating fins positioned on the tube in thermal bond therewith, said supporting means being provided with at least one notch in its upper surface, and at least one rail like element firmly set in the lower portions of the fins and projecting downwardly in a substantially vertical direction from the lower edges thereof with its bottom fitted for free sliding longitudinal reciprocation in the notch of the supporting means under the influence of thermal expansion and contraction while being prevented from lateral movement greater than that required for the said free sliding reciprocation and thus avoiding scraping contact of the fin side edges with any part of the assembly.

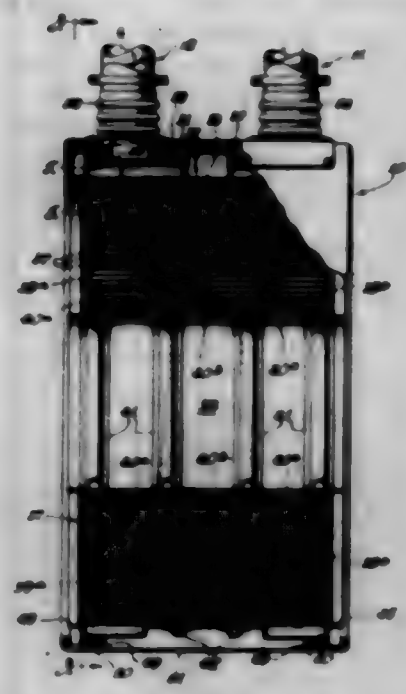
3,139,926
SURFACE CONDENSER
Townsend Tinker, Birmingham, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 72,151
9 Claims. (Cl. 165—111)



1. In a surface condenser comprising a bank of horizontally extending water circulating tubes, means for introducing steam generally peripherally to said tube bank for heat exchange contact with said tubes, and hotwell means beneath the tube bank for receiving condensate therefrom, said tube bank being divided into a plurality of sections, said several sections being spaced from adjacent sections by spaces extending generally radially with respect to the tube bank to form generally sectoral shaped sections, said sections having generally V-shaped peripheral indentations terminating within the same and devoid of tubes whereby the tubes at the margins of said indentations have initial contact with steam entering said indentations, and a series of support plates spaced longitudinally along said tubes, said support plates having openings therein in longitudinal registry with said indentations whereby the indentations and the support plate openings form substantially continuous longitudinal steam distribution passage means.

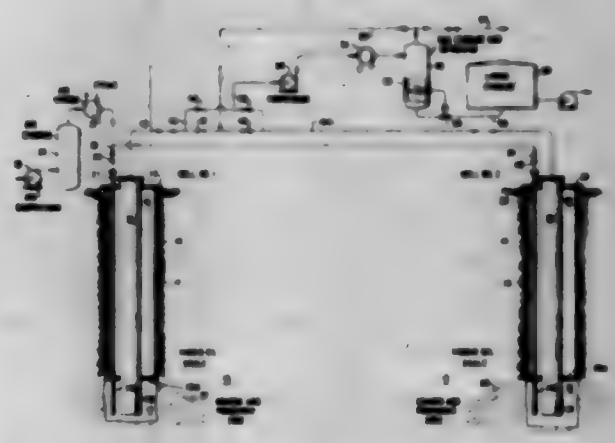
3,139,927
HEAT EXCHANGER
Christian R. Binner, Highland Park, Ill., and Charles W. Hammond, East Orange, N.J., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 10, 1954, Ser. No. 468,172
1 Claim. (Cl. 165—159)

A heat exchanger comprising a segmented outer circular shell; a pair of semicylindrical mating sections eccentrically disposed therein, each section comprising an inner semicircular wall, an outer semicircular wall spaced therefrom and concentric therewith, side walls extending in general alignment with one another and secured to the circular walls so as to hold the circular walls in spaced relationship with one another, the mating sections being assembled so as to cause the side walls of one section to lie upon the side walls of the other section and the inner walls to enclose a space, a plurality of parallel tubes extending through the space enclosed by said walls, and a plurality of baffles associated with the tubes and protruding alternately inward from the outer circular wall and outward from the inner circular wall of said sections, providing a circuitous path in each mating section of the heat exchanger between the branches of the inlet and outlet conduits; and means for circulating a fluid around the tubes, said means including an inlet distribution header having tapered semicircular outer walls generally concentric with the outer shell and eccentric with respect to the inner and outer walls of the semicylindrical sections and being connected to said sections adjacent one end, whereby the greatest radial depth of the header is at the region of greatest width and the greatest radial depth and least radial depth of the header are at the top and bottom, respectively, an outlet distribution header similar to the inlet header described above and being connected to said



sections adjacent the other end, an inlet conduit having two branches connected to the inlet header on opposite sides of and directly adjacent to one set of side walls of the mating sections lying upon one another and at a region of the inlet header of greatest depth; and an outlet conduit having two branches similarly connected to the outlet header.

3,139,928
THERMAL PROCESS FOR IN SITU DECOMPOSITION OF OIL SHALE
Douglas E. Broussard, Bellaire, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 24, 1960, Ser. No. 31,382
5 Claims. (Cl. 166—3)



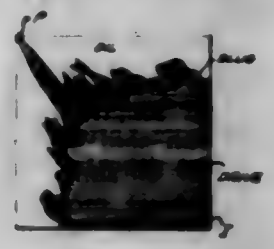
1. A method for processing in situ an impermeable shale oil-bearing formation for the purpose of recovering hydrocarbons therefrom wherein a permeable cavern is formed in said shale formation at a point traversed by a well, said method comprising the steps of establishing communication between the shale oil-bearing formation and the ground surface through a well normally closed at the top, initially raising the temperature of the walls of said closed well to an elevated temperature promoting partial spontaneous combustion of the exposed formation to release the hydrocarbons from the formation exposed to heat, injecting a quantity of free oxygen-con-

taining gas into said closed well to promote heat generation therein, increasing the pressure within said cavern by injecting another gas which is substantially oxygen free and hydrocarbon free into said closed well to compress the hot gases in said well, maintaining said closed well at said conditions for a time sufficient for heat to pass into previously unheated portions of said shale oil-bearing formation adjacent said well, and subsequently releasing the pressure from said well to produce hydrocarbon-rich heated gas from said well.

3,139,929
SECONDARY RECOVERY BY MISCIBLE FLUID DISPLACEMENT

Reuben Habermann, Montebello, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Nov. 30, 1959, Ser. No. 856,187
9 Claims. (Cl. 166—9)



1. The method of obtaining a high areal sweep efficiency in a displacement process for the recovery of oil from a subterranean reservoir which is penetrated by at least an injection well and a withdrawal well, which method comprises: simultaneously injecting into said reservoir through said injection well a slug of water and a slug of a hydrocarbon which is liquid and miscible with said oil under reservoir conditions, the amount of said water being between about 0.5 and about 10 barrels per barrel of said hydrocarbon, controlling the amount of water so injected to provide a velocity of water through said reservoir about equal to the velocity of said hydrocarbon liquid through said reservoir; forcing said slug of water and said slug of hydrocarbon through said reservoir towards said withdrawal well by simultaneously injecting into said injection well water and a drive fluid miscible with said hydrocarbon liquid, the amount of said water injected with said drive fluid being between about 0.75 and about 15 barrels per thousand cubic feet of said drive fluid, controlling the amount of water so injected with said drive fluid to provide a water velocity in said reservoir about equal to the velocity of said drive fluid therethrough, and withdrawing displaced oil from said reservoir through said withdrawal well.

3,139,930
METHODS OF AND APPARATUS FOR FRACTURING

Charles M. Hudgins, Jr., and Robert L. McGlasson, Ponca City, Okla., and Walton D. Greathouse, Houston, Tex., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Jan. 8, 1962, Ser. No. 164,668
15 Claims. (Cl. 166—36)

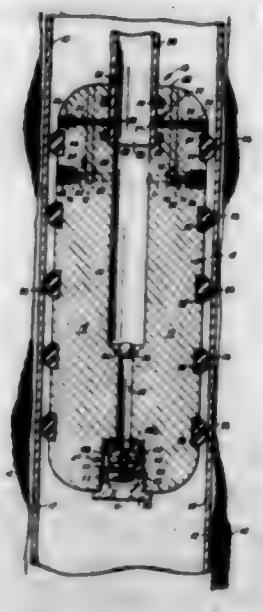
1. A method for fracturing a subsurface formation from a well bore comprising the steps of:

placing a piston in the well bore at a position substantially above the formation;

placing in the well bore below the piston a gas at a first pressure;

increasing the pressure of fluids in the well bore above the piston to a substantially greater pressure than the first pressure while supporting the piston at said position; and,

releasing the piston; whereby the pressure of the fluids above the piston force the piston rapidly downwardly to produce an

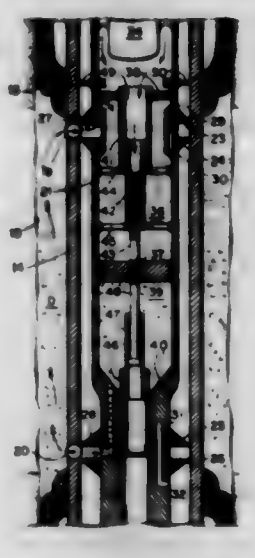


"impact" gas pressure load for fracturing the formation.

3,139,931
APPARATUS FOR SELECTIVELY CEMENTING PIPE CASING

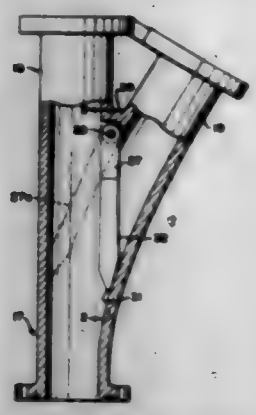
Altus L. Simpson, Bakersfield, Calif. (9030 Rendalia St., Bellflower, Calif.), and Donald P. Hammon, 2809 Manor St., Bakersfield, Calif.

Filed Jan. 19, 1961, Ser. No. 83,774
6 Claims. (Cl. 166—63)



1. An apparatus for cementing a selected portion of well casing in a bore hole comprising, in combination: first and second packing means disposed between said casing and the surrounding bore hole sidewalls in longitudinally spaced relationship at the upper and lower limits respectively of said portion to define an annular space therebetween; a member, having a hollow interior for holding cement, positionable in said selected portion of well casing; first and second communication means between the upper and lower ends of said annular space and the upper and lower ends of the hollow interior of said member respectively; and cement moving means actuable from the well head for urging said cement through said second communication means to said annular space and for drawing material into said hollow interior from said annular space through said first communication means; and means at the well head for effecting actuation of said cement moving means.

3,139,932
WELLHEAD WITH TOOL DIVERTER
Glenn D. Johnson, Downey, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Nov. 28, 1961, Ser. No. 155,434
5 Claims. (Cl. 166—95)



1. A wellhead assembly comprising a vertically-positioned pipe string, a Y-branched spool piece connected into said pipe string, said spool piece having a vertical through bore in coaxial alignment with said pipe string, a smoothly-curving branching side bore adapted to be connected to a pipe line, tool switching means pivotally mounted within and to said spool piece adjacent the intersection of said through bore and said side bore, said tool switching means including a depending arm element pivotally mounted at the top thereof to the wall of said spool piece at the intersection of said bore thereof, and impact-actuatable positioning means carried by said arm element, said positioning means including means engageable with said spool piece for positioning and retaining said arm element against the inner wall of said spool piece to block selectively one of said bores against the passage of a tool thereinto from said pipe string and to open the other of said bores, said positioning means adapted to be actuated by a tool striking said arm element as it passes through one of said bores into said pipe string.

3,139,933
JARRING TOOL
Ruben L. Golden, 408 Elysian Drive, Houma, La.
Filed Dec. 6, 1962, Ser. No. 242,793
4 Claims. (Cl. 166—178)



4. A fishing tool for jarring a stuck well pipe as the pipe on which the tool is supported in the well is rotated comprising,

(*a*) an outer tubular body having connector means for connecting the body to the stuck pipe,

(*b*) a mandrel rotatable relative to said connector means and connected to the well pipe for rotation therewith,

(*c*) a reservoir means in the tool for containing pressure fluid,

(*d*) a piston member slidable on and rotatable with said mandrel,

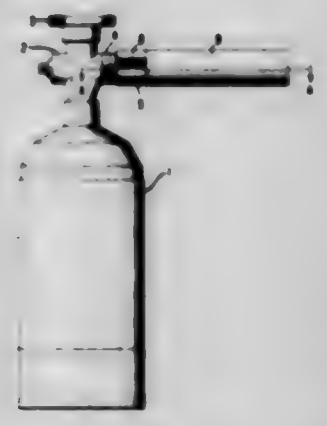
(*e*) said piston member being exposed to the pressure fluid in the reservoir means such that the fluid pressure therein can act on one end of said piston member so as to be urged longitudinally of said connector means and said mandrel by the pressure fluid in said reservoir means,

(*f*) serrations on said body and said piston member which upon rotation of said mandrel urge said piston member upwardly against the fluid pressure in said reservoir means to compress the fluid therein,

(*g*) means on said mandrel and engageable with said body during rotation of the mandrel relative to said body for transmitting the weight of the mandrel and pipe connected thereto to the serrations on said body, and

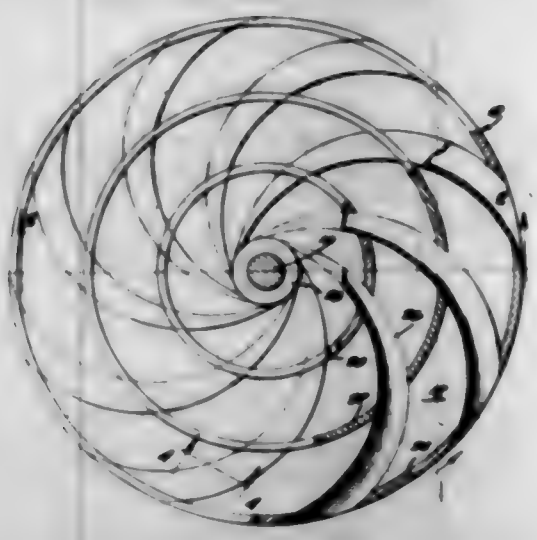
(*h*) said serrations on said piston member being circumferentially and longitudinally movable relative to the serrations on said body upon such rotation of said mandrel for obtaining alternate upward and downward longitudinal movements of said piston member upon continued rotation of said mandrel whereupon the fluid pressure causes said piston member to deliver successive jarring blows to said body to aid in releasing the stuck well pipe connected thereto.

3,139,934
FIRE EXTINGUISHING APPARATUS
Robert Alexander Gerstl, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 26, 1961, Ser. No. 119,519
5 Claims. (Cl. 169—31)



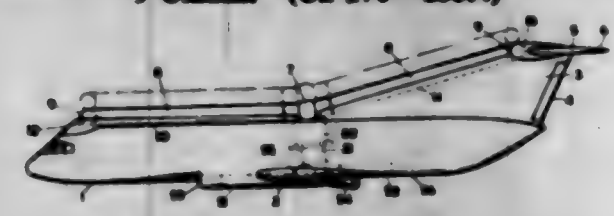
1. In a fire extinguisher, a container adapted to contain a liquified halogenated aliphatic gaseous compound under pressure, a valve for releasing the contents of the container, a nozzle member attached to said valve, said nozzle member terminating in a restrictive orifice, said restrictive orifice having a ratio of orifice length to orifice diameter of 0.5 to 10 so that said extinguisher has a rate of discharge per orifice cross-sectional area of 1,400 to 3,000 grams per second per square centimeter, a horn member attached to said nozzle member, said horn member having a ratio of horn length to horn diameter of 2.6 to 30 and a ratio of horn diameter to orifice diameter of 2.9 to 12 so that said extinguisher has a rate of discharge per horn cross-sectional area of 20 to 185 grams per second per square centimeter, whereby opening the valve causes the liquified halogenated aliphatic gaseous compound to pass through said restrictive orifice and be expelled from said horn as a fire smothering gas.

3,139,935
LIFTING DEVICE FOR AIRCRAFT
Frank C. Cleaver, Sr., 2749 B St., San Diego, Calif.
Filed May 17, 1963, Ser. No. 281,256
5 Claims. (Cl. 170—135)



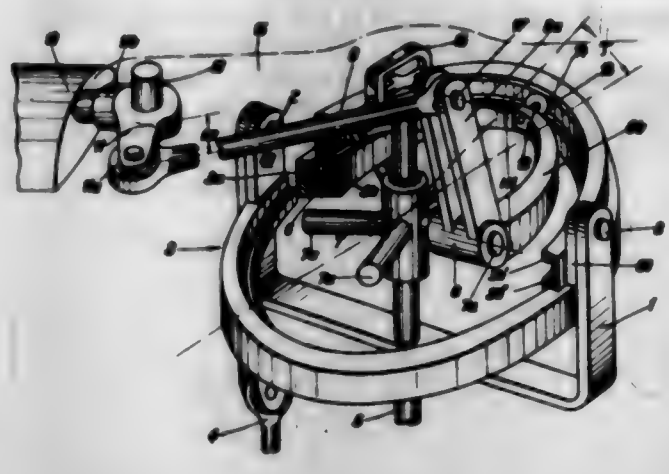
1. In a lifting device for an aircraft, a horizontally disposed base plate provided with a smooth upper surface, said plate being adapted for securement to the upper surface of an aicraft, there being provided a hole in said plate, a rotary drive shaft projecting upwardly through said hole, a plurality of spaced rings concentrically disposed with respect to said drive shaft, and a plurality of spaced vanes projecting outwardly from said shaft and extending through said rings above said plate, each of said vanes being U-shaped in cross sectional configuration, said vanes having their legs facing in the direction of rotation of said shaft, said shaft being adapted for driving by a prime mover mounted in said aircraft.

3,139,936
HELICOPTER CONTROL MECHANISM
Ivor Macaulay Davidson, Farnborough, and Leonard Lilly, Chart, England, assignors to Power Jets (Research and Development) Limited, London, England, a British company
Filed Dec. 10, 1962, Ser. No. 243,403
Claims priority, application Great Britain Dec. 28, 1961
9 Claims. (Cl. 170—135.4)



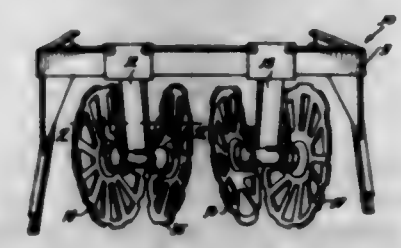
1. An aircraft comprising a helicopter rotor including a rotor head and a rotor blade attached thereto, the rotor blade having a rounded trailing edge surface and being formed with two longitudinally extending discharge apertures; means to supply fluid to said apertures, said apertures being arranged to discharge the fluid as long thin layers upwardly and downwardly towards one another over the trailing edge surface; and lift control mechanism comprising two obturating members, one for each aperture, operable to vary the width thereof, two draw bars, one for each aperture, mounted within and extending longitudinally of the blade, two cam members, one carried by each draw bar and each having a cam face, two followers, one connected to each draw bar and bearing on the cam face of the respective cam member, and means for moving the draw bars longitudinally of the blade to effect relative movement of the cam members and followers so that the obturating members are operated to vary the width of the two apertures in opposite senses.

3,139,937
ROTARY WING AIRCRAFT
Hans Derschmidt and Gerhard Eck, both of Munich, Germany, assignors to Bölkow-Entwicklungen Kommanditgesellschaft, Ottobrunn, near Munich, Germany
Filed July 21, 1961, Ser. No. 125,784
Claims priority, application Germany July 21, 1960
8 Claims. (Cl. 170—160.25)



1. A helicopter comprising a rotary central rotor head, a main rotor shaft mounted for rotation within said rotor head, a plurality of rotor blades mounted on said head for rotation therewith, means mounting said blades to said rotor head for pivotal lead and lag movement in addition to their rotation with said rotor head, a swash plate mounted concentrically around said rotor shaft for pivotal movement about an axis substantially perpendicular to said shaft for inclining said swash plate for controlling pivotal lead and lag movement of said blades, means rotatable around said swash plate, means for controlling the inclination of said swash plate, a plurality of pivotal crank arm lever members of a number corresponding to the number of said blades, means pivotally mounting said crank arm lever members on said shaft for rotation therewith and for pivotal rocking movement about an axis substantially perpendicular to the axis of said shaft, respective ones of said crank lever members having a first arm, means for connecting said first arm to an associated one of said blades for causing pivotal lead and lag movement of said blades, and a second arm, means for connecting said second arm to said means rotatable around said swash plate permitting movement of said crank lever members relative to each other, said crank lever members being rockable in accordance with the inclination of said swash plate upon rotation of said main rotor shaft.

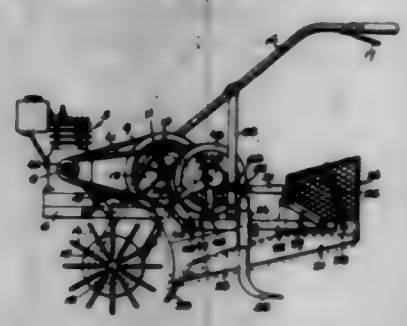
3,139,938
SCRAPER
Edward W. Parrish and John M. Moran, Naperville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 4, 1962, Ser. No. 221,960
13 Claims. (Cl. 171—58)



1. A scraper for use with an earth-engaging wheel rotatably mounted upon a mobile frame comprising: a sup-

port fixedly secured to said frame, a blade adapted to engage said wheel, forward link means having a first end pivotally secured to said support and a second end pivotally secured to said blade, rear link means having a first end pivotally secured to said support and a second end pivotally secured to said blade, and spring means connected between the first end of said forward link means and the second end of said rear link means to bias said blade into scraping engagement with said wheel.

3,139,939
POWER-DRIVEN FIELD CULTIVATOR WITH SOIL-SIFTING ATTACHMENT
Leslie Stanton Vickery, 2707 Violet St., North Vancouver, British Columbia, Canada, assignor of one-half to Floyd Graves, Vancouver, British Columbia, Canada
Filed Mar. 15, 1962, Ser. No. 179,886
4 Claims. (Cl. 171—63)



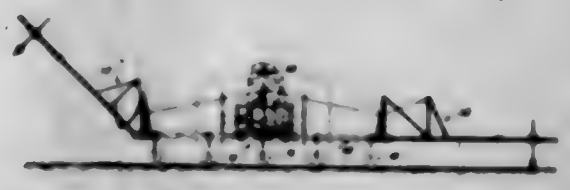
1. In combination with a walking cultivator providing a main frame with an engine mounted thereon and having earthworking wheels journal-mounted from the frame and driven from said engine, a frame removably associated with said main frame and extending rearwardly as a fixed furcate extension thereof, a skeleton frame sustaining a screening floor and occupying the space between the fork arms of said furcate extension and including a respective cheek plate at each of the two sides, a respective shackle arm at each of the four corners of said skeleton frame suspending the cheek plates from the fork arms and supporting the skeleton frame for bodily vertical motion, and a driving connection from the engine to the skeleton frame imparting said vertical motion to the latter so that the skeleton frame acts as a shaker for sifting soil from rocks and other foreign matter loosened by the earthworking wheels.

3,139,940
LAWN EDGER
George M. Randell, 2642 Rosemont St., Chicago 45, Ill.
Filed Nov. 19, 1962, Ser. No. 238,689
8 Claims. (Cl. 172—15)



1. A lawn edger of the rotary blade type comprising handle means having a longitudinal axis, an end of said handle means having a surface lying in a plane substantially parallel to said axis and offset a predetermined distance therefrom, a stub shaft secured on a second axis perpendicular to said surface, a self-aligning bearing secured upon said stub shaft adjacent said surface, and a concavo-convex disc having a peripheral cutting edge and having a center mounted upon said bearing with the convex side thereof facing said surface, the projection of the axis of said handle passing through said disc between said cutting edge and said center thereof.

3,139,941
ROW MARKERS
Arles G. Graham and William J. Smithee, both of Crosbyton, Tex., assignors to Graham-McDermett, Inc., Crosbyton, Tex., a corporation of Texas
Filed Sept. 21, 1961, Ser. No. 139,723
3 Claims. (Cl. 172—130)

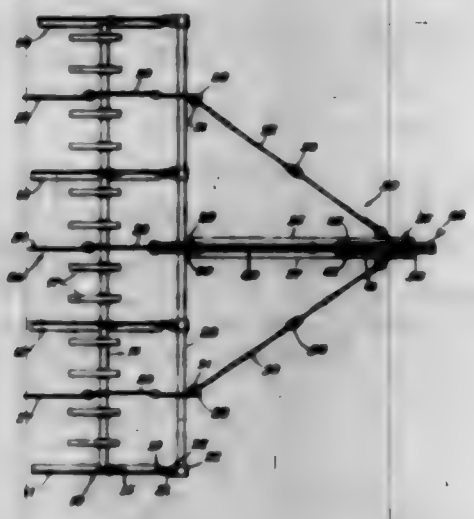


1. A marker to be attached to a horizontal tool bar of a tractor, said tool bar having plows attached thereto, and said tractor having a supply of hydrulic fluid under controlled pressure; comprising the combination: a frame, said frame having at least two clamps thereon, each of said clamps encircling said tool bar thus clamping the frame thereto, said frame having a hydraulic cylinder pivoted to it, said hydraulic cylinder being connected to said supply of hydraulic fluid, a piston rod within the cylinder which moves axially within the cylinder responsive to the pressure of the hydraulic fluid, a lever pivoted to said frame, said piston rod pivoted to said lever so that movement of the rod relative to the cylinder will impart rotational motion to the lever; a line extending the length of the tool bar, said line being connected to said lever so that movement of the piston rod causes reciprocal movement of the line through the lever; two marker beams, one of said marker beams on each end of the tool bar, each marker beam pivoted to a marker clamp, each marker clamp clamped to the tool bar, said pivot between each marker beam and marker clamp having a horizontal axis normal to the tool bar so that each marker beam may be rotated from longitudinally of the tool bar to angle upward from the tool bar, a column rigidly attached to each marker clamp and extending above said marker clamp, a pulley at the top of each column, a post rigidly attached to each marker beam, and extending above said marker beam when it is in the horizontal position, and a plow attached to each marker beam in earth working engagement when that marker is approximately horizontal, thus making a mark which the operator of the tractor may follow later; said line extending through both pulleys and attached to both posts so that reciprocation of the line causes rotational movement of one marker beam upward and allows rotational movement of the other marker beam downward by gravity.

3,139,943
HARROW WITH TOOTH SET ANGLING DEVICE
Eugen J. Bibtenbach, Park Ridge, and Robert R. Motycka, Brookfield, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 26, 1962, Ser. No. 182,345
2 Claims. (Cl. 172—390)

1. For use with drawbars, of different heights, a harrow having frame means, at least one transversely extending tooth bar mounted for rocking movement with respect to said frame means, tooth means secured to said tooth bar and adapted to rock with said tooth bar into ground engaging position, set bar means connected to said tooth

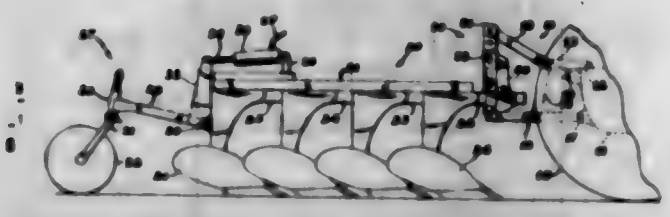
bar for rocking movement thereof, drawbar means adapted to be connected to a source of motive power, and an articulated connection between said drawbar means and said frame means, comprising longitudinally extending link means pivotally connected at one end to said frame means and means operatively connecting the other end of said link means to the drawbar means for pivoting of the link means relative thereto in a vertical plane to accommodate vertical translational movement of the drawbar means relative to the frame means, said means pivotally connecting the other end of the link means to the



drawbar means comprising a transverse shaft rockably mounted in said other end of the link means, a lever secured to said shaft and rockable therewith having a part extending above and a part extending below said shaft, and means pivotally connecting the lower end of the lever to said drawbar means and the upper end thereof to said set bar means.

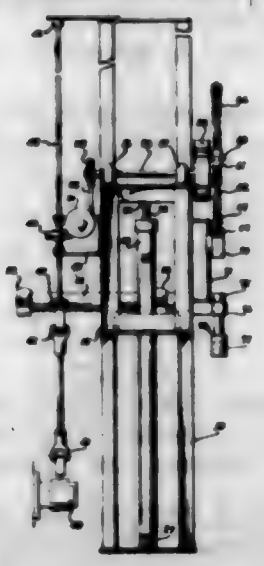
2. The invention set forth in claim 1, wherein means are provided cooperative between said link means and said frame means for adjusting the vertical position of the link means relative to the frame means.

3,139,943
PLOW ATTACHMENT FOR TRACTOR
Arthur G. Evans, Wheaton, and Frederick M. Pierson, Naperville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 25, 1962, Ser. No. 168,697
5 Claims. (Cl. 172—445)



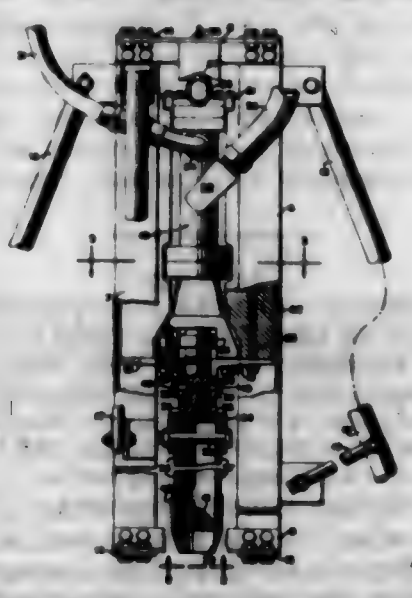
1. In combination with a tractor having power operated lift means thereon, a draft structure pivotally mounted on the tractor and operatively connected to the lift means for vertical swinging of the draft structure in an arcuate path, an implement connected to the draft structure for vertical swinging therewith from an operating to a transport position, transverse hinge means in the connection between the implement and the draft structure accommodating limited downward pivoting of the implement relative thereto, means in said connection for positively locking the implement against pivoting relative to the draft structure during operation of the implement, said positive locking means being yieldable under the weight of the implement, after a predetermined lifting of the draft structure, to accommodate said pivoting of the implement.

3,139,944
FENCE POST DRIVER
John D. Smith, 3033 N. Hayden Road, Scottsdale, Ariz., assignor of one-half to Martineau Enterprises Inc.
Filed Sept. 3, 1963, Ser. No. 306,025
13 Claims. (Cl. 173—119)



2. A fence post driver comprising: a guiding frame; a movable frame mounted on said guiding frame and arranged to permit relative motion between said frames; post engaging means secured to said movable frame for engaging the top of a post to be driven into the ground; a rotatable shaft mounted on said movable frame; force transmitting means secured to said shaft for rotation therewith; a striker slidably attached to said movable frame and adapted to strike said post engaging means; a rocker arm pivotally attached to said striker; a journal block secured to said rocker arm; and a second shaft journaled in said journal block and secured to said force transmitting means to force said striker against said post engaging means when said force transmitting means is rotated.

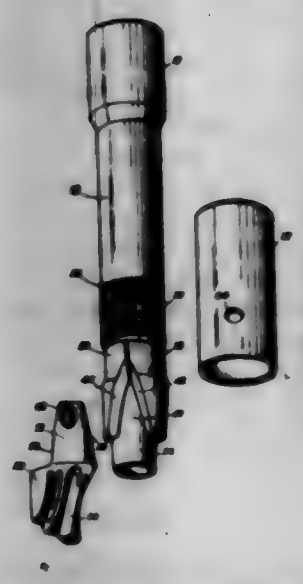
3,139,945
PNEUMATIC CORER
Benedict V. Del Ré, 2009 Ontario Road NW., Washington 9, D.C., and Julius Castiglioia, 4319 Chestnut St., Bethesda, Md.
Filed July 11, 1963, Ser. No. 294,457
5 Claims. (Cl. 175—6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for obtaining relatively undisturbed core samples of underwater sediments, comprising:
an elongated rectangular skeletal frame adapted to be lowered from a surface craft to the sediments to be cored,

support means on said frame for holding the same upright on the surface of the sediments,
an air motor, having a casing and a hammer reciprocable therein, means attached to the casing of said air motor and slidingly engaging said frame for supporting said air motor for longitudinal sliding movement in said frame,
heavy weight means attached to the casing of said motor,
a coring tube having a core cutter at one end, and
means at the other end of said coring tube for loosely supporting the same on the casing of said air motor and for receiving the blows of the hammer thereof,
whereby only a negligible amount of vibration is transmitted to said coring tube and to the sediments being cored.

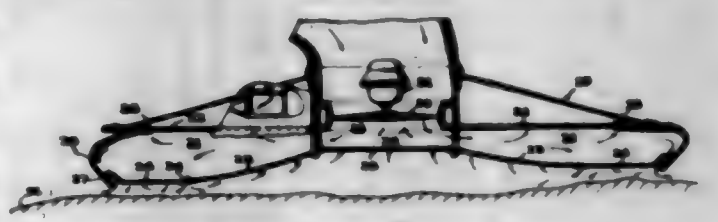
3,139,946
REPLACEABLE DRILL BIT STRUCTURES
Charles L. Bronson, Dallas, Tex., assignor to Varel Manufacturing Company, Inc., Dallas, Tex., a corporation of Texas
Filed July 5, 1962, Ser. No. 208,678
24 Claims. (Cl. 175—412)



1. A replaceable drill bit structure including a body, wedge means at the lower end of the body and having a plurality of circumferentially spaced ways, each way having downwardly diverging sides, cutter elements having shanks complementary to and removably mounted in the ways, means cooperating between the cutter element shanks and the body for wedging said shanks in said ways and simultaneously positioning said cutter elements in substantial alignment with the longitudinal axis of said body, and the sides of said ways being tapered transversely inward of the wedge means and the shanks of the cutter elements have surfaces complementary to said sides.

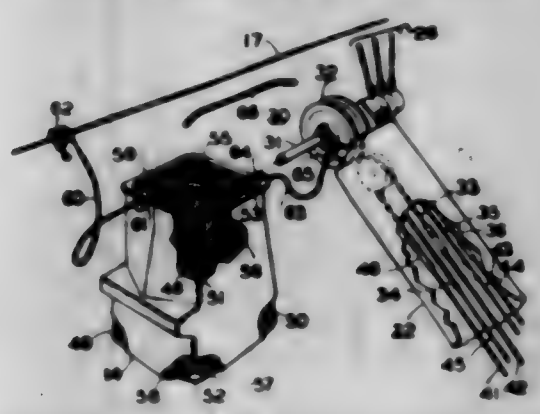
3,139,947
AIR CUSHION VEHICLE FOR TRAVELLING OVER IRREGULAR TERRAIN
Melville W. Beardsley, Severna Park, Md., assignor, by mesne assignments, to National Research Associates, Inc., Laurel, Md., a corporation of Maryland
Filed Apr. 24, 1961, Ser. No. 105,171
5 Claims. (Cl. 180—7)

1. An air cushion vehicle comprising a plenum shell, means to blow air into said plenum shell, a bottom surface under said shell, said plenum shell comprising an impervious flexible side wall, and a substantially horizontal rigid top surface linearly connected to said flexible side wall, said bottom surface comprising a center section of substantially impervious material fixedly secured to said top surface material, a flexible area of substantially impervious material substantially concentric with said center section and attached thereto, and rigid sections located on the periphery of said flexible area and flexibly attached thereto and to each other, the outer edges of said rigid sections spaced from the bottom of said flexible side wall



and attached thereto whereby parts of said bottom surface are permitted to move vertically in relation to each other and to other parts of the vehicle as the vehicle passes over an irregular ground surface.

3,139,948
METHOD AND APPARATUS FOR WORKING ENERGIZED CONDUCTORS
Harold L. Rorden, 117 Whitford Ave., Nutley, N.J.
Filed Apr. 25, 1961, Ser. No. 105,456
25 Claims. (Cl. 182—2)



4. In apparatus for working an energized line conductor which is supported in spaced and insulated relation to the earth, means for elevating a workman to a working position adjacent the line conductor and comprising an aerial lift and a personnel carrier for supporting the workman, means electrically insulating the personnel carrier from the earth and from the energized conductor, and means on the carrier for energizing the workman to the potential of the line conductor.

3,139,949
ARTICULATED LADDER
Maurice E. Graves, 2570 River Woods Road, Deerfield, Ill.
Filed Dec. 12, 1962, Ser. No. 244,129
3 Claims. (Cl. 182—36)



2. In combination, an articulated ladder comprising a plurality of relatively rigid step units hinged to adjacent units, each of said units comprising parallel side members having opposed parallel surfaces the upper and lower ones

of which define support surfaces disposed in a horizontal plane when the ladder is in use, and a tread secured between pairs of said side members to complete said unit, and associated storage means for said ladder including an overhead supporting frame having a track comprising a pair of rails disposed thereon for receiving and storing said ladder, said track being humped near the ladder receiving end thereof and sloping downward therefrom for insuring the articulation of said unit relative to adjacent units when said ladder is urged into storage, a cross member extending between said rail portions near the ladder receiving end thereof, and means at the uppermost unit of said ladder for engaging with said cross member for securing the top of said ladder to said storage means when said ladder is in use to prevent accidental complete withdrawal.

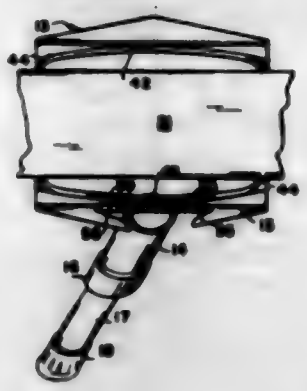
3,139,930
COLLAPSIBLE AND ADJUSTABLE TRESTLES
Friedrich Bormann, 9 Serpentine Road, Tenafly, N.J.
Filed Mar. 6, 1963, Ser. No. 263,186
3 Claims. (Cl. 182—184)



1. A trestle consisting of two uprights and a bar, each upright being formed of two like spaced frame members each consisting of a horizontal portion and a downwardly extending portion and an intermediate arcuate portion, the horizontal portions being mutually parallel, vertically spaced rigid transverse members joining the leg portions, each upright having aligned depending brackets extending from said horizontal portions thereof, a cross-member supported by the aligned brackets of each upright, one of said transverse members being positioned at substantially the upper extremities of the leg portions and on that side of the leg portions which faces said cross-member, said one of said transverse members having a first vertical clamp jaw extending upward therefrom and spaced between said horizontal portions, a support secured to said one of said transverse members and having a screw rotatably mounted therein at right angles to said jaw, a second upwardly extending vertical clamp jaw positioned between said horizontal portions slidably mounted on said support and threaded on said screw and together with said first jaw forming a clamp, and an additional rigid transverse member secured to the ends of the horizontal portions, the ends of said bar being positioned on each upright between said one transverse member and said additional member and between said jaws of the clamp and resting on said one transverse member and on said cross-member.

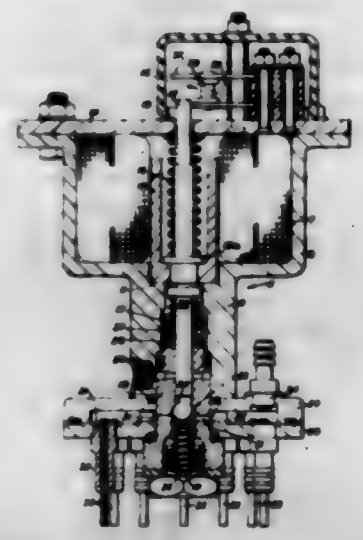
3,139,951
SUPPORT STAND
William Clayton, 340 S. Jackson St., Denver, Colo.
Filed Dec. 4, 1961, Ser. No. 156,705
4 Claims. (Cl. 182—186)

1. A support stand unit for use in the fabrication of scaffold, trestles, sawhorses and the like from structural materials comprising locking jaw members, leg elements secured to said locking jaw members for the support of said locking jaws in elevated positions, pivot means securing separate leg elements and jaw member elements pivotally together whereby outward movement of said leg elements causes a corresponding inward gripping pressure to be exerted by said locking jaw members, and a leaf spring member of inwardly concave curvature disposed on the inner face of said locking jaws with the



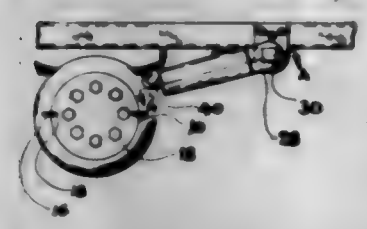
longitudinal free ends of said leaf spring being disposed for deforming contact with structural materials disposed between said springs when subjected to the inward gripping pressure exerted by the pivotally moved legs and locking jaw members, with the spring pressure exerted by the deformation of said spring members holding said structural materials in assembled relation between said locking jaws and on said support stand.

3,139,952
LUBRICATION SYSTEMS FOR VEHICLES AND MACHINES
Harold Ernest Jackson, Plympton, Devon, England, assignor to Tecalemit Limited, Plymouth, Devon, England, a British company
Filed Dec. 13, 1961, Ser. No. 159,098
Claims priority, application Great Britain Dec. 22, 1960
9 Claims. (Cl. 184—7)



1. In a lubricating system including a solenoid-operated device for increasing the pressure of a lubricant and control means for controlling the operation of said solenoid-operated device, the improvement wherein said solenoid-operated device comprises the combination of pump means, an armature operatively connected to said pump means, a first and second winding adjacent said armature operable when energized to advance said armature into a given direction, and switch means actuated by said control means for first energizing said first winding and for subsequently energizing both said first and second windings in response to movement of said armature as caused by the prior energization of said first winding.

3,139,953
EMERGENCY BRAKING DEVICE
N. B. Crawford, 7239 Sebastian Ave., Riverside, Calif., and Eugene A. Mills, Riverside, Calif. (1245 Rosefield Way, Menlo Park, Calif.)
Filed Mar. 19, 1962, Ser. No. 180,581
1 Claim. (Cl. 188—31)



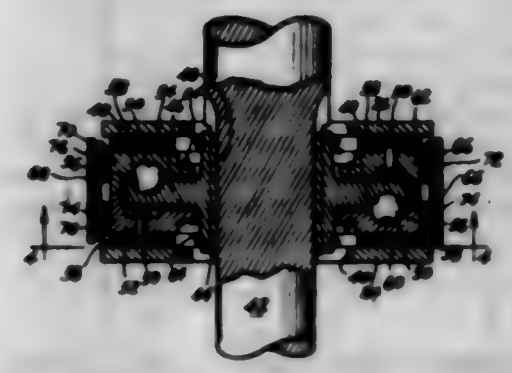
An emergency braking device for automotive vehicles comprising: An axle fastened to the frame of an automotive vehicle; a pair of wheels mounted on each end of said axle; a plate of generally disc shape fastened to each pair of wheels and between them, each of said plates having at least one ring fixedly fastened to said plate and providing a space for insertion of a hook therein; a pair of cylinders fastened to the frame of said vehicle at a distance from said axle; a rod with a flange on one end thereof and a hook on the other end thereof located within each of said cylinders, said hook extending outwardly from each of said cylinders in the direction of said wheels and in alignment with said disc in such manner that said hook may be extended towards said disc and become engaged in said ring fastened to said disc; a spring positioned between each of said flanges on said rods and the end of each of said cylinders; means engaging each of said flanges holding the same in spring tension against each of said springs located therein, said means being connected to release mechanism to withdraw said means from contact with said flange as desired, the said springs being sufficient to force said rod outward in a direction towards said plates a distance sufficient for said hook upon the end of each of said rods to engage said rings on said discs; and cushioning means located in said cylinder at a distance from said flange when in position as heretofore described but such that it will be engaged by and slow the travel of the flange on said rod when said rod has been released to advance toward the rings in said plates located between the wheels, so that said cushioning means will act as a shock absorber upon the advance of said rods.

3,139,954
RAILWAY BRAKING APPARATUS
Glen V. Jefferson, Lincoln, Nebr., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1962, Ser. No. 174,584
15 Claims. (Cl. 188—62)



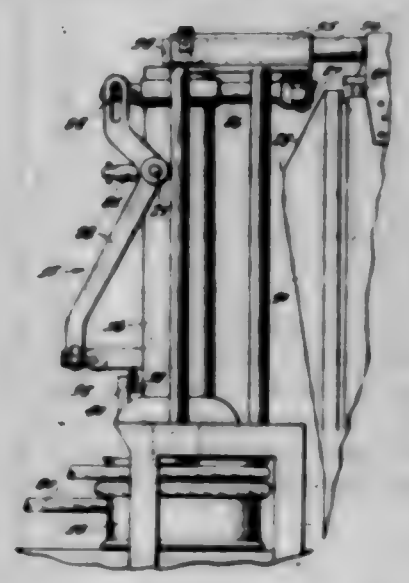
1. Railway braking apparatus comprising, a vertically movable track rail traversed by wheels of a railway car; a support member positioned on each side of the rail and pivotally connected thereto; a lever mounted on each of said support members, adjustable means for adjusting each lever relative to the rail and having a fulcrum point spaced from the rail; and brake beams mounted on each of said levers adjacent the rail and spaced apart less than the widths of car wheels for exerting a force against the wheels proportional to the weight of the car.

3,139,955
BAND-DISK BRAKE
Edward K. Dombeck, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Mar. 23, 1961, Ser. No. 97,888
6 Claims. (Cl. 188—70)



1. A disk brake or the like comprising a casing having spaced braking surfaces, a rotatable shaft received through said casing, a pair of disks encircling said shaft, a friction member carried by each disk and engageable in face contact with a respective one of said surfaces, spring means urging said disks toward each other to positions with said friction members clear of said surfaces, a disk driving means secured at its inner periphery to said shaft and extending radially therefrom to provide surfaces located between said disks, camming means operatively connected to each disk and said disk driving means for spreading said disks in opposite directions upon a differential of rotation between said disks and said disk driving means to effect engagement of said friction members with their respective braking surfaces, a member adjacent a peripheral portion of both of said disks for simultaneously frictionally engaging the outer peripheral surfaces thereof, and means for engaging said last named member with said outer peripheral surfaces of both of said disk.

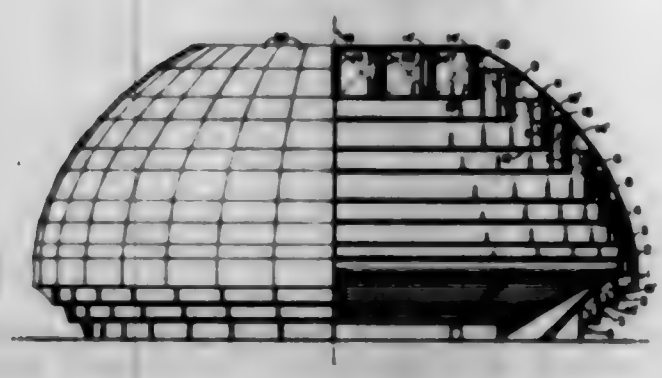
3,139,956
EMERGENCY BRAKE FOR TRACTORS AND TRAILERS
Arthur P. Ryan, 35 Health St., Dansville, N.Y.
Filed Nov. 14, 1960, Ser. No. 69,044
1 Claim. (Cl. 188—152)



An emergency brake for road vehicles having a plurality of brake drums comprising a plurality of sub-assemblies, one for each brake drum, each sub-assembly including a brake band encircling said brake drum and an operator therefor and a hydraulic pump and motor unit for actuating said operator, each pump of said unit including a pis-

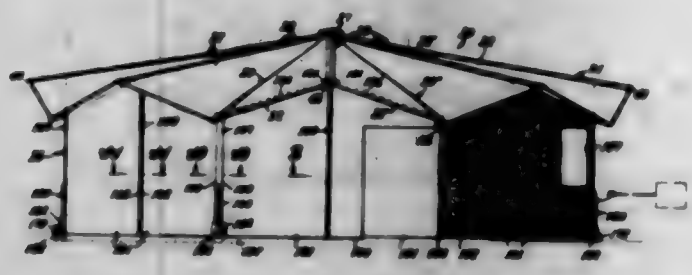
ton, a follower carried by each of said units for actuating said piston, each of said brake drums including a cam for operating said follower, each of said sub-assemblies being rotatably mounted on said vehicle adjacent respective brake drums, whereby rotation of said unit moves said follower into position for actuating said pump by said camming means, thereby operating said motor to actuate said brake bands.

3,139,957
SUSPENSION BUILDING
Richard Buckminster Fuller, 407 S. Forest St., Carbondale, Ill.
Filed Jan. 24, 1961, Ser. No. 88,245
11 Claims. (Cl. 189—1)



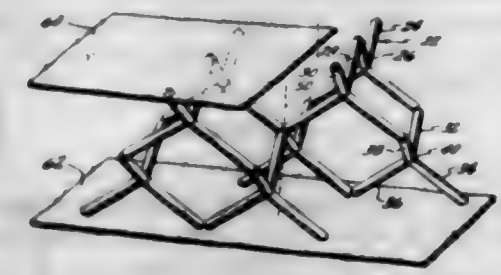
1. A structure comprising a series of box frames of progressively varying sizes arranged in a concentric array at predetermined sequentially different heights above a common plane of reference and in vertically overlapping spaced relation one to another, and tension elements extending between and fixedly secured to adjacent pairs of the box frames in said series, said tension elements including tension members extending downwardly from their points of fixed securement to the lower frame of a pair of their respective points of fixed securement to the upper frame of the pair whereby successive frames in the series are permanently suspended one from another in predetermined fixed positions.

3,139,958
PORTABLE FOLDABLE BUILDING STRUCTURE
Clarence Neil De Witt, Canoga Park, Calif.
(1310 Zehnder St., Sumner, Wash.)
Filed Dec. 29, 1960, Ser. No. 77,228
21 Claims. (Cl. 189—2)



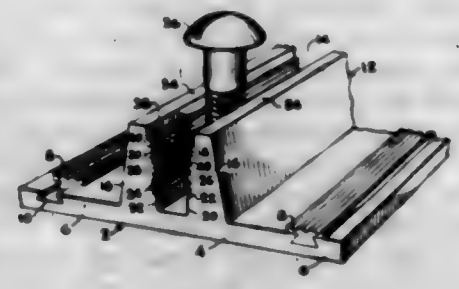
1. A foldable building structure comprising a roof and a wall, said wall comprising a plurality of rigid and relatively flat wall sections each having a pair of spaced edges, each extending parallel to and adjacent to the edges of an adjacent wall section, wall hinge means pivotally connecting adjacent pairs of said edges so that said wall sections may be folded into substantially parallel relationship with a wall spaced between each pair of adjacent wall sections and unfoldable into a polygonal wall structure surrounding a chamber, said roof including a plurality of rigid roof sections of substantially equal size and each section having a pair of converging edges, roof hinge means pivotally connecting each edge of each roof section to an edge of an adjacent roof section so that said roof sections may be folded into substantially parallel relationship with one another with a roof space between each pair of adjacent roof sections and unfoldable so as to form a substantially imperforate roof structure supported on said wall structure and covering said chamber, pivot means pivotally securing said wall sections to said roof sections so that all said sections may be simultaneously folded into parallel internesting relationship with adjacent pairs of roof sections extending into said wall spaces and with adjacent pairs of said wall sections extending into said roof spaces.

3,139,959
CONSTRUCTION ARRANGEMENT
Ralph W. Kraft, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 12, 1961, Ser. No. 116,543
2 Claims. (Cl. 189—34)



1. A load bearing construction arrangement comprising a plurality of elongated members of substantially equal length, four of said members being rigidly connected to each other at one of their ends in angular relation and forming a first joint, each of said four members forming substantially an equal angle with each other of said members, and at least one other joint formed at the other end of one of said four members, said joint being formed by at least one other member of substantially the same length as said four members and said members at said other joint forming an angle with each other substantially identical to the angles formed at said first joint, and at least one outer sandwich layer bonded to said members to form a unitary structure.

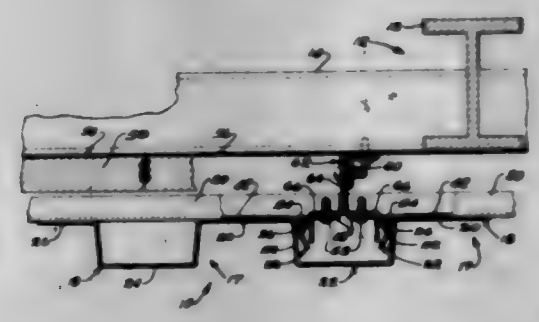
3,139,960
THREAD COUPLING STRUCTURE
Andrew B. Hammitt, 909 W. State St., Trenton, N.J., and Herbert L. Birum, Jr., Titusville, N.J.; said Birum assignor to said Hammitt
Filed Feb. 23, 1961, Ser. No. 91,823
3 Claims. (Cl. 189—34)



1. A thread coupling structure formed to receive a bolt having a predetermined diameter and a helical thread of predetermined pitch thereon, said structure being in the form of an elongated member of uniform cross-section throughout the length thereof and embodying two spaced rigid walls with parallel edges, said walls having an open sided slot therebetween presenting opposed faces spaced apart a sufficient distance to receive

a bolt of said predetermined diameter therebetween, each of said faces being provided with a plurality of bolt-engaging ribs extending longitudinally of the slot parallel to said edges, the bolt-engaging ribs adjacent the open side of said slot and on said opposed faces of the slot being equally spaced bolt-guiding ribs presenting crests located in substantially parallel planes and arranged in intermediate, staggered and complementary opposed relation with respect to each other and spaced apart a distance equal to said predetermined pitch to cause a plurality of said bolt-guiding ribs to engage a plurality of turns of the thread on opposite sides of such a predetermined bolt upon screwing thereof into said slot, there being at least one other bolt-engaging rib on one of the faces of said slot, said other bolt-engaging rib being a bolt-gripping rib positioned below bolt-guiding ribs in the slot and presenting a substantially flat surface lying in a plane including the crests of the bolt-guiding ribs, said surface of the bolt-gripping rib being of a width at least equal to said predetermined pitch so that when such a predetermined bolt is screwed into said slot the thread thereon will first engage the thread guiding ribs and thereafter will cut a female thread in said surface of the bolt-gripping rib.

3,139,961
CONNECTING MEANS FOR BUILDING PANELS
Russell A. Ferrell, Pittsburgh, Pa., assignor to H. H. Robertson Company
Filed May 1, 1962, Ser. No. 191,591
6 Claims. (Cl. 189—88)



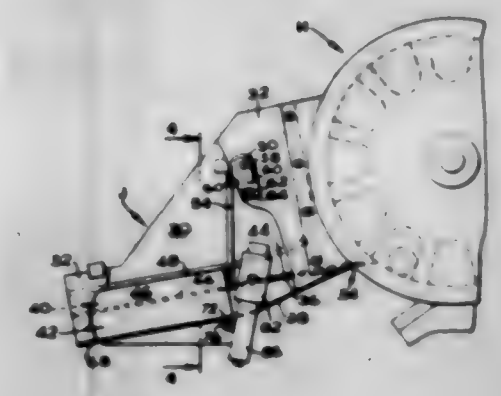
1. In an exterior sheath of a building comprising a plurality of generally rectangular building panels maintained in outboard relation with a building structure, each said building panel comprising a rectangular sheet having lateral surfaces with vertical side edges, at least two transverse subgirts secured to the inner face of said rectangular sheet, means for securing the said transverse subgirts to said building structure, the improvement comprising:

an outwardly extending flange along the said vertical side edge of each said lateral surface, said outwardly extending flange being bowed laterally inwardly of said vertical side edge thereby providing a receiving well at the juncture of said outwardly extending flange and the said vertical side edge, the said outwardly extending flanges of the adjacent ones of said rectangular sheets being spaced apart;

a pair of tongues extending outwardly from each said transverse subgirt, said tongues being disposed externally of the said vertical side edges and aligned therewith; and

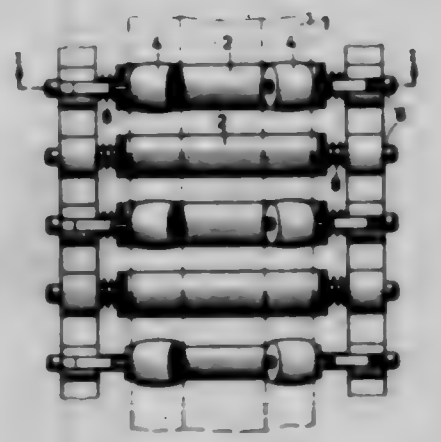
an elongated cap member of generally U-shaped configuration having a face and two spaced legs depending from the said face, said legs being disposed externally of the said outwardly extending flanges of said adjacent ones of said rectangular sheets, each said leg terminating in an inturned leg portion engaged in one said receiving well.

3,139,963
CONTAINER HANDLING APPARATUS
Samuel A. Mascaro, Wilrijk, Antwerp, and Charles P. Tack, St. Nicolas Waas, Belgium, assignors to International Machinery Corporation S.A., St. Nicolas-Waas, Belgium, a corporation of Belgium
Original application Nov. 20, 1957, Ser. No. 697,709, now Patent No. 2,998,118, dated Aug. 29, 1961. Divided and this application Mar. 20, 1961, Ser. No. 96,809
6 Claims. (Cl. 193—32)



1. An article conveyor comprising a chute including a pivotally mounted floor member for temporarily supporting a limited number of the articles as they move along the chute, said floor member being adapted, when an excessive number of the articles accumulate thereon to pivot downwardly and thereby effect discharge of at least some of the accumulated articles, and means urging said floor member toward its article supporting position and arranged to become inoperative as the floor member approaches its article releasing position.

3,139,963
ROLLER GUIDE
Heinrich Nädler, Kreis Neustadt, and Heinrich Blum, Letter, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Dec. 26, 1961, Ser. No. 162,141
Claims priority, application Germany Jan. 4, 1961
4 Claims. (Cl. 193—37)



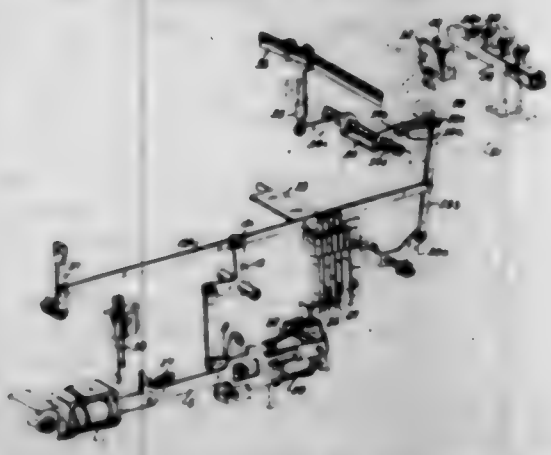
1. A roller guide for plastic or resilient strips used in the manufacture of pneumatic tires, and comprising a plurality of rollers supporting the lower surface of a strip with the lower roller at the delivery end of the guide being fixed against axial displacement along its rotary axis but the remaining lower rollers being axially displaceable along their rotary axes, and a plurality of pairs of rollers engaging the inclined surfaces adjacent the edges of the top face of said strip.

3,139,964

COLOR CHANGING ARRANGEMENT FOR A COMBINED CALCULATOR AND TYPEWRITER

Felix Fischer, Oberndorf (Neckar), Germany, assignor to Olympia Werke AG., Wilhelmshaven, Germany

Filed Oct. 11, 1961, Ser. No. 144,468
Claims priority, application Germany Oct. 14, 1960
10 Claims. (Cl. 197—157)



1. A shifting arrangement for a combined calculator and typewriter which prints in two colors, comprising, in combination,

(*a*) an actuating means shiftable between a first position and a second position, and being movable in each of said first and second positions between an inoperative position and an operative position;

(*b*) a first electro-magnetic means for moving said actuating means between said first and second positions;

(*c*) operation control means for effecting energizing and de-energizing of said first electro-magnetic means and including a switch connected to the same, said switch effecting energizing of said first electro-magnetic means when the combined calculator and typewriter assumed an operational condition for effecting subtractions;

(*d*) a second electro-magnetic means for moving said actuating means in each of said first and second positions to said operative position;

(*e*) a switch means operated by said first electro-magnetic means when the same is energized, and connected to said second electro-magnetic means to energize the same after said first electro-magnetic means has shifted said actuating means between said first and second positions; and

(*f*) an operated means shiftable between a normal position for setting the combined calculator and typewriter to a normal condition in which it prints in a first color, such as black, and another position for setting the combined calculator and typewriter to another condition in which it prints in a second color, such as red, and being operatively connected to said actuating means to be shifted by the same from said normal position to said other position when said actuating means is moved by said second electro-magnetic means in said first position from said inoperative position to said operative position, and from said other position to said normal position when said actuating means is moved by said second electro-magnetic means in said second position from said inoperative position to said operative position.

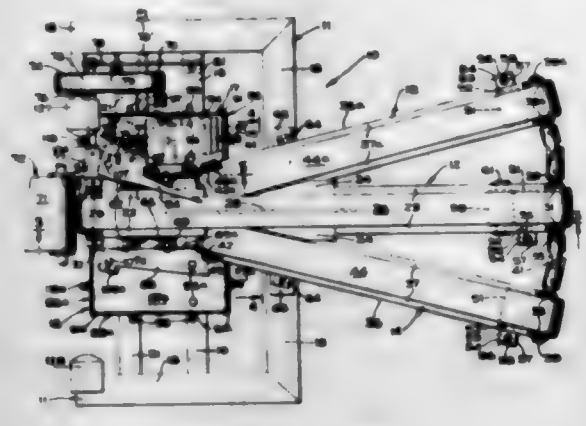
3,139,965

HIGH SPEED SORTING APPARATUS

Ralph H. Eggert, Pennsauken Township, Camden County, N.J., assignor to FMC Corporation, a corporation of Delaware

Filed Nov. 7, 1960, Ser. No. 67,719
9 Claims. (Cl. 198—31)

1. A high speed sorting mechanism comprising a main conveyor having an upper run defining an article carrying surface having a low coefficient of friction, an article diverting conveyor having an inlet end portion disposed closely adjacent said upper run and defining an article carrying surface having a high coefficient of friction for effectively gripping an article and diverting it off the main conveyor while it is still partially supported thereon, a deflector normally disposed out of the path of movement



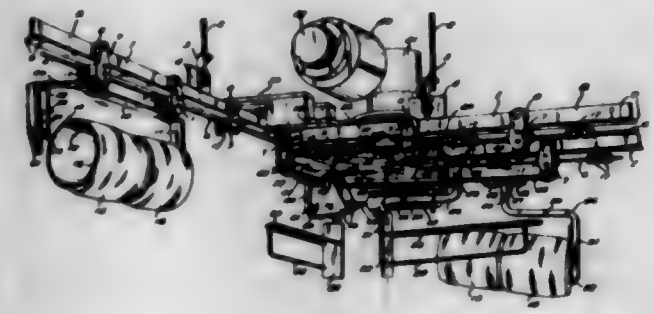
of articles on said main conveyor and arranged to be actuated into a deflecting position over said main conveyor and aligned generally in the direction of said diverting conveyor to deflect an article from said main conveyor onto said diverting conveyor, and control means for actuating said deflector in timed relation to the movement of articles on said main conveyor.

3,139,966

ARTICLE CONVEYING AND TRANSFERRING MECHANISM

Carl L. Sheets, Bay Village, Ohio, James R. Whitted, Greenville, S.C., and Robert S. Forestall, Willowick, Ohio, assignors to The American Monorail Co.

Filed May 29, 1961, Ser. No. 113,530
15 Claims. (Cl. 198—38)



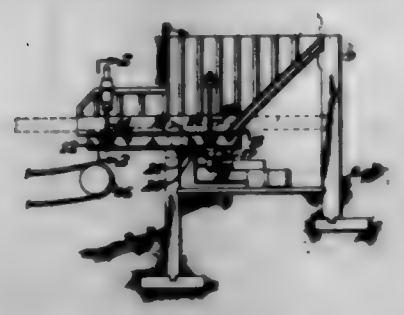
1. Apparatus for handling articles comprising an endless, continuously movable, overhead first conveyor having article carrying means suspended therefrom and spaced therealong, a second, endless, overhead conveyor having means suspended therefrom to receive and to convey articles transferred thereto from the first conveyor, and means for transferring articles from the first conveyor directly to the second conveyor, said means including a station selector carried by the first conveyor, trigger mechanism fixed in position adjacent to said article carrying means of the first conveyor and engageable by said selector, and means controlled by the trigger mechanism for moving said article receiving means into and out of the path of travel of said article carrying means, and for moving the second conveyor one step after each article is transferred thereto.

3,139,967

RECIPROCATING PLATE FEEDING DEVICE

Lewis C. Erickson, Duluth, Minn., assignor to National Iron Company, Duluth, Minn., a corporation of Delaware

Filed Feb. 23, 1961, Ser. No. 125,284
3 Claims. (Cl. 198—60)



1. In a primary feeder of the withdrawal type for handling and feeding mine-run ore as taken directly from a mine with particles thereof frequently being extremely large and of very heavy weight,

(*a*) a stationary hopper for the ore having a lateral discharge opening facing forwardly through which only said ore is to be discharged,

(*b*) a rigid reciprocable feeder deck having a substantially flat and horizontal upper material-carrying surface and of a structure to receive thereon and discharge therefrom such mine-run ore mounted in close proximity beneath the discharge opening of said hopper and constituting a movable bottom for said hopper for supporting the weight of such ore in said hopper,

(*c*) mounting means engaging said feeder deck in supporting relation only for longitudinal forward and rearward reciprocating movement thereof in a substantially horizontal plane,

(*d*) a hydraulic cylinder and piston assembly having one of its ends pivotally connected to said feeder deck and its other end pivotally connected to a fixed support for reciprocating the deck in relatively slow strokes at substantially less than 500 cycles per minute,

(*e*) a source of, and means for controlling, hydraulic fluid under pressure operatively connected to said cylinder at each of its ends and alternately driving relatively slowly said piston forwardly and rearwardly in cycles having a frequency of less than 500 per minute to cause said piston to only reciprocate said feeder deck an amount as allowed by said mounting means and controlled amount of hydraulic fluid supplied to the cylinder and cause the latter to carry a load of the ore forwardly from said discharge opening in stationary contact with said feeder deck and to withdraw from beneath the forward portion of the load as said feeder deck is moved rearwardly.

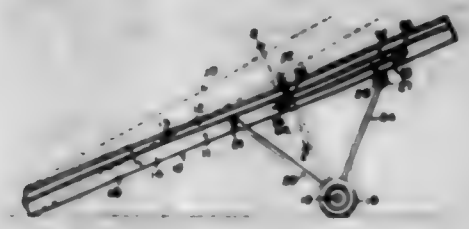
3,139,968

ELEVATING CONVEYOR WITH SLIDE-PIPE HOLD DOWN ATTACHMENT

Samuel K. Stauth, Compton, Ill., assignor to Mayrath Machinery Co., Inc., a corporation of Kansas

Filed Aug. 10, 1961, Ser. No. 130,679
4 Claims. (Cl. 198—120.5)

1. In a conveying mechanism, an elongated conveyor body, a wheeled axle structure, radius rods connected between said axle structure and said conveyor body, supporting arms connected to said axle structure and diverging upwardly from said radius rods, conveyor-body engaging means carried by said arms for supporting said conveyor body and for providing for endwise movement thereof relative to said supporting arms to vary the inclination of said conveyor body from the horizontal as said supporting arms are moved to vary their angle relative to said radius rods, smooth elongated rod-like members carried by said conveyor body along opposite sides thereof substantially above said conveyor-body engaging means, and means slidable along said elongated members



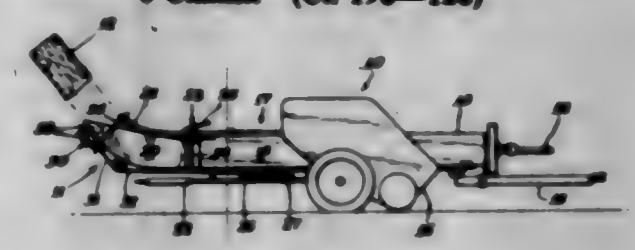
and having mechanical connection with said supporting arms to maintain said conveyor body in engagement with said engaging means in any angularly adjusted position of said supporting arms.

3,139,969

AGRICULTURAL APPARATUS

Herbert D. Sullivan, Memphis, Tenn., and Homer N. Grillot, Naperville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Sept. 26, 1962, Ser. No. 226,275
6 Claims. (Cl. 198—128)



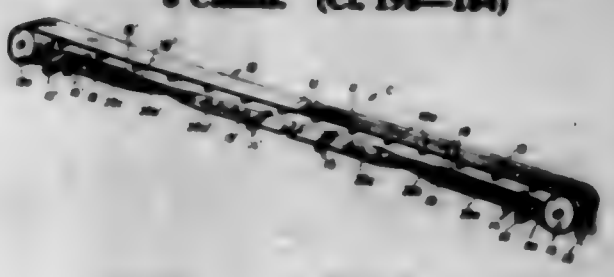
1. In a system for directing articles along a predetermined path including channel means for receiving said articles at a relatively constant input velocity, energy storage means, actuator means positioned adjacent said channel and including at least a portion extending into said channel for displacement by one of said articles at said relatively constant velocity, and linkage means intercoupling said actuator means and said energy storage means, whereby energy is transferred to said energy storage means during a first period in which said actuator is displaced at said relatively constant velocity, said actuator being operative upon displacement to a preassigned position to effect release of the energy from said energy storage means and impel one of said articles at an output velocity substantially higher than said input velocity.

3,139,970

ARRANGEMENT FOR INVERTING THE SIDES OF BELTS IN ENDLESS CONVEYORS AND THE LIKE

Walter Mordstein, Frechen, Germany, assignor to Rheinische Braunkohlenwerke Aktiengesellschaft, Cologne, Germany

Filed Jan. 9, 1961, Ser. No. 81,429
Claims priority, application Germany Jan. 5, 1960
8 Claims. (Cl. 198—184)



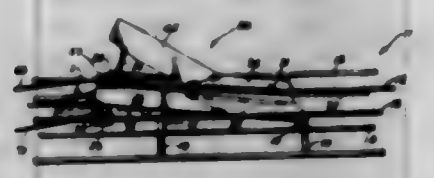
1. A belt twisting and inverting arrangement, comprising an endless moving belt; a pair of spaced guide means

arranged to guide said belt so that a portion of the belt between said guide means advances in a substantially straight path, said portion of said belt being inverted between said guide means and having an inner side and an outer side; and twisting means of substantially helical outline located along and having an axis which is substantially parallel with said path, said twisting means comprising a plurality of helically arranged twisting members engaging the inner side of and deforming said portion of said belt into a body of arcuate cross section, each of said twisting members engaging a portion of said inner side whose width is substantially less than the width of said belt so that all zones of said portion of said belt are subjected to substantially equal stretching forces.

3,139,971
CONVEYOR

Isaac Z. Smoker, Intercourse, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed Sept. 29, 1961, Ser. No. 141,722
8 Claims. (Cl. 198—185)



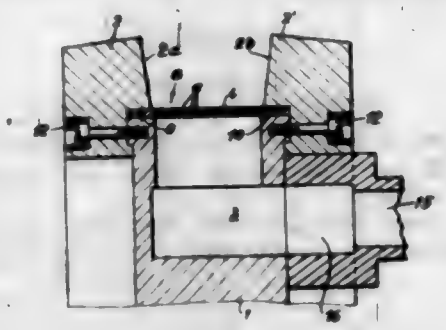
1. A bale conveyor comprising support structure, means carried by said support structure for moving bales thereover in a predetermined direction, side guides on said support structure between which said bales travel, and means for elevating bales above said side guides and discharging the bales laterally from said conveyor, said elevating and discharging means comprising a frame disposed on said support structure, right and left bale deflecting members carried by said frame and each having one end connected to the frame for vertical pivotal movement about an axis extending at an acute angle to said predetermined direction of movement of bales over said support structure, said deflecting members being inclined upwardly from said one end, a track on said frame extending transversely to the direction of bale travel, a member seated on said track and movable therealong, support means interconnecting said movable member and said right and left bale deflecting members, and means for selectively moving said movable member along said track toward one of said bale deflecting members whereby said one of said bale deflecting members is pushed upwardly about its pivoted end by said support means and the other of said bale deflecting members is pulled downwardly about its pivoted end by said support means.

3,139,972
ROTARY SUCTION CONVEYOR

Horst Kochalski, Hamburg-Lohbrügge, Germany, assignor to Hauni-Werke Körber & Co. K.G., Hamburg-Bergedorf, Germany

Filed June 8, 1960, Ser. No. 34,692
Claims priority, application Germany June 13, 1959
8 Claims. (Cl. 198—211)

1. A suction conveyor, particularly for advancing an elongated tobacco stream in tobacco processing machines, comprising a rotary wheel-shaped supporting member having internal recess means and a circumferential groove surrounding said recess means; an annular bottom wall intermediate said recess means and said groove, said bottom wall comprising a plurality of fluid-permeable arcuate segments arranged end to end; and means for securing each of said segments solely to said supporting member so that any selected segment may be separated from the supporting member without necessitating separation of

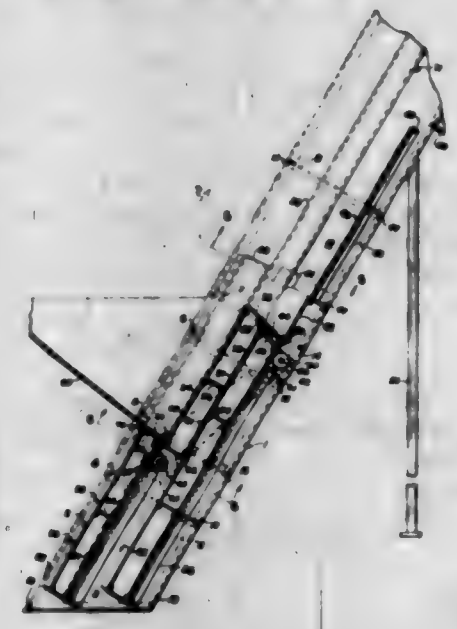


such selected segment from the segments which are arranged end-to-end therewith.

3,139,973
CONVEYORS

Charles F. Rivers, 15375 Stahelin Blvd., Detroit 26, Mich.

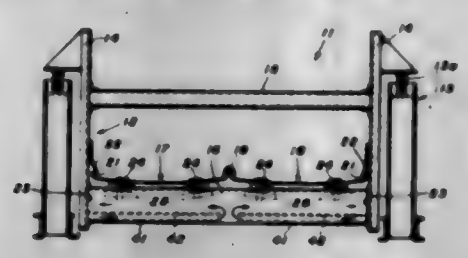
Filed Feb. 26, 1962, Ser. No. 175,499
3 Claims. (Cl. 198—218)



1. A device for elevating workpieces comprising an elongated supporting frame extending upwardly at a substantial angle to the horizontal, said frame having a first guideway adjacent the front of said frame extending lengthwise thereof, said frame having a second guideway spaced rearwardly of and parallel to said first guideway, a first elevator movable in said first guideway from a lower charging position to an upper position, said first elevator having a rearwardly sloping lifting platform, a rearwardly sloping metering shelf fixed to said frame between said guideways in a position so as to be at the rear and approximately at the elevation of said lifting platform in the upper position of said first elevator to receive workpieces therefrom by gravity, a second elevator movable in said second guideway from a lower position to an upper discharging position, said second elevator having a rearwardly sloping lifting platform, the lifting platform of said second elevator, in the lower position of the latter, being at the rear and approximately at the elevation of said metering shelf to receive workpieces therefrom by gravity, means at the front of said frame for delivering workpieces to the lifting platform of said first elevator in the lower leading position of the later, means at the rear of said frame for conveying away workpieces discharging by the lifting platform of said second elevator in the upper discharging position of the latter, and means for moving said elevators between their respective upper and lower positions, said

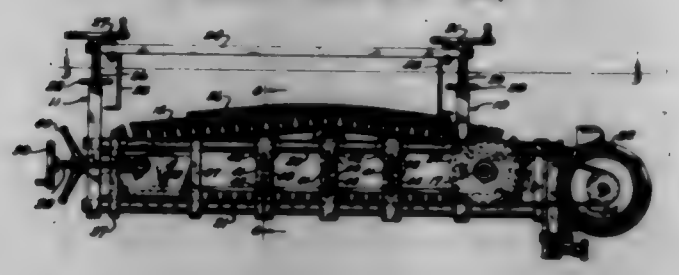
means for moving said elevators being operative to move said second elevator through a substantially greater stroke than said first elevator.

3,139,974
VIBRATING CONVEYOR
Josef Röder, Darmstadt, Germany, assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 24, 1961, Ser. No. 154,434
Claims priority, application Germany Dec. 2, 1960
7 Claims. (Cl. 198—220)



1. A vibrating conveyor comprising elongated sidepieces supported for vibration, crosspieces fixedly connected at their ends to the sidepieces at spaced intervals, and sheets overlapped at their ends forming an elongated conveyor tray fastened onto the crosspieces and to one another at their ends, one connection fastening each sheet rigidly to a first crosspiece for locking the sheet in position with respect to the other sheets, and another connection fastening the ends of adjoining sheets slidably to one another and to a second crosspiece whereby compensation for expansion and contraction of the sheets is effected.

3,139,975
DEVICE FOR CLEANING ENDLESS CONVEYORS
Harold A. Schaefer, Brookfield, Wis., assignor to Schaefer Brush Mfg. Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 4, 1961, Ser. No. 156,709
2 Claims. (Cl. 198—230)



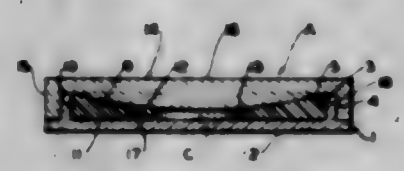
1. In a cleaning apparatus for an endless conveyor belt, said cleaning apparatus having a frame positioned transversely beneath the conveyor belt, having an endless flexible cleaner belt carried by said frame beneath the lower run of the conveyor belt and positioned to move transversely across the path of the conveyor, having means for driving said endless cleaner belt, having a plurality of brushes mounted in and projecting from said cleaner belt, and having means to horizontally adjust said cleaner belt, the improvements comprising: independently vertically-adjustable cleaner belt-supporting means on each end of said frame, the independently adjustable nature of said supporting means permitting the adjustment of the plane of said cleaner belt to compensate for deviations in the transverse plane of the conveyor belt from the horizontal; and a plurality of supporting members on said frame independently vertically-adjustably supporting the upper run of said cleaner belt intermediate its length, the independently adjustable nature of said supporting members permitting the positioning of said cleaner belt upper run to conform to the cross sectional contour of said conveyor belt lower run.

3,139,976
COIN HOLDER
Sidney Frank Swain, 7811 NW. Grand Ave., Glendale, Ariz.
Filed Dec. 8, 1960, Ser. No. 74,658
8 Claims. (Cl. 206—.82)



1. A coin holder of the character described comprising a relatively thin walled tube for supporting a predetermined number of coins of a given denomination, said tube having end rims of semi-resilient material and a continuous side wall fitting snugly against edges of the coins of the denomination for which the tube is intended when the said coins are in stacked relation, each such rim having a pair of oppositely facing spaced projections occupying a substantial portion of the periphery, said projections defining lips of generally narrow ovate shape and with relatively plane facing surfaces adapted for engagement against the faces of the end coins in a stack, whereby said lips retain said stack of coins within the tube but said lips may be sprung back to introduce coins to or remove coins from said stack, said space between the projections permitting said tube to be collapsed in flat relation when not filled with coins.

3,139,977
COIN STORING AND DISPLAYING DEVICES
Richard Burdick, 3400 Armstrong Ave., Dallas, Tex.
Filed Aug. 28, 1962, Ser. No. 217,965
8 Claims. (Cl. 206—.83)

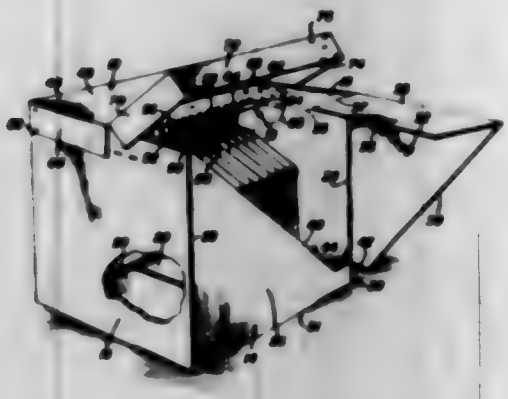


1. A coin-holder comprising a receptacle member having a contents-receiving recess defined by a continuous annular side face and a bottom face, and a matching cover member shaped to fit snugly upon the receptacle member and extend closurewise across the recess formed of transparent material, and an insert disk removably disposed in said recess and being peripherally shaped to fit snugly and conformably within the recess in substantially continuous abutment around the side face thereof, said disk having a coin-receiving pocket, said cover member being provided with an optical magnifier having a curved surface with a focal length which will magnify the insert disk disposed in one of said members when one of said members is spaced from the other of said members.

3,139,978
SHIPPING CARTON FOR GARMENTS
John A. Meglio, Allentown, Pa. (1290 Ave. of the Americas, Room 1426, New York 19, N.Y.)
Filed Nov. 30, 1962, Ser. No. 241,317
3 Claims. (Cl. 206—7)

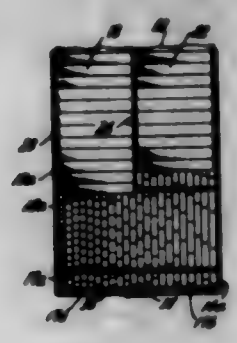
1. A carton for enclosing, handling and shipping garments which are hung on wire or similar hangers comprising: horizontal top and bottom walls and complemental vertical front, back and side walls, said front wall having a main vertical portion fixed along vertical and horizontal marginal edges to cooperable vertical and horizon-

tal edges of one vertical side wall, and the bottom wall, respectively, and an auxiliary complemental portion struck out of said front wall and separated from said main portion and having a single vertical marginal edge hingedly joined to a cooperating vertical forward edge of the other side wall and defining a horizontally swingable flap, said flap defining a front entrance to the interior of said carton and providing a closing door therefor, said top wall embodying front and rear half-portions adjacent edges of which are joined by a connecting web, said web being of a length commensurate in length with the width of said top wall and being folded upon itself intermediate its ends, the resulting folds being in direct contact with



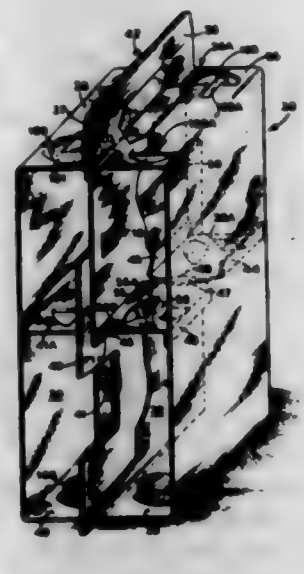
each other from end to end and secured together and defining a rib, said rib having a plurality of selectively usable holes therein adapted to accommodate suspension hooks on said garment hangers, the rear end of said top wall being integral with the cooperating upper end of the back wall and constituting an extension of said back wall, said front and rear half-portions being provided with depending rim-flanges, the latter embracing upper portions of the front and side walls, the folds of said web being provided at their respective outer ends with lateral forwardly and rearwardly directed tongue-like anchoring and reinforcing tabs, said tabs abutting cooperating interior surfaces of the respectively adjacent side walls and being fixedly connected.

3,139,979
COMBINED SHIPPING AND MERCHANDISING PACKAGE
Jerome Y. Russell, 86 Allendale, Terre Haute, Ind.
Filed July 19, 1962, Ser. No. 210,886
2 Claims. (Cl. 206—45.12)



1. A package comprising:
front, rear, left-hand side and right-hand side walls;
a bottom formed by flaps inwardly turned from said walls;
a top formed by flaps inwardly turned from said walls;
a first scored line extending straight up the said right-hand side from the said bottom, straight across the said top, and straight down the left-hnnd side to said bottom, to facilitate the breaking open of said box and folding of the bottom thereof to provide two open containers having the folded bottom of said box as abutting hinged walls thereof;
books of uniform thickness stacked vertically from the bottom of said box to the top thereof and between the said front wall and an imaginary plane through said box at said scored line, and from the bottom of said box to the top thereof between said rear wall and said imaginary plane and completely filling the space defined by said walls and top and bottom;
said box having a plurality of spaces in a first column on the inside surface of said front wall,
said column being parallel to said side walls and the length of the spaces being substantially equal to the thickness of the books with the end of each of said books abuttingly engaging and covering one of said spaces,
successive spaces in said column having successive numbers therein whereby the number of said books remaining in a stack is indicated as books are removed from the stack, and said box having a second plurality of spaces of uniform length in a second column on the inside surface of said front wall and parallel to said side walls, with the length of all of said spaces in said second column being different from the length of said spaces in said first column.

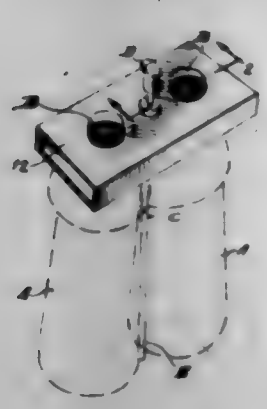
3,139,980
WRAPPER TYPE CAN CARRIER
Joseph C. Spery, 527 Madison Ave., Room 1002, New York, N.Y.
Filed Oct. 17, 1961, Ser. No. 145,677
16 Claims. (Cl. 206—47)



10. A foldable can carrier formed from a single blank of sheet material comprising a bottom half wall segment, a first intermediate panel folded about a foldline extending along one edge of said bottom half wall segment, an upright side wall panel foldable about a foldline extending along the other edge of said bottom half wall segment, a top wall folded along a foldline adjacent the upper end of said side wall, another side wall attached along a foldline extending along the other edge of said top wall, the other bottom half wall segment attached along a foldline extending along the bottom edge of said other side wall, and a second intermediate panel attached along the edge of said latter bottom half wall segment, each of asid intermediate panels extending between the top and bottom of said carrier being disposed back to back and parallel to said side walls to divide said carrier into two half sections, a flat premium article disposed be-

tween said intermediate panels, and means for retaining said article between said intermediate panels.

3,139,981
PREMIUM HOLDING PACKAGE
David Akelreb, 5725 Cote St. Luc Road, Montreal, Quebec, Canada
Filed July 30, 1962, Ser. No. 213,475
2 Claims. (Cl. 206—47)



1. A combination display package for a fluid container and dispenser comprising:
at least one container having a restricted neck;
a sealing cap secured to said neck;
a dispenser for connection to said container;
said dispenser comprising a lower stem portion, an intermediate cap, and an upper protruding top portion;
said stem and top portions having a cross-section less than the cross-section of said intermediate cap on said dispenser; and
a relatively shallow, open-ended, box-like, package-forming element including a bottom, top and intermediate panel, a first side panel connecting said top and intermediate panels and a second side panel connecting said top and bottom panels;
said package-forming element being mounted on said container and dispenser and normally preventing removal of said dispenser without substantial dismantling of said package;
said bottom panel, top and intermediate panels including transverse, aligned apertures surrounding said dispenser and said container;
the apertures surrounding said dispenser including an aperture in the bottom panel surrounding said lower stem portion, an aperture in the intermediate panel surrounding said intermediate cap, and an aperture in the top panel surrounding the upper protruding portion;
said dispenser surrounding apertures in said bottom and top panels being of an area smaller than said dispenser cap and preventing longitudinal movement thereof,
said bottom panel engaging beneath said container and dispenser caps,
said intermediate panel receiving said container and dispenser caps therethrough, and
said top panel overlying and preventing longitudinal movement of said dispenser cap.

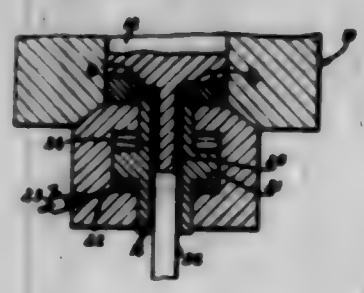
3,139,982
COSMETIC CASES
Joseph Aversa, 270 Lafayette St., Scarsdale 12, N.Y.
Filed Nov. 13, 1962, Ser. No. 237,967
5 Claims. (Cl. 206—56)

1. In a cosmetic case, the combination of a barrel having a closed rear end, a rod having a plug at its rear end secured in the rear end of said barrel, a tube slidably mounted on said rod having its rear end restricted and in slidable engagement with said rod, a flexible washer mounted in said tube adjacent to said restricted said rear end slidably receiving said rod to stabilize said rod in said tube, a cup secured to the front end of said rod, and a marking device having its rear end secured in said cup, the tube corresponding in length substantially to the length of the marking device before use to enable the front end of the marking device to project therefrom for use, said



tube being slidable in said barrel as the marking device wears down from use, enabling the front end of the marking device always to protrude from the front end of said tube when in use with the front end of the tube extending beyond the front end of the barrel in rearmost position of the tube relative to the barrel, and an outwardly extending rib on said tube spaced from the front end of said barrel in rearmost position of said tube relative to said barrel to enable manipulation of said tube relative to said barrel and marking device.

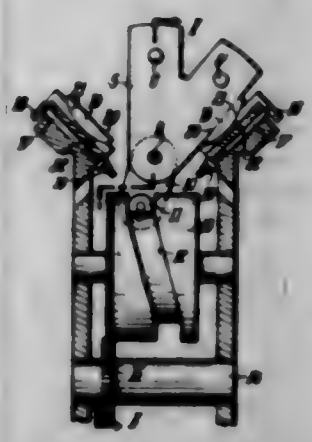
3,139,983
APPARATUS FOR PRODUCING METAL-CLAD EXTRUDED BODIES
Paul-Günther Erbslöh, Wuppertal-Barmen-Bloembech, and Harry Wilke, Wuppertal-Ronsdorf, Germany, assignors to Julius & August Erbslöh Kommanditgesellschaft, Wuppertal-Barmen, Germany
Filed June 28, 1961, Ser. No. 118,468
8 Claims. (Cl. 207—4)



1. In an extrusion press for producing profiled bodies, in combination, a housing formed with a generally elongated billet chamber having a partially closed discharge extremity, a longitudinally displaceable die holder disposed in said housing at said extremity, said die holder having a rearward portion adapted to project with po-

ripheral clearance into said chamber in an extreme position of said holder, thereby forming at said extremity with the longitudinal walls of said chamber an annular compartment communicating annularly with the remainder of said chamber over a cross-sectional area substantially equal to that of said compartment in a transverse plane, a die in said holder, pressure means in said chamber remote from said extremity for forcing a billet of a first material flowable under pressure through said die, thereby tending to displace same in the direction of displacement of said first material, and control means engaging said holder for regulating the rate of displacement thereof under the force of said pressure means to dispense a continuous flow of a second material flowable under pressure and disposed in said compartment substantially uniformly around said first material for entrainment thereby through said die whereby said second material forms a surfacing layer on the body thus produced.

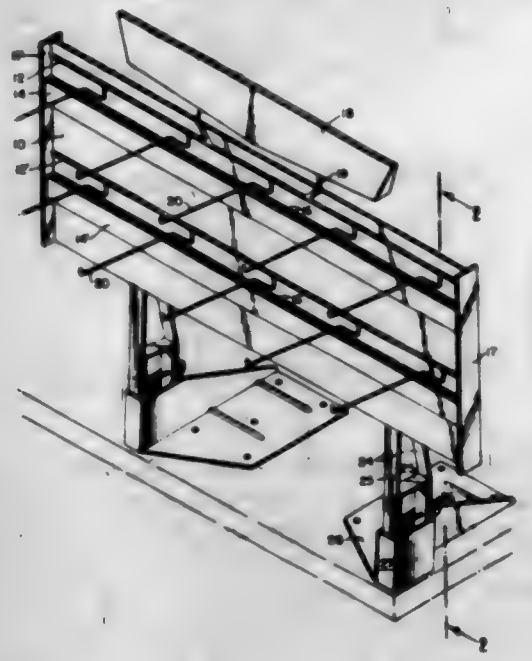
3,139,984
FLOW DEFORMATION PRESSES
Karl Griesinger, Jebenhausen, Wurttemberg, Germany, assignor to L. Schuler AG, Goppingen, Wurttemberg, Germany
Filed Apr. 28, 1961, Ser. No. 106,386
Claims priority, application Germany May 4, 1960
3 Claims. (Cl. 207—9)



1. A tool carrier for a flow-deformation press, comprising in combination, a carrier member pivotable between two working positions about an axis substantially perpendicular to the plane of said member, the latter being adapted to hold a pair of interchangeable press tools at locations radially spaced apart from said axis, said tools alternately facing another press tool in one of said working positions, adjustable limit stops located at both ends of the pivotal movement, and means for pivoting said carrier member so as alternately to bring each of said tools opposite said another tool while the other tool is pivoted away therefrom, said pivoting means including a positively actuated crank member performing an angular movement larger than said pivotal movement of the carrier member, and a torsion bar connecting said members substantially along said axis, said torsion bar being adapted for urging alternate engaging surfaces of said carrier member into, and maintaining them in, contact with respective ones of said limit stops.

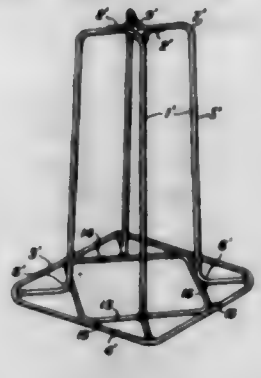
3,139,985
PANEL DISPLAY RACK
Robert L. Sinclair, Dedham, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Mar. 7, 1962, Ser. No. 178,629
8 Claims. (Cl. 211—69)

1. A display rack for suspended articles, comprising a body of sheet metal presenting transverse tubular beads and channel-shaped ribs, vertically perforated, a series of hooks having transverse shanks mounted to rotate in



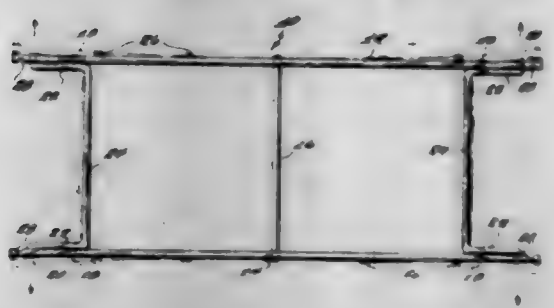
said beads, and upright standards having retaining pins arranged to fit in any selected perforations of said ribs for supporting the rack.

3,139,986
WIRE COIL CARRIER
Donn V. Strock, 39 Oak Drive, Poland, Ohio
Filed Dec. 12, 1962, Ser. No. 244,089
2 Claims. (Cl. 211—59)



1. A carrier for coiled material comprising a standard including a pair of identical uprights having juxtaposed median bends in fixed spaced opposed relation, each upright having portions diverging outwardly in a common plane from its median bend and thence downwardly in slightly divergent relation to adjacent corresponding downwardly extending portions of the other upright, both uprights having their ends turned outwardly from said last mentioned portions in a common plane substantially parallel to the plane of said median bends, a substantially rectangular base receiving an end of one of said uprights within the apex of each pair of adjacent sides, curved gussets fixed to both uprights adjacent their median bends for maintaining the uprights in said relation, the gussets being welded to the uprights and the ends of the latter to the base, and a substantially rectangular open auxiliary base coplanar with the base having the apices of adjacent sides welded to the sides of the base proximate their midpoints and the sides of the auxiliary base welded to the standard.

3,139,987
KNOCKDOWN STRUCTURE AND COMPONENT FRAME THEREFOR
Santiago Rubio and German Rubio, both of Apartado aereo 6683, Bogota, Colombia
Filed Feb. 28, 1962, Ser. No. 176,505
8 Claims. (Cl. 211—182)



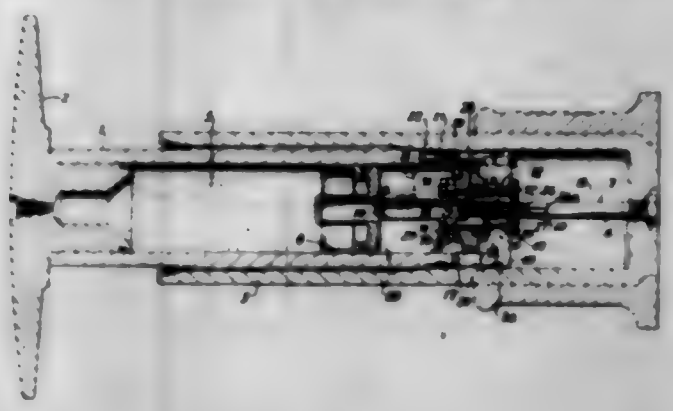
1. A frame connectible with a plurality of identical frames at least one of which is arranged at right angles thereto to form a knockdown structure comprising a pair of spaced parallel beams, a rod rigidly connecting said beams at their midpoints, the ends of said beams being flexibly displaceable toward and away from each other, a U-shaped brace having outwardly flanged legs rigidly fixed to and connecting the ends of said beams by the flanged legs at points inwardly spaced from the beam ends to permit flexing thereof, and notches formed in the inner faces of the said beams adjacent the ends and conforming with the outer surface thereof to receive and clamp the beams of an identical frame upon the flexing of the ends of said beams to pass over said identical frame beams.

3,139,988
INDICATOR FOR CRANES AND THE LIKE
Erwin C. Brekelbaum, George C. Noll, and George B. Klos, Elyria, and John D. Nielsen, Lorain, Ohio, assignors to The Thew Shovel Company, Lorain, Ohio, a corporation of Ohio
Filed July 24, 1962, Ser. No. 212,090
10 Claims. (Cl. 212—39)



1. A crane comprising an operator's cab, an operating boom adapted to be operated therefrom, an indicator visually accessible to said operator's cab, means responsive to changes in position of said operating boom to move said indicator visually to convey to said operator's cab the position of said boom, a tower, means mounting said operating boom at the peak of said tower, said operator's cab and accordingly said indicator being at the base of said tower and thus substantially removed from said operating boom, and linkage means interconnecting said indicator and said operating boom operative to move said indicator in response to changes in the angular position of said operating boom.

3,139,989
BUFFERS AND DRAW-GEAR FOR RAILWAYS, TRAMWAYS AND LIKE VEHICLES
Peter W. Thornhill, Ufton, Leamington Spa, England, assignor to Opee Limited, Leamington Spa, England
Filed Apr. 27, 1961, Ser. No. 106,126
Claims priority, application Great Britain Apr. 27, 1960
9 Claims. (Cl. 213—223)

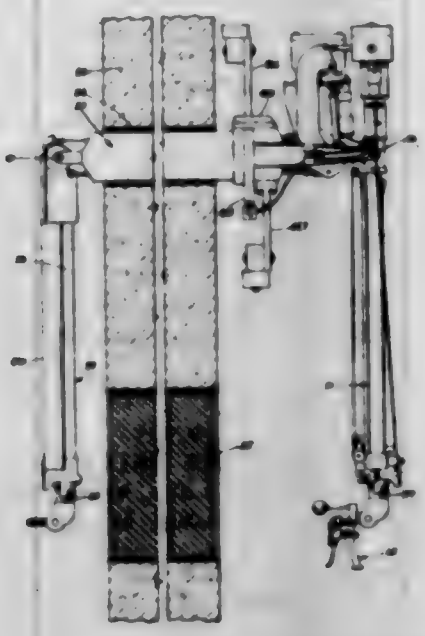


1. A hydraulic buffer or draw-gear for railway, tramway or like vehicles comprising a cylinder, plunger means movably mounted within said cylinder to form a unit incorporating resilient means to provide resistance and recoil, a liquid chamber having liquid therein disposed in said unit, reservoir means disposed in said unit, passage means interconnecting said liquid chamber and said reservoir means, said passage means including an energy absorbing orifice in said passage means so that when a load is applied to said plunger means liquid is displaced from said liquid chamber into said reservoir means through said passage means and energy absorbing orifice, and pressure operated valve means disposed in said passage means closing said passage means to prevent any flow of liquid from said liquid chamber to said reservoir means until a predetermined liquid pressure has been attained in the liquid chamber whereupon said valve means opens and permits liquid flow at a controlled pressure, the action of said valve means being to raise the force required to move the plunger means inwardly above the recoil force provided by the resilient means.

3,139,990
RUGGED-DUTY MASTER-SLAVE MANIPULATOR
Demetrius G. Jelatis, Robert A. Olson, Lester W. Hasker, and Elmer W. Pearson, all of Red Wing, Minn., assignors to Central Research Laboratories, Inc., Red Wing, Minn., a corporation of Minnesota
Filed Dec. 11, 1961, Ser. No. 158,396
18 Claims. (Cl. 214—1)

1. A rugged-duty, remote control, master-slave manipulator comprising a horizontal supporting structure having a master arm connected adjacent one end thereof and a slave arm connected adjacent the other end thereof, a wrist joint adjacent the free end of said master arm and handle means projecting therefrom, a wrist joint adjacent the free end of said slave arm and tong means projecting therefrom, said tong means being operative through linear motion transmission elements in response to movement of said handle means and including clamping jaw members, said handle means including rotary take-up means to which one end of a linear tong motion transmission element controlling said jaw members is secured, said take-up means being rotatably mounted in a housing pivotally mounted in said handle, lever means movable in response to finger pressure of the manipulator operator

pivotally mounted in said housing and operatively connected to rapidly rotate said take-up means relative to said housing, and means to lock said lever means against



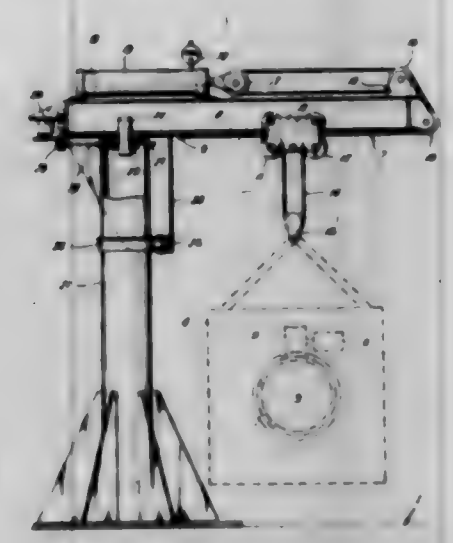
pivotal movement on its pivotal mounting whereby further movement of said lever means causes pivotal movement of said housing.

3,139,991

BARGE MOUNTED SUPPORT FOR PIPE LINE COATING MACHINE

Samuel J. Homes, Houston, Tex., assignor to Crutcher-Rolfs-Cummings, Inc., Houston, Tex., a corporation of Texas

Filed May 20, 1963, Ser. No. 281,595
8 Claims. (Cl. 214—1)



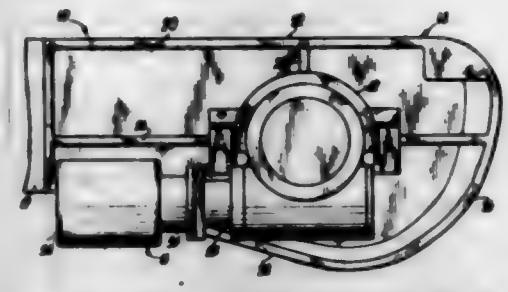
1. For use with a traveling pipe laying vehicle, a vehicle mounted support assembly for a pipe coating machine having pipe engageable drive means controlling the feed of pipe through the machine, said support assembly comprising a machine suspension cable, a trolley therefor, a boom having a trolley guide trackway extending transversely of the feed direction of pipe through the machine, means movably mounting the boom on the vehicle to accommodate boom movement longitudinally of the direction of pipe feed and in response to changes in relative rates of vehicle travel and speed of pipe fed through the machine and means responsive to such boom movement for changing the speed of said drive means toward matching the speed of pipe feed through the coating machine with vehicle travel speed.

3,139,992

BOOM TIP

Raymond J. Wacht and Paul A. Lindahl, Overland Park, Kans., assignors to Pitman Manufacturing Company, Grandview, Mo., a corporation of Missouri

Filed Feb. 18, 1963, Ser. No. 259,899
5 Claims. (Cl. 214—3)



1. Tip structure for a boom adapted for handling a pole, said structure comprising:

an assembly adapted to be secured to one end of a boom and provided with a pair of outwardly projecting, spaced tip members having peripheral, longitudinally arcuate surfaces configured to engage and retain a portion of a pole therebetween; and

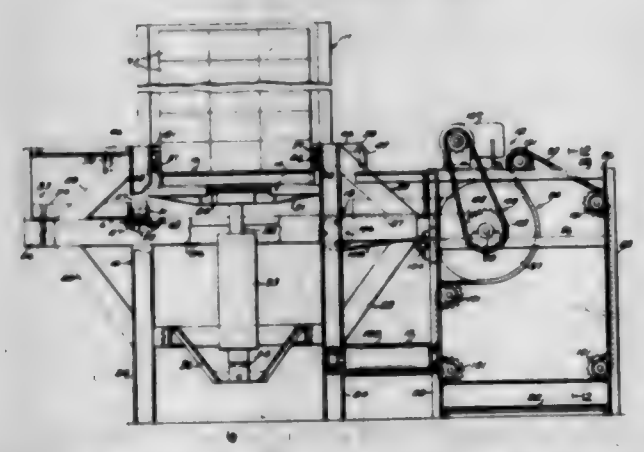
a cable-receiving sheave carried by the assembly between said tip members and rotatable about an axis extending between the tip members, the pole engaging surfaces of the tip members lying in an imaginary, longitudinally arcuate envelope spaced from the axis of rotation of the sheave in partial surrounding relationship thereto and with the distance between the surfaces of the tip members and the axis of rotation of the sheave as defined by said envelope increasing progressively from one extremity of the envelope to the opposite extremity thereof by an amount to cause a cable trained over the sheave and secured to a pole against said surfaces to remain taut as the pole is shifted relative to said assembly and as a portion of the cable is caused to wind upon or unwind from said sheave.

3,139,993

PALLET UNLOADER

George E. Lauer, % Melrose Sheet Metal Co., 2960 Chapman, Oakland, Calif.

Filed June 6, 1960, Ser. No. 34,106
2 Claims. (Cl. 214—8.5)



1. A pallet unloader comprising a superstructure having a receiving platform supported to one side thereof, a lift platform mounted for translation vertically of the superstructure between the level of said receiving platform and an elevated limit, vertically stationary clamp means carried by said superstructure for controllably engaging and retaining boxes stacked upon a pallet supported upon said lift platform whereby the pallet may be removed from beneath the boxes, a ram carried by said superstructure at the level of said receiving platform for controllably horizontally urging a layer of boxes sup-

ported upon said lift platform onto said receiving platform, and automatic control means for sequentially effecting engagement of the lower level of stacked boxes by the clamp means, upward translation of the lift platform to an upper position for supporting said boxes, release of the boxes by the clamp means, downward translation of the lift platform to an intermediate stationary position spaced above said receiving platform, engagement of the clamp means with the layer of boxes upwardly adjacent the lower layer, further downward translation of said lift platform to the level of said receiving platform, actuation of said ram subsequent to arrival of the lift platform at said level of said receiving platform to deliver a layer of boxes thereto, and repetition of the previous sequence commencing with the engagement of the lower level of boxes by the clamp means, said control means including a vertically disposed hydraulic cylinder having a pair of piston rods extending respectively one from each end thereof with each rod secured respectively to one of a pair of pistons disposed in said cylinder, one of said rods being secured at its extended end to said lift platform and the other rod being secured at its extended end to said superstructure, said upper position of said lift platform corresponding to full extension of both said rods, said intermediate position of said lift platform corresponding to full extension of one of said rods with the other said rod fully retracted, and said positioned of said lift platform at said level of said receiving platform corresponding to full retraction of both said rods.

3,139,994

MECHANICAL LOAD HANDLING, TRANSFER AND STORAGE EQUIPMENT

Anthony R. Chasar, Cleveland, Ohio, assignor to The Trinx Company, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 2, 1960, Ser. No. 66,776
9 Claims. (Cl. 214—16.4)



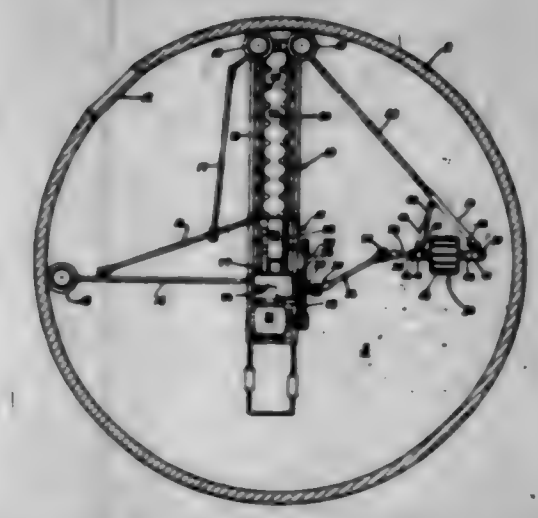
1. A load transfer and storage apparatus comprising a storage frame having a plurality of load support means; a pick-up-and-discharge station; a load carrier movable forwardly from said station to any of said support means for depositing or retrieving a load thereat; power means for actuating said carrier; control means for operating said carrier including selector means; said selector means comprising first command selective control elements for causing said carrier to move to a first selected support means in execution of a first command; said selector means comprising second command selective control elements for causing said carrier to move to a second selected support means in execution of a second command; said control means including cycling means for initiating cycling whereby said carrier is caused to move forwardly to a selected support means of a command and automatically return rearwardly to said station after executing a command; said control means including means automatically deactivating said cycling means after the completion of said first command and means automatically reinitiating said cycling means in a forward direction after said cycling means has been deactivated and causing said carrier to execute said second command before said carrier returns to said station; said control means including reject means carried by said carrier and responsive to a load on a selected support means of a command, when said carrier is loaded, and causing said carrier to return directly to said station whereby when said reject means is actuated during execution of a first command, both commands are terminated.

3,139,995

SILO UNLOADER DRIVE MEANS

Floyd E. Buechlein, Long Lake, Minn., assignor to Vandale Corporation, Long Lake, Minn., a corporation of Minnesota

Filed July 15, 1960, Ser. No. 46,860
14 Claims. (Cl. 214—17)



1. In a drive means for a silo unloader adapted to be connected to the unloader and driven by a shaft means therefrom, the improvement of a driven shaft, a connecting member, a pair of spaced universal joints secured to said connecting member, one of said universal joints being secured to the driving shaft of said silo unloader and the other of said universal joints being secured to the driven shaft, a drive hub means secured to said driven shaft for rotation therewith, brace means connected rotatably to said driven shaft and extending therefrom to said unloader for positioning said drive hub means, and means secured between said brace means and said driven shaft whereby said drive hub means may be angularly adjusted about a vertical axis with respect to said brace means.

3,139,996

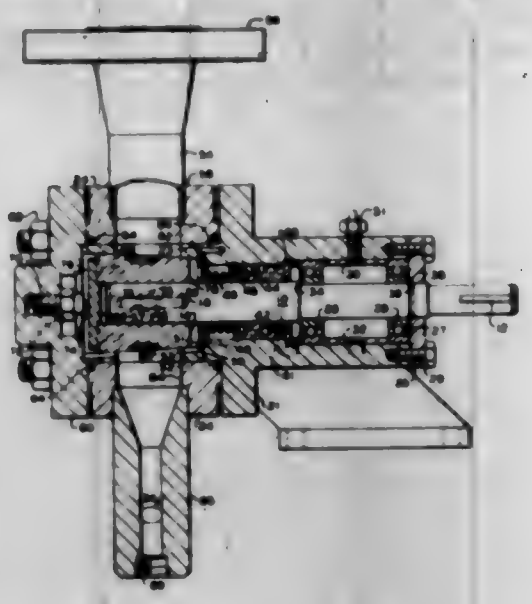
ROTARY SOLIDS FEEDER

Richard O. Welty, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 29, 1963, Ser. No. 233,651
3 Claims. (Cl. 214—17)

1. A feeder for particulate solids comprising a shaft having on one end thereof a coaxial truncated conical rotor, at least one cavity in said rotor intermediate its ends for receiving and delivering solids fed thereto; a housing around said shaft and rotor, said housing providing a tapered bearing surface for sealably engaging said rotor; bearing means in said housing for said shaft spaced from said rotor; a solids inlet thru said housing leading

to the path of said cavity when revolving; a solids outlet thru said housing leading from said path and spaced circumferentially from said solids inlet; and a plurality of longitudinal recesses in communication with each other on the interior surface of said bearing extending the



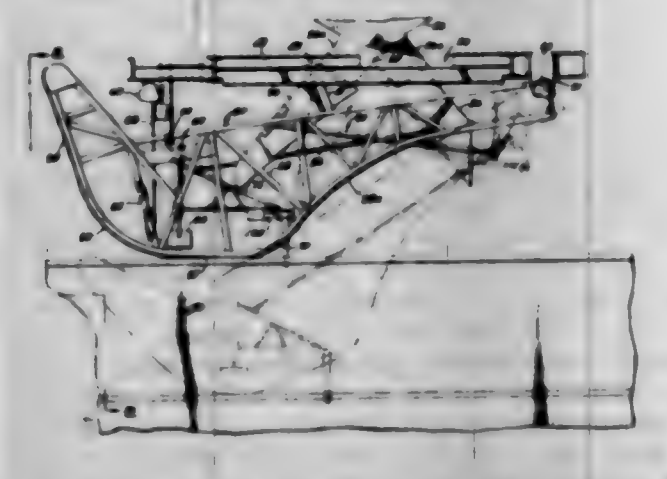
length thereof and adjacent to said rotor, at least one of said recesses being in communication with an inlet conduit for the introduction of a flushing fluid and at least one conduit being in communication with the exterior of said housing for the removal of said flushing fluid.

3,139,997

LOADING APPARATUS FOR VARIABLE HEIGHT RAILWAY CARS

Glenn W. Merritt and Cecil G. Hunt, Bowerston, Ohio, assignors to The Nolan Company, Bowerston, Ohio, a corporation of Ohio

Filed June 29, 1962, Ser. No. 206,262
22 Claims. (Cl. 214—42)



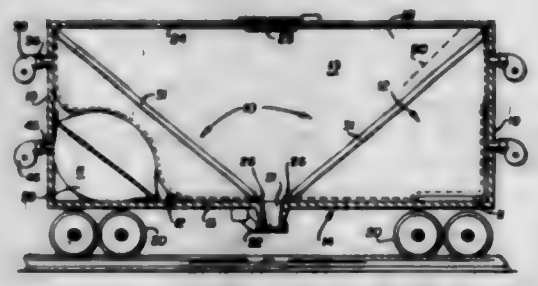
1. A car loading station comprising a material-supplying unit, means for moving a string of cars having gaps between adjacent cars to and from said unit, means for controlling the loading of material from said unit into the successive cars moved into association therewith, said means including a loading frame mounted for vertical movement at said material-supplying unit and engageable with the successive cars moved into association therewith, said loading frame carrying controls for controlling said car-moving means and said material-supplying unit, said frame having continuous car-engaging means which extend from one car to the next bridging the gap therebetween, said controls including a loading bar movably supported by the frame in a dependent position and adapted to engage the material as it piles up in the car, and a car change lever movably supported by the frame in a dependent position and adapted to engage the ends of the cars as they are moved past the material-supplying unit, and a control circuit for controlling said material-supplying unit and said car moving means actuated by said loading bar and said car change lever, said material-supplying unit including a loading chute, a movable gate for controlling flow of material from said chute, means for moving said gate, said control circuit including means for actuating said last-named means.

3,139,998

SELF-UNLOADING APPARATUS

Norman R. Seaman, Holmesville, Ohio, assignor to Domestic Film Products Corporation, Millersburg, Ohio, a corporation of Ohio

Filed Oct. 9, 1962, Ser. No. 229,416
6 Claims. (Cl. 214—82)



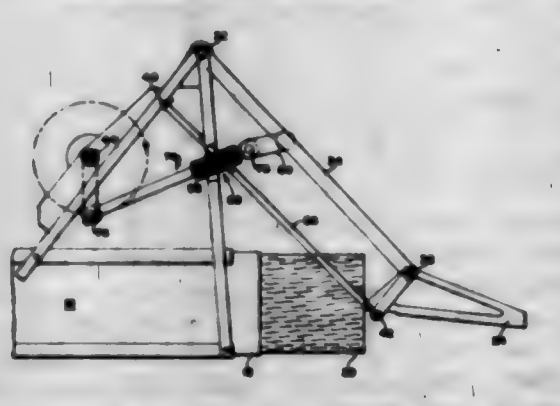
1. A self-unloading apparatus for discharging granular material from a compartment having a floor, opposed side walls, an end wall extending upwardly from said floor between the said side walls and a discharge opening in the floor spaced inwardly of said end wall, comprising an inflatable primary chamber and an inflatable secondary chamber, said primary chamber having a pillow-like shape when inflated and being positioned in said compartment to overlie the intersection of said floor and said end wall, means for securing said primary chamber to said compartment, said inflatable secondary chamber positioned to overlie said primary chamber and said floor between said discharge opening and said end wall, means securing said secondary chamber to said compartment, and means to sequentially inflate said primary chamber and then said secondary chamber to lift the granular material above the angle of repose of said material to cause the material to slide to and out said discharge opening.

3,139,999

PITMAN DRIVE FOR BALE THROWER

Henry D. Groenewald, Jr., Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

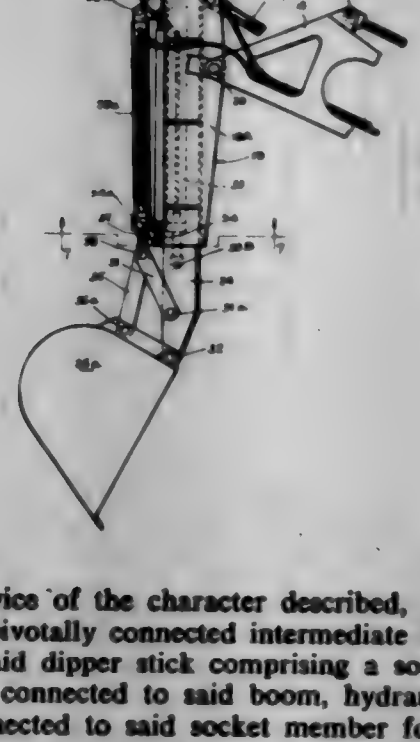
Filed Apr. 13, 1961, Ser. No. 102,799
1 Claim. (Cl. 214—83.3)



In bale-handling apparatus including support means providing a receiving station to which bales are successively fed, a bale-moving element adapted normally to receive a bale at said station and carried by the support means for movement away from said station on a discharge stroke to discharge said bale and for movement on a return stroke to normally receive a succeeding bale at said station but

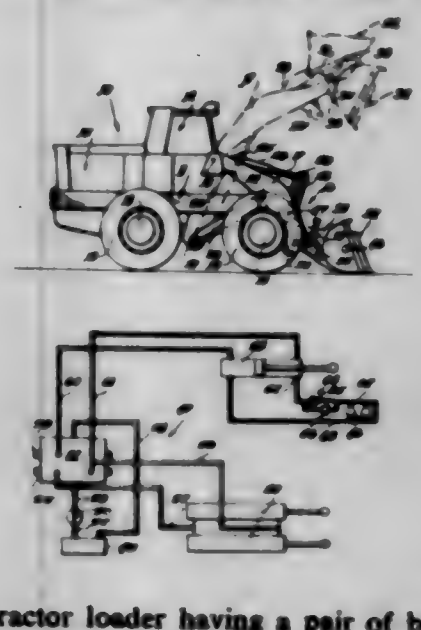
subject to incompletion of said return stroke because of stoppage of said element by engagement with a succeeding bale fed beyond said station, and power means operative in a predetermimned cycle for driving said element on both strokes, the improvement comprising: pitman means including a tube having an open end and an opposite closed end, a rod telescopically received in the tube and normally abutting said closed end and projecting axially from and beyond said open end and having a connection member thereon in axially spaced relation to said open end, a stop collar on the rod intermediate said connection member and the open end of the tube and axially spaced from the latter, a shear pin normally securing the collar to the rod, a coil compression spring encircling the rod between the collar and the connection member and having one end abutting the collar and its other end disposed axially short of said connection member, and a cage secured to the tube and extending beyond the open end of the tube toward said connection member and radially outwardly of the spring, said cage having a transverse portion adjacent to said connection member and engaging said other end of the spring and apertured to loosely receive the rod.

3,140,800
BACKHOE
John S. Pilch, % Ware Machine Works, Inc., P.O. Box 140, Ware, Mass.
Filed Mar. 7, 1963, Ser. No. 263,596
10 Claims. (Cl. 214—138)



1. In a device of the character described, a boom, a dipper stick pivotally connected intermediate its ends to said boom, said dipper stick comprising a socket member pivotally connected to said boom, hydraulic means pivotally connected to said socket member for pivoting said member relative to said boom, said socket member having an angular supporting section, a slidable bucket supporting stick slidably mounted in said socket member, said socket member and bucket supporting stick having comating angular coextensive portions to prevent turning movement of said bucket supporting stick, said bucket supporting stick having a bucket pivotally connected thereto adjacent the end opposite the end in said socket member, hydraulic means carried by said bucket supporting stick to effect rotation of said bucket relative to said bucket supporting stick, said hydraulic means comprising a support and a cylinder pivotally connected to said support, a ram operatively connected to said cylinder, a link pivotally connected to said bucket and said ram adjacent its opposite ends, and a second link pivotally connected to said bucket supporting stick, said socket member having a longitudinal slot in one face thereof and a member closing said slot after the assembly of said support for said bucket rotating cylinder.

3,140,801
EJECTOR MECHANISM FOR TRACTOR LOADERS
Don S. Strader, Mount Prospect, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois
Filed Nov. 30, 1962, Ser. No. 241,294
2 Claims. (Cl. 214—140)



1. In a tractor loader having a pair of boom arms, a bucket pivotally attached to said boom arms, a double-acting hydraulic cylinder operably connected to said bucket for pivoting said bucket between a carry position when fluid under pressure is admitted to one end of said cylinder and a dump position when fluid under pressure is admitted to the other end of said cylinder, the improvement comprising; an ejector blade rotatably mounted with said bucket, said blade having a weight substantially less than the weight of said bucket, a reversible actuator connected to said blade for rotating said blade between a stored position when fluid under pressure is admitted to one side of said actuator and an eject position when fluid under pressure is admitted to the other side of said actuator, first conduit means connected between said one end of said cylinder and said one side of said actuator, second conduit means connected between said other end of said cylinder and said other side of said actuator, valve means interposed in one of said conduits for permitting free fluid flow only from said one end of said cylinder to said one side of said actuator and for permitting fluid flow from said other end of said cylinder to said other side of said actuator only when the fluid pressure exceeds that valve normally required to operate said cylinder, whereby said ejector blade will initiate movement toward said eject position only after said bucket has been moved to said dump position and said ejector blade will be returned to stored position before said bucket initiates movement toward said carry position.

3,140,802
LOG STACKER ATTACHMENT FOR TRACTOR VEHICLES
Dwight A. Garrett, 711 Hiway 410, Enumclaw, Wash.
Filed July 17, 1961, Ser. No. 125,047
13 Claims. (Cl. 214—147)

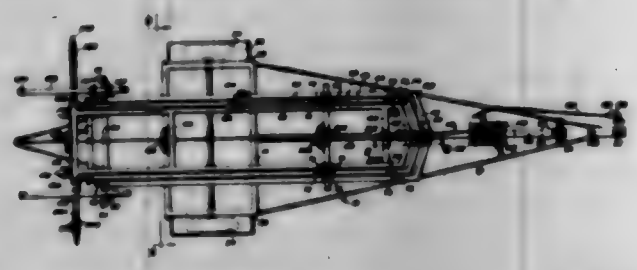
1. A tractor comprising a 2-wheeled rocking and a 2-wheeled non-rocking frame section disposed in tandem and articulating for swing motion, one in relation to the other, about a vertical axis located on the longitudinal median line of both sections, a cradle underlying and giving support to the rocking section and mounted for rocker motion relative thereto about a horizontal axis occupying the longitudinal median line of the section, an

axle housing rigid with the cradle and extending transversely thereof, the wheels for said rocking frame being carried by the axle housing one at each of the two sides of the cradle, a reach pivoted to one of said frame sections for vertical swing motion about a transverse horizontal axis and at the free end presenting a load-carrying deck which is made a fixed part of the reach attachment so as to move bodily therewith, a standard rigid with and rising



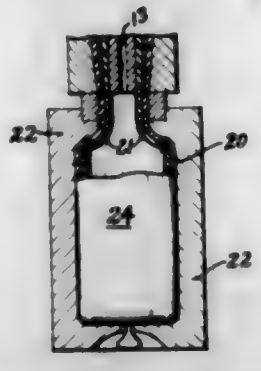
from said reach, an unloading arm pivoted to the upper end of said standard for swing motion about a transverse horizontal axis giving to the arm a sweeper motion moving across the load-carrying deck in a direction fore-and-aft thereof, a loading arm for drawing pulp logs onto the deck rigidly connected to the unloading arm and with the later providing an elbowed sweep-frame, and power means for swinging the reach and the sweep-frame independently.

3,140,003
TELESCOPIC BOAT TRAILER
Jack E. Horner, Jacksonville, Fla.
(Hibernia Rte., Green Cove Springs, Fla.)
Filed May 10, 1963, Ser. No. 279,408
12 Claims. (Cl. 214—505)



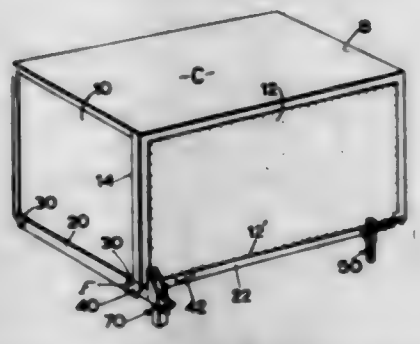
1. A telescopic boat trailer comprising a wheeled base frame, a tow V-frame having hitch cooperating means at its apex, means pivotally securing said wheeled base frame to the divergent ends of said V-frame, and rearwardly extendible and retractable telescopic frame means mounted on said wheeled base frame, said telescopic frame means comprising a frame member rigidly secured to said wheeled base frame, an intermediate frame member telescopically mounted on said rigidly secured frame member, and a boat carriage frame member telescopically mounted on said intermediate frame member, a forwardly extending arm rigidly secured to said rigidly secured frame member, winch means mounted on said arm, cable means wrapped about said winch means, secured to the forward end of said boat carriage frame member, and extending about pulley means supported at the rear of said wheeled base frame member for positively moving said boat carriage frame member between fully extended and retracted positions in either direction, said telescopic frame being tiltable, when in extended positions, downwardly about said pivotal securing means from a plane substantially parallel to the plane of said tow V-frame, and means for securing said retracted telescopic frame means and tow V-frame in parallel planes.

3,140,004
HOLLOW PLASTIC CONTAINERS
Wilbur A. Schaich, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 2, 1960, Ser. No. 73,234
7 Claims. (Cl. 215—1)



1. A hollow plastic container consisting of an inner wall of thermoplastic material; said material having one coefficient of thermal contraction, a contiguous outer wall of thermoplastic material having a coefficient of thermal contraction different from said first coefficient, and each of said walls being under stress produced by cooling the container from an elevated temperature.

3,140,005
TRANSFERABLE FREIGHT CONTAINERS
Albert M. Hand, Etobicoke, Ontario, Canada, assignor, by mesne assignments, to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 15, 1963, Ser. No. 265,496
23 Claims. (Cl. 220—1.5)



1. A container of the character described including:
an enclosure;
a base for said enclosure;
at least two sockets in said base providing accommodation for container handling devices; and
an interlock for releasably securing said handling devices alternately in said sockets.

3,140,006
PRESSURE VESSEL FOR CONTAINING HYDROGEN OR MIXTURES THEREOF
George A. Nelson, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 12, 1962, Ser. No. 223,199
7 Claims. (Cl. 220—63)

1. A pressure vessel comprising:
(*a*) a shell including an inner and an outer section providing a gas-flow passage therebetween, said shell having an opening extending through both sections for admitting fluid into the inner section,

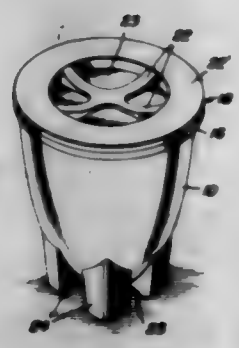
(*b*) the inner section including a layer of metal resistant to deterioration by gas absorption and the outer section being protected by the inner section from injury by gas absorption,



(*c*) said inner section being free from metallurgical bond with the outer section and extending through said opening in the outer section with the external surface of said inner section in contact with the outer section and presenting at the inner surface of said extended part of the inner section a sealing face adapted for engagement by a sealing element of a flow conduit, and

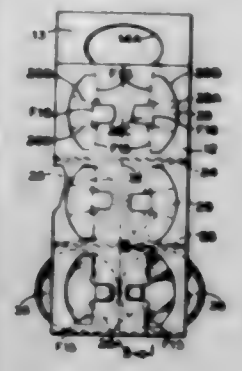
(*d*) said outer section having holes extending therethrough and establishing communication between said gas-flow passage and the outside of the vessel for discharging gas passing through the inner section.

3,140,007
SPECIMEN CONTAINER
Mae B. Nettleship, Fayetteville, Ark., assignor to Antacus Lineal 1948, ANL Medical Laboratory Division, Inc., a corporation of Arkansas
Filed Sept. 7, 1962, Ser. No. 221,949
3 Claims. (Cl. 220—97)



1. An open end container having a body with a continuously outwardly flared inner surface with the widest portion at the open end thereof, a cover for said container having means for securing it in fluid-tight engagement with said container body, the top side of said cover having therein a plurality of finger holds comprising outwardly extending ribs forming sockets therebetween of uniform depth with the ribs tapering gradually inwardly from the full depth of the sockets at the outer ends thereof to substantially the bottom surface of the sockets near the center of the cover, and the closed end of said container having on the outside thereof a plurality of feet corresponding to said plurality of cover sockets and extending axially and outwardly, each of said feet having a substantially triangular cross section and of a size so as to provide for a substantially three-point contact snug fit nested engagement with the outer and side edges of one of said cover sockets for stacking of containers on each other with the feet of an upper container nested in the cover of a lower container in a manner to minimize relative lateral movement therebetween.

3,140,008
WRAPPER TYPE CAN CARRIER
Joseph C. Spery, 527 Madison Ave., Room 1003, New York, N.Y.
Filed Oct. 26, 1961, Ser. No. 147,896
3 Claims. (Cl. 220—113)



3. A foldable wrapper type can carrier formed on a single blank of sheet material comprising,

(*a*) a top panel,

(*b*) a handle connected about a foldline to one end of said top panel,

(*c*) said handle including a pair of reversely bent handle folds,

(*d*) an end panel connected about a foldline to the free end of said handle folds,

(*e*) each of said handle folds having a cut out portion to define a hand grip opening,

(*f*) a cut out portion of one of said handle folds defining a flap that is folded so as to extend through the cut out portion of the other handle fold to overlie said end panel,

(*g*) an end portion of the bottom panel connected along a foldline to the other end of said end panel,

(*h*) a marginal end flap connected about a foldline to the end portion of said panel,

(*i*) another end panel connected along a foldline to the other end of said top panel,

(*j*) another end portion of the bottom panel connected along a foldline to said other end panel,

(*k*) a middle portion of said bottom panel,

(*l*) a reverse fold forming a ridge interconnecting said other end portion and middle portion of said bottom panel,

(*m*) an intermediate panel disposed parallel to the end panels of said wrapper, said intermediate panel being connected along a foldline to said middle portion of said bottom panel,

(*n*) a top sub panel adapted to underlie the middle portion of said top panel connected along a foldline to said intermediate panel,

(*o*) a second intermediate panel connected to said sub panel about a foldline, and spaced from said first mentioned intermediate panel,

(*p*) said second intermediate panel having its free end secured to the ridge interconnecting the middle and end portions of said bottom panel,

(*q*) aligned can retaining flaps formed in the top and bottom panels adapted to engage the chime of a can retained therebetween,

(*r*) said ends, intermediate and bottom panels being longitudinally split,

(*s*) an adhesive strip for securing the split of said bottom panel for maintaining the severed portion of the bottom panel in assembled can holding position,

(*t*) and said strip being readily removable whereby

said carrier becomes separated along the split thereof to facilitate removal of the cans therefrom,

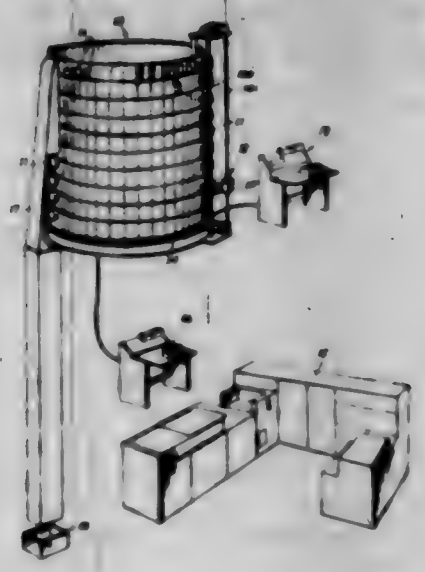
(*n*) and including a lift tab formed integral with said can retaining flap, and said tab being folded outwardly of said carrier to form a grip whereby a pull applied to said lift tab causes the connected retaining flap and associated panel to lift away from the chime of the can retained between said aligned flaps so as to facilitate individual release of said cans one at a time without disturbing the retention of the other cans and without injuring the carrier.

3,140,809

ARTICLE STORAGE AND RETRIEVAL DEVICE

John T. Wallace, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 31, 1961, Ser. No. 113,921
30 Claims. (Cl. 221—2)



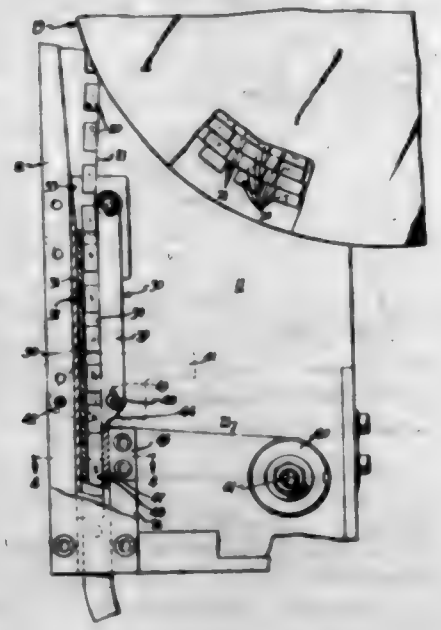
1. In a device for storing articles in random order and for retrieving said articles from storage, the combination comprising a cyclically movable member having a plurality of receptacles adapted to receive articles for storage, said member carrying address indicia representing each of said receptacles, carrier means for receiving an article to be stored and adapted, upon actuation of said carrier means, for moving said article into one of said receptacles, means for actuating said carrier means in response jointly to receipt of an article by said carrier means and to movement of a selected empty receptacle to a predetermined position relative to said carrier means, a first detecting means disposed in sensing relation to the indicia on said member for generating a series of signals representing the addresses of all of said receptacles, a second detecting means disposed ahead of said carrier means and in sensing relation to said receptacle for generating a select signal from each empty receptacle, means responsive to the select signal derived from the first empty receptacle moved past said second detecting means, upon receipt of said article by said carrier means, for recording a manifestation of a signal representing the address of said selected empty receptacle, means for reading a recorded manifestation of a signal representing the address of a designated receptacle in which is stored an article to be retrieved, and for generating a new signal representing the address of said designated receptacle, means for receiving and comparing said last-named signal and said series of signals and responsive to coincidence of said compared signals for generating an output signal, and means connected to said comparing means and responsive to said output signal for ejecting from said designated receptacle the article stored therein.

3,140,810

METHOD OF AND APPARATUS FOR DISPENSING FASTENERS

Plummer E. Double, Detroit, Mich., assignor to Multifastener Corporation, Redford, Mich.

Filed Dec. 5, 1961, Ser. No. 157,152
2 Claims. (Cl. 221—73)



1. In a device for storing and sequentially advancing nuts to a die assembly disposed in a reciprocating press, the device including a frame, a pair of spaced shafts carried by said frame, one of said shafts supporting thereon a helical coil of nuts adhered in spaced array to an elongated web and the second of said shafts having a wind-up reel thereon, means for removing nuts from the web and advancing the nuts toward the die assembly, comprising a nut-delivery chute of generally rectangular configuration peripherally confining nuts therein for sequential advancement to said die assembly, an initial portion of said chute being of U-shaped configuration with one open side, a movable plate overlying the open side of said initial chute portion to snugly confine therein a reach of the nut-web assembly intermediate said shafts, means cooperable with said plate to define therebetween an aperture through which the web only projects to said take-up reel, means for rotating said reel in response to reciprocation of said press, the rotation of said reel tensioning the assembly reach to move the assembly through the initial portion of said chute and beneath said plate toward said die assembly, the tensioning of said web advancing into and through the chute nuts previously stripped from said web.

3,140,811

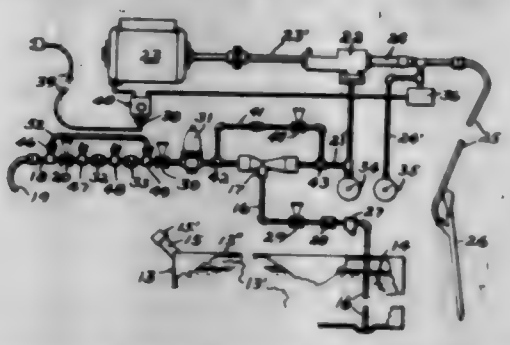
DETERGENT DISPENSING UNIT

Bernard T. Powers, San Francisco, Calif., and Merle K. Akers, 121 16th Ave., San Francisco, Calif.; said Powers assignor to said Akers

Filed Jan. 26, 1961, Ser. No. 85,111
12 Claims. (Cl. 222—25)

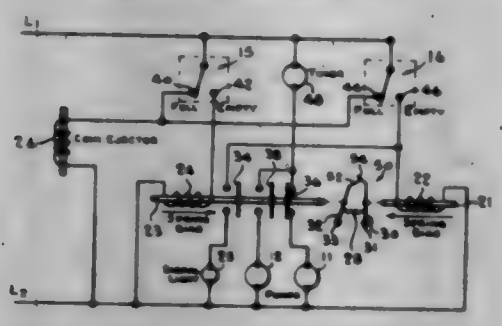
1. In combination with relatively fixed sources of a carrier liquid and of electric power, a liquid-mixing and dispensing unit adapted to be movably supported on a floor or the like adjacent said liquid and power sources, and comprising an electrically operable pump, an elongated flexible supply conduit for connecting the carrier-liquid source with the intake of said pump, a flexible discharge conduit extending from said pump and terminating in an adjustable-flow discharge nozzle, an electric motor of the unit for driving said pump, a flexible extension cord for connecting said motor in a power circuit including said power source, a container of the unit providing a reservoir for a liquid for charging said first liquid,

a mixing injector operatively interposed in the pump-supply conduit and having its suction intake connected to the liquid in said reservoir whereby the actuation of said pump is arranged to effect a charging of the first liquid



with the second liquid in said injector to provide a mixture for discharge through and from said pump to the adjustably opened said nozzle, and means automatically operative to open the energizing circuit for the motor by reason of the closing of the discharge nozzle.

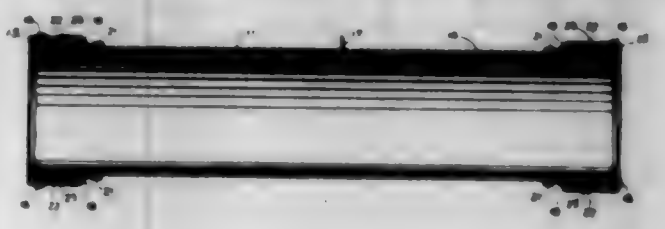
3,140,812
LIQUID DISPENSING SYSTEM
Robert V. Hansen, Scottsdale, Ariz., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,438
5 Claims. (Cl. 222—63)



5. A liquid dispensing apparatus comprising, first and second liquid containers, liquid dispensing means for each of said containers, timing means operative to control the duration of operation of said liquid dispensing means to dispense predetermined quantities of liquid each time said timing means is actuated, switch means selectively connecting said timing means to only one of said dispensing means at a time and operative to switch control of said timing means between said dispensing means and also operative to control energization of said timing means so that said timing means is de-energized when said switch means is transferring control of said timing means from one container to another, and means connected with said switch means and operative to sense the quantity of liquid in said containers and, when the container being dispensed is emptied, to transfer control of said timing means from one dispensing means to another, said timing means being de-energized during said transfer and continuing to operate after said transfer until said predetermined quantity is dispensed.

3,140,813
AIRBORNE CHEMICAL DISPENSER
Roger M. Schecter, 5224 32nd Ave. SE., Hillcrest Heights, Md.
Filed Oct. 31, 1961, Ser. No. 149,136
5 Claims. (Cl. 222—146)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A particle dispenser which comprises an elongated tubular member, an electrical heating element secured completely around each end of said tubular member on the outer surface near the ends thereof, means for connecting said electrical heating elements with an electrical load, end cover means adapted to be secured over the ends of said tubular member and said heating element



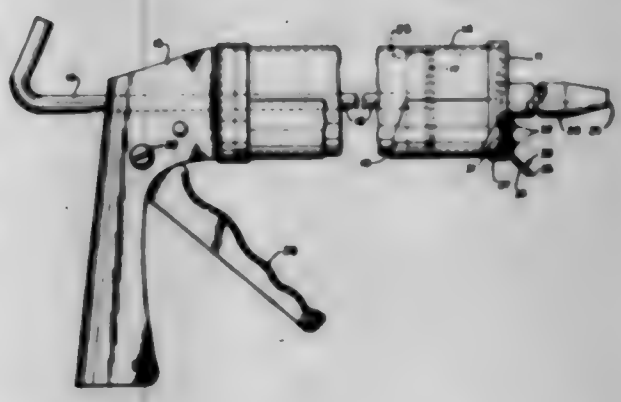
around each end, said end cover means adapted to be burned through by said heating element in the vicinity thereof.

3,140,814
CAP FOR AN AEROSOL TYPE CONTAINER
Nathan B. Lerner, Chicago, Ill., assignor to W. Braun Company, Chicago, Ill., a corporation of Illinois
Filed June 27, 1962, Ser. No. 205,746
4 Claims. (Cl. 222—182)



1. A cap for an aerosol container having a discharge nozzle, said cap comprising a body including a skirt portion and a pair of spaced generally flat top portions, a centrally positioned depressible strip of generally rectangular shape secured to said cap and extending between said spaced flat top portions, said strip being attached at its outer end to said skirt portion a short distance to form a hinge portion therewith and otherwise unattached so that hinging of said strip is at the rear of said cap, said depressible strip having a downwardly depending sleeve for engagement with the discharge nozzle so that depressing said strip will depress said nozzle and discharge the contents from said container, said sleeve having an outlet opening communicating with the nozzle through which the liquid is discharged under pressure.

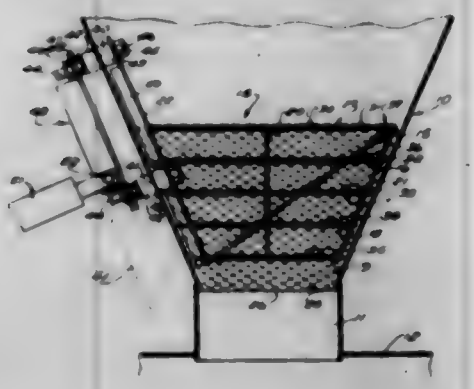
3,140,815
CALKING GUN WITH CLEANING TOOL
William A. Sherbondy, 2517 Guilford Road, Cleveland Heights, Ohio
Filed May 31, 1961, Ser. No. 113,787
9 Claims. (Cl. 222—192)



1. A calking gun comprising:
(*a*) a barrel for the containment of a supply of calking material and including a spout terminating at an outlet;

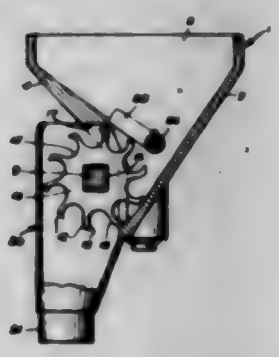
(*b*) a plunger connected to the barrel for relative rectilinear movement toward and away from the outlet;
(*c*) expelling means connected to the plunger for selectively advancing the plunger forward toward the outlet for expelling calk material through the outlet;
(*d*) a cleaning guide member secured to the barrel near the outlet, said guide member extending laterally from the barrel and having end surfaces converging forwardly to define a cleaning and following end spaced from the spout outlet and located rearwardly of the spout outlet; and,
(*e*) said guide member being rigid so as to resist bending when the cleaning and following end of the guide member is positioned against a work surface and supports at least the weight of the calking gun.

3,140,016
DEVICE FOR MAINTAINING THE FLOW OF SOLID POWDERED MATERIALS
Wilbur H. Frazel, Riverside, R.I., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Mar. 20, 1962, Ser. No. 181,084
4 Claims. (Cl. 222—196)



1. In a hopper for flowable solid materials comprising a solid continuous wall converging from its upper receiving end to its lower discharge end, an agitator within said wall comprising an open mesh cage-like structure having an open mesh side wall conforming generally to the shape of a portion of the solid wall and surrounding an open mesh lateral wall extending at generally right angles to the line of flow of the material through the hopper, and means to vibrate said cage to maintain flow of the material from the hopper.

3,140,017
PRECISION APPLICATOR
Archie E. Burch, P.O. Box 595, Williams, Calif.
Filed Mar. 26, 1962, Ser. No. 182,332
13 Claims. (Cl. 222—197)



4. A precision applicator of the class described comprising a hopper for holding the material to be distributed over the ground;

a material distributing element rotatably arranged outside said hopper, said element consisting of a disk having a plurality of claws formed on its periphery equidistantly for cutting and scooping the material in the hopper, said claws being separated by pockets formed between adjoining claws for holding the material scooped by said claws;
said hopper having a slot in a side wall of the same for admitting, partially the element into the hopper for cutting said material and scooping the same into the pockets and carrying it outside said hopper through said slot; said slot closely fitting said disk on its sides, top and bottom for trimming the excess of the material carried by said pockets; said hopper walls being so arranged that the pockets closest to the entrance and exit of said disk are closed thereby to prevent the seepage of the material when the disk stops rotating.

3,140,018
POWDER DISPENSING UNIT
Theodore A. Miller, 2038 Main St., Cuyahoga Falls, Ohio
Filed Oct. 15, 1962, Ser. No. 230,555
3 Claims. (Cl. 222—283)

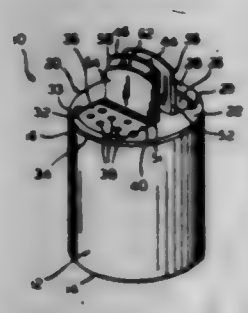


3. Apparatus for dispensing flowable powdery materials including means for storing a quantity of the material, a housing for receiving by gravity flow the material from the storing means, a tube for receiving by gravity flow the material from the housing, a hollow cylinder rotatably mounted in the housing, said cylinder having an opening adapted to be turned to load position to receive the material from the storing means and to unload position to discharge the material to the tube, motor means to turn the cylinder to and from load and unload position, means controlling the motor means, rod means operable from outside the housing for changing the internal size of the hollow cylinder, and an inflatable bellows-diaphragm mounted on the means for changing the internal size of the hollow cylinder.

3,140,019
DISPENSER TOP
Leslie Barr, Glenview, Ill., assignor to Nibot Corporation, a corporation of Illinois
Filed Feb. 26, 1962, Ser. No. 175,780
2 Claims. (Cl. 222—480)

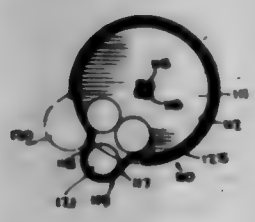
1. A one-piece molded plastic dispenser top for condiment containers and the like, which comprises a flat body having two large openings therethrough, said openings each having an inner boundary, side boundaries, and an outer boundary, one of said openings providing a pouring opening, a perforated member integrally mounted on the under surface of said body and extending across the

remaining one of said openings to provide small dispensing apertures registering therewith, means forming two recesses on the upper surface of said body each having side boundaries extending from the outer edge of the body to the outer boundary of one of said openings, a cut back outer edge section on said body at each of said recesses, two hinges respectively adjacent to said opening inner boundaries and integral with said body thereat, and two closure flaps each having an inner margin, side margins, and an outer margin, said inner margins respectively being integral with said hinges for hinged movement of the flaps to open and close the adjacent openings, said flaps respectively being received in said adjacent openings and in said recesses extending thereto with the flap side mar-



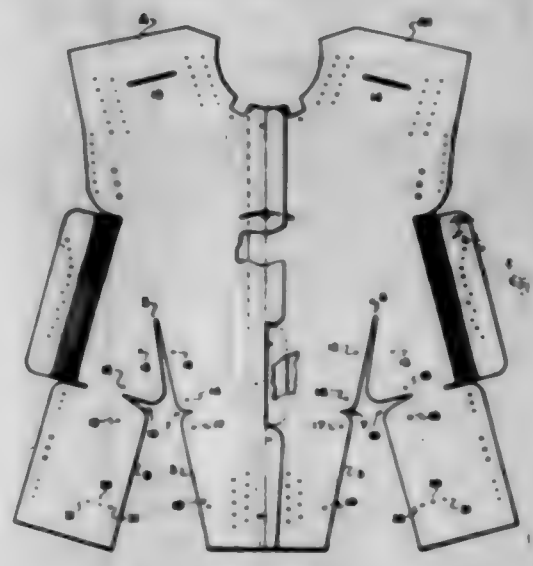
gins bounded by the side boundaries of the openings and recesses in closing said openings, each said flap including an inner closure end extending outwardly from its inner margin and received in the adjacent opening, each said flap including an outer tab end extending inwardly from its outer margin to said closure end and received in the said recess extending to the latter opening, said closure end having a greater depth throughout than said tab end and extending below said recess, the outer and side margins of said closure end being closely adjacent to the outer and side boundaries of the latter opening, whereby the latter opening is closed by said closure end, said tab end extending outwardly beyond said cut back section at said recess for access thereto to raise the flap to an open position.

3,140,020
CONTAINER CLOSURE ASSEMBLY
I. Martin Spier, New York, N.Y., assignor to Beacon Plastic & Metal Products Inc., New York, N.Y., a corporation of New York
Filed Aug. 23, 1961, Ser. No. 133,454
13 Claims. (Cl. 222—517)



1. A container closure assembly comprising a first member having a first wall having a dispensing opening, a second member having a second wall, a socket fixed to said wall of one of said members and having a socket axis transverse to said wall of said one of said members, a pintle having an end fixed to said wall of the other of said members and having a pintle axis transverse to said wall of said other of said members, said pintle rigid in axial dimension, means non-rotatably fixedly mounting said pintle in said socket with said axes aligned and said walls thereby in fixedly spaced opposing parallel relation, said members having cooperating means whereby said second member normally blocks said opening, at least one out of said pintle and said socket being sufficiently resilient torsionally so as to permit turning of said members relative to each other about said aligned axes while maintaining said fixedly spaced opposing parallel relation of said walls, said members being cooperatively shaped so that said second member thereby unblocks said opening, said one out of said pintle and said socket being pre-stressed sufficiently so as automatically to return said members to their normal positions upon release thereof.

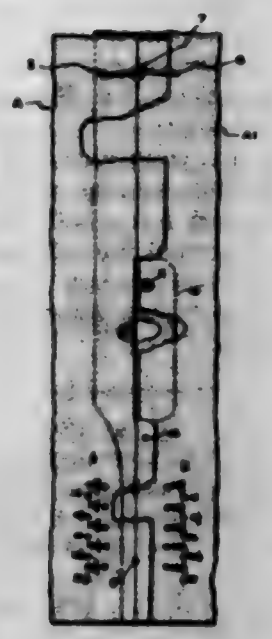
3,140,021
FLAT UNDERBUST DRESS FORM
Luigi Cella, 155 Norman Road, Newark, N.J.
Filed June 30, 1961, Ser. No. 121,252
1 Claim. (Cl. 223—68)



For the bodice of a dress form, a pair of connected sections adapted to form the front of the bodice, said sections being of pliable sheet material and connected at their inner margins, each of said sections having a dart cut-out extending upwardly from its lower end and each dart cut-out having a pair of substantially opposed, laterally extending notches intermediate its upper and lower ends and dividing the sections into an upper bust-forming area and a lower underbust or abdominal area, each of said sections having at least one pair of holes above its notches adapted to register when the portions on opposite sides of the cut-out are lapped, said sections each having holes on opposite sides of its cut-out and below the notches and adapted to register only after the portions below the notches are moved to diminish the amount of overlapping produced by bringing the holes above the notches into registration, said notches being long enough to allow the overlap below the notches to be diminished without bulging in forming a relatively flat underbust.

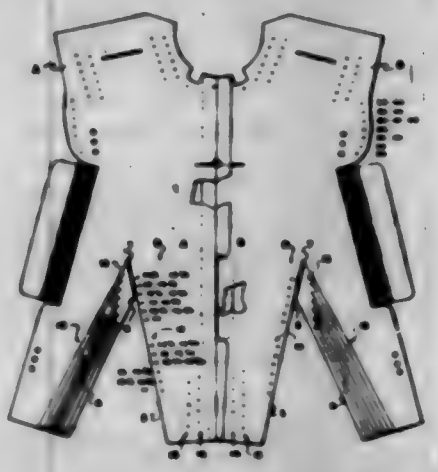
3,140,023
CONTRACTIBLE DRESS FORM
Luigi Cella, 155 Norman Road, Newark, N.J.
Filed June 30, 1961, Ser. No. 121,253
2 Claims. (Cl. 223—68)

1. Components for the formation of the bodice of a dress form, comprising a pair of front, resiliently flexible, sheet sections lapped at their inner margins, a pair of back, resiliently flexible, sheet sections lapped marginally at their inner margins, said pairs of sections adapted to be connected together, means connecting the lapped lower portions of each pair of sections in fixed lapping relation, the sections of each pair having, in their chest portions, above said connecting means, transverse or crosswise slots normally registering at their inner portions, and a removable fastener extending through the registering portions of each pair of said slots and adapted to allow the upper portions of the sections of each pair to be pressed inwardly, whereby the width of the bodice at the shoulder



and chest portions may be temporarily contracted, when said pairs of sections are connected, to allow a dress to be lifted from the bodice without stretching.

3,140,823
AUTOMATICALLY ADJUSTABLE DRESS FORM
Luigi Cella, 155 Norman Road, Newark, N.J.
Filed June 30, 1961, Ser. No. 121,254
1 Claim. (Cl. 223—68)



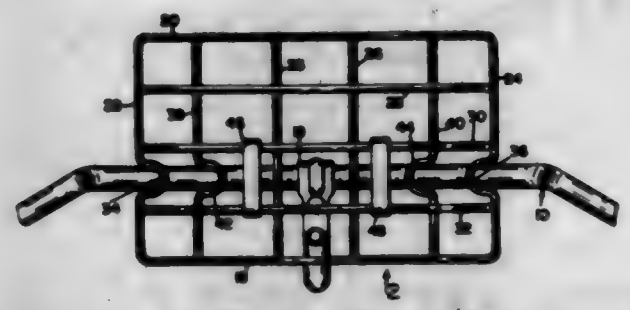
In a dress form, a pair of front sections and a pair of back sections, each of said sections having a dart cut-out extending upwardly from its lower end to provide for the formation of darts through a range of overlapping of section portions on opposite sides of the cut-out, each section having a series of holes adjacent one side of its cut-out and an opposite series of holes adjacent the other side of its cut-out, the two series of holes adjacent the cut-out being so arranged that, when a portion of a section on one side of its cut-out is lapped a selected amount onto a section portion on the other side of its cut-out, two holes only, one from each of the two opposed series, will register, the portion of each section on one side of its cut-out having indicia adjacent each hole specifying back length, each of said sections having in its lower end portion a descending series of holes indicating the position of the waist line for different back lengths and for attachment of a peplum, each section having indicia for back length adjacent each hole of said descending series, said descending series of holes arranged so that the waist circumference at the level of the different holes therein is the same for any selected degree of overlapping of section portions on opposite sides of each cut-out.

3,140,824
GARMENT HANGER
Bruce Burns, P.O. Box 15, Yucca Valley, Calif., and Herbert Spitz, 100—25 Queens Blvd., Forest Hills, N.Y.
Filed Aug. 28, 1961, Ser. No. 134,390
13 Claims. (Cl. 223—93)



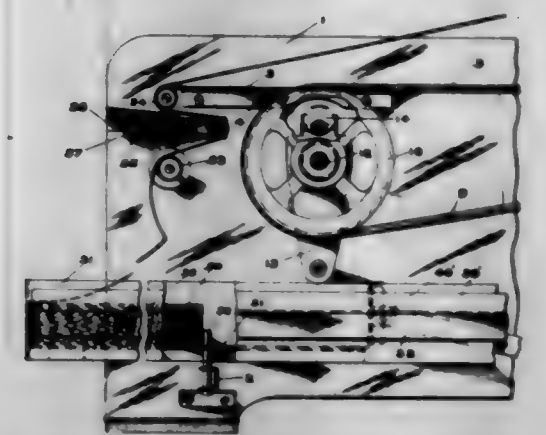
7. In a garment hanger the combination of: a hanger body member having an outer end and a pivot axis spaced inwardly thereof perpendicular to the body member; a clamp member having a pivot axis between its ends, one of said members providing spaced flanges traversed by its pivot axis, the other of said members having a post element extending between said spaced flanges, said post element having outer faces spaced from each other a distance slightly less than the distance between said flanges, said post element having a spring space inwardly of at least one of said outer faces and in the zone between said spaced flanges; and connecting means attaching said clamp member to said body member to pivot about the pivot axis of the latter, one end of said clamp member cooperating with said outer end of said body member in defining a garment-clamp space, said connecting means including a looped spring having a loop portion within said spring space and arm portions respectively engaging said clamp member and said body member on opposite sides of said garment-clamp space, said spring biasing said clamp member in a direction closing said garment-clamp space.

3,140,825
BASKET FOR HANDLE BAR
Robert C. Persons, Worcester, Mass., assignor to Persons-Majestic Mfg. Company, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 17, 1963, Ser. No. 317,000
4 Claims. (Cl. 224—36)



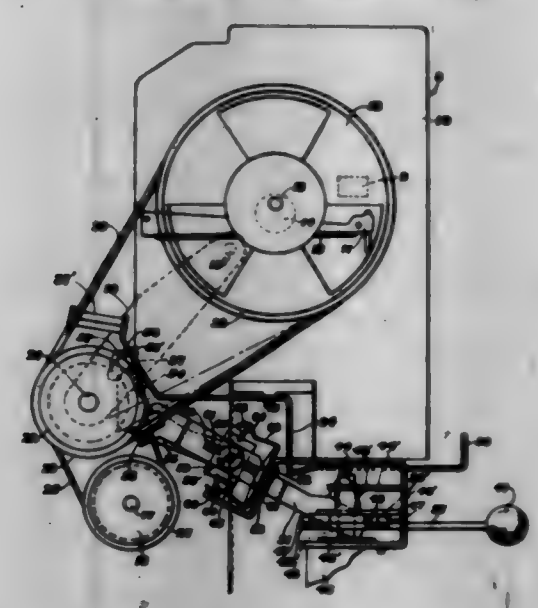
1. The combination with a cycle having a handle bar which includes a pair of spaced divergent portions and a connecting riser member; of a wire basket, said wire basket comprising a top continuous in form and including forward and rear members and connecting side members, the side members including inwardly directed portions interfitting and interengaging with the divergent portions of the handle bar, said basket also including body forming members secured to the top and certain of which include similar inwardly directed portions also interfitting and interengaging with the divergent portions of the handle bar, thus locating and supporting the basket in position on the handle bar between the divergent portions thereof, and means securing the basket to the handle bar.

3,140,026
STRIP SEVERING MACHINE
Allan C. Davis, Baltimore, Md., assignor to F. A. Davis & Sons, Inc., a corporation of Maryland
Filed July 9, 1962, Ser. No. 208,412
8 Claims. (Cl. 225—100)



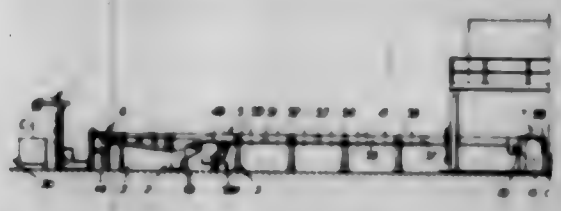
1. A bursting machine for a continuous web of forms weakened transversely at regular intervals between forms, the web advancing in the machine from front to rear, including a forward roll web feeding device, a rearward roll web pulling device, movable means between said devices to divide the web on a weakened transverse line, means to move the dividing means to vary the spacing of said dividing means relative to one of said devices to burst webs with different regular intervals of transverse weakening, a feeding tray connected to said dividing means to move the same and to receive an accordion plaited stack of webs, said tray being mounted on the machine to move longitudinally of the machine and by such movement varying the spacing of said dividing means relative to said devices, said tray having longitudinal slots therein, stop means mounted on the machine beneath the tray and projecting upwardly through said slots, the stack of web, when in the tray, abutting the stop means and limiting the tray movement to space the dividing means to divide web with spaced weakened lines corresponding to those in the stack.

3,140,027
PHOTOGRAPHIC PROJECTOR DRIVE CONTROL MECHANISM
Robert J. Roman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 6, 1961, Ser. No. 150,326
6 Claims. (Cl. 226—46)



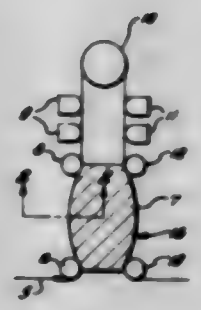
1. In a motion-picture projector, the combination comprising: a film-advancing mechanism; a drive means including a unidirectional electric motor; a shiftable transmission for selectively connecting and disconnecting said film-advancing mechanism to said drive means, said transmission being shiftable between a neutral position and a drive position; means for changing the speed at which said film-advancing mechanism is driven between two different speeds; switch means controlling the energization of said motor; means interconnecting said transmission means and said switch means for simultaneously controlling the two; and means interlocking said interconnecting means and said speed changing means to prevent operation of said speed changing means when said transmission is in said neutral position.

3,140,028
PRINTING OF THICK FABRICS AND STENCIL PRINTING APPARATUS
Thomas Liddle Leckie, Prestwich, near Manchester, England, assignor to The Bradford Dyers' Association Limited
Original application July 13, 1960, Ser. No. 42,655. Divided and this application Oct. 11, 1962, Ser. No. 234,570
2 Claims. (Cl. 226—59)



1. In a machine for stencil-printing a thick fabric in continuous lengths by moving the fabric horizontally in stepwise fashion through a plurality of printing stations, the improvement which comprises endless means for engaging the selvedges of the fabric, means for intermittently driving said endless means, a first rotatable pinned roller at the entry end of the machine adapted to engage the underside of the fabric, means for braking this first roller, a second rotatable pinned roller adapted to engage the underside of the fabric beyond the last printing station and means for positively driving this second roller.

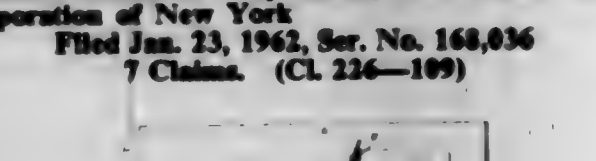
3,140,029
TAPE GUIDANCE SYSTEM
Johannes B. Groenewegen, San Dimas, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed July 2, 1962, Ser. No. 206,634
9 Claims. (Cl. 226—88)



8. A tape guidance system comprising means defining a smooth continuous surface, the surface being curved in an arc along the long dimension thereof, means for guiding the tape into contact with said surface with the path of movement of the tape being in the direction of the arcuate long dimension of the surface, whereby the tape is directed along an arcuate path as it is fed through the guidance apparatus, and means defining a planar surface extending outwardly from the arcuate sur-

face for engaging one edge of the tape as it passes over the arcuate surface.

3,140,030
VACUUM DEVICE FOR PULLING A CONTINUOUS WEB
Warren A. Stewart, Monkton, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,315
4 Claims. (Cl. 226—95)



1. Apparatus for successively applying a pulling force to advance subsequent portions of a continuous web against opposing forces comprising in combination

(*a*) a continuous belt assembly driven in a fixed path,

(1) said belt assembly comprising a continuous cleated belt and a continuous smooth belt, said smooth belt having the outer surface thereof in contact with the ends of a plurality of the inwardly-directed cleats of said cleated belt,

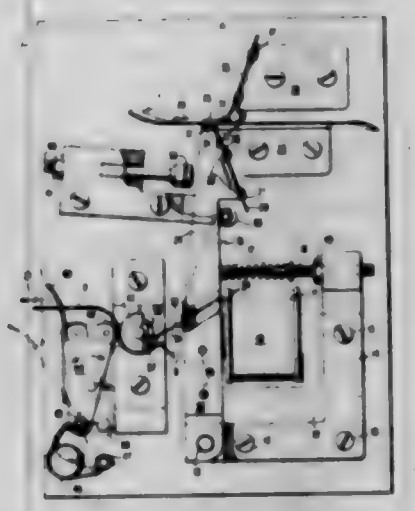
(2) said continuous belt assembly being located along the path of advance of said web, said path being linear at least in part,

(*b*) a portion of said web being in contact with the surface of said continuous belt assembly,

(*c*) drive means in engagement with said continuous belt assembly for continuously driving said continuous belt assembly in said fixed path, and

(*d*) evacuating means in juxtaposition with said continuous belt assembly for evacuating gas from that area of said surface contiguous with said portion of said web while said continuous belt assembly is in motion.

3,140,031
APPARATUS FOR FEEDING CONTINUOUS WEBS
Clyde J. Fitch, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 23, 1962, Ser. No. 168,036
7 Claims. (Cl. 226—109)



7. In an apparatus for feeding a web, the combination of

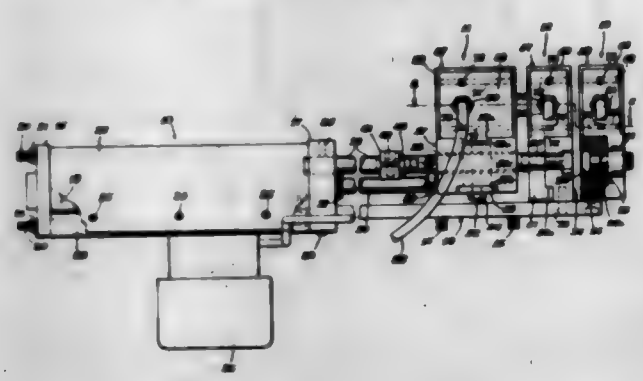
means including a movable member and pusher for clamping the opposite sides of the flat dimension of the web during movement of said member in one direction, for advancing the web one way, and

means including another member and detent for clamping said opposite sides of the web upon movement of said member in the opposite direction, for preventing movement of the web the opposite way,

said pusher and detent being flexible and inclined generally said one way to respectively permit the pusher to be moved said opposite way relative to the web and also permit the web to be moved said one way relative to said detent,

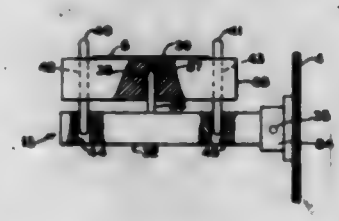
said movable member and other member having projections which are moved into overlying relationship with each other when said movable member moves in said opposite direction, thereby to prevent buckling of the web while it is held against movement said opposite way by said detent.

3,140,032
PNEUMATIC STOCK FEED ARRANGEMENT
Harry A. Heath and Loren D. Porter, Kalamazoo, Mich., assignors to Power Control Products, Inc., a corporation of Illinois
Filed June 5, 1962, Ser. No. 200,195
18 Claims. (Cl. 226—141)



1. In a stock feed and vise arrangement, a base plate, a reciprocating air cylinder and piston assembly carried on one end of sad base plate, a pair of stationary jaws, each of said stationary jaws comprising a base member and stock gripping means carried on said base member, the base members of said stationary jaws being carried on said base plate in a spaced apart relationship to each other and transversely of the axis of reciprocation of said air cylinder and piston assembly, a pair of rods, said rods carried in a parallel spaced apart relationship to each other between said cylinder and piston assembly and the base member of one of said stationary jaws, a movable jaw comprising a base member and stock gripping means carried on said base member, the base member of said movable jaw being journaled on said pair of rods, the piston rod of said air cylinder and piston assembly being connected to said base member of said movable jaw, and each of said stock gripping means of said stationary and movable jaws being formed to define cooperating stock gripping surfaces disposed in parallel planes perpendicular to a plane which includes the longitudinal axes of said pair of rods.

3,140,033
TAPE TENSION EQUALIZER
Joseph C. Zivny, Riverside, Ill., assignor to Minnesota Mining and Manufacturing Company, a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,549
4 Claims. (Cl. 226—196)



1. In apparatus for handling relatively thin wide tape, tape tension equalizing means comprising a guide mem-

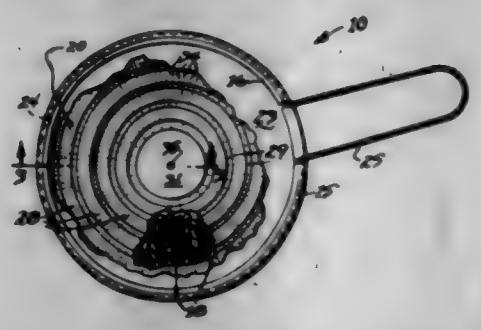
ber having a surface adapted to engage the full width of said wide tape, which surface is arcuate in the lengthwise direction of the tape and has a straight dimension in the widthwise direction of the tape, and support means affording point contact with said guide member at one point intermediate said straight dimension thereof and affording cardanic support for said guide member.

3,140,834

EXPANSIBLE COVER FOR A POPCORN PACKAGE

Charles M. Wyman and Asa Scobey Rogers, Jr., both of Nashville, Tenn., assignors to Blevins Popcorn Company, Nashville, Tenn., a corporation of Tennessee

Filed Oct. 13, 1961, Ser. No. 144,963
4 Claims. (Cl. 229—3.5)



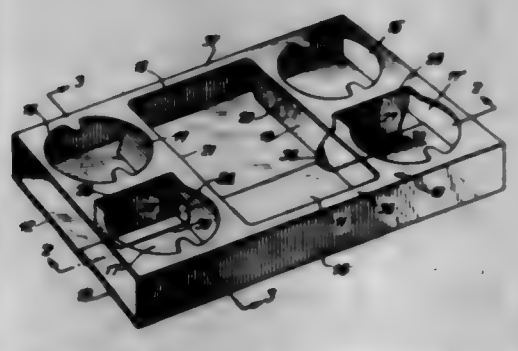
1. An expansible cover for a receptacle comprising:
(*a*) a planar sheet of pliable metal foil having a center,
(*b*) a plurality of radially spaced apart curved channels in said sheet extending continuously around said center,
(*c*) each channel comprising side and bottom walls displaced from the plane of said sheet,
(*d*) circumferentially spaced radial pleats in said channel walls and in the portions of said sheet between said channels,
(*e*) said channels and pleats accumulating said foil to permit expansion of said sheet in a direction normal to the plane of and circumferentially of said sheet upon the application of forces to said sheet.

3,140,035

SERVICE TRAY

Frederick A. Wenzel, Milwaukee, Wis., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Apr. 1, 1963, Ser. No. 269,510
2 Claims. (Cl. 229—30)



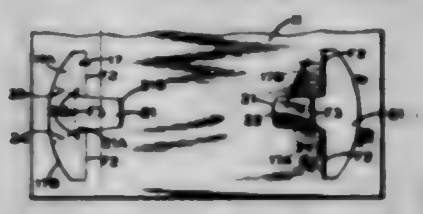
1. A collapsible service tray comprised of an area of sheet material shaped to provide to top surface, side walls and bottom wall portions connected thereto along score lines, whereby the tray may be collapsed to substantially flattened condition or erected to operative condition with the top surface spaced from the bottom wall portions, said top surface having a generally rectangular opening at its midportion to there provide a compartment for receiving food items, and each of the end portions respectively of the top surface being formed with at least one opening for receiving a beverage container, partitions extending transversely of the side walls of the tray and each being struck from the rectangular opening but connected by score lines to the top surface whereby when the tray is collapsed such partitions may be located in the plane of the top surface and when the tray is erected, same may be swung downwardly about the latter score lines and thence somewhat outwardly of the food compartment whereby the compartment is wider at the bottom than at the top, and, at the top, ridges are provided at the latter score lines directed inwardly of the compartment, stay portions comprising material struck from one of said beverage container openings at each end of the tray and extending from score lines at the top surface generally vertically downward when the tray is erected and in planes transverse to said partitions, the lower ends of said stays being adhered to the bottom portions of the tray, said partitions each being slotted to engage said stays in substantial locking relation when the tray is erected, such locking relationship being effective to retain the tray in erected condition.

3,140,036

WRAPPER TYPE CAN CARRIER

Joseph C. Spery, Room 1002, 527 Madison Ave., New York, N.Y.

Filed Oct. 17, 1961, Ser. No. 145,678
12 Claims. (Cl. 229—40)



7. For use in a wrapper type can carrier having opposed wall panels with can retaining flaps, the improvement of a readily releasable can retaining flap cut from one of said panels, said flap including a can chime engaging portion having an arcuate periphery adapted to conform to a chime portion of a can, a lift tab cut from said panel and integrally connected to said chime engaging portion; said chime engaging portion and connected tab being reversely folded about a foldline extending between the arcuate ends of said chime engaging portion and an intermediate point on the notch of said lift tab, said tab having a base portion cut into the plane of said chime engaging portion, said chime engaging portion being reversely folded inwardly of said wrapper carrier to underlie its connected panel, said tab being reversely folded relative said chime engaging portion about a foldline spaced from the foldline of said chime engaging portion to extend outwardly of said carrier to provide a grip whereby a pull exerted on said lift tab causes said chime engaging portion of said flap and overlying panel to lift away from the chime of a can retained between said opposed panels, and said chime engaging portion including a pair of foldlines extending radially between the ends of said base foldline and the arcuate periphery of said chime retaining portion to enhance displacement of said chime engaging portion when said tab is pulled.

3,140,037

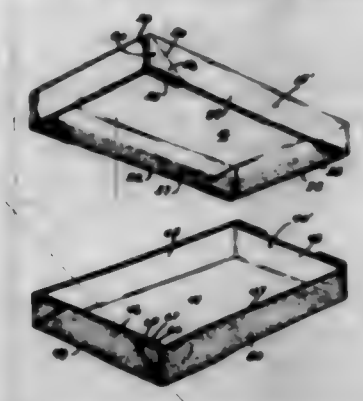
CONTAINER CONSTRUCTION AND PACKAGE

Richard E. Baum, Appleton, and Wilbert P. Daniels, Green Bay, Wis., assignors to Green Bay Packaging Inc., a corporation of Wisconsin

Original application July 26, 1960, Ser. No. 45,456, now Patent No. 3,056,245, dated Oct. 2, 1962. Divided and this application Jan. 29, 1962, Ser. No. 169,374
2 Claims. (Cl. 229—45)

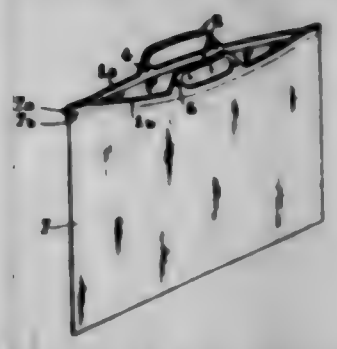
1. A box and telescoping cover comprising prefabricated box and cover portions each provided with fold

lines which define side flanges and further define corners including triangular pleat-forming areas, each of said portions having a coating of pressure-sensitive adhesive which is adherent to like adhesive but not substantially adherent to other materials, the said coating being substantially continuous about the box on the external surfaces of its flanges and pleat-forming areas and about the cover on the internal surfaces of its flanges and pleat-forming areas,



the coatings of contiguous triangular pleat-forming areas of the respective portions being mutually adherent maintaining the pleats at the respective corners of the box and cover, the box having the adhesive coating exposed on the completed pleats as well as on said flanges, said box and cover being permanently connected by pressure engagement of their respective coatings following telescopic association of their flanges.

3,140,036
HANDLE AND CLOSURE DEVICE FOR THERMOPLASTIC BAGS
Léon Lagoutte, 10 Rue Lemoine, Boulogne-sur-Seine, France
Filed Apr. 19, 1962, Ser. No. 188,618
4 Claims. (Cl. 229—54)



1. A handle and closure device fitted at the mouth of a bag composed of thin, flexible sheet material, said device comprising two flexible plastic strips attached along the opposite edges of the mouth of the bag, a central gripping bow formed integrally along one edge of each strip, complementary projections and recesses also formed integrally on said strips and which consist on the one strip of studs, on the other strip of corresponding recesses, said projections and recesses registering with each other and being located in the zones where each bow is connected to its strip, said studs and recesses being adapted to engage each other by snap action for releasably coupling said strips and bows.

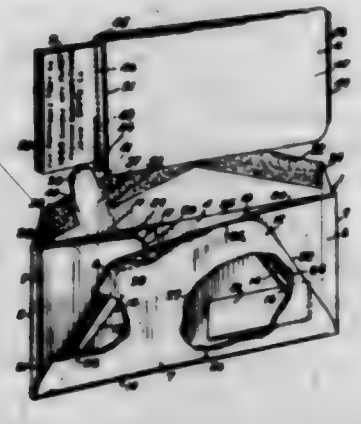
3,140,039
FLEXIBLE WALL CONTAINER
John D. Conti, Elkins Park, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 3, 1960, Ser. No. 47,206
2 Claims. (Cl. 229—62)

1. In a container formed of flexible material having at least a surface coating of thermoplastic material, said container having a plurality of walls and being closed at one end by having opposing walls engaged, folded over, and sealed to each other, the improvement comprising an opening extending through the sealed opposing walls of the container, and an integral and rigid structure



formed by searing portions of said walls immediately adjacent to and surrounding said opening, said rigid structure serving to reinforce said opening whereby said container may be suspendedly supported by means extending through said opening.

3,140,040
ENVELOPE FOR ENCLOSING BANK STATEMENTS AND THE LIKE
Jerome Hyman, Memphis, Tenn., assignor to Tension Envelope Corporation, a corporation of Delaware
Filed Feb. 25, 1963, Ser. No. 260,592
2 Claims. (Cl. 229—68)



1. An envelope containing enclosures, one having a width greater than the width of the other, said envelope including

a rectangular panel providing a front face of the envelope and having a width corresponding with the width of the widest enclosure and a depth corresponding with height of the narrower enclosure,

side flaps connected coextensively with sides of said panel by folds and overlying said panel with upper marginal portions substantially coextensive width and overlying the upper marginal portions of the panel,

one of said side flaps having a projecting terminal portion extending from said side flap coextensive with the upper marginal portion of said side flap toward the other side flap but terminating short thereof,

a back flap connected coextensively along the lower edge of said panel by a fold line and overlying portions of said side flaps and having an upper marginal portion cooperating with the upper marginal portions of the side flaps and the upper marginal portion of said front panel to provide an insert opening therebetween.

adhesive connecting the back flap with the side flaps to provide a panel constituting the rear face of the envelope and completing formation of a pocket between said panels having a width sufficient to accommodate the width of the widest enclosure and a depth to accommodate the height of the narrower enclosure,

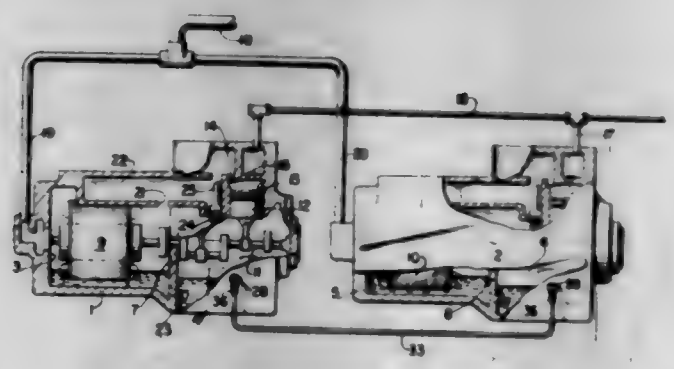
one of said panels having a window for exposing an address on the narrower enclosure,

said adhesive which connects the side flap having the projecting terminal portion being located between the said projecting terminal portion and the fold of said side flap to leave the projecting terminal portion freely contained between the overlying portions of the said panels whereby said projecting terminal portion engages a portion of the narrower enclosure at one side thereof when the opposite side of the enclosure engages within the fold of the said other side flap when said narrower enclosure is moved through the insert opening into the pocket of the envelope,

said side flap below said projecting terminal portion terminating at the said projecting terminal portion and having stop means for engaging an edge of said narrower enclosure that is engaged by said projecting terminal portion to cooperate with the side fold of the said other side flap for holding said narrower enclosure substantially immovable in the widthwise direction of said pocket to retain the address in registry with said window, and

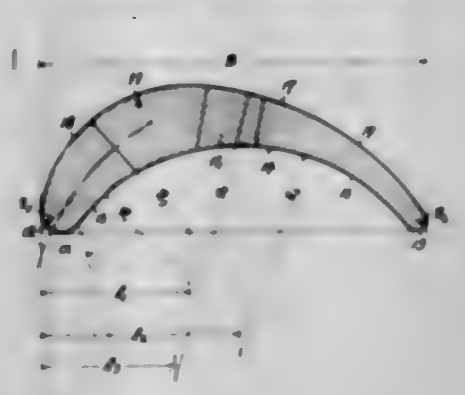
a gummed closure flap on the front panel and foldable over the insert opening to seal with the rear panel for retaining said enclosures in said pocket.

3,140,041
MEANS FOR CONTROLLING LUBRICATION OF HERMETIC COMPRESSORS
Israel Kramer and Daniel E. Kramer, Trenton, N.J., assignors to Kramer Trenton Co., Trenton, N.J., a corporation of New Jersey
Filed Jan. 9, 1961, Ser. No. 81,391
6 Claims. (Cl. 230—44)



1. In a refrigeration system, or the like, including a plurality of hermetically sealed suction cooled compressors linked in parallel and each having a crankcase compartment and a motor compartment with means for allowing drainage of oil from the latter to the former and positive vapor venting means in each crankcase compartment adequate to maintain a vapor pressure therein at least as low as the pressure in the associated motor compartment, means for maintaining a desired level of lubricating oil in the crankcase compartments of all operating compressors when less than all are in operation, said means comprising an oil level equalizer conduit adapted to be externally attached connecting the crankcase compartments of all the compressors at the desired oil level, the internal oil flow passage of said conduit being dimensioned and adapted to limit the flow of vapor therethrough from the crank case of any non-operating compressor to the crank case of an operating compressor and prevent rise of vapor pressure in the latter beyond the capacity of its venting means to maintain therein a pressure at least as low as the suction pressure in the associated motor compartment for facilitating oil drainage from the latter to the former.

3,140,042
WHEELS FOR CENTRIFUGAL FANS OF THE FORWARD CURVED MULTIBLADE TYPE
Noriyoshi Fujii, 124 Matsuzono-cho, Nishinomiya, Japan
Filed Aug. 15, 1961, Ser. No. 131,600
1 Claim. (Cl. 230—134)



In a centrifugal fan of the forwardly curved multiblade type, the improvement wherein each blade has its front in the shape of a shallow gutter and conforms to air flow through the passage formed between adjacent fan blades, the inner edge having a relatively large curvature, and the back having a bulging curve shape gradually diminishing the width of the passage from the inner end out, each blade having continuously curving inner and outer surfaces, each blade having a cross-sectional configuration with substantially the following proportions:

$B=15.5$	$R_6=0.8$
$R_1=5.0$	$R_6=0.4$
$R_2=8.5$	$l_1=6.0$
$R_3=6.0$	$l_2=8.0$
$R_4=12.0$	$l_3=5.5$

wherein B is the blade chord between the inner edge and the outer edge, l_1 is the distance of a first line from a reference line passing through the beginning of the blade chord at the inner edge, l_2 is the distance of a second line from said reference line, l_3 is the distance of a third line from said reference line, all of said lines being parallel to each other and perpendicular to the blade chord, R_1 is the radius of a portion of the inner blade surface near the inner edge and having its center on said first line, R_2 is the radius of a portion of the inner blade surface near the outer edge and having its center on said second line, R_3 is the radius of a portion of the outer blade surface near the inner edge and having its center on said first line, R_4 is the radius of a portion of the outer blade surface near the outer edge and having its center on said third line, R_5 is the radius of curvature of said inner edge, and R_6 is the radius of curvature of said outer edge.

3,140,043
INLET STRUCTURE FOR GAS COMPRESSORS
Gerald P. Marcy, Longmeadow, Mass., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Jan. 16, 1963, Ser. No. 251,953
8 Claims. (Cl. 230—207)

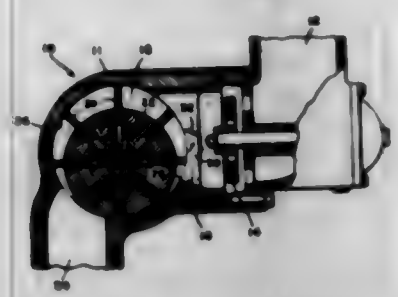
1. A gas compressor comprising:

(*a*) a casing having an inlet and an outlet therein,

(*b*) said casing having chamber means formed therein,

(*c*) a rotor disposed in said chamber means and connected to a source of power for rotation,

(*d*) a plurality of vanes slidably disposed in spaced relationship to each other in said rotor and on rotation of said rotor adapted to bear against said casing,



(*e*) oil means to lubricate said compressor and to seal said vanes and said casing to prevent the entrapped gas from leaking therebetween in said chamber means,

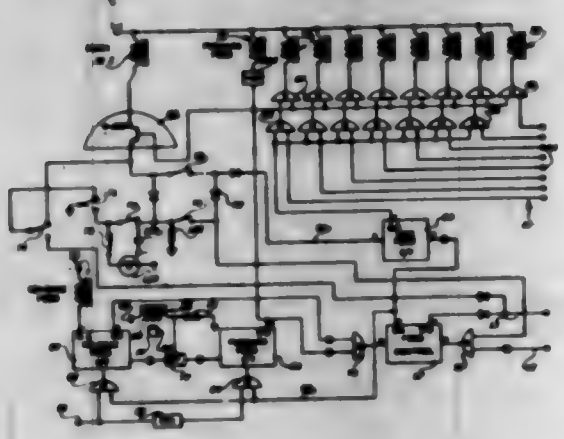
(*f*) baffle means disposed across said inlet to prevent said oil means in said chamber means from mixing with and raising the temperature of the incoming gas.

3,140,844

RECORD PERFORATING APPARATUS

Leon Gryk, New Britain, Conn., assignor to Royal McBee Corporation, New York, N.Y., a corporation of New York

Filed June 1, 1962, Ser. No. 199,510
7 Claims. (Cl. 234—119)



1. Apparatus for perforating records in accordance with code signal patterns in columns transverse the direction of movement of said records and in response to command signals generated with said code signal patterns comprising cyclically operable means,

means for generating timing signals at predetermined times in each cycle of said cyclically operable means,

record perforating elements,

record feed means,

feed electromagnet means operative when energized to couple said record feeding means to said cyclically operable means,

perforating element electromagnet means selectable in response to code signals and operative thereafter when energized to couple selected perforating elements with said cyclically operable means,

first bistable means settable in response to command signals,

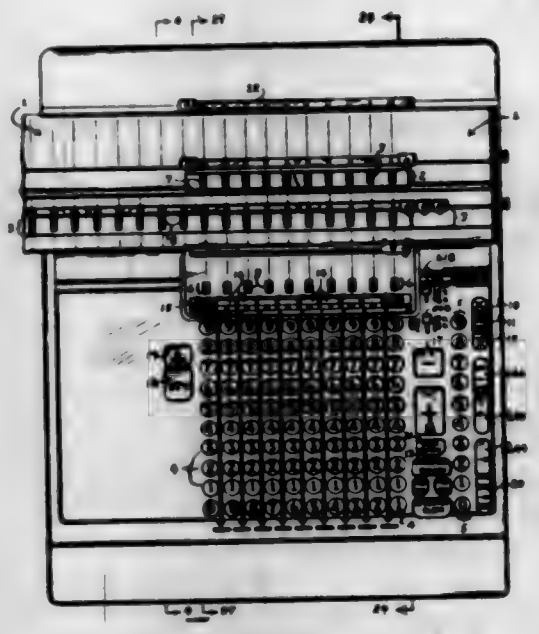
and second bistable means conditioned in response to the setting of said first bistable means for operation to set and reset state by said timing signals and adapted when set to energize said feed electromagnet and selected perforating element electromagnets, said first bistable means being reset when said second bistable means is reset.

3,140,845

DIVIDING MECHANISM

William S. Gubelmann, deceased, late of Convent, N.J., by Walter S. Gubelmann, executor, Oyster Bay, N.Y., assignor to Realty & Industrial Corporation, Morristown, N.J., a corporation of Delaware

Continuation of application Ser. No. 67,441, Nov. 4, 1960, which is a division of application Ser. No. 194,237, Nov. 6, 1950, now Patent No. 2,969,177, dated Jan. 24, 1961. This application Jan. 22, 1962, Ser. No. 168,596
82 Claims. (Cl. 235—63)



71. In a calculating machine, a dividend register, a plurality of calculating plates, a plurality of quotient representing stop surface portions arranged on each of said plates, each plate being constructed for representing a corresponding divisor value, the stop surface portions on each said plate constructed and arranged according to a series of different positions on each said plate related to and corresponding with respective dividend values and the said stop surface portion in each said position being for and representing the quotient integer of the corresponding dividend divided by the divisor value of the respective said plate; plate moving means for moving all said plates successively from one to another of a plurality of said positions for at each position situating a stop surface portion on each plate in a computation serving position, and control means controlled by said dividend register for controlling said plate moving means to set up said plates to present thereat the said stop surface portions, which are related to the quotient values of the number set up in said dividend register, in said computation serving position, which set up stop surface portions as so presented represent the quotient integers of the set up dividend divided respectively by each of said divisor values.

3,140,846

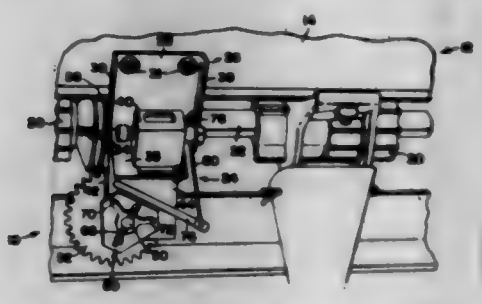
VARIABLE DRIVE MECHANISM

Royce R. Borngraeber, Horicon, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed July 2, 1962, Ser. No. 206,830
7 Claims. (Cl. 235—91)

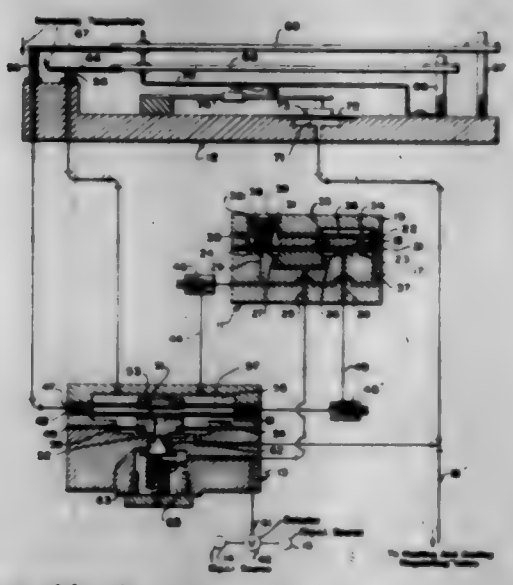
5. A land measurer including a rotatable shaft, a gear mounted upon a portion of said rotatable shaft, a trip wheel mounted upon another portion of said rotatable shaft, said trip wheel having a radially extending portion, a plurality of abutting surfaces adapted to be disposed to the sides of said radially extending portion, at least one of said surfaces being a slidable pin, a counter, and lever

means adapted to be pivotally moved by engagement with at least one of said abutments during each rotation of the



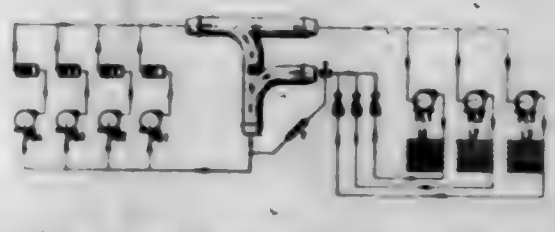
shaft and to trip said counter in response to said pivotal movement.

3,140,647
FLUID DISTRIBUTION DEVICE AND SYSTEM THEREFOR
Thomas M. Holloway, Waukesha, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 5, 1962, Ser. No. 200,614
13 Claims. (Cl. 236—1)



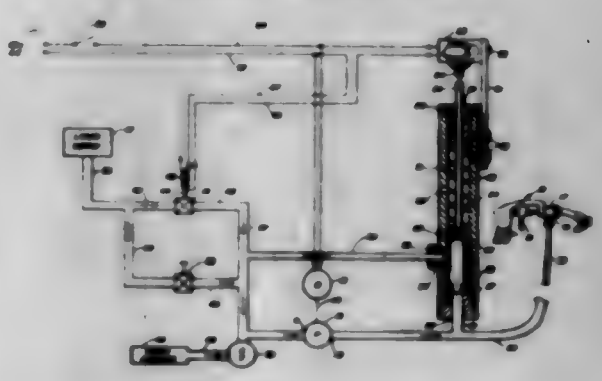
11. In combination
(*a*) a source capable of delivering fluid at a selected one of two pressures;
(*b*) a fluid pressure operated device;
(*c*) first and second leak ports;
(*d*) means for varying in reverse senses the restrictions to flow through the leak ports so that the restriction to flow through one leak port is increased as the restriction to flow through the other is decreased and vice versa;
(*e*) first and second conduits connected with the first and second leak ports, respectively, each conduit containing a flow restrictor;
(*f*) means responsive to the pressure of the source for connecting the source with the first conduit when the pressure is the lower of said two pressures and for connecting the source with the second conduit when the pressure is the higher of said two pressures; and
(*g*) means responsive to the pressures in the conduits for transmitting to the fluid pressure operated device a pressure that is proportional to the pressure in the first conduit downstream of the flow restrictor when the pressure in this conduit is higher than the pressure in the second conduit, and for transmitting to the fluid pressure operated device a pressure that is proportional to the pressure in the second conduit downstream of the flow restrictor when the pressure in this conduit is higher than the pressure in the first conduit.

3,140,648
HIGH TEMPERATURE HEATING SYSTEMS
Jack Norman Saunders, Wilmslow, England, assignor to Pressure Systems Limited, a corporation of Great Britain
Filed Oct. 10, 1961, Ser. No. 144,172
Claims priority, application Great Britain Oct. 11, 1960
1 Claim. (Cl. 237—56)



A heating system including a primary heating circuit for the heating liquid, a secondary distribution circuit for such liquid, a mixer device between said primary and secondary circuits and through which said secondary circuit takes liquid from and returns liquid to the primary circuit, sensing means adapted to sense the temperature of the liquid leaving the mixing device and to control the rate of liquid flow in the secondary circuit in correspondence with the deviation of such temperature from a predetermined level, and modulating control valve means in the secondary circuit between the secondary circuit and the mixing device, the said modulating control valve means being adapted to maintain substantially constant a predetermined temperature differential across the secondary circuit independently of load requirements, said modulating control valve means including a thermostat for sensing the temperature of the liquid leaving the secondary circuit, said modulating control valve means being responsive to said thermostat for allowing more or less liquid to flow through the secondary circuit depending upon whether the temperature of the liquid leaving the secondary circuit is below or above, respectively, a predetermined value.

3,140,649
CLEANING APPARATUS WITH RELIEF CONTROL VALVE
Iven R. Norstrud and John H. Threlkeld, Britt, Iowa, assignors to Britt Tech Corporation, Britt, Iowa, a corporation of Iowa
Filed Nov. 28, 1962, Ser. No. 240,629
10 Claims. (Cl. 239—126)



4. In a cleaning apparatus:
(*a*) pump means having a liquid inlet and a liquid outlet, said pump means taking liquid thereinto at its inlet and discharging such liquid through its outlet;
(*b*) first conduit means connected to said pump means inlet and being adapted to be connected to a first source of liquid;
(*c*) control valve means interposed within said first conduit means for controlling the flow of liquid from such first source of liquid;
(*d*) second valve means controlling the flow of fluid therethrough;

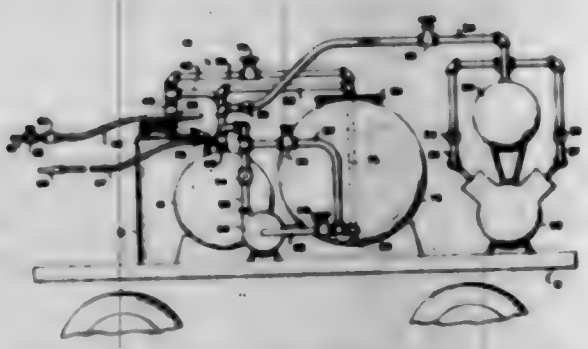
(*e*) second conduit means connected to said pump means inlet and adapted to be connected to a second source of liquid, said second conduit means having said second valve means disposed therein controlling the flow of such liquid to be drawn from said source;

(*f*) relief valve means having a liquid inlet and outlet connected to said liquid outlet and inlet respectively, of said pump means, said relief valve operating from a closed condition to an open condition upon the pressure therein reaching a first predetermined magnitude and operating from an open condition to a closed condition upon the pressure therein dropping to a second predetermined magnitude;

(*g*) liquid discharge means connected to said liquid outlet of said pump means having a control element therein for closing and opening a liquid passage therein causing the pressure in said relief valve means to rise to said first predetermined magnitude or fall to said second predetermined magnitude;

(*h*) and means remote from said control valve means for control thereof causing said pump means to draw liquid from said first source when said control valve is open and causing said pump means to draw liquid from said second source when said control valve is closed.

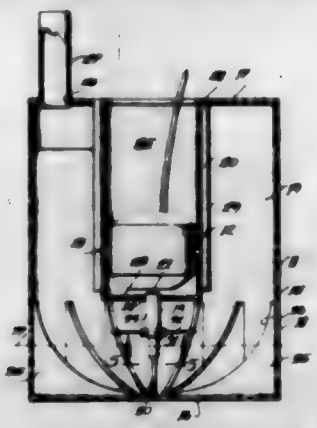
3,140,050
PRESSURE CLEANING APPARATUS
Frederick W. Elmore, 24192 Trans-Canada Highway, Langley, British Columbia, Canada
Filed Sept. 11, 1962, Ser. No. 222,880
9 Claims. (Cl. 239—143)



1. Pressure cleaning apparatus comprising a closed main tank for holding a cleaning solution, a closed booster tank, means for directing air under pressure to the main tank, liquid pipe means for directing solution from the main tank to the booster tank, valve means in said pipe means, atomizing means in communication with the booster tank and to which a discharge nozzle is connected, air pipe means extending from the main tank to said atomizing means to supply atomizing air thereto, and means connecting said air pipe means to the booster tank to supply air to said booster tank, whereby air under pressure supplied to the main tank is directed through said air pipe means to the booster tank and the atomizing means, and when said valve means is open, said air forces solution from the main tank to the booster tank and when said valve means is closed, said air travels alone to said nozzle.

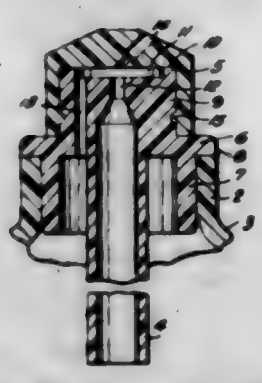
3,140,051
NEBULIZING DEVICE
Francis C. Moore and Marvin W. Nicely, Indianapolis, Ind., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Dec. 28, 1962, Ser. No. 246,190
7 Claims. (Cl. 239—215)

3. A nebulizer apparatus comprising a casing having a liquid reservoir therein and having a discharge opening in the top thereof, a jet tube assembly disposed within said casing adjacent the lower end thereof and being mounted for rotation about a vertical axis, said assembly including an intake tube extending along said vertical axis and a plurality of horizontally extending jet tubes having their inner ends converging about said axis and communicating with said intake tube, and a motor operatively connected to said assembly for rotating the same within the lower portion of said casing, said casing providing a horizontally curved surface concentric



with the rotational axis of said assembly, said casing also being provided in its lower portion with a plurality of radially-extending anti-cavitation baffle plates, each of said baffle plates having an outer portion extending above the level of said jet tubes and being tapered downwardly and inwardly along the bottom of said casing, whereby, water droplets discharged from said jet tubes impinge directly against said baffle plates and are nebulized thereby.

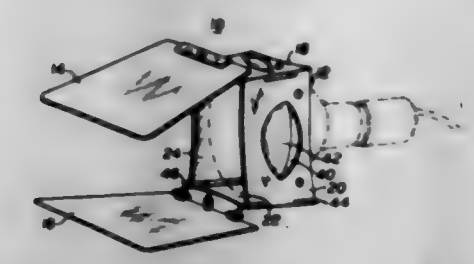
3,140,052
SPRAY NOZZLE COMPRISING A BASE MEMBER AND A CAP
Robert E. McCuiston, Greensboro, N.C., assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 21, 1963, Ser. No. 252,718
6 Claims. (Cl. 239—327)



1. A spray nozzle for dispensing aqueous solutions in the form of fine particles which comprises a base member and a cap, the base member being of one piece of molded plastic material having a lower tubular portion adapted to fit in the neck of a container, a flange outwardly extending from said lower tubular portion to rest against the upper portion of the neck of a container in which it may be placed and to position the base therein, a second tubular portion extending above said flange member and being of lesser diameter than the greatest diameter of said flange and terminating at the upper end in a flat surface of annular configuration providing a recessed, unobstructed circular mixing chamber, said recessed chamber being provided with two small passageways extending through said base member permitting passage of fluids therethrough into said mixing chamber, said cap member being adapted to fit closely over the upper portion of said base and having tubular side walls adapted to abut against the flat upper surface of the flange, the lower inner surface of the cap forming the top

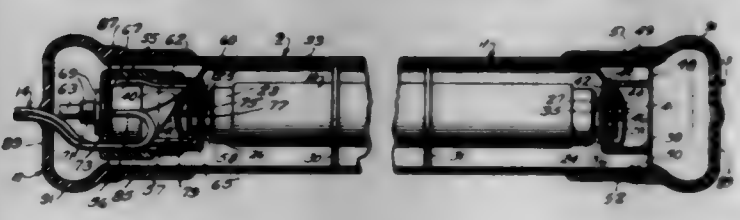
surface of said mixing chamber, a small passageway extending from said lower inner surface through said cap to its outer upper surface to provide an atomizing orifice.

3,140,053
LIGHT FIXTURE
Ross Lowell, 265 Riverside Drive, New York, N.Y.
Filed Sept. 28, 1961, Ser. No. 141,405
8 Claims. (Cl. 240—1.3)



6. In combination with a light bulb, an illumination device comprising a base including at least four plates pivotally mounted to one another to form a peripherally continuous body with a front opening, at least two of said plates detachably engaging the bulb for detachably mounting the base thereon, and a plate-like member pivotally mounted on said base for movement into and out of overlying relation with said front opening.

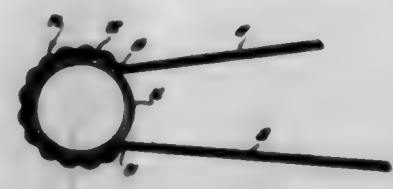
3,140,054
SAFETY INSPECTION LIGHT
Vladimir Oharenko, 904 N. Campbell Ave., Chicago, Ill.
Filed Apr. 25, 1963, Ser. No. 275,672
7 Claims. (Cl. 240—2.18)



1. A safety inspection light comprising a translucent tubular housing member having at least one open end, a fluorescent lamp resiliently mounted in said housing, means for supplying electrical power to said lamp, a resilient end cap tightly fitted over said open end of said housing member, said end cap having a generally tubular skirt and an end wall, an annular shoulder internally of said cap abutting the said end of said housing member, said shoulder being disposed a substantial distance from said end wall to provide a space between said end wall and said open end, and an annular enlargement on said cap connecting said skirt and said end wall for providing a resilient shock absorbing portion between said end wall and said housing member.

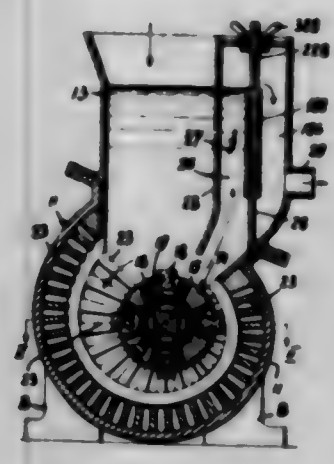
3,140,055
LAMP SHIELD
John C. Long, 90 Broad St., Charleston, S.C.
Filed May 19, 1959, Ser. No. 814,210
1 Claim. (Cl. 240—46.19)

A directed illuminated assembly comprising an elongated cylindrical lamp tube having a smooth uniform periphery from end to end and end socket connections and a light restricting generally U-shaped shield mounted directly on said lamp tube between said socket connections, said shield consisting essentially of a one-piece thin walled structure of stiff springy plastic formed from a single sheet of plastic and shaped to provide a pair of straight flat-sided light directing and confining substantially parallel spaced apart wings and a substantially cylindrically curved uniformly diametered body section disposed between said wings and adapted to extend circumferentially over more than 180° of the periphery of said tube in partial surrounding relation thereto and in close surface contact therewith, said body section frictionally grip said tube to maintain itself in any selected angular disposition around said tube, said wings extending non-radially away from oppositely directed edges of said body section and being contained in planes that diverge at less than 90°



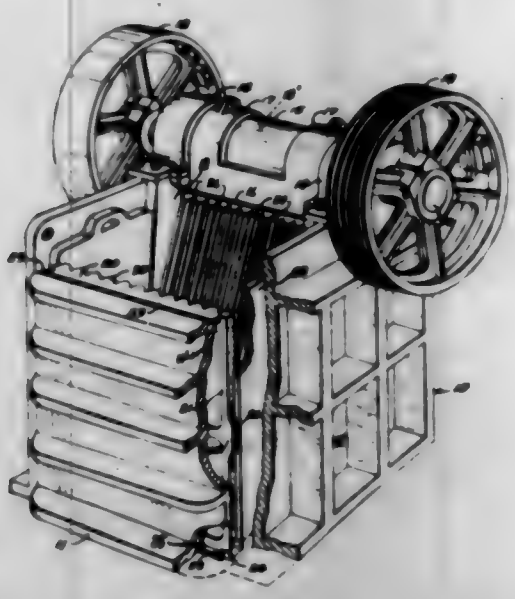
to define a narrow light beam from said tube, the junctures of said wings with said body section being indented to a reduced diameter which is less than said uniform diameter to provide a resilient mouth yieldably gripping said tube more closely than said body section, said wings being of sufficient length to enable said wings to be manually pulled away from each other to snap said shield over said tube, said body section being completely longitudinally corrugated between said junctures to form with said tube a series of side-by-side uninterrupted open-ended air passages extending in parallel relation to the longitudinal axis of said tube and to provide increased flexibility of said body section about the axis of said tube.

3,140,056
MILL FOR THE PRODUCTION OF A DIRECTLY FLOATABLE FLUID PULP STARTING FROM COARSE MINERALS
Aldo Motosi, 13 Via dei Mille, La Spezia, Italy
Filed June 27, 1961, Ser. No. 120,902
Claims priority, application Italy June 17, 1958
10 Claims. (Cl. 241—38)



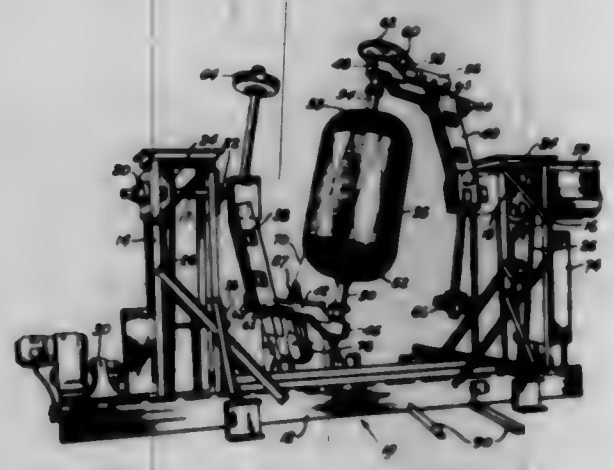
1. A mill for the continuous production of a directly floatable fluid pulp starting from coarse-sized solid materials, comprising a drum-like shell, a feed hopper for solid materials opening into the extending above said shell, a hollow rotor journaled for rotation within said shell and having a peripheral surface spaced from the shell, radial through-openings in the peripheral surface of said rotor communicating with the hollow interior thereof, means for feeding aqueous fluids into said hollow rotor and through said radial openings into said shell, means for rotating said rotor at high angular speed, and an ascending overflow duct opening into and extending above said shell.

3,140,057
CRUSHER JAW PLATES
Harold C. Pollitz, Cedar Rapids, Iowa, assignor to Iowa Manufacturing Company of Cedar Rapids, Iowa, Cedar Rapids, Iowa
Filed Feb. 26, 1962, Ser. No. 175,484
10 Claims. (Cl. 241—285)



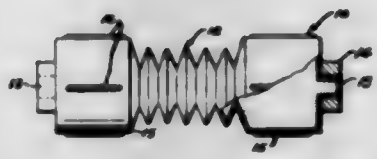
1. In a stationary jaw plate for use in a jaw crusher having an upright wall for receiving said plate and means for retaining said plate in operative position upon said wall, said means including a cheek plate adjacent each upright end of said wall for clamping said plate between said cheek plate and said wall, the improvement comprising a jaw plate retaining lip projecting laterally outwards of each upright side of said jaw plate and formed integrally therewith so that when said plate is operatively clamped as aforesaid said cheek plates engage said lips only, each of said lips extending along only the portion of said side immediately adjacent the mid-point thereof in order to confine the total clamping force applied by said cheek plate to said portion only.

3,140,058
MACHINE FOR FORMING LAMINATIONS
Albert L. Courtney, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 23, 1960, Ser. No. 38,218
7 Claims. (Cl. 242—2)



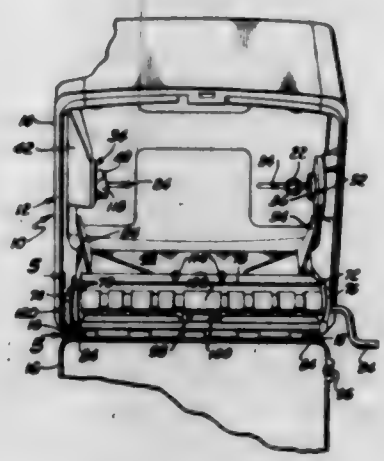
1. A machine for forming laminations consisting of helically wound continuous length tape comprising two spaced winding arms each having a supporting portion disposed in collinear relation, means provided on each of said winding arms gripping opposite ends of a mandrel forming end supports for the mandrel, said end supports being adapted to rotate in said winding arms, means for rotatably driving said end supports about an axis of the mandrel defined by an imaginary line passing through said end supports and the mandrel, a drive shaft for each of said winding arms defining an axis of rotation for each arm providing end-over-end swinging movement of said mandrel, driving means effecting rotation of said winding arms to produce end-over-end swinging movement of said mandrel, and tape-feeding means for dispensing tape in a continuous length which is transferred onto the mandrel as the mandrel follows its rotational and end-over-end movement.

3,140,059
SUPPORTING ROLLER FOR SHEET MATERIAL
Mary W. Lasebrink, 22 Wilkins Court, New Shrewsbury, N.J.
Filed Nov. 28, 1962, Ser. No. 240,516
3 Claims. (Cl. 242—55.2)



1. A roller support for a roll of sheet material which includes a roller having a trunnion at either end, said roller being in the form of a hollow sealed container in which the central portion of said hollow sealed container is constructed in the form of a bellows and in which the bellows portion has a degree of flexibility to permit a lateral foreshortening when squeezed and a rapid return to normal length when released.

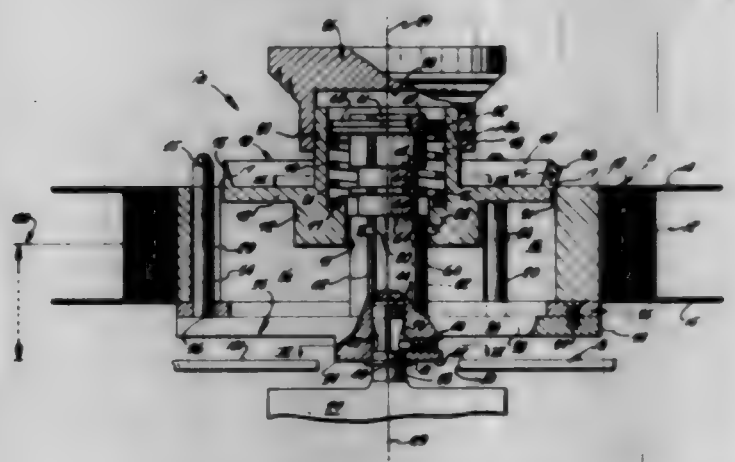
3,140,060
DISPENSER FOR ROLL MATERIAL
J. C. Layton, La Habra, and Council A. Tucker, Glendale, Calif., assignors to Towlaver, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 18, 1960, Ser. No. 22,943
6 Claims. (Cl. 242—55.53)



1. In a towel dispensing device, the combination of: a housing having a cover thereupon; supporting bearings in said housing for supporting a roll of toweling; a pivotally mounted supporting enclosure in said housing; and a dispensing mechanism in said enclosure adapted to receive toweling from said roll, said dispensing mechanism including a plurality of dispensing rollers and a rotation control unit connected to one of said rollers to control the dispensing of toweling by said rollers, said enclosure

incorporating end plates for mounting said dispenser mechanism.

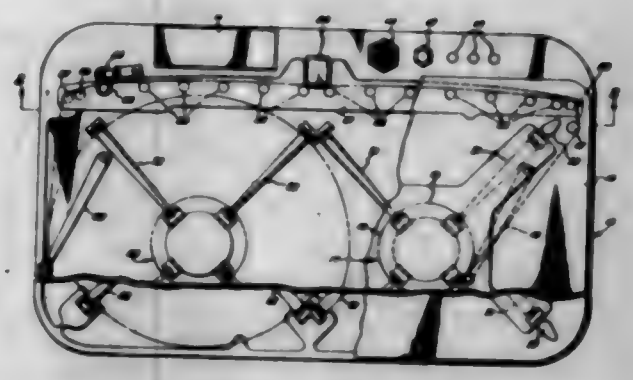
3,140,061
REEL HOLDING AND CENTERING HUB
William M. Benson, Temple City, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Oct. 2, 1961, Ser. No. 142,386
1 Claim. (Cl. 242—68.1)



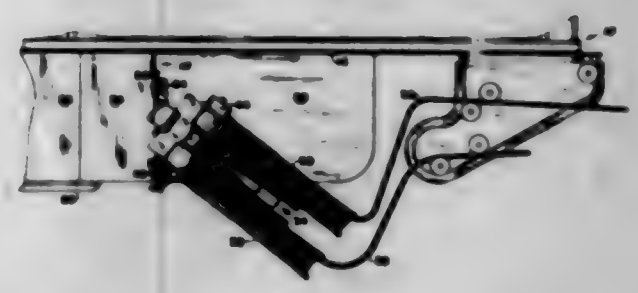
A hub and holder for a tape reel having a hollow cylindrical base and a plurality of uniformly spaced longitudinal grooves in the inner periphery of the base, the hub comprising a reel table rotatable about an axis, a plurality of pins mounted perpendicularly to the table and engageable in the reel base grooves, a cylindrical body member mounted coaxially to the table having a plurality of longitudinal external grooves and having a plurality of external circumferential recesses having intersections with the body member grooves and having clamp ring positioning means in the recesses intermediate the intersections, a clamp ring having an axial bore journalled around the body member for movement relative to the body member, projection means in the clamp ring bore engaged within the body member grooves and being engageable with the clamp ring positioning means upon movement of the projection means into engagement with at least one of the recesses, spring means between the body member and the clamp ring for biasing the ring toward the table, handle means secured to the ring for reciprocating and rotating the ring relative to the body member, and a plurality of inclined surface projection means on the exterior of the ring corresponding in number to the plurality of table pins alignable adjacent the pins to permit installation of a reel on the table and engageable against the reel to secure the reel to the table and to center the reel relative to the axis when the ring is rotated.

3,140,062
TAPE TRANSPORT SYSTEM
George Wesley Boyer, Covina, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Continuation of application Ser. No. 204,917, June 25, 1962, which is a division of application Ser. No. 6,022, Feb. 1, 1960, now Patent No. 3,106,361. This application July 1, 1963, Ser. No. 295,269
4 Claims. (Cl. 242—76)

1. Apparatus for increasing the maximum usable packing density of information recorded on magnetic tape by minimizing the skewing thereof caused by tape width variations, comprising a pair of parallel guide plates, the spacing between which is the minimum spacing which permits the tape to pass freely therebetween, and a plurality of posts disposed between the parallel plates so as to form two arcs which converge symmetrically to intersect a magnetic transducer positioned therebetween, said tape travel length between said parallel guide plates being much greater than the width of the tape.



3,140,063
CABLE REEL SUPPORT
Ellis P. Buckles, Columbus, Ohio, assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1962, Ser. No. 220,440
6 Claims. (Cl. 242—86.51)

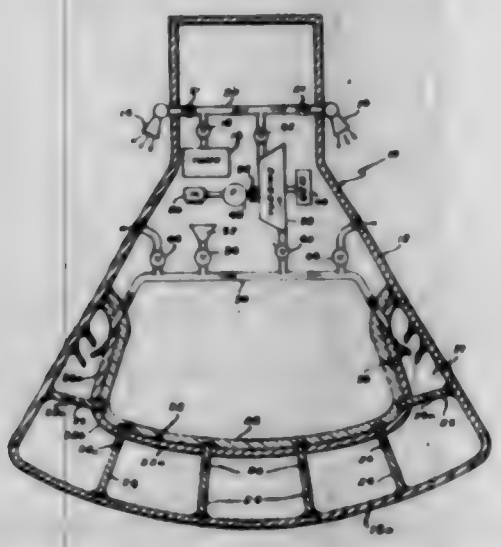


1. In a cable reel support the combination comprising, a cable reel carrier, a pair of strut members secured to and extending rearwardly from said cable reel carrier in angular relation to each other, a pair of laterally extending support brackets secured to said strut members in spaced relation to said reel carrier, each of said support brackets having an aperture therethrough, other fixed brackets adapted to be secured to a vertical wall of a cable reel compartment, said fixed brackets each having a pin member extending vertically therefrom, said pin members in said fixed support brackets extending through said apertures in said laterally extending support brackets to pivotally secure said support brackets to said fixed brackets, and positioning means to fixedly position said laterally extending support brackets in overlying relation to said fixed brackets.

3,140,064
LIQUID HEAT SINK AUXILIARY POWER GENERATOR FOR SPACE VEHICLES
Joachim H. Gengelbach, 1615 Rosella Lane, Alamogordo, N. Mex.
Filed July 22, 1963, Ser. No. 296,872
1 Claim. (Cl. 244—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

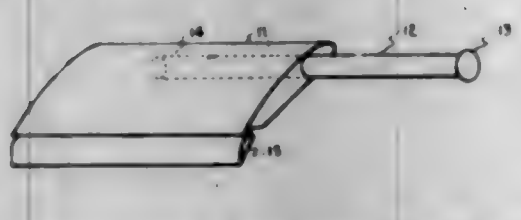
In a re-entry space vehicle having a plurality of attitude control nozzles, an auxiliary heat sink power generator utilizing the heat generated on re-entry of the vehicle into the earth's atmosphere to vaporize a liquid and supply gaseous energy to nozzles, turbines and the like, and comprising: a boiler in the re-entry end of said vehicle, said boiler being formed of a partitioning member circumferentially joined to the outer shell of said vehicle rearward from the re-entry end of said vehicle to provide a closed boiler vessel, an internal divider member having one or more passages therethrough and joined to the outer shell of said vehicle and said partitioning member in a manner dividing said boiler into a

liquid section at the re-entry end and a gas section rearward from the liquid section of said boiler, a plurality of internal anti-surge baffle plates within the liquid section of said boiler, each of said baffle plates containing one or more passages therethrough and joined to the re-entry end of said vehicle and said partitioning member, and a plurality of drier baffles spaced within the gas section for the separation of any liquid from the gas



flowing from said boiler; a nozzle manifold joined to the entrance end of said attitude control nozzles, a header manifold joined to the gas section of said boiler, passage means joining said header manifold to said nozzle manifold, a turbine machine interposed in said passage means, and control means in said passage means controlling the flow of gas through said turbine and into said nozzle manifold for discharge from said attitude control nozzles.

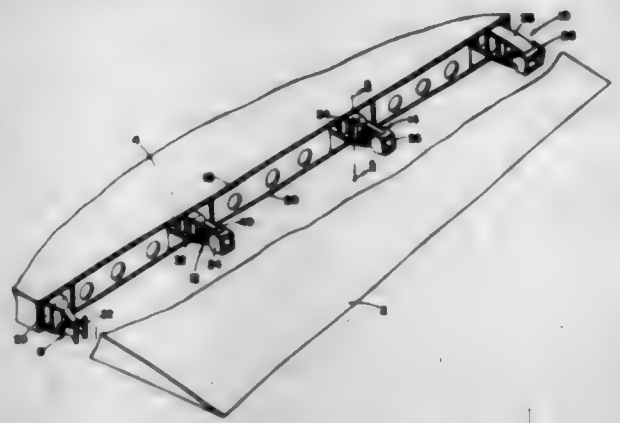
3,140,065
HIGH LIFT AND CONTROL SYSTEM FOR AIRCRAFT
Alberto Alvarez-Calderon, 1560 Castilleja St., Palo Alto, Calif.
Filed June 27, 1962, Ser. No. 205,592
17 Claims. (Cl. 244—10)



15. In an airplane having fixed wings with side edges the improved system of roll control and high lift comprising means for projecting rotating cylinders out beyond the side edges of said wings and into the relative air flow of said airplane and means for withdrawing said rotating cylinders to a position adjacent to said wing edges.

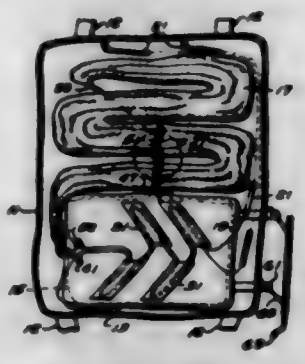
3,140,066
MULTIPLE PIVOT MOUNTING MEANS
Rex S. Sutton, Torrance, and Ralph E. Boardman, West Los Angeles, Calif., assignors to North American Aviation, Inc.
Filed Dec. 4, 1962, Ser. No. 242,203
4 Claims. (Cl. 244—43)

1. A hinge arrangement for pivotally joining a first structural member to a second structural member for relative movement therebetween about an elongate pivot axis, said arrangement comprising:
a plurality of hinge assemblies connected between said first and second members,
said hinge assemblies comprising a universally connected hinge joint at each end of said axis,
said hinge assemblies further comprising at least one hinge assembly intermediate the said universally connected hinge joints,



said one hinge assembly comprising first bracket means on said first member, second bracket means on said second member, and an elongate link connected by a first pivot pin to said first bracket means at one end of said link, said link being connected by a second pivot pin to said second bracket means, said first and second pivot pins being spaced part, and
said elongate pivot axis passing through the center of both said universally connected hinge joints and through said second pivot pin when said first and second structural members are in the undeflected condition.

3,140,067
TWO-SPEED PARACHUTE
Howard R. Johnston, P.O. Box 103, Snohomish, Wash.
Filed Oct. 5, 1962, Ser. No. 228,604
10 Claims. (Cl. 244—148)

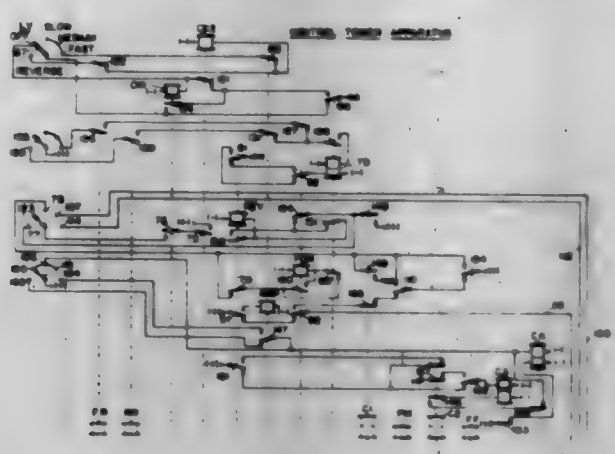


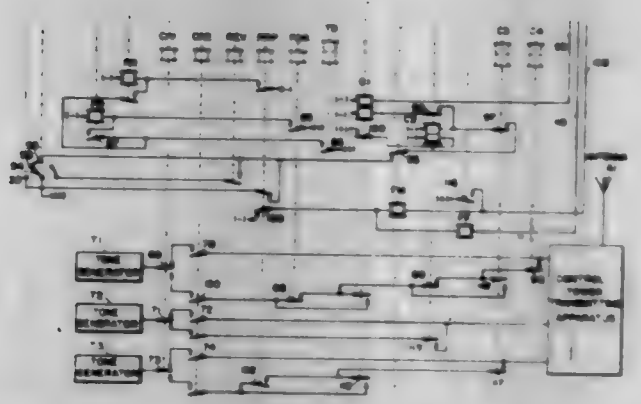
1. A two speed parachute comprising:
a canopy,
suspension lines,
a bag containing the skirt of said canopy and having pockets stowing said lines,
and means operable when actuated one way for effecting release of said skirt from said bag prior to release of said lines and operable when actuated a second way for effecting release of said lines prior to release of said skirt,
a container for said bag and canopy and lines,
said means including mechanism releasably connecting said bag to said container.

3,140,068
REMOTE CONTROLLED LOCOMOTIVE CONTROL SYSTEM
William J. Matthews, Rochester, N.Y., assignor to General Signal Corporation
Filed Dec. 11, 1957, Ser. No. 702,856
15 Claims. (Cl. 246—167)

1. In a system for controlling a multiple speed locomotive, a prime mover activating means for selectively

driving the locomotive in a forward and reverse direction in response to the reception of a carrier wave selectively modulated by a respective code combination of a plurality of distinct frequencies, a transmitting means operable to transmit a carrier wave, a manual lever means operable to be positioned to a forward and reverse designation, a code selection means for causing the transmitted carrier wave to be selectively modulated by a distinct code combination of a plurality of frequencies in accordance with the position of said manually

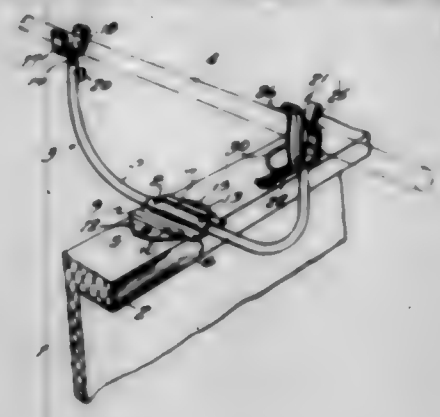




operable means, circuit means responsive to the positioning of the manual lever to a respective forward and reverse designation for causing said carrier wave to be momentarily modulated by all the provided frequencies simultaneously, and an integrity checking means effective to cause the prime mover activating means to operate the locomotive in response to the reception of a respective code combination of frequencies only after the reception of said carrier wave simultaneously modulated by all the provided frequencies.

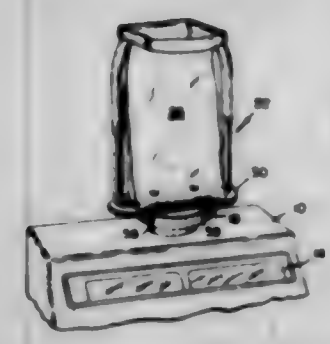
3,140,069
FISHING POLE HOLDER
Faye M. McBurney, Box 217, Cresson, Tex., and Elmer E. Moore, 424 Athenia Lane, Fort Worth, Tex.
Filed June 1, 1962, Ser. No. 199,418
2 Claims. (Cl. 248—40)

1. In combination with a boat having a gunwale, the combination of a fishing rod holder comprising an elongated tubular member, bowed intermediate its ends, having a horizontally extending intermediate portion and upstanding end portions, cradle means on opposite ends of the tubular member engageable with a fishing rod, means removably connecting the tubular member intermediate its ends to the gunwale for rotative adjustment about a vertical axis relative thereto, the cradle means on one end of the tubular member being secured to a pin which is received in said one end of the tubular member and is secured therein, for vertical adjustment relative thereto, by a set screw, and the cradle means on the opposite end of the tubular member being formed in part by a cylinder arranged transversely of the tubular member and rigidly secured intermediate its ends to the adjacent end thereof, the cylinder having a spring biased plunger therein, said last mentioned cradle means further including a fixed side member on the cylinder and



a movable side member connected to the plunger and movable therewith, and having handle means whereby the plunger may be retracted against the resistance of the spring.

3,140,070
SACK HOLDER
Joseph H. Doebele, 2007 College Heights Road, Manhattan, Kans.
Filed Oct. 18, 1961, Ser. No. 145,887
2 Claims. (Cl. 248—97)

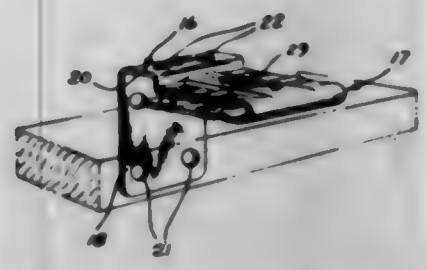


1. A sack holding device for supporting a sack on a weighing machine, said device comprising a base member, a vertical supporting member mounted on one side of said base member, and a pair of sack holding racks mounted on said vertical supporting member; said base member being substantially flat and having slot means therein adapting it to fit on conventional weighing machines; said vertical support member being an integral, substantially U-shaped piece rigidly secured at its central portion to said base and having a pair of spaced, upwardly directed support arms, said arms each being substantially rectangular in cross section and having an end portion of reduced cross sectional area, and said rack members each being substantially T-shaped and having a substantially horizontal, relatively smoothly finished sack engaging rod, and a tubular mounting bar secured at one end thereof to a central portion of said bar and having its other end deformed to the configuration of said reduced cross sectional area of said support arm portions and telescopingly and freely fitted on said arm portions.

3,140,071
BRACKET
Hans K. Lorentzen, Montclair, N.J., assignor to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Filed June 20, 1961, Ser. No. 118,350
8 Claims. (Cl. 248—273)

1. In a separable bracket for mounting a curtain having a head bar, the bracket having a building part for attachment to the building and a head-bar part for attach-

ment to the head bar, the two parts being adapted to be united for mounting the curtain and being adapted to be separated for demounting the curtain, the building part including a projecting horizontal plate and the head-bar part including means to engage said plate, the improvement which comprises: the head-bar part being a one-piece U-shaped clip the legs of which are horizontal spring jaws which grip the plate, the plate and clip having complemental rib-and-groove formations which extend longitudinally of the head bar and make snap engagement



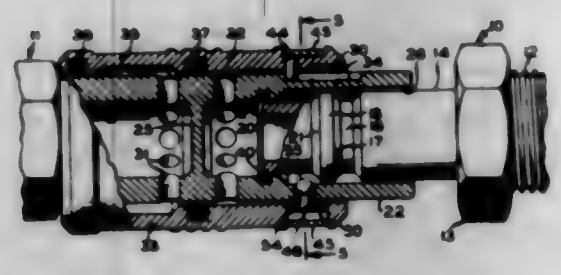
when the two parts of the bracket are united, and the spring jaws strongly gripping the plate and holding the head bar against canting; and there being two formations on the plate which are at right angles to each other and each of which is complemental to the formation on the clip, whereby the building part can be mounted with one of its said two formations inactive and extending transversely of the head bar and with the other of its said two formations extending longitudinally of the head bar for making snap engagement with the formation on the U-shaped clip.

3,140,872

LOCKING MECHANISM IN QUICK-CONNECT-DISCONNECT COUPLING

Joseph S. Sciuto, Jr., Crestwood, Mo., assignor to Stile-Craft Manufacturers, Inc., St. Louis, Mo., a corporation of Missouri

Filed Apr. 16, 1962, Ser. No. 187,552
19 Claims. (Cl. 251—89.5)



1. In a coupling,
(*a*) a tubular plug,
(*b*) a tubular body providing a socket adapted to receive said plug,
(*c*) a sleeve mounted on said body for movement between limits, and
(*d*) a locking means operatively interconnecting said sleeve and body to retain the sleeve in one position when the plug is completely withdrawn, the plug engaging and actuating the locking means when inserted to release the sleeve for movement.

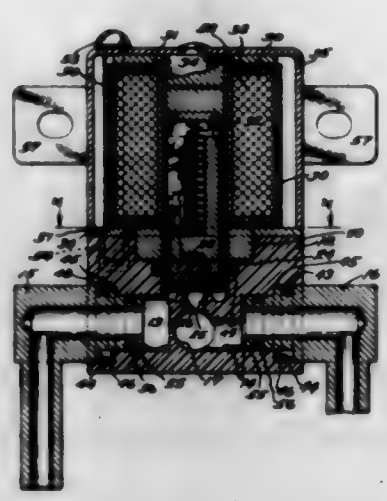
3,140,873

FLUX AMPLIFIED SOLENOID VALVE WITH SELECTIVELY SEPARABLE SECTIONS

Frederick P. Finck, Jr., Fairfield, Conn., assignor to Connecticut Coil Corporation, Bridgeport, Conn., a corporation of Connecticut

Filed May 11, 1962, Ser. No. 194,104
8 Claims. (Cl. 251—129)

1. A solenoid operated valve including solenoid structure, a non magnetic bearing sleeve projecting endwise beyond said structure and a magnetic valve operating plunger slidable in the projecting portion of said sleeve, comprising in combination with said solenoid structure sleeve and plunger a valve body having a valve seat contactable by said plunger to close the valve and having a bore leading away from said seat to an end of said bore opening outward through a surface of said valve body facing said solenoid structure, said bore being en-



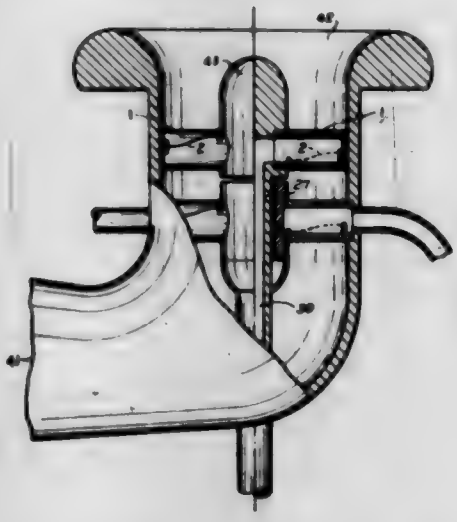
larged at its said open end by a terraced recess surrounding said sleeve, a flux ring magnetically circuited to form one pole of said solenoid structure surrounding said sleeve and nested as a loose insert in said terraced recess in unattached relation to said valve body, and means to fasten together said solenoid structure and said valve body with said flux ring therebetween whereby to clamp and retain said flux ring in said terraced recess.

3,140,874

FLUID MACHINES

Roman Baldur, La Salle, Quebec, Canada, assignor to Dominion Engineering Works Limited

Filed Nov. 29, 1962, Ser. No. 240,866
19 Claims. (Cl. 253—142)



1. In a fluid machine, a mainshaft, a hub attached to said mainshaft, a plurality of vanes attached to said hub, each of said vanes including a hollow, porous cylinder, a vane-shaft passing axially through each of said cylinders, radial arm means mounted upon said vane-shaft and having free ends, the free ends of said radial arm means being external to said cylinder, and an adjustable flap member external to said cylinder and positioned by the free ends of said radial arm means.

3,140,075

LOADING SYSTEM FOR FORK LIFT TRUCK

C. Paul Kolthoff, Jr., Naperville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Aug. 22, 1962, Ser. No. 218,739
2 Claims. (Cl. 254—2)



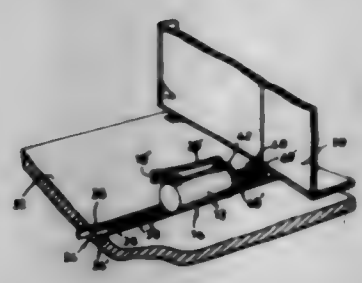
1. A mobile fork lift truck comprising, in combination,
(*a*) a frame integrally connected to a load-carrying fork, said fork extending forwardly of said frame,
(*b*) a plurality of inflatable and rotatable tires positioned for movably supporting said frame, said tires having a substantially large radial cross-section,
(*c*) power means disposed on the rearward portion of said frame and connected to said truck in propelling relation,
(*d*) a source of fluid under pressure mounted on said frame,
(*e*) and a control valve with fluid conduit means connected to said source and said tires for controllably inflating and deflating said tires
whereby said fork is raised into a load-carrying position and alternately lowered into load-receiving position respectively.

3,140,076

SYSTEMS FOR MOVING DEMOUNTABLE FREIGHT CONTAINERS ALONG SUPPORTING PLATFORMS THEREFOR

William D. Steadman, Oakville, Ontario, Canada, assignor, by mesne assignments, to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Oct. 15, 1962, Ser. No. 230,648
3 Claims. (Cl. 254—105)



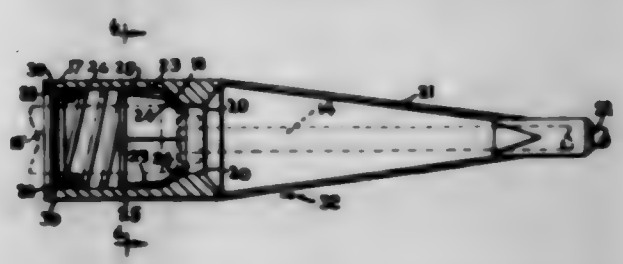
1. In a freight handling system, a substantially flat supporting platform arranged in a generally horizontal position, a substantially box-like freight container demountably and movably supported on top of said platform, a unitary motor of the cylinder-piston type including an elongated cylinder element and a piston mutually mounted upon each other for selective longitudinal sliding movements with respect to each other, an elongated connector element rigidly secured to said piston and movable therewith, whereby said cylinder element and said connector element are selectively movable longitudinally with respect to each other between extended and contracted positions, means for selectively operating said motor alternately to move said elements longitudinally between their extended and contracted positions, means for detachably connecting said connector element to the lower central portions of said freight container and adjacent to the top of said platform, and mechanism including an elongated rack and a cooperating pawl, said rack being securely anchored to the top of said platform, said pawl being carried by said cylinder element and located adjacent to the inner end thereof presented toward said detachable connection, said pawl being selectively adjustable on the inner end of said cylinder element between first and second positions of cooperation with said rack, wherein said pawl in its first position clutches said rack in response to longitudinal movement of said elements into their extended position and overrides said rack in response to longitudinal movement of said elements into their contracted position, with the result that said motor travels with said freight container and pushes said freight container with a step-by-step motion along said platform and in a corresponding first direction longitudinally of said rack, wherein said pawl in its second position overrides said rack in response to longitudinal movement of said elements into their extended position and clutches said rack in response to longitudinal movement of said elements into their contracted position, with the result that said motor travels with said freight container and pulls said freight container with a step-by-step motion along said platform and in a corresponding second direction longitudinally of said rack, wherein said first and second directions are opposite to each other, wherein said detachable connection between said connector element and the lower central portion of said freight container accommodates pivotal movements of said motor in the vertical direction with respect to said freight container, so as to facilitate overriding of said pawl with respect to said rack, said detachable connection also accommodating rapid connection and disconnection of said motor with respect to the lower central portion of said freight container, so as to facilitate ready handling of said motor and the ease with which said freight container is handled on said platform, and wherein said location of said pawl on said cylinder element adjacent to said inner end thereof accommodates cooperation of said pawl with the extreme end portion of said rack disposed adjacent to an edge of said platform, so as to facilitate movements of said freight container by said motor when said freight container is supported by said platform adjacent to said edge thereof.

3,140,077

FLEXIBLE ROD PUSHER TOOL

Chester A. Truman, W. 2528 Garland Ave., Spokane, Wash.

Filed Jan. 29, 1962, Ser. No. 169,256
3 Claims. (Cl. 254—134.3)



1. In a manual tool adapted to incrementally push an enlarged cylindrical rod coupling having flexible rod members connected to each end thereof and extending longitudinally therefrom, the coupling and rod members being slidably encased within a supporting pipe having an interior diameter greater than the maximum exterior diameter of the coupling:
a rigid pushing element including a cylindrical collar having an exterior diameter slightly less than the interior pipe diameter and a minimum interior diameter slightly greater than the maximum exterior diameter of the coupling, and an extension rigidly secured to one end of said collar in longitudinal alignment therewith;

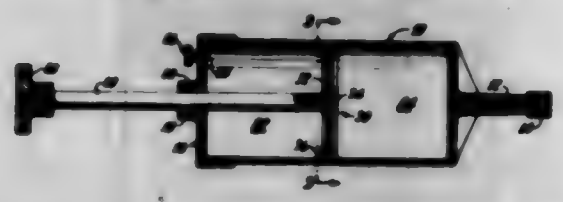
and inwardly biased radially movable jaw means slidably mounted on said pushing element operatively engageable with a coupling encircled by said collar adapted to prevent motion of said collar relative to the encircled coupling in one longitudinal direction along the pipe, said jaw means being axially hollow and having a maximum interior diameter at one end of said jaw means greater than the maximum exterior diameter of the coupling.

3,140,078

MIXING AND DISPENSING DEVICE

Donald C. Krahe and Herbert E. Grubb, San Carlos, Calif., assignors, by mesne assignments, to Adhesive Engineering Company, a corporation of California

Filed June 15, 1961, Ser. No. 117,305
2 Claims. (Cl. 259—47)



1. A storage, mixing and dispensing device for a two-component mixture comprising:

(*a*) a cylinder having a discharge opening at one end thereof and a normally sealed air inlet at the opposite end with a snap-off fitting for opening said vent; and

(*b*) a normally closed piston dividing the cylinder into two chambers, said piston being formed of a first and a second disc each having holes therein, said holes being in registration when said discs are in a first position and forming a solid piston when the first of said discs is rotated to a second position relative to the second of said discs, the first of said discs being of a diameter slightly less than the interior diameter of the said cylinder and the second of said discs having a cylindrical collar secured at right angles thereto at the extreme outer edge thereof, said collar passing between said first disc and the internal wall of the said cylinder, said collar having an integral lip parallel to the said second disc extending from the said collar inwardly toward the center of said disc whereby said lip and said collar together with said second disc form a channel for the receipt of said first disc, said first disc being loosely secured in the said channel for rotation relative to said second disc, said first and second discs being held in a unitary relationship solely by means of said channel, said second disc having an integral rod at the center thereof extending through the end of the cylinder opposite the discharge opening, said rod having a handle on the exposed end thereof.

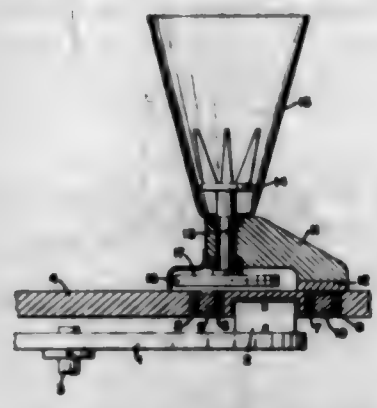
3,140,079

MAGNETIC DRIVE

Max Baermann, Bensberg Wolfshef, Cologne (Rhine), Germany

Continuation of abandoned application Ser. No. 637,494, Jan. 31, 1957. This application Feb. 18, 1960, Ser. No. 11,945
6 Claims. (Cl. 259—108)

1. A household utensil assembly comprising a plurality of spaced magnets arranged in a ring of predetermined diameter and mounted for rotation about a predetermined axis, each of said magnets having an axis of magnetization which is transverse to the plane of said ring and adjacent magnets having opposite magnetic polarity, a disc of electrically conductive material mounted for rotation about an axis which is offset from the rotational axis of said ring of magnets, said disc being of substantially smaller diameter than the diameter of said ring of magnets with a portion of said disc being positioned in inductive relationship to a portion of said ring of magnets whereby said disc is rotated at a higher angular velocity



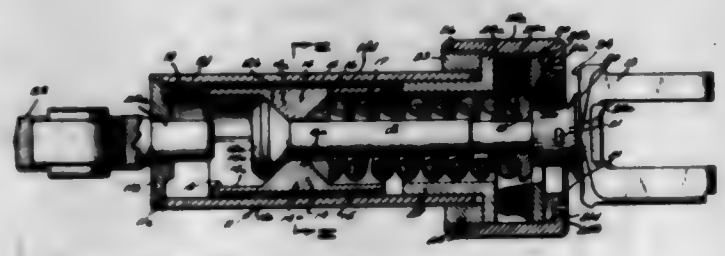
than that of said ring of magnets when said ring of magnets is rotated, and a household utensil member coupled to said disc to be driven thereby.

3,140,080

FRICTION SNUBBER WITH TWO-WAY BUMP STOP

Rollin Douglas Ramsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Filed Dec. 12, 1962, Ser. No. 244,137
10 Claims. (Cl. 267—1)



10. A shock snubber comprising:

a casing,

a plunger rod mounted within the casing,

shock resisting means mounted in said casing for resisting compression and pull-out shock forces,

a resiliently compressible bumper ring operatively connected with said casing and defining a two-way plunger stop mounted concentrically about the rod,

said plunger rod having a shoulder engageable against said resiliently compressible bumper ring for compressing the ring where the compression force applied to the plunger rod is of such magnitude that it cannot be completely absorbed by said shock resisting means, and

a slidable element mounted within the housing in concentric relation with respect to the resilient bumper ring and operatively connected with said plunger rod only upon the application of a pull-out force to said plunger rod for compressing the resiliently compressible bumper ring to resist pull-out forces which are of such magnitude that they cannot be completely resisted by said shock resisting means.

3,140,081

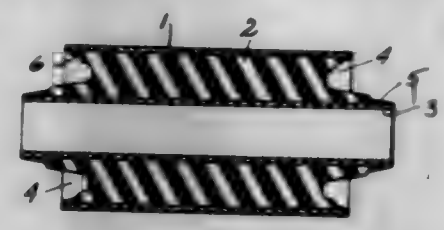
TUBE FORM MOUNTING

Robert R. Peterson, Erie, Pa., assignor to Lord Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Mar. 18, 1963, Ser. No. 265,786
2 Claims. (Cl. 267—1)

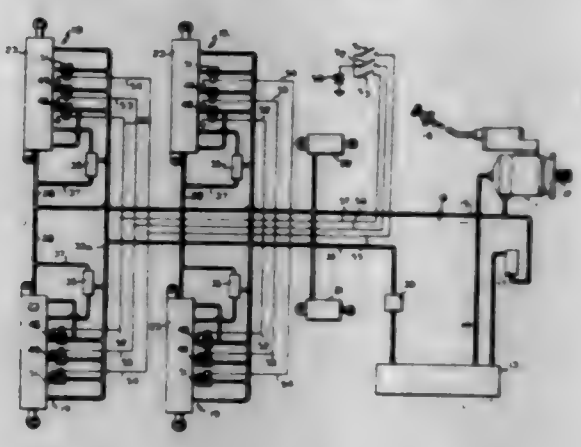
1. A tube form mounting comprising an annulus of elastomer, an outer metal shell surrounding and bonded to the outer surface of the annulus, an inner metal member extending through and bonded to the center surface of the annulus, said annulus having a first integral axial

extension thin compared to the thickness of the annulus and extending along the inner surface of the outer shell with its termination recessed axially inward of the outer end of the metal shell, and said annulus having a second integral axial extension thin compared to the thickness of the first extension and extending along the inner surface of the outer shell from the termination of the first exten-



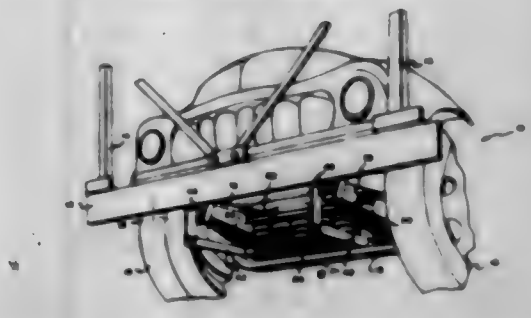
sion toward the outer end of the metal shell, a step between the termination of the first extension and the beginning of the second extension serving as a barrier to the transmission of stress from the first extension to the second extension so that the second extension is essentially stress free whereby it cannot become the site of bond failure.

3,140,082
HYDRAULIC SYSTEM
Matthew W. Huber, Watertown, N.Y., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed June 25, 1962, Ser. No. 204,959
18 Claims. (Cl. 267—2)



1. A liquid suspension system comprising
(*a*) a source of hydraulic fluid under pressure;
(*b*) a reservoir;
(*c*) at least one suspension unit comprising a fluid pressure motor having a pair of relatively movable elements that define a working chamber, relative movement between the elements establishing first and second relative positions in which, respectively, the volume of the working chamber is a maximum and a minimum;
(*d*) a supply conduit connecting the source with the working chamber;
(*e*) a check valve in the supply conduit for preventing reverse flow from the working chamber to the source;
(*f*) an outlet port formed in one of the elements and communicating with the working chamber when the elements are in the first relative position, the outlet port being so positioned that it is closed by the other element during relative movement toward the second relative position;
(*g*) a return conduit connecting the outlet port with the reservoir;
(*h*) a relief valve controlling flow through the return conduit and urged in the opening direction by the pressure at the outlet port; and
(*i*) means responsive to the pressure in the supply conduit for urging the relief valve in the closing direction.

3,140,083
AUXILIARY VEHICLE AIR SPRING
Mahrle Fredrick Paul, Michigan Center, Mich., assignor to Pasco Air-Aid, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 23, 1962, Ser. No. 168,078
7 Claims. (Cl. 267—15)



1. An auxiliary air spring attachment for vehicles having a wheel supported axle and frame members supported upon the axle by spring means comprising, in combination, an elongated upper plate affixed to the vehicle frame, a pair of spaced levers, coaxial pivot pins pivotally mounting said levers upon the vehicle frame, said pivot pins being spaced from said upper plate, an elongated lower plate connected to and interposed between said levers and spaced from said pivot pins, abutment means defined on said levers engaging and supported upon the vehicle axle and air cushion means interposed between said upper and lower plates.

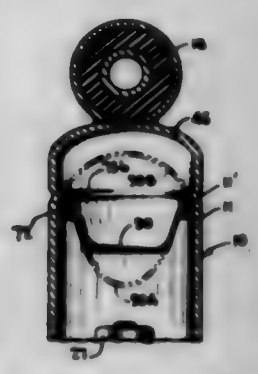
3,140,884
SHOCK STRUT
Jacob Schmidt, Van Nuys, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 27, 1960, Ser. No. 78,619
3 Claims. (Cl. 267—64)



2. A shock strut including a cylinder, a hollow piston member reciprocable inside the cylinder having a closed end, an orifice tube fixed to and extending from the closed end internally of the cylinder, an orifice plate fixed to the lower end of the orifice tube, a relief piston guide above the orifice plate, an orifice in the orifice plate, a relief piston shaft integral with and depending from the relief piston guide through the orifice, a transverse bulkhead in the piston assembly intermediate its ends, an aperture in the bulkhead, the relief piston shaft passing through the aperture, a relief piston integral with the relief piston shaft below the bulkhead, an axial aperture

in the relief piston shaft from its upper end to a point just above the relief piston, lateral apertures through said relief piston shaft just above the relief piston communicating with the axial aperture, and an elastic fluid pressure media in the chamber defined by cylinder and piston.

3,140,085
SHOCK ABSORBERS
Christian Marie Lucien Louis Bourcier de Carbon, 64 Blvd. Maurice-Barres, Neuilly-sur-Seine, France
Filed Jan. 15, 1962, Ser. No. 166,145
Claims priority, application France Feb. 14, 1961
2 Claims. (Cl. 267—64)



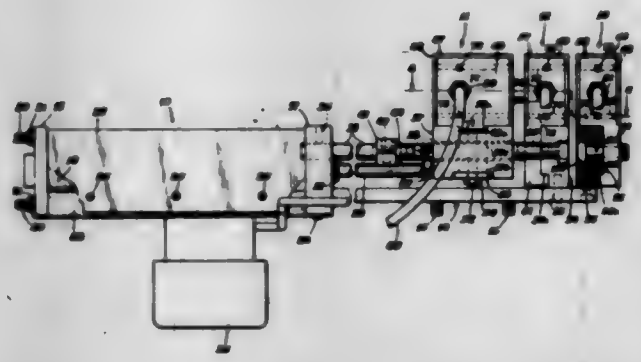
1. A hydro-pneumatic shock absorber of the direct-acting cylinder-and-piston type, comprising a tubular cylinder member having an integral wall at one end and terminating in an opposite cylindrical open end structure, a piston disposed for reciprocation within said cylinder member and having a piston rod projecting through said open end, a rod-packing closure means extending across the open end structure of said cylinder member and provided with a central opening receiving the reciprocating rod, a quantity of damping liquid in said cylinder member through which the piston moves during compression and extension of the shock absorber, a quantity of gaseous fluid under pressure in said cylinder at the integral end portion thereof, the entry of successive portions of the piston rod during the compression stroke displacing an equivalent volume of damping liquid and resulting in a proportionate increase in the pressure to which said gaseous fluid is subjected, and a diaphragm member having a generally circular periphery and an impervious continuous body within said periphery, said diaphragm member extending transversely across said cylinder member at a point spaced axially from said integral end wall, the inner wall surface of the cylinder member being smooth and uninterrupted and of a substantially uniform diameter from that point to the open end of the cylinder, said diaphragm member serving to separate the damping liquid from the compressed gaseous fluid, a marginal portion of said diaphragm being conformed to a cylindrical configuration and lying snugly against a portion of the inner wall of the cylinder member, a relatively rigid ring disposed radially inwardly of said cylindrical marginal portion of said diaphragm and serving to press said marginal portion against the inner wall of the cylinder member to seal the periphery of the diaphragm against said wall, said body of the diaphragm member having a reverse bend around said ring and extending toward the open end of the cylinder member beyond said ring in the form of a cupped portion when the shock absorber is in an idle unstressed condition, the outer diameter of the diaphragm and ring assembly being substantially equal to the inner diameter of the smooth walled portion of the cylinder, whereby the ring and diaphragm assembly may during assembling of the shock absorber be slid as a unit into the open end of said cylinder member to its proper position adjacent the closed end of the cylinder member, and a radially inwardly projecting annular abutment on the inner wall of the cylinder above said point of positioning of said diaphragm serving to stop the inward application of said diaphragm and ring assembly and to square up the assembly and determine its position for operation.

3,140,086
SEAT CONSTRUCTION
David E. Lawson, 2021 Middleton Beach Road, Middleton, Wis.
Filed Sept. 25, 1961, Ser. No. 140,301
15 Claims. (Cl. 267—111)



1. A load supporting structure, comprising a frame, a foam plastic cushion supported by the frame and having an outer load supporting surface, reinforcing means embedded within and bonded to the foam plastic cushion, said reinforcing means including a first portion disposed parallel to said outer surface and including a second portion disposed generally parallel to said outer surface and spaced from said first portion and disposed in overlapping relation with said first portion, means for attaching said first portion to the frame, and means for attaching said second portion to the frame at a location spaced from the position of attachment of said first portion to the frame, said portions of said reinforcing means tending to move relative to each other in their respective planes when a load is applied to the cushion to thereby develop a shear stress within the portion of the foam plastic located between the overlapping portions with the shear stress effectively resisting the load applied to the cushion.

3,140,087
PNEUMATICALLY OPERATED VISE JAW CONSTRUCTION
Harry A. Heath and Loren D. Porter, Kalamazoo, Mich., assignors to Power Control Products, Inc., a corporation of Illinois
Filed June 5, 1962, Ser. No. 200,196
6 Claims. (Cl. 269—22)



4. An air operated vise comprising a substantially elongated base member, a fixed jaw member secured on one end of said base member to extend upwardly therefrom with one side of said fixed jaw member defining a vertical stock gripping surface, a first member and a second member, a slot formed in said base member with the longitudinal axis of said slot disposed longitudinally of said base member, clamping means carried between said first member and said slot in said base member for selectively securing said first member on the upper side of said base member in any selected spaced position from said fixed jaw member, said second member comprising a

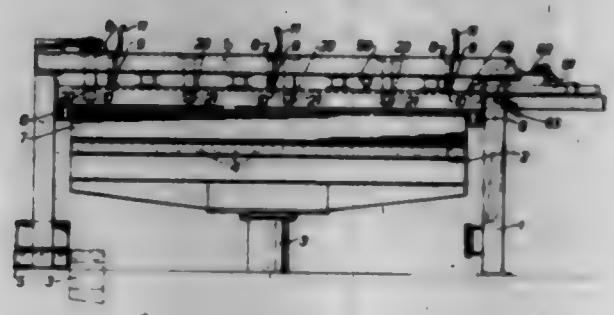
stock gripping surface and a pair of side walls extending in a parallel spaced apart relationship from said stock gripping surface, said second member mounted in cooperation with said first member with said stock gripping surface of said second member disposed between said first member and said stock gripping surface of said fixed jaw member and with said pair of side walls extending on each side of said first member in a telescoping relationship therewith, a bladder carried between said second member and said first member, means carried between said first member and said side walls of said second member for limiting the movement of said stock gripping surface of said second member toward and away from said stock gripping surface of said fixed jaw member, and means for delivering air through said first member to said bladder to expand said bladder to move said stock gripping surface of said second member away from said first member and toward said stock gripping surface of said fixed jaw member.

3,140,668

SHEET FEEDING OR DISCHARGING MECHANISMS

Granville Sykes, Walton-on-Thames, England, assignor to Weybridge Machine Tool Company, Limited, Weybridge, England, a British company

Filed June 8, 1962, Ser. No. 201,664
Claims priority, application Great Britain June 26, 1961
3 Claims. (Cl. 271—4)



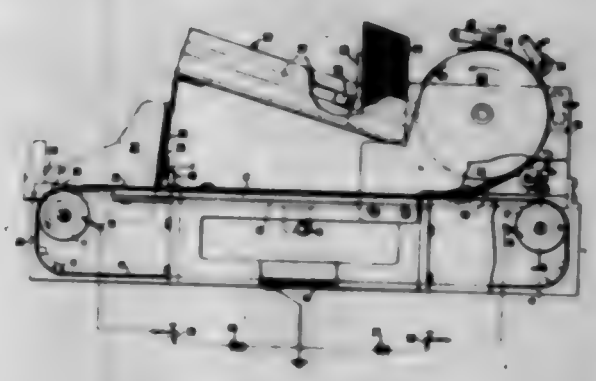
1. A sheet feeding mechanism for magnetizable sheets, such as iron and mild steel sheets, said feeding mechanism comprising in combination, a vertically adjustable table for supporting the stacked sheets, and movable upwardly as each topmost sheet is removed therefrom; magnetic means positioned alongside the stacked sheets and effective to establish magnetic fields repelling the topmost sheet from the next underlying sheet; horizontal arms pivotal about vertical axes adjacent the side edges of said table, for movement between a retracted position relative to the stacked sheets and a support position extending over the stacked sheets, said arms being disposed at a common level above the uppermost sheet on the stack; means interconnecting all of said arms for movement in unison, in a common horizontal plane, between the retracted position and the support position; an operating means for said arms; a series of electromagnets above the stacked sheets; actuator means operable to move said electromagnets into magnetic gripping relation with the topmost sheet and then to lift said electromagnets to raise the topmost sheet to a holding level above said horizontal arms; means operable by a thus raised sheet, as it reaches said holding level, to actuate said operating means to swing said arms in unison to the support position beneath the raised sheet; gripping means movable inwardly to engage a sheet at the holding level to grip and withdraw such sheet laterally relative to said table; means operable, responsive to movement of said arms to the support position, so to move said gripping means inwardly; and means operable, responsive to such inward movement of said gripping means, to de-energize said electromagnets to release the raised sheet onto said support arms.

3,140,669

SHEET HANDLING APPARATUS

Bernard J. Greenblott, Binghamton, and Wendell J. Wheeler, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 28, 1961, Ser. No. 160,772
16 Claims. (Cl. 271—5)



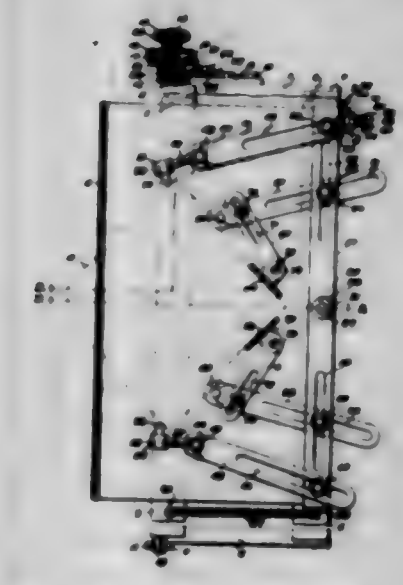
1. In combination, a receiver containing a stack of sheets; a movable low-inertia endless member; stationary means adjacent the leading edge of the stack; a sheet-accommodating recess in said member cooperating with said stationary means to provide a throat through which a single sheet may be fed by the member when such sheet is nested in the recess; and means effective when the leading end of said recess reaches the throat to attract the endmost sheet of the stack to said recess so the member can feed it through the throat.

3,140,690

HOLDER FOR SUPPORTING A STACK OF BLANKS IN AN ENVELOPE MAKING MACHINE

Richard Winkler, Ramgsdorf, near Neuwied, Rhineland, and Kurt Dünnebier, Wellersdorf, near Neuwied, Rhineland, Germany, assignors to Berkley Machine Company, Kansas City, Mo., a corporation of Missouri

Filed Oct. 31, 1962, Ser. No. 234,452
Claims priority, application Germany Nov. 9, 1961
8 Claims. (Cl. 271—61)



1. A holder for a stack of blanks from which the blanks are to be withdrawn in consecutive order, said holder including

a platform on which the stack of blanks is supported,

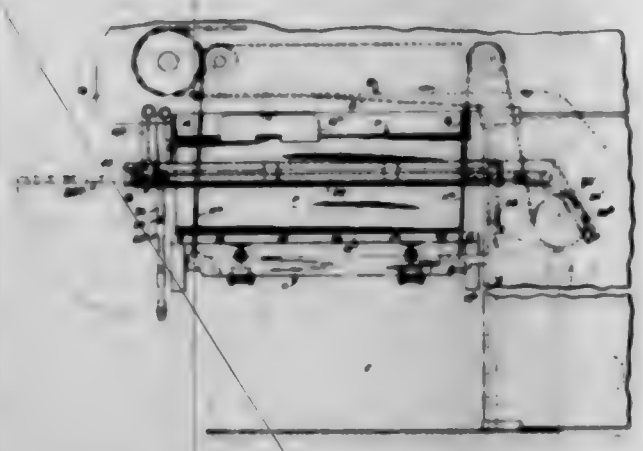
stops for engaging sides of the stack,

a common member on which all of said stops are mounted,

means pivotally mounting said common member on the platform, and

adjusting means fixed to the platform and engaging said common member for pivoting said common member to angularly shift the stack of blanks upon said platform.

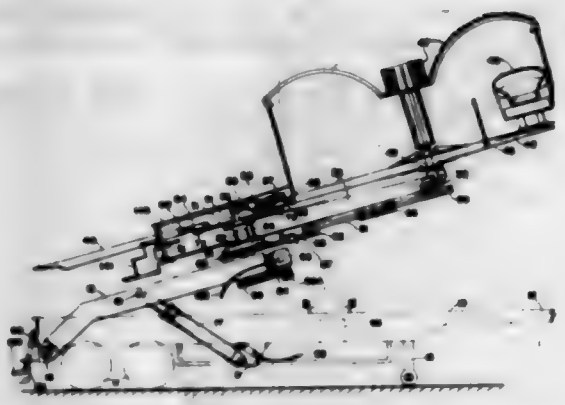
3,140,091
PRINTING PRESS DELIVERY
Peter M. Reif, South Euclid, and Robert E. Lindemann, Medina, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 21, 1961, Ser. No. 118,666
10 Claims. (Cl. 271—88)



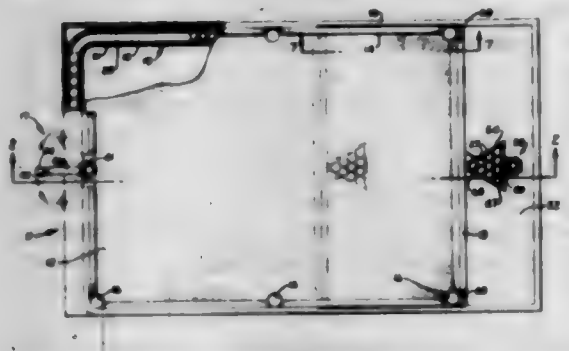
1. In a sheet handling mechanism comprising a vertically movable delivery hoist having a platform for receiving sheets which are moved in sequence to a position over the hoist and dropped onto the platform, said hoist being lowered from a raised position as the pile builds up thereon to maintain the top of the pile at about a predetermined level, a temporary pile support adapted to be moved to a pile-supporting position over the pile on said platform to intercept falling sheets, said pile support comprising two sections disposable in side-by-side relationship in said pile-supporting position and each having withdrawn positions on opposite sides of said hoist respectively which are clear of falling sheets, support means supporting said sections for horizontal movement over said platform between said withdrawn positions and said side-by-side positions, interconnecting means connecting said sections to effect movement thereof toward and away from each other in unison, said support means and said interconnecting means providing for limited vertical movement of said temporary pile support relative to said support means whereby the pile support may be lifted relative to said support means and moved laterally while elevated, and said hoist being operable to effect a lifting of said pile support with said platform.

3,140,092
EPICYCLIC ROUNDABOUT
Frank A. Hrubetz, 3495 25th St. SE., Salem, Oreg.
Filed May 1, 1962, Ser. No. 191,634
4 Claims. (Cl. 272—36)

1. A roundabout comprising a horizontal boom mounted for pivotal movement in a vertical plane, a vertical spindle on the free end of said boom, a spider frame having radial arms connected to a central hub on said spindle for rotation in a horizontal plane, a circular platform mounted on each of said arms for rotation in a horizontal plane about the center of the platform, seats for riders mounted around the peripheries of said platforms, means for raising and lowering said boom to shift said spider frame and platforms between horizontal and inclined positions, a drive shaft in said spindle, rubber tired wheels driven from said shaft and engaging the peripheries of said platforms for rotating the platforms, and means driven by one of said platforms for rotating said spider frame.

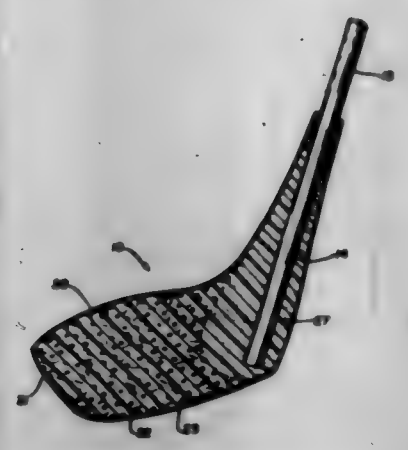


3,140,093
BALL GAME WITH PROJECTOR AND AUTOMATIC BALL SUPPLYING AND RACKING MEANS
Samuel Singer, 2133 Judah St., San Francisco, Calif.
Filed Nov. 13, 1961, Ser. No. 151,614
9 Claims. (Cl. 273—11)



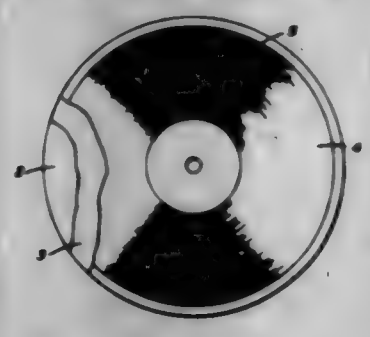
1. An apparatus for playing a simulated pool game utilizing a plurality of cue balls and a plurality of playing balls having a diameter smaller than the cue balls, comprising a table having a flat playing surface, a front cushion, a rear cushion, two side cushions, said cushions being of a resilient material and having recessed portions, and holes in the playing surface and within the recessed portions of the cushions according to the geometry of a conventional pool table, a classifier under the playing surface adapted to receive balls passing through said holes, said classifier being a U-shaped channel having upper side walls spaced apart a distance larger than the diameter of the cue balls, lower side walls spaced apart a distance smaller than the diameter of the cue balls but larger than the diameter of the playing balls, and a shoulder portion between said upper and lower side walls adapted to carry cue balls while the bottom of the U-shaped channel is adapted to carry playing balls, a first receiving station for receiving cue balls from the classifier, a second receiving station for receiving playing balls from the classifier, a shooter for directing cue balls out onto the playing surface, elevator means for moving balls from said first receiving station into shooting position in said shooter, conveyor means for moving playing balls from said second receiving station upwardly, a rack attached to the rear cushion, said rack constructed to receive the playing balls from said conveyor means and position the balls on the playing surface, an extension at the rear of the playing surface of the table for holding the rack and balls while the rack is being loaded with the playing balls from the conveyor means, and means for moving the rear cushion so as to move the loaded rack into the playing position on the playing surface, raise the rack from the balls, and move the empty rack back to an out of play position on the extension at the rear of the playing surface.

3,140,094
EPOXY RESIN GOLF CLUB HEAD INTEGRALLY CURED WITH A SHAFT WRAPPING OF GLASS FIBER MATERIAL
Donald P. Hings, 280 N. Howard Ave., North Burnaby, British Columbia, Canada
Filed Mar. 14, 1960, Ser. No. 14,591
2 Claims. (Cl. 273—80.3)



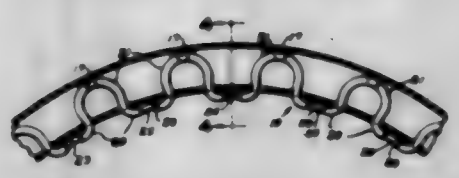
2. A golf club including in combination, a head and a shaft, said head comprising an epoxy resin intermixed with a filler and short glass fibers cured to a hardened state, said shaft having an end portion wrapped with glass fiber saturated with an epoxy resin and integrally cured with said head, said glass fiber being wound into a multi-layer mass and with said epoxy resin associated with said shaft comprising the major connecting mass between said head and said shaft, and a final coating over said head and said end portion of said shaft comprising an epoxy resin cured to a hardened state.

3,140,095
RECORD AND PACKAGE THEREFOR
James W. Henry and William D. Kennedy, both of Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 10, 1961, Ser. No. 151,559
8 Claims. (Cl. 274—42)



2. As a new article of manufacture, a record package comprising a container having outer surfaces including top and bottom members and adapted to contain therewithin a conventional high-fidelity record having a record player spindle opening in the center of such record, the package further having provision for a hole in at least one of the outer surfaces, in line with the spindle opening of the record contained in the package, whereby the package may be placed on a record playing spindle and the spindle extended through an outer surface and through the opening in any record contained therewith, and the package being characterized in that at least one of the outer surfaces carries a thin, wear-resistant plastic thereover bonded to said surface, said wear-resistant plastic carrying imprints of sound grooves from a record stamper which folds the said wear-resistant plastic into the desired configurations, said wear-resistant plastic being of such thickness as to permit the thin wear-resistant plastic to be folded on a sharp radius, and thus to be caused to conform to the dimensions of the grooves of the stamper.

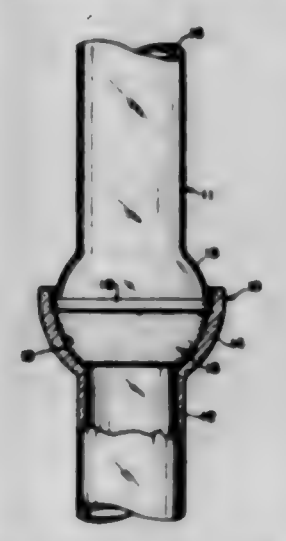
3,140,096
PISTON RING ASSEMBLY WITH IMPROVED BEARING CONTACT
Theodore P. Redenbrchen, Melville, Mo., assignor to McQuay-Norris Manufacturing Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,462
6 Claims. (Cl. 277—141)



1. In a piston ring assembly of the character wherein, (*a*) a pair of rails whose outer periphery make edgewise engagement with a cylinder wall and are axially separated by a non-bottoming spacer-expander, (*b*) said spacer-expander having a series of oppositely oriented humps some of whose crests define a major diameter less than the outer diameter of said rails and other of whose crests define a minor diameter less than the diameter of an inner peripheral edge on said rails, (*c*) said first mentioned humps extending between said rails to separate the same, and (*d*) at least some of said last-mentioned humps having an arcuate tab extending radially inwardly of said rails in axially overlapping engagement with an inner periphery on one of said rails, the improvement which comprises:

(1) the locus of engagement between a tab and a rail being defined by a re-entrantly arcuate surface on the tab engaging the rail, said re-entrantly arcuate surface being on a radius less than the internal radius of the rail from a center located within the inner periphery of the rail.

3,140,097
JOINTS FOR LABORATORY APPARATUS
Paul R. Laerding, Vineland, N.J., assignor to Lurex Manufacturing Company, Vineland, N.J., a corporation of New Jersey
Filed Apr. 6, 1962, Ser. No. 185,722
5 Claims. (Cl. 277—168)



1. A joint, which comprises a male member having an external ground surface lying adjacent to one end of the member and of the shape of a surface of revolution decreasing in diameter from its inner end to its outer end, and a circumferential groove at the inner end of the surface, a resilient O-ring seated on the bottom of the groove and projecting out of the groove, the groove being

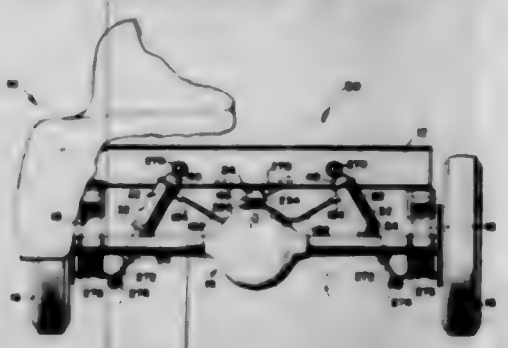
wider than the diameter of the cross-section of the O-ring, and a female member having an internal ground surface spaced inwardly from the end of the member and of a shape to mate with the ground surface of the male member, the internal surface of the female member outwardly from the outer end of the ground surface being smooth and being in part of less and in part of greater diameter than the overall diameter of the O-ring seated in the groove.

3,140,098

MANUALLY CONTROLLED SELF-LEVELING SYSTEM FOR A VEHICLE SUSPENSION

Robert J. Broadwell, Cleveland, Ohio, assignor, by mesne assignments, to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 15, 1959, Ser. No. 859,613
11 Claims. (Cl. 280—6)



1. In a vehicle having a sprung mass including a frame and an unsprung mass including a wheel, means including an air spring unit operatively connected between said masses for yieldably supporting said sprung mass on said unsprung mass, said air spring unit including an expansible and retractable air chamber, a leveling valve mechanism carried by one of said masses for controlling the introduction of air under pressure into and exhaust of air under pressure from said air chamber, means operatively connected with said valve mechanism and mounted with respect to said masses so as to sense the relative position of the latter for actuating said valve mechanism to control the movement of air under pressure into and out of said air chamber in accordance with the relative position of said masses, and manual control means operable in one position to permit air under pressure to be introduced and exhausted through said valve mechanism into and out of said air chamber and in a second position to close off exhaust of air under pressure through said valve mechanism from said air chamber, said manual control means including a normally closed air inlet valve operable to be opened by engagement of a conventional filling station air hose nozzle when said manual control means is disposed in said first position, said valve mechanism including a valve body having a working port, an inlet port and an exhaust port formed therein, and means for controlling communication between said ports including a member extending outwardly from said valve body for engagement by said position sensing means when said manual control means is disposed in said first position so as to be moved in response to said position-sensing means and means operable only when said manual control mean is disposed in said second position for locking said member in a stationary position out of engagement with said position-sensing means.

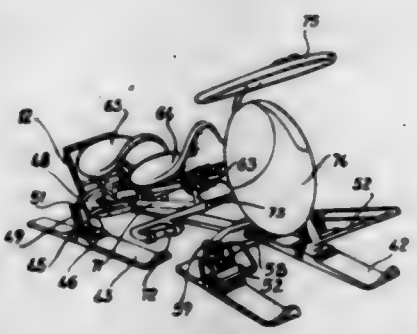
3,140,099

SKI-TYPE BOB SLED

Miguel Feu, also known as Miguel Feu Serrahima, Barcelona, Spain, assignor to L. Joseph F. Nagode, New York, N.Y.

Filed June 9, 1961, Ser. No. 115,983
2 Claims. (Cl. 280—16)

2. A sled comprising:
front and rear pairs of skis,
front parallelogram linkage means connected to said front pair of skis,
rear parallelogram linkage means connected to said rear pair of skis,
a longitudinally extending bar interconnecting said front and rear linkage means,
at least one saddle carried by said bar,
a lateral shifting of the weight of a rider occupying said saddle producing turning movements of said bar about its longitudinal axis accompanied by simultaneous displacements of said front and rear linkage means,



said displacements of said linkage means causing simultaneous lateral tilting displacements of all of said skis in unison each about its respective individual longitudinal axis,
steering means for turning said front skis as a unit in a horizontal plane,
said steering means comprising a pivotal connection between each ski and said linkage means,
the rotational axes of said pivotal connection being upwardly and rearwardly inclined,
said steering means permitting each ski to be individually toed in,
resilient means yieldingly urging said skis into parallel relationship, and
stop means preventing toeing out displacements of said skis.

3,140,100

TOY VEHICLE

Earl W. Nichols, 2419 Davidson Ave., New York, N.Y., and Theodore W. Trotter, 88—15 Ashford St., Queens Village, N.Y.

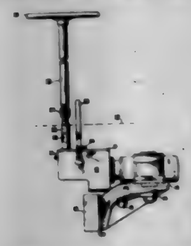
Filed Feb. 5, 1962, Ser. No. 170,902
3 Claims. (Cl. 280—87.04)



1. An improved toy vehicle consisting of a tubular U-shaped frame member; a tubular joining member rigidly attached to the center of the closed end of said U-shaped member; tubular handle bar support means pivotally attached to the end of said tubular joining member opposite the end which is attached to said U-shaped frame member; handle bar means attached to the upper end of said tubular handle bar support; a front wheel journalled in the lower end of tubular handle bar support; a pair of rear wheels, each separately journalled on individual axles attached to the separate rear ends of said U-shaped frame member, the center of the closed end of said U-shaped member being disposed approximately midway between the journal axis of said front

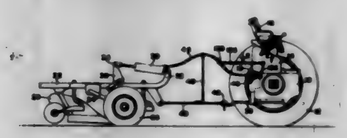
wheel and the journal axis of said rear wheels; and a platform positioned and rigidly attached to the top surface of said U-shaped frame member, the front and side edge portions of said platform extending adjacent said U-shaped member, the rear end of said platform terminating in a position which is ahead of said axles on which said wheels are carried.

3,140,101
TRANSMISSION FOR CHOOSING THE MODE OF STEERING ON A VEHICLE WITH TWO STEERABLE AXLES
Richard H. Sheppard, 101 Philadelphia St., Hanover, Pa.
Filed Mar. 14, 1963, Ser. No. 265,270
8 Claims. (Cl. 280—91)



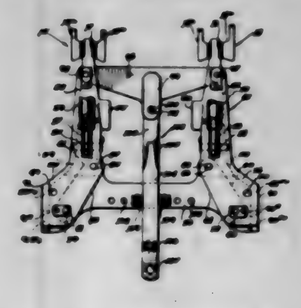
1. In a vehicle for moving either forward, diagonally sideways, or for turning in a short radius, a manual steering wheel, a front wheel steering gear assembly, a rear wheel steering gear assembly, each of the assemblies having a central shaft, mechanism for connecting the steering wheel to the central shaft of the front wheel steering gear assembly including a drive shaft connected to the central shaft of the front wheel steering gear assembly and carrying a wide tooth driving gear responsive at all times to rotation of the steering wheel, a rotating shaft operatively connected at its outer end to the central shaft of the rear wheel steering gear assembly and carrying a spool gear, an idler gear in constant mesh with one of the rings of teeth of the spool gear, an arbor coaxial with the rotating shaft proximate the inner end thereof, a stationary central shaft parallel to the arbor and having thereon a sliding gear in constant mesh with the wide toothed driving gear and movable to three positions, a central position in which the sliding gear runs idle, a side position in which the sliding gear drives the spool gear through the other ring of teeth thereof in one direction of rotation, and an opposite side position in which the sliding gear meshes with the idler gear to drive the spool gear and rear wheel steering gear assembly in opposite direction of rotation.

3,140,102
RELEASABLE FLUID LINE COUPLING
Vernon V. Johnson, Faulkton, S. Dak., assignor of one-half to Erwin H. Gebhart, Faulkton, S. Dak.
Filed Nov. 23, 1962, Ser. No. 239,653
9 Claims. (Cl. 280—421)



1. For a tractor having a hydraulic power lift system and a trailing implement separably connected to the tractor and including a hydraulic device having a flexible fluid conduit extending forwardly to the tractor: coupling means for connecting the tractor hydraulic system to the conduit, comprising a coupling carrier mounted on the tractor and having a fore-and-aft bore opening at front and rear ends; a front coupling part hydraulically connected to the tractor hydraulic system and coaxially carried in the carrier bore for axial shifting between front and rear positions and having a front portion exposed at the front opening of the carrier; a rear coupling part connected to the conduit and coaxially telescopically forwardly receivable by and rearwardly separable from the front part; releasable means interconnecting the coupling parts in the front position of said front part for rearward shifting in unison to the rear position of said front part and operative at said rear position to enable rearward separation of said rear part from said front part; a fore-and-aft shiftable element engageable with the front portion of the front coupling part; means movably mounting said element on the tractor; and tension means connected to said element and connectible to a portion of the implement to transmit a rearward force to said element, upon separation of the implement from the tractor, to shift said element rearwardly to act on said exposed portion of the front coupling part for shifting said coupling parts rearwardly relative to the carrier to the aforesaid rear position so as to release said rear part.

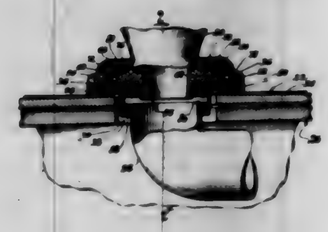
3,140,103
THREE-POINT IMPLEMENT ATTACHING HITCH MECHANISM
Eugene P. Virtue, Tinley Park, Donald W. Meyer, Chicago, and Pierce F. Richardson, Hinsdale, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Original application Oct. 28, 1960, Ser. No. 65,704, now Patent No. 3,065,977, dated Nov. 27, 1962. Divided and this application June 28, 1961, Ser. No. 118,300
7 Claims. (Cl. 280—462)



1. In a hitch mechanism for supportably and detachably fastening an earth-working implement to a tractor, the combination, comprising: a pair of generally fore-and-aft extending laterally spaced-apart draft links mounted at the forward ends thereof on a rear portion of the tractor for lateral and vertical swinging; means including a transverse drawbar interconnecting the rearward ends of said draft links and being connectable for selectively permitting limited lateral swinging of said draft links or for restraining the lateral swinging thereof relative to the tractor to which they are attached; means including a transversely extending support pivotally connected at opposite ends thereof to the forward portions of said draft links and constrained for lateral and vertical movement with said draft links; longitudinally extending towbar means disposed between said draft links; said towbar means having the forward end thereof pivotally mounted on said transverse support and having the rearward end thereof adapted for connection to an attached implement; and laterally displaceable adjustable means on said transverse drawbar

engageable with said towbar means for limiting the lateral swinging of said towbar means about the pivotal mounting thereof on said transversely extending support.

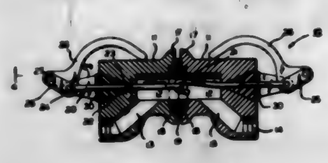
3,140,104
ADJUSTABLE WATER CLOSET COLLAR
John A. Cooper, Birmingham, Ala., assignor to Cooper Manufacturing Company, Inc., Birmingham, Ala., a corporation of Alabama
Filed Oct. 27, 1960, Ser. No. 65,379
2 Claims. (Cl. 285—59)



1. In a water closet collar having a generally annular preformed hollow member with an elongated inlet opening at its upper end and a smaller offset circular outlet opening at its lower end for operably connecting the outlet of a closet bowl in noncoaxial relation with a closet bend pipe below the bowl, the improvement comprising an internal flange extending inwardly from the member below but in proximity to the upper end thereof at a position immediately above the smaller outlet opening and defining a first elongated arcuate slot therein, the slot describing an arc subtending an angle of approximately 70°, and an external flange extending outwardly from the upper end thereof from a minimum width at a position radially outward from the center of the internal flange to a maximum width diametrically opposite the central portion of the internal flange to define a generally circular outer periphery and defining a pair of elongated arcuate slots subtending a combined angle of approximately 205°, all of the arcuate slots having a common center offset from the center of the circular outlet toward the point of maximum width of the external flange along the major axis of the elongated inlet opening and being formed on equal radii, the slots cooperating to permit entry of diametrically opposed fastening members therethrough for selectively mounting the collar to the bowl in any one of a number of radial positions substantially in excess of 180°.

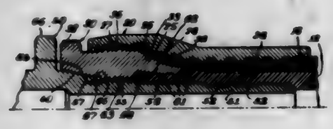
3,140,105
TOGGLE OPERATED COUPLING FOR FLUID CARRYING CONDUITS
Joseph D. Bielinski, 2463 N. 1st St., Milwaukee 12, Wis.
Filed May 17, 1961, Ser. No. 110,670
2 Claims. (Cl. 285—71)

1. In a coupling device, a pair of identical coupling members, each of said coupling members having means defining a chamber, each chamber being disposed in opposing relationship to the chamber of the other coupling member, a passageway communicating each chamber with a fluid line, and means effecting a connection between said coupling members comprising a coupling link supported for translatory motion by each coupling member and extending within its corresponding chamber, hook means on one end of each coupling link for effecting a connection to the other coupling link, resilient sealing means supported in said coupling member and forming a seal between said coupling link and said coupling member, said sealing means being tapered and fitting within a complementary tapered recess in said coupling member and means for imposing a coupling effort on said coupling link to compress said resilient sealing means against said



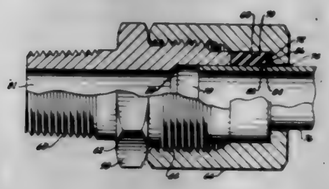
recess and said coupling link when said coupling link is joined to a coupling link of the other coupling member, comprising a toggle lever pivotally mounted to the outer end of each coupling link arranged to rock between coupling effort and coupling release positions.

3,140,106
LIP SEAL CASE FITTING
John P. Thomas and Horice M. Cooke, Fort Worth, Tex., assignors to Stratoflex, Inc., Fort Worth, Tex., a corporation of Texas
Filed July 5, 1960, Ser. No. 40,647
1 Claim. (Cl. 285—149)



The combination of a hose having a flexible inner tube and a wire reinforcement covering the inner tube, and a fitting comprising a socket member having a generally cylindrical section fitting around the wire reinforcement of the hose, an insert member having an inner end section disposed between the inner tube and the wire reinforcement, and a nipple member having an inner end section inserted into the end of said tube, said members being formed to be releasably attached to each other, said cylindrical section of said socket and said inner end section of said insert member having radially spaced peripheral surfaces receiving the end portion of the wire reinforcement therebetween, said inner end section of said insert member and said inner end section of said nipple member having radially spaced peripheral surfaces providing a sealing chamber therebetween receiving the end portion of said inner tube, said inner periphery of said insert member forming said chamber having tube gripping means formed thereon at an axially spaced location from the end of the inner tube and tapering inwardly axially of the tube from the end thereof, whereby pressure on the end of the tube due to fluid leaking into said chamber tends to force the end portion of the tube into a reduced cross sectional area of the chamber and into sealing engagement with said insert member, and said cylindrical portion of said socket member being crimped and applying a compressive load on the wire reinforcement of the hose to thereby grip the wire reinforcement, said compressive load on the wire reinforcement also forcing said inner end section of said insert member radially inward and increasing the angle of said taper, thereby improving said sealing engagement between the end portion of the inner tube and said insert member.

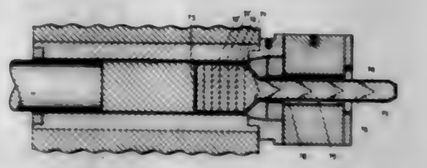
3,140,107
TUBE COUPLING HAVING SEALING AND ANCHORING MEANS
Dibrell P. Hynes, Chicago, Ill., assignor, by mesne assignments, of fifty percent to Earl E. Howe, Chicago, Ill., twenty-five percent to Richard W. Howe, Mount Prospect, Ill., and twenty-five percent to Margaret H. Frisbey, Erieville, N.Y.
Filed Nov. 28, 1960, Ser. No. 72,086
5 Claims. (Cl. 285—340)



1. A seal and anchoring means for use with relatively thin wall tubes and high pressure tubes comprising a first chamber forming member, a second chamber forming member connectively interfitting with said first chamber forming member to enclose an annular chamber around the tube to be sealed, said chamber forming members being relatively movable to axially adjust the volume of said chamber, an annular sealing mass positioned around the tube in said chamber, a deformable frusto-conical anchor ring slidably mounted on the tube within said chamber, said anchor ring having its smaller, radially innermost end disposed adjacent one end of the sealing mass and its larger, radially outermost end spaced axially therefrom whereby relative axial movement of said chamber forming members to reduce the volume of said chamber serves to axially and radially deform both said sealing mass and anchor ring, causing the larger end of the latter to be moved axially toward said mass and the smaller end thereof to bite radially into the tube at an anchor zone adjacent said one end of said mass while compressing the mass into sealing engagement with said tube; and a substantially non-deformable annular ring positioned on the tube between said anchor ring and the one end of said mass, said annular ring having a portion extending radially outwardly of the tube between said one end of said mass and said anchor ring to guide and set the smaller end of the latter into anchoring biting engagement with the tube at said anchor zone, said annular ring also having another portion extending axially inwardly of said one end of said mass to effectively withhold a portion of said mass lying outwardly thereof from sealing engagement with an underlying portion of the tube whereby the wall of said tube is prevented from deforming radially inwardly adjacent said anchor zone.

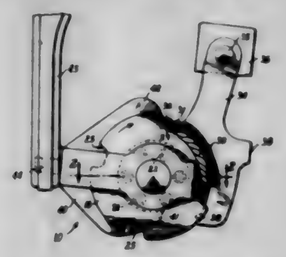
3,140,108
PROCESS AND PRODUCT OF METALLURGICALLY JOINING ZIRCONIUM TO FERROUS METAL
Joseph Lester Klein, Arlington, Albert R. Kaufmann, Lexington, and Paul Loewenstein, South Lincoln, Mass., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Continuation of application Ser. No. 31,786, May 25, 1960. This application July 28, 1960, Ser. No. 46,041
4 Claims. (Cl. 287—119)

1. A method of metallurgically joining a metal constituted predominantly of zirconium to a predominantly ferrous metal which compises arraying in tandem a mass of said predominantly ferrous metal followed by a substantially contiguously abutting mass of said predominantly zirconium metal both within a substantially-vacuum-tight malleable ferrous metal can, and, upon establishing and while maintaining substantial evacuation of gas from the interior of said can, hot extruding said enveloping can and concomitantly, in axial tandem, the therein contained said ferrous mass followed by said contiguously abutting predominantly-zirconium mass, such arraying and extrusion being effected after first de-



gassing said malleable ferrous metal can and all other metal which is afforded communication with said zirconium metal during hot extrusion and contains nitorgen subject to additional substantial evolution in vacuo at the temperature of extrusion, said degassing being effected by protractedly heating without melting and conjointly drawing a substantial vacuum thereupon.

3,140,109
NOTCHED DISC CORD HOLDER
John L. Lee, Reamstown, and Harry C. Eberly, Narvon, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Mar. 23, 1962, Ser. No. 182,039
2 Claims. (Cl. 289—14)

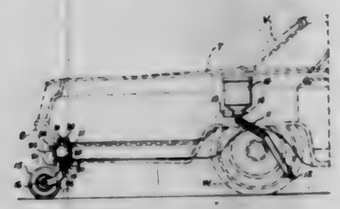


2. In a mechanism for tying knots in baler twine and the like, a rotatable twine disc assembly comprising, in combination, a stud shaft having a fixed flange at one axial end thereof extending in a plane perpendicular to the shaft axis and projecting radially outwardly of the shaft, a first disc mounted on said shaft and abutting against the side of said flange adjacent the shaft, a second disc abutting against the opposite side of said flange remote from the shaft, a third disc extending alongside said second disc, all of said discs being of the same thickness, a spacer interposed between said second and third discs, said disc and said spacer extending in planes parallel to said flange, and means fastening said discs to each other and to said flange and said spacer, the thickness of said flange being substantially the same as the thickness of said spacer whereby the space between said first disc and said second disc is substantially equal to the space between said second disc and said third disc.

3,140,110
AUTOMATIC SANDING DEVICE FOR VEHICLES
Nacwill Wonner, Box 51, Wrightsville, Pa.
Filed Jan. 24, 1963, Ser. No. 253,718
6 Claims. (Cl. 291—2)

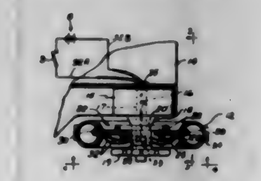
1. In combination with a wheeled vehicle which includes a frame and a battery,
an automatic anti-skid device comprising a sand tank

provided with a discharge and mounted on said vehicle, tubes extending from said discharge of said tank to points adjacent each of said wheels,
a normally closed solenoid actuated valve operable to open said discharge of said tank to admit sand to said tubes for distribution adjacent said wheels to increase traction,
a ground contacting caster wheel depending from the rear of the frame of said vehicle and so positioned as to follow in the track of one of said wheels, thus being in a vertical longitudinal plane when the vehicle is traveling straight and forward,
a vertical axle pivot mounting for said caster wheel permitting swiveling, rotative movement, a peripheral face cam fixed to said axle so as to rotate therewith,
a normally open switch stationarily mounted adjacent said cam and including a switch actuating button directed towards the axis of said vertical pivot, a



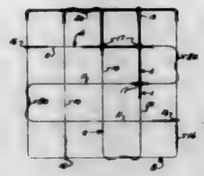
spring arm with a portion overlying said button, a cam follower wheel carried by said spring arm and urged into contact with the periphery of said cam, the periphery of the cam including low dwell portions such that there is a clearance between said button and said overlying portion of said spring arm and the switch remains open, and other high dwell peripheral portions on said cam such that said button is depressed by said cam follower and overlying portion of the spring arm and said switch is closed,
and a series electrical circuit connecting said battery, said switch and said solenoid of said valve,
whereby upon swiveling rotation of said caster wheel during a vehicle skid,
the switch will be operated by said cam, the circuit will be selectively opened and closed, and said solenoid valve will be controlled to discharge sand from the tank during high-dwell cam and follower positions, and to shut off sand from the tank during the low dwell cam and follower positions.

3,140,111
ILLUMINATED ROTATABLE RESILIENT BUMPER
Frank C. Dubroski, 63 Lower Main St., Matawan, N.J.
Filed Dec. 16, 1960, Ser. No. 76,332
2 Claims. (Cl. 293—17)



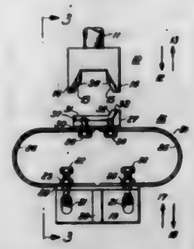
1. A vehicle fender having an unattached protruding edge which includes:
(*a*) a rotatable resilient bumper,
(*b*) and in which said fender is provided with a reinforcing block affixed under its protruding edge,
(*c*) said block supporting a rigid stub shaft,
(*d*) said stub shaft provided with a bearing and means to retain said bearing on said stub shaft,
(*e*) said bearing supporting a wheel,
(*f*) said wheel having a rim and a resilient inflated covering supported thereon,
(*g*) a major portion of said wheel protruding beyond the edge of said fender to provide a resilient rolling bumper guard for said fender.

3,140,112
ROPE NET AND FITTINGS THEREFOR
George N. Anagnostou, 203 Missouri St., San Francisco, Calif.
Filed Mar. 28, 1963, Ser. No. 268,754
12 Claims. (Cl. 294—77)



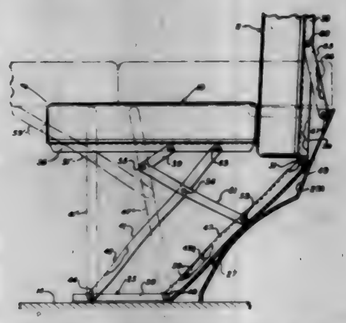
1. A rope connection for nets or the like having a pair of intersecting ropes, comprising: a pair of strap connectors, each strap connector having eyes at both of its ends, one rope extending through both eyes of one strap, and the other rope extending through both eyes of the other strap, each strap forming an eye with the rope which extends through the eyes thereof and receiving the other rope therethrough; and a flexible housing for enclosing both straps and the crossed ropes.

3,140,113
TRANSFER FINGER ASSEMBLY
Glenn S. Williams, Myerstown, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Filed Feb. 8, 1962, Ser. No. 171,998
5 Claims. (Cl. 294—86)



1. In a transfer mechanism including a pair of opposed transfer finger assemblies to contact an article to be transferred, a transfer finger assembly comprising a base member, a gripper block out of contact with said base member and in spaced relation thereto and a spring forming the sole means of securing said gripper block to said base member, said spring comprising a pair of spaced substantially parallel arm portions secured respectively to said gripper block and to said base member and an intermediate portion of generally U-shaped configuration connecting said arm portions.

3,140,114
COMBINED CHAIR AND BED FOR VEHICLES
Veri J. Stephenson, La Canada, and Martin Novodor, Los Angeles, Calif., assignors to Benjamin C. Blankenship
Filed Aug. 19, 1963, Ser. No. 303,013
4 Claims. (Cl. 296—69)



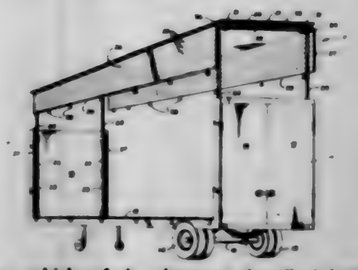
1. A convertible seat and bed for use in a vehicle having a floor and a raised deck comprising a pair of parallel spaced rest bars, each rising from the floor and extending between the floor and deck, a pivoted first upwardly extending brace rising from the floor adjacent each rest bar, a pivoted second upwardly extending brace rising from the floor fixed at a point remote from each rest bar, a lever pivotally attached to each of the first and second braces and extending remotely from the deck beyond the second brace, said lever being attached to each of the first and second braces remote from the floor, a short link arm pivotally connected to the remote end of each lever, a front cushion pivotally mounted to each second brace near a midpoint of the cushion, the link arms from each lever being also pivotally fixed to the front cushion forwardly of the point at which said cushion is mounted to said second brace, a back cushion pivotally fixed near its front edge to each of the first upwardly extending braces at the top thereof and a tie arm extending from the raised deck to the back cushion, said tie arm being pivotally fixed at each of its respective ends to the raised deck and the back cushion, and a stop at the top of each rest bar adapted to seat the bottom of the rear cushion when the cushions are oriented to form a seat, said tie arm restraining forward motion of the cushions when said cushions are oriented in parallel relationship to form a bed.

3,140,115
DETACHABLE WINDSHIELD PROTECTOR
Douglas E. Bliss, 810 Ballenger Highway, Flint 4, Mich.
Filed Mar. 28, 1962, Ser. No. 183,179
2 Claims. (Cl. 296—95)



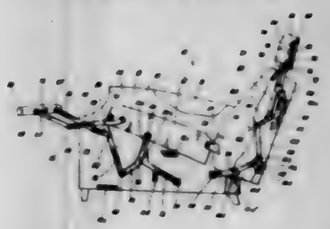
1. A windshield protector and its securing means for use with a windshield having a rubber windshield channel comprising; a plurality of flat members, a button having a neck and a slightly larger head secured to one side of each of the flat members, each flat member having a hook which is substantially L-shaped and circular in cross section, each hook having a shank secured to the flat member at one end and extending in the same plane as the flat member, the other end of the L-shaped hook extending in a direction perpendicular to the plane of the flat member and in a direction away from the button, whereby the flat member and hook can be turned sideways, the hook inserted in an opening in said rubber windshield channel and then turned to a position with the flat member resting on a windshield and the hook engaging the edge of said windshield, a flexible windshield protector of approximately the same size as the windshield, to be placed over the windshield, and a plurality of sockets secured to the protector at spaced points near the edge of the protector, which points will align with the positions of the buttons so that the sockets can snap over the buttons.

3,140,116
SIDE-LOADING VEHICLE
William D. Spees, San Lorenzo, Calif. (49 Vista Lane, Walnut Creek, Calif.), assignor of one-half to Warren R. Langdon, San Lorenzo, Calif.
Filed Jan. 26, 1962, Ser. No. 168,969
7 Claims. (Cl. 296—100)



1. In a vehicle of the character described having a horizontally disposed platform and two upwardly extending spaced walls respectively adjacent opposite ends of said platform, the combination comprising, a roof spaced above said platform and adapted for substantially vertical movement relative thereto, means for moving said roof, and a pair of side panels secured to said roof and adapted for disposition intermediate said spaced walls, said panels movably mounted on said roof and movable therewith for withdrawal from intermediate said spaced walls to provide unobstructed access to said vehicle through an opening adjustable in height to at least the height of said spaced walls.

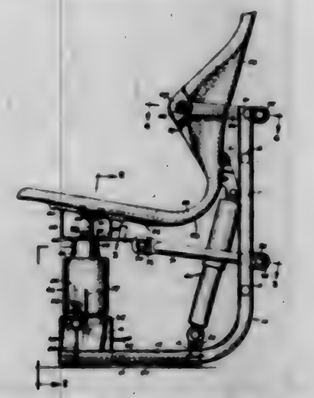
3,140,117
EXTENSIBLE HEAD-REST AND CONTROL FOR DOUBLE MOVEMENT AND TWO POSITION TYPES OF CHAIRS
Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Sept. 11, 1962, Ser. No. 223,583
10 Claims. (Cl. 297—61)



8. In a chair having a seat and back-rest mounted on a support for movement to an intermediate position and

further movement to a fully-reclined position, a head-rest, and guiding means mounting the head-rest on the back-rest for movement between a retracted position and an extended position; the combination of back-rest mounting means providing a movable pivotal mount for the back-rest on the support and head-rest actuating means connecting the head-rest guiding means to the support at a fixed pivot, said movable pivot moving toward said fixed pivot when the back-rest is moved to the intermediate position, and blocking means engaging said back-rest mounting means at said intermediate position and positioned to retard further movement of said back-rest movable pivotal mount when the latter has moved into coaxial alignment with said fixed fixed pivot, whereby said back-rest and said head-rest actuating means turn about the same fixed center of rotation without further actuation of the head-rest as the back-rest moves from said intermediate position to said fully-reclined position.

3,140,118
SEAT FOR CAB OF AUTOMOTIVE TRUCK
Chester Dorn, Seattle, Wash., assignor to Pacific Car and Foundry Company, Seattle, Wash., a corporation of Washington
Filed July 3, 1961, Ser. No. 121,492
14 Claims. (Cl. 297—285)



13. In a vehicle seat, a unitary shell of molded fiber-reinforced resin formed to a substantial L-shape in side elevation so as to provide two sections one of which serves as a seat and the other as a back and characterized by an inherent resiliency which yieldingly counters flexure of said sections into an abnormal condition contracting the dihedral angle defined between said sections, means guiding the back section for bodily travel in an established vertical path, and spring means yieldingly resisting depressive movement of the seat section.

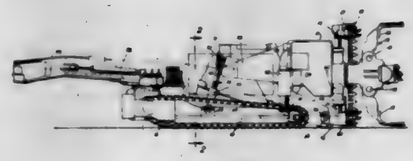
3,140,119
ADJUSTABLE WHEEL CHAIR ARM RESTS
Edwin Ofner, 175 E. 83rd St., New York, N.Y.
Filed July 3, 1962, Ser. No. 207,367
5 Claims. (Cl. 297—417)

1. A wheel chair having rolling wheels and having side frames, said side frames comprising a frame piece of substantially elbow height when the user is seated in the chair, and an arm rest assembly mounted on said frame piece, said assembly comprising a horizontally slidable member, means connecting said horizontally slidable member to said frame piece, and an arm rest secured to said horizontally slidable member whereby said arm rest may be slidably advanced to a forward position or retracted



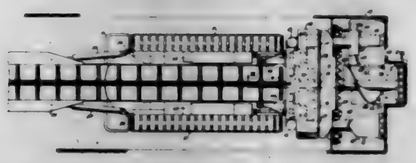
to a rearward position, whereby said wheel chair may be rolled towards a table and said arm rest may be retracted to permit the wheel chair to further approach the table.

3,140,120
BORING HEAD SUPPORTING AND ADJUSTING MEANS FOR CONTINUOUS MINING MACHINE
Donald A. Ward, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed May 17, 1962, Ser. No. 195,594
8 Claims. (Cl. 299—55)



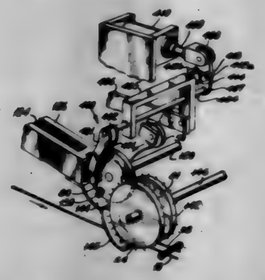
6. In a continuous mining machine,
a main frame,
a cutter frame structure supported on said main frame and having a cutting assembly at its forward end capable of cutting clearance for both the main frame and the cutter frame structure,
improved means for supporting and adjusting the cutter frame structure at varying angles and heights with respect to the main frame comprising:
two laterally spaced elevating jacks supporting one end portion of the cutter frame structure on the main frame for adjustable movement about a plurality of axes extending longitudinally and transversely of said main frame,
guide means connected between said cutter frame structure and said main frame for taking the thrust reactions of cutting,
and means supporting the opposite end of said cutter frame structure from said jacks,
and forming a solid reaction link accommodating tilting of said cutter frame structure about axes extending longitudinally and transversely of said cutter frame structure comprising two legs transversely pivoted to said main frame at their lower ends,
a transverse bar,
generally longitudinally extending pivot pins pivotally connecting opposite ends of said transverse bar to said legs at the upper end portions of said legs,
and a longitudinally extending pivotal connection between said cutter frame structure and said transverse bar at the longitudinal center of said transverse bar,
said longitudinally extending pivotal connection forming the third point of a 3-point suspension for said cutter frame structure.

3,140,121
BORING TYPE CONTINUOUS MINING MACHINE
Joseph Gomtsi, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed May 9, 1962, Ser. No. 193,485
4 Claims. (Cl. 299—57)



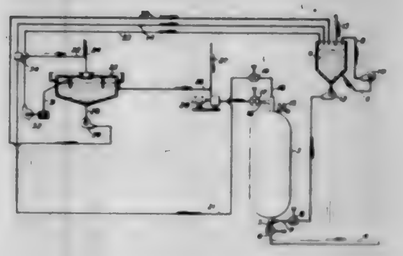
1. In a continuous mining machine, a main frame, a cutter frame mounted on said main frame, two laterally spaced boring heads mounted on said cutter frame and extending in advance thereof, each having at least one boring arm extending radially therefrom having a cutter support on the outer end thereof and projecting forwardly therefrom, upper and lower trimmer bars mounted on said cutter frame behind said boring heads and having a cutter chain movable therealong and spaced apart to guide said cutter chain to cut along the floor and roof of a mine, a central boring head between said boring heads including a shaft having a scroll extending rearwardly along said shaft in a helical path and having cutter bits projecting therefrom, the cutter bits on said scroll having a cutting diameter substantially equal to the spacing between said trimmer bars and sufficient to intersect the bores cut by said boring heads, said scroll having spaced peaks sloping inwardly to valleys, and said cutter supports being shorter than the space between said peaks and rotating in timed relation with respect to said scroll to enter and deposit the cuttings in said valleys during the operation of mining.

3,140,122
BRUSH BRISTLE FEED CONTROL
Si L. Spiegel, Mount Vernon, N.Y., assignor to American Brush Machinery Co., Inc., Mount Vernon, N.Y., a corporation of New York
Filed Nov. 25, 1960, Ser. No. 71,796
14 Claims. (Cl. 300—2)



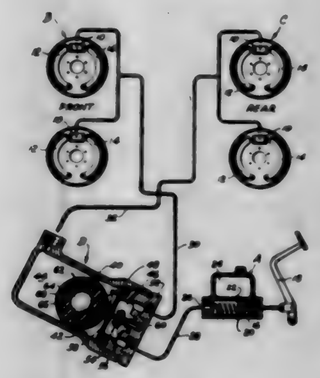
1. In a brush making machine operating through brush forming cycles to produce in each cycle a brush body with bristles bound between wires, a bristle supply hopper, means for transferring bristles from the hopper to the wires and including a rotary bristle picking member rotatably movable past the hopper mouth to pick up bristles for transfer to the wires, a feed control member movable between a feed-interrupting position across the hopper mouth to block passage of bristles from the hopper to the picking member and a feed-permitting position which allows passage of bristles from the hopper to the picking member, and means for periodically moving said feed control member between said feed-permitting and feed-interrupting positions in synchronism with said brush forming cycles to produce brush bodies having bristles bound between predetermined portions of said wires.

3,140,123
HANDLING OF SLURRIES
Idris Gwynne Bowen, Rolleston-on-Dove, near Burton-on-Trent, England, assignor to International Combustion (Holdings) Limited, London, England, a British company
Filed Dec. 4, 1961, Ser. No. 156,729
5 Claims. (Cl. 302—14)



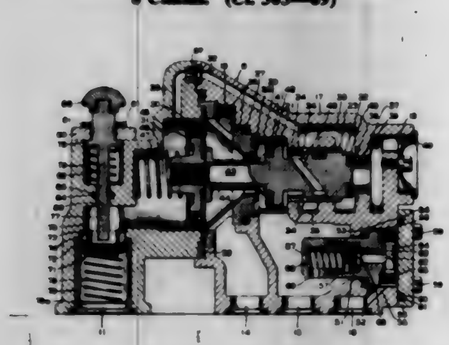
1. Apparatus for introducing slurry into a pipeline comprising a slurry reservoir arranged to supply slurry to a lock hopper, a dry material input line feeding said reservoir, a clean liquid source arranged to expel slurry by displacement from the lock hopper, a liquid by-pass conduit connecting said lock hopper to liquid clarifying means, a liquid return conduit connecting the liquid clarifying means to the liquid source, and a dirty liquid conduit connecting said lock hopper to the slurry reservoir the apparatus being such that, in operation, a quantity of displacement liquid equal in volume to the volume of the solid content of the slurry is clarified and returned to the liquid source and the remaining displacement liquid is conducted to the slurry reservoir.

3,140,124
ACCUMULATOR MEANS
Robert J. Heiland, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 8, 1962, Ser. No. 201,816
2 Claims. (Cl. 303—6)



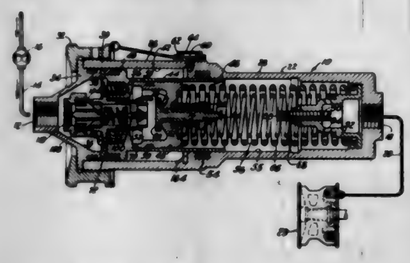
1. A deceleration sensing valve for use in a hydraulic braking system having front brake and rear brake operating fluid pressure motors that are actuated by pressure from a master cylinder, and the like: said deceleration sensing valve having a valve body with an internal axially extending chamber therein which extends in the normal forward line of motion of the vehicle, a partition wall across said chamber, said partition wall having an opening therethrough and a valve seat surrounding said opening on the rear side of said partition, a poppet member rearwardly of said partition and normally biased toward said valve seat, a pin extending from said poppet member through said opening into the chamber forwardly of said partition member, and a ball in said chamber forwardly of said partition member for movement toward and away from said pin, said chamber being inclined vertically in a forward direction so that the weight of said ball normally holds said poppet member off of said seat, the portion of said chamber on the rear side of said valve seat having an inlet port for communication to said master cylinder, and the portion of the chamber on the front side of said partition member having an outlet port for communication to one of said front and rear brake operating fluid pressure motors, said ball being of a resilient material and having at least one internal gas filled chamber therein which is isolated from the exterior surface of said ball and which causes the volume occupied by said ball to be resiliently reduced by pressure in said housing chamber.

3,140,125
BRAKE CYLINDER RELEASE VALVE DEVICE
Francis Robert Rachl, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 13, 1962, Ser. No. 179,449
8 Claims. (Cl. 303—69)



1. In a fluid pressure brake system for railway vehicles, the combination of:
(*a*) a brake pipe,
(*b*) an auxiliary reservoir,
(*c*) a brake cylinder device,
(*d*) a brake control valve device responsive to a reduction in brake pipe pressure to effect the supply of fluid under pressure from the auxiliary reservoir to the brake cylinder device to effect a brake application and responsive to an increase in brake pipe pressure to effect the venting of fluid under pressure from said brake cylinder device to atmosphere to effect the release of a brake application, said brake control valve device having a manually operated release valve device for effecting a reduction in the pressure in the auxiliary reservoir, and
(*e*) a brake cylinder release valve device interposed between the brake control valve device and the brake cylinder device, said brake cylinder release valve device comprising:
(i) valve means for controlling a first communication between the brake control valve device and the brake cylinder device and a second communication between the brake cylinder device and atmosphere,
(ii) a movable abutment operably connected to said valve means and subject in chambers on its opposite sides respectively, upon at least a full service application of the brakes being effected, to the pressure supplied from the auxiliary reservoir by said brake control valve device to said brake cylinder device,
(iii) restrictor means connecting the chambers on the opposite sides of said movable abutment,
(iv) means including check valve means providing communication between the one of said chambers and the said auxiliary reservoir for effecting a reduction of fluid under pressure in said one chamber in correspondence with reduction of pressure in said auxiliary reservoir effected by said manually operated release valve device, said movable abutment being rendered effective by said restrictor means in response to a reduction in the pressure in the auxiliary reservoir and correspondingly in said one chamber effected by operation of the manually operated release valve device of the brake control valve device to move said valve means to a position to close the first communication between the brake control valve device and the brake cylinder device and to open the second communication between the brake cylinder device and atmosphere,
(v) manually operative means to effect the supply of fluid under pressure from the auxiliary reservoir to the said one chamber and thence via said restrictor means to the other of said chambers to effect equalization of pressures on the opposite sides of said movable abutment, and
(vi) biasing means exerting on said movable abutment a bias in the direction to cause said movable abutment to move said valve means to a position to establish said first communication upon equalization of pressures on the respective opposite sides of said movable abutment.

3,140,126
HYDRAULIC DEVICE
Robert A. Elliott, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Original application Sept. 6, 1960, Ser. No. 54,305, now Patent No. 3,069,858, dated Dec. 25, 1962. Divided and this application Aug. 30, 1962, Ser. No. 220,415
2 Claims. (Cl. 303—84)

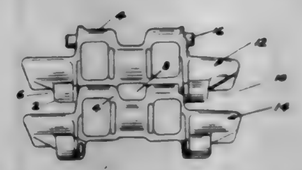


2. A flow limiting means for controlling flow between a plurality of chambers, said means comprising: a means defining a metering orifice between said chambers;

a pressure responsive member having a portion thereof contoured to control the effective metering area of said orifice, said portion having a notch with a flat adjacent said notch; and

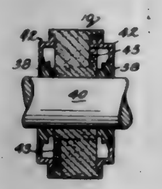
means biasing said fluid pressure responsive member to open said orifice.

3,140,127
AGGRESSIVE DUAL PIN TRACK
Louis Speidel, Jr., Royal Oak, and Edward J. Gow, Jr., Oak Park, Mich., assignors to the United States of America as represented by the Secretary of the Army
Original application Apr. 25, 1961, Ser. No. 105,524, now Patent No. 3,092,423, dated June 4, 1963. Divided and this application Oct. 18, 1962, Ser. No. 237,423
1 Claim. (Cl. 305—53)
(Granted under Title 35, U.S. Code (1952), sec. 266)



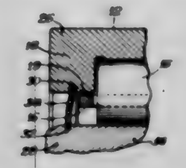
An endless track, embodying articulated track shoes, each shoe comprising first and second longitudinal sides, a pair of spaced bearing bosses each formed with a cavity therein being detachably engaged to said first longitudinal side, means pivotally connecting said pair of bosses on a first shoe to a second shoe, said means formed by spaced track pins integrally formed on said second longitudinal side, each of said pins being in the form of outwardly extending right circular cylinder journal portions to provide a single bearing face, said pins extending into respective ones of said bearing bosses of adjoining shoes, each of said bearing bosses being formed to completely enclose its associated pin, sealing means disposed in the cavity of each of said bearing bosses between each said pin and its respective bearing boss to seal said pin within the confines of said bearing boss, said engaged bearing bosses and pins occupying a volume that insures a minimum of 40% of said first longitudinal side being used for full aggresive grousing.

3,140,128
SELF-LUBRICATING BEARING
David Taan, Detroit, Mich., assignor to Taan Corporation, Detroit, Mich., a corporation of Michigan
Filed May 10, 1961, Ser. No. 109,114
5 Claims. (Cl. 308—36.4)



1. A self-lubricating package bearing comprising an outer race having a central aperture extending therethrough with a lubricant reservoir therein, said outer race being adapted to transmit lubricant from said reservoir to said aperture, an end cap secured to and supported by each end of said outer race, each of said end caps having an opening therein substantially coaxially aligned with said aperture, and an oil slinger floatingly positioned between each of said end caps and said outer race for limited radial movement relative thereto, each of said oil slingers having an outside diameter greater than the diameter of said opening in the end cap associated therewith and an inside diameter equal to the diameter of said aperture, said reservoir communicating with the annular space within the end caps surrounding said oil slingers.

3,140,129
SEALED ANTI-FRICTION BEARING
William H. Koss, Hobart, Ind., assignor to McGill Manufacturing Company, Inc., Valparaiso, Ind., a corporation of Indiana
Filed Feb. 27, 1962, Ser. No. 175,973
2 Claims. (Cl. 308—187.2)

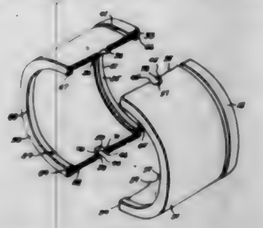


1. In an anti-friction bearing having an outer race unit and an inner race unit which are adapted when in operating installation to rotate freely relative to one another, the combination providing a seal at the axial ends of the bearing and between said two race units which permits a free running bearing as to the race units thereof, said combination comprising an annular groove extending radially inwardly in at least one axial end portion of said outer race unit, an annular groove extending radially outwardly in at least one axial end portion of said inner race unit, each said groove defined on both axial sides by lands on said race units, with said grooves in corresponding end portions of said race units axially displaced from one another when said bearing is in operating installation, a flat annular one-piece sealing ring of essentially rigid but slightly resilient non-metallic material secured by and extending between said grooves in corresponding end portions of said race units, said sealing ring having a first peripheral surface and extending radially into a corresponding annular groove in one race unit to provide a running contact fit therewith and a second peripheral surface extending into a corresponding annular groove in the other race unit to provide an interference fit therewith, with said sealing ring supported solely by engagement with said grooves, and with each sealing ring being slightly flexed in an axial direction when in operating installation to provide a contact seal with the walls of said one groove and being secured to resist axial displacement by said interference fit with the other groove, whereby said sealing ring seals the axial end of the bearing to retain lubricant at the anti-friction elements thereof and to exclude foreign material therefrom.

3,140,130
KEYED SEGMENTED RACE RINGS AND IMPROVED METHOD OF MAKING SAME
Victor L. Barr, Philadelphia, Pa., assignor to Roller Bearing Company of America, Trenton, N.J., a corporation of New Jersey
Filed Aug. 9, 1961, Ser. No. 130,381
1 Claim. (Cl. 308—216)

In apparatus of the character described a two piece segmented race ring having side faces, the two race ring segments defining generally radial openings adjacent a diametrical plane, each of said openings communicating with generally radial indentations formed on an annular surface of said segments, said indentations being on the sides of the openings adjacent said diametrical plane but

the indentations being to one side of the point at which said diametrical plane would be tangent to the openings, said segments having abutting, mating fractured irregular surfaces along a plane generally coincident with said diametrical plane extending from the side faces to said indentations and thence to said openings and defining



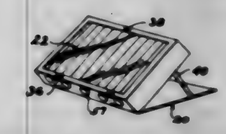
keyed connections formed by projecting surfaces on opposite sides of the diametrical plane and on two end surfaces of said segments, said projecting surfaces being received by the other two surfaces of said segments, whereby axial movement of the segments relative to each other is minimized.

3,140,131
SELF-LUBRICATING BEARING
David Taan, 333 Covington Drive, Detroit 3, Mich.
Filed Nov. 28, 1958, Ser. No. 777,962
4 Claims. (Cl. 308—240)



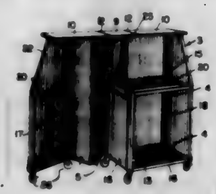
1. A bearing comprising a body of porous sintered bearing material having two concentric radially spaced rings interconnected by radially extending arms, the portions of the inner ring adjacent said arms having a greater density than the remainder of the inner ring, and at least one end of the inner ring having a plurality of circumferentially spaced radially extending grooves therein, each groove being disposed between a different pair of said arms.

3,140,132
PORTABLE NUMISMATIC DISPLAY CASE
Charlie P. Jackson, 23935 Lehigh, Inkster, Mich.
Filed July 23, 1962, Ser. No. 211,729
4 Claims. (Cl. 312—125)



1. A numismatic display case comprising a generally rectangular frame having two parallel spaced apart sides, a pair of parallel spaced apart ends, and a top and bottom at least one of which is transparent, at least one polygonal numismatic device supporting member extending between the parallel sides of the frame, means for rotatably mounting the numismatic device supporting member between the substantially parallel sides, separate means extending through at least one of the parallel sides of the display case and connected to each numismatic device supporting member for rotating the supporting member from the exterior of the display case, each polygonal numismatic device supporting member including polygonal end plates positioned adjacent the opposite parallel sides of the display case and a plurality of spacing members extending between the corners thereof having a radially outwardly opening V-shaped cross-section with longitudinal flanges thereon extending substantially perpendicularly to the sides of the V-shaped cross section along the periphery of the polygonal end plates defining a polygonal cylinder in cross section and a core of resilient material within the defined polygonal cylinder for urging numismatic devices positioned between adjacent spacing members radially outwardly of the defined polygonal cylinder.

3,140,133
PORTABLE BAR
James J. Kraft, Natick, Mass. (% J. J. Kraft Mfg. Co., 168 Riverside Ave., Medford, Mass.)
Filed Jan. 18, 1962, Ser. No. 167,005
6 Claims. (Cl. 312—140.2)



1. A foldable portable counter or bar comprising,

a plurality of pairs of vertically oriented facing panels with the panels within each pair hinged together along vertical adjacent edges,

means hinging at least two of said pairs along vertical edges of said facing panels to a common center portion,

whereby said plurality of pairs of panels are adapted to form a continuous facing surface in an unfolded position and a plurality of substantially parallel panels in a folded position,

a center panel extending vertically and rearwardly from said center portion and secured thereto,

end panels pivotally hinged to the outer-most edges of the outer-most of said facing panels,

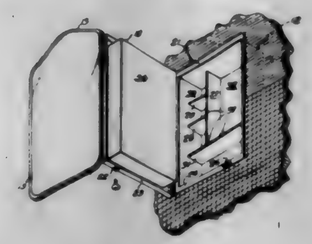
and a counter comprising a center counter panel and a pair of end counter panels hinged to said center counter panel at adjacent edges,

said center counter panel secured over said center portion with said end counter panels adapted to extend over said end panels and rearwardly from said facing panels when said counter is in an unfolded position.

3,140,134
CABINET
Mark A. Nairn, 981 E. 19th St., Hialeah, Fla.
Filed Dec. 21, 1961, Ser. No. 161,049
2 Claims. (Cl. 312—204)

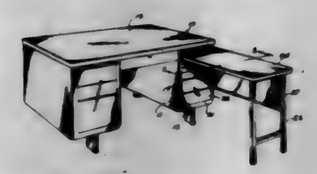
1. In a storage cabinet adapted to be set within a recess in a wall of a building, a first vertical back wall and first top, bottom and side walls secured to and extending forwardly from the respective edges of said first back wall to form a first forwardly-open parallelepipedal receptacle, a first flange integral and coplanar with the forward edges of the top, bottom and side walls of said first receptacle, a second vertical back wall and second top, bottom and side walls secured to and extending forwardly from the respective edges of said second back wall

to form a second, forwardly-open parallelepipedal receptacle of lesser horizontal dimension than said first receptacle and sized to fit therewithin, a second flange integral with and extending continuously about the forward edges of the top, bottom and side walls of said second receptacle, a first hinge interconnecting two corresponding vertical edges of said flanges to mount said second receptacle for pivoting about a first vertical axis, from a first closed positon nested within and closing and concealing said first receptacle, to a second open position ex-



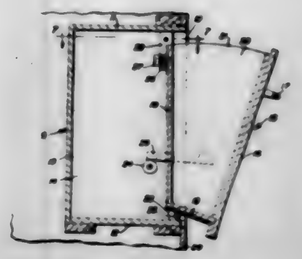
posing said first receptacle, a door sized to cover and conceal both said receptacles, a second hinge interconnecting said door at one side edge thereof with said second flange at the side opposite said first axis, and mounting said door for pivoting about a second vertical axis, from a first position over and concealing both said receptacles, to a second position exposing said second receptacle only, and cooperating locking means carried by the forward portions of said first and second bottom walls, and operable to lock said second receptacle in its said first position nested within said first receptacle.

3,140,135
TYPEWRITER SUPPORTING SHELF
Travers Stohlberg, Corry, Pa., assignor to Corry Jamestown Corporation, Corry, Pa., a corporation of New York
Filed Oct. 6, 1961, Ser. No. 143,671
2 Claims. (Cl. 312—208)



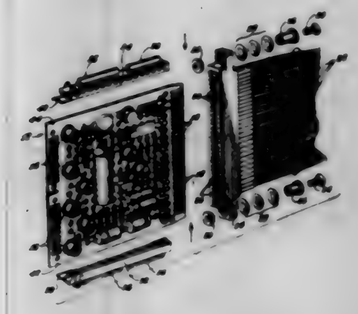
1. A typewriter shelf in combination with a bracket for attaching said shelf to a desk or the like, said shelf including a work receiving member marginally reinforced by a depending flange, downwardly opening channels secured to the under surface of said member, said channels extending substantially the full length of said member and being within the vertical confines thereof as determined by said marginal depending flange, said bracket having opposite marginal flanges in stepped relation, one of said flanges abutting said channels adjacent one end of said member, clamping means carried by said one flange engaged with said channels and locating the other bracket flange above and beyond the one end of said member, said last named bracket flange being interfitted with a rail of said desk that defines the top of a drawer opening, an intermediate portion of said bracket being interposed between said desk and the referred to end of said member.

3,140,136
CABINET BIN
LeRoy Clark, R.F.D. 1, Chappell, Nebr.
Filed June 1, 1962, Ser. No. 199,380
4 Claims. (Cl. 312—323)



4. A bin comprising a cabinet including opposed side walls and having an open front, lower rollers mounted in the cabinet adjacent the front thereof, upper rollers mounted on said side walls in rearwardly spaced relation to said front of said cabinet, a drawer in the cabinet mounted for compound sliding and swinging movement on the lower and upper rollers, means for limiting the opening movement of the drawer, and rearwardly and downwardly inclined supporting bars on each side of the drawer operable on the upper rollers, the lower surface of the drawer being operable on the lower rollers.

3,140,137
ELECTRICAL CIRCUIT BOARD MOUNTING ARRANGEMENTS
Leon George Evelove, Canoga Park, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.
Filed Aug. 14, 1961, Ser. No. 131,287
5 Claims. (Cl. 339—17)



4. A printed circuit board mounting arrangement comprising a main frame, a circuit board connector strip having a plurality of contacts, means for mounting said connector strip resiliently from said main frame with a predetermined stiffness, and a printed circuit board free for high frequency vibration with respect to said frame and having contacts arranged for resilient engagement with the contacts of said connector strip, the stiffness of the circuit board-to-strip connections being significantly greater than said predetermined stiffness.

3,140,138
CONNECTOR BLOCK FOR RIBBON CABLE OR THE LIKE
Peter K. Koletsos, Chicago, and George R. Shrewsbury, West Chicago, Ill., assignors to Raliable Electric Company, Franklin Park, Ill., a corporation of Illinois
Filed Aug. 30, 1962, Ser. No. 220,483
4 Claims. (Cl. 339—97)



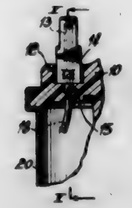
1. A connector block for ribbon cable comprising a base, a first and a second pressure pad mounted on said base, a cover overlying said base and said pressure pads, each of said pressure pads having an upper and a lower backing surface disposed at an angle to each other, said backing surfaces being oppositely disposed from each other, and two headed terminal screws extending through said cover and between said pressure pads, and being disposed at an angle to each other, one of said terminal screws cooperating with the upper backing surface of said first pressure pad and the lower backing surface of said second pressure pad to provide an insulation penetrating engagement with the end portions of two lengths of ribbon cable overlying said respective pressure pads, and to provide an electrical connection between the first conductors of each, and said second terminal screw cooperating with the lower backing surface of said first pressure pad and the upper backing surface of said second pressure pad to provide an insulation penetrating engagement with said end portions of said ribbon cable lengths and to provide an electrical connection between the second conductors of each.

3,140,139
CONNECTOR ASSEMBLY
Alfred P. Urban, La Grange, Ill., assignor to Graybill Moldtronics, Inc., La Grange, Ill., a corporation of Illinois
Filed Nov. 2, 1961, Ser. No. 149,712
3 Claims. (Cl. 339—192)



3. A generally Y-shaped connector element of conducting material for use in a connector assembly having a two part molded insulating casing, one part of which has a recess therein and the other part of which has a pair of square openings therein, said connector element including in combination, a substantially flat center portion, a first branch extending from said center portion and integral therewith, said first branch being formed to comprise resilient means for engaging a connector pin, second and third branches brazed to said center portion and extending therefrom in a direction opposite to the direction of said first branch with said second and third branches being in substantially parallel relationship, each of said second and third branches having a tapered opening therein for receiving a taper pin, and having a square outer cross-section adapted to mate with the interior walls of a square opening in the casing so that the casing enables said second and third branches to resist torque applied thereto when removing the tapen pins therefrom to prevent damage to the brazed connection.

3,140,140
CONNECTOR SUPPORTING HOUSING COVER
Ernst Kohler, Hofingen, Kreis Leonberg, Hans-Dieter Bastam, Stuttgart, and Andreas Brantner, Stuttgart-Feuerbach, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Mar. 21, 1962, Ser. No. 181,289
Claims priority, application Germany Mar. 23, 1961
7 Claims. (Cl. 339—218)



1. A housing cover comprising, in combination an insulator cover body having a plurality of openings, each opening having a cylindrical portion and a non-circular portion; a plurality of connector means located in said openings, each connector means including a tubular part located in said cylindrical portion and a non-circular part located in said non-circular portion of the respective opening and matching the same so that said connector means is non-turnable in the respective opening; and an insulating material having a condition adapted to be placed in said opening about said connector means and a rigid condition, and being located in said openings in said rigid condition so that said connector means are anchored by said projecting means in said insulator cover body.

3,140,141
SHROUDED CONTACT
Joseph A. Nava, Villa Park, Ill., assignor to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey
Filed May 10, 1962, Ser. No. 194,753
4 Claims. (Cl. 339—256)



2. A connector comprising a female contact,
a front socket portion on said contact having an axial end opening,
for receiving a male pin,
and means for applying pressure to the male pin comprising
an elliptical spring disposed longitudinally and having a bowed portion extending into the interior of the socket portion to engage the male pin,
said contact having a longitudinal slot formed in the wall of the socket portion to receive said spring, a retainer sleeve on said socket portion covering said spring,
and ears on the ends of said spring to keep the spring from falling into the slot,

said contact having a relief recess formed in each end of the slot to receive a corresponding ear,
said relief recess comprising a circumferentially extending peripheral groove at each end of the slot and each said ear having a width relative to the width of the groove to prevent twisting of the spring sideways.

3,140,142
ELECTRICAL CONNECTOR
Donald A. Marquis, West Hurley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 7, 1961, Ser. No. 150,765
1 Claim. (Cl. 339—276)

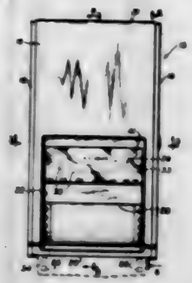


In a device to be electrically and mechanically joined to a conductor where said device has a tubular, metallic ferrule with an opening along the principal axis thereof for receiving said conductor,
an unsealed butt seam extending along the longitudinal direction of said ferrule,
a first boat-shaped crimp in the surface of said ferrule parallelly disposed adjacent the principal axis of said ferrule and forming an impressed corrugation indenting said conductor,
said first crimp being oriented independent of the position of said seam and effective for compacting said ferrule into electrical and mechanical connection with said conductor,
a plurality of substantially identical elongated second crimps in the surface of said ferrule transversely disposed adjacent the principal axis of said ferrule at points along the length of said ferrule which include said first crimp and which are substantially opposite to said first crimp,
each of said second crimps forming an impressed corrugation indenting said conductor for further compacting said ferrule into mechanical and electrical connection with said conductor and being effective in combination with said first crimp for making said ferrule resistive to flexing in any direction normal to the axis of said ferrule.

3,140,143
INFORMATION RECORDING
Alfred F. Kaspaul and Erika E. Kaspaul, Stamford, Conn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Nov. 18, 1960, Ser. No. 70,134
5 Claims. (Cl. 346—1)

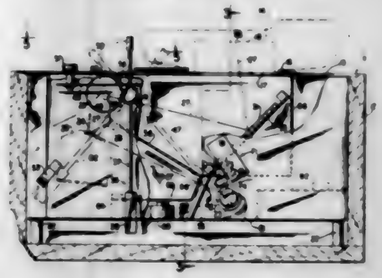
1. The process for recording information, which consists essentially in the steps of producing an invisible latent image upon a substantially inert, substantially anhydrous solid substrate having an inorganic metal compound as a functional part of the surface thereof by depositing at least trace amounts of an aqueous fluid in areas where a latent image is to be formed, removing any visible moisture, and thereafter, while maintaining the said substrate in vacuo, exposing the said substrate to vapor deposition of a metal of the group consisting of magnesium, zinc, cadmium and mercury for a period of time sufficient to produce a distinguishable image corresponding to said latent image.

3,140,144
ELECTRICAL MEASURING AND RECORDING INSTRUMENTS
Samuel J. Koch, Great Neck, and Charles Ehrlich, New York, N.Y., assignors, by mesne assignments, to Amprobe Instrument Corporation, Lynbrook, N.Y., a corporation of New York
Filed Nov. 14, 1961, Ser. No. 152,186
15 Claims. (Cl. 346—17)



1. In an electrical measuring and recording instrument, an electrical meter having an indicating arm operatively movable in response to the energization of said meter, a stylus attached to said arm, a recording sheet, feeding means for moving said recording sheet along a predetermined path, a sheet of thin flexible material disposed between said stylus and said recording sheet, said indicating arm also being movable between a normal retracted position at which said stylus is in spaced relation to said path and an operative position at which said stylus is in pressing engagement with said flexible sheet, and actuating means for moving said arm between said positions, whereby operative impressions of the stylus may be transmitted through said flexible sheet to said recording sheet.

3,140,145
INTERVAL TIMER
Earl W. Johnson, Bartlesville, Okla., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
Filed Jan. 18, 1962, Ser. No. 167,065
6 Claims. (Cl. 346—109)

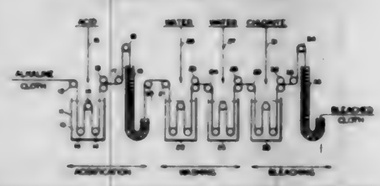


1. An optical system for an oscillograph in which the time base deflection of a beam of light across the recording surface is substantially constant comprising:
(*a*) A line source of light;
(*b*) A light beam recording surface in fixed light beam receiving position;
(*c*) A rotatable galvanometer mirror positioned relative to said line source of light and said light beam recording surface so as to deflect the light beam across the recording surface in response to and in proportion to the magnitude of electrical signals;

(*d*) A rotatable plane mirror positioned in the path of light between said galvanometer mirror and said recording surface, said rotatable plane mirror being rotatable on an axis at 90° to the axis of rotation of said galvanometer mirror;
(*e*) A pendulum comprising the driving means for the rotatable plane mirror and being operatively connected with the rotatable mirror so that the point of maximum velocity of rotation of the pendulum, and hence the point of maximum speed of rotation of said rotatable mirror, corresponds to the point at which the relative velocity of movement of the light beam along the recording surface would be least if the rotatable mirror were to be rotated at uniform velocity;
whereby the non-uniform velocity of rotation imparted to said rotatable mirror by said pendulum compensates for the non-uniform movement of the light beam along the recording surface that would occur at uniform rotation of said mirror, thereby causing the light beam to move at a uniform velocity across the recording surface in a direction perpendicular to the direction in which the light beam is deflected on the recording surface by the galvanometer mirror.

CHEMICAL

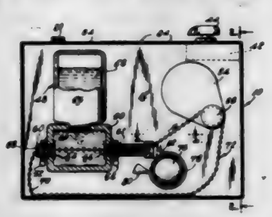
3,140,146
CONTINUOUS PROCESS FOR CHLORITE BLEACHING OF CELLULOSIC TEXTILES
John F. Synan, Baltimore, and Walter W. Northgraves, Towson, Md., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Feb. 7, 1961, Ser. No. 87,580
5 Claims. (Cl. 8—108)



1. Process for continuously bleaching cellulosic textiles comprising the steps of passing said textile impregnated with alkali at a rate of at least 5000 yards per hour through each of the following steps:
(A) continuously passing said textile through a dilute aqueous solution of mineral acid in excess of the amount required to neutralize said alkali, expressing the acid solution to about 90 to about 120 percent of the weight of the textile to produce said textile wet with acid solution;
(B) retaining said textile for a time sufficient to allow diffusion and acidification of the alkaline solution still at the core of the fibers and to effect uniform acidification of said textile;
(C) continuously washing said textile with water to remove excess acid and to produce said textile wet at the core with a solution containing 0.01 to 0.25 percent of acid based on the dry weight of the textile;
(D) continuously passing the textile through an acid aqueous solution containing about 1 to about 50 grams per liter of sodium chlorite at a pH of about 3 to about 5 at a temperature between about room temperature and about 110° F., and continuously expressing all but about 90 to about 120 percent of the aqueous bleaching solution to provide the textile wet with about 0.1 to about 1.5 percent of sodium chlorite based on the dry weight of the textile; and
(E) heating the thus impregnated and continuously moving textile to a temperature of 180 to 212° F. for 10 to 120 minutes to effect the bleaching.

3,140,147
SCENTING DEVICE
Alfred A. Neuwald, New York, N.Y., and William F. Donovan, Clifton, N.J., assignors to The Fragrance Process Company, Inc., New York, N.Y.
Filed Mar. 14, 1961, Ser. No. 95,525
9 Claims. (Cl. 21—119)

1. A scenting device comprising a housing, a motor mounted on said housing, a sprocket wheel rotatably driven by said motor, a heating element mounted on said housing, and a vaporizable liquid dispensing assembly including a reservoir having orifice openings at each end and an endless beaded chain extending through said orifice openings, said beads being of a diameter



slightly smaller than said orifice openings, said chain being engageable with said sprocket for rotation thereof, one of said orifice openings being disposed above said heating element whereby movement of said chain causes trapping of liquid between said beads and dispensing onto said heating element.

3,140,148
METHOD OF TREATING EXHAUST GASES WITH URANIA-CONTAINING CATALYSTS
Lawrence J. E. Hofer, Bridgeville, and Robert B. Anderson, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed July 26, 1961, Ser. No. 127,066
14 Claims. (Cl. 23—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method for oxidizing combustible constituents of exhaust gas and fumes containing hydrocarbons, partially oxidized hydrocarbons, carbon monoxide, and the like, which comprises passing hot exhaust gas together with added oxygen over a catalyst consisting of an inert porous carrier mass having dispersed thereon a member of the group consisting of (*a*) urania, and (*b*) urania plus a promoter selected from the group consisting of ferric oxide, chronic oxide, copper oxide, and mixtures thereof.

3,140,149
PREPARATION OF PEROXY-HYDRATES
Valentin Habermehl, Duesseldorf, Germany, assignor to Henkel & Cie GmbH., Duesseldorf-Holthausen, Germany, a German corporation
No Drawing. Filed Jan. 16, 1957, Ser. No. 634,431
Claims priority, application Germany Jan. 20, 1956
9 Claims. (Cl. 23—14)

1. Method for the preparation of perhydrate compounds containing water of crystallization which comprises reacting an inorganic salt capable of binding water of crystallization and selected from the group consisting of phosphates, silicates, carbonates, borates and sulphates

of a metal selected from the group consisting of sodium, potassium and magnesium with hydrogen peroxide and water in a peroxide-resistant, substantially water- and peroxide-immiscible, oxygen-free organic liquid, non-reactive with respect to said reactants, and having a boiling point of at most 100° C., said hydrogen peroxide and said water each being present in molar amounts equal to multiples of one half mol and in which the total of the molar amounts of said peroxide and water does not exceed the maximum number of mols of water of crystallization which said inorganic salt is capable of binding and recovering the perhydrate compound formed.

3,140,150

PROCESS FOR THE PRODUCTION OF BORANATES

Dieter Goerrig, Lohmar, Werner Schabacher, Cologne-Mulheim, and Friedrich Schubert, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 23, 1957, Ser. No. 704,362
Claims priority, application Germany Dec. 24, 1956
14 Claims. (Cl. 23—14)

1. Process for the production of a metal borohydride of the formula $M(BH_4)_Y$ in which M is a metal which is a member selected from the group consisting of the series of metals of Al, Mg, Ca, Sr, Ba, Li, Na, K, Rb and Cs, wherein Y is an integer number from 1 to 3 and corresponding to the valence of M, which comprises reacting the hydride of a metal of said series with the metaborate of a metal of said series and selected from the group consisting of the same metal as in said hydride and the metals disposed further to the right of said hydride metal in said series, at a temperature above 100° C. and below the melting point of the mixture, to thereby form the borohydride of the metal of said metaborate and the oxide of the metal of said hydride.

3,140,151

METHOD OF REPROCESSING UO_2 REACTOR FUEL

James R. Foltz, Canoga Park, Weldon J. Gardner, Van Nuys, and Sydney Strausberg, Woodland Hills, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Nov. 12, 1959, Ser. No. 852,234
13 Claims. (Cl. 23—14.5)

1. A method of reprocessing sintered, irradiated, UO_2 reactor fuel, which comprises subjecting said UO_2 to a plurality of cycles, the first cycle comprising oxidizing said UO_2 to U_3O_8 at a temperature of about 300–500° C., and reducing the resulting comminuted U_3O_8 to UO_2 with hydrogen at a temperature of about 500–800° C., the remaining said cycles comprising oxidizing the resulting comminuted UO_2 from the previous cycle to U_3O_8 in air at a temperature of about 100–250° C., and reducing the resulting U_3O_8 to UO_2 with hydrogen at a temperature of about 250–500° C.

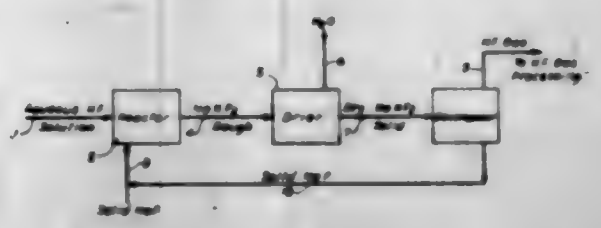
3,140,152

PROCESS FOR PREPARING AND RECOVERING OF SUBSTANTIALLY ANHYDROUS HYDROGEN FLUORIDE GAS FROM A DRY ALKALI METAL BIFLUORIDE

John T. Rucker and Theodore H. Dexter, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 29, 1962, Ser. No. 206,431
9 Claims. (Cl. 23—153)

1. In a process for preparing a substantially anhydrous hydrogen fluoride gas by decomposing an alkali metal bifluoride formed by reacting an aqueous solution of hydrofluoric acid and an alkali metal fluoride, the improvement which comprises effecting the reaction between the hydrofluoric acid and the alkali metal fluoride by spraying an aqueous solution of hydrofluoric acid on heated particles of an alkali metal fluoride, the molar ratio of alkali metal fluoride to HF in the hydrofluoric acid being at least 1:1 and the temperature of the alkali metal fluoride particles, in conjunction with the temperature of the hydrofluoric acid solution, providing a reaction temperature of at least about 100 degrees centigrade but less than about 280 degrees centigrade, maintaining this reaction temperature for a period of time sufficient to evaporate at least a major amount of the water of the aqueous hydro-



fluoric acid solution and at least sufficient to form an alkali metal bifluoride having a dough-like consistency, the remaining water associated with the alkali metal bifluoride product being difficultly removable by filtration, forming a substantially dry alkali metal bifluoride, subjecting the thus-formed dry alkali metal bifluoride to a temperature above the decomposition temperature thereof for a period of time sufficient to effect decomposition and form an alkali metal fluoride and a substantially anhydrous hydrogen fluoride gas, separating said gas from the alkali metal fluoride and recovering the thus-separated substantially anhydrous hydrogen fluoride gas.

3,140,153

PROCESS FOR THE PRODUCTION OF ETHYLENE OXIDE AND NITROGEN

Harold A. Huckins, Jr., New Canaan, Conn., assignor to Halcon International, Inc., a corporation of Delaware

Filed Nov. 16, 1960, Ser. No. 69,699
1 Claim. (Cl. 23—220)

A combined process for the production of ethylene oxide and high purity nitrogen which comprises: contacting ethylene with an oxygen and nitrogen containing gas; withdrawing a stream containing ethylene oxide and a gaseous reaction mixture containing nitrogen, oxygen and combustible carbonaceous material, said oxygen being present in more than stoichiometric amounts in relation to said carbonaceous material; separating said ethylene oxide from said gaseous reaction mixture; adding additional carbonaceous materials so that the total carbonaceous material is stoichiometrically equivalent to said oxygen present; preheating said gaseous reaction mixture to about 600° F.; catalytically reacting said gaseous mixture in the vapor phase so as to raise its temperature to about 1100° to 1800° F., thereby converting said carbonaceous materials to carbon dioxide and water and substantially consuming said oxygen; expanding and cooling the resultant mixture to a temperature of about 765° to 1000° F., while performing work; utilizing the residual heat to preheat said resultant mixture in the aforesaid preheating step; separating said carbon dioxide and water from said resultant mixture; and leaving a residue of substantially pure nitrogen.

3,140,154

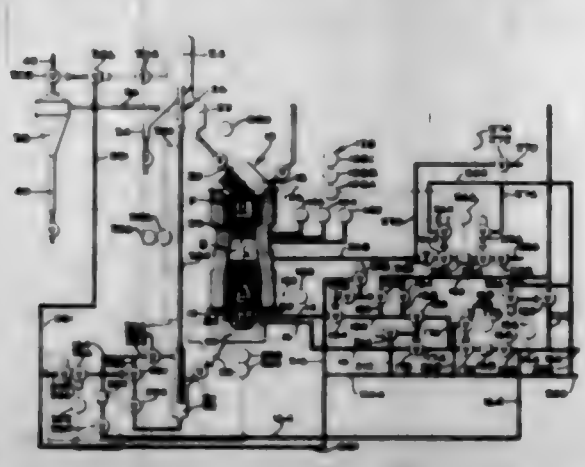
FURNACE WITH COMBUSTION ZONE CONTROL

Wendell S. Thompson, Los Gatos, Calif., assignor to FMC Corporation, a corporation of Delaware

Filed Sept. 30, 1958, Ser. No. 764,361
13 Claims. (Cl. 23—277)

1. In a furnace for the thermal treatment of a gas, refractory means defining a substantially vertical passage-

way having a zone of restricted cross-sectional area, a plurality of gas inlet conduits disposed at the lower end of said passageway, a plate disposed at the lower end of said passageway and having a plurality of gas inlet ports communicating with said passageway, means for delivering a plurality of pebbles to said passageway, a first means for directing gas upwardly through said conduits to cause the pebbles to bridge at the upper ends of said conduits, a second means for directing gas upwardly through said gas inlet ports to supplement the gas passing upwardly from said conduits and increase the total volume of gas



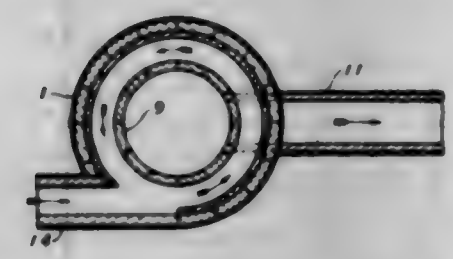
passing upwardly through the passageway to the quantity required to cause said pebbles to also form a bridge at said restricted zone, and means in said first and second directing means for decreasing the volume of gas passing upwardly through said conduits to a quantity below that necessary to maintain the bridges at the upper ends of said conduits and increasing the quantity of supplementary gas proportionately to maintain the total quantity of gas passing upwardly through said passageway at or above the quantity necessary to maintain the bridge at said restricted zone.

3,140,155

HYDROGEN HALIDE RECOVERY

Jay A. Cull, Niagara Falls, and Thomas Hooker, Youngstown, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed May 21, 1959, Ser. No. 814,709
4 Claims. (Cl. 23—277)



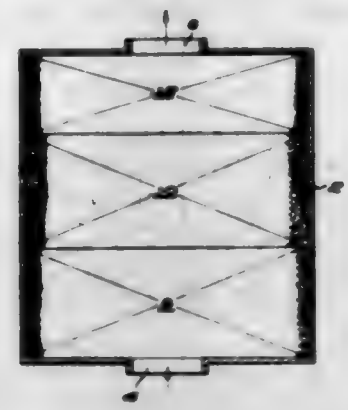
1. In apparatus for the conversion of halogenated organic compounds into normally gaseous products comprising carbon dioxide and hydrogen halide, said products having substantially no free chlorine, free carbon and organic compounds, a heat-recuperative furnace means comprising: an outer cylindrical firewall vertically positioned on a foundation at the bottom and covered at the top and having feed inlet means in the side thereof for introducing the said compounds, a hydrogen source to supply the hydrogen requirements and an oxygen source to supply the oxygen requirements; and an inner cylindrical heat conductive firewall concentrically aligned with the said outer firewall to form an annular space between the two said firewalls, and said inner firewall positioned on the said foundation and in direct communication with outlet means at the bottom, in open communication with the top inner space of the said outer firewall and adapted to exchange heat at the inner cylindrical surface through its wall to the outer annular space; whereby, while the furnace is being maintained at a temperature above that required to convert the said materials, the furnace internally preheats the feed materials and cools down the exiting reaction product gases.

3,140,156

CANISTER WITH OLFACTORY WARNER

Günter H. Koh, Berlin, Germany, assignor to Auergesellschaft G.m.b.H., Berlin, Germany, a corporation of Germany

Filed May 25, 1961, Ser. No. 112,500
Claims priority, application Germany June 9, 1960
3 Claims. (Cl. 23—288)



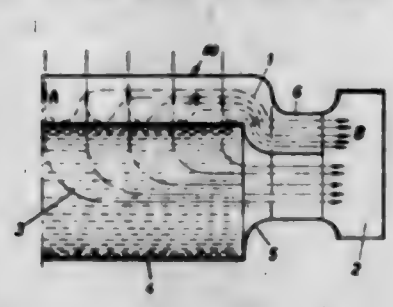
1. A gas mask canister comprising a catalyst capable of oxidizing carbon monoxide and that is inactivated by water vapor, an olfactory warning material disposed downstream of said catalyst, said olfactory warning material consisting essentially of a material reactive with water vapor to form an odorous gas coated with a salt selected from the group consisting of anhydrous calcium halides, anhydrous lithium halides and mixtures thereof.

3,140,157

DRYING APPARATUS

Hans Fleissner and Gerold Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignors to Firma Fleissner GmbH, Egelsbach, Frankfurt am Main, Germany

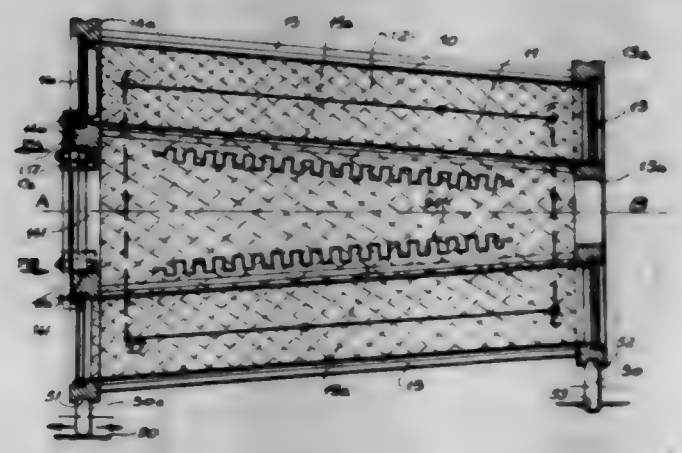
Filed Mar. 24, 1960, Ser. No. 17,397
Claims priority, application Germany Mar. 26, 1959
5 Claims. (Cl. 34—115)



1. A fluid treatment device such as a device for drying web material, comprising a casing, a drum having an open end defining a fluid discharge and being rotatably mounted in said casing and having a perforated cylindrical drum surface adapted to support a web to be treated, said casing having a wall portion extending around said drum at a spaced location from the outer periphery of said drum, means for directing fluid against said drum and the material thereon along the entire length of said drum and for producing a suction within said drum by withdrawal of the fluid from one end of said drum, said casing extending outwardly at a spaced location from said drum at the discharge end thereof to define a passage from the periphery of said drum to said discharge end

and defining at least one air discharge opening in communication with the interior of said drum, said drum and said casing defining therebetween a first fluid flow path extending along the passage from the periphery of said drum to said fluid discharge opening, the space within said drum and said fluid discharge opening defining a second fluid flow path, adjustably arrangeable baffle means interiorly and exteriorly of said drum for effecting the holding of the materials on the periphery of said drum by permitting drying fluid flow through said material and through said drum when said material is fluid permeable and also for effecting the holding of material on said drum when said material is not fluid permeable by permitting flow toward said material and then inwards along the drum for discharge through said discharge opening, and exhaust means adjacent said discharge opening for evacuating air flow from within said casing through said first and second air flow paths.

3,140,158
FORAMINOUS ROTARY DRUM DRYER
Antonio Scolari, % Ing. A. Giambrocono, Via Durini 4, Milan, Italy
Filed Nov. 7, 1960, Ser. No. 67,629
Claims priority, application Italy Dec. 19, 1959
1 Claim. (Cl. 34—128)



A torrefactor for seeds by example for coffee seeds comprising in combination an inner and outer sieve tapering in the same direction from a larger end to a smaller end and mounted coaxial to one another so as to define therebetween a frustum cone chamber wherein the said seeds are discharged and thoroughly mixed during the rotation of the sieves;

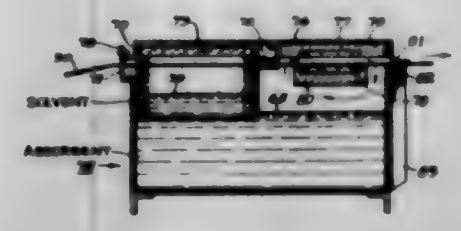
a first closure ring rigidly fixed to and sealing the said sieves at their smaller ends, an annular support ring rigidly fixed to the larger end of the outer sieve, a further annular support ring rigidly fixed to the larger end of the said internal sieve, an annular groove formed from the said further annular support ring;

a second closure ring sealing the said outer and internal sieve at the said support rings, means being provided to prevent the said second closure ring only from a rotational displacement with the said sieves, but permitting an axial displacement therewith, the said means comprising a set of ball bearings connected to the said closure ring and engaging the said groove so that any contraction or dilatation of the said sieves is transmitted to the said closure ring thus letting unchanged the play between the second closure ring and the said further support rings;

first bearing means located at the smaller ends of the sieves allowing a rotation of the said sieves about the horizontal axis and locating the sieves axially, further bearing means located at the larger end of the sieves and permitting an axial displacement thereof;

a discharge and an inlet aperture to allow for loading and discharging of the torrefactor, and radiant means co-extensive with the said sieves.

3,140,159
XEROGRAPHIC FUSING AND DRYING APPARATUS
Chester F. Carlson, Pittsford, N.Y., assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Original application Dec. 3, 1956, Ser. No. 625,929, now Patent No. 3,078,589, dated Feb. 26, 1963. Divided and this application July 2, 1962, Ser. No. 206,871
2 Claims. (Cl. 34—155)



1. Image affixing apparatus for fixing xerographic powder images to the surface of a web of sheet material by means of solvent vapor for a soluble component of the powder comprising said powder images,

said apparatus including

a substantially closed fusing vapor chamber having end walls provided with substantially aligned horizontal inlet and outlet slots on opposite ends of said chamber to permit straight-line travel of a web through said chamber,

a liquid solvent reservoir spaced at the bottom of said chamber below the level of said slots,

wick-like material disposed in said chamber outside the path of said web and dipping into said liquid solvent reservoir and also extending above the level of said slots to draw liquid solvent to the upper part of said chamber and generate solvent vapor above the path of web travel through said chamber,

a drying chamber mounted to receive a web issuing from the outlet slot of said vapor chamber and containing a reservoir for absorbent material for solvent vapor,

and a heating element mounted in said drying chamber to apply heat to said web during passage of said web through said chamber,

said drying chamber being provided with an outlet slot on the end of said chamber opposite to the entering position of said web, whereby said web may pass in sequence through said vapor chamber and said drying chamber.

3,140,160
XEROGRAPHIC FUSING AND DRYING APPARATUS
Chester F. Carlson, Pittsford, N.Y., assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Original application Dec. 3, 1956, Ser. No. 625,929, now Patent No. 3,078,589, dated Feb. 26, 1963. Divided and this application July 2, 1962, Ser. No. 206,872
2 Claims. (Cl. 34—155)

1. Image fixing and drying apparatus for fusing xerographic powder images to the surface of a web of sheet material by means of solvent vapor for a soluble component of the powder comprising said powder images,

said apparatus including

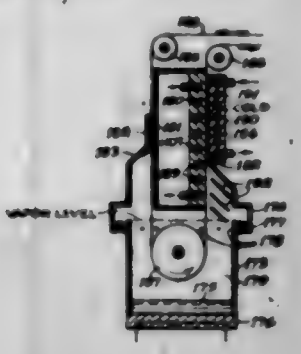
a substantially enclosed vapor chamber having a wall containing an inlet slot and an outlet slot to permit passage of a web of sheet material into and out of said chamber,

guide means defining a path of travel for said web of sheet material within said vapor chamber,

said vapor chamber including

a reservoir of liquid solvent below the path of travel of the web of sheet material,

first heating means positioned to vaporize said liquid solvent,



second heating means positioned adjacent said outlet slot parallel to the path of travel of the web of sheet material to vaporize solvent on the web of sheet material,

cooling means adjacent said outlet slot and on the opposite side of the path of travel of the web of sheet material from said second heating means to condense solvent vapors produced by said second heating means,

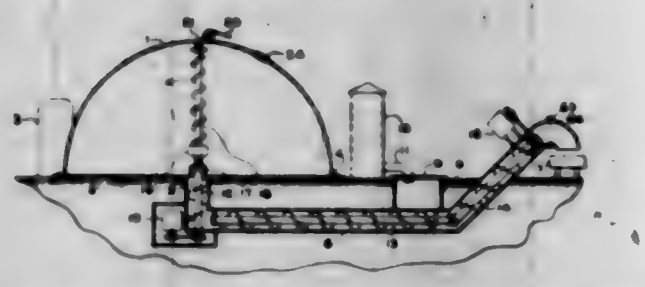
and solvent vapor guide means beneath said cooling means to direct condensed solvent from said cooling means to said liquid reservoir.

3,140,161

CROP STORAGE AND MECHANICAL REMOVAL

Russell R. Poyner, Geneva, Wayne H. Lowry, Riverdale, and John S. Winslow, Park Forest, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Oct. 25, 1961, Ser. No. 147,682
8 Claims. (Cl. 34—227)



5. In combination, crop storage means comprising a base, inflatable hemispheroidal housing means supported on said base, air-tight sealing means securing said housing means to said base, means for supplying fluid under pressure to inflate said housing means, and conveyor means extending through said base for loading and unloading of said storage means, said conveyor means including rotatable auger means pivoted at one end adjacent said base, and a cable connected to the other end of said auger means and extending through said housing means, whereby rotation of said auger means results in its orbiting in a path of conical configuration.

3,140,162

ANTI-ICING AGENT

Donald A. Maxwell and Ben N. Stuckey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 18, 1961, Ser. No. 145,973
4 Claims. (Cl. 44—66)

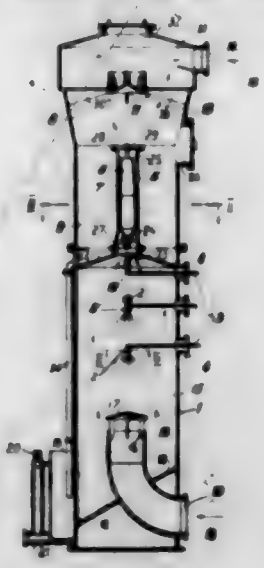
1. A hydrocarbon fuel comprising a major portion of hydrocarbon liquid having a distillation end point below 650° F. and at least 0.01 volume percent based on the hydrocarbon volume of 2,2,4-trimethyl-1,3-pentanediol-dipelargonate.

3,140,163

APPARATUS FOR CLEANING GASES

Gerhard Hausberg, Essen-Bredeney, Germany, assignor to Gottfried Bischoff, Bau kompl. Gasreinigungs-u. Wasserrueckkuehlanlagen K.G., Essen, Germany, a corporation of Germany

Filed Mar. 17, 1961, Ser. No. 96,485
3 Claims. (Cl. 55—257)



1. A wash tower for cleaning industrial exhaust gases, comprising a generally cylindrical upright tube; partition means internally subdividing said tube into a lower and an upper chamber of relatively large cross-sectional area; a vertical sleeve of relatively small cross-sectional area interconnecting said chambers; an upwardly tapering streamlined insert in said sleeve defining therewith a restricted annular passage; inlet means in said lower chamber for discharging a rising stream of particle-laden gas at a location substantially in line with said sleeve; nozzle means in said lower chamber between said inlet and the lower end of said sleeve, said nozzle means including a downwardly directed lower spray head and an upwardly directed upper spray head, the latter being disposed immediately below said lower end of said sleeve for introducing jets of wash liquid upwardly into said passage; baffle means in said upper chamber above the top end of said sleeve for intercepting an upward flow of moisture-laden gas from said passage and causing precipitation of entrained moisture upon expansion of said gas in said upper chamber; drain means for precipitated moisture at said partition means; and outlet means for said gas communicating with said upper chamber substantially at the level of said baffle means.

3,140,164

APPARATUS FOR PRODUCING SHEET GLASS

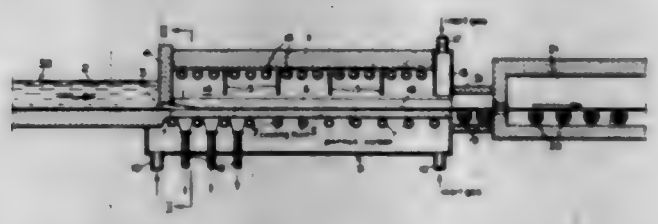
Bernard Long, Paris, France, assignor to G.B.D. Societe Anonyme Holding, Luxembourg, Grand Duchy of Luxembourg, a corporation of Luxembourg

Filed May 3, 1960, Ser. No. 26,486
Claims priority, application France May 15, 1959
7 Claims. (Cl. 65—157)

1. For use with a tank furnace having an outlet from which flows a mass of molten glass, an apparatus for producing a flat sheet of glass comprising, in combination:

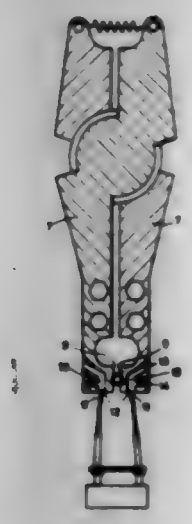
a porous trough of carbonaceous material extending outwardly from the outlet of the tank furnace and positioned to receive the mass of molten glass issuing therefrom, said trough forming a flat, substantially horizontal bottom and longitudinally extending continuous and generally parallel upstanding ledges to

confine the flow of said mass of molten glass between them;
means forming a chamber surrounding said trough;
supply means connected to said chamber for admitting a nonoxidizing gas into said chamber;



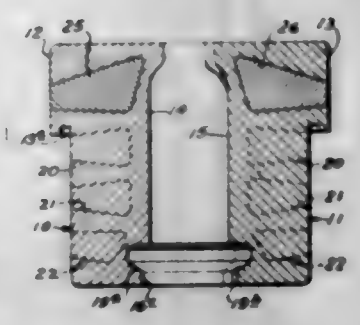
suction-tube means in contact with the underside of said trough for withdrawing evolving gases therethrough;
and cooling means contacting said trough for progressively reducing the temperature of the underside of said flow until the latter is solidified into a self-supporting sheet.

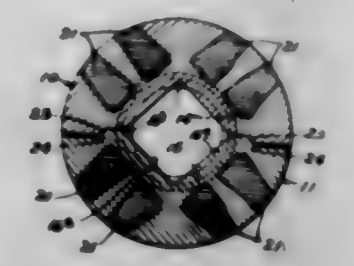
3,140,165
APPARATUS FOR TIPPING OFF THE EXHAUST APERTURES OF ENVELOPES FILLED WITH GAS AT A PRESSURE HIGHER THAN ATMOSPHERIC
Hans Wiedenmann, Heidenheim (Brenz), Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H., Munich, Germany
Filed Feb. 21, 1961, Ser. No. 90,890
Claims priority, application Germany Mar. 2, 1960
3 Claims. (Cl. 65—270)



1. Apparatus for sealing glass tubulations which open into glass envelopes, said apparatus comprising,
(*a*) a turret rotatable with an indexing motion,
(*b*) a plurality of heads carried on said turret and rotatable therewith, and each of said heads adapted to retain one of said tubulations to be sealed,
(*c*) a separate pair of pinch jaws associated with each of said heads and rotatable with said turret, and each of said pinch jaws provided with apertures extending therethrough between preselected surfaces of said pinch jaws,
(*d*) each of said pinch jaws adapted to be closed about one of said head-retained tubulations to be sealed and to be urged with a constant pressure against such head-retained tubulations, and
(*e*) a number of stationary gas burners positioned about the periphery of said turret and having flames directed into the apertures of said pinch jaws during the period said turret is stationary between indexes and after said pinch jaws have been closed about said head-retained tubulations to be sealed.

3,140,166
GLASS MOLD HAVING TWO DETACHABLE INTERFITTED SECTIONS
Lawrence J. Litalien, 18 Henry St., Waterbury, Conn., and Joseph Dutkavech, 173 George St., Hartford, Conn.
Filed Mar. 28, 1961, Ser. No. 96,839
1 Claim. (Cl. 65—356)





In a mold for making a hollow article of glassware, a pair of substantially cylindrical abutted metallic body members having interfitting grooves in their abutting faces, said body members having interior semicylindrical cavities shaped to produce the final configuration of the glassware blown in said mold, said body members having a plurality of pairs of outwardly extending tapered radial lugs of heat conductive material embedded therein, said lugs being flush with the outer surfaces of said body members and spaced from the inner surfaces thereof, said body members being provided with enlarged upper semicylindrical flanges within which are embedded a series of tapered radial cooling lugs larger in diameter than the remainder of said lugs, said pairs of lugs forming the sides of a polygonal figure, the lower edge of said flanges being undercut to form a circular locking groove.

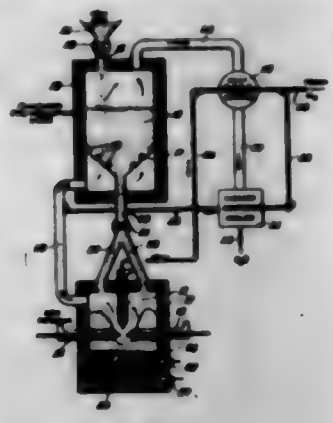
3,140,167
2,6-DI-t-BUTYL-4-SUBSTITUTED PHENYL N-METHYL CARBAMATE AND USE THEREOF AS SELECTIVE HERBICIDES
Albert H. Hamblin, Newark, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 7, 1962, Ser. No. 200,651
9 Claims. (Cl. 71—2.6)

1. As a herbicidally active composition of matter, a compound selected from the group consisting of 2,6-di-t-butyl-4-methylphenyl N-methylcarbamate, 2,6-di-t-butyl-4-methoxyphenyl N-methylcarbamate and 2,6-di-t-butyl-4-chlorophenyl N-methylcarbamate.

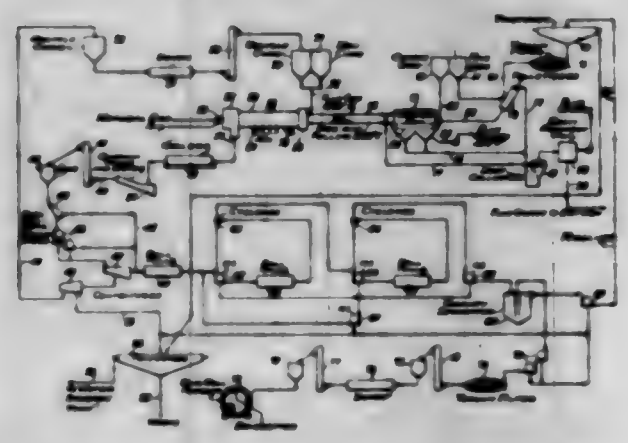
3,140,168
REDUCTION OF IRON ORE WITH HYDROGEN
James W. Halley, Dune Acres, and John E. McConnell, Gary, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed May 31, 1961, Ser. No. 113,817
8 Claims. (Cl. 75—11)

1. An iron ore reduction process which comprises reacting iron oxide or in a first step with a hydrogen-containing gas under conditions to effect partial reduction of the ore, effecting thermal decomposition of molecular hydrogen in a second step to obtain atomic hydrogen, supplying partially reduced ore from the first step to said second step and reacting the same with a part of said atomic hydrogen to obtain iron, said iron being melted in said second step by the heat supplied for said thermal decomposition and by the heat evolved during recombination of the remainder of said atomic hydrogen to form molecular

hydrogen, passing hydrogen-containing gas from said second step to said first step, withdrawing excess hydrogen from said first step, combining part of said excess hydrogen with fresh hydrogen and supplying the same to said second step, and recycling the remainder of said excess hydrogen to said first step.



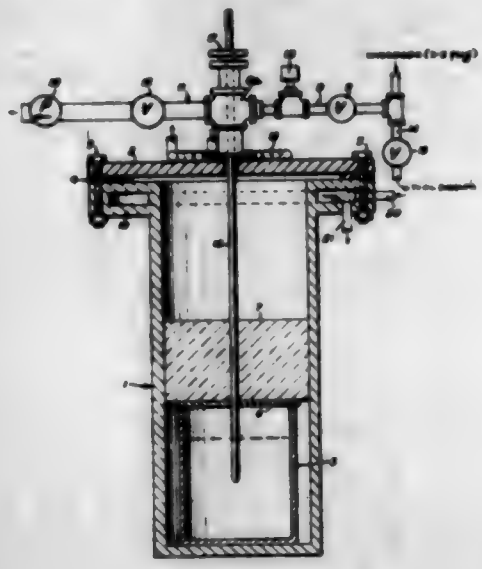
3,140,169
ORE REDUCTION AND RECOVERY METHOD
Rollin P. Smith, New Canaan, and Olav Moklebust, Stamford, Conn., assignors to R-N Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 27, 1961, Ser. No. 141,203
10 Claims. (Cl. 75—33)



1. A process for low temperature reduction and recovery of iron in high yield from iron oxide bearing materials, and as a metallic iron concentrate of high purity, which comprises: reducing a charge of said ore without fusion, comminuting the reduced product and magnetically concentrating the iron values, separating the concentrate into fractions of higher and lower purity, pelletizing the latter and admixing with a charge of fresh ore, subjecting the mixture to reduction without fusion, comminuting the reduced product and magnetically concentrating the iron values.

3,140,170
MAGNESIUM REDUCTION OF TITANIUM OXIDES IN A HYDROGEN ATMOSPHERE
Thomas A. Henrie, Henry Dolezal, and Ernst K. Kleespies, Boulder City, Nev., assignors to the United States of America as represented by the Secretary of the Interior
Filed Nov. 23, 1962, Ser. No. 239,855
12 Claims. (Cl. 75—84)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method for the preparation of impure titanium metal from titanium oxide comprising reacting at elevated temperature in an atmosphere of hydrogen a mixture of (1) titanium oxide, (2) magnesium metal, and (3) a flux from the group consisting of magnesium chloride, sodium chloride, calcium chloride and mixtures thereof; to form a product comprising magnesium oxide, unreacted magnesium and a titanium alloy containing hydrogen, magnesium and a small amount of oxygen; leaching the product with acid to remove the magnesium oxide, flux and unreacted magnesium and subsequently sintering the leached product under vacuum at a temperature of from about 700° to 1000° C. to remove the hydrogen and alloyed magnesium.



3,140,171
PROCESS FOR PREPARATION OF URANIUM METAL
John H. Trapp, Cincinnati, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed July 25, 1962, Ser. No. 212,492
8 Claims. (Cl. 75—84.1)

1. In the process for preparing uranium metal which comprises charging a refractory-lined metallic reduction bomb with an intimate mixture of UF_4 and magnesium and heating the resulting charged bomb in a zone maintained at an elevated temperature until said mixture undergoes an exothermic reaction, whereby uranium metal and slag are formed, and recovering the resulting uranium metal, the improvement which comprises providing a small amount of metallic lithium in an amassed state within the interior of said mixture and maintaining said zone at a temperature of at least 1400 F.

3,140,172
PRODUCTION OF ALLOY MATERIALS
Brian C. Coad, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 30, 1961, Ser. No. 123,934
6 Claims. (Cl. 75—122)



1. The method of producing an alloy, comprising solid-phase bonding and rolling to a small thickness, on the order of a few thousandths of an inch, layers of all of the constituents required in individual thicknesses adapted to supply the correct proportions thereof in the desired alloy, heating the bonded layers to form an intermediate multi-layer sheet in which substantially all of one constituent and some of the other are converted to at least one intermetallic compound in at least one bonded layer, some of the constituent material remaining as another bonded layer, and then heating the layers in the multi-layer state

at a temperature adapted to convert them from their multi-layer state to the desired alloy in a single-layer state.

3,140,173
TITANIUM PRIMER FOR AN EVAPOR-ION PUMP
Edmond C. Hurst, Stoughton, Wis., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 27, 1962, Ser. No. 247,775
4 Claims. (Cl. 75—200)



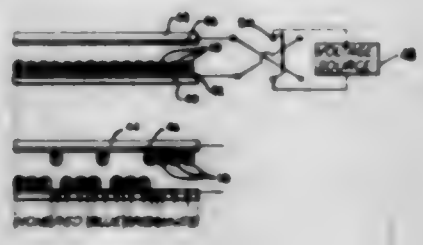
1. A method of manufacturing an evapor-ion pump primer comprising the steps of applying a mixture of powdered tungsten and a liquid binder to form a coating around a titanium wire, curing said coating until the solvent of said binder is evaporated therefrom, placing said coating and said wire in an evacuable chamber, evacuating said chamber, heating said wire to an initial temperature just under the melting point thereof, maintaining said wire at said temperature for a duration sufficient to remove said binder from said coating and form said tungsten into a porous tungsten cake, and raising the temperature of said wire until said wire melts whereby the titanium wets and diffuses through said tungsten cake.

3,140,174
PROCESS FOR OVERCOATING A XEROGRAPHIC PLATE
Harold E. Clark, Penfield, N.Y., assignor to Xerox Corporation, a corporation of New York
No Drawing. Filed June 23, 1959, Ser. No. 822,188
5 Claims. (Cl. 96—1)

1. A method of making a smooth surface binder plate which comprises: depositing a light-sensitive photoconductive material on the surface of an electrically conductive backing plate to form thereby a photoconductive layer having an irregular surface, said photoconductive layer comprising a mixture of photoconductive material and a water insoluble resinous binder, depositing over said irregular surface an aqueous solution of a water soluble electrically insulating material, said solution used being chemically unreactive with said photoconductive material, allowing said liquid carrier to evaporate from said solution and the resinous material therein to thereby deposit in and fill the irregularities of said surface with said resinous material, continuing said deposition until a smooth resinous film of from about 0.1 to about 5 microns is formed on said photoconductive material.

3,140,175
COLOR ELECTROPHOTOGRAPHY
Edward K. Kaprelian, Red Bank, N.J.
(811 Philadelphia Road, Joppa, Md.)
Original application July 3, 1957, Ser. No. 669,866, now Patent No. 2,940,847, dated June 14, 1960. Divided and this application Mar. 14, 1960, Ser. No. 14,778
12 Claims. (Cl. 96—1)

1. A method of color electrophotography comprising the steps of providing a uniform substantially continuous layer of transparent image forming particles of at least two colors on a photoconductive insulating surface, projecting an image containing at least said two colors through said layer of particles and then onto said photoconductive



surface, and applying a potential between said surface and an electrode parallel to said surface sufficient to cause charged particles to migrate away from said surface.

3,140,176
ART OF MAKING COLOR-PHOSPHOR SCREENS OF THE MOSAIC VARIETY
Robert E. Hoffman, Ephrata, Pa., assignor to Radio Corporation of America, a corporation of Delaware
No Drawing. Filed Apr. 12, 1961, Ser. No. 102,393
9 Claims. (Cl. 96—35)

1. In that method of making a color-phosphor screen of the mosaic variety which consists essentially of the following steps:

(i) applying to a foundation surface a slurry layer comprising phosphor particles of one color contained in a photosensitized organic gel,
(ii) drying said layer selected from the group consisting of polyvinyl alcohol, fish glue, and albumen,
(iii) exposing said phosphor-containing photosensitive layer to actinic rays through an optical stencil containing a pattern of transparent areas corresponding to the elementary areas of a single color in the desired mosaic, whereby photographically to record the pattern of elementary areas of that color upon said foundation surface,
(iv) washing said surface to develop the photograph thereon,
(v) drying said phosphor-containing photograph,
(vi) repeating the preceding steps for each of the other colors with the source of actinic rays disposed at appropriately different positions with respect to said stencil,

the improvement in said method which comprises: the use in at least one of the other color slurry layers of a material selected from the group consisting of glycerol and glycols, and the drying of said one of the other color slurry layers without parching it, whereby to minimize intermingling of the color-phosphor in said last applied slurry-layer with the color-phosphor contained in any of said previously developed elementary mosaic areas.

3,140,177
PROCESSING COLOR PHOTOGRAPHIC MATERIALS
Maurice E. Welch, Brockport, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 18, 1960, Ser. No. 68,359
9 Claims. (Cl. 96—56)

1. In the preparation of a finished multicolor photographic element containing in a gelatin substrate a magenta image and a substantial amount of residual pyrazolone photographic color coupler capable of coupling with the oxidation products of an aromatic amino photographic color developer to form a magenta image, the process which comprises treating as a final processing step said photographic element with an aqueous treating bath comprising

(1) 0.1% to 10% of an aldehyde selected from the class consisting of formaldehyde and acetaldehyde, and

(2) 0.5% to 15% of a water-soluble polycarboxylic acid having 2 to 6 carbon atoms,

said treating bath having a pH of about 3 to 4, and thereby hardening said gelatin and reducing fading of said magenta image.

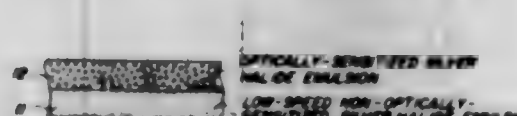
3,140,178

PHOTOGRAPHIC SILVER HALIDE EMULSIONS CONTAINING THIOETHER DERIVATIVES AS ANTIFOGGANTS AND STABILIZERS

Arthur H. Herz and Norman W. Kalenda, both of Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 25, 1961, Ser. No. 133,768
18 Claims. (Cl. 96—61)

14. A photographic silver halide emulsion containing at least about .001 gram per mole of silver halide of a mercapto derivative having a formula selected from the group consisting of



wherein R is an aryl radical and Z is selected from the group consisting of an aryl radical, an aralkyl radical, a heterocyclic radical and a substituted alkyl radical.

3,140,179

PHOTOGRAPHIC ELEMENT HAVING INCREASED SPEED AND CONTRAST

Frederick J. Russell, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 22, 1959, Ser. No. 847,936
6 Claims. (Cl. 96—68)

1. A light-sensitive photographic element of improved speed and contrast, comprising a transparent support and in superposed, contacting relationship in outer panchromatically-sensitized silver halide emulsion layer (I) wherein the silver halide is (A) selected from the class consisting of silver chlorobromide containing at least 50 mole percent silver bromide and silver bromoiodide, and is (B) capable of producing a visible image upon exposure and development in a silver halide developer, and beneath said layer (I) a non-optically sensitized, substantially light-insensitive, fine-grained silver halide emulsion layer (II) wherein at least 70 mole percent of the silver halide is (C) silver chloride and is (D) of sufficiently low speed so that no visible image is produced when separately exposed on a separate support to radiation producing an image in said panchromatically-sensitized silver halide emulsion upon photographic development, said non-optically sensitized, substantially light-insensitive silver halide emulsion layer being closer to said support than said panchromatically-sensitized silver halide emulsion layer, the relative speed of said silver halide emulsion layer (II) between about 0.03 and 0.29, and the relative speed of said silver halide emulsion layer (I) being from about 100 to 3333 times that of said silver halide emulsion layer (II).

3,140,180

HEAT DEVELOPABLE DIAZOTYPE REPRODUCTION COATINGS COMPRISING THERMOLABILE CARBOXYLIC TERTIARY ALKYL ESTERS

Gerhard Fritz, Wiesbaden, Germany, assignor, by mesne assignments, to Keuffel & Esser Co., Hoboken, N.J.

No Drawing. Filed Apr. 22, 1960, Ser. No. 23,887
Claims priority, application Germany Apr. 29, 1959
12 Claims. (Cl. 96—75)

1. A heat developable diazo type material comprising a base and a coating on said base said coating comprising a diazonium compound and a thermolabile pyrrole compound having a carboxylic acid tertiary alkyl ester group which pyrrole compound upon heating decomposes to form a coupler to transform the diazo compound to an azo dyestuff.

3,140,181

WATER-FAST TWO-COMPONENT DIAZOTYPE PAPER

Johannes Henricus Andreas Wilders and Wilhelmus Josephus van Rhijn, Venlo, Netherlands, assignors to Chemische Fabriek L. van der Grinten N.V., Venlo, Netherlands, a Dutch corporation

No Drawing. Filed July 24, 1961, Ser. No. 125,941
Claims priority, application Netherlands Aug. 3, 1960
15 Claims. (Cl. 96—75)

1. Two-component diazotype paper comprising a paper support sensitized thereover with a light-sensitive composition comprising a light-sensitive diazo compound and an azo coupling component which couples with said compound more actively than does any of 2-hydroxymethyl 1',2',4,5-naphthimidazole, 2-hydroxyethyl 1',2',4,5-naphthimidazole and 1',2',4,5-naphthimidazoles having a hydroxyl group in one of the 5', 6', and 7' positions on the naphthalene nucleus and which upon coupling with said compound forms therewith a water soluble azo dyestuff that tends to bleed when wetted by water, said support carrying thereover in intimate contact with said diazo compound and said azo coupling component an agent to enhance the water-fastness of said dyestuff, selected from the group consisting of

2-hydroxymethyl 1',2',4,5-naphthimidazole,

2-hydroxyethyl 1',2',4,5-naphthimidazole,

1',2',4,5-naphthimidazoles having in the 2-position on the imidazole nucleus a constituent selected from the class consisting of a hydrogen atom and methyl, hydroxy-methyl and hydroxy-ethyl groups and having a hydroxyl group in one of the 5', 6' and 7' positions on the naphthalene nucleus,

mixtures of said naphthimidazoles, and water soluble acid salts thereof,

said azo coupling component having a coupling activity, and being present in a concentration exceeding that which is stoichiometric to the quantity of said diazo compound present, sufficient that upon development of said paper said component will couple with substantially all the diazo compound therein to the exclusion of any substantial coupling of said agent therewith, said agent being present in a quantity sufficient to render substantially non-bleeding, when wetted by water, an image of said dyestuff formed on said support by imagewise exposure and development of said paper.

3,140,182

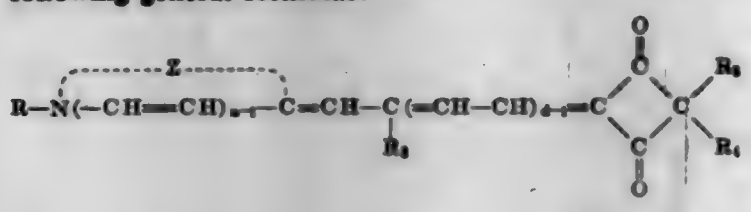
NON-IONIZED POLYMETHINE SENSITIZING DYES

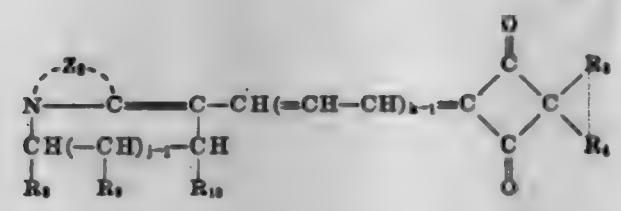
Donald W. Heseltine and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 11, 1963, Ser. No. 286,965
13 Claims. (Cl. 96—106)

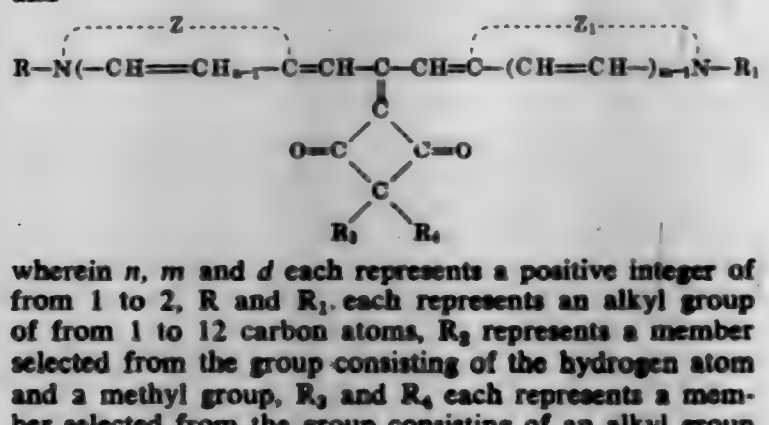
7. A light-sensitive photographic emulsion comprising a hydrophilic colloid, light-sensitive silver halide and a

non-ionized dye selected from those represented by the following general formulas:





and



wherein *n*, *m* and *d* each represents a positive integer of from 1 to 2, R and R_1 each represents an alkyl group of from 1 to 12 carbon atoms, R_2 represents a member selected from the group consisting of the hydrogen atom and a methyl group, R_3 and R_4 each represents a member selected from the group consisting of an alkyl group of from 1 to 12 carbon atoms, a phenyl group, a benzyl group, a tolyl group, a carbalkoxy group wherein the said alkoxy group contains from 1 to 4 carbon atoms, and together supply the necessary carbon and hydrogen atoms to complete a carbocyclic ring having from 5 to 6 carbon atoms, such that at least one of R_3 and R_4 does not represent the hydrogen atom, and Z and Z_1 each represents the non-metallic atoms necessary to complete a heterocyclic nucleus containing from 5 to 6 atoms in a heterocyclic ring, R_8, R_9 and $R]_0$ each represents a member selected from the class consisting of the hydrogen atom, an alkyl group and an aryl group, *j* represents a positive integer of from 1 to 2, *k* represents a positive integer of from 1 to 3, and Z_2 represents the non-metallic atoms necessary to complete a heterocyclic nucleus containing 5 atoms in the heterocyclic ring.

3,140,183

FLUIDIZED BED COOKING PROCESS

Herman Nack, Columbus, Ohio, assignor, by mesne assignments, to International Milling Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed June 4, 1963, Ser. No. 285,247
12 Claims. (Cl. 99—1)

1. In the method of cooking foods in a fluidized bed of hot, solid, discrete particles compatible with food products, the step of coating such foods with a finely divided potato product having a reducing sugar content of less than about 0.5 percent preparatory to cooking such food in such fluidized bed.

3,140,184

EDIBLE MATERIALS CONTAINING WATER SOLUBLE DEXTRIN FORMING COMPLEXES

Frederick M. Robbins, Congers, N.Y., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 29, 1959, Ser. No. 849,455
13 Claims. (Cl. 99—28)

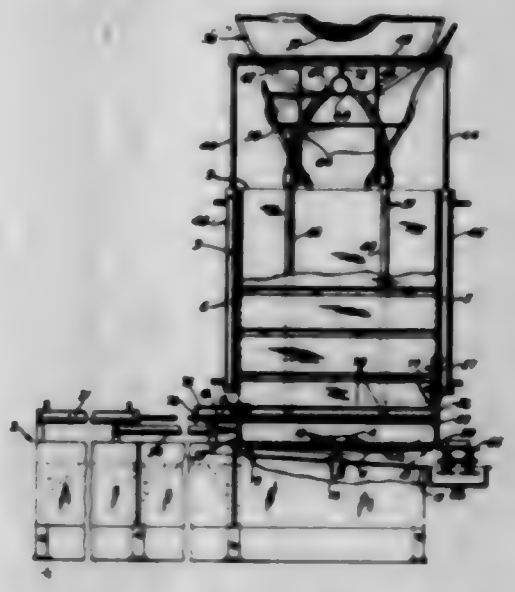
3. An edible material characterized by the presence of at least one water-soluble flavor constituent, said material containing a complex comprising a water-soluble complex-forming dextrin having molecularly included therein a compound of the formula $R'C(M)(OR)_2$, wherein R is a radical selected from the group consisting of hydrogen and lower alkyl and at least one of which is lower alkyl, R' is a radical selected from the group consisting of hydrogen, lower alkyl, aryl, and aralkyl, and M is a radical selected from the group consisting of hydrogen and lower alkyl, said dextrin being selected from the class consisting of cyclic dextrins, acyclic dextrins, and a mixture of cyclic and acyclic dextrins, the amount of said complex being sufficient to provide, upon dissociation of the complex in an aqueous medium and release and hydrolysis of the included compound, a quantity of hydrolysis product that is noticeable to the taste.

3,140,185

METHOD AND APPARATUS FOR MAKING CHEESE

Milton W. Pleckney, Wappingers Falls, N.Y., assignor, by mesne assignments, to The De Laval Separator Company, Poughkeepsie, N.Y., a corporation of New Jersey

Filed Feb. 18, 1963, Ser. No. 259,339
18 Claims. (Cl. 99—116)



1. In a method of making Cheddar cheese comprising the steps of inoculating pasteurized milk with a culture of a lactic acid-producing starter, ripening the inoculated milk with rennet to coagulate the milk, cutting the coagulated curd and heating the curd and whey, that improvement which comprises separating free whey from the curd, delivering the separated curd to a confined space, draining whey from the interior of the curd mass at a plurality of spaced locations throughout the area of the curd mass in said confined space to form a block of the curd, partially dividing the block of curd in the confined space, subjecting the curd at one partially divided area of the block to internal pressure sufficient to cause a displacement of a portion of the curd mass into the remainder of the mass, said simultaneous application of pressure to and movement of the curd mass accelerating the removal of whey while maintaining pressure on the curd to mat the curd and move any pockets of free whey to a location where it can drain, and thereafter permitting the block of matted curd to set for a period of time to develop the acid content thereof.

5. A cheese making apparatus comprising a vessel having bottom and side walls and an open top and forming a chamber therein, a plurality of perforated drain tubes, means for mounting said tubes for movement into said vessel through the open top to position the tubes in spaced relation in the vessel, means for delivering a mass of curds and whey into the vessel and around said drain tubes, means for producing a partial vacuum in said perforated tubes to withdraw whey from the curd mass,

and a mechanical cheddaring mechanism in the vessel comprising a blade mounted to move parallel to one wall of the vessel, a plunger between the blade and wall and means for operating said blade and plunger alternately to segregate a portion of the curd from the remainder of the curd mass and provide an opening therebetween, force the segregated portion of curd into the remainder of the mass through the opening therebetween and then withdraw both the blade and plunger to permit the curd mass to flow into the space for repeated mechanical cheddaring by the blade and plunger.

3,140,186
PECTIN COMPOSITION
William A. Bender, Bloomfield, N.J., and Domenic De Felice, Harrison, and Nicholas D. Pintauro, New City, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed May 2, 1962, Ser. No. 192,987
10 Claims. (Cl. 99—132)

1. A jelly-forming composition characterized by increased storage life, low moisture pick-up during storage, a high degree of uniformity and homogeneity with respect to the content and distribution of ingredients and a high degree of free-flowability which comprises pectin having a particle size of 100% through 80-mesh and about 60% maximum through 140-mesh, fumaric acid having a particle size of 100% through 40-mesh, 50% through 60-mesh and 20% through 100-mesh, and a substantial excess of dispersant having a particle size of 95% through 40-mesh, 65% through 100-mesh and 10% through 200-mesh.

3,140,187
ORANGE CONCENTRATE AND METHOD OF MAKING
Jewell Allen Brent, Maitland, Fla., assignor to The Coca-Cola Company, Atlanta, Ga., a corporation of Delaware
No Drawing. Filed Sept. 18, 1961, Ser. No. 138,561
8 Claims. (Cl. 99—205)

1. A method of producing frozen orange juice concentrate of natural flavor, comprising separating essence from fresh juice, concentrating and freezing said essence, concentrating fresh juice and reducing the temperature of the concentrated juice to a point below the melting point of said frozen essence, admixing said concentrate and frozen essence and maintaining the temperature of said mixture below the melting point of said frozen essence.

7. Concentrate for the preparation of reconstituted orange juice, as prepared by the method of claim 1, comprising orange juice concentrate at a Brix higher than unconcentrated orange juice having therein discrete pieces of frozen essence from fresh juice, said concentrate and frozen essence being at a temperature below the melting point of the frozen essence.

3,140,188
BATH COMPOSITIONS FOR CHEMICAL PLATING OF METALS CONTAINING BORON NITROGEN COMPOUNDS AND AN ORGANIC SOLUBILIZING COMPOUND
Eberhard Zirngiebl, Cologne-Flittard, and Heinz-Günter Klein, Cologne-Deutz, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Aug. 23, 1961, Ser. No. 133,322
Claims priority, application Germany Aug. 29, 1960
9 Claims. (Cl. 106—1)

1. A bath for the plating of metal and plastic surfaces by chemical deposition, comprising an aqueous solution of at least one metal salt selected from the group consisting of cobalt, nickel, iron II and zinc and at least one boron nitrogen compound selected from the group consisting of:

(*a*) borazanes of the formula $R_3N—BH_3$
(*b*) borazenes of the formula $R_2N—BH_2$
(*c*) borazines of the formula RN—BH
(*d*) borazoles of the formula $(RN—BH)_3$

wherein R is selected from the group consisting of alkyl, aryl, hydrogen, and wherein at least one R is of the group alkyl and aryl, and organic compound solubilizing the boron nitrogen compound in the aqueous medium and selected from the group consisting of alcohols and water-soluble ethers, the said boron nitrogen compound being a reducing agent in said solution in a pH range from 2 to 14 and at a temperature range from 20 to 100° C.

3,140,189
MULTIFOCAL LENS
Samuel L. Seymour, Oakmont, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 8, 1962, Ser. No. 164,771
2 Claims. (Cl. 106—53)

1. A multifocal lens comprising a minor segment and a major segment, the major segment having a softening point below 1250° F., an index of refraction between 1.520 and 1.540, a reciprocal dispersion of 48 to 55, a coefficient of thermal expansion approximating 7.0 to 10.0×10^{-6} per ° C. between 25° C. and 300° C. which consists of the following ingredients in percent by weight: 62 to 65.8 percent SiO_2, 0 to 15 percent Na_2O, 0 to 15 percent K_2O, the sum of alkali metal oxides being 12 to 17 percent, 15.2 to 20 percent PbO, 0.5 to 4 percent TiO_2, and 0.5 to 3 percent Al_2O_3, the sum of TiO_2 plus Al_2O_3 being 1 to 4.5 percent and the sum of K_2O plus TiO_2 plus Al_2O_3 being 3 to 16 percent, the above listed essential ingredients plus 1 percent fluorine and 0.2 percent refining agent constituting 100 percent by weight of the glass.

3,140,190
GRAPHITE BASE CERAMIC REFRACTORY COMPOSITION
John F. Di Lazzaro, Seattle, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
No Drawing. Filed Jan. 23, 1961, Ser. No. 83,884
6 Claims. (Cl. 106—56)

1. A method of preparing a heat and oxidation-resistant body having the steps of intimately and uniformly blending (1) powdered constituents consisting of a graphite base present in an amount comprising about 30%–60% by weight of said constituents and selected from the group consisting of graphite, coke, and mixtures thereof, and a ceramic additive present in an amount comprising about 70%–40% by weight of said constituents and consisting essentially of molybdenum disilicide and an intermetallic of titanium selected from the group consisting of titanium diboride and titanium nitride, and (2) a liquid carbonaceous binder for the powdered constituents; compressing the blend into a shaped body; and heat treating the body first to resinify the binder and thence to graphitize it to produce a structurally strong composition.

3,140,191
LINSEED OIL EMULSION COMPOSITIONS COMPRISING DIPICOLINATE AND LINSEED OIL-DERIVED EMULSIFIERS
William L. Kubie, Peoria, Ill., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Nov. 14, 1960, Ser. No. 69,239
10 Claims. (Cl. 106—254)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A coating composition comprising a stable emulsion of a drying oil in water, said emulsion also comprising

up to 0.08 percent (based on the oil) of cobalt as the naphthenate, as a stabilizer for the cobalt between 0.1 percent and 0.5 percent (based on the oil) of the ammonium salt of dipicolinic acid dissolved in ethylene glycol, a hydrophobic linseed oil derived emulsifier, a hydrophilic ethenoxylated linseed oil-derived emulsifier, zinc oxide, and titanium dioxide.

3,140,192

CARBON BLACK PROCESS AND PRODUCT

Merrill E. Jordan and Harvey M. Cole, Walpole, William G. Burbine, Whitman, and David L. Petterson, Wollaston, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Oct. 31, 1960, Ser. No. 65,956
11 Claims. (Cl. 106—307)

1. A process for making carbon black comprising decomposing an essentially hydrocarbon raw material in a conversion zone maintained at free carbon forming conditions while simultaneously supplying to the said conversion zone per million parts by weight of said raw material amounts above about 500 up to about 200,000 parts by weight of an additive chosen from the group consisting of chlorine, iodine, bromine, fluorine and mixtures of these, said additives being supplied to said zone in the elemental form.

7. A composition of matter consisting essentially of carbon black and an amount of from about 100 to about 100,000 parts per million parts by weight of the carbon black of a substance chosen from the group consisting of chlorine, bromine, iodine, fluorine and mixtures of any of these, said substance being intimately associated with and uniformly distributed within the crystal structure of the said carbon black.

3,140,193

PROCESS FOR PRODUCING OXIDATION RESISTANT REFRACTORY COATING ON DENSE GRAPHITE

James S. Kane, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 6, 1960, Ser. No. 20,586
13 Claims. (Cl. 117—8)

1. In a process for producing a high temperature oxidation resistant refractory coating on dense nuclear grade graphite having an isotropic coefficient of thermal expansion in the range of 3 to 8×10^{-6} in./in./° C., the steps comprising applying substantially oxide-free silicon metal to said porous surface in limited quantities while maintained at an elevated temperature above the melting point of silicon to react therewith and produce thereon a composite layer of silicon carbide interpenetrated by localized residual graphite regions of said surface, removing exposed portions of said residual graphite regions from said carbide layer by contact with an oxidizing atmosphere at elevated temperatures to produce a porous exterior surface thereon, whereby said layer may serve as an intermediate bonding layer, and applying molten silicon metal to said porous exterior surface of said carbide layer to provide an adherent continuous layer of silicon metal coating bonded to the graphite by said intermediate carbide layer.

3,140,194

METHOD OF ORNAMENTING PREFORMED POLYOLEFIN SUBSTRATES WITH COATING CONTAINING WATER INSOLUBLE PIGMENTS AND RESULTANT ARTICLE

Domenick Donald Gagliardi, 185 Howland Road, East Greenwich, R.I.

No Drawing. Filed Apr. 28, 1961, Ser. No. 106,173
5 Claims. (Cl. 117—15)

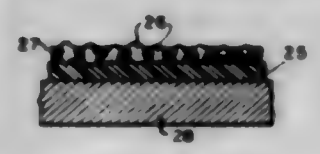
1. A process of ornamenting films of polyethylene which comprises applying a solution of N-dodecylethylene N-methyl diamine in isopropanol to a surface of a polyethylene film, drying the film to evaporate said isopropanol and leave as residue said diamine, the application of said solution being controlled to provide a residue of about 1 to 5% by weight based upon the weight of the film, then heating the treated film to a temperature of about 150 to 200° F. for about 5 to 30 minutes, printing the diamine treated surface of the film with a print paste containing a water-insoluble pigment and a thermoplastic film forming agent and then drying the printed film.

3,140,195

PROCESS FOR PROVIDING A COATED SURFACE

Fritz J. Nagel, Reiffton, Reading, Pa., assignor to The Polymer Corporation, a corporation of Pennsylvania

Filed July 18, 1958, Ser. No. 749,419
6 Claims. (Cl. 117—21)



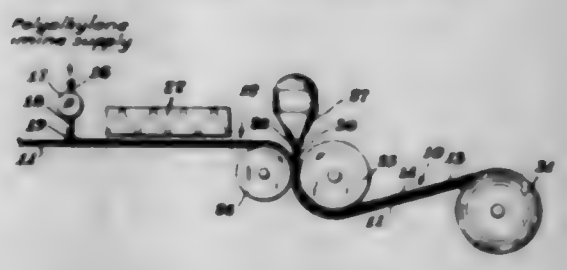
1. The process of producing a coating upon the surface of a body which comprises the steps of forming a fluidized bed of coating material in pulverulent form containing particles therein which fuse when heated, heating the body above the fusion temperature of said fusible particles and immersing the body in the dense phase of the fluidized bed, withdrawing the body from the bed, applying infusible particles to the first coating while it is heated to a temperature at which the first coating is tacky so that a coating of said infusible particles is formed on the first coating, and thereafter immersing the body in a fluidized bed of coating material in pulverulent form containing particles therein which fuse when heated thereby to form a layer covering substantial portions of said infusible particles.

3,140,196

LAMINATE FOIL

George H. Lacy, Rocky River, and Raymond R. Chervenak, Cleveland, Ohio, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Apr. 27, 1959, Ser. No. 809,244
20 Claims. (Cl. 117—75)



1. A method for preparing a composite laminate structure which comprises applying to the surface of a substrate of metal selected from the group consisting of aluminum and lead between about 5 grams and about 100 grams per thousand square feet of substrate surface of a polyalkylene imine comprised of alkylene units containing from 2 to about 4 carbon atoms as an adhesion-promoting preliminary and intermediate coating on the surface of said substrate; then depositing a molten layer of a normally solid, film-forming, non-aromatic hydrocarbon polymer over said intermediate coating of said polyalkylene imine on said preliminary treated substrate; then cooling said applied polyolefin layer to a normal temperature to solidify same on said substrate and form a tightly ad-

hering and effectively laminated polyolefin layer on said substrate.

3,140,197
FINISHED TEXTILE AND METHOD OF PRODUCING SAME
Georg Heberlein, Fritz Mannel, and Werner Knaz, Wattwil, Switzerland, assignors to Heberlein & Co. AG., Wattwil, Switzerland, a corporation of Switzerland
No Drawing. Filed Mar. 31, 1960, Ser. No. 62,068
Claims priority, application Switzerland Apr. 1, 1959
8 Claims. (Cl. 117—93.31)

1. A method of finishing a cellulosic textile, which comprises impregnating the textile with a condensable crease-resistance imparting finishing substance dispersed in a fluid carrier and then subjecting the impregnated textile to high energy ionizing radiation to a total radiation dose in the range between about 10^3 and about 10^7 r. to condense the condensable substance on the textile without substantially reducing the strength of the textile.

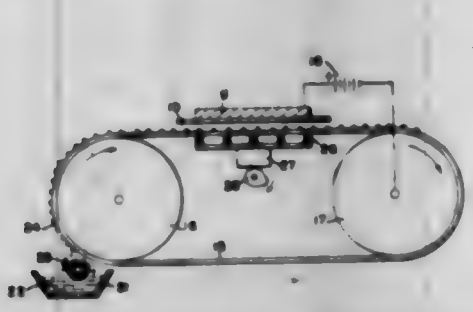
3,140,198
TREATMENT OF TEXTILE MATERIALS
Fred Dawson and Edward Jervis Vickers, Manchester, and Dennis Richard Sheard, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed May 28, 1962, Ser. No. 197,845
Claims priority, application Great Britain June 1, 1961
29 Claims. (Cl. 117—138.8)

1. A process for treating textile materials, particularly filaments and fibers made from synthetic linear polymers, which comprises applying thereto (1) 0.1% to 2.0% by weight, of said textile material, of a water soluble lower alkylene oxide condensate, and (2) between

$$\sqrt{\frac{0.02}{D.d}} \text{ and } \sqrt{\frac{0.1}{D.d}}$$

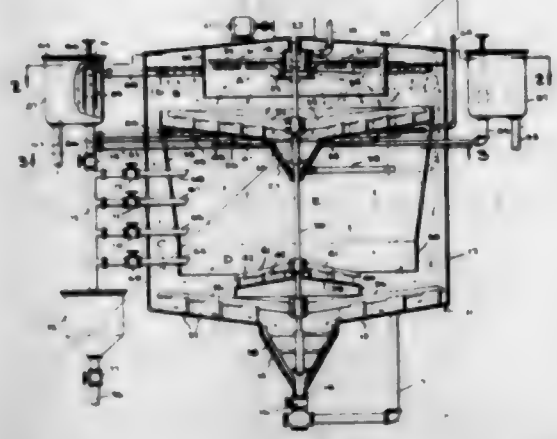
percent by weight, of said textile material, of a copolymer selected from the group consisting of siloxane oxyalkylene block and graft copolymers, wherein D is the fiber denier and d is the fiber density in grams per cubic centimeter.

3,140,199
VIBRATING BELT POWDER CLOUD GENERATOR FOR XEROGRAPHY
William C. York, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 28, 1961, Ser. No. 106,282
7 Claims. (Cl. 118—637)



1. In a xerographic developing machine, a toner applicator comprising means for supporting an electrostatically charged layer to be developed, a flat belt with a section thereof in an area close to and parallel to said layer when so supported, means remote from said area for triboelectrically loading said belt with toner powder, means for moving said belt for carrying triboelectrically held toner powder to said area close to said layer and means positioned adjacent to said area and on the opposite side of said belt from said layer for vibrating said section of said belt in said area.

3,140,200
SUGAR CANE RAW JUICE CLARIFIER
Rafael Rodriguez Chacon, % Porto Rico Iron Works, Inc., P.O. Box 1589, Ponce, Puerto Rico
Filed Nov. 30, 1962, Ser. No. 241,296
12 Claims. (Cl. 127—13)

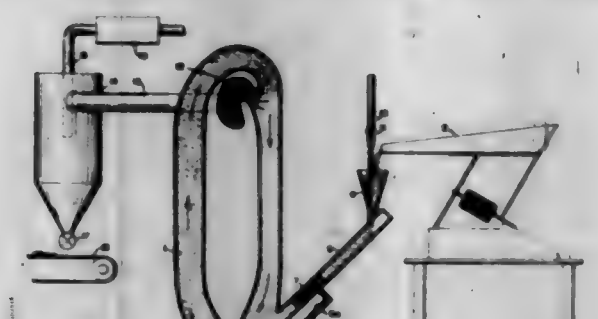


1. A sugar cane raw juice clarifier comprising a generally cylindrical tank having a top wall and a downwardly convergent, substantially conical bottom wall, a vertical shaft journaled axially in said tank, means to drive said shaft, sugar cane raw juice inlet means connected to the center portion of said top wall, a depending substantially cylindrical skirt member axially secured to said top wall and defining a flocculating space therein, a froth channel radially mounted in the top portion of the tank and extending into said flocculating space, a horizontal sweep arm secured on said shaft immediately above the top plane of said froth channel, a horizontal baffle plate secured on said shaft below said sweep arm to deflect liquid outwardly in said flocculating space, a downwardly convergent generally conical tray member mounted axially in said tank and spaced below and being substantially larger in diameter than said skirt member, a sweep arm secured on said shaft and having depending scraper means engageable with said tray member, a first mud discharge conduit connected to the bottom of said tray member, said skirt member defining with the upper portion of the cylindrical wall of the tank an annular settling chamber, a downwardly convergent frusto conical shell member of substantial height secured to the periphery of said tray member and defining with the cylindrical wall of said tank a downwardly flaring annular further settling chamber, an additional sweep arm secured on said shaft and having depending scraper means engageable with the bottom wall of the tank, a second mud discharge conduit connected to the bottom end of said bottom wall, a juice collection chamber, an apertured annular juice collection conduit mounted in the upper portion of said first-named annular settling chamber, conduit means connecting said collection conduit to said juice collection chamber, at least one additional apertured annular juice collection conduit mounted in the upper portion of the interior of said shell member, and further conduit means connecting said last-named collection conduit to said collection chamber.

3,140,201
DRY PULVERULENT SUGAR PRODUCTS AND PROCESS FOR PRODUCING SAME
Frederick E. Reimers, Westfield, N.J., and Marvin D. Miller, Oceanside, and Freeman Bush, Hollis, N.Y., assignors to American Sugar Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 9, 1962, Ser. No. 165,121
4 Claims. (Cl. 127—63)

1. Process for producing a dry, non-hygroscopic, non-caking, pulverulent, homogeneous sugar composition consisting predominantly of sucrose particles and containing

from about 5% to about 25% by weight of invert or other reducing sugars, which comprises charging an admixture of granular sucrose and a syrup of invert or other reducing sugars at an elevated temperature to a fluid energy mill, the proportion of said sucrose and said syrup in said admixture charged to said fluid energy mill being such



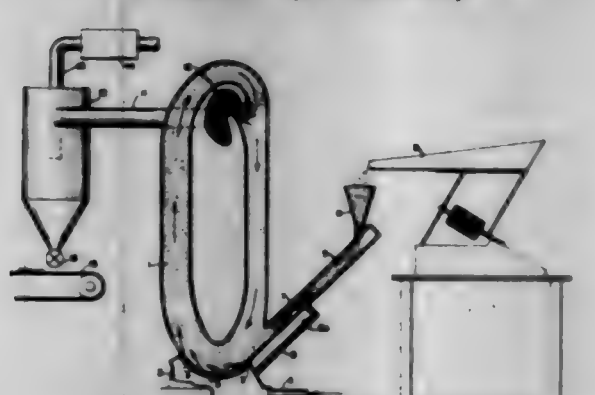
that the resulting sugar composition product contains from about 5% to about 25% by weight invert or other reducing sugars, and therein subjecting the admixture while suspended in an air stream at ambient temperature to attrition by violent impact between the particles of the granular sucrose of said admixture thereby simultaneously pulverizing and drying the admixture.

3,140,282

DRY PULVERULENT BROWN SUGAR AND PROCESS FOR PRODUCING SAME

Erwin Naborney, Fanwood, N.J., assignor to American Sugar Company, a corporation of New Jersey

Filed Jan. 9, 1962, Ser. No. 165,166
5 Claims. (Cl. 127—63)



1. A process of converting wet granular brown sugar to a dry, pulverulent, non-caking brown sugar of uniform composition which comprises introducing said wet granular brown sugar into a fluid energy mill supplied with a stream of dry gas at a temperature in the range 75–300° F. as the energizing fluid, subjecting said granular brown sugar to treatment within said mill to effect simultaneous drying and grinding by suspending said granular brown sugar in the stream of dry gas supplied to said fluid energy mill to subject said granular brown sugar to attrition by violent impact between the solid particles of said granular brown sugar and recovering as product from said mill the aforesaid dry, pulverulent, non-caking brown sugar.

3,140,283

METHOD OF AND COMPOSITION FOR TREATING ALUMINUM AND ALUMINUM ALLOYS

John J. Grunwald, New Haven, Conn., assignor to MacDermid, Incorporated, Waterbury, Conn., a corporation of Connecticut

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,816
6 Claims. (Cl. 134—3)

1. A deoxidizing solution for aluminum alloys containing silicon as a significant alloying element, which consists essentially, in addition to water, of a soluble persulfate selected from the group consisting of persulfuric acid and the ammonium, alkali and alkaline earth metal salts thereof in amount of from 1.0 gram per liter to saturation, a soluble fluoride providing a fluoride ion concentration in solution equivalent to that obtained from 0.1 to 20.0 grams per liter of ammonium bifluoride, and a supplemental acid component selected from the group consisting of sulfuric and phosphoric acids, the acid salts thereof, and nitric acid, in amount sufficient to provide a solution pH not over 2.0.

2. The process of deoxidizing and desmutting aluminum and aluminum alloy articles which comprises providing an aqueous solution consisting essentially, in addition to water, of a soluble persulfate in amount sufficient to give a persulfate ion concentration equivalent to that provided by from 1.0 gram per liter to saturation of ammonium persulfate, and a supplemental acid component selected from the group consisting of sulfuric and phosphoric acids, the acid salts thereof, and nitric acid, in amount sufficient to provide a solution pH not in excess of 2.0, treating said articles by immersing them in said solution for a period of at least 10 seconds at a temperature of at least 50° F.

3,140,284

METHOD OF INACTIVATING METAL SURFACES

Shizuka Tokunaga, Kintama-gun, Tokyo, Japan, assignor to Nihon Parkerising Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 26, 1961, Ser. No. 105,819
Claims priority, application Japan Dec. 27, 1960
4 Claims. (Cl. 148—6.2)

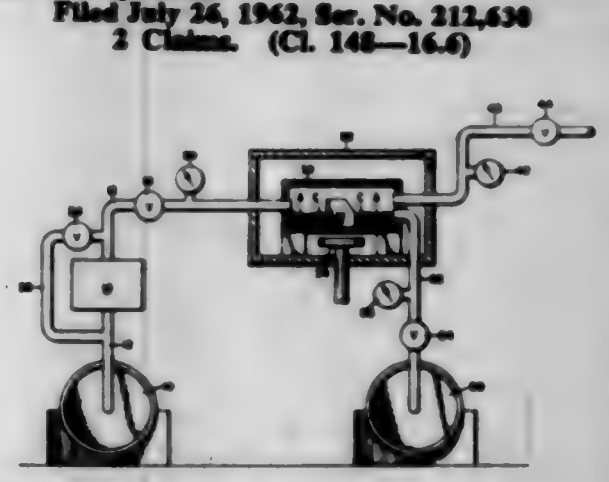
1. A method for inactivating metal surfaces which comprises contacting said metal surfaces with an aqueous treating liquid having a pH in the range of from about 5 to about 8, said liquid containing (*a*) at least one water-soluble thermo-setting resin selected from the group consisting of water-soluble alkyd melamine resins, vegetable oil modified alkyd melamine resins, and polyacrylic acid, (*b*) a hexavalent chromium compound in an amount such that the CrO_3 content of said liquid ranges up to a maximum of 1.8 grams per liter of said liquid, and (*c*) a cation amine activating agent consisting of sodium β-aminopropionate modified with coconut oil, and thereafter heating said treated metal surface to a temperature in the range of from about 110° to about 1000° C. to provide an inactivated surface coating on said metal.

3,140,285

PROCESS FOR NITRIDING STEELS OF THE LOW, MEDIUM AND HIGH ALLOY TYPES BY FIRST REMOVING THE PASSIVE OXIDE SURFACE FILM

Vincent T. Malcolm, Indian Orchard, Springfield, Mass., assignor to Chapman Division—Crane Co., Springfield, Mass., a corporation

Filed July 26, 1962, Ser. No. 212,630
2 Claims. (Cl. 148—16.6)



1. The improvement in the hardening of the surface of a metallic work piece characterized by the presence on the

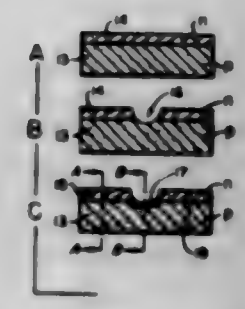
surface thereof of a passive film acting to inhibit penetration of nitrogen into the surface when such work piece is heated in a nitrogenous atmosphere comprising, heating the work piece at a temperature between 400° and 700° F. during a time interval of at least 2 hours duration in the presence of the gaseous products of a decomposed polyvinyl chloride resin and subsequently at a temperature of 1000° F. during a time interval of approximately 20 hours duration in the presence of a nitrogen-liberating gas.

3,140,206

METHOD OF MAKING A TRANSISTOR STRUCTURE

William Shockley and Robert N. Noyce, Los Altos, Calif., assignors, by direct and mesne assignments, to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Original application Apr. 11, 1957, Ser. No. 652,117, now Patent No. 2,967,985, dated Jan. 10, 1961. Divided and this application July 1, 1960, Ser. No. 40,342
3 Claims. (Cl. 148—186)



1. The method of forming a field effect transistor which comprises the steps of forming a layer of opposite conductivity type on one surface of a block of semiconductive material of one conductivity type, forming a groove in said layer which extends through the layer into the block, and diffusing impurity atoms of the type which characterizes said opposite conductivity from said one surface to form a relatively thin region forming a junction with the block and connected at its ends with the layer.

3,140,207

PYROTECHNIC COMPOSITION

Mary M. Williams, Santa Monica, and Lohr A. Burkardt, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Dec. 18, 1962, Ser. No. 245,627
4 Claims. (Cl. 149—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A pyrotechnic composition comprising the following constituents:

Constituent—	Percent by weight
Binder	30
Silver iodate	50 to 70
Aluminum	0 to 20

said binder consisting essentially of a mixture of about 30 percent by weight nitrocellulose and about 70 percent by weight of a member selected from the group consisting of pentaerythritol tetranitrate, metriol trinitrate, triethylene glycol dinitrate and glyceryl trinitrate.

3,140,208

GASLESS IGNITION COMPOSITION FOR SOLID ROCKET PROPELLANTS

Barnet R. Adelman, Atherton, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Jan. 18, 1962, Ser. No. 167,193
4 Claims. (Cl. 149—41)

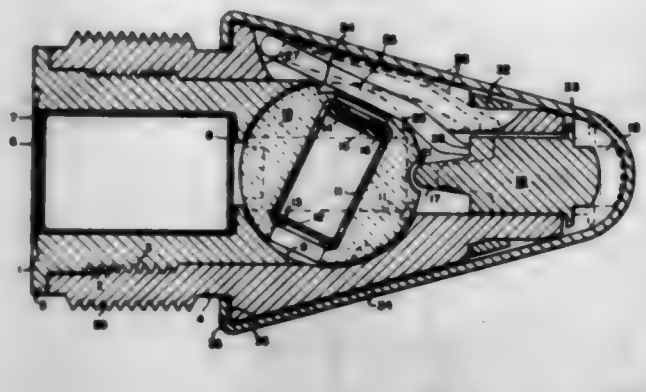
1. An igniter composition for a solid rocket propellant consisting essentially of powdered iron of a major amount by weight and potassium perchlorate.

3,140,209

EXPLOSIVE INITIATOR-BOOSTER CONTAINING DIETHYLACETYLENE AND A PERCHLORATE SALT

David C. Sayles, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 26, 1961, Ser. No. 141,269
2 Claims. (Cl. 149—75)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The booster can contents as a charge proportionally by weight consisting of 7.2 grams of diethylacetylene; mixed with the equivalent of 16.1 grams of silver perchlorate of a perchlorate of a metal selected from the group consisting of silver, aluminum, gold and copper and the mixed material cooperating to produce the unitary result of causing the detonation of an explosive charge.

3,140,210

BINDER SYSTEM FOR PROPELLANTS AND EXPLOSIVES

Henry T. Sampson, Urbana, Ill., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Jan. 25, 1963, Ser. No. 254,822
4 Claims. (Cl. 149—88)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A binder composition comprising the following ingredients:

Ingredients:	Percent by weight
Castor oil	30 to 40
Dipropylene glycol	11 to 15
2,4-tolylene diisocyanate	20 to 30
Trimethylol ethane trinitrate	15 to 35

3,140,211

REVERSIBLY RENDERING NON-EXPLOSIVE NITRIC ACID ESTERS

Adolf Berthmann and Clemens Franze, both of Leverkusen, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a German corporation

No Drawing. Filed Apr. 24, 1962, Ser. No. 189,716
Claims priority, application Germany Apr. 25, 1961
18 Claims. (Cl. 149—101)

1. Process for reversibly rendering non-explosive an explosive nitric acid ester which comprises admixing the ester with about 20–60% by weight of a polyglycol to form a solution of the ester and polyglycol.

14. A solution of an explosive nitric acid ester in about 20–60% by weight of a polyglycol.

3,140,212

EXPLOSIVE COMPRISING POLYNITRO HETEROCYCLIC AND NITROAROMATIC COMPOUNDS

Elbert E. De Maris, Mantua, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 28, 1963, Ser. No. 268,554
5 Claims. (Cl. 149—106)

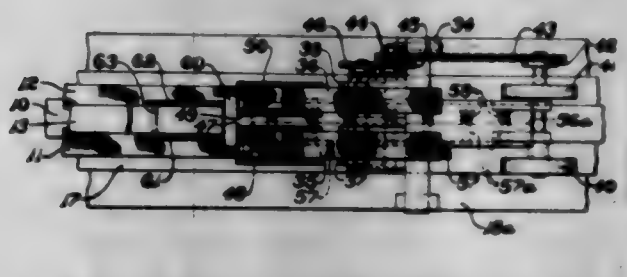
1. An explosive composition comprising a mixture of at least one polynitro heterocyclic compound selected from the group consisting of tetranitro-2,3;5,6-dibenzo-1,3a,4,6a-tetraazapentalene and tetranitro-2,3;4,5-dibenzo-1,3a,6,6a-tetraazapentalene and about from 1 to 20%, based on the weight of said mixture, of at least one aromatic compound of 6 to 7 carbon atoms bearing 3 nitro groups as the sole inorganic substituents.

3,140,213

HOSE MAKING METHOD

Richard M. Kutz, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed July 2, 1959, Ser. No. 824,650
6 Claims. (Cl. 156—202)



1. In the method of making flexible hose the steps comprising providing a flattened tube of elastomeric material, simultaneously longitudinally applying two strips of fabric material to one face of said tube with the adjacent edges of the strips laterally spaced from each other and with the opposite edges of the strips extending beyond the edges of the tube, applying a strip of elastomeric material to the adjacent edges of said fabric strips and the portion of said tube intermediate said strips, moving the said tube and strips over a convex surface with the said strips between the surface and tube while deflecting the fabric strips laterally of the tube to fold them around the tube, and then applying a strip of elastomeric material to the folded edges of the fabric strips and the portion of the tube therebetween on the other face of the tube.

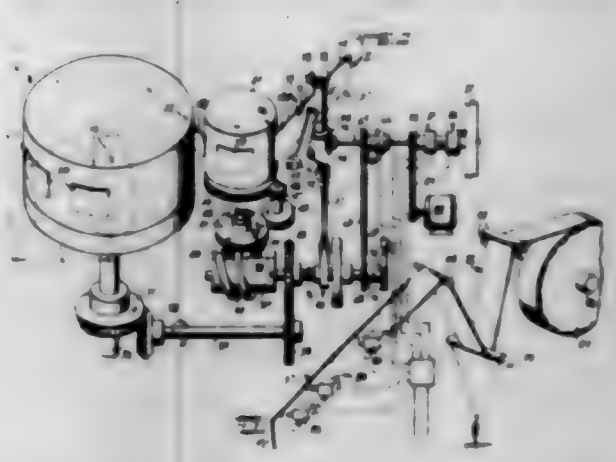
3,140,214

LABELING MACHINES

George W. von Hofe, Millington, N.J., assignor to New Jersey Machine Corporation, Hoboken, N.J., a corporation of New Jersey

Filed Apr. 7, 1959, Ser. No. 804,676
16 Claims. (Cl. 156—354)

14. In a high speed labeling machine capable of accurately cutting and applying ½ to 5 inch labels at production velocities ranging upwardly from 100 labels per minute to individual articles at a label applying station, means for feeding a succession of separate labels to a place of label application, means including continuously operating driving means for causing said label feeding means to deliver cut labels to the place of label application at a rate conforming to the operating production velocity of the machine, means for supporting a rolled web of labels, means adjacent to said label feeding means for cutting individual labels from the web of labels fed from the roll thereof, means for feeding the web from the roll to said cutting means comprising a pair of rotatable members cooperative to cause the advancement of the web to said cutting means and movable to a separated condition to disrupt the web feeding action of said web feeding means, means connecting one of said rotatable members in driven relation to said continuously operating driving means, electrical control means located alongside said web and responsive to register means provided on said web, and means controlled by said electrical control means and operative when the latter responds to a register means to separate said rotatable members and thereby stop the web feed action of said web feeding means, means



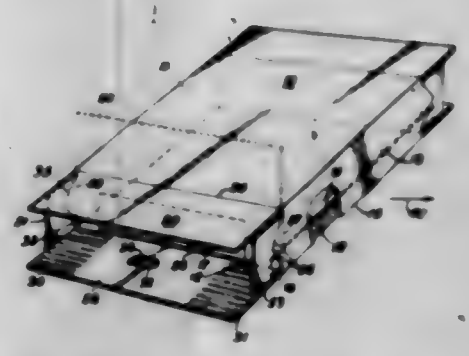
connecting said cutting means to said continuously operating driving means and operable to actuate said cutting means to cut the web when said rotatable members are separated, and means operable by said continually operating driving means to automatically restore the separated rotatable members to cooperative condition for causing advancement of the web after said cutting means has cut a label from the web.

3,140,215

PROCESS FOR SEALING CARTONS

Theron W. Russell, Skokie, Ill., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Dec. 16, 1959, Ser. No. 860,024
9 Claims. (Cl. 156—309)

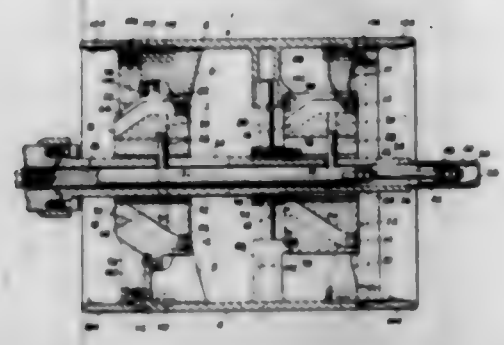


1. The method comprising converting a fiberboard sheet to a carton to be closed and sealed by flaps at a carton opening, said fiberboard having a pH in the range of from about 5.2 to about 5.7 and having an absorptive body, and said carton having flaps with faces in which fibers are exposed, coating the entire carton with a hydrophobic coat of normally solid fusible moisture-barrier material having a melting point at an elevated temperature below the boiling point of water, applying an aqueous adhesive composition activatable to adhesiveness by loss of water therefrom to said flaps whereby said adhesive composition will form an interface between pairs of said flaps when said flaps are closed, closing said flaps to sealing position, heating the so-positioned flaps by applying heat at a temperature above the boiling point of water and thereby melting and absorbing substantially all of the moisture-barrier material and exposing fibers of the flaps to the interfacial aqueous adhesive material, and thereby removing water from the adhesive material and bonding flap-to-flap by a fiber-to-fiber bond.

3,140,216
PRECISION TIRE BUILDING DRUM

Richard L. Shilts, Atwater, and William H. Ruttenberg, Sr., Akron, Ohio, assignors to The Akron Standard Mold Company, Akron, Ohio, a corporation of Ohio

Filed Apr. 18, 1962, Ser. No. 188,507
10 Claims. (Cl. 156—417)

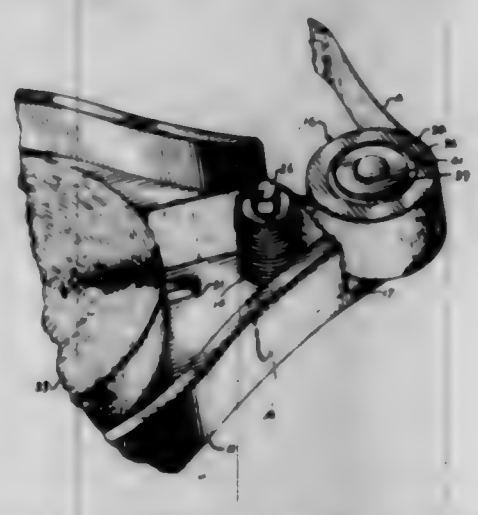


1. A tire building drum comprising, a rotatable shaft, a plurality of drum segments spaced from said shaft, cam follower means depending from each of said segments, cam means attached to and adapted for axial movement relative to said shaft, said cam means having a first and second set of alternately spaced cam tracks, the cam tracks of said first set having portions of different dimensional length relative to corresponding portions on the cam tracks of said second set for moving certain of said segments radially in advance of others of said segments upon collapsing the drum, and for moving said other of said segments radially in advance of said first mentioned segments upon expanding of the drum.

3,140,217
MASKING TAPE APPLICATOR

Marion E. Harbour, 2934 Arroya Chico, Tucson, Ariz., assignor of eight percent to Jerry L. Molinari, thirteen and one-third percent to Glenn R. Harbour, and thirteen and one-third percent to F. Bryan Harbour, all of Tucson, Ariz., and thirteen and one-third percent to Richard F. Hopkins, New York, N.Y.

Filed July 28, 1960, Ser. No. 44,884
7 Claims. (Cl. 156—577)

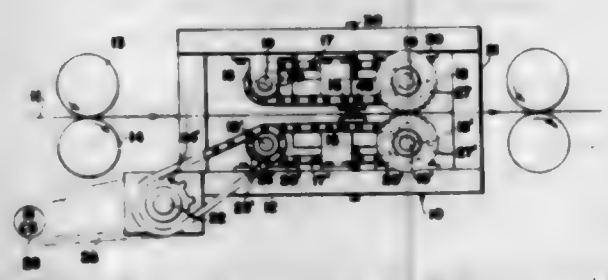


1. A precision applicator for the manual precision placement of masking tape, said applicator comprising a housing having a peripheral opening therein, a cover on said housing, means within the housing for supporting a roll of masking tape, a projection from the housing at said peripheral opening, a stabilizer roller at said opening, and an applicator roller carrier by the said projection exteriorly of the housing, said stabilizer roller being tapered with its larger diameter in the direction of the housing on which it is supported, and having its axis inclined slightly in the direction of the applicator roller, said stabilizer roller and applicator roller being aligned in radial relation with respect to the roll of masking tape.

3,140,218
REPETITIVE OPERATING FORMING HEAD EMPLOYING A PAIR OF COOPERATING ELEMENTS

Gilbert H. Hannon, Sheboygan, Wis., assignor, by mesne assignments, to Hannon Engineering Company, Green Bay, Wis., a corporation of Wisconsin

Filed July 11, 1957, Ser. No. 671,327
16 Claims. (Cl. 156—583)



1. A device for performing a plurality of operations on a flat strip of moving material comprising in combination a base, means for moving the material along a predetermined path over said base, a pair of relatively movable cooperating members mounted on said base one on each side of said path, means for moving each of said members substantially continuously independent of said material moving means adjacent to said path along an endless track, said members retaining a given geometrical position relative to said material while being actuated along said track and at a predetermined point during their movement along said path being actuated toward each other to cooperatively engage the material to perform an operation thereon, said members when engaging with the material moving along said path at the same speed as the material.

3,140,219
SWIRL CHANNEL BRANCH FOR A CHRISTMAS TREE

John L. Dick and Minnie M. Dick, both of 705½ Weston Ave., St. James, Minn.

Filed Jan. 4, 1962, Ser. No. 164,303
1 Claim. (Cl. 161—24)



The combination with an upright tree trunk of a plurality of simulated branches projecting outwardly from said tree trunk, each simulated branch comprising a channel member including side walls interconnected by a web portion, a plurality of body pieces each having one end affixed between said side walls, each of said body pieces being a feather which has its quill positioned between said channel members, adhesive securing said quill in said channel member, said channel member having a spiral configuration, and a pointed pin adhesively affixed to an end of said channel member and received in a bore provided in said tree trunk.

3,140,220
THERMAL INSULATION AND METHOD OF MANUFACTURE

Henry E. Walter, Cloquet, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware

Filed May 19, 1958, Ser. No. 736,266
4 Claims. (Cl. 161—104)

2. Thermal insulation comprising an insulating length of insulating material, said length having a plane face

from edge to edge and parallel edge-faces at right angles to said plane face, a flexible sheet liner adhesively secured to said plane face within an area inwardly from the edge of said face, said liner terminating at the edges of said plane face, being unsecured to said plane face along a continuous band alongside each edge of said plane face, and being secured to said plane face at the inner edge of each band, flexible partitioning strips each having one face adhesively united to said liner and its other face



free, which free faces define said continuous bands, each partitioning strip having a free extension in parallel strip form hinging on a folding line substantially at the edges of said liner, said extensions being foldable into and out of the unsecured areas defining said continuous bands, whereby said extensions when folded outwardly may be used as mounting flanges projecting from the full width of said length, and whereby the laminated bands of liner and partitioning strips may be used as mounting flanges.

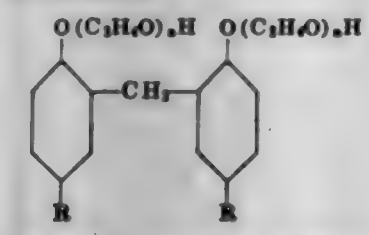
3,140,221

UNSATURATED POLYESTER RESIN FORMED FROM AN AROMATIC GLYCOL, INTERPOLYMERS THEREOF, AND ARTICLES FORMED THEREFROM

Raymond Liebling, Springfield, N.J., and Robert Steckler, Russel Township, Geauga County, Ohio, assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey

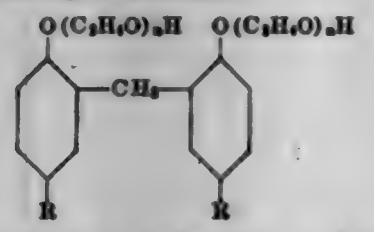
No Drawing. Filed Aug. 7, 1958, Ser. No. 753,607
22 Claims. (Cl. 161—195)

1. An ethylenically unsaturated polyester resin consisting essentially of the reaction product of an aromatic glycol having the formula



wherein R is an alkyl substituent having from about 5 to 12 carbon atoms and *n* varies from 1 to 2, and at least one member of the group consisting of monoethylenically unsaturated dicarboxylic acids and anhydrides thereof.

14. An interpolymer of (1) an ethylenically unsaturated polyester resin consisting essentially of the reaction product of (*a*) from about 1.0 to 1.04 mols of an aromatic glycol having the formula



wherein R is an alkyl substituent having from about 5 to 12 carbon atoms and *n* varies from 1 to 2, and one mol of (*b*) at least one member of the group consisting of monoethylenically unsaturated dicarboxylic acids and anhydrides thereof, and (2) a cross-linking agent which is an unsaturated monomer copolymerizable with said polyester resin.

22. A laminated article comprising fiberglass laminae bonded together with the interpolymer of claim 14.

3,140,223

TREATMENT OF FOURDRINIER WIRE

Raymond J. Michalski, Riverdale, and Theodore R. Newman, Oak Lawn, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Dec. 22, 1961, Ser. No. 161,702
7 Claims. (Cl. 162—199)



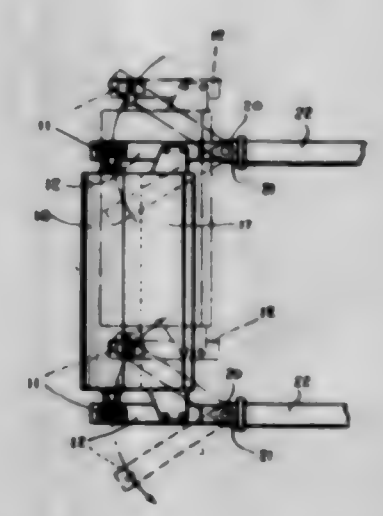
1. A method for improving, by chemical means, the operational efficiency of a Fourdrinier paper making machine which utilizes a coninuous Fourdrinier wire upon which paper and paper products are formed, which comprises treating the bottom of said Fourdrinier wire with a dilute aqueous solution which contains at least .005 pound per ton, based on the dry weight of the paper and paper products formed on said Fourdrinier wire, of a composition having the formula: (A) from 5–98% by weight of water soluble, extreme pressure lubricant comprising a nitrogen-containing heterocyclic compound characterized by a ring nitrogen bonded to a ring carbon to which is attached a sulfhydryl group, and (B) from 2–95% by weight of a water miscible dispersing agent from the group consisting of water miscible, non-ionic and anionic dispersing agents.

3,140,223

BREAST-ROLL RETRACTION MECHANISM FOR PAPER MACHINE FOURDRINIERS

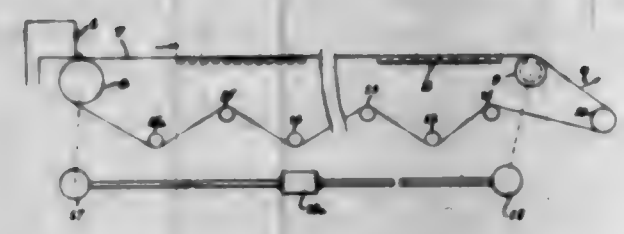
Leslie Truax, Montreal, Quebec, Canada, assignor to Dominion Engineering Works Limited

Filed Jan. 26, 1962, Ser. No. 168,999
7 Claims. (Cl. 162—273)



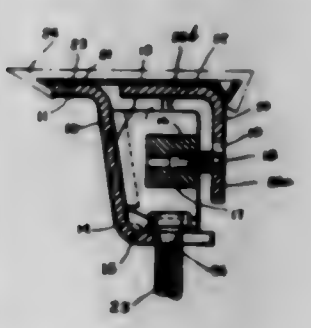
1. In a paper machine Fourdrinier, including a breast-roll and main beams, a breast-roll retraction arrangement including swinging arms supporting said breast-roll, said swinging arms being pivotally mounted to swing in a horizontal plane, means for correlating the relative positions of said swinging arms, and drive means operatively connected to said swinging arms.

3,140,224
APPARATUS FOR COMPACTION OF FORMED SHEET FOR IMPROVED PROPERTIES
Lloyd Hornbostel, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed May 2, 1960, Ser. No. 26,364
3 Claims. (Cl. 162—348)



1. Apparatus for compacting paper web material and related web materials on a Fourdrinier machine comprising: an elastic Fourdrinier wire adapted to traverse a breast roll spaced-apart from a driven couch roll; suction means intermediate said breast roll and said couch roll whereby water may be withdrawn through said wire from a web material being formed thereon; means for regulating the relative speeds of said breast roll and said couch roll whereby said breast roll applies a tension on said wire stretching said wire in the direction of wire travel to said couch roll, said wire contracting during its contact with and travel over said couch roll in the direction of wire travel to said breast roll whereby web forming slurry deposited on said wire while it is in a stretched condition is compacted while said wire is contracting; a second elastic wire adapted to traverse at least two wire support means positioned above said elastic Fourdrinier wire for pressing a web being formed on said Fourdrinier wire to thereby remove water therefrom, and means to control the surface speed of said second wire, said speed regulating means for the breast and couch rolls including braking means operatively connected to said breast roll whereby the breast roll speed differential relative to that of the wire and the couch roll is positively maintained and stretching of the wire as a consequence is positively controlled and the amount of stretching is over and beyond the nominal wire stretching inherent in the driving of wire under conditions of load otherwise specified in this claim.

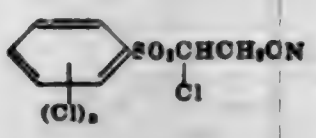
3,140,225
ADJUSTABLE DRAINAGE FOIL FOR PAPER MACHINES
Leslie Truax, Montreal, Quebec, Canada, assignor to Dominion Engineering Works, Limited
Filed Nov. 29, 1962, Ser. No. 240,941
9 Claims. (Cl. 162—352)



1. In a device of the character described having a body having a foil leading portion and a foil trailing portion, an adjusting bar carried by said body, projections and cam elements on said adjusting bar and said foil trailing portion, said cam elements operatively engaging said projections whereby said trailing portion may be angularly adjusted relative to said leading portion, the improvement comprising, said foil leading portion and said foil trailing portion being formed separate from each other, and a separate flexible impervious member connecting said separate foil leading and trailing portions.

3,140,226
MICROORGANISM TOXIC ALPHA-CHLORO-BETA-CYANOETHYLARYL SULFONES
John A. Stephens and Gail H. Birum, Dayton, Ohio, assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed June 13, 1961, Ser. No. 116,667
19 Claims. (Cl. 167—30)

13. A method of inhibiting the growth of undesired microorganisms which comprises exposing said microorganisms to a toxic amount of an α-chloro-β-cyanoethyl aryl sulfone of the formula



wherein *n* is an integer of from 1 to 5.

3,140,227
DURABLE GERMICIDAL FINISH FOR HYDROPHOBIC POLYAMIDE TEXTILE MATERIALS
Philip B. Roth, Somerville, and Leonard B. Hallows, New Brunswick, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 14, 1961, Ser. No. 89,104
9 Claims. (Cl. 167—38.6)

5. A method for provjding a durable antibacterial finish on a synthetic hydrophobic polyamide textile material which comprises applying to said material between about .01 and .05% of neomycin and from between about .5 and about 2% of polyacrylic acid based on the dry weight of the textile material, and from about 5 to about 7% of a strongly acidic catalyst based on the weight of acrylic acid and thereafter subjecting the material to elevated temperatures to cure the finish on the material.

3,140,228
PROCESS FOR ANALGESIA AND MUSCLE RELAXATION BY GLYCEROL GUAIACOLATE AND SALICYLAMIDE
Samuel Kuna, Westfield, and Anthony W. Pircio, East Brunswick, N.J., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 7, 1962, Ser. No. 177,988
6 Claims. (Cl. 167—55)

1. As a composition of matter, a therapeutic dose containing, as essential active ingredients, from 4 to 20 grains of the combination of glycerol guaiacolate and salicylamide, said composition containing from 2 to 3 parts by weight of salicylamide per part of glycerol guaiacolate.

3,140,229
LAXATIVE COMPOSITIONS CONTAINING (4,4'-DIHYDROXY-2''-AMINO) - TRIPHENYLMETHANE AND METHOD OF USING SAME
Otto-Erich Schultz and Jorg Schneckenburger, Kiel, and Ernst Seeger, Biberach an der Riss, Germany, assignors to Boehringer Ingelheim, G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany
No Drawing. Filed Dec. 28, 1960, Ser. No. 78,812
6 Claims. (Cl. 167—56)

1. The method of stimulating bowel movements which comprises introducing into the digestive tract from 25 to 200 mgm. of a compound selected from the group consisting of (4,4'-dihydroxy - 2''-amino) - triphenylmethane and its nontoxic, pharmacologically acceptable acid addition salts in dosage unit form.

3,140,230
METHOD OF STIMULATING THE CARDIAC AND BRONCHIAL BRANCHES OF THE CENTRAL NERVOUS SYSTEM
Robert Jequier, St.-Maur, France, assignor to Roussel-UCLAF, Paris, France, a corporation of France
No Drawing. Filed Apr. 4, 1962, Ser. No. 184,962
Claims priority, application France June 23, 1961
4 Claims. (Cl. 167—58)

1 The method of stimulating the cardiac and bronchial branches of the central nervous system which comprises administering from 0.02 gram to 0.10 gram of D(−)α-fluoro-camphor per day.

3,140,231
T-OCTYLGUANIDINES AS ANTIHYPERTENSIVE AGENTS
Leo S. Luskin, Philadelphia, Pa., and James H. Short, Lake Forest, Ill.; said Luskin assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware; said Short assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Aug. 14, 1961, Ser. No. 131,115
8 Claims. (Cl. 167—65)

1. A composition of matter in dosage unit form containing in each dosage unit form about 0.25 mg. to about 400 mg. of a compound selected from the class consisting of



and the pharmaceutically acceptable salts thereof, in which *n* is an integer of 1 to 2, and a pharmaceutical diluent.

3,140,232
COLOR STABILIZATION OF TETRACYCLINE COMPOSITIONS WITH POLYPROPYLENE GLYCOLS
Melvin M. Nosworthy, Malverne, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 19, 1962, Ser. No. 245,677
12 Claims. (Cl. 167—65)

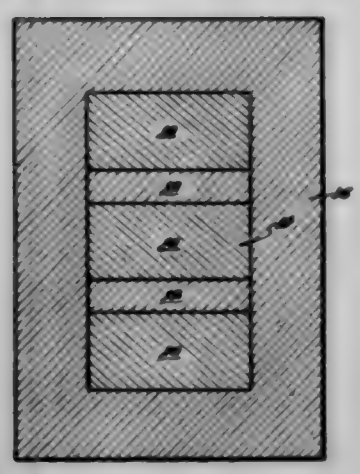
1. A pharmaceutical composition comprising a tetracycline antibiotic as the essential active ingredient, wherein the antibiotic is selected from the group consisting of the magnesium, calcium and aluminum complexes of tetracycline having a molar ratio of metal ion to tetracycline that is about 3:1, and the magnesium, calcium, aluminum and zinc complexes of oxytetracycline having a molar ratio of metal ion to oxytetracycline that is in the range of about 1:3 to about 3:1; and as a pharmaceutically acceptable carrier therefor, a polypropylene glycol having an average molecular weight that is in the range of from about 2200 up to about 8200.

10. A method for improving the color stability of a tetracycline antibiotic, which comprises contacting the antibiotic with at least one polypropylene glycol that is in the molecular weight range of from about 2200 up to about 8200 at a temperature that is in the range of from about 20° C. up to about 55° C., and thereafter recovering the so-treated antibiotic.

3,140,233
TASTELESS PHARMACEUTICAL COMPOSITION AND PROCESS
Peter Riechmann, Mannheim-Waldhof, Germany, assignor to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a corporation of Germany
No Drawing. Filed Apr. 19, 1962, Ser. No. 188,901
Claims priority, application Germany July 21, 1959
10 Claims. (Cl. 167—82)

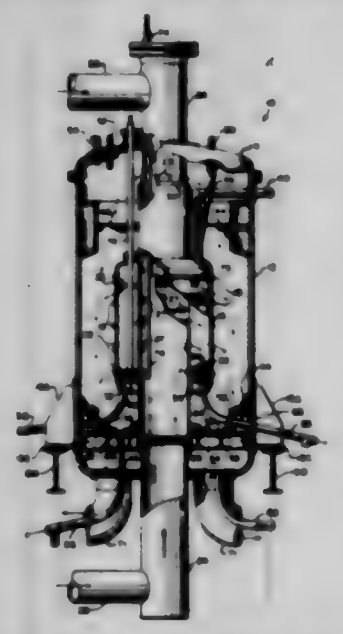
1. In a process of producing a substantially tasteless pharmaceutical composition, the steps which comprise dissolving the cetyl sulfate of the β-dimethylamino ethyl ether of (2-methyl phenyl) benzyl alcohol in a substantially non-toxic, watermiscible organic solvent and adding the resulting solution to a drinkable aqueous liquid, thereby forming an emulsion of said cetyl sulfate in said liquid.

3,140,234
FAST REACTOR CORE
Walter R. Loewenstein, Elmhurst, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 16, 1963, Ser. No. 316,784
3 Claims. (Cl. 176—17)



1. A light-metal-cooled fast nuclear reactor core comprising a plurality of subcritical, slab-shaped fuel regions containing plutonium-239 loosely coupled by slab-shaped blanket zones containing depleted uranium disposed therebetween, the total volume of the fuel regions being over about 800 liters.

3,140,235
DOWNFLOW PACKED BED NUCLEAR FISSION REACTOR
Lorraine F. Hatch, Brookhaven, and Thomas V. Sheehan, Hampton Bays, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 23, 1962, Ser. No. 239,849
8 Claims. (Cl. 176—18)



1. A downflow packed particulate bed nuclear fission reactor comprising a core vessel having therein a bed of particles containing fissionable material, an outer vessel for enclosing said core vessel forming an annular breeding chamber having therein a bed of particles containing fertile material, means for directing coolant flow through said beds of particles in directions to maintain said beds

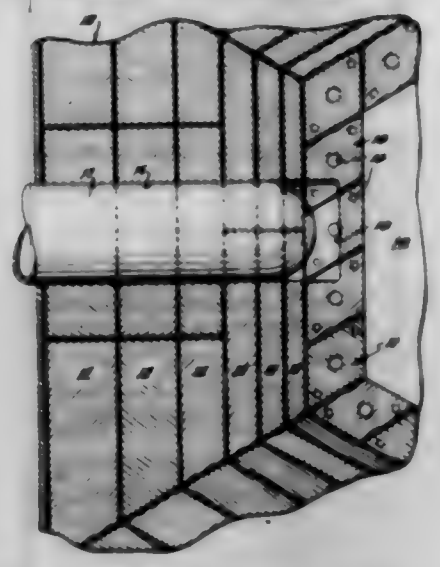
each in a settled state during normal operation of said reactor, and means during shut-down of said reactor for fluidizing said beds to permit replacement and redistribution of said particles, said directing means passing the coolant into said core vessel for radial flow through the latter, and said core vessel being provided with openings to permit the coolant to flow into said bed of fertile particles.

3,140,236

NUCLEAR REACTOR WITH IMPROVED BEAM TUBE

Charles N. Kelber, Wheaton, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 26, 1962, Ser. No. 247,416
3 Claims. (Cl. 176—18)



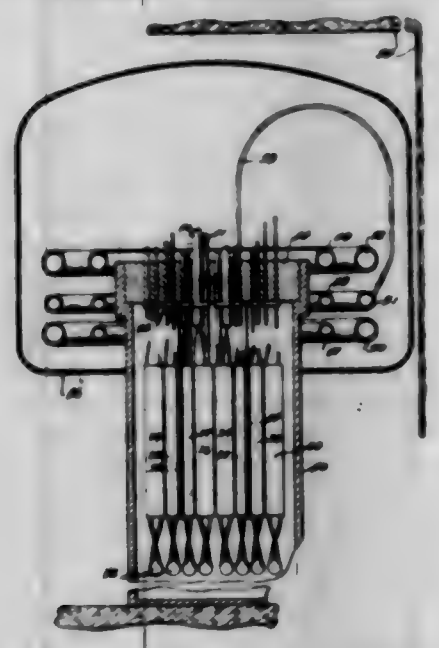
1. In a nuclear reactor comprising a core, a beryllium reflector surrounding the core, and a horizontal beam tube penetrating the reflector, the combination therewith of a layer of light water immediately adjacent the tip of the beam tube, said layer of water being separated from the core by a layer of beryllium.

3,140,237

LARGE FAST NUCLEAR REACTOR

Russell E. Peterson, Kennewick, and Samuel L. Stewart, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 16, 1963, Ser. No. 316,783
6 Claims. (Cl. 176—18)



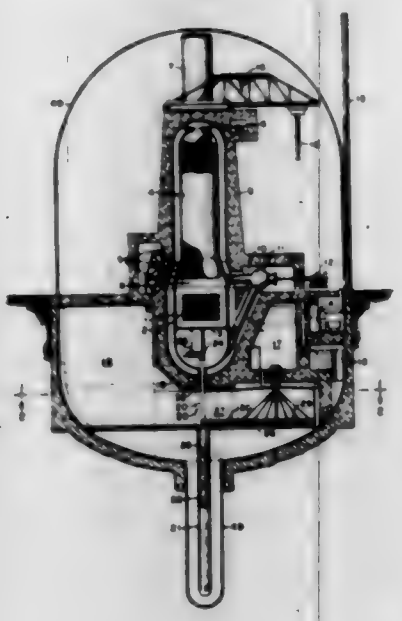
1. A large fast nuclear reactor, comprising a plurality of fissionable regions, and a barrier separating each fissionable region from each adjacent fissionable region, said barrier comprising a moderator region and two thermal neutron absorber regions, one absorber region lying between the moderator region and one of the two adjacent fissionable regions, the other lying between the moderator region and the other of the two adjacent fissionable regions.

3,140,238

CHARGING AND SERVICE MACHINE FOR GAS-COOLED REACTORS

Arthur P. Fraas, Knoxville, and John J. Tudor, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 26, 1962, Ser. No. 233,495
3 Claims. (Cl. 176—30)



1. In a neutronic reactor comprising a core structure having a multiplicity of aligned channels passing vertically therethrough for the deposition of fuel, the passage of a coolant, and for the accommodation of neutron absorbing control rods, improved means for performing charging and servicing operations on said core structure comprising in combination: a ram centrally positioned external to said core structure, a ram head mounted on one end of said ram to perform one of said service and charging operations upon said core, means for raising and lowering said ram, at least one turntable disposed in a plane lying perpendicular to the ram axis at the top of said ram when said ram is in its lowered position, said turntable providing for storage of fuel and detachable ram heads, a plurality of radial tracks disposed on said turntable, track mounted shuttle means communicating between said turntable and said ram for transferring items therebetween, means for indexing any radial track on said turntable with said shuttle, means for radially and angularly positioning said ram head, and means for operating said ram head in performing one of said operations.

3,140,239

MICROBIOLOGICAL OXIDATION OF KOJIC ACID TO COMENIC ACID

Fred W. Tanner, Jr., Brookfield, Wis., and Joseph L. Sardinas, Gales Ferry, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 26, 1962, Ser. No. 226,442
4 Claims. (Cl. 195—30)

1. A process for the preparation of comenic acid from kojic acid which process comprises cultivating under

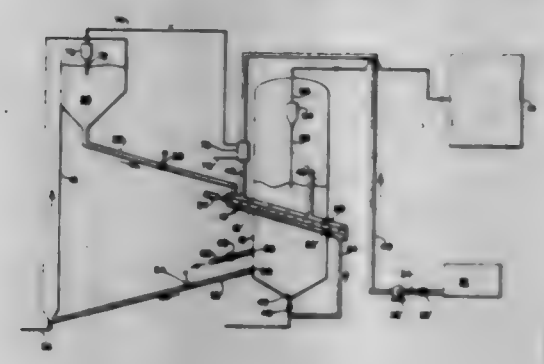
submerged aerobic conditions a comenic acid-producing species selected from the group consisting of the genus Fusarium and the genus Absidia in an aqueous nutrient medium comprising kojic acid, a source of nitrogen, a source of carbon and a source of minerals.

3,148,240

PROCESS FOR CARBONIZING COAL

Donald Leigh Fowler, Jr., Pittsburgh, Pa., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 21, 1960, Ser. No. 44,605
5 Claims. (Cl. 202—14)



1. The method of carbonizing finely divided coal to produce therefrom a liquid distillate which comprises introducing said coal in the form of a slurry consisting essentially of finely divided coal and water into a distillation vessel comprising two worms rotating in the same direction and mutually cleaning one another, concurrently introducing an inert finely divided solid heat carrier into said distillation vessel, said inert heat carrier being at a temperature above the carbonization temperature of said coal, intimately mixing said slurry and said inert heat carrier by means of said two worms in said distillation vessel to generate a diluent gas therein by vaporizing the water in said slurry into steam and also by intermixing said coal with said inert heat carrier evolving a substantial portion of said distillate in vapor form, said steam serving as a substantially inert diluent gas for said distillate vapors autogenously evolved in said distillation vessel, withdrawing said mixture of steam and distillate vapor from said distillation vessel, and separating said distillate vapor from said steam.

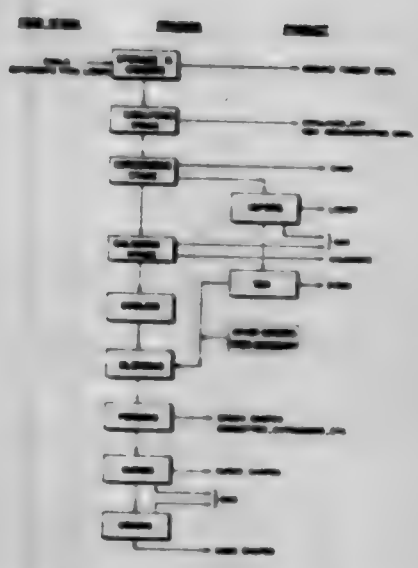
3,148,241

PROCESSES FOR PRODUCING CARBONACEOUS MATERIALS

Josiah Work, Darien, Conn., Robert T. Joseph, Richboro, Pa., and John H. Blake, Boulder, Colo., assignors to FMC Corporation, a corporation of Delaware

Filed June 18, 1959, Ser. No. 821,137
24 Claims. (Cl. 202—26)

1. A process of producing carbonaceous material which comprises heating non-coking coal particles to a temperature within the range of 250° F. to 500° F. in an atmosphere containing from 1% to 8% by volume of oxygen for from 5 minutes to 3 hours to produce catalyzed coal particles conditioned so that in the next heating stage the content of hydrocarbonaceous matter in the coal is reduced; heating the catalyzed coal particles to a still higher temperature but not exceeding 1200° F. and maintaining them at said higher temperature for from 10 to 60 minutes to evolve vapors and produce char which has a markedly lower volatile combustible material content than the parent coal; and heating the char to a still higher temperature within the range of from 1400° F. to 1800° F. and maintaining the heated char at said higher temperature for a time interval to produce calcinate.



3,148,243

PROCESSES FOR PRODUCING CARBONACEOUS MATERIALS FROM HIGH OXYGEN COALS

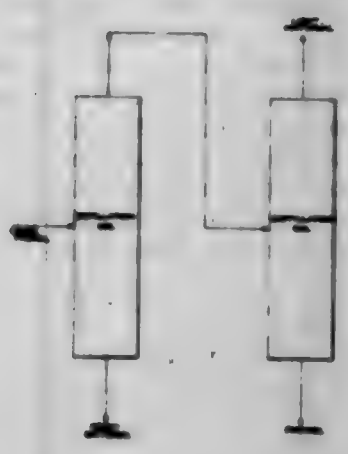
Josiah Work, New Canaan, Conn., Robert T. Joseph, Richboro, Pa., and John H. Blake, Boulder, Colo., assignors to FMC Corporation, a corporation of Delaware

Filed Aug. 3, 1960, Ser. No. 47,219
12 Claims. (Cl. 202—26)



1. A process of producing carbonaceous material from coal having an oxygen content on a moisture and ash-free basis of at least 15% by weight which comprises, heating particles of said coal to a temperature within the range of 250° F. to 500° F. in an atmosphere free of oxygen derived from a source extraneous to the coal for from 5 minutes to 3 hours to produce catalyzed coal particles conditioned so that in the next heating stage the amount of hydrocarbonaceous matter in the coal particles is reduced; heating the catalyzed coal particles to a still higher temperature but not exceeding 1200° F. and maintaining them at said higher temperature for from 10 to 60 minutes to evolve vapors and produce char which has the essential structure and density of the parent coal, but has a markedly lower volatile combustible material content than the parent coal; and heating the char to a still higher temperature within the range of from 1400° F. to 1800° F. and maintaining the heated char at said higher temperature for a time interval to produce calcinate.

3,140,243
TWO STAGE DISTILLATION OF HIGH PURITY PHENOL
Jack B. Feder, Yonkers, N.Y., and Joseph L. Russell, Ridgewood, N.J., assignors to Halcon International, Inc., a corporation of Delaware
Filed June 10, 1960, Ser. No. 35,127
3 Claims. (Cl. 202—40)



1. A process for the production of phenol from crude phenol which contains not more than 10% by weight of an oxygenated cyclohexane impurity which comprises fractionally distilling the crude phenol and separating a first fraction containing phenol and material boiling lower than phenol from a second fraction boiling higher than phenol, fractionally distilling said first fraction in a second separate fractional distillation and separating pure phenol as higher boiling product from said second distillation, both fractional distillations being carried out at substantially atmospheric pressure in the absence of added agents.

3,140,244
REMOVAL OF VOLATILE ORGANIC MATERIALS FROM AQUEOUS HYDROCHLORIC ACID
Joseph Simek, Edwin J. Strojny, and Alexander H. Widiger, Jr., Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 3, 1962, Ser. No. 228,823
8 Claims. (Cl. 202—46)

1. A process for the removal of volatile organic materials from aqueous hydrochloric acid comprising, countercurrently contacting said aqueous hydrochloric acid with a gas which is non-reactive with either aqueous hydrochloric acid or the volatile organic materials, in a volume ratio of gas to aqueous hydrochloric acid of from 6 to 100, thereby substantially removing said volatile organic materials from the aqueous acid, and recovering said aqueous hydrochloric acid substantially free from volatile organic materials.

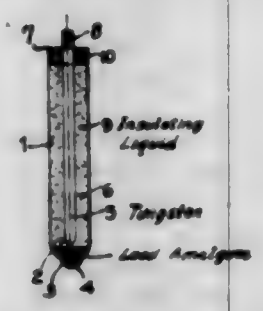
3,140,245
DULLING HARD ALUMINUM OXIDE COATINGS ON ALUMINUM-RICH BASIS METALS
Anthony Gallaccio, Havertown, and Reyburn W. Wick, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Aug. 23, 1961, Ser. No. 134,055
3 Claims. (Cl. 204—35)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of mmimizing the reflectivity of hard anodized aluminum oxide coatings on an aluminum-rich basis metal article which comprises treating said article with an aqueous solution consisting essentially of phosphoric acid of about 0.38 to 0.57 molarity, chromium tri-oxide of about 0.12 to 0.18 molarity about 0.01 weight percent of a surface active agent.

3,140,246
PREPARATION OF AROMATIC ACID HALIDES
Russell M. Bimber, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed May 11, 1961, Ser. No. 109,256
4 Claims. (Cl. 204—158)

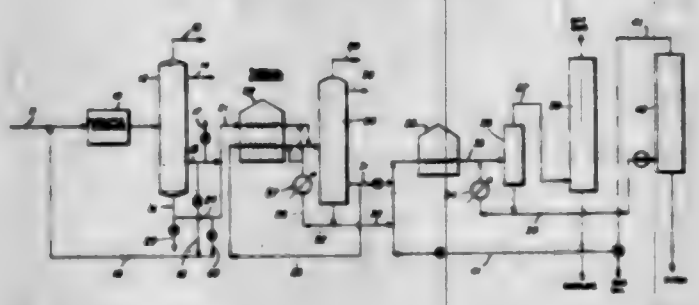
1. A process for the preparation of 2,3,5,6-tetrachloroterephthalyl dichloride which comprises photochemically chlorinating 2,3,5,6-tetrachloro-p-xylene-a-a'-diol at a temperature within the range of about 50° to about 150° C.

3,140,247
GLASS ELECTRODES FOR THE MEASUREMENT OF pH
Robert Fournie - Taillant - Verniouiet, Villeneuve - Saint-Georges, France, assignor to Commissariat a l'Energie Atomique
Filed June 3, 1960, Ser. No. 33,731
Claims priority, application France June 10, 1959
8 Claims. (Cl. 204—195)



1. In a glass electrode for the measurement of pH at temperatures up to 150° C., a hollow glass tube, a thin pH sensitive glass bottom for said tube free of metal coating on its internal surface, an amalgam in said bottom, a metallic filament in said tube forming a metallic junction with and insoluble in said amalgam at high temperature and a liquid insulating layer in said tube covering said amalgam.

3,140,248
PROCESS FOR PREPARING BINDER PITCHES
James F. Bell, Darien, and Bert Folda, Jr., New Canaan, Conn., and Robert A. Trimble, Pitman, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 6, 1962, Ser. No. 177,889
9 Claims. (Cl. 208—48)



1. A continuous process for producing a petroleum-derived pitch which is suitable for use as a binder in the manufacture of molded carbonaceous materials which comprises contacting a petroleum hydrocarbon fraction having an initial boiling point above about 400° F. and an end boiling point of about 1200° F. with a cracking catalyst under catalytic cracking conditions; removing from the resulting product a catalytically cracked hydrocarbon fraction boiling predominately above about 500° F. and having an atomic carbon to hydrogen ratio in the range from about 0.6 to about 0.91; subjecting said catalytically cracked hydrocarbon fraction to thermal cracking under conditions that include a temperature in the

range from about 850° F. to about 1050° F. producing a thermal asphalt having a soft point in the range from about 130° F. to about 180° F. and a specific gravity in the range from about 1.10 to about 1.20; passing said thermal asphalt through a heat soaking zone at pressures in the range from about 30 to about 400 pounds per square inch gauge and at temperatures in the range from about 900° F. to about 1100° F. at a residence time from about 4 to about 20 minutes.

3,140,249

CATALYTIC CRACKING OF HYDROCARBONS WITH A CRYSTALLINE ZEOLITE CATALYST COMPOSITE

Charles J. Plank, Woodbury, and Edward J. Rosinski, Almonesson, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed July 12, 1960, Ser. No. 42,284
21 Claims. (Cl. 208—120)

21. A process for cracking a hydrocarbon charge which comprises contacting said charge under catalytic cracking conditions with a catalyst comprising spheroidal particles containing a minor proportion of a substantially sodium-free crystalline aluminosilicate having a structure of rigid three dimensional networks characterized by uniform pores and having a weight mean particle diameter of between 2 and 7 microns suspended in and distributed throughout a matrix of an inorganic oxide gel selected from the group consisting of silica and composites of silica and an oxide of at least one metal selected from the group consisting of metals of Groups IIA, IIIB, and IVA of the periodic table, which catalyst has a sodium content of less than about 1 weight percent.

3,140,250

MANUFACTURE OF SILICA-ZIRCONIA-ALUMINA CATALYST

Robert H. Cramer and Sylvander C. Eastwood, Woodbury, and Abbott F. Houser, Delaware Township, Camden County, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Mar. 13, 1961, Ser. No. 95,011
18 Claims. (Cl. 208—120)

18. A method which comprises mixing an aqueous solution of an alkali metal silicate with an aqueous solution of a zirconium salt and an aluminum salt, said mixing being carried out with such proportions of said solutions as to result in a hydrosol having a pH of from 7 to 10 and to substantially set to a hydrogel containing from 5 to 15 percent ZrO_2, from 5 to 10 percent Al_2O_3, and from 75 to 90 percent SiO_2 based on co-gelled oxides only, permitting said hydrosol to set to a hydrogel, activating said hydrogel by treatment for from 1 to 24 hours at a temperature of from 125 to 200° F. with an aqueous solution having as the solute therefor a compound selected from the group consisting of a mineral acid, an aluminum salt, and mixtures thereof, said solution having a pH of from zero to 7, washing said hydrogel free of water-soluble material, drying and calcining to thereby obtain a solid, porous catalyst of silica-zirconia-alumina, and thereafter contacting said catalyst with a hydrocarbon charge under catalytic cracking conditions to thereby obtain an improved gasoline yield therefrom.

3,140,251

PROCESS FOR CRACKING HYDROCARBONS WITH A CRYSTALLINE ZEOLITE

Charles J. Plank, Woodbury, and Edward J. Rosinski, Almonesson, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Dec. 21, 1961, Ser. No. 161,241
19 Claims. (Cl. 208—120)

19. In a process for the cracking of a hydrocarbon charge with a solid porous catalyst wherein the products obtained comprise both economically valuable liquid hydrocarbons boiling in the motor fuel range and undesirable by-products of lesser economic significance, the improvement in selectively evidenced by the production of a substantially greater amount of said valuable liquid hydrocarbons together with concomitant reduction in the yield of undesired by-products from a given hydrocarbon charge, which comprises contacting said charge under cracking conditions with a catalyst composition comprising an inorganic oxide matrix having dispersed therein an aluminosilicate having an ordered crystalline structure and containing from 0.5 to 1.0 equivalent per gram atom of aluminum of ions of positive valence wherein the enhanced selectivity of said catalyst composition arises from the fact that the aluminosilicate has associated therewith both hydrogen ions and cations of metals selected from Group IB through Group VIII of the Periodic Table.

3,140,252

HYDROCARBON CONVERSION WITH CRYSTALLINE ACID-METAL ALUMINOSILICATES

Vincent J. Frilette, Cherry Hill, N.J., and Paul B. Weisz, Media, Pa., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Original application Dec. 21, 1961, Ser. No. 161,242. Divided and this application Feb. 10, 1964, Ser. No. 343,489
9 Claims. (Cl. 208—120)

1. In the catalytic cracking of a hydrocarbon oil to produce hydrocarbons of lower boiling range, the improvement of contacting said oil under cracking conditions with a crystalline aluminosilicate having an ordered crystalline structure having from 0.5 to 1.0 equivalent per gram atom of aluminum of ions of positive valence of which no more than 0.25 equivalent are alkali metal cations and having associated with said crystalline aluminosilicate both hydrogen ions and ions capable of conversion to hydrogen ions and cations of metals selected from Group IB through Group VIII of the Periodic Table, said metal cations, hydrogen ions and ions capable of conversion to hydrogen ions being associated with the aluminosilicate as a result of base exchange.

3,140,253

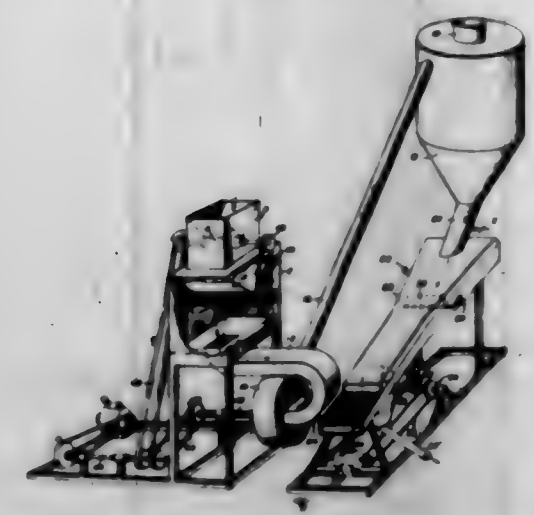
CATALYTIC HYDROCARBON CONVERSION WITH A CRYSTALLINE ZEOLITE COMPOSITE CATALYST

Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed May 1, 1964, Ser. No. 364,301
38 Claims. (Cl. 208—120)

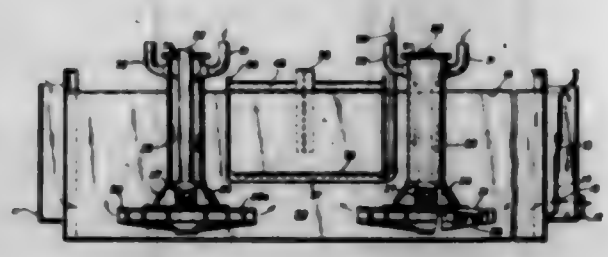
1. In the process for cracking a hydrocarbon charge stream with a solid porous catalyst wherein the products comprise both economically valuable liquid hydrocarbons boiling in the motor fuel range and undesirable by-products of lesser economic significance the improvement in selectivity, evidenced by the production of a substantially greater amount of said valuable liquid hydrocarbons together with concomitant reduction in the yield of undesired by-products from a given hydrocarbon charge, which comprises contacting said charge under cracking conditions with a crystalline aluminosilicate having an ordered crystalline structure having no more than 0.25 equivalent per gram atom of aluminum of alkali metal wherein the enhanced selectivity of said aluminosilicate arises from the fact that it has associated therewith both rare earth cations and ions selected from the group consisting of hydrogen, hydrogen precursors and mixtures thereof.

3,140,254
APPARATUS FOR TREATING SEEDS
Sol Katzen, % Industrias Avicolas, Hermosillo, Sonora, Mexico
Filed July 15, 1960, Ser. No. 43,052
2 Claims. (Cl. 209—30)



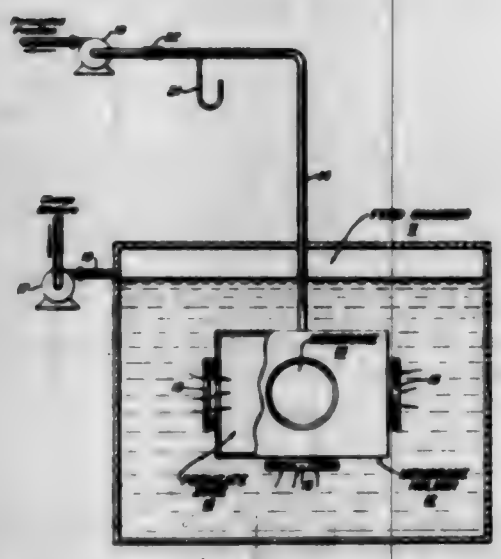
1. Apparatus for treating seeds for separating the kernels and hulls, comprising a cyclone separator for removing dust from the crushed kernels and hulls, a separating table operatively connected with the cyclone separator for receiving crushed kernels and hulls and some air from the cyclone separator, means for vibrating said separating table, said separating table comprising an imperforate top and a screen spaced slightly below said top, for defining a confined passageway between said top and screen for the passage of hulls and some air from the cyclone therealong, while the crushed kernels pass through the screen, and the hulls pass off the end of the screen, and transverse partition means above said screen, positioned intermediate the ends of the table, said partition means having its lower edge in contact with said screen and having its upper edge spaced a little below said imperforate top, for slowing down the crushed kernels for causing them to pass through the screen, while the hulls, propelled by residual air from the cyclone, pass over said partition means.

3,140,255
CONCENTRATION APPARATUS AND METHOD
Arthur C. Damon, Denver, Colo., assignor to Denver Equipment Company, Denver, Colo., a corporation of Colorado
Filed Aug. 23, 1961, Ser. No. 133,382
8 Claims. (Cl. 209—169)



1. The froth flotation process, which comprises treating a body of conditioned pulp, subject to continuous feed and discharge, in a progressive flow through an elongated confined zone with the surface of the pulp maintained at a common level throughout said zone, subjecting pulp in the lower portion of said body to a succession of at least two adjoining stages of contrifugal agitation and aeration with a portion of the pulp discharge from one stage converging in opposition to a portion of the pulp discharge from an adjoining stage, withdrawing a portion of the intermingling discharge from said agitation and aeration stages upwardly through an upper superposed confined zone under the elevating action of a large volume of aerating gas introduced in fine, upwardly-directed streams at the bottom of said superposed zone, and discharging the entrained pulp along a narrow path on the surface of said pulp.

3,140,256
SEPARATION PROCESS
Eugene C. Martin and Robert C. Binning, Texas City, and Leon M. Adams and Robert J. Lee, La Marque, Tex., assignors, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Sept. 30, 1957, Ser. No. 687,284
14 Claims. (Cl. 210—23)

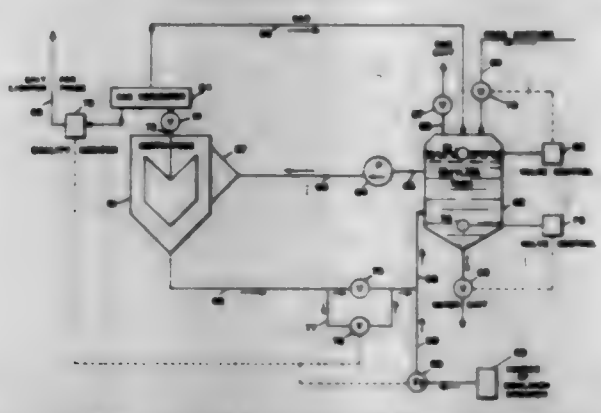


1. In a permeation process for separating mixtures of hydrocarbons wherein a fluid feed mixture comprising at least two different hydrocarbons is contacted with one side of a plastic permeation membrane under permeation operating conditions and there is removed from the other side of said membrane a fluid permeate fraction of said fluid feed hydrocarbons having a composition enriched with respect to one hydrocarbon of said fluid feed, the improvement which comprises employing a non-porous permeation membrane which is comprised of a cellulose derivative consisting essentially of cellulose of whose three hydroxyl groups per anhydroglucose units all but 0.1 to 2.0 are replaced by groups selected from the class consisting of ester groups, ether groups, and mixtures thereof, and the remaining 0.1 to 2.0 hydroxyl groups are replaced with organic groups derived from an organic reagent reactive with the remaining hydroxyl groups, which reagent is selected from the group consisting of aldehydes, organic diisocyanate, organic monoisocyanate, organo-phosphorus-chlorides and organo-sulfur-chlorides.

3,140,257
CENTRIFUGAL SEPARATION PROCESS AND APPARATUS
Perry W. Wilder, Jr., and Rodney T. Bonsall, Jr., Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed May 29, 1961, Ser. No. 113,475
9 Claims. (Cl. 210—51)

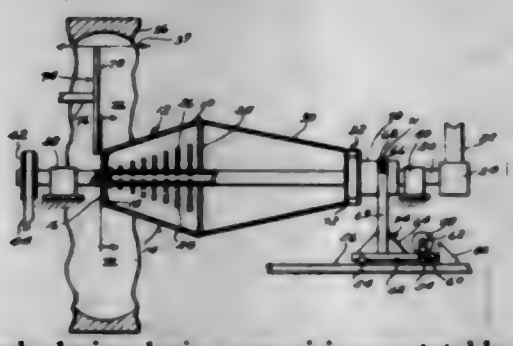
1. The process of separating a lighter phase from a heavier phase in a feed mixture of such phases comprising the steps of introducing the feed mixture to a gravity settling zone, allowing the feed mixture to settle to a lighter stratum and a heavier stratum, continuously removing liquid from a level in the lighter stratum below the top surface of the feed mixture and feeding it at a substantially uniform rate at a fixed point substantially tangentially to a centrifuging zone having a stationary

boundary wall and a rotating structure therein, said liquid being separated in said centrifuging zone into an inwardly flowing lighter phase and an outwardly flowing fluid of greater density than the lighter phase, separately removing the lighter phase and the fluid of greater density from said zone of centrifugation, and feeding the fluid of greater density in a stream back into the gravity settling



zone at a height spaced below said level and above the heavier stratum whereby a heavier portion of the stream settles to the heavier stratum and a lighter portion rises to said level to be recirculated back into the centrifuging zone, and removing a portion of the liquid comprising the heavier phase from the heavier stratum of the gravity settling zone when said last-named phase accumulates to a predetermined level below said height.

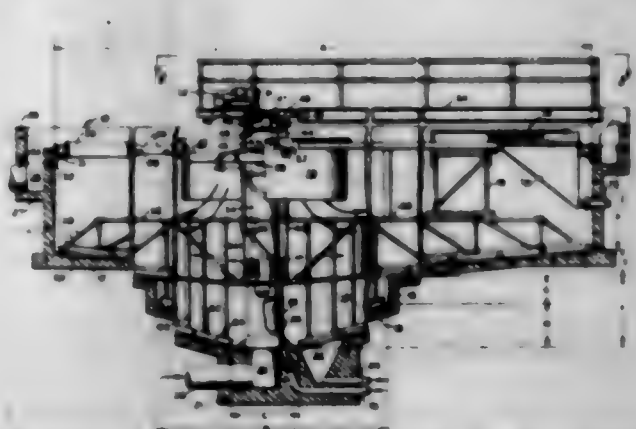
3,148,258
PULP CENTRIFUGE
Lloyd Hornbostel, Jr., Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Feb. 3, 1961, Ser. No. 86,896
2 Claims. (Cl. 210—112)



1. A pulp drying device comprising a rotatably mounted shaft, a basket having a base fixedly mounted on said shaft and a plurality of fluid-permeable sides pivoted on said base, a linkage element connected to a free end of each of said sides and a yoke slidably mounted on said shaft and fixed against relative rotation thereto and connected to said linkage elements and a power-operated carriage having means engaging said yoke in journalled relation and guide means for said carriage to guide said carriage reciprocably to move said yoke for successively opening said sides by a given centrifugal force to release dried materials from said basket and closing said sides against said given centrifugal force to prepare the basket to receive materials to be dried by centrifuging fluid therefrom through said sides.

3,148,259
CLARIFICATION APPARATUS
Earl M. Kelly, Hillsborough, Burlingame, Calif., assignor, by mesne assignments, to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed Sept. 14, 1959, Ser. No. 839,948
5 Claims. (Cl. 210—195)

1. Apparatus for removing settleable solids from a liquid in a waste disposal process comprising a settling tank having a bottom and a side wall, an inlet for introducing a raw feed stream of liquid with solids into the tank, an effluent launder on the tank for removing clarified liquid and maintaining an operating level for a pool of liquid in the tank, a baffle disposed around and spaced from the inlet to form a feed well between the inlet and the baffle, and an outer clarification zone between the baffle and the side wall of the tank, the baffle having an opening below the operating level of the pool to permit feed liquid with solids to flow from the feed well into the

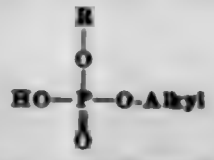


clarification zone where solids settle to the bottom to form a sludge, a thickening well adjoining the clarification zone and disposed below it, means for moving settled sludge from the bottom of the clarification zone into the thickening well where the sludge is retained and thickened, means for removing thickened sludge from the thickening well, and means for introducing a stream of oxidative liquid into the tank independently of the feed stream and at a level below said opening in the baffle where the feed stream flows from the feed well into the clarification zone.

3,148,260
CORROSION INHIBITION
Gerald L. Foster and Billy D. Oakes, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 8, 1959, Ser. No. 785,555
7 Claims. (Cl. 252—151)

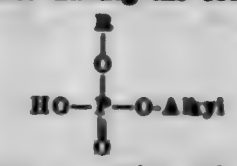
1. A corrosion inhibiting composition comprising a dialkynyl sulfide having from 3 to 6 carbon atoms in each alkynyl radical and from 0.012 to 0.75 part by volume based on said sulfide of a surface-active material selected from the group consisting of anionic and non-ionic agents.

2. A corrosion inhibiting composition comprising a dialkynyl sulfide having from 3 to 6 carbon atoms in each alkynyl radical and from 0.25 to 1 part by volume based on said sulfide of an alkyl phosphate ester having the formula



wherein R represents a member selected from the group consisting of hydrogen and alkyl; said alkyl radicals having from 2 to 8 carbon atoms inclusive.

5. A corrosion-inhibited, aqueous, non-oxidizing acid composition comprising an aqueous solution of a non-oxidizing acid containing from 0.01 to 1.0 percent by volume of a concentrate consisting of 4 parts by volume of dipropargyl sulfide, from 1 to 4 parts by volume of an alkyl phosphate ester having the formula



wherein R represents a member selected from the group consisting of hydrogen and alkyl, said alkyl radicals hav-

ing from 2 to 8 carbon atoms, inclusive, and from 0.05 to 3 parts by volume of an non-ionic surface-active agent, said surface-active agent being a condensation product of an alkylphenol and from 10 to 30 molar equivalents of alkylene oxide.

3,140,261
DETERGENT COMPOSITION
Reginald W. Nead, Sutton, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1961, Ser. No. 152,015
Claims priority, application Great Britain Nov. 15, 1960
2 Claims. (Cl. 252—161)

1. A detergent composition having good deterative and viscosity dilution properties consisting essentially of water and from 20 to 60% of solute, said solute consisting essentially of

(a) 60 to 70% by weight of alkali metal alkyl aryl sulfonates selected from the group consisting of alkyl benzene sulfonate and alkyl toluene sulfonate having 8 to 13 alkyl carbon atoms,

(b) 5 to 12.5% by weight of alkali metal alkyl aryl sulfonates selected from the group consisting of toluene sulfonate and xylene sulfonate,

(c) 15 to 25% by weight of a polyethylene oxide ether and alkyl phenol condensate having 7 to 10 ethylene oxide units per molecule and 4 to 10 alkyl carbon atoms, and

(d) 5 to 12.5% by weight of a polyethylene oxide ether and alkyl phenol condensate having 11 to 18 ethylene oxide units per molecule and 4 to 10 alkyl carbon atoms.

3,140,262
CONTAMINATION DETECTION COMPOSITIONS
Vladimir Dvorkovitz, Kansas City, Mo., and Neil Borst, Evanston, and Susan Krauss, Skokie, Ill., assignors to The Diversey Corporation, a corporation of Illinois
Original application Dec. 5, 1955, Ser. No. 551,821, now Patent No. 2,968,733, dated Jan. 17, 1961. Divided and this application June 3, 1959, Ser. No. 817,900
6 Claims. (Cl. 252—301.1)

1. A water-soluble tracer composition suitable for preparing an aqueous solution for determining the presence and location of contamination which promotes bacterial activity consisting essentially of a gamma ray-emitting radioactive isotope selected from the group consisting of Na^{28}, I^{131}, K^{42}, and Br^{82} and a compound selected from the group consisting of alkali carbonates, alkali sulfates, alkali tripolyphosphates, and mixtures thereof, said compound being present in said composition in an amount sufficient to produce a solution containing at least about 1.2%, by weight, based on the total solution, of said compound, when said composition is dissolved in water to produce a solution containing at least 124 microcuries per liter.

3,140,263
REJUVENATION OF PLATINUM CATALYST
John W. Payne, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Aug. 5, 1960, Ser. No. 47,243
3 Claims. (Cl. 252—412)

1. A method for rejuvenating a spent particle-form platinum catalyst containing platinum deposited on a porous supporrnt in place in the reactor vessel without effecting removal of platinum therefrom wherein hydrocarbon conversion utilizing said catalyst is accomplished which comprises burning carbonaceous deposit from the surface of said catalyst laid down during said hydrocarbon conversion, circulating a cooling gas through the catalyst bed to reduce the temperature thereof to below the boiling point of the platinum compound impregnating solution subsequently employed, contacting the cooled catalyst particles with said impregnating solution of sufficient concentration to deposit thereon additional platinum in an amoun: of at least 0.2 weight percent, drying and reheating the resulting composite to the temperature at which said hydrocarbon conversion is effected.

3,140,264
REJUVENATION OF SPENT SUPPORTED PLATINUM CATALYST
Stephen M. Oleck, Moorestown, and Stephen J. Wantuck, West Collingswood, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Aug. 25, 1960, Ser. No. 51,864
3 Claims. (Cl. 252—412)

1. A method for rejuvenating a spent particle-form platinum catalyst containing platinum deposited on a porous support in place in the reactor vessel without effecting removal of platinum therefrom wherein hydrocarbon conversion utilizing said catalyst is accomplished which comprises burning carbonaceous deposit from the surface of said catalyst laid down during said hydrocarbon conversion, treating the catalyst with hydrogen at a temperature in the approximate range of 500 to 1100° F. for 1 to 24 hours, circulating a cooling gas through the catalyst bed to reduce the temperature thereof to below the boiling point of the platinum compound impregnating solution subsequently employed, contacting the cooled catalyst particles with said impregnating solution of sufficient concentration to deposit thereon additional platinum in an amount of at least 0.2 weight percent, drying and reheating the resulting composite to the temperature at which said hydrocarbon conversion is effected.

3,140,265
FIBROUS TEXTILE AND INDUSTRIAL FABRICS
George A. Richter, Jr., Abington, Charles H. McBurney, Meadowbrook, and Benjamin B. Kine, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 1, 1959, Ser. No. 837,325
8 Claims. (Cl. 260—2.1)

1. As an article of manufacture, a fabric comprising interlocked fibers formed of a cross-linked product of a linear addition polymer containing one-half to about 100 mole percent of polymerized units having tertiary amine groups, the linear polymer molecules having from one-half to 30 mole percent of such tertiary amine groups alkylated while the linear polymer molecules are in fiber form, by a polyhalide alkylating agent having 1 to 10 carbon atoms in which the halide is selected from the group consisting of chloride, bromide, and iodide, in the cross-linked product whereby the latter is resistant to shrinkage.

3,140,266
PROCESS FOR FOAMING SYNTHETIC POLYMERS
Warner L. Peticolas, San Jose, Calif., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Dec. 30, 1960, Ser. No. 79,494
13 Claims. (Cl. 260—2.5)

1. A process for foaming polymers comprising:

exposing to a substantially inert gas, under pressure, a polymer having a low transmission rate for said inert gas for a period of time sufficient to supersaturate the polymer with the gas, thereafter

reducing the pressure of the inert gas surrounding the polymer, and establishing at a temperature below the softening point of the polymer a pressure differential, between the internal and external pressures on the polymer, such that the internal pressure is sufficiently higher to cause the polymer to foam while it is in a solid state.

3,140,267

ALKYD RESINS MODIFIED WITH OMEGA LACTONE

Eugene Bortnick, Newark, Joseph Albert Vona, Westfield, and Edward J. Kuzma, Woodbridge, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 4, 1960, Ser. No. 26,705
16 Claims. (Cl. 260—22)

1. The method for improving a drying oil-modified alkyd resin having residual hydroxyl groups, which comprises mixing such resin with an amega lactone and heating the resulting mixture in an inert atmosphere.

3,140,268

CARVEABLE PLASTIC COMPOSITIONS CONSISTING ESSENTIALLY OF THERMOPLASTIC RESIN, SOLVENT, CARVEABLE WAX AND FINELY DIVIDED SOLID FILLER

Benjamin D. Halpern, Philadelphia, Pa., and Milton Kline, Lawrence, Mass., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed July 28, 1959, Ser. No. 829,987
3 Claims. (Cl. 260—23)

1. A solid dimensionally stable carveable plastic composition consisting essentially of 14–50 parts by weight of a thermoplastic resin component, 7–25 parts of a carveable wax compatible with the said resin, 8–20 parts of a non-volatile mutual solvent for the said resin and wax, and a finely divided solid filler serving to interrupt the continuity of the plastic composition, the proportion of the filler being approximately 40%–70% of the total weight of the said composition, the said resin component being selected from the group consisting of ethyl cellulose, methyl cellulose, and cellulose acetate, butyrate and acetobutyrate, polyvinyl acetate, polystyrene, polyesters of maleic and o-, p-, iso- and hexahydrophthalic anhydrides and of adipic and sebacic acids with ethylene, propylene and butylene glycols, polyamides of adipic, sebacic, glutaric, and azelaic acids with ethylene and hexamethylene diamine and with gamma-butyro- and delta-valero-lactam, and polymeric esters of acrylic and methacrylic acids with monohydric alcohols having 1–8 carbon atoms, the said carveable wax being selected from the group consisting of paraffin, microcrystalline wax, chlorinated paraffin, chlorinated naphthalene, and stearates and palmitates of ethylene, propylene and butylene glycols, glycerine, sorbitol and C_{12}–C_{20} monohydric alcohols, and the said non-volatile mutual solvent being selected from the group consisting of stearamide, lauramide, palmitamide, C_{11}–C_{18} alkyl esters of castor oil fatty acids, cylcohexylbenzene, bicyclohexyl, a hydrogenated mixture of diphenylbenzene, phenyldiphenyl and triphenyl, and hydrogenated castor oil.

3,140,269

HYDRAULIC CEMENT COMPOSITION CONTAINING A MIXTURE OF POLYMERIC ADDITAMENTS AND METHOD OF CEMENTING A WELL THEREWITH

Winton W. Wahl, Tulsa, Okla., and Charles D. Dever, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 9, 1960, Ser. No. 27,475
6 Claims. (Cl. 260—29.6)

1. An aqueous hydraulic cement slurry for use in cementing a well penetrating a subterranean formation, having increased thickening and setting times and decreased fluid loss when in contact with the formation, comprising water, hydraulic cement, and between 0.2 and 5.0 percent, based on the dry hydraulic cement employed, of (1) a copolymer prepared by copolymerizing maleic anhydride and an N-vinyl nitrogen-containing ring compound selected from the class consisting of N-vinyl morpholinone, N-vinyl-pyrrolidone, N-vinyl-2-oxazinidinone, N-vinyl-2-oxazolidinone and ring-substituted alkyl derivatives thereof wherein the alkyl group consists of the C_1 and C_2 groups, and (2) a polymer prepared by polymerizing an aryl-vinylbenzyl monomer, selected from the class consisting of poly(ar-vinylbenzyl) alkyl- and hydroxyalkyl-substituted quaternary ammonium bases and salts, and poly(ar-vinylbenzyl) sulfonium alkyl- and hydroxyalkyl-substituted bases and salts wherein said alkyl or hydroxyalkyl substituent contains not more than 4 carbon atoms, the total number of carbon atoms in the alkyl and hydroxyalkyl groups is not greater than 8, and no more than 1 hydroxyalkyl group is present per recurring or repeating unit of the polymer, in a ratio of said copolymer of maleic anhydride and the N-vinyl ring compound to said polymer of the aryl-vinylbenzyl prepared from said aryl-vinylbenzyl monomer of between 32 and 3 of the copolymer of maleic anhydride and N-vinyl ring compound to 1 of the aryl-vinylbenzyl polymer.

3,140,270

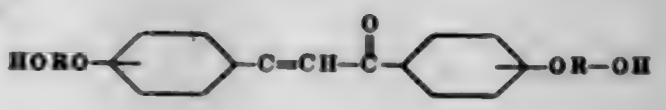
LIGHT-SENSITIVE HIGH MOLECULAR POLYURETHANE COMPOUNDS

Wilhelm Thoma, Leichlingen, and Heinrich Rinke, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

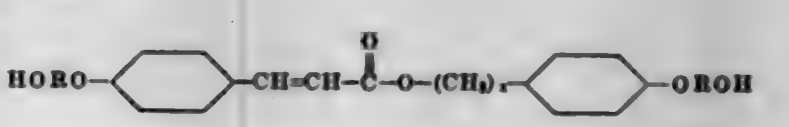
No Drawing. Filed Aug. 17, 1959, Ser. No. 833,921
Claims priority, application Germany Aug. 21, 1958
11 Claims. (Cl. 260—47)

1. A process for the production of light-sensitive polyurethanes which comprise reacting a monomeric organic diisocyanate with a glycol selected from the group consisting of:

(*a*)

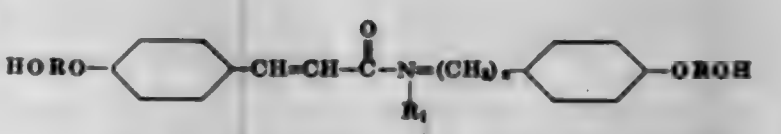


(*b*)



wherein *x* has a value from O to a whole number

(*c*)



wherein R_1 is selected from the group consisting of hydrogen and alkyl, and *x* has a value from O to a whole number

(*d*)

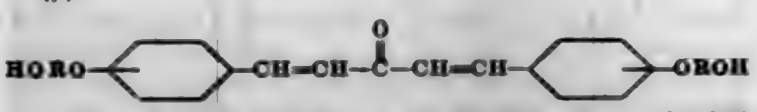


(*e*)

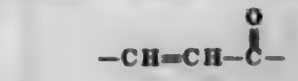


and

(*f*)



wherein the R substituent of the foregoing —OROH groups is alkylene and wherein the benzene nuclei which are substituted by said —OROH groups may be further substituted by a member selected from the group consisting of chloro, nitro, and lower alkoxy groups, said reaction being conducted at a temperature of from 60–200° C. to form a polyurethane which contains at least 1% by weight of



groups.

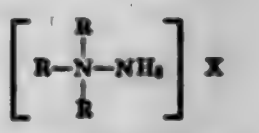
3,140,271

PRODUCTION OF FORMALDEHYDE POLYMERS

William P. Gage, Scarsdale, N.Y., and Fred Jaffe, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Oct. 21, 1960, Ser. No. 63,983
3 Claims. (Cl. 260—67)

1. A process for preparing a high molecular weight polymer of formaldehyde which comprises polymerizing formaldehyde under anhydrous conditions at a temperature between room temperature and 130° C. in an inert solvent in the presence of a hydrazinium catalyst having the general formula



where R is an alkyl group having 1 to 14 carbon atoms and X is an organic acid radical selected from the group consisting of the stearate, the naphthenate, the oleate, the palmitate and the acid phthalate, said hydrazinium catalyst being present in the concentration of about 10^{-6} to 10^{-3} moles of catalyst per mole of formaldehyde, and recovering the polymer formed in the reaction.

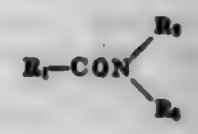
3,140,272

PROCESS FOR PRODUCING POLYMERIC FORMALDEHYDE

Naoya Yoda, Kyoto-shi, Kyoto-fu, and Akira Higuchi, Otsu-shi, Shiga-ken, Japan, assignors to Toyo Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Sept. 7, 1961, Ser. No. 136,436
Claims priority, application Japan Jan. 5, 1961
2 Claims. (Cl. 260—67)

1. A process for producing polymeric formaldehyde which comprises introducing substantially anhydrous purified formaldehyde into a body of polymerizing liquid initially consisting entirely of an amide compound represented by the general formula



wherein R_1 is selected from the group consisting of hydrogen, methyl and phenyl and R_2 and R_3 are each selected from the group consisting of hydrogen and methyl, said introduction being effected at a temperature between —80° C. and +125° C. in the absence of any catalysts, the amount of said amide being not less than three times said amount of formaldehyde being introduced into said amide.

3,140,273

POLYETHER BASED POLYURETHANE COATING COMPOSITIONS

Günther Nischk, Leverkusen, Ferdinand Münz, Cologne-Stammheim, and Otto Bayer and Manfred Thels, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 29, 1959, Ser. No. 789,797
Claims priority, application Germany Feb. 4, 1958
4 Claims. (Cl. 260—77.5)

1. A coating composition which comprises:

(*a*) the reaction product of an organic polyisocyanate having at least three —NCO groups and a polyhydroxyl polyether having at least three hydroxyl groups, said reactants added in such amounts that the —NCO to —OH ratio is from about 1:0.5 to about 1:2;

(*b*) said polyhydroxyl polyester obtained by a process which comprises the condensation reaction of an aromatic polyol and an aliphatic polyhydric alcohol containing at least three —OH groups, said aromatic polyol having from 2 to 6 $—CH_2OH$ groups attached to the aromatic ring;

(*c*) said polyhydric polyether therefore containing aromatic ring structures having attached thereto from 2 to 6 (CH_2O) groups, each $—CH_2O—$ group being the single linkage between the hydrocarbon radicals of said aliphatic polyhydric alcohol and said aromatic glycol.

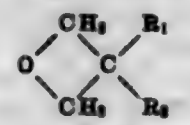
3,140,274

COPOLYMERS

Harry A. Cantor, Plainfield, Joseph A. Vona, Westfield, and Bruce S. Ainsworth, Jr., Mountain Lakes, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 5, 1960, Ser. No. 60,590
13 Claims. (Cl. 260—78.3)

1. A condensation polymer of an oxetane having a structural formula



wherein R_1 and R_2 are selected from the group consisting of alkyl, hydroxyalkyl and haloalkyl and wherein said alkyl group contains one to eight carbon atoms and a beta-lactone containing 3 to 12 carbon atoms, wherein each monomer constitutes about 1 to 99% of said polymer.

3,140,275

PROCESS FOR POLYMERIZING BICYCLO-[2.2.1]-2,5-HEPTADIENES

William W. Spencer, Richmond, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 7, 1961, Ser. No. 115,291
11 Claims. (Cl. 260—86.7)

1. Solid thermoplastic saturated homopolymers of a bicyclo-[2.2.1]-2,5-heptadiene which are soluble in aromatic and chlorinated solvents and consisting of repeating units selected from the group consisting of nortricyclene and alkyl-substituted nortricyclene units.

11. A solid thermoplastic saturated copolymer, soluble

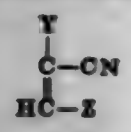
in aromatic and chlorinated solvents, of a bicyclo-[2.2.1]-2,5-heptadiene and a dissimilar monomer selected from the group consisting of alpha-olefins containing up to 8 carbon atoms, alkyl-, chloro-, and alkoxy-substituted styrenes and acrylate esters, said copolymer consisting of (1) units selected from the group consisting of nortricyclene and alkyl-substituted nortricyclene units and (2) units of said dissimilar monomer.

3,140,276
CONTINUOUS ELECTROLYTIC POLYMERIZATION PROCESS

Eric O. Forster, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed July 11, 1961, Ser. No. 123,155
5 Claims. (Cl. 260—88.7)

1. A process for the continuous electrolytic polymerization of a monomer corresponding to the formula:



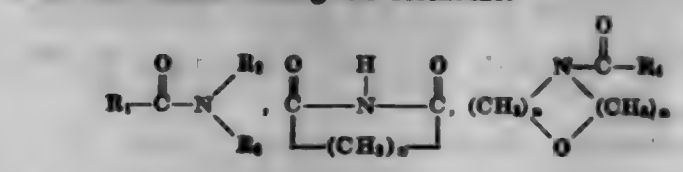
wherein Y is hydrogen and Z is selected from the group consisting of hydrogen, alkyl radical having 1 to 6 carbon atoms, and CN radicals which comprises applying an electric potential to two electrodes immersed in a dispersion of said monomer in a liquid chosen from the group consisting of excess acrylonitrile, dimethyl formamide, hexamethyl phosphoramide, dimethyl sulfoxide and pyridine, said monomer being present in amounts of 5 to 95 wt. percent based on said liquid, said liquid having a dielectric constant of 10 to 60, in the presence of from .001 mole to saturation of a quaternary ammonium halide having the formula R_4NX where R is an alkyl group having from 1 to 6 carbon atoms and X is a halogen chosen from the group consisting of chlorine, bromine and iodine, the potential difference of the electrodes being in the range of 2.5 to 3.5 volts, maintaining this voltage relatively constant throughout the polymerization and recovering the polymer from the cathodic electrode.

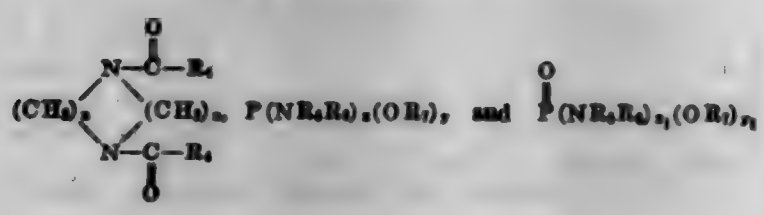
3,140,277
FOUR-COMPONENT CATALYST FOR POLYMERIZING OLEFINS CONTAINING A MIXTURE OF METALS, A HALOGEN, AND AMIDES

Harry W. Coover, Jr., and Frederick B. Joyner, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

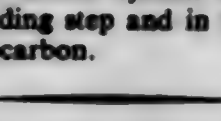
No Drawing. Filed Jan. 12, 1961, Ser. No. 82,148
18 Claims. (Cl. 260—93.7)

1. In the polymerization of α-monoolefinic hydrocarbon material containing at least three carbon atoms to form solid crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of a transition metal selected from the group consisting of titanium, zirconium, vanadium, chromium, and molybdenum, a second metal selected from the group consisting of aluminum, zinc and magnesium, a halogen selected from the group consisting of chlorine, bromine and iodine, and an amide selected from the amides having the formulas:





wherein R_1 is a radical selected from the group consisting of hydrogen, alkyl radicals containing 1 to 20 carbon atoms, phenyl, carboxyl, alkoxy, $—N(R)_2$ wherein each R is an alkyl radical containing 1 to 4 carbon atoms and



wherein n_1 is an integer of 1 to 4, each of R_2 and R_3 is a radical selected from the group consisting of hydrogen, alkyl radicals containing 1 to 8 carbon atoms, phenyl and cyclohexyl and wherein R_4 is a radical selected from the group consisting of alkyl radicals containing 1 to 4 carbon atoms and phenyl and n is an integer of 1 to 4, and wherein R_5, R_6 and R_7 are alkyl radicals containing 1 to 8 carbon atoms, x and y are whole numbers from 1 to 3 and 0 to 2, respectively, the sum of x and y being 3 and x_1 and y_1 are whole numbers from 1 to 2, the sum of x_1 and y_1 being 3, said catalytic mixture containing from 0.1 to 0.5 mole of amide per mole of halogen.

3,140,278
BLOCK HOMOPOLYMERS OF 1,3 DIENES

Irving Kuntz, Roselle Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 25, 1960, Ser. No. 17,468
9 Claims. (Cl. 260—94.2)

1. A process for preparing a block homopolymer of a 1,3 diene which comprises sequentially polymerizing the diene substantially to completeness at each step with a catalyst selected from the group consisting of (1) a lithium hydrocarbon in a hydrocarbon solvent system and (2) a lithium hydrocarbon in a solvent system of a hydrocarbon solvent plus an organic compound selected from the group consisting of ethers and tertiary amines; and polymerizing the resultant polymer with additional monomer with the solvent system other than that employed in the preceding step and in the absence of additional lithium hydrocarbon.

3,140,279
POST EXTRUSION CROSSLINKING OF POLYETHYLENE

Razmic S. Gregorian, Silver Spring, Md., and Richard A. Radford, Delmont, Pa., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Aug. 3, 1961, Ser. No. 128,961
9 Claims. (Cl. 260—94.9)

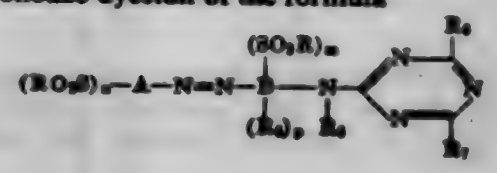
1. The process of crosslinking polyethylene at a temperature near its melting point which comprises admixing polyethylene with a polyethylene soluble crosslinking promoter selected from the group consisting of organic acid salts of Mn and Co and complexes of Mn and Co with acetylacetonates, dimethyl glyoximes and benzoin oximes, contacting the polyethylene composition with a liquid alkyl hydroperoxide and thereafter in the absence of oxygen heating the polyethylene composition to a temperature within 30° below its melting point up to 10° C. above its melting point.

3,140,280
AZO DYESTUFFS

Dietrich Lieboch, Leverkusen, and Detlef Delfs, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 11, 1960, Ser. No. 14,285
Claims priority, application Germany Mar. 14, 1959
3 Claims. (Cl. 260—153)

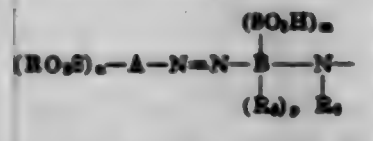
1. A monoazo dyestuff of the formula



wherein A stands for a radical selected from the group consisting of phenylene and naphthylene nuclei and B stands for phenylene nucleus, R stands for the group —NH—R_1—OSO_3X, R_1 being an alkylene member having 2 to 3 carbon atoms between —N— and —O—, and X is a member selected from the group consisting of hydrogen and an alkali metal cation, R_5 stands for a member selected from the group consisting of hydrogen, methyl and methoxy, R_6 means a member selected from the group consisting of hydrogen and lower alkyl, R_7 and R_8 stand for radicals selected from the group consisting of —OH, —NH_2, lower alkylamino, hydroxy lower alkylamino, phenylamino, lower alkyl phenylamino,



lower alkyl phenylamino carrying a —SO_3R group on the benzene ring, naphthylamino and



n stands for one of the integers 1 and 2, *m* stands for one of the integers 0 and 1, and *p* stands for one of the integers 1 and 2.

3,146,281

PROCESS FOR THE PREPARATION OF CODEHYDROGENASE I (DIPHOSPHOPYRIDINE NUCLEOTIDE) OF HIGH PURITY FROM YEAST

Kazuo Okunuki, Kawanne, Takarazuka-shi, Hyogo-ken, Benji Hagihara, Amagasaki-shi, Hyogo-ken, Masaharu Shin, Fuse-shi, Osaka-fu, and Ichiro Sekuzu, Jodo-ku, Osaka-shi, Japan, assignors to Sankyo Company, Limited, Tokyo, Japan

No Drawing. Filed June 1, 1961, Ser. No. 114,846
Claims priority, application Japan June 13, 1960
4 Claims. (Cl. 260—211.5)

1. A process for preparing codehydrogenase I of high purity from yeast which comprises passing an aqueous solution containing codehydrogenase I obtained from extraction of yeast through a high-porous weakly basic anion exchange resin in the salt form to obtain a colorless codehydrogenase I-containing solution, making the solution acidic, passing the resulting solution through a high-porous strongly acidic cation exchange resin of the sulfonic type in the hydrogen form, washing the resin layer with an acidic buffer and eluting the adsorbed codehydrogenase I with weakly acidic or neutral buffer and recovering codehydrogenase I from the eluate.

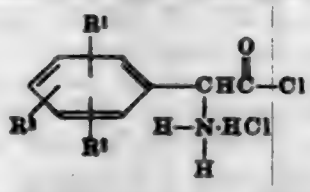
3,146,282

PROCESS FOR THE PRODUCTION OF α-AMINOBENZYLPENICILLINS

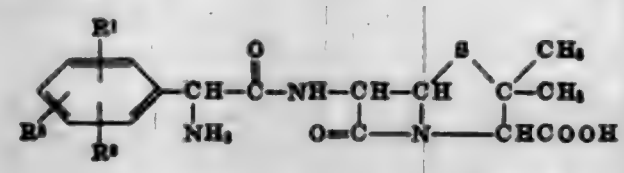
David A. Johnson, Fayetteville, N.Y., and Saul Wolfe, Kingston, Ontario, Canada, assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 5, 1962 Ser. No. 177,235
7 Claims. (Cl. 260—239.1)

1. A process for the production of an α-aminobenzylpenicillin which comprises mixing about 1.0 to 3.0 moles and (per mole of 6-aminopenicillanic acid) of a 2-phenylglycyl chloride hydrochloride selected from the group consisting of those compounds having the formula



wherein R^1, R^2 and R^3 are each members selected from the group consisting of hydrogen, nitro, di(lower)alkylamino, (lower)alkanoylamino, (lower)alkyl, fluoro, chloro, bromo, iodo, (lower)alkoxy, (lower)alkylthio, (lower)alkylsulfonyl, sulfamyl, benzyl, phenethyl, cycloheptyl, cyclohexyl, cyclopentyl and trifluoromethyl and 6-aminopenicillanic acid in an aqueous medium maintained at about —50° C. to +20° C. and at a highly acidic pH to produce a solution of an α-aminobenzylpenicillin selected from the group consisting of those compounds having the formula



wherein R^1, R^2 and R^3 have the meaning set forth above.

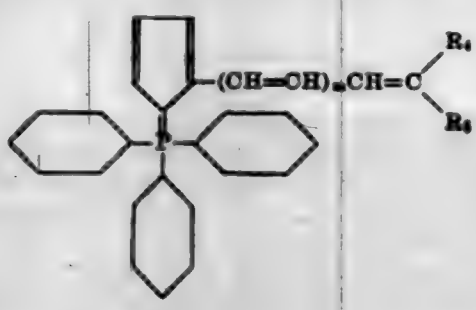
3,140,283

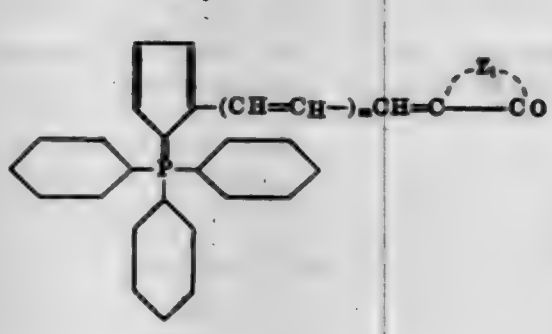
TRIARYLPHOSPHONIUM CYCLOPENTADIENYLIDE METHINE DYES AND PHOTOGRAPHIC EMULSIONS SENSITIZED THEREWITH

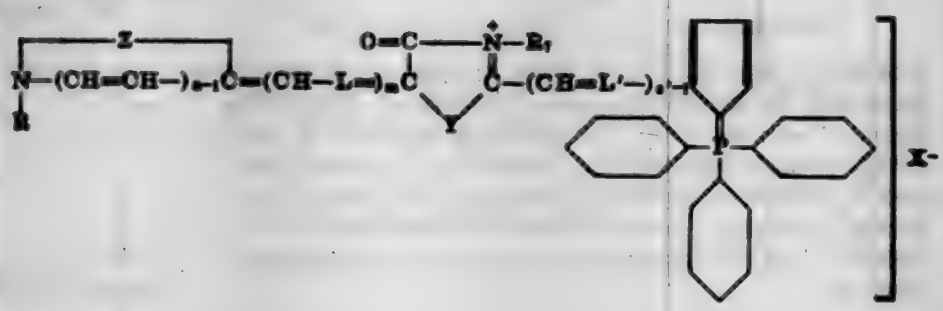
Henri Depoorter and Jean Marie Nys, Mortsel-Antwerp, and André Emile van Dormael, Heverlee-Louvain, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,230
Claims priority, application Great Britain Oct. 24, 1958
1 Claim. (Cl. 260—240)

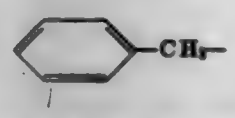
A polymethine dye selected from the group consisting of the formulae:







wherein R and R_7 each represents lower alkyl radical, R_4 and R_5 each represents a member selected from the group consisting of cyanogroup and lower alkyl carboxylate group, Z_1 constitutes the non-metallic atoms necessary to complete a nitrogenous heterocyclic nucleus selected from the consisting of a pyrazolone nucleus, an isoxazolone nucleus, an oxindole nucleus, a 2,4,6-triketohexahydropyrimidine nucleus, a rhodanine nucleus, a 2(3H)-imidazo 1,2-α pyridone nucleus, a 5,7-dioxo-6,7-dihydro-5- thiazolo 3,2-α pyrimidine nucleus, a 2-thio-2,4-oxazolidinedione nucleus, a thionaphthenone nucleus, a 2-thio-2,5-thiazolidinedione nucleus, a 2,4-thiazolidinedione nucleus, a thiazolidinone nucleus, a 4-thiazolinone nucleus, a 2-imino-2,4 oxazolinone nucleus, a 2,4-imidazolinedione (hydantoin) nucleus, a 2-thio-2,4-imidazolinedione nucleus and a 5-imidazolinone nucleus, Z constitutes the non-metallic atoms necessary to complete a nitrogenous heterocyclic nucleus selected from the group consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a thionaphtheno-thiazole, an oxazole nucleus, a benzoxazole nucleus, naphthoxazole nucleus, selenazole nucleus, benzoselenazole nucleus, naphthoselenazole nucleus, thiazoline nucleus, thiazolidine nucleus, oxazoline nucleus, oxazolidine nucleus, selenazoline nucleus, quinoline nucleus, isoquinoline nucleus, dialkylindolenine nucleus, pyridine nucleus and benzimidazole nucleus; L and L′ each represents a member selected from the group consisting of methine and



substituted methine; X is an acid radical of the type used in cyanine dyes; Y represents a member selected from the group consisting of O, S, Se and N—R_7 wherein R_7 has the value as set forth above; *e′* represents a positive integer selected from the group consisting of 1, 2, 3, 4, 5-6, 7 and 8; *m* represents a positive integer selected from the group consisting of 0, 1, 2, and 3 and *n* represents a positive integer selected from the group consisting of 1 and 2.

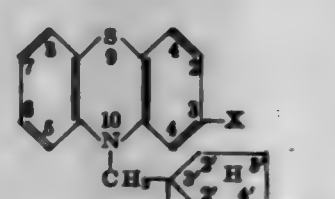
3,140,284

NEW PHENOTHIAZINE DERIVATIVES AND A PROCESS FOR THE PRODUCTION THEREOF

Ernst Habicht and Georg Feth, Schaffhausen, Switzerland, assignors to Ciba-Chemie Limited, Schaffhausen, Switzerland, a Swiss company

No Drawing. Filed Feb. 1, 1961, Ser. No. 86,289
Claims priority, application Switzerland Feb. 5, 1960
7 Claims. (Cl. 260—243)

1. A member selected from the group consisting of a phenothiazine derivative of the formula



(I)

wherein X represents a member selected from the group consisting of hydrogen and chlorine, R_1 represents a member selected from the group consisting of methyl, ethyl, propyl, methoxyethyl and methylmercaptoethyl, and R_2 represents a member selected from the group consisting of methyl and ethyl, and the pharmaceutically acceptable acid addition salts of the said phenothiazine derivative.

3,140,285

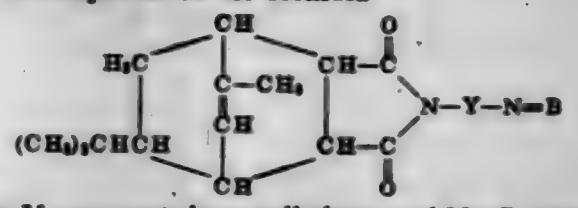
MALEIMIDE ADDUCTS OF α-PHELLANDRENE AND NEW PRODUCTS THEREFROM

Raymond O. Clinton, East Greenbush, and Andrew John Manson, North Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 12, 1960, Ser. No. 55,125
10 Claims. (Cl. 260—247.2)

2. 2 - [2 - (4 - morpholinyl)ethyl] - 1,3 - dioxo - 4,7-etheno - 5 - isopropyl - 8 - methyl - 3a,4,5,6,7,7a - hexahydroisoindoline.

10. A compound of the formula



wherein Y represents lower-alkylene, and N=B represents a member of the group consisting of di-lower-alkylamino; dicycloalkylamino in which the cycloalkyl has from 5 to 6 ring members; N-(cycloalkyl)-lower-alkylamino in which the cycloalkyl has from 5 to 6 ring members; 1-pyrrolidyl; 1-piperidyl; hexamethylenimino; C-lower-alkylated - 1-pyrrolidyl, 1-piperidyl, and hexamethylenimino, 4-morpholinyl; 1-piperazinyl; 4-hydrocarbon-substituted-1-piperazinyl in which the hydrocarbon substituent has from 1 to 10 carbon atoms; di(phenyl-lower-alkyl)amino; and N-(phenyl-lower-alkyl)-lower-alkylamino.

3,140,286

N-(CHLOROPHENYL)-N-PHENYL-N′-2(HYDROXY LOWER ALKYL)-PIPERIDINO]-ETHYL UREAS

John W. Cusic, Skokie, and Harmon S. Lowrie, Northbrook, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 11, 1962, Ser. No. 165,681
3 Claims. (Cl. 260—268)

3. N-(3-chlorophenyl)-N-phenyl-N′-{2-[4-(2-hydroxyethyl)-1-piperazinyl]ethyl}urea.

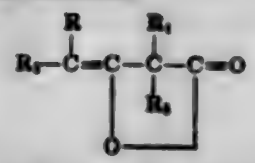
3,140,287

METHOD FOR PREPARING TETRAALKYL-3-OXOGLUTARIMIDES

Edward U. Elam, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 16, 1962, Ser. No. 217,269
4 Claims. (Cl. 260—281)

1. The method of preparing 2,2,4,4-tetraalkyl-3-oxoglutarimides which comprises heating a mixture of urea and a β-lactone of the formula



wherein R, R_1, R_2 and R_3 each represents a lower alkyl group, in the presence of an inert organic solvent.

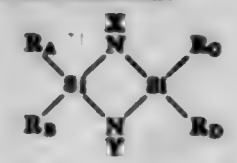
3,140,288

CYCLODISILAZANE COMPOUNDS

John S. Peake, North Oaks, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Feb. 2, 1962, Ser. No. 170,829
15 Claims. (Cl. 260—288)

1. Compounds of the formula:



wherein X and Y are each selected from the group consisting of lower alkyl, cycloalkyl of 5 through 11 carbon

atoms, aryl of 6 through 13 carbon atoms, pyridyl and quinolyl, and R_A, R_B, R_C and R_D are each selected from the group consisting of alkyl, cycloalkyl of 5 through 7 carbon atoms, aryl of 6 through 13 carbon atoms, aralkyl of 7 through 11 carbon atoms, alkoxyalkyl of 2 through 9 carbon atoms, phenoxyphenyl of 12 through 18 carbon atoms, pyridyl and quinolyl.

14. In a method for preparing substituted cyclodisilazane compounds, the step of reacting in liquid phase a hydrosilane of the formula:

$$R_AR_BSiH_2$$

wherein R_A and R_B are selected from the group consisting of alkyl, cycloalkyl containing from 5 through 7 carbon atoms each, aryl containing from 6 through 13 carbon atoms each, aralkyl radicals containing from 7 through 11 carbon atoms each, alkoxyalkyl containing from 2 through 9 carbon atoms each, phenoxyphenyl containing from 12 through 18 carbon atoms each, pyridyl, and quinolyl, with an amine of the formula: XNH_2 wherein X is selected from the group consisting of cyclohexyl, phenyl, benzyl, tolyl, xylyl, 2-pyridyl, and quinolyl, said reaction being carried out in an oxygen-free atmosphere at a temperature in the range from 150° C. up to the decomposition temperature of the particular amine used.

3,140,289

PROCESS FOR PREPARING METHYL PYRIDINIUM 2 ALDOXIME CHLORIDE

Robert I. Ellin, Baltimore, Md., David E. Easterday, Shawnee Mission, Kans., and Albert A. Kondritzer, Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Apr. 11, 1962, Ser. No. 187,176
1 Claim. (Cl. 260—296)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A process of producing 1-methylpyridinium-2-aldoxime chloride comprising alkylating pyridine-2-aldoxime with methyl chloride in the presence of N,N-dimethylformamide solvent under super-atmospheric pressure.

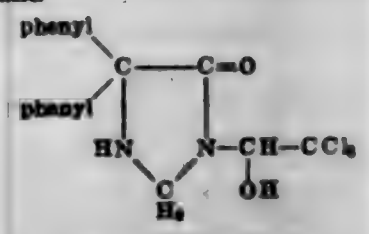
3,140,290

N - (α - HYDROXY - β - TRICHLOROETHYL)-5,5-DIPHENYL-TETRAHYDROGLYOXALINE-4-ONE

Victor Lafon, Paris, France, assignor to Societe Anonyme dite: Oxaymonde, Paris, France, a French society

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,326
Claims priority, application Great Britain Apr. 24, 1961
1 Claim. (Cl. 260—309.7)

The compound



3,140,291

PROCESS FOR THE PREPARATION OF COBALTIPROTOPORPHYRIN

Ryozo Watanabe and Satoshi Funakoshi, both of Gamocho, Joto-ku, Osaka, Japan, assignors to The Blood Plasma Corporation of Japan, Joto-ku, Osaka, Japan, a corporation of Japan

Filed July 26, 1961, Ser. No. 126,996
Claims priority, application Japan Apr. 5, 1961
4 Claims. (Cl. 260—314)

1. A process for preparing cobaltiprotoporphyrin from protoporphyrin and cobaltous salts, comprising holding a mixture of a solution of protoporphyrin in acetic acid with a solution of cobaltous salts in acetic acid under aeration at temperatures ranging from 30° to 45° C., controlling pH of the reaction product thus obtained to 2–2.5, adding at least twice and thrice at the most water, filtering off precipitate formed, adjusting pH of the filtrate to about 5.2 and removing cobaliprotoporphyrin from said filtrate.

3,140,292

PREPARATION OF METAL PHTHALOCYANINES

Peter Urben, Northbrook, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 7, 1961, Ser. No. 101,330
4 Claims. (Cl. 260—314.5)

1. The process for the preparation of a metal phthalocyanine which comprises commingling a hydroxide of a metal selected from the group consisting or iron, nickel and cobalt with an inert organic solvent containing a sufficient amount of quinoline to dissolve said hydroxide in said solvent, heating the resultant solution to a temperature of from about 150° C. to about 250° C. and adding phthalonitrile thereto, reacting the phthalonitrile with the metal hydroxide in said solution and recovering the resultant metal phthalocyanine.

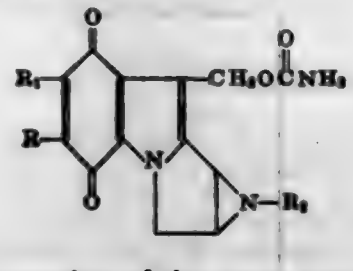
3,140,293

ANHYDRO apo MITOMYCIN COMPOUNDS

James Burns Patrick, Suffern, N.Y., and John Schurr Webb, Woodcliff Lake, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 7, 1962, Ser. No. 200,632
7 Claims. (Cl. 260—319)

1. A compound of the formula:



wherein R is a member of the group consisting of lower alkyl, R_1 is a member of the group consisting of methoxy and amino and R_2 is a member of the group consisting of hydrogen and methyl.

3,140,294

PURIFICATION OF PYRROLIDONE PREPARED BY THE VAPOR PHASE AMMONOLYSIS OF BUTYROLACTONE

John M. Kolyer, Seekonk, Mass., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 21, 1962, Ser. No. 181,439
3 Claims. (Cl. 260—326.5)

1. The method of purifying crude pyrrolidone prepared by the vapor phase ammonolysis of butyrolactone and containing colored and fluorescent impurities which comprises treating said crude pyrrolidone with 1–20% by weight of concentrated sulfuric acid for at least 0.5 hour and 0.5–25% by weight of activated carbon for at least 0.25 hour, separating the activated carbon from the pyrrolidone, distilling the pyrrolidone to remove additional impurities, and recovering purified pyrrolidone.

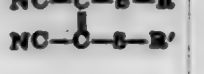
3,140,295

ESTERS OF 1,2-DICYANO-1,2-DIMERCAPTOETHYLENE

Carl George Krespan, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 17, 1960, Ser. No. 9,187
6 Claims. (Cl. 260—327)

1. A compound of the formula



where R′ is carbacyl of up to 18 carbons and selected from the group consisting of unsubstituted hydrocarboncarbonyl, chlorohydrocarboncarbonyl, fluorohydrocarboncarbonyl, cyanohydrocarboncarbonyl, dialkylaminecarbonyl, and unsubstituted hydrocarbonthiocarbonyl; R is a monovalent radical selected from the group consisting of alkyl of up to 12 carbons, cycloalkyl of up to 6 carbons, benzyl, allyl, chlorobenzyl, and carbacyl as above defined for R′; and R and R′ together form a bivalent radical selected from the group consisting of carbonyl and thiocarbonyl.

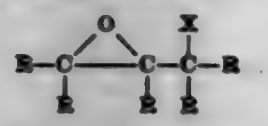
3,140,296

PRODUCTION OF DIOXANE DERIVATIVES

James D. McClure, San Francisco, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 13, 1963, Ser. No. 264,761
11 Claims. (Cl. 260—340.6)

1. The process for the production of 2,5-bis(haloalkyl) - 1,4 - dioxanes which comprises cyclodimerizing epoxyhaloalkane of the formula



wherein R is selected from the group consisting of hydrogen, alkyl radicals having 1 to 10 carbon atoms and aryl radicals having 6 to 10 carbon atoms and X is halogen, in the presence of a tertiary phosphine cobalt carbonyl catalyst.

3,140,297

PRODUCTION OF CYCLIC ACETALS AND KETALS

William J. Sullivan, Oakland, and Paul H. Williams, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,281
5 Claims. (Cl. 260—340.7)

1. The process for preparing a cyclic acetal of an alpha-hydroxyaldehyde having from 2 to 10 carbon atoms per molecule and composed of carbon, hydrogen, a single carbonyl oxygen and not more than two hydroxyl oxygen atoms which comprises reacting a cyclic dimer of said aldehyde with a saturated aliphatic polyhydric alcohol having two carbinol groups which are separated by not more than one carbon atom and containing from 2 to 10 carbon atoms per molecule in the presence of an acid catalyst.

3. The process of claim 1 wherein the aldehyde is glyceraldehyde and the polyhydric alcohol is selected from the group consisting of ethylene glycol, 2-methyl-2,4-pentanediol, 1,2,6-hexanetriol and trimethylene glycol.

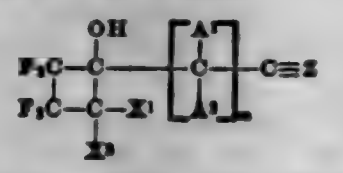
3,140,298

SELECTED HYDROXYPOLYFLUOROPERHALOCYCLOBUTANES AND THEIR PREPARATION FROM POLYFLUOROPERHALOCYCLOBUTANONES AND SELECTED UNSATURATES

David C. England, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

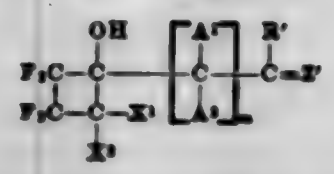
No Drawing. Filed Apr. 2, 1959, Ser. No. 803,580
20 Claims. (Cl. 260—345.2)

1. Compounds of the formula



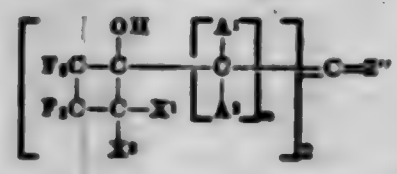
wherein: *m* is an integer from 0 to 1; X^1 and X^2 are halogen of the group consisting of fluorine, chlorine and bromine; A^1 and A^2 are selected from the group consisting, jointly, of a single divalent hydrocarbon radical of between 3 and 7 chain carbons and, separately, of two monovalent members of the group consisting of hydrogen, fluorine, chlorine, bromine and hydrocarbon and halohydrocarbon of up to 8 carbons; and Z is selected from the class consisting of =N and =CR wherein R is selected from the group consisting of hydrogen and monovalent hydrocarbon of up to 8 carbons.

2. Compounds of the formula



wherein: *m* is an integer from 0 to 1; X^1 and X^2 are halogen of the group consisting of fluorine, chlorine and bromine; A^1 and A^2 are selected from the group consisting, jointly, of a single divalent hydrocarbon radical of between 3 and 7 chain carbons and, separately, of two monovalent members of the group consisting of hydrogen, fluorine, chlorine, bromine and hydrocarbon and halohydrocarbon of up to 8 carbons; R′ is selected, separately, from the group consisting of hydrogen, fluorine, chlorine and bromine, monovalent hydrocarbon and halohydrocarbon of up to 8 carbons, and, jointly with A^1, divalent hydrocarbon of up to 6 carbons; and Z′ is selected from the class consisting of $=CR''_2$, $=C-CHR''$, and $=O$, R″ being selected from the class consisting of hydrogen and monovalent hydrocarbon of up to 8 carbons.

3. Compounds of the formula



wherein: *m* is an integer from 0 to 1; X^1 and X^2 are halogen of the group consisting of fluorine, chlorine and bromine; A^1 and A^2 are selected from the group consisting, jointly, of a single divalent hydrocarbon radical of between 3 and 7 chain carbons and, separately, of two monovalent members of the group consisting of hydrogen, fluorine, chlorine, hydrocarbon and halohydrocarbon of up to 8 carbons; and Z″ is selected from the class consisting of $=CR''_2$ and $=O$, R″ being selected from the class consisting of hydrogen and monovalent hydrocarbon of up to 8 carbons.

3,140,299

DERIVATIVES OF TRIMELLITIC ACID ANHYDRIDES

Donald F. Loncrini, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Apr. 27, 1962, Ser. No. 190,888
4 Claims. (Cl. 260—346.3)

1. An anhydride chosen from the group consisting of 4 - p - phenylphenyl trimellitate anhydride, 4 - phenyl trimellitamide anhydride and 4-nonylphenyl trimellitate anhydride.

3,140,300

COMPOSITION CONSISTING OF MALEIC ANHYDRIDE AND A FATTY ACID

Manfred Gans, Leonia, and Joseph L. Russell, Ridgewood, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Nov. 15, 1960, Ser. No. 69,256
2 Claims. (Cl. 260—346.8)

1. A composition consisting essentially of at least 99.5 wt. percent maleic anhydride and at least 0.07 wt. percent of an aliphatic monocarboxylic acid having from about 10 to 25 carbon atoms.

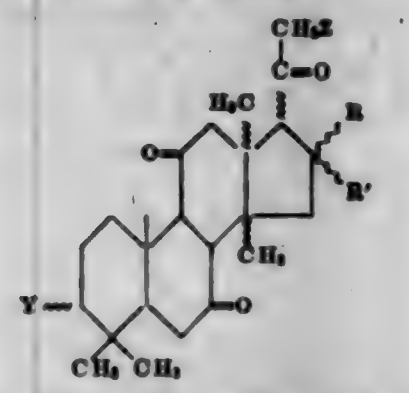
3,140,301

OXYGENATED TRITERPENOID ACID DERIVATIVES

Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 19, 1962, Ser. No. 188,990
14 Claims. (Cl. 260—397.3)

1. A compound having the formula



wherein Z is selected from the group consisting of hydrogen, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms; Y is selected from the group consisting of hydroxy, oxo (O=) and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms; and each R and R′ are selected from the group consisting of hydrogen, hydroxy and the acyloxy radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms.

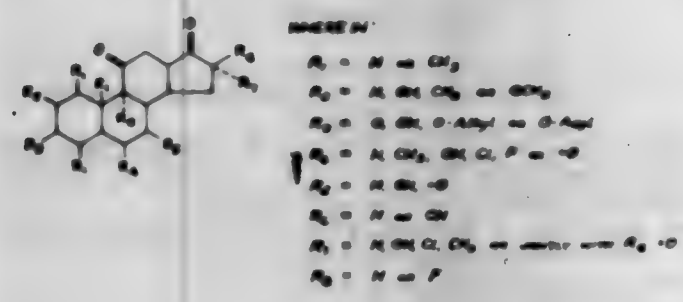
9. 4,4,14α-trimethyl-5α-pregnane-3,7,11,20-tetraone.

3,140,302

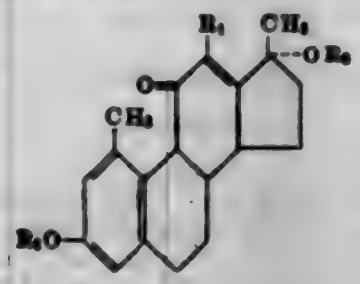
11-KETO-12-DEHYDRO-STEROIDS AND METHOD FOR THEIR PREPARATION

Klaus Irmscher, Darmstadt, Germany, assignor to E. Merck Aktiengesellschaft, Darmstadt, Germany, a corporation of Germany

Filed July 5, 1962, Ser. No. 207,753
Claims priority, application Germany July 6, 1961
13 Claims. (Cl. 260—397.45)



1. A compound having the formula:



wherein:

R_1 designates a member of the group consisting of hydrogen and R_2,

R_2 designates the acyl radical of an aliphatic carboxylic acid having up to 4 carbon atoms,

R_3 designates a member of the group consisting of hydrogen, an alkyl radical having up to 4 carbon atoms and R_2.

3,140,303

ALLYLIC OXY COMPOUNDS AND THEIR PRODUCTION

Harold E. De La Mare, El Cerrito, Jay K. Kochi, Berkeley, and Frederick F. Rust, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 8, 1961, Ser. No. 108,255
14 Claims. (Cl. 260—408)

1. An alkoxy-substituted mono-ethylenic carbonyl compound of the group consisting of carboxylic acids having 9 to 18 carbon atoms in the acid moiety and 1 to 5 carbon atoms in the alkoxy group and alkyl esters of said acids having 1 to 5 carbon atoms in the alkyl ester group, the alkoxy group being in allyl position with respect to the ethylenic double bond which is separated from the carboxyl carbon atom by a hydrocarbon radical of 6 to 14 carbon atoms.

4. Alkyl 10-alkoxy-8-halo-8-decenoate wherein each of said alkyl groups contains 1 to 4 carbon atoms.

8. A method for producting a mono-ethylenic diether having at least one of the ether groups in allylic position with respect to the ethylenic double bond which comprises generating an alkoxy free radical by decomposing an alkyl hydroperoxide by redox reaction with ferrous ion in the presence of

a conjugated diene, and of a solubilizing alcohol solvent for the reactants containing between about 0.01 and about 0.6 equivalents of cupric ion per mole of alkyl hydroperoxide

whereby combination of said free radical and alcohol solvent with the diene takes place in equal mole proportions.

3,140,304

PROCESS FOR THE PREPARATION OF ARYL MERCURIC BENZOATES

Sergey V. Chodsky, Fort Lee, and Marvin Rosen, Scotch Plains, N.J., assignors, by mesne assignments, to Heyden Newport Chemical Corporation, a corporation of Delaware

No Drawing. Filed Apr. 24, 1962, Ser. No. 189,715
9 Claims. (Cl. 260—434)

1. The process for the preparation of aryl mercuric salts having the formula

R—Hg—A

wherein R represents a mononuclear aryl group selected from the group consisting of phenyl, tolyl, xylyl, aminophenyl, nitrophenyl, hydroxyphenyl, and chlorophenyl groups and A represents an aromatic monocarboxylic acid radical selected from the group consisting of benzoic acid, chlorobenzoic acid, hydroxybenzoic acid, nitrobenzoic acid, and aminobenzoic acid radicals which comprises the steps of (1) forming an aqueous reaction mixture comprising (*a*) approximately 20% to 50% by weight of an aryl mercuric acetate having the formula

R—Hg—Ac

wherein R has the aforementioned significance and Ac represents the acetate radical and (*b*) an alkali metal salt of an aromatic monocarboxylic acid selected from the group consisting of benzoic acid, chlorobenzoic acids, hydroxybenzoic acids, nitrobenzoic acids, and aminobenzoic acids, said alkali metal salt being present in an amount that is at least stoichiometrically equivalent to that of said aryl mercuric acetate, at a temperature in the range of approximately 5° C. to 30° C. and (2) heating said reaction mixture at a temperature in the range of approximately 30° C. to 65° C. thereby forming an aqueous suspension of the crystalline aryl mercuric salt of said aromatic monocarboxylic acid.

3,140,305
PREPARATION OF DIISOCYANATES
Jack G. Lowenstein, Baltimore, Md., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,132
11 Claims. (Cl. 260—453)

1. A process for the recovery of an aromatic diisocyanate from an aromatic diisocyanate distillation residue comprising passing said residue in the form of a thin film over a heated surface, thereby converting isocyanate-containing aromatic compounds present in the residue to an aromatic diisocyanate and distilling said aromatic diisocyanate therefrom.

3,140,306
METHOD OF MAKING ALIPHATIC AND AROMATIC THIO AND SULFONYL CHLORO- AND BROMOALKANENITRILES
Samuel Allen Heininger, Warson Woods, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed July 2, 1958, Ser. No. 746,111
16 Claims. (Cl. 260—465)

1. A method of making compounds of the formula

$$\begin{array}{l} RSCH_2CHCN \\ \quad\quad | \\ \quad\quad X \end{array}$$

wherein R and X are defined hereinbelow comprising contacting a compound of the formula

$$\begin{array}{l} XCH_2CHCN \\ \quad\quad | \\ \quad\quad X \end{array}$$

wherein X is selected from the group consisting of bromine and chlorine, with a compound of the formula

$$R—S—M$$

wherein R is selected from the class consisting of phenyl, lower-alkylphenyl, halophenyl, nitrophenyl, lower alkyl, halogenated lower alkyl and nitrated lower alkyl radicals, and M is an alkali metal.

8. A method of making a compound of the formula

$$\begin{array}{l} RSO_2CH_2CHCN \\ \quad\quad\quad | \\ \quad\quad\quad X \end{array}$$

wherein R and X are as defined hereinbelow comprising contacting a compound of the formula

$$\begin{array}{l} XCH_2CHCN \\ \quad\quad | \\ \quad\quad X \end{array}$$

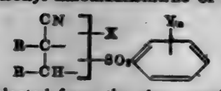
wherein X is selected from a group consisting of bromine and chlorine, with a compound of the formula

$$RSO_2M$$

wherein R is selected from a class consisting of phenyl, lower-alkylphenyl, halophenyl, nitrophenyl, lower alkyl, halogenated lower alkyl and nitrated lower alkyl radicals, and M is an alkali metal.

3,140,307
TOXIC ARYLSULFONYL HALOALKANENITRILES
Samuel Allen Heininger, Warson Woods, Mo., and Gail H. Birum, Dayton, Ohio, assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Mar. 3, 1959, Ser. No. 796,740
10 Claims. (Cl. 260—465)

1. An arylsulfonyl haloalkanenitrile of the formula



wherein R is selected from the class consisting of hydrogen, the phenyl radical, and alkyl and cycloalkyl radicals containing from 1 to 6 carbon atoms, provided at least one R is hydrogen, X represents a halogen atom selected from the class consisting of chlorine and bromine, Y is selected from the class consisting of chlorine, bromine, iodine, fluorine, hydrogen and alkyl radicals having from 1 to 6 carbon atoms, and n is an integer from 1 to 5.

3,140,308
COLORED 1:1 PI COMPLEXES OF TETRACYANOETHYLENE AND AROMATIC COMPOUNDS
Theodore Le Sueur Cairns, Greenville, Del., and Edith Graef McGeer, Vancouver, British Columbia, Canada, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 28, 1959, Ser. No. 816,384
14 Claims. (Cl. 260—465)

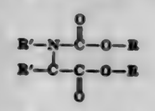
1. The 1:1 Pi complex of tetracyanoethylene and an aromatic compound of up to 16 carbon atoms free from aliphatic unsaturation and selected from the group consisting of carbocyclic aromatic hydrocarbons and substituted carbocyclic aromatic hydrocarbons in which any substituent is selected from the group consisting of lower alkyl, phenyl, hydroxy, lower alkoxy, amino, lower alkylamino, halogen, and halo lower alkyl.

3,140,309
PREPARATION OF ISOPHTHALIC ACID MONOESTER
Alan E. Ardis, Hamden, and Alexander A. Valicenti, New Haven, Conn., assignors, by mesne assignments, to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Nov. 3, 1958, Ser. No. 771,227
3 Claims. (Cl. 260—475)

1. In the preparation of purified isophthalic acid monoesters, the process comprising dispersing isophthalic acid containing monobasic acid impurities in an aqueous medium containing a substantially equi-molar amount of an alkali metal ion and 30 to 60 parts by weight of water per part by weight of isophthalic acid, reacting a substantially equi-molar amount of ethylene oxide therewith at a temperature of about 50° C. to 130° C., acidifying the solution and precipitating isophthalic acid, separating the solution from the precipitated acid, and recovering mono-(beta-hydroxyethyl)-isophthalate from the said solution.

3,140,310
N,N'-DI(LOWER ALKENYL)BICARBAMATE ESTERS
Arnold Zweig and Arthur Kentaro Hoffmann, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Aug. 17, 1962, Ser. No. 217,546
6 Claims. (Cl. 260—482)

1. A compound of the formula:



wherein R is lower alkyl and R' is lower alkenyl.

3,140,311
C_{11} ALCOHOLS AND CORRESPONDING ACETIC ACID ESTERS
Willard T. Somerville, Fair Haven, N.J., assignor to International Flavors & Fragrances Inc., New York, N.Y., a corporation of New York
Filed Mar. 3, 1961, Ser. No. 93,138
3 Claims. (Cl. 260—488)

1. The mixture of C_{11} alcohols and corresponding acetic acid esters having the respective empirical formulae $C_{10}H_{18}CH_2OH$ and

$$\begin{array}{l} C_{10}H_{18}CH_2OCCH_3 \\ \quad\quad\quad\

3,140,316
MANUFACTURE OF DIAMINODIPHENYLETHER
Jack L. Towle, Cleveland, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed June 23, 1960, Ser. No. 38,114
1 Claim. (Cl. 260—580)

A process for the preparation of diaminodiphenyl ether including the steps of (1) contacting, with agitation, in solution in acetic anhydride, diphenyl ether and from 3 to 8 moles of fuming nitric acid for each mole of diphenyl ether whereby to produce a mixture of dinitrodiphenyl ether and trinitrodiphenyl ether containing traces of higher polynitrodiphenyl ethers and substantially free from mononitrodiphenyl ether (2) adding the reaction mixture to water to precipitate the mixture of nitration products (3) reducing the nitro groups to amino groups (4) separating the resulting diaminodiphenyl ether from the triamino and higher polyamino diphenyl ethers by adding the mixture to water and (5) removing the insoluble diamino diphenyl ether from the soluble tri and higher polyamino diphenyl ethers, leaving the diamino diphenyl ether substantially pure and free from monoamino diphenyl ether, and triamino and higher polyamino phenyl amines.

3,140,317
NITROFORM-HYDRAZINE COORDINATION COMPOUNDS
Kenneth O. Groves, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 3, 1961, Ser. No. 93,263
9 Claims. (Cl. 260—583)

1. A compound selected from the group consisting of alkali metal nitroform-hydrazine coordination compounds and alkaline earth metal nitroform-hydrazine coordination compounds.

3,140,318
PROCESS FOR THE PRODUCTION OF PHENOL OF HIGH DEGREE OF PURITY
Heinrich Sodomann and Bruno Hanschulz, both of Gladbeck, Westphalia, and Hans Schwermer, Wesuwe-Eickel, Westphalia, Germany, assignors to Phenolchemie G.m.b.H., Gladbeck, Germany, a German corporation
No Drawing. Filed Feb. 9, 1960, Ser. No. 7,524
Claims priority, application Germany Feb. 11, 1959
3 Claims. (Cl. 260—621)

1. In the process of recovering substantially pure phenol from the phenol reaction product mixture produced in the acid cleavage of a hydroperoxide of an alkylaromatic hydrocarbon, the improvement of distilling the same, intimately mixing the separated phenol fraction with between 0.05 and 1% by weight based on the phenol mixture of an acid selected from the group consisting of inorganic and strong organic acids at a temperature within the range of about 70–170° C. for a period of about from 1–6 hours neutralizing the acidified phenol fraction, and thereafter subjecting the neutralized phenol fraction to a second distillation.

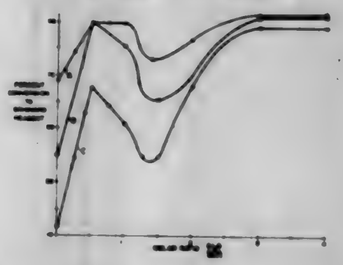
3,140,319
PREPARATION OF p-NITROHALOBENZENES
Allen K. Sparks, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Jan. 31, 1963, Ser. No. 255,185
13 Claims. (Cl. 260—646)

1. In the nitration of a nitratable halobenzene, a method of increasing the amount of the para isomer in the nitrohalobenzene nitration product, which method comprises nitrating said halobenzene with nitric acid in a solution comprising sulfuric acid and a sulfone selected from the group consisting of a dialkyl sulfone, a bis(alkylsulfonyl)alkane, and an alkylene sulfone, said sulfuric acid comprising from about 20 mole percent to about 85 mole percent of said solution.

3,140,320
PROCESS FOR PREPARING PENTAFLUOROIODOETHANE
Viktor Weinmayr, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 23, 1961, Ser. No. 111,912
8 Claims. (Cl. 260—653.6)

1. The process for preparing pentafluoroiodoethane which comprises mixing at a temperature below about 30° C. mercuric oxide, liquid hydrogen fluoride, iodine and tetrafluoroethylene in the ratio of from about 0.5 to about 1.5 moles of iodine and from about 0.5 to about 0.7 mole of mercuric oxide for each mole of tetrafluoroethylene and at least 4.1 moles of hydrogen fluoride for each mole of mercuric oxide, then heating the mixture in a closed vessel at a temperature of from about 25° C. to about 150° C. under autogenous pressure, and recovering pentafluoroiodoethane from the reaction mixture.

3,140,321
PREPARATION OF GRIGNARD REAGENTS IN PREDOMINANTLY HYDROCARBON MEDIA
George J. Goepfert and Alfred H. Frye, Cincinnati, Victor G. Soukup, Wyoming, Cincinnati, and Francis J. Boecher, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 16, 1960, Ser. No. 9,033
10 Claims. (Cl. 260—665)



1. A process of preparing Grignard reagents which comprises reacting an organic halide in a predominantly hydrocarbon medium with a special magnesium chip which has been plastically deformed by a mechanical cutting operation to an average thickness within the range of 0.0001" to 0.0075".

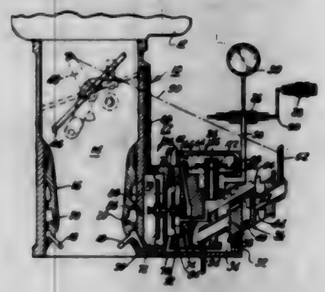
3,140,322
SELECTIVE CATALYTIC CONVERSION
Vincent J. Frilette, Erlton, N.J., and Paul B. Weisz, Media, Pa., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Aug. 14, 1958, Ser. No. 754,918
14 Claims. (Cl. 260—667)

1. A process for selectively conducting an organic chemical reaction which comprises carrying out a reaction involving contact of at least two molecular species of differing shape with a crystalline aluminosilicate zeolite molecular sieve material, bearing within the interior thereof an added catalyst, introduced into the zeolite subsequent to formation thereof, and active in effecting conversion of at least one of said species contained within the pores of said zeolite, which zeolite has uniform interstitial dimensions sufficiently large to afford the release from said pores of the product of said conversion but sufficiently small to exclude from said product molecular species of larger size, effecting catalytic conversion of at least one of said species contained within the pores of said zeolite to a material chemically distinct therefrom and of a molecular shape capable of passing from the interior of said zeolite and simultaneously withdrawing, without substantial change in pressure of the system, the product so obtained from the resultant effluent stream.

3,140,323
PROCESS FOR PRODUCTION OF ACETYLENE AND OTHER PRODUCTS BY PARTIAL COMBUSTION OF HYDROCARBONS
Giacomo Fauser, Novara, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed May 19, 1959, Ser. No. 814,146
Claims priority, application Italy May 21, 1958
7 Claims. (Cl. 260—679)

1. A process for making acetylene comprising subjecting a hydrocarbon to incomplete combustion with oxygen, cooling the hot reaction gases containing acetylene to minimize dissociation of the acetylene, said cooling being carried out by contacting a hydrocarbon oil with the said hot gases, the latter being at a temperature at least sufficiently high to result in partial cracking of said oil, the hydrocarbon being a mineral oil having a boiling point above 250° C., the quantity of oil being initially adjusted to lower the temperature of the gases down to within the range of 700° to 800° C., an additional quantity of said oil being introduced into the exit gases so produced to lower the temperature down to a temperature not higher than about 200° C., the time interval between the first and second cooling stages being not more than a few hundredths of a second.

3,140,324
FUEL SUPPLY SYSTEM
Elmer A. Haase, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,471
6 Claims. (Cl. 261—42)



1. A fuel supply system for a combustion engine having an air duct comprising, a conduit for supplying fuel to the engine, metering means in said conduit, a control valve in said conduit downstream of said metering means, first and second fuel chambers, a pressure responsive movable wall operatively connected to said control valve and disposed to separate said fuel chambers, means for communicating fuel from said conduit downstream of said control valve to said first fuel chamber, passage means connecting said conduit intermediate said metering means and said control valve to said second fuel chamber, a calibrated passage connecting said first and second fuel chambers, a servo valve controlling the flow through said passage means, a housing, first and second air chambers formed in said housing, metered and unmetered fuel chambers formed in said housing, first and second pressure responsive movable walls respectively separating said air chambers and said metered and unmetered fuel chambers, rigid wall means in said housing separating said second air chamber from said unmetered fuel chamber, a bore in said rigid wall means, a bushing in said first air chamber having a one way connection with said first movable wall, a plurality of radially extending grooves of different depths formed in said bushing, an aperture formed in said first movable wall, a rod reciprocably mounted in said bore, said bushing, and said aperture and operatively connected at one end to said second movable wall, said rod being formed at the other end thereof with a turned over portion adapted for selective engagement in one of the grooves in said bushing, means operatively connecting said second movable wall to said servo valve, means for creating a pressure differential at spaced points in said air duct, means respectively connecting said first and second air chambers to said spaced points, means connecting said unmetered fuel chamber to said conduit upstream of said metering means and means communicating fuel from said conduit downstream of said metering means to said metered fuel chamber.

3,140,325
MANUFACTURE OF MOLDED BODIES
Roderich Griff, Moosbergerstr. 2B, Weiden, Oberpfalz, Germany
Filed July 24, 1958, Ser. No. 750,792
Claims priority, application Germany July 25, 1957
10 Claims. (Cl. 264—93)

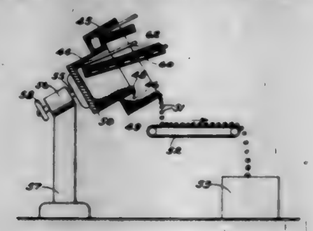


1. The process of manufacturing reinforced synthetic thermosetting plastic molded bodies of spherical and various geometrical shapes which comprises: interposing a flat layer of reinforcing material which has been impregnated with a synthetic thermosetting plastic resin between two foils while the thermosetting plastic resin is in a liquid and viscous condition to form a molding assembly; securing the edges of the assembly against movement; applying a fluid pressure differential to the opposite sides of the assembly to mold the assembly to a desired shape; and thereafter hardening said resin to retain the molded shape of the assembly.

3,140,326
AGGLOMERATING METHOD AND APPARATUS
Louis J. Erck, Negaunee, and Donald C. Violetta, Ishpeming, Mich., and Thomas E. Ban, Cleveland, Ohio, assignors to The Cleveland-Cliffs Iron Company
Original application Feb. 15, 1956, Ser. No. 580,423. Divided and this application Dec. 29, 1958, Ser. No. 796,997
(Filed under Rule 47(a) and 35 U.S.C. 116)
11 Claims. (Cl. 264—117)

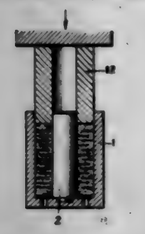
1. A pelletizing apparatus adapted to form pellets of powdered material having its particles in an adhesive condition, the apparatus comprising a vessel having a substantially flat bottom and substantially circular confining wall members rising from the bottom portion, and having its inner surface shaped to form a plurality of annular coaxial trough-like portions of different diameter, the smaller being adjacent the flat bottom portion, said trough-like portions being separated by annular ridge por-

tions, means for mounting the vessel to rotate on an axis at an acute angle to the horizontal, and means for feed-



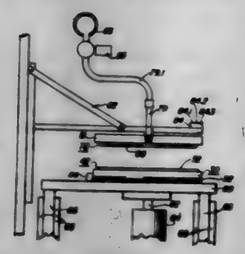
ing moistened powdered material to be pelletized to the vessel while rotating.

3,140,327
PROCESS FOR MANUFACTURING BELLOWS
Günther Dettmer, Schwarmstedt, Kreis Fallingbostel, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Oct. 23, 1961, Ser. No. 147,024
Claims priority, application Germany Oct. 22, 1960
7 Claims. (Cl. 264—119)



1. A process for producing a bellows by sintering of a powdered plastic and comprising the steps of depositing a powdered plastic into a mold, arranging annular separator discs in said powdered plastic so as to determine the thickness of the walls of the bellows and the folds therein, and sintering the powdered plastic to fuse the plastic into an integral bellows.

3,140,328
METHOD AND APPARATUS FOR CURING GASKET DEFORMITIES
Thomas S. Simms, Bensenville, Ill., assignor to General Electric Company, a corporation of New York
Filed Sept. 2, 1960, Ser. No. 53,828
4 Claims. (Cl. 264—230)



1. The method of correcting physical deformities acquired, subsequent to manufacture, by a door gasket formed of a vinyl chloride polymer having a "memory" for its original manufactured shape, which includes the steps of assembling the said deformed gasket to its associated door in its ultimate operating position with respect to the periphery thereof, positioning in spaced relation to said gasket a steam discharge device having runs of steam-emitting apertures aligning with said gasket over the full length thereof, discharging against said gasket simultaneously along its full length a flow of steam at relatively low gage pressure until said gasket softens and returns to its original manufactured shape by virtue of its said "memory," immediately thereafter terminating said steam flow, and permitting said gasket to cool by heat flow to the ambient.

3,140,329
ATTACHMENT MEANS
Charles E. Nutting, Newtonville, Mass., assignor to Beacon Plastics Corporation, Newton Highlands, Mass., a corporation of Massachusetts
Filed May 22, 1962, Ser. No. 196,750
1 Claim. (Cl. 264—242)



A method of permanently joining an attachment member to an organic plastic article,

said method comprising,

positioning an attachment member adjacent a molding cavity with a portion of the member having a spherical outer configuration and an undercut area lying within the molding cavity,

introducing a hot plastic parison into the molding cavity and forming said parison so as to provide a hollow plastic article having an outer wall portion with an integral inwardly extending portion of the wall extending into a hollow space defined by said article and forming a female socket for said undercut area,

said inwardly extending portion having a smaller perimeter at a cross section thereof closer to said outer wall portion than at a perimeter more remote from said outer wall portion,

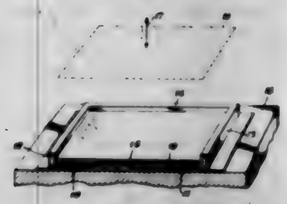
said attachment member portion having been coated with a means for preventing adherence between said wall and said portion whereby said member is pivotable in said female socket after molding.

3,140,330
PROCESS FOR STRETCHING PLASTIC NET
Carlos D. Gutierrez, Middlesex, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 15, 1961, Ser. No. 159,613
6 Claims. (Cl. 264—288)



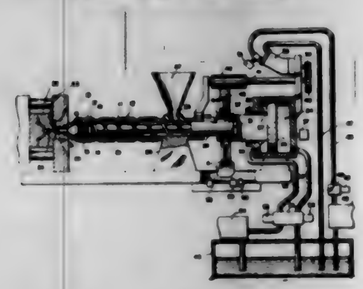
1. A process for increasing the diameter and mesh size of tubular plastic net comprising passing said net over a mandrel having a diameter greater than the internal diameter of said tubular net so as to stretch said net; passing the stretched net through a sizing ring having an internal diameter substantially smaller than the diameter of said mandrel; and withdrawing said net from said sizing ring over means for flattening said net.

3,140,331
MANUFACTURE OF TILE FOR ACOUSTIC AND DECORATIVE EFFECTS
Edward Berset, Cloquet, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 1, 1959, Ser. No. 803,523
4 Claims. (Cl. 264—293)



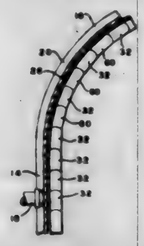
1. The method of treating a substantially square tile of porous fiberboard useful as ceiling tile, which comprises compressing the tile onto a centrally crowned supporting platen by applying a substantially planar platen and thereby substantially uniformly loading the exposable tile face, whereby during compression to deform the tile to a dished back surface corresponding generally to said crowned platen and thereby altering the original stresses in the uncompressed tile and introducing new stresses in the compressed tile, and releasing the tile from said compression.

3,140,332
INJECTION MOLDING METHOD AND APPARATUS
Thomas W. Brown, Ashland, Mass., assignor to Lombard Industries, Inc., Ashland, Mass.
Filed Mar. 1, 1961, Ser. No. 92,655
7 Claims. (Cl. 264—329)



1. The method of manipulating an injection molding machine of the type having a screw rotatable and slidable in a cylinder fitted with an open nozzle following one and in preparation of the next injection of the plastic charge into the mold, which comprises positioning said nozzle against the mold to establish in said cylinder and between said mold and said screw a predetermined charge preparing chamber volume, feeding plastic material to said screw and rotating it while heating said cylinder to deliver the plastic material to said chamber at a predetermined charge preparing temperature, stopping the rearward movement of said screw compelled by delivery of said material when said chamber has reached said predetermined volume, continuing the rotation of said screw while holding it against further retraction to bring the plastic material in said chamber volume to a predetermined charge pressure, thereupon stopping rotation of and allowing retraction of said screw a predetermined amount to increase the chamber volume and decrease the material pressure to a point at which that will not flow out through the nozzle when the mold is opened to remove the article molded from the previous charge, and upon the reclosing of said mold advancing said screw to force said material out of said chamber and into said mold under desired pressure and temperature.

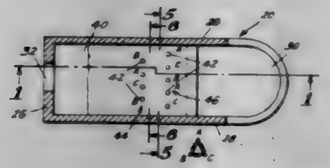
3,140,333
UNIVERSAL CIRCLE LADLE BRICK
William T. Tredennick, Drexel Hill, and James Richard Miller, Clearfield, Pa., assignors to Resco Products, Inc., Norristown, Pa., a corporation of Pennsylvania
Filed Feb. 1, 1961, Ser. No. 86,510
4 Claims. (Cl. 266—43)



1. A ladle for molten steel comprising a vessel defined by a metal shell having straight side wall portions merging tangentially with conically curved lengths, a lining of refractory blocks laid in successive courses within said shell, some courses being built of a set of two different forms of block, the first form of block having flat parallel top and bottom faces, opposite cylindrically curved ends of equal radius of curvature but respectively concave and convex, and front and back faces which intersect the curved surfaces of the ends, the back face being longer than the front face so that a series of such blocks extend in a curve conforming to the curvature of said shell, and the second form of block having identical front and back faces corresponding to the length of the back face of said first mentioned form of block, said second form of block having arcuate end faces respectively concave and convex, and the center of curvature forming the arcuate end faces of said second form of block lying along a center line between the front and back faces of said second form of block.

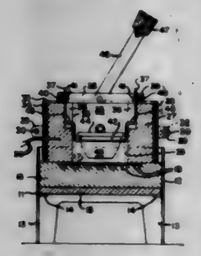
ELECTRICAL

3,140,334
GLASS MANUFACTURE
Harvey Larry Pemberthy, 3129 Alki Ave., Seattle 16, Wash.
Filed Oct. 18, 1960, Ser. No. 63,417
11 Claims. (Cl. 13—6)



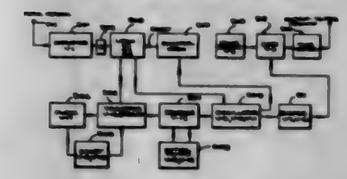
1. In a glass furnace of the continuous type having a raw material feed end, a discharge end from which glass which is to be worked is removed and a plurality of glass-immersed rod-type electrodes connected to a power source and adapted to heat the glass through Joule effect, the improvement comprising: the arrangement of said electrodes in two spaced rows extending transversely across the path of glass flow; a power source; said electrodes being connected to said power source so as to establish transverse current flow through said glass and between electrodes in each of said rows and longitudinal current flow through said glass and between said rows of electrodes; the electrodes in each row being spaced from one another a distance approximately equal to the normal depth of glass in the furnace so as to permit the formation of a downward convection current of glass between each pair of adjacent electrodes in each of said rows.

3,140,335
LABORATORY FURNACE
Daniel T. Muth, McCandless Township, Allegheny County, and Edward A. Zawadzki, Baldwin Borough, Allegheny County, Pa., assignors to Bituminous Coal Research, Inc., Monroeville, Pa., a corporation of Delaware
Filed June 14, 1962, Ser. No. 202,614
6 Claims. (Cl. 13—20)



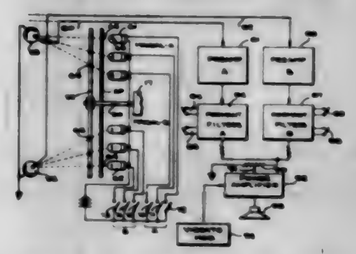
3. An electrically heated laboratory furnace for a crucible and the like comprising, in combination, a refractory heater block, a substantially flat area resistance heater element carried by the top of said heater block, a refractory block comprising an open-topped heating chamber having an unobstructed cylindrical vertical well therein extending therethrough, said heating chamber being adapted to be carried by said heater block in central relation thereto and to said heater element with the bottom of said well and at least the portion of the underside of said heating chamber immediately around said well being directly above said heating element, a holder frame adapted to rest on the upper portion of said heating chamber spaced outwardly of the upper edge of said well, and a support depending from said frame for a crucible adapted to be lowered into and raised from said well.

3,140,336
RHYTHMIC INTERPOLATOR
Donald J. Campbell, Cincinnati, Ohio, assignor to D. H. Baldwin Company, a corporation of Ohio
Filed Aug. 30, 1960, Ser. No. 52,827
20 Claims. (Cl. 84—1.03)



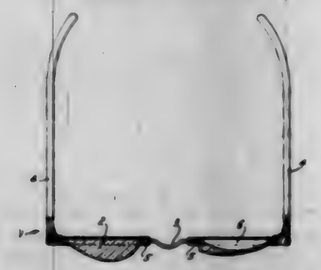
1. An electrical musical instrument having the usual pedal clavier operatively associated with a source of rhythmic impulses, an actuating circuit operatively connected to said source, a timing circuit operatively connected to said actuating circuit, at least one source of rhythmic interpolation signals operatively connected to said timing circuit, said timing circuit including means for electing the number of rhythmic interpolation signals to be interpolated between pairs of rhythmic impulses, whereby when selected rhythmic impulses are generated in response to operation of said pedal clavier the source of interpolation signals will be actuated rhythmically to interpolate the elected number of interpolation signals.

3,140,337
PHOTOELECTRIC ORGAN
Richard E. Williams, Fairfax, Va., assignor to Scope, Inc., Fairfax, Va., a corporation of New Hampshire
Filed Feb. 3, 1960, Ser. No. 10,829
3 Claims. (Cl. 84—1.18)



1. A tone disc assembly, comprising a first and second rotatable variable translucency tone disc, each of said tone discs including opaque areas representing a plurality of tone tracks of different nomenclature, an aperture plate operatively associated with each of said tone discs, said tone discs located between said aperture plates, said aperture plates each including at least one aperture operatively associated with each of said tone tracks, a plurality of discrete sources of light, each of said sources of light being located adjacent one of said apertures, photoelectric cells, said cells, apertures, tracks and discrete sources of light being relatively so located that light from each source of light travels to one of said photoelectric cells via one only of said apertures and one only of said tracks in the order stated, wherein said tone discs are concurrently driven by a single shaft, one of said tone discs having only tracks representing at least five octaves of tones of each of a first and second nomenclature, the other of said tone discs having only tracks representing at least five octaves of tones of each of a third and fourth nomenclature, said four tones being in immediate succession in the musical scale and each tone track being recorded in an integral number of wave length representations, tracks representing tones of each single nomenclature on each of said tone discs being located in a group in close proximity to one another, and separate groups being relatively widely separated on said tone discs, and means for selectively reading out said tracks, said means including key switch means for selectively activating said sources of light to selectively illuminate said tracks.

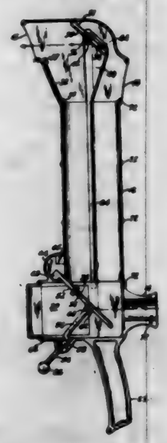
3,140,338
SPECTACLE LENSES FOR UNILATERAL APHAKIA
Harry Stollerman, Flushing, N.Y.
(89—66 Sutphin Blvd., Jamaica, N.Y.)
Filed Feb. 20, 1961, Ser. No. 90,350
7 Claims. (Cl. 88—54)



1. In spectacles, in combination, frame means; and two lens means juxtaposed on said frame means and having substantially parallel optical axes, one of said lens means having a power of approximately plus twelve spherical diopters, and the power of said other lens means being at least seven diopters smaller than that of said one lens means, said lens means having a combined prism power of approximately ten and not substantially more than twelve prism diopters base-in.

3,140,339
OPTICAL TOY OF THE PERISCOPE TYPE
Walter E. Nieperty, Glen Dale, and Jesse P. Rheone, Moundsville, W. Va., assignors to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 13, 1962, Ser. No. 179,371
7 Claims. (Cl. 88—68)

1. An optical toy comprising a generally upright housing having an eye opening at the lower end, a forward looking window at the upper end, an angularly disposed top mirror receiving light from the forward looking window, a bottom mirror aligned with the eye opening, a leftward looking window alongside the bottom mirror, a rightward looking window alongside the bottom mirror, an upper spindle secured to said bottom mirror, a link pivotally connected to the rear of the bottom mirror, a lower spindle connected to said link, the upper spindle and lower spindle being pivoted in the housing with universal pivots such that the lower end of the lower spindle serves as a handle to change the mirror and spindles from an angular position in which the spindles are transversely related and the toy acts as a periscope, to an upright position in which the spindles are in vertical alignment at which time the lower spindle serves to turn the mirror to an angular position receiving light from the leftward looking window, or to an opposite angular position receiving light from the rightward looking window.



3,140,340
REFLEX REFLECTOR ARTICLE
Victor Weber, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 1, 1961, Ser. No. 94,112
4 Claims. (Cl. 88—82)

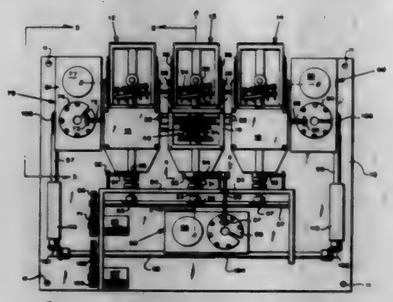


1. A brilliantly-reflective, wide-angularity, reflex-reflecting device comprising a plate of transparent material having a plurality of cube-corner retro-reflecting units disposed on the rear surface thereof, and an underlying high brilliancy wide-angle beaded reflex-reflector sheet in such spaced relation from said retro-reflecting units that wide angularity light transmitted through said plate of transparent material upon said underlying sheet is largely reflex-reflected by said sheet and transmitted back through said plate substantially toward the source of said light, the peripheral edge portions of said plate and sheet being hermetically sealed.

3,140,341
MIRROR POSITIONING APPARATUS
Pliny G. Holt, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1961, Ser. No. 156,176
9 Claims. (Cl. 88—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)

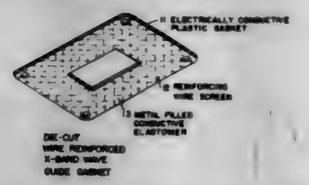
1. Mirror positioning apparatus for use in a light projecting optical display system comprising: a base plate formed to be mounted in the system; a plurality of parallel mirror positioning units each having a cradle rotatably supported on said base plate along a first axis, a mirror

element defining a planar reflecting surface on one side thereof rotatably supported on said cradle on a second axis normal to said first axis and parallel to the planar surface, said element further positioned to reflect a respective incident light beam of the display system, first differential means mounted on said cradle having two inputs and one output, first cam means operatively connected to said first differential output for positioning said element about said second axis in accordance with the combined first differential inputs, first motor means mounted on said cradle drivingly connected to one of said first differential inputs for rotating said element about said second axis independently of the other of said first differential inputs, shaft means coaxial with said first axis operatively connected to the other of said first differential inputs, second differential means mounted on said base plate having one output and



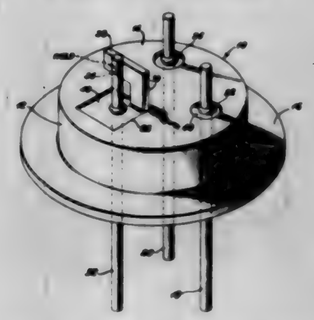
two inputs, second cam means operatively connected to said second differential output for positioning said cradle and said element about said first axis in accordance with the combined second differential inputs, second motor means mounted on said base plate drivingly connected to one of said second differential inputs for rotating said element about said first axis independently of the other of said second differential inputs; first worm gear means operatively connected to each of said shaft means; third motor means operatively connected to said first worm gear means for rotating said elements jointly and in unison about said second axes; second worm gear means operatively connected to each of the other of said second differential inputs; and fourth motor means operatively connected to said second worm gear means for rotating said elements jointly and in unison about said first axes; whereby the reflected light beams can be rotated in any direction.

3,140,342
ELECTRICAL SHIELDING AND SEALING GASKET
John E. Ehrreich, Arlington, and Donald H. Avery, Boston, Mass., assignors to Chomerics, Inc., Cambridge, Mass., a corporation of Delaware
Filed July 5, 1963, Ser. No. 294,219
11 Claims. (Cl. 174—35)



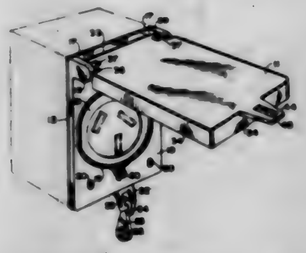
1. As an article of manufacture, an electro-magnetic energy shielding gasket having a form-stable definite shape and adapted to fit a closure to be sealed and to seal said closure electrically, comprising a matrix binder of a flexible and compressible plastic having a flow point in excess of about 100° C. loaded with within the range of 10 to 80 volume percent of metal particles held in electrical particle-to-particle contact therein, the largest dimension of said metal particles not being greater than ¼ of an inch and the electrical resistance of said gasket being less than 10 ohms-centimeters.

3,140,343
HEADER MOUNT FOR SEMICONDUCTOR DEVICE
Wilbur T. Walsely, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 24, 1961, Ser. No. 147,309
2 Claims. (Cl. 174—50.56)



1. A header for mounting a semiconductor device, comprising a metallic cup having an annular shell and a top wall closing one end of said shell, said top wall having an aperture defined therein by a cutout and bent-up portion of said shell from the plane of said wall, said portion consisting of a part vertical to said wall and a part horizontal to said wall and separated from the latter by said vertical part, a wire projecting through said aperture, spaced apart from said vertical part and having one end thereof terminating adjacent said horizontal part and bonded thereto, and glass filling said cup and being fused to said shell, top wall and wire.

3,140,344
WEATHERPROOF RECEPTACLE COVER
Thomas S. Slater, Great Neck, and Melvin Gould, Laurelton, N.Y., assignors to Slater Electric Inc., Glen Cove, N.Y., a corporation of New York
Filed Feb. 27, 1962, Ser. No. 175,923
5 Claims. (Cl. 174—67)



1. In a weatherproof cover for an electrical outlet box and a plug receptacle mounted therein, of the type having a plate adapted to be fixed to the box covering the open side thereof, having an opening therein through which the plug receptacle extends, and having a cover mounted on the plate and extending over the opening and receptacle in one position thereof; the improvement

comprising; a pair of spaced apart outwardly extending ears on said plate; a pin on each said ear; said pins extending parallel to the surface of said plate, lying on a common axis and facing each other; a cover extension lying between said pins, said cover extension being thickened at each side thereof facing said ears, each said thickened portion having a slot extending perpendicular to the plane of said plate when said cover is in closed position, said slots being open at the end remote from said plate, each said plate pin extending into a respective one of said slots to thereby pivotally mount said cover on said pins; resilient means for holding said cover in position with said pins seated against the inner closed end of said slots in said cover extension and a rim extending around said cover member and extending perpendicular to the face thereof and perpendicular to the cover plate when the cover is in closed position, said rim being of greater extent than the thickness of said thickened portions of said cover extension, thereby preventing movement of said cover while in closed position in a direction to release said pins from said slots.

3,140,345
BUS DUCT
William A. Kuhar, Bethlehem, and Elmer T. Carlson, Center Valley, Pa., assignors, by mesne assignments, to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed May 17, 1961, Ser. No. 110,827
2 Claims. (Cl. 174—99)



1. In a bus duct, a pair of opposed housing halves, bus bars extending through the housing halves in spaced relation to the latter, insulation strips mounted alternately across each of said housing halves in spaced apart relation and having notches to receive and support the bus bars, said notches in the strips in each housing half opening in the same direction and toward the open ends of the notches in the other housing half, and said notches in said strips being dimensioned so that with said bus bars seated therein the longitudinal center lines of the latter at said strips lie within the opposite housing half so that a wave form is imparted to such bars longitudinally thereof when said housing halves are secured together.

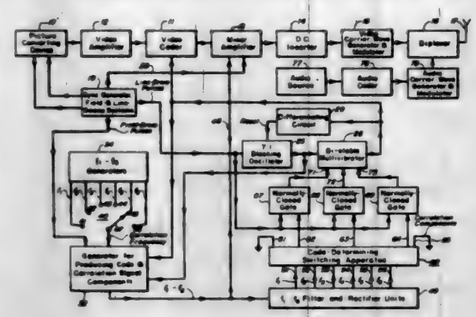
3,140,346
COMMUNICATION RECEIVER
Melvin C. Hendrickson, Elmhurst, and George V. Morris, Norridge, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 30, 1962, Ser. No. 169,791
7 Claims. (Cl. 178—5.1)

1. A communication receiver for utilizing a received intelligence signal comprising:

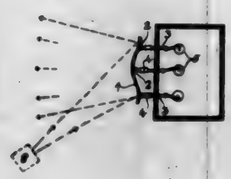
an adjustable code-determining apparatus to be established in a predetermined condition of adjustment to effect utilization of said intelligence signal;

testing means for performing a series of correlation tests to derive, in each of said tests, a control effect if the instantaneous condition of said apparatus corresponds to said predetermined condition of adjustment;

a timing mechanism for tolling a predetermined time interval including a reset device for restoring said mechanism to zero time register and requiring a predetermined restoring time to effect such restoration; and means, responsive to the failure of a correlation test during said predetermined time interval, for interrupting said timing mechanism for an interval corresponding to said predetermined restoring time.



3,140,347
APPARATUS FOR THE PROJECTION OF DISTORTED IMAGES
Aaron Isaac Cohen, 60 Kinfauns St., Sydenham, Johannesburg, Transvaal, Republic of South Africa
Filed Mar. 15, 1960, Ser. No. 15,236
10 Claims. (Cl. 178—5.8)

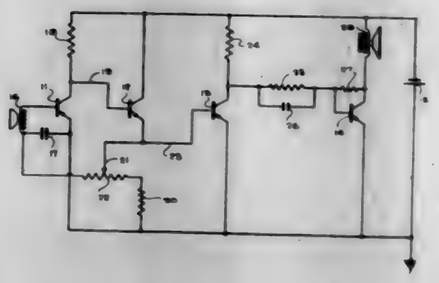


1. Means for projecting continuously changing distorted patterned images, which comprise a patterned reflector member comprising a flexible substantially non-stretchable supporting material at least part of which carries a reflective surface physically connected to the supporting material in such a manner that any freedom of movement between the reflective surface and the supporting material is essentially restricted, which reflector member is adapted to be deformed in a controlled manner by deforming means of the apparatus adapted to apply localised forces to different parts of the supporting material so as to produce a distorted image and comprises for this purpose a mounting allowing a substantial amount of free movement to the circumferential outlines of the reflector member.

3,140,348
TRANSISTOR AMPLIFIER
Victor H. Laughter, 1650 Peabody Ave., Memphis, Tenn., assignor of one-half to Paul S. Jones, Memphis, Tenn.
Filed Mar. 21, 1961, Ser. No. 97,271
10 Claims. (Cl. 179—1)

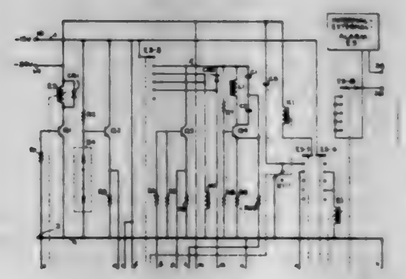
1. A transistor amplifier comprising a first transistor stage for amplifying an audio signal, means for connecting the base of said first transistor to a means for coupling an audio signal thereto, means for connecting the emitter of said first stage to ground, an emitter follower transistor stage direct current coupled to the collector of said first transistor stage, a negative feedback circuit connected

between said first stage and said emitter follower stage for direct currents only, said feedback circuit including variable impedance means for changing the absolute mag-

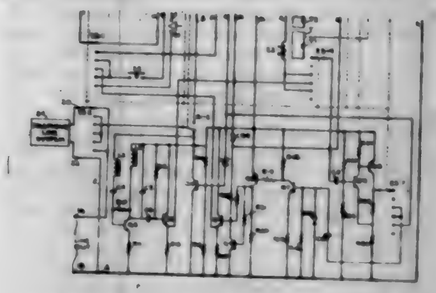


nitude of the audio output signal of said emitter follower stage and the absolute magnitude of the direct current feedback signal supplied to the base of said first stage in opposite senses.

3,140,349
AUTOMATIC ALARM SIGNALLING SYSTEM
John T. Kezele, Los Angeles County, Calif. (9972 Live Oak St., Temple City, Calif.), assignor of one-third to Jerome Sandusky, Monterey Park, Calif., and one-third to James J. Murzsik, San Gabriel, Calif.
Filed Aug. 23, 1962, Ser. No. 218,969
19 Claims. (Cl. 179—5)

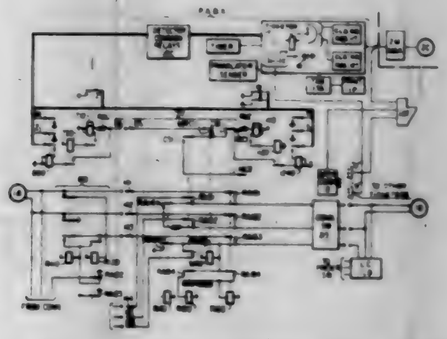


1. In an alarm system, in combination:
recorder means for producing a sequence of dialing signals and message signals;
a telephone line connected to a telephone system;
means responsive to said dialing signals for producing corresponding dialing signals in said telephone line;
means for sensing a response to said dialing signals in said telephone line;
means for applying said message signals to said telephone line;
means for detecting an alarm disturbance and generating an initiating signal in response thereto; and
means responsive to said initiating signal for sequentially causing the production of dialing signals in said



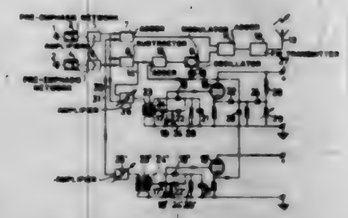
telephone line, sensing a response, and applying said message signals to said telephone line.

3,140,350
PRIVATE AUTOMATIC BRANCH EXCHANGE DETECTOR
John E. Outline, deceased, late of Elmwood Park, Ill., by Mattie A. Outline, executrix, Elmwood Park, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Dec. 4, 1959, Ser. No. 857,309
5 Claims. (Cl. 179—7.1)



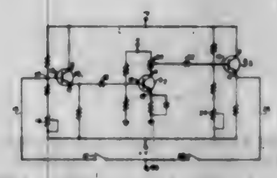
5. In a telephone system including a group of lines, each of said lines having a multi-digit identifying number individual thereto, a linefinder associated with said lines, said linefinder operated upon initiation of a call from one of said lines to connect with said line, a marking bank associated with said finder, a marking wiper on said finder operated to a contact of said marking bank upon said finder connecting to a calling one of said lines, a first group of coding relays connected to said linefinder marking bank, each of said coding relays of said group connected to a contact of said bank corresponding to the designation of said contact, a mark relay and a switch-through relay in said finder, a second group of coding relays, each of said coding relays of said second group connected to a contact of the switch-through relay of a finder of the corresponding finder group, means responsive to a call from any one of said lines for impressing a marking potential on a control conductor individual to said finder associated with said calling line to operate the associated mark relay, circuit means completed upon operation of said mark relay including said linefinder bank, said wiper, said switch-through relay and said coding relays of said first and second groups of coding relays to code the corresponding identifying number individual to the calling line.

3,140,351
ARRANGEMENT FOR THE STEREOPHONIC TRANSMISSION OF SIGNALS
Franz Louis Henri Marie Stumpers and Rudolf Schutte, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 26, 1961, Ser. No. 112,878
Claims priority, application Netherlands June 27, 1960
8 Claims. (Cl. 179—15)



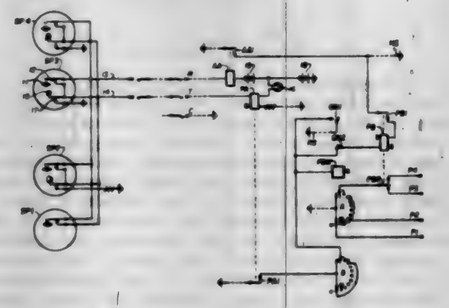
1. A transmitting system comprising a source of modulation signals, a source of oscillations, amplitude modulation means for modulating said oscillations with said modulation signals to provide output oscillations, a control voltage generator for providing a control voltage, and means connected to said control voltage generator for varying the amplitude of said output oscillations as a function of the amplitude of said control voltage, said control voltage generator comprising first and second rectifying stages having first and second filters respectively, said first filter having a greater time constant than said second filter, means applying said modulation signals to said first rectifying stages whereby modulation signals applied to said first rectifying stage have a smaller amplitude than modulation signals applied to said second rectifying stage, rectifier means connected between said first and second rectifying stages with a polarity to conduct only when the output voltage of said second rectifying stage is of smaller amplitude than the output voltage of said first rectifying stage, and means for deriving said control voltage from said first rectifying stage.

3,140,352
AMPLIFIER AND CLAMP CIRCUIT FOR PULSE COMMUNICATION SYSTEM
George R. Loewe, Addison, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 16, 1961, Ser. No. 145,424
12 Claims. (Cl. 179—15)



1. In an electrical circuit including a conductor carrying a potential of varying value, a circuit network having a common input and output terminal connected to a point in said conductor, said network comprising;
transistor means connected to said common terminal for amplifying alternating current signals at said point;
transistor means connected to said amplifying means for inverting and coupling said amplified alternating current signals back to said common terminal, whereby alternating current signals are substantially eliminated at said point of said conductor;
direct current biasing means for said transistor means; and
means including said biasing means for establishing a direct current potential of predetermined value at said point.

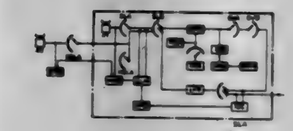
3,140,353
PARTY LINE IDENTIFICATION SYSTEM
Boris Sherstiuk, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Apr. 13, 1962, Ser. No. 187,306
4 Claims. (Cl. 179—17)



1. In a system for identifying the calling stations of a party line during the interval of the dialing of the first two digits of a called number, including a line having four stations connected thereto, each of said stations having a pulsing device and an identifying designation, a first one of said stations pulsing device including marking means for applying a ground potential to said line during each line break of said pulsing device, a second one of said stations pulsing device including a marking means for applying a ground potential to said line during the penultimate impulse of said pulsing device and a third one of said stations pulsing device including a means for applying a ground potential to said line during the last impulse of said pulsing device;
the other end of said line provided with a calling station identity detecting means including a digital impulse responsive first relay including a pair of make contacts controlled by said pulsing means, an identification impulse responsive second relay controlled by said marking means, make contact means controlled by said second relay, a rotary switch including an actuating magnet and a first and a second wiper and bank assembly, an operating circuit for said magnet including said make contact means on said second relay, said second wiper and a normally made contact of said second bank assembly to step said rotary switch once for each operation of said second relay, a party discriminating circuit means including the strapping of the first two bank contacts of said second bank assembly whereby said rotary switch operating circuit is interrupted after a third ground potential pulse, and circuit means for indicating said first station upon the rotary switch taking a third step, including said first wiper and third contact of

said first bank assembly of said rotary switch to mark said first station as the calling station.

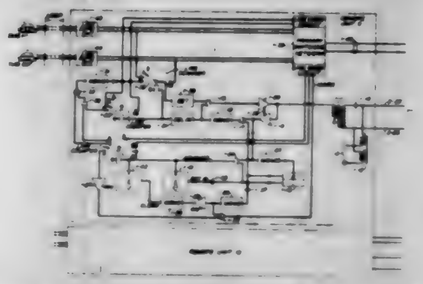
3,140,354
CIRCUIT ARRANGEMENT FOR OPERATION OF A SATELLITE EXCHANGE IN AN AUTOMATIC TELEPHONE SYSTEM
Harald Valdemar Alexandersson, Lidingo, Karl Gunnar Brunberg, Segeltorp, and Rolf August Dahlblom, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Nov. 7, 1960, Ser. No. 67,526
Claims priority, application Sweden Nov. 12, 1959
1 Claim. (Cl. 179—18)



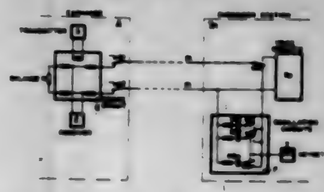
In a telephone system, in combination, at least one main exchange and at least one satellite exchange coacting with the main exchange, each of said exchanges comprising crossbar selector switches forming multiple contact bridges, at least the switches in the main exchange being arranged in at least two stages, one of said stages being a subscriber stage to which subscriber lines are connected and the other being a further stage, said main exchange including an identifier connected for identifying a subscriber and a marker for setting up a connection to and from a subscriber through idle switches, said satellite exchange including an identifier for identifying subscribers assigned to the satellite exchange, the lines of said satellite exchange subscribers being connected to the bridge outputs in said satellite exchange, each of the bridges of the satellite exchange having a corresponding bridge in the subscriber stage of the main exchange, the inputs of said bridges in the satellite exchange and of the corresponding bridge in the main exchange being connected in parallel to said further stage in the main exchange, and conductors connecting the identifier of the satellite exchange and the marker of the main exchange in circuits in which each of the satellite bridges in response to an incoming and an outgoing call respectively is set up for the same output as its corresponding bridge in the main exchange whereby the operation of the subscriber stage in the main exchange is the same for a subscriber's line connected to the satellite exchange and a subscriber's line connected directly to the subscriber stage in the main exchange respectively.

3,140,355
CONTROL CIRCUIT FOR TELEPHONE LINE CONCENTRATOR
Alexander Feiner, Morris Plains, N.J., and Terrell N. Lowry, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 14, 1961, Ser. No. 159,275
14 Claims. (Cl. 179—18)

2. A control signaling circuit for use in a telephone line concentrator system having a central office and a remote switching unit including means at said central office for transmitting sequential interrogation signals to said remote switching unit to ascertain the state condition of the lines connected thereto, additional means in said office for temporarily inhibiting the flow of said interrogation signals to said remote switching unit, and means at said remote unit responsive to said inhibition for effecting a change in mode of operation of said remote switching unit in response to additional signals received subsequent to said temporary inhibition.



3,140,356
COMMUNICATION SYSTEM EMPLOYING FREQUENCY SELECTION OPERATIONS
Herbert Ebel, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, a corporation of Germany
Filed June 22, 1960, Ser. No. 37,869
Claims priority, application Germany June 23, 1959
6 Claims. (Cl. 179—84)

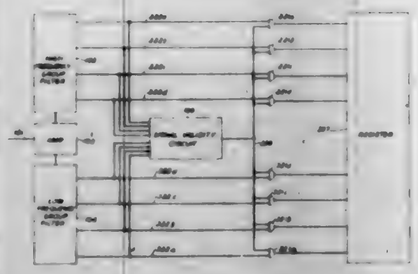


1. A circuit arrangement for communication systems, especially telephone systems operating with frequency selection, wherein the absence of at least one frequency of a sequence of a plurality of frequencies serves for the marking or characterization of a selection information, comprising a transmitter and a receiver for the selection frequencies, and a part of a bridge circuit provided in the system exchange, said bridge part forming with a telephone line, a bridge circuit, wherein such line, based upon its own capacitance and inductance, respectively, represents a bridge arm, said bridge part having a balance, which corresponds to the equivalent inductance and capacitance of the line, forming a corresponding bridge arm, means connecting the selection frequency transmitter to one bridge diagonal and the selection frequency receiver to the other bridge diagonal, a plurality of oscillation circuits disposed at each subscriber station, and a selection key set at each subscriber station comprising means for connecting respective oscillation circuits with said line for blocking at least one selected frequency to designate a desired selection information.

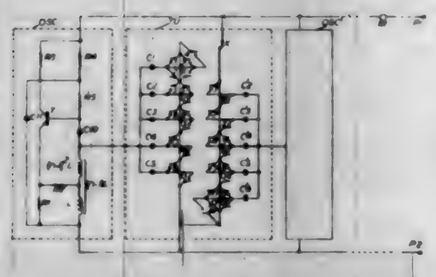
3,140,357
MULTIFREQUENCY RECEIVER
Werner Bischof, New York, and Theodore L. Doktor, Flushing, N.Y., and Zenon Legedza, Passaic, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 28, 1962, Ser. No. 206,989
12 Claims. (Cl. 179—84)

1. A multifrequency receiver capable of receiving different groups of frequencies wherein the concurrence

of one frequency from each of two groups discretely represents a decimal digit comprising two parallel chains, detection means in each of said chains to detect the individual frequencies in a different one of said groups, a plurality of second means in each of said chains capable of producing an output pulse when the input terminals are energized, timing means adapted to be operated by the simultaneous presence of one individual frequency from each group, means connecting said timing means to each detection means and said plurality of second means in each chain, means further connecting said plurality of second means individually to the respective detection means in that chain, each detection means being adapted to energize one terminal of a different one of said plurality of second means in response to the detection of a different one of said individual frequencies, said timing means energizing the other input terminal of said plurality of second means a predetermined time after being operated, a register adapted to register a decimal digit upon the concurrence of an output signal from one of said plurality of second means in each of said chains, and means connecting said register to said plurality of second means.

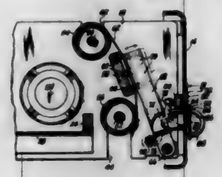


3,140,358
ELECTRICAL SIGNALLING SYSTEM
Jean Victor Martens, Antwerp, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 20, 1959, Ser. No. 835,010
Claims priority, application Netherlands Sept. 3, 1958
10 Claims. (Cl. 179—90)



1. A telephone signalling system for selectively transmitting voice frequency signals from a remote station to receiving equipment over a two-wire signalling line interconnecting said station and said receiving equipment, said station including voice frequency generating means having a high impedance output and said receiving equipment including voice frequency responsive means, switching means in said station for selectively connecting the said high impedance output of said voice frequency generating means in series with the wires of said line to transmit voice frequency signals over said line and to substantially increase the loop impedance of said line, and switching means in said receiving equipment responsive to the increased loop resistance for connecting said voice frequency responsive means to said line.

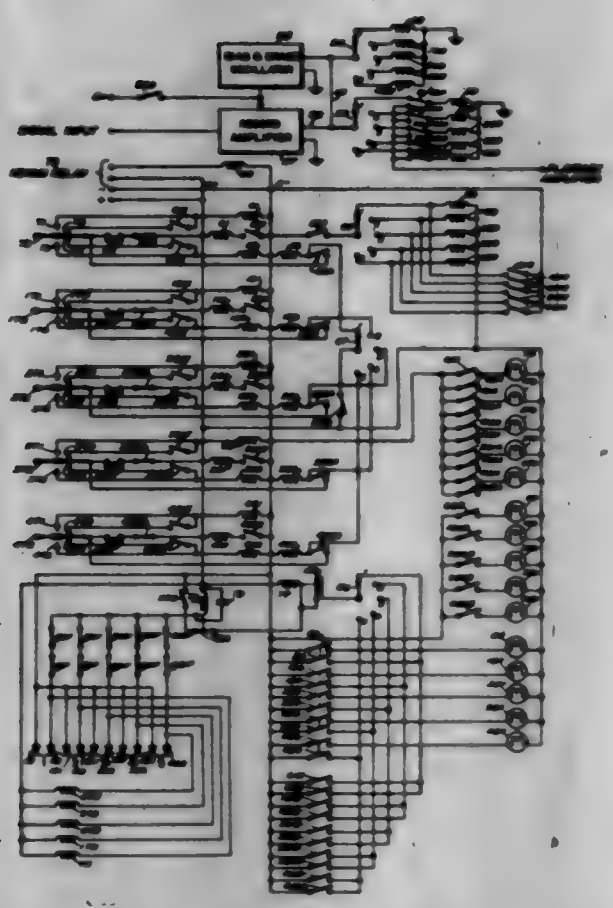
3,140,359
PLURAL TRACK TAPE RECORDER
John N. Rupard, P.O. Box 357, Independence, Kans.
Filed July 7, 1959, Ser. No. 825,581
12 Claims. (Cl. 179—100.2)



1. A plural track magnetic tape recorder, comprising: a supply reel and a take-up reel adapted to receive a wide tape capable of recording a plurality of sound tracks in parallel relationship; a tape pressure bar mounted between said reels over which the tape is adapted to traverse, means driving said reels in a forward direction at a predetermined speed for recording, playback, or erasing, and in a reverse direction at a higher speed for rewinding; a carriage carrying magnetic recording, playback and erasing heads; means pivotally and slidably mounting said carriage for movement relative to said tape pressure bar, and a single, manually operable, means directly connected with said carriage to pivot said carriage to move the heads from a position in contact with a tape traversing said pressure bar to a position spaced therefrom, and to slide said carriage laterally to position the heads in alignment with any selected sound track on the tape.

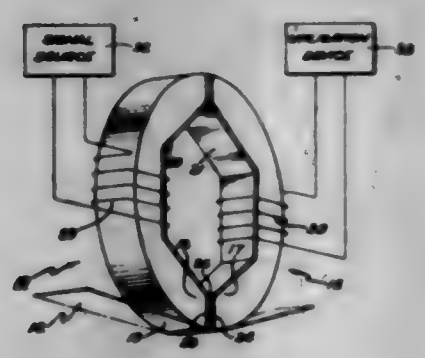
3,140,360
MULTI-CHANNEL TAPE RECORDER AND PLAYBACK APPARATUS
Singleton R. Whitworth, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 17, 1959, Ser. No. 834,363
10 Claims. (Cl. 179—100.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Apparatus for recording, storage and playback of messages comprising in combination a plurality of individual record-playback units, each of said record-playback units being adapted to being operated in either record or playback or storage operation independently of the type of operation taking place in the balance of said record-playback units, automatic control means operatively associated with said individual record-playback units for causing said individual record-playback units to automatically successively record messages in an endless repetitive cycle and operator-actuated control means for both selectively excluding from said automatically-controlled recording cycle any or all of said record-playback units and concurrently causing the individual excluded record-playback units to undergo storage or playback operation, as the excluding operator elects, said storage and playback operations in the ex-



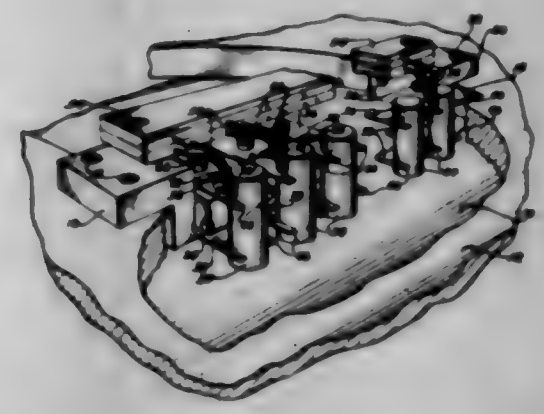
cluded record-playback units being concurrent with the recording operation taking place successively in the unexcluded record-playback units.

3,140,361
MAGNETIC HEAD ASSEMBLY
Donald F. Eldridge, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Dec. 30, 1960, Ser. No. 79,814
1 Claim. (Cl. 179—100.2)



A magnetic record transducer for contact operation with a magnetic tape comprising a nonmagnetic ceramic body element of substantially annular form, the body element including a facing surface contacting the magnetic tape and including a central separation in the facing surface, a magnetic member including a pair of thin magnetic strips coupled to the inner surface of the annular ceramic body element, the thin magnetic strips including pole tip elements extending into the separation in the body element to provide pole tips which terminate flush with the facing surface of the body element, the dimension of the pole tips and the spacing between the pole tips in the direction of relative movement between the tape and the body element being substantially less than the smallest wave length to be recorded or reproduced by the transducer, a nonmagnetic spacer element inserted between the pole tips and affixed thereto, the spacer element also terminating flush with the facing surface of the body element, and at least one signal coil encompassing the magnetic member in a selected region along its length which is spaced apart from the pole tip region.

3,140,362
MAGNETIC TRANSDUCER HEAD ASSEMBLIES
George D. Cheney, Orchard Lake, and Theodore C. Foster, Northville, Mich., assignors to Ex-Cell-O Corporation, Detroit, Mich.
Filed Sept. 12, 1961, Ser. No. 137,651
6 Claims. (Cl. 179—100.2)

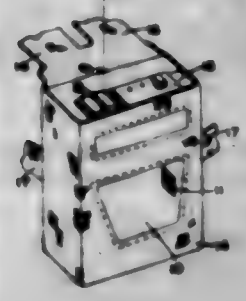


3. Apparatus for supporting at least one magnetic transducer head a predetermined distance away from a moving record surface by utilizing the bearing fluid set in motion by the movement of said record surface, said apparatus comprising in combination: said magnetic transducer head encased in a substantially cylindrical enclosure with a shoe portion for support by said bearing fluid, said shoe portion being the end of said substantially cylindrical enclosure housing the pole pieces of said transducer head; a first and a second resilient flat reeds parallelly disposed in spatial relationship one above the other in planes substantially normal to the axis of said enclosure; one end of said first and second resilient flat reeds being cut out for encircling at least a portion of the periphery of said cylindrical enclosure for fastening thereon; the other end of said first and second resilient flat reeds having a slot; a mounting beam member supported on both ends by inverted L-shaped mounting brackets; said mounting beam member having an enlarged portion forming an upper and a lower clamping surfaces; a clamping screw adapted to be introduced through a hole in said enlarged portion and through the slots on the end of said first and second resilient flat reeds for clamping of said first reed between the head of said clamping screw and said upper clamping surface and for clamping of said second reed between a flanged nut threaded upon the end of said clamping screw and said lower clamping surface; a first limit stop adapted to coact with said first reed to adjustably bias said transducer head toward said record surface; and a second limit stop adapted to coact with said first reed to adjustably limit such travel toward said record surface for preventing said transducer head from touching said record surface when the latter is at rest.

3,140,363
HEARING AID AND ATTACHMENT THEREFOR
Robert H. Barrows, 4535 N. Scottsdale Road, Scottsdale, Ariz.
Filed June 2, 1960, Ser. No. 33,525
1 Claim. (Cl. 179—107)

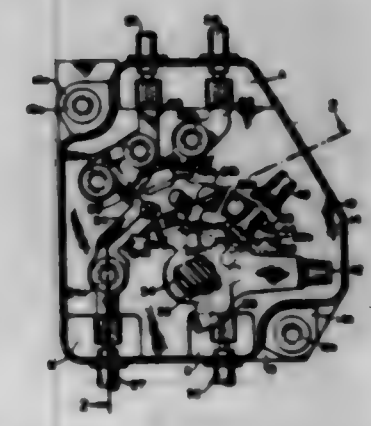
In a hearing aid, a microphone and amplifying instrument with an opening to admit sound waves, and a strip of tape secured to the outer surface of such instrument

in such a manner as not to close said sound admitting openings, said tape strip having an exterior surface coated with pressure sensitive adhesive material on both its sides,



said tape adapted for attachment to an adjacent portion of clothing to prevent noise generation by relative rubbing movement between the instrument and said clothing.

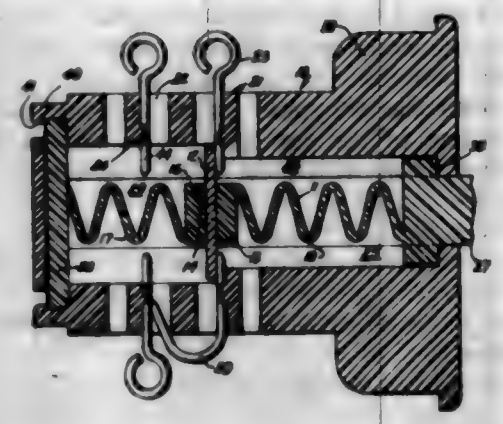
3,140,364
ROTARY SWITCH WITH U-SHAPED ROTATABLE CONTACT STRUCTURE
Roy Swanke, Newington, and David G. Lord, Unionville, Conn., assignors to Landers, Frary & Clark, New Britain, Conn., a corporation of Connecticut
Filed Sept. 11, 1962, Ser. No. 222,866
7 Claims. (Cl. 200—11)



1. An electric switch comprising an insulating support, a contact assembly secured to said support comprising an elongated arcuate contact, a central terminal, a pair of contacts positioned radially outwardly of said arcuate contact and a U-shaped switch blade rotatably mounted in engagement with said central terminal having a pair of circumferentially spaced contact fingers forming one leg of said U-shaped blade and a single contact finger forming the other leg of said U-shaped blade.

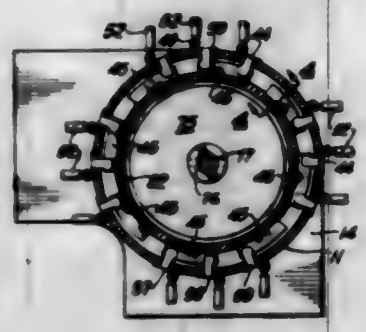
3,140,365
PLUNGER SWITCH HAVING INTEGRAL PLUNGER AND SPRING
Elmo W. Veland, Warsaw, N.Y., assignor to Mallory Timers Company, a division of P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Nov. 8, 1960, Ser. No. 68,123
5 Claims. (Cl. 200—16)

1. A plunger switch having a casing comprising an external wall, a bore longitudinally passing therethrough to create openings at each end, a plurality of slots cut through said wall extending into said bore, said slots having electrical terminals therein, one end of said bore being closed by means of a plunger, a cap at said other end for closing the same, a molded coiled spring integrally joined to said cap and said plunger, said plunger having a head portion contained by a shoulder, and a metal shorting



bar held by said coiled spring, said plunger moveable in said bore of said switch so that said shorting bar engages said terminals in said slots.

3,140,366
ROTARY SWITCH
Louis J. Elliott, Encinitas, Calif., assignor to Plessetics Corp., Encinitas, Calif., a corporation of California
Filed Oct. 27, 1961, Ser. No. 148,261
4 Claims. (Cl. 200—24)

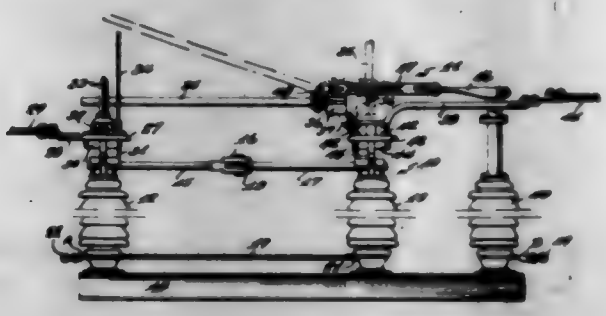


1. In a rotary electrical switch, the combination of:
a tubular housing having an axis;
a plurality of electrical contacts mounted in said housing and projecting into the interior thereof;
a tubular rotor mounted within said housing for rotation about said axis;
a plurality of contact wipers mounted on said rotor for selectively engaging said contacts to complete electric circuits between adjacent contacts;
a motor supported by said housing and positioned within said rotor and having an output shaft;
first gear means journaled on said shaft for rotation about an axis displaced from the shaft axis;
second gear means carried in said housing for engaging said first gear means;
and coupling means for coupling said first gear means to said rotor for synchronous rotation of said first gear means and rotor.

3,140,367
GANG OPERATED COMBINATION SWITCH UNITS EACH COMPRISING A HORIZONTALLY OPENING SWITCH AND A VERTICALLY OPENING BYPASS SWITCH
Tomlinson F. Johnson, P.O. Box 10958, Atlanta 10, Ga.
Filed Apr. 25, 1962, Ser. No. 190,039
7 Claims. (Cl. 200—48)

1. The combination with a gang of automatically controlled and operated high tension horizontally opening center break electric switches, each switch including a rotatable insulator carrying switch jaws, a rotatable insulator carrying a switch blade, and a connecting rod pivotally connected to each of the rotatable insulators, of a gang of vertically opening bypass switches with each bypass switch connected to be simultaneously

opened and closed by means of an operating rod and a rotatable vertical down pipe connected to reciprocate said operating rod, and, wherein said vertically opening bypass switches are mounted on said center break switches with each bypass switch having switch jaws carried by one of the rotatable insulators of the center break switch upon which the bypass switch is mounted,



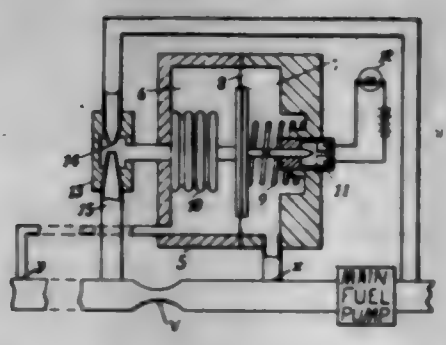
and a vertically swingable switch blade carried by the other of the rotatable insulators of the center break switch upon which the bypass switch is mounted and wherein the operating mechanism for raising and lowering the blade of the bypass switch to open and closed positions includes a rotatable insulator having an operating arm pivotally connected to said operating rod for simultaneously opening and closing the bypass switches.

3,140,368

WARNING AND/OR CONTROL DEVICE FOR USE WITH AIRCRAFT FUEL SUPPLY SYSTEMS

John Michael Crispin Young, Solihull, and Geoffrey Arthur Lewis, Acocks Green, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Nov. 28, 1960, Ser. No. 72,198
Claims priority, application Great Britain Dec. 1, 1959
6 Claims. (Cl. 200—81.9)



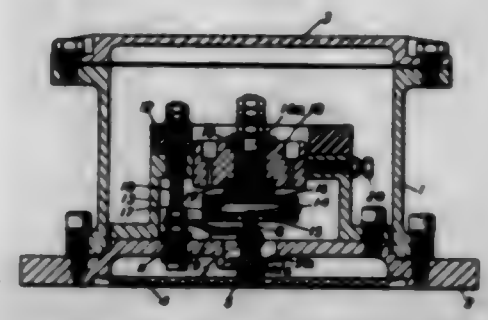
1. In an aircraft fuel supply system including a main fuel pump having an inlet and an outlet, a hollow body, a pressure sensitive member within the body and serving in part to define a compartment within said body, passage means connecting said compartment to the inlet to the main fuel pump, a by-pass circuit interconnecting the inlet and outlet of the main fuel pump, a chamber forming part of said by-pass circuit, restriction means in said chamber for vaporising a portion of the fuel flowing through the by-pass circuit, so that the pressure in said chamber is the vapor pressure of the fuel, means for subjecting the pressure sensitive member to said vapor pressure so that the vapor pressure acts to urge said pressure sensative member in a direction opposite to the direction in which it is urged by the pressure of fuel in the fuel system entering the main fuel pump, means for subjecting the pressure sensitive member to further forces to balance the forces acting on the pressure system under normal operating conditions, a switch, and a switch actuating member movable by said pressure sensitive member to actuate the switch when the pressure of fuel entering the main fuel pump falls below a predetermined value which varies with said vapor pressure.

3,140,369

PRESSURE OPERATED ELECTRIC SWITCHES

Robert G. Pannell, Gosport, England, assignor of one-half to Gravinor Manufacturing Company Limited, and one-half to Wilkinson Sword Limited, both of London, England, both British companies

Filed Aug. 3, 1961, Ser. No. 129,154
Claims priority, application Great Britain Aug. 16, 1960
3 Claims. (Cl. 200—83)



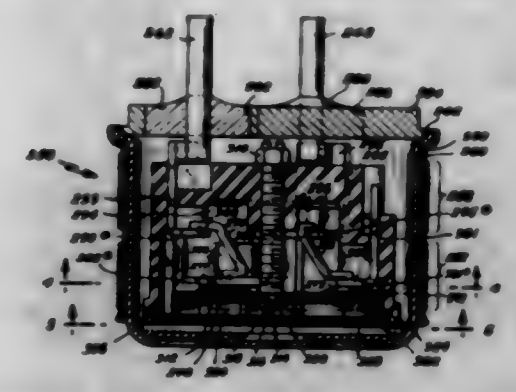
1. A pressure-sensitive electric switch comprising a housing, said housing having two ends one of which is closed and the other having an opening therein, a circular diaphragm, said diaphragm having its periphery sealed to said housing with the diaphragm extending across said opening, a first electrical contact secured to said diaphragm lying within said housing, a temperature responsive bi-metallic disc, a second electrical contact centrally mounted on said bi-metallic disc, a bridge-piece supported by said housing, and means for clamping the periphery of said bi-metallic disc, said clamping means being secured to said bridge-piece with said second electrical contact adjacent and spaced from said first electrical contact, the clamping means and bridge-piece being in screw-threaded engagement whereby the separation between said first and second electrical contacts may be selectively varied, flexing of said bi-metallic disc with a change in ambient temperature compensating at least partially for relative movement which would otherwise occur between said first and second electrical contacts as a result of the ambient temperature change causing thermal expansion of said housing, said bridge-piece and said clamping means.

3,140,370

SEALED THERMALLY RESPONSIVE SWITCHING DEVICE

Walter R. Harper, Jr., Barrington, R.I., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 17, 1960, Ser. No. 15,715
7 Claims. (Cl. 200—122)



1. A hermetically sealed, three-phase thermally responsive switch comprising a thermally conductive cup-shaped casing member; a thermally responsive electrical switching device disposed in said cup-shaped member; the interior dimensions of said casing member being greater than the exterior dimensions of said switching device; said switching device comprising three pairs of electrical contacts; snap-acting thermally responsive means; means

mounting one contact of each pair of said three pairs of contacts for movement toward and away from the other contact of each pair of said three pairs of contacts in response to movement of said snap-acting thermally responsive means at predetermined temperature conditions; header means including three electrical terminals projecting on opposite sides thereof in sealed relation to said header means; said header means closing the open end of said member and secured thereto sealing said cup-shaped member; electrically conductive means connecting each of the respective other contacts with said terminals and mounting and suspending said switching device within said casing member substantially without surface area contact between said switching device and said casing member; and said switching device including heater means provided for said snap-acting thermally responsive means and electrically connected with at least two pairs of said three pairs of contacts.

3,140,371

FUSE CONSTRUCTIONS

Hans Johann and Josef Graf, Amberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Dec. 2, 1959, Ser. No. 856,768
5 Claims. (Cl. 200—135)



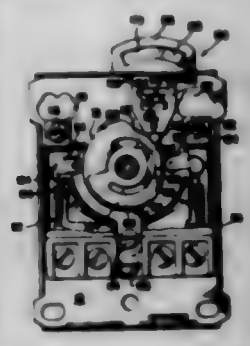
1. A fuse-link construction including means defining at least one terminal portion, an adjoining conducting portion comprised of silver and different from the material of said terminal portion, a mass of solder disposed between said terminal portion and said silver portion for initiating alloying action upon a predetermined rise of fuse-link temperature to assist in low overload current interruption, said silver portion being deformed to increase the ratio of the mass of solder to the mass of contiguous deformed silver in the reaction zone to increase the velocity of alloying reaction without decreasing the mass of the solder material.

3,140,372

SPRING-CLIP MOUNTED MANUALLY OPERABLE MEANS FOR MODIFYING THE ACTION OF AN AUTOMATIC CONTROL DEVICE

Hollis L. Randolph, Lakewood, Michael J. Caporone, Arcadia, and Marvin M. Graham, Rolling Hills, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware

Filed Oct. 31, 1961, Ser. No. 149,629
5 Claims. (Cl. 200—138)



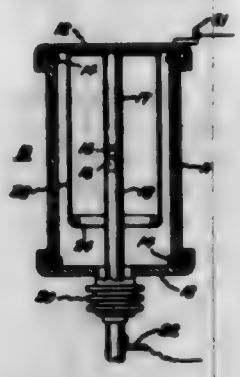
4. In a condition responsive device comprising a housing, a control actuating member mounted in said housing for movement between a first and a second position, and condition responsive cam means mounted within said housing for movement in response to variations in a control condition, said cam means being operatively engaged with said actuating member to locate said actuating member in said first or said second position in accordance with the position of said cam means relative to said housing; an auxiliary control assembly comprising a frame, lever means pivotally mounted upon said frame, cooperating means on said frame and said housing for detachably mounting said frame on said housing with said lever means projecting into said housing adjacent said cam means, means for selectively locating said lever means in either of a first pivotal position wherein said lever means is located clear of said actuating member or in a second pivotal position wherein said lever means is engaged with said actuating member to maintain said actuating member in its second position regardless of the position of said cam means relative to said housing, and said cooperating means comprising means defining an opening in said housing adapted to receive said frame, and resilient clip means on said frame engageable with said housing to detachably secure said frame to said housing.

3,140,373

ARC IONIZABLE BERYLLIUM ELECTRODES FOR VACUUM ARC DEVICES

Fordyce H. Horn, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 24, 1962, Ser. No. 168,436
6 Claims. (Cl. 200—144)



1. A vacuum arc device exhibiting rapid recovery time and high static breakdown voltage characteristics and consisting essentially of: an evacuable envelope evacuated to a pressure lower than 10^{-6} millimeters of mercury; a pair of electrical terminals adapted for connection in an electrical circuit; a pair of electrodes located within said envelope, connected in circuit between said terminals and adapted to sustain an electric arc therebetween, said arc being comprised of ionized metallic parts which originate from said electrodes; each of said electrodes having a region upon which the respective electrode spots for a current-carrying arc may be established and from which said metallic parts originate, at least one of said electrode regions being comprised of an active ionizable arc-sustaining metallic substance consisting essentially of beryllium.

3,140,374

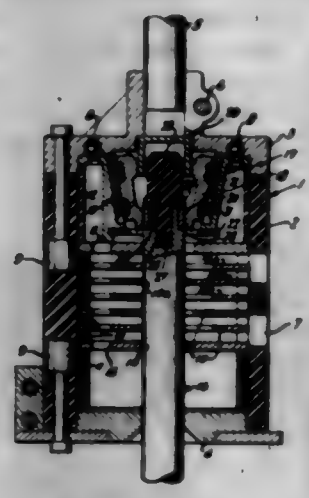
CIRCUIT BREAKER INTERRUPTER

Fred H. Cole, 1028 S. Sierra Bonita, Los Angeles 19, Calif.

Filed Sept. 20, 1962, Ser. No. 225,092
3 Claims. (Cl. 200—150)

1. An oil immersed circuit breaker interrupter comprising a plurality of interrupter plates of insulating material supported in an axial spaced relation, each of said plates having an opening aligned with the other openings of other interrupter plates and defining an axial path for receiving a movable electrode assembly therethrough, said interrupter plates also defining vertical ports for transmitting gases and oil therethrough in an upward direction from a lower region; a stationary contact assembly mounted axially of said plates and having one or more contact finger members disposed adjacent said axial path and biased inwardly to partially obstruct said path; a movable

electrode assembly supported for axial movement through said openings in said plates, said assembly including an insulating pin member mounted axially at the end of an electrically conductive electrode; one of said interrupter plates having an arc-restrictive opening approximately equal in cross section but slightly greater and complementary to the cross section of said electrode, the one interrupter plate being disposed intermediate interrupter plates having openings substantially greater in cross section than said electrode and capable of passing and extending a gaseous arc therethrough; whereby said electrode



may be selectively actuated through said interrupter plate openings into a position of contact with said contact finger members or withdrawn through said openings, thereby breaking contact with said finger members and forming an arc, said insulating pin member being moved into said path upon withdrawal of said electrode, squeezing said arc between the edges of the one interrupter plate opening; and whereby gases and oil are propelled upwardly through said ports and across the path vacated by said insulating pin member to extinguish the extended and restricted arc.

3,140,375
ALTERNATING CURRENT SWITCH HAVING WIPING CONTACTS

Cornelis Huibrechtse, Toronto, Ontario, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed May 8, 1962, Ser. No. 193,998
8 Claims. (Cl. 200—164)

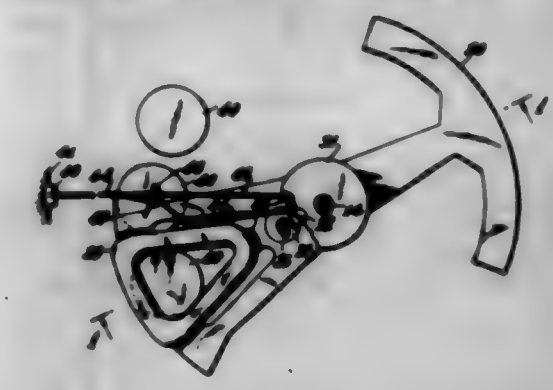


1. An electric switch comprising a recessed insulating cover member having a front wall, side walls, end walls, and an open back, an aperture in said front wall for receiving the handle portion of a trigger member pivotally mounted within said cover member, at least two spaced notches in one of said side walls extending from the back edge thereof for accommodating conductor terminals, contact members attached to said terminals and capable of actuation by said trigger member, spring means located within said cover member and in contact with said trigger member for cooperation therewith so as to bias said trigger member into an "ON" or "OFF" position, an insulating plate for closing the open back of said cover member, and a U-shaped supporting strap secured against said insulating plate and the end walls of said cover member.

3,140,376
CONTACT MEMBER FOR ELECTRIC CLOCKS AND WATCHES

Wilhelm Tlise, Pforzheim-Birkenfeld, and Josef Egger, Pforzheim, Germany, assignors to The United States Time Corporation, Waterbury, Conn., a corporation of Connecticut

Filed Dec. 28, 1960, Ser. No. 78,964
Claims priority, application Germany Jan. 9, 1960
2 Claims. (Cl. 200—166)

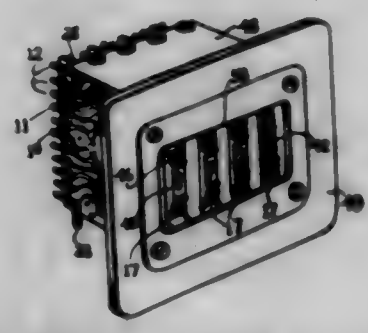


1. A fixed electrical switch contact member adapted to cooperate with a rotating switch contact member comprising an elongated member of spring material supported at one end thereof at a point remote from the rotating contact member, the other end of said spring member being adapted to contact periodically said rotating contact member, said spring member having a damping member thereon disposed at a point intermediate the ends thereof, wherein the switch member is of hairpin shape and has two leg portions and an arcuate portion interconnecting said leg portions, one of said legs is longer than the other and adapted for mounting said member at its extremity, the shorter of said legs has an inward V-shaped bend near its extremity, and said damping member is ring-shaped and disposed to link loosely both legs at the notch of the V bend.

3,140,377
THUMBWHEEL SWITCH HAVING ILLUMINATED INDICIA-BEARING FACINGS

Jerry C. Koci, Barrington, Ill., and Stanford M. Holde, Kenosha, Wis., assignors to Chicago Dynamic Industries, Inc., Chicago, Ill., a corporation of Illinois

Filed May 31, 1961, Ser. No. 125,615
4 Claims. (Cl. 200—167)



1. A thumbwheel type switch comprising
(*a*) a housing,
(*b*) said housing having on one interior wall thereof a printed circuit,
(*c*) a thumbwheel circuit selector rotatably carried by and within the housing and adapted for selective contact with said printed circuit,

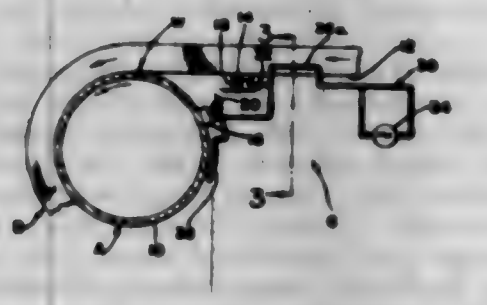
(*d*) said circuit selector having circumferentially spaced facings provided with indicia cut-out portions,

(*e*) illuminating means to the rear of said circumferential facings for successively illuminating said indicia so as to indicate a selected point of said circuit selector with respect to said printed circuit,

(*f*) a plate supporting said illuminating means and arranged in said housing adjacent said circuit selector and having a circuit thereon for said illuminating means,

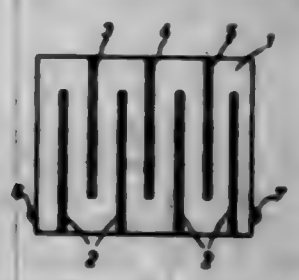
(*g*) and means connecting said plate to said housing permitting removal of said plate together with said illuminating means from said housing without disturbing any electric circuit connections of said printed circuit.

3,140,378
APPARATUS AND METHOD FOR WELDING STRIPS ONTO A TUBE
William E. Benninghoff, Brecksville, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 14, 1962, Ser. No. 179,746
14 Claims. (Cl. 219—9.5)



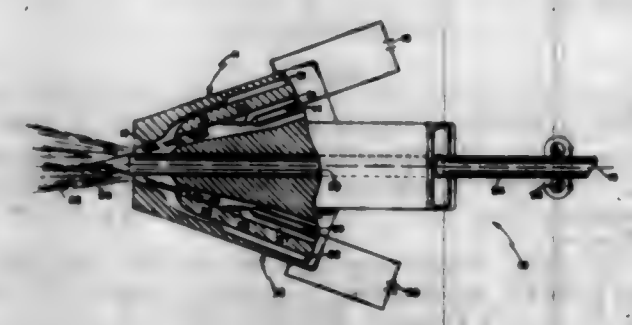
1. An apparatus for continuously welding a first and second member moving in substantially the same direction and converging at a point, comprising a contact abutting each of said members and spaced from said point, an induction coil means close spaced from said first member and spaced from said point, power means for causing a heating current to flow through said contacts, said members, and said point to weld said members as they converge, and a high frequency power means for energizing said coil means to inductively preheat said first member before said member reaches said point.

3,140,379
METHOD FOR FORMING MODULAR ELECTRONIC COMPONENTS
Fritz Schleich, Unterkochen, Wurttemberg, and Karl Heinz Steigerwald, Heidenheim (Brenz), Germany, assignors, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 24, 1961, Ser. No. 84,663
Claims priority, application Germany Mar. 30, 1960
1 Claim. (Cl. 219—69)



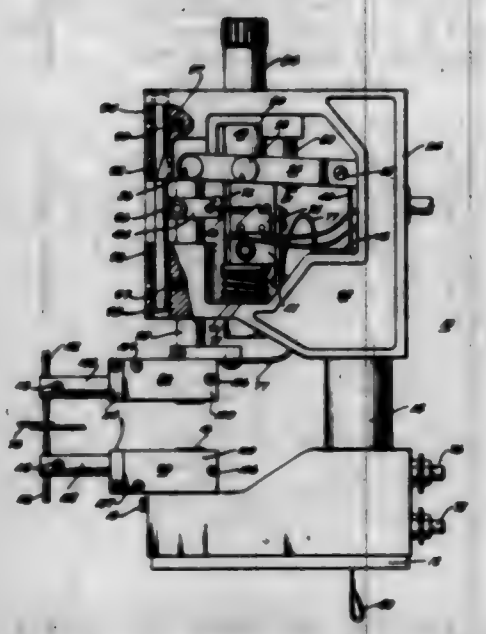
A method of manufacturing a thin film resistor from a substrate having at least a first layer of conductive material deposited on a surface thereof consisting of the steps of: generating a beam of electrons; adjusting the intensity of the beam to a predetermined value; focussing the beam on the conductive layer; causing relative movement between the beam and the substrate whereby the beam moves over the layer in accordance with a predetermined pattern, the layer being removed along lines of such pattern upon impingement of the beam thereon; periodically interrupting the beam during the relative motion; measuring the resistance of the component during intervals when the beam is interrupted; and shutting the beam off when the resistance of the component reaches the desired value.

3,140,380
DEVICE FOR COATING SUBSTRATES
Gerald A. Jensen, Lowell, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 8, 1961, Ser. No. 136,812
11 Claims. (Cl. 219—76)



1. A device for coating substrates comprising: means for generating a first plasma effluent; means for generating a second plasma effluent which merges with said first plasma effluent to form a joint plasma effluent; and means for supplying coating material to the joint plasma effluent.

3,140,381
PRECISION WELDING HEAD
Meredith M. Nyborg, Camarillo, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 31, 1963, Ser. No. 284,459
5 Claims. (Cl. 219—86)



1. A welding head comprising:
a base member including a cylindrical support member rigidly affixed thereto;
first rotatable means rotatably mounted to said support member and having positioned therein a movable member and a carrier member having a first axis;
second rotatable means in juxtaposition to said first rotatable means and rotatably independent thereof including a first clamp member rotatably positioned on said base member and a second clamp member rotatably positioned on said carrier member, both

of said clamp members being rotatable about said first axis;

third rotatable means mounted on said second rotatable means and rotatably independent of said first and second means including a first electrode horn removably positioned in said first clamp member having a first electrode and a second electrode horn removably positioned in said second clamp member having a second electrode; and

means coacting with said movable member for movement thereof and to transmit said movement to said carrier member to enable said second electrode to move toward said first electrode,

whereby each of said first, second, and third means may be rotated independently into a number of configurations to provide a welding head adapted to numerous welding applications.

3,140,382

METHOD OF JOINING COMPONENT PARTS OF ENVELOPES FOR HIGH-POWER TRANSISTORS

Henricus Emanuel Dijkmeijer, Mollenlaanseweg, Nijmegen, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 31, 1962, Ser. No. 220,900
Claims priority, application Netherlands Sept. 19, 1961
3 Claims. (Cl. 219—92)

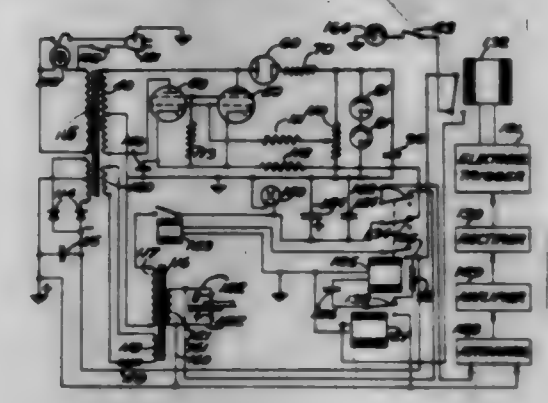
1. A method of joining metal bodies at least one of which is constituted of copper comprising the steps of covering a portion of the surface of the body constituted of copper with a nickel layer having thickness between about 4 and 10 microns, heating the nickel coated copper body to a temperature between 500° C. and 900° C. for a sufficient time for the nickel to diffuse superficially into the copper, covering the so-treated copper body with a phosphorus-containing nickel layer, and joining the so covered body to another metal body by locally heating the bodies while in contact with each other.

3,140,383

SPOT WELDER

Frank J. Boner, Northridge, Calif.
(102 S. Beach St., Ormond Beach, Fla.)

Filed Aug. 8, 1961, Ser. No. 130,050
7 Claims. (Cl. 219—110)



1. In an electrical spot-welder for welding work between two electrodes connected with a welding power source:

means for introducing a continuous and steady signal across said welding electrodes so that the amplitude of said signal voltage across said electrodes is affected by the ohmic resistance between the electrodes through the work;

means for directly measuring said signal voltage across said electrodes for obtaining a varying signal voltage as the pressure of said electrodes on said work increases, and

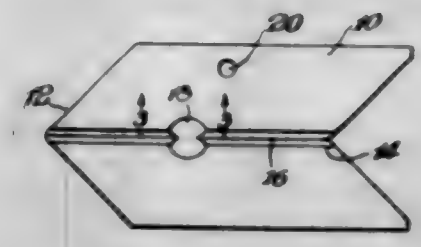
switching means responsive to said measuring means and operated by a predetermined value of said signal voltage for applying said welding power to said electrodes.

3,140,384

STARTING BLOCK FOR ARC WELDING

John P. Broderick, Bayside, and Joseph F. Quasa, Island Park, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

Filed Mar. 4, 1964, Ser. No. 349,259
5 Claims. (Cl. 219—136)



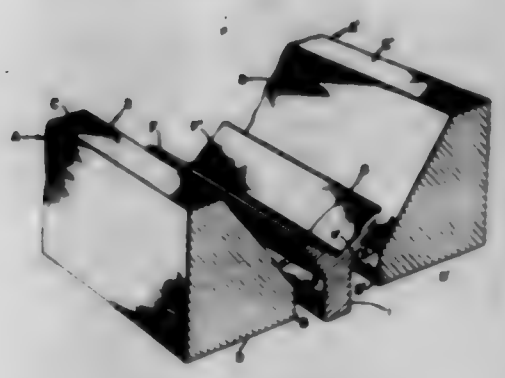
1. A starting block for arc welding comprising an arrowhead-shaped plate made of an electrically conductive material to facilitate the start of an arc, the external angle at the point of said arrowhead being approximately ninety degrees, the internal angle at the rear of said arrowhead being approximately ninety degrees whereby said plate may be brought into close proximity to a work piece with a portion of said plate against said work piece, a groove extending across said plate, a cavity in said plate extending across said groove intermediate the ends of said groove, said cavity being deeper and wider than said groove to facilitate the butt welding of two wires wherein each wire may be accurately positioned in said groove with abutting ends above said cavity whereby said wires are in close proximity to the arc immediately after said arc is started on said block, and said groove being V-shaped to accurately position wires of different diameters.

3,140,385

ARC WELDING AND FILLER ROD SHAPE

Charles W. Johnston, 7508 Kress Ave., Bell, Calif.

Filed Sept. 1, 1961, Ser. No. 135,523
5 Claims. (Cl. 219—137)



1. The method of butt welding margins of the walls of tubes, panels and the like, consisting in

(*a*) initially forming the walls with chamfered parallel edges whereby when said walls are arranged with the chamfered edges thereof presented edgewise toward and contiguous each other opposed outwardly inclined surfaces will lead from such contiguous edges,

(*b*) providing an insert of weld metal having a longitudinal base web of rectangular cross section one margin of which is formed throughout the length thereof with diverging flanges bordering a channel of V-cross section,

(c) interposing the web of said insert between aligned chamfered edges of said walls with opposite sides of said web facing said edges and with said diverging flanges overlying and seating on said outwardly inclined surfaces, and

(d) fusing said insert throughout together with marginal portions of said walls contiguous thereto into a root bead uniting said wall portions.

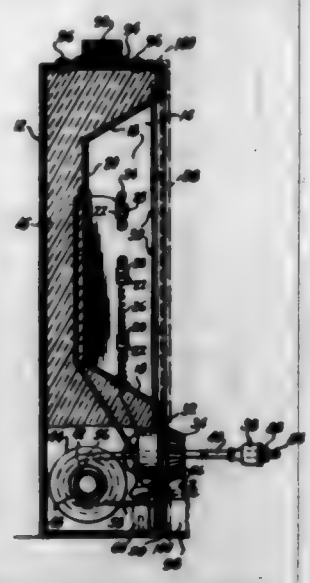
3,140,386
ELECTRODE HOLDER
Theodore R. Cartwright, St. Clair, Mich., assignor to Jerome M. Donnelly, Detroit, Mich.
Filed Sept. 7, 1961, Ser. No. 136,493
8 Claims. (Cl. 219—138)



1. An electrode holder comprising a tubular body member, a jaw carrying grip member for coaction with said body member in holding an electrode between jaws mounted by the members, and means pivotly connecting said members to one another, including a sleeve telescoped axially in said body member and adapted to receive an electrical cable through the sleeve bore, with said sleeve externally supportd by said body member, an electrode holding jaw forwardly and removably supported by said sleeve, to which jaw said cable is forwardly connected electrically, said sleeve having an opening extending radially through the wall thereof and spaced rearwardly from a portion of the sleeve forwardly facing said last named jaw, thus providing a bridge element integral with the sleeve between said last named portion and said sleeve opening, a pivot member operatively connected to said sleeve and extending radially through said opening, said last named member having a pivotal connection to said jaw carrying grip member rearwardly of a jaw carried by the latter, said body member forwardly abutting said pivot member radially outwardly of said sleeve and on the side of the pivot member opposite said bridge element, and means to urge said body member and sleeve in opposite axial directions to a sufficient degree to clamp said pivot member between said bridge element and body member with the latter and the sleeve in fixed relation to one another.

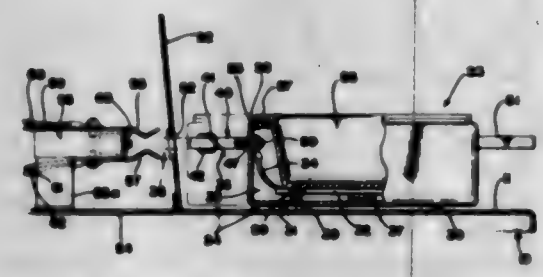
3,140,387
READILY PORTABLE LUGGAGE-TYPE ELECTRIC HEATING DEVICE
Sally S. Green, Santa Fe, N. Mex.
(P.O. Box 5003, Carmel, Calif.)
Filed Jan. 12, 1961, Ser. No. 82,197
1 Claim. (Cl. 219—346)

A readily portable luggage-type electric heating device comprising a parallelepiped-shaped carrying case, insulating material having a substantially rectangular recessed heat radiation face filling the major portion of said case above its bottom, said recessed face being defined by inwardly inclined reflecting side walls ending in a reflecting rear face, supporting rods extending through two opposite side walls, heating coils insulatedly mounted on said supporting rods in front of said radiation face, at least one of said coils having a greater heating action with the same electrical current than the other of the coils, switch means on said case for selectively actuating said coils individually and together, electrical connecting means for connecting said switch means to a source of electrical energy, auxiliary electrical sockets provided on said case, said auxiliary sockets being electrically connected through said electrical connecting means to the source of electrical energy, said electrical connecting means comprising a shaft extending across the bottom of said case beneath said radiant face and journaled on bearings mounted on opposite side walls of said case, a spool mounted on said shaft, a cable having an electrical contact plug at one end and connected to contact rings on



said shaft at its other end, spring contact fingers contacting said contact rings and connected to conduits to said switch means, spring means resiliently and rotatably urging said shaft to wind said cable on said spool and retract said plug to a position adjacent said case, ratchet means for holding said shaft with said cable in extended position, auxiliary electrical sockets in said case connected to said conduits from said spring contact fingers, said switch means and auxiliary sockets also being located beneath said radiant face, and a luggage-type cover detachably mounted on said open-face case to protect said radiation face when not in use.

3,140,388
ELECTRICALLY HEATED COOKING ASSEMBLY
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Aug. 16, 1960, Ser. No. 49,915
20 Claims. (Cl. 219—435)



2. A cooking assembly comprising portable container means for food and the like including an enclosed electric heating element and having a handle device projecting laterally from the container means for lifting thereof, said handle device carrying exposed generally flat contacts and having internal and hence concealed connections between said contacts and the heating element, source terminal means including a cover having an aperture therein of such size and shape as to admit substantially the entire handle device of the container means, and stationary contacts adapted for connection to an available source of electric energy mounted behind said

cover adjacent the aperture for engagement by the exposed contacts of the handle device upon substantially full insertion of the same, thereby to complete a circuit for energization of the heating element of the container means.

3,140,389
PLATE WARMER
Bette L. Winden, 5121 SW. 26th Drive, Portland, Oreg.
Filed July 13, 1962, Ser. No. 209,632
1 Claim. (Cl. 219—447)



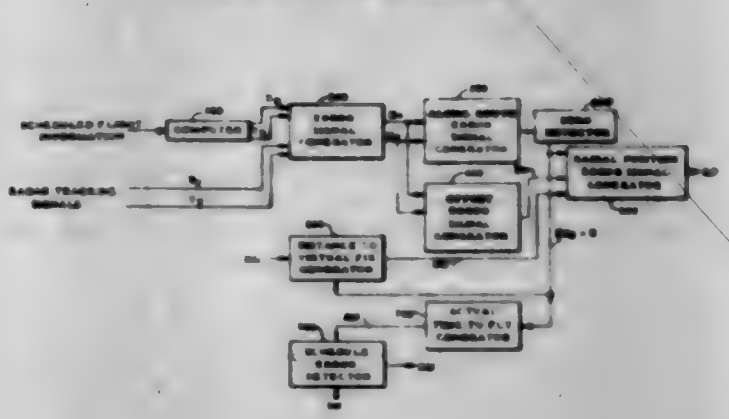
A plate warmer comprising a substantially circular base of a diameter completely to support a plate, including a radially offset portion, a female socket carried by the upper surface of said offset portion, wiring in said base for connecting said socket with a source of electricity, a plurality of removable plugs having flat superposable upper and lower surfaces, each plug having a female socket in its upper surface and male prongs depending from its lower surface, the male prongs of any plug being selectively insertable in any of said female sockets including said female socket carried by the offset portion of said base, whereby all of said plugs may be interchangeably connected with said source of electricity and interconnected with each other, a plurality of identical flexible warming pads each of a diameter completely overlying a plate, a heating element in each pad, a connection of identical length between each element and its respective plug, and a controlable thermostat carried by said base.

3,140,390
THERAPEUTIC APPLIANCE
Percy Smith, 134 26th St., Newport News, Va., and John J. Rutkosky, 9619 Lake Shore Blvd., Cleveland, Ohio
Filed June 12, 1963, Ser. No. 287,234
3 Claims. (Cl. 219—527)



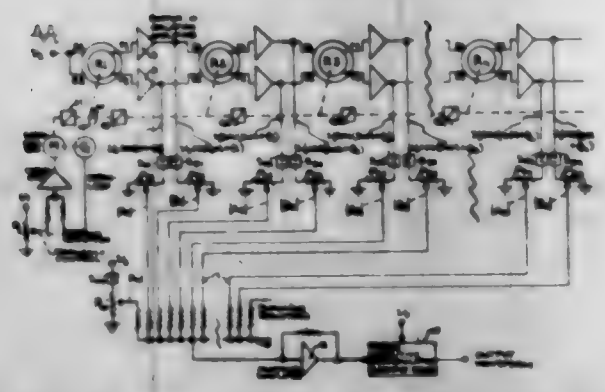
1. In a therapeutic appliance for applying heat to the eyes, an ophthalmic spectacle-like frame comprising a unitary front frame part including a pair of laterally spaced eye-encircling rings adapted to be disposed before the eyes of the wearer and connected by a nose bridge, temple members hingedly connected to said front frame part and terminating in a portion having a curvature to fit about the ears of the wearer, said temple members being adjustable in length, a pair of annular bodies of insulating material having generally an oval shaped cross section, an electric heater embedded in each of said annular bodies comprising a coiled resistance wire disposed in a path conforming to the associated annular body, and a fabric covering disposed about each of said annular bodies, said annular bodies and fabric covering being mounted upon said rings to rest against the eyes of the wearer with the center opening of the annular bodies providing a sight opening, said annular bodies containing means for mounting said annular bodies and fabric covering upon said rings comprising a stiff wire member embedded within said insulation material and having a plurality of outwardly projecting portions extending through said insulation material and fabric covering, said portions being affixed to said rings, and means for supplying said heater with electric current.

3,140,391
APPARATUS FOR GROUND COMPUTED RADIAL NAVIGATION
John I. Daspit, Los Angeles, Calif., assignor to Tasker Instruments Corporation, Hollywood, Calif.
Filed June 29, 1959, Ser. No. 823,514
4 Claims. (Cl. 235—151)



1. A ground controlled system for simultaneously generating aircraft position error signals and for controlling a plurality of aircraft, said system comprising: a computer for generating a plurality of simulated flight signals each representing a respective scheduled flight for an aircraft in fast simulated time; a first error signal generator for receiving the simulated flight signals from said computer and for receiving radar tracking signals to produce first error signals representing the position differences in X and Y coordinates between the simulated flight position and the present actual aircraft position; an along-route error signal generator responsive to said first error signals for producing a second signal representing distance along the schedule route between the projection of the aircraft to the route and the simulated position of the aircraft; means for producing a third signal indicating that said second signal is zero; an offset error signal generator responsive to said first error signal and to said third signal for producing an offset signal representing the distance between the actual aircraft position and the simulated aircraft position when the simulated position is at the foot of a perpendicular drawn from the actual aircraft position to the scheduled aircraft route; and means responsive to said third signal for deriving a schedule error signal indicating the lead or lag time of the aircraft according to its time schedule.

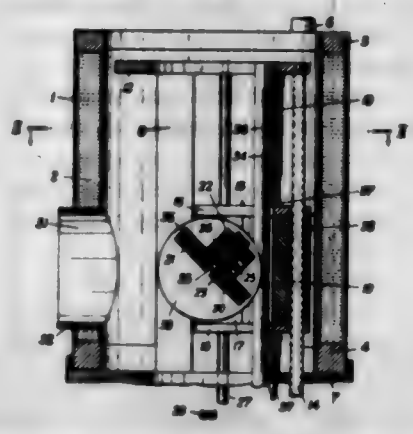
3,140,392
LOW FREQUENCY FUNCTION GENERATOR
Morton Loeber, Bergenfield, N.J.
(700 Fort Washington Ave., New York, N.Y.)
Filed Aug. 23, 1960, Ser. No. 53,581
10 Claims. (Cl. 235—197)



1. Apparatus for generating low frequency complex repetitive waveforms, comprising, in combination, first resolver means being capable of resolving an input carrier voltage of the sinusoidal form $v=V \sin(\omega_c t+\phi_c)$ into output voltages $kv \sin\theta$ and $kv \cos\theta$, wherein k is the transformation ratio of said resolver means; $n-1$ resolver means operatively connected in series with said first resolver means, n being an integer at least equal to 2; means for introducing into each of said first and $n-1$ resolver means a predetermined constant modulation frequency $m\omega$, m being a positive number, in such a manner that the output voltages of said $n-1$ resolver means are modulated each to the form $kv \sin(zm\omega t+\phi)$ and $kv \cos(zm\omega t+\phi)$, respectively, wherein z changes between consecutive resolver means by integers between 2 and n, ϕ being an arbitrary phase angle; intermediate means interposed between said first resolver means and the first one of said $n-1$ resolver means, as well as between each two consecutive ones of said $n-1$ resolver means, respectively, for transmitting said output voltages respectively from one resolver means to the next following one, and including output means; summing means connected to said output means of said intermediate means for summing up a desired number of the modulated output voltages obtained from a corresponding number of said resolver means through the output means of the respective intermediate means, and for adding thereto said unmodulated input carrier voltage so as to obtain a complex repetitive modulated waveform; and demodulator means connected to said summing means for demodulating said complex repetitive waveform so as to obtain a demodulated wave containing the desired number of harmonics.

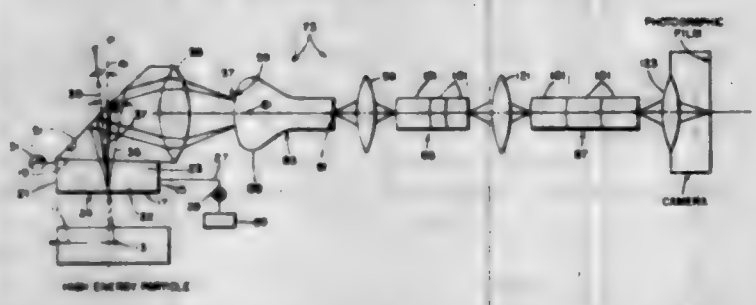
3,140,393
APPARATUS FOR THE IRRADIATION OR VACUUM-COATING OF SPECIMENS
Siegfried Bösch, Graz, Rudolf Hatschek, Vienna, and Franz Piechinger, Graz, Austria, assignors to Hans List, Graz, Austria
Filed Mar. 19, 1962, Ser. No. 180,513
Claims priority, application Austria Mar. 22, 1961
7 Claims. (Cl. 250—49.5)

1. A device for the treatment of articles, in particular for the irradiation or vacuum-coating of specimens, comprising a treatment chamber, a supporting frame in said treatment chamber, a tilting platform pivoted on said supporting frame and carrying a specimen carrier detachably fixed to said tilting platform and receiving the article to be treated, driving means by which the specimen carrier is rotatably around at least two axes for the purpose of adjusting and altering the spatial position of the article to be treated, the said supporting frame being open on one side at least in the area of the said specimen carrier, said treatment chamber having an opening therein located in the area of the open side of the supporting frame and serving for the passage of the specimen carrier, slide bars on which the said supporting



frame is slidably mounted and a driving spindle for the displacement of the supporting frame, the slide bars and the driving spindle being arranged in close vicinity to one another on the side of the supporting frame diametrically opposite the open side of said supporting frame.

3,140,394
MEANS FOR DETERMINING THE DIRECTION AND VELOCITY OF NUCLEAR PARTICLES
Arthur Roberts, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 7, 1961, Ser. No. 101,607
3 Claims. (Cl. 250—71.5)

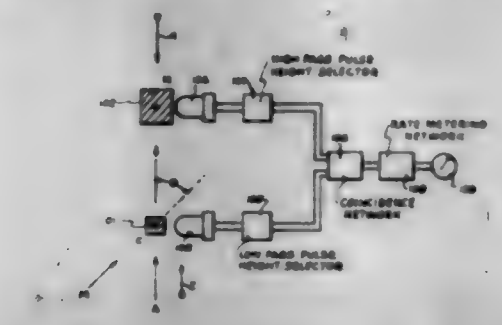


1. Apparatus for determining the velocity and direction of individual, charged, nuclear particles of different velocities and directions, comprising a cylindrical container forming a closed chamber, a gas in said chamber, means for selectively adjusting the pressure of said gas so that said gas has an index of refraction greater than unity, means for introducing said particles into said gas to produce Cerenkov light in said gas having dominant wavelengths from .2 to .5 micron, a mirror for reflecting said Cerenkov light, a lens having a broad field of view for focusing said reflected Cerenkov light into individual ring images of light in the focal plane of said lens, the size and position of said ring images corresponding respectively to the velocity and direction of said individual particles, and image intensifying means having an unobstructed cesium antimony cathode in the focal plane of said lens for receiving said ring images and supplying intensified ring images whose size and position correspond with the velocity and direction of said respective, individual, charged, nuclear particles.

3,140,395
DIRECTIONAL GAMMA-RAY DETECTOR
Serge A. Scherbatskoy, 1220 E. 21st Place, Tulsa, Okla.
Filed May 11, 1961, Ser. No. 109,408
6 Claims. (Cl. 250—71.5)

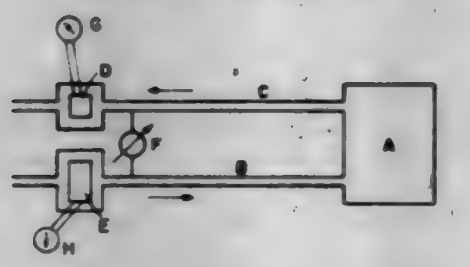
1. Directional, spectrally selective gamma-ray detecting apparatus comprising first and second radiation detectors of the scintillation type spaced apart from one another,

the line joining their centers defining an axis, said detectors being of the type which develop an electric pulse in response to a detected ray, the magnitude of such pulse being proportional to the energy dissipated in said detector by said ray, a low-pass pulse-height selector means connected to said first radiation detector and fed by electric pulses therefrom, said low-pass selector having a threshold level representing a predetermined energy level much less than that of the rays to be detected, second pulse-height



selector means connected to said second detector and fed by electric pulses therefrom, said second selector means being operative to transmit only pulses representing energy levels greatly exceeding the threshold level of said low-pass selector, coincidence-sensitive means fed by both of said pulse-height selectors operative to provide an output signal only when output pulses from both of said selector means occur in substantial time coincidence, and means for measuring the repetition rate of output signals derived from said coincidence-sensitive means.

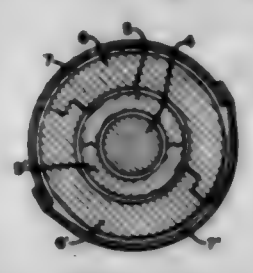
3,140,396
NEUTRON DETECTOR FOR MEASURING THE NEUTRON FLUX IN A REACTOR
Jacob Hendrik Spaa and Kars van Douwen, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1960, Ser. No. 48,136
Claims priority, application Netherlands Aug. 25, 1959
2 Claims. (Cl. 250—83.1)



1. A neutron detector comprising a chamber positioned in the path of a flux of neutrons, a supply conduit and a discharge conduit connected to said chamber for circulating through said chamber a medium which can be activated by neutrons, said conduits each being constituted of a material of different conductivity, a radiation detector in each of said supply and discharge conduits, means to compare the outputs of said radiation detectors to thereby measure the neutron flux, and means to measure a thermo-electric potential between said conduits to thereby determine the temperature in the proximity of said chamber.

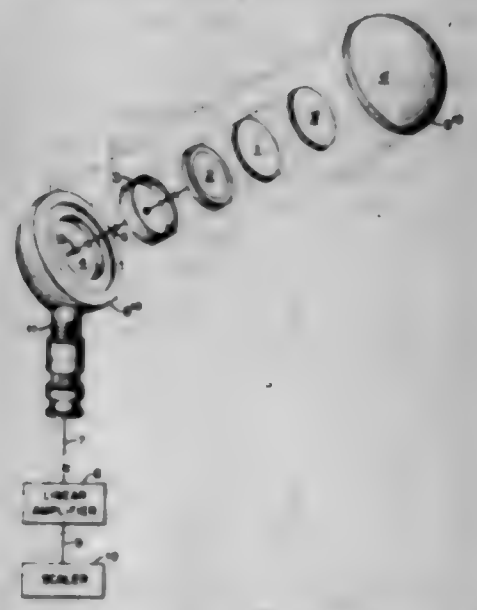
3,140,397
NEUTRON DETECTOR UNIT UTILIZING INDIUM
Hugh F. Henry, Greencastle, Ind., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 28, 1962, Ser. No. 225,172
12 Claims. (Cl. 250—83.1)

1. An improved neutron detector for the detection of fast neutron fluxes having an energy in the range of about 0.005 mev. and above, comprising an indium body and a manganese body, and a common indium shield and a



common cadmium shield encompassing said indium body and said manganese body.

3,140,398
NEUTRON DOSIMETER UTILIZING A FISSION FOIL
Paul W. Reinhardt and Francis J. Davis, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 5, 1962, Ser. No. 228,778
4 Claims. (Cl. 250—83.1)

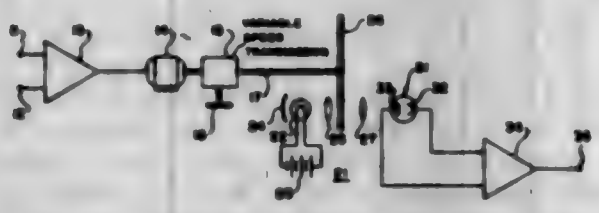


1. A neutron dosimeter for measuring and indicating directly fast neutron spectra in terms of dose, comprising a fission foil coated on one side with a mixture selected from the group consisting of U-235, Np-237, U-238, Pu-239, Am-241, Pa and Th; a fission detector being in contact with the deposit side of said foil; a thermal neutron shield selected from the group consisting of boron-10, natural boron, cadmium and lithium-6, said shield enclosing said foil and detector; a linear amplifier; a pulse counter; and means for connecting said detector to said amplifier and for connecting said amplifier to said counter, said counter providing a direct and continuous measurement of fast neutron spectra when said dosimeter is exposed to a radiation source.

3,140,399
PHOTOSENSITIVE VARIABLE FREQUENCY MULTIPLIER
Ivy J. Theriot, Fort Worth, Tex., and Laurie R. Burrow, San Diego, Calif., assignors to General Dynamics Corporation (Convair Division), San Diego, Calif., a corporation of Delaware
Filed Apr. 3, 1961, Ser. No. 102,337
3 Claims. (Cl. 250—233)

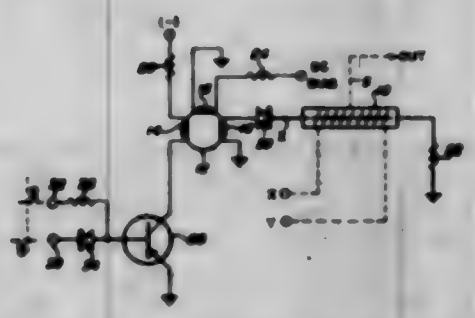
2. A variable frequency multiplier comprising a synchronous motor for rotating a first shaft at a rate directly proportional to the frequency of an input signal, a second shaft, a variable speed drive driven by said first shaft for selecting a constant speed ratio between said

first shaft and said second shaft, a disc having alternate opaque and transparent areas connected to said second shaft, a light source on one side of said disc and light



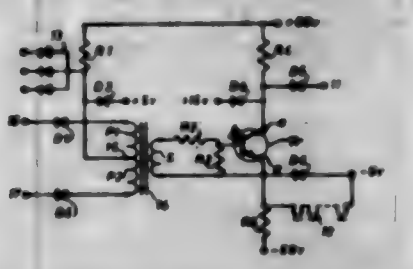
sensitive means on the opposite side of said disc for producing an output signal having a frequency at a predetermined multiple of the frequency of said input signal.

3,140,400
INHIBIT PULSE DRIVER
David Shansky, South Lincoln, and Walter Strohmeier, Newton Highlands, Mass., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,742
7 Claims. (Cl. 307—88)



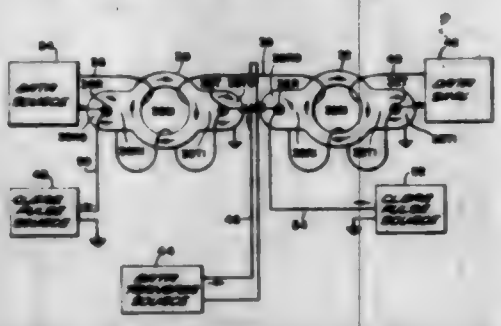
6. Apparatus for producing an inhibit pulse for a memory plane comprising a bistable magnetic core having a set winding, a reset winding conductively isolated from said set winding, and an output winding, an electronic switch having internal signal delay properties connected in series with said input winding and being adapted, when actuated, to switch said core to a set state, a direct current source connected to said reset winding to switch said core to a reset state when said electronic switch is not actuated, said memory plane including an inhibit winding, and diode means coupling said output winding to said inhibit winding when said core is switched to said reset state.

3,140,401
TRANSISTOR SWITCHING DEVICE
Henri Gerard Feissel, Paris, France, assignor to Compagnie des Machines Bull (Société Anonyme), Paris, France
Filed July 20, 1960, Ser. No. 44,203
Claims priority, application France July 24, 1959
3 Claims. (Cl. 307—88)



1. Transistor switching device for selectively controlling the read-out of data stored in a series of highly remanent magnetic cores, comprising a transistor with emitter, base and collector electrodes, voltage source means with two terminals, a set of series-connected magnetization windings for said cores connected as a load impedance between the emitter electrode of said transistor and a terminal of said source means, an input transformer including a secondary winding with two extremities, one extremity being coupled to the base electrode of said transistor and the other extremity being connected to said emitter electrode, a first primary winding and a second primary winding with a junction point common to both primary windings, and an "AND" logical circuit, the output terminal of which is connected to said junction point, whereby a control pulse applied to said first primary winding is transmitted to saturate the base electrode of said transistor in dependence on the state of said logical circuit.

3,140,402
MAGNETIC-CORE LOGIC CIRCUITS
Douglas C. Engelbart, Palo Alto, Calif., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
Filed Jan. 19, 1960, Ser. No. 3,395
5 Claims. (Cl. 307—88)

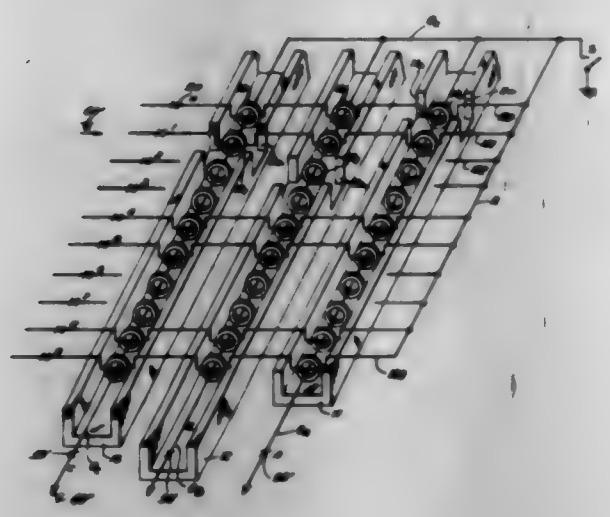


5. An improved magnetic logical element comprising a magnetic core having two states of magnetic remanence comprising a substantially toroidal ring with a central main aperture, and a receive and transmit aperture in said ring, said core having sufficient extra material in the regions including each of said receive and transmit aperture portions to provide one leg of material on one side of each of said receive or transmit apertures which has a cross-sectional area substantially equal to that of the leg of material on the other side of said receive or transmit apertures plus the cross-sectional area of said ring in which there is no aperture, an input winding for said core passing through said receive aperture and around the larger of the two legs of material adjacent said receive aperture, a transmit winding for said core passing through said transmit aperture and around the larger of the two legs of material adjacent said transmit aperture, and a clear winding inductively coupled to said receive, main, and transmit apertures with the same coupling sense.

3,140,403
MATRIX TYPE SWITCH ARRANGEMENT
Josef Mörwald, Dachau, near Munich, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Oct. 24, 1960, Ser. No. 64,586
Claims priority, application Germany Oct. 23, 1959
33 Claims. (Cl. 307—88)

15. In a matrix type switch arrangement, in combination, a plurality of sets of core assemblies representing respectively matrix columns, each core assembly comprising a magnetizable core, and an input winding and an output winding on said core and inductively coupled thereby, each of said core assemblies being capable of responding to an electric input pulse applied to its input winding by inducing a corresponding output pulse in said output winding thereof, provided that the particular core is in a predetermined normal state of comparatively low remanent magnetization, the particular core returning to said normal state after the production of said output pulse, all of said output windings of each

individual set of core assemblies being connected in series with each other, and a plurality of input windings of core assemblies, which are part of different sets thereof but have sequentially equal relative positions within said different sets, being connected in series with each other, the thus associated core assemblies, which have their input windings connected, representing rows of the matrix; the magnetizing means respectively associated with said sets of core assemblies and adjustable to a



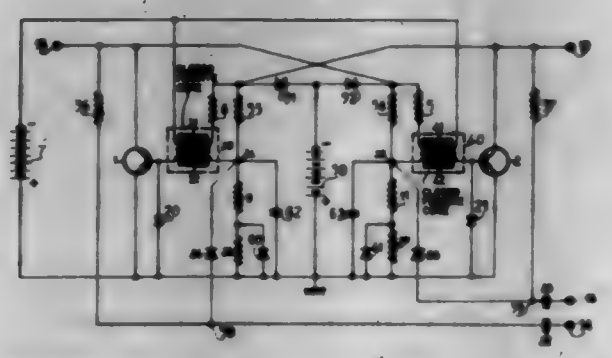
plurality of positions in relation to the core assemblies of the respectively associated set thereof for increasing, in any one of said positions, the magnetization of the cores of a predetermined number of core assemblies of the respective set thereof to such a degree close to saturation that upon sequential application of input pulses to said input windings of the respective set of core assemblies an output pulse is produced only in a core assembly of the respective set of core assemblies which is excluded from said predetermined number thereof.

3,148,484

ECCLES-JORDAN FLIP-FLOP WITH CLOSED FERRITE CORES IN THE CROSS-COUPLING PATHS

Robert Maudsoch, Paris, and Raymond Gouttebel, Clamart, France, assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 844,392
Claims priority, application France Oct. 17, 1958
1 Claim. (Cl. 307—88.5)



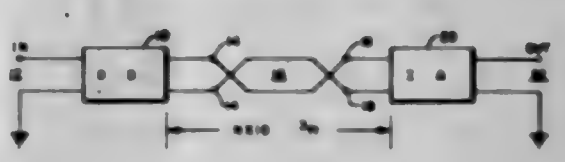
A trigger circuit of the Eccles-Jordan type comprising two alternately conducting transistors, each having base, emitter and collector electrodes; comprising cross-coupling paths, each between the collector of one transistor and the base of the other transistor, each said cross-coupling path including a transformer for substantially matching the impedance of the collector circuit of said one transistor and the base circuit of said other transistor, each said transformer having a closed ferrite core with windings wound on said core, a first one of said windings being included in the collector circuit of said one transistor and a second one of said windings being included in the base circuit of said other transistor; and comprising a pair of impedance networks each shunted across the base-emitter electrodes of the associated transistor in series relation with said second winding for raising the cut-off frequency of said circuit, each said network comprising a capacitor and in parallel connection therewith a resistance and a diode shunting a part of said resistance, said diode being poled so as to provide a leakage path for the excess minority carriers remaining on said base following saturation.

3,148,485

DIGITAL COMMUNICATIONS SYSTEM

John A. Kolling, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 13, 1961, Ser. No. 151,826
34 Claims. (Cl. 307—88.5)



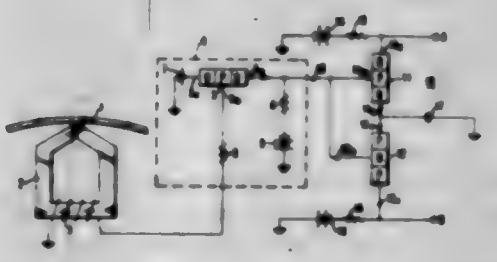
13. A digital communications system for transmitting logical data pulse signals between equipments, at high noise levels and high data rates, from the output of one or more of said equipments to the input of one or more of said equipments comprising a twisted pair transmission line, including high and low signal lines and having a characteristic line capacitance, between at least one output and one input of said equipments, an output driver circuit for feeding data to the transmission line from the said one output at one end of said transmission line including means for alternately providing low impedance charging and discharging paths, respectively, for the said characteristic line capacitance to thereby provide substantially equal charging and discharging rates for said capacitance and an input amplifier circuit for feeding data to the said one input from the said transmission line at the other end thereof including means to balance out noise signals appearing on both said high and low lines and simultaneously separate and amplify a data signal appearing on one of said lines from the said noise signals.

3,148,486

APPARATUS FOR DETECTING THE SENSE OF VARIATION OF AN ELECTRICAL POTENTIAL

Leonard H. Thompson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application Dec. 24, 1957, Ser. No. 704,915, now Patent No. 3,064,243, dated Nov. 13, 1962. Divided and this application May 4, 1960, Ser. No. 26,848
10 Claims. (Cl. 307—88.5)



1. Apparatus for detecting the sense of variation of an electrical potential, comprising a transistor having input,

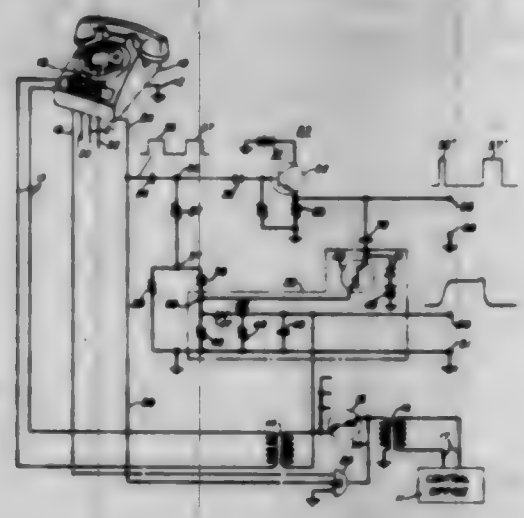
output and common electrodes, and impedances between said electrodes, a capacitor, first and second junctions, means including the input and common electrodes connecting the capacitor and the input-common impedance of the transistor in series between said junctions, an asymmetrically conductive device connected in parallel with the input-common impedance and poled oppositely with respect thereto, input means for applying an input signal having an alternating component between said junctions, said input means being effective to send a substantial current through said input-common impedance and turn the transistor on only when the charge on the capacitor is varying in a predetermined sense, and output means connected to the output electrode of the transistor.

3,140,407

PULSE SHAPER EMPLOYING MEANS TO CONTROL TIME CONSTANT OF INCLUDED DIFFERENTIATOR CIRCUIT

Harold P. Anderson, Morris Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 1, 1960, Ser. No. 46,758
28 Claims. (Cl. 307—88.5)



1. A wave shaping circuit comprising a differentiator having a series-connected capacitor and a shunt-connected first resistor, a second resistor connected in series with said first resistor and said capacitor, a diode and an impedance connected in parallel with said second resistor, the resistive portion of said impedance being substantially smaller than the resistance of said second resistor, means applying pulses to said differentiating circuit, an amplifier connected to the output of said differentiating circuit, means connecting the output of said amplifier to said diode for biasing said diode Off in response to a first one of said pulses, and said connecting means being responsive to a second one of said pulses for biasing said diode On.

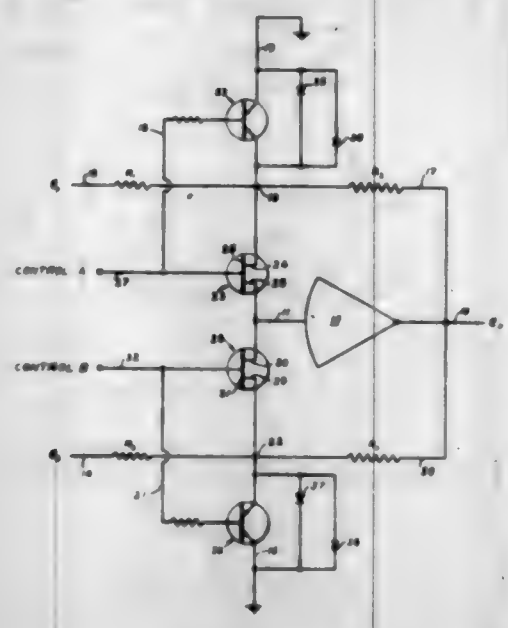
3,140,408

SWITCH WITH PLURAL INPUTS TO, AND PLURAL FEEDBACK PATHS FROM, AN OPERATIONAL AMPLIFIER

Melvin M. May, Spring Lake Heights, N.J., assignor to Computer Products Incorporated, Manasquan, N.J., a corporation of New Jersey

Filed June 28, 1962, Ser. No. 203,865
3 Claims. (Cl. 307—88.5)

1. In an operation amplifier circuit, an electronic switch comprising at least two input circuits leading in parallel to the input terminal of a high gain D.C. amplifier, a feedback circuit for each input circuit and connected to the latter at a junction, a grounding circuit for each input circuit, a field effect transistor in each input circuit between said junction and said input terminal of the amplifier, a grounding transistor in each grounding circuit, a control circuit for each field effect transistor for applying a signal effective to selectively block or pass current



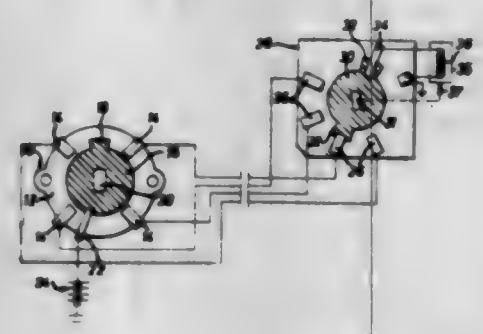
through said transistor, and a circuit for simultaneously applying said signal with opposite effect to the corresponding grounding transistor.

3,140,409

ELECTRICAL SIGNALLING AND REMOTE CONTROL CIRCUIT ARRANGEMENTS

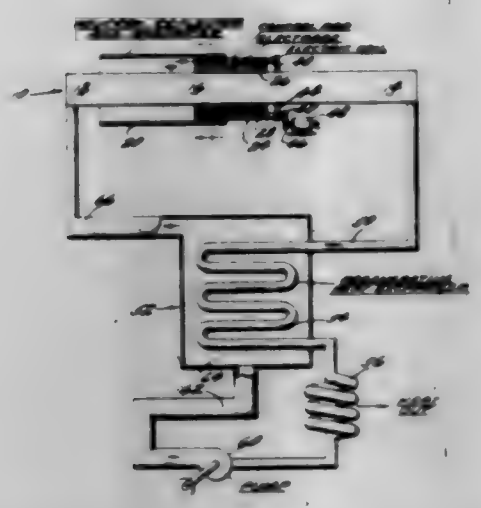
Ronald Sidney Dickinson, York, England, assignor to Armstrong Patents Co. Limited, London, England

Filed Aug. 27, 1962, Ser. No. 220,269
Claims priority, application Great Britain Aug. 30, 1961
2 Claims. (Cl. 307—115)



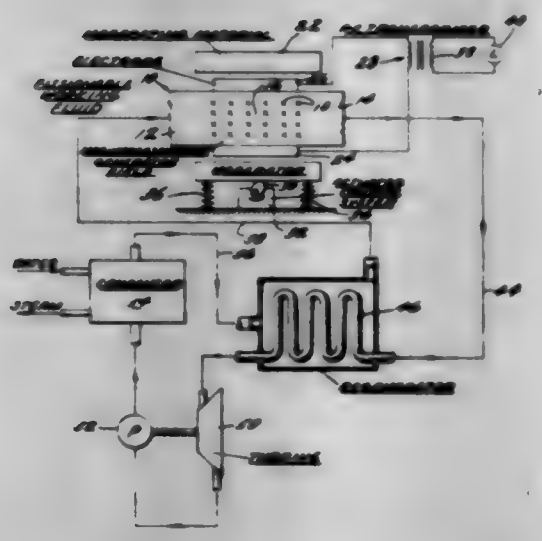
1. An electrical signalling and remote control circuit arrangement comprising a first multiple position rotary switch including a plurality of stationary contacts and a rotor arranged successively and momentarily to traverse each of said contacts in passing from one switch position to the next succeeding switch position, a second rotary switch including a second rotor and a second plurality of stationary contacts each electrically connected to a corresponding one of the stationary contacts of said first switch, a solenoid operated stepping mechanism including a driven shaft, said second rotor being rotatable by said driven shaft, and a solenoid energising circuit momentarily completed through each connected pair of stationary contacts on the two switches whenever said rotors simultaneously register with the respective contacts of said pair, whereby said driving shaft steps said second rotor into connection with the stationary contact of said second switch corresponding to the stationary contact of said first switch which is next to be traversed by said first rotor.

3,140,410
NUCLEAR MAGNETOHYDROELECTRIC GENERATOR
George H. McLafferty, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 22, 1960, Ser. No. 44,601
14 Claims. (Cl. 310—11)



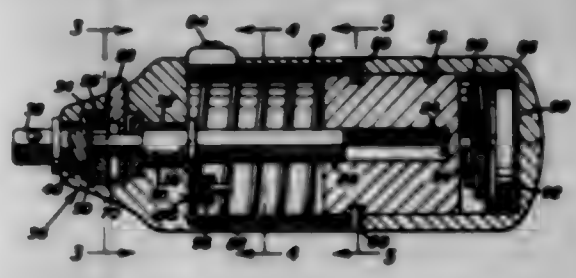
1. A magnetohydroelectric generator comprising a duct having an inlet and outlet, means for moving a fluid stream through said duct including pump means, said fluid stream including a fissionable material dispersed therethrough, moderator means surrounding said duct and extending a predetermined distance along the path of fluid flow, means providing magnetic lines of force running transversely of the path of flow, electrode means positioned adjacent said duct in substantially juxtaposed relation with said moderator means, and means receiving electrical current from said electrodes.

3,140,411
A.C. NUCLEAR GENERATOR
Charles Oickle, Jr., New Britain, and Edward A. Pinsley, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 12, 1960, Ser. No. 55,581
17 Claims. (Cl. 310—11)



1. A magnetogasdynamic generator comprising a duct having an inlet and an outlet and a generating region therebetween, means for moving a fluid stream through said duct continuously in one direction, said fluid stream including a fissionable material dispersed therethrough at least while flowing in said generating region, moderator means surrounding said duct and extending a predetermined distance along the path of fluid flow to cause fission to free energy in the generating region, said fluid stream being electrically conductive while flowing in said generator region, means coacting with said fluid to produce electrical energy, means positioned with respect to said generating region for collecting said electrical energy, and means externally of said duct for systematically varying a parameter of operation of the generator whereby the final electrical energy produced is an A.-C. current.

3,140,412
ELECTRICALLY ENERGIZED, POWER OPERATED TOOL DRIVER
Joseph B. Godwin, 11607 Hanford Armona Road, Hanford, Calif., assignor of fifty percent to Opal F. McDaniel, Tulare, Calif.
Filed Apr. 26, 1960, Ser. No. 24,835
13 Claims. (Cl. 310—23)

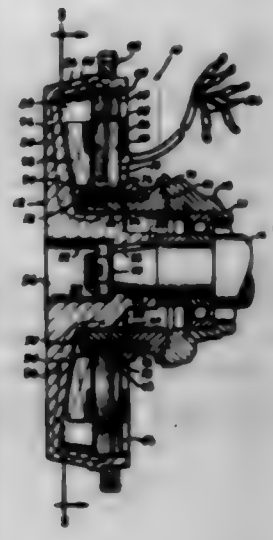


1. A power operated tool assembly having a driven member comprising, a housing, a solenoid coil mounted in said housing, a spring biased armature slidably movable within the housing by energization of said coil, switch means operatively connected to the coil and engageable by said armature for imparting movement to the armature, cam means operative to constrain said movement for producing a rotational component in one direction, coupling means for transmitting only the rotational component of movement of said armature, one-way clutch means operatively connected to said coupling means and the driven member for transmitting rotational movements of said coupling means in one direction only to said driven member, and means operatively engageable with the one-way clutch means for simultaneously reversing the one direction of said one-way clutch means and said cam means to directionally reverse powered rotation of the driven member.

3,140,413
INDUCTOR ALTERNATOR
Stanley M. Terry and Bob O. Burson, Longmeadow, Mass., assignors, by mesne assignments, to R. E. Phelon Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts
Filed Feb. 10, 1961, Ser. No. 88,538
13 Claims. (Cl. 310—168)

4. In an inductor alternator, the combination of:
an annular stator of magnetic material having on its radially outer portion a plurality of poles defining an annular series of circumferentially spaced end faces,
a rotor of magnetic material arranged concentrically with said stator and including a radially extending web and a circumferentially continuous rim extending axially in one direction from said web and which rim circumferentially encloses said stator,
a plurality of poles on the radially inner portion of said rim defining another annular series of circumferentially spaced end faces which are separated from said stator pole end faces by thin air gaps and which pass circumferentially over and into and out of alignment with said latter end faces as said rotor is rotated relative to said stator,

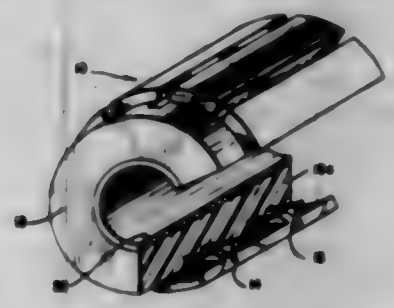
an annular field coil arranged concentrically with said stator and located between said stator and said rotor web,



a plurality of armature coils located respectively on said stator poles, and

cooperating means on said stator and rotor defining a thin air gap between the radially inner portion of said stator and said rotor.

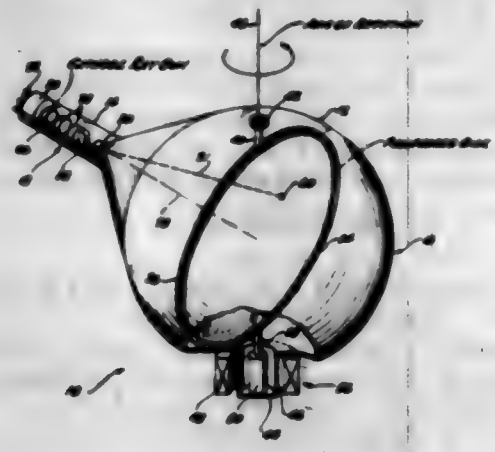
3,140,414
COMMUTATORS
Holger Skjødt and Kaj Jens P. Boisen, both of Odense, Denmark, assignors to Skjødt & Boisen Kommutatorfabrik A/S, Odense, Denmark, a corporation of Denmark
Filed Jan. 23, 1962, Ser. No. 168,212
Claims priority, application Great Britain Jan. 23, 1961
12 Claims. (Cl. 310—235)



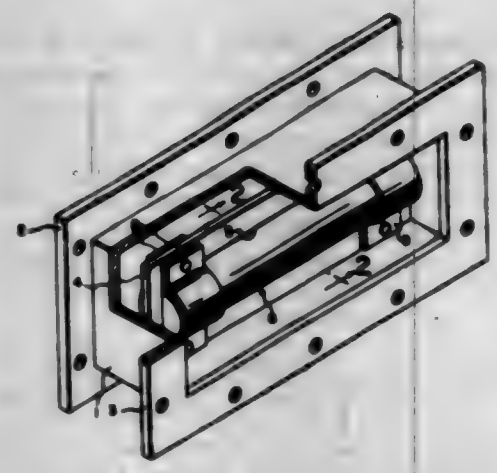
1. In a commutator in combination: an insulating core member, a plurality of conductive segments each comprising a body portion and anchoring means embedded in said insulating interior core member, said body portion being of sheet material following a cylindrical curvature, and said anchoring means being in the form of rib means integral with said sheet material and extending transversely of said body portion and having opposite surfaces extending in peripheral direction and facing the interior curved surface of said sheet material.

3,140,415
THREE-DIMENSIONAL DISPLAY CATHODE RAY TUBE
Richard D. Ketchpel, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 16, 1960, Ser. No. 36,525
25 Claims. (Cl. 313—146)

1. In a device of the class described, the combination of a display screen, means for rotating said screen about an axis in the plane of said screen whereby the surface of said screen will sweep throughout a predetermined volume and stationary means for exciting preselected portions of said screen in synchronism with the position thereof.

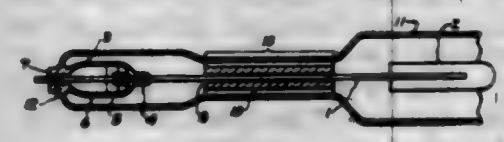


3,140,416
GASEOUS DISCHARGE DEVICE
Harold A. Sleeper, South Groveland, Mass., assignor, by mesne assignments, to Varian Associates, Palo Alto, Calif., a corporation of California
Filed May 4, 1962, Ser. No. 192,682
5 Claims. (Cl. 313—223)



1. A gaseous discharge device comprising a hermetically sealed envelope containing an ionizable atmosphere, and a quantity of boron trifluoride gas contained within said envelope to provide means for decreasing the deionization time of the gaseous discharge device during operation thereof.

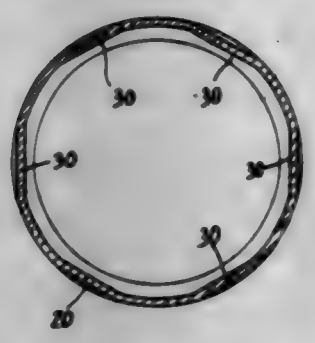
3,140,417
ELECTRIC LAMP STEM WITH STRAIN RELIEVING SLEEVE
Alfred Tietze, Berlin-Neukölln, Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H.
Filed Dec. 18, 1961, Ser. No. 159,923
Claims priority, application Germany Jan. 16, 1961
9 Claims. (Cl. 313—256)



1. An electric lamp stem comprising a tubular vitreous neck portion and rod-like current inlead extending longitudinally therethrough for supporting an electrode forward of its inner end, a hermetic seal at the outer end of said inlead joined to the outer end of said neck portion, and at least one generally cylindrical sleeve having a co-

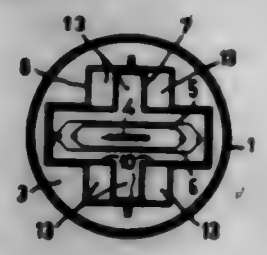
efficient of expansion substantially equal to that of said neck portion located within said neck portion and having an axial hole therethrough through which said inlead extends with a snug fit but without binding, the outer surface of said sleeve being fused to the inner surface of said neck portion, said sleeve having longitudinally extending passageways therethrough interconnecting the space between the outer end of said sleeve and said hermetic seal with the space forward of the inner end of said sleeve.

3,140,418
STEM AND ENVELOPE FOR ELECTRON DISCHARGE DEVICES
Harry V. Knauf, Jr., Mountainside, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 7, 1961, Ser. No. 93,986
9 Claims. (Cl. 313—266)



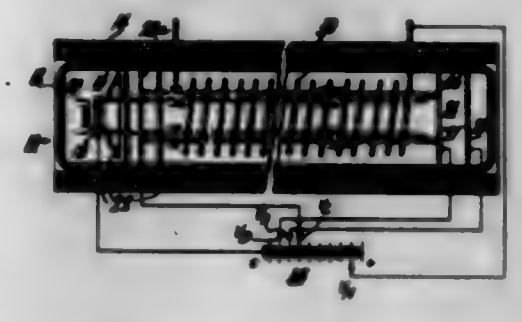
1. An electron discharge device including an envelope having a metal base portion, the wall of the base portion having a plurality of chordal flats providing spring-like engaging elements, an insulating disc received within said base portion, said flats engaging the periphery of said disc with a compresive fit, said disc supporting an electrode assembly within said envelope and sealed vacuum tight at its periphery to the inner wall of the base portion of said envelope.

3,140,419
ELECTRON DISCHARGE TUBE HAVING AN ANODE WITH CAVITIES
Jan van der Poel, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 26, 1961, Ser. No. 112,815
Claims priority, application Netherlands June 29, 1960
4 Claims. (Cl. 313—296)



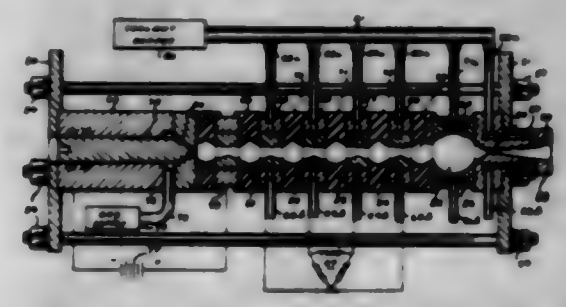
1. An electric discharge tube comprising an electrode system including a cathode having an emissive surface, at least two grid electrodes, and an anode having partitions facing the cathode and defining electron paths with the cathode electron emissive surface, said anode comprising a first box-shaped inner part of cross-shaped cross-section, the faces of the inner part at right angles to the electron paths being provided with apertures therein, a second box-shaped outer part supported by and surrounding the inner part, said outer part comprising two halves joined together with connecting edges lying in a plane of symmetry of the electrode system at right angles to the cathode electron emissive surface, the end surfaces of the cross of the cross-shaped section of the outer part at right angles to the electron paths being wider than the end surfaces of the corresponding arms of the cross-shaped section of the inner part.

3,140,430
ELECTRON TUBE GENERATING OPPOSITELY DIRECTED RADIALLY-DISPLACED BEAMS
Kern K. N. Chang, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,233
6 Claims. (Cl. 315—3.6)



1. Means for producing two oppositely-directed radially-displaced electron beams of different velocity, comprising an elongated envelope having a longitudinal axis, an electron gun in one end of said envelope for projecting a cylindrical primary beam of given diameter along said axis, electrode means in the opposite end of said envelope for collecting said primary beam comprising a dynode having an aperture of larger diameter than said primary beam coaxial with said axis, hollow conductive means forming a drift space between said electron gun and said dynode, means for biasing said dynode at a lower positive potential than said conductive means, means for causing at least a major portion of said primary beam to diverge and impinge upon said dynode around said aperture to produce a hollow cylindrical beam of secondary electrons displaced outwardly from said primary beam and directed through said conductive means in a direction opposite to said primary beam, an auxiliary electrode comprising a solid portion located on said axis and adjacent to said dynode, means for applying to said auxiliary electrode a potential between the potentials of said dynode and said conductive means, and means for substantially confining said beams to their respective paths.

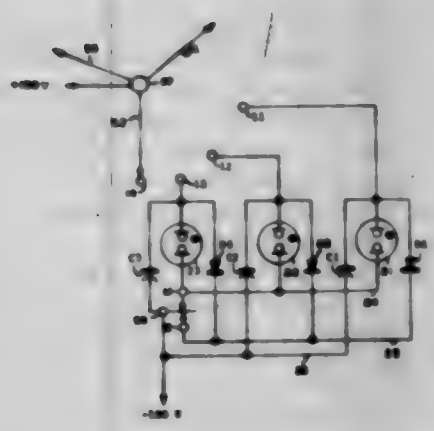
3,140,431
MULTIPHASE THERMAL ARC JET
Richard M. Spongberg, 4597 Lucas Ave., Oakland 11, Calif.
Filed Apr. 17, 1962, Ser. No. 188,284
5 Claims. (Cl. 315—111)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A multiphase thermal arc jet device, comprising: an electrode system including four annular electrodes of heat resistant material, an annular electrical insulator spacer between each pair of electrodes to thereby provide a plurality of discharge spaces within said electrode system, a cooling jacket surrounding the two intermediate electrodes, means for supplying a coolant to said cooling jackets, a conductive cup-shaped member sur-

rounding one of the other of said four electrodes, a cavity in said cup-shaped member adjacent said one of the other electrodes, means for supplying a gas along the tangent of said cavity to thereby give the gas a vortex motion within said electrode system, a conductive expansion nozzle at the end of said electrode system remote from said cavity in electrical engagement with the remaining one of said four electrodes, a first conductive plate member at one end of said electrode system in electrical engagement with said cup-shaped member, a second conductive plate member at the other end of said electrode system in electrical engagement with said nozzle, conductive means connected between said first and second plate members, a three-phase power supply, means including said means connected between said plate members for connecting one phase of said power supply to said first and said second plate members and means for connecting the other two phases of said power supply to said two intermediate electrodes.

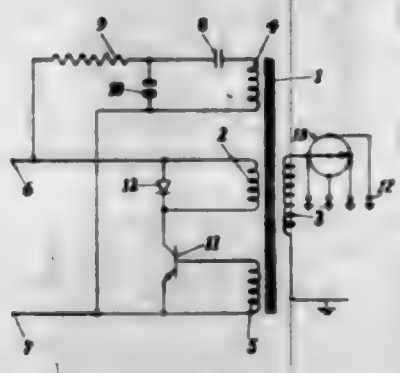
3,140,422
INDICATOR LAMP CIRCUIT
Archie A. McGee, Jr., Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed June 6, 1960, Ser. No. 34,282
2 Claims. (Cl. 315—132)



1. An electrical indicating device including a plurality of gaseous discharge devices, a first switch for applying potential consecutively to each said discharge device to cause it to glow, an individual capacitor for each said discharge device energized simultaneouly by said switch, each said capacitor having a value sufficient to maintain glow potential for a predetermined time across its respective discharge device after the applied potential to each said discharge device is removed, and second switch means for simultaneously disconnecting said capacitors from said discharge devices to deenergize each of said discharge devices and extinguish the glow, and means to provide an auxiliary conductive path for said capacitors when disconnected to discharge any remaining energy stored in said capacitors so that reconnection of said capacitors to said discharge devices does not cause said discharge devices to be reenergized and to glow each said discharge device.

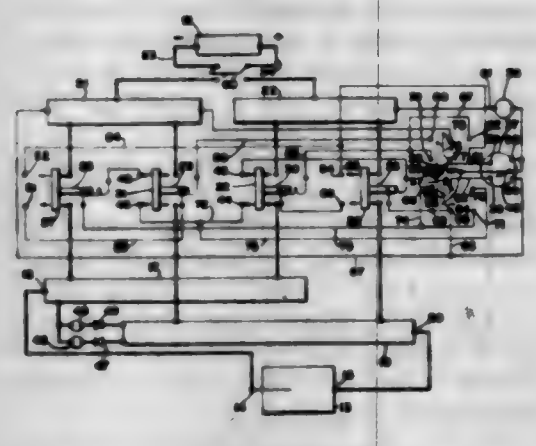
3,140,423
SPARK IGNITION APPARATUS FOR INTERNAL COMBUSTION ENGINE
Maldwyn Hugh Roberts, Sutton Coldfield, David Warwick Lloyd Clamp, Birmingham, and Norman Alfred Jukes, Walsall, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Feb. 6, 1961, Ser. No. 87,182
1 Claim. (Cl. 315—201)

Spark ignition apparatus for an internal combustion engine, comprising a direct current source, an ignition transformer having a core, a primary winding on the core connected to the direct current source, and a secondary winding on the core connectible through a distributor to spark plugs of the engine in turn, a monostable oscillator operation of which causes rising current to flow in the primary winding to induce a spark at one of said plugs, said oscillator including a transistor in series with the primary winding, a control winding on the core connecting the base and emitter of the transistor for providing feedback thereto, a pilot winding on the core for inducing a voltage in the control winding, one end of the



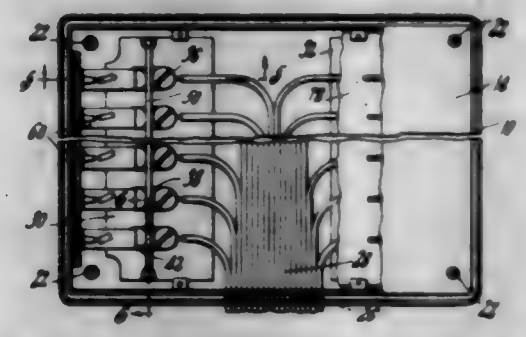
pilot winding being connected to one terminal of the direct current source, and a capacitor and resistor connected in series between the other end of the pilot winding and the other terminal of the direct current source, the apparatus further including an interrupter driven by the engine and connected across the pilot winding and capacitor for operating the oscillator, upon closing of the interrupter, in timed relationship to the engine, and a diode connected across the primary winding for absorbing back electromotive force induced therein after the production of each spark.

3,140,424
POLARITY-REVERSING SYSTEM FOR ELECTRO-CHEMICAL PROCESS
William G. Stoch, 3587 E. 49th St., Cleveland, Ohio
Filed Jan. 16, 1962, Ser. No. 166,536
1 Claim. (Cl. 317—8)



In a polarity-reversing switch for an electro-plating D.C. electrical circuit, the combination of a first pair of double-pole, double-throw switches connected in series for completing said plating circuit at one polarity, a second pair of double-pole, double-throw switches connected in series for completing said plating circuit at an opposite polarity, electrically-energized actuating coils for said switches, a control circuit for energizing said coils, first selector switch means in said control circuit for selectively establishing said control circuit through the coils of either said first pair of switches or said second pair of switches, and second selector switch means in said control circuit for selectively connecting one coil of each of said pairs of switches in electrical parallel with the other coil of the said pair.

3,148,425
ELECTRICAL CONNECTOR APPARATUS
Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 9, 1962, Ser. No. 172,176
6 Claims. (Cl. 317—101)



6. A pluggable unit structure for use with a base structure having two electrically insulated supports positioned within said housing, in spaced relation to define a cableway therebetween,

a plurality of fixed terminal members mounted in a row on each said insulating support in spaced relation one to another,

each said fixed terminal member including a connector member, a terminal screw disposed in threaded relation to said connector member immediately adjacent said cableway to receive an electrical conductor in secured electrical relation relative to said fixed terminal, and a riveted contact member having a substantially flat upper surface, and securing said connector member to said insulating support at a point more remote from said cableway than said terminal screw,

and an electrical insulator barrier carried by said base housing and disposed between said terminal screw and said contact surface,

said pluggable unit structure including a chassis adapted to be secured in position within said base housing,

said chassis carrying a plurality of electrical components,

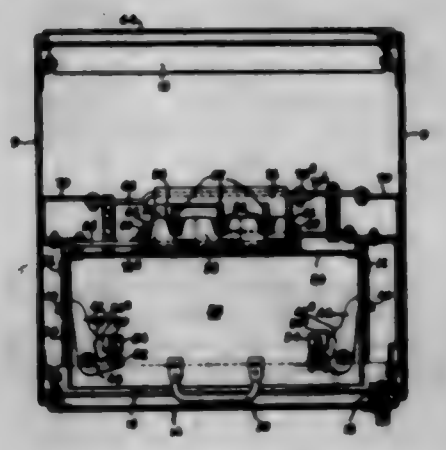
two rows of movable terminal members secured in position corresponding to said fixed terminal members to said chassis,

each said movable terminal member including a contact member having a first portion adapted to receive an electrical conductor connected to one of said electrical components, and a second portion extending away from said first portion,

the unsupported end of said second portion extending to engage a contact surface of a cooperating fixed terminal in said base housing when said chassis is positioned with said base housing and said second portion being urged into stressed condition to complete an electric circuit between the terminal screw of said fixed terminal member and the first portion of said movable terminal member when said chassis is secured in said base housing.

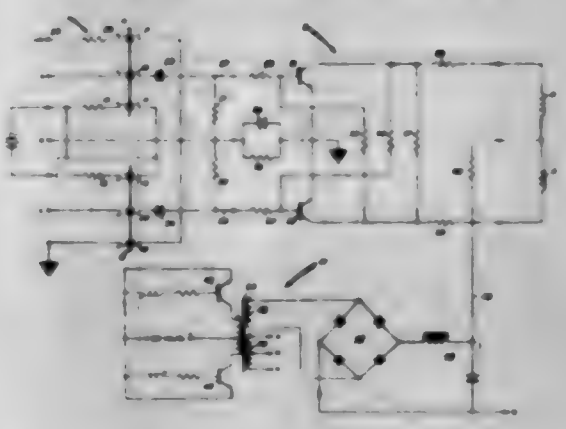
3,148,426
SWITCHBOARD-TYPE OF CABINET FOR ELECTRICAL CONTROL APPARATUS
John L. Defendorf, 7116 N. Seneca Ave., Glendale 17, Wis.; Russell R. Hackbarth and Anthony A. Kraus, 315 N. 12th St., P.O. Box 463, Milwaukee 1, Wis.; and Victor S. Sywulka, Wauwatosa, Wis. (315 N. 12th St., P.O. Box 463, Milwaukee 1, Wis.)
Application Feb. 20, 1959, Ser. No. 794,767, now Patent No. 3,066,244, dated Nov. 27, 1962, which is a continuation of application Ser. No. 567,355, Feb. 23, 1956. Divided and this application June 14, 1961, Ser. No. 117,824
2 Claims. (Cl. 317—120)

1. Control apparatus comprising a vertically standing control center section including spaces adapted to receive control units, vertical bus bars mounted in the section, a control unit panel adapted to fit in a space in a vertical position, connectors on the rear of the panel and adapted for connection to the vertical buses in an on-power position and to be operated from the buses in an off-power position, horizontal barrier plates connected to the top and bottom edges of said panel and projecting forwardly therefrom, support means comprising a unit support bracket positioned adjacent each side of the lower barrier plate, a support pin projecting from the rear portion of each side of the barrier plate and resting on the upper edge of the unit support brackets to support the rear portion of



the panel and barrier plate assembly, the forward portion of each unit support bracket having an inclined portion, said pins being slidable upon the inclined portion, the rearward portion of each unit support bracket having a depressed horizontal portion onto which the pins drop when inserting the assembly into the space, the depressed portion having a length sufficient to define the on- and off-power positions in cooperation with said pins and locking means including a latch carried by the lower barrier plate and engageable with one of the unit support brackets in either of said positions for locking the control unit in either of such positions.

3,148,427
SERVO VALVE DRIVER
Robert A. Freiberg, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1961, Ser. No. 101,669
8 Claims. (Cl. 317—148.5)

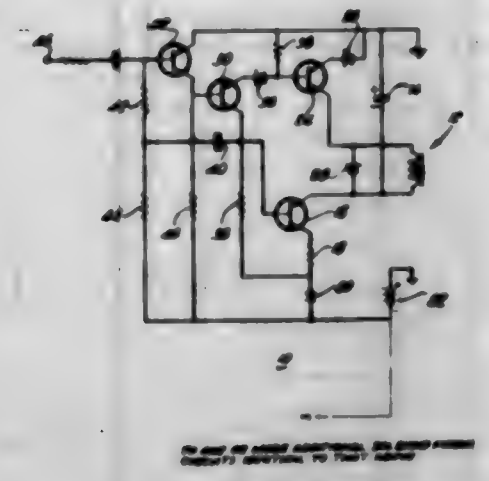


1. An acceleration switching control circuit comprising a pair of load windings, a direct current power source, a bistable flip-flop circuit connected to said power source and said load windings for selectively transferring power to each of said load windings, a source of square wave excitation voltage and magnetic means for varying the conduction time of one half of said bistable flip-flop with respect to the other half while maintaining a constant total period of operation corresponding to the period of said excitation voltage.

3,140,428
SOLENOID FIRING CIRCUIT

Francis H. Shepard, Jr., Lee Lane, Berkeley Heights, N.J.

Filed Aug. 21, 1961, Ser. No. 132,682
9 Claims. (Cl. 317—148.5)

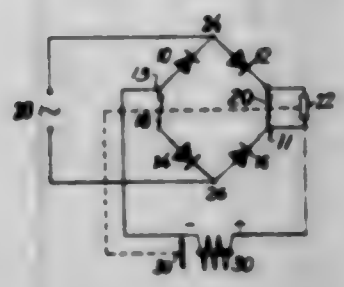


1. A solenoid firing circuit of the character described comprising a solenoid coil, a storage capacitor, a charging transistor, low ohmage means connecting said capacitor and charging transistor in series with voltage supply terminals adapted to be energized by a direct voltage, a discharging transistor connecting said capacitor across said coil, a driver transistor connected to turn said discharging transistor fully on and to turn said charging transistor off and vice versa, and means to turn said driver transistor on and off, whereby said circuit operates efficiently without interference from other such circuits connected to a common power supply.

3,140,429
CIRCUIT ARRANGEMENT FOR ENERGIZING A DIRECT-CURRENT ELECTROMAGNET

Adolf Rolf Mais, Enskede, Sweden, assignor to Aktiebolaget Hagglund & Soner, Ornskoldsvik, Sweden, a corporation of Sweden

Filed Feb. 10, 1961, Ser. No. 88,389
Claims priority, application Sweden Feb. 12, 1960
2 Claims. (Cl. 317—154)



1. A circuit arrangement for energizing an electromagnet, comprising:

a full-wave rectifier bridge provided with four rectifier arms, a pair of diagonally opposite input terminals connectable across a source of alternating current, and a pair of diagonally opposite output terminals connected across said electromagnet;

a pair of break contacts respectively inserted in circuit with said output terminals and respective rectifier arms connected to different input terminals;

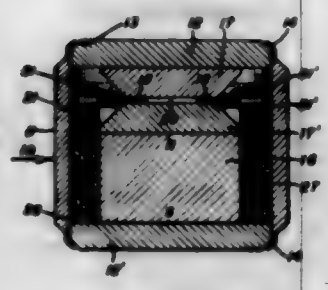
means for opening both said break contacts upon energization of said electromagnet by the direct-current output of said bridge whereby a pulsating holding current for said electromagnet is caused to pass through two of said arms in series with said electromagnet; and

resistance means shunting one of said break contacts and establishing a circuit independent of said source through one of the two last-mentioned arms and a third of said arms in series with said resistance means and said electromagnet for maintaining an inductive current flow therethrough between pulsations of said holding current.

3,140,430
STANDARD MAGNET STRUCTURE WITH PREDETERMINED AIR-GAP

William A. Yonkers, Mountain Lakes, N.J., assignor to Radio Frequency Laboratories, Inc., Boonton, N.J., a corporation of New Jersey

Filed July 15, 1960, Ser. No. 43,181
2 Claims. (Cl. 317—158)

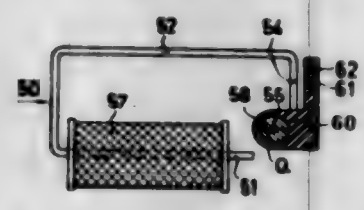


1. A standard magnet device comprising a tubular body member of magnetic material having ends of reduced thickness; a pair of end plates of magnetic material closing the ends of the body member, each end plate having a beveled surface on the outer edge thereof and the reduced thickness ends of the body member being flared inwardly into engagement with the beveled surface; a magnet concentrically positioned within the body member and spaced from the inner wall thereof, said magnet having parallel, opposite polarity polar surfaces with one polar surface abutting one of said end plates; a pair of pole pieces of magnetic material spaced from the inner wall of the body member, one pole piece abutting the other polar surface of the magnet and the other pole piece abutting the other end plate; means forming a flux gap between the pole pieces which means includes non-magnetic spacer means disposed between the pole pieces and in abutting relationship therewith; and means forming a pair of openings in the wall of the body member which openings are aligned with the said flux gap.

3,140,431
MAGNETIC VISUAL INDICATING DEVICE

Jan Schalkwijk, Hilversum, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 16, 1960, Ser. No. 29,299
Claims priority, application Netherlands May 23, 1959
11 Claims. (Cl. 317—171)



1. An electromagnetic indicating device comprising an electromagnetic system having yoke and conductor means associated therewith, said yoke means having first and second pole members disposed substantially at right angles to each other and said conductor means providing at said first and second pole members first and second magnetic poles of opposite polarity, respectively, for the establishment therebetween of a magnetic field having a direction responsive to the relative electric polarity of a

predetermined electric signal applied to said conductor means, a substantially cylindrical shaped rotatable member of permanent magnetic material having a predetermined permanent north and south pole characteristic substantially transverse to the longitudinal axis thereof, said rotatable member being rotatable about said longitudinal axis in response to the relative direction of said magnetic field, said longitudinal axis having its center located between said pole members, and means to arrest the rotation of said rotatable member at first and second indicating positions for predetermined and opposite types, respectively, of said signal polarity, said means to arrest compriaing a nonmagnetic member connectively disposed about said rotatable member, said non-magnetic member engaging said yoke means at said first and second pole members thereof in said first and second positions, respectively.

3,140,432
DEFLECTING COILS FOR CATHODE RAY TUBES
Toshio Imanaka, Takatsuki-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 28, 1960, Ser. No. 71,975
Claims priority, application Japan Dec. 23, 1959
3 Claims. (Cl. 317—200)



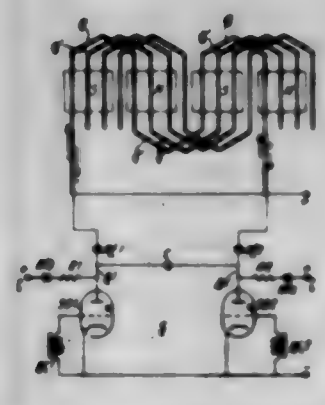
1. A deflecting coil for a cathode ray tube comprising an arcuate shaped magnetizable core and a plurality of superposed layers of turns toroidally wound about said magnetizable core starting at one end of said core and ending at the other end of said core, all of said layers having an equal number of turns wound in one and the same helical direction throughout the winding and extending over the same extent, the turns in each of said layers being closest at the central portion and gradually coarser towards the opposite ends of said layer.

3,140,433
REMOTE CONTROL ROTARY SWITCH
Robert E. Stoffels, Glen Ellyn Woods, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed July 7, 1960, Ser. No. 41,300
4 Claims. (Cl. 318—21)



1. An arrangement for controlling the setting of a rotary stepping switch at a first end of a control line from a controlling switch at the other end of said line; said arrangement including at said first end, a stepping magnet for actuating said rotary switch, an interrupter circuit for said magnet, a transistor amplifier for powering said interrupter circuit and rectifier means the output of which is connected to the input of said transistor amplifier; said arrangement further including a rectifier bridge comprising two parallel-connected voltage dividing networks each forming two arms of said bridge, a voltage source connected across said parallel-connected networks, one of said voltage dividing networks including a number of resistances at said first end of said line for varying the resistance ratio of the two arms of said network under the control of said rotary switch, the other voltage dividing network including a number of resistances at said other end of said line for selectively varying the resistance ratio of the two arms of said other network under the control of said controlling switch, and the input of said rectifier means being connected between the junction of said two arms of said one network and the junction of said two arms of said other network, whereby a difference between said two resistance ratios effected by a setting of said controlling switch causes said stepping magnet to actuate said rotary switch and balance said bridge by selectively varying said second mentioned ratio.

3,140,434
BISTABLE MULTIVIBRATOR CONTROLLED OSCILLATING D.-C. MOTOR
Peter John Grenville Hetzel, Duncherch, Rugby, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Aug. 8, 1960, Ser. No. 48,042
Claims priority, application Great Britain Aug. 11, 1959
3 Claims. (Cl. 318—129)

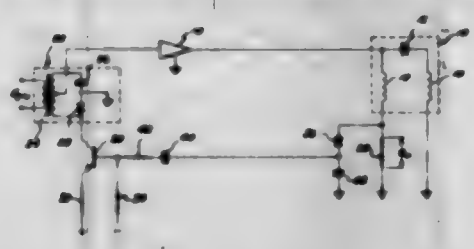


1. In combination with a D.-C. machine having alternate north and south field poles and having armature windings which for effecting commutation are required to be switched in pairs so as to carry current alternately in rhythm with their passage past the field poles of the machine, at least one bistable switching circuit comprising a pair of electronic switching devices each providing a main current path and having a control electrode able to control at least the initiation of conduction over said path, respective load elements connected in series with said main current paths of said devices, said load elements being constituted by a pair of said armature windings and being such as to present a varying voltage drop, each switching device having from a point between it and its series armature winding load element to the other switching device a cross-coupling connection effective to render the latter device non-conductive when the former has been initiated into conduction, and unidirectionally conductive devices connected between the respective armature winding load elements and said points from which the cross-coupling connections are taken, whereby to tend to eliminate adverse effects of said variable voltage drops.

3,140,435
CAPSTAN MOTOR DAMPING SERVO
John S. Winslow, Altadena, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Oct. 24, 1960, Ser. No. 64,563
5 Claims. (Cl. 318—175)

1. A motor drive circuit comprising a synchronous motor, a source of alternating voltage, means including

a small resistor in series with the motor for deriving a reference signal from the motor that varies with changes in the angle between the rotor and the rotating field of the motor, a power amplifier, means for coupling the source of the alternating voltage to the amplifier input,



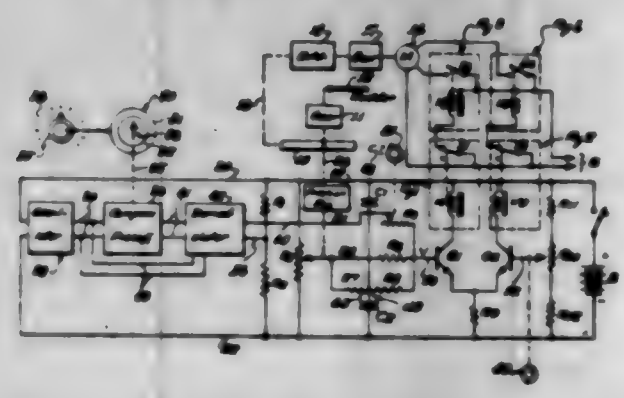
the motor being coupled to the output of the amplifier, and means responsive to the reference signal for changing the phase angle of the amplifier input with variation in said reference signal, whereby flutter causing changes in the angle between the rotor and the field of the motor is damped by the changes in angle of the field.

3,148,436

CONTROL SYSTEM FOR AUTOMATIC PILOT

William B. Hatch, Santa Barbara, Calif., assignor, by mesne assignments, to Swedlow Inc., Los Angeles, Calif., a corporation of California

Filed Nov. 28, 1961, Ser. No. 153,438
10 Claims. (Cl. 318—489)



1. An autopilot system for a boat, comprising in combination

means for developing a first signal that represents the heading error,

means for developing a second signal that represents the rudder deflection,

means for deriving from the second signal a third signal that represents the rate of turn of the boat,

means for summing the signals with such polarity that the second and third signals oppose the first signal when the rudder deflection and the rate of turn are in a direction to correct the heading error,

and means for driving the rudder in response to variations of the signal sum.

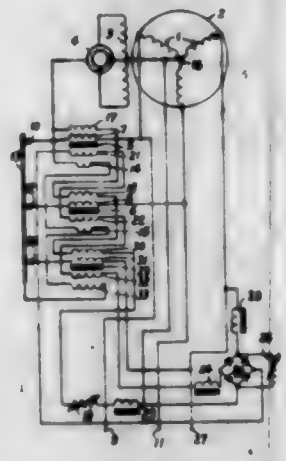
3,148,437

VOLTAGE REGULATING SYSTEM FOR ALTERNATING CURRENT GENERATORS UTILIZING HALF WAVE SELF-SATURATING CORE REACTORS

Edward Bretch, University City, Mo.; A. L. Canavan, executor of said Edward Bretch, deceased, assignor to Helen M. Bretch, Mary Louise Ische and Grace R. Spear

Filed Mar. 29, 1960, Ser. No. 18,385
4 Claims. (Cl. 322—75)

1. A voltage regulating system for an alternating current generator with a direct current excited field winding, and an armature developing a plurality of substantially equal alternating voltages phased symmetrically with respect to time, a plurality of phase windings on said armature all having a neutral connection and each having one load connection, a half wave self-saturating saturable reactor consisting of a core and a plurality of associated windings controlling each phase, a half wave rectifier connected in series with one winding on each of said saturable core reactors, means connecting one side of each of said one reactor windings respectively to each of said generator load connections whereby said windings respond to the generator output voltages, means connecting one side of each of said rectifiers to a common junction, a second winding on each of said reactors that is responsive to and controlled by the magnitude of the generator field excitation current, said second reactor windings being connected in a series circuit between the said com-



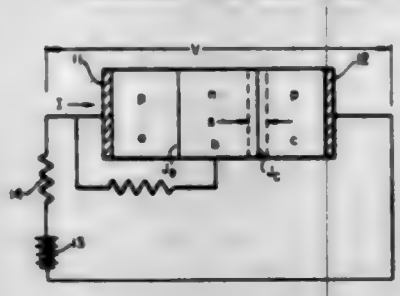
mon rectifier junction and one side of the generator field winding, the opposite side of said field winding being connected to the neutral connection of the phase windings, a trimmer winding on each saturable core excited by the generator field voltage, impedance varying means in series with said trimmer windings to control the current therethrough, a voltage sensitive element connected to respond to the output voltage of the generator, a full wave rectifier having input connections connected to said voltage sensitive element for rectifying at least a part of the output of said voltage sensitive element, and a fourth winding on each saturable core and a choke connected in series across the output connections of said full wave rectifier.

3,148,438

VOLTAGE REGULATING SEMICONDUCTOR DEVICE

William Shockley, Los Altos, and George Smoot Hornsey, Mountain View, Calif., assignors, by direct and mesne assignments, to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 8, 1959, Ser. No. 811,838
8 Claims. (Cl. 323—22)



4. A semiconductive voltage regulating device comprising a plurality of layers in a semiconductive material, adjacent layers being of opposite conductivity type, said layers forming at least emitter and collector junctions, said emitter junction including means for producing an emitter efficiency which increases with increasing current to thereby give a negative resistance, ohmic contacts formed with the outer layers, means for applying a voltage to be regulated across said device in such a direc-

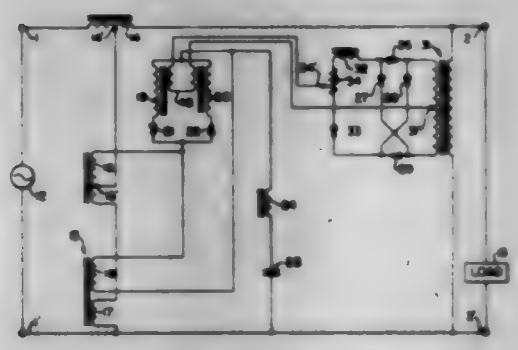
tion as to reverse bias the collector junction, means connected in circuit with said device for limiting the current through said device as a result of the unregulated voltage so that it is of such magnitude that the negative resistance due to increased efficiency substantially cancels the positive resistances in the device whereby the device has negligible dynamic impedance over a limited range of current, said device having an emitter to base layer alpha in the range of 0.0001 to 0.3 and means for obtaining a regulated voltage across said terminals.

3,140,439

MAGNETIC AMPLIFIER CONTROLLED VOLTAGE REGULATING CIRCUIT

Thomas A. Weil, Wellesley Hills, Mass., assignor to Atlas Engineering Co., Inc., Roxbury, Mass., a corporation of Massachusetts

Filed May 16, 1961, Ser. No. 110,375
9 Claims. (Cl. 323—89)



1. Alternating voltage regulating apparatus for converting a source voltage into a relatively stable load voltage, said apparatus comprising a saturating transformer with at least one winding a portion of which is coupled to said load, inductive means to couple said saturating transformer winding to said source, a magnetic amplifier having a pair of load windings and at least one control winding, a pair of oppositely poled rectifying elements connected in circuit with the respective load windings, means to derive a direct voltage from the load voltage, means to apply said direct voltage to said control winding, a capacitor and an inductor connected in series to form a reactive circuit, and a non-saturating transformer having a first winding connected in series with said portion of the saturating transformer winding, and a second winding connected to the magnetic amplifier load winding circuits, said load winding circuits being connected in parallel with one another and in series with said reactive circuit between the remaining portion of the saturating transformer winding and the first winding associated with said non-saturating transformer.

3,140,440

NUCLEAR RESONANT CONTROL APPARATUS

Paul D. Senstad, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Oct. 2, 1961, Ser. No. 142,296
8 Claims. (Cl. 324—.5)

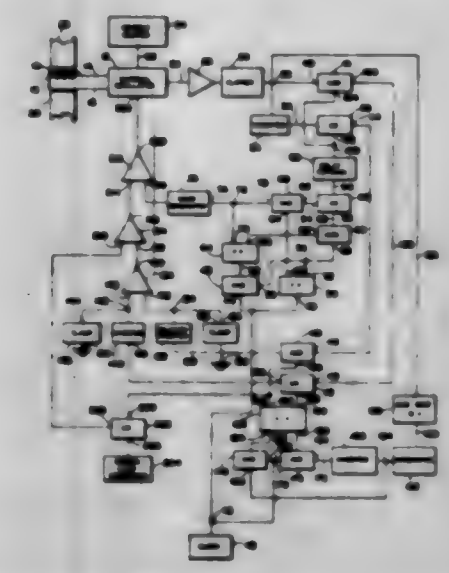
6. In nuclear resonance circuitry:

variable frequency field producing means adapted for producing resonant effects in materials, said materials having a nuclear resonant frequency and being situated in a field produced by said variable frequency field producing means;

ramp means connected to said variable frequency field producing means and adapted for periodically varying the frequency of operation of said variable frequency field producing means about an average frequency;

means connected to said variable frequency field producing means and adapted for producing a first output pulse upon each occurrence of nuclear resonance;

means adapted to receive said first output signal and to separate said first pulse into second and third pulses of opposite polarities;



means for combining said opposite polarity second and third pulses to produce a resultant error signal;

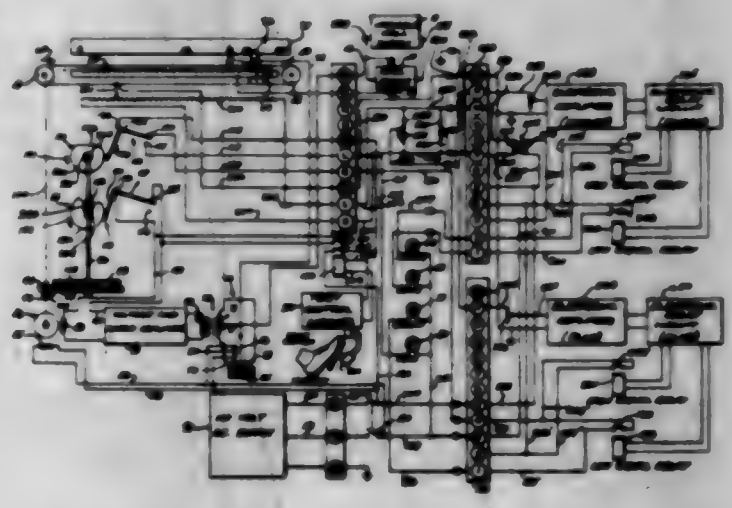
and means for receiving said error signal, said error receiving means being connected to said variable frequency field producing means and adapted to vary the average frequency of operation of said variable frequency field producing means toward the frequency at which nuclear resonance occurs.

3,140,441

MAGNET TESTER UTILIZING A MOTOR-DRIVEN BALANCING NETWORK TO DETERMINE PLURAL DISCRETE LEVELS OF ENERGY

Gerald T. Barta and John R. Mitchell, Valparaiso, Ind., assignors to Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana

Filed Nov. 16, 1960, Ser. No. 69,642
5 Claims. (Cl. 324—34)



2. A magnet tester comprising transducer means for sensing the magnetic energy output of successive magnet parts to be tested and for producing an electric output signal in accordance with the magnetic energy output from the magnet part under test, output means for assuming a plurality of successive positions in accordance with the magnetic energy output from the magnet part under test, circuit means coupled to said transducer means and to said output means for controlling the position of said

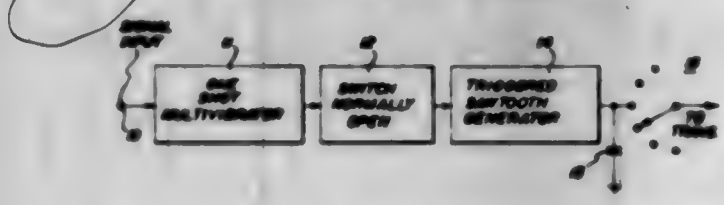
output means in accordance with said electric output signal, indicating means for indicating that the magnetic energy output from the magnet part under test exceeds a predetermined level, electric transition signalling means coupled to said output means and to said indicating means for actuating said indicating means upon said output means reaching a predetermined position corresponding to said predetermined level of magnetic energy output from the magnet part under test, and electric stop means coupled to said output means and to said circuit means for deenergizing said circuit means when the output means reaches a stop position corresponding to a magnetic energy output from the magnet part under test below the range of magnetic energy outputs to be measured to stop said output means at said stop position whenever a magnet part is removed from said transducer means.

3,140,442

TIME OF OCCURRENCE TELEMETERING APPARATUS RELYING UPON EXTRAPOLATION OF A CHARGING CURVE FROM SAMPLED VOLTAGES

Lloyd M. Germain, New York, N.Y., assignor, by mesne assignments, to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Filed Oct. 1, 1959, Ser. No. 764,687
11 Claims. (Cl. 324—68)



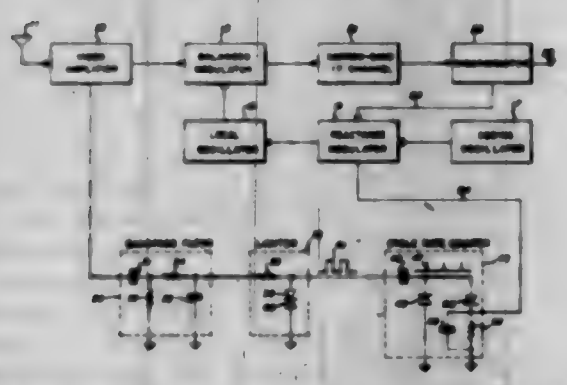
9. In a system for deriving information regarding the occurrence times of events, an energy storing element normally storing a predetermined, constant energy level, means for sampling the energy level of said element at at least two equal time intervals, and means responsive to an event for modifying the energy level of said element according to a predetermined linear law of energy variation with time over a time interval at least greater than the sampling period while continuing the sampling.

3,140,443

FREQUENCY SCANNING RECEIVER WITH CLUTTER REJECTION

Floyd T. Wimberly, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed May 26, 1961, Ser. No. 112,879
13 Claims. (Cl. 325—335)



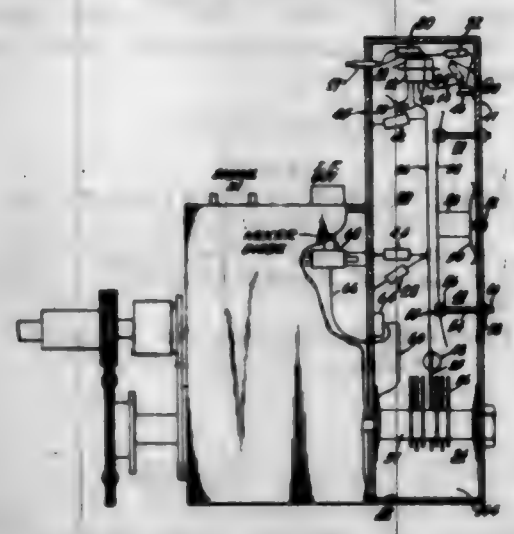
1. In combination, means to scan a given frequency spectrum, means for measuring substantially noise-free signals of an undesired signal frequency band in a portion of said spectrum to provide a control signal proportional to the frequency of said undesired signals, and means responsive to said control signal to limit the sweep of said frequency scanning means.

3,140,444

TUNER

David John Carlson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,461
12 Claims. (Cl. 325—445)



2. In a high frequency tuner an ultra high frequency transmission line comprising, in combination:

a conductive ground plane,

a transmission line conductor spaced from said ground plane, and

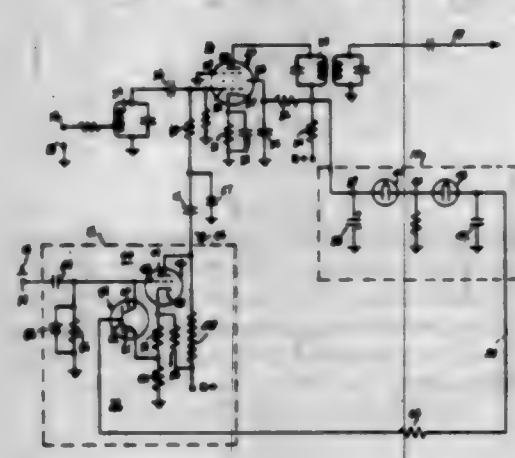
first and second means for adjusting the spacing between said transmission line conductor and said ground plane, to alter the characteristic impedance of said transmission line whereby said frequency characteristics of said transmission line are changed.

3,140,445

COMMUNICATION RECEIVER WITH NOISE BLANKING

Richard T. Myers and Robert E. Metzler, Lynchburg, Va., assignors to General Electric Company, a corporation of New York

Filed Aug. 3, 1962, Ser. No. 214,587
10 Claims. (Cl. 325—478)



1. In a communication receiver the combination comprising a signal transmission path having a plurality of stages for amplifying, converting, and detecting the received signal and for reproducing the retrieved intelligence obtained at the output of the detecting stage, circuit means for interrupting transmission in said path to prevent transmission of noise impulses including means to detect such noise impulses, means responsive to said detected impulses to form discrete control pulses, means to apply said pulses to at least one of the stages of said transmission path to vary the conduction thereof for the duration of said discrete control pulses thereby to prevent passage of said noise impulses, and means for disabling said interrupting circuit in response to the change

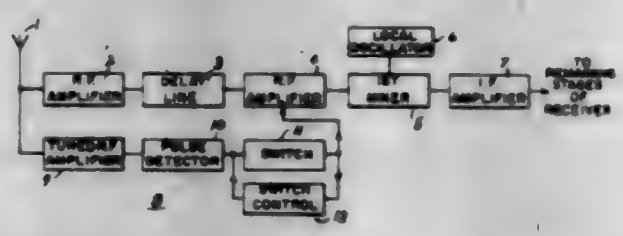
in operating conditions at said interrupted stage whenever the rate at which said stage is interrupted exceeds a predetermined level, said last named means including means for sensing the change in operating parameters at said interrupted stage in response to each pulse to produce a control signal proportional to the rate of interruption, means coupling said control signal to said interrupting circuit to disable said circuit when said control signal exceeds a predetermined level.

3,148,446

COMMUNICATION RECEIVER WITH NOISE BLANKING

Richard T. Myers and Fred E. Spangler, Lynchburg, Va., assignors to General Electric Company, a corporation of New York

Filed Aug. 3, 1962, Ser. No. 214,650
9 Claims. (Cl. 325—478)



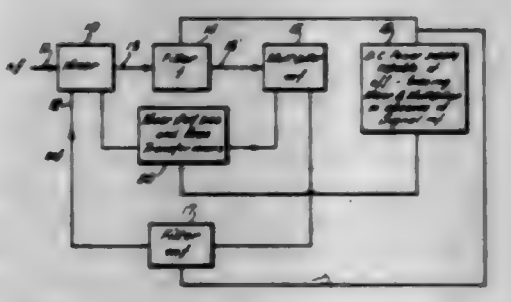
1. In a communication receiver the combination comprising a signal transmission path including a plurality of stages for amplifying, converting and detecting the received signal and for reproducing the intelligence, circuit means for interrupting transmission in said signal transmission path to prevent transmission of noise impulses including means to detect noise impulses, means responsive to said detected impulses for producing blanking pulses and for impressing said pulses on one of the stages in said path to prevent transmission of the signal and noise impulses, and means for disabling said interrupting means whenever the rate at which said transmission path is interrupted exceeds a predetermined rate, said last named means including means to produce a control signal proportional to the rate at which said channel is interrupted, and means to apply said control signal to said interrupting circuit to terminate production of said blanking pulses when said control signal exceeds a predetermined value.

3,148,447

INPUT SIGNAL CONTROLLED REGENERATIVE FREQUENCY DIVIDERS

John E. Olbrych, Salem, and Sholly Kagan, Natick, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 18, 1961, Ser. No. 83,600
2 Claims. (Cl. 328—15)



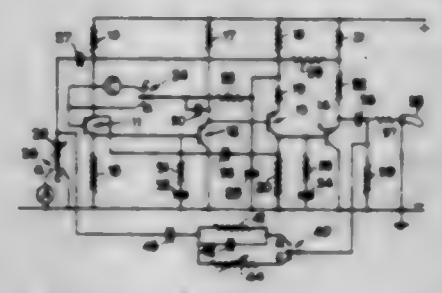
2. An improved frequency divider for generating sinusoidal electrical energy of frequency f in response to electrical energy containing frequency nf where n is an integer and which divider is non oscillatory in the absence of an input signal nf within a predetermined range of amplitude and that is regenerative when an input signal nf within said predetermined range of amplitude is applied thereto comprising mixing means for mixing frequency nf with frequency mf, where $n-m=1$, and producing an output frequency f, frequency multiplier means for converting frequency f to frequency mf, means for coupling energy of frequency mf from said multiplier to said mixer, means for coupling energy of frequency f from said mixer to said multiplier and to an output terminal of said frequency divider, direct current power supply means for off-biasing said mixer and multiplier in absence of input signal nf of sufficient amplitude and for permitting on-bias of said mixer only when an input signal nf of sufficient amplitude is applied thereto, and bias transfer means connected between said mixer and said multiplier for on-biasing said multiplier a predetermined length of time after said mixer is on-biased by an input signal nf of sufficient amplitude.

3,148,448

TRANSISTOR AMPLIFIER HAVING DIRECT CURRENT FEEDBACK BIAS CONTROL

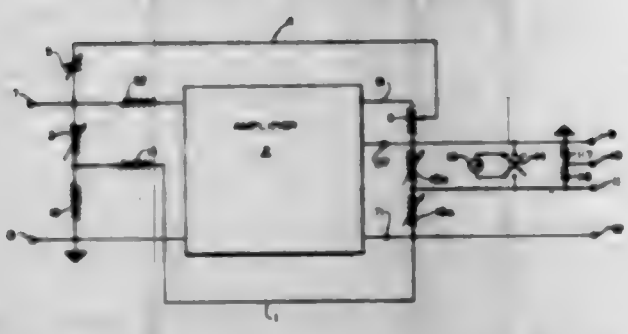
John Somerset Murray, 7 Ranulf Road, London NW. 2, England

Filed Jan. 13, 1960, Ser. No. 2,148
Claims priority, application Great Britain Jan. 13, 1959
1 Claim. (Cl. 330—19)



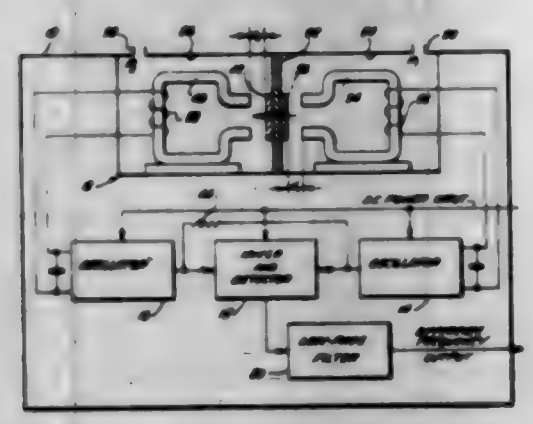
A transistor amplifier comprising two supply-voltage terminals, first, second, third and fourth transistors, means for applying an input signal to the emitter of the first transistor, means for deriving an output signal from the emitter of the fourth transistor, the base of the fourth transistor being connected d.c.-conductively to the collector of the third transistor, the base of the third transistor being connected d.c.-conductively to the emitter of the second transistor, the base of the second transistor being connected d.c.-conductively to the collector of the first transistor, the collectors of the first and third transistors being connected through respective collector load resistances to one of the supply-voltage terminals, the collectors of the second and fourth transistors being each connected directly to said one of the supply-voltage terminals, the emitter of each transistor being connected through a respective emitter resistance to the other supply-voltage terminal, means for determining the base-collector voltage bias of the first transistor solely consisting of a first D.C. conductive path connected between the base of the first transistor and a point on the emitter resistance of the third transistor, and second means for determining the sum of the base-collector voltage biases of the first transistor and of the third transistor solely consisting of a second D.C. conductive path connected between the emitter of the first transistor and a point on the emitter resistance of the fourth transistor, the base of the first transistor having no other external connections influencing the bias of the first transistor.

3,140,449
ELECTROMETER AMPLIFIER
John C. Hubbs, Lafayette, Calif., assignor to E.H. Laboratories, Inc., Oakland, Calif., a corporation of California
Filed Aug. 22, 1960, Ser. No. 51,100
2 Claims. (Cl. 330—100)



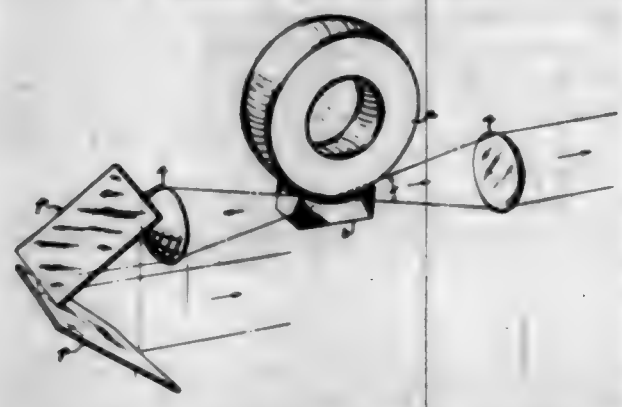
1. An electronic amplifier having a first and a second input terminal; an output circuit including electronic valve means responsive to a signal supplied to said input terminals, said electronic valve means having at least two electrodes connected across a source of electric potential; said source of electric potential biasing said first input terminal at a potential intermediate that of said electrodes; a first voltage dividing means connecting a first one of said electrodes with said first input terminal; a second voltage dividing means connecting the second one of said electrodes with said first input terminal; negative feedback means including a resistor interconnecting said first voltage dividing means and said second input terminal; and positive feedback means including a capacitor interconnecting said second voltage dividing means and said second input terminal.

3,140,450
FORCE CONTROLLED VARIABLE REACTANCE TRANSDUCER
John R. Tavis, Sierra Madre, Calif., assignor to Edcliff Instruments, Inc., Monrovia, Calif., a corporation of California
Filed Feb. 13, 1961, Ser. No. 88,823
8 Claims. (Cl. 331—40)



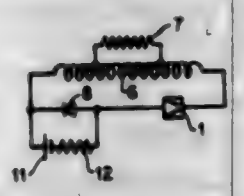
1. A transducer comprising a housing, a force responsive element which deflects in accordance with applied force mounted in said housing and defining first and second chambers, first and second reference oscillators each having a tuned circuit that controls the oscillator's frequency, means coupling the tuned circuit of the first oscillator to one side of the force responsive element for altering the tuning thereof in accordance with deflection of said force responsive element, means coupling the tuned circuit of the second oscillator to the opposite side of the force responsive element for oppositely altering the tuning thereof in accordance with the same deflection, and means coupled to the first and second oscillators for deriving an output signal frequency representative of the difference in oscillator frequencies.

3,140,451
OPTICAL MASER DEVICE
Arthur G. Fox, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 25, 1960, Ser. No. 64,885
7 Claims. (Cl. 331—94.5)



1. An optical device for producing stimulated emission of radiation comprising a solid body of a material capable of exhibiting a negative temperature, the geometrical shape of said body consisting of at least a spherical section including a great circle dimension, and a pump source disposed around said cavity with its radiant energy incident on said negative temperature medium within the cavity, the radiation of said pump source having a frequency corresponding to the frequency required to establish a negative temperature condition within said medium, and output means coupled with said cavity to extract coherent radiation from the cavity, said output means comprising a discontinuity in the dielectric surface.

3,140,452
HIGH-FREQUENCY TUNNEL DIODE CIRCUIT
Albert Schmitz and Boudewijn Bolleo, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1961, Ser. No. 138,109
Claims priority, application Netherlands Sept. 28, 1960
9 Claims. (Cl. 331—101)



1. A high-frequency circuit arrangement comprising a tunnel diode, an additional semiconductor diode comprising a p-n-junction, a supply voltage source, means connecting the additional diode to the voltage source so as to bias its junction in the forward direction whereby the additional diode exhibits a low resistance but a comparatively large parallel capacitance, and a load coupled in series with the tunnel diode across the additional diode in such manner that the direct-current voltage applied across the tunnel diode to bias it in the forward direction is controlled by that existing across the additional diode.

3,140,453
LINEAR SWEEP GENERATOR
Royal E. Lyon, Van Nuys, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 1, 1961, Ser. No. 157,303
4 Claims. (Cl. 331—152)

1. A linear sawtooth generator comprising:

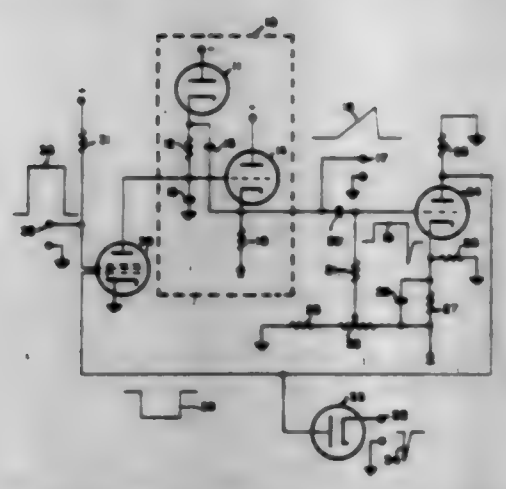
(*a*) a capacitor, a resistor, and a unilateral impedance device connected in series in the order named across a source of potential, the charging of said capacitor

through said resistor providing a sawtooth waveform;

(*b*) a cathode follower amplifier circuit having a grid connected to the junction between said capacitor and said resistor, and having a cathode coupled to the junction between said resistor and said unilateral impedance device to provide a constant charging current for linearizing said sawtooth waveform;

(*c*) a controllable discharge device connected in parallel with said capacitor for discharging said capacitor and being responsive to control signals applied to a control electrode for permitting said capacitor to charge;

(*d*) a differentiating capacitor and a differentiating resistor connected in series, the remaining terminal of



said differentiating capacitor being directly connected to the cathode of said cathode follower, the remaining terminal of said differentiating resistor being coupled to a point of fixed potential, the time constant of said differentiating capacitor and differentiating resistor being selected to differentiate said sawtooth waveform to produce a rectangular pulse;

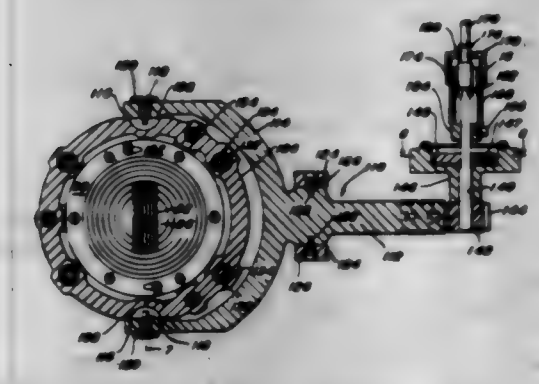
(*e*) and an inverting amplifier circuit having a control electrode connected to the junction between said differentiating capacitor and said differentiating resistor and an output electrode directly connected to the control electrode of said controllable discharge device for inverting said rectangular pulse and applying it to said controllable discharge device as a control signal to provide self-gating operation of said linear sawtooth generator.

3,148,454

BAND WIDTH VARYING MEANS FOR A SWEEP FREQUENCY OSCILLATOR

Eric Winston, Melrose Park, and Kenneth A. Simons, Bryn Athyn, Pa., assignors to Jerrold Electronics Corporation, Philadelphia, Pa., a corporation of Delaware

Filed June 27, 1962, Ser. No. 205,606
9 Claims. (Cl. 331—178)



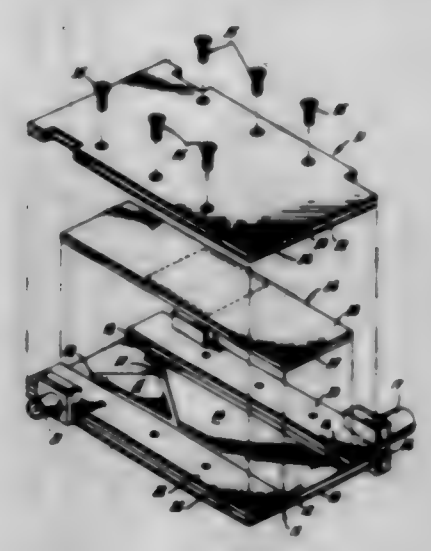
1. In a sweep frequency oscillator having a variable tuned circuit; a shiftable capacitor comprising a support, a first set of spaced parallel capacitor plates fixedly mounted on said support and electrically connected to the circuit, a second set of spaced parallel capacitor plates, means mounting said second set of plates on said support for translatory movement selectively into interleaving relation with said first set of plates to a wide band width and out of interleaving relation with said first set of plates to provide a narrow band width and means to apply periodic translatory reciprocation to said second set of plates, said means mounting said second set of plates including a lever arm pivoted to said support intermediate its ends for movement around a horizontal pivot axis, a member supporting said second set of plates on one end of said lever arm and means operative on the end of said lever arm to pivot the same around its axis, said member supporting said second set of plates includes aligned pins pivotally mounted on said one end of said lever arm whereby said member is pivoted about an axis through said pins substantially parallel to the horizontal pivot axis of said lever arm, and means to guide said member in its movement towards and away from said fixed plates.

3,148,455

STRIPLINE VARIABLE POWER DIVIDER

John A. Gelkler, Jr., Linthicum Heights, and Tommy S. Weaver, Arnold, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 7, 1963, Ser. No. 288,096
2 Claims. (Cl. 333—6)



1. A variable power divider for microwave energy comprising:

(*a*) a first dielectric plate having a ground plane on one side and first and second coplanar microwave conductors on the opposite side, said first microwave conductor being of a trapezoidal configuration and said second microwave conductor being of a triangular configuration, one side of said triangular configuration being juxtaposed and parallel to one side of said trapezoidal configuration,

(*b*) an input connector connected to said first microwave conductor,

(*c*) a first output connector connected to said first microwave conductor and a second output connector connected to said second microwave conductor,

(*d*) a second dielectric plate having first and second ground planes on each side thereof and spaced above and parallel to said first dielectric plate, and

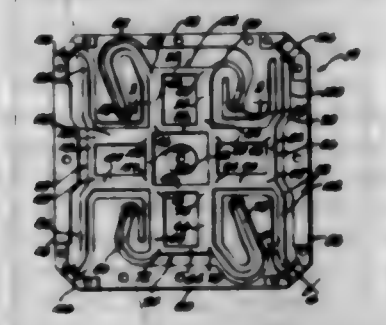
(*e*) a slider slidably positioned between said first and second dielectric plates, said slider having a microwave conductor thereon selectively engageable with either said first microwave conductor or with both said first and second microwave conductors.

3,140,456

MICROWAVE SUMMING AND DIFFERENCING NETWORK UTILIZING STRIPLINE CROSS COUPLER

Herbert A. Lassen and Bryce A. Wheeler, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 24, 1959, Ser. No. 835,001
10 Claims. (Cl. 333—9)



1. In a device of the class described, a conductive ground plane and a line conductor spaced therefrom, said line conductor comprising a pair of input cross couplers and at least one output cross coupler, each of said input couplers having a pair of separate input ports for receiving input signals and at least one output port for discharging a combined signal therefrom, said output cross coupler having a pair of separate input ports, each of which is interconnected with one of said outputs in each of said input couplers for receiving said combined signals, each of said output cross couplers including at least one output port for providing a signal representing the difference between the groups of said input signals.

3,140,457

GRADIATED MAGNETIC FLUX PATH PRODUCED BY PLURALITY OF TRANSVERSE DUCTS

William C. Heltzman, Deandia, and Charles D. Schwebel, Cocoa Beach, Fla., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed May 28, 1962, Ser. No. 198,305
10 Claims. (Cl. 333—24.1)

1. Means for providing a gradient in magnetic flux density comprising a north pole member and a south pole member, said north and south pole members terminating in flat faces parallel to but spaced from each other, a flat magnetically permeable pole piece disposed between the faces of said north and south pole members, said pole piece characterized in that it contains a plurality of ducts closely spaced in regions of desired low flux density and relatively widely spaced in regions of desired high flux density.

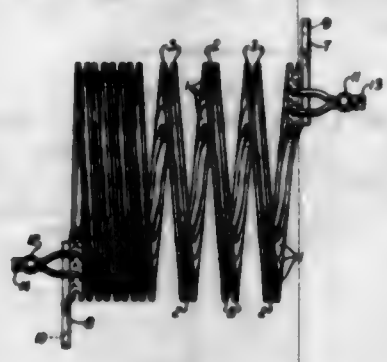
3,140,458

ELECTRICAL INDUCTIVE DEVICE AND METHOD OF MAKING THE SAME

Gerhard K. Willecke, Appleton, Wis., assignor to Miller Electric Manufacturing Company, Appleton, Wis., a corporation of Wisconsin

Filed Aug. 5, 1957, Ser. No. 676,240
9 Claims. (Cl. 336—195)

1. In the method of forming a transformer having a relatively heavy current carrying winding spirally wound in the form of a coil, extruding aluminum into a plurality of like rod-like members at least of a length equal to the final length of the heavy winding, each said member having a slot extending longitudinally of the entire member having a corresponding projection opposite the slot and of less depth than said slot, disposing at least two of said



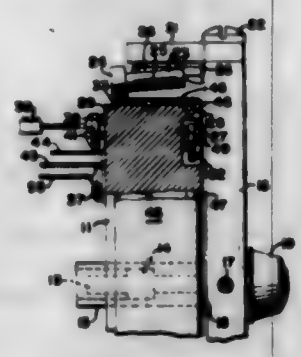
extruded members in stacked relation with the projection of one member protruding into the slot of the other member, and spirally winding the stacked members with the projections thereof facing radially inward and the slots thereof facing radially outward to effect a clamping action between said mating projection and the sides of the slots.

3,140,459

LOW NOISE, LOW LEVEL, PRECISION POTENTIOMETER

James M. Kendall, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 23, 1963, Ser. No. 297,164
8 Claims. (Cl. 338—154)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A low noise, low level, precision potentiometer comprising a circular base composed of rigid electrical insulating material and having a first outer cylindrical surface and a second outer cylindrical surface of slightly less diameter adjacent thereto and concentric therewith, said first surface having an annular notch formed therein and said second surface having a pair of annular grooves therein,

a length of resistance wire having discrete ends secured to said base and snugly fitted into said grooves, said wire having a diameter less than the depth of one of the grooves and the depth of the other groove being greater than the diameter of the wire,

a deformable thin strip of flexible metal slightly less in length than the circumference of said first outer cylindrical surface and having one longitudinal edge formed for engagement with the bottom of said notch, said strip being fitted around said first cylindrical surface in close proximity to but normally not in contact with said wire except at the deformed portion thereof,

a plurality of means for establishing external electrical connections to the ends of said wire and said metal strip,

a rotatable shaft carried axially by said base and having an arm thereon, and

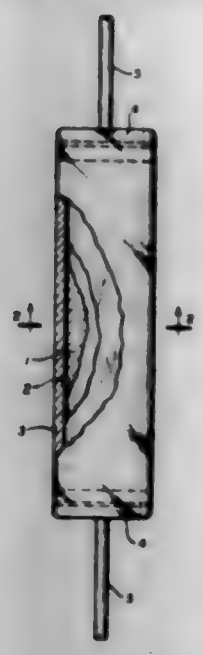
a spring biased roller carried by said arm in rolling engagement with said metal strip and exerting sufficient pressure thereon to deform a relatively small portion of the strip into electrical contact with the length of wire disposed within the group of lesser depth at a point correlative with the instant position of said arm.

3,140,440

TUNGSTEN RESISTANCE ELEMENTS

Michael Turkat, Bayside, N.Y., assignor to Space Age Materials Corp., Woodside, N.Y.

Filed Oct. 16, 1961, Ser. No. 145,323
3 Claims. (Cl. 338—309)



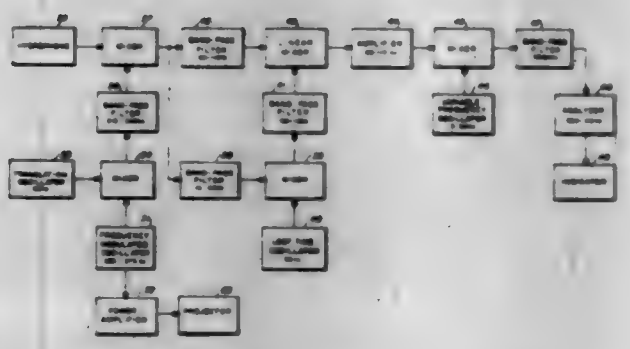
1. A resistance element comprising an insulation core, a tungsten-containing vapor deposited metal film thereon whose resistance increases with the electric power applied, end terminals in contact with said metal film, a thin plastic protective cover extending over said resistance element from end to end, tinned copper leads connected to said terminals, and gold bands for connecting each of said terminals to said metal film.

3,140,461

METHOD FOR OBTAINING HIGH RANGE RESOLUTION WITH CONTINUOUS TRANSMISSION FREQUENCY

Chester M. McKinney, Austin, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 14, 1961, Ser. No. 95,748
4 Claims. (Cl. 340—1)



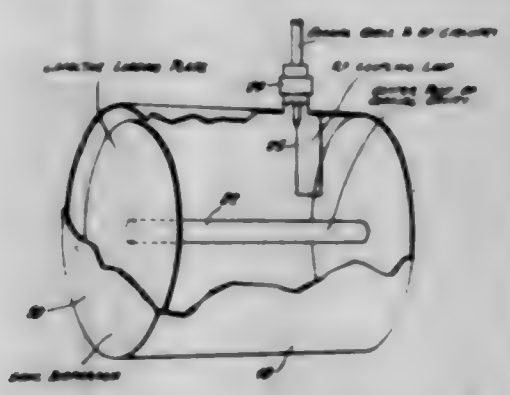
1. In a system for achieving high range resolution; means for propagating a frequency modulated periodically varying signal in a given medium varying in frequency between a first and second value; an oscillator for producing a frequency greater than the difference between the first and second values of the propagated signal; first mixer means for mixing the outputs of said propagating means and said oscillator to produce a translated frequency; means for receiving signals reflected from objects in the medium; second mixer means for mixing together said translated frequency and said received signals to produce output frequencies representative of range to objects in the medium; first filter means for passing signals representative of round trip transit time to objects in said medium; second oscillator means for generating a desired frequency; third mixer means for mixing the outputs of said second oscillator means and said first filter means for eliminating said signals representative of round trip transit time and producing signals representative of range to objects in the medium; second filter means for passing frequencies in the output of said second mixer means representing range to objects in the medium; and means for linearly mixing the output of said second filter means with the output of said third mixer representative of range to objects in said medium to produce output frequencies representing range to objects in said medium.

3,140,462

TRANSDUCER

Gordon B. Hayes, Sunnieside Court, R.F.D. 3, Waterford, Conn.

Filed June 28, 1961, Ser. No. 122,855
5 Claims. (Cl. 340—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. A low frequency hydrophone comprising a cavity resonator wherein a portion of the cavity envelope is vibratile and resonant at a frequency below 500 cycles per second and actuatable by water-borne sound pressure, and means for suppling electromagnetic energy to said resonator and for detecting the modulation of that energy by sound pressure below 500 cycles per second impinging on said vibratile element.

3,140,463

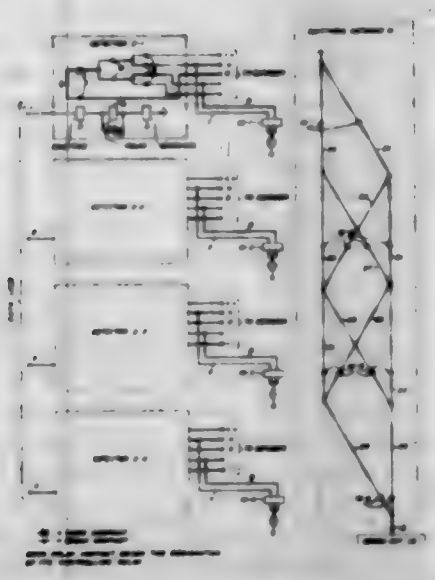
ERROR-CHECKING CIRCUIT FOR A DATA TRANSMISSION SYSTEM

Robert G. Taylor, Jr., Paramus, and James H. Vogelsang, Madison, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 22, 1960, Ser. No. 71,875
13 Claims. (Cl. 340—146.1)

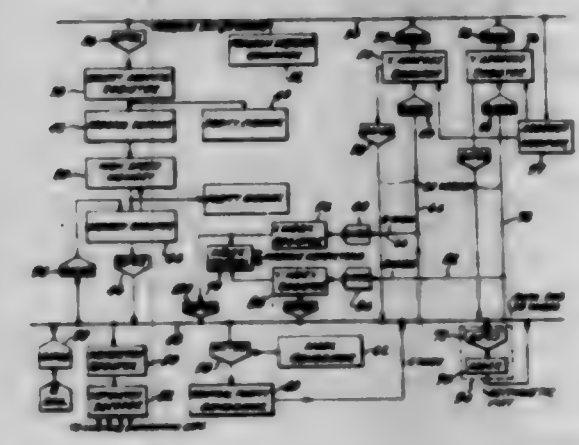
1. A parity checking circuit for a data transmission system comprising a data link having a plurality of lines, each of said lines being adapted to carry one of a plurality of signal levels indicative of a digit or character, detector means individual to said lines including discriminating means for identifying the digits or characters represented by said signal levels in said lines, additional detector means individual to said lines and operative in

response to predetermined alternate ones of said signal levels, and a switching network operative in response to



the energization of one or more predetermined numbers of said second detector means.

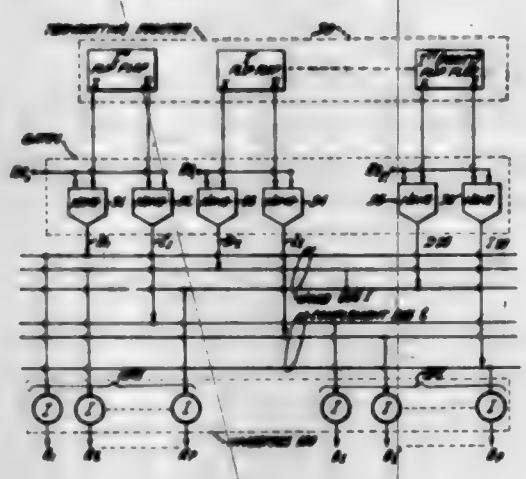
3,140,464
CENTRAL PARITY CHECKER OPERATING FROM AND INTO A DATA TRANSFER BUS
Laszlo L. Rakoczi, Merchantville, and Eli Gloates, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 31, 1961, Ser. No. 113,678
8 Claims. (Cl. 340—146.1)



1. In a data processing machine, a plurality of multi-element operating stages, at least one element of at least some of said stages for receiving a parity bit and elements of at least some of said stages for transmitting bits of a word; a bus coupled to all of the stages along which a word, the bits of which are in parallel, may be transmitted among said stages; and a central parity generator common to all of said stages connected at its input and output to said bus for asynchronously generating a parity bit for a word during its transmission along the bus from one of said stages to another and for applying that parity bit to said bus.

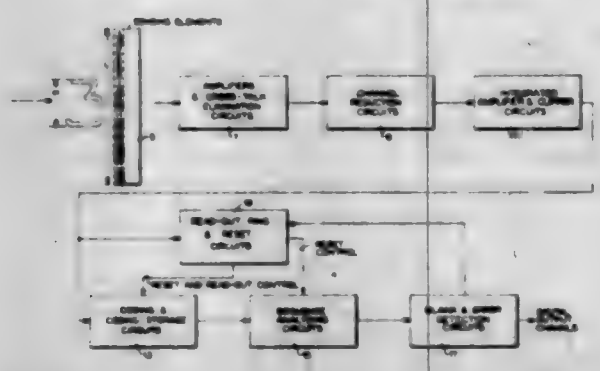
3,140,465
PARITY CHECKER FOR ASYNCHRONOUS DATA PROCESSING SYSTEM
Laszlo L. Rakoczi, Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 31, 1961, Ser. No. 113,692
11 Claims. (Cl. 340—146.1)

1. In a parity circuit, means responsive to the presence of all binary digits in a word for producing an indication of an odd or even number of "ones" in the word; means in said circuit responsive to the absence of one or more of the binary digits in said word for preventing the pro-



duction of said indication; and means in said circuit for generating parity for a group, less than all, of the binary digits in said word.

3,140,466
CHARACTER RECOGNITION SYSTEM
Evon C. Greanias, Vestal, and William W. Hardin, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1957, Ser. No. 704,396
9 Claims. (Cl. 340—146.3)

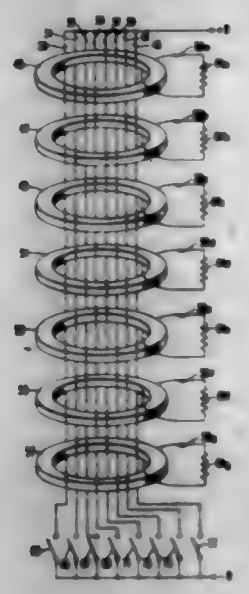


4. In a character recognition system, the combination comprising parallel scanning means for scanning each character to be recognized in a plurality of adjacent and concurrent scans, encoding means connected to said scanning means for developing a plurality of recognition criteria from the scanning information, including the number of character areas, and the length of character areas and non-character areas, storage means connected to said encoding means for storing the various recognition criteria during each scan, and a plurality of sequence analyzing circuit means, one for each character to be recognized, and readout control means for sequentially connecting said storage means to said sequence analyzing circuit means, said sequence analyzing circuit means each comprising a plurality of cascade connected bistable elements arranged so that the elements are successively rendered effective by a predetermined sequence of said recognition criteria supplied thereto from said storage means.

3,140,467
MAGNETIC SWITCHING DEVICES
Mitchell P. Marcus, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 20, 1958, Ser. No. 775,279
5 Claims. (Cl. 340—147)

1. A magnetic switch comprising a plurality of magnetic elements, a plurality of windings equal to the least power of two which is greater than the number of said

elements, said windings being coupled to each of said elements in accordance with a predetermined combinatorial code, one half of said windings having one magnetizing sense and the other half of said windings having the opposite magnetizing sense, and unipolar drive means for applying current coincidently to selected ones of said windings, which constitute one half the number of said windings, the selected windings being wound on one of said elements in such a manner that the magnetic effect



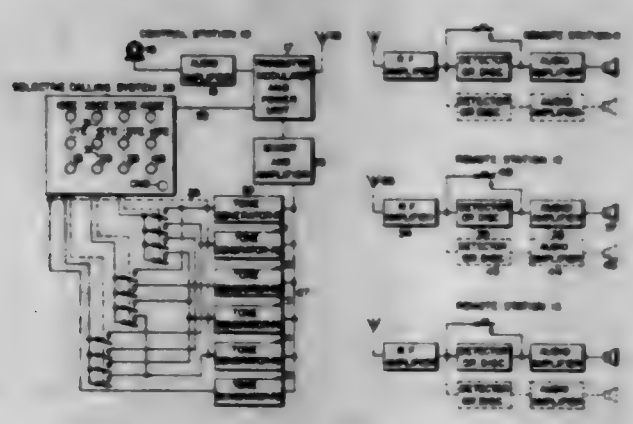
generated by the current in said selected windings is effective to produce magnetic saturation switching of said one element, said selected windings being wound on all of the remaining elements of said switch in such a manner that the magnetic effect generated by the current in said selected windings is cancelled to produce no excitation of any of said remaining elements of said switch, whereby the state of said one element is changed and an output is provided from said one element only.

3,140,468

SELECTIVE CALLING SYSTEM

Donald Blaisdell and Thomas J. Judge, Rochester, N.Y., assignors to General Signal Corporation, a corporation of New York

Filed May 4, 1960, Ser. No. 26,898
8 Claims. (Cl. 340—171)



1. A system of calling a plurality of remote stations over a single communication channel where each remote station includes a receiver unit tuned to two distinct tone frequencies one of which is common to all remote stations from a central station including a transmitter unit comprising, in combination, at said central station

(*a*) a plurality of tone generator means each normally inoperative but operable when set into operation to couple a predetermined tone frequency to said transmitter unit,

(*b*) a plurality of selecting means one for each of said plurality of remote stations and having a normal non-actuated condition of operation and an actuated condition of operation,

(*c*) a plurality of storage means one for each of said plurality of selecting means and each operable from its normal non-storage condition to a storage condition in response to its corresponding selecting means being at least temporarily operated to its actuated condition of operation,

(*d*) a plurality of coding means one for each of said plurality of selecting means and its corresponding storage means and each operable to select concurrently for operation a particular number of said plurality of tone generator means less than the plurality,

(*e*) means responsive to each of said plurality of coding means only in its operative condition for setting into operation the particular number of said tone generator means selected concurrently by the operating coding means,

(*f*) circuit means for coupling control energy to each coding means for rendering it operable upon operation of its corresponding storage means to its storage condition and according to particular ones of said plurality of storage means each being in its non-storage condition while said means is non-responsive and then restoring its storage means to its non-storage condition,

(*g*) timing means set into operation responsive to said means upon initial operation thereof for successively measuring first and second time intervals and thereafter measuring successively a plurality of second time intervals one for each additional coding means rendered operable,

(*h*) control circuit means responsive to said timing means during measurement of said first time interval and said means in its responsive condition for setting a given one of said plurality of tone generator means into operation and thereafter responsive to said timing means during measurement of each second time interval and to said means in its responsive condition for setting into operation the particular number of tone generator means corresponding to the coding means then operating, said control circuit means being effective upon measurement of each second time interval to interrupt the coupling of control energy to said plurality of coding means, whereby the last operated coding means is rendered inoperative causing said means to be rendered non-responsive,

(*i*) said transmitter unit including means for transmitting the common tone frequency to all remote stations and combining concurrently applied tone frequencies into the second of said two distinct tone frequencies for transmission over said single communication channel to the corresponding remote station.

3,140,469

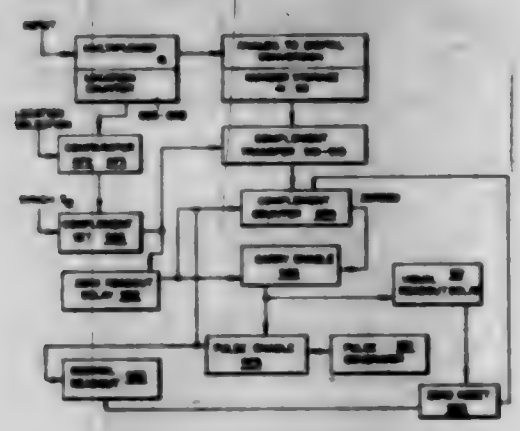
SPANNING MONITOR

James P. Hart, San Fernando, Martin L. Klein, Woodland Hills, Harry C. Morgan, Sherman Oaks, and Richard B. Rook, Granada Hills, Calif., assignors to North American Aviation, Inc.

Filed Mar. 21, 1958, Ser. No. 723,053
13 Claims. (Cl. 340—172.5)

1. In a data processing system having a multiplexer of the multiple ring type for presenting data successively, each ring corresponding to an order of the number system used for identifying data, and having data identifying terminals, an analog-to-digital converter including a logical array with bistable electrical devices having terminals at which radix-minus-one complement voltages appear, representing data in binary form, and a master timer, a spanning monitor for selectively displaying the data in

decimal form comprising in combination a bank of dial switches corresponding in number of the number of multiplexer rings, each bank having a movable contact and having stationary contacts each connected to one of the terminals of the multiplexer ring, an "and" gate connected to said movable contacts for producing a signal when multiplexer ring voltages appear simultaneously on the movable contacts, a complement set line, a plurality of data receiving "and" gates, each having a terminal connected to the set line and a second terminal, each of said second terminals being connected to a different one of the said bistable device terminals of said logical array, a digital counter comprising a plurality of binary storage devices of the bistable type, each having an input control terminal connected to one of said data receiving "and" gates for reproducing an input pulse, and a zero reset terminal, a zero readout delay device, an "or" gate having an output to said digital counter, having a first input from the zero readout delay device and a second input, a carry delay device having delay greater than the carry time of said digital counter, having an input from said zero readout delay device, a carry-enabling bistable device having an input from said carry delay device, an opposite input from the digital counter, and first and second corresponding output terminals, a data readout delay device having an input from the first output terminal of said carry-enabling bistable device, a second "and" gate having an input terminal connected to the second



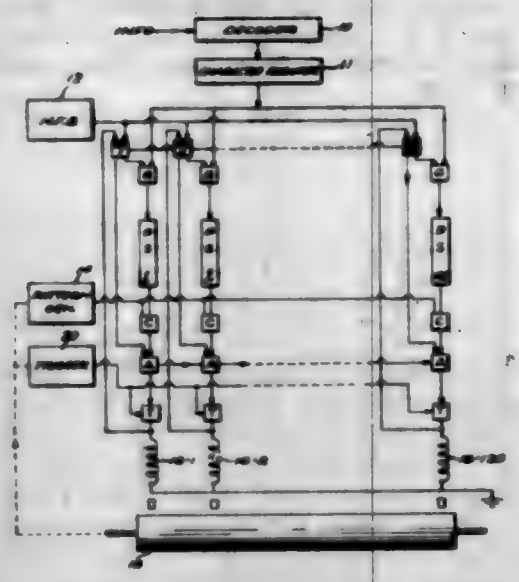
output terminal of said carry-enabling bistable device, having a second input terminal and having an output terminal, a free-running oscillator connected to said second input terminal, the second "or" gate input terminal being connected to said second "and" gate output terminal, a decimal counter with visual indicators, having an input terminal connected to said second "and" gate output terminal and having resetting terminals, a resetting thyratron having an output terminal connected to the resetting terminals of the counters, a third "and" gate, a complement set bistable device having an input from the master timer with a second input from the third "and" gate and having an output connected to the input of said zero readout delay device and to the set line, a zero reset bistable device having an input from the data readout delay device, and a second input from the complement set bistable device, said third "and" gate having an input from the selector dial "and" gate and an input from said zero reset bistable device, whereby said complement set bistable device sets the binary counter to a condition reproducing the radix-minus-one complement of the value represented by the bistable devices of the logical array, the "or" gate delivering an additional pulse to produce a true complement value, the free-running oscillator causing the binary counter and the decimal counter to progress successively until the binary counter is filled to zero, whereby the reading of the decimal counter represents the decimal equivalent of the value in the logical array, and the data readout delay device in conjunction with the zero readout device causes decimal values and zeros to remain in the decimal counter alternately for sufficient periods of time for visual reading.

3,140,470

ERROR CHECKING CIRCUIT FOR A PLURALITY OF PARALLEL DATA TRANSMISSION CHANNELS

Alan J. Deerfield, Franklin, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 4, 1958, Ser. No. 752,857
15 Claims. (Cl. 340—172.5)



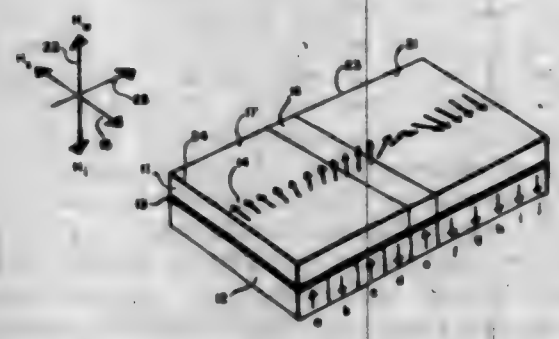
1. Checking apparatus for a plurality of signal transfer circuits, each of which is adapted to function as an independent transfer circuit coupling data to a plurality of output means, a bistable circuit element included in each of said transfer circuits, means connected to each bistable circuit element to switch said circuit element to one of its bistable states when a signal is to be transferred thereby, means connected to the output of each of said transfer circuits to feed back a signal which has been transferred thereby to switch the associated bistable circuit element to the other bistable state if said circuit had been in said one bistable state, and monitor means connected to all of said bistable circuit elements to produce an error indication if all of said bistable circuits are not in the same state at the end of a signal transfer.

3,140,471

HIGH CAPACITY DATA PROCESSING TECHNIQUES

Harrison W. Fuller, Needham Heights, Mass., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Nov. 18, 1957, Ser. No. 697,858
14 Claims. (Cl. 340—174)



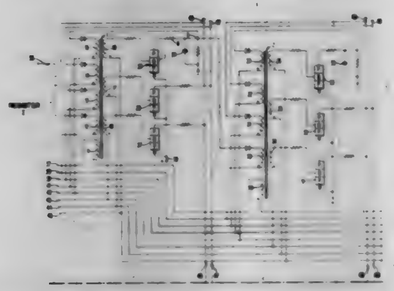
1. Apparatus for processing data comprising a magnetic scanning medium; a magnetic storage medium positioned to be scanned by the magnetic field of an inter-

domain wall in said magnetic scanning medium and to magnetically interact directly with said magnetic field; means for establishing an interdomain wall in said magnetic scanning medium and causing said magnetic storage medium and said interdomain wall to move relative to one another; and writing means for selectively controlling the effect of said magnetic field upon the magnetic orientation of said magnetic storage medium to establish therein selected regions of different magnetic orientation in accordance with the data to be stored.

3,140,472
DATA TRANSFER APPARATUS

Lester R. Adams, Endwell, and Edward H. Sommerfield, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1959, Ser. No. 862,919
5 Claims. (Cl. 340—174)



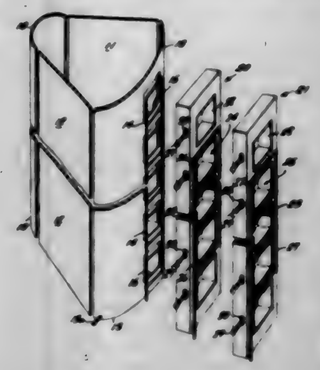
2. Data transfer apparatus comprising in combination, a plurality of channels, a capacitor connected to each of said channels, a plurality of storage elements each comprising a magnetic core having substantial retentivity with winding means disposed thereon, means for selectively energizing said winding means to read data out of said magnetic cores, switching means arranged to be selectively activated for connecting the selectively energized winding means to said channels to selectively charge said capacitors, and selective means for discharging said capacitors through selected ones of said winding means.

3,140,473
INFORMATION STORAGE SYSTEM

John E. Gaffney, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Application Oct. 2, 1959, Ser. No. 844,144, now Patent No. 2,978,688, dated Apr. 4, 1961, which is a continuation of Ser. No. 630,386, Dec. 24, 1956. Divided and this application May 12, 1960, Ser. No. 28,586
8 Claims. (Cl. 340—174)

1. Apparatus comprising a plurality of information storage means electrically arranged in rows and columns to form a matrix, a plurality of input means each corresponding to one of said columns and coupled to all of the storage means therein, means adapted by applying successive input signals to said plurality of input means to interrogate all of the storage means of said matrix column by column in a predetermined order of columns, means defining in said matrix a preselected pattern of storage means, said pattern defining means being adapted during said column by column interrogation to make said pattern manifest by operably rendering only each of the ones of said storage means which are in such pattern responsive to interrogation to produce an output signal, and a plurality of output means for said matrix, each output means corresponding to one of said rows and being coupled to all of the storage means therein to transmit from said matrix each output signal

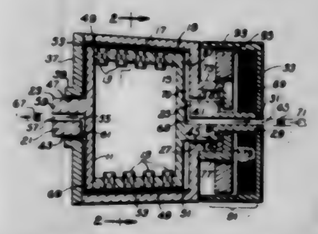


produced by a storage means in such row, said pattern occupying at least portions of both of ones of said rows and of ones of said columns.

3,140,474
MAGNETIC MEMORY DRUM

Ervin Lechner, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 13, 1960, Ser. No. 42,576
5 Claims. (Cl. 340—174.1)



3. A magnetic memory drum comprising, in combination, a closed stationary member of slightly frusto-conical configuration having a plurality of magnetic heads mounted in the curved portion thereof, a rotatable member of frusto-conical configuration corresponding to said stationary member and substantially coaxial therewith, having a layer of magnetizable material on a curved surface thereof opposite said magnetic heads and having also a normal starting position and a normal operating position laterally spaced therefrom, sleeve bearings supporting said rotating member in said starting position and a fluid bearing between said curved surfaces supporting said rotating member in said normal operating position.

3,140,475
ELECTROMAGNETIC POSITION TRANSLATING DEVICE

William R. Spencer, Springdale, Ohio, and Frank Nistico, Malvern, Pa., assignors to General Electric Company, a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,598
2 Claims. (Cl. 340—196)

1. Electromagnetic position translating means comprising a primary coil and a secondary coil coaxially aligned in end-to-end relation and having a common connection at one end of each thereof, an A.C. voltage source connected between said common connection and the end of

said primary coil remote therefrom, A.C. voltage sensitive means connected between the ends of said primary and secondary coils remote from said common connection, and a magnetically permeable core element of substantially greater length than said primary coil extending through that coil and at least partially through said

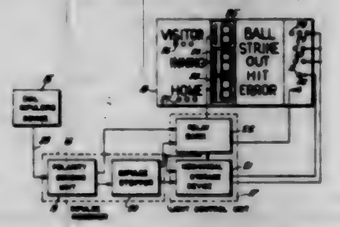


secondary coil and movable relative to said coils by an input device the position of which is to be sensed, said primary and secondary coils being wound in such relation to each other that the voltage imposed across the primary coil by said A.C. source opposes that induced in the secondary coil and said A.C. voltage sensitive means accordingly is responsive to the difference of these voltages.

3,140,476
REMOTE CONTROL DISPLAY APPARATUS HAVING OPPOSITE POLARITY PULSE CONTROL OF INFORMATION GROUPS

Linwood W. Zoller, Jr., 130 Parkwood Drive, and Robert Wesley Dean, Rte. 7, Shipperton Road, both of Macon, Ga.

Filed Oct. 12, 1960, Ser. No. 62,239
7 Claims. (Cl. 340—323)

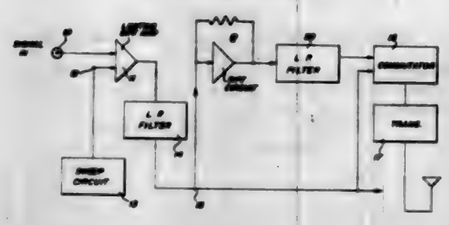


1. Display apparatus for recording and displaying information on a sign comprising a sign having a plurality of groups of lamps wherein each group of lamps represents a different class of information, a plurality of switches for controlling the energization of said lamps, rotary storage means having a plurality of cams including a distinctive group of cams for each of said classes of information for activating said switches to energize the lamps of the associated group of lamps progressively as units of information of the associated class of information are signalled to the rotary storage means, said cams having means for retaining in energized state the previously energized lamps denoting earlier signalled units of information of the same class when subsequent units of information are signalled, remote control means for selectively producing different numbers of signal impulses, means responsive to the number of signal impulses produced by said remote control means for differentially activating said rotary storage means to activate said switches associated with said cams, said remote control means including selector switch means for conditioning said remote control means to produce signal impulses of either of two selected polarities, polarity sensitive means responsive to the polarities of the signal impulses produced by said remote control means to indicate the polarities thereof, reset means responsive to said polarity sensitive means for resetting said cams to a condition terminating energization of said signal lamps when signal impulses of selected polarities are received, each of said cam groups being activated by a distinctive number of signal impulses of one polarity, and said reset means being operative to reset each cam group upon receipt of the same number of signal impulses of the opposite polarity.

3,140,477
AMPLITUDE DENSITY PROBABILITY COMPUTER

Lloyd M. Germain, New York, N.Y., assignor, by mesne assignments, to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Filed Oct. 1, 1958, Ser. No. 764,567
10 Claims. (Cl. 340—345)

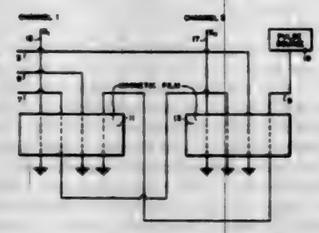


3. A computer for computing amplitude distribution of a relatively rapidly randomly amplitude varying signal, comprising a source of relatively slowly varying sawtooth comparison signal, said sawtooth comparison signal having a range of amplitude at least co-extensive with amplitudes of interest in said relatively rapidly randomly amplitude varying signal, the rate of rise of said sawtooth comparison signal being sufficiently slow to permit statistical sampling of the amplitudes of said relatively rapidly randomly amplitude varying signal, a limiting difference amplifier responsive to said relatively rapidly randomly amplitude varying signal and to said sawtooth comparison signal for generating constant amplitude difference signals only during occurrence of a predetermined amplitude relation between said relatively rapidly randomly amplitude varying signal and said sawtooth comparison signal, means responsive to the signal deriving from said amplifier for integrating said constant amplitude difference signals over times for which said sawtooth comparison signal is substantially constant while said relatively rapidly randomly amplitude varying signal varies through a range of amplitudes and a differentiating circuit coupled in cascade with said means for integrating.

3,140,478
SATURABLE TRANSFORMER ENCODER

George F. Marotta, Richfield, Bere I. Parsegyan, St. Paul, and Abraham Franck, Richfield, Minn., assignors, by mesne assignments, to the United States of America, as represented by the Secretary of the Navy

Filed Jan. 31, 1961, Ser. No. 84,270
2 Claims. (Cl. 340—345)



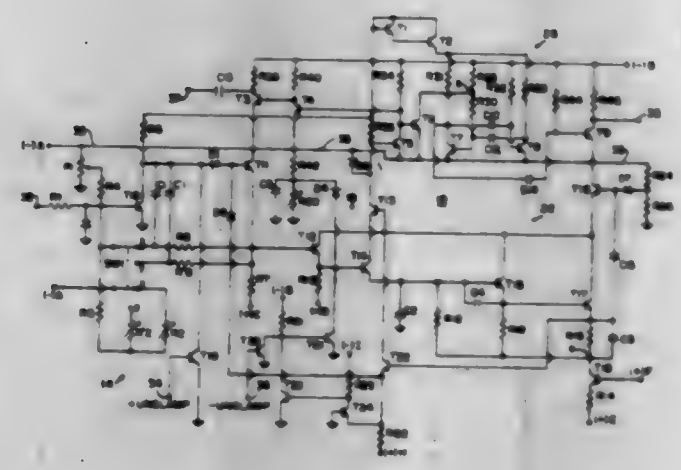
1. A device for encoding of pulses which are of very short duration comprising, a source of driver pulses,

a pair of magnetic thin film units each unit having a plurality of control means for setting the film in a predetermined state at a predetermined time, said plurality of control means comprising a plurality of wires lying perpendicular to the film and on top of the film, means coupling the pulses to said pair of magnetic film elements, each magnetic film having an output wire, two control wires and a driving wire coupled to the film in a parallel relationship whereby a predetermined code of pulses is generated by said magnetic elements in response to said source of driver pulses.

3,140,479
TRANSISTORIZED ANALOG-TO-DIGITAL CONVERTER

Robert L. Chase, Blue Point, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 4, 1960, Ser. No. 6,831
6 Claims. (Cl. 340—347)

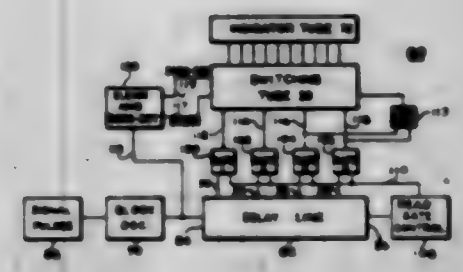


6. An analog-to-digital converter comprising, in combination, means for receiving and amplifying input pulses, semi-conductor means for receiving the amplified pulses and establishing voltage and current levels corresponding to the amplitude of said pulses, capacitive storage means connected to said semi-conductor means exposed to said current and being charged thereby to a voltage level substantially proportional to said amplitudes, first clamping means connected to said amplifying means for holding the latter in a state unresponsive to said input pulses, second clamping means connected to said semi-conductor means for holding the latter in a quiescent state and said storage means in substantially an uncharged state, means for applying simultaneous unclamping pulses to said first and second clamping means for rendering said amplifying means responsive to input pulses and said semi-conductor means responsive to the output of said amplifying means to charge said storage means as aforesaid, feed back means in response to the charging of said storage means for maintaining said second clamping means inactive after termination of its unclamping pulse, the latter said feedback means also supplying a signal in response to the charging of said storage means to said amplifying means to clamp the latter in at the peak voltage level reached by a particular input pulse said feed back means becoming ineffective after said storage means becomes fully discharged, said semi-conductor means being rendered non-conductive during said storage means rundown due to back-biasing arising out of the aforesaid clamping of said amplifying means, means responsive to the termination of conduction in said semi-conductor means for discharging said storage means at a controlled rate and means for delivering a series of equally-spaced identical pulses during the non-conductive period of said semi-conductor means, the number of said spaced pulses thereby being a linear function of the maximum amplitude of said particular input pulse.

3,140,480
SIGNAL CONVERTERS

David Glaser, Greenbrook, and William I. de Versterre, Bound Brook, N.J., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 721,191, Mar. 13, 1958. This application July 12, 1961, Ser. No. 127,877
15 Claims. (Cl. 340—347)



9. A circuit for converting an electrical signal from one code system to another code system including an electron discharge device,

said electron discharge device comprising a magnetron beam switching tube including an electron-emitting cathode, a plurality of groups of electrodes surrounding said cathode, and means providing crossed electric and magnetic fields in said tube, said crossed electric and magnetic fields assisting, during tube operation, in the switching of an electron beam from one tube position to another in a direction determined by the orientation of the electric and magnetic fields,

a plurality of groups of electrodes arranged in a series in said device and occupying positions numbered from zero to "*n*" with each position and group of electrodes being either odd or even-numbered in the series, each group of electrodes comprising a position which is adapted to receive an electron beam and provide an output signal therefrom,

each group of electrodes including first electrode means for causing an electron beam to flow to itself and second electrode means for causing an electron beam to switch from itself to the next adjacent position in the series,

first input signal means coupled to said second electrode means in selected even-numbered groups of electrodes whereby a signal from said first signal means can cause an electron beam to switch from one of the selected even-numbered positions to the next adjacent odd-numbered position in the series,

second input signal means coupled to said first electrode means in said selected even-numbered groups of electrodes whereby an electron beam can be directed to each of said selected even-numbered groups of electrodes,

all of said input signal means being operable to apply signals simultaneously but in different combinations to said device,

each combination of signals having a meaning in a first code system and when applied to said device, each combination of signals causing an electron beam to switch from the zero position to a single specific group of electrodes from which an output signal then flows,

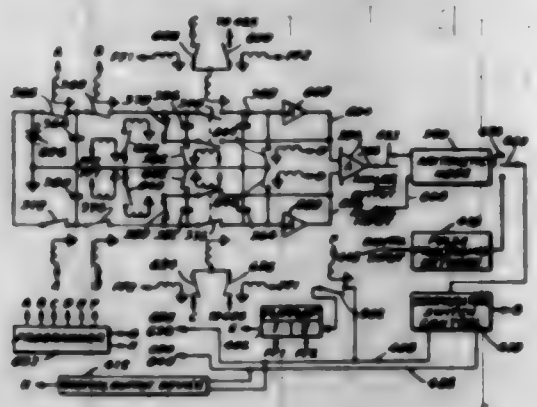
said output signal from said specific group of electrodes having a meaning in a second code corresponding to the meaning of the input signals in the first code.

3,140,481

REVERSIBLE ANALOG TO DIGITAL CONVERTER

Philip A. Hoffman, Towson, Md., assignor to Hoffman and Eaton, Towson, Md., a partnership

Original application Apr. 28, 1960, Ser. No. 25,343, now Patent No. 3,098,224, dated July 16, 1963. Divided and this application Dec. 28, 1961, Ser. No. 162,761
211 Claims. (Cl. 340—347)



22. A reversible analog to digital and digital to analog converter comprising a potential source, first and second charge sharing capacitors, a third capacitor, fourth and fifth charge sharing capacitors, a sixth capacitor, means connecting one side of said potential source and one side of each of said capacitors to a reference potential, switch means for coupling the other side of said potential source to the other sides of said first and fourth capacitors to produce a reference charge on said first and fourth capacitors, pulse responsive switch means for periodically connecting the other sides of said first and fourth capacitors to the other sides of said second and fifth capacitors respectively whereby the reference charge on said first capacitor is periodically distributed between said first and second capacitors and the reference charge on said fourth capacitor is periodically distributed between said fourth and fifth capacitors, pulse responsive switch means for successively transferring the shared charge on said second capacitor to said third capacitor and on said fifth capacitor to said sixth capacitor, means connecting the other sides of said third and sixth capacitors through unity gain amplifiers to a differential amplifier, means connecting the output of said differential amplifier to an arithmetic node whereby the voltage signal across said third and sixth capacitors constitutes one input to said node, means connecting an analog voltage to the other input of said node, means connecting the output of said node to a comparator, means connecting a digital input signal to said comparator, switch means for alternatively connecting said comparator to said arithmetic node for analog to digital operation and to said digital input for digital to analog operation, and means including said comparator sensitive to the polarity of the input signal to said comparator for discharging said fifth capacitor prior to charge transfer when said comparator input is one polarity and transferring the charge on said fifth capacitor to said sixth capacitor when said comparator input is of the other polarity.

3,140,482

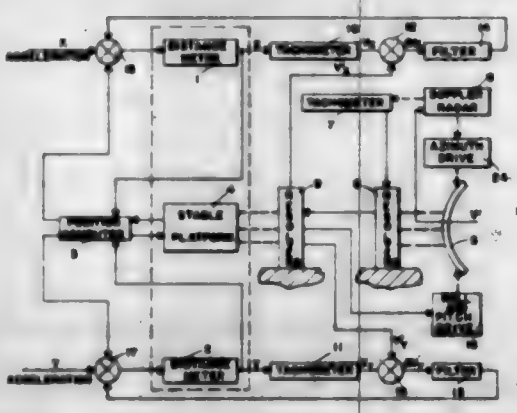
SYSTEM PROVIDING ERROR RATE DAMPING OF AN AUTONAVIGATOR

Donal B. Duncan, Arcadia, and Jerome L. Henry, Jr., Downey, Calif., and Stanford D. Bitner, Brookline, Mass., assignors to North American Aviation, Inc.

Filed June 7, 1954, Ser. No. 434,778
18 Claims. (Cl. 343—6)

1. In an autonavigator comprising a platform element stabilized in a prescribed orientation in pitch, roll, and azimuth, acceleration-sensitive means disposed upon said element; means responsive to said acceleration-sensitive means to compute velocities in the prescribed orientation of said stabilized element, non-inertial means for determining autonavigator velocity with respect to the ground in the pitch and roll plane of said acceleration-sensitive means, means for comparing the velocity and direction as determined by said non-inertial with that determined by the autonavigator, and means for correcting the direction and velocity as determined by the autonavigator according to the output of said comparison means.

8. In an autonavigator comprising inertial means sensitive to acceleration, means for determining the velocity



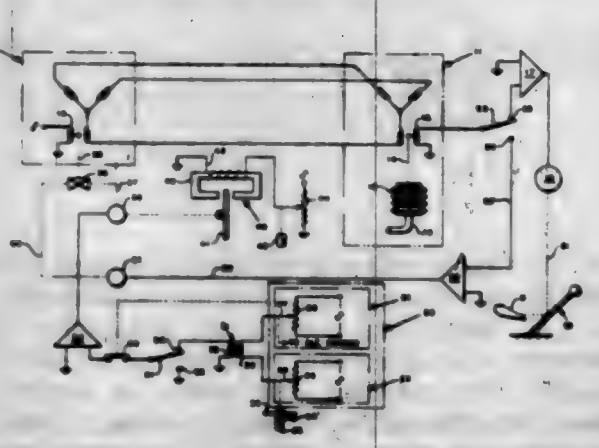
of said autonavigator from the output of said inertial means, said autonavigator velocity being determined in prescribed coordinates, radar means for providing signals indicating autonavigator velocity with respect to the ground, means for transforming the radar velocity signals into the coordinates of said autonavigator velocity signals, and means for correcting the velocity signals of said autonavigator means, said correction being in accordance with the difference in velocity as determined from said radar and said autonavigator.

3,140,483

BAROMETRIC-RADAR ALTITUDE CONTROL SYSTEM

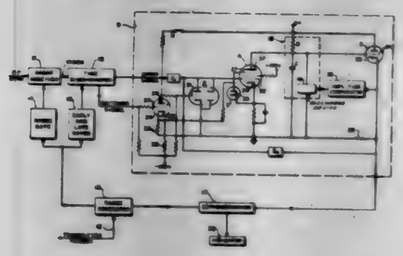
Stephen J. Sikora, Philadelphia, and Harry J. Campbell, Feasterville, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Apr. 3, 1959, Ser. No. 804,052
8 Claims. (Cl. 343—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



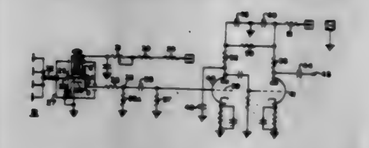
1. Apparatus of the character described comprising, synchro receiver means, a barometric altimeter providing a pressure altitude change signal to said synchro receiver means, radar altimeter means including a potentiometer driven thereby providing a terrain clearance voltage signal representative of deviation from a preselected altitude, and transmitter means transmitting said terrain clearance voltage signal to said receiver means in opposition to said pressure altitude signal to provide an error signal output.

3,140,484
RANGE SWEEP AND POSITIONING CIRCUIT
Alfred L. Mintzer, Haddonfield, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 23, 1959, Ser. No. 808,539
5 Claims. (Cl. 343—7.3)



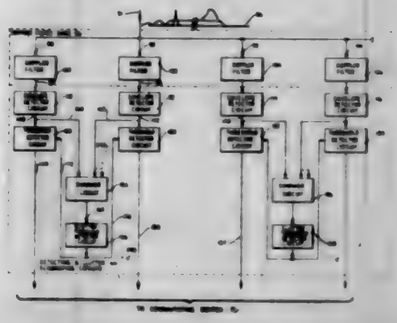
2. In a system for automatically acquiring and tracking a target, a range sweep and positioning circuit comprising: a gated amplifier having at least a plate, a cathode, a control grid and a suppressor grid; first clamping means connected between said cathode and said suppressor grid; second clamping means connected between said control grid and ground, and having an input control means; an input impedance connected to said control grid; switching means comprising a gas discharge tube having a control element, a plate connected to said input control means and a cathode connected to said first clamping means; output means; means compriaing a relaxation oscillator connected between the plate of said gated amplifier and said output means; and impedance means coupling said output means to said control grid to furnish feedback in said system.

3,140,485
RADAR CONTROL SYSTEM RESPONSIVE TO A VEHICLE MOVING ALONG A TRAFFIC PATH
Bernard J. Middock, Norwalk, Conn., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Aug. 4, 1958, Ser. No. 752,786
10 Claims. (Cl. 343—9)



1. In a radio reflection system for sensing moving objects, the combination including an oscillator having control grid, anode and cathode for generating ultra high frequency electrical waves, an antenna connected to said oscillator for radiating such waves as electromagnetic waves for interception by such moving objects and for receiving such waves as reflected from such moving objects and passing such reflected waves to said oscillator for producing cyclic amplitude variations in the ultra high frequency electrical waves in said oscillator at a low frequency proportional to the speed of relative motion of said object with respect to said antenna, the oscillator having a self-bias circuit including a capacitor and other impedance in parallel between the said grid and cathode to provide operating bias for the oscillator and bearing said low frequency as a variation in the bias, and a load circuit in parallel with only a part of said self-bias circuit to obtain said low frequency as an output.

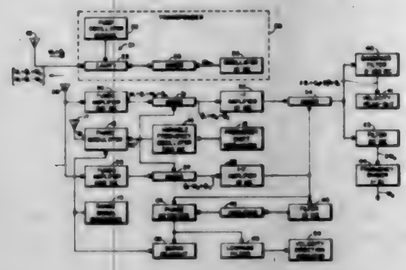
3,140,486
DOPPLER RADAR DETECTION SYSTEM
Arnold H. Gillmer, Inglewood, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 771,707
12 Claims. (Cl. 343—8)



10. A doppler radar circuit for determining doppler frequency comprising a source of a radar signal including an echo signal of varying doppler frequency and including at independently varying frequencies, a clutter signal and a noise signal with said echo signal having a substantially narrow spectrum and said clutter signal and noise signal having a substantially wide spectrum, a plurality of doppler filters coupled to said source each having a bandwith for passing said echo signal and substantially narrow with respect to said clutter signal and said noise signal, the bandwith of each of said filters centered at a different frequency for passing a portion of said intermediate frequency signal, separate rectifier means coupled to each of said filters for developing a direct current signal in response to a portion of said intermediate frequency, separate threshold detector means coupled to each of said rectifier means for preventing a direct current signal developed from said noise signal from passing therethrough to an output terminal and including gating means controlling the passing to said output terminal of said direct current signals developed from said echo and clutter signals, separate summing means each coupled to a predetermined plurality of different ones of said rectifier means for developing a combined signal when said direct current signals developed from said echo signal or from said clutter signals are received from each of said respective plurality of rectifier means, and separate clutter threshold detecting means coupled to each of said summing means for responding to said respective combined signal to control said gating means of said respective plurality of threshold detecting means so as to prevent said direct current signals developed from said echo and clutter signals from passing to said output terminal.

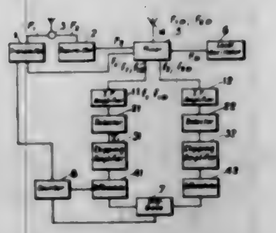
3,140,487
SLANT RANGE POSITION AND VELOCITY DETERMINING SYSTEM
James R. Ford, La Mesa, and Marshall D. Beer, San Diego, Calif., assignors to Cubic Corporation, San Diego, Calif., a corporation of California
Filed July 13, 1959, Ser. No. 826,596
9 Claims. (Cl. 343—8)

1. An electronic system for acquiring information on the slant range velocity of a moving target vehicle, said system comprising: ground-based means for transmitting a first carrier signal of a first frequency to said target vehicle; first means on said target vehicle for receiving said first carrier signal, said received first carrier signal having a modified first frequency due to the slant range velocity of said target vehicle; second means on said target vehicle for transmitting second and third carrier signals of second and third frequencies, respectively, said second and third frequencies differing above and below, respectively, said modified first carrier signal in frequency by a fourth frequency; ground-based receiving means for receiving said second and third carrier signals at modified second and third frequencies, respectively, due to the slant range velocity of said target vehicle; mixing means for mixing



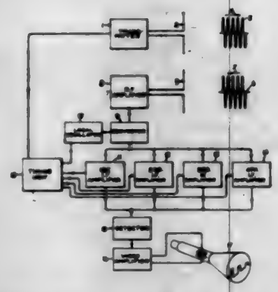
said first carrier signal with each of said modified second and third carrier signals; means for extracting said fourth and said modified frequencies from each of the mixing operations performed by said mixing means; means for mixing the signals produced by the last-named means to produce sum and difference signal frequencies, said difference signal frequency representing the slant range velocity of said moving target vehicle; and means for indicating the frequency of said difference signal frequency produced by said last-named means.

3,140,488
MISS DISTANCE INDICATOR
Pierre Girault, Paris, France, assignor to C.S.F.-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Dec. 14, 1961, Ser. No. 159,374
Claims priority, application France Dec. 15, 1960
6 Claims. (Cl. 343—12)



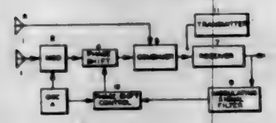
1. A system for measuring the instantaneous distance, between two objects in relative motion with respect to each other comprising, carried by one of said objects: two transmitters respectively transmitting ultra-high frequency signals on two frequencies close to each other; a receiver for directly receiving said two signals and for receiving the respective echoes of said signals transmitted by said other object; means for detecting the respective Doppler frequency signals of said echo signals; means for deriving respective pulses each time a Doppler signal is equal to zero; and AND-gate having two inputs for receiving respectively said pulses and an output; and a counter coupled to said output and thus controlled by said AND-gate for starting upon first simultaneous reception of said two pulses and stopping upon second simultaneous reception of said pulses.

3,140,489
FREQUENCY MODULATED PULSE RADAR SYSTEM
John W. Downie, Dewitt, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 111,266, Aug. 19, 1949. This application Oct. 12, 1961, Ser. No. 149,141
16 Claims. (Cl. 343—17.2)



1. A radar system comprising means for generating pulses of high frequency energy whose instantaneous frequency varies at a predetermined rate during said pulses, means for receiving echoes resulting from the reflection of said pulses from objects, means for generating oscillations with a repetitive frequency variation occurring at said rate between predetermined limits, means for combining said echoes and said oscillations to produce signals of constant frequency occurring within a band, a plurality of amplifiers tuned to different frequencies within said band, means for applying said produced signals to said amplifiers for amplification thereby, and means responsive successively to each of the amplified signals for providing an indication of the range of said objects in accordance with the time intervals between said signals.

3,140,490
COMMUNICATION SYSTEM WITH AUTOMATIC ANTENNA BEAM STEERING
William Sichak, Nutley, and Raymond O. Schildknecht, Clifton, N.J., assignors to Sichak Associates, Nutley, N.J., a corporation of New Jersey
Filed Nov. 30, 1961, Ser. No. 169,656
9 Claims. (Cl. 343—100)



3. A method of automatically rotating a directive beam produced from an antenna array and automatically fixing it to the direction from which an unknown signal emanates comprising the steps of receiving said signal by a first antenna,

receiving said same signal by a second antenna,

modulating the signal received from said first antenna at a predetermined frequency by a first mode of modulation,

combining the modulated signal with the signal received from said second antenna whereby said combined signal will have a modulation component dependent upon the modulating signal and whereby

said modulating component will have a phase shift as compared with the modulating signal equal to the phase shift between the signals received at the respective antennas,

demodulating said combined signals by a second mode of modulation to detect the strength of said modulating signal,

and comparing the modulating signal and the said demodulated signal and thereafter controlling the amount of phase shift applied to said received signal in accordance with the compared signals,

whereby said directive beam is rotated in a manner to eliminate the phase shift between received signals.

3,140,491
DIFFRACTION SHIELD CONSISTING OF NOTCHED RING WHICH FRAMES PASSIVE REFLECTOR
Fred E. Ashbaugh and Frank W. Beehman, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Jan. 24, 1963, Ser. No. 253,622
7 Claims. (Cl. 343—912)

1. A microwave system having means for controlling edge diffraction comprising: reflector means, ring means extending around at least a portion of said reflector



means, said ring means being provided with a plurality of notches.

DESIGNS

JULY 7, 1964

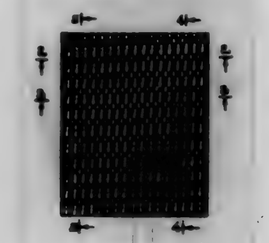
198,560
BASEBALL GLOVE
Floyd William Kertum, 13006 Atlantic Ave., Rockville, Md.
Filed Feb. 13, 1964, Ser. No. 78,615
Term of patent 14 years
(Cl. D3—11)



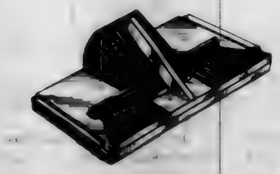
198,561
BEDSTEAD END FRAME
Robert M. Kupchick, Chicago, Ill., assignor to Dreher Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 17, 1964, Ser. No. 78,649
Term of patent 14 years
(Cl. D9—2)



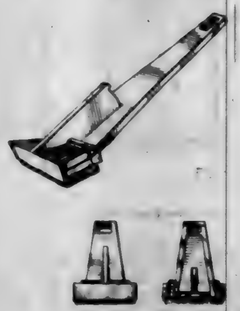
198,563
TEXTURED ARTIFICIAL SPONGE OR SIMILAR ARTICLE
Alfred Politzer and Frank Pekarek, Cleveland, Ohio, assignors to Nylonge Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 17, 1962, Ser. No. 71,733
Term of patent 14 years
(Cl. D9—3)



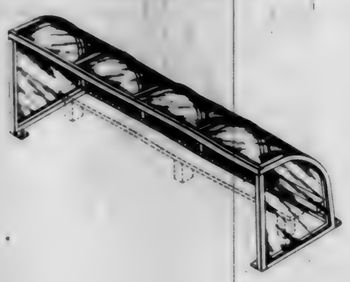
198,563
PAINT TRIMMING APPLICATOR OR THE LIKE
Fredrick B. Burns, South Milwaukee, Wis., and Geno D'Ercoli, Chicago Heights, Ill., assignors to E Z Paintr Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 6, 1963, Ser. No. 76,130
Term of patent 14 years
(Cl. D9—2)



198,564
PAINT TRIMMING APPLICATOR OR THE LIKE
Fredrick B. Burns, South Milwaukee, Wis., and Geno D'Ercoli, Chicago Heights, Ill., assignors to E Z Paintr Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 6, 1963, Ser. No. 76,131
Term of patent 14 years
(Cl. D9—3)



198,565
FOOTBALL BENCH SHELTER
Edward H. Cooper, 2 E. Benedict Ave., Havertown, Pa.
Filed Mar. 22, 1963, Ser. No. 74,882
Term of patent 3½ years
(Cl. D13—1)



198,566
SAFETY BELT BUCKLE
Göte Eskil Yngve Holmberg, Anderstorp, Sweden
Filed Nov. 9, 1962, Ser. No. 72,444
Claims priority, application Sweden Sept. 20, 1962
Term of patent 14 years
(Cl. D17—1)



198,567
COVER FOR ELECTRICAL APPARATUS ENCLOSING CASE
Harry J. Collins, Jr., Bayside, Wis., assignor to Cutler, Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 13, 1960, Ser. No. 61,341
Term of patent 14 years
(Cl. D26—5)



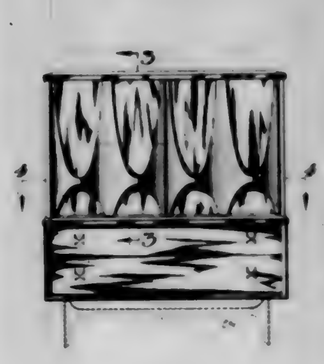
198,568
BIRD FEEDER OR THE LIKE
Donald G. Clever, San Francisco, Calif., assignor to Proem Products Co., a corporation of California
Filed Dec. 26, 1961, Ser. No. 68,065
Term of patent 3½ years
(Cl. D31—2)



198,569
BOOK END
Richard Schwarz, Livingston, N.J., assignor to Bro-Dart Industries, Inc., Newark, N.J., a corporation of New York
Filed Nov. 12, 1963, Ser. No. 77,372
Term of patent 14 years
(Cl. D33—3)



198,570
CHEST
Melbourne F. Smith, Jr., Lenoir, N.C., assignor to Broyhill Furniture Factories, Lenoir, N.C., a partnership
Filed Apr. 15, 1963, Ser. No. 74,423
Term of patent 14 years
(Cl. D33—6)



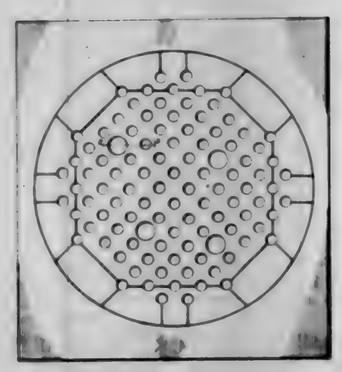
198,571
CIRCULAR POOL TABLE
Edwin E. Robison, 401 Carmel Ave., Pacifica, Calif.
Filed Jan. 24, 1964, Ser. No. 78,380
Term of patent 3½ years
(Cl. D34—3)



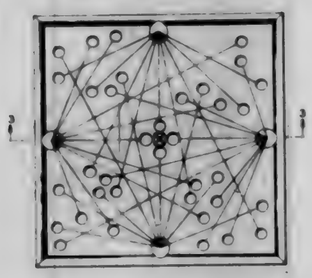
198,572
DOLL
Stephen M. Levy, 9 E. 37th St., New York 16, N.Y.
Filed Feb. 11, 1963, Ser. No. 73,507
Term of patent 3½ years
(Cl. D34—4)



198,573
GAMEBOARD
Michael Vawryk, 63 Braddockville, Lynders, Pa.
Filed June 18, 1962, Ser. No. 70,577
Term of patent 14 years
(Cl. D34—5)



198,574
GAMEBOARD
John E. Davidson, 817 Guadalupe Ave., Coronado, Calif.
Filed Sept. 27, 1963, Ser. No. 76,770
Term of patent 3½ years
(Cl. D34—5)



198,575
SET OF CHESSMEN
James N. Wiltsie, Delphos, Ohio, assignor to Vanamatic Company, Delphos, Ohio, a corporation of Ohio
Filed Feb. 19, 1964, Ser. No. 78,697
Term of patent 3½ years
(Cl. D34—5)



198,576
TOY WORM
Charles D. Trevena, 317th FIS, APO 942, Seattle, Wash.
Filed Apr. 23, 1963, Ser. No. 74,590
Term of patent 14 years
(Cl. D34—15)



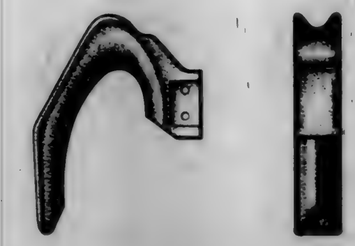
198,577
STOP CLOCK
Basil Lavitol, 27 Upland Way, Cedar Grove, N.J.
Filed June 6, 1963, Ser. No. 75,248
Term of patent 14 years
(Cl. D42—1)



198,578
COASTER RACK
George J. Strauss, 6606 10th Ave., Los Angeles 43, Calif.
Filed Apr. 19, 1963, Ser. No. 74,527
Term of patent 3½ years
(Cl. D44—29)



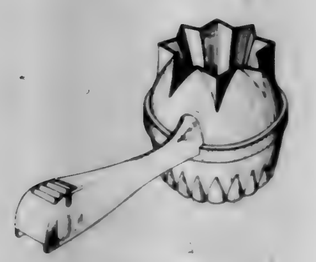
198,579
BEAKER HANDLE
Walter A. Plagemberg, St. Louis County, Mo., assignor to Star Coffee Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 7, 1964, Ser. No. 78,555
Term of patent 14 years
(Cl. D44—29)



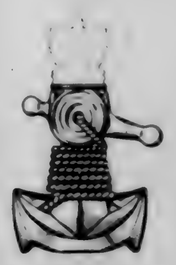
198,582
LAMP
Julius I. Dubnb, Little Neck, N.Y., assignor to Dubo International Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1963, Ser. No. 77,620
Term of patent 14 years
(Cl. D48—20)



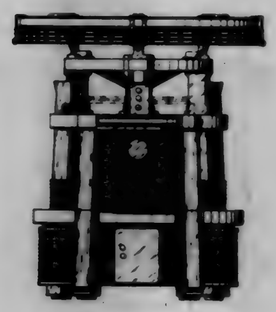
198,580
COMBINED MEASURING, MOLDING AND CUTTING TOOL
James B. Swett, Barrington, and Henry J. Marien, Warwick, R.I., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Mar 5, 1964, Ser. No. 78,881
Term of patent 14 years
(Cl. D44—29)



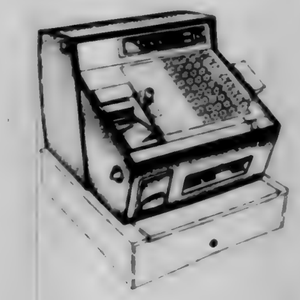
198,583
LAMP
Julius I. Dubnb, Little Neck, N.Y., assignor to Dubo International Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1963, Ser. No. 77,621
Term of patent 14 years
(Cl. D48—20)



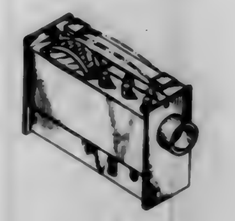
198,581
CIRCULAR KNITTING MACHINE
George Bruce Kamp, Springfield, Pa., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1963, Ser. No. 76,285
Term of patent 14 years
(Cl. D47—5)



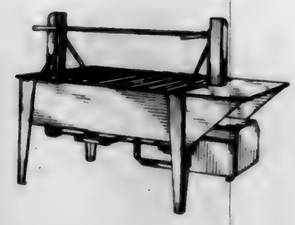
198,584
CASH REGISTER OR SIMILAR ARTICLE
Johannes Rindfuesser, Berlin-Neukoelln, Germany, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 31, 1963, Ser. No. 77,224
Term of patent 14 years
Claims priority, application Germany May 2, 1963
(Cl. D52—4)



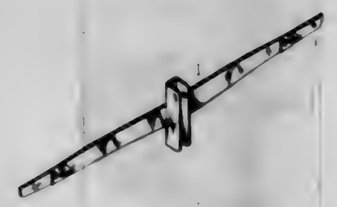
198,585
RADIATION MEASURING INSTRUMENT OR SIMILAR ARTICLE
Alan S. Anderson, Cochituate, and Robert A. Kesler, Brockton, Mass., assignors to Williamson Development Company, Inc., West Concord, Mass., a corporation of Massachusetts
Filed Oct. 11, 1963, Ser. No. 76,943
Term of patent 14 years
(Cl. D52—6)



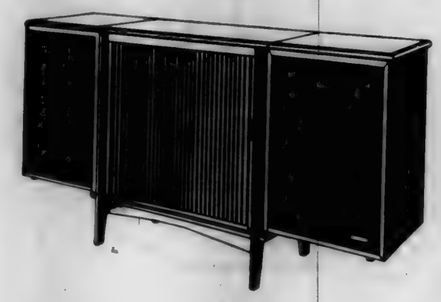
198,588
RADIATOR TEST AND REPAIR BENCH
Sam L. Grasso, Omaha, Nebr., assignor to Inland Manufacturing Company, Omaha, Nebr., a corporation of Nebraska
Filed Dec. 30, 1963, Ser. No. 77,970
Term of patent 7 years
(Cl. D54—14)



198,586
CANTILEVER SUPPORT SHELF BRACKET
Leo Boltin, 50 W. 96th St., New York, N.Y.
Filed May 20, 1963, Ser. No. 74,970
Term of patent 14 years
(Cl. D54—1)



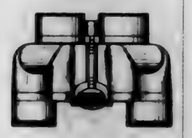
198,589
STEREOPHONIC HIGH FIDELITY UNIT
Ralph E. Hammer, Santa Monica, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed June 8, 1961, Ser. No. 65,519
Term of patent 14 years
(Cl. D56—4)



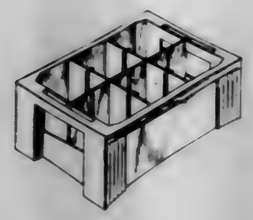
198,587
FORK OR SIMILAR ARTICLE OF FLATWARE
Robert J. King, Wallingford, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed Dec. 13, 1963, Ser. No. 77,784
Term of patent 14 years
(Cl. D54—12)



198,590
BINOCULARS
Paul R. Maguire, 4260 Sea View Lane, Los Angeles 65, Calif.
Filed Jan. 3, 1964, Ser. No. 78,860
Term of patent 14 years
(Cl. D57—1)



198,591
BOTTLE CARRYING CASE
Karl Brockes, 195 N. Farnsworth, Aurora, Ill.
Filed Dec. 20, 1963, Ser. No. 77,879
Term of patent 3½ years
(Cl. D58—5)



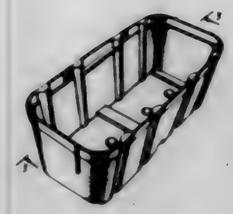
198,592
JUG
Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich.
Filed Feb. 17, 1964, Ser. No. 78,648
Term of patent 14 years
(Cl. D58—5)



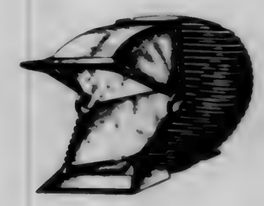
198,593
BOTTLE
Stanley K. Johns, P.O. Box 338, Adelaide St. Post Office, Toronto, Ontario, Canada
Filed Aug. 16, 1963, Ser. No. 76,241
Term of patent 7 years
(Cl. D58—8)



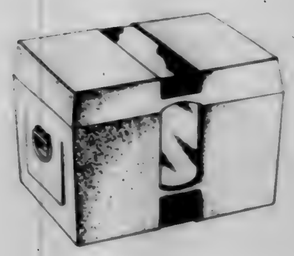
198,594
TOTE BOX
Carmin A. Castellano, Dalton, Pa., assignor to Consolidated Molded Products Corporation, Scranton, Pa., a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 78,326
Term of patent 14 years
(Cl. D58—12.6)



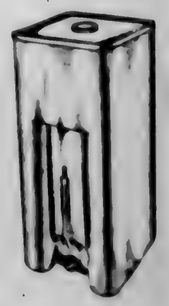
198,595
BOX
Jerome Shiffman, 128 Cartage Road, Scarsdale, N.Y.
Filed June 22, 1962, Ser. No. 78,651
Term of patent 7 years
(Cl. D58—12.7)



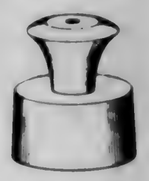
198,596
INSULATED CONTAINER FOR A KEG OR THE LIKE
William F. Hunt, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 22, 1963, Ser. No. 75,008
Term of patent 14 years
(Cl. D58—17)



198,597
DISPENSING CONTAINER FOR LIQUIDS
Carl A. Gram, Arlington Heights, Ill., assignor to Magi-Pak Corporation, a corporation of Delaware
Filed July 1, 1963, Ser. No. 75,699
Term of patent 14 years
(Cl. D58—17)



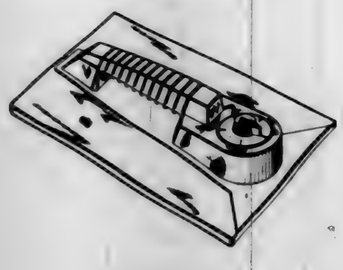
198,598
DISPENSING CLOSURE FOR BOTTLES OR THE LIKE
Joseph Anthony Milenkevich, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 4, 1963, Ser. No. 74,291
Term of patent 14 years
(Cl. D58—26)



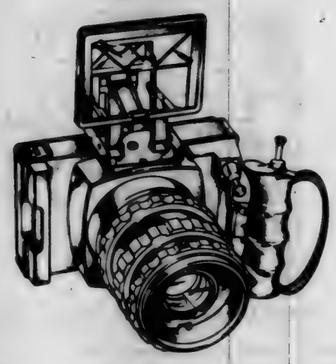
198,599
COMBINED CLOSURE AND DISPENSER
Louis Koukal, 402 E. 78th St., New York, N.Y.
Filed Nov. 26, 1963, Ser. No. 77,577
Term of patent 14 years
(Cl. D58—26)



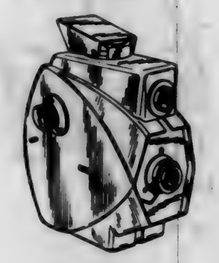
198,600
LIGHT PRODUCING APPARATUS FOR USE WITH PHOTOSENSITIVE MATERIALS
James G. Burnett, Cedar Grove, N.J., assignor to Pacer Research & Development Corporation, New York, N.Y., a corporation of New York
Filed May 27, 1963, Ser. No. 75,882
Term of patent 14 years
(Cl. D61—1)



198,601
CAMERA
Samuel E. Hobalin, Davenport, Iowa, assignor, by mesne assignments, to Chicago Aerial Industries, Inc., Barrington, Ill., a corporation of Delaware
Filed Sept. 27, 1963, Ser. No. 76,778
Term of patent 14 years
(Cl. D61—1)



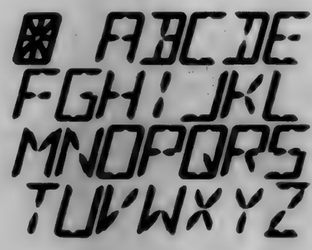
198,602
CAMERA
Dennis A. Burgess, Minneapolis, Minn., assignor to Precision Camera, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 18, 1963, Ser. No. 77,855
Term of patent 14 years
(Cl. D61—1)



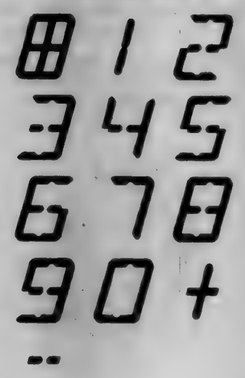
198,603
CALCULATING MACHINE
David O. Chase, Camillus, and Thomas E. Hanson, Karl E. Kober, and Philip H. Stevens, Syracuse, N.Y., assignors to SCM Corporation, a corporation of New York
Filed Oct. 1, 1962, Ser. No. 71,928
Term of patent 14 years
(Cl. D64—11)



198,604
FONT OF ELECTROLUMINESCENT CHARACTERS
Herbert F. Dickson, Jr., Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 4, 1963, Ser. No. 74,292
Term of patent 14 years
(Cl. D64—12)



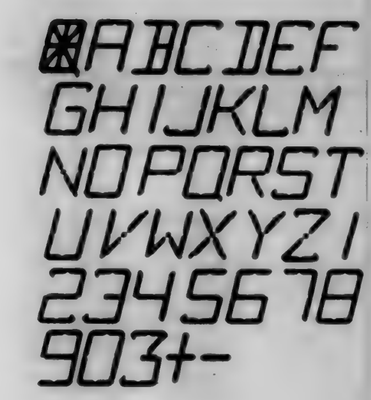
198,605
FONT OF ELECTROLUMINESCENT CHARACTERS
Herbert F. Dickson, Jr., Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 4, 1963, Ser. No. 74,300
Term of patent 14 years
(Cl. D64—12)



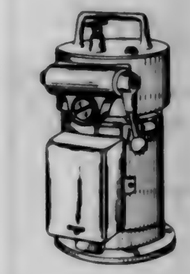
198,606
ELECTROLUMINESCENT PLATE AND FONT OF CHARACTERS FORMED THEREON
Herbert F. Dickson, Jr., R.D. 1, Seneca Falls, N.Y.
Filed Mar. 11, 1964, Ser. No. 78,958
Term of patent 14 years
(Cl. D64—12)



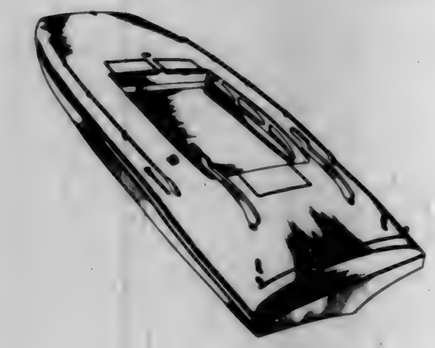
198,607
ELECTROLUMINESCENT PLATE AND FONT OF CHARACTERS FORMED THEREON
Herbert F. Dickson, Jr., R.D. 1, Seneca Falls, N.Y.
Filed Mar. 11, 1964, Ser. No. 78,966
Term of patent 14 years
(Cl. D64—12)



198,608
PORTABLE HYDRAULIC POWER PUMP
Stanley J. Rhodes, 2702 S. 46th St., Milwaukee 15, Wis., assignor of one-half to Arthur F. Zemlin
Filed Aug. 22, 1962, Ser. No. 71,410
Term of patent 7 years
(Cl. D65—1)



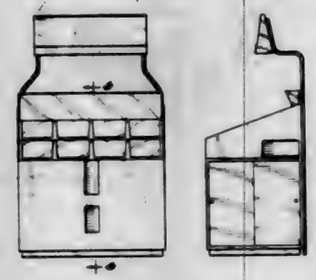
198,609
SAILBOAT
Kent Hamilton, Rancho Cordova, Calif., and Henry C. Grabbe, 3876 Fair Hill Road, and Richard S. Zimmerman, 4928 Vlr Mar St., both of Fair Oaks, Calif.; said Hamilton assignor to said Grabbe and said Zimmerman
Filed Mar. 18, 1963, Ser. No. 74,009
Term of patent 3½ years
(Cl. D71—1)



198,610
CARGO AIR TRANSPORT
Vincent J. Bernelli, 9250 Piney Branch Road, Silver Spring, Md.
Filed Nov. 12, 1963, Ser. No. 77,371
Term of patent 14 years
(Cl. D71—1)



198,611
MERCHANDISE DISPLAY CASE
Frank V. Brach, Glenview, Ill., assignor to E. J. Brach & Sons, Chicago, Ill., a corporation of Illinois
Filed Feb. 18, 1963, Ser. No. 73,611
Term of patent 14 years
(Cl. D60—9)



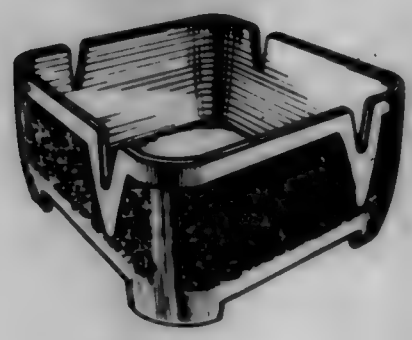
198,612
GAS STOVE
Katsuji Tsuchiya, 3042–bancbi, Maejima, Fujieda-shi, Shizuoka-ken, Japan
Filed May 1, 1963, Ser. No. 74,711
Term of patent 3½ years
(Cl. D61—10)



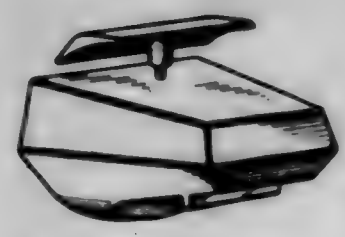
198,613
ASH TRAY
Robert S. McDermott, 944 Liggett Blvd., Crestwood, Mo.
Filed Aug. 5, 1963, Ser. No. 76,809
Term of patent 14 years
(Cl. D65—2)



198,614
ASH TRAY
Robert S. McDorman, 944 Liggett Blvd., Crestwood, Mo.
Filed Aug. 5, 1963, Ser. No. 76,090
Term of patent 14 years
(Cl. D65—2)



198,615
FAUCET FITTING
William H. Armstrong, Birmingham, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed July 30, 1963, Ser. No. 76,035
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Belfiore, Samuel, ½ to R. L. Boose. Rotary lawn mower blade. Re. 25,611, 7–7–64, Cl. 56—295.

Boose, Raphael L.: *See*—
Belfiore, Samuel. Re. 25,611.

Burklo, Donald C.: *See*—
Reynolds, Charles B., Eklund, and Burklo. Re. 25,615.

Eklund, Walter M.: *See*—
Reynolds, Charles B., Eklund, and Burklo. Re. 25,615.

Kaiser Aluminum & Chemical Corp.: *See*—
Reynolds, Charles B., Eklund, and Burklo. Re. 25,615.

Lambert Engineering Co.: *See*—
Thorp, James T. Re. 25,612.

Plastic Products, Inc.: *See*—
Truesdale, Cavour L. Re. 25,613.

Reynolds, Charles B., W. M. Eklund, and D. C. Burklo, to Kaiser Aluminum & Chemical Corp. Method of adding a casing to a refractory article. Re. 25,615, 7–7–64, Cl. 29—470.7.

Thorp, James T., to Lambert Engineering Co. Rockets and seat ejecting apparatus. Re. 25,612, 7–7–64, Cl. 244—122.

Truesdale, Cavour L., to Plastic Products, Inc. Drapery heading seam. Re. 25,613, 7–7–64, Cl. 160—330.

Turzillo, Lee A. Means of grouting and concreting. Re. 25,614, 7–7–64, Cl. 61—35.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to L. E. Cooke Co. Peach tree. 2,418, 7–7–64, Cl. 43.

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,421, 7–7–64, Cl. 11.

Cooke, L. E., Co.: *See*—
Anderson, Frederic W. 2,418.

Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant. 2,416, 7–7–64, Cl. 85.

Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant. 2,417, 7–7–64, Cl. 85.

Imperial Flowers Ltd.: *See*—
Fischer, Carl. 2,416.
Fischer, Carl. 2,417.

Garabedian, John M., to Peach & Willow Farms. Nectarine tree. 2,419, 7–7–64, Cl. 41.

Garabedian, John M., to Peach & Willow Farms. Plum tree. 2,420, 7–7–64, Cl. 38.

Jackson & Perkins Co.: *See*—
Boerner, Eugene S. 2,421.

Peach & Willow Farms: *See*—
Garabedian, John M. 2,419.
Garabedian, John M. 2,420.

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Anderson, Alan S., and R. A. Keeler, to Williamson Development Co., Inc. Radiation measuring instrument or similar article. 198,585, 7–7–64, Cl. D52—6.

Armstrong, William H., to Borg-Warner Corp. Faucet fitting. 198,615, 7–7–64, Cl. D91—3.

Boltin, Lee. Cantilever support shelf bracket. 198,586, 7–7–64, Cl. D64—1.

Borg-Warner Corp.: *See*—
Armstrong, William H. 198,615.

Brach, E. J. & Sons: *See*—
Brach, Frank V. 198,611.

Brach, Frank V., to E. J. Brach & Sons. Merchandise display case. 198,611, 7–7–64, Cl. D80—9.

Brocken, Karl. Bottle carrying case. 198,591, 7–7–64, Cl. D58—5.

Bro-Dart Industries, Inc.: *See*—
Schwarz, Richard. 198,569.

Broyhill Furniture Factories: *See*—
Smith, Melbourne E., Jr. 198,570.

Burgess, Dennis A., to Precision Camera, Inc. Camera. 198,602, 7–7–64, Cl. D61—1.

Burnelli, Vincent J. Cargo air transport. 198,610, 7–7–64, Cl. D71—1.

Burnett, James G., to Pacer Research & Development Corp. Light producing apparatus for use with photosensitive materials. 198,600, 7–7–64, Cl. D61—1.

Burns, Fredrick B., and G. D'Ercoli, to E Z Paintr Corp. Paint trimming applicator or the like. 198,563, 7–7–64, Cl. D9—2.

Burns, Fredrick B., and G. D'Ercoli, to E Z Paintr Corp. Paint trimming applicator or the like. 198,564, 7–7–64, Cl. D9—2.

Castellano, Carmin A., to Consolidated Molded Products Corp. Tote box. 198,594, 7–7–64, Cl. D58—12.6.

Chase, David O., T. E. Hanson, K. E. Kober, and P. H. Stevens, to SCM Corp. Calculating machine. 198,603, 7–7–64, Cl. D64—11.

Chicago Aerial Industries, Inc.: *See*—
Hohulin, Samuel E. 198,601.

Clever, Donald G., to Proen Products Co. Bird feeder or the like. 198,568, 7–7–64, Cl. D31—2.

Collins, Harry J., Jr., to Cutler, Hammer, Inc. Cover for electrical apparatus enclosing case. 198,567, 7–7–64, Cl. D26—5.

Consolidated Molded Products Corp.: *See*—
Castellano, Carmin A. 198,594.

Cooper, Edward H. Football bench shelter. 198,565, 7–7–64, Cl. D13—1.

Cutler, Hammer, Inc.: *See*—
Collins, Harry J., Jr. 198,567.

Dabs International Corp.: *See*—
Dahab, Julius I. 198,582.
Dahab, Julius I. 198,583.

Dahab, Julius I., to Dabs International Corp. Lamp. 198,582, 7–7–64, Cl. D48—20.

Dahab, Julius I., to Dabs International Corp. Lamp. 198,583, 7–7–64, Cl. D48—20.

Davidson, John E. Gameboard. 198,574, 7–7–64, Cl. D34—5.

D'Ercoli, Geno: *See*—
Burns, Fredrick B., and D'Ercoli. 198,563.
Burns, Fredrick B., and D'Ercoli. 198,564.

Dickson, Herbert F., Jr., to Sylvania Electric Products Inc. Font of electroluminescent characters. 198,604, 7–7–64, Cl. D64—12.

Dickson, Herbert F., Jr., to Sylvania Electric Products Inc. Font of electroluminescent characters. 198,605, 7–7–64, Cl. D64—12.

Dickson, Herbert F., Jr. Electroluminescent plate and font of characters formed thereon. 198,606, 7–7–64, Cl. D64—12.

Dickson, Herbert F., Jr. Electroluminescent plate and font of characters formed thereon. 198,607, 7–7–64, Cl. D64—12.

Dresher Mfg. Co.: *See*—
Kupchick, Robert M. 198,561.

E Z Paintr Corp.: *See*—
Burns, Fredrick B., and D'Ercoli. 198,563.
Burns, Fredrick B., and D'Ercoli. 198,564.

Grabbe, Henry C.: *See*—
Hamilton, Kent, Grabbe, and Zimmerman. 198,609.

Gren, Carl A., to Magi-Pak Corp. Dispensing container for liquids. 198,597, 7–7–64, Cl. D58—17.

Grasso, Sam L., to Inland Mfg. Co. Radiation test and repair bench. 198,588, 7–7–64, Cl. D54—14.

Hamilton, Kent, H. C. Grabbe, and R. S. Zimmerman, said Hamilton assor. to said Grabbe and Zimmerman. Sailboat. 198,609, 7–7–64, Cl. D71—1.

Hammer, Ralph E., to Packard-Bell Electronics Corp. Stereophonic high fidelity unit. 198,589, 7–7–64, Cl. D56—4.

Hanson, Thomas E.: *See*—
Chase, David O., Hanson, Kober, and Stevens. 198,603.

Hohulin, Samuel E., to Chicago Aerial Industries, Inc. Camera. 198,601, 7–7–64, Cl. D61—1.

Holmberg, Gote E. Y. Safety belt buckle. 198,566, 7–7–64, Cl. D17—1.

Hoover Ball and Bearing Co.: *See*—
Platte, Richard L. 198,592.

Hunt, William F., to Reynolds Metals Co. Insulated container for a keg or the like. 198,596, 7–7–64, Cl. D58—17.

Inland Mfg. Co.: *See*—
Grasso, Sam L. 198,588.

International Silver Co., The: *See*—
King, Robert J. 198,587.

Johns, Stanley K. Bottle. 198,593, 7–7–64, Cl. D58—8.

Kamp, George B., to Wildman, Jacquard Co. Circular knitting machine. 198,581, 7–7–64, Cl. D47—5.

Keeler, Robert A.: *See*—
Anderson, Alan S., and Keeler. 198,585.

King, Robert J., to The International Silver Co. Fork or similar article of flatware. 198,587, 7–7–64, Cl. D54—12.

Kober, Karl E.: *See*—
Chase, David O., Hanson, Kober, and Stevens. 198,603.
Kortum, Floyd W. Baseball glove. 198,560, 7-7-64, Cl. D3—11.
Koukal, Louis. Combined closure and dispenser. 198,599, 7-7-64, Cl. D38—26.
Kupchick, Robert M., to Dresher Mfg. Co. Bedstead end frame. 198,561, 7-7-64, Cl. D6—2.
Lavitol, Basil. Stop clock. 198,577, 7-7-64, Cl. D42—1.
Levy, Stephen M. Doll. 198,572, 7-7-64, Cl. D34—4.
Magi-Pak Corp.: *See*—
Gran, Carl A. 198,597.
Maguire, Paul R. Binoculars. 198,590, 7-7-64, Cl. D57—1.
Marien, Henry J.: *See*—
Swett, James B., and Marien. 198,580.
McDorman, Robert S. Ash tray. 198,613, 7-7-64, Cl. D85—2.
McDorman, Robert S. Ash tray. 198,614, 7-7-64, Cl. D85—2.
Milenkevich, Joseph A., to The Procter & Gamble Co. Dispensing closure for bottles or the like. 198,598, 7-7-64, Cl. D38—26.
National Cash Register Co., The: *See*—
Rindsfuesser, Johannes. 198,584.
Nylonge Corp.: *See*—
Politzer, Alfred, and Pekarek. 198,562.
Pacer Research & Development Corp.: *See*—
Burnett, James G. 198,600.
Packard-Bell Electronics Corp.: *See*—
Hammer, Ralph E. 198,589.
Pekarek, Frank: *See*—
Politzer, Alfred, and Pekarek. 198,562.
Plagenberg, Walter A., to Star Coffee Co. Beaker handle. 198,579, 7-7-64, Cl. D44—29.
Platte, Richard L., to Hoover Ball and Bearing Co. Jug. 198,592, 7-7-64, Cl. D58—5.
Politzer, Alfred, and F. Pekarek, to Nylonge Corp. Textured artificial sponge, or similar article. 198,562, 7-7-64, Cl. D9—2.
Precision Camera, Inc.: *See*—
Burgess, Dennis A. 198,602.
Procter & Gamble Co., The: *See*—
Milenkevich, Joseph A. 198,598.
Proen Products Co.: *See*—
Clever, Donald G. 198,563.
Rexall Drug and Chemical Co.: *See*—
Swett, James B., and Marien. 198,580.
Reynolds Metals Co.: *See*—
Hunt, William F. 198,606.
Rhodes, Stanley J., Jr., to A. F. Zeman. Portable hydraulic power pump. 198,608, 7-7-64, Cl. D68—1.
Rindsfuesser, Johannes, to The National Cash Register Co. Cash register or similar article. 198,584, 7-7-64, Cl. D52—4.
Robison, Edwin R. Circular pool table. 198,571, 7-7-64, Cl. D34—3.
SCM Corp.: *See*—
Chase, David O., Hanson, Kober, and Stevens. 198,603.
Schwarz, Richard, to Bro-Dart Industries, Inc. Book end. 198,569, 7-7-64, Cl. D32—3.
Shiffman, Jerome. Box. 198,595, 7-7-64, Cl. D68—12.7.
Smith, Melbourne E., Jr., to Broyhill Furniture Factories. Chest. 198,570, 7-7-64, Cl. D32—6.
Star Coffee Co.: *See*—
Plagenberg, Walter A. 198,579.
Stevens, Philip H.: *See*—
Chase, David O., Hanson, Kober, and Stevens. 198,603.
Strauss, George J. Coaster rack. 198,578, 7-7-64, Cl. D44—29.
Swett, James B., and H. J. Marien, to Rexall Drug and Chemical Co. Combined measuring, molding and cutting tool. 198,580, 7-7-64, Cl. D44—29.
Sylvania Electric Products Inc.: *See*—
Dickson, Herbert F., Jr. 198,604.
Dickson, Herbert F., Jr. 198,605.
Trevena, Charles D. Toy worm. 198,576, 7-7-64, Cl. D34—15.
Tsuchiya, Katsuji. Gas stove. 198,612, 7-7-64, Cl. D61—10.
Vanamatic Co.: *See*—
Wiltsie, James N. 198,575.
Vawryk, Michael. Gameboard. 198,573, 7-7-64, Cl. D34—5.
Wildman, Jacquard Co.: *See*—
Kamp, George B. 198,581.
Williamson Development Co., Inc.: *See*—
Anderson, Alan S., and Keeler. 198,585.
Wiltsie, James N., to Vanamatic Co. Set of chessmen. 198,575, 7-7-64, Cl. D34—5.
Zeman, Arthur F.: *See*—
Rhodes, Stanley J. 198,608.
Zimmerman, Richard S.: *See*—
Hamilton, Kent, Grabbe, and Zimmerman. 198,609.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Krein, John H., and Cook. 3,139,874.
AMP Inc.: *See*—
Engelbart, Douglas C. 3,140,402.
Abbott, Gail C. Method of displacing thread portion to produce lock thread. 3,139,036, 7–7–64, Cl. 10—86.
Abbott, Gail C. Nut feeding and orienting means at work station. 3,139,638, 7–7–64, Cl. 10—162.
Abbott Laboratories: *See*—
Luskin, Leo S., and Short. 3,140,231.
Abbott Machine Co., Inc.: *See*—
Abbott, Samuel L. 3,139,651.
Abbott, Samuel L., to Abbott Machine Co., Inc. Textile drafting. 3,139,651, 7–7–64, Cl. 19—259.
Acme-McCrary Corp.: *See*—
Lewis, William H. 3,139,742.
Acme Steel Co.: *See*—
Hall, Marchand B., Collins, Plattner, Flanegan, and Weller. 3,139,813.
Adams, Leon M.: *See*—
Martin, Eugene C., Binning, Adams, and Lee. 3,140,256.
Adams, Lester R., and E. H. Sommerfeld, to International Business Machines Corp. Data transfer apparatus. 3,140,472, 7–7–64, Cl. 340—174.
Addo, Aktiebolaget: *See*—
Holmqvist, Nils E. F. 3,139,821.
Adelman, Barnet R., to United States of America, Army. Gasless ignition composition for solid rocket propellants. 3,140,208, 7–7–64, Cl. 149—41.
Adhesive Engineering Co.: *See*—
Krahe, Donald C., and Grubb. 3,140,078.
Agfa Aktiengesellschaft: *See*—
Jakob, Franz, and Knorr. 3,139,804.
Kiper, Gerd. 3,139,806.
Aimes, Francis M. Stabilizer support for milking devices. 3,139,865, 7–7–64, Cl. 120—108.
Ainslie, Thomas D., to Phillips-van Heusen Corp. Collar having thermoplastic "gut" yarn. 3,139,912, 7–7–64, Cl. 139—385.5.
Ainsworth, Bruce S., Jr.: *See*—
Cantor, Harry A., Vona, and Ainsworth. 3,140,274.
Akeiree, David. Premium holding package. 3,139,981, 7–7–64, Cl. 206—47.
Akers, Merle K.: *See*—
Powers, Bernerd T., and Akers. 3,140,011.
Akron Standard Mold Co., The: *See*—
Shilts, Richard L., and Ruttenberg. 3,140,216.
Albright, John R. Motor-driven rotary toothbrush with reversing gear. 3,139,639, 7–7–64, Cl. 15—23.
Aldrin, Henry W., to Aktiebolaget Bofors. Hoist for rounds of ammunition. 3,139,798, 7–7–64, Cl. 89—46.
Alexandersson, Harald V., K. G. Brunberg, and R. A. Dahlblom, to Telefonaktiebolaget L M Ericsson. Circuit arrangement for operation of a satellite exchange in an automatic telephone system. 3,140,354, 7–7–64, Cl. 179—18.
Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Fluid pressure piston actuator. 3,139,762, 7–7–64, Cl. 74—110.
Altschuler, Samuel, to United States of America, Army. Tandem loaded firing tubes. 3,139,795, 7–7–64, Cl. 89—1.7.
Alvarez-Calderon, Alberto. High lift and control system for aircraft. 3,140,065, 7–7–64, Cl. 244—10.
American Brush Machinery Co., Inc.: *See*—
Spiegel, Si I. 3,140,122.
American Cyanamid Co.: *See*—
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Zweig, Arnold, and Hoffmann. 3,140,310.
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American Monorail Co., The: *See*—
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Tinker, Townsend. 3,139,926.
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Derrickson, Charles H. 3,139,824.
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Naborney, Erwin. 3,140,202.
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Eldridge, Donald F. 3,140,361.
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Koch, Samuel J., and Ehrlich. 3,140,144.
Anagnostou, George N. Rope net and fittings therefor. 3,140,112, 7–7–64, Cl. 294—77.
Andersen, Clifford W., to The Wurlitzer Co. Coupling arrangement. 3,139,782, 7–7–64, Cl. 84—240.
Andersen, Clifford W., and C. S. Corey, to The Wurlitzer Co. Piano action. 3,139,781, 7–7–64, Cl. 84—240.
Andersen, Clifford W., and P. J. Boehrig, to The Wurlitzer Co. Keyfork arrangement. 3,139,780, 7–7–64, Cl. 84—240.
Anderson, Harold P., to Bell Telephone Laboratories, Inc. Pulse shaper employing means to control time constant of included differentiator circuit. 3,140,407, 7–7–64, Cl. 307—88.5.
Anderson, Robert B.: *See*—
Hofer, Lawrence J. E., and Anderson. 3,140,148.
Anderson, William H.: *See*—
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Anthony, Myron L., and R. F. Gill, Jr., to Scully-Anthony Corp. Method of cold pressure welding electrical enclosure members. 3,139,678, 7–7–64, Cl. 29—470.1.
Ardell, Richard D., to Lockheed Aircraft Corp. Fastening device. 3,139,786, 7–7–64, Cl. 85—7.
Ardis, Alan E., and A. A. Vaitekunas, to Socony Mobil Oil Co., Inc. Preparation of isophthalic acid monoester. 3,140,309, 7–7–64, Cl. 260—475.
Armstrong Patents Co. Ltd.: *See*—
Dickinson, Ronald S. 3,140,409.
Arnold, Arnold F., to Parker Brothers, Inc. Set of building blocks wherein each block has connecting means on three surfaces thereof. 3,139,698, 7–7–64, Cl. 46—25.
Arvon Products Co., Inc.: *See*—
Vernon, Robert H. 3,139,646.
Ashbaugh, Fred E., and F. W. Bushman, to The Boeing Co. Diffraction shield consisting of notched ring which frames passive reflector. 3,140,491, 7–7–64, Cl. 343—912.
Ashton Brothers & Co. Ltd.: *See*—
Bayes, Alfred W. 3,139,913.
Ashworth, James E., to United States Steel Corp. Transfer apparatus system. 3,139,839, 7–7–64, Cl. 104—130
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Hetzel, Peter J. G. 3,140,434.
Atlas Engineering Co., Inc.: *See*—
Weil, Thomas A. 3,140,439.
Atvidabergs Industrier, Aktiebolaget: *See*—
Ljungberg, John E. 3,139,822.
Auburn Machine Works, Inc.: *See*—
McIntosh, Glenn W., and Rosterman. 3,139,759.
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Loewe, George R. 3,140,352.
Manduech, Robert, and Gouttebel. 3,140,404.
Ostline, John E. 3,140,350.
Reimer, William A. 3,139,668.
Sherstiuk, Boris. 3,140,358.
Stoffels, Robert E. 3,140,488.
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Jensen, Gerald A. 3,140,380.
Aversa, Joseph. Cosmetic cases. 3,139,982, 7–7–64, Cl. 206—66.
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Ehrreich, John E., and Avery. 3,140,342.
Babcock & Wilcox Co., The: *See*—
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Babcock & Wilcox, Ltd.: *See*—
Lamm, Gunther, and Jahn. 3,139,866.
Babson Bros. Co.: *See*—
Merritt, Thomas W., and Thomas. 3,139,857.
Baermann, Max. Magnetic drive. 3,140,079, 7–7–64, Cl. 259—108.
Bafford, Richard A.: *See*—
Gregorian, Rasmie S., and Bafford. 3,140,279.
Bailey, Vincent R., and E. H. Isenhower, to Perry Printing Process Co. Composing machine. 3,139,791, 7–7–64, Cl. 88—24.
Baird, Gordon F., to Blackstone Corp. Machine for forming a heat transfer core structure. 3,139,920, 7–7–64, Cl. 153—2.
Baldur, Roman, to Dominion Engineering Works Ltd. Fluid machines. 3,140,074, 7–7–64, Cl. 253—142.
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Stucky, Mabel G., and Balser. 3,139,696.
Barnes, Vernon M., Jr., J. A. Burke, Jr., I. R. King, and R. L. Wolf, to Texaco Experiment Inc. Launcher and rocket. 3,139,794, 7–7–64, Cl. 89—1.7.
Barr, Leslie, to Nibot Corp. Dispenser top. 3,140,019, 7–7–64, Cl. 22—480.
Barr, Victor L., to Roller Bearing Co. of America. Keyed segmented race rings and improved method of making same. 3,140,130, 7–7–64, Cl. 308—216.
Barrows, Robert H. Hearing aid and attachment therefor. 3,140,363, 7–7–64, Cl. 179—107.
Barta, Gerald T., and J. R. Miskell, to Indiana General Corp. Magnet tester utilizing a motor-driven balancing network to determine plural discrete levels of energy. 3,140,441, 7–7–64, Cl. 324—34.

Barton, Alan E., to Goral Ltd. Suspender fasteners. 3,139,662, 7–7–64, Cl. 24—246.

Bastam, Hans-Dieter: *See*—
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Bauer, Frank J. Spot welder. 3,140,383, 7–7–64, Cl. 219—110.

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Bayes, Alfred W., to Ashton Brothers & Co. Ltd. Bed clothing and the like. 3,139,913, 7–7–64, Cl. 139—391.

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Bear, Marshall D.: *See*—
Ford, James R., and Bear. 3,140,487.

Beardsley, Melville W., to National Research Associates, Inc. Air cushion vehicle for travelling over irregular terrain. 3,139,947, 7–7–64, Cl. 180—7.

Bell, James F., B. Folda, Jr., and R. A. Trimble, to Socony Mobil Oil Co., Inc. Process for preparing binder pitches. 3,140,248, 7–7–64, Cl. 208—40.

Bell, Joe W., and H. H. Fowler, to The Rockwell Mfg. Co. Dual valve plug assemblies. 3,139,906, 7–7–64, Cl. 137—594.

Bell Telephone Laboratories, Inc.: *See*—
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Bischof, Werner, Doktor, and Legedza. 3,140,357.
Feiner, Alexander, and Lowry. 3,140,355.
Fox, Arthur G. 3,140,451.
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Hornbostel, Lloyd. 3,140,224.
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Dombeck, Edward K. 3,139,955.
Elliott, Robert A. 3,140,126.
Haase, Elmer A. 3,140,324.
Heiland, Robert J. 3,140,124.
Herron, Robert H., and Jannasch. 3,139,671.
Kuzmitz, Andrew A. 3,139,893.
McRoberts James C. 3,139,892.
Peczkowski, Joseph L. 3,139,922.
Roberts, George I. 3,139,921.
Scruggs, David M., and Herron. 3,139,672.
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Benninghoff, William E., to The Ohio Crankshaft Co. Apparatus and method for welding strips onto a tube. 3,140,378, 7–7–64, Cl. 219—9.5.

Benson, Carl H., to O. F. Mossberg & Sons, Inc. Action for semiautomatic firearms. 3,139,799, 7–7–64, Cl. 89—197.

Benson, William M., to Consolidated Electrodynamics Corp. Reel holding and centering hub. 3,140,061, 7–7–64, Cl. 242—68.1.

Bentley-Leek, Herbert: *See*—
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Berkley Machine Co.: *See*—
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Berthmann, Adolf, and C. Franze, to Dynamit Nobel Aktiengesellschaft. Reversibly rendering non-explosive nitric acid esters. 3,140,211, 7–7–64, Cl. 149—101.

Bethlehem Steel Co.: *See*—
Williams, Glenn S. 3,140,113.

Bielinski, George D., and V. J. Brooks, to General Motors Corp. Apparatus for stripping coverings from wire. 3,139,778, 7–7–64, Cl. 81—9.51.

Bielinski, Joseph D. Toggle operated coupling for fluid carrying conduits. 3,140,105, 7–7–64, Cl. 285—71.

Biesecker, Donald L., to Illinois Tool Works Inc. Cable fastener assembly. 3,139,768, 7–7–64, Cl. 74—501.

Bimber, Russell M., to Diamond Alkali Co. Preparation of aromatic acid halides. 3,140,246, 7–7–64, Cl. 204—158.

Bingham, D. W., and Co. Proprietary Ltd.: *See*—
Bingham, David W. 3,139,914.

Bingham, David W., to D. W. Bingham and Co. Proprietary Ltd. Syruping apparatus for use in connection with the canning of fruit, vegetables and other food products. 3,139,914, 7–7–64, Cl. 141—48.

Binner, Christian R., and C. W. Hammond, to United States of America, Atomic Energy Commission. Heat exchanger. 3,139,927, 7–7–64, Cl. 165—159.

Binning, Robert C.: *See*—
Martin, Eugene C., Binning, Adams, and Lee. 3,140,256.

Birkenbach, Eugen J., and R. R. Motycka, to International Harvester Co. Harrow with tooth set angling device. 3,139,942, 7–7–64, Cl. 172—390.

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Stephens, John A., and Birum. 3,140,226.
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Birum, Herbert L., Jr.: *See*—
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Bischof, Werner, T. L. Doktor, and Z. Legedza, to Bell Telephone Laboratories, Inc. Multifrequency receiver. 3,140,357, 7–7–64, Cl. 179—84.

Bituminous Coal Research, Inc.: *See*—
Muth, Daniel T., and Zawadzki. 3,140,335.

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Blaisdell, Donald, and T. J. Judge, to General Signal Corp. Selective calling system. 3,140,468, 7–7–64, Cl. 340—171.

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Work, Josiah, Joseph, and Blake. 3,140,242.

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Blankenship, Ernest B. Incinerator toilet. 3,139,626, 7–7–64, Cl. 4—131.

Blase, George A.: *See*—
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Wyman, Charles M., and Rogers. 3,140,034.

Blewett, James R.: *See*—
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Bliss, Douglas E. Detachable windshield protector. 3,140,115, 7–7–64, Cl. 296—95.

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Blomgren, Oscar C., and O. C., Jr., to Coy Mfg. Co. Gear pump assembly. 3,139,834, 7–7–64, Cl. 103—126.

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Watanabe, Ryoso, and Funakoshi. 3,140,291.

Blum, Heinrich: *See*—
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Boehman, Harry L., Jr., to Hi-Shear Corp. Fastener assembled by fluid forces. 3,139,787, 7–7–64, Cl. 85—7.

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Boeing Airplane Co.: *See*—
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Derschmidt, Hans, and Eck. 3,139,937.

Bollee, Boudewijn: *See*—
Schmitz, Albert, and Bollee. 3,140,452.

Bone, Miroslav. Centerboard control device. 3,139,851, 7–7–64, Cl. 114—132.

Bonsall, Rodney T., Jr.: *See*—
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Borden Co., The: *See*—
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Borg-Warner Corp.: *See*—
Smirl, Richard L. 3,139,764.

Bormann, Friedrich. Collapsible and adjustable trestles. 3,139,950, 7–7–64, Cl. 182—184.

Borngaeber, Royce R., to Deere & Co. Variable drive mechanism. 3,140,046, 7–7–64, Cl. 235—91.

Borodin, Daniel J., to U. S. Automation Co. Velocity control mechanism. 3,139,802, 7–7–64, Cl. 92—13.

Bortneck, Eugene, J. A. Vona, and E. J. Kuzma, to Celanese Corp. of America. Alkyd resins modified with omega lactone. 3,140,267, 7–7–64, Cl. 260—22.

Bosch, Robert, GmbH: *See*—
Kohler, Ernst, Bastam, and Brantner. 3,140,140.

Boswell, Joseph L., T. Burks, G. F. Dixon, Jr., and G. S. Lee, to United States of America, Army. Concrete casting machine. 3,139,663, 7–7–64, Cl. 25—2.

Bourcier de Carbon, Christian M. L. L. Shock absorbers. 3,140,085, 7–7–64, Cl. 267—64.

Bowen, Idris G., to International Combustion (Holdings) Ltd. Handling of slurries. 3,140,123, 7–7–64, Cl. 302—14.

Boyer, George W., to Consolidated Electrodynamics Corp. Tape transport system. 3,140,062, 7–7–64, Cl. 242—76.

Boyle, Richard W. Extensometer for measuring deflection of a cracked plate specimen. 3,139,684, 7–7–64, Cl. 33—143.

Bradford, Arthur J., and A. E. Eigsti, to Wilding, Inc. System for strip film projection. 3,139,793, 7–7–64, Cl. 88—28.

Bradford Dyers' Assn. Ltd., The: *See*—
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Brandon, Arthur H. Tubing tester with ratchet contacts. 3,139,686, 7–7–64, Cl. 33—178.

Brantner, Andreas: *See*—
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Braun, W., Co.: *See*—
Lerner, Nathan B. 3,140,014.

Bredow, Walter. Punch press with a rotatable tool head. 3,139,779, 7–7–64, Cl. 83—140.

Breitmeier, Max. Photoelectric weft detecting means. 3,139,911, 7–7–64, Cl. 139—370.

Brekelbaum, Erwin C., G. C. Noll, G. B. Klos, and J. D. Nielsen, to The Thew Shovel Co. Indicator for cranes and the like. 3,139,988, 7–7–64, Cl. 212—39.

Brenner, Abner, W. E. Reid, Jr., and J. H. Connor, to United States of America, Navy. Production of tungsten objects. 3,139,658, 7–7–64, Cl. 22—200.

Brent, Jewell A., to The Coca-Cola Co. Orange concentrate and method of making. 3,140,187, 7–7–64, Cl. 99—205.

Bretch, Edward, deceased; A. L. Canavan, executor, to H. Bretch, M. L. Iache, and G. B. Spear. Voltage regulating system for alternating current generators utilizing half wave self-saturating core reactors. 3,140,437, 7–7–64, Cl. 322—75.

Bretch, Helen: *See*—
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Bristol-Myers Co.: *See*—
Johnson, David A., and Wolfe. 3,140,282.
Kuna, Samuel, and Pircio. 3,140,228.

Britt Tech Corp.: *See*—
Norstrud, Ives R., and Threlkeld. 3,140,049.

Broadwell, Robert J., to Maremount Corp. Manually controlled self-leveling system for a vehicle suspension. 3,140,098, 7–7–64, Cl. 280—6.

Broderick, John P., and J. F. Quaas, to Eutectic Welding Alloys Corp. Starting block for arc welding. 3,140,384, 7–7–64, Cl. 219—136.

Bronson, Charles L., to Varel Mfg. Co., Inc. Replaceable drill bit structures. 3,139,946, 7–7–64, Cl. 175—412.

Bronzavia S.A.: *See*—
Karing, Paul. 3,139,900.

Brooker, Leslie G. S.: *See*—
Heseltine, Donald W., and Brooker. 3,140,182.

Brooks, Vernon J.: *See*—
Bielinski, George D., and Brooks. 3,139,778.

Bross, Charles F.: *See*—
Merrill, Leland H., and Bross. 3,139,713.

Broussard, Douglas E., to Shell Oil Co. Thermal process for in situ decomposition of oil shale. 3,139,928, 7–7–64, Cl. 166—2.

Brown, Thomas W., to Lombard Industries, Inc. Injection molding method and apparatus. 3,140,332, 7–7–64, Cl. 264—329.

Brudner, Harvey J. Digital meter. 3,139,753, 7–7–64, Cl. 73—362.

Brunberg, Karl G.: *See*—
Alexandersson, Harald V., Brunberg, and Dahlblom. 3,140,354.

Bucher, David H., and K. Q. Stephenson. Transplanter mulcher. 3,139,847, 7–7–64, Cl. 111—3.

Bucklen, Ellis P., to Consolidation Coal Co. Cable reel support. 3,140,063, 7–7–64, Cl. 242—86.51.

Buescher, Francis J.: *See*—
Goepfert, George J., Frye, Soukup, and Buescher. 3,140,321.

Burbine, William G.: *See*—
Jordan, Merrill E., Cole, Burbine, and Petterson. 3,140,192.

Burch, Archie E. Precision applicator. 3,140,017, 7–7–64, Cl. 222—197.

Burdick, Richard. Coin storing and displaying devices. 3,139,977, 7–7–64, Cl. 206—.83.

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Burns, Bruce, and H. Spitz. Garment hanger. 3,140,024, 7–7–64, Cl. 223—93.

Burroughs Corp.: *See*—
Glaser, David, and De Versterre. 3,140,480.
Leshner, Ervin. 3,140,474.

Burrow, Laurie R.: *See*—
Theriot, Ivy J., and Burrow. 3,140,399.

Burson, Bob O.: *See*—
Terry, Stanley M., and Burson. 3,140,413.

Busch, Siegfried, R. Hatschek, and F. Pischinger, to H. List. Apparatus for the irradiation or vacuum-coating of specimens. 3,140,393, 7–7–64, Cl. 250—49.5.

Buschbom, Floyd E., to Vandale Corp. Silo unloader drive means. 3,139,995, 7–7–64, Cl. 214—17.

Bush, Freeman: *See*—
Reimers, Frederick E., Miller, and Bush. 3,140,201.

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Ashbaugh, Fred E., and Bushman. 3,140,491.

Busselli, Frank D. Hair curler. 3,139,880, 7–7–64, Cl. 132—39.

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Girault, Pierre. 3,140,488.

Cabot Corp.: *See*—
Jordan, Merrill E., Cole, Burbine, and Petterson. 3,140,192.

Cade, Phillip J., to Electronics Corp. of America. Electrical connector apparatus. 3,10,425, 7–7–64, Cl. 317—101.

Cairns, Theodore L. S., and E. G. McGeer, to E. I. du Pont de Nemours and Co. Colored 1:1 pi complexes of tetracyanoethylene and aromatic compounds. 3,140,308, 7–7–64, Cl. 260—465.

Callaway Mills Co.: *See*—
Parker, Samuel P., and Short. 3,139,909.

Camp, Alfred L., to I. Terry, d.b.a. The Wilkins Regulator Co. Pressure regulator valve. 3,139,901, 7–7–64, Cl. 137—505.18.

Campbell, Donald J., to D. H. Baldwin Co. Rhythmic interpolator. 3,140,336, 7–7–64, Cl. 84—1.03.

Campbell, Harry J.: *See*—
Sikora, Stephen J., and Campbell. 3,140,483.

Canadian General Electric Co. Ltd.: *See*—
Huibrechtse, Cornelis. 3,140,375.

Canavan, A. L.: *See*—
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Cantor, Harry A., J. A. Vona, and B. S. Ainsworth, Jr., to Celanese Corp. of America. Copolymers. 3,140,274, 7–7–64, Cl. 260—78.3.

Caparone, Michael J.: *See*—
Randolph, Hollis L., Caparone, and Graham. 3,140,372.

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Carlson, Chester F., to Xerox Corp. Xerographic fusing and drying apparatus. 3,140,160, 7–7–64, Cl. 34—155.

Carlson, David J., to Radio Corp. of America. Tuner. 3,140,444, 7–7–64, Cl. 325—445.

Carlson, Elmer T.: *See*—
Kuhar, William A., and Carlson. 3,140,345.

Carlson, Ernest C.: *See*—
Rickerd, Calvin P., Fischer, and Carlson. 3,139,718.

Carruthers, George A., to Turbo Machine Co. Tow fiber crimping apparatus. 3,139,664, 7–7–64, Cl. 28—1.

Cartwright, Theodore R., to J. M. Donnelly. Electrode holder. 3,140,386, 7–7–64, Cl. 219—138.

Castigliola, Julius: *See*—
Del Re', Benedict V., and Castigliola. 3,139,945.

Celanese Corp. of America: *See*—
Bortnek, Eugene, Vona, and Kusma. 3,140,267.
Cantor, Harry A., Vona, and Ainsworth. 3,140,274.

Cella, Luigi. Flat underbust dress form. 3,140,021, 7–7–64, Cl. 223—68.

Cella, Luigi. Contractible dress form. 3,140,022, 7–7–64, Cl. 223—68.

Cella, Luigi. Automatically adjustable dress form. 3,140,023, 7–7–64, Cl. 223—68.

Central Research Laboratories, Inc.: *See*—
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Chacon, Rafael R. Sugar cane raw juice clarifier. 3,140,200, 7–7–64, Cl. 127—13.

Chang, Kern K. N., to Radio Corp. of America. Electron tube generating oppositely directed radially-displaced beams. 3,140,420, 7–7–64, Cl. 315—3.6.

Chapman Division-Crane Co.: *See*—
Malcolm, Vincent T. 3,140,205.

Chasar, Anthony R., to The Triax Co. Mechanical load handling, transfer and storage equipment. 3,139,994, 7–7–64, Cl. 214—16.4.

Chase, Robert L., to United States of America, Atomic Energy Commission. Transistorized analog-to-digital converter. 3,140,479, 7–7–64, Cl. 340—347.

Chemetron Corp.: *See*—
Minard, Everett S. 3,139,915.

Chemische Fabriek L. van der Grinten N.V.: *See*—
Wilders, Johannes H. A., and van Rhijn. 3,140,181.

Cheney, George D., and T. C. Foster, to Ex-Cell-O Corp. Magnetic transducer head assemblies. 3,140,362, 7–7–64, Cl. 179—100.2.

Chervenak, Raymond R.: *See*—
Lacy, George H., and Chervenak. 3,140,196.

Chicago Dynamic Industries, Inc.: *See*—
Koci, Jerry C., and Heide. 3,140,377.

Chomerics, Inc.: *See*—
Ehrreich, John E., and Avery. 3,140,342.

Chuy, Nicholas J., deceased, R. Chuy, heir. Tethered top with a spring mounted on the shaft for rewinding the cord. 3,139,690, 7–7–64, Cl. 46—61.

Chuy, Ruth: *See*—
Chuy, Nicholas. 3,139,699.

Cialella, James R. Drapery suspension devices. 3,139,647, 7–7–64, Cl. 16—87.4.

Cilag-Chemie Ltd.: *See*—
Habicht, Ernst, and Feth. 3,140,284.
Müller, Hans, and Koebel. 3,140,314.

Cincinnati Milling Machine Co., The: *See*—
Goepfert, George J., Frye, Soukup, and Buescher. 3,140,321.

Cities Service Oil Co.: *See*—
Johnson, Earl W. 3,140,145.

Clamp, David W. L.: *See*—
Roberts, Maldwyn H., Clamp, and Jukes. 3,140,423.

Clark, Harold E., to Xerox Corp. Process for overcoating a xerographic plate. 3,140,174, 7–7–64, Cl. 96—1.

Clark, LeRoy. Cabinet bin. 3,140,136, 7–7–64, Cl. 312—328.

Clarkson (Engineers) Ltd.: *See*—
Clarkson, Frank H. and J. B., and Horton. 3,139,800.

Clarkson, Frank H. and J. B., and G. Horton, to Clarkson (Engineers) Ltd. Holder for milling cutters and like rotary tools. 3,139,800, 7–7–64, Cl. 90—11.

Clarkson, John B.: *See*—
Clarkson, Frank H. and J. B., and Horton. 3,139,800.

Clary Corp.: *See*—
Koehn, William A. 3,139,818.

Clayton, William. Support stand. 3,139,951, 7–7–64, Cl. 182—186.

Cleaver, Frank C., Sr. Lifting device for aircraft. 3,139,935, 7–7–64, Cl. 170—135.

Cleaver, John C., and F. Gething, to Cleaver-Brooks Co. Package heating apparatus. 3,139,867, 7–7–64, Cl. 122—406.

Cleaver-Brooks Co.: *See*—
Cleaver, John C., and Gething. 3,139,867.

Cleveland-Cliffs Iron Co., The: *See*—
Erck, Louis J., Violetta, and Ban. 3,140,326.

Clevite Corp.: *See*—
Shockley, William, and Noyce. 3,140,206.
Shockley, William, and Horsley. 3,140,438.

Clinton Industries, Inc.: *See*—
Cohen, Saul M., and Kent. 3,139,849.

Clinton, Raymond O., and A. J. Manson, to Sterling Drug Inc. Maleimide adducts of *o*-phellandrene and new products therefrom. 3,140,285, 7–7–64, Cl. 260—247.2.

Coad, Brian C., to Texas Instruments Inc. Production of alloy materials. 3,140,172, 7–7–64, Cl. 75—122.
Coca-Cola Co., The: *See*—
Brent, Jewell A. 3,140,187.
Cohen, Aaron I. Apparatus for the projection of distorted images. 3,140,347, 7–7–64, Cl. 178—5.8.
Cohen, Saul M., and F. J. Kent, to Clinton Industries, Inc. Multiple needle thread trimmer. 3,139,849, 7–7–64, Cl. 112—252.
Cole, Fred H. Circuit breaker interrupter. 3,140,374, 7–7–64, Cl. 200—150.
Cole, Harvey M.: *See*—
Jordan, Merrill E., Cole, Burbine, and Petterson. 3,140,-102.
Collins, Joseph M. Surgical traction device for stretchers. 3,139,883, 7–7–64, Cl. 128—75.
Collings, Willard E.: *See*—
Hall, Marchand B., Collins, Plattner, Finnegan, and Weller. 3,139,813.
Commissariat a l'Energie Atomique: *See*—
Fournie-Taillant-Vernioulet, Robert. 3,140,247.
Comparin, Robert A., to International Business Machines Corp. Pneumatic switch. 3,139,895, 7–7–64, Cl. 137—606.
Computer Products Inc.: *See*—
May, Melvin M. 3,140,408.
Connecticut Coil Corp.: *See*—
Finck, Frederick P., Jr. 3,140,073.
Connolly, Lewis T., and P. F. Swift, to Eastman Kodak Co. Method for preventing silicon dioxide contamination of lithographic printing masters. 3,139,825, 7–7–64, Cl. 101—149.2.
Connor, Jean H.: *See*—
Brenner, Abner, Reid, and Connor. 3,139,668.
Conoflow Corp.: *See*—
Lang, Frederic A., and Holben. 3,139,728.
Consolidated Electrodynamics Corp.: *See*—
Beason, William M. 3,140,061.
Boyer, George W. 3,140,062.
Groenewegen Johannes B. 3,140,029.
Winslow, John S. 3,140,435.
Consolidation Coal Co.: *See*—
Bucklen, Ellis P. 3,140,063.
Fowler, Donald L., Jr. 3,140,240.
Conti, John D., to FMC Corp. Flexible wall container. 3,140,039, 7–7–64, Cl. 229—62.
Continental Gummi-Werke Aktiengesellschaft: *See*—
Dettmer, Günther. 3,140,327.
Nädler, Heinrich, and Blum. 3,139,963.
Continental Oil Co.: *See*—
Ferrell, Howard H., and Knutson. 3,139,747.
Hudgins, Charles M., Jr., McGlasson, and Greathouse. 3,139,930.
Controls Co. of America: *See*—
Hansen, Robert V. 3,140,012.
Cook, Forrest W.: *See*—
Krein, John H., and Cook. 3,139,874.
Cooke, Horise M.: *See*—
Thomas, John P., and Cooke. 3,140,106.
Cooper, Gordon M., and F. D. Fanning, to The United States Time Corp. Vacuum die casting apparatus. 3,139,655, 7–7–64, Cl. 22—73.
Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Four-component catalyst for polymerizing olefins containing a mixture of metals, a halogen, and amides. 3,140,-277, 7–7–64, Cl. 260—93.7.
Corey, Charles S.: *See*—
Andersen, Clifford W., and Corey. 3,139,781.
Corry Jamestown Corp.: *See*—
Stohlberg, Travers. 3,140,135.
Corset, Jeannine M. S.: *See*—
Larpent, Jeannine M. S. 3,139,871.
Cosper, John A., to Cosper Mfg. Co., Inc. Adjustable water closet collar. 3,140,104, 7–7–64, Cl. 285—59.
Cosper Mfg. Co., Inc.: *See*—
Cosper, John A. 3,140,104.
Courtney, Albert L., to The Bendix Corp. Machine for forming laminations. 3,140,058, 7–7–64, Cl. 242—2.
Coy Mfg. Co.: *See*—
Blomgren, Oscar C., and O. C. Blomgren, Jr. 3,139,834.
Craft, John B. Collapsible boat. 3,139,634, 7–7–64, Cl. 9—2.
Cramer, Robert H., S. C. Eastwood, and A. F. Houser, to Socony Mobil Oil Co., Inc. Manufacture of silica-zirconia-alumina catalyst. 3,140,250, 7–7–64, Cl. 208—120.
Crawford, N. B., and E. A. Mills. Emergency braking device. 3,139,953, 7–7–64, Cl. 188—31.
Criswell, Daryl L.: *See*—
Strebinger, Richard R., Criswell, and Wintrode. 3,139,-894.
Crutcher-Rolfs-Cummings, Inc.: *See*—
Homes, Samuel J. 3,139,991.
Cubic Corp.: *See*—
Ford, James R., and Bear. 3,140,487.
Cull, Jay A., and T. Hooker, to Hooker Chemical Corp. Hydrogen halide recovery. 3,140,155, 7–7–64, Cl. 23—277.
Cummins Engine Co., Inc.: *See*—
Link, Fred W. 3,139,575.
Cusic, John W., and H. S. Lowrie, to G. D. Searle & Co. N-(chlorophenyl)-N-phenyl-N'-2[(hydroxy lower alkyl)-piperidino]-ethyl ureas. 3,140,286, 7–7–64, Cl. 260—268.
Cutler-Hammer, Inc.: *See*—
Kubar, William A., and Carlson. 3,140,845.
D-Y Trust: *See*—
Devine, James H. and E. Y. 3,139,675.
Dabroski, Frank C. Illuminated rotatable resilient bumper. 3,140,111, 7–7–64, Cl. 293—17.
Daffer, George H., to Renaer, Inc. Flotation hull. 3,139,-635. 7–7–64, Cl. 9—6.
Daman, Arthur C., to Denver Equipment Co. Concentration apparatus and method. 3,140,255, 7–7–64, Cl. 209—169.
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Baum, Richard E., and Daniels. 3,140,037.
Daspit, John L., to Tasker Instruments Corp. Apparatus for ground computed radial navigation. 3,140,361, 7–7–64, Cl. 235—151.
Daubenspeck, Richard P., to United States of America, Air Force. Canopy actuator and ejector device. 3,139,721, 7–7–64, Cl. 60—6.
Davey Compressor Co.: *See*—
Wilkinson, William H. 3,139,835.
Davidson, Ivor M., and L. Islip, to Power Jets (Research and Development) Ltd. Helicopter control mechanism. 3,139,-936, 7–7–64, Cl. 170—135.4.
Davis, Allan C., to F. A. Davis & Sons, Inc. Strip covering machine. 3,140,026, 7–7–64, Cl. 225—100.
Davis, F. A., & Sons, Inc.: *See*—
Davis, Allan C. 3,140,026.
Davis, Francis J.: *See*—
Reinhardt, Paul W., and Davis. 3,140,398.
Dawson, Fred, E. J. Vickers, and D. R. Sheard, to Imperial Chemical Industries Ltd. Treatment of textile materials. 3,140,198, 7–7–64, Cl. 117—139.5.
Dean, Robert W.: *See*—
Zoller, Linwood W., Jr., and Dean. 3,140,476.
Deere & Co.: *See*—
Borngaeber, Royce R. 3,140,046.
Groenewald, Henry D., Jr. 3,139,999.
Deerfield, Alan J., to Minneapolis-Honeywell Regulator Co. Error checking circuit for a plurality of parallel data transmission channels. 3,140,470, 7–7–64, Cl. 340—172.5.
DeFandorf, John L., R. R. Hackbarth, A. A. Kraus, and V. S. Sywulka. Switchboard-type of cabinet for electrical control apparatus. 3,140,428, 7–7–64, Cl. 317—120.
De Felice, Domenic: *See*—
Bender, William A., De Felice, and Pintauro. 3,140,186.
Dehne, Clarence A., to Jervis B. Webb Co. Bumper construction for tow mast floor trucks. 3,139,840, 7–7–64, Cl. 104—172.
De La Mare, Harold E., J. K. Kochi, and F. F. Rust, to Shell Oil Co. Allylic oxy compounds and their production. 3,140,303, 7–7–64, Cl. 260—408.
Delaney, John, and V. Hallsworth, to Ferranti, Ltd. Inertia responsive fuse. 3,139,828, 7–7–64, Cl. 102—78.
De Laval Separator Co., The: *See*—
Pinckney, Milton W. 3,140,185.
Delfs, Detlef: *See*—
Liebsch, Dietrich, and Delfs. 3,140,280.
Del Rd, Benedict V., and J. Castigliola. Pneumatic corer. 3,139,945, 7–7–64, Cl. 175—6.
De Maris, Elbert E., to E. I. du Pont de Nemours and Co. Explosive comprising polynitro heterocyclic and nitroaromatic compounds. 3,140,212, 7–7–64, Cl. 149—106.
Denver Equipment Co.: *See*—
Daman, Arthur C. 3,140,255.
Depoorter, Henri, J. M. Nys, and A. E. Van Dormael, to Gevaert Photo-Producten N.V. Triarylphosphonium cyclopentadienylide methine dyes and photographic emulsions sensitized therewith. 3,140,283, 7–7–64, Cl. 260—240.
Derrickson, Charles H., to The American Screen Process Equipment Co. Silk screen printing apparatus. 3,139,824, 7–7–64, Cl. 101—124.
Derschmidt, Hans, and G. Eck, to Bölkow-Entwicklungen Kommanditgesellschaft. Rotary wing aircraft. 3,139,937, 7–7–64, Cl. 170—160.25.
Dettmer, Günther, to Continental Gummi-Werke Aktiengesellschaft. Process for manufacturing bellows. 3,140,327, 7–7–64, Cl. 264—119.
Dever, Charles D.: *See*—
Wahl, Winton W., and Dever. 3,140,389.
De Versterre, William I.: *See*—
Glaser, David, and de Versterre. 3,140,480.
Devine, Evelyn Y.: *See*—
Devine, James H. and E. Y. 3,139,675.
Devine, James H. and E. Y.; said J. H. Devine, assor. to D-Y Trust. Tool for locking, unlocking and extracting an expandable blind bolt. 3,139,675, 7–7–64, Cl. 29—240.
De Witt, Clarence N. Portable foldable building structure. 3,139,958, 7–7–64, Cl. 189—3.
De Woskin, Irvin S., to Beltz Corp. Packaging. 3,139,712, 7–7–64, Cl. 53—33.
Dexter, Theodore H.: *See*—
Rucker, John T., and Dexter. 3,140,152.
Diamond Alkali Co.: *See*—
Bimber, Russell M. 3,140,246.
Dick, John L. and M. M. Swirl channel branch for a Christmas tree. 3,140,219, 7–7–64, Cl. 161—24.
Dick, Minnie M.: *See*—
Dick, John L. and M. M. 3,140,219.
Dickinson, Ronald S., to Armstrong Patents Co. Ltd. Electrical signalling and remote control circuit arrangements. 3,140,409, 7–7–64, Cl. 307—115.
Diefenderfer, Robert L., Jr.: *See*—
Hughes, Vernon R., and Diefenderfer. 3,139,782.
Diemer, William D. Projector and slide tray therefor. 3,139,-691, 7–7–64, Cl. 40—79.
Diesel, Hermann, to Rapp & Seidt Maschinenbau. Process and apparatus for breaking and teasing compressed fibrous material. 3,139,650, 7–7–64, Cl. 19—145.5.
Dijkmeijer, Henricus R., to North American Philips Co., Inc. Method of joining component parts of envelopes for high-power transistors. 3,140,382, 7–7–64, Cl. 219—82.
Di Lazzaro, John F., to Boeing Airplane Co. Graphite base ceramic refractory composition. 3,140,190, 7–7–64, Cl. 106—56.
Diversey Corp., The: *See*—
Dvorkovitz, Vladimir, Berst, and Krause. 3,140,262.
Dixon, George: *See*—
Boswell, Joseph L., Burks, Dixon, and Lee. 3,139,662.
Doebele, Joseph H. Sack holder. 3,140,070, 7–7–64, Cl. 248—97.

Doktor, Theodore L.: *See*—
Bischof, Werner, Doktor, and Legedza. 3,140,357.
Dolesal, Henry: *See*—
Hearle, Thomas A., Dolesal, and Klemmien. 3,140,170.
Dombeck, Edward K., to The Bendix Corp. Band-disk brake. 3,139,965, 7–7–64, Cl. 188—70.
Domestic Film Products Corp.: *See*—
Seaman, Norman R. 3,139,996.
Dominion Engineering Works Ltd.: *See*—
Baldur, Roman. 3,140,074.
Traxa, Leslie. 3,140,223.
Traxa, Leslie. 3,140,225.
Donnelly, Jerome M.: *See*—
Cartwright, Theodore R. 3,140,386.
Donovan, William F.: *See*—
Neuwald, Alfred A., and Donovan. 3,140,147.
Dore, Burnell V., to Sylvania Electric Products Inc. Electronic vacuum gauge. 3,139,754, 7–7–64, Cl. 73—398.
Dorn, Chester, to Pacific Car and Foundry Co. Seat for cab of automotive truck. 3,140,118, 7–7–64, Cl. 297—285.
Double, Plummer E., to Multifastener Corp. Method of and apparatus for dispensing fasteners. 3,140,010, 7–7–64, Cl. 221—73.
Dow Chemical Co., The: *See*—
Foster, Gerald L., and Oakes. 3,140,260.
Groves, Kenneth O. 3,140,317.
Lacy, George H., and Chervenak. 3,140,184.
Slimak, Joseph, Strojny, and Widiger. 3,140,244.
Wahl, Winston W., and Dever. 3,140,262.
Downie, John W., to General Electric Co. Frequency modulated pulse radar system. 3,140,489, 7–7–64, Cl. 343—17.2.
Drave Corp.: *See*—
Roder, Josef. 3,139,974.
Du Bois, Paul E. Apparatus and method for preventing wind-up on rolls. 3,139,315, 7–7–64, Cl. 100—39.
Duncan, Donal B., J. L. Henry, Jr., and S. D. Blitzer, to North American Aviation, Inc. System providing error rate damping of an autonavigator. 3,140,482, 7–7–64, Cl. 343—4.
Dunnebier, Kurt: *See*—
Winkler, Richard, and Dunnebier. 3,140,090.
Duplan Corp., The: *See*—
Struh, Henry M., Jr. 3,139,741.
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Cairns, Theodore L., and McGeer. 3,140,308.
De Maris, Elbert E. 3,140,212.
England, David C. 3,140,298.
Gorski, Robert A. 3,139,934.
Kreopan, Carl G. 3,140,295.
Weinmayr, Viktor. 3,140,220.
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Wilson, Joseph G., Dutton, Haymes, and Dygert. 3,139,735.
Dvorkovitz, Vladimir, N. Berst, and S. Krause, to The Diversey Corp. Contamination detection compositions. 3,140,262, 7–7–64, Cl. 252—301.1.
Dygert, Justin C.: *See*—
Wilson, Joseph G., Dutton, Haymes, and Dygert. 3,139,735.
Dynamit Nobel Aktiengesellschaft: *See*—
Berthmann, Adolf, and Franze. 3,140,211.
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Hubbe, John C. 3,140,449.
Easterday, David E.: *See*—
Ellis, Robert I., Easterday, and Kondritzer. 3,140,289.
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Elam, Edward U. 3,140,287.
Henry, James W., and Kennedy. 3,140,083.
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Hesseltine, Donald W., and Brocker. 3,140,182.
Hodges, Howard T. 3,139,806.
Maxwell, Donald A., and Stuckey. 3,140,182.
Peterson, Dean M. 3,139,805.
Roman, Robert J. 3,140,027.
Russell, Frederick J. 3,140,179.
Sievers, Douglas C., and Roper. 3,139,745.
Tobin, George R., Jr. 3,139,810.
Wallace, John T. 3,140,009.
Welch, Maurice E. 3,140,177.
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Weathe, Stephen J. 3,139,792.
York, William C. 3,140,180.
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Ebel, Herbert, to Siemens & Halske Aktiengesellschaft. Communication system employing frequency selection operations. 3,140,356, 7–7–64, Cl. 179—84.
Eberly, Harry C.: *See*—
Lee, John L., and Eberly. 3,140,109.
Eck, Gerhard: *See*—
Derschmidt, Hans, and Eck. 3,139,937.
Eckold, Walter. Manually or power driven apparatus for the stretching or upsetting of sheets or profiles. 3,139,775, 7–7–64, Cl. 78—81.
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Tavis, John R. 3,140,450.
Edie, David D.: *See*—
McCarthy, William P., and Edie. 3,139,853.
Egbert, Delbert W. Drag static wheel balancer. 3,139,757, 7–7–64, Cl. 73—457.
Eggen, Raymond B. Apparatus for adding a controlled amount of lube oil to an engine. 3,139,866, 7–7–64, Cl. 137—353.
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Koch, Samuel J., and Ehrlich. 3,140,144.
Ehrlich, Karl F. Rotary pump. 3,139,833, 7–7–64, Cl. 103—120.
Ehrreich, John E., and D. H. Avery, to Chomerics, Inc. Electrical shielding and sealing gasket. 3,140,342, 7–7–64, Cl. 174—35.
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Eldridge, Donald F., to Ampex Corp. Magnetic head assembly. 3,140,361, 7–7–64, Cl. 179—100.2.
Electrolux, Aktiebolaget: *See*—
Forsberg, Axel A. 3,139,640.
Electro-Mechanical Research, Inc.: *See*—
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Germain, Lloyd M. 3,140,477.
Electronic Specialty Co.: *See*—
Gindros, Frank H., Jr. 3,139,761.
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Cade, Phillip J. 3,140,425.
Ellin, Robert I., D. E. Easterday, and A. A. Kondritzer, to United States of America, Army. Process for preparing methyl pyridinium 2 aldoxime chloride. 3,140,289, 7–7–64, Cl. 260—296.
Elliott, Louis J., to Planautics Corp. Rotary switch. 3,140,366, 7–7–64, Cl. 200—24.
Elliott, Robert A., to The Bendix Corp. Hydraulic device. 3,140,126, 7–7–64, Cl. 303—84.
Elmore, Austin E., ½ to L. P. Smoot, and ½ to G. H. Morehouse. Apparatus for reducing materials. 3,139,917, 7–7–64, Cl. 146—68.
Elmore, Frederick W. Pressure cleaning apparatus. 3,140,050, 7–7–64, Cl. 239—143.
Engelbart, Douglas C., to AMP Inc. Magnetic-core logic circuits. 3,140,402, 7–7–64, Cl. 307—88.
England, David C., to E. I. du Pont de Nemours and Co. Selected hydroxypolyfluoroperhalocyclobutanes and their preparation from polyfluoroperhalocyclobutanones and selected unsaturates. 3,140,298, 7–7–64, Cl. 260—645.2.
Englander Co., Inc., The: *See*—
Kamp, Ewald A., and Panger. 3,139,629.
Erbsloh, Julius & August, Kommanditgesellschaft: *See*—
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Erbsloh, Paul-Gunther, and H. Wilke, to Erbsloh, Julius & August, Kommanditgesellschaft. Apparatus for producing metal-clad extruded bodies. 3,139,983, 7–7–64, Cl. 207—4.
Erck, Louis, J., D. C. Violetta, and T. E. Ban, to The Cleveland Cliffs Iron Co. Agglomerating method and apparatus. 3,140,326, 7–7–64, Cl. 264—117.
Erickson, Lewis C., to National Iron Co. Reciprocating plate feeding device. 3,139,967, 7–7–64, Cl. 198—60.
Esso Research and Engineering Co.: *See*—
Forster, Eric O. 3,140,276.
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Broderick, John P., and Quaas. 3,140,384.
Evans, Arthur G., and F. M. Pierson, to International Harvester Co. Plow attachment for tractor. 3,139,943, 7–7–64, Cl. 172—445.
Evelove, Leon G., to Litton Systems, Inc. Electrical circuit board mounting arrangements. 3,140,137, 7–7–64, Cl. 339—17.
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Sickel, Helmut, Schierse, and Fianke. 3,139,611.
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Eggert, Ralph H. 3,139,965.
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Thompson, Wendell S. 3,140,154.
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Work, Josiah, Joseph, and Blake. 3,140,242.
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Alfieri, Giuseppe. 3,139,762.
Fair, Paul A., and H. I. Hull, to United States of America, Army. Weather kit for military vehicles. 3,139,797, 7–7–64, Cl. 89—36.
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Fanning, Frederick D.: *See*—
Cooper, Gordon M., and Fanning. 3,139,655.
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Farbenfabriken Bayer Aktiengesellschaft: *See*—
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Klos, Heinrich, and Offe. 3,140,315.
Liebach, Dietrich, and Delfs. 3,140,280.
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Thoma, Wilhelm, and Rinke. 3,140,270.
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Fauser, Giacomo, to Montecatini Societá Generale per l'Industria Mineraria e Chimica. Process for production of acetylene and other products by partial combustion of hydrocarbons. 3,140,323, 7–7–64, Cl. 260—679.

Faustman, Carl O. Paint roller cleaner. 3,139,891, 7–7–64, Cl. 134—138.

Fecho, Rhine G., and C. H. Wade, to Whirlpool Corp. Method and means for disposing of a lint in a laundry apparatus. 3,139,633, 7–7–64, Cl. 8—158.

Feder, Jack B., and J. L. Russell, to Halcon International, Inc. Two stage distillation of high purity phenol. 3,140,243, 7–7–64, Cl. 202—40.

Feiner, Alexander, and T. N. Lowry, to Bell Telephone Laboratories, Inc. Control circuit for telephone line concentrator. 3,140,355, 7–7–64, Cl. 179—18.

Feisell, Henri G., to Compagnie des Machines Bull (Societe Anonyme). Transistor switching device. 3,140,401, 7–7–64, Cl. 307—88.

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Ferrell, Howard H., and C. F. Knutson, to Continental Oil Co. Flow regulator. 3,139,747, 7–7–64, Cl. 73—38.

Ferrell, Russell A., to H. H. Robertson Co. Connecting means for building panels. 3,139,961, 7–7–64, Cl. 189—88.

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Feu, Miguel, also known as M. F. Serrahima, to L. J. F. Nagode. Ski-type bob sled. 3,140,099, 7–7–64, Cl. 280—16.

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Finck, Frederick P., Jr., to Connecticut Coil Corp. Flux amplified solenoid valve with selectively separable sections. 3,140,073, 7–7–64, Cl. 251—129.

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Fleisner, Hans and Geroid, to Fleissner G.m.b.H., Firma. Drying apparatus. 3,140,157, 7–7–64, Cl. 34—115.

Fletcher, Peter S., to Anton Lorenz. Extensible head-rest and control for double movements and two position types of chairs. 3,140,117, 7–7–64, Cl. 297—61.

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Foltz, James R., W. J. Gardner, and S. Strausberg, to United States of America, Atomic Energy Commission. Method of reprocessing UO_2 reactor fuel. 3,140,151, 7–7–64, Cl. 23—14.5.

Ford, James R., and M. D. Bear, to Cubic Corp. Slant range position and velocity determining system. 3,140,487, 7–7–64, Cl. 343—8.

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Forsberg, Axel A., to Electrolux Aktiebolaget. Floor polishing and wax dispensing machine. 3,139,640, 7–7–64, Cl. 15—50.

Forster, Eric O., to Esso Research and Engineering Co. Continuous electrolytic polymerization process. 3,140,276, 7–7–64, Cl. 260—88.7.

Foster, Curtis W., W. Kenyon, and M. A. Pringle, to Lockheed Aircraft Corp. Structural disconnection apparatus. 3,139,660, 7–7–64, Cl. 24—211.

Foster, Gerald L., and B. D. Oakes, to The Dow Chemical Co. Corrosion inhibition. 3,140,260, 7–7–64, Cl. 252—151.

Foster, Theodore C.: *See*—
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Fournie-Taillant-Vernioulet, Robert, to Commissariat a l'Energie Atomique. Glass electrodes for the measurement of pH. 3,140,247, 7–7–64, Cl. 204—195.

Fowler, Donald L., Jr., to Consolidation Coal Co. Process for carbonizing coal. 3,140,240, 7–7–64, Cl. 202—14.

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Bell, Joe W., and Fowler. 3,139,906.

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Fraas, Arthur P., and J. J. Tudor, to United States of America, Atomic Energy Commission. Charging and service machine for gas-cooled reactors. 3,140,238, 7–7–64, Cl. 176—30.

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Neuwald, Alfred A., and Donovan. 3,140,147.

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Friedman, Robert G., to The National Machinery Co. Thread roller. 3,139,776, 7–7–64, Cl. 80—8.

Frilette, Vincent J., and P. B. Weisz, to Socony Mobil Oil Co., Inc. Hydrocarbon conversion with crystalline acid-metal aluminosilicates. 3,140,252, 7–7–64, Cl. 208—120.

Frilette, Vincent J., and P. B. Weisz, to Socony Mobil Oil Co., Inc. Selective catalytic conversion. 3,140,322, 7–7–64, Cl. 260—667.

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Fujii, Noriyoshi. Wheels for centrifugal fans of the forward curved multiblades type. 3,140,042, 7–7–64, Cl. 230—134.

Fuller, Harrison W., to Laboratory for Electronics, Inc. High capacity data processing techniques. 3,140,471, 7–7–64, Cl. 340—174.

Fuller, Richard B. Suspension building. 3,139,957, 7–7–64, Cl. 189—1.

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Gage, William P., and F. Jaffe, to W. R. Grace & Co. Production of formaldehyde polymers. 3,140,271, 7–7–64, Cl. 260—67.

Gagliardi, Domenick D. Method of ornamenting preformed polyolefin substrates with coating containing water insoluble pigments and resultant article. 3,140,194, 7–7–64, Cl. 117—15.

Gallaccio, Anthony, and R. W. Wick, to United States of America, Army. Dulling hard aluminum oxide coatings on aluminum-rich basis metals. 3,140,248, 7–7–64, Cl. 204—35.

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Gardner, Donald L. Exhaust and water injector for internal combustion engines. 3,139,873, 7–7–64, Cl. 123—119.

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Gartland, William A.: *See*—
Sipinen, Edsel H., and Gartland. 3,139,774.

Gauchat, Richard H. Rotary locking device. 3,139,780, 7–7–64, Cl. 74—565.

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Geikler, John A., Jr., and T. S. Weaver, to United States of America, Navy. Stripline variable power divider. 3,140,455, 7–7–64, Cl. 333—6.

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Krause, John F., Jr. 3,139,841.
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General Electric Co.: *See*—
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Horn, Fordyce H. 3,140,373.
Loncrini, Donald F. 3,140,290.
McGee, Archie A., Jr. 3,140,422.
Myers, Richard T., and Metzler. 3,140,445.
Myers, Richard T., and Spangler. 3,140,446.
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George, Peter D. Process for making a dashpot assembly. 3,139,670, 7–7–64, Cl. 29—156.4.

Germain, Lloyd M., to Electro-Mechanical Research, Inc. Time of occurrence telemetering apparatus relying upon extrapolation of a charging curve from sampled voltages. 3,140,442, 7–7–64, Cl. 324—68.

Germain, Lloyd M., to Electro-Mechanical Research, Inc. Amplitude density probability computer. 3,140,477, 7–7–64, Cl. 340—345.

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Cleaver, John C., and Gething. 3,139,867.

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Gwyn, Childress B., Jr. 3,139,669.
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Gindrot, Frank H., Jr., to Electronic Specialty Co. Quick reversing mechanism. 3,139,761, 7-7-64, Cl. 74—68.
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Goerrig, Dieter, W. Schabacher, and F. Schubert, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of boranates. 3,140,150, 7-7-64, Cl. 23—14.
Golden, Ruben L. Jarring tool. 3,139,933, 7-7-64, Cl. 166—178.
Goldstein, Milton. Method and apparatus for inserting resilient rods into flexible tubes. 3,139,677, 7-7-64, Cl. 29—451.
Gonski, Joseph, to Goodman Mfg. Co. Boring type continuous mining machine. 3,140,121, 7-7-64, Cl. 299—57.
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Goodrich, B. F., Co., The : *See*—
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Goslee, David E., L. Frank, and A. C. Pezzi, to Martin-Marietta Corp. Method of manufacturing nuclear reactor fuel elements. 3,139,681, 7-7-64, Cl. 29—474.3.
Gottfried Bischoff Bau Kompl. Gasreinigungs-u Wasserrueckkuhlanlagen K.G. : *See*—
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Granryd, Thorvald G., to The Frank G. Hough Co. Transmission controls. 3,139,766, 7-7-64, Cl. 74—472.
Grant, Nicholas J. Strength recovery of dispersion hardened alloys. 3,139,682, 7-7-64, Cl. 29—552.2.
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Green, Sally S. Readily portable luggage-type electric heating device. 3,140,387, 7-7-64, Cl. 219—346.
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Gregorian, Razmic S., and B. A. Bafford, to W. R. Grace & Co. Post extrusion crosslinking of polyethylene. 3,140,279, 7-7-64, Cl. 260—94.9.
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Heacock, Frederick H. Power-assisted steering gear for vehicles. 3,139,765, 7-7-64, Cl. 74—388.
Heath, Harry A., and L. D. Porter, to Power Control Products, Inc. Pneumatic stock feed and arrangement. 3,140,032, 7-7-64, Cl. 226—141.
Heath, Harry A., and L. D. Porter, to Power Control Products, Inc. Pneumatically operated vise jaw construction. 3,140,087, 7-7-64, Cl. 269—22.
Heberlein & Co. AG.: *See*—
Heberlein, Georg, Munzel, and Kunz. 3,140,197.
Heberlein, Georg, F. Munzel, and W. Kunz, to Heberlein & Co. AG. Finished textile and method of producing same. 3,140,197, 7-7-64, Cl. 117—93.31.
Hedges, George D., and E. R. Stensgaard, to Minneapolis-Honeywell Regulator Co. Movable tape indicating device. 3,139,854, 7-7-64, Cl. 116—135.
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Koci, Jerry C., and Heide. 3,140,377.
Heiland, Robert J., to The Bendix Corp. Accumulator means. 3,140,124, 7-7-64, Cl. 303—6.
Heininger, Samuel A., to Monsanto Co. Method of making aliphatic and aromatic thio and sulfonyl chloro- and bromoalkanenitriles. 3,140,306, 7-7-64, Cl. 260—465.
Heininger, Samuel A., and G. H. Birum, to Monsanto Co. Toxic arylsulfonyl haloalkanenitriles. 3,140,307, 7-7-64, Cl. 260—465.
Heinz, H. J., Co.: *See*—
Smith, Richard A., and Wojnar. 3,139,812.
Helthaus, William C., and C. D. Schwebel, to Sperry Rand Corp. Gradiated magnetic flux path produced by plurality of transverse ducts. 3,140,457, 7-7-64, Cl. 333—24.1.
Hendrickson, Melvin C., and G. V. Morris, to Zenith Radio Corp. Communication receiver. 3,140,346, 7-7-64, Cl. 178—5.1.
Henkel & Cie, G.m.b.H.: *See*—
Habernickel, Valentin. 3,140,149.
Henrie, Thomas A., H. Dolezal, and E. K. Kleespies, to United States of America, Interior. Magnesium reduction of titanium oxides in a hydrogen atmosphere. 3,140,170, 7-7-64, Cl. 75—84.
Henriksen, Ernst J. J. Fountain pen structures. 3,139,864, 7-7-64, Cl. 120—42.4.
Henry, Hugh F., to United States of America, Atomic Energy Commission. Neutron detector unit utilizing indium. 3,140,397, 7-7-64, Cl. 250—83.1.
Henry, James W., and W. D. Kennedy, to Eastman Kodak Co. Record and package therefor. 3,140,095, 7-7-64, Cl. 274—42.
Henry, Jerome L., Jr.: *See*—
Duncan, Donal B., Henry, and Blitner. 3,140,483.
Hercules Powder Co.: *See*—
Haubein, Albert H. 3,140,167.
Herron, Robert H.: *See*—
Scrugge, David M., and Herron. 3,139,672.
Herron, Robert H., and N. E. Jeannesch, to The Bendix Corp. Method for attaching a composition metal-ceramic material to a backing member. 3,139,671, 7-7-64, Cl. 29—182.8.
Hers, Arthur H., and N. W. Kalenda, to Eastman Kodak Co. Photographic silver halide emulsions containing thioether derivatives as antifoggants and stabilizers. 3,140,178, 7-7-64, Cl. 96—61.
Heseltine, Donald W., and L. G. S. Brooker, to Eastman Kodak Co. Non-ionized polymethine sensitizing dyes. 3,140,182, 7-7-64, Cl. 96—106.
Hetzel, Peter J. G., to Associated Electrical Industries Ltd. Bistable multivibrator controlled oscillating D.C. motor. 3,140,434, 7-7-64, Cl. 318—129.
Heyden Newport Chemical Corp.: *See*—
Chodsky, Sergey V., and Rosen. 3,140,304.
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Yoda, Naoya, and Higuchi. 3,140,272.
Hilpert, Fritz, to International Business Machines Corp. Printing unit. 3,139,819, 7-7-64, Cl. 101—93.
Hilt, Rudolf. Sheet metal cover for existing window frame. 3,139,703, 7-7-64, Cl. 50—118.
Hings, Donald P. Epoxy resin golf club head integrally cured with a shaft wrapping of glass fiber material. 3,140,094, 7-7-64, Cl. 273—80.3.
Hirtz, Hanns J.: *See*—
Hirtz, Hans and H. J. 3,139,885.
Hirtz, Hans and H. J. Device for the treatment of diseases of the respiratory passages. 3,139,885, 7-7-64, Cl. 128—212.
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Bochman, Harry L., Jr. 3,139,787.
Histed, Howard. Sandblast machine with precision sand-feed, remotely started and stopped. 3,139,706, 7-7-64, Cl. 51—8.
Hodges, Howard T., to Eastman Kodak Co. Card shingling device and clamp therefor. 3,139,809, 7-7-64, Cl. 93—93.
Hofer, Lawrence J. E., and R. B. Anderson, to United States of America, Interior. Method of treating exhaust gases with uranium-containing catalysts. 3,140,148, 7-7-64, Cl. 23—2.
Hoffman and Eaton: *See*—
Hoffman, Philip A. 3,140,481.
Hoffman, Philip A., to Hoffman and Eaton. Reversible analog to digital converter. 3,140,481, 7-7-64, Cl. 340—347.
Hoffman, Robert E., to Radio Corp. of America. Art of making color-phosphor screens of the mosaic variety. 3,140,176, 7-7-64, Cl. 96—35.
Hoffmann, Arthur K.: *See*—
Zweig, Arnold, and Hoffmann. 3,140,310.
Holben, Eugene F.: *See*—
Lang, Frederic A., and Holben. 3,139,728.
Holley Carburetor Co.: *See*—
Kittler, Milton J. 3,139,820.
Holloway, Thomas M., to Johnson Service Co. Fluid distribution device and system therefor. 3,140,047, 7-7-64, Cl. 236—1.
Hollowell, John R., to Fairchild Stratos Corp. Control system for infinitely variable automatic transmission. 3,139,723, 7-7-64, Cl. 60—19.
Holmqvist, Nils E. F., to Addo, Aktiebolaget. Devices for setting a number printer by means of a data transmitter. 3,139,821, 7-7-64, Cl. 101—93.
Holt, Pliny G., to United States of America, Navy. Mirror positioning apparatus. 3,140,341, 7-7-64, Cl. 88—24.
Homes, Samuel J., to Crutcher-Rolfs-Cummings, Inc. Barge mounted support for pipe line coating machine. 3,139,991, 7-7-64, Cl. 214—1.
Hooker Chemical Corp.: *See*—
Cull, Jay A., and Hooker. 3,140,155.
Rucker, John T., and Dexter. 3,140,152.
Hooker, Thomas: *See*—
Cull, Jay A., and Hooker. 3,140,155.
Hopkins, Richard F.: *See*—
Harbour, Marion E. 3,140,217.
Horn, Fordyce H., to General Electric Co. Arc ionizable beryllium electrodes for vacuum arc devices. 3,140,378, 7-7-64, Cl. 200—144.
Hornbostel, Lloyd, to Beloit Iron Works. Apparatus for compaction of formed sheet for improved properties. 3,140,224, 7-7-64, Cl. 162—348.
Hornbostel, Lloyd, Jr., to Beloit Iron Works. Pulp centrifuge. 3,140,258, 7-7-64, Cl. 210—112.
Horner, Jack E. Telescopic boat trailer. 3,140,008, 7-7-64, Cl. 214—505.
Horsley, George S.: *See*—
Shockley, William, and Horsley. 3,140,488.
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Clarkson, Frank H. and J. B., and Horton. 3,139,800.
Houdaille Industries, Inc.: *See*—
Rumsey, Rollin D. 3,140,080.
Hough, Frank G., Co., The: *See*—
Granryd, Thorvald G. 3,139,766.
Strader, Don S. 3,139,808.
Strader, Don S. 3,140,001.
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Cramer, Robert H., Eastwood, and Houser. 3,140,250.
Howe, Earl E.: *See*—
Hynes, Dibrell P. 3,140,107.
Howe, Richard W.: *See*—
Hynes, Dibrell P. 3,140,107.

Howell, Melvin D.: *See*—
Smith, Max R., and Howell. 3,139,750.
Hrubetz, Frank A. Epicyclic roundabout. 3,140,092, 7-7-64, Cl. 272—86.
Hubbs, John C., to E.H. Laboratories, Inc. Electrometer amplifier. 3,140,449, 7-7-64, Cl. 330—100.
Huber, Matthew W., to The New York Air Brake Co. Hydraulic system. 3,140,082, 7-7-64, Cl. 267—2.
Huckins, Harold A., Jr., to Halcon International, Inc. Process for the production of ethylene oxide and nitrogen. 3,140,158, 7-7-64, Cl. 23—220.
Hudgins, Charles M., Jr., R. L. McGlasson, and W. D. Greathouse, to Continental Oil Co. Methods of and apparatus for fracturing. 3,139,930, 7-7-64, Cl. 166—36.
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Fair, Paul A., and Huff. 3,139,797.
Hughes Aircraft Co.: *See*—
Gillmer, Arnold H. 3,140,486.
Ketchpel, Richard D. 3,140,415.
Lassen, Herbert A., and Wheeler. 3,140,456.
Lyon, Royal E. 3,140,453.
Nyborg, Meredith M. 3,140,381.
Hughes, Vernon R., and R. I. Diefenderfer, Jr.; said Diefenderfer assignor to Hughes. Visual reproduction system of multi-selection character. 3,139,788, 7-7-64, Cl. 88—17.
Huibrechtse, Cornelis, to Canadian General Electric Co. Ltd. Alternating current switch having wiping contacts. 3,140,375, 7-7-64, Cl. 200—164.
Hultgren, Gunnar V., to Farrel-Birmingham Co., Inc. Roll grinder having loading and unloading roll-conveying means. 3,139,706, 7-7-64, Cl. 51—49.
Humphrey, Delby C. Face guard for football helmet. 3,139,624, 7-7-64, Cl. 2—9.
Hunstiger, Francis: *See*—
O'Brien, Richard C., and Hunstiger. 3,139,808.
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Merritt, Glenn W., and Hunt. 3,139,997.
Hunt, Max L. Rhythm rocker. 3,139,630, 7-7-64, Cl. 5—100.
Hupp Corp.: *See*—
Bauer, Konrad E., and Ozaki. 3,139,879.
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Hurst, Edmond C., to United States of America, Atomic Energy Commission. Titanium primer for an evapor-ion pump. 3,140,173, 7-7-64, Cl. 75—200.
Hyman, Jerome, to Tension Envelope Corp. Envelope for enclosing bank statements and the like. 3,140,040, 7-7-64, Cl. 229—68.
Hynes, Dibrell P., 50% to E. E. Howe, 25% to R. W. Howe, and 25% to M. H. Frisbey. Tube coupling having sealing and anchoring means. 3,140,107, 7-7-64, Cl. 285—340.
I.C.E.D. Inc.: *See*—
Schreiner, Earl F. 3,139,924.
Ibex, Charles J., to The Maryland Baking Co. Container forming molds. 3,139,843, 7-7-64, Cl. 107—8.
Illinois Tool Works Inc.: *See*—
Biesecker, Donald L. 3,139,768.
Imanaka, Toshio, to Matsushita Electric Industrial Co., Ltd. Deflecting coils for cathode ray tubes. 3,140,432, 7-7-64, Cl. 317—200.
Imperial Chemical Industries Ltd.: *See*—
Dawson, Fred, Vickers, and Sheard. 3,140,198.
Indiana General Corp.: *See*—
Barta, Gerald T., and Miskell. 3,140,441.
Ingersoll-Rand Co.: *See*—
Pollak, Henry M. 3,139,881.
Inland Steel Co.: *See*—
Halley, James W., and McConnell. 3,140,168.
Intercontinental Enterprises: *See*—
Wiegel, Eduard. 3,139,850.
International Business Machines Corp.: *See*—
Adams, Lester R., and Sommerfield. 3,140,472.
Comparin, Robert A. 3,139,895.
Fitch, Clyde J. 3,140,031.
Gaffney, John E., Jr. 3,140,473.
Greanias, Evon C., and Hardin. 3,140,466.
Greenblott, Bernard J., and Wheeler. 3,140,089.
Hilpert, Fritz. 3,139,819.
Lisinski, Joseph E. 3,139,763.
Marcus, Mitchell P. 3,140,467.
Marquis, Donald A. 3,140,142.
Thompson, Leonard H. 3,140,406.
International Combustion (Holdings) Ltd.: *See*—
Bowen, Idris G. 3,140,123.
International Flavors & Fragrances Inc.: *See*—
Somerville, Willard T. 3,140,311.
International Harvester Co.: *See*—
Birkenbach, Eugen J., and Motycka. 3,139,942.
Evans, Arthur G., and Pierson. 3,139,943.
Fischer, Raymond C. 3,139,717.
Karlsson, Eiof K., and Sutton. 3,139,887.
Kolthoff, C. Paul, Jr. 3,140,075.
Parrish, Edward W., and Moran. 3,139,938.
Poynor, Russell R., Lowry, and Winslow. 3,140,161.
Rickerd, Calvin P., Fischer, and Carlson. 3,139,718.
Sullivan, Herbert D., and Grillot. 3,139,969.
Virtue, Eugene P., Moyer, and Richardson. 3,140,103.
International Machinery Corp. S.A.: *See*—
Mencacci, Samuel A., and Tack. 3,139,962.
International Milling Co.: *See*—
Nack, Herman. 3,140,183.
International Standard Electric Corp.: *See*—
Martens, Jean V. 3,140,358.
International Telephone and Telegraph Corp.: *See*—
Lonn, Harold J. 3,139,903.
Iowa Mfg. Co. of Cedar Rapids, Iowa: *See*—
Pollitz, Harold C. 3,140,067.
Irmscher, Klaus, to E. Merck, Aktiengesellschaft. 11-keto-12-dehydro-steroids and method for their preparation. 3,140,302, 7-7-64, Cl. 260—397.45.
Isaacs, Marcus M. Cuff for garments. 3,139,625, 7-7-64, Cl. 2—232.
Ische, Mary L.: *See*—
Bretch, Edward. 3,140,437.
Isenhower, Robert H.: *See*—
Bailey, Vincent R., and Isenhower. 3,139,791.
Islip, Leonard: *See*—
Davidson, Ivor M., and Islip. 3,139,936.
Jackson, Charlie P. Portable numismatic display case. 3,140,132, 7-7-64, Cl. 312—125.
Jackson, Harold E., to Tecalemit Ltd. Lubrication systems for vehicles and machines. 3,139,952, 7-7-64, Cl. 184—7.
Jaffe, Fred: *See*—
Gage, William P., and Jaffe. 3,140,271.
Jahn, Eduard: *See*—
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Jakob, Franz, and R. Knorr, to Agfa Aktiengesellschaft. Camera with automatic diaphragm. 3,139,804, 7-7-64, Cl. 95—10.
Jankowski, Edward M.: *See*—
Oliver, Norman J., Jankowski, and Rysdon. 3,139,861.
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Herron, Robert H., and Jannasch. 3,139,671.
Jarvis, Hyrum T., to Recold Corp. Refrigerated display fixture. 3,139,738, 7-7-64, Cl. 62—256.
Jefferson, Glen V., to Westinghouse Air Brake Co. Railway braking apparatus. 3,139,954, 7-7-64, Cl. 188—62.
Jelatis, Demetrius G., R. A. Olsen, L. W. Hasker, and E. W. Pearson, to Central Research Laboratories, Inc. Rugged-duty master-slave manipulator. 3,139,990, 7-7-64, Cl. 214—1.
Jemison, Volney M., and D. H. Young, to Glassoloid Corp. of America. Laminating press. 3,139,816, 7-7-64, Cl. 100—51.
Jensen, Gerald A., to Avco Corp. Device for coating substrates. 3,140,380, 7-7-64, Cl. 219—76.
Jequier, Robert, to Roussel-UCLAF. Method of stimulating the cardiac and bronchial branches of the central nervous system. 3,140,230, 7-7-64, Cl. 167—58.
Jerrold Electronics Corp.: *See*—
Winston, Eric, and Simons. 3,140,454.
Johann, Hans, and J. Graf, to Siemens-Schuckertwerke Aktiengesellschaft. Fuse constructions. 3,140,371, 7-7-64, Cl. 200—135.
Johns, Thomas D., 50% to M. H. Glover. Body rest. 3,139,632, 7-7-64, Cl. 5—341.
Johnson, David A., and S. Wolfe, to Bristol-Myers Co. Process for the production of α-aminobenzyl-penicillins. 3,140,282, 7-7-64, Cl. 260—239.1.
Johnson, Earl W., to Cities Service Oil Co. Interval timer. 3,140,145, 7-7-64, Cl. 346—109.
Johnson, Glenn D., to Shell Oil Co. Wellhead with tool diverter. 3,139,932, 7-7-64, Cl. 166—95.
Johnson Service Co.: *See*—
Holloway, Thomas M. 3,140,047.
Johnson, Vernon V., ½ to E. H. Gebhart. Releasable fluid line coupling. 3,140,102, 7-7-64, Cl. 280—421.
Johnston, Charles W. Arc welding and filler rod shape. 3,140,385, 7-7-64, Cl. 219—137.
Johnston, Howard R. Two-speed parachute. 3,140,067, 7-7-64, Cl. 244—148.
Johnston, Tomlinson F. Gang operated combination switch units each comprising a horizontally opening switch and a vertically opening bypass switch. 3,140,367, 7-7-64, Cl. 200—48.
Jones, Paul S.: *See*—
Laughter, Victor H. 3,140,348.
Jones, Samuel A. Quarter turn hydrant line to pumper line valve. 3,139,907, 7-7-64, Cl. 137—625.29.
Jordan, Merrill E., H. M. Cole, W. G. Burbine, and D. L. Peterson, to Cabot Corp. Carbon black process and product. 3,140,192, 7-7-64, Cl. 106—307.
Joseph, George W., Jr. Football helmet back flap. 3,139,623, 7-7-64, Cl. 2—3.
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Work, Josiah, Joseph, and Blake. 3,140,241.
Work, Josiah, Joseph, and Blake. 3,140,242.
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Coover, Harry W., Jr., and Joyner. 3,140,277.
Judge, Thomas J.: *See*—
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Jukes, Norman A., to Joseph Lucas (Industries) Ltd. Spark ignition apparatus for internal combustion engines. 3,139,876, 7-7-64, Cl. 123—148.
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Roberts, Maldwyn H., Clamp, and Jukes. 3,140,423.
Jungbluth, Georg, to Klöckner-Humboldt-Deutz Aktiengesellschaft. Rotary piston machine. 3,139,836, 7-7-64, Cl. 103—202.
Kagan, Sholly: *See*—
Olbrych, John E., and Kagan. 3,140,447.
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Herg, Arthur H., and Kalenda. 3,140,178.
Kamp, Ewald A., and S. Panger, to The Englander Co., Inc. Swing bed. 3,139,629, 7-7-64, Cl. 5—17.
Kane, James S., to United States of America, Atomic Energy Commission. Process for producing oxidation resistant refractory coating on dense graphite. 3,140,198, 7-7-64, Cl. 117—6.
Kaprelian, Edward K. Color electrophotography. 3,140,175, 7-7-64, Cl. 96—1.
Karing, Paul, to Bronsavia S.A. Balanced air loaded air pressure regulator. 3,139,900, 7-7-64, Cl. 137—505.18.
Karlsson, Eiof K., and R. L. Sutton, to International Harvester Co. Snapping rolls for a corn picker. 3,139,887, 7-7-64, Cl. 130—5.
Kaspaul, Alfred F. and E. E., to Minnesota Mining and Mfg. Co. Information recording. 3,140,143, 7-7-64, Cl. 346—1.

Kaspaul, Erika E.: *See*—
Kaspaul, Alfred F. and E. E. 3,140,143.
Katzen, Sol. Apparatus for treating seeds. 3,140,254, 7-7-64, Cl. 209—30.
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Kelly, Earl M., to Eimco Corp. Clarification apparatus. 3,140,259, 7-7-64, Cl. 210—195.
Kendall, James M., to United States of America, Navy. Low noise, low level, precision potentiometer. 3,140,459, 7-7-64, Cl. 338—154.
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Cohen, Saul M., and Kent. 3,139,849.
Kenyon, Wilfred: *See*—
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Ketchpel, Richard D., to Hughes Aircraft Co. Three-dimensional display cathode ray tube. 3,140,415, 7-7-64, Cl. 313—146.
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Kezele, John T., ⅛ to J. Sandusky, and ⅛ to J. J. Musnik. Automatic alarm signalling system. 3,140,349, 7-7-64, Cl. 179—5.
Kiefer, Augustine J. Pillow contouring base. 3,139,631, 7-7-64, Cl. 5—337.
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Kine, Benjamin B.: *See*—
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Kipping, Vernon L. Photographic apparatus mechanism. 3,139,790, 7-7-64, Cl. 88—19.3.
Kitasaki, Kiyoshi, and G. W. Willcockson, to United States Borax & Chemical Corp. Di-[bis(dialkylamino)boryl]benzenes. 3,140,313, 7-7-64, Cl. 260—551.
Kittler, Milton J., to Holley Carburetor Co. Print hammer mechanism. 3,139,820, 7-7-64, Cl. 101—93.
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Zirngiebl, Eberhard, and Klein. 3,140,188.
Klein, Joseph L., A. R. Kaufmann, and P. Loewenstein, to United States of America, Atomic Energy Commission. Process and product of metallurgically joining zirconium to ferrous metal. 3,140,108, 7-7-64, Cl. 287—119.
Klein, Martin L.: *See*—
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Klos, George B.: *See*—
Brekelbaum, Erwin C., Noll, Klos, and Nielsen. 3,139,958.
Klös, Heinrich, and H. A. Offe, to Farbenfabriken Bayer Aktiengesellschaft. Alkyl-substituted hydrazines and hydrozones and process for preparation thereof. 3,140,315, 7-7-64, Cl. 260—566.
Knauf, Harry V., Jr., to Radio Corp. of America. Stem and envelope for electron discharge devices. 3,140,418, 7-7-64, Cl. 313—266.
Knauf, Harry V., Jr., and G. M. Rose, Jr., to Radio Corp. of America. Method of making electron tubes. 3,139,667, 7-7-64, Cl. 29—155.5.
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Ferrell, Howard H., and Knutson. 3,139,747.
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Koch, Samuel J., and C. Ehrlich, to Amprobe Instrument Corp. Electrical measuring and recording instruments. 3,140,144, 7-7-64, Cl. 346—17.
Kochalski, Horst, to Hauni-Werke Korber & Co. K.G. Rotary suction conveyor. 3,139,972, 7-7-64, Cl. 198—211.
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Koci, Jerry C., and S. M. Heide, to Chicago Dynamic Industries, Inc. Thumbwheel switch having illuminated indicia-bearing facings. 3,140,377, 7-7-64, Cl. 200—167.
Koebel, Karl: *See*—
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Koehn, William A., to Clary Corp. Printer. 3,139,818, 7-7-64, Cl. 101—93.
Koh, Gunter H., to Auergesellschaft G.m.b.H. Canister with olfactory warner. 3,140,156, 7-7-64, Cl. 23—288.
Kohler, Ernst, H.-D. Bastam, and A. Brantner, to Robert Bosch GmbH. Connector supporting housing cover. 3,140,140, 7-7-64, Cl. 339—218.
Koletsos, Peter K., and G. R. Shrewsbury, to Reliable Electric Co. Connector block for ribbon cable or the like. 3,140,138, 7-7-64, Cl. 339—97.
Kolinski, Joseph J. Collapsible stool. 3,139,845, 7-7-64, Cl. 108—119.
Kolling, John A., to Sperry Rand Corp. Digital communications system. 3,140,405, 7-7-64, Cl. 307—88.5.
Kolthoff, C. Paul, Jr., to International Harvester Co. Loading system for fork lift truck. 3,140,075, 7-7-64, Cl. 254—2.
Kolyer, John M., to FMC Corp. Purification of pyrrolidone prepared by the vapor phase ammonolysis of butyrolactone. 3,140,294, 7-7-64, Cl. 260—326.5.
Kondo, Seiji, R. Nishikawa, and M. Yoshida, to Toyoda Automatic Loom Works, Ltd. Mechanism for threading the trailing yarn of a bobbin through an eye of a shuttle. 3,139,910, 7-7-64, Cl. 139—259.
Kondritzer, Albert A.: *See*—
Ellin, Robert I., Easterday, and Kondritzer. 3,140,289.
Koppers Co., Inc.: *See*—
Stewart, Warren A. 3,140,030.
Koss, William H., to McGill Mfg. Co., Inc. Sealed antifriction bearing. 3,140,129, 7-7-64, Cl. 308—187.2.
Kraft, James J. Portable bar. 3,140,133, 7-7-64, Cl. 312—140.2.
Kraft, Ralph W., to United Aircraft Corp. Construction arrangement. 3,139,959, 7-7-64, Cl. 189—34.
Krahe, Donald C., and H. E. Grubb, to Adhesive Engineering Co. Mixing and dispensing device. 3,140,078, 7-7-64, Cl. 259—47.
Kramer, Daniel E.: *See*—
Kramer, Israel and D. E. 3,140,041.
Malkoff, Hyman, Kramer, and Nussbaum. 3,139,735.
Kramer, Israel, to Kramer Trenton Co. Baseboard radiator. 3,139,925, 7-7-64, Cl. 165—67.
Kramer, Israel and D. E., to Kramer Trenton Co. Means for controlling lubrication of hermetic compressors. 3,140,041, 7-7-64, Cl. 230—44.
Kramer Trenton Co.: *See*—
Kramer, Israel. 3,139,925.
Kramer, Israel and D. E. 3,140,041.
Malkoff, Hyman, Kramer, and Nussbaum. 3,139,735.
Kraus, Anthony A.: *See*—
De Fandorf, John L., Hackbarth, Kraus, and Sywulka. 3,140,426.
Krause, John F., Jr., to General American Transportation Corp. Railway tank cars. 3,139,841, 7-7-64, Cl. 105—360.
Krause, Susan: *See*—
Dvorkovitz, Vladimir, Berst, and Krause. 3,140,262.
Krein, John H., and F. W. Cook, to ACF Industries, Inc. Carburetor. 3,139,874, 7-7-64, Cl. 123—122.
Krespan, Carl G., to E. I. du Pont de Nemours and Co. Esters of 1,2-dicyamo-1,2-dimercaptoethylene. 3,140,295, 7-7-64, Cl. 260—327.
Kubie, William L., to United States of America, Agriculture. Linseed oil emulsion compositions comprising dipicolinate and linseed oil-derived emulsifiers. 3,140,191, 7-7-64, Cl. 106—254.
Kuckens, Alexander, and W. Niehaus. Method and means for mounting and controlling peltier elements. 3,139,734, 7-7-64, Cl. 62—3.
Kuhar, William A., and E. T. Carlson, to Cutler-Hammer, Inc. Bus duct. 3,140,345, 7-7-64, Cl. 174—99.
Kuna, Samuel, and A. W. Pircio, to Bristol-Myers Co. Process for analgesia and muscle relaxation by glycerol guaiacolate and salicylamide. 3,140,228, 7-7-64, Cl. 167—55.
Kuntz, Irving, to Esso Research and Engineering Co. Block homopolymers of 1,3 dienes. 3,140,278, 7-7-64, Cl. 260—94.2.
Kunz, Bertha L.: *See*—
Kunz, Jacob. 3,139,855.
Kunz, Jacob, deceased by Montgomery County Bank and Trust Co. and B. L. Kunz, executors, to Schulmerich Electronics, Inc. Bells. 3,139,855, 7-7-64, Cl. 116—171.
Kunz, Werner: *See*—
Heberlein, Georg, Munzel, and Kunz. 3,140,197.
Kurhajec, George A., and F. N. Grimsby, to Shell Oil Co. Percarboxylic acid production employing a pre-treated dehydrated acid cation exchange resin. 3,140,312, 7-7-64, Cl. 260—502.
Kurzrock, John W.: *See*—
Rosenthal, Paul, and Kurzrock. 3,139,751.
Kuts, Richard M., to The B. F. Goodrich Co. Hose making method. 3,140,213, 7-7-64, Cl. 156—202.
Kuzma, Edward J.: *See*—
Bortnek, Eugene, Vona, and Kuzma. 3,140,267.
Kuzmitz, Andrew A., to The Bendix Corp. Servo governor having emergency manual control means. 3,139,893, 7-7-64, Cl. 137—18.
Laager, Creston F., to United States of America, Army. Cartridge operated device tester. 3,139,756, 7-7-64, Cl. 73—432.
Laboratory for Electronics, Inc.: *See*—
Fuller, Harrison W. 3,140,471.
Midlock, Bernard J. 3,140,485.
Lacy, George H., and R. R. Chervenak, to The Dow Chemical Co. Laminate foil. 3,140,196, 7-7-64, Cl. 117—75.
Lafon, Victor, to Societe Anonyme dite: Orsymonde. N-(a-hydroxy-β-trichloroethyl)-5,5-diphenyltetrahydroglyoxaline-4-one. 3,140,290, 7-7-64, Cl. 260—309.7.
Laguerre, Léon. Handle and closure device for thermoplastic bags. 3,140,038, 7-7-64, Cl. 229—54.
Lahde, Reinhard N., to Lockheed Aircraft Corp. High pressure fluid rate gyroscope. 3,139,758, 7-7-64, Cl. 74—5.6.
Lamb Grays Harbor Co., Inc.: *See*—
Turnbull, Roger F. 3,139,716.
Landers, Frary & Clark: *See*—
Swanke, Roy, and Lord. 3,140,364.
Landers, Harvey S. Quick change roller die assembly. 3,139,844, 7-7-64, Cl. 107—14.
Landesman, Eugene. Screen printing machine. 3,139,823, 7-7-64, Cl. 101—124.
Lang, Frederic A., and E. F. Holben, to Conoflow Corp. Self-contained valve actuator. 3,139,728, 7-7-64, Cl. 60—57.
Langdon, Warren R.: *See*—
Speas, William D. 3,140,116.

Larpent, Jeannine M. S. (born Corset). Fluid motor and pump having expansible chambers. 3,139,871, 7-7-64, Cl. 123—43.

Lassen, Herbert A., and B. A. Wheeler, to Hughes Aircraft Co. Microwave summing and differencing network utilizing stripline cross coupler. 3,140,456, 7-7-64, Cl. 333—9.

Lauer, George E. Pallet unloader. 3,139,993, 7-7-64, Cl. 214—8.5.

Laughter, Victor H., ½ to P. S. Jones. Transistor amplifier. 3,140,348, 7-7-64, Cl. 179—1.

Lawson, David E. Seat construction. 3,140,086, 7-7-64, Cl. 267—111.

Layton, J. C., and C. A. Tucker, to Towlsaver, Inc. Dispenser for roll material. 3,140,060, 7-7-64, Cl. 242—55.53.

Leciejewski, Anthony G., to Freeway Washer & Stamping Co. Methods of making bearing devices. 3,139,666, 7-7-64, Cl. 29—148.4.

Leckie, Thomas L., to The Bradford Dyers' Association Ltd. Printing of thick fabrics and stencil printing apparatus. 3,140,028, 7-7-64, Cl. 226—59.

Lee, Goode S.: *See*—
Boswell, Joseph I., Burks, Dixon, and Lee. 3,139,663.

Lee, John L., and H. C. Eberly, to Sperry Rand Corp. Notched disc cord holder. 3,140,100, 7-7-64, Cl. 289—14.

Lee, Robert J.: *See*—
Martin, Eugene C., Binning, Adams, and Lee. 3,140,256.

Leech, Laurence A., to Millars' Machinery Co. Ltd. Presses for molding or forming concrete and other plastic and moldable materials. 3,139,649, 7-7-64, Cl. 18—16.

Lerner, Nathan B., to W. Braun Co. Cap for an aerosol type container. 3,140,014, 7-7-64, Cl. 222—182.

Lesshner, Ervin, to Burroughs Corp. Magnetic memory drum. 3,140,474, 7-7-64, Cl. 340—174.1.

Lewis, Geoffrey A.: *See*—
Young, John M. C., and Lewis. 3,140,368.

Lewis, William H., to Acme-McCrary Corp. Apparatus for varying the number of courses in knitted articles. 3,139,742, 7-7-64, Cl. 66—155.

Liddell, Orval E. Band-type barrier encasement for protecting timbers against marine borer attack. 3,139,731, 7-7-64, Cl. 61—54.

Liebling, Raymond, and R. Steckler, to Nopco Chemical Co. Unsaturated polyester resin formed from an aromatic glycol, interpolymers thereof, and articles formed therefrom. 3,140,221, 7-7-64, Cl. 161—195.

Liebsch, Dietrich, and D. Delfs, to Farbenfabriken Bayer Aktiengesellschaft. Azo dyestuffs. 3,140,280, 7-7-64, Cl. 260—153.

Lindahl, Paul A.: *See*—
Wacht, Raymond J., and Lindahl. 3,139,992.

Lindemann, Robert E.: *See*—
Reif, Peter M., and Lindemann. 3,140,001.

Lindsay Ripe Olive Co.: *See*—
Kagley, William H. 3,139,916.

Link, Fred W., to Cummins Engine Co., Inc. Fuel supply apparatus for internal combustion engine. 3,139,875, 7-7-64, Cl. 123—140.

Lippke, Donald E., to Perfection Mfg. Corp. Milking apparatus. 3,139,856, 7-7-64, Cl. 119—14.36.

Lisinski, Joseph E., to International Business Machines Corp. Incremental drive mechanism. 3,139,763, 7-7-64, Cl. 74—125.

List, Hans: *See*—
Busch, Siegfried, Hatschek, and Pischinger. 3,140,393.

Litalien, Lawrence J., and J. Duthaveck. Glass mold having two detachable interfitted sections. 3,140,166, 7-7-64, Cl. 65—356.

Litton Systems, Inc.: *See*—
Evelove, Leon G. 3,140,137.

Litwinoff, Richard, to Sulzer Freres, Societe Anonyme. Steam power plant with intermediate superheating. 3,139,868, 7-7-64, Cl. 122—476.

Ljungberg, John E., to Atvidabergs Industrier, Aktiebolaget. Line printer. 3,139,822, 7-7-64, Cl. 101—93.

Lockheed Aircraft Corp.: *See*—
Ardell, Richard D. 3,139,786.
Foster, Curtis W., Kenyon, and Pringle. 3,139,660.
Lahde, Reinhard N. 3,139,758.
Schmidt, Jacob. 3,140,084.

Loewe, George R., to Automatic Electric Laboratories, Inc. Amplifier and clamp circuit for pulse communication system. 3,140,352, 7-7-64, Cl. 179—15.

Loewenstein, Paul: *See*—
Klein, Joseph L., Kaufmann, and Loewenstein. 3,140,108.

Loewenstein, Walter B., to United States of America, Atomic Energy Commission. Fast reactor core. 3,140,234, 7-7-64, Cl. 176—17.

Lombard Industries, Inc.: *See*—
Brown, Thomas W. 3,140,332.

Lonerini, Donald F., to General Electric Co. Derivatives of trimellitic acid anhydrides. 3,140,290, 7-7-64, Cl. 260—346.3.

Long, Bernard, to G.B.D. Societe Anonyme Holding. Apparatus for producing sheet glass. 3,140,164, 7-7-64, Cl. 65—157.

Long, John C. Lamp shield. 3,140,055, 7-7-64, Cl. 240—46.19.

Longenecker, Levi S. Melting furnace back wall construction. 3,139,846, 7-7-64, Cl. 110—99.

Lonn, Harold J., to International Telephone and Telegraph Corp. Expansion valve with adjustable metering orifice. 3,139,903, 7-7-64, Cl. 137—359.

Lord, David G.: *See*—
Swanke, Roy, and Lord. 3,140,864.

Lord Mfg. Co.: *See*—
Peterson, Robert R. 3,140,081.

Lorentzen, Hans K., to Levolor Lorentzen, Inc. Bracket. 3,140,071, 7-7-64, Cl. 248—278.

Lorentzen, Levolor, Inc.: *See*—
Lorentzen, Hans K. 3,140,071.

Lorenz, Anton: *See*—
Fletcher, Peter S. 3,140,117.

Losher, Morton. Low frequency function generator. 3,140,392, 7-7-64, Cl. 235—197.

Lowell, Ross. Light fixture. 3,140,053, 7-7-64, Cl. 240—1.3.

Lowenstein, Jack G., to FMC Corp. Preparation of diisocyanates. 3,140,305, 7-7-64, Cl. 260—453.

Lowrie, Harman S.: *See*—
Custic, John W., and Lowrie. 3,140,286.

Lowry, Terrell N.: *See*—
Feiner, Alexander, and Lowry. 3,140,355.

Lowry, Wayne H.: *See*—
Poynor, Russell R., Lowry, and Winslow. 3,140,161.

Lucas, Joseph, (Industries) Ltd.: *See*—
Jukes, Norman A. 3,139,876.
Roberts, Maldwyn H., Clamp, and Jukes. 3,140,423.
Young, John M. C., and Lewis. 3,140,368.

Luertzing, Paul R., to Lurex Mfg. Co. Joints for laboratory apparatus. 3,140,097, 7-7-64, Cl. 277—168.

Lumm, Gunther, and E. Jahn, to Babcock & Wilcox, Ltd. Studded tube construction with studs of ALCr. 3,139,866, 7-7-64, Cl. 122—6.

Lurex Mfg. Co.: *See*—
Luertzing, Paul R. 3,140,097.

Lusebrink, Mary W. Supporting roller for sheet material. 3,140,059, 7-7-64, Cl. 242—55.2.

Luskin, Leo S., and J. H. Short; said Luskin assor. to Rohm & Haas Co., and said Short assor. to Abbott Laboratories. T-octylguanidines as antihypertensive agents. 3,140,231, 7-7-64, Cl. 167—65.

Lyday, Richard W., and C. L. Moorman, to General Motors Corp. Fastener assembly apparatus. 3,139,674, 7-7-64, Cl. 29—208.

Lyon, Royal E., to Hughes Aircraft Co. Linear sweep generator. 3,140,453, 7-7-64, Cl. 331—152.

MacDermid, Inc.: *See*—
Grunwald, John J. 3,140,203.

Machines Bull (Societe Anonyme), Compagnie des: *See*—
Feissel, Henri G. 3,140,401.

Mais, Adolf R., to Haggiund & Soner, Aktiebolaget. Circuit arrangement for energizing a direct-current electromagnet. 3,140,429, 7-7-64, Cl. 317—154.

Makowski, Stephen. Fishing lure. 3,139,695, 7-7-64, Cl. 43—42.36.

Malcolm, Vincent T., to Chapman Division-Crane Co. Process for nitriding steels of the low, medium and high alloy types by first removing the passive oxide surface film. 3,140,205, 7-7-64, Cl. 148—16.6.

Malkoff, Hyman, D. E. Kramer, and O. J. Nussbaum, to Kramer Trenton Co. Vapor compression air conditioning system or apparatus and method of operating the same. 3,139,735, 7-7-64, Cl. 62—173.

Mallory Timers Co., a Division of P. R. Mallory & Co., Inc.: *See*—
Voland, Elmo W. 3,140,865.

Maly, George P., to Union Oil Company of California. Curing epoxide resin compositions. 3,139,657, 7-7-64, Cl. 22—193.

Manson, Andrew J.: *See*—
Clinton, Raymond O., and Manson. 3,140,285.

Marcus, Mitchell P., to International Business Machines Corp. Magnetic switching devices. 3,140,467, 7-7-64, Cl. 340—147.

Marcy, Gerald P., to Worthington Corp. Inlet structure for gas compressors. 3,140,043, 7-7-64, Cl. 230—207.

Maremont Corp.: *See*—
Broadwell, Robert J. 3,140,098.

Marette, George F., B. I. Parsegyan, and A. Franck, to United States of America, Navy. Saturable transformer encoder. 3,140,478, 7-7-64, Cl. 340—345.

Maroth, Arthur M. Speed-change mechanical transmission. 3,139,771, 7-7-64, Cl. 74—800.

Maroth, Arthur M. Mechanical transmission. 3,139,772, 7-7-64, Cl. 74—800.

Martens, Jean V., to International Standard Electric Corp. Electrical signalling system. 3,140,358, 7-7-64, Cl. 179—90.

Martensen Enterprises Inc.: *See*—
Smith, John D. 3,139,944.

Martin, Eugene C., R. C. Binning, L. M. Adams, and R. J. Lee, to Standard Oil Co. Separation process. 3,140,256, 7-7-64, Cl. 210—23.

Martin, Perry S. Warm air brooding system. 3,139,858, 7-7-64, Cl. 119—31.

Martin-Marietta Corp.: *See*—
Coslee, David E., Frank, and Pezzi. 3,139,681.

Marquis, Donald A., to International Business Machines Corp. Electrical connector. 3,140,142, 7-7-64, Cl. 339—276.

Marx, Louis & Co., Inc.: *See*—
Nisperiy, Walter E., and Rhome. 3,140,389.

Maryland Baking Co., The: *See*—
Ibez, Charles J. 3,139,848.

Maschinenfabrik Frariep G.m.b.H.: *See*—
Minkenberg, Willi. 3,139,637.

Mather, Richard D.: *See*—
McCarthy, William P., and Edie. 3,139,853.

Matheson, Ian M. Slide fasteners. 3,139,659, 7-7-64, Cl. 24—206.

Matsushita Electric Industrial Co., Ltd.: *See*—
Imanaka, Toshio. 3,140,432.

Matthews, William J., to General Signal Corp. Remote controlled locomotive control system. 3,140,068, 7-7-64, Cl. 246—167.

Mauduech, Robert, and R. Gouttebel, to Automatic Electric Laboratories, Inc. Eccles-Jordan flip-flop with closed ferrite cores in the cross coupling paths. 3,140,404, 7-7-64, Cl. 307—88.5.

Maxwell, Donald A., and B. N. Stuckey, to Eastman Kodak Co. Anti-icing agent. 3,140,162, 7-7-64, Cl. 44—66.

May, Melvin M., to Computer Products Inc. Switch with plural inputs to, and plural feedback paths from, an operational amplifier. 3,140,408, 7–7–64, Cl. 307—88.5.
Mayer, Simon E., I. M. Ritchie, and A. I. Mlavsky, to Transitron Electronic Corp. Thermoelectric cooling device for heat conductive light transparent surfaces. 3,139,733, 7–7–64, Cl. 62—3.
Mayrath Machinery Co., Inc.: *See*—
Stauth, Samuel K. 3,139,968.
McBurney, Charles H.: *See*—
Richter, George A., Jr., McBurney, and Kline. 3,140,265.
McBurney, Faye M., and E. E. Moore. Fishing pole holder. 3,140,069, 7–7–64, Cl. 248—40.
McCarthy, William P., and D. D. Edie, ⅛ to R. D. Mather. Trolling motor for attachment to outboard motor. 3,139,853, 7–7–64, Cl. 115—17.
McClure, James D., to Shell Oil Co. Production of dioxane derivatives. 3,140,296, 7–7–64, Cl. 260—340.6.
McConnell, John E.: *See*—
Halley, James W., and McConnell. 3,140,168.
McCuiston, Robert E., to Richardson-Merrell Inc. Spray nozzle comprising a base member and a cap. 3,140,052, 7–7–64, Cl. 239—327.
McCune, James D., to Schlumberger Well Surveying Corp. Pipeline cleaning apparatus. 3,139,704, 7–7–64, Cl. 51—8.
McDaniel, Opal F.: *See*—
Godwin, Joseph B. 3,140,412.
McGee, Archie A., Jr., to General Electric Co. Indicator lamp circuit. 3,140,422, 7–7–64, Cl. 315—132.
McGeer, Edith G.: *See*—
Cairns, Theodore L. S., and McGeer. 3,140,308.
McGill Manufacturing Co., Inc.: *See*—
Koss, William H. 3,140,129.
McGlasson, Robert L.: *See*—
Hudgins, Charles M., Jr., McGlasson, and Greathouse. 3,139,930.
McIninch, Glenn W., and D. F. Rosterman, to Auburn Machine Works, Inc. Auxiliary transmission for tractors. 3,139,759, 7–7–64, Cl. 74—15.6.
McKinney, Chester M., to United States of America, Navy. Method for obtaining high range resolution with continuous transmission frequency. 3,140,461, 7–7–64, Cl. 340—1.
McLafferty, George H., to United Aircraft Corp. Nuclearmagnetohydroelectric generator. 3,140,410, 7–7–64, Cl. 310—11.
McQuay-Norris Mfg. Co.: *See*—
Rodenkirchen, Theodore P. 3,140,096.
McRoberts, James C., to The Bendix Corp. Servo governor having emergency manual control means. 3,139,892, 7–7–64, Cl. 137—18.
Mencacci, Samuel A., and C. Tack, to International Machinery Corp S.A. Container handling apparatus. 3,139,962, 7–7–64, Cl. 193—32.
Merck, E., Aktiengesellschaft: *See*—
Irmscher, Klaus. 3,140,302.
Merrill, Leland H., and C. F. Bross; said Bross assor. to said Merrill. Pill counting and filling mechanism. 3,139,713, 7–7–64, Cl. 53—55.
Merritt, Glenn W., and C. G. Hunt, to The Nolan Co. Loading apparatus for variable height railway cars. 3,139,997, 7–7–64, Cl. 214—42.
Merritt, Thomas W., and C. A. Thomas, to Babson Bros., Co. Milk filtering arrangement. 3,139,857, 7–7–64, Cl. 119—14.46.
Messrs. I.C.O.S. Impresa Costruzioni Opere: *See*—
Miotti, Giosue. 3,139,729.
Metzler, Robert E.: *See*—
Myers, Richard T., and Metzler. 3,140,445.
Michaels Art Bronze Co., Inc., The: *See*—
Michaels, Frank L. 3,139,652.
Michaels, Frank L., to The Michaels Art Bronze Co., Inc. Astragal. 3,139,652, 7–7–64, Cl. 20—68.
Michalski, Raymond, and T. R. Newman, to Nalco Chemical Co. Treatment of Fourdrinier wire. 3,140,222, 7–7–64, Cl. 162—199.
Midlock, Bernard J., to Laboratory for Electronics, Inc. Radar control system responsive to a vehicle moving along a traffic path. 3,140,485, 7–7–64, Cl. 343—8.
Mier, Christopher W. Toy hand grenade. 3,139,697, 7–7–64, Cl. 46—17.
Milemaster Inc. of America: *See*—
Wiltgen, Bernard M., White, and Trainor. 3,139,898.
Millars' Machinery Co. Ltd.: *See*—
Leech, Laurence A. 3,139,649.
Miller Electric Mfg. Co.: *See*—
Willecke, Gerhard K. 3,140,458.
Miller, James R.: *See*—
Tredennick, William T., and Miller. 3,140,333.
Miller, Marvin D.: *See*—
Reimers, Frederick E., Miller, and Bush. 3,140,201.
Miller, Robert R.: *See*—
Watts, Claude H., and Miller. 3,139,656.
Miller, Theodore A. Powder dispensing unit. 3,140,018, 7–7–64, Cl. 222—283.
Mills, Eugene A.: *See*—
Crawford, N. B., and Mills. 3,139,953.
Minard, Everett S., to Chemetron Corp. No-container no-fill arrangement for receptacle filling machines. 3,139,915, 7–7–64, Cl. 141—94.
Minkenberg, Willi, to Maschinenfabrik Frariep G.m.b.H. Differential feed means for tool spindle. 3,139,637, 7–7–64, Cl. 10—139.
Minneapolis-Honeywell Regulator Co.: *See*—
Deerfield, Alan J. 3,140,470.
Hedges, George D., and Stensgaard. 3,139,854.
Senstad, Paul D. 3,140,440.
Shansky, David, and Strohmeier. 3,140,400.
Minnesota Mining and Mfg. Co.: *See*—
Kaspaul, Alfred F. and E. E. 3,140,142.
Peake, John S. 3,140,288.
Peticolas, Warner L. 3,140,266.
Weber, Victor. 3,140,340.
Zivny, Joseph C. 3,140,033.
Mintzer, Alfred I., to United States of America, Army. Range sweep and positioning circuit. 3,140,484, 7–7–64, Cl. 343—7.3.
Miotti, Giosue, to Messrs. I.C.O.S. Impresa Costruzioni Opere Specializzate S.p.A. Method and apparatus for constructing subterranean concrete walls. 3,139,729, 7–7–64, Cl. 61—35.
Miskell, John R.: *See*—
Barta, Gerald T., and Miskell. 3,140,441.
Mittelstaedt, Georg S. Suction pump means having opposite suction tubes with transversal and peripheral openings. 3,139,838, 7–7–64, Cl. 103—262.
Mlavsky, Abraham I.: *See*—
Mayer, Simon E., Ritchie, and Mlavsky. 3,139,733.
Moglia, John A. Shipping carton for garments. 3,139,978, 7–7–64, Cl. 206—7.
Moklebust, Olav: *See*—
Smith, Rollin P., and Moklebust. 3,140,169.
Molinari, Jerry L.: *See*—
Harbour, Marion E. 3,140,217.
Monsanto Co.: *See*—
Heininger, Samuel A. 3,140,306.
Heininger, Samuel A., and Birum. 3,140,307.
Stephens, John A., and Birum. 3,140,226.
Montecatini Societa Generale per l'Industria Mineraria e Chimica: *See*—
Fauser, Giacomo. 3,140,323.
Montgomery County Bank and Trust Co.: *See*—
Kunz, Jacob. 3,139,855.
Moore, Elmer E.: *See*—
McBurney, Faye M., and Moore. 3,140,069.
Moore, Francis C., and M. W. Nicely, to American Hospital Supply Corp. Nebulizing device. 3,140,051, 7–7–64, Cl. 239—215.
Moorman, Cletus L.: *See*—
Lyday, Richard W., and Moorman. 3,139,674.
Moorman, Cletus L., to General Motors Corp. Plastic fastener having double tapered point. 3,139,784, 7–7–64, Cl. 85—5.
Moran, George W. Dishwasher having means to inject liquid additive into the rinse water supply line. 3,139,890, 7–7–64, Cl. 134—100.
Moran, John M.: *See*—
Parrish, Edward W., and Moran. 3,139,938.
Mordstein, Walter, to Rheinische Braunkohlenwerke Aktiengesellschaft. Arrangement for inverting the sides of belts in endless conveyors and the like. 3,139,970, 7–7–64, Cl. 198—184.
Morehouse, Glenn H.: *See*—
Elmore, Austin E. 3,139,917.
Morgan, David L., and L. A. Godkin, to Robertshaw Controls Co. Float valve. 3,139,897, 7–7–64, Cl. 137—448.
Morgan, Harry C.: *See*—
Hart, James P., Klein, Morgan, and Rush. 3,140,460.
Morris, Donald J. Boat standoff and locking device. 3,139,852, 7–7–64, Cl. 114—230.
Morris, George V.: *See*—
Hendrickson, Melvin C., and Morris. 3,140,346.
Morris, Philip, Inc.: *See*—
Grossman, James D., and Bayley. 3,139,858.
Morwald, Josef, to Kienzle Apparate G.m.b.H. Matrix type switch arrangement. 3,140,403, 7–7–64, Cl. 307—88.
Mossberg, O. F., & Sons, Inc.: *See*—
Benson, Carl H. 3,139,799.
Motosi, Aldo. Mill for the production of a directly floatable fluid pulp starting from coarse minerals. 3,140,056, 7–7–64, Cl. 241—38.
Motycka, Robert R.: *See*—
Birkenbach, Eugen J., and Motycka. 3,139,942.
Moyer, Donald W.: *See*—
Virtue, Eugene P., Moyer, and Richardson. 3,140,103.
Moyes, Stuart H., and W. A. Taylor, to General American Transportation Corp. Railway tank cars. 3,139,842, 7–7–64, Cl. 105—360.
Müller, Hans, and K. Koebel, to Ciba-Chemie Ltd. N-p-toluenesulfonyl-N'-β-methylsulfinylethyl urea. 3,140,314, 7–7–64, Cl. 260—553.
Multifastener Corp.: *See*—
Double, Plummer E. 3,140,010.
Münz, Ferdinand: *See*—
Nischk, Günther, Münz, Mayer, and Theis. 3,140,272.
Munsel, Fritz: *See*—
Heberlein, Georg, Munsel, and Kunz. 3,140,197.
Murray, John S. Transistor amplifier having direct current feedback bias control. 3,140,448, 7–7–64, Cl. 330—19.
Musser, C Walton, to United Shoe Machinery Corp. Drive mechanism including self-compensating wave generator. 3,139,770, 7–7–64, Cl. 74—798.
Muth, Daniel T., and E. A. Zawadski, to Bituminous Coal Research, Inc. Laboratory furnace. 3,140,335, 7–7–64, Cl. 13—20.
Musnik, James J.: *See*—
Kessle, John T. 3,140,349.
Myers, Richard T., and R. E. Metzler, to General Electric Co. Communication receiver with noise blanking. 3,140,445, 7–7–64, Cl. 325—478.
Myers, Richard T., and F. E. Spangler, to General Electric Co. Communication receiver with noise blanking. 3,140,446, 7–7–64, Cl. 325—478.
Naborney, Erwin, to American Sugar Co. Dry pulverulent brown sugar and process for producing same. 3,140,202, 7–7–64, Cl. 127—63.
Nack, Herman, to International Milling Co. Fluidized bed cooking process. 3,140,183, 7–7–64, Cl. 99—1.

Nädler, Heinrich, and H. Blum, to Continental Gummi-Werke Aktiengesellschaft. Roller guide. 3,139,963, 7-7-64, Cl. 193—37.

Nagel, Fritz J., to The Polymer Corp. Process for providing a coated surface. 3,140,195, 7-7-64, Cl. 117—21.

Nagode, L. Joseph F.: *See*—
Feu, Miguel. 3,140,099.

Nairn, Mark A. Cabinet. 3,140,134, 7-7-64, Cl. 312—204.

Nalco Chemical Co.: *See*—
Michalski, Raymond, and Newman. 3,140,222.

Naraghi, Hashem. Egg gathering apparatus. 3,139,859, 7-7-64, Cl. 119—48.

National Aeronautics and Space Administration: *See*—
Webb, James E. 3,139,725.

National Iron Co.: *See*—
Erickson, Lewis C. 3,139,967.

National Machinery Co., The: *See*—
Friedman, Robert G. 3,139,776.

National Research Associates, Inc.: *See*—
Beardsley, Melville W. 3,139,947.

National Research Corp.: *See*—
Noller, Hans G. 3,139,746.

Nava, Joseph A., to The Pyle-National Co. Shrouded contact. 3,140,141, 7-7-64, Cl. 339—256.

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten Behoeve van Nijverheid: *See*—
Zaat, Johannes H. 3,139,749.

Nelson, Brooks E., and W. A. Gray, to The Osborn Mfg. Co. Twisted tuft rotary brush. 3,139,642, 7-7-64, Cl. 15—198.

Nelson, George A., to Shell Oil Co. Pressure vessel for containing hydrogen or mixtures thereof. 3,140,006, 7-7-64, Cl. 220—63.

Nerad, Anthony J., and Z. D. Sheldon, to General Electric Co. Dual fuel combustion system. 3,139,724, 7-7-64, Cl. 60—35.4.

Nettleship, Mac B., to Antaeus Lineal 1948, Anl Medical Laboratory Division, Inc. Specimen container. 3,140,007, 7-7-64, Cl. 220—97.

Neuwald, Alfred A., and W. F. Donovan, to The Fragrance Process Co., Inc. Scenting device. 3,140,147, 7-7-64, Cl. 21—119.

New Jersey Machine Corp.: *See*—
Von Hofe, George W. 3,140,214.

New York Air Brake Co., The: *See*—
Frasel, Wilbur H. 3,140,016.
Huber, Matthew W. 3,140,082.

Newman, Albert C. Fish lure. 3,139,093, 7-7-64, Cl. 43—42.39.

Newman, Theodore R.: *See*—
Michalski, Raymond, and Newman. 3,140,222.

Nibot Corp.: *See*—
Barr, Leslie. 3,140,019.

Nicely, Marvin W.: *See*—
Moore, Francis C., and Nicely. 3,140,051.

Nichols, Earl W., and T. W. Trotter. Toy vehicle. 3,140,100, 7-7-64, Cl. 280—87.04.

Niehaus, Wolfgang: *See*—
Kuckens, Alexander, and Niehaus. 3,139,734.

Nielsen, John D.: *See*—
Brekelbaum, Erwin C., Noll, Klos, and Nielsen. 3,139,958.

Nihon Parkerising Kabushiki Kaisha: *See*—
Tokunaga, Schizuka. 3,140,204.

Nischk, Günther, F. Mönz, O. Bayer, and M. Thein, to Farbenfabriken Bayer Aktiengesellschaft. Polyether based polyurethane coating compositions. 3,140,273, 7-7-64, Cl. 260—77.5.

Nishikawa, Ribei: *See*—
Kondo, Seiji, Nishikawa, and Yoshida. 3,139,910.

Nishiuchi, Hikaru, to Takara Yoshi Co, Ltd. Method of cultivating plant seedings. 3,139,701, 7-7-64, Cl. 47—58.

Nisperly, Walter E., and J. P. Rhome, to Louis Marx & Co., Inc. Optical toy of the periscope type. 3,140,339, 7-7-64, Cl. 88—66.

Nistico, Frank: *See*—
Spencer, William R., and Nistico. 3,140,475.

Nead, Reginald W., to Shell Oil Co. Detergent composition. 3,140,261, 7-7-64, Cl. 252—161.

Nolan Co., The: *See*—
Merritt, Glenn W., and Hunt. 3,139,997.

Noll, George C.: *See*—
Brekelbaum, Erwin C., Noll, Klos, and Nielsen. 3,139,958.

Noller, Hans G., to National Research Corp. Gas density measuring. 3,139,746, 7-7-64, Cl. 73—30.

Nopco Chemical Co.: *See*—
Liebling, Raymond, and Steckler. 3,140,221.

Norstrud, Iven R., and J. H. Threlkeld, to Britt Tech Corp. Cleaning apparatus with relief control valve. 3,140,049, 7-7-64, Cl. 239—126.

North American Aviation, Inc.: *See*—
Duncan, Donal B., Henry, and Blitzer. 3,140,482.
Hart, James P., Klein, Morgan, and Rush. 3,140,469.
Sutton, Rex S., and Boardman. 3,140,066.

North American Philips Co., Inc.: *See*—
Dijkmeijer, Henricus R. 3,140,382.
Schalkwijk, Jan. 3,140,431.
Schmitz, Albert, and Bollee. 3,140,452.
Spaa, Jacob H., and van Duuren. 3,140,396.
Stumpers, Frans L. H. M., and Schutte. 3,140,351.
Van der Pool, Jan. 3,140,419.

Northgraves, Walter W.: *See*—
Synan, John F., and Northgraves. 3,140,146.

Noseworthy, Melvin M., to Chas. Pfizer & Co., Inc. Color stabilization of tetracycline compositions with polypropylene glycols. 3,140,232, 7-7-64, Cl. 167—65.

Novodor, Martin: *See*—
Stephenson, Veri J., and Novodor. 3,140,114.

Noyce, Robert N.: *See*—
Shockley, William, and Noyce. 3,140,206.

Nussbaum, Otto J.: *See*—
Malkoff, Hyman, Kramer, and Nussbaum. 3,139,735.

Nutting, Charles E., to Beacon Plastics Corp. Attachment means. 3,140,329, 7-7-64, Cl. 264—242.

Nutting, Robert G., to United States of America, Army. Gas operated feeder for gun. 3,139,790, 7-7-64, Cl. 89—33.

Nyborg, Meredith M., to Hughes Aircraft Co. Precision welding head. 3,140,381, 7-7-64, Cl. 219—86.

Nys, Jean M.: *See*—
Depoorter, Henri, Nys, and Van Dermael. 3,140,283.

Oakes, Billy D.: *See*—
Foster, Gerald L., and Oakes. 3,140,260.

O'Brien, Richard C., and F. Hunstiger, to Harris-Intertype Corp. Photographic type composition. 3,139,808, 7-7-64, Cl. 95—4.5.

Oetiker, Hans. Device for the treatment of small goods. 3,139,708, 7-7-64, Cl. 51—164.

Offe, Hans A.: *See*—
Klös, Heinrich, and Offe. 3,140,215.

Offner, Edwin. Adjustable wheel chair arm rests. 3,140,119, 7-7-64, Cl. 297—417.

Obareuke, Vladimir. Safety inspection light. 3,140,054, 7-7-64, Cl. 240—2.18.

Ohio Crankshaft Co., The: *See*—
Benninghoff, William E. 3,140,378.

Oickle, Charles, Jr., and E. A. Pinsley, to United Aircraft Corp. A.C. nuclear generator. 3,140,411, 7-7-64, Cl. 310—11.

Okunuki, Kazuo, B. Hagihara, M. Shin, and I. Sekuzu, to Sankyo Co., Ltd. Process for the preparation of codehydrogenase I (diphosphopyridine nucleotide) of high purity from yeast. 3,140,281, 7-7-64, Cl. 260—211.5.

Olbrych, John E., and S. Kagan, to United States of America, Navy. Input signal controlled regenerative frequency dividers. 3,140,447, 7-7-64, Cl. 328—15.

Olock, Stephen M., and S. J. Wantuck, to Socony Mobil Oil Co., Inc. Rejuvenation of spent supported platinum catalyst. 3,140,264, 7-7-64, Cl. 252—412.

Olin Mathieson Chemical Corp.: *See*—
Fried, Josef. 3,140,301.
Synan, John F., and Northgraves. 3,140,146.

Oliver, Norman J., E. M. Jankowski, and P. M. Ryedon, to Sioux Steel Co. Animal feeder. 3,139,861, 7-7-64, Cl. 119—53.

Olsen, Robert A.: *See*—
Jelatis, Demetrius G., Olsen, Hanker, and Pearson. 3,139,990.

Olympia Werke AG.: *See*—
Fischer, Felix. 3,139,964.

Opee Ltd.: *See*—
Thornhill, Peter W. 3,139,989.

Orem, Theodore H., to United States of America, Commerce. Apparatus for the growth of preferentially oriented single crystals of metals. 3,139,853, 7-7-64, Cl. 22—57.

Orozco, Hector M. Type of cartridge for fire weapons. 3,139,827, 7-7-64, Cl. 102—36.

Oraymonde, Societe Anonyme dite: *See*—
Lafon, Victor. 3,140,290.

Osborn Mfg. Co., The: *See*—
Nelson, Brooks E., and Gray. 3,139,642.

Ostline, John E., deceased (M. A. Ostline, executrix), to Automatic Electric Laboratories, Inc. Private automatic branch exchange detector. 3,140,350, 7-7-64, Cl. 179—7.1.

Ostline, Mattie A.: *See*—
Ostline, John E. 3,140,350.

Otto, Margaret G.: *See*—
Otto, Stuart. 3,139,715.

Otto, Stuart, deceased (M. G. Otto, executrix). Carton forming and closing apparatus. 3,139,715, 7-7-64, Cl. 53—192.

Outboard Marine Corp.: *See*—
Shimanckas, William J. 3,139,767.

Owens-Illinois Glass Co.: *See*—
Schaich, Wilbur A. 3,140,004.

Osaki, Roy A.: *See*—
Bauer, Konrad E., and Osaki. 3,139,879.

P & D Sales & Mfg. Co., a division of Neff and Fry Co., The: *See*—
Rutten, Peter and D. E. 3,139,860.
Rutten, Peter and D. E. 3,139,862.

Pacific Car and Foundry Co.: *See*—
Dorn, Chester. 3,140,118.

Panger, Sam: *See*—
Kamp, Ewald A., and Panger. 3,139,629.

Pannell, Robert G., ½ to Graviner Mfg. Co. Ltd., and ½ to Wilkinson Sword Ltd. Pressure operated electric switches. 3,140,360, 7-7-64, Cl. 200—82.

Parker Bros., Inc.: *See*—
Arnold, Arnold F. 3,139,698.

Parker, Samuel F., and J. T. Short, to Callaway Mills Co. Shedding mechanism for a loom. 3,139,909, 7-7-64, Cl. 139—55.

Parrish, Edward W., and J. M. Moran, to International Harvester Co. Scraper. 3,139,938, 7-7-64, Cl. 171—58.

Parseghian Gerard A.: *See*—
Grogan, John E., and Parseghian. 3,139,641.

Parsegyan, Bere I.: *See*—
Marette, George F., Parsegyan, and Franck. 3,140,478.

Pasco Air-Aid, Inc.: *See*—
Paul, Mahrie F. 3,140,083.

Patent-Treuhand-Gesellschaft fur Elektrische Gluhlampen m.b H.: *See*—
Tietze, Alfred. 3,140,417.
Wiedenmann, Hans. 3,140,165.

Patrick, James B., and J. S. Webb, to American Cyanamid Co. Anhydro apo mitomycin compounds. 3,140,293, 7-7-64, Cl. 260—319.

Paul, Mahrie F., to Pasco Air-Aid, Inc. Auxiliary vehicle air spring. 3,140,083, 7-7-64, Cl. 267—15.

Payne, John W., to Socony Mobil Oil Co. Rejuvenation of platinum catalyst. 3,140,263, 7-7-64, Cl. 252—412.

Peake, John S., to Minnesota Mining and Mfg. Co. Cyclosiloxane compounds. 3,140,288, 7-7-64, Cl. 260—288.

Pearson, Elmer W.: *See*—
Jelatis, Demetrius G., Olsen, Hanker, and Pearson. 3,139,900.

Peczkowski, Joseph L., to The Bendix Corp. Compensated controller. 3,139,922, 7-7-64, Cl. 158—36.

Penberthy, Harvey L. Glass manufacture. 3,140,384, 7-7-64, Cl. 13—6.

Pennsalt Chemicals Corp.: *See*—
Wilder, Perry W., Jr., and Bonsall. 3,140,257.

Perfection Mfg. Corp.: *See*—
Lippke, Donald E. 3,139,856.

Perl, Richard L., to The Tappan Co. Electrically heated cooking assembly. 3,140,385, 7-7-64, Cl. 219—436.

Perry Printing Process Co.: *See*—
Bailey, Vincent R., and Isenhower. 3,139,791.

Persons, Robert C., to Persons-Majestic Mfg. Co. Basket for handle bar. 3,140,026, 7-7-64, Cl. 224—36.

Persons-Majestic Mfg. Co.: *See*—
Persons, Robert C. 3,140,025.

Peterson, Dean M., to Eastman Kodak Co. Flash lamp synchronizing mechanism. 3,139,805, 7-7-64, Cl. 95—11.5.

Peterson, Robert R., to Lord Mfg. Co. Tube form mounting. 3,140,081, 7-7-64, Cl. 267—1.

Peterson, Russell E., and S. L. Stewart, to United States of America, Atomic Energy Commission. Large fast nuclear reactor. 3,140,237, 7-7-64, Cl. 176—18.

Peticolas, Warner L., to Minnesota Mining and Mfg. Co. Process for foaming synthetic polymers. 3,140,260, 7-7-64, Cl. 260—2.5.

Petterson, David L.: *See*—
Jordan, Merrill E., Cole, Burbine, and Petterson. 3,140,192.

Pezzi, Aldo C.: *See*—
Goslee, David E., Frank, and Pezzi. 3,139,681.

Pfeifer, Paul E., to The Pure Oil Co. Variable-stroke drive mechanism. 3,139,760, 7-7-64, Cl. 74—44.

Pfizer, Chas., & Co., Inc.: *See*—
Noseworthy, Melvin M. 3,140,232.
Tanner, Fred W., Jr., and Sardinas. 3,140,239.

Pflücke, Kurt, and T. Eistert, to VEB Fortschritt, Entebergungsmaschinen. Mowing attachment for agricultural machines. 3,139,719, 7-7-64, Cl. 56—288.

Phelon, R. E., Co., Inc.: *See*—
Terry, Stanley M., and Burson. 3,140,413.

Phenolchemie G.m.b.H.: *See*—
Sodomann, Heinrich, Hauschulz, and Schwermer. 3,140,318.

Phillips Petroleum Co.: *See*—
Rainwater, Claude H. 3,139,826.
Reinecke, Marvin E., and Guenther. 3,139,755.
Welty, Richard O. 3,139,848.
Welty, Richard O. 3,139,996.

Phillips-van Heusen Corp.: *See*—
Ainslie, Thomas D. 3,139,912.

Pierson, Frederick M.: *See*—
Evans, Arthur G., and Pierson. 3,139,943.

Pilch, John S. Backhoe. 3,140,000, 7-7-64, Cl. 214—138.

Pinckney, Milton W., to The De Laval Separator Co. Method and apparatus for making cheese. 3,140,185, 7-7-64, Cl. 99—116.

Pinsley, Edward A.: *See*—
Oickle, Charles, Jr., and Pinsley. 3,140,411.

Pintauro, Nicholas D.: *See*—
Bender, William A., De Felice, and Pintauro. 3,140,186.

Pioneer Magnetic Inc.: *See*—
Gindoff, Sol. 3,139,777.

Pircio, Anthony W.: *See*—
Kuna, Samuel, and Pircio. 3,140,228.

Pitman Mfg. Co.: *See*—
Wacht, Raymond J., and Lindahl. 3,139,992.

Pittsburgh Plate Glass Co.: *See*—
Seymour, Samuel L. 3,140,189.

Planautics Corp.: *See*—
Elliott, Louis J. 3,140,366.

Plank, Charles J., and E. J. Rosinski, to Socony Mobil Oil Co., Inc. Catalytic cracking of hydrocarbons with a crystalline zeolite catalyst composite. 3,140,249, 7-7-64, Cl. 208—120.

Plank, Charles J., and E. J. Rosinski, to Socony Mobil Oil Co., Inc. Process for cracking hydrocarbons with a crystalline zeolite. 3,140,251, 7-7-64, Cl. 208—120.

Plank, Charles J., and E. J. Rosinski, to Socony Mobil Oil Co., Inc. Catalytic hydrocarbon conversion with a crystalline zeolite composite catalyst. 3,140,253, 7-7-64, Cl. 208—120.

Plattner, Robert F.: *See*—
Hall, Marchand B., Collins, Plattner, Finnegan, and Weller. 3,139,813.

Pollak, Henry M., to Ingersoll-Rand Co. Self-cleaning wearing ring for centrifugal pump pumping mixture of liquid and solid. 3,139,831, 7-7-64, Cl. 103—103.

Pollitz, Harold C., to Iowa Mfg. Co. of Cedar Rapids, Iowa. Crusher jaw plates. 3,140,057, 7-7-64, Cl. 241—285.

Polymer Corp., The: *See*—
Nagel, Fritz J. 3,140,196.

Porter, Loren D.: *See*—
Heath, Harry A., and Potter. 3,140,032.
Heath, Harry A., and Porter. 3,140,087.

Power Brushes, Inc.: *See*—
Grogan, John E., and Parseghian. 3,139,641.

Power Control Products, Inc.: *See*—
Heath, Harry A., and Porter. 3,140,032.
Heath, Harry A., and Porter. 3,140,087.

Power Jets (Research and Development) Ltd.: *See*—
Davidson, Ivor M., and Islip. 3,139,936.

Powers, Bernerd T., and M. K. Akers; said Powers, assor. to said Akers. Detergent dispensing unit. 3,140,011, 7-7-64, Cl. 222—25.

Poynor, Russell R., W. H. Lowry, and J. S. Winslow, to International Harvester Co. Crop storage and mechanical removal. 3,140,161, 7-7-64, Cl. 34—227.

Precision Metalsmiths, Inc.: *See*—
Watts, Claude H., and Miller. 3,139,656.

Pressure Systems Ltd.: *See*—
Saunders, Jack N. 3,140,048.

Pringle, Marvin A.: *See*—
Foster, Curtis W., Kenyon, and Pringle. 3,139,660.

Pure Oil Co., The: *See*—
Pfeifer, Paul E. 3,139,760.

Pyle-National Co., The: *See*—
Nava, Joseph A. 3,140,141.

Quaas, Joseph F.: *See*—
Broderick, John P., and Quaas. 3,140,384.

Quintel, Marie L., and C. Weiss; said Weiss assor. to said Quintel. Testing. 3,139,689, 7-7-64, Cl. 23—9.

R-N Corp.: *See*—
Smith, Rollin P., and Moklebust. 3,140,169.

Racki, Francis R., to Westinghouse Air Brake Co. Brake cylinder release valve device. 3,140,125, 7-7-64, Cl. 303—29.

Radio Corp. of America: *See*—
Carlson, David J. 3,140,444.
Chang, Kern K. N. 3,140,420.
Hoffman, Robert E. 3,140,176.
Knauf, Harry V., Jr. 3,140,418.
Knauf, Harry V., Jr., and Rose. 3,139,667.
Rakoczi, Laszlo L. 3,140,465.
Rakoczi, Laszlo L., and Gloates. 3,140,464.

Radio Frequency Laboratories, Inc.: *See*—
Yonkers, William A. 3,140,430.

Raggio, Carl W., Jr.: *See*—
Webb, James E. 3,139,725.

Rainwater, Claude H., to Phillips Petroleum Co. Inking roller for printing machines. 3,139,828, 7-7-64, Cl. 101—348.

Rakoczi, Laszlo L., and E. Gloates, to Radio Corp. of America. Central parity checker operating from and into a data transfer bus. 3,140,464, 7-7-64, Cl. 340—146.1.

Rakoczi, Laszlo L., to Radio Corp. of America. Parity checker for asynchronous data processing system. 3,140,465, 7-7-64, Cl. 340—146.1.

Ralston, Don L., ½ to Dr. S. I. Wener. Sharpener for lawnmower blades. 3,139,710, 7-7-64, Cl. 51—249.

Randell, George M. Lawn edger. 3,139,940, 7-7-64, Cl. 172—15.

Randolph, Hollis L., M. J. Caparone, and M. M. Graham, to Robertshaw Controls Co. Spring-clip mounted manually operable means for modifying the action of an automatic control device. 3,140,372, 7-7-64, Cl. 200—138.

Rapp & Seidt Maschinenbau: *See*—
Diesel, Hermann. 3,139,650.

Raytheon Co.: *See*—
Wimberly, Floyd T. 3,140,443.

Realty & Industrial Corp.: *See*—
Gubelmann, William S. 3,140,045.

Recold Corp.: *See*—
Jarvis, Hyrum T. 3,139,738.
Wile, Daniel D. 3,139,737.

Reid, Walter E., Jr.: *See*—
Brenner, Abner, Reid, and Connor. 3,139,655.

Reif, Peter M., and R. E. Lindemann, to Harris-Intertype Corp. Printing press delivery. 3,140,091, 7-7-64, Cl. 271—88.

Reimer, William A., to Automatic Electric Laboratories, Inc. Package method for producing a memory system. 3,139,668, 7-7-64, Cl. 29—155.5.

Reimers, Frederick E., M. D. Miller, and F. Bush, to American Sugar Co. Dry pulverulent sugar products and process for producing same. 3,140,201, 7-7-64, Cl. 127—63.

Reinecke, Marvin E., and R. Guenther, to Phillips Petroleum Co. Pneumatically-actuated diaphragm valve. 3,139,755, 7-7-64, Cl. 73—422.

Reinhardt, Paul W., and F. J. Davis, to United States of America, Atomic Energy Commission. Neutron dosimeter utilizing a fission foil. 3,140,398, 7-7-64, Cl. 250—83.1.

Reliable Electric Co.: *See*—
Koletsos, Peter K., and Shrewsbury. 3,140,138.

Renaer, Inc.: *See*—
Daffer, George H. 3,139,635.

Renfrow, Donald D. Grinding wheel dressers for surface grinders. 3,139,878, 7-7-64, Cl. 125—11.

Resco Products, Inc.: *See*—
Tredennick, William T., and Miller. 3,140,333.

Rheinische Braunkohlenwerke Aktiengesellschaft: *See*—
Mordstein, Walter. 3,139,970.

Rheinmetall, G.m.b.H., Firma: *See*—
Schubert, Karl. 3,139,773.

Rice, Emory C., Sr. Fish cutting and cleaning machine. 3,139,648, 7-7-64, Cl. 17—3.

Rice, Harry L., deceased, by H. Rice, administratrix, to Rubber and Plastics Compound Co., Inc. Liner for a shower stall. 3,139,627, 7-7-64, Cl. 4—146.

Rice, Helen: *See*—
Rice, Harry L. 3,139,627.

Richards, John A. Automatic water refill system for swimming pool. 3,139,628, 7-7-64, Cl. 4—172.

Richardson, Pierce F.: *See*—
Virtue, Eugene P., Moyer, and Richardson. 3,140,103.

Richardson-Merrell Inc.: *See*—
McCuiston, Robert E. 3,140,052.

Richter, George A., Jr., C. H. McBurney, and B. B. Kine, to Rohm & Haas Co. Fibrous textile and industrial fabrics. 3,140,265, 7-7-64, Cl. 260—2.1.

Rickerd, Calvin P., R. C. Fischer, and E. C. Carlson, to International Harvester Co. Row crop attachment. 3,139,718, 7-7-64, Cl. 56—119.
Rieckmann, Peter, to C. F. Boehringer & Soehne G.m.b.H. Tasteless pharmaceutical composition and process. 3,140,-230, 7-7-64, Cl. 167—82.
Rinke, Heinrich: *See*—
Thoma, Wilhelm, and Rinke. 3,140,270.
Ritchie, Ian M.: *See*—
Mayer, Simon E., Ritchie, and Mlavsky. 3,139,733.
Ritzerfeld, Gerhard: *See*—
Ritzerfeld, Wilhelm and G. 3,139,808.
Ritzerfeld, Wilhelm and G. Method and apparatus for making printing form sheets. 3,139,808, 7-7-64, Cl. 95—73.
Rivera, Juan A. Combination coffee pulper, washing and selecting machine. 3,139,919, 7-7-64, Cl. 146—230.
Rivera, Charles P. Conveyors. 3,139,973, 7-7-64, Cl. 198—218.
Robbins, Frederick M., to General Foods Corp. Edible materials containing water soluble dextrin forming complexes. 3,140,184, 7-7-64, Cl. 99—28.
Robbins, William K. Conecting means for chain links and the like. 3,139,720, 7-7-64, Cl. 59—84.
Roberts, Arthur, to United States of America, Atomic Energy Commission. Means for determining the direction and velocity of nuclear particles. 3,140,394, 7-7-64, Cl. 250—71.5.
Roberts, George L., to The Bendix Corp. Method and apparatus for forming end turns on a wire wound unit. 3,139,-921, 7-7-64, Cl. 153—10.
Roberts, Maldwyn H., D. W. L. Clamp, and N. A. Jukes, to Joseph Lucas (Industrial) Ltd. Spark ignition apparatus for internal combustion engine. 3,140,423, 7-7-64, Cl. 315—201.
Robertshaw Controls Co.: *See*—
Morgan, David L., and Godkin. 3,139,867.
Randolph, Hollis L., Caparone, and Graham. 3,140,372.
Robertson, M. H., Co.: *See*—
Ferrell, Russell A. 3,139,961.
Robinson, Bert N., to W. E. Stone & Co., Inc. Updraft continuous freezer for comestibles. 3,139,739, 7-7-64, Cl. 62—308.
Rockwell Mfg. Co., The: *See*—
Bell, Joe W., and Fowler. 3,139,906.
Rodenkirchen, Theodore P., to McQuay-Norris Mfg. Co. Piston ring assembly with improved bearing contact. 3,140,096, 7-7-64, Cl. 277—141.
Roder, Josef, to Dravo Corp. Vibrating conveyor. 3,139,-974, 7-7-64, Cl. 198—220.
Roehrig, Phillip J.: *See*—
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Rogers, Asa S., Jr.: *See*—
Wyman, Charles M., and Rogers. 3,140,084.
Rohm & Haas Co.: *See*—
Luskin, Leo S., and Short. 3,140,281.
Richter, George A., Jr., McBurney, and Kine. 3,140,265.
Roller Bearing Co. of America: *See*—
Barr, Victor L. 3,140,130.
Roman, Robert J., to Eastman Kodak Co. Photographic projector drive control mechanism. 3,140,027, 7-7-64, Cl. 226—46.
Roop, Robert W., to General Atronics Corp. Educational apparatus. 3,139,688, 7-7-64, Cl. 35—9.
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Rorden, Harold L. Method and apparatus for working energized conductors. 3,139,948, 7-7-64, Cl. 182—2.
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Rosaen, Oscar E. and N. O. 3,139,905.
Rosaen, Oscar E. and N. O. Fluid superchargers. 3,139,905, 7-7-64, Cl. 137—566.
Rose, George M., Jr.: *See*—
Knauf, Harry V., Jr., and Rose. 3,139,667.
Rosen, Marvin: *See*—
Chodsky, Sergey V., and Rosen. 3,140,804
Rosenthal, Paul, and J. W. Kurstrock, to United States of America, Navy. All weather vortex free-air thermometer. 3,139,751, 7-7-64, Cl. 73—340.
Rosinski, Edward J.: *See*—
Plank, Charles J., and Rosinski. 3,140,249.
Plank, Charles J., and Rosinski. 3,140,251.
Plank, Charles J., and Rosinski. 3,140,253.
Rosterman, Donald F.: *See*—
McIninch, Glenn W., and Rosterman. 3,139,759.
Roth, Philip B., and L. B. Hallows. Durable germicidal finish for hydrophobic polyamide textile materials. 3,140,227, 7-7-64, Cl. 167—38.6.
Roussel-UCLAF: *See*—
Jequier, Robert. 3,140,230.
Royal McBee Corp.: *See*—
Gryk, Leon. 3,140,044.
Rubber and Plastics Compound Co., Inc.: *See*—
Rice, Harry L. 3,139,627.
Rubio, German: *See*—
Rubio, Santiago and G. 3,139,987.
Rubio, Santiago and G. Knockdown structure and component frame therefor. 3,139,987, 7-7-64, Cl. 211—182.
Rucker, John T., and T. H. Dexter, to Hooker Chemical Corp. Process for preparing and recovering of substantially anhydrous hydrogen fluoride gas from a dry alkali metal bifluoride. 3,140,152, 7-7-64, Cl. 23—153.
Rumsey, Rollin D., to Houdaille Industries, Inc. Friction snubber with two-way bump stop. 3,140,060, 7-7-64, Cl. 267—1.
Rupard, John N. Plural track tape recorder. 3,140,359, 7-7-64, Cl. 179—100.2.
Rush, Richard B.: *See*—
Hart, James P., Klein, Morgan, and Rush. 3,140,469.
Russell, Frederick J., to Eastman Kodak Co. Photographic element having increased speed and contrast. 3,140,179, 7-7-64, Cl. 96—68.
Russell, Jerome Y. Combined shipping and merchandising package. 3,139,979, 7-7-64, Cl. 206—45.12.
Russell, Joseph L.: *See*—
Feder, Jack B., and Russell. 3,140,243.
Gans, Manfred, and Russell. 3,140,300.
Russell, Theron W., to Weyerhaeuser Co. Process for sealing cartons. 3,140,215, 7-7-64, Cl. 156—309.
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Smith, Percy, and Rutkosky. 3,140,890.
Rutten, Donald E.: *See*—
Rutten, Peter and D. E. 3,139,860.
Rutten, Peter and D. E. 3,139,862.
Rutten, Peter and D. E., to P & D Sales & Mfg. Co., a division of The Neff and Fry Co. Bunk feeder. 3,139,860, 7-7-64, Cl. 119—52.
Rutten, Peter and D. E., to P & D Sales & Mfg. Co., a division of The Neff and Fry Co. Feeder. 3,139,862, 7-7-64, Cl. 119—56.
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Shilts, Richard L., and Ruttenberg. 3,140,216.
Ryan, Arthur P. Emergency brake for tractors and trailers. 3,139,956, 7-7-64, Cl. 188—152.
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Wenzel, Frederick A. 3,140,035.
Saj, Stanley. Method for forming heat-exchange devices. 3,139,679, 7-7-64, Cl. 29—471.1.
Sakaki, Yoshinobu, and H. Teshi. Exposure and sensitivity control apparatus. 3,139,807, 7-7-64, Cl. 95—64.
Sampietro, Achille C. Internal combustion engines with four valves. 3,139,870, 7-7-64, Cl. 123—32.
Sampson, Henry T., to United States of America, Navy. Binder system for propellants and explosives. 3,140,210, 7-7-64, Cl. 149—88.
Sanders, Lovett, to Small Business Administration. Device for baling paper or the like. 3,139,814, 7-7-64, Cl. 100—34.
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Sangeorge, Joseph. Portable grill. 3,139,880, 7-7-64, Cl. 126—25.
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Sayles, David C., to United States of America, Air Force. Explosive initiator-booster containing diethylacetylene and a perchlorate salt. 3,140,209, 7-7-64, Cl. 149—75.
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Schaefer, Edward E. Safety device for firearms. 3,139,694, 7-7-64, Cl. 42—70.
Schaefer, Harold A., to Schaefer Brush Mfg. Co., Inc. Device for cleaning endless conveyors. 3,139,975, 7-7-64, Cl. 198—230.
Schaich, Wilbur A., to Owens-Illinois Glass Co. Hollow plastic containers. 3,140,004, 7-7-64, Cl. 215—1.
Schalkwijk, Jan, to North American Philips Co., Inc. Magnetic visual indicating device. 3,140,431, 7-7-64, Cl. 317—171.
Schecter, Roger M. Airborne chemical dispenser. 3,140,013, 7-7-64, Cl. 222—146.
Scherbatskoy, Serge A. Directional gamma-ray detector. 3,140,395, 7-7-64, Cl. 250—71.5.
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Schleich, Fritz, and K. H. Steigerwald, to United Aircraft Corp. Method for forming modular electronic components. 3,140,379, 7-7-64, Cl. 219—69.
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Schmidt, Jacob, to Lockheed Aircraft Corp. Shock strut. 3,140,084, 7-7-64, Cl. 267—64.
Schmitz, Albert, and B. Bollee, to North American Philips Co., Inc. High-frequency tunnel diode circuit. 3,140,452, 7-7-64, Cl. 331—101.
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Schreiner, Karl F., to I.C.E.D. Inc. Internal combustion engine driven heat pump. 3,139,924, 7-7-64, Cl. 165—29.
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Goerring, Dieter, Schabacher, and Schubert. 3,140,150.
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Schultz, Otto-Erich, J. Schneckenburger, and E. Seeger, to Boehringer Ingelheim G.m.b.H. Laxative compositions containing (4,4'-dihydroxy-2''-amino)-triphenylmethane and method of using same. 3,140,229, 7-7-64, Cl. 167—56.
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Schwerter, Robert, to American Meter Co., Inc. Pilot loaded pressure regulator. 3,139,899, 7-7-64, Cl. 137—489.5.
Scinta, Anthony C., to Trico Products Corp. Windshield wiper. 3,139,645, 7-7-64, Cl. 15—250.32.
Sciuto, Joseph S., Jr., to Stile-Craft Manufacturers, Inc. Locking mechanism in quick-connect-disconnect coupling. 3,140,072, 7-7-64, Cl. 251—89.5.
Scolari, Antonio. Foraminous rotary drum dryer. 3,140,156, 7-7-64, Cl. 34—128.
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Williams, Richard E. 3,140,337.
Scruggs, David M., and R. H. Herron, to The Bendix Corp. Rocket nozzles and the like. 3,139,672, 7-7-64, Cl. 29—182.5.
Scully-Anthony Corp.: *See*—
Anthony, Myron L., and Gill. 3,139,678.
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Seaman, Norman R., to Domestic Film Products Corp. Self-unloading apparatus. 3,139,998, 7-7-64, Cl. 214—82.
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Cusic, John W., and Lowrie. 3,140,286.
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Shand, Stanley G., and H. Bentley-Leek, to Saunders Valve Co. Ltd. Valves for the control of fluids. 3,139,901, 7-7-64, Cl. 91—189.
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De La Mare, Harold E., Kochi, and Rust. 3,140,308.
Johnson, Glenn D. 3,139,932.
Kurhajec, George A., and Grimsby. 3,140,212.
McClure, James D. 3,140,296.
Nelson, George A. 3,140,006.
Noad, Reginald W. 3,140,261.
Spooncer, William W. 3,140,275.
Sullivan, William J., and Williams. 3,140,297.
Wilson, Joseph G., Dutton, Haymes, and Dygert. 3,139,726.
Shepard, Francis H., Jr. Solenoid firing circuit. 3,140,428, 7-7-64, Cl. 317—148.5.
Sheppard, Richard H. Transmission for choosing the mode of steering on a vehicle with two steerable axles. 3,140,101, 7-7-64, Cl. 280—91.
Sherbondy, William A. Caliking gun with cleaning tool. 3,140,015, 7-7-64, Cl. 222—192.
Sherstiuk, Boris, to Automatic Electric Laboratories, Inc. Party line identification system. 3,140,353, 7-7-64, Cl. 179—17.
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Shockley, William, and G. S. Horsley, to Clevite Corp. Voltage regulating semiconductor device. 3,140,438, 7-7-64, Cl. 323—22.
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Sichak, William, and Schildknecht. 3,140,490.
Sichak, William, and R. O. Schildknecht, to Sichak Associates. Communication system with automatic antenna beam steering. 3,140,490, 7-7-64, Cl. 343—100.
Sickel, Helmut, F. Schierse, and G. Flanke, to Ewers & Miesner Hartgusswerk und Maschinen-Fabrik G.m.b.H. Air duct valve for shelter. 3,139,811, 7-7-64, Cl. 98—119.
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Johann, Hans, and Graf. 3,140,371.
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Sievers, Douglas C., and J. N. Roper, Jr. to Eastman Kodak Co. Gas chromatographic unit. 3,139,745, 7-7-64, Cl. 73—23.1.
Sikora, Stephen J., and H. J. Campbell, to United States of America, Navy. Barometric-radar altitude control system. 3,140,483, 7-7-64, Cl. 343—7.
Simek, Joseph, E. J. Strojny, and A. H. Widiger, Jr., to The Dow Chemical Co. Removal of volatile organic materials from aqueous hydrochloric acid. 3,140,244, 7-7-64, Cl. 202—46.
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Sinclair, Robert L., to The Gillette Co. Panel display rack. 3,139,985, 7-7-64, Cl. 211—59.
Singer, Samuel. Ball game with projector and automatic ball supplying and racking means. 3,140,062, 7-7-64, Cl. 273—11.
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Oliver, Norman J., Jankowski, and Ryuboo. 3,139,881.
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Sixty, Billy, Sr. Shoe fastening devices. 3,139,661, 7-7-64, Cl. 24—230.
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Slator, Thomas S., and Gould. 3,140,344.
Slater, Thomas S., and M. Gould, to Slater Electric Inc. Weatherproof receptacle cover. 3,140,344, 7-7-64, Cl. 174—67.
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Smirl, Richard L., to Borg-Warner Corp. Anti-spin device for transmission mechanism. 3,139,744, 7-7-64, Cl. 74—689.
Smith, George O. Windshield wiper. 3,139,644, 7-7-64, Cl. 15—250.50.
Smith, John D., ½ to Martensen Enterprises Inc. Fence post driver. 3,139,944, 7-7-64, Cl. 173—119.
Smith, Max R., and M. D. Howell, to United States of America, Navy. Hydraulic force balance apparatus. 3,139,760, 7-7-64, Cl. 73—141.
Smith, Percy, and J. J. Rutkosky. Therapeutic appliance. 3,140,390, 7-7-64, Cl. 219—527.
Smith, Richard A., and F. Wojnar, to H. J. Heinz Co. Method of an apparatus for the continuous cooking and sterilization of liquids and suspensions. 3,139,812, 7-7-64, Cl. 99—251.
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Bell, James F., Folda, and Trimble. 3,140,248.
Cramer, Robert H., Eastwood, and Houser. 3,140,250.
Frilette, Vincent J., and Weisz. 3,140,252.
Frilette, Vincent J., and Weisz. 3,140,322.
Olack, Stephen M., and Wantuck. 3,140,204.
Payne, John W. 3,140,263.
Plank, Charles J., and Rosinski. 3,140,249.
Plank, Charles J., and Rosinski. 3,140,251.
Plank, Charles J., and Rosinski. 3,140,253.
Soderberg, Carl R., Jr., to Schlumberger Well Surveying Corp. Pipeline cleaning systems. 3,139,711, 7-7-64, Cl. 51—317.
Sodomann, Heinrich, E. Hauschulz, and H. Schwermer, to Phenolchemie G.m.b.H. Process for the production of phenol of high degree of purity. 3,140,318, 7-7-64, Cl. 260—621.
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Lee, John L., and Eberly. 3,140,109.
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Steadman, William D., to General American Transportation Corp. Systems for moving demountable freight containers along supporting platforms therefor. 3,140,076, 7-7-64, Cl. 254—105.
Steck, William G. Polarity-reversing system for electrochemical process. 3,140,424, 7-7-64, Cl. 317—8.
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Wilder, Perry W., Jr., and R. T. Bonsall, Jr., to Pennsalt Chemicals Corp. Centrifugal separation process and apparatus. 3,140,257, 7-7-64, Cl. 210—51.

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 7, 1964 | Volume 804 | Number 1

TRADEMARKS

NOTICES

International Convention for the Protection of Industrial Property

Adherence of Cameroon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective May 10, 1964, of the Federal Republic of Cameroon to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

May 26, 1964.

EDWARD J. BRENNER,
Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,244
Date of oldest new application	Oct. 7, 1963
Date of oldest amended application	Sept. 3, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION

	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	11-26-63	11-13-63
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Applications filed during the month of May 1964—2,192

Registrations Issued	437—No. 772,555 to No. 772,991
Renewals Issued	55

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 173,500. Plastus, S.A., Geneva, Switzerland. Filed July 22, 1963.

ARMTEX

Owner of Swiss Reg. No. 192,736, dated June 14, 1962.
For Plastic Tubes for General Use in the Industrial Arts.

SN 177,985. Green Mill Gardens, Inc., Addison, Ill. Filed Sept. 30, 1963.

GREEN MILL

For Plants, Bushes, Trees, Bulbs, Seeds, and Cut Flowers.
First use Oct. 2, 1926.

SN 177,986. Green Mill Gardens, Inc., Addison, Ill. Filed Sept. 30, 1963.



Applicant disclaims the representation of the plant apart from the mark as shown.
For Plants, Bushes, Trees, Bulbs, Seeds, and Cut Flowers.
First use Oct. 2, 1926.

SN 178,900. The Epoxylite Corporation, South El Monte, Calif. Filed Oct. 14, 1963.

EPOXYLITE

Owner of Reg. Nos. 611,364 and 710,102.
For Fillers Composed of Organic and Inorganic Materials To Improve the Product, Laminated Plastics for Industrial Purposes Composed of Integral Flakes or Fibers and Having Structural and Thermal Properties, Modifiers for Selectively Changing the Physical Properties of the Product, Plastics in Liquid or Powder State or in Cured Form Containing Reinforcing Material, and Resins.
First use Dec. 21, 1954.

SN 180,518. Merino Pelzveredlungs- und Konfektionsfabrik, Knebl & Ditrich, Feldbach, Styria, Austria. Filed Nov. 5, 1963.

EMBROFIX

Owner of Austrian Reg. No. 45,374, dated Apr. 10, 1961.
For Finished Lamb and Skeep Skins.

SN 180,588. Lee Patten Seed Company, Moonachie, N.J. Filed Nov. 6, 1963.

BLUE VELVET

For Mixed Lawn Seed.
First use Oct. 25, 1963.

TM 2

SN 180,594. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 6, 1963.

SCOTCHPAR

Owner of Reg. Nos. 756,005, 753,089, and others.
For Plastic Film for General Use in the Industrial Arts.
First use Oct. 24, 1963.

SN 180,668. J. M. Huber Corporation, Borger, Tex. Filed Nov. 7, 1963.

NOPAK

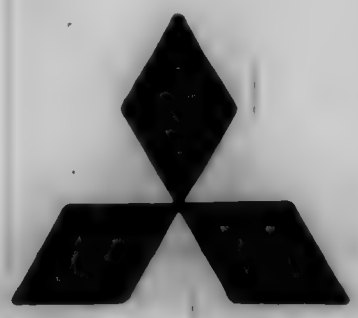
For Clay.
First use Oct. 29, 1963.

SN 180,838. Celanese Corporation of America, New York, N.Y. Filed Nov. 12, 1963.

VANDAR

For Plastic Film and Sheet.
First use Oct. 23, 1963.

SN 180,550. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Feb. 12, 1964.



Owner of Japanese Reg. No. 98,421, dated Dec. 5, 1918.
For Raw Silk.

Class 2—Receptacles

SN 159,286. Royalon, Inc., Sebring, Ohio. Filed Dec. 17, 1962.

ROYALON ON MELAMINE DINNERWARE IS LIKE STERLING ON SILVER

For Plastic Dinnerware.
First use during March 1961.

SN 163,210. Andy Manufacturing Company, Skokie, Ill. Filed Feb. 21, 1963.

STOR-EZE

For Plastic Storage Cases and Parts Thereof for Storing Dishes, Glassware, and Silverware; Plastic Storage Bags for Garments, Hair Curlers and Blankets.
First use May 1, 1962, on dishpack.

SN 167,916. Landers, Frary & Clark, New York, N.Y. Filed May 1, 1963.

PERMATEL

For Vacuum Containers and Jugs, All of Which Are Produced From Base Metals, and Are Used in Dispensing Food or Drink.
First use Apr. 19, 1963.

SN 170,336. Reynolds Metals Company, Richmond, Va. Filed June 4, 1963.

FLEX-CAN

For Laminated Aluminum Foil Package for Consumer Goods Sold Empty to the Trade.
First use July 9, 1948.

SN 174,654. The Dow Chemical Company, Midland, Mich. Filed Aug. 8, 1963.

HANDI-WRAP

Owner of Reg. No. 740,918.
For Plastic Bags.
First use Nov. 15, 1961.

SN 177,140. B. Altman & Co., New York, N.Y. Filed Sept. 17, 1963.

BALTA

Owner of Reg. Nos. 383,072, 393,034, and 520,511.
For Laundry Bags.
First use at least as early as August 1963.

SN 178,638. Plastics Manufacturing Company, Dallas, Tex. Filed Oct. 9, 1963.

SR-40

For Dinnerware Made of Synthetic Resin.
First use Sept. 25, 1963.

SN 179,950. Service Poly-Pak, Inc., New York, N.Y. Filed Oct. 28, 1963.

HANG-A-MATE

For Polyethylene Bags and Hangers Combined Therewith.
First use July 1, 1962.

SN 184,903. Emalox A/S, Oslo, Norway. Filed Jan. 20, 1964.

EMALOX

For Giftware Items of Specially Processed Aluminum—Namely, Bowls, Plates, Platters, Coasters, Flower Vases, Salt and Pepper Shaker Sets.
First use on or about Jan. 22, 1955; in commerce Oct. 5, 1957.

Class 4—Abrasives and Polishing Materials

SN 175,363. Ditta A. Sutter, d.b.a. A. Sutter, Genoa, Italy. Filed Oct. 17, 1963.

MARGA

Owner of Italian Reg. No. 160,592, dated Nov. 28, 1962.
For Shoe and Leather Polishes; Metal Polishes; and Combined Cleaning, Shining and Polishing Composition for Hides and Leathers.

SN 180,177. Buckingham Wax Co., Inc., Long Island City, N.Y. Filed Oct. 31, 1963.

BUCKINGHAM

For Floor Wax, Floor Polish, and Metal Polish.
First use July 1936.

SN 182,502. G. S. Products Laboratory, Inc., Whitewater, Wis. Filed Dec. 6, 1963.

USE RENEWAL PRODUCTS

For Wax Polish for Furniture, Pianos, Automobiles, and Floors.
First use 1936.

Class 5—Adhesives

SN 183,719. Wynn Oil Company, Azusa, Calif. Filed Dec. 23, 1963.

WYNN'S

The drawing is lined for red. Owner of Reg. No. 744,306.
For Tire Sealants and Pressurizers.
First use Oct. 2, 1963.

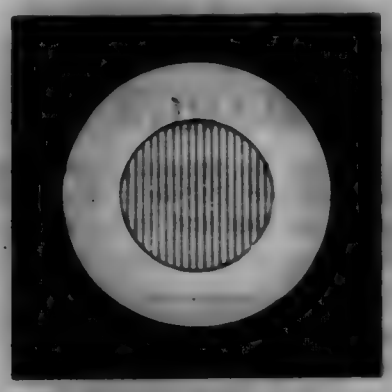
Class 6—Chemicals and Chemical Compositions

SN 155,836. Photostat Corporation, Rochester, N.Y. Filed Oct. 24, 1962.

PROJECT-A-LITH

For Chemicals for Processing Offset Plates and Other Associated Supplies Therefor.
First use on or about Aug. 10, 1962.

SN 168,891. American Can Company, New York, N.Y. Filed May 18, 1963.



The central circle is red and the surrounding circle is tan or light brown. Owner of Reg. No. 719,691.

For Lignin Sulfonate Compounds as Dispersants, in Cement.
First use Mar. 2, 1956.

SN 170,453. Cornelius Wax Refining Corporation, Linden, N.J. Filed June 6, 1963.

CERAX

For Synthetic Wax Similar to Carnauba Wax for Use in Paste Polishes and Quick Setting Polishes.
First use Jan. 4, 1946.

SN 170,563. Guido Schreiber, New York, N.Y. Filed June 7, 1963.

GUIDITE

For Masking Compositions for Use in Producing Radiant Heating Circuits on Enamelled Metal, Glass, and the Like.
First use Apr. 29, 1963.

SN 170,627. Eaton Chemical Corporation, Detroit, Mich. Filed June 10, 1963.

DUX

For Chemical Compositions Used in the Commercial Dry Cleaning or Garment Cleaning Industry and Added to Fabrics To Increase Their Water Repellency and Resistance to Soil Penetration.
First use May 14, 1963.

SN 175,232. Acme Chemical Company, Milwaukee, Wis. Filed Aug. 19, 1963.

LAVO-KLEEN

For Disinfectant-Deodorant for Industrial and Household Use.
First use May 31, 1927.

SN 177,191. Sierra Fire Equipment Company, Los Angeles, Calif. Filed Sept. 17, 1963.

SIERRA

For Fire Extinguishing Chemical Compositions—Namely, Foam Liquid, Foam Powder, and Such Fire Extinguisher Recharges.
First use May 1, 1952.

SN 177,236. Turtle Wax, Inc., Chicago, Ill. Filed Sept. 19, 1963.

REDI FIRE

For Aerosol Cooking Fuel for Portable Stoves.
First use Aug. 30, 1963.

SN 178,901. The Epoxylite Corporation, South El Monte, Calif. Filed Oct. 14, 1963.

EPOXYLITE

Owner of Reg. Nos. 611,246, and 710,102.

For Amines, Anhydrides, Catalysts, Curing Agents To Provide Polymerization, Dyes, Lewis Acids Composed of Metal Chlorides and in General Metal Containing Atoms With Unfilled Orbital Positions in the Outer Electron Shell, for Example Stannic Chloride, and Lewis Complexes Composed of the Combination of Lewis Acids and Ethers, Amines, Phenols and the Like, for Example, Boron Trifluoride Mono Ethylamine, Organic Acids, Pigments, Polyols and Solvents for Cured Products To Dissolve and Remove the Same and for Uncured Products Adapted To Reduce the Viscosity of Such Products.
First use Dec. 21, 1954, on catalysts.

SN 179,759. Advance Chemical Company, San Francisco, Calif. Filed Oct. 25, 1963.

COE 64

For Liquid Wick Deodorant for Industrial and Household Use.
First use on or about Oct. 16, 1963.

SN 179,821. Sternco Industries, Inc., Allendale, N.J. Filed Oct. 25, 1963.

PERMALIFE

Owner of Reg. Nos. 663,685 and 673,971.

For Compositions for Treating Aquarium Tank Water and Chemical Preparations for Use in Pet Baths.
First use Nov. 14, 1960.

SN 179,839. West Chemical Products, Inc., Long Island City, N.Y. Filed Oct. 25, 1963.

ASSAULT

For Liquid Weed Killer.
First use Sept. 9, 1963.

SN 180,056. Analytical Engineering Laboratories, Inc., Hamden, Conn. Filed Oct. 30, 1963.

TEE SIX

For Tetrafluoroethylene Processed for Use in Gas Chromotographic Analysis.
First use Feb. 1, 1963.

SN 180,842. Chemagro Corporation, New York, N.Y. Filed Nov. 12, 1963.

Scope

For Insecticide for Home Garden Use.
First use Mar. 26, 1963.

SN 181,082. Ilford Limited, Ilford, England. Filed Sept. 27, 1963.

MONOPHEN

Owner of British Reg. No. 790,822, dated Dec. 17, 1959.
For Photographic Chemicals.

SN 181,377. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Nov. 18, 1963.

SPECTRAR

Owner of Reg. Nos. 594,056, 754,490, and others.
For High Purity Solvents.
First use Nov. 5, 1962.

SN 181,892. Hyland Laboratories, Los Angeles, Calif. Filed Nov. 26, 1963.

ENZO-CLEAN

For Enzyme Preparation Suitable for Hydrolyzing Protein and Carbohydrate Contaminants of Laboratory Equipment Used in Laboratory Work.
First use Nov. 12, 1963.

SN 183,719. Wynn Oil Company, Azusa, Calif. Filed Dec. 18, 1963.



The drawing is lined for red. Owner of Reg. No. 744,806.
For Cooling System Additives for Automobile Engines.
First use July 26, 1963.

Class 7 — Cordage

SN 183,900. Thomaston Cotton Mills, Thomaston, Ga. Filed Mar. 4, 1963.



Applicant disclaims the exclusive use of the words "Dependable Fabrics" apart from the mark as shown. Owner of Reg. Nos. 228,811, 752,777, and others.
For Wrapping Twine, and Cable Cord.
First use January 1949 on cable cord.

SN 175,745. The Fiberite Corporation, Winona, Minn. Filed Aug. 26, 1963.

SNAP CURE

For Resin Impregnated Tape Wrapping Fabrics for Use in Progressive Cure Tape Wrapping Techniques for Fabricating Products Such as Rocket and Missile Exit Cones, Liquid Chambers, Liners, Insulators, and the Like.
First use July 5, 1963.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 185,647. Bowers Tool & Die Company, Kalamazoo, Mich. Filed Jan. 30, 1964.

SURE-FIRE

Owner of Reg. No. 552,102.
For Portable Pyrophoric Cigar or Cigarette Lighters and Flints Therefor.
First use Mar. 15, 1952.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 185,867. Seymour M. Gluck, Far Rockaway, N.Y. Filed Feb. 3, 1964.

COZY COUGHIN'

For Matches.
First use Dec. 8, 1961.

Class 10 — Fertilizers

SN 176,538. Kerley Chemical Corporation, Antioch, Calif. Filed Sept. 9, 1963.

ZIRON

For Iron-Zinc-Sulfur Plant Foods and Fertilizers.
First use June 4, 1962.

SN 182,209. Phillips Petroleum Company, Bartlesville, Okla. Filed Dec. 2, 1963.

PHILGRO

For Fertilizer.
First use July 1, 1955.

SN 185,730. Teton Peat, Inc., d.b.a. Teton Humus Co., Lander, Wyo. Filed Jan. 30, 1964.

TETON HUMUS

Applicant disclaims the word "Humus" separate and apart from the mark as shown. Owner of Reg. No. 735,161.
For Peat.
First use Dec. 20, 1963.

SN 186,883. Continental Oil Company, Memphis, Tenn. Filed Feb. 10, 1964.

BIG K BRAND

The word "Brand" is disclaimed apart from the mark as shown. Applicant asserts no rights in the letter "N" as used properly to designate the element nitrogen in nitrogen-containing fertilizers. Owner of Reg. No. 640,546.

For Fertilizer.

First use on or about July 10, 1955.

Class 12 — Construction Materials

SN 146,685. The Trenton Corporation, Ann Arbor, Mich. Filed June 11, 1962.

TRI-PLY

For Aluminum Foil Wrapper Having a Plastic Coating Adapted To Form a Protective Covering for Undergrouad Pipe Lines.

First use Mar. 4, 1957.

SN 146,686. The Trenton Corporation, Ann Arbor, Mich. Filed June 11, 1962.

DUO-PLY

Owner of Reg. No. 728,768.

For Wax Saturated Asbestos Wrapper Having a Plastic Coating Adapted To Form a Protective Covering for Underground Pipe Lines.

First use July 2, 1951.

SN 146,957. Alton Box Board Company, Alton, Ill. Filed June 15, 1962.

Sleek/

For Tubes Made at Least in Part of Paperboard.

First use May 7, 1962.

SN 167,838. H. H. Robertson Company, Pittsburgh, Pa. Filed Apr. 30, 1963.

VITRALUME

For Porcelain-Enameled Aluminum Sheets and Panels.

First use Apr. 25, 1963.

SN 169,761. Plastiwall, Inc., Auburn, Ind. Filed May 27, 1963.

MULTI-HUE

For Plywood Sold as Decorative Wall Paneling.

First use Dec. 12, 1962.

SN 171,211. Weed Conversion Company, St. Paul, Minn. Filed June 17, 1963.

KREX-TONE

Owner of Reg. No. 506,960.

For Ceiling Panels.

First use Sept. 2, 1947.

SN 171,383. Ripon Corporation, Bensenville, Ill. Filed June 19, 1963.

RIPONITE

For Melamine Resin High Pressure Laminate in Sheet Form for Use as Furniture Tops and Shelving.

First use June 5, 1961.

SN 173,594. Phelan-Faust Paint Mfg. Co., St. Louis, Mo. Filed July 23, 1963.

HYDRO CAULK

Applicant disclaims exclusive right to the use of the word "Caulk" apart from the mark as shown. Owner of Reg. No. 414,752.

For Expansion Joint Filler.

First use Mar. 10, 1961.

SN 177,191. Sierra Fire Equipment Company, Los Angeles, Calif. Filed Sept. 17, 1963.

SIERRA

For Pre-Fabricated Structural Members Used in the Construction of Cabinets and Housings for the Storage of Fire Fighting and Safety Equipment.

First use May 1, 1962.

SN 177,715. Masonite Corporation, Chicago, Ill. Filed Sept. 25, 1963.

Marbletone

For Construction Board and More Specifically Decoratively Coated Hardboard Panels, for Various Construction Purposes.

First use on or about May 28, 1963.

SN 178,598. Devoe & Raynolds Company, Inc., Louisville, Ky. Filed Oct. 9, 1963.

ART-ROC

For Prepared Coloring and Hardening Aggregate for Integral Use in Concrete.

First use in 1950.

SN 179,045. Ingram-Richardson Manufacturing Company, Beaver Falls, Pa. Filed Oct. 15, 1963.

PORCELMATTE

Owner of Reg. No. 640,554.
For Insulated and Non-Insulated Porcelain Enameled Steel and Aluminum Wall Panels for Interior and Exterior Walls and Partitions.
First use Nov. 26, 1962.

SN 179,187. Basic Incorporated, Cleveland, Ohio. Filed Oct. 17, 1963.

GUNCLASE

Owner of Reg. Nos. 402,939, 705,425, and others.
For Granular Refractory Magnesia.
First use Aug. 9, 1963.

SN 180,770. H. H. Robertson Company, Pittsburgh, Pa. Filed Nov. 8, 1963.

Huski-Rib

For Corrugated Building Sheets for Use in Roofing and Siding.
First use Nov. 6, 1963.

SN 180,771. H. H. Robertson Company, Pittsburgh, Pa. Filed Nov. 8, 1963.

Sturdi-Rib

For Corrugated Building Sheets for Use in Roofing and Siding.
First use Nov. 6, 1963.

SN 180,930. Marblehead Lime Company, Chicago, Ill. Filed Nov. 12, 1963.

CROWN

Owner of Reg. No. 277,606.
For Masons' Lime.
First use on or about Jan. 1, 1895.

SN 182,589. Herrick Iron Works, Hayward, Calif. Filed Dec. 26, 1963.

HEFCO

For Steel Bars and Jail Grilles Made Therefrom.
First use Oct. 4, 1963.

SN 182,898. Electro Refractories & Abrasives Corporation, Buffalo, N.Y. Filed Jan. 2, 1964.

KELLUNDITE

For Refractories, Specifically Fire Brick, Slabs, Tiles, Blocks, Furnace Linings, Hearths, Muffles, Tubes, Posts and Cements.
First use Dec. 1, 1931.

SN 183,961. Insul-Coustic Corporation, Maspeth, N.Y. Filed Jan. 8, 1964.

INSUL-BEAM

Owner of Reg. No. 655,696.
For Preformed Fiberglass Thermal Insulating Structural Shapes—Namely, Beams.
First use May 1, 1956.

SN 184,280. Cavrok Manufacturing Company, Rockville, Conn. Filed Jan. 9, 1964.

CAVROK

For Building Panels for Exterior and Interior Use.
First use July 2, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 156,980. Husky Products, Inc., Cincinnati, Ohio. Filed Nov. 9, 1962.

VENTRIB

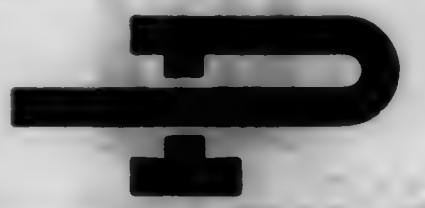
For Pipe Supports and Cable Supports.
First use Oct. 26, 1961.

SN 158,063. Manning, Maxwell & Moore, Incorporated, Stratford, Conn. Filed Nov. 28, 1962.

ASHCROFT

Owner of Reg. Nos. 384,579 and 736,785.
For Condition Responsive Devices for Controlling Fluid Flow; and Components, Parts, Accessories, Fittings and Test Equipment Therefor.
First use on about Sept. 1, 1962, on condition responsive devices for controlling fluid flow.

SN 165,622. Prentice Corporation, Kensington, Conn. Filed Mar. 28, 1963.



For Key Assemblies and Hooks, Buckles, Zippers, Adjustable Fasteners, Automotive Clips, Optical Temple Wire and Hinges, Plastic Caps, and Furniture Swivel Glides and Ferrules.
First use on or about Jan. 1, 1946.

SN 167,891. Ekco Products Company, Chicago, Ill. Filed May 1, 1963.

EPIC

For Cookware Including Baking Pans and the Like.
First use Apr. 26, 1963, on baking pans.

SN 167,915. Landers, Frary & Clark, New York, N.Y. Filed May 1, 1963.

PERMATEL

For Non-Electric Metal Holloware—Namely, Coffee Making Pots, Utensils, i.e., Sugar and Creamers, Pitchers and Trays All of Which Are Produced From Base Metals.
First use Apr. 19, 1963.

SN 177,191. Sierra Fire Equipment Company, Los Angeles, Calif. Filed Sept. 17, 1963.

SIERRA

For Plumbing Goods—Namely, Fire Extinguishers, Nozzles, Shut-Off Valves, Couplings, Rings, Connectors, Adapters, Gaskets, Standpipe Fittings, Hydrants, Hose Racks and Reels, for Use in Fire Fighting and Safety Equipment.
First use May 1, 1952.

SN 177,975. Dishmaster Corporation, Bloomfield Hills, Mich. Filed Sept. 30, 1963.

BAR BOY

For Kitchen Sinks.
First use Sept. 4, 1963.

SN 179,869. Continental Manufacturing Company, Cincinnati, Ohio. Filed Oct. 28, 1963.

TUFLiN

Owner of Reg. No. 727,163.
For Valves.
First use May 15, 1961.

SN 183,007. C & S Manufacturing Corporation, Sturgeon Bay, Wis. Filed Nov. 21, 1963.



The drawing is lined for blue.
For Retaining Brackets for Heating, Air Conditioning, Refrigeration and Plumbing Ducts and Pipes.
First use Aug. 19, 1963.

SN 185,785. Kennedy Mayonnaise Products, d.b.a. Mayon Plastics, Hopkins, Minn. Filed Jan. 31, 1964.

MAYON

For Plastic Tubing.
First use Feb. 26, 1948.

Class 14—Metals and Metal Castings and Forgings

SN 175,788. Precision Metalsmiths, Inc., Cleveland, Ohio. Filed Aug. 26, 1963.

PRECISION METALSMITHS

For Castings.
First use at least as early as Aug. 9, 1963.

SN 185,901. Jones & Laughlin Steel Corporation, Pittsburgh, Pa. Filed Feb. 3, 1964.

SEALOY

For Stainless Steel in the Form of Bars and Shafting.
First use on or about Dec. 12, 1963.

Class 15—Oils and Greases

SN 181,651. The Lawton Company, Inc., New York, N.Y. Filed Nov. 21, 1963.

PREP LUBE

For Bacteriostatic Protective Liquid Concentrate Lubricant for Surgical Instrument Care.
First use Oct. 8, 1963.

SN 183,719. Wynn Oil Company, Azusa, Calif. Filed Dec. 25, 1963.

WYNN'S

The drawing is lined for red. Owner of Reg. No. 744,306.
For Engine Lubricants Including Engine Oil Additives, Engine Fuel Additives, and Engine Crankcase Additives.
First use June 21, 1963.

SN 187,200. Metal Lubricants Co., Chicago, Ill. Filed Feb. 21, 1964.

MELTRAN

Owner of Reg. Nos. 695,930, 695,931, and others.
For Hydraulic, Transmission, and Motor Oils.
First use on or about Nov. 1, 1963.

Class 16—Protective and Decorative Coatings

SN 156,972. Hanson-Van Winkle-Munning Company, Matawan, N.J. Filed Nov. 9, 1963.

CHEM-RITE

For Conversion Coatings on Zinc, Cadmium, and Aluminum.
First use 1958.

SN 166,905. Kendall Refining Company, Bradford, Pa. Filed Apr. 17, 1963.

KENCOTE-60

For Rust Preventives and Surface Coating Compositions.
First use March 1963.

SN 170,434. Sperex Corporation, Los Angeles, Calif. Filed June 5, 1963.



For Paint Enamels.
First use Apr. 20, 1962.

SN 183,748. T. C. Esser Company, Milwaukee, Wis. Filed Dec. 30, 1963.

ESSER'S

For Paint and Enamel Finish for Use on Walls and Woodwork.
First use 1930.

Class 17—Tobacco Products

SN 166,615. F. J. Burrus & Cie, Boncourt, Switzerland. Filed Apr. 12, 1963.

PARISIENNES SUPER

Priority claimed under Sec. 44(d) on Swiss Reg. No. 196,723, dated Mar. 19, 1963. Applicant disclaims the word "Super" apart from the mark as shown.
For Tobacco Products—Namely, Cigars, Cigarettes, and Pipe Tobacco Mixtures.

SN 185,014. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Jan. 21, 1964.

FILTERELA

For Cigars.
First use Jan. 9, 1964.

Class 18—Medicines and Pharmaceutical Preparations

SN 124,224. J. Pfrimmer & Co., Erlangen, Bavaria, Germany. Filed July 18, 1961.

BIOSORBIN

Owner of German Reg. No. 623,002, dated July 7, 1952.
For Dietetical Medicine.

SN 137,573. Starr Pharmacal Company, Los Angeles, Calif. Filed Feb. 8, 1962.

ESONATE

For Non-Stimulating Appetite Depressant Sold Only Upon Physician's Prescription.
First use Mar. 15, 1957.

SN 147,781. Anderson, Clayton & Co., Houston, Tex. Filed June 27, 1962.

SUPER STAR

For Mineral Blocks for Livestock Feeding.
First use Mar. 23, 1962.

SN 155,880. The Archer-Taylor Drug Co., Wichita, Kans. Filed Oct. 25, 1962.



For Vitamin C in Tablet Form.
First use May 10, 1962.

SN 169,426. Collett-Week Corporation, Ossining, N.Y. Filed May 22, 1963.

COVISEC

For Dry Vitamin E Composition for Animal and Poultry Feed.
First use Feb. 12, 1963.

SN 170,187. Micaela Gutierrez, d.b.a. H. G. De Soto Pharmacal Co., Calexico, Calif. Filed June 3, 1963.



Owner of Reg. No. 696,298.
For Medicinal Preparation for the Relief of Pain Accompanying Rheumatism and Arthritis.
First use December 1928.

SN 178,615. M. R. LeClere & Co., Schaffhouse, Switzerland. Filed Oct. 9, 1963.

TA-RO

Owner of Swiss Reg. No. 191,041, dated Mar. 19, 1962.
For Pharmaceutical Products, Being in Particular a Contraceptive and Local Disinfectant.

SN 178,928. David Lander, d.b.a. Lander's Laboratories, Bellflower, Calif. Filed Oct. 14, 1963.

RXSP

The prescription symbol "℞" is disclaimed apart from the mark as shown.

For Medicinal Preparation for Relief From Stomach Distress Due to Gastric Hyperacidity.

First use Feb. 25, 1958.

SN 179,810. The Purdue Frederick Company, Yonkers, N.Y. Filed Oct. 25, 1963.

CYCLOTAB

For Preparation for the Relief of Premenstrual Tension.

First use Oct. 15, 1963.

SN 182,899. Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. Filed Dec. 5, 1963.

PROBOLIC

For Vitamin Tablets.

First use Dec. 30, 1955.

SN 186,269. Pauling's Pharmacal Company, Inc., Forty Fort, Pa. Filed Feb. 7, 1964.

PAULING'S SPECIAL

Owner of Reg. No. 408,152.

For Preparation for Headache and Neuralgia in Powder and Capsule Forms.

First use 1910.

SN 186,562. The Purdue Frederick Company, Yonkers, N.Y. Filed Feb. 12, 1964.

POLIQUIN

Owner of Reg. No. 721,544.

For Preparation for the Treatment of Cardiac Arrhythmia.

First use Jan. 30, 1964.

SN 187,062. American Home Products Corporation, New York, N.Y. Filed Feb. 20, 1964.

OPHTHALGAN

Owner of Reg. No. 333,040.

For Medicinal Eye Drops.

First use July 30, 1934.

SN 192,450. McNeil Laboratories, Incorporated, Fort Washington, Pa. Filed May 1, 1964.

HALDOL

For Tranquilizer Preparation.

First use Feb. 21, 1964.

Class 19—Vehicles

SN 164,505. Caddy Corporation of America, Secaucus, N.J. Filed Mar. 18, 1963.

ROTO-CADDY

Owner of Reg. No. 687,141.

For Wheeled Carts for Conveying and Warming Dishes for Use in Restaurants and Institutions.

First use Oct. 14, 1962.

SN 176,594. Westinghouse Air Brake Company, Pittsburgh, Pa. Filed Sept. 9, 1963.

WABCO

For Trucks, Tractor-Trailers, Military Vehicles and Water Craft for Hauling and Transporting Equipment and Personnel and Including Amphibious Vehicles and Structural Parts Therefor.

First use Nov. 19, 1962, on trucks.

SN 179,978. Winnebago Industries, Inc., Forest City, Iowa. Filed Oct. 28, 1963.

KD KAMPER

No claim of exclusive right is made to "Kamper" for truck bed camping inserts.

For Weather-Tight Camping Facility Inserts for Pick-Up Truck Beds.

First use Aug. 27, 1963.

SN 182,677. Trā-N-Sac Co., El Cajon, Calif. Filed Dec. 9, 1963.

TRĀ-N-SAC

For Combined Tray and Litter Containers for Use in Motor Vehicles and Attachment to the Instrument Board of Such Vehicles.

First use Dec. 18, 1956.

SN 182,960. Thomas M. Scruggs, Millbrae, Calif. Filed Dec. 13, 1963.

VELVET LOCK

For Safety-Belts for Use in Vehicles.

First use Dec. 7, 1963.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 160,506. Radio Frequency Laboratories, Inc., Boonton, N.J. Filed Jan. 10, 1963.

RFL

Owner of Reg. No. 521,005.

For Electronic Power Supplies; Frequency Modulated Voice Carriers; and Frequency Shift and Analog Telemetering Apparatus.

First use 1955 on frequency modulated voice carriers, frequency shift and analog telemetering apparatus.

SN 164,396. Shalom and Company, New York, N.Y. Filed Mar. 11, 1963.

ARISTO TONE

The word "Tone" is disclaimed apart from the mark as a whole.

For Radios, Televisions, Intercom Systems, Stereo and Hi-Fi Components and Dry Cell Batteries.

First use Mar. 1, 1963.

SN 166,267. Electronic Engineering Company, Santa Ana, Calif. Filed Apr. 8, 1963.

EECO

Owner of Reg. Nos. 622,217, 751,664, and others.

For Electronic Apparatus—Namely, Sockets, Amplifiers and Converters.

First use Dec. 10, 1962.

SN 167,071. Waters Manufacturing, Inc., Wayland, Mass. Filed Apr. 18, 1963.

MYSTR

For Film-Element Potentiometers and Rheostats.

First use Mar. 22, 1963.

SN 167,764. Charles R. Sturge, d.b.a. Sturge Electronic Specialty Co., Bremerton, Wash. Filed Apr. 29, 1963.

'Tena TUNER

Applicant disclaims the word "Tuner" apart from the mark as shown.

For Tuning Coil To Supplement Radio Antennas.

First use in or about April 1962.

SN 167,917. Landers, Frary & Clark, New York, N.Y. Filed May 1, 1963.

PERMATEL

For Electrical Appliances—Namely, Coffee Makers, Toasters, Fry Pans, Skillets, Warming Trays, Dutch Ovens, Ranges, Wall Ovens, Portable Stoves, Mixers, Steam Irons, Can Openers, and Tea Kettles.

First use Apr. 19, 1963.

SN 170,562. Guido Schreiber, New York, N.Y. Filed June 7, 1963.

VITRATHERM

For Electrical Radiant Heating Panels and Devices.

First use Apr. 29, 1963.

SN 173,497. The Okonite Company, Passaic, N.J. Filed July 22, 1963.

ELECTRO-LAP

For Splice Kits Comprising Sleeve, Reducer's Clamp, String Solder, Glass Tapes, Electric Heating Unit, and Other Materials Used for Making Joints and Terminations for Lead-Sheathed Cables.

First use Apr. 11, 1963.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.

For Group I—Electric Household Goods: Electric Heaters, Electric Irons, Electric Water Heaters, Electric Ranges, Electric Toasters, Electric Percolators, Electric Stoves, Electric Foot Warmers, Electric Rice Boilers, Electric Cushions, Electric Bakers, Electric Fans, Electric Mixers, Steam Irons, Electric Water Heaters, Electric Ranges, Electric Toasters, Electric Percolators, Electric Stoves, Electric Foot Warmers, Electric Rice Boilers, Electric Cushions, Electric Bakers, Electric Fans, Electric Mixers, Electric Blenders, Electric Vacuum Cleaners; Group II—Circuitry Components: Speakers, Microphones, Condensers, Diodes, Resistors, Vacuum Tubes, Power Tubes, Braun Tubes, Cathode Ray Tubes, Transistors, Semiconductors, Transformers, Pickups, Relays; Group III—Electric Communication: Radio Receivers, Television Receivers, Ultra Short Wave Wireless Apparatus, Telephone Apparatus, Interphones, Electric Public Address Systems, Electrophones; Group IV—Lamps: Electric Bulbs, Fluorescent Lamps, Mercury Lamps, Flash Lamps, Ultrared Ray Lamps, Dynamo Lamps, Electric Torches, Electric Lanterns, Signal Lamps, Head Lamps, Lighting Fixtures and Equipment; Group V—Electric Apparatus: Electric Motors, Phonomotors, Switches, Sockets, Consents, Plug Connectors, Electric Insulators, Electric Insulation, Insulation Sheet Materials, Voltage Balancers, Dry Cells, Wet Cells, Batteries, Carbon Earthing Rods, Carbon Electrodes for Dry Cells, Projection Carbon Electrodes, Arc Air Gouging Carbons.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.

For Group I—Electric Household Goods: Electric Heaters, Electric Irons, Electric Water Heaters, Electric Ranges, Electric Toasters, Electric Percolators, Electric Stoves, Electric Foot Warmers, Electric Rice Boilers, Electric Cushions, Electric Bakers, Electric Fans, Electric Mixers, Electric

Blenders, Electric Vacuum Cleaners; Group II—Circuitry Components: Speakers, Microphones, Condensers, Diodes, Resistors, Vacuum Tubes, Power Tubes, Braun Tubes, Cathode Ray Tubes, Transistors, Semiconductors, Transformers, Pickups, Relays; Group III—Electric Communication: Radio Receivers, Television Receivers, Ultra Short Wave Wireless Apparatus, Telephone Apparatus, Interphones, Electric Public Address Systems, Electrophones; Group IV—Lamps: Electric Bulbs, Fluorescent Lamps, Mercury Lamps, Flash Lamps, Ultrared Ray Lamps, Dynamo Lamps, Electric Torches, Electric Lanterns, Signal Lamps, Head Lamps, Lighting Fixtures and Equipment; Group V—Electric Apparatus: Electric Motors, Phonomotors, Switches, Sockets, Consents, Plug Connectors, Electric Insulators, Electric Insulation, Insulation Sheet Materials, Voltage Balancers, Dry Cells, Wet Cells, Batteries, Carbon Earthing Rods, Carbon Electrodes for Dry Cells, Projection Carbon Electrodes, Arc Air Gouging Carbons.

SN 178,868. Botany Industries, Inc., d.b.a. Sea and Ski Company, Reno, Nev. Filed Oct. 14, 1963.



For Ultraviolet Globes or Bulbs for Sun or Tanning Lamps, Sun or Tanning Lamp Sets, and Combination Sets of Sun or Tanning Lamps and Desk Lamps for Illumination Purposes.
First use Aug. 1, 1963.

SN 179,903. Johnson-Stuart Company, Evanston, Ill. Filed Oct. 28, 1963.

BonAir

For Electrically Operated Range Hood.
First use in January 1960.

SN 183,163. The Electric Storage Battery Company, Philadelphia, Pa. Filed Dec. 17, 1963.

WARRIOR

For Storage Batteries, Their Parts and Accessories.
First use Mar. 28, 1963.

SN 183,649. S. H. Kress and Company, New York, N.Y. Filed Dec. 6, 1963.

GONE WITH THE WIND

For Lamps.
First use Dec. 30, 1954.

SN 183,777. Murata Manufacturing Co., Ltd., Otokuni-gun, Kyoto-fu, Japan. Filed Dec. 30, 1963.

POSISTOR

Owner of Japanese Reg. No. 585,635, dated Apr. 20, 1962.
For Electronic Component (Resistor).
First use on or about June 1, 1962.

SN 183,805. Sprague Electric Company, North Adams, Mass. Filed Dec. 30, 1963.

METANET

For Ceramic Based Electronic Circuits.
First use Dec. 23, 1963.

SN 184,172. Oneal Corporation, Jersey City, N.J. Filed Jan. 7, 1964.

VITROMIZOL

For Plastic Sealer Used Primarily as an Electrical Insulator.
First use Oct. 18, 1963.

SN 184,330. Ionetics Corporation, New York, N.Y. Filed Dec. 16, 1963.

IONETICS

For Capacitors, Resistors, and Receiving Tubes.
First use at least as early as September 1963.

SN 188,365. IMC Magnetics Corp., Westbury, N.Y. Filed Mar. 10, 1964.

BOXER FAN

No registration rights are claimed for the word "Fan" apart from the mark as a whole.
For Electric Fans.
First use June 26, 1963.

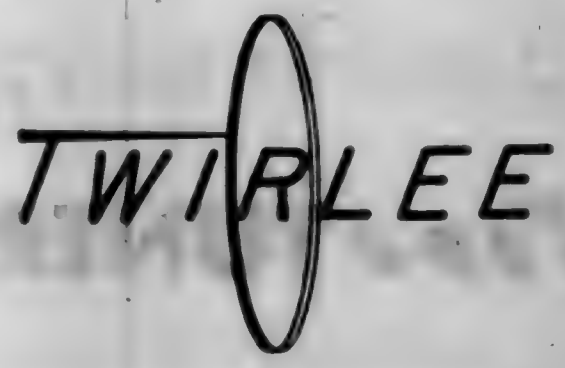
SN 188,802. Sanken Electric Co., Ltd., Kitaadachi-gun, Saitama-ken, Japan. Filed Mar. 16, 1964.

SanKen

For Silicon Rectifier Elements and Equipments, Selenium Rectifier Elements and Equipments, Silicon Controlled Rectifiers, Silicon Power Transistors, Silicon Varistors, Silicon Varactor Diodes, SiC Varistors, CdS Photoconductive Cells, Voltage Regulated Power Supplies, High Speed Fuses, Automatic Voltage Regulators, Magnetic Amplifiers, Solid State Inverters and Converters, Copper Oxide Diode and Modulators, and Various Kinds of D.C. Power Sources.
First use Sept. 18, 1961; in commerce Dec. 29, 1961.

Class 22 — Games, Toys, and Sporting Goods

SN 143,413. Ben Lindberg, Des Plaines, Ill. Filed Apr. 30, 1962.



For Toy Hoop and a Guiding Handle Therefor.
First use Apr. 20, 1962.

SN 151,872. Margarete Steiff GmbH, Giengen (Brenz), Wurttemberg, Germany. Filed Aug. 16, 1963.

Steiff

Owner of German Reg. No. 665,135, dated Mar. 18, 1954; and U.S. Reg. No. 759,547.

For Toys—Namely, Toy Vehicles, Self-Powered Scooters for Children, and Stuffed Toy Animals.

SN 159,750. Mattel, Inc., Hawthorne, Calif. Filed Dec. 26, 1962.

CHARMIN' CHATTY

Owner of Reg. Nos. 704,555 and 742,639.

For Child's Doll.

First use Sept. 20, 1962.

SN 163,456. Layman E. Allen, d.b.a. Wff 'N Proof, New Haven, Conn. Filed Feb. 26, 1963.

WFF

For Equipment (or Apparatus) Sold as a Unit for Playing a Mathematical Logic Educational Game.

First use Jan. 25, 1963.

SN 164,081. Cadaco-Ellis, Inc., Chicago, Ill., assignee of Lorraine G. Wolfson, d.b.a. Robert Rosche Associates, Chicago, Ill. Filed Mar. 6, 1963.



For Equipment for Playing a Board Game.

First use Feb. 15, 1963.

SN 167,535. Donald F. Duncan, Incorporated, Evanston, Ill. Filed Apr. 25, 1963.

Snap-Top

For Spinning Top.

First use Mar. 8, 1963.

SN 173,507. John H. Robson, Crystal Lake, Ill. Filed July 22, 1963.

SKATE PAL

No registration rights are claimed in the word "Skate" used separate and apart from the mark as shown.

For Portable Walker-Type Device for Use as an Aid in Learning To Skate and as a Toy for Use in Playing Games.

First use July 12, 1963.

SN 174,215. Louis Marx & Co., Inc., New York, N.Y. Filed Aug. 1, 1963.

BOP-A-BEAR

For Mobile Toy Animal Figure.

First use Apr. 30, 1963.

SN 175,078. Wolverine Toy Company, Pittsburgh, Pa. Filed Aug. 14, 1963.

500 MILE SPEEDWAY

For Equipment Sold as a Unit for Playing a Pin Ball-Type Game.

First use June 3, 1963.

SN 177,360. Look, Nevers, Nievre, France. Filed Sept. 19, 1963.

ESS-NEVADA

Priority claimed under Sec. 44(d) on French Reg. No. 682, dated Aug. 7, 1964 (Nievre); Natl. Inst. No. 210,940.

For Ski Bindings and Parts Therefor.

SN 177,804. Mattel, Inc., Hawthorne, Calif. Filed Sept. 26, 1963.

SHRINKIN' VIOLETTE

For Doll.

First use Aug. 22, 1963.

SN 177,933. Wilson Sporting Goods Co., River Grove, Ill. Filed Sept. 27, 1963.

PRO designed

Applicant disclaims the exclusive right to the use of the word "Designed" apart from the mark as shown.

For Baseball Gloves and Mitts.

First use 1960.

SN 177,937. Wilson Sporting Goods Co., River Grove, Ill. Filed Sept. 27, 1963.

BAT WEB

No claim of exclusive right is made to "Web" for the webbing of baseball gloves and mitts.

For Baseball Glove Webbing Which Is Incorporated as a Component of Said Glove.

First use 1962.

SN 177,987. Samuel Greenberg, Inc., Philadelphia, Pa. Filed Sept. 30, 1963.

RIGHT-GARD

For Protective Mouthpieces for Use in All Contact Sports.
First use Sept. 18, 1963.

SN 180,212. Kohner Bros., Inc., New York, N.Y. Filed Oct. 31, 1963.

NAME-O-MATIC

For Lettering and Embossing Toy.
First use Sept. 9, 1963.

SN 180,864. Donald F. Duncan, Incorporated, Evanston, Ill. Filed Nov. 12, 1963.

EYE IN THE SKY

For Kites.
First use Oct. 7, 1963.

SN 181,471. Frances Glencott, d.b.a. Impulse Items, New York, N.Y. Filed Nov. 19, 1963.

GREATNIKS

For Stuffed Doll Figures.
First use Oct. 1, 1963.

SN 181,807. Sports Industries, Inc., Gardena, Calif. Filed Nov. 22, 1963.

SCUBAPRO

For Water Sports Equipment—Namely, Regulators, Tank Assemblies and Accessories, Harnesses, Snorkels, Masks, Fins, Spearguns and Accessories, Suits, Belts, Weights, Diving Accessories and Safety Devices.
First use June 11, 1962.

SN 181,830. American Machine & Foundry Company, New York, N.Y. Filed Nov. 26, 1963.

TEMPER TAMER

For Golf Clubs.
First use at least as early as December 1962.

SN 181,845. John Emil Bell, Tucson, Ariz. Filed Nov. 26, 1963.

TOMAHAWK

For Golf Clubs.
First use Nov. 6, 1963.

SN 182,042. Charles R. Cotton, d.b.a. Chuck-O-Luck Mfg., Denver, Colo. Filed Nov. 29, 1963.

COTTONPICKIN

For Fishing Lure.
First use Aug. 15, 1962.

SN 182,159. Center for the Gifted Child Inc., San Francisco, Calif. Filed Dec. 2, 1963.

THE CENTER FOR THE GIFTED CHILD INC.

For Table Top Games, Board Games, and Pad Games.
First use Oct. 23, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 139,067. Finishine Laboratories, Inc., Syracuse, N.Y. Filed Mar. 5, 1962.

UNISPRAY

For Portable Paint Sprayers and Parts Thereof.
First use July 21, 1961.

SN 157,829. Model Engineering & Sales Co., Inc., Grain Valley, Mo. Filed Nov. 23, 1962.

MESCO

For Baskets for Supporting Machine Parts During Cleaning, Coating or Other Treatment.
First use Dec. 15, 1958.

SN 161,509. Gilson Bros. Co., Plymouth, Wis. Filed Jan. 29, 1963.

GILSON

For Concrete Mixers, Mortar and Plaster Mixers, Tractors, Mowers, Rotary Tillers, Compost Shredders, and Lawn Vacuum Cleaners.
First use 1918 on concrete mixers and mortar and plaster mixers.

SN 168,580. Callaway Mills Company, La Grange, Ga. Filed May 10, 1963.

CALCO

For Journal Stops.
First use Mar. 27, 1963.

SN 173,553. Sheldon M. Booth, d.b.a. Diamond Tool Company, South Haven, Mich. Filed July 23, 1963.

RE-SET-ABLE

For Diamond Dressing Tools—Namely, a Tool Containing a Diamond Nib for Dressing Emery Wheels and the Like.
First use June 15, 1941.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.
For Electric Pencil Sharpeners and Electric Shavers.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.
For Electric Pencil Sharpeners and Electric Shavers.

SN 176,493. Casco Corporation, Sycamore, Ill. Filed Sept. 9, 1963.

CASCO

The drawing is lined for green.
For Multiple Paper Copy Form Assembler; Press for Padding Paper, Banding and Assembly of Paper; Paper Drilling Machines and Attachments for Slotting, Slitting, Cornering, and Drill Sharpening; Paper Drills, and Paper Drill Gauges.
First use July 25, 1962.

SN 176,595. Westinghouse Air Brake Company, Pittsburgh, Pa. Filed Sept. 9, 1963.

WABCO

Owner of Reg. Nos. 384,691, 728,268, and others.
For Construction, Grading and Other Machinery and Equipment, Except Motor Graders, for the Movement of Earth, Snow, Minerals, Metals, and Other Substances; Hauling Machinery and Equipment; Land Clearing Machinery and Equipment; Materials Handling and Lifting Machinery and Equipment; Logging Machinery and Equipment; Towing and Pushing Prime Movers; Compaction Machinery and Equipment; Amphibious Crane and Wrecker Units; and Components and Structural Parts for the Foregoing.
First use Nov. 9, 1962, on scrapers.

SN 177,191. Sierra Fire Equipment Company, Los Angeles, Calif. Filed Sept. 17, 1963.

SIERRA

For Stationary or Portable Machinery and Tools for Use With Fire Fighting and Safety Equipment, Such as Spanners, Wrenches, Hose and Ladder Straps, Rope Tools, Axes, Tool Brackets, Pumps, Etc.
First use May 1, 1962.

SN 178,454. Illinois Tool Works Inc., Chicago, Ill. Filed Oct. 7, 1963.



Owner of Reg. No. 633,555.
For Hobs.
First use Jan. 7, 1963.

SN 178,902. The Epoxylite Corporation, South El Monte, Calif. Filed Oct. 14, 1963.

EPOXYLITE

Owner of Reg. Nos. 611,364 and 710,102.
For Spatulas and Spray Guns for Plastic Materials.
First use May 7, 1955, on spatulas.

SN 179,129. Marvin E. Fillip, d.b.a. Fillips Automotive, San Angelo, Tex. Filed Oct. 16, 1963.

Dura-Life

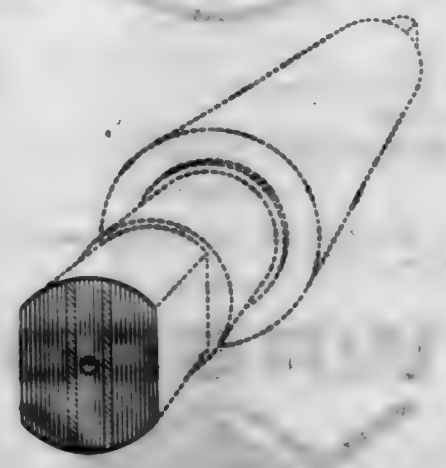
No claim is made to the outline of a muffler apart from the mark as shown.
For Automotive Mufflers.
First use on or about July 1, 1961.

SN 179,344. N. Paul Kenworthy, Jr., d.b.a. Kenworthy's House of Horns, Philadelphia, Pa. Filed Oct. 18, 1963.

HONK FOR HOOCH

For Manually Operated Air Horns.
First use Mar. 26, 1963.

SN 181,308. E. W. Bliss Company, Pittsburgh, Pa. Filed Nov. 18, 1963.



The drawing is lined for red and green.
For Rolls Used in Structural Mills, Rail Mills, Merchant Mills, Bar Mills, Billet Mills, Rod Mills, Strip Mills, and Tube Mills for the Rolling of Steel and Non-Ferrous Metals.
First use on or about Sept. 28, 1963.

SN 182,086. Irrigation Development Corp., New York, N.Y. Filed Jan. 29, 1964.

ORLY

For Irrigation Pumps.
First use Oct. 30, 1963.

SN 184,006. Asco Sintering Corporation, Los Angeles, Calif. Filed Nov. 26, 1963.

ASCO

For Bearings and Filters.
First use about July 5, 1953.

SN 184,184. Signode Steel Strapping Company, Chicago, Ill. Filed Jan. 7, 1964.

MAGNUM

For Air Pressure Powered Staplers and Nailers.
First use Apr. 1, 1962.

SN 184,210. Cappy's Inc., South Hackensack, N.J. Filed Jan. 8, 1964.

MOBIL-DINE

For Vehicular Vending Units.
First use Nov. 5, 1963.

SN 184,244. The Joyce-Cridland Company, Dayton, Ohio. Filed Jan. 8, 1964.



The drawing is lined for red.
For Vehicle Lifts.
First use on or about Jan. 31, 1963.

SN 184,411. Westinghouse Air Brake Company, Pittsburgh, Pa. Filed Jan. 10, 1964.

WABCO

Owner of Reg. Nos. 364,691, 728,268, and others.
For Blast Hole Drills, Earth Drilling Machines, Slim Hole Drills, Exploration Drills, Core Drills, Seismograph Shot Hole Drills, Water Well Drills, Slush Pumps, Water Swivels, Traveling Blocks, Kelly Rods, Drive Bushings, Drill Pipe Slips, Core Drill and Exploration Drill Pipe, Drill Pipe Substitutes, Core Barrels and Bits, Drilling Bits, Fishing Tools, Rotary Tables, Power Take-Offs, Drill Pipe Elevators and Spiders, Pull-Down Chucks, Hoisting Plugs, Safety Clevises, Drill Heads, Drawworks, Drill Pipe and Tool Joints, Pump Pistons, Pump Piston Rods, Pump Liners, Swivel Stems, and Vibrating Seismograph Machines.
First use May 22, 1962, on earth drilling machines.

SN 185,204. Diamond Chain Company, Inc., Indianapolis, Ind. Filed Jan. 23, 1964.

CHAINPOWR

For Chain Speed Reducers.
First use Jan. 10, 1964.

SN 185,679. Jarvis Corporation, Hartford, Conn. Filed Jan. 30, 1964.

JARVIS

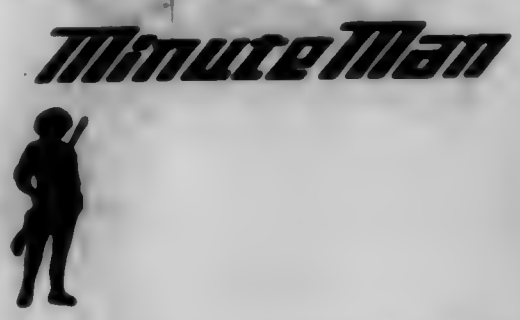
For Metal Working Tools, Cutting and Drilling Tools, Metal Working Machinery, Cutting and Drilling Machinery, Machine Tools and Parts and Attachments Therefor, and Meat Processing Machinery and Parts Therefor.
First use on or before Sept. 1, 1918, on cutting and drilling tools.

SN 186,096. Manex Machinery Corporation, New York, N.Y. Filed Feb. 5, 1964.

MANEX

For Machine Tools—Namely, Vertical and Horizontal Milling Machines, Optical Jig Borers, and Jig Grinders, Engraving Machines and Rotary Milling Tables and Parts and Accessories Therefor.
First use on or about June 1, 1962, on vertical milling machines.

SN 186,836. Fitzwater & Laipson, Inc., Pawtucket, R.I. Filed Feb. 17, 1964.



For Machines for Forming Paperboard Cartons and Filling Them With a Liquid.
First use on or about Jan. 31, 1964.

SN 186,853. Louis W. Johnson, Eugene, Oreg. Filed Feb. 17, 1964.

EL-JAY

For Rock and Gravel Processing and Handling Equipment, Such as Rock Crushers, Screening Apparatus, Washing Apparatus, and Feeding Apparatus.
First use January 1948 on screening apparatus.

SN 186,893. Red Comet, Incorporated, Littleton, Colo. Filed Feb. 17, 1964.

AD-X

For Pressurized Dry Chemical Fire Extinguishers.
First use Nov. 15, 1963.

Class 24 — Laundry Appliances and Machines

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.
For Electric Washing Machines.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.
For Electric Washing Machines.

Class 25 — Locks and Safes

SN 186,195. Sargent & Company, New Haven, Conn. Filed Feb. 6, 1964.

METROPOLITAN

For Locksets.
First use Nov. 21, 1963.

Class 26 — Measuring and Scientific Appliances

SN 114,294. Zeiss Ikon A.G., Stuttgart, Germany. Filed Feb. 23, 1961.

TENAX

Owner of Reg. No. 88,938.
For Automatic 35mm. Cameras.
First use 1907; in commerce May 1960.

SN 114,295. Zeiss Ikon A.G., Stuttgart, Germany. Filed Feb. 23, 1961.

SONNAR

Owner of Reg. No. 809,217.
For Photographic Lenses.
First use June 1932; in commerce January/February 1933.

SN 114,296. Zeiss Ikon A.G., Stuttgart, Germany. Filed Feb. 23, 1961.

CONTAX

Owner of U.S. Reg. No. 297,624.
For 35mm. Range-Finder Cameras.
First use Mar. 1, 1932; in commerce Aug. 26, 1932.

SN 124,737. L. F. Herzog, d.b.a. Nuclide Analysis Associates, State College, Pa. Filed July 26, 1961.

N.A.A.

For Mass Spectrometers and Spectrographs and Components and Recording Systems Therefor; Voltage, Current, Power and Temperature Regulators for Scientific Appliances; Electrical Protection Circuits for Prevention of Failure and Damage to System Components and Instrumentation Circuitry Controls Including: Source Controls, Ion Beam Source Controls, Ion Gauge Controls, Thermocouple Gauge Controls; Electrical Control and Signal Panels for Turning Instrumentation Systems Off and On and Displaying Operational Status Thereof; Electrically Controlled Automatic Refill Systems for Liquid Nitrogen Coolant Systems; Measuring Meters; Residual Gas Analysers; Partial Pressure Analysers; Isotope Separators; Temperature Regulator Controls; Resolving Power Multipliers; Respiratory Gas Analyzers; Ion Current Detectors; Electron Multipliers; Electron Multiplier Power Supplies; Gas Detectors; and Parts and Accessories.
First use July 20, 1961.

SN 136,690. Sonotec, Incorporated, Santa Ana, Calif. Filed Aug. 25, 1961.

Langevin

Owner of Reg. No. 662,508.
For Instrumentation Systems, Knobs, Dials, Panels, Chassis, Racks, Filters, and Related Equipment and Components Thereof, and Precision Switches and the Like, in Measuring and Scientific Instruments and Appliances—Namely, Potentiometers.
First use in June 1948.

SN 142,249. American Meter Company, Philadelphia, Pa. Filed Apr. 16, 1962.

ALUMINUMCASE

For Fluid Meters.
First use in June 1949.

SN 147,091. Coors Porcelain Company, Golden, Colo. Filed June 18, 1962.

COORS
SILLIMANITE (MULLITE)

Applicant disclaims the exclusive right to the separate words "Sillimanite" and "Mullite" apart from the mark as shown. Owner of Reg. No. 526,054.
For Laboratory Porcelain Ware Consisting of Refractory

Tubes and Vessels, Sampling Tubes, Pyrometer Tubes, Combustion Tubes, Crucibles, Combustion Boats, Evaporating Dishes, Casseroles, and Chemical Porcelain Ware.
First use Apr. 8, 1960; June 10, 1938, in a different form.

SN 148,758. Shandon Scientific Company Limited, London, England. Filed July 10, 1962.

UNIKIT

Priority claimed under Sec. 44(d) on British Reg. No. B831,892, dated Mar. 12, 1962.
For Chromatographic and Electrophoretic Apparatus and Parts and Fittings Therefor Used in Teaching the Principles of Chromatography and Electrophoresis on Paper in School, College, and University Science Laboratories.

SN 155,836. Photostat Corporation, Rochester, N.Y. Filed Oct. 24, 1962.

PROJECT-A-LITH

For Photo-Sensitive Paper for Use in Making Plates for an Offset Press.
First use on or about Aug. 10, 1962.

SN 156,696. Voigtlander A.G., Braunschweig, Germany. Filed Nov. 5, 1962.

VASKAR

Owner of German Reg. No. 601,251, dated Sept 19, 1950.
For Photographic Objectives.

SN 157,118. American Optical Company, Southbridge, Mass., assignee of Litton Systems, Inc., Beverly Hills, Calif. Filed Nov. 13, 1962.

BIOTELEMETER

For Apparatus for Remotely Monitoring Physiological Phenomena.
First use Feb. 24, 1960.

SN 157,674. John Bowers, d.b.a. Jay-Bee Electronics, Trenton, N.J. Filed Nov. 21, 1962.

TUTOR-GUIDE

For Electronic Teaching Equipment.
First use Sept. 14, 1962.

SN 158,084. Manning, Maxwell & Moore, Incorporated, Stratford, Conn. Filed Nov. 28, 1962.

ASHCROFT

Owner of Reg. Nos. 384,579 and 736,785.
For Devices for Measuring, Indicating, Controlling or Recording a Condition, and Components, Parts, Accessories, Fittings, and Test Equipment Therefor.
First use at least 1900.

SN 159,495. Jeppesen & Co., Denver, Colo. Filed Dec. 20, 1962.

JEPPESEN

For Aircraft and Air Navigation Instrumentation—Namely, Computers and Plotters.
First use on or about Oct. 1, 1955, on computers.

SN 160,506. Radio Frequency Laboratories, Inc., Boonton, N.J. Filed Jan. 10, 1963.

RFL

Owner of Reg. No. 521,005.
For Electrical Instrument Calibration Consoles; Apparatus for Charging and Treating Permanent Magnets; Gaussmeters; Current and Voltage Measuring Apparatus.
First use 1949 on electrical instrument calibration consoles.

SN 160,582. Textron Electronics, Inc., Cumberland, Md. Filed Jan. 14, 1963.

pneumalift

For Dead-Weight Calibrators and Parts Thereof.
First use Aug. 1, 1962.

SN 162,493. Robertshaw Controls Company, Richmond, Va., by change of name from Robertshaw-Fulton Controls Company, Richmond, Va. Filed Feb. 11, 1963.

THERMO-MAGIC

For Oven Controls of Automatic Type.
First use Nov. 8, 1961.

SN 163,286. The Singer Company, New York, N.Y., by change of name from The Singer Manufacturing Company, New York, N.Y. Filed Feb. 21, 1963.

SENSITIVE RESEARCH

For Test Consoles, Calibrators and Scale Drawing Machines for Electrical Indicating and Measuring Instruments; Electrical Instruments and Apparatus—Namely, Voltmeters, Potentiometers, Wattmeters, Ammeters, Galvanometers, Magnetic Testing Instruments, Voltage Multipliers, Voltage Dividers, Volt Ratio Boxes, Decade Boxes, and Wheatstone Bridges; Laboratory Standard Electrical Instruments—Namely, Standard Cells, Standard Magnets, Standard Resistors, Standard Shunts, Reference Standard Dynamometers and Moving Iron Instruments; Differential Measuring Instruments for Measuring the Difference Between Two Electrical Values—Namely, Comparators, Ratiometers.
First use as early as 1930.

SN 163,870. Qualitron Corporation, Newtown, Conn. Filed Mar. 4, 1963.

QUALITRON CORPORATION

For Accurate Artwork Preparation and Precise Photographic Services, Comparator Charts, Gages, Photo-Resist Masks.
First use Dec. 1, 1962.

SN 164,241. Graphics, Inc., Kearny, N.J. Filed Mar. 8, 1965.

GRAPHIC/TESTLITE

Owner of Reg. No. 752,961.
For Testing Mechanism Used To Test the Circuits and Lights on Control Centers Which Are Used To Control Heating and Ventilating Systems in Air Condition Systems in Large Buildings.
First use Sept. 5, 1962.

SN 166,267. Electronic Engineering Company, Santa Ana, Calif. Filed Apr. 8, 1963.

EECO

Owner of Reg. Nos. 622,217, 751,664, and others.
For Data Handling Systems.
First use Dec. 10, 1962.

SN 169,834. Douglas Aircraft Company, Inc., Santa Monica, Calif., assignee, by mesne assignments, of Douglas Aircraft Company, Inc., Santa Monica, Calif. Filed May 28, 1963.

AQUA-GUARD

For Electronic Instruments for Monitoring the Purity or Salinity of Water.
First use July 15, 1962.

SN 170,159. Bergen Laboratories Inc., Paterson, N.J. Filed June 3, 1963.

FLUXDUCER

For Ferromagnetic Torque Measuring Devices Comprising in Particular Ferromagnetic Transducer Elements Which Detect or Measure the Torsional State or Displacement of a Shaft or Member.
First use in September 1962.

SN 171,953. Bell & Gossett Company, Morton Grove, Ill. Filed June 27, 1963.

DE-WATER WHEEL

The term "Wheel" is disclaimed apart from the mark as shown.
For Calculating Device in the Form of a Circular Slide Rule for Determining Proper Pump Sizes.
First use May 29, 1963.

SN 174,846. Edgerton, Germeshausen & Grier, Inc., Boston, Mass. Filed Aug. 12, 1963.

XR

For Photographic Film and Photographic Plates.
First use in or about June 1963.

SN 174,847. Edgerton, Germeshausen & Grier, Inc., Boston, Mass. Filed Aug. 12, 1963.



The drawing is lined for gray.
For Photographic Film and Photographic Plates.
First use in or about June 1963.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.
For Electric Measuring and Testing Instruments— Namely, Voltmeters, Ammeters, Oscillators, Oscilloscopes, Distortion Meters, Signal Generators, and Other Similar Electrical Measuring and Testing Equipment.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.
For Electric Measuring and Testing Instruments— Namely, Voltmeters, Ammeters, Oscillators, Oscilloscopes, Distortion Meters, Signal Generators, and Other Similar Electrical Measuring and Testing Equipment.

SN 178,667. Argenta Fabrik Photographischer Papiere Ludwig Muller, Munich, Bavaria, Germany. Filed Oct. 10, 1963.

ARGENTA

Owner of German Reg. No. 406,989, dated Aug. 21, 1929.
For Photographic Papers and Fabrics Coated With Sensitive Photographic Layers.
First use in 1929; in commerce Mar. 19, 1963.

SN 180,318. Magnaflux Corporation, Chicago, Ill. Filed Nov. 1, 1963.

DUOVEC

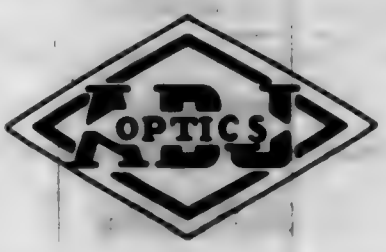
For Apparatus Used in Nondestructive Testing (Magnetic Particles Inspection).
First use Sept. 15, 1948.

SN 181,312. Bright Top, Inc., North Attleboro, Mass. Filed Nov. 18, 1963.



For Optical Spectacle Frames, Temples, and Trims.
First use on or about Sept. 11, 1963.

SN 181,482. A. D. Jones Optical Works, Inc., Cambridge, Mass. Filed Nov. 19, 1963.



No claim is made to the word "Optics" apart from the mark as shown.
For Optics and Precision Optical Elements; Components

Used in Optical, Electronic and Scientific Instruments—Namely, Prisms, Lenses, Optical Flats and Reticles; Quartz Microscope Slides and Cover Slips; Various Materials, Including Glass, Quartz, Crystals, and Metals Fabricated to High Optical and Mechanical Tolerances.
First use in the year 1933.

SN 181,518. Botany Industries, Inc., Reno, Nev. Filed Nov. 20, 1963.

RENAULD INTERNATIONAL

Owner of Reg. No. 767,972.
For Sunglasses.
First use Oct. 23, 1963.

SN 182,039. Coleman Instruments Corporation (formerly Perkin-Elmer Delaware Inc.), Maywood, Ill., assignee of Coleman Instruments, Inc., Maywood, Ill. Filed Nov. 29, 1963.

COLEMAN

Owner of Reg. No. 712,108.
For Analytical Measuring Instruments—Namely, Spectrophotometers, Flame Photometers, Electric Colorimeters, Photo-Nephelometers, Nepho-Colorimeters, Photo Fluorometers, pH Electrometers, Autotrators, Together With Associated Parts and Accessories.
First use Apr. 9, 1962.

SN 182,072. G-V Controls Inc., Livingston, N.J. Filed Nov. 29, 1963.

THERMETTE

For Thermal Relays, Time Delay Relays, Voltage Sensing Relays, and Current Sensing Relays.
First use Oct. 11, 1963.

SN 182,123. Sky Prints, Inc., Winnetka, Ill. Filed Nov. 29, 1963.

DME plus

For Position Visualiser Instrument for Use in Navigation and for Determining the Position of the Vehicle Being Navigated, the Time Required To Traverse a Given Distance, the Speed Maintained Between Given Points, and the Effect of Wind Factors.
First use Nov. 13, 1963.

SN 182,494. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 6, 1963.

SCOTCH

Owner of Reg. No. 710,727 and others.
For Magnetic Tape Viewer.
First use June 18, 1963.

SN 183,227. Solari Inc., East Elmhurst, N.Y. Filed Dec. 18, 1963.

SOLARI

Owner of Reg. No. 743,920.
For Electromechanical Instruments—Namely, Automatic Calendars Showing Date, Day, and Time, Direct Reading Clocks, Master and Talking Clocks; Counting and Measuring Devices—Namely, Gasoline and Oil Pumps, Data Indicators, Telecommunication Indicator Boards, Score Boards for Sport and Industry; Time Table Boards for Transportation Industry—Namely, Bus, Rail, and Airport Terminals; Stock Quotation Boards, Paging Boards, Flight-Production Boards, Statistical Boards, and Small Electric Vehicles.
First use Oct. 31, 1961.

SN 183,987. Pacific Industries, Inc., d.b.a. Computer Measurements Company, San Fernando, Calif. Filed Jan. 3, 1964.

DIGI-TWIN

For Electrical Instruments—Namely, Counters, Frequency Meters, Period Measuring Instruments, Time Interval Measuring Instruments, Digital Voltmeters, and Digital Phase Meters.
First use Nov. 19, 1963.

SN 184,080. Edmund A. Kustusch, d.b.a. Atlantic Import Company, Detroit, Mich. Filed Jan. 6, 1964.

EUCLID GLIDE RULE

Applicant makes no claim to the words "Glide Rule" apart from the mark "Euclid" as shown.
For Roller Supported Gliding Ruler Used in the Art of Mechanical Drawing.
First use Dec. 5, 1962.

SN 184,330. Ionetics Corporation, New York, N.Y. Filed Dec. 16, 1963.

IONETICS

For Panel Meters.
First use at least as early as September 1963.

SN 184,366. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 10, 1964.

LINAGRAPH

Owner of Reg. Nos. 406,750 and 530,213.
For Sensitized Photographic Film and Paper.
First use Feb. 23, 1943.

SN 184,450. Dynoptics Corporation, Winthrop, Mass. Filed Jan. 13, 1964.

UVC

For Contact Lenses.
First use Dec. 1, 1963.

SN 184,999. Xerox Corporation, Rochester, N.Y. Filed Jan. 20, 1964.

GEOPRINT

For Light Sensitive Paper for Geophysical Recording.
First use Aug. 16, 1963.

SN 185,112. Computer Systems, Inc., Richmond, Va. Filed Jan. 22, 1964.

SCI/CON

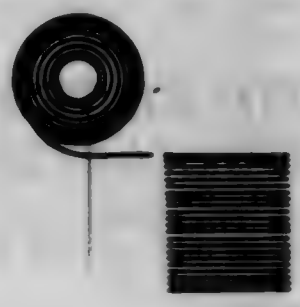
For Electronic Computers and Computing Systems and Parts and Components Thereof.
First use Oct. 22, 1963.

SN 185,488. Botany Industries, Inc., d.b.a. Sea and Ski Company, Reno, Nev. Filed Jan. 28, 1964.

HIDE AND SLEEP

For Eye Shades.
First use Nov. 12, 1963.

SN 185,497. Dennison Manufacturing Company, Framingham, Mass. Filed Jan. 28, 1964.



For Electrostatic Copying Machines.
First use Jan. 8, 1964.

SN 185,782. Anyl-Ray Corporation, Sarasota, Fla. Filed Jan. 31, 1964.

ANYL - RAY

For Apparatus for Analyzing Components of Materials by Radiation.
First use Feb. 17, 1961.

Class 27 — Horological Instruments

SN 189,896. Wyler Watch Corporation, New York, N.Y. Filed May 28, 1963.

STARFIGHTER

For Watches and Watch Parts.
First use July 8, 1962.

Class 28 — Jewelry and Precious-Metal Ware

SN 190,651. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 14, 1963.

LE GANT

The term "Legant" means "the glove" in the French language.
For Watchbands Made Wholly or in Part of Precious Metal, Diamonds, Rings, Necklaces, Earrings, Bracelets, Cuff Links, Tie Clips, Key Chains, Pendants, and Pins.
First use Oct. 1, 1962, on necklaces.

SN 190,824. Barrows Industries, Inc., Providence, R.I. Filed Apr. 6, 1964.



For Jewelry.
First use on or about May 25, 1963.

SN 190,842. Sarah Coventry, Inc., Newark, N.Y. Filed Apr. 6, 1964.

COVENTRY

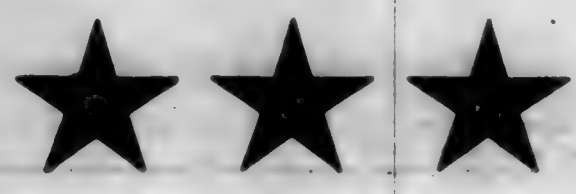
Owner of Reg. Nos. 636,452 and 726,242.
For Costume Jewelry for Men and Women.
First use Jan. 8, 1964.

SN 190,843. Sarah Coventry Inc., Newark, N.Y. Filed Apr. 6, 1964.

SARAH

Owner of Reg. Nos. 636,452, 740,615, and others.
For Costume Jewelry for Men and Women.
First use Jan. 8, 1964.

SN 190,474. The Kinney Company, Providence, R.I. Filed Apr. 6, 1964.



For Jewelry.
First use on or about Mar. 6, 1964.

SN 190,638. M & H Creations, Inc., New York, N.Y. Filed Apr. 8, 1964.

VI-RON

For Charms, Bracelets, Pins, Earrings, Cufflinks, Tie Tacks, and Other Items of Jewelry.
First use Feb. 1, 1963.

SN 190,695. Joseph Berland, New York, N.Y. Filed Apr. 9, 1964.

TULIP

For Finger Rings.
First use in March 1963.

SN 190,980. Sel-Rex Corporation, Nutley, N.J. Filed Apr. 13, 1964.

KARATCLAD

Owner of Reg. No. 665,257.
For Ladies', Men's, Children's Finger Rings, Charms, Bracelets, Pins, Brooches, and Eyeglass Frames.
First use January 1962.

SN 191,328. Smart Creations, Inc., Chicago, Ill. Filed Apr. 16, 1964.



For Articles of Personal Jewelry Made of Precious Metals.
First use Feb. 25, 1964.

SN 191,761. Gemex Precision Metals, Inc., Union, N.J. Filed Apr. 22, 1964.

GEMITE

For Watch Bands.
First use Feb. 17, 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 175,260. The Drackett Company, Cincinnati, Ohio. Filed Aug. 19, 1963.



The lining on the drawing forms part of the mark and does not indicate any color.
For Mops and Brooms.
First use Aug. 8, 1963.

Class 30 — Crockery, Earthenware, and Porcelain

SN 174,298. The West Bend Company, West Bend, Wis., assignee of U.S. Industries, Inc., New York, N.Y. Filed Aug. 2, 1963.

ROYAL SOVEREIGN

For China Dinnerware.
First use August 1959.

Class 31 — Filters and Refrigerators

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.
For Electric Ice Cream Freezers, Electric Refrigerators, and Electric Water Coolers.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kita-kawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.
For Electric Ice Cream Freezers, Electric Refrigerators, and Electric Water Coolers.

SN 179,164. Suchar Sales Corporation, New York, N.Y. Filed Oct. 16, 1963.

AUTO FILTER '22'

No claim is made to the exclusive use of the word "Filter" apart from the mark. Owner of Reg. No. 564,271.
For Rotary-Leaf Pressure Filters for Filtering Juices, Syrups, Beverages and Other Products of Food and Process Industries.
First use Jan. 9, 1963.

SN 185,495. Curtel Products Co., Bakersfield, Calif. Filed Jan. 28, 1964.

APPLE-AIRE

For Refrigerator Deodorizer Filter Pack.
First use September 1963.

Class 32 — Furniture and Upholstery

SN 158,345. Joseph F. Inco, d.b.a. The Inco Company, Los Angeles, Calif. Filed Dec. 8, 1962.

GUARDIAN OF SLEEP

For Furniture—Namely, Mattresses, Box Springs, and Dual Sleep Furniture Including Studio Couches, Sleeper Couches, and Divan Couches.
First use Oct. 12, 1962.

SN 170,587. Joseph F. Inco, d.b.a. The Inco Company, Los Angeles, Calif. Filed June 7, 1963.

SLEEP GUARDIAN

For Mattresses and Springs.
First use Nov. 2, 1955.

SN 172,271. William T. Ford, d.b.a. Ford Enterprises, Winston-Salem, N.C. Filed July 1, 1963.



For Western Style Furniture for Children—Namely, Wall Racks and a Tree-Valet-Stand With Trays, Racks, and Shoe Box.
First use Jan. 3, 1963.

SN 178,508. Rodney Metals, Inc., New York, N.Y. Filed July 22, 1963.



For Venetian Blinds.
First use May 15, 1955.

SN 174,040. The Mebane Company, Mebane, N.C. Filed July 30, 1963.

SPINAL-AID

For Box Springs and Mattresses.
First use June 12, 1963.

SN 176,633. Quaker Maid Kitchens, Inc., Leesport, Pa. Filed Sept. 12, 1963.

Conestoga

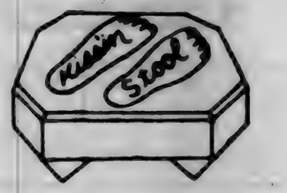
For Kitchen Cabinets.
First use Aug. 23, 1963.

SN 179,874. Dayco Corporation, Dayton, Ohio. Filed Oct. 29, 1963.

DREAMLINED

Owner of Reg. No. 640,696.
For Pillows.
First use Nov. 14, 1962.

SN 183,412. Robert V. Ige, Sacramento, Calif. Filed Dec. 23, 1963.



The word "Stool" and the pictorial representation of the goods are disclaimed apart from the mark as shown.
For Stepping Stools.
First use Dec. 3, 1963.

Class 33 — Glassware

SN 174,297. The West Bend Company, West Bend, Wis., assignee of U.S. Industries, Inc., New York, N.Y. Filed Aug. 2, 1963.

ROYAL SOVEREIGN

For Crystal Tableware.
First use September 1962.

SN 178,541. The Fenton Art Glass Company, Williamstown, W. Va. Filed Oct. 8, 1963.



For Table Glassware—Namely, Dishes, Plates, Glasses, Cups, Saucers, Goblets, Sherbets, Sugars and Creamers, Comports, Candy Boxes, Salt and Pepper Sets, Cake Plates, Bonbons, Lavabos, Mayonnaise Sets, Slippers, Butter Dishes, and Epergne Sets.
First use Apr. 26, 1957.

SN 178,542. The Fenton Art Glass Company, Williamstown, W. Va. Filed Oct. 8, 1963.

FENTON

For Table Glassware—Namely, Dishes, Plates, Glasses, Tumblers, Pitchers, Cups, Saucers, Goblets, Sherbets, Sugars and Creamers, Comports, Candy Boxes, Salt and Pepper Sets, Cake Plates, Bonbons, Lavabos, Mayonnaise Sets, Ash Trays, Slippers, Butter Dishes, Bowls, and Epergne Sets.
First use May 12, 1950.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 168,783. American Brake Shoe Company, New York, N.Y. Filed Mar. 4, 1963.

SUPERCHROME

For Welding Electrodes.
First use Nov. 17, 1959.

SN 167,670. Harry C. Weiskittel Co., Incorporated, Baltimore, Md. Filed Apr. 26, 1963.



For Gas Stoves, Ranges and Ovens.
First use Mar. 1, 1932.

SN 170,069. Hearth Craft, Inc., Portland, Oreg. Filed May 31, 1963.

FIRECONE

For Free Standing Portable Fireplaces.
First use Apr. 23, 1963.

SN 171,579. Sony Corporation, Shinagawa-ku, Tokyo, Japan. Filed June 21, 1963.

SONY

Owner of U.S. Reg. Nos. 691,940, 692,023, and 705,902.
For Lighting Apparatus.
First use Mar. 23, 1963; in commerce Mar. 23, 1963.

SN 172,759. William H. Myers, d.b.a. Star Development Company, Grand Rapids, Mich. Filed July 10, 1963.

STA-TIN

For Soldering Iron Holders.
First use February 1963.

SN 173,619. Barber-Colman Company, Rockford, Ill. Filed July 24, 1963.

JET-FLO

For Air Distribution Outlets.
First use June 14, 1963.

SN 174,006. Barber-Colman Company, Rockford, Ill. Filed July 30, 1963.

HEAT OF LIGHT

For Cool and Warm Air Mixing Unit for Air Conditioning Systems.
First use July 15, 1963.

SN 174,452. Stoker Service and Equipment, Inc., Atlanta, Ga. Filed Aug. 5, 1963.

SAFE SURE flameless curing

No claim is made to the words "Flameless Curing" apart from the mark as shown.
For Tobacco Curing System.
First use on or about June 5, 1963.

SN 175,899. Ametek, Inc., New York, N.Y. Filed Aug. 28, 1963.

SPEEDYLECTRIC

Owner of Reg. No. 571,150.
For Steam Boilers.
First use in 1947.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 804,099, dated July 24, 1962.
For Electric Soldering Irons, Electric Ventilating Fans, and Electric Room Coolers.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 804,100, dated July 24, 1962.
For Electric Soldering Irons, Electric Ventilating Fans, and Electric Room Coolers.

SN 176,458. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 804,100, dated July 24, 1962.
For Electric Soldering Irons, Electric Ventilating Fans, and Electric Room Coolers.

SN 176,769. Columbus Iron Works Company, Columbus, Ga. Filed Sept. 26, 1963.

CHAR-BROIL

Owner of Reg. No. 567,086.
For Home and Camp Grills.
First use June 1950.

SN 179,674. Thermo Reactors, Inc., New York, N.Y. Filed Oct. 23, 1963.

GREMLIN

For Portable Flameless Combustion Heating Apparatus.
First use Oct. 7, 1963.

SN 179,705. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Oct. 24, 1963.

EUT-O-MAT

Owner of Reg. No. 522,809.
For Apparatus for Feeding Welding Wire, Accessories Therefor and Parts Thereof.
First use Oct. 10, 1963.

SN 180,033. Southwest Manufacturing Company, Aurora, Mo. Filed Oct. 29, 1963.

SOUTHWEST SM MANUFACTURING CO

For Heating, Ventilating and Air Conditioning Apparatus—More Specifically, Gas and Oil Fired Forced Air Furnaces, Electric Furnaces, Wall Heaters, Floor Furnaces, Air Conditioning Furnaces, Air Conditioners and Blower Evaporator Units, Heat Pumps and Similar Apparatus, for Residential, Commercial and Industrial Utilization.
First use Oct. 1, 1961.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 173,921. The Johnson Wire Works Limited, Montreal, Quebec, Canada. Filed July 29, 1963.

FLEXON

Priority claimed under Sec. 44(d) on Canadian application filed June 15, 1963, Reg. No. 134,866, dated Mar. 6, 1964.
For Endless Woven Plastic Belts Which Are Used in Paper-Making Machines and Upon Which the Pulp Suspension or Slurry Is Initially Deposited To Form a Sheet or Web, Said Belts Being Commonly Referred to in the Art as Sheet Forming Wires, Belts, or Screens.

SN 177,191. Sierra Fire Equipment Company, Los Angeles, Calif. Filed Sept. 17, 1963.

SIERRA

For Fire Hose, Rubber and Industrial Hoses, and Fittings and Gasket Material Which Are Attached to Such Goods.
First use May 1, 1952.

SN 183,203. Crane Packing Company, Morton Grove, Ill. Filed Dec. 18, 1963.

ZIP JOINT

The word "Joint" is disclaimed apart from the mark.
For Machinery and Valve Packing and Gaskets.
First use Oct. 7, 1963.

Class 36—Musical Instruments and Supplies

SN 164,396. Shalom and Company, New York, N.Y. Filed Mar. 11, 1963.

ARISTO TONE

The word "Tone" is disclaimed apart from the mark as a whole.
For Phonographs and Tape Recorders.
First use Mar. 1, 1963.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 804,099, dated July 24, 1962.
For Magnetic Recorders, Recording Tapes and Phonographs.

SN 176,453. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 804,100, dated July 24, 1962.
For Magnetic Recorders, Recording Tapes and Phonographs.

SN 180,295. Crown Radio Corporation, New York, N.Y. Filed Nov. 1, 1963.

CROWNCORDER

For Tape Recorders.
First use April 1963.

SN 180,678. Pied Piper Records, Inc., New York, N.Y. Filed Nov. 7, 1963.

PIED PIPER

For Phonograph Records.
First use Oct. 1, 1963.

SN 181,384. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 18, 1963.

THE SOUND ROOM

For Magnetic Tape Recorders and Reproducers of Magnetic Tape Recordings.
First use Oct. 18, 1963.

Class 37—Paper and Stationery

SN 153,868. The Drawing-Board, Inc., Dallas, Tex. Filed Sept. 25, 1962.

the drawing board

For Correspondence Forms, Purchase Order Forms, Invoices, Recall Cards, Office Removal Cards, Combined Work Diary and Expense Recording Booklet, Receipt Books, and Voucher Checks.
First use August 1956.

SN 157,886. Robert P. McGregor, d.b.a. McGregor Manufacturing Company, Oxford, Ohio. Filed Nov. 16, 1962.

FILE

The word "File" is disclaimed apart from the mark as a whole.
For Loose-Leaf Binder Sheets Having Slots for Filing Cards.
First use May 7, 1963.

SN 168,388. Loblaw Inc., Buffalo, N.Y. Filed May 7, 1963.

LADY LIKE

Owner of Reg. No. 404,875.
For Transparent Plastic Wrapping Material Comprising Polyethylene Film.
First use Sept. 29, 1962.

SN 168,493. Foley Industries Inc., Mamaroneck, N.Y. Filed May 9, 1963.

SLIDE-A-WAY

For Telephone Number Index.
First use September 1958.

SN 169,442. Foley Industries Inc., Mamaroneck, N.Y. Filed May 22, 1963.

CALLDEX

For Telephone Number Index.
First use July 1956.

SN 170,788. Zande-Patent Aktiebolag, Stockholm, Sweden. Filed June 11, 1963.

Phondex

For Telephone Index.
First use Feb. 15, 1963.

SN 172,113. Stuart Hall Company, Inc., Kansas City, Mo. Filed June 28, 1963.

FRENCH PASTELS

For Stationery, Envelopes, and Writing Tablets.
First use Oct. 18, 1957.

SN 173,600. The Wall Paper Manufacturers Limited, Manchester, England. Filed July 23, 1963.

SUPAGLYPTA

Priority claimed under Sec. 44(d) on British Reg. No. 848,474, dated May 1, 1963.
For Wall Paper.

SN 176,570. Purity Stores, Inc., Burlingame, Calif. Filed Sept. 9, 1963.

SOF-TOUCH

For Toilet Tissue, Facial Tissue, and Paper Towels.
First use July 26, 1963.

SN 179,360. The Rytex Company, Indianapolis, Ind. Filed Oct. 18, 1963.

CARRIAGE HOUSE

For Envelopes and Stationery.
First use on or about Aug. 1, 1963.

SN 183,221. Paper Corporation of United States, New York, N.Y. Filed Dec. 18, 1963.

PACORPLA

For Printing Papers, Writing Papers, Wrapping Papers, Specialty Papers, and Cardboards.
First use 1956.

SN 183,222. Paper Corporation of United States, New York, N.Y. Filed Dec. 18, 1963.

For Printing Papers, Writing Papers, Coarse Papers, Specialty Papers, and Cardboards.
First use 1946.

SN 183,644. Windsor Pen Corp., Brooklyn, N.Y. Filed Dec. 26, 1963.

HAMILTON

For Fountain Pens, Ball Point Pens, Mechanical Pencils, and Combinations Thereof in Sets.
First use on about Dec. 16, 1963.

SN 190,075. Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Company, Boston, Mass. Filed Apr. 1, 1964.

FILENE'S

Owner of Reg. No. 124,527.
For Pens, Pencils, Pen and Pencil Sets, Inkstands, Paperweights and Desk Sets Made in Part of Sterling Silver or Other Precious Metals.
First use prior to 1940.

Class 38 — Prints and Publications

SN 153,868. The Drawing Board, Inc., Dallas, Tex. Filed Sept. 25, 1962.

the drawing board

For Greeting Cards.
First use August 1956.

SN 159,494. Jeppesen & Co., Denver, Colo. Filed Dec. 20, 1962.

JEPPESEN

For Publications in the Form of Airway Manuals Containing Flight Information Such as That Directed to Navigation and Communication, Airport Directories and Diagrams, and Airway and Approach Charts.
First use in or about 1938.

SN 176,418. Holmes Associates, Inc., Ferndale, Mich. Filed Sept. 6, 1963.

AIP

For Identifying Backing Sheets for Drafting Board, Drawing Board, and Like Work Surfaces, Covers With Source Suppliers and Other Helpful Information Provided Thereon.
First use on or about July 15, 1963.

SN 179,263. Reinhold Publishing Corporation, New York, N.Y. Filed Oct. 17, 1963.

HEATING PIPING & AIR CONDITIONING

For Trade Magazine Published Monthly.
First use May 1929.

SN 179,343. Johnson & Johnson, New Brunswick, N.J. Filed Oct. 18, 1963.

JOHNSON & JOHNSON PROFILES

For Periodical Publication Presently in Magazine Form issued at Irregular Intervals.
First use Sept. 24, 1963.

SN 180,483. American Medical Women's Association, Inc., New York, N.Y. Filed Nov. 5, 1963.

AMERICAN MEDICAL WOMEN'S ASSOCIATION

For Monthly Medical Journal and Printed Matter Issued From Time to Time.
First use Sept. 15, 1963.

SN 180,944. National Publishing Company, Philadelphia, Pa. Filed Nov. 12, 1963.

CRYSTALETTE

For Bibles.
First use Sept. 1, 1963.

SN 182,059. Educational Development Corporation, Palo Alto, Calif. Filed Nov. 29, 1963.

For Magazine.
First use Nov. 5, 1963.

SN 182,159. Center for the Gifted Child Inc., San Francisco, Calif. Filed Dec. 2, 1963.

THE CENTER FOR THE GIFTED CHILD INC.

For Story Books for Children.
First use Oct. 23, 1963.

SN 187,270. Forest Industrial Products, Inc., Cleveland, Ohio. Filed Feb. 24, 1964.

BURI-PRINT

For Labels and Decalcomanias.
First use June 10, 1963.

Class 39 — Clothing

SN 122,728. H. Siegfried & Sons, Inc., St. Louis, Mo. Filed June 28, 1961.

STEMS

For Malewear Tapered Slacks.
First use Apr. 1, 1961.

SN 159,057. Jerry Furlow, d.b.a. Ah Men, Los Angeles, Calif. Filed Dec. 13, 1962.



For Men's Suits, Coats, Trousers, Shirts, Socks, Underwear, Sweaters, and Ties.
First use June 1961.

SN 166,679. Alba-Waldensian, Inc., Valdese, N.C. Filed Apr. 15, 1963.

ROMAN STRIPE

Owner of Reg. Nos. 248,783 and 693,919.
For Knitted Outer Garments, Undergarments and Foundation Garments for Women and Girls.
First use June 2, 1959, on knitted outer garments.

SN 173,718. The Van Wert Manufacturing Co., Van Wert, Ohio. Filed July 24, 1963.

Tamarack

For Overalls, Service Coats, Coversuits; Men's, Women's and Children's Lined and Unlined and Insulated Jackets; Boys' and Men's Pants and Breeches, Men's Work and Dress Shirts, Smocks, Caps, and Ladies Slacks.
First use Mar. 15, 1963.

SN 173,728. Arnav Shoe Corporation, Little Ferry, N.J. Filed July 25, 1963.

A-OK

For Shoes.
First use July 1, 1963.

SN 174,712. Silvertone Undergarment Co. Inc., New York, N.Y. Filed Aug. 8, 1963.



Owner of Reg. No. 444,682.
For Ladies' Panties.
First use July 31, 1946.

SN 176,977. Trendsetter Footwear Corp., Waltham, Mass. Filed Sept. 13, 1963.

TRENDSETTERS

For Ladies' and Men's Shoes and Boots.
First use February 1963.

SN 177,372. B. Rich's Sons, Inc., Washington, D.C. Filed Sept. 19, 1963.

POLLY RICH

For Children's Shoes.
First use Aug. 20, 1963.

SN 177,962. Cannon Mills Company, Kannapolis, N.C. Filed Sept. 30, 1963.

CANNON . . . THE NAME WOMEN KNOW AND TRUST.

Owner of Reg. Nos. 147,943, 232,160, and 729,514.
For Hosiery.
First use Aug. 13, 1963.

SN 178,037. Top Form-Yolande, Inc., New York, N.Y. Filed Sept. 30, 1963.

TINA POKO

The mark "Tina Poko" is fanciful, and is not the name of any individual. Owner of Reg. Nos. 189,326 and 340,160.
For Children's Knit Sweaters and Children's Dresses.
First use June 25, 1963.

SN 178,538. Eural, Paris, France. Filed Oct. 7, 1963.

EURAL

Owner of French Reg. No. 506,866, dated July 8, 1962 (Paris); Natl. Inst. No. 168,046.
For Clothing for Men, Women, and Children—Namely, Jackets, Trousers, Vests, Coats, Robes, Skirts, Overcoats and Topcoats.

SN 178,751. Arnold J. Weber, New York, N.Y. Filed Oct. 10, 1963.

OXKNIT

For Men's Underwear, Pajamas, Hosiery and Shirts and Women's Blouses.
First use Aug. 12, 1963.

SN 180,832. Robert Bruce, Inc., Philadelphia, Pa. Filed Nov. 12, 1963.

T.N.T. (TAILORED 'N TAPERED) Robert Bruce

Applicant disclaims the phrase "Tailored 'N Tapered" and the letters "T.N.T." apart from the mark as shown. "Robert Bruce" is not the name of any living individual or designer of apparel. Owner of Reg. Nos. 338,418, 545,837, and others.
For Men's and Boys' Swimwear, Sweaters, and Shirts.
First use on or about Aug. 10, 1963.

SN 181,706. United States Rubber Company, New York, N.Y. Filed Nov. 21, 1963.

CONQUEST

For Canvas and Rubber Shoes.
First use 1941 or earlier.

SN 181,713. United States Rubber Company, New York, N.Y. Filed Nov. 21, 1963.

ROYALAC

For Plastic Boots.
First use 1956 or earlier.

SN 181,718. United States Rubber Company, New York, N.Y. Filed Nov. 21, 1963.

ARCHKING

For Canvas and Rubber Shoes.
First use 1948 or earlier.

SN 182,092. The H. D. Lee Company, Incorporated, Kansas City, Mo. Filed Nov. 29, 1963.

WESTERCORDS

For Pants.
First use Feb. 26, 1945.

SN 183,202. Cotton Club Frocks Inc., New York, N.Y. Filed Dec. 16, 1963.

ANN TAYLOR

The name "Ann Taylor" is fictitious.
For Women's Dresses.
First use 1963.

SN 183,571. Eagle Knitting Mills, Inc., Milwaukee, Wis. Filed Dec. 26, 1963.

GENTILI

For Knitted Headwear for Men, Women, and Children.
First use Dec. 17, 1963, on knitted hats.

SN 186,868. Lucky Stride Shoes, Inc., Maysville, Ky. Filed Feb. 17, 1964.

LUCKY STRIDE

Owner of Reg. No. 578,895.
For Shoes.
First use 1947.

Class 40—Fancy Goods, Furnishings, and Notions

SN 118,814. Rich's, Inc., Atlanta, Ga. Filed Apr. 27, 1961.

SANTA'S SECRET SHOP

For Adult Sewing Kits.
First use Nov. 2, 1960.

SN 164,641. Mercantile & Exchange Corp., New York, N.Y. Filed Mar. 14, 1963.

TRIPLE ACTION

For Combs.
First use Jan. 13, 1963.

SN 187,101. John Frier, d.b.a. Alox Manufacturing Company, St. Louis, Mo. Filed Feb. 20, 1964.



For Shoe Laces.
First use Apr. 1, 1919.

SN 187,593. Majestic Electronics, Inc., Los Angeles, Calif. Filed Feb. 27, 1964.

BRENTWOOD

For Wigs.
First use Nov. 29, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 148,709. Triangle Manufacturing Company, Inc., Baltimore, Md. Filed July 10, 1963.

MOROCCO-TEX

For Leatherlike Plastic Fabric Sold Only in Finished Table and Outdoor Furniture Covers.
First use February 1961.

SN 148,773. Triangle Manufacturing Company, Inc., Baltimore, Md. Filed July 10, 1963.

WEATHERFILM

For Plastic Film Made Into Outdoor Furniture Covers.
First use January 1953.

SN 151,291. The Beattie Manufacturing Company, Little Falls, N.J. Filed Aug. 16, 1963.

KNIT-BAK

For Carpets Having a Special Backing.
First use on or about Dec. 21, 1961.

SN 152,616. N.V. Verenigde Nederlandse Textielbedrijven J. W. Meijerink & Co., Winterswijk, Holland. Filed Sept. 6, 1963.

VOSSEVELD

"Vosseveld" means "fox in the field" in the Dutch language.
For Cotton Piece Goods.
First use Apr. 12, 1950.

SN 158,933. Burlington Industries, Inc., New York, N.Y. Filed Sept. 26, 1962.

RESTORA

For Textile Fabrics in the Piece Suitable for Use in the Manufacture of Men's, Women's, and Children's Suits, Coats, and Slacks.
First use Feb. 22, 1962.

SN 168,168. David and Dash Inc., Miami, Fla. Filed May 6, 1963.

ATON MILLS

Applicant disclaims the exclusive use of the word "Mills" apart from the mark as shown.
For Various Natural and Synthetic Finished Textile Fabrics in the Piece Including Woolens, Cottons, Linens, Acetates, and Various Blends Thereof.
First use Mar. 25, 1963.

SN 173,891. Bocchese Giuseppe & Figli S.A.S., Vicenza, Italy. Filed July 29, 1963.

Shantung
SIMIONE
Pure Silk

The drawing is lined to reproduce the mark as shown on the specimens. The words "Shantung" and "Pure Silk" are disclaimed in and apart from the mark as shown.
For Silk Fabrics.
First use March 1951.

SN 177,143. B. Altman & Co., New York, N.Y. Filed Sept. 17, 1963.

BALTA

Owner of Reg. No. 393,034.
For Rugs, Table Linens, Dish Cloths, Mattress Protectors, and Dustproof Mattress Covers With Zippered Closures.
First use at least as early as December 1962 on table linens.

SN 177,490. Callaway Mills Company, La Grange, Ga. Filed Sept. 23, 1963.

PNEUMAWEV

For Textile Rugs and Carpets, and Fabrics Therefor.
First use Aug. 23, 1963.

SN 177,929. Wellington Sears Company, New York, N.Y. Filed Sept. 27, 1963.

EXECUTONE

For Cotton and/or Synthetic Piece Goods.
First use July 27, 1962.

SN 177,962. Cannon Mills Company, Kannapolis, N.C. Filed Sept. 30, 1963.

CANNON . . . THE NAME WOMEN KNOW AND TRUST.

Owner of Reg. Nos. 147,948, 232,160, and 729,514.
For Towels, Washcloths, Sheets, Pillowcases, Blankets, and Bedspreads.
First use Aug. 20, 1963, on sheets and pillowcases.

SN 178,528. Eural, Paris, France. Filed Oct. 7, 1963.

EURAL

Owner of French Reg. No. 506,366, dated July 5, 1962 (Paris); Natl. Inst. No. 183,046.
For Textile Fabrics of Cotton, Wool, Silk, and/or Synthetic Fibers.

SN 178,570. Shirley Fabrics Corporation, New York, N.Y. Filed Oct. 8, 1963.

LAMOUR

For Textile Fabrics in the Piece of Cotton, Rayon, Synthetic Fibres, and Mixtures Thereof.
First use July 9, 1962.

SN 178,751. Arnold J. Weber, New York, N.Y. Filed Oct. 10, 1963.

OXKNIT

For Knitted Fabrics in the Piece, Composed of a Blend of Synthetic and Cotton Fibers.
First use Aug. 12, 1963.

SN 179,670. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 23, 1963.

LABFLEX

Owner of Reg. No. 612,666.
For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or of Synthetic Fibers or of Blends of the Foregoing.
First use Oct. 16, 1963.

SN 179,906. Klopman Mills, Inc., New York, N.Y. Filed Oct. 28, 1963.

SONATA

Owner of Reg. No. 146,289.
For Greige and Finished Fabrics in the Piece of All Types for Use in Men's Women's, and Children's Apparel, in Home Furnishings, and in the Industrial Field.
First use June 21, 1963.

SN 180,344. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 31, 1963.

MARVA-TUFT

Owner of Reg. No. 627,051.
For Rugs, Mats and Lid Sets of Natural and/or Synthetic Fibres, and/or Blends Thereof.
First use Oct. 23, 1963.

Class 43—Thread and Yarn

SN 163,901. Thomaston Cotton Mills, Thomaston, Ga. Filed Mar. 4, 1963.

DEPENDABLE
THOMASTON
Fabrics

Applicant disclaims the exclusive use of the words "Dependable Fabrics" apart from the mark as shown. Owner of Reg. Nos. 238,811, 783,777, and others.
For Yarn and Sewing Thread.
First use January 1949 on sewing thread.

SN 168,951. Orchard Yarn and Thread Company, New York, N.Y. Filed May 15, 1963.

Blue Bird

For Yarns and Threads.
First use December 1962.

SN 174,388. N.V. Koninklijke Veenendaalsche Bajet- en Vijfschachtfabriek Voorheen Weduwe D. S. Van Schuppen en Zoon, Veenendaal, Netherlands. Filed Aug. 5, 1963.

ISKANDER

Owner of Dutch Reg. No. 137,893, dated July 14, 1960.
For Woolen Hand-Knitting Yarns.

SN 175,802. Roselon Yarns, Inc., Philadelphia, Pa. Filed Aug. 26, 1963.

SOPHISTA WEVE

No claim is made to the word "Weve" except in combination with the mark as shown. Owner of Reg. No. 762,806.
For Yarn.
First use July 18, 1963.

SN 177,609. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Sept. 24, 1963.

CHADEL

Owner of Reg. No. 614,527.
For Yarn.
First use Sept. 2, 1963.

SN 182,023. Beaunit Corporation, New York, N.Y. Filed Dec. 16, 1963.

AMERICAN BEMBERG

Owner of Reg. No. 753,028.
For Rayon Yarn.
First use 1936.

Class 44—Dental, Medical, and Surgical Appliances

SN 169,429. Clay-Adams, Inc., New York, N.Y. Filed May 22, 1963.

"SEAL-EASE"

For Serum Tube Sealer and Holder.
First use on or about July 15, 1957.

SN 170,240. Bert E. Thomas, Atlanta, Ga. Filed June 3, 1963.

Cloud 9

For Vibrator Type Massager (Electrical) for Installation in Any Bed, Sofa, or Chair.
First use February 1963.

SN 171,577. Dan Shiffer, d.b.a. Vitul Electronics Company, Lansing, Mich. Filed June 20, 1963.

"SAUNAHEET"

Applicant disclaims any exclusive rights for the descriptive word "Sauna" apart from the mark as a whole.
For Sauna Stove (Dry Heat Appliance).
First use Mar. 1, 1963.

SN 176,452. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDEN

Owner of Japanese Reg. No. 594,099, dated July 24, 1962.
For Electric Massaging Apparatus, Electric Hearing Aids, and Germicidal Lamps.

SN 176,458. Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. Filed Sept. 6, 1963.

MATSUDENSAN

Owner of Japanese Reg. No. 594,100, dated July 24, 1962.
For Electric Massaging Apparatus, Electric Hearing Aids, and Germicidal Lamps.

SN 178,763. American Optical Company, d.b.a. Safeline Products Company, Southbridge, Mass. Filed Oct. 11, 1963.

SAFELINE

For Respirators.
First use Sept. 24, 1963.

SN 178,903. The Epoxylite Corporation, South El Monte, Calif. Filed Oct. 14, 1963.

EPOXYLITE

Owner of Reg. Nos. 611,364 and 710,102.
For Dental Crown and Bridge Resins, Denture Resins, Dental Filling Resins and Primers, and Dental Die Materials and Adhesives.
First use May 29, 1961.

SN 182,446. Surgical Appliance Industries, Inc., d.b.a. Convalescent Products Company, Ripley, Ohio. Filed Dec. 5, 1963.



For Wheel Chairs, Walkers, Crutches and Canes, Commodes, Bathtub Seats and Rails, Patient Lifters, Bed Tables, Trays, and Accessories.
First use Nov. 15, 1963.

Class 45—Soft Drinks and Carbonated Waters

SN 170,634. Florasynth Laboratories, Incorporated, New York, N.Y. Filed June 10, 1963.



No claim is made to the words "Purity" and "Uniformity" apart from the mark as shown. Owner of Reg. Nos. 286,411, 752,726, and others.
For Extracts, Flavors, Oils, and Emulsions for Use in Making Soft Drink Syrups and Bases.
First use May 1916.

SN 175,450. Tropic-Isle Products, Inc., Evanston, Ill. Filed Aug. 20, 1963.

SLOPPY JOE

For Non-Alcoholic Flavored Mixes Used in the Preparation of Alcoholic Drinks.
First use Aug. 8, 1963.

Class 46—Feeds and Ingredients of Feeds

SN 41,257. Peter Eckrich & Sons, Inc., Fort Wayne, Ind. Filed Nov. 25, 1957.



For Luncheon Meats.
First use Feb. 9, 1956.

SN 111,675. Lusk Candy Co., Davenport, Iowa. Filed Jan. 11, 1961.



For Candy and Packaged Mixes for Preparing Candy.
First use in the 1920's on candy.

SN 130,804. Tom Tom Beverage Co. (Oregon corporation), Medford, Oreg., assignee of Tom Tom Beverage Co. (partnership), Ashland, Oreg. Filed Oct. 24, 1961.



For Frozen and Unfrozen Beverage of a Fruit and Milk Nature.
First use June 1960.

SN 147,781. Andersen, Clayton & Co., Houston, Tex. Filed June 27, 1962.

SUPER STAR

For Vitamin and Mineral Enriched Livestock Feed.
First use about Apr. 15, 1962.

SN 149,079. Hanover Canning Company, Hanover, Pa. Filed July 16, 1962.

HANOVER



Owner of Reg. Nos. 539,087, 753,421, and others.
For Canned and Frozen Vegetables and Potato Chips.
First use July 1948, on canned vegetables.

SN 151,682. Harold Krasner, Portchester, N.Y. Filed Aug. 22, 1962.

THE PRETZEL THAT SETS UP DRINKS

The words "The" and "Pretzel" are disclaimed apart from the mark.
For Pretzels.
First use June 27, 1962.

SN 153,786. General Grain, Inc., Indianapolis, Ind. Filed Sept. 24, 1962.



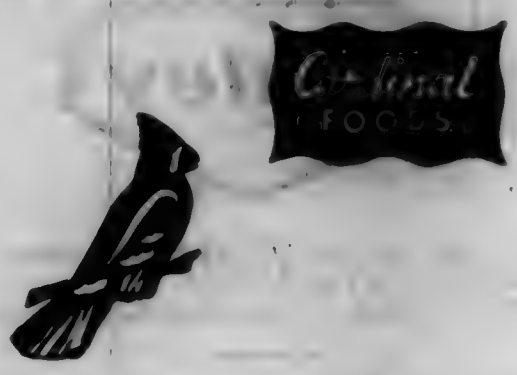
The lines shown in the drawing are a feature of the mark.
For Flour.
First use Aug. 31, 1962.

SN 155,425. McIlhenny Company, New Iberia, La. Filed Oct. 18, 1962.

ISLAND PRIDE

For Pickled Peppers.
First use at least as early as June 15, 1957.

SN 160,158. Cardinal Foods, Incorporated, Leesburg, Va. Filed Jan. 4, 1963.



No claim is made to the word "Foods" apart from the other features shown in the drawing. Applicant claims use for the area comprising the States of Virginia, West Virginia, Maryland, Delaware, and Pennsylvania.
For Frozen French Fried Potatoes.
First use Dec. 18, 1959.
Subj. to concurrent use proceeding with Reg. Nos. 725,159 and 725,160.

SN 162,496. Sandy Bottom Beef for Freezers of Rockville, Inc., Rockville, Md. Filed Feb. 11, 1963.

SANDY BOTTOM

For Fresh Meats, Frozen and Unfrozen.
First use Jan. 1, 1950.

SN 166,460. Cornelius Hearn III, d.b.a. The Cheese Shop, Greenwich, Conn. Filed Apr. 10, 1963.



THE CHEESE SHOP

The words "The Cheese Shop" are disclaimed apart from the mark as shown without waiver of applicant's common law rights or statutory rights.
For Cheese of All Types.
First use in February 1960.

SN 168,881. Mars, Inc., Chicago, Ill. Filed May 14, 1963.



For Candy.
First use Oct. 1, 1961.

SN 169,275. B,N,S, International Sales Corporation, New York, N.Y. Filed May 20, 1963.

LION BRAND

Applicant disclaims the word "Brand."
For Frozen Meat.
First use June 29, 1962.

SN 169,698. Beaver Baking Co., Inc., Hendersonville, Tenn. Filed May 27, 1963.

BEAVER BREAD

No claim is made to the word "Bread" apart from the mark as shown.
For Bread.
First use Mar. 27, 1963.

SN 170,035. Consolidated Foods Corporation, Chicago, Ill. Filed May 31, 1963.

Monarch



Owner of Reg. Nos. 652,498, 180,558, and others.
For Frozen Fruits and Vegetables, Frozen Meat, Poultry, Fish and Fruit Pies, Frozen Orange Juice and Grape Juice, Frozen Fish and Frozen Waffles.
First use Aug. 1, 1955.

SN 172,747. Jack's Tasty Snack Corporation, Oneida, N.Y. Filed July 10, 1963.

Jack's

The drawing is lined for the color yellow, applicant does not claim color as a significant part of its mark. Applicant claims use for the area comprising: Maine, New Hampshire, Vermont Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, District of Columbia, Pennsylvania, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Kansas, Montana, Wyoming, Idaho, Utah, Washington, Oregon, Nevada, California, Alaska, Hawaii, all of Ohio except for the counties of Gallia, Lawrence, all of Indiana except for the counties of Posey, Gibson, Pike, DuBois, Vanderburgh, Warrick, Spencer, Perry, Crawford, Harrison, Floyd, Clark, all of Illinois except for the counties of Union, Alexander, Pulaski, Johnson, Massac, Pope, Hardin, all of Missouri except for the counties of Scott, Stoddard, Mississippi, New Madrid, Pemiscot, Dunklin, all of Colorado except for the counties of San Miguel, Dolores, Montezuma, Ouray, San Juan, La Plata, Fremont, Custer, Hinsdale, Archuleta, Mineral, Saguache, Rio Grande, Conejos, Alamosa, Costilla, Huerfano, Pueblo, Las Animas, Crowley, Otero, Kiowa, Bent, Prowers, Baca, in Virginia, only the counties of Frederick, Clarke, Loudoun, Fairfax, Arlington, Fauquier, Prince William, including Alexandria, Falls Church and other independent municipalities within the perimeter of said counties, in West Virginia, only the counties of Hancock, Brooke, Ohio, Marshall, Wetzel, Tyler, Pleasants, Wood, Wirt, Ritchie, Doddridge, Harrison, Marion, Monongalia, Preston, Barbour, Taylor, Jackson, Roane, Calhoun, Gilmer, Lewis, Upshur, Randolph, Tucker, Grant, Mineral, Hampshire, Hardy, Morgan, Berkeley, Jefferson, in Kentucky, only the counties of Boone, Kenton, Campbell.

For Snack Products—Namely, Corn Twists, Cheese-Coated Crackers, Popped Popcorn, Fried Pork Rinds, Pretzels, and Pretzel Sticks.

First use 1943.

Subj. to concurrent use proceeding with Reg. No. 733,491.

SN 176,579. The Smithfield Packing Company, Inc., Smithfield, Va. Filed Sept. 9, 1963.

VIRGINIA COUNTRY FARM BRAND

Applicant disclaims any exclusive rights in the word "Brand" apart from the mark as shown. Owner of Reg. No. 657,265.

For Smoked Meats, Sausage, Fresh and Smoked.

First use July 15, 1963.

SN 177,265. Mangels, Herold Company, Inc., Baltimore, Md. Filed Sept. 18, 1963.

KING

Owner of Reg. Nos. 269,402 and 250,963.

For Table Syrup.

First use Nov. 1, 1900.

SN 178,732. Pinecrest Duck Farms Trust, d.b.a. Pinecrest Duck Farm, Sterling, Mass. Filed Oct. 10, 1963.

PINECREST

For Eviscerated Duck and Duckling.

First use 1921.

SN 179,334. Faut Milling Company, d.b.a. Sherman Mill and Grain Company, Sherman, Tex. Filed Oct. 18, 1963.

yellow ROSE

For Flour.

First use Sept. 10, 1963.

SN 180,051. International Milling Company Inc., Minneapolis, Minn. Filed Oct. 29, 1963.



Owner of Reg. Nos. 108,870, 660,113, and others.

For Wheat and Rye Flour.

First use Sept. 12, 1956, on wheat flour.

SN 180,459. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Nov. 4, 1963.

Staley

Owner of Reg. Nos. 142,777, 753,904, and others.

For Corn Syrup for Food Purposes.

First use at least as early as Jan. 15, 1903.

SN 181,455. The Brooster Co., Rockton, Ill. Filed Nov. 19, 1963.



The words "Steaks & Ribs" are disclaimed apart from the mark as shown.

For Broiled Steaks and Ribs.

First use Oct. 28, 1963.

SN 181,499. Sucrest Corporation, New York, N.Y. Filed Nov. 19, 1963.

DO-CREST

For Mold Inhibitor for Baked Goods.

First use Oct. 18, 1963.

SN 181,878. Foremost Dairies, Inc., San Francisco, Calif. Filed Nov. 26, 1963.

PARTY PARFAIT



Applicant disclaims the word "Parfait" apart from the mark as shown.

For Ice Cream.

First use Feb. 19, 1963.

SN 181,902. The Kroger Co., Cincinnati, Ohio. Filed Nov. 26, 1963.

HI-NU

For Skim Milk in Fluid Form.

First use at least as early as May 1, 1957.

SN 182,012. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Nov. 27, 1963.

D-9

For Whipping and Emulsifying Ingredient for the Food Industry Containing Non-Fat Dry Milk Solids and Certain Esters of Fat Forming Fatty Acids and Sugar.

First use Dec. 6, 1960.

SN 182,013. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Nov. 27, 1963.

D-11

For Whipping and Emulsifying Ingredient for the Food Industry Containing Non-Fat Milk Solids, Monostearate, and a Polysorbate.

First use Dec. 20, 1961.

SN 182,103. National Dairy Products Corporation, Chicago, Ill. Filed Nov. 29, 1963.

PHILLY

Owner of Reg. No. 892,212.

For Cream Cheese.

First use Nov. 12, 1963.

SN 182,698. Khalifa A. Algosaibi, d.b.a. Khalifa Algosaibi Fisheries, Dammam, Saudi Arabia. Filed Dec. 10, 1963.

OCEAN REEF

For Frozen Shrimp.

First use Mar. 21, 1963.

SN 183,232. Henry Thayer Company, Cambridge, Mass. Filed Dec. 18 1963.

TEMPO

Owner of Reg. Nos. 595,263 and 665,144.

For Poultry Stuffing, the Principal Ingredients Being Dried Bread, Onion, Condiments, and Herbs; and Egg Nog Mix, the Principal Ingredients Being Sugar, Starch, Egg Albumen, Egg Yolk, Artificial Flavoring, and Coloring.

First use Oct. 31, 1962, on poultry stuffing.

SN 183,360. Barton's Candy Corporation, Brooklyn, N.Y. Filed Dec. 23, 1963.

TOFFEE LOVES

Applicant disclaims the word "Toffee."

For Toffee Candies.

First use Dec. 5, 1963.

SN 185,966. Wm. Wrigley Jr. Company, Chicago, Ill. Filed Feb. 3, 1964.

CHUNX

For Chewing Gum.

First use Jan. 17, 1964.

SN 185,967. Wm. Wrigley Jr. Company, Chicago, Ill. Filed Feb. 3, 1964.

YUSI

For Chewing Gum.

First use Jan. 17, 1964.

SN 186,247. General Foods Corporation, White Plains, N.Y. Filed Feb. 7, 1964.

GOOD SEASONS

Owner of Reg. Nos. 607,849, 712,599, and 742,787.

For Spices.

First use Sept. 12, 1963.

SN 186,715. Flavor Corporation of America, Chicago, Ill. Filed Feb. 14, 1964.

PESTLUR

For Flavoring Materials Used in the Manufacture of Rodenticides.

First use Nov. 15, 1956.

SN 186,911. Travis Meat & Seafood Co., Inc., Knoxville, Tenn. Filed Feb. 17, 1964.

TRAVISCO

For Frozen Packed Meat Products—Namely, Minute Steaks, Cube Steaks, Veal Cutlets, Pork Cutlets, Pepper Steaks, Breaded Veal Cutlets, Breaded Liver and Onions, Jiffy Steaks, Deluxe Patties, Ground Beef Steak, Breaded Pork Cutlets, Rib Eye Steaks, Strip Steaks, and Yearling Liver.

First use July 1, 1945.

SN 187,124. M.J.B. Co., San Francisco, Calif. Filed Feb. 20, 1964.

MJB

Owner of Reg. No. 563,677.
For Spices.
First use Nov. 1, 1963.

SN 187,271. William Freihofer Baking Co., Allentown, Pa. Filed Feb. 24, 1964.

HERITAGE FARMS

For Bread.
First use Feb. 10, 1964.

SN 187,428. Petfoods Limited, Leicestershire, England. Filed Feb. 25, 1964.

WHISKAS

Owner of British Reg. No. 705,152, dated Dec. 4, 1951.
For Foodstuffs for Cats.

SN 187,702. United Fruit Company, Boston, Mass. Filed Feb. 28, 1964.



The drawing is lined for gold and red. Owner of Reg. Nos. 711,622, 733,901, and others.
For Bananas.
First use Feb. 7, 1964.

SN 187,703. United Fruit Company, Boston, Mass. Filed Feb. 28, 1964.



The drawing is lined for gold and green. Owner of Reg. Nos. 711,622, 733,901, and others.
For Bananas.
First use Feb. 7, 1964.

SN 187,704. United Fruit Company, Boston, Mass. Filed Feb. 28, 1964.



The drawing is lined for a yellow background surrounded by a gold oval. Owner of Reg. Nos. 711,622, 733,901, and others.
For Bananas.
First use Feb. 7, 1964.

Class 47—Wines

SN 177,775. Daizen Shoten Limited, Ichiharagun, Chibaken, Japan. Filed Sept. 26, 1963.

芸者
GEISHA-GIRL
ゲイシャガール

The Chinese characters appearing above the words "Geisha-Girls" are the equivalent of the expression "Geisha-Girl" and the Japanese characters below the words "Geisha-Girl" are the equivalent of the expression "Geisha-Girl." Owner of Japanese Reg. No. 589,905, dated June 15, 1962.
For Wines.

SN 177,988. Guillermo Padilla Limitada Sociedad Anonima Commercial e Industrial, Buenos Aires, Argentina. Filed Sept. 30, 1963.

ANNECY

For Vermouth.
First use Feb. 11, 1941; in commerce Feb. 11, 1941.

SN 180,805. Conti Boutourline, Laterina, Italy. Filed Nov. 8, 1963.

BOUTOURLINE



CHIANTI
DEI COLLI ARETINI

Translation of Latin "Fortibus et Fidus" is "strong and faithful" and "Dei Colli Aretini" is "Aritine hills." No claim is made to the words "Chianti" and "Dei Colli Aretini." The drawing is lined for blue, silver, gold, red, and pink.
For Chianti Wine.
First use on or about Jan. 1, 1920; in commerce Aug. 5, 1963.

Class 48—Malt Beverages and Liquors

SN 178,171. Carling Brewing Company Incorporated, Cleveland, Ohio. Filed Oct. 2, 1963.

CARLING

Owner of Reg. Nos. 306,980, 727,308, and others.
For Ales and Beers.
First use on or about Jan. 1, 1840.

Class 49—Distilled Alcoholic Liquors

SN 179,886. Joseph S. Finch and Company, New York, N.Y. Filed Oct. 28, 1963.

HARVARD

For Whiskey.
First use Oct. 1, 1933.

SN 182,363. Schenley Distillers, Inc., New York, N.Y. Filed Dec. 4, 1963.

BUTTERBALL

For Whiskey.
First use Nov. 6, 1963.

SN 182,365. Schenley Distillers, Inc., New York, N.Y. Filed Dec. 4, 1963.

PINTAIL

For Whiskey.
First use Nov. 6, 1963.

Class 50—Merchandise Not Otherwise Classified

SN 165,348. The Stat-Chek Company, Seattle, Wash. Filed Mar. 26, 1963.

STAT-CHEK

For Signal and Indicator Means for Hospital Charts.
First use Nov. 1, 1962.

SN 173,768. B. Wilmsen, Incorporated, Philadelphia, Pa. Filed July 10, 1963.

NU LITE

For Christmass Tree Ornaments Made of Plastic Materials—Namely, Balls.
First use on or about Mar. 14, 1963.

SN 173,263. Mardon of Sheboygan Falls, Inc., Sheboygan Falls, Wis. Filed July 15, 1963.

PLASTI-PLAQUE

For Plastic Mosaic Tile Kit, Comprising Tile Strips, Hardboard Backing on Which a Design Is Imprinted, and Grout.
First use Mar. 12, 1963.

SN 173,307. R. D. Werner Co., Inc., Greenville, Pa. Filed July 15, 1963.



Applicant disclaims the representation of a ladder apart from the mark as shown.
For Ladders, Extension Ladders, Stepladders, and Platform Ladders.
First use June 1952.

SN 175,004. Winnebago Industries, Inc., Forest City, Iowa. Filed Aug. 13, 1963.

WINNEBAGO

For Portable Weatherproof Enclosures for Persons and Equipment, and Specifically Collapsible Structures Such as Inserts for Pick-Up Trucks Known as Caps and Campers as well as Units for Use Independently of Any Vehicle for Use as Small Cabins or Cottages, Tool Houses, and the Like.
First use April 1959.

SN 175,215. Silverlith Corporation, Edmonston, Md. Filed Aug. 16, 1963.

TURBOGRAINED

For Grained Printing Plates, Including Pre-Sensitised Plates and Pre-Cut Plates for Use in Lithography.
First use June 28, 1963.

SN 176,739. Rexall Drug and Chemical Company, d.b.a. Tupco, Los Angeles, Calif. Filed Oct. 10, 1963.

TUPCO

For Plastic Closures.
First use Sept. 16, 1963.

SN 183,891. Duquesne Brewing Company of Pittsburg, Pittsburgh, Pa. Filed Jan. 2, 1964.

PARTY CENTER

For Party Decorations and Favors.
First use May 21, 1963.

SN 183,892. Duquesne Brewing Company of Pittsburg, Pittsburgh, Pa. Filed Jan. 2, 1964.



No claim is made to the representation of a clown hat or ribbon apart from their use in the mark as shown.
For Party Decorations and Favors.
First use May 21, 1963.

SN 180,304. The Poly-Seal Corporation, New York, N.Y. Filed Mar. 27, 1964.

DIA-FLEX

For Container Closures.
First use March 1963.

SN 180,848. The American Automobile Association Incorporated, Washington, D.C. Filed Mar. 30, 1964.

TRAC-TRED

For Automobile Traction Mats.
First use Oct. 30, 1961.

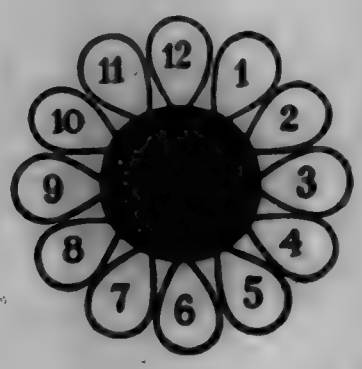
Class 51—Cosmetics and Toilet Preparations

SN 143,238. Kanegafuchi Boseki Kabushiki Kwaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed Apr. 27, 1962.

Kanebo

Priority claimed under Sec. 44(d) on Japanese application filed Nov. 1, 1961; Reg. No. 629,700, dated Nov. 20, 1963; and U.S. Reg. Nos. 704,999, 705,013, and 705,018.
For Dentifrices, Skin Creams, Skin Lotions, Face Powder, Lipstick, Pancake and Paste Make-Up, and Perfumes.

SN 171,259. Leon Products, Inc., Jacksonville, Fla. Filed June 18, 1963.



For Underarm Anti-Perspirant Deodorants.
First use Mar. 25, 1963.

SN 177,144. B. Altman & Co., New York, N.Y. Filed Sept. 17, 1963.

BALTA

For Mouth Wash, Cleansing Cream, Hand Lotion, Bath Concentrate, Bath Oil, Bubbling Bath Powder, and Eau de Cologne.
First use at least as early as January 1962 on mouth wash.

SN 179,295. Jean Berte, Inc., New York, N.Y. Filed Oct. 21, 1963.



KAYAK

Owner of Reg. No. 441,168.
For Eau de Cologne.
First use Jan. 3, 1962.

SN 180,767. Revlon, Inc., New York, N.Y. Filed Nov. 8, 1963.

'SUPER NATURAL'

For Preparation for the Hair.
First use Oct. 17, 1963.

SN 181,519. Botany Industries, Inc., Reno, Nevada. Filed Nov. 20, 1963.

RENAULD INTERNATIONAL

Owner of Reg. No. 767,972.
For Suntan Lotion.
First use about Oct. 28, 1963.

Class 52—Detergents and Soaps

SN 143,239. Kanegafuchi Boseki Kabushiki Kwaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed Apr. 27, 1962.

Kanebo

Priority claimed under Sec. 44(d) on Japanese application filed Nov. 1, 1961; Reg. No. 629,700, dated Nov. 20, 1963; and U.S. Reg. Nos. 704,999, 705,013, and 705,018.
For Household and Toilet Soaps.

SN 156,972. Hansen-Van Winkle-Munning Company, Matawan, N.J. Filed Nov. 9, 1962.

CHEM-RITE

For General Cleaning Compositions for Steel, Caustic Soap Cleaners for All Base Metals Except Aluminum, Cleaners for Aluminum, and Rust and Scale Removing Compositions.
First use 1958.

SN 168,157. Champion Chemicals, Inc., Odessa, Tex. Filed May 6, 1963.

D-TRON

For Lubricating Detergent for Addition to Well Drilling Fluids.
First use Jan. 20, 1960.

SN 175,864. Ditta A. Sutter, d.b.a. A. Sutter, Genoa, Italy. Filed Oct. 17, 1963.

MARGA

Owner of Italian Reg. No. 169,592, dated Nov. 23, 1962.

For Floor Cleaners; Textile Detergents; Detergent for Cleaning Glasses, Mirrors, Crystal, Tile, and Enameled and Lacquered Furniture, Soaps of All Kinds Excluding Shaving Soap; Cleaners for Cleaning and Purifying Toilet Bowls; and Combined Cleaning and Degreasing Compositions for Hides and Leathers.

SN 183,719. Wynn Oil Company, Azusa, Calif. Filed Dec. 23, 1963.



The drawing is lined for red. Owner of Reg. No. 744,306.

For Spray Type Engine Degreasing and Cleaning Compounds.

First use July 26, 1963.

SERVICE MARKS

Class 100 — Miscellaneous

SN 166,456. The Glemby Company, Inc., New York, N.Y. Filed Apr. 10, 1963.

COIFFURES AMERICANA

The word "Coiffures" is disclaimed apart from the mark as shown.

For Dissemination of Beauty Information, Fashion Styles and the Like to Beauty Salons and Shops.

First use April 1955.

SN 166,749. Phillips Petroleum Company, Bartlesville, Okla. Filed Apr. 15, 1963.



For Marina Services.

First use Jan. 28, 1957.

SN 167,969. The Quaker Oats Company, Chicago, Ill. Filed Apr. 30, 1963.

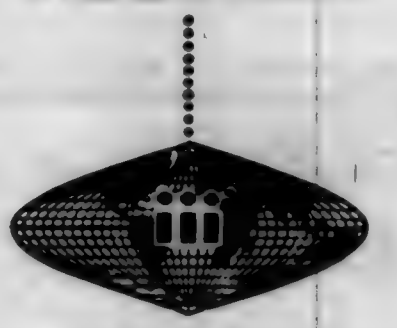


The portrait on the drawing is not a representation of any living person. Owner of Reg. Nos. 17,825, 741,738, and others.

For Restaurant Services.

First use August 1955; Nov. 27, 1889, in a different form.

SN 174,869. International Investigators, Inc., Indianapolis, Ind. Filed Aug. 12, 1963.



For Private Detective Agency Services, Conducting investigations in Connection With Such Services and Protecting Property of Others.

First use Feb. 8, 1961.

SN 179,560. A. V. Smith Engineering Company, Narberth, Pa. Filed Oct. 22, 1963.



For Engineering and Consulting Services on Technical Problems of Others in Various Fields of Technology Including Environmental Testing, Design of Special Instrumentation, and Research and Development of All Phases of Corrosion.

First use May 5, 1961.

Class 101 — Advertising and Business

SN 171,210. Western Men Inc., San Francisco, Calif. Filed June 17, 1963.



For Supplying Office Personnel on a Temporary Basis.

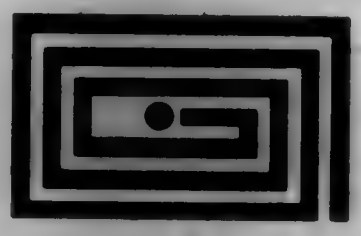
First use during March 1963.

SN 175,470. Dinner Host, Inc., Falls Church, Va., assignee of Howard Coleman, d.b.a. Dinner Host, Falls Church, Va. Filed Aug. 21, 1963.

DINNER HOST

For Promoting Restaurant Services of Others by Selling Memberships to the Public Whereby Members Get Reduced Rates at Member Restaurants.
First use May 1963.

SN 175,784. Part Time Research Associates, Inc., New York, N.Y. Filed Aug. 26, 1963.



For Part Time Research and Professional Project Assistance in Fields of Business Administration, Education, Politics, Finance, and Technology.
First use June 20, 1961.

SN 180,346. Woodward & Lothrop, Incorporated, Washington, D.C. Filed Nov. 1, 1963.



For Department Store Services.
First use July 1, 1916.

Class 102 — Insurance and Financial

SN 166,087. Fidelity Union Trust Company, Newark, N.J. Filed Apr. 4, 1963.



For Banking, Trust, Mortgage, and Safe Deposit Services.
First use Nov. 20, 1962.

SN 166,088. Fidelity Union Trust Company, Newark, N.J. Filed Apr. 4, 1963.



For Banking, Trust, Mortgage, and Safe Deposit Services.
First use Nov. 20, 1962.

Class 103 — Construction and Repair

SN 164,385. Plastic Suppliers, Blackwood, N.J. Filed Mar. 11, 1963.



No claim being made to the words "Plastic Suppliers" apart from the mark as shown. The drawing is lined for the color red.
For Custom Converting—Namely, Complete Sheeting, Slitting, and Cutting, With Conversion to Specification.
First use as early as 1949.

SN 176,459. Pride Service Inc., New York, N.Y. Filed Sept. 6, 1963.



For Maintaining and Conditioning Oil Burner Furnaces and Heating Plants.
First use Aug. 2, 1963.

Class 104 — Communication

SN 179,023. Columbia Broadcasting System, Inc., New York, N.Y. Filed Oct. 15, 1963.



For Television Broadcasting Services Rendered Through the Medium of Television Programs Broadcast Over Applicant's Television Stations and Network.
First use on or before Sept. 2, 1963.

Class 106 — Material Treatment

SN 164,416. Anodite Inc., South Gate, Calif. Filed Mar. 12, 1963.

ÉLAN

For Color Anodizing of Metal Products, Parts, Fixtures, Panels, and Architectural and Other Shapes, Particularly of Aluminum and Magnesium and Their Alloys to the Order of Others.
First use Oct. 8, 1962.

SN 164,771. Tintoria Lombarda S.p.A., Como, Italy. Filed Mar. 18, 1963.

Perl-Seta

For Textile Finish Applied to Goods Owned by Others and Which Are Made of Natural Silk.
First use Nov. 1, 1962; in commerce December 1962.

SN 164,772. Tintoria Lombarda S.p.A., Como, Italy. Filed Mar. 18, 1963.

Perl-Silk

For Textile Finish Applied to Goods Owned by Others and Which Are Made of Natural Silk.
First use Nov. 1, 1962; in commerce December 1962.

Class 107 — Education and Entertainment

SN 160,188. The Chronicle Publishing Company, San Francisco, Calif. Filed Oct. 31, 1963.

PORTRAIT

For Entertainment Services Performed by Applicant Through the Medium of Television—Namely, a Program Dealing With the Arts, Culture, and History.
First use on or about June 6, 1962.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 179,652. National Association of Photo Equipment Technicians, Inc., Washington, D.C. Filed Oct. 28, 1963.

NAPET

For Indicating Membership in Applicant.
First use March 1961.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

772,555. FANCIFUL FIGURE OF CAR AND DRIVER (DESIGN). South River Sand Company. SN 161,826. Pub. 4–21–64. Filed 1–31–63.

772,556. JOHN L. DORE CO. AND DESIGN. John L. Doré Co. MULTIPLE CLASS (Classes 1, 13, and 35). SN 162,083. Pub. 4–21–64. Filed 2–5–63.

772,557. TETRA-RESIN. National Polychemicals, Inc. (Massachusetts corporation—new corporation), by mesne assignments from National Polychemicals, Inc. (Massachusetts corporation). SN 167,401. Pub. 3–24–64. Filed 4–23–63.

772,558. HI-LO. Beany Manufacturing Corporation. SN 175,156. Pub. 4–21–64. Filed 8–16–63.

772,559. DALTEL. Courtaulds, Limited. SN 177,005. Pub. 4–21–64. Filed 9–16–63.

772,560. KENLAN. Courtaulds, Limited. SN 177,006. Pub. 4–21–64. Filed 9–16–63.

772,561. LUVEL. Courtaulds, Limited. SN 177,007. Pub. 4–21–64. Filed 9–16–63.

772,562. CANADA BRAND. Western Peat Moss Ltd. SN 177,323. Pub. 4–21–64. Filed 9–18–63.

772,563. TYRIL. The Dow Chemical Company. SN 177,507. Pub. 4–21–64. Filed 9–23–63.

772,564. AZDEL. Union Carbide Corporation. SN 177,731. Pub. 4–21–64. Filed 9–25–63.

Class 2 — Receptacles

772,565. AMERICAN AND DESIGN. American Paper & Plastic Products, Inc. SN 139,177. Pub. 11–27–62. Filed 5–5–62.

772,566. EDL. Educational Developmental Laboratories, Inc. SN 153,946. Pub. 4–21–64. Filed 9–26–62.

772,567. CASEY AND DESIGN. Swedish Crucible Steel Co. SN 162,199. Pub. 4–21–64. Filed 2–6–63.

772,568. BEACH ETC. AND DESIGN. Beach Products, Inc. SN 168,567. Pub. 4–21–64. Filed 5–10–63.

772,569. PIZZETTA. Louis March, d.b.a. Superior Paper Company. SN 172,210. Pub. 4–21–64. Filed 7–1–63.

772,570. FAST TAP. Liebmann Breweries, Inc. SN 172,505. Pub. 4–21–64. Filed 7–5–63.

772,571. NPC AND DESIGN. Pacific Industries, Inc., d.b.a. National Plastics Company. SN 173,950. Pub. 4–21–64. Filed 7–29–63.

772,572. OPEN-END BOX IN THE FORM OF A C (DESIGN). S. Curtis and Son, Incorporated. SN 174,347. Pub. 4–21–64. Filed 8–5–63.

772,573. POP-BALL. Robert J. Slavsky. SN 174,449. Pub. 4–21–64. Filed 8–5–63.

772,574. NALO. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. SN 174,854. Pub. 4–21–64. Filed 8–12–63.

772,575. PRETTYWARE ETC. AND DESIGN. Pretty Products, Inc. SN 175,683. Pub. 4–21–64. Filed 8–23–63.

772,576. GARDEN MARK. Montgomery Ward & Co., Incorporated. SN 176,221. Pub. 4–21–64. Filed 9–3–63.

772,577. PAL-L-TRAY. United Steel & Wire Company. SN 176,697. Pub. 4–21–64. Filed 9–11–63.

772,578. UNITAB. Union Bag-Camp Paper Corporation. SN 176,848. Pub. 4–21–64. Filed 9–12–63.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

772,579. NUBBY MIST. Morris White Fashions, Inc. SN 179,755. Pub. 4–21–64. Filed 10–24–63.

Class 4 — Abrasives and Polishing Materials

772,580. GLORY BE! G-G-B Chemical Co. SN 173,905. Pub. 4–21–64. Filed 7–29–63.

772,581. RECOVER. Wyandotte Chemicals Corporation. SN 179,292. Pub. 4–21–64. Filed 10–17–63.

772,582. HOLLYWOOD AND DESIGN. Hollywood Shoe Polish Inc. SN 179,534. Pub. 4–21–64. Filed 10–22–63.

772,583. NCR AND DESIGN. The National Cash Register Company. SN 179,804. Pub. 4–21–64. Filed 10–28–63.

772,584. PRODUCTION. Minnesota Mining and Manufacturing Company. SN 180,222. Pub. 4–21–64. Filed 10–31–63.

Class 5 — Adhesives

772,585. TYPE-LOK. Mystik Tape, Inc. SN 167,025. Pub. 4–21–64. Filed 4–18–63.

772,586. THERMO-BOND. International Shoe Machine Corporation. SN 168,507. Pub. 4–21–64. Filed 5–9–63.

772,587. PERMA LIFE. Sterneo Industries, Inc. SN 178,646. Pub. 4–21–64. Filed 10–9–63.

772,588. GGP GOLDEN SUPERFLEX. General Gummed Products, Inc. SN 179,695. Pub. 4–21–64. Filed 10–28–63.

Class 6 — Chemicals and Chemical Compositions

772,589. BUG-FOG AND DESIGN. Tri-Wonder Products, Inc. SN 133,600. Pub. 4–21–64. Filed 12–7–61.

772,590. STA-DRY. Mr. William G. Ehrlich, d.b.a. Sta-Dry Chemical Company. SN 133,944. Pub. 4–21–64. Filed 12–13–61.

772,591. TRACTION MAGIC. Garland Chemical Products Company. SN 156,111. Pub. 4–21–64. Filed 10–29–62.

772,592. SAF-SOL. The Diversey Corporation. SN 157,779. Pub. 1–21–64. Filed 11–23–62.

772,593. TERRAPOWDER. Foseco International Limited. SN 163,018. Pub. 4–21–64. Filed 2–18–63.

772,594. ACAN. Albert-Acan X-Ray Solutions, Inc. SN 163,098. Pub. 4–21–64. Filed 2–20–63.

772,595. CENTURY WELD AND DESIGN. Century Bonded Products, Inc. SN 163,807. Pub. 4–21–64. Filed 3–4–63.

772,596. I JOY AND DESIGN. Magic Powders Inc. SN 166,295. Pub. 4–21–64. Filed 4–8–63.

772,597. TRILYTE. The Udylite Corporation. SN 166,328. Pub. 4–21–64. Filed 4–8–63.

772,598. EXCELORITE. Fairchild Camera and Instrument Corporation. SN 169,844. Pub. 4–21–64. Filed 5–28–63.

772,599. DYNACHEM. Dynachem Corporation. SN 171,627. Pub. 4–21–64. Filed 6–24–63.

772,600. ZEOSYL. J. M. Huber Corporation. SN 171,988. Pub. 3-24-64. Filed 6-27-63.

772,601. FABRI-GARD. Success Brands, Inc. SN 175,065. Pub. 4-21-64. Filed 8-14-63.

772,602. VEGIBEN. Amchem Products, Inc. SN 175,287. Pub. 4-21-64. Filed 8-19-63.

772,603. FOGICIDE. Chemical Corporation of America. SN 175,387. Pub. 4-21-64. Filed 8-20-63.

772,604. GAFAMIDE. General Aniline & Film Corporation. SN 175,572. Pub. 4-21-64. Filed 8-22-63.

772,605. AMOGAS. The American Oil Company. SN 177,218. Pub. 4-21-64. Filed 9-18-63.

772,606. ALFONIC. Continental Oil Company. SN 177,231. Pub. 4-21-64. Filed 9-18-63.

772,607. VEROTHERM. Verona-Pharma Chemical Corporation. SN 177,321. Pub. 4-21-64. Filed 9-18-63.

772,608. ISOLINE. Woburn Chemical Corp. SN 180,147. Pub. 4-21-64. Filed 10-30-63.

Class 8 — Smokers' Articles, Not Including Tobacco Products

772,609. CROSSED TENNIS RACKETS (DESIGN). Eddie Jacobs, Ltd. SN 163,948. Pub. 4-21-64. Filed 3-5-63.

772,610. HERITAGE. Heritage Pipes, Inc. SN 178,279. Pub. 4-21-64. Filed 10-3-63.

772,611. PERMA-PIC. Perma-Pic Corporation of America. SN 179,258. Pub. 4-21-64. Filed 10-17-63.

772,612. WALKY TALKY. Frank J. Curran Company. SN 179,873. Pub. 4-21-64. Filed 10-28-63.

Class 10 — Fertilizers

772,613. MICHIGAN MAGIC. Tecumseh Peat Company. SN 162,653. Pub. 4-21-64. Filed 2-13-63.

Class 11 — Inks and Inking Materials

772,614. ISOCOL. Commercial Solvents Corporation. SN 180,606. Pub. 4-21-64. Filed 1-14-63.

772,615. DIRECTOR. The Carter's Ink Company. SN 178,173. Pub. 4-21-64. Filed 10-2-63.

772,616. CYCLO-SET. Sterling Drug Inc. SN 178,497. Pub. 4-21-64. Filed 10-7-63.

772,617. ISOLINE. Woburn Chemical Corp. SN 180,145. Pub. 4-21-64. Filed 10-30-63.

Class 12 — Construction Materials

772,618. RUGGED RED. Congoleum-Nairn Inc. SN 117,966. Pub. 4-21-64. Filed 4-17-61.

772,619. FORD AND DESIGN. Ford Products Company. SN 123,395. Pub. 4-2-63. Filed 7-2-61.

772,620. BEWODITE. Becker & Company Limited. SN 150,007. Pub. 4-21-64. Filed 7-30-62.

772,621. M-C MODULAR COMPONENTS. Modular Components Corporation. SN 158,843. Pub. 4-21-64. Filed 12-10-62.

772,622. ALUMINOUS CEMENT MOLINS ETC. AND DESIGN. Cementos Molins S.A. SN 159,261. Pub. 4-21-64. Filed 10-15-63.

772,623. HERCO. Kemlite Corporation. SN 160,058. Pub. 4-21-64. Filed 1-2-63.

772,624. WEDGE-IT. Bridgeport Fabrics, Inc. SN 160,360. Pub. 4-21-64. Filed 1-8-63.

772,625. CHRISTOGLAS. Joan L. Caryl, d.b.a. Joan Caryl Studio. SN 160,694. Pub. 4-21-64. Filed 1-15-63.

772,626. PANLFRAME. Butler Manufacturing Company. SN 161,146. Pub. 4-21-64. Filed 1-22-63.

772,627. LIGHTNING-LOK. Alsco, Inc. SN 161,296. Pub. 4-21-64. Filed 1-24-63.

772,628. ATHENIA. The Flintkote Company. SN 161,825. Pub. 4-21-64. Filed 1-24-63.

772,629. VERSAILLES. National Gypsum Company. SN 161,807. Pub. 4-21-64. Filed 1-31-63.

772,630. SILVER CONTESSA. National Gypsum Company. SN 161,808. Pub. 4-21-64. Filed 1-31-63.

772,631. GOLD CONTESSA. National Gypsum Company. SN 161,809. Pub. 4-21-64. Filed 1-31-63.

772,632. DURA-PLUG. Penn Crete Products Company, Inc. SN 161,815. Pub. 4-21-64. Filed 1-31-63.

772,633. PERFAPLANK. Weyerhaeuser Company. SN 161,928. Pub. 4-21-64. Filed 2-1-63.

772,634. R-ONE. Owens-Corning Fiberglas Corporation. SN 162,012. Pub. 4-21-64. Filed 2-4-63.

772,635. TCM. Purex Corporation, Ltd., d.b.a. Franklin Research Company. SN 162,017. Pub. 4-21-64. Filed 2-4-63.

772,636. JIFFY-WALL. Cored Panels, Inc. SN 162,419. Pub. 4-21-64. Filed 2-11-63.

772,637. CPI AND DESIGN. Cored Panels, Inc. SN 162,826. Pub. 4-21-64. Filed 2-15-63.

772,638. FILTER-FLOOR. American Hog Company. SN 163,102. Pub. 4-21-64. Filed 2-20-63.

772,639. SURFLINE. Doughboy Industries, Inc. SN 163,202. Pub. 4-21-64. Filed 2-20-63.

772,640. EVERLASTIC. Williams Equipment and Supply Co., Inc. SN 164,411. Pub. 4-21-64. Filed 3-11-63.

772,641. NEO-SEAL. Williams Equipment and Supply Co., Inc. SN 166,337. Pub. 4-21-64. Filed 4-8-63.

772,642. KEY-SEAL. Williams Equipment and Supply Co., Inc. SN 166,338. Pub. 4-21-64. Filed 4-8-63.

772,643. SKY-CAP. Brod & McClung-Pace Co. SN 168,684. Pub. 4-21-64. Filed 5-13-63.

772,644. THERMO-LATH. Fome-Cor Corporation. SN 168,918. Pub. 4-21-64. Filed 5-15-63.

772,645. PANELCRAFT. Flakeboard Corporation. SN 171,766. Pub. 4-21-64. Filed 6-25-63.

772,646. FLORESTONE. Raymond Flores, d.b.a. Pacific Cement Laundry Tray Company. SN 173,245. Pub. 4-21-64. Filed 7-18-63.

772,647. STONEWALL. The Ruberoid Co. SN 174,123. Pub. 4-21-64. Filed 7-31-63.

772,648. IMPO AND DESIGN. O'Neill-Wyman Co. SN 174,429. Pub. 4-21-64. Filed 8-5-63.

772,649. REPRESENTATION OF A LION. Crown Aluminum Industries Corporation. SN 174,689. Pub. 4-21-64. Filed 8-12-63.

772,650. DOGLOO. William H. Daniel. SN 175,979. Pub. 4-21-64. Filed 8-29-63.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

772,650. (See Class 1 for this trademark.)

772,651. B AND DESIGN. The Buckeye Valve & Manufacturing Co. SN 151,718. Pub. 4-21-64. Filed 8-23-62.

772,652. QIKLOK. Husky Products, Inc. SN 156,981. Pub. 4-21-64. Filed 11-9-62.

772,653. KENWARE. Wear-Ever Aluminum, Inc. SN 157,174. Pub. 4-21-64. Filed 11-13-62.

772,654. 220. Mueller Co., assignee of Adams Pipe Repair Products. SN 158,414. Pub. 4-14-64. Filed 12-4-62.

772,655. NO-WALL-STICK. Engineering Enterprises, Inc. SN 161,870. Pub. 4-21-64. Filed 2-1-63.

772,656. HI-LO. Illinois Tool Works Inc. SN 161,881. Pub. 4-21-64. Filed 2-1-63.

772,657. EAGLE DESIGN. Mil-Flo, Inc. SN 162,588. Pub. 4-21-64. Filed 2-12-63.

772,658. CAPRI. Hoover Ball and Bearing Company. SN 167,260. Pub. 4-21-64. Filed 4-22-63.

772,659. PRETTYWARE ETC. AND DESIGN. Pretty Products, Inc. SN 175,682. Pub. 4-21-64. Filed 8-23-63.

772,660. PRETTYWARE. Pretty Products, Inc. SN 175,686. Pub. 4-21-64. Filed 8-23-63.

772,661. LEVER-LOC. Deutsch Fastener Corp. SN 175,731. Pub. 4-21-64. Filed 8-26-63.

772,662. MIL-LOC. Deutsch Fastener Corp. SN 175,732. Pub. 4-21-64. Filed 8-26-63.

772,663. DRISCOPIPE. Drilling Specialties Company. SN 177,017. Pub. 4-21-64. Filed 9-16-63.

772,664. "ZIP REEL." Triangle Conduit & Cable Co., Inc. SN 177,109. Pub. 4-21-64. Filed 9-16-63.

772,665. DIKROME. Josam Manufacturing Co. SN 177,260. Pub. 4-21-64. Filed 9-18-63.

772,666. PERMA LIFE. Sterneo Industries, Inc. SN 178,647. Pub. 4-21-64. Filed 10-9-63.

Class 14—Metals and Metal Castings and Forgings

772,667. LANGANOX. Henri Paul Jean Langangne. SN 173,357. Pub. 4-21-64. Filed 7-19-63.

772,668. TOPCO. Topco Associates, Inc. (Cooperative). SN 177,928. Pub. 4-21-64. Filed 9-27-63.

772,669. REX 440. Crucible Steel Company of America. SN 178,177. Pub. 4-21-64. Filed 10-2-63.

Class 15—Oils and Greases

772,670. SHELLCOTE. Shell Oil Company. SN 167,173. Pub. 4-21-64. Filed 4-19-63.

772,671. DESIGN OF A 6 LEGGED DOG. Agip Società per Azioni. SN 177,213. Pub. 4-21-64. Filed 9-16-63.

772,672. SKIL. Skil Corporation. SN 180,455. Pub. 4-21-64. Filed 11-4-63.

Class 16—Protective and Decorative Coatings

772,673. TREASURE GOLD. Connoisseur Studio, Inc., assignee of Patricia E. Nimocks, d.b.a. Connoisseur Studios. SN 136,902. Pub. 4-21-64. Filed 1-29-62.

772,674. FLEXTHANE. Farac Oil and Chemical Company. SN 151,671. Pub. 4-21-64. Filed 8-23-62.

772,675. DECADE. West Chemical Products, Inc. SN 160,548. Pub. 4-21-64. Filed 1-11-63.

772,676. PURE-TECT. The Pure Oil Company. SN 163,274. Pub. 4-21-64. Filed 2-21-63.

772,677. LANFLEX. Lanson Chemical Corporation. SN 173,366. Pub. 4-21-64. Filed 7-19-63.

772,678. LANKYD. Lanson Chemical Corporation. SN 173,367. Pub. 4-21-64. Filed 7-19-63.

772,679. LANVAR. Lanson Chemical Corporation. SN 173,368. Pub. 4-21-64. Filed 7-19-63.

772,680. PERMA LIFE. Sterneo Industries, Inc. SN 178,648. Pub. 4-21-64. Filed 10-9-63.

772,681. ALLO-COTE. American Optical Company. SN 178,764. Pub. 4-21-64. Filed 10-11-63.

772,682. KENMORE. Davis Paint Company, assignee of The John P. Cochran Company. SN 178,878. Pub. 4-21-64. Filed 10-14-63.

772,683. WONDR-LUX. Davis Paint Company, assignee of The John P. Cochran Company. SN 178,881. Pub. 4-21-64. Filed 10-14-63.

772,684. TRIPLE CHECK AND DESIGN. G. C. Murphy Company. SN 179,446. Pub. 4-21-64. Filed 10-21-63.

772,685. ISOLINE. Woburn Chemical Corp. SN 180,149. Pub. 4-21-64. Filed 10-30-63.

772,686. AQUA-GLIDE. Carolina Coatings, Inc. SN 182,863. Pub. 4-21-64. Filed 12-12-63.

Class 17—Tobacco Products

772,687. TRADITION. Bayuk Cigars Incorporated. SN 179,766. Pub. 4-21-64. Filed 10-25-63.

772,688. GRAND PRIX. Bayuk Cigars Incorporated. SN 179,768. Pub. 4-21-64. Filed 10-25-63.

772,689. LANGDEN. Rothmans of Pall Mall Export Limited. SN 179,934. Pub. 4-21-64. Filed 10-28-63.

772,690. STANTEN HALL. Rothmans of Pall Mall Export Limited. SN 179,935. Pub. 4-21-64. Filed 10-28-63.

772,691. PINNACLE. The American Tobacco Company. SN 180,275. Pub. 4-21-64. Filed 11-1-63.

772,692. HERALD. Stephano Brothers. SN 181,187. Pub. 4-21-64. Filed 11-14-63.

772,693. SENTRY. Notob Products, Inc. SN 181,262. Pub. 4-21-64. Filed 11-15-63.

Class 18—Medicines and Pharmaceutical Preparations

772,694. INGOSPASMOL. Boehringer Ingelheim, G.m.b.H., assignee of C. H. Boehringer Sohn. SN 138,087. Pub. 5-8-62. Filed 1-2-62.

772,695. BRICAR. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. SN 158,306. Pub. 4-21-64. Filed 7-30-63.

772,696. POLYGRAM. Sterling Drug Inc. SN 166,046. Pub. 4-21-64. Filed 4-3-63.

772,697. HETRAZEEN. Heterochemical Corporation. SN 177,524. Pub. 4-7-64. Filed 9-23-63.

772,698. ISOPAQUE. Sterling Drug Inc. SN 179,957. Pub. 4-21-64. Filed 10-28-63.

772,699. ARISTOMIX. American Cyanamid Company. SN 180,165. Pub. 4-21-64. Filed 10-31-63.

772,700. ACTOSPAR. Sandoz, Inc. SN 180,237. Pub. 4-21-64. Filed 10-31-63.

772,701. KELATRATE. S. J. Tutag & Company. SN 180,467. Pub. 4-21-64. Filed 11-4-63.

772,702. FERRIBOLIN. Organon Inc. SN 180,674. Pub. 4-21-64. Filed 11-7-63.

772,703. GERIBOLIN. Organon Inc. SN 180,675. Pub. 4-21-64. Filed 11-7-63.

Class 19—Vehicles

772,704. FARMERS PRIDE. Bert Howard, Inc. SN 147,581. Pub. 4-21-64. Filed 6-25-62.

772,705. DYNA-BILT AND DESIGN. Burtman Iron Works, Inc. SN 169,821. Pub. 4-21-64. Filed 8-28-63.

772,706. PRETTY WARE ETC. AND DESIGN. Pretty Products, Inc. SN 175,680. Pub. 4-21-64. Filed 8-23-63.

772,707. PRETTYWARE. Pretty Products, Inc. SN 175,684. Pub. 4-21-64. Filed 8-23-63.

772,708. GARDEN MARK. Montgomery Ward & Co., Incorporated. SN 176,222. Pub. 4-21-64. Filed 9-3-63.

772,709. VEE LIFT. Allm Association, Inc. SN 176,868. Pub. 4-21-64. Filed 9-13-63.

772,710. "BILLY-CAN." Southern States Feed Corporation. SN 178,303. Pub. 4-21-64. Filed 10-3-63.

772,711. TURTLE (DESIGN). Turtle Wax, Inc. SN 179,486. Pub. 4-21-64. Filed 10-21-63.

772,712. STING-RAY AND DESIGN. Arnold Schwinn & Co. SN 179,588. Pub. 4-21-64. Filed 10-23-63.

772,713. BH AND DESIGN. Bell Aerospace Corporation. SN 179,591. Pub. 4-21-64. Filed 10-23-63.

772,714. SCHWINN TWINN. Arnold Schwinn & Co. SN 179,740. Pub. 4-21-64. Filed 10-24-63.

Class 20 — Linoleum and Oiled Cloth

772,715. SILHOUETTE DESIGN. The Marley Tile Company Limited. SN 164,734. Pub. 4-21-64. Filed 3-15-63.

772,716. BON-TON AND DESIGN. Bon-Ton Vinyl for Walls, Inc. SN 170,504. Pub. 4-21-64. Filed 6-6-63.

Class 21 — Electrical Apparatus, Machines, and Supplies

772,717. LADDERTRON. Oki Electric Industry Company Limited. SN 158,804. Pub. 4-21-64. Filed 9-24-62.

772,718. DURICON. The Coricone Corporation, assignee of Color Renewal Corporation. SN 156,943. Pub. 4-16-63. Filed 11-9-62.

772,719. AQUA-PAC. Aqua-Chem, Inc. SN 163,786. Pub. 4-21-64. Filed 3-4-63.

772,720. UDS AND DESIGN. The Electric Auto-Lite Company. SN 164,023. Pub. 4-21-64. Filed 3-6-63.

772,721. SURROUNDING SOUND. Surrounding Sound, Inc. SN 165,090. Pub. 4-21-64. Filed 3-20-63.

772,722. MIN-X. Min-X Radio, Inc. SN 166,302. Pub. 4-21-64. Filed 4-8-63.

772,723. SPEED RAY. Poly-Pak Corporation of America. SN 168,219. Pub. 4-21-64. Filed 5-6-63.

772,724. SEPTIVATOR. Gilbert D. Schneider, d.b.a. The Septivator Company. SN 168,768. Pub. 4-21-64. Filed 5-15-63.

772,725. FIRST . . . WHEN SECONDS COUNT. The Gamewell Company. SN 169,445. Pub. 4-21-64. Filed 5-22-63.

772,726. "COMPRE AMP." The Metrodynamics Corporation. SN 173,268. Pub. 4-21-64. Filed 7-16-63.

772,727. GEOMETRIC DESIGN. Precision Multiple Controls, Inc. SN 174,792. Pub. 4-21-64. Filed 8-9-63.

772,728. SABANDER. Electro Engineering Products Co., Inc. SN 175,365. Pub. 4-21-64. Filed 8-22-63.

772,729. MASTER GRAND. Symphonic Radio and Electronic Corp. SN 176,805. Pub. 4-21-64. Filed 10-3-63.

772,730. DELTECTOR. General Motors Corporation. SN 176,844. Pub. 4-21-64. Filed 10-4-63.

772,731. DELSEAL. General Motors Corporation. SN 176,845. Pub. 4-21-64. Filed 10-4-63.

772,732. PORT-A-SCRUB. Multi-Clean Products, Incorporated. SN 176,557. Pub. 4-21-64. Filed 10-8-63.

772,733. TRIPLE CHECK AND DESIGN. G. C. Murphy Company. SN 179,447. Pub. 4-21-64. Filed 10-21-63.

Class 22 — Games, Toys, and Sporting Goods

772,734. LITTLE MISS FASHION. De Luxe Reading Corporation. SN 104,903. Pub. 7-30-63. Filed 9-21-60.

772,735. LA LANNE. La Lanne Incorporated. SN 134,464. Pub. 4-21-64. Filed 12-21-61.

772,736. ROLL-O-MAX. Maxwell William Bradshaw. SN 138,765. Pub. 4-21-64. Filed 2-28-62.

772,737. FUNNY-MONEY. Edd Thomas, d.b.a. Cash Creations, assignee of Food City. SN 146,611. Pub. 4-21-64. Filed 6-11-62.

772,738. LEGO SYSTEM. A/S Lego System. SN 147,988. Pub. 4-21-64. Filed 6-29-62.

772,739. STARLITE. Ainsworth Consolidated Industries Pty. Ltd. SN 151,285. Pub. 4-21-64. Filed 8-16-62.

772,740. RAH-FONE. George Wolfman, d.b.a. Nosl Associates. SN 157,953. Pub. 4-21-64. Filed 11-26-62.

772,741. TRANSACTION. John R. Tuson. SN 160,560. Pub. 4-21-64. Filed 1-11-63.

772,742. SKI SPEED AND DESIGN. Ski Speed Co. SN 160,671. Pub. 4-21-64. Filed 1-14-63.

772,743. MASTER TOURNAMENT CALLAWAY GARDENS AND DESIGN. Gardens Services, Inc. SN 161,492. Pub. 4-21-64. Filed 1-28-63.

772,744. PUTTER POLES. Doughboy Industries, Inc. SN 161,858. Pub. 4-21-64. Filed 2-1-63.

772,745. NURSERY RHYME HOUSE. Doughboy Industries, Inc. SN 161,859. Pub. 4-21-64. Filed 2-1-63.

772,746. RIK 'O 'SHINNY. Doughboy Industries, Inc. SN 161,862. Pub. 4-21-64. Filed 2-1-63.

772,747. BILLY BOY. Crotty Corporation. SN 162,081. Pub. 4-21-64. Filed 2-5-63.

772,748. 99'ER. B. F. Gladding & Co., Inc. SN 162,747. Pub. 4-21-64. Filed 2-14-63.

772,749. JUNGLE JACK. De Luxe Reading Corporation. SN 163,819. Pub. 4-21-64. Filed 3-4-63.

772,750. GERBER AND DESIGN. Gerber Products Company. SN 169,848. Pub. 4-21-64. Filed 5-28-63.

772,751. SUPERCHIEF. Mattel, Inc. SN 171,553. Pub. 4-21-64. Filed 6-21-63.

772,752. PLAY-A-LONG. Saul Menick and David Sadel Associates, Incorporated. SN 174,974. Pub. 4-21-64. Filed 8-13-63.

772,753. GOLDEN GATE. Cortland Industries, Inc. SN 177,002. Pub. 4-21-64. Filed 9-16-63.

772,754. SUBMARINE. Cortland Industries, Inc. SN 177,008. Pub. 4-21-64. Filed 9-16-63.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

772,755. ALIM ABC ALLCLASS. Alim Corporation. SN 84,111. Pub. 9-5-61. Filed 10-28-59.

772,756. HYDROPULSE. De Laval Turbine Inc., assignee of Scott & Williams, Incorporated. SN 142,819. Pub. 4-21-64. Filed 4-3-62.

772,757. SHURD-KLEEN. Wisner Manufacturing Corporation, assignee of Deltown Foods, Incorporated. SN 144,604. Pub. 4-21-64. Filed 5-15-62.

772,758. "CERTIFIED." Illinois Tool Works Inc. SN 150,695. Pub. 4-21-64. Filed 8-7-62.

772,759. SNOMASTER. Snomaster, Inc. SN 152,345. Pub. 4-21-64. Filed 8-31-62.

772,760. McNEIL AKRON ENCLOSED WITHIN A RECTANGULAR BOX. The McNeil Machine & Engineering Company. SN 154,831. Pub. 4-21-64. Filed 10-9-62.

772,761. FCP FLEXIBLE-COUPLED PACKED. FMC Corporation. SN 158,806. Pub. 11-5-63. Filed 12-10-62.

772,762. GROOVE-JOINT. Diamond Tool and Horseshoe Co. SN 161,966. Pub. 4-21-64. Filed 2-4-63.

772,763. BILLY BOY. Crotty Corporation. SN 162,080. Pub. 4-21-64. Filed 2-5-63.

772,764. GYRO-KLEEN. Gallagher-Kaiser Corporation. MULTIPLE CLASS (Classes 23 and 34). SN 165,050. Pub. 4-21-64. Filed 3-20-63.

772,765. CARILLON AND DESIGN. Vita Craft Corporation. SN 170,182. Pub. 4-21-64. Filed 5-21-63.

772,766. TRU FIT. Walker Manufacturing Company. SN 172,968. Pub. 4-21-64. Filed 7-12-63.

772,767. HIGHWAY HANDYMAN. The McMullen Co., d.b.a. Highway Sign Cleaner Co. SN 173,119. Pub. 4-21-64. Filed 7-16-63.

772,768. AUTOPELLETER. Iri Daffin Associates, Incorporated. SN 173,362. Pub. 4-21-64. Filed 7-19-63.

772,769. LAM FLO. Fluid Solids, Inc. SN 173,568. Pub. 4-21-64. Filed 7-23-63.

772,770. LITTLE SCOTCHMAN. Arthur A. Kroetch, d.b.a. Wickomatic Oiler Company. SN 173,582. Pub. 4-21-64. Filed 7-25-63.

772,771. VIRGINIA ROSE. Imperial Knife Associated Companies, Inc. SN 174,029. Pub. 4-21-64. Filed 7-30-63.

772,772. SEE-SAFE. Phillips Petroleum Company. SN 174,437. Pub. 4-21-64. Filed 8-5-63.

772,773. THE "DITCHING DEVIL" AND DESIGN. Henry S. Shoemaker, d.b.a. H. S. Shoemaker & Son. SN 174,446. Pub. 4-21-64. Filed 8-5-63.

772,774. GUILD. Guild Metal Joining Equipment Company. SN 175,187. Pub. 4-21-64. Filed 8-16-63.

772,775. GUILD AND DESIGN. Guild Metal Joining Equipment Company. SN 175,357. Pub. 4-21-64. Filed 8-16-63.

772,776. CENTURY AND DESIGN. Beaver Products, Inc. SN 176,065. Pub. 4-21-64. Filed 8-30-63.

772,777. ROTEX. Avery Adhesive Products, Inc. SN 176,612. Pub. 4-21-64. Filed 9-10-63.

772,778. DIABOLO. Karl Mayer Textilmaschinen G.m.b.H. SN 177,181. Pub. 4-21-64. Filed 9-17-63.

772,779. DE NORMANVILLE. Auto Transmissions Limited. SN 177,478. Pub. 4-21-64. Filed 9-23-63.

772,780. BEARING BUDDY. Aquappliances, Inc. SN 178,520. Pub. 4-21-64. Filed 10-8-63.

772,781. CLO-ZUM. Hyde Manufacturing Company, d.b.a. Hyde Tools. SN 179,227. Pub. 4-21-64. Filed 10-17-63.

772,782. AIMCO, ETC. American Insulating Machinery Company. SN 179,310. Pub. 4-21-64. Filed 10-18-63.

772,783. MONOGRAM. G. C. Murphy Company. SN 179,445. Pub. 4-21-64. Filed 10-21-63.

772,784. BEE ZEE AND DESIGN. Bixby-Zimmer Engineering Co. SN 179,769. Pub. 4-21-64. Filed 10-25-63.

772,785. DYNA-SONIC. Mead Specialties Company, Inc. SN 179,803. Pub. 4-21-64. Filed 10-25-63.

772,786. GC SYMBOL. Graphic Controls Corporation. SN 179,898. Pub. 4-21-64. Filed 10-28-63.

772,787. FARMEC. Sperry Rand Corporation. SN 180,036. Pub. 4-21-64. Filed 10-29-63.

772,788. POSI-CHARGER AND DESIGN. Pennsylvania Engineering Corporation. SN 180,529. Pub. 4-21-64. Filed 11-5-63.

772,789. AMT AND DESIGN. American Machine & Tool Co. Inc. SN 180,806. Pub. 4-21-64. Filed 11-1-63.

772,790. DRESSER GUIBERSON AND DESIGN. Dresser Industries, Inc., d.b.a. Dresser Guiberson Division. SN 180,861. Pub. 4-21-64. Filed 11-12-63.

Class 24 — Laundry Appliances and Machines

772,791. INDEPENDENCE. Diamond National Corporation. SN 177,204. Pub. 4-21-64. Filed 9-10-63.

772,792. ENVOY. Detrex Chemical Industries, Inc. SN 177,776. Pub. 4-21-64. Filed 9-26-63.

Class 26 — Measuring and Scientific Appliances

772,793. POWERED BY THE SUN! AND DESIGN. International Rectifier Corporation. SN 147,371. Pub. 4-21-64. Filed 6-21-62.

772,794. L AND DESIGN. The Lionel Toy Corporation, assignee of The Lionel Corporation. SN 154,734. Pub. 4-21-64. Filed 10-8-62.

772,795. JEPCO. Jeppesen & Co. SN 159,498. Pub. 4-21-64. Filed 12-20-62.

772,796. MONOGRAM (DESIGN). The Mercoid Corporation. SN 161,352. Pub. 4-21-64. Filed 1-24-63.

772,797. MICRO-DERM. Unit Process Assemblies, Inc. SN 164,405. Pub. 4-21-64. Filed 3-11-63.

772,798. WE AND DESIGN. Western Electrodynamics, Inc. SN 165,397. Pub. 4-21-64. Filed 3-25-63.

772,799. PESTILIZER. Wilkens Instrument & Research, Inc. SN 166,335. Pub. 4-21-64. Filed 4-8-63.

772,800. OPT-O-LIMIT. Pratt & Whitney Company, Incorporated. SN 173,957. Pub. 4-21-64. Filed 7-29-63.

Class 27 — Horological Instruments

772,801. HAPPY TIME. Sheffield Watch, Inc. SN 177,109. Pub. 4-21-64. Filed 9-16-63.

772,802. MEMOSTOP. Ebauches S.A. SN 177,616. Pub. 4-21-64. Filed 9-24-63.

772,803. CALENTINE. Bulova Watch Company, Inc. SN 178,099. Pub. 4-21-64. Filed 10-1-63.

772,804. TIMECREST. Werna Watch Corporation. SN 181,582. Pub. 4-21-64. Filed 11-20-63.

Class 28 — Jewelry and Precious-Metal Ware

772,805. KEYCHARM. Photogem Co. SN 157,836. Pub. 4-21-64. Filed 11-23-62.

772,806. REPRESENTATION OF CROSSED TENNIS RACKETS. Eddie Jacobs, Ltd. SN 162,445. Pub. 4-21-64. Filed 2-11-63.

772,807. CLAUDE RIVIERE. Claude Riviere, S.A.R.L. SN 173,187. Pub. 4-21-64. Filed 7-17-63.

772,808. HAPPY BEADS. Betty Schaffner. SN 175,516. Pub. 4-21-64. Filed 8-21-63.

772,809. DAPHNE. Daphne Bradley Pleater. SN 177,370. Pub. 4-21-64. Filed 9-19-63.

Class 29 — Brooms, Brushes, and Dusters

772,810. VISTA. Sunbeam Corporation. SN 177,816. Pub. 4-21-64. Filed 9-26-63.

Class 31 — Filters and Refrigerators

772,811. TASTEE-FREEZ. Harlee Manufacturing Co. SN 161,706. Pub. 4-21-64. Filed 1-30-63.

772,812. DELUXAIRE. Fram Corporation. SN 177,410. Pub. 4-21-64. Filed 9-20-63.

772,813. LINACLAD. Linatex Corporation of America. SN 178,012. Pub. 4-21-64. Filed 9-30-63.

772,814. SHALLODRAN. Dean Products, Inc. SN 179,206. Pub. 4-21-64. Filed 10-17-63.

Class 32 — Furniture and Upholstery

772,815. AUTOMATED. Automatic Electric Mattress Co. SN 146,449. Pub. 4-21-64. Filed 6-8-62.

772,816. STRATOROCKER. Futorian Manufacturing Company. SN 167,249. Pub. 4-21-64. Filed 4-22-63.

772,817. NOVA. Nova Products Corp. SN 170,550. Pub. 4-21-64. Filed 6-7-63.

772,818. ECS. Herman Miller, Inc. SN 171,026. Pub. 4-21-64. Filed 6-14-63.

772,819. RMP DESK SILENCER AND DESIGN. Rockaway Metal Products Corp. SN 178,484. Pub. 4-21-64. Filed 10-7-63.

Class 33 — Glassware

772,820. CARILLON AND DESIGN. Vita Craft Corporation. SN 170,183. Pub. 4-21-64. Filed 5-31-63.

Class 34 — Heating, Lighting, and Ventilating Apparatus

772,764. (See Class 23 for this trademark.)

772,821. ATONAT. Atea Planungs-und Baugesellschaft fur die Keramische Industrie m.b.H. SM 172,255. Pub. 4-21-64. Filed 7-2-63.

772,822. SHALLODEAN. Dean Products, Inc. SN 179,206. Pub. 4-21-64. Filed 10-17-63.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

772,556. (See Class 1 for this trademark.)

772,823. RACINE. Ajax Tire & Rubber Corporation. SN 148,129. Pub. 4-21-64. Filed 7-2-62.

772,824. MURRAY AND DESIGN. Murray Tire & Rubber Corporation. SN 148,215. Pub. 4-21-64. Filed 7-2-62.

772,825. MASON. Murray Tire & Rubber Corporation. SN 148,216. Pub. 4-21-64. Filed 7-2-62.

772,826. PLAZA. The General Tire & Rubber Company. SN 179,628. Pub. 4-21-64. Filed 10-23-63.

772,827. CURV-STAR. O. K. Rubber Welders, Incorporated. SN 179,807. Pub. 4-21-64. Filed 10-25-63.

Class 36 — Musical Instruments and Supplies

772,828. SORIA (MONOGRAM). Dario Soria. SN 171,322. Pub. 4-21-64. Filed 6-19-63.

772,829. FAIRMOUNT. Cameo-Parkway Records, Inc., d.b.a. Fairmount Records. SN 172,972. Pub. 4-21-64. Filed 7-15-63.

772,830. HINGER. Fred D. Hinger. SN 173,756. Pub. 4-21-64. Filed 7-25-63.

772,831. TOUCH-TONE. Fred D. Hinger. SN 173,757. Pub. 4-21-64. Filed 7-25-63.

772,832. C PLUS DESIGN. Computron Inc. SN 175,078. Pub. 4-21-64. Filed 8-13-63.

772,833. MUSIC PAL. Southern Solid State Electronics, Inc. SN 175,809. Pub. 4-21-64. Filed 8-26-63.

Class 37 — Paper and Stationery

772,834. STRAIGHT LINE AND V DESIGN. Bergstrom Paper Company. SN 144,669. Pub. 4-21-64. Filed 5-16-62.

772,835. BIG H. Hudson Pulp & Paper Corp. SN 152,711. Pub. 4-21-64. Filed 9-7-62.

772,836. JEPCO. Jeppesen & Co. SN 159,496. Pub. 4-21-64. Filed 12-20-62.

772,837. HANDYBAND AND DESIGN. Jane Adler Incorporated. SN 167,513. Pub. 4-21-64. Filed 4-25-63.

772,838. BEACH. Beach Products, Inc. SN 168,560. Pub. 4-21-64. Filed 5-10-63.

772,839. BEACH ETC. AND DESIGN. Beach Products, Inc. SN 168,568. Pub. 4-21-64. Filed 5-10-63.

772,840. HANDI-SET. Beach Products, Inc. SN 168,572. Pub. 4-21-64. Filed 5-10-63.

Class 38 — Prints and Publications

772,841. DECISION. The Billy Graham Evangelistic Association, Inc. SN 105,804. Pub. 6-6-61. Filed 10-5-60.

772,842. DECISION NEWSLETTER. The Billy Graham Evangelistic Association, Inc. SN 105,805. Pub. 6-6-61. Filed 10-5-60.

772,843. IDEA INDEX. Robert A. Brown, Jr., d.b.a. Life Insurance Sales Clinic. SN 114,424. Pub. 4-21-64. Filed 2-27-61.

772,844. AMERICANS IN ACTION. The E. W. Scripps Company. SN 146,110. Pub. 4-21-64. Filed 6-4-62.

772,845. FLAME AND LIGHTNING ROD EMBLEM. Public Service Company of Colorado. SN 155,187. Pub. 4-21-64. Filed 10-15-62.

772,846. ELECTRONIC DAILY. Hayden Publishing Company, Inc. of California. SN 157,300. Pub. 4-21-64. Filed 11-15-62.

772,847. TAX SCOPE. The Merrill Anderson Company, Inc. SN 158,860. Pub. 4-21-64. Filed 12-3-62.

772,848. WORLD MARKETERS AND DESIGN ETC. W. H. Long Marketing, Inc. SN 158,456. Pub. 4-21-64. Filed 12-4-62.

772,849. INDUSTRIAL FASTENERS INSTITUTE. Industrial Fasteners Institute. SN 159,289. Pub. 4-21-64. Filed 12-17-62.

772,850. J-AID. Jeppesen & Co. SN 159,497. Pub. 4-21-64. Filed 12-20-62.

772,851. JOHNSON CITY PRESS ETC. AND DESIGN. Press, Inc. SN 160,123. Pub. 4-21-64. Filed 1-9-63.

772,852. AHP AND DESIGN. American Home Products Corporation. SN 164,788. Pub. 4-21-64. Filed 3-18-63.

772,853. SPECTARAMA. John C. Howard. SN 166,718. Pub. 4-21-64. Filed 4-15-63.

772,854. THE ROMPER ROOM. Romper Room, Inc. SN 167,576. Pub. 4-21-64. Filed 4-25-63.

772,855. THE JOURNAL OF PARAPSYCHOLOGY. The Foundation for Research on the Nature of Man. SN 168,314. Pub. 4-21-64. Filed 5-7-63.

772,856. STI AND DESIGN. Howard W. Sams & Co., Inc. SN 168,858. Pub. 4-21-64. Filed 5-14-63.

772,857. BASEBALL SCOREBOARD AND DESIGN. Sol Gershenhorn, d.b.a. Green's Southern California Sports Service. SN 169,629. Pub. 4-21-64. Filed 5-24-63.

772,858. TOBE. Tobe Associates, Inc. SN 170,779. Pub. 4-21-64. Filed 6-11-63.

772,859. METROPOLITAN PHARMACIST. The New York Retail Druggists Association. SN 171,170. Pub. 4-21-64. Filed 6-17-63.

772,860. AMERICAN PAINTING CONTRACTOR. American Paint Journal Company. SN 171,608. Pub. 4-21-64. Filed 6-24-63.

772,861. DOANE'S AGRICULTURAL REPORT. Doane Agricultural Service, Inc. SN 171,624. Pub. 4-21-64. Filed 6-24-63.

772,862. FENCE INDUSTRY TRADE NEWS AND DESIGN. Ellison Publications, Inc. SN 171,977. Pub. 4-21-64. Filed 6-27-63.

772,863. 63. Gallery 63, Inc. SN 172,383. Pub. 4-21-64. Filed 7-3-63.

772,864. MG ETC. AND DESIGN. The Magnesium Association. SN 172,922. Pub. 4-21-64. Filed 7-12-63.

772,865. ACTUA MEDICA. Charles E. Froest & Co. SN 172,982. Pub. 4-21-64. Filed 7-11-63.

772,866. GOLFDOM THE MAGAZINE OF GOLF BUSINESS. Golfdom, Inc. SN 173,909. Pub. 4-21-64. Filed 7-29-63.

Class 39 — Clothing

772,867. SAYLON. Novelty Veiling Co. Inc. SN 127,252. Pub. 7-2-63. Filed 9-6-61.

772,868. LA LANNE. La Lanne Incorporated. SN 134,465. Pub. 4-21-64. Filed 12-21-61.

772,869. COMBAT AND DESIGN. Buccaneer Mfg. Co., Inc., d.b.a. Buccaneer. SN 159,200. Pub. 4-21-64. Filed 12-17-62.

772,870. FROSTWATE. Bennett's of New Haven, Inc. SN 162,330. Pub. 4-21-64. Filed 2-6-63.

772,871. THRILL. Genesco Inc. SN 162,738. Pub. 4-21-64. Filed 2-14-63.

772,872. BRAETAN JUNIORS. Sam Silberstein Corp. SN 163,986. Pub. 4-21-64. Filed 2-18-63.

772,873. EDLO. Edlo Imports Ltd. SN 165,716. Pub. 4-21-64. Filed 3-1-63.

772,874. CONTES. Cesare Contegiacomo S.p.A. SN 171,218. Pub. 4-21-64. Filed 6-17-63.

772,875. LOCKED-IN TOGETHERNESS. Clarise Sportswear Co., Inc. SN 171,759. Pub. 4-21-64. Filed 6-25-63.

772,876. DECTOLENE. Cluett, Peabody & Co., Inc. SN 173,830. Pub. 4-21-64. Filed 7-26-63.

772,877. DECTON. Cluett, Peabody & Co., Inc. SN 173,832. Pub. 4-21-64. Filed 7-26-63.

772,878. PRETTYWARE ETC. AND DESIGN. Pretty Products, Inc. SN 175,681. Pub. 4-21-64. Filed 8-23-63.

772,879. PRETTYWARE. Pretty Products, Inc. SN 175,685. Pub. 4-21-64. Filed 8-23-63.

772,880. CAPRILLA. Hickey-Freeman Company. SN 176,524. Pub. 4-21-64. Filed 9-9-63.

772,881. DESIGN OF 2 DRAGONS. McGregor-Doniger Inc. SN 176,930. Pub. 4-21-64. Filed 9-13-63.

Class 40—Fancy Goods, Furnishings, and Notions

772,882. REPRESENTATION OF CROSSED TENNIS RACKETS AND DESIGN. Eddie Jacobs, Ltd. SN 162,447. Pub. 4-21-64. Filed 2-11-63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

772,883. RUG-GRIP. The B. F. Goodrich Company. SN 120,799. Pub. 4-21-64. Filed 5-25-61.

772,884. REPRESENTATION OF CROSSED TENNIS RACKETS. Eddie Jacobs, Ltd. SN 162,446. Pub. 4-21-64. Filed 2-11-63.

772,885. PEDICARE. Pedigree Fabrics, Inc. SN 163,757. Pub. 4-21-64. Filed 3-1-63.

772,886. PEDICLOTH. Pedigree Fabrics, Inc. SN 163,758. Pub. 4-21-64. Filed 3-1-63.

772,887. PEDISWISS. Pedigree Fabrics, Inc. SN 163,760. Pub. 4-21-64. Filed 3-1-63.

772,888. CMC. Cleveland Mills Company. SN 170,295. Pub. 4-21-64. Filed 6-4-63.

772,889. STEREO-LACE. B & S Plastic Art, Inc. SN 175,542. Pub. 4-21-64. Filed 8-22-63.

772,890. ROYAL DIMENSION. Fielderest Mills, Inc. SN 175,569. Pub. 4-21-64. Filed 8-22-63.

Class 44—Dental, Medical, and Surgical Appliances

772,891. ASH. The Amalgamated Dental Company Limited. SN 172,552. Pub. 4-21-64. Filed 7-8-63.

772,892. PP & RS AND DESIGN. Kansas City Assemblage Company, Inc. SN 173,925. Pub. 4-21-64. Filed 7-29-63.

772,893. NICHOLS. Nichols Nasal Syphon, Inc. SN 177,079. Pub. 4-21-64. Filed 9-16-63.

772,894. DESIGN OF A MINUTE MAN. Diamond National Corporation. SN 177,205. Pub. 4-21-64. Filed 9-10-63.

772,895. INDEPENDENCE. Diamond National Corporation. SN 177,206. Pub. 4-21-64. Filed 9-10-63.

772,896. SILASTIC. Dow Corning Corporation. SN 181,760. Pub. 4-21-64. Filed 11-22-63.

772,897. SILASTIC. Dow Corning Corporation. SN 181,761. Pub. 4-21-64. Filed 11-22-63.

772,898. HEARTALARUM. The Birtcher Corporation. SN 181,955. Pub. 4-21-64. Filed 11-27-63.

772,899. DUO-MIST. Prak-T-Kal Corporation. SN 181,998. Pub. 4-21-64. Filed 11-27-63.

Class 45—Soft Drinks and Carbonated Waters

772,900. COQ D'OR AND DESIGN. Francis H. Leggett & Company. SN 167,916. Pub. 4-21-64. Filed 11-26-62.

772,901. DERBY DAY. Derby Day, Incorporated. SN 167,375. Pub. 4-21-64. Filed 4-23-63.

Class 46—Feeds and Ingredients of Feeds

772,902. HAPPY JACK. Jack's Cookie Companies, Inc. SN 131,046. Pub. 4-21-64. Filed 10-31-61.

772,903. P.A.N. Refinadora de Maiz Venezolana, C.A. (Remavenca). SN 150,593. Pub. 4-21-64. Filed 8-8-62.

772,904. BEAR BRAND. Bear Brand Confectionery Limited. SN 151,560. Pub. 8-13-63. Filed 8-21-62.

772,905. CHEF'S PAK AND DESIGN. Robert Monson Hopper, d.b.a. Hopper Meat Packing Co. SN 156,603. Pub. 4-21-64. Filed 11-5-62.

772,906. IVALDI FLAMBE FANFARE AND DESIGN. Beatrice Ivaldi, d.b.a. Ivaldi Co. SN 158,078. Pub. 4-21-64. Filed 11-28-62.

772,907. WIRTHMORE TWIN-MIX AND DESIGN. Corn Products Company. SN 161,776. Pub. 4-21-64. Filed 1-31-63.

772,908. WILDERNESS. The Chun King Corporation. SN 161,851. Pub. 4-21-64. Filed 2-1-63.

772,909. TONE'S AND DESIGN. Tone Brothers. SN 162,870. Pub. 4-21-64. Filed 2-8-63.

772,910. KICK STIX. Philadelphia Chewing Gum Corporation. SN 163,402. Pub. 4-21-64. Filed 2-25-63.

772,911. CARNA-CAL. Carnation Company. SN 163,529. Pub. 4-21-64. Filed 2-27-63.

772,912. TUBE-O-MEAL. H & M Packing Corporation. SN 165,369. Pub. 4-21-64. Filed 3-26-63.

772,913. B AND DESIGN. National Dairy Products Corporation. SN 167,751. Pub. 4-21-64. Filed 4-29-63.

772,914. TAYLORED TO TASTE. Taylor Biscuit Company. SN 168,547. Pub. 4-21-64. Filed 5-9-63.

772,915. MR. MALTIE. American Dairy Queen Corporation, assignee of International Dairy Queen, Inc. SN 168,742. Pub. 4-21-64. Filed 5-13-63.

772,916. ALASKA MAID. Nesbitt Fruit Products, Inc. SN 176,013. Pub. 4-21-64. Filed 8-29-63.

772,917. HOT STICK. Richard H. Brassel, d.b.a. Cheese-Haven. SN 178,168. Pub. 4-21-64. Filed 10-3-63.

772,918. CREME DE BUTR. Lancaster, Inc. SN 178,206. Pub. 4-21-64. Filed 10-3-63.

772,919. EDUCATOR AND DESIGN. Educator Biscuit Company, Incorporated. SN 178,480. Pub. 4-21-64. Filed 10-7-63.

772,920. SEATTLITE. Fisher Flouring Mills Co. SN 178,437. Pub. 4-21-64. Filed 10-7-63.

772,921. SUPER C. International Milling Company Inc. SN 180,810. Pub. 4-21-64. Filed 11-8-63.

772,922. BILL CAMP'S. W. B. Camp & Sons, Inc., d.b.a. W. B. Camp & Sons. SN 180,838. Pub. 4-21-64. Filed 11-12-63.

772,923. LUND'S. John Lund and Company. SN 180,927. Pub. 4-21-64. Filed 11-12-63.

772,924. LAMBABE. Gerber Products Company. SN 181,226. Pub. 4-21-64. Filed 11-15-63.

772,925. FLO-EVER. Leslie Salt Co. SN 181,249. Pub. 4-21-64. Filed 11-15-63.

772,926. BILLY BEE AND DESIGN. Billy Bee Honey Products Limited. SN 181,307. Pub. 4-21-64. Filed 11-18-63.

Class 48 — Malt Beverages and Liquors

772,927. REPRESENTATION OF A TARGET. Hornell Brewing Co., Inc. SN 109,412. Pub. 4-21-64. Filed 12-1-60.

772,928. KC'S BEST. The Spearman Brewing Company. SN 143,685. Pub. 4-21-64. Filed 5-2-62.

772,929. DOM-BRAU. Bierbrauerei Wilhelm Remmer, Gesellschaft mit beschrankter Haftung. SN 165,202. Pub. 4-21-64. Filed 8-25-63.

772,930. UNIVERSITY CLUB. Miller Brewing Company. SN 174,414. Pub. 4-21-64. Filed 8-5-63.

Class 49 — Distilled Alcoholic Liquors

772,931. ZAROFF. The American Distilling Company. SN 157,089. Pub. 4-21-64. Filed 11-13-62.

772,932. TRIPLE ANISETTE SAN PIETRO. Guido Ramazzotti. SN 158,179. Pub. 4-21-64. Filed 6-21-62.

Class 50 — Merchandise Not Otherwise Classified

772,933. BULL DOG. Elco Products Company SN 162,634. Pub. 4-21-64. Filed 2-13-63.

772,934. PERMATRELLIS. McHutchison & Co. SN 163,879. Pub. 4-21-64. Filed 2-25-63.

772,935. BI-KEM. Litho Chemical & Supply Co., Inc. SN 179,141. Pub. 4-21-64. Filed 10-16-63.

772,936. TRI-KEM. Litho Chemical & Supply Co., Inc. SN 179,142. Pub. 4-21-64. Filed 10-16-63.

Class 51 — Cosmetics and Toilet Preparations

772,937. LA LANNE. La Lanne Incorporated. SN 134,466. Pub. 4-21-64. Filed 12-21-61.

772,938. ALERGA. Nethercutt Laboratories, d.b.a. Cogenic Labs. SN 148,064. Pub. 4-21-64. Filed 6-29-62.

772,939. ANULL. Carter Products, Inc. SN 157,060. Pub. 4-21-64. Filed 11-13-62.

772,940. AQUA WAVE. Rayette, Inc. SN 162,981. Pub. 4-21-64. Filed 2-18-63.

772,941. RICH-PUFF. The Fuller Brush Company. SN 163,044. Pub. 4-21-64. Filed 2-19-63.

772,942. SHARI. Rexall Drug and Chemical Company, d.b.a. Cara Nome. SN 175,794. Pub. 3-31-64. Filed 5-26-63.

Class 52 — Detergents and Soaps

772,943. BIO-TERGE. Stepan Chemical Company. SN 157,943. Pub. 4-21-64. Filed 11-26-62.

772,944. COLENA. Advance Chemical Company. SN 159,983. Pub. 4-21-64. Filed 12-31-62.

772,945. DCC AND DESIGN. Drew Chemical Corporation. SN 162,087. Pub. 4-21-64. Filed 2-5-63.

772,946. KEY. The Diversey Corporation. SN 162,889. Pub. 3-24-64. Filed 2-15-63.

772,947. KEYKLEEN. Keystone Lubricating Company. SN 163,870. Pub. 3-24-64. Filed 2-25-63.

772,948. KEYSTRIP. Keystone Lubricating Company. SN 163,873. Pub. 3-24-64. Filed 2-25-63.

772,949. OLD SPICE AND DESIGN. Shulton, Inc. SN 165,718. Pub. 4-21-64. Filed 3-29-63.

772,950. ALUMORITE. Fairchild Camera and Instrument Corporation. SN 169,341. Pub. 4-21-64. Filed 5-28-63.

772,951. WIN GLOW AND DESIGN. Winslow Manufacturing Corp. SN 174,925. Pub. 4-21-64. Filed 8-12-63.

772,952. NCR AND DESIGN. The National Cash Register Company. SN 179,805. Pub. 4-21-64. Filed 10-25-63.

Service Marks

Class 100 — Miscellaneous

772,953. THE RED BARN. The Red Barn System, Inc. SN 128,589. Pub. 5-14-63. Filed 9-25-61.

772,954. HOLIDAY AND DESIGN. Temple Health Studios, Inc., d.b.a. Holiday Health Clubs. SN 155,535. Pub. 4-21-64. Filed 10-19-62.

772,955. MEDIKINN AND DESIGN. International Medikinn. SN 158,714. Pub. 4-21-64. Filed 12-7-62.

772,956. RAMPS. C-E-I-R, Inc. SN 159,957. Pub. 4-21-64. Filed 12-31-62.

772,957. INTERCONTINENTAL HOTELS AND DESIGN. Intercontinental Hotels Corporation. SN 164,137. Pub. 4-21-64. Filed 3-7-63.

Class 101 — Advertising and Business

772,958. BARGAIN AND DESIGN. Erickson Petroleum Corporation. SN 161,035. Pub. 4-21-64. Filed 1-21-63.

772,959. BARGAIN. Erickson Petroleum Corporation. SN 161,036. Pub. 4-21-64. Filed 1-21-63.

772,960. MACKE AND DESIGN. Macke Vending Company. SN 166,018. Pub. 4-21-64. Filed 5-2-63.

772,961. FBA AND DESIGN. Frank Block Associates. SN 169,106. Pub. 4-21-64. Filed 5-17-63.

Class 102 — Insurance and Financial

772,962. KEYSTONE CUSTODIAN FUNDS ETC. AND DESIGN. Keystone Custodian Funds, Inc. SN 160,948. Pub. 4-21-64. Filed 1-18-63.

772,963. GROTESQUE HUMAN. Bayside Federal Savings and Loan Association. SN 171,423. Pub. 4-21-64. Filed 6-20-63.

772,964. SELECT-CHECK ACCOUNT. The Chase Manhattan Bank. SN 171,851. Pub. 4-21-64. Filed 6-26-63.

Class 103 — Construction and Repair

772,965. ELECTROFRAC AND DESIGN. Electrofrac Corporation. SN 87,218. Pub. 3-6-62. Filed 12-14-59.

772,966. PROGRESS IS OUR MOST IMPORTANT PRODUCT. General Electric Company. MULTIPLE CLASS (Classes 103 and 107). SN 168,626. Pub. 4-21-64. Filed 3-25-63.

Class 105 — Transportation and Storage

772,967. SKYROAD. The Flying Tiger Line Inc. SN 161,832. Pub. 4-21-64. Filed 1-24-63.

Class 106 — Material Treatment

772,968. CTL. Consolidated Testing Laboratories, Inc. SN 163,125. Pub. 4-21-64. Filed 2-20-63.

772,969. CIRCLE AND DOT DESIGN. Astro Dye Works, Inc. SN 171,302. Pub. 4-21-64. Filed 6-19-63.

Class 107 — Education and Entertainment

772,966. (See Class 108 for this trademark.)

772,970. HOLIDAY MODELS. Collegiate Advertising and Marketing Institute, Inc., d.b.a. Holiday Models. SN 133,865. Pub. 4-21-64. Filed 12-12-61.

772,971. PHILCO TECHNOLOGICAL CENTER AND DESIGN. Philco Corporation. SN 166,834. Pub. 4-21-64. Filed 4-16-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

772,972. Owens-Illinois Glass Company, Toledo, Ohio. SN 146,511. Filed P.R. 6-6-62; Am. S.R. 4-29-64.

SALES WRAP

For Paperboard Shipping Tray.
First use July 24, 1961.

772,973. Orro Products Co., Akron, Ohio. SN 151,773. Filed P.R. 8-23-62; Am. S.R. 4-28-64.

DRINKADDY

For Bottle Retainers and Carriers.
First use July 30, 1962.

Class 4 — Abrasives and Polishing Materials

772,974. Cardinal Paint Corp., St. Louis, Mo. SN 89,049. Filed P.R. 1-15-60; Am. S.R. 4-27-64.

VINYL-GLAS

For Polish Finish for Floors, Furniture and Fixtures.
First use Aug. 5, 1959.

Class 11 — Inks and Inking Materials

772,975. The Carter's Ink Company, Cambridge, Mass. SN 184,792. Filed 1-17-64.

MICROPORE

For Stamp Pads.
First use Nov. 15, 1961.

Class 12 — Construction Materials

772,976. H-Brace, Inc., Miami, Fla. SN 158,534. Filed P.R. 12-5-62; Am. S.R. 11-14-63.

THE TRUSS CONNECTOR THAT IS LOCKED IN PLACE

For Truss Connectors and Allied Accessories.
First use at least as early as Oct. 1, 1962.

Class 15 — Oils and Greases

772,977. K & W Products, Inc., Whittier, Calif. SN 167,815. Filed P.R. 11-28-62; Am. S.R. 4-24-64.

3 WAY

For Protective Solution Which Stops Leaks, Prevents Rust and Lubricates Water Pumps in Cooling Systems.
First use Mar. 25, 1950.

Class 21 — Electrical Apparatus, Machines, and Supplies

772,978. Crouse-Hinds Company, Syracuse, N.Y. SN 165,121. Filed P.R. 3-21-63; Am. S.R. 10-23-63.

BROAD ·beam

For Floodlights.
First use Apr. 18, 1962.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

772,979. Pennsylvania Pump and Compressor Company, Easton, Pa. SN 178,967. Filed 10-14-63.

"AERTYTE"

For Valves for Air and Gas Compressors of the Reciprocating Type.
First use Aug. 5, 1962.

Class 25 — Locks and Safes

772,980. Swing-A-Way Mfg. Co., Norwalk, Calif. SN 152,846. Filed P.R. 9-10-62; Am. S.R. 10-15-63.

SWING-A-WAY

For Security Locking Bars for Desks, Filing Cabinets and Similar Equipment.
First use June 15, 1959.

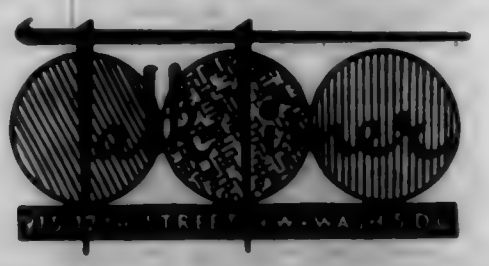
Class 26 — Measuring and Scientific Appliances

772,981. General Aniline & Film Corporation, New York, N.Y. SN 146,994. Filed P.R. 6-15-62; Am. S.R. 4-7-64.

THRIFT PACK

For Light-Sensitive Diasotype Paper and Film.
First use May 1959.

772,982. CMC, d.b.a. "The" Film Center, Washington, D.C. SN 159,150. Filed P.R. 12-14-62; Am. S.R. 4-10-64.



The drawing is lined for red, yellow or gold, and green.
For Speech Timing Devices, Remotely Controlled for Desk or Podium, With Signal Lights To Indicate to the Speaker Pre-Determined Time Intervals.
First use June 1, 1962.

772,983. Mutoh "Drafter" Industry, Ltd., Setagaya-ku, Tokyo, Japan. SN 160,858. Filed P.R. 12-21-62; Am. S.R. 5-5-64.

DRAFTER

Owner of Japanese Reg. No. 538,127, dated June 29, 1959.
For Drafting Machine.
First use May 6, 1959; in commerce May 6, 1959.

Class 31 — Filters and Refrigerators

772,984. Dean Products, Inc., Brooklyn, N.Y. SN 135,574. Filed P.R. 1-11-62; Am. S.R. 5-13-64.

FREEZTAND

For Refrigerated Counter Display Apparatus—Namely, Refrigerated Food Display Counters, Refrigerated Food Display Trays, Refrigerated Food Display Pans, Refrigerated Food Display Compartments and Refrigerated Stands.
First use Dec. 15, 1961.

Class 34 — Heating, Lighting, and Ventilating Apparatus

772,985. Metal Industries, Inc., Amarillo, Tex. SN 157,127. Filed P.R. 11-13-63; Am. S.R. 5-13-64.

FAN-PER-BIN

For Ventilating Apparatus for Grain.
First use May 30, 1962.

Class 39 — Clothing

772,986. Blair Fashions, Inc., Chicago, Ill. SN 139,560. Filed P.R. 3-13-62; Am. S.R. 4-14-64.

BRA-JAMA

For Lounge-Sleepwear Consisting of a Panty Brief and Brassiere.
First use Oct. 1, 1961.

772,987. Fox-Knapp Mfg. Co., New York, N.Y. SN 155,404. Filed P.R. 10-16-63; Am. S.R. 5-14-64.

Parka-Pac

For Jacket and Hood Combination Made of Cotton and/or Nylon Fabric, Which Folds Into a Self Contained Pouch.
First use Sept. 18, 1962.

772,988. Ship 'N Shore, Inc., Upland, Pa. SN 155,944. Filed P.R. 10-25-62; Am. S.R. 5-6-64.

PACK-IT

For Blouses and Shirts.
First use Sept. 11, 1962.

772,989. Raleigh Manufacturers, Inc., New York, N.Y. SN 156,248. Filed P.R. 10-30-62; Am. S.R. 5-12-64.

SIR CARNEGIE

For Men's Suits and Coats, Overcoats, and Pants.
First use Sept. 4, 1962.

772,990. Modern Juniors Inc., New York, N.Y. SN 164,548. Filed P.R. 3-13-63; Am. S.R. 4-10-64.

BEACH PARTY

The term "Beach" is disclaimed apart from the mark as shown.
For Beachrobes and Bathing Suits.
First use Nov. 15, 1962.

Class 47 — Wines

772,991. Societa per Azioni Casa Vinicola Barone Ricasoli, Firenze, Italy. SN 177,193. Filed 9-17-63.



The drawing is lined for red, blue and gold. Barone Ricasoli is a living individual whose full name is "Barone Bettino Ricasoli Firidolfi" and who is president of the applicant corporation and who executed the application on its behalf. The French and Italian wording which appears on the scrolls at the upper corners of the drawing reads in translation: "nothing without trouble"; Brolio Bianco means "white brolio"; Casa Vinicola means "wine producing house." Owner of Reg. Nos. 306,070, 444,648, and others.
For Wines.
First use March 1961; in commerce March 1961.

TRADEMARK REGISTRATIONS RENEWED

181,498. EMERAUDE DE COTY. Cl. 51. 3-18-24.
182,358. GOLD STANDARD. Cl. 46. 4-8-24.
183,022. CONTE. Cl. 37. 4-22-24.
183,023. CONTE A PARIS. Cl. 37. 4-22-24.
184,001. NARROW BLUE LINE BETWEEN TWO HEAVIER RED LINES. Cl. 42. 5-13-24.
184,186. GOLDEN. Cl. 37. 5-20-24.
184,246. NATIONAL. Cl. 37. 5-20-24.
185,264. GOLDEN. Cl. 37. 5-20-24.
185,436. RED ROCK AND DESIGN. Cl. 46. 6-17-24.
185,670. DRYCO. Cl. 46. 6-24-24.
185,743. AMBASSADOR. Cl. 46. 6-24-24.
186,043. THE AUSTIN METHOD AND LETTERS AM. Cl. 12. 7-22-24.
187,475. GREAT HEART. Cl. 1. 8-5-24.
187,623. MEDIPLAST. Cl. 18. 8-5-24.
188,105. B.B. Cl. 13. 8-19-24.
188,144. PACKED WITH THE WIGGLE IN IT'S TAIL. Cl. 46. 8-19-24.
189,178. DENNISON. Cl. 37. 9-16-24.
189,360. NORTHWEST. Cl. 23. 9-16-24.
189,901. DRINK WATER AND DESIGN. Cl. 46. 9-30-24.
189,984. EFF-BEE. Cl. 46. 9-30-24.
190,017. GRIFFIN AND DESIGN. Cl. 4. 9-30-24.
190,077. BEE-CELL. Cl. 44. 10-7-24.
404,982. MOUQUIN. Cl. 49. 1-4-44.
405,815. RUSCO. Cl. 35. 2-22-44.
406,291. GREAT AMERICAN. Cl. 23. 3-21-44.
406,761. BULLDOG. Cl. 35. 4-25-44.
407,093. PLEASANT EVERLASTING PEPPERTINT. Cl. 46. 5-16-44.
407,104. OCCIDENT. Cl. 46. 5-16-44.
407,115. PLASTIGRIP. Cl. 29. 5-16-44.
407,116. PLASTISET. Cl. 29. 5-16-44.
407,435. YELLOW HOOP. Cl. 52. 6-6-44.
407,618. EBONOL. Cl. 6. 6-13-44.
407,691. SENECA FLAKES. Cl. 52. 6-20-44.
407,707. HI-BOND. Cl. 12. 6-20-44.
407,816. ADMIRAL. Cl. 32. 6-27-44.
407,906. VADA-ZORB. Cl. 1. 7-4-44.
407,948. KING DAVID. Cl. 46. 7-11-44.
408,250. N-P. Cl. 6. 8-1-44.
408,342. LASTIDECK. Cl. 16. 8-8-44.
408,540. SUPREME. Cl. 51. 8-15-44.
408,860. "I RECORD ONLY THE SUNNY HOURS." Cl. 38. 8-29-44.
408,862. THE CHRISTIAN SCIENCE JOURNAL. Cl. 38. 8-29-44.
409,016. NH AND DESIGN. Cl. 23. 9-12-44.
409,099. THE SHOPPER. Cl. 2. 9-12-44.
409,149. MICROGRIND. Cl. 15. 9-19-44.
409,516. PC. Cl. 26. 10-10-44.
409,585. NOBLETONES. Cl. 39. 10-10-44.
409,741. VIKING AND DESIGN. Cl. 22. 10-17-44.
409,797. BIG THREE COUGH SYRUP AND NUMERAL 3. Cl. 18. 10-24-44.
409,862. ANIMATED BOOK. Cl. 36. 10-24-44.
409,863. SINGING BOOK. Cl. 36. 10-24-44.
409,904. HYDENT. Cl. 21. 10-31-44.
409,905. HYJOINT. Cl. 21. 10-31-44.
409,906. HYLINK. Cl. 21. 10-31-44.
409,907. HYLUG. Cl. 21. 10-31-44.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

92,378. STRONCYLATE. Cl. 18. 7-1-18.
346,813. SILLOID. Cl. 6. 6-8-37.
436,173. STILESTRATE. Cl. 6. 1-27-48.
541,998. PYRROLOCAINE. Cl. 18. 5-8-51.
600,226. SPIDO-SPRAY. Cl. 6. 1-4-55.
675,078. SUDDEN GLORY. Cl. 51. 3-3-59.
697,021. PHOSPHENAMINE. Cl. 18. 5-3-60.
717,974. SURF MAID. Cl. 46. 7-4-61.
717,975. OLD SPANISH TRAIL. Cl. 46. 7-4-61.
726,182. FLURO-METHANE. Cl. 18. 1-9-62.
762,115. PANELPLANK. Cl. 12. 12-24-63.
768,847. VITALIA. Cl. 42. 4-28-64.

Section 8

644,876. MONO-SEAL. Cl. 16. 4-23-57.
644,931. PESO PLUMA. Cl. 39. 4-30-57.
644,982. MIKART. Cl. 4. 5-7-57.
652,575. SPIX NO-LINT. Cl. 6. 10-8-57.

The following registrations issued May 20, 1958

661,786. LEATHEROMA. Cl. 1.
661,795. COPRI COOLER. Cl. 2.
661,799. DOUBLE-FACE AND DESIGN. Cl. 5.
661,800. PER-BON. Cl. 5.
661,803. R.T. 847. Cl. 5.
661,813. BAN-O-TRAY. Cl. 8.
661,817. ADJUSTA DOOR AND DESIGN. Cl. 12.
661,818. CID AND DESIGN. Cl. 12.
661,821. SHOWERETTE. Cl. 13.
661,834. PERMACEM. Cl. 16.
661,840. ETHANION. Cl. 18.
661,846. ACRYSORB. Cl. 18.
661,847. SORBOGEL. Cl. 18.
661,852. EFLOG. Cl. 18.
661,853. SOLUTOID. Cl. 18.
661,855. DELTEF. Cl. 18.
661,858. HYDRASTON. Cl. 18.
661,860. CAPILL-AID AND DESIGN. Cl. 18.
661,865. DYN.R.GY. Cl. 18.
661,874. NORTH AMERICAN ETC. AND DESIGN. Cl. 19.
661,876. SCOOTMOBILE. Cl. 19.
661,878. USECO AND DESIGN. Cl. 21.
661,881. UNIDRIVE. Cl. 21.
661,883. ERICOFONE. Cl. 21.
661,899. SHUR-TEMP. Cl. 26.
661,905. TIRE-LITE. Cl. 26.
661,910. PHILCO. Cl. 28.
661,911. VERI-THIN. Cl. 28.
661,913. GREEK LETTER OMEGA (DESIGN). Cl. 31.
661,916. LITCHFIELD. Cl. 32.
661,919. "VINALAWN." Cl. 35.
661,923. BLUE-CHIP AND DESIGN. Cl. 36.
661,924. TIP TALLY. Cl. 37.
661,927. INDEXOGRAPH. Cl. 37.
661,929. QUIP AND DESIGN. Cl. 38.
661,935. ROGERS GLOW SKIN. Cl. 39.
661,953. HONEYBLEND. Cl. 42.
661,957. MOLTEN GOLD. Cl. 42.
661,958. GRAND SALON. Cl. 42.
661,959. ABSTRUSE. Cl. 42.
661,961. PIN-NO-MOR. Cl. 42.
661,964. SKYDRIFT. Cl. 42.
661,965. PLASTIBELL. Cl. 44.
661,976. BAK-A-PIE AND DESIGN. Cl. 46.
661,977. BAK-A-PIE. Cl. 46.
661,993. FRI-DAHOE. Cl. 46.
661,994. CANDI ANN. Cl. 46.
662,000. VERMILION. Cl. 46.
662,011. CHINTROL. Cl. 50.
662,012. COLLEGIATE ETC. AND DESIGN. Cl. 51.
662,014. PEELING-ECLAIR. Cl. 51.
662,022. ILKA. Cl. 51.
662,023. RED TULLE AND DESIGN. Cl. 51.
662,025. MINITOR. Cl. 51.
662,026. SASPIN'S. Cl. 52.
662,028. CHARG-AID AND DESIGN. Cl. 52.
662,030. RPS AND DESIGN. Cl. 100.
662,032. FIESTA EN TEMPA ETC. AND DESIGN. Cl. 101.
662,033. AUTO-GRAPHIC. Cl. 102.
662,037. "CASEY AT THE MIKE." Cl. 107.
662,039. "COFFEE" BREAK. Cl. 107.
662,040. "McLEODSVILLE, U.S.A." Cl. 107.

662,041. WHIZZO'S WONDERLAND AND DESIGN. Cl. 107.
662,042. SAV-FOOD THE MODERN WAY. Cl. 2.
662,062. 5-WAY PET-KLEEN AND DESIGN. Cl. 52.
662,068. KARPETREET. Cl. 52.

Section 18

424,425. SANTA CRUZ. Cl. 49. 11-19-46.
701,809. AIRLON. Cl. 32. 7-26-60.
731,862. THERMO-SNUG. Cl. 12. 5-15-62.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

585,606. A PARKER PRODUCT ETC. Cl. 6. 1-2-51. Parker Rust Proof Company. Hooker Chemical Corporation, New York, N.Y. Amended: In the statement, column 2, line 18, "Co." is deleted, and the drawing is amended to appear:

A PARKER PRODUCT
PARKER RUST PROOF

579,860. DFPA. Cl. 12. 9-6-53. Douglas Fir Plywood Association. American Plywood Association, Tacoma, Wash. Amended: In the certificate, lines 5 and 16, in the heading, signature and in the statement, column 1, line 1, after "Association" , *now by change of name American Plywood Association* is inserted.

622,511. PRIME STANDARD. Cl. 7. 8-6-56. N.V. Verenigde Touwfabrieken, Rotterdam, Netherlands. Amended to appear:

PRIME STANDARD

652,918. SEABOND. Cl. 6. 10-28-57. Sterling Drug Inc., New York, N.Y. Corrected: In the statement, colum 1, line 1, "Drug," should be deleted and *Drug* should be inserted.

672,938. NCH. Cl. 101. 1-30-59. A. C. Nielsen Company, Chicago, Ill. Amended to appear:

NCH

755,713. AJMAL. Cl. 1. 8-27-63. Surpass Leather Company, Philadelphia, Pa. Corrected: In the statement, column 1, line 1, "Delaware" should be deleted and *Pennsylvania* should be inserted.

760,163. SUPER VALU. Cl. 101. 11-12-63. Super Valu Stores, Inc., Hopkins, Minn. Corrected: In the statement, column 1, line 1, "Minnesota" should be deleted and *Delaware* should be inserted.

760,164. SUPER VALUE AND DESIGN. Cl. 101. 11-12-63. Super Valu Stores, Hopkins, Minn. Corrected: In the statement, column 1, line 1, "Minnesota" should be deleted and *Delaware* should be inserted.

765,590. RENDELL'S "WIFE'S FRIEND" (LABEL). Cl. 44. 2-25-64. W. J. Rendell Limited, London, England. Corrected: In the statement, column 1, lines 2 and 3 should be deleted and *317 High Holborn, London W.C. 1, England* should be inserted.

766,091. TOASTMISTRESS INTERNATIONAL AND DESIGN. Cl. 107. 3-3-64. International Toastmistress Clubs, Inc., Huntington Park, Calif. Amended to appear:



767,264. DISCO. Cl. 46. 3-24-64. Super Valu Stores, Inc., Hopkins, Minn. Corrected: In the statement, column 1, line 1, "Minnesota" should be deleted and *Delaware* should be inserted.

767,608. GRO BARE. Cl. 89. 3-31-64. Lisle Mills, Inc., assignee, by mesne assignments, of Lisle Mills, Inc., Allentown, Pa. Corrected: In the statement, column 1, lines 1 and 2, "—new corporation" should be deleted.

768,760. PANELFIN. Cl. 34. 4-28-64. Calumet & Hecla, Inc., Allen Park, Mich. Corrected: In the statement, column 1, line 1, "Ind." should be deleted and *Inc.* should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 12 — Construction Materials

184,257. May 20, 1924. Pecora Paint Co., Philadelphia, Pa. Pub. by Pecora, Inc., Philadelphia, Pa.

ACICHLOR

For Acid-Proof Cement or Lute for Protecting Joints and Locations Exposed to Acids, Acid Fumes, Alkaline or Chlorine Fumes, Under Hot or Cold Conditions.

Class 14 — Metals and Metal Castings and Forgings

285,561. July 28, 1931. Kemet Laboratories Company, Inc., New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

KEMET

For Metals and/or Alloys Commonly Known as Getters for Eliminating or Minimizing Residual Gases in Evacuated Electric Light Bulbs, Radio Tubes, and the Like.

Class 17—Tobacco Products

406,156. Mar. 14, 1944. Lane Tobacco Ltd., New York, N.Y. Pub. by Lane Limited, New York, N.Y.

ROYAL CANADIAN

For Pipe Tobacco and Cigarette Tobacco.

406,352. Mar. 28, 1944. Lane Tobacco Ltd., New York, N.Y. Pub. by Lane Limited, New York, N.Y.

Mountbatten

For Pipe Tobacco and Cigarette Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

407,422. June 6, 1944. Guy H. Poling, d.b.a. Poling Chemical Co., Minneapolis, Minn. Pub. by Morton B. Gross, Minneapolis, Minn.

Thevrgene

Liquid Antiseptic.

423,139. Mar. 11, 1947. The Effectine Company, Indian Orchard, Mass. Pub. by The Procter & Gamble Company, Cincinnati, Ohio.

Effectine

For Liquid Liniment for External Use, Such as by a Rubbing Application and Adapted for the Relief of Muscular Aches and Pains, Sprains, Bruises, Swollen or Stiff Joints.

Class 21—Electrical Apparatus, Machines, and Supplies

228,714. June 7, 1927. Bakelite Corporation, New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

BAKELITE

For Molding Compounds and Mixtures for the Manufacture of Electrical Commodities or Parts Thereof.

427,410. Feb. 11, 1947. Kemet Laboratories Company, Inc., New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

KIC

For Getters for Use in Electronic Devices.

430,107. June 10, 1947. Kemet Laboratories Company, Inc., New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

KEMET

For Electric Wire of Various Alloys for Corrosion-Resistant Purposes; for Use as Getters; and for Use in the Construction of Electronic Devices, Electrodes, and Corrosion-Resistant Screens for Use in Chemical Processes.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

149,447. Dec. 13, 1921. Mappin & Webb Limited, London, Eng. Pub. by registrant.

M
TRUSTWORTHY

For Cutlery, and Particularly Pocket Knives and Forks, Scissors, Razors, Safety-Razors, and Fish-Eaters, Fish-Carvers, Table-Knives and Table-Forks, Dessert-Knives, Dessert-Forks, Tea-Knives, Fruit-Knives, Nutcrackers, Salad-Servers, and Pastry-Forks, All Made of Base Metal.

193,923. Jan. 13, 1925. The O. P. Schriver Company, Cincinnati, Ohio. Pub. by registrant.

IXL

For Buckets for Chain Pumps.

361,508. Oct. 18, 1938. Abe Silverman, d.b.a. General Wire Spring Company, Pittsburgh, Pa. Pub. by General Wire Spring Company, Pittsburgh, Pa.

FLEXICORE

For Closet and Drain Augers.

406,157. Mar. 14, 1944. Robins Conveyers Incorporated, Passaic, N.J. Pub. by Hewitt-Robins Incorporated, Stamford, Conn.

FLOATEX

For Foundry Shakeouts.

407,073. May 16, 1944. Edward Weck & Company, Inc., Brooklyn, N.Y. Pub. by Edward Weck & Company, Inc., Long Island City, N.Y.

Shaper

For Razors.

Class 27 — Horological Instruments

406,417. Apr. 4, 1944. Bloomingdale Bros., Inc., New York, N.Y. Pub. by Federated Department Stores, Inc., New York, N.Y.

LEXON

For Watches.

Class 28 — Jewelry and Precious-Metal Ware

162,303. Dec. 13, 1922. Mappin & Webb Limited, London, England. Pub. by registrant.

M TRUSTWORTHY

For Tableware Made of Precious Metal or Plated With Precious Metal.

Class 32 — Furniture and Upholstery

122,163. Oct. 15, 1918. Sealy Mattress Co., Sugar Land, Tex. Pub. by Hanon Freed, d.b.a. Airlite Mattress & Bedding Co., Los Angeles, Calif.

Airlite

For Mattresses.

Class 37 — Paper and Stationery

58,701. Dec. 25, 1906. Bleistiftfabrik vormals Johann Faber Actien-Gesellschaft, Nuremberg, Germany. Pub. by A. W. Faber-Castell, Nurember, Germany.



THE "ALLIGATOR"

For Lead Pencils and Penholders.

71,572. Dec. 1, 1908. Bleistiftfabrik vormals Johann Faber Actien-Gesellschaft, Nuremberg, Germany. Pub. by A. W. Faber-Castell, Nurember, Germany.

„Postograph"

For Lead, Colored, Slate and Copying Pencils, Mechanical Pencils, Penholders, Rubber-Erasers, and Nickel Plated Lead Pencil-Holders.

78,677. July 5, 1910. Bleistift-Fabrik vorm. Johann Faber, A.-G., Nuremberg, Germany. Pub. by A. W. Faber-Castell, Nuremberg, Germany.

„APOLLO"

For Lead Pencils, Colored Pencils, Slate-Pencils, Artists' Pencils, Copying-Pencils, Pencils With Movable Leads, Penholders, and Erasing-Rubber.

362,561. Nov. 22, 1938. Bleistift-Fabrik vorm. Johann Faber A.G., Stein, Germany. Pub. by A. W. Faber-Castell, Nuremberg, Germany.



For Lead Pencils, Colored Pencils, Copying Pencils, Copying Ink Pencils, Pastel Crayons, Chalk Pencils, Writing, Drawing, Painting, Billiard, and Marking Chalks, Black Leads, Coloured Leads, Copying Leads, Copying Ink Leads, Pen Holders, Fountain Pens, Mechanical Pencils, and Erasive Rubber.

402,487. July 27, 1943. Para-Tone Co. Inc., Chicago, Ill. Pub. by Para-Tone Incorporated, La Grange, Ill.

ZIP-A-TONE

The word "Tone" is disclaimed.

For Transfer Screen Sheets for Tinting or Shading Artists' Drawings or the Like.

409,244. Sept. 26, 1944. Facil Fabrics Company, New York, N.Y. Pub. by Sun Chemical Corporation, New York, N.Y.

FACIL-FAB

For Decorative Cardboard Paper With a Surface of Unwoven Rayon Threads, Known in the Trade as "Laminated Rayon Piece Goods," and When Cut Into Narrow Widths, as "Laminated Rayon Ribbon," and When Backed With Thick Cardboard, as "Laminated Rayon Construction Board," Plain, Embossed, Quilted, Rippled, Lithographed, Printed, Silk-Screened, Flocked, or Air-Brushed.

Class 38—Prints and Publications

405,696. Feb. 15, 1944. Ashton B. Collins, d.b.a. Reddy Kilowatt, Short Hills, N.J. Pub. by Reddy Kilowatt, Inc., New York, N.Y.



For Printed Advertising Material Sold as Such to the Electrical Industry.

Class 39—Clothing

364,263. Jan. 24, 1939. Joseph H. Cohen & Sons, Vanity Clothes, Inc., New York, N.Y. Pub. by Joseph H. Cohen & Sons, Inc., New York, N.Y.

BLUE BANNER SPECIAL

For Men's Clothing—Namely, Overcoats, Topcoats and Suits.

407,205. May 23, 1944. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.

FOAM WEIGHT

For Hats and Caps for Men, Women, and Children.

Class 46—Foods and Ingredients of Foods

182,475. Apr. 8, 1924. Maple Grove Candies, Inc., St. Johnsbury, Vt. Pub. by Maple Grove, Inc., St. Johnsbury, Vt.

Maple Grove

For Maple Cream, Maple Syrup, Maple Sugar in Bulk, Sauce for Ice Cream, and Maple Honey.

407,821. June 27, 1944. Self & Jancik, Pharr, Tex. Pub. by Jancik & Hartness Produce Company, Inc., Pharr, Tex.



For Fresh Vegetables.

Class 50—Merchandise Not Otherwise Classified

163,118. Jan. 2, 1923. Mappin & Webb Limited, London, England. Pub. by registrant.



For Scent-Bottle Screws—i.e., Bottle Closures.

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Advance Chemical Co., San Francisco, Calif. 772,944, pub. 4–21–64. Cl. 52.
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Albert-Acan X-Ray Solutions, Inc., Woodside, N.Y. 772,594, pub. 4–21–64. Cl. 6.
Alim Association, Inc., Miami, Fla. 772,709, pub. 4–21–64. Cl. 19.
Alim Corp., New York, N.Y. 772,755, pub. 5–5–61. Cl. 23.
Alsco, Inc., Akron, Ohio. 772,627, pub. 4–21–64. Cl. 12.
Amalgamated Dental Co. Ltd., London, England. 772,891, pub. 4–21–64. Cl. 44.
Amchem Products, Inc., Ambler, Pa. 772,602, pub. 4–21–64. Cl. 6.
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American Oil Co., The, Chicago, Ill. 772,605, pub. 4–21–64. Cl. 6.
American Optical Co., Southbridge, Mass. 772,681, pub. 4–21–64. Cl. 16.
American Paint Journal Co., St. Louis, Mo. 772,880, pub. 4–21–64. Cl. 28.
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Brod & McClung-Pace Co., Portland, Oreg. 772,643, pub. 4–21–64. Cl. 12.
Brown, Robert A., Jr., d.b.a. Life Insurance Sales Clinic, Los Angeles, Calif. 772,843, pub. 4–21–64. Cl. 38.
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Bulova Watch Co., Inc., Flushing, N.Y. 772,803, pub. 4–21–64. Cl. 27.
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Cameo-Parkway Records, Inc., d.b.a. Fairmount Records, Philadelphia, Pa. 772,829, pub. 4–21–64. Cl. 36.
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Carolina Coatings, Inc., Charlotte, N.C. 772,686, pub. 4–21–64. Cl. 16.
Carter Products, Inc., New York, N.Y. 772,939, pub. 4–21–64. Cl. 51.
Carter's Ink Co., Cambridge, Mass. 772,615, pub. 4–21–64. Cl. 11.
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Diamond National Corp., New York, N.Y. 772,894–5, pub. 4–21–64. Cl. 44.
Diamond Tool and Horseshoe Co., Duluth, Minn. 772,762, pub. 4–21–64. Cl. 23.
Dieston, Henry, & Sons, Inc., Philadelphia, to H. K. Porter Co., Inc., Pittsburgh, Pa. 406,291, ren. 7–7–64. Cl. 23.
Diversey Corp., The, Chicago, Ill. 772,592, pub. 4–21–64. Cl. 6.
Diversey Corp., The, Chicago, Ill. 772,946, pub. 3–24–64. Cl. 52.
Doane Agricultural Service, Inc., St. Louis, Mo. 772,881, pub. 4–21–64. Cl. 38.
Dore, John L., Co., Houston, Tex. 772,556, pub. 4–21–64. Multiple Class (Classes 1, 13 and 35).
Doughboy Industries, Inc., New Richmond, Wis. 772,639, pub. 4–21–64. Cl. 12.
Doughboy Industries, Inc., New Richmond, Wis. 772,744–6, pub. 4–21–64. Cl. 22.
Douglas Fir Plywood Association, American Plywood Association, Tacoma, Wash. 579,860. Am. 7(d). Cl. 13.
Dow Chemical Co., Midland, Mich. 772,563, pub. 4–21–64. Cl. 1.
Dow Corning Corp., Midland, Mich. 772,896–7, pub. 4–21–64. Cl. 44.
Downs, G. Alfred, d.b.a. Downs Glass Shop., Salem, Oreg. 731,362, canc. Cl. 12.
Downs Glass Shop.: *See*—
Downs, G. Alfred.
Dresser Guiberson Division: *See*—
Dresser Industries, Inc.
Dresser Industries, Inc., d.b.a. Dresser Guiberson Division, Dallas, Tex. 772,790, pub. 4–21–64. Cl. 23.
Drew Chemical Corp., New York, N.Y. 772,945, pub. 4–21–64. Cl. 52.
Drexel Furniture Co., Drexel, N.C. 661,916, canc. Cl. 32.
Drilling Specialties Co., Bartlesville, Okla. 772,663, pub. 4–21–64. Cl. 13.
Droke House: *See*—
Droke, Maxwell.
Droke, Maxwell, d.b.a. Droke House, Indianapolis, Ind. 661,929, canc. Cl. 38.
Dry Milk Co., The, to The Borden Co., New York, N.Y. 185,670, ren. 7–7–64. Cl. 46.
Dugenie, nee Guery, Marie Madeleine, Paris (Seine), France. 662,014, canc. Cl. 51.
Duke Laboratories, Inc.: *See*—
Beiersdorf, P., & Co. Inc.
Duramatic Clutch Co., Berkley, Mich. 661,870, canc. Cl. 19.
Dynachem Corp., Downey, Calif. 772,599, pub. 4–21–64. Cl. 6.
Eagle-Picher Co., The: *See*—
Nevada Celatom Co.
Eaton Brothers Corp., Hamburg, N.Y. 408,540, ren. 7–7–64. Cl. 51.
Eaton Chemical and Dyestuff Co., Detroit, Mich. 662,028, canc. Cl. 52.
Ebauches S.A., Neuchatel, Switzerland. 772,802, pub. 4–21–64. Cl. 27.
Edlo Imports Ltd., New York, N.Y. 772,873, pub. 4–21–64. Cl. 39.

Educator Biscuit Co., Inc., Lowell, Mass. 772,919, pub. 4–21–64. Cl. 46.
Educational Developmental Laboratories, Inc., Huntington, N.Y. 772,506, pub. 4–21–64. Cl. 2.
Effectine Co., The, Indian Orchard, Mass., by The Procter & Gamble Co., Cincinnati, Ohio. 428,139, 12(c) pub. 7–7–64. Cl. 18.
Ehrlich, William G., Mr., d.b.a. Sta-Dry Chemical Co., Detroit, Mich. 772,500, pub. 4–21–64. Cl. 6.
Ekco Products Coe., Chicago, Ill. 772,938, pub. 4–21–64. Cl. 50.
Electric Auto-Lite Co., The, Toledo, Ohio. 772,720, pub. 4–21–64. Cl. 21.
Electro Engineering Products Co., Inc., Chicago, Ill. 772,728, pub. 4–21–64. Cl. 21.
Electrofrac Corp., Kansas City, Mo. 772,965, pub. 3–6–62. Cl. 103.
Elliott Addressing Machine Co., Cambridge, Mass. 661,927, canc. Cl. 37.
Ellison Publications, Inc., Chicago, Ill. 772,862, pub. 4–21–64. Cl. 38.
Engineering Enterprises, Inc., Houston, Tex. 772,655, pub. 4–21–64. Cl. 13.
Englander Co., Inc., The, Baltimore, Md. 701,809, canc. Cl. 32.
Enthone Co., The, to Enthone, Inc., New Haven, Conn. 407,618, ren. 7–7–64. Cl. 6.
Enthone, Inc.: *See*—
Enthone Co., The.
Erickson Petroleum Corp., Minneapolis, Minn. 772,958–9, pub. 4–21–64. Cl. 101.
FMC Corp., San Jose, Calif. 772,761, pub. 11–5–63. Cl. 23.
Fabelo, Ruben, d.b.a. Fiesta en Tampa, Tampa, Fla. 662,032, canc. Cl. 101.
Faber-Castell, A. W.: *See*—
Bleistiftfabrik Vormals Johann Faber Aktien-Gesellschaft.
Facil Fabrics Co., by Sun Chemical Corp., New York, N.Y. 409,244. 12(c) pub. 7–7–64. Cl. 37.
Fairchild Camera and Instrument Corp., Syosset, N.Y. 772,598, pub. 4–21–64. Cl. 6.
Fairchild Camera and Instrument Corp., Syosset, N.Y. 772,950, pub. 4–21–64. Cl. 32.
Fairmount Records: *See*—
Cameo-Parkway Records, Inc.
Farac Oil and Chemical Co., Chicago, Ill. 772,674, pub. 4–21–64. Cl. 16.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt, Main, Germany. 772,574, pub. 4–21–64. Cl. 2.
Fieldcrest Mills, Inc., Spray, N.C. 772,890, pub. 4–21–64. Cl. 42.
Fiesta en Tampa: *See*—
Fabelo, Ruben.
Film Center, "The": *See*—
CMC.
Fisher Flouring Mills Co., Seattle, Wash. 772,920, pub. 4–21–64. Cl. 46.
Fishebord Corp., Jamestown, N.Y. 772,645, pub. 4–21–64. Cl. 12.
Flintkote Co., New York, N.Y. 772,628, pub. 4–21–64. Cl. 12.
Flores, Raymond, d.b.a. Pacific Cement Laundry Tray Co., Hayward, Calif. 772,646, pub. 4–21–64. Cl. 12.
Fluid Solids, Inc., Saugatuck, Conn. 772,769, pub. 4–21–64. Cl. 23.
Flying Tiger Line Inc., The, Burbank, Calif. 772,967, pub. 4–21–64. Cl. 105.
Fome-Cor Corp., Springfield, Mass. 772,644, pub. 4–21–64. Cl. 12.
Food City: *See*—
Thomas, Edd.
Ford Products Co., Pawtucket, R.I. 772,619, pub. 4–2–62. Cl. 12.
Foseco International Ltd., Birmingham, England. 772,598, pub. 4–21–64. Cl. 6.
Foundation For Research on the Nature of Man, The, Durham, N.C. 772,855, pub. 4–21–64. Cl. 38.
Fox-Knapp Mfg. Co., New York, N.Y. 772,887. Cl. 29.
Fram Corp., East Providence, R.I. 772,612, pub. 4–21–64. Cl. 31.
Franklin Research Co.: *See*—
Purex Corp., Ltd.
Freed, Hanoa: *See*—
Sealy Mattress Co.
Fritzsche Brothers, Inc., New York, N.Y. 189,984, ren. 7–7–64. Cl. 46.
Frost, Charles E., & Co., Westmount, Quebec, Canada. 772,-865, pub. 4–21–64. Cl. 32.
Fuller Brush Co., The, East Hartford, Conn. 772,941, pub. 4–21–64. Cl. 51.
Futorian Mfg. Co., Chicago, Ill. 772,816, pub. 4–21–64. Cl. 32.
G-G-B Chemical Co., Westbury, N.Y. 772,560, pub. 4–21–64. Cl. 4.
Gallagher-Kaiser Corp., Detroit, Mich. 772,764, pub. 4–21–64. Multiple Class (Classes 23 and 24).
Gallery 68, Inc., New York, N.Y. 772,963, pub. 4–21–64. Cl. 38.
Gallun, A. F., & Sons Corp., Milwaukee, Wis. 661,785, canc. Cl. 1.
Gamewell Co., The, Newton Upper Falls, Mass. 772,735, pub. 4–21–64. Cl. 21.
Gardens Services, Inc., Pine Mountain, Ga. 772,743, pub. 4–21–64. Cl. 22.
Garland Chemical Products Co., Garland, Tex. 772,891, pub. 4–21–64. Cl. 8.
Gebauer Chemical Co., Cleveland, Ohio. 726,182, canc. Cl. 18.
Geiger, A. J., Denver, Colo. 661,821, canc. Cl. 18.
General Aniline & Film Corp., New York, N.Y. 772,604, pub. 4–21–64. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 772,961. Cl. 26.
General Electric Co., New York, N.Y. 772,966, pub. 4–21–64. Multiple Class (Classes 103 and 107).
General Gummed Products, Inc., Linden, N.J. 772,588, pub. 4–21–64. Cl. 5.
General Motors Corp., Detroit, Mich. 772,730–1, pub. 4–21–64. Cl. 21.
General Tire & Rubber Co., The, Akron, Ohio. 772,826, pub. 4–21–64. Cl. 35.
General Wire Spring Co.: *See*—
Silverman, Abe.
Genesco Inc., Nashville, Tenn. 772,871, pub. 4–21–64. Cl. 39.
Gerber Cheese Co., Inc.: *See*—
Gerber & Co. Inc.
Gerber & Co. Inc., to Gerber Cheese Co., Inc., New York, N.Y. 185,743, ren. 7–7–64. Cl. 46.
Gerber Products Co., Fremont, Mich. 772,750, pub. 4–21–64. Cl. 22.
Gerber Products Co., Fremont, Mich. 772,924, pub. 4–21–64. Cl. 46.
Gilead and Realcraft: *See*—
United Mills Corp.
Gladding, B. F., & Co., Inc., South Otselic, N.Y. 772,748, pub. 4–21–64. Cl. 22.
Gobe Associates, Inc., New York, N.Y. 772,858, pub. 4–21–64. Cl. 38.
Godefroy Mfg. Co., St. Louis, Mo. 675,078, canc. Cl. 51.
Golfdom, Inc., Chicago, Ill. 772,866, pub. 4–21–64. Cl. 38.
Goodrich, B. F., Co., The, Akron, Ohio. 772,883, pub. 4–21–64. Cl. 42.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 661,919, canc. Cl. 35.
Graham, Billy, Evangelistic Association, Inc., The, Minneapolis, Minn. 772,841–3, pub. 6–6–61. Cl. 38.
Granadaina Foods, Inc.: *See*—
Meyer, M. J. & H. J., Co., Inc.
Graphic Controls Corp., Buffalo, N.Y. 772,786, pub. 4–21–64. Cl. 23.
Green's Southern California Sports Service: *See*—
Sol (NMI) Gershenhorn.
Griffin Mfg. Co., Inc., to American Home Products Corp., New York, N.Y. 190,017, ren. 7–7–64. Cl. 4.
Gross, Morton B.: *See*—
Poling, Guy H.
Gruen Industries, Inc., d.b.a. Gruen Watch Co., Cincinnati, Ohio. 661,911, canc. Cl. 28.
Gruen Watch Co.: *See*—
Gruen Industries, Inc.
Guild Metal Joining Equipment Co., Bedford, Ohio. 772,-774–5, pub. 4–21–64. Cl. 23.
H & M Packing Corp., Glendale, Calif. 772,912, pub. 4–21–64. Cl. 46.
Harlee Mfg. Co., Chicago, Ill. 772,811, pub. 4–21–64. Cl. 21.
Hayden Publishing Co., Inc. of California, New York, N.Y. 772,846, pub. 4–21–64. Cl. 38.
H-Brace, Inc., Miami, Fla. 772,976. Cl. 12.
Hempel, Henrietta J.: *See*—
Bee-Cell Co., The.
Heritage Pipes, Inc., New York, N.Y. 772,610, pub. 4–21–64. Cl. 8.
Heterochemical Corp., Valley Stream, N.Y. 772,697, pub. 4–7–64. Cl. 18.
Hewitt-Robins Inc.: *See*—
Robins Conveyors Inc.
Hickey-Freeman Co., Rochester, N.Y. 772,880, pub. 4–21–64. Cl. 39.
Highway Sign Cleaner Co.: *See*—
McMullen Co., The.
Hill's Merchandise Distributors, Inc., d.b.a. Candy Ann Products Co., Springfield, Mass. 661,994, canc. Cl. 46.
Hinger, Fred D., Churchville, Pa. 772,830–1, pub. 4–21–64. Cl. 38.
Holliday Health Clubs: *See*—
Temple Health Studios, Inc.
Holly House, The, Richland, N.J. 661,993, canc. Cl. 46.
Hollywood Shoe Polish Inc., Richmond Hill, N.Y. 772,682, pub. 4–21–64. Cl. 4.
Hooker Chemical Corp.: *See*—
Parker Rust Proof Co.
Hoover Ball and Bearing Co., Saline, Mich. 772,659, pub. 4–21–64. Cl. 18.
Hopper Meat Packing Co.: *See*—
Hopper, Robert M.
Hopper, Robert M., d.b.a. Hopper Meat Packing Co., Phoenix, Ariz. 772,905, pub. 4–21–64. Cl. 46.
Hornell Brewing Co., Inc., Hornell, N.Y. 772,927, pub. 4–21–64. Cl. 48.
Houston, Dr. F. M., d.b.a. F. M. Houston Co., Long Beach, Calif. 661,858, canc. Cl. 18.
Houston, F. M., Co.: *See*—
Houston, Dr. F. M.
Howard, Bert, Inc., Lansing Mich. 772,704, pub. 4–21–64. Cl. 19.
Howard, John C., Chicago, Ill. 772,853, pub. 4–21–64. Cl. 36.
Huber, J. M., Corp., Borger, Tex. 772,600, pub. 3–24–64. Cl. 6.
Hudson Pulp & Paper Corp., New York, N.Y. 772,835, pub. 4–21–64. Cl. 37.
Husky Products, Inc., Cincinnati, Ohio. 772,652, pub. 4–21–64. Cl. 13.
Hyde Mfg. Co., d.b.a. Hyde Tools, Southbridge, Mass. 772,781, pub. 4–21–64. Cl. 28.
Hyde Tools: *See*—
Hyde Mfg. Co.
Illinois Tool Works Inc., Chicago, Ill. 772,656, pub. 4–21–64. Cl. 18.

Illinois Tool Works Inc., Chicago, Ill. 772,758, pub. 4–21–64. Cl. 23.
Imperial Knife Associated Companies, Inc., Providence, R.I. 772,771, pub. 4–21–64. Cl. 23.
Industrial Fasteners Institute, Cleveland, Ohio. 772,849, pub. 4–21–64. Cl. 38.
Inland Steel Co., Chicago, Ill. 407,707, ren. 7–7–64. Cl. 12.
Interchemical Corp.: *See*—
Angler Products, Inc.
International Dairy Queen, Inc.: *See*—
American Dairy Queen.
Intercontinental Hotels Corp., New York, N.Y. 772,957, pub. 4–21–64. Cl. 100.
International Medikinn, Orange, Calif. 772,955, pub. 4–21–64. Cl. 100.
International Milling Co. Inc., Minneapolis, Minn. 772,821, pub. 4–21–64. Cl. 46.
International Rectifier Corp., El Segundo, Calif. 772,793, pub. 4–21–64. Cl. 26.
International Shoe Machine Corp., Boston, Mass. 772,586, pub. 4–21–64. Cl. 3.
International Toastmistress Clubs, Inc., Huntington Park, Calif. 766,091. Am. 7(d). Cl. 107.
Ivaldi, Beatrice, d.b.a. Ivaldi Co., New York, N.Y. 772,906, pub. 4–21–64. Cl. 46.
Ivaldi Co.: *See*—
Ivaldi, Beatrice.
Jack's Cookie Companies, Inc., Wilmington, Del. 772,902, pub. 4–21–64. Cl. 46.
Jackson, Lloyd E., d.b.a. Spix Products Co., Pittsburgh, Pa. 652,575, canc. Cl. 6.
Jacobs, Eddie, Ltd., Baltimore, Md. 772,609, pub. 4–21–64. Cl. 8.
Jacobs, Eddie, Ltd., Baltimore, Md. 772,806, pub. 4–21–64. Cl. 28.
Jacobs, Eddie, Ltd., Baltimore, Md. 772,882, pub. 4–21–64. Cl. 40.
Jacobs, Eddie, Ltd., Baltimore, Md. 772,884, pub. 4–21–64. Cl. 42.
Jancik & Hartness Produce Co., Inc.: *See*—
Self & Jancik.
Jensen Laboratories, Inc., Boston, Mass. 661,865, canc. Cl. 18.
Jeppesen & Co., Denver, Colo. 772,795, pub. 4–21–64. Cl. 26.
Jeppesen & Co., Denver, Colo. 772,836, pub. 4–21–64. Cl. 37.
Jeppesen & Co., Denver, Colo. 772,850, pub. 4–21–64. Cl. 38.
Johnson, Louis, d.b.a. Johnson Seafood Co. and Miss Lou Ala Foods Co., Biloxi, Miss. 717,974–5, canc. Cl. 46.
Johnson Seafood Co.: *See*—
Johnson, Louis.
Josam Mfg. Co., Michigan City, Ind. 772,665, pub. 4–21–64. Cl. 13.
K & K Textile Co., Inc., New York, N.Y. 661,950, canc. Cl. 42.
KMBC Broadcasting Co., Kansas City, Mo. 662,041, canc. Cl. 107.
K & W Products, Inc., Whittier, Calif. 772,977. Cl. 15.
Kansas City Assemblage Co., Inc., Kansas City, Mo. 772,892, pub. 4–21–64. Cl. 44.
Kaplan Rice Mill, Inc., Kaplan, La. 662,000, canc. Cl. 46.
Kemet Laboratories Co., Inc., by Union Carbide Corp., New York, N.Y. 285,561, 12(c) pub. 7–7–64. Cl. 14.
Kemet Laboratories Co., Inc., by Union Carbide Corp., New York, N.Y. 427,410, 12(c) pub. 7–7–64. Cl. 21.
Kemet Laboratories Co., Inc., by Union Carbide Corp., New York, N.Y. 430,107, 12(c) pub. 7–7–64. Cl. 21.
Kemlite Corp., Joliet, Ill. 772,623, pub. 4–21–64. Cl. 12.
Kessler, William B., Inc., Hammonton, N.J. 409,588, ren. 7–7–64. Cl. 39.
Keystone Custodian Funds, Inc., Boston, Mass. 772,962, pub. 4–21–64. Cl. 102.
Keystone Lubricating Co., Calumet City, Ill. 772,947, pub. 3–24–64. Cl. 52.
Kilowatt, Reddy: *See*—
Collins, Ashton B.
Kilowatt, Reddy, Inc.: *See*—
Collins, Ashton B.
King Leathers Inc., Indiana, Pa. 409,009, ren. 7–7–64. Cl. 3.
Kingsboro Mills, Inc., Gloversville, N.Y. 661,935, canc. Cl. 39.
Kroetch, Arthur A., d.b.a. Wickomatic Oiler Co., Philip, S. Dak. 772,770, pub. 4–21–64. Cl. 23.
La Lanne Inc., Hollywood, Calif. 772,785, pub. 4–21–64. Cl. 22.
La Lanne Inc., Hollywood, Calif. 772,862, pub. 4–21–64. Cl. 39.
La Lanne Inc., Hollywood, Calif. 772,937, pub. 4–21–64. Cl. 51.
Lancaster, Inc., Los Angeles, Calif. 772,918, pub. 4–21–64. Cl. 43.
Lane Ltd.: *See*—
Lane Tobacco Ltd.
Lane Tobacco Ltd., by Lane Ltd., New York, N.Y. 406,156, 12(c) pub. 7–7–64. Cl. 17.
Lane Tobacco Ltd., to Lane Ltd., New York, N.Y. 406,352, 12(c) pub. 7–7–64. Cl. 17.
Langagne, Henri Paul Jean, Croix, Nord, France. 772,667, pub. 4–21–64. Cl. 14.
Lanson Chemical Corp., East St. Louis, Ill. 772,677–9, pub. 4–21–64. Cl. 16.
Leggett, Francis H., & Co., Carlstadt, N.J. 772,900, pub. 4–21–64. Cl. 45.
Leslie Salt Co., San Francisco, Calif. 772,925, pub. 4–21–64. Cl. 46.
Liebmann Breweries, Inc., Brooklyn, N.Y. 772,570, pub. 4–21–64. Cl. 2.
Life Insurance Sales Clinic: *See*—
Brown, Robert A., Jr.
Linatex Corp. of America, Stafford Springs, Conn. 772,813, pub. 4–21–64. Cl. 31.
Lionel Corp., The: *See*—
Lionel Toy Corp., The.
Lionel Toy Corp., The, Wilmington, Del., from The Lionel Corp., New York, N.Y. 772,794, pub. 4–21–64. Cl. 22.
Lisle Mills, Inc., from Lisle Mills, Inc., Allentown, Pa. 767,608, cor. Cl. 39.
Litho Chemical & Supply Co., Inc., Lynbrook, N.Y. 772,885–6, pub. 4–21–64. Cl. 50.
Long, W. H., Marketing, Inc., Greensboro, N.C. 772,848, pub. 4–21–64. Cl. 38.
Lund, John, and Co., Denver, Colo. 772,923, pub. 4–21–64. Cl. 46.
Luther Corp., Warsaw, Ind. 661,874, canc. Cl. 19.
Macke Vending Co., Washington, D.C. 772,980, pub. 4–21–64. Cl. 101.
Magic Powders Inc., Long Island City, N.Y. 772,596, pub. 4–21–64. Cl. 6.
Magnesium Association, The, Detroit, Mich. 772,894, pub. 4–21–64. Cl. 38.
Mamaux Supply Co.: *See*—
Pittsburgh Waterproof Co.
Maple Grove Candies, Inc., by Maple Grove, Inc., St. Johnsbury, Vt. 182,475, 12(c) pub. 7–7–64. Cl. 46.
Maple Grove, Inc.: *See*—
Maple Grove Candies, Inc.
Mappin & Webb Ltd., London, England. 149,447, 12(c) pub. 7–7–64. Cl. 23.
Mappin & Webb Ltd., London, England. 162,303, 12(c) pub. 7–7–64. Cl. 28.
Mappin & Webb Ltd., London, England. 162,118, 12(c) pub. 7–7–64. Cl. 50.
March, Louis, d.b.a. Superior Paper Co., Chicago, Ill. 772,569, pub. 4–21–64. Cl. 2.
Marley Tile Co. Ltd., The, London, England. 772,715, pub. 4–21–64. Cl. 20.
Mattel, Inc., Hawthorne, Calif. 772,751, pub. 4–21–64. Cl. 22.
Mayer, Karl, Textilmaschinen G.m.b.H., Obertshausen near Offenbach/Main, Germany. 772,778, pub. 4–21–64. Cl. 23.
McGregor-Doniger Inc., New York, N.Y. 772,881, pub. 4–21–64. Cl. 39.
McHutchison & Co., Ridgefield, N.J. 772,884, pub. 4–21–64. Cl. 50.
McMullen Co., The, d.b.a. Highway Sign Cleaner Co., St. Paul, Minn. 772,787, pub. 4–21–64. Cl. 23.
McNeil Machine & Engineering Co., The, Akron, Ohio. 772,760, pub. 4–21–64. Cl. 23.
Mead Specialties Co., Inc., Chicago, Ill. 772,785, pub. 4–21–64. Cl. 23.
Menick, Saul, and David Sadel Associates, Inc., Washington, D.C. 772,752, pub. 4–21–64. Cl. 22.
Mercoid Corp., The, Chicago, Ill. 772,796, pub. 4–21–64. Cl. 26.
Merrill Anderson Co., Inc., The, New York, N.Y. 772,847, pub. 4–21–64. Cl. 38.
Metal Industries, Inc., Amarillo, Tex. 772,983. Cl. 84.
Metrodynamics Corp., The, Caldwell Township, County of Essex, N.J. 772,726, pub. 4–21–64. Cl. 21.
Meyer, M. J. & H. J., Co., Inc., New York, N.Y., to Granadina Foods, Inc., Brooklyn, N.Y. 407,948, ren. 7–7–64. Cl. 46.
Mid-States Gummed Paper Co., Bedford Park, Ill., to Minnesota Mining and Mfg. Co., St. Paul, Minn. 661,860, canc. Cl. 5.
Mikart Co., Webster City, Iowa. 644,982, canc. Cl. 4.
Mil-Flo, Inc., Dayton, Ohio. 772,657, pub. 4–21–64. Cl. 13.
Miller Brewing Co., Milwaukee, Wis. 772,930, pub. 4–21–64. Cl. 48.
Miller, Herman, Inc., Zeeland, Mich. 772,818, pub. 4–21–64. Cl. 32.
Minnesota Mining and Mfg. Co.: *See*—
Mid-States Gummed Paper Co.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 772,584, pub. 4–21–64. Cl. 4.
Minnesota and Ontario Paper Co., Minneapolis, Minn. 762,115, canc. Cl. 12.
Min-X Radio, Inc., Detroit, Mich. 772,722, pub. 4–21–64. Cl. 21.
Miss Lou Ala Foods Co.: *See*—
Johnson, Louis.
Modern Juniors Inc., New York, N.Y. 772,990. Cl. 39.
Modular Components Corp., Chula Vista, Calif. 772,621, pub. 4–21–64. Cl. 12.
Mono-Seal, Inc., Salem, Mass. 644,376, canc. Cl. 16.
Montgomery Ward & Co., Inc., Chicago, Ill. 772,976, pub. 4–21–64. Cl. 2.
Morris White Fashions, Inc., New York, N.Y. 772,579, pub. 4–21–64. Cl. 3.
Morton Milling Co., to Burrus Mills, Inc., Dallas, Tex. 189,901, ren. 7–7–64. Cl. 46.
Montgomery Ward & Co., Inc., Chicago, Ill. 772,708, pub. 4–21–64. Cl. 19.
Mottola, Frank, Los Angeles, Calif. 661,803, canc. Cl. 5.
Mueller Co., Decatur, Ill., from Adams Pipe Repair Products, South El Monte, Calif. 772,654, pub. 4–14–64. Cl. 13.
Multi-Clean Products, Inc., St. Paul, Minn. 662,062, canc. Cl. 52.
Multi-Clean Products, Inc., St. Paul, Minn. 772,732, pub. 4–21–64. Cl. 21.
Murphy, G. C., Co., McKeesport, Pa. 772,684, pub. 4–21–64. Cl. 16.
Murphy, G. C., Co., McKeesport, Pa. 772,733, pub. 4–21–64. Cl. 21.
Murphy, G. C., Co., McKeesport, Pa. 772,782, pub. 4–21–64. Cl. 23.
Murray Tire & Rubber Corp., New York, N.Y. 772,824–5, pub. 4–21–64. Cl. 35.
Mutoh "Drafter" Industry, Ltd., Tokyo, Japan. 772,883. Cl. 26.
Mystik Tape, Inc., Chicago, Ill. 772,585, pub. 4–21–64. Cl. 5.

N.V. Verenigde Touwfabrieken, Rotterdam, Netherlands. 622,511. Am. 7(d). Cl. 7.
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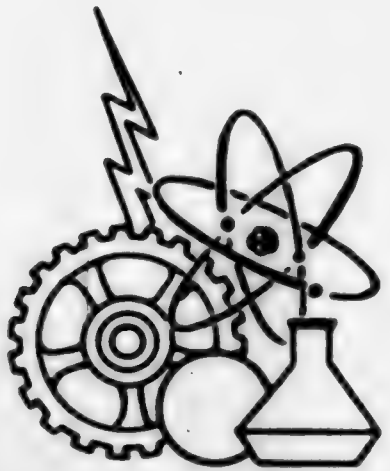
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Rule 345—Advertising

CLASSIFIED TELEPHONE DIRECTORIES

In *Miller* v. *Watson*, 1961 C.D. 122, 773 O.G. 4, the United States District Court for the District of Columbia held that multi-city common form listings in telephone directories constituted advertising within the prohibition of Rule 345 of the Rules of Practice in the United States Patent Office. It is not considered, however, that this prohibition applies to cases in which separate telephone directories have been issued for each of two or more communities which were formerly included in a single directory, nor to listing in each of the several directories of a single metropolitan area. Accordingly, such listings will not be considered as being in violation of Rule 345.

EDWARD J. BRENNER,
Commissioner.

June 29, 1964.

Listing of Prior Art Cited by Applicants

Pursuant to the Commissioner's Notice of May 19, 1964 (802 O.G. 601), and under the conditions set forth therein the citation of references submitted by applicants, attorneys, or agents will be printed in the patent of all applications allowed after August 1, 1964, unless a specific request to the contrary is received. The submitted list of prior art will be printed under a separate category from the listing of references cited by the Examiner, except that references cited by the Examiner and included in the submitted citations will not appear in the separate category of the printed patent.

Only citations submitted prior to the closing of prosecution of the application before the Examiner will be considered for listing in the printed patent.

No reference citation will be printed unless the supplied information includes the name, number, and date for domestic patents; the country, number, and date for foreign patents; and the title, date and page numbers for publications.

The submitted list will not be removed from the file when applicant so requests unless the citations have been filed in a separate paper.

EDWARD J. BRENNER,
Commissioner.

June 22, 1964.

Classification of References Listed in Patents

In patents issued on applications which are allowed on or after August 3, 1964, the classification of each of the references cited by the Examiner will be given in the list of references appearing in the printed patent. While this procedure is not fully equivalent to a listing of all the classes and subclasses searched by the Examiner, it will serve to indicate where the most pertinent art was found, and in view of this fact, no further consideration will be given, at least for the present, to the proposal to list the field of search in printed patents.

EDWARD J. BRENNER,
Commissioner of Patents.

June 12, 1964.

Interference—Declaration

Effective July 1, 1964, no interference will be declared between pending applications, if there is a difference of more than three (3) months in the effective filing dates of the applications in the case of inventions of a simple character, or a difference of more than six (6) months in other cases, except in exceptional situations, as determined and approved by the Commissioner.

EDWARD J. BRENNER,
Commissioner.

June 26, 1964.

Patents Available for Licensing or Sale

2,873,386. Process and Device for Generating Electrical Pulse Groups. Kienzle-Apparate G.m.b.H., Schwarzwald, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,062,445. System for Electronic Transformation of Analogue Values Into Digital Values. Kienzle-Apparate G.m.b.H., Schwarzwald, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,115,890. Flood Control Valve. Maurice Greenbaum, 19481 Strathmoor, Detroit, Mich. 48235.

3,124,414. Textile Finishing Process. Phrix-Werke Aktiengesellschaft, Hamburg, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,127,704. Floor and Ceiling Construction. Daniel Salcedo Garcia, Mexico City 14, Mexico. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,129,281. Electric Fence Insulator and Post. George W. Hardin, Greeneville, Tenn. 37743.

The American Can Company is prepared to grant non-exclusive licenses under the following 2 patents on standard terms.

Applications for license should be addressed to: American Can Company, Patent Counsel, 100 Park Ave., New York 17, N.Y.

New Applications Received During May 1964

Patents	7,158
Designs	446
Plant Patents	6
Reissues	10
Total	7,620

Issue—July 14, 1964

Patents	679—No.	3,140,492 to No.	3,141,170, incl.
Designs	47—No.	198,616 to No.	198,662, incl.
Plant Patents	5—No.	2,422 to No.	2,426, incl.
Reissues	4—No.	25,616 to No.	25,619, incl.
Total	735		

3,130,066. Container and Sealing Cap Assembly Filled With an Aqueous Comestible.

Des. 198,242. Cap Sealed Bottle.

General Electric Company is prepared to grant non-exclusive licenses under the following 4 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: Allen E. Amgott, Patent Counsel, Military Communications Department, General Electric Company, P.O. Box 150, Oklahoma City, Okla.

2,953,524. Wide Band Audio and Video Transformer.

2,962,770. Television Transmitter Alignment.

2,962,726. Antenna for Polarized Propagation.

2,968,035. Pulse Detection Apparatus.

REVISED EXAMINING PROCEDURES EFFECTIVE JULY 1, 1964

On June 22, 1964, the memorandum reproduced below was distributed to the Patent Examining Corps. It is presented here for the information of all applicants and their representatives.

Optimum Examining Procedure—Memorandum No. 4

In the last few years, examining procedures have been extensively revised for the purpose of reducing to a minimum the total examining time necessary to bring each application to an equitable conclusion.

Under the broad title of compact prosecution, the guiding principle has been cooperative effort by Office and all applicants and patent practitioners to do everything essential to bring every case to an equitable conclusion in the minimum total time.

On June 8, 1964, Commissioner Edward J. Brenner in an address to the Examining Corps outlined further revisions of procedure which will become effective July 1, 1964, designed to reduce further both the processing time needed for each application and its total time of pendency in the Patent Office.

This Optimum Examining Procedure Memorandum No. 4 specifies the procedures by which the new policies will be effectuated. Issued to all employees in the Examining Corps on June 22, 1964, it will be published in an early issue of the OFFICIAL GAZETTE for the information of the public.

By direction of the Commissioner, the procedures of this Memorandum override and replace any contrary directives either in the Manual of Patent Examining Procedure, or in OEP Memoranda No. 1, No. 2 and No. 3 previously issued.

It is hoped that a completely revised issue of the MPEP may be possible soon.

(1) The first major change under Commissioner Brenner's program concerns the priority of examination for pending applications. Like the "third action special" program followed since 1961, it is directed toward disposing of older cases more quickly, but goes much farther.

Hereafter, each Examiner will give priority to that application in his docket, whether amended or new, which has the *oldest effective U.S. filing date*. Except as rare circumstances may justify Group Supervisors in granting individual exceptions, this basic policy applies to all applications.

Whether a given application has an effective U.S. filing date earlier than its actual filing date is determined by whether the disclosure of a parent case adequately supports any claim or claims of the later case. Examiners are responsible for making this determination. If at any time an Examiner determines that the "effective filing date" status of any application differs from what the records show, he should so inform the Clerk of Group, who should promptly amend the records to show the correct status, with the date of correction.

The new order of examination for each Examiner will continue top priority for those special cases having a fixed 60-day due date, such as Examiner's Answers and Decisions on Motions. Most other cases still remaining in the "special" category (for example, reissues, interference cases, cases made special by petition, cases ready for final conclusion, etc.) will continue in this category, with the first effective U.S. filing date normally controlling priority.

(2) The second major change involves the "more thorough first action" feature of compact prosecution. The heavy emphasis upon this more thorough first action is continued.

In addition, however, policy now emphasizes that the Examiner wherever possible must point out allowable claims or claimed subject matter or ways in which claims might be amended to make them allowable.

Further, while interviews before a first response are normally discouraged, an Examiner's suggestion of allowable subject matter may justify his indicating the possible desirability of an earlier interview to accelerate early agreement on allowable claims.

The first search should be such that the Examiner need not ordinarily make a second search of the prior art, unless necessitated by amendments to the claims by the applicant in the first response, except to check to determine whether any reference which would appear to be substantially more pertinent than the prior art cited in the first Office action has become available subsequent to the initial prior art search. It should cover the invention as described and claimed, including the inventive concepts toward which the claims appear to be directed. It should not be extended merely to add immaterial variants.

While attorneys note favorably a higher proportion of better first actions now being received, they comment also that too many superficial or poorly phrased first actions leave them still at sea about the Examiner's full attitude.

It is of highest importance, therefore, that this and later actions cover completely the questions of major importance, namely (1) whether there is adequate disclosure to support a patent, and (2) whether any inventive subject matter present is defined adequately to support a legally enforceable contract.

Intensive effort by individual Examiners and by those in supervisory position to aid and direct Examiners in adopting the most effective and rapid examining procedures for each action is urgently needed. The Commissioner has stated that success in our drive for improvement will hinge on "the capability and willingness of each Examiner to accept new methods and ideas in practice and procedure, and to wholeheartedly implement new concepts."

Shortening the time of prosecution following the first action is the major objective of the third and fourth major changes.

(3) The third change requires that, except in rare circumstances where the Group Supervisors may authorize exceptions, *all* second actions on the merits shall be *final*.

Current experience indicates that with the full cooperation of the applicant, this measure can be adopted without sacrificing any of applicant's rights.

For foreign applicants, the practice explained in Item 2 of OEP Memorandum No. 3, published April 14, 1964, 801 O.G. 267, gives full protection for those who comply with U.S. Patent Office procedural requirements.

Attorneys who have cooperatively revised their own procedures to incorporate in their first responses all changes of whatever character which they consider necessary to make each application completely ready for issue or appeal, regardless of what the Examiner's next action may be, have found this practice extremely effective in expediting cases to early conclusion.

To offset any increased rigor of prosecution due to earlier final rejection, Examiners are authorized to grant one interview after final rejection.

While the Office will continue rigorous enforcement of Rule 116, citation of new art by the Examiner in a final rejection will obviate further showing under Rule 116(b) for any amendment necessitated by the new art.

(4) The fourth change aids in shortening prosecution time by routine setting of *four-month shortened statutory periods for response* in nearly all first and subsequent rejections.

An exception will be made where a new reference is cited as a ground of rejection in the second Office action on the merits, the applicant in such cases being permitted the full statutory period of six months from the date of the Office action, except that where the new reference is necessitated by an amendment to the claims in applicant's first response, the normal four-month period will apply.

A related change directs that in case of an action consisting of only a requirement for restriction or in which the only rejection is for multiplicity, the period for response shall be set to expire two months from the date of the Office action.

Extension of time for reply will be governed by the provisions of Rule 136(b).

For the guidance of attorneys in knowing when their cases will be reached for action, the dates cited in the OFFICIAL GAZETTE for each Group will consist of (1) effective U.S.

filing date of the *oldest* case awaiting action in any Examiner's docket, and (2) date of the oldest case awaiting *first* action.

It is apparent from the above stated priority of examination that only the old cases already under amendment will be acted upon for some months to come. It is hoped that thereafter, as a response to an action in any case is received, the case may be acted upon within the next month.

(5) The fifth major change affects interference practice. Effective July 1, 1964, interferences will not be declared between pending applications if there is a difference of more than three months in the effective filing dates of the oldest and next oldest applications, in the case of inventions of a simple character, or a difference of more than six months in the effective filing dates of the applications in other cases. If an interference is declared, all applications having the same interfering subject matter should be included.

H. B. WHITMORE,
June 22, 1964. *Superintendent of the Examining Corps.*

PATENT EXAMINING CORPS

H. E. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7- 8-62	7- 8-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	10-29-62	11- 6-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1- 4-63	1- 2-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.	7- 2-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. E. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Seperation; Gas Separation; Special Utility; Molding Processes.	8-28-62	10-19-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-11-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	8-29-62	7-13-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11- 5-62	11- 6-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	9-18-62	8- 5-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-30-62	11-19-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	11- 8-62	10- 1-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	5- 2-63	5- 9-63
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	9-13-62	9-11-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9- 5-62	9- 4-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	12- 5-62	12- 3-62

CONDITION OF PATENT APPLICATIONS AS OF MAY 31, 1964

Total number of pending applications (excluding Designs)	210, 122
Total number of Design applications pending	6, 073
Total number of applications awaiting action (excluding Designs)	125, 460
Total number of Design applications awaiting action	2, 002
Date of oldest new application awaiting action	May 2, 1962
Date of oldest amended application awaiting action	May 9, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 3,438,076 to 3,494,957, inclusive
Plant Patents	Numbers 780 to 790, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—E. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8- 6-62	8- 7-62
METAL AND PLASTICS WORKING, GROUP 220—N. BERGER, Supervisory Examiner Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	1- 9-62	1-11-62
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 220—A. M. HORTON, Supervisory Examiner Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10- 3-62	9-19-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner. Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-18-62	1-14-62
HARDWARE, TOOLS AND JOINTS, GROUP 330—T. J. HICKEY, Supervisory Examiner Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12- 5-62	10- 3-62
FLUID HANDLING, GROUP 300—E. PAUL, Supervisory Examiner Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	12-31-62	5-15-62
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GARRAU, Supervisory Examiner Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	2- 5-62	1-23-62
HEATING, COOLING AND VENTILATING, GROUP 260—P. L. PATRICK, Supervisory Examiner Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	2-25-62	2- 5-62
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	4-20-62	6- 4-62
CIVIL ENGINEERING, GROUP 430—B. BENDETT, Supervisory Examiner Building Structures; Bridges, Closures; Closure Operators; Sales; Earth Engineering; Drilling; Mining.	2-15-62	1-30-62
PHYSICS, GROUP 420—R. L. EVANS, Supervisory Examiner Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11- 1-62	11-20-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-11-62	4-10-62
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-26-62	3-15-62
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-26-62	3-26-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner Printing; Typewriters; Stationery; Material Treatment.	11-16-62	12-13-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	1- 4-62	3- 4-62
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner Industrial Arts; Household, Personal and Fine Arts.	12-10-62	12-10-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE SARETT

No. 7051. Decided February 20, 1964

[51 CCPA —; 327 F.2d 1005; 140 USPQ 474]

1. PATENTABILITY—DOUBLE PATENTING—SPECIFICATION BE CONSIDERED TO UNDERSTAND PATENTED CLAIMS.

"Although on the double patenting rejection here involved we are concerned only with what this patent *claims*, in order to understand what it does claim and discuss the opposing arguments on this question, it is necessary to give some consideration to the disclosure of the specification, bearing in mind always that the teachings of that specification (inclusive of its claims) are not prior art with reference to appellant's invention as defined in the claims on appeal, since the application on appeal and the patent have the same effective filing date."

2. SAME—SAME—COMMON ASSIGNEE—EXTENSION OF MONOPOLY.

"Now if, by any fair interpretation, it can be said that the reference patent *claims* the invention on which Sarett's assignee is here seeking another patent, it could be said that allowance of the appealed claims would be an extension of the monopoly of the Arth et al. patent beyond its expiration, the principal supposed evil prevented by the rule against 'double patenting.' If the patent does *not* claim the invention, then we would have the not unusual situation in which, when a patent expires, something disclosed in it happens to be covered by the claims of another patent in common ownership and thus would have *no extension* of a *patent* monopoly, but merely a legal continuing monopoly. The exigencies of prosecution commonly compel the issuance of interrelated applications with overlapping disclosures at widely divergent times."

3. SAME—SAME—EFFECT OF DOUBLE PATENTING REJECTION—COMMON ASSIGNEE.

"'Double patenting' rejections are a not infrequent cause of patents issuing with claims covering subject matter disclosed in patents issued much earlier and for that reason may do the public a much greater disservice than the evils they are supposed to prevent in that they string out over a longer period the patent protection granted on related inventions made at the same time and also delay the disclosure to the public of the technical data contained in related applications growing out of integrated research. On the other hand, no real public injury is likely to result from the issuance of two patents, even on the same invention, at about the same time to a common assignee."

4. SAME—SAME—CONSTRUCTION OF CLAIMS—CLAIMS READ IN LIGHT OF SPECIFICATION TO DETERMINE INVENTION DEFINED.

"We can, of course, read the claims in the light of the specifications which support them, * * * We do this in order to determine what invention is defined by a claim. Having done that, what remains to be decided with respect to each claim of the application is whether it defines an invention which is patentably distinct from any claim of the issued patent."

5. SAME—SAME—COMPOUNDS—PATENTABLY DISTINCT CLASSES OF COMPOUNDS.

"Our analysis of both the Arth et al. disclosure and appellant's convinces us that the Board manifestly erred in rejecting claims 8–10 and 15–19. The former relate to the oxidation of three specific *cyclopentano*polyhydrophenanthrenes, none of which is disclosed by Arth et al., let alone claimed. The mere fact that the *oxidation* of cyclopentanopolyhydrophenanthrenes, as stated by the Board, 'is of essentially the same character as that of the Arth et al. patent claims' is not controlling. In our view, phenanthrenes, which Arth et al. discloss, and cyclopentanopolyhydrophenanthrenes, which they do not, are distinct classes of compounds and so are the compounds resulting from their oxidation. There is no reference of record on which to rest the view that they are not. We therefore consider claims 8–10 to be patentably distinct from any claim in Arth et al. since no claim in that patent is directed to the oxidation of cyclopentanopolyhydrophenanthrenes, subject matter undisclosed in the patent."

6. SAME—SAME—PATENTABLY DISTINCT GENUS AND SPECIES.

"As to claims 15–19, they are generic relative to the Arth et al. claims in their definitions of the classes of alcohols oxidized. Certainly a claim to the genus so defined is not directed to the same subject matter as a claim to the species and we hold claims 15–19 to be 'patentably distinct' from any Arth et al. claims. Claims 17 and 19, furthermore, define classes of alcohols (subgeneric relative to claims 15 and 16) not even disclosed by Arth et al. and, a fortiori, are patentably distinct from the claims therein. Thus claims 15–19 are all deemed to define inventions distinct from any inventions defined in the claims of Arth et al. and to be patentable thereover."

7. SAME—SAME—SAME.

"The situation is that the oxidizing agent used in the process is claimed generically in the patent in the broadest possible terms as 'an oxidizing agent' and as specifically as possible in the application at bar by naming a single oxidizing agent—'pyridine-chromium trioxide complex'—'at a pH in excess of 7.0.' Clearly these two claims, to broad genus and narrow species respectively, are patentably distinct."

8. SAME—SAME—READABILITY OF CLAIM ON PATENTED CLAIM.

"* * * it is elementary that readability of a claim on the subject matter of another claim (domination) is neither determinative of the double patenting issue nor demonstrative that claims are directed to the same invention."

9. CLAIM—INDEFINITENESS.

"* * *, in appellant's claims, the phrase 'an alcohol having at least one hydrogen atom attached to the carbon atoms bearing the hydroxyl substituent' means primary and secondary alcohols. The specification states that such alcohols may be 'substituted' and may be 'polyhydric.' We see nothing unconventional about such terminology. Thus the claims are not indefinite."

10. SAME—UNDUE BREADTH—POSSIBLY INOPERATIVE SUBSTANCES.

"* * * the mere *possibility* of inclusion of inoperative substances does not prevent *allowance* of broad claims. * * * If they are so broad as to be vulnerable, no one but the patentee will suffer from it."

11. SAME—SAME—SAME—BROAD INVENTION.

"It is certainly not incumbent on an applicant who has made a broad process invention and supported it by an adequately broad disclosure to demonstrate the operativeness of every substance falling within the scope of the broad claims to which he is entitled. In the instant case the research to do this would quite evidently be endless. The function of claims is to *point out* the invention and *define* the scope of the monopoly, not to exclude substances which are possibly of no use in practicing the invention."

APPEAL from the Patent Office. Serial No. 600,163.

REVERSED.

Rudolph J. Anderson, Jr., *I. Louis Wolk*, *Raymond J. McElhannon*, and *Henry T. Burke* for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals, affirming the rejection of claims 8–19 in Sarett's application Serial No. 600,163, filed July 26, 1956, entitled "Chemical Compounds and Process for Preparing the Same." [1]

The invention relates to the oxidizing of primary and secondary alcohols to corresponding carbonyl compounds. In essence, *mild* oxidizing agents are used, thus preventing oxidation of unsaturated bonds in the alcohol and also preventing oxidation beyond the desired

[1] This application is a continuation-in-part of applications Serial No. 263,016 and 292,985, filed December 22, 1951, and June 11, 1952, respectively.
December 22, 1951, is also the filing date of the parent application Serial No. 263,015 of the application which resulted in the Arth et al. Patent No. 2,722,532 issued to the assignee of the present application, which patent is the only reference now relied on in rejecting the appealed claims.

stage. Alkaline medium is used to avoid undesirable side reactions at acid-sensitive portions of alcohol molecules.

With respect to the naming of the alcohols to be oxidized, there are two groups of claims: (1) claims 8–14 which define the process of oxidizing *specific complex alcohols* using "pyridine-chromium trioxide complex" as oxidizing agent; and (2) claims 15–19 which define the process of so oxidizing *primary and secondary alcohols broadly*. In this group the oxidizing agent is defined as in group (1) except for claim 15 in which it is more broadly defined as "a tertiary amine-chromium trioxide complex," pyridine being a tertiary amine, the tertiary amines being further restricted to "pyridine, lower alkyl substituted pyridines, and benzosubstituted pyridines." Claims 17–19, dependent on claim 16, specify, respectively, that the alcohol is aliphatic, or a phenanthrene compound, or a cyclopentanopolyhydrophenanthrene compound.

Claims 8 and 16 are representative of groups (1) and (2) respectively and read [our emphasis]:

8. A process for preparing 3-acetoxy-11,20-diketopregnane which comprises intimately contacting 3-acetoxy-11-keto-20-hydroxypregnane *with pyridine chromium trioxide complex at a pH in excess of 7.0* and recovering 3-acetoxy-11,20-diketopregnane from the resulting reaction mixture.

16. In the process of oxidizing an alcohol having at least one hydrogen atom attached to the carbon atom bearing the hydroxyl substituent to the corresponding carbonyl compound, the improvement which comprises intimately contacting said alcohol *at a pH in excess of 7 with a pyridine-chromium trioxide complex*, and recovering the carbonyl compound from the resulting reaction mixture.

The definition of the alcohol in claim 16 means, in plain English (the use of which is often prevented by Patent Office practice), a primary or secondary alcohol.

There are two grounds of rejection: (1) all claims, double patenting over Arth et al., a commonly-assigned patent in which appellant is one co-inventor;[2] and (2) claims 15–19, indefiniteness in their broad definitions of the alcohols, under 35 U.S.C. 112.[3]

The complexity of issues requires that we outline briefly the disclosure and claims of appellant's application and of the Arth et al. patent and set the legal problem in its factual background.

Appellant's Disclosure

Appellant asserts as his broad invention the oxidizing of primary and secondary alcohols, particularly unsaturated alcohols, in alkaline medium with organic base-chromium trioxide complexes. Preferred bases are pyridine, gamma-picoline, beta-picoline, lutidines, quinoline, diethyl formamide and the like. Oxidation is effected by intimately contacting the alcohol with oxidizing agent in inert solvent. Primary alcohols are oxidized to aldehydes, secondary alcohols to ketones. The specification includes many types of alcohols to which the process is applicable. Over sixty types are disclosed including aliphatic, aralkyl, aralkenyl, aralkinyl alcohols, to name a few, as well as steroid alcohols and steroid derivatives such as pregnanes, cholanes, etc.

Appellant says his process is especially useful in oxidizing certain hydroxy (—OH) functional groups on steroids to their correspond-

[2] Patent No. 2,722,532, issued Nov. 1, 1955, to Glen E. Arth, George I. Poos, and Lewis H. Sarett (the applicant herein), assignors to Merck & Co., Inc., Rahway, N.J. This patent issued on application Serial No. 293,672, filed June 14, 1952, as a continuation-in-part of Serial No. 263,015, filed December 22, 1951.

[3] The Board allowed one claim defining the process of oxidizing n-butyl alcohol to n-butyraldehyde with pyridine-chromium trioxide complex at pH greater than 7. Appellant complains that this specific claim is no protection for the broad invention he has disclosed and claims in some of the appealed claims.

ing keto (=O) groups. For example, 17-position hydroxys may be oxidized to 17-ketos without affecting unsaturated bonds elsewhere in the molecule. The specification includes thirty-one specific examples in which alcohols ranging from cyclopentanopolyhydrophenanthrene derivatives to n-butyl alcohol (allowed claim 7) are oxidized. Included are pregnanes, ergosterols, phenanthrenes, pyrans, benzyl alcohols, propene alcohols, etc.

Claims 8–14, defining appellant's process, set forth specific complex alcohols as follows:[4] claim 8—3-acetoxy-11-keto-20-hydroxypregnane; claim 9—3,21-diacetoxy-11-keto-17,20-dihydroxypregnane; claim 10—$\Delta^{8(9),22}$-3-acetoxy-7,11-dihydroxyergostadiene; claim 11—4b-methyl-7-ethylenedioxy-1,2,3,4,4a,4b,5,6,7,8,10,10a-dodecahydrophenanthrene-1,4-diol; claim 12—4b-methyl-7-ethylenedioxy-1,2,3,4,4a,4b,5,6,7,8,10,10a-dodecahydrophenanthrene-1,4,-diol-1-acetate; claim 13—4b-methyl-7-ethylenedioxy-1,2,3,4,4a,4b,5,6,7,8,10,10a-dodecahydrophenanthrene-1-one-4-ol; claim 14—4b-methyl-7-ethylenedioxy-1,2,3,4,4a,4b,5,6,7,8,10,10a-dodecahydrophenanthrene-1-ol-4-one. In all the aforementioned alcohols, hydroxy groups are oxidized to keto groups in the claimed process.

Claim 16, supra, is the broadest of claims 15–19. It is inclusive of all primary and secondary alcohols. Claim 15 differs from 16 only in its definition of the complex former used in preparing the oxidizing agent. It too, therefore, includes all primary and secondary alcohols.

The Arth et al. Patent Disclosure

[1] Although on the double patenting rejection here involved we are concerned only with what this patent *claims*, in order to understand what it does claim and discuss the opposing arguments on this question, it is necessary to give some consideration to the disclosure of the specification, bearing in mind always that the teachings of that specification (inclusive of its claims) are not prior art with reference to appellant's invention as defined in the claims on appeal, since the application on appeal and the patent have the same effective filing date. *In re Coleman et al.*, 38 CCPA 1156, 189 F.2d 976, 90 USPQ 100. We preface this consideration by quoting the Patent Office position as stated in the Solicitor's brief:

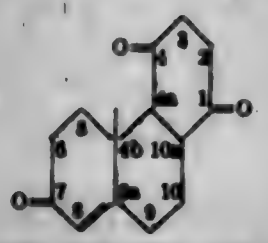
> The position of the Patent Office with respect to this ground of rejection is that *the instant claims are directed to essentially the same invention* as that recited in any of Arth's process claims 9, 10, 11, 12 and 16, and that the two groups of claims *differ only in scope*. [Emphasis added.]

Arth et al., as does appellant, disclose processes for oxidizing specifically 4b-methyl-dodecahydrophenanthrene-1,4-diol-7-one to 1,4,7-triones.[5] In addition, however, Arth et al. teach processes for isom-

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[4] For structural formulae and conventional numbering of steroid nuclei, see Handbook of Chemistry and Physics, 44th Ed. (1962–3), pp. 1946–1971.

[5] Such names are too cumbersome for discussion. 4b-methyldodecahydrophenanthrene-1,4,7-trione is represented structurally, as shown in the patent, thus:



Hereinafter in this opinion, to simplify discussion, such molecule will be referred to simply by variations at the 1,4, and 7 positions, omitting the long name of the basic 3-ring structure, e.g., 1,4,7 trione as above, or 7-ethylenedioxy-1-ol-4-one, etc. Also 7-ethylenedioxy will be simply "7-dioxy." (The term "-one" refers, of course, to =O and "-ol" designates —OH, oxidation transforming the latter into the former by removal of a hydrogen atom.)

erizing various triones by alkali treatment to form stereoisomers thereof. The claims define both processes and compounds. Only process claims are germane to the instant appeal, as the Solicitor has made clear, since appellant claims processes.

Simply stated, Arth et al. teach that 1,4,7-triones are made by oxidizing 1,4-hydroxy compounds in which the 7-keto position is protected by a group R, defined as "a substituent convertible to a keto substituent by hydrolysis." Enol ethers and ketals are such groups; ethylenedioxy is used in all examples (herein "7-dioxy"). Oxidation is effected with an "oxidizing agent," disclosed examples being metal alkoxides *and also the pyridine-chromium trioxide complex of appellant's claims*. That is the source of the legal problem. The 7-dioxy-1,4-hydroxy starting material is intimately contacted with oxidizing agent to effect reaction. The product is a mixture of completely oxidized 1,4-dione and partially oxidized 1-ol-4-one and 1-one-4-ol. The latter two products may be further oxidized to 1,4-dione by repeating the oxidation process. Hydrolysis removes the 7-dioxy group to give 1,4,7-triones by restoration of the original O= substituent.

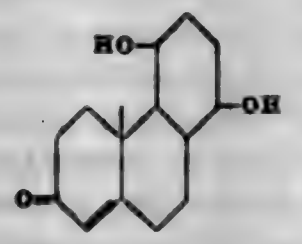
An alternative process involves acylating either the 1- or 4-hydroxy group prior to oxidation; this results in a stereoisomer of the trione obtained by the process first above described.

The claims of Arth et al. considered relevant to this appeal by the Examiner and the Solicitor are 9–12 and 16.[6] Such claims, abbreviated in conformance with footnote 5, supra, read [we have italicized the oxidizing agent]:

9. The process for preparing * * * 1,4,7-trione which comprises reacting * * * 7-ethylenedioxy- * * * 1,4-diol with *pyridine-chromium trioxide complex* in pyridine, recovering * * * 7-ethylenedioxy- * * * 1,4-dione from the resulting reaction, intimately contacting said dione with an inorganic base, and hydrolyzing the resulting product by heating with an acid.

10. The process for preparing * * * 1,4,7-trione which comprises reacting * * * 7-ethylenedioxy- * * * 1,4-diol with *pyridine-chromium trioxide complex* in pyridine, recovering * * * 7-ethylenedioxy- * * * 1-ol-4-one from resulting reaction, hydrolyzing the recovered product by heating with an acid, intimately contacting the hydrolyzed product with chromium trioxide, and reacting the resulting oxidized product with an inorganic base.

11. The process for preparing * * * 1,4,7-trione which comprises reacting a member from the group consisting of 7-enol ether and 7-ketal derivatives of a compound of the formula

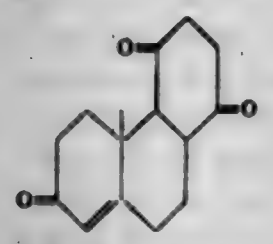


with *an oxidizing agent*, and hydrolyzing the resulting reaction product by heating with an acid.

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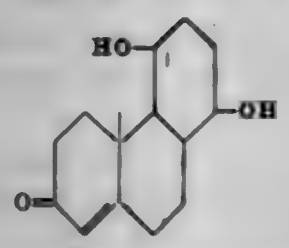
[6] The Patent Office position as to which claims of the Arth et al. patent support the "double patenting" rejection has been one of vacillation. The Examiner's final rejection relied on claims 9 and 10 only. After reading the brief on appeal to the Board, he cited in his Answer thereto claims 9, 10, 11, and 16. The Board of Appeals referred only to claims 9, 10, and 12, ignoring claims 11 and 16, possibly for what it considered good reason. The solicitor's brief in this court places primary emphasis—indeed suggests we may decide the case—on claim 16 alone, with claim 11 as a close follow-up therefor, these claims being similar; in arguing claim 9, new theories supported by four new references to literature are presented. As to claims 10 and 12, the brief says "consideration of the propriety of these claims of Arth [et al.] as a basis for the double patenting rejection is deemed unnecessary," adding that "if the Court finds that the instant claims are patentably distinct from the broader patent claims 9, 11 or 16, it is highly unlikley that it would fail to find a patentable distinction between the instant claims and patent claims 10 and 12."

12. The process for preparing a compound of the formula:



which comprises reacting • • • 7-ethylenedioxy- • • • 1,4-diol with acetic anhydride in the presence of pyridine to produce the corresponding 1,4-diol-1-acetate, oxidizing a pyridine solution of the resulting acetylated product with *pyridine-chromium trioxide complex*, hydrolyzing the resulting oxidized product with potassium carbonate, reoxidizing the resulting hydrolyzed product with *pyridine-chromium trioxide complex* in pyridine solution, and hydrolyzing the resulting oxidized product by heating with an acid.

16. The process which comprises reacting a compound from the group consisting of 7-enol ether and 7-ketal derivatives of a compound of the formula



with *an oxidizing agent* to produce the corresponding derivatives of • • • 1,4,7-trione.

A point to note in connection with the ensuing discussion is that claims 11 and 16 recite "an oxidizing agent"—a broad, functional, generic expression inclusive of *any* oxidizing agent—and that the remaining claims 9, 10, and 12 all specify as the oxidizing agent "pyridine-chromium trioxide complex." Another point to be noted in this connection is that the Board relied only on claims 9, 10 and 12 in affirming the double patenting rejection.

The Relationship Between Appellant's and the Patentees' Inventions

The foregoing, as well as consideration of the record and briefs, presents a clear picture of the general situation. Appellant Sarett made an invention relating to the oxidation of primary and secondary alcohols which reside in the *oxidizing agent* used in the oxidation process, part of his invention or discovery being that the agent functions under alkaline conditions. This invention he claims as a process of "intimately contacting" the alcohol to be oxidized with his agent, which is novel as an oxidizing agent though per se a known material, "at a pH in excess of 7.0" (alkaline). Following this first oxidation step, oxidation from the intimate contact being presumed, his process as claimed includes the second step of "recovering" the oxidation product, which appears to be conventional, mere completion of the process to get out the oxidation product, and no part of what Sarett invented. In short, his "process" is the result of discovering a new use for a known composition of matter, viz., pyridine-chromium trioxide complex. Cf. 35 U.S.C. 100(b) and 101.

Sarett was working with others, Arth and Poos, for Merck & Co., Inc. (fn. 2 supra), and with them made other process inventions by which certain *new compounds* were made by *new processes* including an oxidation step. Sarett's oxidation invention could be, and was, used *in* some of these new processes to produce new compounds. For example, patent claim 9 is a process involving the four steps of oxidizing, recovering the oxidation product, reacting it with an inorganic

base, and hydrolyzing with heat and acid. Step one is applicant's oxidation invention.

Patent applications were filed on the same day, back in 1951, by Sarett on his sole invention and by Arth, Poos, and Sarett on their joint inventions and concurrently prosecuted until an application on the joint inventions was allowed and passed to issue, in 1955, while the Sarett application was still meeting with rejection on prior art. For the first time on January 21, 1958, the record discloses, it met with a "double patenting" rejection on the Arth et al. patent and this, six years later, is before us for decision. (Over three and a half years was taken by the appeal to the Board and two more by the appeal to us. This is "normal" and certainly not chargeable against applicant.) Rejection on art was still relied on before the Board but by it was reversed.

Appellant Sarett insists that the joint inventors claimed only their joint inventions in the reference patent, albeit some of the claims indisputably recite Sarett's oxidation invention as one step in certain claimed processes, and that his oxidation invention as defined in the claims on appeal is not claimed therein.

The Patent Office does not say that there is any claim in the patent which, as written, defines the *same* invention that Sarett is claiming but argues that nevertheless there is "double patenting"—or would be if the appealed claims were patented.

We will not at this point go into the reasoning of the Patent Office, which in essence asks us to *ignore* specific process step limitations in the patent claims on the ground that they are "conventional" steps. We think it would be well, on policy grounds, first to face squarely a fact which no one has mentioned but which lurks behind the double patenting rejection, no doubt, and possibly motivates a rejection on a legal ground which is at times exceedingly obscure. Certainly it is in this case.

Sarett's oxidizing agents are disclosed in the Arth et al. patent. They are even named in some of the claims as used in one step of multi-step processes. That patent having been issued *before* any patent claiming the Sarett oxidizing process could possibly issue (the time lapse would have been nearly three years at the time of final rejection and is now about nine), if the appealed claims are patented, the patent owner, the common assignee, will have continuing patent rights covering an oxidation process step *disclosed* in the Arth et al. patent and mentioned in some of its claims long after that patent expires. Another fact which seems to have influenced, if not confused, the Patent Office thinking is that the patent contains claims (e.g., patent claim 16) which *dominate* the invention of some of appellant's claims calling for "an oxidizing agent" broadly, which claims are supported by a disclosure of such agents which includes appellant's agent.

[2] Now if, by any fair interpretation, it can be said that the reference patent *claims*[1] the invention on which Sarett's assignee is here seeking another patent, it could be said that allowance of the appealed claims would be an extension of the monoply of the Arth et al. patent beyond its expiration, the principal supposed evil prevented by the

[1] It should be clear that the patent could not legally contain a claim to Sarett's *sole* invention under existing law because it would not have been the invention of the *joint* patentees. This rule of law forces the filing of distinct applications in many situations resembling that before us and creates complexities and delays which could be avoided under a less rigid statute. Cf. 35 U.S.C. 111, 116, and 256.

rule against "double patenting."[9] If the patent does *not* claim the invention, then we would have the not unusual situation in which, when a patent expires, something disclosed in it happens to be covered by the claims of another patent in common ownership and thus would have *no extension* of a *patent* monopoly, but merely a legal continuing monopoly. The exigencies of prosecution commonly compel the issuance of interrelated applications with overlapping disclosures at widely divergent times.

[3] "Double patenting" rejections are a not infrequent cause of patents issuing with claims covering subject matter disclosed in patents issued much earlier[9] and for that reason may do the public a much greater disservice than the evils they are supposed to prevent in that they string out over a longer period the patent protection granted on related inventions made at the same time and also delay the disclosure to the public of the technical data contained in related applications growing out of integrated research. On the other hand, no real public injury is likely to result from the issuance of two patents, even on the same invention, at about the same time to a common assignee.[10] If the ultimate results in the instant case are ever regarded by anyone as appalling, it should be remembered what caused the delay—to the public's misfortune—in the issuance of Sarett's patent.

We return to a consideration of the specifics of the double patenting rejection, remembering that the question is whether the Sarett invention of the appealed claims is in effect claimed in the issued Arth et al. patent.

Double Patenting Rejection

The Board considered all of appellant's claims to be directed to the same invention claimed in Arth et al. It said [all emphasis ours]:

> In the present case we are convinced that claims 8 to 19 are not directed to a different invention from that claimed in the Arth et al. patent. The *essential feature* of the process of claims 9, 10 and 12 of Arth et al. *is the oxidation* of the 7-ethylene dioxy-dodecahydrophenanthrene-1,4-diols *with pyridine-chromium trioxide complex in pyridine.* As the Examiner points out, the alkali treatment and the removal of the 7-ethylene dioxide [dioxy] protective group involve merely conventional procedures in this art. It would be expected, indeed, that the diene products of the Arth et al. claims would be subjected to such a treatment. A chemist of ordinary skill in this art would be aware from the Arth et al. claims of the *general oxidation applications* of the pyridine-chromium trioxide agent employed in a pH in excess of 7.0, including the applications called for in claims 8 to 19.
>
> Claims 8 to 14 call for the oxidation of hydroxy groups on various dodecahydrophenanthrene and cyclopentanophenanthrene derivatives but in each case the *oxidation reaction is of essentially the same character as that the Arth et al. patent claims.* Each involves the oxidation of one oxidation-susceptible hydroxy group without eliminating a double bond in the nucleus or without disturbing groups which might have been oxidation-susceptible in acidic media. In the process of appellant's claims 18 and 19 the oxidation called for may involve any or every compound having, respectively, a phenanthrene and a cyclopentanophenanthrene nucleus and, therefore, may involve compounds having substituents or unsaturation of the type called for in the claims of Arth et al. as well as compounds presenting no oxidation problems.
>
> The *generic claims 15 to 17 represent an extrapolation of the oxidation process* of the Arth et al. claims to all alcohols or all aliphatic alcohols since it would be apparent from the patent that the chromium trioxide-pyridine oxidation claimed as useful in the oxidation of the patent claims, would be useful in a

[9] A wide variety of fact situations appear in cases which have been lumped under the "double patenting" heading. We do not recall a case, and none has been cited, involving facts on all fours with those here but similar situations are not at all uncommon.

[9] See, for example, the fact situations in the numerous cases discussed in this court's opinion in *In re Stanley et al.*, 41 CCPA 966, 214 F.2d 151, 102 USPQ 334, especially those in which double patenting rejections were reversed.

[10] We are not unaware of the potential divided ownership argument but we think that, realistically, it lacks substance.

wide variety of oxidation processes where no particular problem of protecting oxygen-susceptible radicals or bonds exists.

Appellant argues that the Board erred in considering Arth et al.'s claimed process to be essentially oxidation followed by "conventional" separation steps; that alkaline treatment effects *isomerization* which is "non-conventional"; and that appellant's claims are "generic" to those of Arth et al. and patentable under the rationale of *In re Stanley et al.*, 41 CCPA 956, 214 F.2d 151, 102 USPQ 234. Further, appellant points out that the parent applications of both Arth et al. and his instant application were filed on the same day; that the claims under appeal could not have been asserted by Arth et al. since the latter's disclosure provided no basis therefor; and that in fact appellant is the inventor of the "generic" invention while the co-inventors in Arth et al. are the inventors of the more narrow invention claimed therein.

No simple relationship exists between the claims of Arth et al. and appellant's claims. Some of appellant's claims are more specific, some more generic to those of Arth et al. Some are hybrid. We must therefore look at each claim and analyze it on its own merits.

[4] We can, of course, read the claims in the light of the specifications which support them. *In re Simmons*, 50 CCPA 990, 312 F.2d 821, 136 USPQ 450. We do this in order to determine what invention is defined by a claim. Having done that, what remains to be decided with respect to each claim of the application is whether it defines an invention which is patentably distinct from any claim of the issued patent. *In re Stanley, et al.*, supra.

[5] Our analysis of both the Arth et al. disclosure and appellant's convinces us that the Board manifestly erred in rejecting claims 8–10 and 15–19. The former relate to the oxidation of three specific *cyclopentano*polyhydrophenanthrenes, none of which is disclosed by Arth et al., let alone claimed. The mere fact that the *oxidation* of cyclopentanopolyhydrophenanthrenes, as stated by the Board, "is of essentially the same character as that of the Arth et al. patent claims" is not controlling. In our view, phenanthrenes, which Arth et al. disclose, and cyclopentanopolyhydrophenanthrenes, which they do not, are distinct classes of compounds and so are the compounds resulting from their oxidation. There is no reference of record on which to rest the view that they are not. We therefore consider claims 8–10 to be patentably distinct from any claim in Arth et al. since no claim in that patent is directed to the oxidation of cyclopentanopolyhydrophenanthrenes, subject matter undisclosed in the patent.

[6] As to claims 15–19, they are generic relative to the Arth et al. claims in their definitions of the classes of alcohols oxidized. Certainly a claim to the genus so defined is not directed to the same subject matter as a claim to the species and we hold claims 15–19 to be "patentably distinct" from any Arth et al. claims. Claims 17 and 19, furthermore, define classes of alcohols (subgeneric relative to claims 15 and 16) not even disclosed by Arth et al. and, a fortiori, are patentably distinct from the claims therein. Thus claims 15–19 are all deemed to define inventions distinct from any inventions defined in the claims of Arth et al. and to be patentable thereover.

We cannot agree with the Board's reasoning because, instead of considering whether the claims of the patent are directed to the subject matter of the appealed claims, it treats the patent claims like a prior art reference and says, in effect, a chemist reading those claims

would be *aware* that the pyridine-chromium complex used under alkaline conditions, *referred to* in the claims, would have "general oxidation applications," including those specifically claimed by appellant and also as claimed generically by appellant. We are not here concerned with what one skilled in the art would be aware from *reading* the claims but with *what inventions the claims define.*

It remains to consider appellant's claims 11–14.

Claim 11

Claim 11 defines the process whereby 7-dioxy-1,4-diol is oxidized with pyridine-chromium trioxide complex at pH in excess of 7.0 to produce a mixture of 1,4-dione, 1-one-4-ol, and 1-ol-4-one, the three products being recovered from the reaction mixture.

The Board's view appears to have been that Arth et al. really claim the same invention in any one of claims 9, 10, and 12. Of these claim 9 is, according to the Solicitor, the most similar [11] so we shall discuss it. The Patent Office regards it as "representative of these claims and in effect says if we disagree as to claim 9 it is unnecessary to consider 10 and 12.

Arth et al. claim 9, which we have set forth earlier, defines *a four-step process* including not only oxidation and recovery, as in appealed claim 11, but two other steps: (1) treatment of recovered 1,4-dione with inorganic base and (2) hydrolyzing the resulting recovered product by heating with acid. The latter step in fact removes the 7-ethylenedioxy protective group, as appellant admits.

The Board's idea, shown by the above quotation from its opinion, was that *the* "essential feature" of patent claim 9 is the oxidation with appellant's oxidizing agent and that steps (1) and (2) "involve merely conventional procedures" which one of ordinary skill in this art would *expect* to be applied to the dione product of the oxidation step. By this thinking the Board reduces the patent claim to a two-step process and thus equates it with appealed claim 11, both processes being equivalent. We find the reasoning unsound for various reasons.

Appellant points out that the inorganic base treatment in the patent claim is to effect *isomerization* which is not conventional and also that the use of hydrolysis step (2) is not "conventional" in the process of the claim since one might desire to leave the protective ethylenedioxy group on the phenanthrene nucleus, citing an instance of where this is done in the art. The Board, as we have pointed out before, cites *nothing* to show what is "conventional."

As to the conventionality of step (1), we do not agree with the Board. Although it is not quite clear from the Arth et al. disclosure when alkali alumina (inorganic base) treatment is used for isomerization and when it is used simply as a recovery technique, it is clear that 1,4-dione *per se* is not treated with alumina except to effect isomerization. Furthermore, claim 9 of Arth et al. requires that 1,4-dione first be *recovered* and only thereafter is it intimately "contacted" (i.e., allowed to react) with inorganic base. Clearly this is not for the purpose of separating 1,4-dione from anything, i.e., for recovery, and must be for isomerization. On this record we cannot equate the inorganic base treatment step of claim 9 of the patent with the recovery step of appealed claim 11 so as to make it "conventional" on the assumption that "recovery" is conventional. Claim 11, in our opinion, is patentably distinguishable from claim 9 of Arth et al. and not rejectable on that claim.

[11] Cf. fn. 6, supra.

Contrary to the Board, which relied on Arth et al. claims 9, 10, and 12, the Solicitor has placed principal reliance on their claim 16, which would seem to show a hesitancy to rely on the Board's reasoning, considering also that the Board did not even mention claim 16 (or claim 11, the Solicitor's second line of defense).

Claim 16 differs from appealed claim 11, first, in its definition of the alcohol to be oxidized. Claim 11 specifies (see fn. 5) 7-dioxy-1,4-diol which is *included* within claim 16 in the term "7-ketal derivatives"; but claim 16 also includes "7-enol ether" derivatives. Next, the oxidation products are specified in claim 11 to be three named compounds; in claim 16 they are broadly defined as derivatives of 1,4,7-trione, inclusive of the three but any one or more would be within the claim. Claim 16 is a single step process claim to "reacting * * * to produce." Claim 11 is a two-step process to "preparing" by "contacting" and "recovering." Perhaps the differences above recited are only such differences in *scope* as not to avoid "double patenting" but we do not have to decide that question because of another major difference between the claims in defining the oxidizing agent used in the process.

Arth et al. claim 16 calls for "an oxidizing agent" rather than for the specific agent of claim 11, "pyridine-chromium trioxide complex at a pH in excess of 7.0."

[7] The situation is that the oxidizing agent used in the process is claimed generically [12] in the patent in the broadest possible terms as "an oxidizing agent" and as specifically as possible in the application at bar by naming a single oxidizing agent—"pyridine-chromium trioxide complex"—"at a pH in excess of 7.0." Clearly these two claims, to broad genus and narrow species respectively, are patentably distinct. The Solicitor admits the correctness of this broad genus and narrow species characterization by making it himself. Nevertheless, he flatly contends that "patent claim 16 and instant claim 11 are directed to the same invention."

[8] The Solicitor first argues that "Claim 16 is readable on the single step of oxidizing" the 7-dioxy 1,4-diol of Sarett claim 11, but it is elementary that readability of a claim on the subject matter of another claim (domination) is neither determinative of the double patenting issue nor demonstrative that claims are directed to the same invention. As Stringham said in his "Double Patenting" many years ago, p. 207:

> One of the simplest, clearest, soundest, and most essential principles of patent law, is that a later invention may be validly patented, altho dominated by an earlier patent, whether to the same or to a different inventor.

He also said something else worth remembering anent the issues in this case, p. 209:

> The difficulty which American courts, throughout nearly their whole history, have had in understanding the application to patent law of the elementary logic of dominance and subordination, genus and species, goes back to the primitive thought that an "invention" upon which the patent gives *protection* is something tangible. The physical embodiment or disclosure, which, in itself is something tangible, is confused with *the definition or claim* to the inventive novelty, and this definition or claim or monopoly, also sometimes called "invention" in one of that word's meanings, is *not something tangible, but is an abstraction*. Definitions are always abstractions. This primitive confusion of "invention" in the sense of physical embodiment with "invention" in the sense of definition of the

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[12] Commissioner Paine correctly said in *Ex parte Ewart*, 1890 CD 78:
The term "generic," in its application to inventions, has not an absolute but only a relative signification. An invention which is generic in its relation to a class of inventions which it embraces as species may itself be specific in its relation to a broader class in which it is included.

patentable amount of novelty, survives to the present day [1963], not only in the courts, but among some of the Examiners in the Patent Office.

In patent law there is no possibility of clear thinking until it is understood that an "invention" *as protected by a patent* is an abstraction, an idea of means. [Our emphasis.]

And on page 223 the same author reiterates:

Springing from the failure to recognize the abstract nature of an "invention" as protected by a patent, arises the confusion caused by the words "covered," "embraced," and "protected." The tribunals fail to remember that inventions like other phenomena fall into genera, and that the genus may be patented. Exactly here lies a mass of judicial and administrative error of perhaps greater magnitude than any other mass of error in the whole field of patent law. No useful thinking can be done on the question of double patenting law, as applied to claims of different scope, until this confusion about genus and species is removed.

This author's words are worth heeding. He has devoted more published thought to "double patenting" problems than any other scholar in the field.

In urging identity of the invention claimed in claims 16 and 11, the Solicitor next attempts to rely on the fact that "Arth [et al.] discloses the use of that specific oxidizing agent," meaning appellant's agent. But the patent also discloses a whole class of other oxidizing agents—metal alkoxides—and appellant's pyridine-chromium trioxide complex is disclosed as a possible alternative to their use. Here the Solicitor is falling into the very fault of reasoning pointed out by Stringham a quarter century ago, confusing the disclosure with the definition of the claim, or asking us to. The mere inclusion in the supporting disclosure for the generic claim to all oxidizing agents of appellant's specific oxidizing agent does not convert the generic claim to a claim to the species. Nor, may we add, does the recitation of appellant's agent as used in one step of some of the patentees' other four- and five-step process claims. This second argument is, therefore, without weight.

Finally, the Solicitor says:

• • • appellants [sic] admit that *Arth et al. were the inventors of appellants' [sic] oxidation reaction* in conjunction with other reaction steps (Br-28), [so] it is evident that patent claim 16 and instant claim 11 are directed to the same invention. [Original emphasis.]

The wrong words have been italicized by the Solicitor. The important words from the supposed "admission" are "in conjunction with other reaction steps" and when they are heeded and taken in context there is no "admission" whatsoever. There is such a transparent effort to turn a plain statement into something it is not that we deem it desirable to show what appellant's brief actually said:

Likewise here as in *Stanley et al.* appellant stresses that he is the inventor of the generic oxidation reaction, which therefore could not have been claimed by Arth et al. Arth et al. were the inventors of the specific "improvement" claimed in their patent comprising the process of producing the novel triketo compounds of their invention by successive stages of reaction applied to a specific starting material, including appellant's oxidation reaction in conjunction with other reaction steps.

We think this speaks for itself, that the "admission" relied on, to be charitable, is the nonexistent product of an overwrought imagination and we therefore find no support in this argument for the contention that the claims are for the same invention. We will not sustain the rejection of claim 11 on the ground of "double patenting."

Claims 12, 13, and 14

Claim 12 defines the two-step process of (1) oxidizing 1,4-diol-1-acetate with pyridine-chromium trioxide complex at pH in excess of 7.0 to produce 1-ol-4-one-1-acetate and (2) recovering it.

Claims 13 and 14 define, respectively, the oxidation, with the same oxidizing agent as in claim 12, of 7-dioxy-1-one-4-ol and 7-dioxy-1-ol-4-one to produce the corresponding 1,4-diones and the recovery thereof.

The Patent Office makes the same argument based on Arth et al. claim 16 (and secondarily claim 11) as to these claims which it made on appealed claim 11 without distinguishing between them. We reject that argument for the reasons we have stated.

As to Arth et al. claims 9, 10, and 12 on which the Board chose to rely, the Solicitor rested his case on patent claim 9 saying that if the court held against him as to that claim he thought it "highly unlikely that it would fail to find a patentable distinction between the instant claims and patent claims 10 and 12." We give the prophet his due but in doing so we state it to be our opinion that patent claim 12 is the most relevant to appealed claim 12 and patent claim 10 is the most relevant to appealed claims 13 and 14. However, each of the appealed claims defines an oxidation with Sarett's specific oxidizing agent followed by a conventional "recovery" of any desired and undefined kind. Patent claims 10 and 12 by contrast define five-step processes involving isomerization of one of the recovered products as in the case of claim 11, fully discussed above. We find in these facts more than enough to convince us that "patentable distinction" exists.

We therefore reverse all rejections predicated on "double patenting."

Indefiniteness Rejection

The Examiner said in his answer (all emphasis ours):

> These latter claims [15–19] are so broad as to be indefinite in the use of the indefinite articles "an" and "a" to define the alcohol reactants. *Admittedly*, the disclosure of operative schools [alcohols] is broad, however, interfering oxidation sensitive groups such as sulfides, sulfoxides, olefinic, acetylenic, cyano, carbamyl, and isocyanate are *not shown to be operative* in the herein claimed process. All of these groups are oxidation sensitive and *may* be preferably oxidized instead of the alcohol groups, and thus rendering the process inoperative. [Cases cited.]

The Board said (all emphasis ours):

> The Examiner rules that claims 15 to 19 are indefinite because of the articles "a" and "an" employed to characterize the alcohol oxidized. We understand this to be a rejection based on the claims' failure to comply with the requirements of 35 U.S.C. 112 because they do not *definitely delineate* the groups of alcohols to which the claimed process is applicable. Appellant's process is described as being in the oxidation of OH radicals in certain types of compounds—particularly the alcohols having acid-sensitive substituents or unsaturated bonds which cannot be oxidized under acidic conditions. We find, though, no indication in the claims of the alcohols to which the process is applicable or for which it has particular advantages. *Undoubtedly*, the process has advantages *for numerous alcohols*. Undoubtedly, also, there are alcoholic compounds, bearing competitively reactive groups, with which the pyridine-complex *might* produce some results but not the oxidation advantages in the production of the corresponding carbonyl compound on which appellant predicates patentability.
>
> • • • • • • •
>
> We agree with the Examiner that claims 15 to 19 are not definite as to the alcohol compound oxidized. Appellant's specification contributes to the indefiniteness of the compounds by indicating * * * that the "primary and secondary alcohols reduced [oxidized] by the methods of the present invention can be

unsubstituted alcohols or alcohols containing substituents such as halo, amino, nitro carbonyl, sulfonic acid groups and the like." This redefinition not only *distorts* the meaning of the term "alcohol" * * * but also leaves in *doubt* what other radicals are included in the term "and the like."

On reconsideration the Board added:

Appellant's claims 15 to 19, however, do not exclude any substituents on the alcohol radical which may be considered the "like" of "substituents such as halo, amino, nitro carbonyl, sulfonic acid groups . . ." and appellant's specification includes polyhydric alcohols among the materials that he may oxidize so that the term "alcohol" is not interpreted as being a "monohydric alcohol." It is doubtful whether the claims exclude compounds with a tertiary alcohol group in addition to a primary or secondary alcohol group.

Apparently the Board had in mind two separate bases of rejection under 35 U.S.C. 112: indefiniteness, in that appellant "distorts the meaning of" or redefines the term "alcohol"; and undue breadth, in that appellant fails to set out the specific classes of alcohols to which his process is applicable.

As we view appellant's disclosure and claims, the invention is a broad one, wherein primary and secondary alcohols generally are oxidized at the hydroxy group. Use of a mild oxidizing agent in alkaline medium prevents interference with unsaturated bonds or acid-sensitive groups elsewhere in the alcohol molecule. The process is in no way *limited* to oxidation of alcohols having such bonds or groups but is particularly applicable thereto. Neither the Examiner nor the Board seems to disagree with this, the Examiner saying that "the disclosure of operative alcohols is broad" but refusing, nevertheless, to allow commensurately broad claims because appellant has not *shown* that certain easily oxidizable groups *not excluded* by the claims are "operative." Similarly, the Board acknowledges that the "process has advantages for numerous alcohols" but nevertheless sustains the Examiner.

Appellant argues that disclosure of over sixty operative classes of alcohols, and thirty-one specific examples, is ample basis to support broad claims; that neither the Examiner nor the Board support their skepticism about operability with specific inoperative examples; and that appellant does not distort the definition of "alcohol."

We agree with appellant. With respect to redefining "alcohol," appellant's brief states:

There are three classes of alcohols: primary, secondary and tertiary. Primary alcohols are characterized by the fact that the carbon atom bearing the hydroxyl substituent is also attached to two hydrogen atoms. In secondary alcohols this carbon atom is attached to only one hydrogen atom. In tertiary alcohols there are no hydrogen atoms attached to the carbon atom bearing the hydroxyl substituent. Obviously then appellant's definition of primary and secondary alcohols as "having at least one hydrogen atom attached to the carbon atom bearing the hydroxyl substituent" does not distort the definition of primary and secondary alcohols in any way.

Appellant's contention [is] that the alcohols which may be oxidized by the process of his invention can be substituted or unsubstituted and similarly does not distort any definition of alcohols acceptable to those skilled in the art. "Unsubstituted" means that the hydrogen atoms attached to the carbon atom of the alcohol molecule are not replaced with other functional groups. "Substituted" means that at least one hydrogen atom is replaced with a functional group. Butanol is an unsubstituted alcohol, whereas 3-chlorobutanol is a substituted alcohol. This is the accepted meaning of these terms in the art.

[9] As we said at the beginning, in appellant's claims, the phrase "an alcohol having at least one hydrogen atom attached to the carbon atoms bearing the hydroxy substituent" means primary and secondary

alcohols.[13] The specification states that such alcohols may be "substituted" and may be "polyhydric." We see nothing unconventional about such terminology.[14] Thus the claims are not indefinite.

As to the undue breadth rejection, appellant's brief states [emphasis ours]:

> Appellant in his specification * * * has amply illustrated both substituted and unsubstituted primary and secondary alcohols which may be oxidized by the process of the invention. The application names *over sixty* such alcohols to which the invention is applicable * * *.
>
> The alcohols thus listed include both primary and secondary monohydroxy alcohols, polyhydroxy alcohols, saturated and unsaturated alcohols, aralkyl alcohols, including those in which the aryl group is substituted with nitro, hydroxy and alkoxy groups, alicyclic alcohols, polycyclic alcohols, heterocyclic alcohols, terpine alcohols and steroid alcohols, including those in which the alcohol group is attached directly to the cyclopentanophenanthrene ring and those in which it is attached to a side chain on the ring.
>
> In addition to the above, appellant concludes his specification with *thirty-one specific examples* * * * illustrating the application of his novel method to different primary and secondary alcohols. These include simple primary alkanols such as n-butyl alcohol and also more complex polyfunctional primary and secondary alcohols including pregnane derivatives, sex hormones, phenanthrene compounds, substituted and unsubstituted heterocyclic alcohols, bile acid derivatives, aralkenols and substituted and unsubstituted aralkanols.

We believe appellant's claims are supported by the specification. Broad inventions can be defined only by broad claims. *In re Sus et al.*, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301. As stated by this court in *In re Cavallito et al.*, 48 CCPA 711, 282 F.2d 357, 127 USPQ 202,

> The question whether a broad claim to an invention in the field of chemistry is sufficiently supported by the compounds named and examples given in an application has been frequently considered by this court. As was said in *In re Shokal et al.*, 44 CCPA 854, 242 F.2d 771, 113 USPQ 283:
>
> > The decisions do not however fix any definite number of species which will establish completion of a generic invention and it seems evident therefrom that such number will vary, depending on the circumstances of particular cases.
>
> The mere fact that a claim covers a large, or even an unlimited number of products, does not necessarily establish that it is too broad.

We consider the disclosure here of over sixty classes of alcohols and thirty-one specific examples of diverse alcohol types to be adequate basis for appellant's claims.

Both the Examiner and the Solicitor list various oxidizable substituents including sulfide, sulfoxide, olefinic, acetylenic, etc., which they say if present on an alcohol *may* render the claimed process "inoperable." We see no basis for such conclusion. Even if such substituents be present, it does not follow that the hydroxy group will not be oxidized, which is all the claims require.

[10] In any event, the mere *possibility* of inclusion of inoperative substances does not prevent *allowance* of broad claims. The Board

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[13] Hackh's Chemical Dictionary, 3d Ed., supports us. The presence of other —OH groups, rendering the alcohol polyhydric, does not make the alcohol any less "primary" or "secondary." Further, contrary to the Board, we consider it immaterial that appellant's claimed alcohols include those *containing* a tertiary alcohol group.

[14] In fact, The Condensed Chemical Dictionary, 4th Ed., p. 21, in defining "alcohol" states, inter alia, "In general the ending -ol in the name of an organic compound signifies the presence of an OH radical, and alcoholic properties are to be expected, *although they may be markedly modified by other elements present in the molecule.*" (Emphasis ours.) Thus to suggest that substitution of alcohols by other elements renders the compound no longer an alcohol would seem erroneous.

We note further that R. Macy in "Organic Chemistry Simplified," Chemical Publishing Co., 1948, in defining alcohols, at p. 79, states "The hydroxy (OH) groups attached to the carbon chain are called alcohols. The compound described in the preceding section [$CH_3CHOHCHCH_2CHCICH_2CH_3$] is therefore known to the organic chemist as 3-methyl, 4-chlorohexanol-2 * * *." We note that even in *defining* alcohol, the author uses as an example a substituted alcohol.

"Polyhydric" is conventional terminology, Hackh defining polyhydric alcohols as those with an indeterminate number of hydroxy groups, thus $R(OH)_n$.

has so held in *Ex parte Lilienfeld*, 44 USPQ 174, *Ex parte Pechukas*, 94 USPQ 390, and *Ex parte Friedman*, 136 USPQ 381, all cited by appellant. If they are so broad as to be vulnerable, no one but the patentee will suffer from it.

[11] It is certainly not incumbent on an applicant who has made a broad process invention and supported it by an adequately broad disclosure to demonstrate the operativeness of every substance falling within the scope of the broad claims to which he is entitled. In the instant case the research to do this would quite evidently be endless. The function of claims is to *point out* the invention and *define* the scope of the monopoly, not to exclude substances which are possibly of no use in practicing the invention.

We do not consider the claims unduly broad and reverse the indefiniteness rejection.

The decision of the Board is reversed.

REVERSED.

WORLEY, *C.J.*, concurs in result.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,571,435, A. L. Flamm, GAS FUELED CIGAR LIGHTER; 2,882,940(a), C. Zellweger, FILLING VALVES FOR LIQUEFIED GAS LIGHTERS; Re. 24,163(a), same, VALVES FOR FILLING PYROPHORIC LIGHTERS FOR LIQUIFIED GAS filed Nov. 20, 1963, D.C., S.D. Calif. (Los Angeles), Doc. 63-1412-EC, *Ronson Corporation et al.* v. *Ronson Enterprises, Inc.* Same, Doc. 63-1413-EC, *Ronson Corporation et al.* v. *Sun Coast Merchandise Corporation.* Same, Doc. 63-1414-EC, *Ronson Corporation* v. *Bullock's Incorporated.*

2,725,112, Weisman and Fine, FLOOD CONTROL MEANS; 2,792,011, same; 2,892,667, same, SUMPLESS PUMP PLUMBING SYSTEMS, filed Jan. 7, 1963, D.C., E.D. Mich. (Detroit), Doc. 23387, *Super Enterprises, Inc. et al.* v. *Flood Control Device Company, Division of Joseph P. Kropf, Inc.* Patents held valid; defendant enjoined May 26, 1964.

2,792,011. (See 2,725,112.)

2,832,208, Adams and Sun, VANE PUMP; 2,888,882, J. R. English, FLUID ENERGY TRANSLATING APPARATUSES; Re. 24,068, F. J. Wright, HYDRAULIC APPARATUS, filed May 2, 1962, D.C., E.D. Mich. (Detroit), Doc. 22541, *Vickers, Incorporated* v. *American Brake Shoe Company.* Action including all counts, claims and counterclaims therein, dismissed with prejudice Jan. 30, 1964.

2,858,063. (See 2,832,208.)

2,877,902, Chase and James, OIL FILTERS, filed June 3, 1960, D.C.R.I. (Providence), Doc. 2637, *Fram Corporation* v. *Palmer Spring Company.*

2,882,940(a). (See 2,571,435.)

2,882,940(b), C. Zellweger, FILLING VALVES FOR LIQUEFIED GAS LIGHTERS; Re. 24,163(b), same, VALVES FOR FILLING PYROPHORIC LIGHTERS FOR LIQUIFIED GAS, filed Nov. 21, 1963, D.C., S.D. Calif. (Los Angeles), Doc. 61-1424-EC, *Ronson Corporation et al.* v. *Big Five Stores.*

2,892,467. (See 2,725,112.)

2,906,531, G. Hirsch, SPIT DRIVE UNITS, filed Jan. 25, 1962, D.C., S.D.N.Y., Doc. 62/427, *Brevel Products Corp.* v. *Ross-Bornemann Associates.* Order of dismissal Feb. 5, 1964. Same, filed Apr. 10, 1962, D.C., S.D.N.Y. Doc. 62/1427, *Brevel Products Corp.* v. *Kembap, Inc.* Consent judgment; defendant enjoined Mar. 5, 1964.

2,912,093, D. Kellerman, COAXIAL TRIMMER CAPACITORS, filed Jan. 31, 1964, D.C., S.D.N.Y., Doc. 64/342, *JFD Electronics Corp.* v. *Rosenwell Corporation.*

2,941,325, C. Ayala, TOY CAP GUN WITH VIBRATABLE WIRE; 2,966,822, J. H. Weimer, TOY CAP GUN WITH VIBRATABLE MEMBER PRODUCING SOUND OF WHINING BULLET, filed Sept. 15, 1960, D.C., N.D. Ill. (Freeport), Doc. 60c52, *Marvin Glass* v. *S. S. Kresge Company.* Final order; claims 6 and 7 of Pat. 2,941,325 held invalid and not infringed by Daisy Mfg. Co.; claims 1, 2, 9 and 10 of Pat. 2,941,325 also held invalid; claims 1-8 of Pat. 2,966,822 held invalid Dec. 10, 1963.

2,943,786, A. M. Moen, PRESSURE BALANCED VALVE STRUCTURE; 3,108,331, same, BALANCED MIXING VALVE CARTRIDGE, filed Jan. 27, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-108-EC, *Standard Screw Company et al.* v. *Harvey Aluminum.*

2,967,967, R. D. McCoy, METHOD AND APPARATUS FOR CHECKING ELECTRONIC ANALOG COMPUTERS, filed Jan. 30, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-135-JWC, *Reeves Instrument Corp. et al.* v. *Beckman Instrument, Inc.*

2,981,401, J. Cumming, CONVEYOR FOR DISHWASHING MACHINES, filed Aug. 7, 1962, D.C.N.J. (Trenton), Doc. 646-62, *G. S. Blakeslee & Co.* v. *Universal Dishwashing Machinery Company.* Order of dismissal; injunction issued Jan. 30, 1964.

2,994,098, J. I. Adler, GARLAND CONSTRUCTION, filed Dec. 28, 1961, D.C., S.D.N.Y., Doc. 61/4620, *Adler Enterprises, Inc.* v. *S. Berger Import & Mfg. Corp.* Order of discontinuance Jan. 31, 1964. Same, filed Oct. 20, 1961, D.C., S.D.N.Y., Doc. 61/3725, *Adler Enterprises, Inc.* v. *Kaytee Imports, Inc.* Consent order of discontinuance without prejudice Feb. 17, 1964.

2,994,735, Hubbell and Carlson, WEATHERPROOF PLATE FOR PRESSURE-OPERATED SWITCH, filed July 15, 1963, D.C. Conn. (New Haven), Doc. 9016, *Harvey Hubbell, Inc.* v. *The Olive Electric Supply, Inc.* Stipulation and order of dismissal Jan. 28, 1964.

2,996,822. (See 2,941,325.)

3,006,005, J. K. Gunter, COTTON CARDING MACHINE, filed Feb. 4, 1964, D.C., M.D.N.C. (Greensboro), Doc. C-13-D-64, *Gunter and Cooke, Inc.* v. *Southern Electric Service Co., Inc. et al.*

3,006,286, W. R. Resch, APPARATUS FOR BAKING EDIBLE PRODUCTS; Des. 194,005, same, BAKER'S REEL OVEN; Des. 194,006, same, filed Feb. 3, 1964, D.C., E.D. Pa. (Philadelphia), Doc. 24000, *Golden Glow Vending Co., Inc.* v. *Metal Made Products Inc. et al.*

3,160,231. (See 2,945,702.)

Re. 25,002, F. J. Sowa, SOLUTIONS OF ORGANIC MERCURY COMPOUNDS, filed Nov. 27, 1962, D.C.N.J. (Newark), Doc. 1008-62, *Frank J. Sowa et al.* v. *Nuodex Products Company of California, Inc.*

Re. 24,617, J. A. Hendricks, METHOD OF COATING AND DRAWING METAL AND COMPOSITION THEREFOR, filed C.C.A., Doc. 15/979, *General Motors Corp.* v. *Deves Corporation et al.* Judgment reversing District Court decision; remanded to District Court July 12, 1963.

Re. 24,642. (See 2,832,295.)

Re. 24,163(c). (See 2,571,425.)

Re. 24,163(b). (See 2,832,940(b).)

Re. 24,671, Mastantuono and Villardi, GRASS CATCHER MEANS, filed Jan. 24, 1964, D.C., S.D.N.Y., Doc. 64/263, *John F. Mastantuono et al.* v. *Ronconi Lawn Mower Service.*

Des. 184,162, D. Bloomfield, RACK FOR HOLDING SUGAR BAGS, filed Oct. 1, 1962, D.C., E.D. Ill. (Chicago), Doc. No. 62c1820, *Bloomfield Industries, Inc.* v. *Harold Leonard Midwest Corporation.* Complaint dismissed without prejudice Jan. 7, 1964.

Des. 194,025. (See 3,020,924.)

Des. 194,026. (See 3,020,924.)

REISSUES

JULY 14, 1964

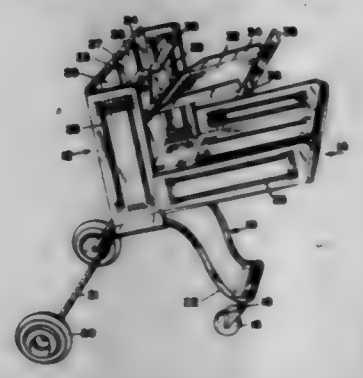
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,616
SUPERMARKET CART

Oscar M. Stanley, 370 1st Ave., New York, N.Y.

Original No. 3,039,783, dated June 19, 1962, Ser. No. 841,501, Sept. 22, 1959. Application for reissue Oct. 25, 1963, Ser. No. 319,637

12 Claims. (Cl. 280—33.99)



1. A cart having a frame with front and rear stanchions spaced so that the stanchions of one card can be pushed under, and between the stanchions of another like cart; a forwardly projecting receptacle open at one side and closed at the opposite side and hingedly mounted on the frame with its hinge axis low with respect to its forwardly projecting end, whereby a horizontal force against said end produces a moment about said hinge axis which tends to lift said end, and said axis being at the rear portion of the receptacle whereby the weight of a load in the receptacle will produce a moment tending to hold the receptacle down; stop means adapted to limit downward movement of the receptacle to a position in which its open side is upward and its closed side is at the bottom to provide a floor; and the back of said cart providing an abutment slide extending rearwardly of the cart at an angle to the vertical less than the angle complementary to the angle the upwardly sloping receptacle makes with the horizontal when it is down against said stop means, whereby when one such cart is pushed empty against another, front to back, the end of its receptacle will ride up along the abutment slide at the back of the other cart until the receptacle is in an upright position for space economy in parking.

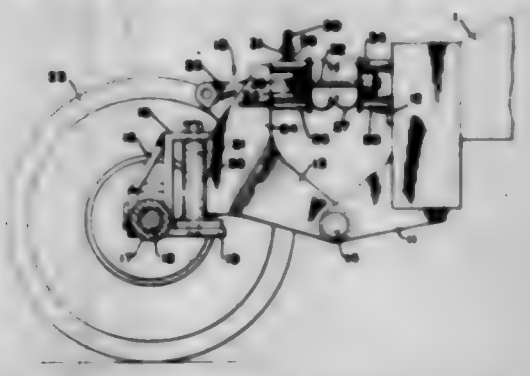
25,617
AXLE LOAD DISTRIBUTING DEVICE FOR MOTOR CRANES AND LIKE MOBILE EQUIPMENT

Ralph G. Lyall, 5900 2nd Ave. S., Seattle, Wash.

Original No. 2,974,976, dated Mar. 14, 1961, Ser. No. 702,281, Dec. 12, 1957. Application for reissue Mar. 14, 1963, Ser. No. 265,609

11 Claims. (Cl. 280—104.5)

1. An axle load distributing device for a motor crane and like equipment that has a frame supported on axles equipped with ground engaging wheels, comprising a bracket on the rear end of said frame, a wheel carrier having a ground-engaging wheel whose axis is rearward of said bracket, said carrier further having forwardly inclined and upwardly extending portions, a generally horizontally extending pin detachably connecting said forwardly inclined extending portion of said carrier to said bracket for swinging of said carrier about said pin, and a generally horizontally forwardly resiliently extensible head mounted on said upwardly extending portion of said carrier and disposed, when extended, to bear against the rear end of said frame at a region spaced above said



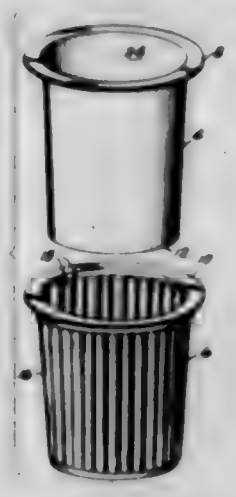
bracket and to swing said carrier about said pin in a direction to move said wheel down to ground-engaging position.

25,618
MULTI-WALL INSULATING RECEPTACLE

Leonard Goodman, Kings Point, N.Y., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Original No. 3,082,900, dated Mar. 26, 1963, Ser. No. 828,550, July 21, 1959. Application for reissue June 20, 1963, Ser. No. 295,263

8 Claims. (Cl. 220—15)



7. A disposable double wall receptacle comprising: inner and outer vessels of thin-wall seamless construction formed of organic plastic and attached one to the other to form a unitary receptacle; said inner vessel having a bottom and a sidewall; said inner vessel sidewall terminating in a top portion; said outer vessel having a bottom and a sidewall; said outer vessel sidewall having shaped adjacent flutes extending over a lower portion of the height of said sidewall and having a top portion extending over a minor portion of the heights of said sidewall; the flutes of said outer sidewall being in a juxtaposition with relation to said inner vessel sidewall; said flutes forming a series of air spaces positioned between the vessels and a series of air spaces positioned between the outer vessel and the hand holding the receptacle; said flutes merging into said outer vessel top portion; said flutes and the air spaces formed thereby characterized by thermally insulating the contents of the receptacle from the hand holding the receptacle; at least a part of said outer vessel

top portion being in circumferential contiguous relationship with at least a part of said inner vessel top portion to prevent free communication of the defined air spaces of the flutes with the atmosphere; said sidewalls of the vessels being of such thinness and construction so as to provide substantial mechanical stability yet to permit the urging inwardly of said outer vessel sidewall to close any space separating the innermost portions thereof and the inner vessel sidewall upon normal grasping by the hand of the holder.

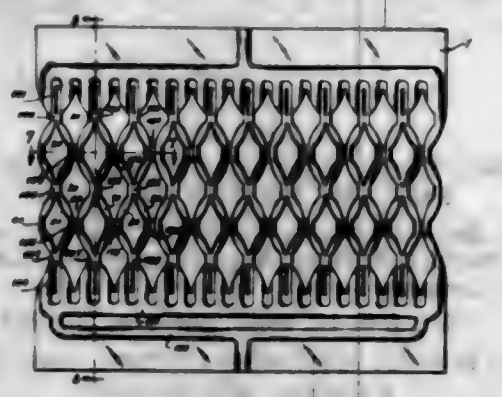
25,619
HEAT EXCHANGER

Richard F. Adams, Schenectady, N.Y., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

Original No. 2,856,164, dated Oct. 14, 1958, Ser. No. 515,857, June 16, 1955. Application for reissue Sept. 12, 1960, Ser. No. 55,611

12 Claims. (Cl. 165—146)

1. A heat exchange unit of the character described comprising a pressure unified support plate having a series of interconnected tubes extending therein in generally parallel relation with the plane of said plate and including a series of tube portions in rows separated from each other angularly in side-to-side relationship, portions of said plate which embrace said tubes intermediate the ends thereof being twisted into substantially perpendicular relation with the plane of said plate, the tubes in the twisted portion being interconnected at said ends to the tubes in the untwisted portion of the plate but at least partially separated from each other intermediate said ends.



PLANT PATENTS

GRANTED JULY 14, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,422
***CHAENOMELES LAGENARIA* CLIMBER**

Jack R. Voeller, Rte. 1, Box 111, Mountainburg, Ark.

Filed June 4, 1962, Ser. No. 200,806

1 Claim. (Cl. Plt.—54)

A new and distinct variety of *Chaenomeles lagenaria*, as herein shown and described, characterized particularly as to novelty by the unique combination of absence of spines, its tendency to climb, profuse flowers in clusters rather than solitary flowers, two blooming periods per season rather than only one per season, and vigorous and healthy habits of growth even at extreme temperature variations.

2,423
LANTANA PLANT

John R. Temple, Williams, Calif., assignor to Old Nursery, Inc., Sacramento, Calif., a corporation of California

Filed Sept. 16, 1963, Ser. No. 309,365

1 Claim. (Cl. Plt.—54)

A new and distinct variety of Lantana plant of upright, much branched, bush form, substantially as illustrated and described, characterized—as to novelty and in comparison with the parent varieties "Christine" and "Radiation"—by slower and more compact growth, shorter internodes, heavier and thicker textured leaves, and flowers which have more of an intense red tint than the "Christine" and less orange tint than the "Radiation"; the flowers usually being Magenta Rose to Magenta in the entirety, but in some instances are yellow in part with the remainder shading between yellow and Magenta.

2,424
ROSE PLANT

Samuel D. McGrady IV, Portadown, Ireland, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Aug. 23, 1963, Ser. No. 304,284

1 Claim. (Cl. Plt.—28)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a well balanced and broad plant habit, with the plant attaining an average height of about 2½ feet and being constantly in flower, a habit of bearing large clusters of long-lasting flowers, a distinctive and attractive general color tonality of the flowers corresponding to Scarlet-Red, lightly overcast with Spectrum Red, and an easily shattering habit of the spent flowers which results in clean clusters at all times.

2,425
PEACH TREE

Grant Merrill, P.O. Box 392, Red Bluff, Calif.

Filed Feb. 14, 1963, Ser. No. 258,658

1 Claim. (Cl. Plt.—43)

A new and distinct variety of peach tree substantially as illustrated and described and which is characterized by its vigorous growth; its moderately early blooming at about the same time as the Elberta (unpatented) peach tree; and its regular and heavy bearing of large, freestone, yellow-fleshed fruit of firm, fine texture which ripens approximately at the same time as fruit of the Rio Oso Gem peach tree of U.S. Plant Patent No. 84 and the Merricle *L*–14 peach tree of U.S. Plant Patent No. 1,954, which it most nearly resembles but from which it is distinguished in its greater vigor and productivity and in its bearing of larger, finer fruit having pits with a greater resistance to splitting.

2,426
ALMOND TREE

Frederic W. Anderson, Merced, Calif., assignor to Fowler Nurseries, Inc., Newcastle, Calif., a corporation of California

Filed May 27, 1963, Ser. No. 283,637

1 Claim. (Cl. Plt.—30)

A new and distinct variety of almond tree, substantially as illustrated and described, which bears general resemblance to the Nonpareil but is characterized by a tree which is larger, as well as more vigorous and upright in growth; by a blooming period approximately three or four days later and which is about halfway between the Nonpareil and Mission; by intercompatibility with both the Nonpareil and Mission; and by crop production greater than the Nonpareil but with nuts and kernels which, while resembling said Nonpareil, average ten to twenty percent smaller in size.

PATENTS

GRANTED JULY 14, 1964

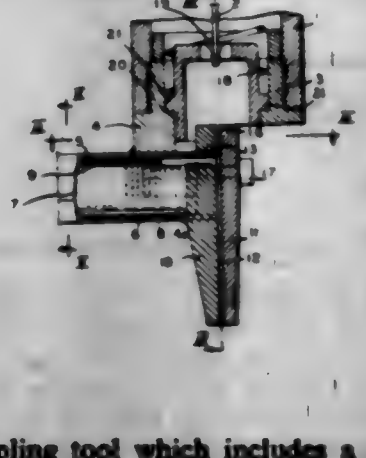
GENERAL AND MECHANICAL

3,140,492

STAPLING TOOL, ESPECIALLY GUIDING MEANS FOR THE DRIVER THEREOF

Heinz E. Bade, Hamburg-Garstedt, Germany, assignor to Joh. Friedrich Behrens, Bogenstrasse, Ahrensburg (Holstein), Germany

Filed Jan. 12, 1962, Ser. No. 165,925
Claims priority, application Germany Jan. 13, 1961
2 Claims. (Cl. 1—44.4)



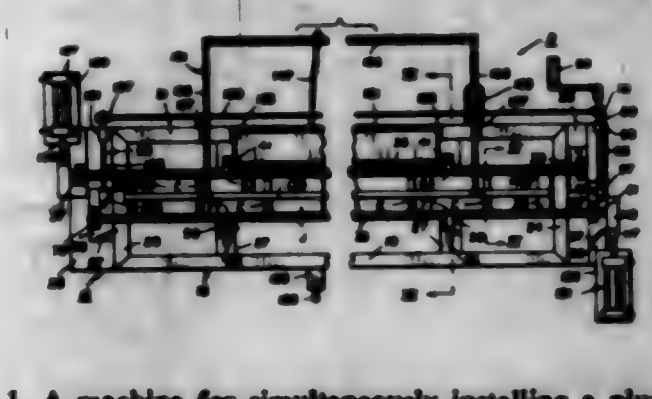
1. In a stapling tool which includes a cylinder and a staple driver having a staple driving end and being reciprocable in and in axial direction of said cylinder: an insert member having a portion thereof detachably inserted in that end portion of said cylinder which is adjacent the driving end of said staple driver, said insert member having a cylindrical bore extending in axial direction of said cylinder, a cylindrical guiding member arranged in said bore and having a slot for receiving and guiding said staple driver, a magazine extending at a substantially right angle to the longitudinal axis of said cylinder and comprising a first part permanently connected to said insert member and also comprising a second part slidable on said first part from an open position to a closed position and vice versa, said second part having an extension fixed thereto at one end thereof and in said closed position of said second part defining a portion of the path over which the driver moves during its driving operation, said extension extending in axial direction of said cylinder in front of said magazine while leaving space for staples to move out of said magazine into the path of said staple driver, a face plate facing said extension and being detachably connected thereto so as to form therewith a slot in alignment with said driver for receiving and guiding the same, and an additional member detachably engaging said magazine and having two legs straddling said first part of said magazine and also having an arm extending transverse to and interconnecting said legs, said face plate also having a portion facing said additional member and forming therewith a continuation of said slot, said cylindrical guiding member having an extension for abutment with said additional member, said slot in said guiding member being so arranged with regard to said extension of said guiding member that abutment of said additional member with the extension of said guiding member locates the slot thereof so that it is in alignment with said driver for receiving and guiding the same.

3,140,493

MACHINE FOR INSTALLING CLIPS IN DOOR JAMBS

James W. Ennis, Memphis, Tenn., assignor to Cole Manufacturing Company, Memphis, Tenn.

Filed June 15, 1962, Ser. No. 202,730
6 Claims. (Cl. 1—216)



1. A machine for simultaneously installing a plurality of door jamb clips having spaced and inwardly disposed prongs, said machine comprising a horizontally disposed bed means upon which an elongated door jamb is adapted to rest with the plurality of clips thereon along the length thereof in spaced relationship to one another and with the prongs directed inwardly towards the opposite vertical side edges of the door jamb, a pair of pressure elements adjacent said bed means, said pressure elements being in a normally spaced position adapted to receive the door jamb therebetween with the clips thereon, and means movably mounting said elements for movement of said elements inwardly towards one another, said elements being horizontally elongated in a direction perpendicular to the inward direction of movement of said elements and respectively extending along the length of and the opposite side edges of the elongated door jamb whereby said elements are adapted to urge simultaneously all of the prongs of the plurality of clips into the side edges of the door jamb.

3,140,494

STIFFENING MEANS

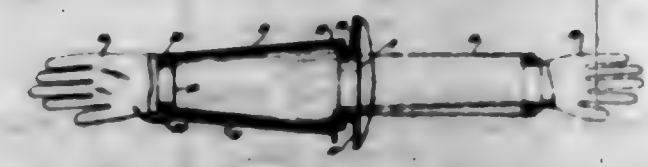
Herbert Magidson, 1450 Carla Ridge, Beverly Hills, Calif.

Filed July 31, 1961, Ser. No. 128,155
4 Claims. (Cl. 2—264)



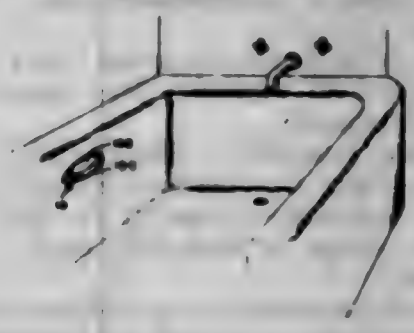
1. An apparel garment stiffener which includes: a pair of longitudinally extending, laterally spaced, sheet metal side members; a single, generally longitudinally extending spacing member having a substantially zig-zag shape, contacting the separate side members alternately; means for permanently anchoring said side members and said spacing member together against relative movement where said spacing member contacts said side members; and smooth end surfaces on the stiffener to lessen wear of garment fabric and facilitate insertion of the stiffener into a fabric pocket.

3,140,495
GLOVE ASSEMBLY
Carl K. Gerwik, Great Neck, N.Y., assignor to The Wilson Rubber Company, Canton, Ohio, a corporation of Ohio
Filed Sept. 9, 1960, Ser. No. 54,885
3 Claims. (Cl. 2—270)



1. A combined glove and sleeve for dry box work comprising: a tapered frusto-conical tubular sleeve having a first and second open end and through which a glove is projectible, means for connecting said first open end to a dry box, a flexible, detachable glove including a hand-covering part and a wrist portion presenting a third open end, a supporting ring over which the edge zones defining said third open end of the glove wrist portion and the edge zones defining the second open end of the sleeve are telescoped in overlapping sealing relationship, said sleeve and glove extending in opposite directions from said ring, said sleeve and glove being flexible to permit said glove to be projected inwardly from a first portion into said ring, outwardly through said sleeve first end and into a second position for dry box work, means for detachably connecting said glove and said sleeve on said ring to permit replacement of the glove, said glove when in said second position, covering interior surfaces of said ring, and said sleeve, when in said second position, being in substantial concealing relationship around said detachable connecting means.

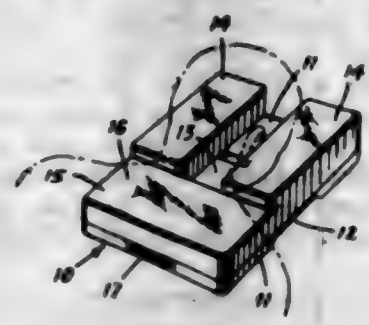
3,140,496
BATH TUB GRIP
John H. Thompson, 507 N. 78th St., Seattle, Wash.
Filed Nov. 5, 1963, Ser. No. 236,384
1 Claim. (Cl. 4—185)



A hand grip designed for attachment to the wall surface of a bath tub, or the like; said grip comprising a flat base plate of oval formation, with a handle member cast integral therewith and extending outwardly from the outer surface of said base plate and forming a closed loop that merges at its ends into the opposite end portions of said base plate in rounded fillets, said base plate having a flat, knurled inside surface and having its peripheral edges thin and rounded to merge with the said inside surface, and a layer of the selected adhesive applied to the knurled inside surface of the base plate for securement of the grip to the tub.

3,140,497
PILLOW
Benjamin S. Carswell, 1315 Glenwood Ave. SE., Atlanta 16, Ga.
Filed Apr. 19, 1962, Ser. No. 188,636
2 Claims. (Cl. 5—338)

1. A pillow of the character described, comprising a hard rectangular base having a rectangular recess on the underside thereof and an opening in the center of the said recess, the said base having a pair of rectangular soft material members on the top side thereof in parallel spaced relation to each other and a third rectangular soft material member of slightly less height than the said pair of soft material members all of the members being rectangular in cross-section and an air vent in one end of the said base and at right angle to the said recess, the said air vent leading from the end in which it is located to the opening in the said base for air to reach a person's nostrils when they are lying prone with their face in the said pillow.



3,140,498
GOLF BALL WASHERS
Walter B. Droecher, 234 W. Mount Royal Road, Milwaukee, Wis., and George T. Niedermayer, 10517 N. Circle Road, Mequon, Wis.
Filed Feb. 21, 1963, Ser. No. 260,268
1 Claim. (Cl. 15—97)



In a golf ball washer, a container for cleaning fluid or the like, a rotatable vertical spindle centrally disposed within the container, means for engaging a plurality of golf balls for rotating them with said spindle through said fluid, a horizontal friction wheel fixed on the lower end of said spindle, and a vertical drive wheel engaged between said friction wheel and the ground-bearing wheel of a golf bag cart.

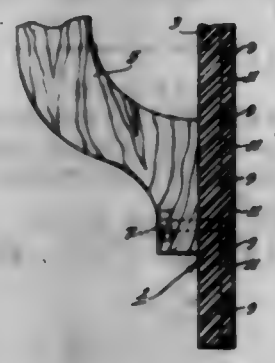
3,140,499
SELF-CLEANING HAIR BRUSHES
Jean P. Du Bois, 4660 Dobson St., Skokie, Ill.
Filed Dec. 14, 1962, Ser. No. 244,624
1 Claim. (Cl. 15—160)



A hair brush constructed and arranged to be self-cleaning when subjected to an upper stream of hot water under pressure from a faucet, comprising a molded plastic handle integrally secured to a molded rectangular frame, said frame having a pair of end frame members, said end frame members being joined by a pair of side frame members and by a plurality of longitudinally extending

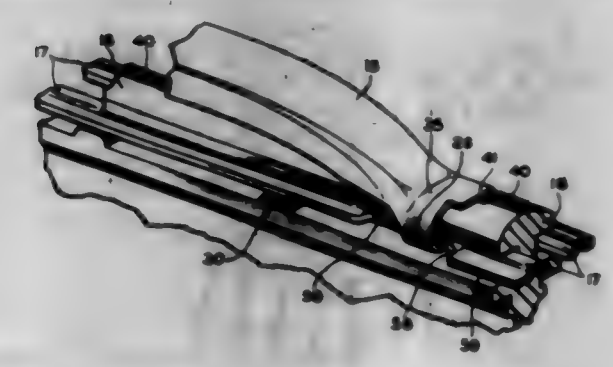
bristle supporting members, substantially parallel to said side frame members and similar in cross-sectional shape to said side frame members, the said side frame members and bristle supporting members being supported at their ends by the end frame members to form a brush having a generally concave back and the front thereof being generally convex, and each of said side frame members and said bristle supporting members being subetantially elliptically shaped in cross-section, and formed with a flat bottom, and supporting in the bottoms thereof, a plurality of groups of diverging bristles, and the groups diverging from each other laterally, each of said bristle supporting members having a pointed upper edge, and being spaced from each other to pass the stream of water freely, and to clear the bristles of hair and foreign material.

3,140,580
FLOATS FOR SPREADING CONCRETE OR THE LIKE
Anthony Pilla, 474 Jacksonville Road, Hatboro, Pa.
Filed Apr. 30, 1963, Ser. No. 276,765
2 Claims. (Cl. 15—235.4)



1. A float comprising a base block of hard, rigid, polymethacrylate resin and having a working surface formed with two sets of regularly spaced, parallel grooves therein, the grooves of one of said sets being angularly related to the grooves of the other of said sets and intersecting said grooves of said other set to provide a plurality of working elements throughout said surface, the angular relation of said two sets of grooves being such that said working elements are diamond-shaped, and said elements having sharp edges at said surface along said grooves.

3,140,591
WINDSHIELD WIPER BLADE
Robert B. Macpherson, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Oct. 12, 1961, Ser. No. 144,741
5 Claims. (Cl. 15—250.36)



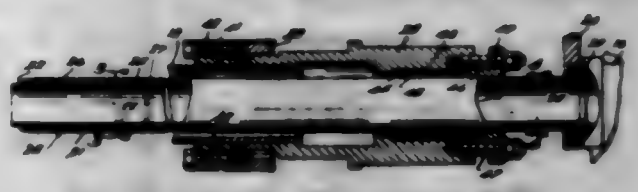
1. A windshield wiper blade comprising:
an elongate resilient wiping element having backing means permitting flexure of the wiping element in one plane but resisting flexure in a plane substantially transverse to the first-mentioned plane,
said wiping element having a back portion and a wiping portion,
outer longitudinal portions of said wiping portion underlying the backing means, and
resilient means located on the outer longitudinal portion between the outer longitudinal portion and the backing means at spaced-apart locations to provide cushioning means to resist angular displacement of the wiping portion relative to the support means.

3,140,593
SHOE-SHAPING DEVICE
Frederick C. Reeser, 15½ Church St. NE., P.O. Box 31, Decatur, Ala.
Filed Feb. 28, 1963, Ser. No. 261,779
5 Claims. (Cl. 15—267)



1. A shoe shaping device comprising:
(*a*) a first frame member adapted to support the rear portion of a shoe,
(*b*) a second frame member adapted to support the forward portion of a shoe,
(*c*) adjustable means connecting said first frame member to said second frame member and adapted to hold the frame members in selected positions relative to each other to adapt the device for use with shoes of various lengths,
(*d*) toe clamps mounted for vertical adjustment on said second frame member in position to fit over the sole of a shoe to accommodate soles of various thicknesses,
(*e*) a generally U-shaped clamping frame having a base member with depending legs extending from opposite sides thereof,
(*f*) horizontally extending projections carried by the lower ends of said legs and there being horizontally extending receptacles carried by the sides of said first frame member in position to receive said projections, and
(*g*) a vertically adjustable clamp member carried by the base of said clamping frame and depending therefrom in position to fit within and engage the rear portion of a shoe whereby said rear portion is held in engagement with said first frame member.

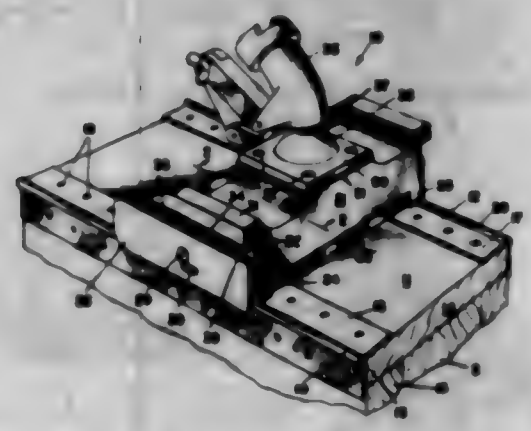
3,140,593
SOOT BLOWER CONSTRUCTION
Le Roy S. De Mart, Lancaster, Ohio, assignor to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Jan. 6, 1961, Ser. No. 81,176
8 Claims. (Cl. 15—317)



1. In a soot blower construction, a steam feed tube having a rear inlet end adapted to be attached and inter-

connected to a steam supply element and at its outlet end remote from said inlet end being free to move longitudinally under thermally induced expansion and contraction, an outer tube in concentric spaced surrounding relation with respect to said feed tube to provide an annular insulating space therebetween, said feed tube and outer tube being of substantial axial length, a sealed mechanical connection of relatively short axial length, rigidly securing together said feed tube and outer tube in the area of their forward ends and forming the only axially rigid connection between said tubes, thereby permitting independent longitudinal expansion and contraction of said tubes in areas spaced from said connection, a plurality of spaced supporting elements between said tubes adapted to permit relative longitudinal movement between the tubes, a lance tube surrounding and longitudinally movable with respect to said outer tube, a packing carried by the rear end of said lance tube and slidably engageable with the outer surface of said outer tube, means located rearwardly of the rear end of said lance tube and providing a vent to atmosphere from said annular insulating space, and means maintaining the rear portions of said inner and outer tubes in spaced relation without obstructing said venting means.

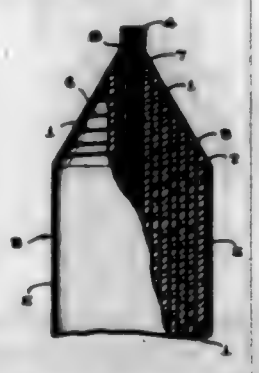
3,140,584
DRY WALL JOINT FINISHING STRUCTURE
Michael O. Knepe, Ventura, Calif., assignor to Arthur E. Nelson, Ventura, Calif.
Filed Oct. 22, 1962, Ser. No. 232,090
12 Claims. (Cl. 15—560)



1. A tool for applying mastic to dry wall joints comprising: a tubular inlet connector having one end designed for coupling to a source of said mastic, the other end of said connector defining a swivel; a body defining an inner mastic receiving recess, said body further defining an opening communicating with said recess, said swivel of said connector being disposed in said opening such that said connector communicates with said recess; linkage means interconnecting said connector to said body and tending to stabilize said connector with respect to said body, said linkage means allowing swiveling movement of said connector; a baffle member protruding into said recess and coupled to the bottom of said body; a base plate coupled to the bottom of said body and defining with said baffle plate an outlet opening for extrusion of said mastic; and, a blade partially retained by and aligned with said baffle plate to form an extension thereof.

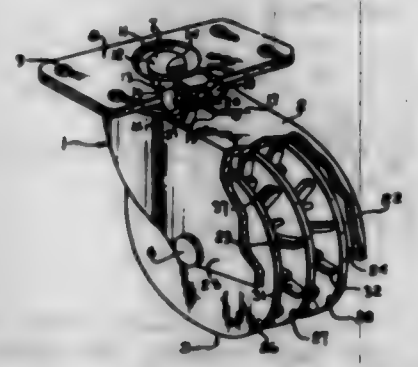
3,140,585
WRITING PEN
Shigeki Shimamura, 833 Kyodo-machi, Setagaya-ku, Tokyo, Japan
Filed May 21, 1963, Ser. No. 281,945
Claims priority, application Japan July 6, 1962
8 Claims. (Cl. 15—563)

8. A pen characterized by a rod-like body formed of a rolled sheet of a fibrous material such as paper, paper pulp and similar material, to both surfaces of which sheet of material a synthetic resin has been applied before rolling, and the body having a tapered conical tip and and further having a hard core, one end of which



core projects beyond said conical tip and is usable as a writing tip and which core is removable whereby said conical tip only is usable for writing.

3,140,586
FURNITURE SUPPORT ROLLER
Herbert Arenson, 1630 Oakland, Overland Park, Kans.
Filed Dec. 4, 1961, Ser. No. 156,897
9 Claims. (Cl. 16—47)

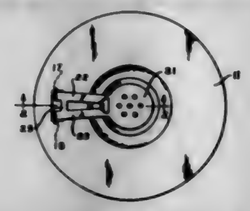


9. A caster adapted to provide mobility in moving furniture and the like over a surface having a fabric pile extending upwardly therefrom comprising: at least two load-carrying members, means rotatably mounting said members for independent rotation on a common axis, said members having a plurality of projections, said projections being circumferentially spaced apart for receiving fabric pile therebetween and adapted to sequentially support a load when contacting said surface, and means for supporting said above-named means for rotation about a substantially vertically extending axis which is spaced from the area of said contact with said surface, whereby said members are permitted to rotate with respect to each other for minimizing the generation of sliding friction between said surface and said caster.

3,140,587
HINGE
Walter J. Rozmus, Hubbardsville, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed June 1, 1961, Ser. No. 114,169
2 Claims. (Cl. 16—128)

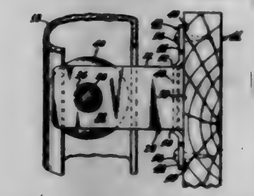
1. An improved hinge construction compriaing a sheet of rigid material, a recessed trough portion formed in said sheet of rigid material, said trough having opposed open end portions forming pintle receiving passages; a body member having a bifurcated end portion provided with a pair of spaced-apart branches formed integrally with and extending from the body member, a pintle extension formed on each of said spaced-apart branches adjacent an outer end thereof and projecting laterally outwardly with respect to a median line extending between said branches for initial positionment within said trough, a bendable bridge portion connecting said spaced-apart

branches adjacent their outer ends and extending substantially prependicular to such median line, and said bridge



portion when flexed lying within the plane of said branches to position and retain said pintle extensions within said pintle receiving passages.

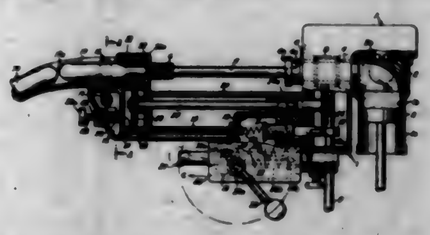
3,140,566
OVERHEAD DOOR HARDWARE
Elvin C. Switzgable, Montgomery Township, Somerset County, N.J., assignor to Ridge Nassau Corporation, Monmouth Junction, N.J., a corporation of New Jersey
Filed Feb. 15, 1962, Ser. No. 173,590
6 Claims. (Cl. 16—137)



1. An overhead garage door roller bracket, comprising a U-shaped sheet metal member and having a base portion and two arm portions, said arm portions having aligned apertures, a cylindrical sleeve extending between said arm portions, and through said apertures, an axle positioned in said sleeve with an end extending therefrom, a track roller wheel mounted on said end of said axle, and a base plate formed of sheet steel and having sides and having two end portions and an intermediate portion, said end portions each having a mounting surface in a mounting plane, said intermediate portion being formed offset from said mounting plane to provide a clearance relative to said mounting plane accommodating the base portion of said U-shaped member, said intermediate portion being notched at both sides to snugly receive the arm portions of said U-shaped member.

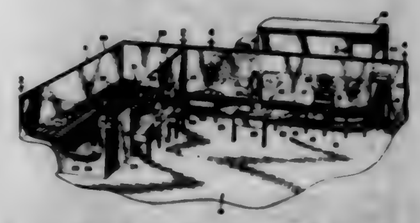
3,140,569
SAUSAGE MANUFACTURING APPARATUS
Johann Müller, Galmuthofen uber Biberach an der Riss, Germany, assignor to Firma Albert Handtmann, Biberach an der Riss, Germany
Filed June 1, 1961, Ser. No. 129,489
Claims priority, application Germany Apr. 8, 1961
21 Claims. (Cl. 17—33)

1. A machine for stuffing a flexible tubular casing, one end of which is closed, with a comminuted material to form a sausage, comprising a tubular spout having a discharge end and adapted to be inserted into the casing so that the closed end of the casing is adjacent to said discharge end; friction producing means for pressing the casing against the discharge end of said spout, said friction producing means comprising at least one resilient annular chuck completely surrounding the discharge end of said spout, and means for expanding the chuck radially inwardly so that the chuck engages the casing and presses the casing against the discharge end of said spout; means for expelling a predetermined quantity of comminuted material through the discharge end of said spout and into the casing whereby the comminuted material draws a predetermined length of the casing from said spout by overcoming the pressure of said friction producing means and forms a sausage with the predetermined length of the casing; means for gripping the sausage; and means for



intermittently rotating said spout and said friction producing means with respect to said gripping means upon expulsion of a predetermined quantity of comminuted material into the casing to form a link in the casing between the sausage and the discharge end of said spout, the pressure of said friction producing means being such that the casing rotates with said spout.

3,140,518
METHOD FOR HANDLING MEAT PRODUCTS
Glenn R. Curtis, Evanston, Ill., assignor to Independent Grocers' Alliance Distributing Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 13, 1961, Ser. No. 95,178
2 Claims. (Cl. 17—46)



1. A method of handling meat products between a transporting vehicle and a meat cooler including the weighing and cutting thereof in a meat handling room, said method comprising the continuous and uninterrupted handling of the meat products between the vehicle and the cooler including the steps of, conveying the meat from the vehicle and into the meat handling room, weighing the meat, cutting the meat into primal cuts, and conveying the cut meat from the meat handling room and into the cooler for storage therein.

3,140,511
METHOD OF AND A DEVICE FOR GRANULATING A PLASTIC MATERIAL
Wilhelm Seufert, Kornthal, near Stuttgart, and Rudolf Fritsch, Stuttgart-Feuerbach, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a firm of Germany
Filed Feb. 14, 1963, Ser. No. 258,516
Claims priority, application Germany Apr. 28, 1962
7 Claims. (Cl. 18—1)

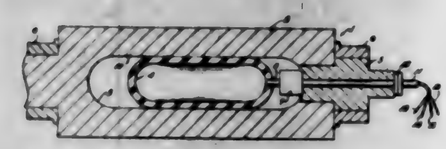
1. A device for producing granulated material from a plastic mass, said device comprising a pair of oppositely rotatable parallel rollers having parallel circumferential forming grooves in their peripheral walls, said rollers being mounted close to each other and axially staggered

so that landings between the grooves in one roller face the grooves in the other roller, thereby providing a grooved forming gap between the rollers for forming in the grooves of each roller strands from plastic mass fed between the rollers, said grooves having a mouth narrower than



the maximum width of the grooves to restrain the strands within the grooves for part of each revolution of the rollers, and cutting means stationarily mounted spaced apart from said forming gap for transversely cutting the strands formed in the grooves into a multitude of short sections.

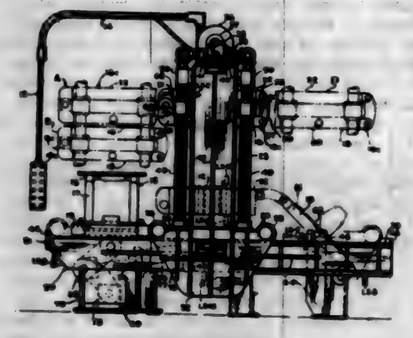
3,140,512
APPARATUS AND METHOD FOR CONTROLLING THE CROWNING OF ROLLS AND THE LIKE
John M. Hansmann, 2669 Wilbur Road, Rte. 4, Medina, Ohio
Filed Apr. 17, 1962, Ser. No. 188,193
6 Claims. (Cl. 18—2)



1. In a cylindrical roll having a center chamber and a working face and having rigid walls of sufficient strength to withstand normal operative forces applied thereto, said chamber being longitudinally centered within said roll in relation to the end supports provided therefor, means within said chamber for expanding the roll to provide it with a crown intermediate the ends thereof, electrically actuated pressure producing means carried by said roll and operatively engaging said first means for applying pressure thereto to set up expansive forces on said roll walls to form a crown thereon, and remote power supply means electrically connected to said pressure producing means to control operation thereof.

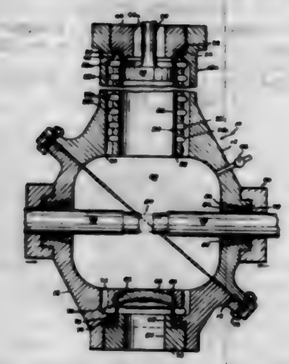
3,140,513
DIE SPOTTING OR LIKE PRESS
John F. Campbell, Silver Lake, Ohio, William P. Wright, Silver Lake, Ohio (2934 Silverlake Blvd., Cuyahoga Falls, Ohio), and Walter Nagel, Silver Lake, Ohio (2923 Circle Drive, Cuyahoga Falls, Ohio); said Campbell assignor of one-sixth each to said Wright and said Nagel
Filed July 19, 1961, Ser. No. 125,189
26 Claims. (Cl. 18—16)

1. A press for registering die or like mating parts, comprising relatively movable platens adapted to have the mating parts secured thereto, means for relatively moving one said platen between a closed mating-part position and an open spaced-apart position with reference to the other platen, means operable transversely to move said one platen relatively from and toward an offset position with reference to said other platen, and means operable upon said transverse movement to shift said one platen toward and from inversely tilted condition in the offset position and means operable upon said transverse movement to



shift said one platen toward and from inversely tilted condition in the offset position.

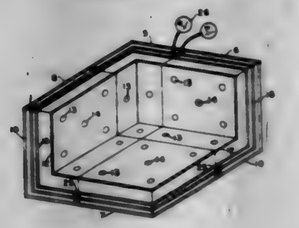
3,140,514
SUPER PRESSURE GENERATING CHAMBER WITH FLEXIBLE SLEEVE SEAL
Gabe L. Campbell, 1155 Shawnee Drive, Wayne Lakes Park, Greenville, Ohio
Filed Aug. 9, 1963, Ser. No. 301,217
9 Claims. (Cl. 18—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A super pressure generating chamber comprising a body having a first body member and a second body member severably joined to the first body member to provide a chamber having a cavity adapted to contain a compressed gas under high pressure; one or more elongated cylinder housings outwardly extending from at least one of said body members, each of said cylinder housings containing an axial bore having a counterbore at the outer end and communicating at the inner end with the cavity in said body, a plurality of grooves axially spaced and radiating outwardly from said axial bore, one or more passages connecting said grooves to the cavity in said body, and one or more passages between the bottom face of said counterbore and the cavity in said body; a flexible sleeve seal for each of said cylinder housings, each flexible sleeve seal having an elongated cylinder the outer periphery of which is in engagement with the axial bore in said cylinder housing and having at the outer end of said cylinder a circular flange having a turned back edge nested against the bottom face of the counterbore in said cylinder housing to provide an annular chamber on the underneath side of said flange in

communication with said passages between the bottom face of the counterbore in said cylinder housing and the cavity in said body; a piston for each of said cylinder housings, each of said pistons being axially movable in the cylinder of said flexible sleeve seal and having a rearward extending piston rod; and retaining means for each of said flexible sleeve seals, each of said retaining means having a bore for the passage of the piston rod on said piston and being removably joined to said cylinder housing to axially retain the circular flange of said flexible sleeve seal, and further having a supporting boss internally engaging the outer end of the cylinder on said flexible sleeve seal; said piston when axially moving forward in the cylinder of said flexible sleeve seal compressing the gas contained ahead of the forward face of said piston and the cavity within said body, the pressure of the compressed gas within the grooves and passages in said cylinder housing acting to flex inwardly that portion of the cylinder of said flexible sleeve seal between the supporting boss on said retaining means and the rear face of said piston to thereby bring that portion of the cylinder of said flexible sleeve seal which is adjacent to the periphery of said piston into squeezing engagement, and further, acting through the annular chamber on the underneath side of the circular flange at the outer end of said flexible sleeve seal, to flex the circular flange tightly against the mating surfaces on said cylinder housing and said retaining means to thereby restrict leakage and escape of the compressed gas within the chamber.

3,140,515
HEAT-INSULATED WALL AND TANK CONSTRUCTION
Cornelius D. Dooker, Louisville, Ky., assignor to Conch International Methane Limited, Nassau, Bahamas, a corporation of Bahamas
Filed Mar. 14, 1957, Ser. No. 646,991
4 Claims. (Cl. 20—4)



1. A heat insulating and liquid retaining wall of a container for storing extremely low temperature liquid comprising: a structural wall-supporting member providing a backing surface; a plurality of insulating panels of large dimension arranged in end-to-end and in side-by-side relation over said backing surface with their adjacent perimetric faces in substantially abutting relationship one with the other, each of said panels being formed in cross-section of a relatively thin back layer of high density and high structural strength, a relatively thin front layer of high density and high structural strength and an intermediate relatively thick layer of a highly porous insulating matesial bonded between the front and back layers to provide an integral structure; means securing the back layer of each panel to said wall-supporting member to support each of the panels from its back layer only and independently of adjacent panels so that, when the front layer of any panel of said wall is subjected to a relatively reduced temperatrue condition, its front layer may contract and move relatively toward and away from the front layers of adjacent panels and toward and away from the back layer of the same panel; and liquid-insulating means providing a continuous liquid-impervious surface extending over the front faces of the panels and from panel to panel, said liquid-insulating means being bonded to the front faces of said panels and including expandible-compressible expansion-joint means cooperatively supported by the front layers of adjacent panels in position to bridge the joint therebetween along the front faces thereof.

3,140,516
METHOD OF MANUFACTURING BOW-SHAPED PANELS
Emmet G. Stack, 1000 SW. Vista, Portland, Oreg.
Filed Dec. 23, 1960, Ser. No. 77,965
2 Claims. (Cl. 20—15)

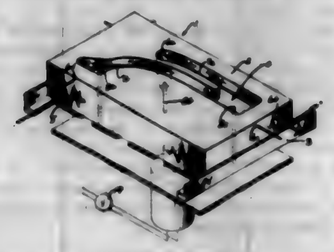
1. A bow-shaped panel which comprises an adhesive, a pair of oppositely disposed sandwiches each built up of a desired number of plies of veneer, said sandwiches being secured together at two opposite ends thereof by the adhesive to leave that portion of each sandwich intermediate the adhesive free to be bowed outwardly and held away from each other, the outermost veneer ply of each sandwich being of greater thickness than the innermost veneer ply thereof when the two sandwiches are secured together, and a means adapted to hold the bowed portions of the sandwiches apart.

3,140,517
DOOR STOP SEAL ASSEMBLY
Stanley H. Richter, 2327 S. Rio Grande, Orlando, Fla.
Filed June 7, 1962, Ser. No. 200,750
1 Claim. (Cl. 20—69)



In a door stop seal assembly, the combination comprising an elongated strip having a groove extending inwardly from one edge of said strip, said groove having flat side walls and bottom wall, said strip including a pair of recesses each extending substantially orthogonally and inwardly from a respective one of said side walls intermediate the ends thereof, an elongated resilient seal member having a convex outer wall and an inner wall, said inner wall secured to said outer wall at points spaced from the ends thereof to provide a pair of overlapping side edges engaging the edge of said strip and maintaining said inner wall spaced from the edge of said strip, a stem projecting from the longitudinal center line of said inner wall, said stem having a wing portion on each side thereof conformably shaped to and received in a respective one of the recesses, said stem having an anchor portion adjacent the free end thereof conformably shaped to and extending into the space between said recesses and said groove bottom wall, the cross-sectional area of said groove and recesses being as nearly as practical equal to the cross-sectional area of said stem, wing portions, and anchor portion, said anchor portion being of a size to engage between and prevent folding of said wing portions toward each other upon the application of an outwardly pulling force to said seal member to thereby prevent outward movement of said stem from said groove.

3,140,518
METHOD OF FORMING A CORE FOR CASTING A COPPER TRANSFORMER ELEMENT
Neal Kruithoff, 444 Lakeside Drive NE., Grand Rapids, Mich.
Filed Apr. 26, 1962, Ser. No. 191,484
4 Claims. (Cl. 22—194)



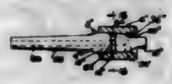
3. A method of making a gas conducting, complexly configurated core for casting non-ferrous articles, comprising the steps of: providing a core box having a cavity corresponding in shape to the core to be made; arranging at least one elongated wire-type member in a curved fashion along the central portions of and extending to the edges of said cavity in conformity with the complex configuration of said cavity; filling said cavity around said elongated member with an uncompacted and thus porous mixture of dry sand and phenolic resin binder; heating said core mixture in said core box to partially cure said phenolic resin to a semi-plastic, self sustaining, non-crumbling state whereby said elongated member may be readily withdrawn without sagging of said core material; withdrawing said elongated member to leave a duct in the core; and then heating said core mixture further to completely cure said core to a rigid state.

3,140,519
BAG CLOSURE CLIP
Herbert W. Johnson, 4040 Harbor Point Drive, Muskegon, Mich.
Filed Aug. 30, 1962, Ser. No. 220,418
1 Claim. (Cl. 24—30.5)



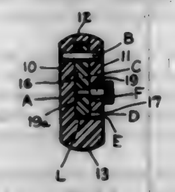
A clip comprising: an integral piece of flat sheet-material forming a pair of spring legs integrally joined at one end and biased away from each other at their free ends; the free end of said legs protruding toward the other leg and each curving back on itself again to form two arcuately overlapped curved portions; one leg having a first finger of a width less than the free end of the second leg; the free end of the second leg having an elongated cut-out through which said finger protrudes; said cut-out being separated into two cut-out portions by an integral cross partition around which said finger curves, said partition being located midway between the points of intersection of said overlapping portions; a pair of finger extensions on the extreme end of said free end of said second leg formed by one of said opening portions nearest the end of said second leg; said finger extensions always being out of contact with said one finger; the contact of said cross partition and said one finger being the only contact between the free ends of said legs; and said legs being movable by a force applied against the bias toward each other to shift said finger away from said partition for reception of an article in a pocket formed between said overlapping portions, said legs when released from said force causing said first finger to apply a squeezing force against an article in a direction toward and against said partition.

3,140,520
SNAP-ON DEVICE FOR ATTACHING LEADER LINES TO FISH LINES AND THE LIKE
Anthony J. Marino, 4105 Central Ave., San Diego 5, Calif.; Anthony M. Bellore, 559 Encinitas Ave., San Diego 14, Calif.; and Adolph F. Graf von Soden, 1827 Titus St., San Diego 1, Calif.
Filed May 31, 1962, Ser. No. 198,780
1 Claim. (Cl. 24—126)



In a snap-on device of the class described comprising an elongated plug means having a tapered barrel body, a cross opening passing through said barrel body and extending longitudinally along said body, said cross opening having a communicating passage extending toward and terminating at the outer surface of said barrel body, a semi-circular and arcuate groove disposed transversely across said barrel body and approximately opposite to said communicating passage for attaching a bight of a fish line therearound and for allowing the fish line extending sections to pass rearwardly along the barrel body, a leader line loop disposed in said cross opening and extending frontwardly along said barrel body, an outer sleeve means for engaging said tapered barrel body and thereby fastening and holding said bight of the fish line including said loop of said leader line in place, said outer sleeve means having a flared out and arcuate rear end, there being a pair of grooves in said arcuate rear end of said sleeve means and disposed oppositely to each other for engaging and for guiding said extending sections of said fish line, and a set of grooves extending longitudinally along the outer surface of said barrel body and disposed diametrically opposite to each other in pairs, of which one pair extends frontwardly along said barrel body from said cross opening and the rearwardly extending pair of grooves leading from said cross opening and along the mid-section of said barrel body for guiding frontwardly said extending loop ends of said leader line and also for guiding rearwardly said extending line sections of said bight of the fish line and thereby holding same in opposite positions when in use.

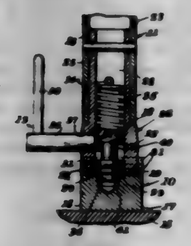
3,140,521
LINE STRETCHER
Joseph H. Penland, 110 Catoochee Ave., Greenville, S.C.
Filed Aug. 10, 1962, Ser. No. 216,183
1 Claim. (Cl. 24—134)



A device for stretching lines such as those used by brick masons and carpenters and the like including, an

elongated body adapted to be held longitudinally of the line in the hand of the user having a base, a flat back portion extending vertically from said base, a top portion extending outwardly from said back portion and, a flat front portion fixed to the top portion extending vertically downwardly overlying the flat back portion of the body in spaced relation thereto so as to define a cavity within said body, a transverse pin carried upon the front and back portions of the body adjacent the top portion, a link carried by the pin depending therefrom for free pivotal movement with respect to the body within said cavity, an arcuate serrated portion carried by the depending end of the link, said front portion terminating closely adjacent the arcuate serrated portion when in clamping position, an elongated longitudinal abutment formed by the upper portion of the base presenting a flat surface opposed to the arcuate serrated portion of the link carried by the body, said abutment being spaced below said front portion in vertical alignment with the front portion and with the serrated portion and together with the lower portion of the front portion defining an open longitudinal line channel into which the cavity opens to receive the depending end of the link, said abutment acting as a stop engaging the serrated portion limiting pivotal movement of the link in one direction, a handle carried by the link extending externally of the body for urging the link about its pivot point to release the gripping force exerted on the line, and arcuate gripping portions for accommodating the hand of the user carried by the upper and lower portions of the body, whereby the serrated portion of the link confines the line within the channel against the abutment when the body is moved in a direction to wedge the line between the serrated portion and the abutment to stretch the line and at the same time tighten the grip exerted by the serrated portion on the line.

3,140,523
MECHANICAL CONNECTION
Elmer W. Frost, 1145 E. California Ave., Glendale 6, Calif., assignor of twenty percent to Max Fink, Beverly Hills, Calif., and forty-one percent to Edwin C. Elmer, Pasadena, Calif.
Filed Feb. 19, 1962, Ser. No. 174,178
5 Claims. (Cl. 24—223)



1. A mechanical connection comprising:
(*a*) a first member provided with a seat having converging grooved guideways,
(*b*) a second member provided with complementary converging end portions engaged with said grooved guideways,
(*c*) the second member being perpendicular to the first member and the members being held against separation in a direction perpendicular to the seat in the first member by said engagement of its end portions in the grooved guideways of the first member,
(*d*) a bolt in the second member having a locking end directed toward and through the end of said member between the converging portions thereof,
(*e*) said first member, between the guideways thereof, having a hole located to receive said bolt end when the guideways and complementary portions are engaged,
(*f*) the hole being larger than the bolt and the axes of the hole and bolt being offset when the grooved guideways and complementary end portions are engaged, and
(*g*) the bolt end being tapered and the hole having a flare to provide a cam-wedging engagement of the bolt in the flare of the hole in a direction toward the convergence of said guideways to effect firm and rigid engagement of the complementary end portions of the second member in the converging grooved guideways of the first member, and
(*h*) a spring to impose a constant bias on the bolt on the end thereof opposite its tapered end to press said tapered end into cam-wedging engagement with the flare of the hole.

3,140,523
SLIP ELEVATORS
Raymond G. Taylor, Jr., Santa Monica, Calif., assignor, by mesne assignments, to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware
Filed Feb. 25, 1959, Ser. No. 795,853
18 Claims. (Cl. 24—263)

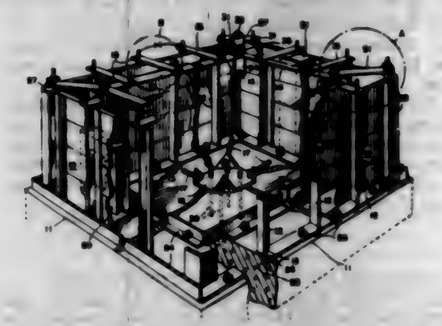


2. A slip elevator comprising a body having a tapered bowl, a plurality of slips disposed in said bowl for longitudinal and radial movement, a plate overlying certain of said slips and engageable therewith to effect longitudinal downward movement of said slips in said bowl upon downward movement of said plate, coengageable means on said slips for interconnecting said slips for such longitudinal movement as a unit, means including fasteners extending through said plate and supporting said plate on said slips in overlying relation to said slips for movement towards and away from one another in said bowl, and means resiliently resisting movement of said slips relative to said plate.

3,140,524
FORM-SUPPORTING STRUCTURE FOR ERECTING CONCRETE BUILDINGS
Paul A. Schmidt, Earlville, Ill.
Filed June 28, 1963, Ser. No. 291,376
13 Claims. (Cl. 25—131)

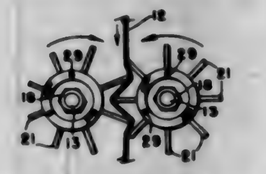
1. A form-supporting structure for erecting building walls from freshly-mixed concrete comprising, a plurality of identically-formed posts each having axially-aligned eccentric trunnions integrated with the opposite ends for rotative location of the lower trunnions on a building footing to dispose the posts vertically in predetermined horizontally-spaced parallel rows, and struts for spanned ex-

bracive positioning on the upper trunnions of horizontally-opposed pairs of posts for anchoring the posts in fixed relationship to permit the progressive stacking of hori-



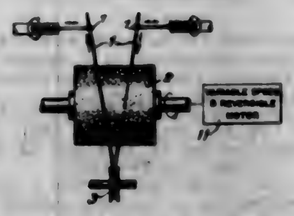
zontally-opposed conventional form elements preparatory to the pouring of fresh concrete for the vertical walls of the building.

3,140,525
CRIMPING DEVICE
Douglas J. Lamb, Gulf Breeze, Fla., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware
Filed July 21, 1961, Ser. No. 125,736
4 Claims. (Cl. 28—1)



1. An apparatus for crimping a filament, comprising a first crimping gear, a second crimping gear meshed with the first gear, said second gear having teeth which vary in length in such a manner that the pitch circle of the second gear is eccentric to the axis of said second gear, each of said gears having removable teeth, and means for driving the gears.

3,140,526
METHOD AND APPARATUS FOR DELUSTERING PLASTIC THREAD FOR TEXTILES
Adolf Jaroslav Thanickin, Gellertstrasse 3, Goppingen, Wurttemberg, Germany
Filed Mar. 17, 1961, Ser. No. 96,418
Claims priority, application Switzerland Mar. 25, 1960
30 Claims. (Cl. 28—67)



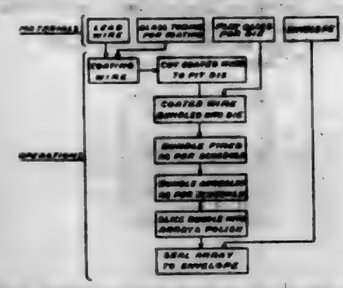
14. An apparatus for abrading a filament of highly molecular plastic substantially uniformly on all sides thereof and throughout its entire length without substantially changing the original cross-section of the filament and its mechanical properties, comprising a rotary abrading element the diameter of which varies in the direction of its longitudinal axis, means for driving said element so as to positively rotate the same about its axis, and means for continuously feeding said filament substantially tangentially over said element and in engagement therewith in a direction oblique to the longitudinal axis of said element, said driving means rotating said element at a speed different from the feeding speed of the filament produced by said feeding means, whereby said filament while being abraded by its engagement with said element is positively turned about its own axis so that the entire surface thereof is uniformly abraded on all sides, the varying diameter of said element increasing the tendency of said obliquely extending filament to turn about its own longitudinal axis during the abrading operation.

3,140,527
MANUFACTURE OF SEMICONDUCTOR ELEMENTS
Henri Valdman, 23 Rue Simart, Paris, France, and René M. Gicquel, 9 Rue de Paris, Palaiseau, France
Filed Dec. 7, 1959, Ser. No. 857,844
Claims priority, application France Dec. 9, 1958
4 Claims. (Cl. 29—25.3)



1. A method of mass producing small semiconductor devices comprising the step of nickeling the two parallel faces of a silicon wafer, presenting perpendicularly to said parallel faces equally spaced apart metallic leads arranged opposite one another in pairs and resistant to attack by acid silicon dissolving baths, maintaining an alloy of about 85% lead by weight and 15% gold by weight at a temperature slightly above 215° C., soldering said metallic leads to said nickeled parallel faces with said alloy to allow discrete spots of said alloy to adhere thereto and dipping said silicon wafer into an acid silicon dissolving bath until the silicon surface portions which are exposed and are not covered by said alloy spots are dissolved.

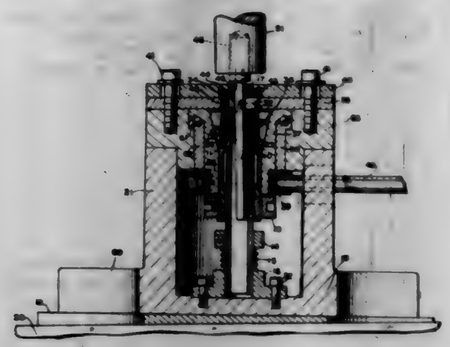
3,140,528
MULTIPLE LEAD FACEPLATE
Arthur R. Hildebrand, Jr., Frank W. Martin, and Kenneth G. Pollock, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 27, 1960, Ser. No. 58,743
5 Claims. (Cl. 29—25.14)



1. A method for producing an electrostatic printing member having a matrix of conductors insulated from each other comprising the steps of providing a plurality of wires having a uniform coating of insulating material

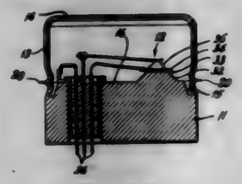
adhered thereto, arranging said wires in an enclosure wherein said coatings on adjacent wires are contiguous and said wires are parallel to the major axis of said enclosure, outgassing the arranged coated wires by heating under vacuum, fusing said insulating material to form a bundle, homogenizing the insulating material of the bundle so formed, annealing said insulating material, cooling said bundle, and thereafter slicing a relatively thin array from said bundle wherein said conductors extend from one side of said array to the other side thereof.

3,140,529
METHOD AND APPARATUS FOR MANUFACTURING BEARINGS
Alfredo Rozentals, Fairfield, Conn., assignor, by mesne assignments, to The Heim Universal Corporation, a corporation of Delaware
Filed Nov. 22, 1961, Ser. No. 154,237
4 Claims. (Cl. 29—90)



1. Apparatus for the sizing and burnishing of self-aligning ball bearings comprising a base, an angular wedge on the base, an upright support member on the wedge, a self-aligning bearing secured to the top of the support member, a bearing holding member for removably holding the race to be burnished, a plunger which rotates and moves along the axis of the holding member and means to rotate and move axially the plunger, in which the plunger is adapted to rotate rolling elements and move them axially.

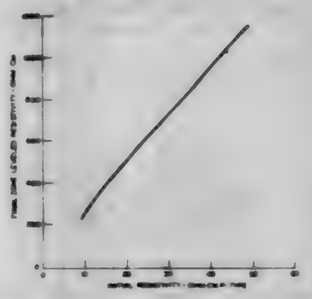
3,140,530
METHOD OF MAKING SEMICONDUCTOR UNITS AND THE LIKE
Anthony J. Certa, Norristown, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 16, 1961, Ser. No. 90,587
9 Claims. (Cl. 29—155.5)



1. In the fabrication of hermetically enclosed semiconductor devices and the like: plating metallic flanges of mounting elements for such devices with a phosphorus-containing metal; securing said devices to such mounting elements; cleaning similar flanges of a batch of cover elements, so as to expose substantially pure metal thereof; immediately upon such cleaning of the cover flanges, vacuum baking the cover and mounting elements; and immediately upon such baking, cold-working plated, vacuum baked flanges of mounting elements, together with juxtaposed, cleaned, vacuum-baked flanges of cover elements, so as to intermingle metal portions of the juxtaposed flanges.

7. In the pressure joining of members of ductile metals: applying a coating of electroless nickel to at least one of two opposed solid surfaces of said members and then cold-working said members and coating, without substantial extraneous application of heat, to commingle the metals of said members.

3,140,531
PROCESS OF MAKING A THERMISTOR
Milton C. Vasik, Brookville, Moises G. Sanchez, Severna Park, and Jose E. Herrera, Jessup, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Continuation of applications Ser. Nos. 244,905 and 244,896, Dec. 14, 1962. This application Feb. 20, 1964, Ser. No. 349,526
10 Claims. (Cl. 29—155.5)



1. A process for preparing a highly sensitive thermistor device capable of exhibiting a large change in conductivity with small changes in temperature from monocrystalline high impurity n-type silicon which comprises the steps of impregnating a rod of the n-type silicon with about 1 to 100 parts per billion of gold by the zone leveling technique, calculating the thickness of the thermistor devices based on the measured resistivity of wafers removed from the rod, nickel-plating the wafers, dicing the wafers, soldering leads to the dice, adjusting the size of the dice to prepare thermistors with a predetermined resistivity, coating the dice with a paint resistant to change in temperature and recovering the thermistor devices.

3,140,532
FABRICATION OF HOLLOW ARTICLES
Richard F. Adams, Schenectady, N.Y., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Original application Oct. 30, 1956, Ser. No. 619,284, now Patent No. 2,982,013, dated May 2, 1961. Divided and this application Jan. 19, 1961, Ser. No. 94,101
1 Claim. (Cl. 29—157.3)

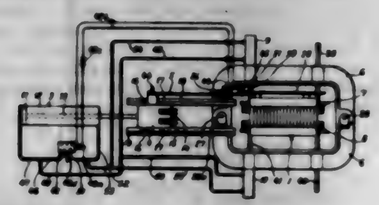
A method of fabricating a hollow article by injecting a fluid under pressure into an unjoined, confined interior portion of a blank, said unjoined portion being defined by walls each having a major portion lying intermediate juncture portions of said walls with the solid web portion of said blank, said walls forming a portion of said blank, said method comprising

(A) forming a fluid inlet into said unjoined portion for injection therein of a fluid under pressure,
(B) placing said blank between a pair of dies having opposed spaced apart forming portions having multi-directional surface irregularities comprising alternate ridges and depressions,



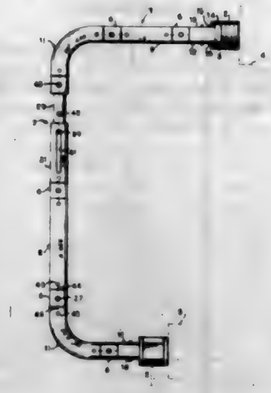
(C) imparting said ridges and depressions to said major portion of said walls by injecting into said unjoined portion a fluid under pressure to oppositely and outwardly expand said walls into firm engagement with said spaced apart forming portions while maintaining said juncture portions free of said surface irregularities, whereby metal is stretched and gathered at said unjoined portions,
(D) and subsequently partially opening out said ridges and depressions from said major portion of said walls by injecting into said unjoined portion a fluid pressure less than said first mentioned pressure to effect the oppositely and outwardly expansion of said walls, whereby said walls are distended proportionately over said major and said juncture portions.

3,140,533
APPARATUS FOR WEAVING FIN AND TUBE RADIATORS
Arne Ingbert Rånebeck, Olofstrom, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 2, 1961, Ser. No. 92,962
Claims priority, application Sweden July 22, 1960
13 Claims. (Cl. 29—202)



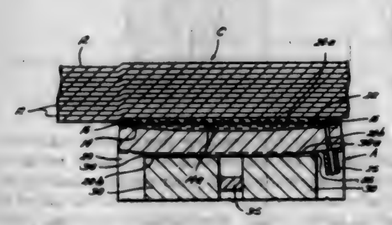
1. Apparatus for weaving fin-and-tube radiators of the type having spaced parallel fins and also having tubes extending transversely of the fins through aligned holes therein, each fin having its holes spaced uniformly along a row extending lengthwise of the fin, the apparatus comprising a fixture having an inlet end for receiving a group of fins and an outlet end, the fixture including means for guiding and supporting the fins in parallel spaced relation to each other during lengthwise movement of the fins through the fixture, mechanism for advancing the group of fins step-by-step lengthwise through the fixture from said inlet end to said outlet end, said mechanism being operable in each advancing step to advance said group a distance equal to the spacing of adjacent holes in a row and with the holes of the different fins forming sets each composed of holes aligned with each other transversely of the fins, a holder for positioning a tube at one side of said group and with the tube in alignment with one of said hole sets at the outlet end of the fixture, the holder including means for guiding said tube endwise toward the aligned holes of said one set, a tube-pushing member reciprocable transversely of said group and operable in a forward stroke to engage a tube in the holder and push said tube endwise along said guiding means into the holes of said one set, and means interconnecting said advancing mechanism and the reciprocable tube-pushing member to move said member through its forward stroke during each dwell period in said step-by-step advance of the fins.

3,140,534
KIT AND METHOD FOR FORMING PIPE LINE TEMPLATES
Nicholas J. Messina, 23 Balfour Drive, Bethpage, N.Y.
Filed Dec. 3, 1962, Ser. No. 241,869
8 Claims. (Cl. 29—407)



8. A method for forming an integral pipe line to be permanently connected between a fluid device fixed at one point with another fluid device fixed at another point, comprising: assembling between the two devices a pipe line template formed of a succession of separable pipe sections releasably coupled one to the other beginning with a first terminal element coupled to one of the devices and ending with a second terminal element releasably coupled to the other device; noting upon a chart the order of assembly of the separable sections to one another, the nature of each component of the assembly, and the angle of rotation of any component relative to another; and utilizing the notations entered on the chart for forming an integral pipe line conforming in extent and configuration to that of the template.

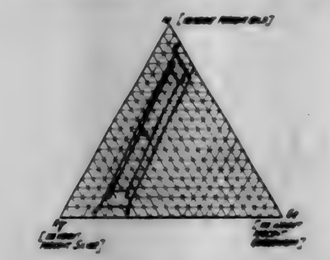
3,140,535
AUTOFRETTAGE METHOD AND APPARATUS
Raymond E. Pechacek, Houston, Tex., assignor to Hahn & Clay, a corporation of Texas
Filed May 31, 1963, Ser. No. 284,567
4 Claims. (Cl. 29—421)



1. A method of applying pressure internally of a cylinder wall for the auto-frettage thereof, comprising the steps of,

(*a*) applying internal pressure only radially outwardly of a cylinder wall for only a portion of the length thereof to expand the inner part of said portion,
(*b*) releasing the pressure on said portion,
(*c*) thereafter repeating the foregoing steps of applying the internal pressure and releasing same on successive lengthwise internal portions of said cylinder wall,
(*d*) each of said portions extending completely around the internal circumference of the cylinder, and
(*e*) said pressure being applied by means of an expansible annular band having means for fluid pressure to expand the annular band to flex same radially outwardly.

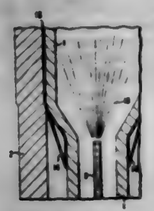
3,140,536
MATERIALS FOR AND METHOD OF BONDING
Philip Kuzmetzoff, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 15, 1961, Ser. No. 152,389
12 Claims. (Cl. 29—473.1)



1. A ternary alloy consisting essentially of 10 to 28 weight percent germanium, 5 to 86 weight percent gold, and 4 to 80 weight percent silver.

7. The method of bonding articles composed of a material selected from the group consisting of metals and crystalline semiconductors and metallized insulators, comprising brazing said articles with an alloy consisting essentially of 10 to 28 weight percent germanium, 5 to 86 weight percent gold, and 4 to 80 weight percent silver.

3,140,537
EXPLOSIVE WELDING PROCESS
Alexis Alexander Popoff, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 30, 1961, Ser. No. 121,196
5 Claims. (Cl. 29—474.3)



1. A process for bonding the outside wall of a first metal tube to the inside wall of a second metal tube by a continuous metallurgical bond characterized by the presence of a homogeneous mixture of the metals of the two tubes to form a lined tube which comprises positioning said first metal tube essentially concentrically inside said second metal tube, the outside wall of said first metal tube being spaced from the inside wall of said second metal tube by a distance of at least 0.001 inch, positioning essentially concentrically inside said first metal tube and throughout the length of said tubes to be bonded a linear charge of a detonating explosive having a velocity of detonation of at least 1200 meters per second but less than 120% of the velocity of sound in the metal in the system having the highest sonic velocity, and initiating said linear charge of explosive in such a manner that detonation is propagated in a direction essentially parallel to the longitudinal axis of said first metal tube and said second metal tube over the length of said first metal tube and said second metal tube to be bonded.

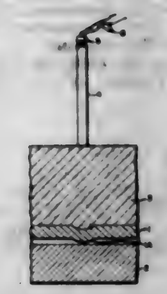
3,140,538
METHOD OF FORMING A BRAZED JOINT
Joseph P. Rutledge, Indianapolis, Ind., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Original application Jan. 28, 1960, Ser. No. 3,652. Divided and this application Oct. 27, 1960, Ser. No. 65,352
8 Claims. (Cl. 29—482)



1. The method of joining two metal components by brazing substantially complementary surfaces thereof, comprising the steps of indenting at least one of the surfaces to be brazed with one or more indentions extending across the surface and causing localized projections adjacent each of the indentions raised from the normal contour of the surface, bringing the surfaces of the components which are to be brazed together into close proximity to each other and the brazing filler metal until the projections abut forming a solid stacked assembly, and heating the components and filler metal at least to the melting point of the filler metal by dipping the components with the filler metal into a molten flux bath to cause the filler metal to flow between the surfaces remote of the projections held apart by the projections abutting the opposite surface into brazing engagement and condition with the component surfaces.

3,140,539
PROCESS FOR BONDING METALS BY EXPLOSIVE MEANS
Arnold Harold Holtzman, Cherry Hill Township, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 28, 1962, Ser. No. 206,666
6 Claims. (Cl. 29—497.5)

1. A process for producing a completely bonded clad metal system which comprises:
(*a*) providing a convex projection having a radius of curvature of at least about .25 inch on one surface in the plane of a first metal layer,
(*b*) supporting said first metal layer parallel to and coextensive with a second metal layer so that the convex projection in the first metal layer faces the second metal layer and the inner, substantially flat surfaces of the two metal layers are separated by a distance of at least 0.010 inch, the height of said convex projection being no greater than the distance between said inner flat surfaces of the two metal layers,
(*c*) placing a layer of a detonating explosive having a velocity of detonation less than 100% of the sonic velocity of the metal in the system having the highest sonic velocity on the outside surface of one of the metal layers, and



(*d*) initiating the explosive layer at a point in said explosive layer contiguous to said convex projection of the first metal layer.

3,140,540
METHOD FOR CONNECTING PRESEMIFLANGED RUNGS TO PREAPERTURED SPACED LADDER RAILS
Merry Grossman, 18 Lakeview Drive, Stamford, Conn.
Original application Aug. 11, 1961, Ser. No. 131,016, now Patent No. 3,119,435, dated Jan. 28, 1964. Divided and this application Apr. 17, 1963, Ser. No. 273,763
1 Claim. (Cl. 29—512)



A method for assembling on preapertured ladder rails a hollow rung having spaced inner flanges and terminal shank portions, said method comprising:
(*a*) inserting the terminal shank portions of the rung through the apertures in the rails,
(*b*) approaching swedging tools to the opposite ends of the rung,
(*c*) slidably engaging and supporting the rung intermediate the inner flanges with two anvils each of which is associated with a different one of said swedging tools,
(*d*) relatively pulling together each slidable anvil and its associated swedging tool while permitting one slidable anvil and its associated swedging tool to move axially of the rung away from the other slidable anvil and its associated swedging tool,
(*e*) terminating such axial movement with the slidable anvils engaging the inner sides of each of the inner flanges,
(*f*) supporting the inner sides of each of the inner flanges with the slidable anvils, and
(*g*) then compressing each terminal shank portion against a rail between a slidable anvil that supports the inner side of the inner flange adjacent the inner side of said rail and the associated swedging tool that engages the outer end of said terminal shank portion to form a second flange on the outer side of and engaging each associated rail,
(*h*) whereby each rail will be compressed between the inner flange and the newly formed second flange so that each end of the rung is secured to a rail.

3,140,541
BLADE INJECTION TYPE RAZOR
Bernie J. Craig, 1042 La Presa Drive, Pasadena, Calif.
Filed Aug. 16, 1962, Ser. No. 217,498
3 Claims. (Cl. 30—62)



1. In a safety razor of the type in which new blades are adapted to be fed into the head of the razor from a separable blade-filled magazine, a back plate which is provided at its upper end with a forwardly projecting clamping member against the underside of which a blade is adapted to be clamped in shaving position, a movable cam plate in front of the back plate, which cam plate includes a forwardly projecting blade seat beneath the clamping member for clamping a blade against the clamping member, said back plate and said cam plate being spaced apart to receive a cam finger in a blade magazine, said cam plate including a plurality of spaced cam faces, said cam faces being stepped in height and spaced apart and disposed on opposite sides of the longitudinal axis of the razor for simultaneously urging both sides of the cam plate forward without twisting action.

3,140,542
SAFETY RAZOR FOR RECEIVING BLADES FROM A MAGAZINE
Bernie J. Craig, 1042 La Presa Drive, Pasadena, Calif.
Filed Jan. 17, 1963, Ser. No. 252,199
2 Claims. (Cl. 30—62)



1. In a razor, a body including a handle having an upper portion thereon, said upper portion being provided with a forwardly projecting blade clamping member adapted to clamp a blade in shaving position upon a blade seat, a separately formed blade platform having an integral depending cam portion thereon, said blade platform having a blade seat thereon disposed beneath the clamping member for receiving a blade to be held by the clamping member, means to integrally unite the lower end of said depending cam portion and said upper portion at a location remote from said blade platform, said cam portion and said upper portion including parts spaced apart to form a slot for the reception of a finger on a blade magazine, said blade platform integral depending portion being constructed from a material so that the upper ends of said portions can be separated to a limited extent, said portions being biased so that they are normally urged towards each other to clamp a blade on the blade seat, said blade seat having spaced lugs thereon adapted to be engaged by the sharpened edge of a blade,

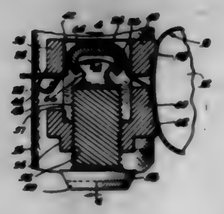
said clamping member including a part adapted, when the clamping member is in clamping position, to urge a blade against the seat and said clamping member including another part adapted, when the clamping member is in clamping position, to urge a blade into engagement with the spaced lugs.

3,140,543
CROWN FOR BOVINE TEETH
Albion Rood Mentor, Sedgwick, Colo.
Filed July 27, 1962, Ser. No. 212,873
12 Claims. (Cl. 32—12)



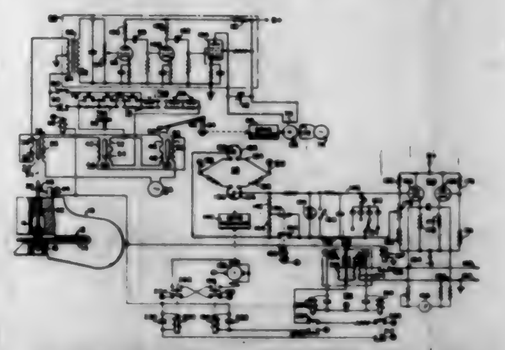
1. A crown for the lower anterior teeth of a grazing animal comprising an arcuate member adapted to encompass a plurality of teeth including undercut labial and lingual plate portions connected at their distal ends, said labial and lingual plate portions having smooth interior surfaces in confronting relationship, said labial and lingual plate portions conforming in height to the vertical dimension of the teeth of the animal and the space between said labial and lingual plate portions conforming to the transverse dimension of the teeth of the animal.

3,140,544
MATRIX RETAINER
Alexander M. Pratt, 328 E. 75th St., Chicago 19, Ill.
Filed May 17, 1962, Ser. No. 195,520
5 Claims. (Cl. 32—63)



1. A retainer for dental matrices comprising: a retainer body having rigidly spaced jaws adapted to receive the end portions of a looped matrix transversely therebetween, one of said jaws including means defining a channel for accommodating the terminal portion of a stud member; matrix-retention means on an edge portion of said one jaw for securing the ends of said matrix in a positive position; a stop surface on the opposite edge portion of said one jaw for use in positioning said retainer relative to a tooth encircled by the looped portion of said matrix, said channel being disposed intermediate said stop surface and said matrix-retention means; and a stud member progressively engaging a different one of said jaws to extend a terminal portion into said channel for aggressively abutting the end portions of said matrix in laterally engaged relationship whereby to urge the engaged portions of said matrix into said channel and thereby draw tension into the looped portion of said matrix.

3,140,545
DEVIATION THICKNESS GAGE
James B. Muirhead, Jr., Tarentum, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1960, Ser. No. 23,593
13 Claims. (Cl. 33—147)



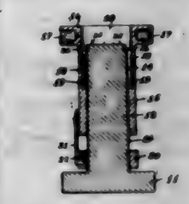
1. In a gage for indicating the deviation in thickness of an article from a predetermined value, the combination of a pair of members between which an article to be gaged is disposed, one of said members being fixed and the other member being movable toward and away from the fixed member to accommodate articles of different thicknesses, a servo system having a servomotor therein and adapted to produce movement in the servomotor proportional to the deviation in thickness of said article from said predetermined value, first transducer means in the servo system operatively connected to said other member, second transducer means in the servo system operatively connected to said servomotor, means including a variable resistive network connected in series with said first and second transducer means for cancelling the combined signal produced by the first and second transducer means when an article of said predetermined thickness value is disposed between said members, and registering means for indicating the amount of movement of said servomotor.

3,140,546
SKIN FOLD CALIPER
Reginald C. Bartlett, Stratford, Ontario, Canada, assignor to Lloyd Cleveland Bartlett, Winnipeg, Manitoba, Canada
Filed July 5, 1962, Ser. No. 207,630
3 Claims. (Cl. 33—148)



1. A skin fold caliper comprising a pair of tubular hubs, one of said hubs having a reduced end rotatably fitted in one end of the other hub, arms radiating from said hubs in angularly disposed relation having their upper ends bent to form laterally extending parts disposed in overlapping relation, the laterally extending parts adjacent their free end having upstanding parts terminating in inwardly extending jaws disposed in opposed relation, a plug fixedly mounted in the outer end of each of said hubs having a reduced inner end, and a coil spring fitted over the reduced ends of said plugs and secured thereto with the spring under tension whereby the hubs are held together and the jaws of said arms are held in closed position.

3,140,547
HEEL JACKS
William Blommel, R.R. 5, Connersville, Ind.
Filed Oct. 18, 1961, Ser. No. 145,839
1 Claim. (Cl. 33—164)



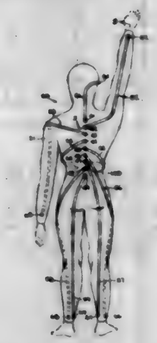
In a heel jack, the combination of a base having a threaded post extending upwardly therefrom, a nut threaded onto the post, an indicator finger secured into and carried by the nut, with said nut being capable of upward and downward movement with relation to the base, a sleeve threaded onto the post and having upward and downward movement with relation thereto, with only the lower portion of the sleeve being threaded, a counterbore formed above the threads of the sleeve with a shoulder being formed at the juncture of the threads and the counterbore, calibrations provided on the outer peripheral surface of the sleeve with the calibrations being adapted to register with the indicator, an annular channel formed about the upper end of the threaded post, a snap ring positioned in the annular channel and protruding into the counterbore and forming a stop limiting the upward movement of the sleeve with relation to the threaded post and the base.

3,140,548
PRINTING RULER
Frank M. Paparozzi, 164 Grove St., Lodi, N.J.
Filed Nov. 6, 1961, Ser. No. 150,311
8 Claims. (Cl. 33—174)



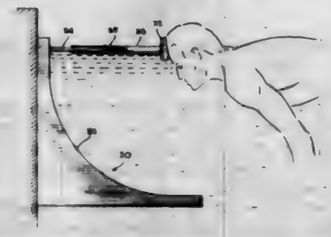
1. A printing ruler comprising an upstanding elongated strip of transparent material having parallel opposite side edges, a first upstanding row of indicia forming openings formed in said strip spaced inwardly from a first one of said side edges, said openings being in vertical alignment, thereby enabling the use of said first side edge as a means for providing a consistent horizontal spacing between indicia formed by the use of said openings, a second row of similar type indicia forming openings parallel to and spaced from said first row, the openings of said second row being in vertical alignment, and a line formed on said strip parallel to the openings in the second row, said line being spaced therefrom a distance equivalent to the distance between said first edge and the first row of openings, thereby enabling the use of said line as a means for horizontally aligning indicia formed by the use of the openings in the second row consistently with the indicia formed by the first row.

3,140,549
SWIMMING INSTRUCTION GARMENT
David J. Wayfield, 567 Montauk Highway, West Islip, Long Island, N.Y.
Filed June 17, 1958, Ser. No. 742,600
6 Claims. (Cl. 35—29)



3. A garment adapted to be worn by a person, said garment containing a plurality of conduits leading to a plurality of nozzles at the extremities of the limbs, said garment having power means attached thereto and programming means therein for transmitting fluid through said conduits and nozzles in a manner to effect reciprocating leg movements.

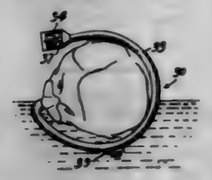
3,140,550
SWIMMING INSTRUCTION APPARATUS
David J. Wayfield, 567 Montauk Highway, West Islip, Long Island, N.Y.
Filed June 23, 1958, Ser. No. 743,683
13 Claims. (Cl. 35—29)



1. An aquatic device for giving swimming instruction comprising a cabinet adapted to receive the body of a swimming student and being dimensioned to provide unobstructed use of the arms and legs in executing swimming

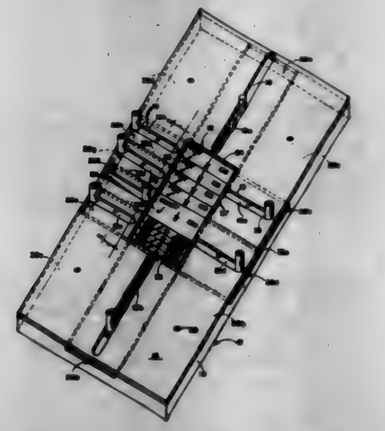
strokes, said cabinet having a plurality of fluid expelling means on its vertical, arcuate and horizontal sections adjacent positions for the head, arms, trunk and legs for releasing fluid under pressure in a timed relation to indicate to the student appropriate coordination of the parts of the body in executing swimming strokes.

3,140,551
SWIMMING INSTRUCTION DEVICE
David J. Weyfield, 567 Montauk Highway, West Islip, Long Island, N.Y.
Filed June 23, 1958, Ser. No. 743,796
8 Claims. (Cl. 35—29)



1. A swimming mask adapted to cover at least the wearer's nose and mouth comprising an inhalation tube and means connected to said tube to close same upon the horizontal submersion of the swimmer's face, said mask further characterized by a self-contained, clock-operated mechanism for emitting signals in a predetermined tempo.

3,140,552
DEVICE FOR TEACHING THE CONCEPT OF FRACTIONS
Robert J. Mader, 1607 Hickory St., Torrance, Calif.
Filed Oct. 29, 1962, Ser. No. 233,825
6 Claims. (Cl. 35—31)



1. A device for teaching the concept of fractions comprising a holder unit having oppositely positioned front and back plates,

said front plate having a window and a plurality of slots formed therein, each of said slots running from a position proximate to one of the sides of said window in a direction substantially normal to the associated window side,

said back plate having a plurality of channels formed therein, each of said channels being positioned opposite an associated one of said slots and running in substantially the same directions thereas, the portion of said back plate opposite said window forming a continuation of said channels,

a separate slide plate slidably mounted in each of said channels, each of said slide plates being adapted to represent a fractional portion of said window, at least one of said slide plates being mounted for motion along a first axis normal to one of the sides of said window, at least another one of said slide plates being mounted for motion along an axis normal to said first axis, said one of said slide plates being marked into segments, and

knob means attached to each of said slide plates and protruding through an associated one of said slots for selectively positioning said slide plates in said window,

whereby various combinations of said slide plates can be made to completely fill said window.

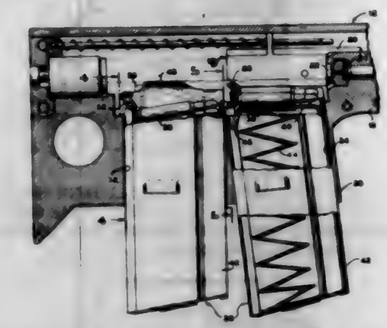
3,140,553
MAGNETICALLY OPERATED SIGN
Maurice K. Taylor, Weston, Ontario, Canada, assignor to Ferranti Limited, Hollinwood, England
Filed Aug. 21, 1961, Ser. No. 132,952
Claims priority, application Canada Aug. 24, 1960
4 Claims. (Cl. 40—28)



1. A sign compriaing a frame, a plurality of writing elements each having two faces of contrasting colours, each of said writing elements being mounted in said frame for rotation about its axis of rotation to display one face of each element at a time, each of said writing elements comprising a disc, opposed faces of said disc comprising said faces, the faces of said elements being adapted to at least partially define a display panel, a magnetic member carried by each of said writing elements with its long axis substantially parallel to the plane thereof and polarized to provide north and south poles at each of its ends and having a magnetic axis at an incline to the axis of rotation of said writing element, and means associated with each of said writing elements for creating a magnetic field of force of predetermined polarity with which the magnetic axis of said magnetic member of its respective writing element can align through rotation of said writing element to present a predetermined one of said faces of each of said elements for display in said display panel, whereby a continuous line of said faces of a like colour can be set amid faces of a contrasting colour to make a sign, said means for creating a field of force of predetermined polarity comprising a coil that terminates in spaced apart pole pieces and is made of a permanently magnetizable steel and an electricity conducting wire extending through said coil for changing the polarity of said pole pieces.

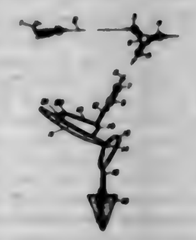
3,140,554
DOUBLE, TANDEM-ARRANGED MAGAZINE FEEDING DEVICE
Richard H. Colby, South Hadley, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed June 10, 1963, Ser. No. 286,874
4 Claims. (Cl. 42—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a firearm including a barrel and a receiver with a bolt disposed for reciprocation therein in recoil and counterrecoil strokes, a feeding device including a magazine housing depending from the receiver adjacent the rear end thereof, a magazine for releasably holding a supply of cartridges spring-biased to a stripping position, means in said housing for receiving a pair of said magazines tandemwise in a front and a rear position respectively, means for starting transfer of the cartridges from



the rear one of said magazines to the barrel without interruption of feeding when the front one of said magazines is emptied, a head of said bolt disposed at the front end thereof in cooperation with the front one of said magazines for successively stripping the cartridges therefrom, and a feed pawl mounted on the rear end of the bolt for cooperation with the rear one of said magazines for successively stripping the cartridges therefrom.

3,140,555
WATER KITE DEVICE
Herbert L. Gross, Parkton, Md.
Filed June 24, 1963, Ser. No. 290,077
5 Claims. (Cl. 43—43.13)



3. A trolling kite for use with fishing tackle, comprising an elongated oval plate arcuately curved transversely to its major axis and having a lower end and a rising upper end, a rigid slide bar having angularly positioned ends of unequal length secured along the major axis of said oval plate with said slide bar extending over the center portion of said plate above the upper side thereof and at an inclined angle to the major axis of said plate, with said slide bar being positioned a greater distance from said plate at its lower end than at its upper end, means including a looped bridge element secured across the top and upper end of said slide bar nearest the shorter end thereof and to said kite plate, a slide loop having an arcuate side and an opposite straight side, with said arcuate side of said slide loop being secured intermediate its ends to the lower end of said oval plate and along the major axis of said oval plate and positioned substantially transversely to said oval plate, and a sinker and line attachment means connected to said slide loop and said slide bar, respectively.

3,140,556
PERCUSSION TRAP FOR ANIMALS
Richard C. Wagner, 2351 W. Dakota, Fresno, Calif.
Filed July 3, 1961, Ser. No. 121,400
1 Claim. (Cl. 43—84)



A percussion trap for placement in animal runs comprising an elongated frame of substantially rigid rod-like material having opposite predetermined forward and rearward ends, said frame including a pair of transversely spaced substantially parallel side rods providing at said forward end a continuous planar loop portion, the frame terminating at said rearward end in upwardly arcuately return-bent portions inwardly converging in side-by-side relation, and a pair of forward and rearward longitudinally spaced substantially parallel pivot rods rigidly mounted between said side rods adjacent to the rearward end of the frame; a tubular projectile receiving member rigidly mounted on said return-bent portions of the frame substantially aligned longitudinally of the frame and having opposite open ends; a trigger rod pivotally mounted on said forward pivot rod intermediate the side rods and having an animal engaging portion disposed adjacent to said loop portion of the frame, and an opposite sear end; a hammer arm pivotally mounted on said rearward pivot rod in substantial alignment with said trigger rod and having a head portion constrained to an arcuate path of movement between a projectile engaging position adjacent to said tubular projectile member and a cocked position retracted toward said rearward end of the frame, said hammer arm including an opposite trigger end engageable by said sear end of the trigger rod to hold the hammer arm in said cocked position; and resilient means carried on said rearward pivot rod eccentrically engaging said hammer rod to urge the same toward said projectile engaging position incident to release of the sear end of the trigger rod from the hammer arm.

3,140,557
RECEPTACLE SUPPORT
Harry J. Albrycht, 12 Bartlett St., Amsterdam, N.Y.
Filed Aug. 8, 1961, Ser. No. 130,144
6 Claims. (Cl. 45—28)



1. A receptacle adapted for support in a shower including a shower curtain rod which comprises, in combination, an elongated hanger, means at the upper end of said hanger for engagement with the shower curtain rod so

that said hanger is suspended from the shower curtain rod and means comprising a cross-bar and receiving recess therefor at the lower end of said hanger for removable engagement with the receptacle so that said receptacle is supported in a position downwardly of the shower curtain rod, the said hanger being of such length that the said receptacle is supported at approximately the hand level of a person standing in the shower.

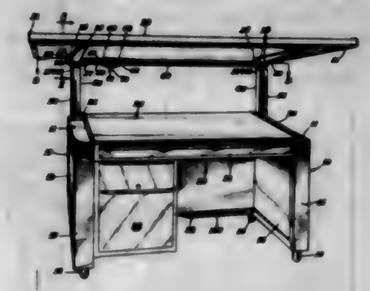
3,140,558
BOOK AND MAGAZINE HOLDER
Peter P. Cassidy, Perth Amboy, N.J.
(121 Lakeshore Drive, Port Arthur, Tex.)
Filed Oct. 15, 1962, Ser. No. 230,451
2 Claims. (Cl. 45—85)



1. A holder for books, magazines and the like, comprising a horizontally disposed trough for supporting the bottom of the printed matter to be held, a horizontal member spaced vertically from the trough, means connected to the horizontal member at each end for releasably holding the pages of the printed matter being supported, a first vertical member connected at one end to the trough, a second vertical member connected to the horizontal member, the first and second vertical members being slidably connected to one another for connecting the trough and horizontal member and for varying the space therebetween, means for releasably holding the first and second vertical members immovable relative to one another to maintain the space between the trough and horizontal member, said horizontal member being movable to the second vertical member toward and away from the trough, a vertical support member connected to the end of the second vertical member to which the horizontal member is connected, the end of the second vertical member being movable along the support member, and means for releasably connecting the horizontal member and the support member to the end of the second vertical member.

3,140,559
DRAFTING TABLE
Harry N. Grow and Egon R. Hoenle, Manitowoc, and Roy E. Kanitz, Earl J. Cisler, and Floyd F. Mueller, Two Rivers, Wis., assignors to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin
Filed July 31, 1961, Ser. No. 128,140
28 Claims. (Cl. 45—131)

1. A drafting table comprising a table structure having a pair of openings in the upper surface thereof in a spaced apart relationship to each other, a pair of vertically adjustable columns mounted in said table structure and extending vertically through the respective openings, roller means carried on the lower end of each of said columns, a pair of vertically extending roller guides mounted in said table and cooperating with said roller means of said columns to vertically guide the lower ends of said columns, second roller means mounted in said table adjacent said openings and positioned to engage each of said columns on one edge thereof, and means engaging the opposite edges of said columns and controlling vertical movement



of said columns, whereby said columns are held in a vertical position during adjustment.

3,140,560
AERIAL TOY AND SUPPORT
Peter P. Gutierrez, 3101 Fresno St., Santa Clara, Calif.
Filed Sept. 15, 1961, Ser. No. 138,412
7 Claims. (Cl. 46—32)



1. In a toy of the character described, an elongated body having a pair of wings projecting sideways therefrom, a tail section extending rearwardly from the body, said tail section containing a rudder formed from two substantially parallel wall sections that define a slot therebetween, a socket in said rudder formed by a pair of opposed spherically shaped surfaces on the two parallel wall sections, said slot being entirely open at all angles rearwards of the socket whereby free access is provided over the entire rearward angle of 180 degrees axially of the body, a ball cooperably mounted in the socket, a shaft attached to the ball and fitting through the slot, and stopping means in the slot positioned in front of the center of the socket for restricting the shaft movement so as to prevent a forward position of the shaft with respect to the body.

3,140,561
SPINNING TOY COMPRISING A DISK AND A REMOVABLE SHAFT WITH PROJECTIONS THEREON FOR SECURING SAID DISK THERETO
George L. Horner, 407 St. Louis Way, Vancouver, Wash.
Filed Aug. 29, 1962, Ser. No. 220,287
1 Claim. (Cl. 46—62)

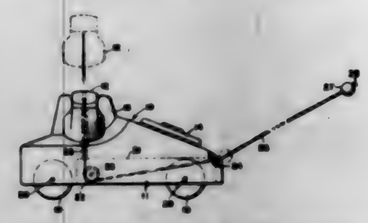
A spinning toy comprising a disc member having opposite face surfaces, a shaft projecting centrally through said disc member and extending outwardly from each side thereof, interengaging tongue and groove means on said disc member and shaft for connecting said disc member and shaft together for unitary rotation, and projections on said shaft spaced apart longitudinally of the shaft a selected distance to engage opposite face surfaces of the disc member for locking the latter on said shaft, at least one

of the said disc member and projections being distortable for moving said disc member on said shaft from one end



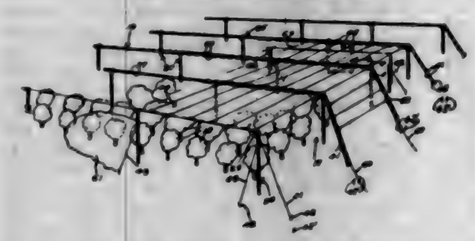
of the latter over the said projections into a locked position intermediate said projections.

3,140,562
WHEELED SIMULATED TELEPHONE WITH PULL CORD SIMULATING A TELEPHONE CORD
William Riva, New York, N.Y., assignor to The Lockland Company, New York, N.Y., a firm
Filed June 18, 1962, Ser. No. 203,323
6 Claims. (Cl. 46—202)



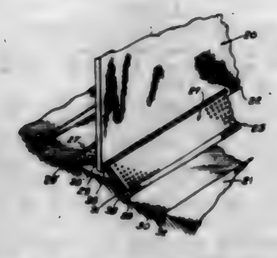
1. A child's pull toy comprising a simulation of a telephone unit including, in combination, a base having a recess therein and having a pair of spaced apart apertures in communication with said recess, said apertures opening to the interior of said base, a removable handset supported by said base, and a cord secured at one end to the handset and having its other end arranged to pass through one of said apertures and out through the other of said apertures in said base, said cord being of sufficient length to extend beyond either of said apertures when pulled from either end thereof, said cord being movable relative to the base whereby it may be pulled therefrom in one direction to simulate the wire cord connecting the base and the handset when the latter is removed from the base and pulled therefrom in another direction to function as a pull cord for moving the toy when the handset is rested on the base.

3,140,563
PROTECTIVE COVER FOR PLANTS
Clayton M. Allen, 1526 Cordova Ave., Holly Hill, Fla.
Filed Apr. 3, 1963, Ser. No. 270,418
9 Claims. (Cl. 47—20)



1. A protective cover for plants comprising at least two transversely spaced substantially parallel rows of uprights each including a plurality of longitudinally spaced uprights, at least one supporting cable connected to and supported by an upper portion of each upright of a row of said uprights; at least one elongated cover element composed of a plurality of interconnected panels each formed of a flexible nonelastic material and each extending from side-to-side of the cover element, a plurality of carriers connected to each side edge of said cover element, said carriers including sheaves engaging said supporting cables for supporting the cover element extended transversely between the supporting cables of the two rows of uprights, said sheaves being movable along said supporting cables for extending the cover element over plants disposed between the rows of uprights or to a retracted position adjacent complementary ends of the rows of uprights for exposing the plants.

3,140,564
SOUND INSULATING APPARATUS HAVING MOVABLE PARTITION
Dave Chapman, Chicago, Ill., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed Feb. 20, 1961, Ser. No. 90,509
13 Claims. (Cl. 50—101)

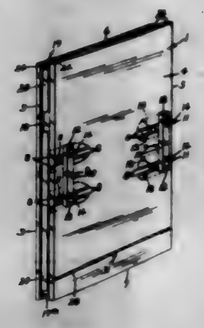


1. Apparatus for attenuating the passage of sound waves comprising, fixedly disposed framing structure forming a recess, a movable sound insulating partition, an edge on said partition, said partition being operatively associated with said structure for moving said edge adjacent to said recess, a rigid sound insulating barrier member, and means for supporting said barrier member on said framing structure in said recess, said barrier member being operatively associated with said framing structure and said edge for attenuating the passage of sound waves around said edge.

3,140,565
WALL CONSTRUCTION
John Robertson Ward, Jr., Chicago, Ill., assignor to Cold Spring Granite Company, Cold Spring, Minn., a corporation of Minnesota
Filed Mar. 13, 1961, Ser. No. 95,263
6 Claims. (Cl. 50—262)

1. In a wall construction for mounting on a frame structure, a generally rectangular stone panel having a front face and rear face and having opposed side edges and top and bottom edges, said rear face of said stone panel intermediate said top and bottom edges thereof having pairs of rearwardly opening grooves therein, each pair of said grooves extending generally horizontally inwardly from a different one of the opposite side edges of the panel, the grooves of each pair thereof diverging forwardly from said rear face toward said front face of the panel, and a pair of anchoring devices for attaching said panel to said frame structure, said anchoring devices each comprising a base member and a pair of vertically spaced generally horizontally extending forwardly diverging flanges secured to said base member and slidably received in one respective forwardly diverging groove of

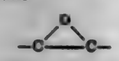
a cooperating pair of said grooves longitudinally inwardly from the adjacent side edge of said panel, and bracket



elements on said base members for mounting said base members to said frame structure.

3,140,566
ADHESIVE COMPOSITIONS
Herman B. Wagner, Blooming Glen, Pa., assignor to Tile Council of America, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 9, 1960, Ser. No. 48,359
16 Claims. (Cl. 50—536)

2. In a process for installing tile which comprises spacedly setting tile on a substratum, the improvement which comprises adhesively bonding a plurality of tiles to a substratum with open joints between the tile pieces, grouting the joints between the tile with an adhesive bonding composition produced by admixing an epoxy resin having at least two



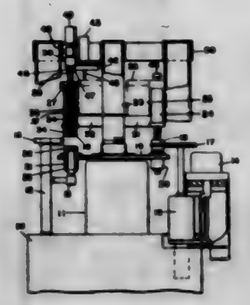
groups and a polyamido-amine epoxide hardener, said hardener being the reaction product of a polycarboxylic acid and a stoichiometric excess of a polyamine the polycarboxylic acid corresponding to the formula

$$R(COOH)_n$$

where R is a hydrocarbon radical and n is an integer of at least 2, and the polyamine having at least two amino nitrogens; and removing excess material from the tile surfaces by cleansing with water.

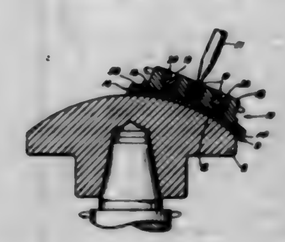
3,140,567
LENS CENTERING AND BEVELING MACHINE
William E. Soong, Chicago, Robert E. Miller, Lombard, and James Des Jardins, Chicago, Ill., and Lawrence H. Sharper, Philadelphia, Pa., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 16, 1963, Ser. No. 251,992
7 Claims. (Cl. 51—100)

1. A lens grinding mechanism including
a support,
an index table rotatable on said support,
a plurality of spindle pairs spaced apart along a circumference of said table at loading, lens centering, lens grinding and unloading stations, each of said pairs including a lower spindle fixed to said table and an upper spindle rotatable with and movable axially of said table,
a multispeed device for rotating said table with a stop of equal predetermined durations at each of said stations,
means operable upon the rotation of said table to raise said upper spindles at said loading, centering and unloading stations at the beginning of said stop and to lower said upper spindles at said loading, centering and unloading stations at the end of said stop,
a lens centering wheel,



a lens grinding wheel, and
means operable upon the raising of said upper spindles at said loading, centering and unloading stations to initiate operation of said wheels and operable upon the lowering of said upper spindles at said loading, centering and unloading stations to terminate the operation of said wheels.

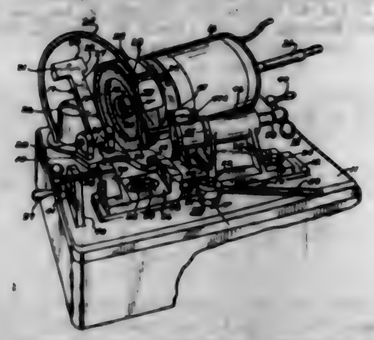
3,140,568
LENS BLOCKING DEVICE
George A. Beasley, Fort Lauderdale, Fla., assignor to Univis, Inc., Fort Lauderdale, Fla., a corporation of Ohio
Filed Feb. 28, 1963, Ser. No. 261,666
3 Claims. (Cl. 51—216)



1. An improved blocking device for use with a plastic lens blank which is substantially no larger in circumference than the blocking device of the type having one finished surface and one unfinished surface for the purpose of supporting the blank while a perscription curve is formed on the unfinished surface, said blocking device comprising: a blocking body formed with a lens blank supporting surface with a curvature conforming generally to the curvature of the finished surface of the lens blank to be supported thereon so that the finished surface of the lens blank can be bonded thereto and supported thereon by a thin layer of bonding and supporting material of uniform thickness, and lens blank spacing and positioning means mounted on and projecting from the supporting surface of the blocking body adjacent peripheral edge portions thereof, said spacing and positioning means being of uniform height so as to be engageable with the finished surface of the lens blank at least at three points thereof to thereby maintain all portions of the finished surface in substantially parallel and equally spaced relationship

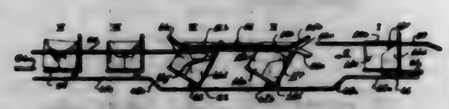
with corresponding portions of the supporting surface of the blocking body.

3,140,569
CHUCK FOR A VALVE GRINDER
Robert W. Murray, 557 53½ Ave. NE., Minneapolis, Minn., assignor of twenty-five percent to James A. Fridland, Hennepin County, Minn.
Filed July 13, 1961, Ser. No. 123,895
2 Claims. (Cl. 51—236)



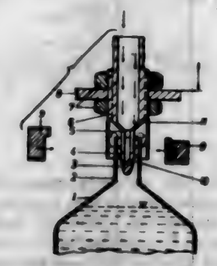
1. A chuck for holding a valve against a grinding wheel including in combination a movable chuck base with means for positively moving the same relative to such grinding wheel, stop means mounted on said base for positioning a valve thereagainst, a pair of rotatable roller means mounted on said movable base, a first of said roller means having one end of larger diameter than the other end, said larger end arranged in closely-spaced relation to said stop, means for shifting the axis of said first roller to position the peripheral surface of the roller ends in parallel relation to the surface of the second roller means to hold the valve therebetween and urge the valve against said stop upon rotation thereof, means for urging said first roller means toward said second roller end means for moving said roller means apart to facilitate removal and insertion of the valve therebetween.

3,140,570
METHOD OF AND APPARATUS FOR CLOSING A FOLDABLE CARTON
Robert J. Hickin, Seville, Ohio, assignor to Packaging Corporation of America, Dover, Del., a corporation of Delaware
Filed Aug. 29, 1962, Ser. No. 217,969
15 Claims. (Cl. 53—38)



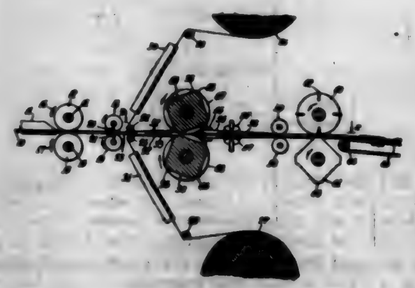
15. A method of closing a foldable carton wherein the latter is provided with a bottom section having front and rear walls and interconnecting side walls and a top section hingedly connected to the bottom section rear wall and having laterally extending end flaps, the bottom section side walls being provided with open end pockets, said method including initially supporting the carton top section and end flaps thereof in a predetermined plane and pivoting the carton bottom section in one direction away from said predetermined plane, folding the top section end flaps into overlapping relation with upper exposed surface portions of the respective side walls of the carton bottom section and spaced from the open ends of the side wall pockets while the remainder of the top section remains in said predetermined plane, and pivoting the carton bottom section in the opposite direction toward the carton top section whereby the folded top section end flaps pass through the pocket open ends and interlock with the respective bottom section side wall.

3,140,571
METHOD OF SEALING PLASTIC CONTAINERS AND BOTTLES
Willi Dörper, Leverkusen, and Wolfgang Raub, Aachen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Feb. 10, 1961, Ser. No. 88,529
Claims priority, application Germany Feb. 20, 1960
1 Claim. (Cl. 53—39)



A process for sealing the open neck of a thermoplastic bottle which comprises ejecting a stream of hot gas against the inside wall of the neck of the bottle by means of a hollow piston introduced into the bottle but spaced therefrom, the hot gas ejected through the piston walls being drawn upwardly out of the bottle neck and then deflected downwardly around the exterior thereof so as to heat both the internal and external surfaces of the bottle neck, continuing the hot gas ejection until the inside wall of the bottle neck is heated up to its melting point and softened, and then withdrawing the piston from the bottle neck and closing the latter by compression.

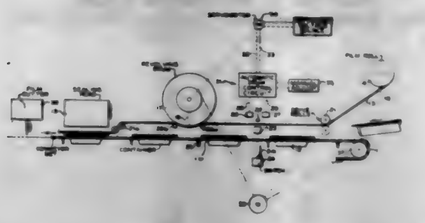
3,140,572
SURGICAL DRESSING PACKAGING
William Peterson and Lawrence B. Wallerstein, New Rochelle, N.Y., assignors to The American White Cross Laboratories, Inc., New Rochelle, N.Y., a corporation of New York
Filed Sept. 17, 1957, Ser. No. 684,595
3 Claims. (Cl. 53—28)



1. A packaging machine for prepared surgical dressings, comprising feeding devices for continuous strips of dressings and for continuous cohesive coated wrapping strips, which, upon heat and pressure, will form an air tight enclosure around the dressings, cutters for feeding

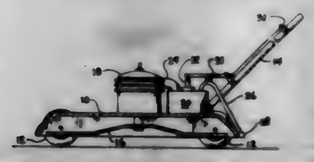
and cutting said dressings, means to engage the cut dressings between said wrapping strips, means to press said wrapping strips together with heat and pressure around said cut dressings and means to score the wrapping strips between said dressings, and means for rolling back and reversely folding the edges at one side of the strips.

3,140,573
FILM POSITIONING APPARATUS
Doyle D. Buttolph, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 5, 1961, Ser. No. 143,236
4 Claims. (Cl. 53—51)



1. An apparatus for properly positioning a label printed on a continuous flexible film relative to a formed container before sealing the former to the latter, comprising: feeding means for said flexible film; rotating drum means adjacent said film and disposed between said feeding means and a film sealing means; blunt edged means reciprocably extensible from within said drum means for contacting said film, thereby permitting variably depressing of said film, said blunt edged means normally positioned about midway between the two extremes of its travel; conveying means for containers to be sealed by said film; means for detecting the alignment of said label relative to said container; and means responsive to said detecting means which automatically actuate a means to drive said blunt edged means in either direction to automatically compensate for variations in the position of the label, thereby maintaining proper centering of the same as said film is sealed to said formed container.

3,140,574
SPRAYING AND MOWING APPARATUS
Francis X. Brown, Jr., 412 Westbourne Drive, Broomall, Pa.
Filed Mar. 28, 1963, Ser. No. 268,732
3 Claims. (Cl. 56—229)



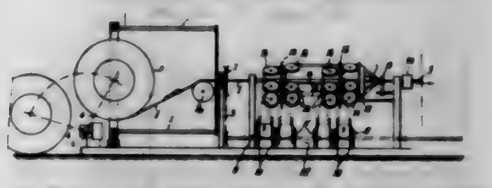
1. In a lawn spraying and mowing device, cutting means and a housing therefor, a plurality of wheels supporting said housing and being mounted for rotation about horizontal axes, an internal combustion engine having an exhaust port and being drivingly connected to said cutting means, a liquid storage tank supported on said housing and having inlet and outlet openings, a conduit connecting said exhaust port and said tank inlet opening in fluid tight relationship for conducting pressurized exhaust gas to the interior of said tank, a horizontally elongated spray head mounted on a rear portion of said housing, said spray head extending generally parallel to the axes of said wheels and being apertured for directing liquid downwardly therefrom, and means including a tube for conveying liquid from said tank to said spray head under pressure of said exhaust gas, said tube extending through the tank outlet opening and having one end thereof positioned in said tank adjacent the bottom thereof and the other end connected to said spray head.

3,140,575
CUTTER UNIT FOR ROTARY MOWERS
Vivian L. Ott, 61 Sylvan Ave., Norfolk 8, Va., and John Branch Beaman, Jr., 815 Church St., Aboskie, N.C.
Filed Dec. 27, 1962, Ser. No. 247,578
5 Claims. (Cl. 56—295)



1. A cutter unit for a rotary power mower, comprising an elongate bar having top and bottom sides, a pair of cutter disc elements of substantially concavo-convex form and having sharpened circular peripheral cutting edges, each disc element being positioned over the top of one of two end portions of the bar with its concave side directed downwardly, pivot means coupling the center of each disc to said portion of the bar for rotation on an axis which is inclined from the vertical with respect to the top and bottom sides of the bar and toward a longitudinal side of the bar whereby the disc is disposed at an inclination to the top of the bar and said axes further being oppositely inclined with respect to one another, and said bar having opposite longitudinal edges of the said end portions thereof, sharpened to form cutting edges and said cutting edges being on the advancing sides of the bar in the operation of the unit.

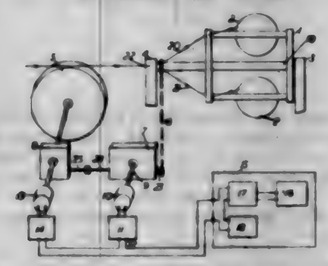
3,140,576
CABLE MAKING APPARATUS
Otto Haugwitz, La Celle Saint Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a French company
Filed July 30, 1962, Ser. No. 213,276
Claims priority, application France July 29, 1961
6 Claims. (Cl. 57—13)



6. Cable making apparatus comprising a cable core supply means, means for rotating said supply means about a feed axis coincident with the direction of movement of the core so that said core is rotated about said axis, two groups of supply frames, each said supply frame comprising two upstanding plates having notches in their upper portions, reels for carrying elements to be assembled about the core and shafts mounting said reels in said notches, said notches having an inclination such that the direction of inclination of each notch is substantially perpendicular to the tractive force of the element unwinding

from its associated reel guide means for each of said elements, a distribution grid adapted to guide said elements so that those of one group alternate with those of the other group around said axis, a die positioned on said axis to receive the elements from said grid, and bring together, the core and the elements of one of said groups, wrapping means following said die and adapted to apply a wrapping to retain the assembled core and elements together is a cable assembly, means for moving the cable assembly axially, a reception station for the finished cable and means for rotating said reception station synchronously with the feeding means.

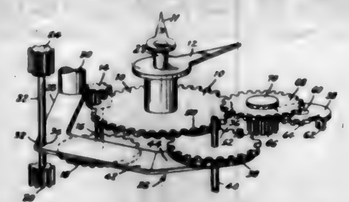
3,140,577
APPARATUS FOR MANUFACTURING CABLES
Bernard Edwin Ash, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 20, 1963, Ser. No. 266,745
Claims priority, application Great Britain Mar. 22, 1962
11 Claims. (Cl. 57—59)



1. Apparatus for manufacturing a cable having conductors grouped by twisting them together comprising: twisting means for twisting the conductors about each other, means for moving the twisted conductors away from said twisting means, control means coupled to said moving means for continuously and randomly changing the rate of movement of said conductors by an amount which depends on a value randomly selected from a range and the angle of lay previously imparted to said conductors, said control means comprising; means for sampling the angle of lay previously imparted to the conductors, means for selecting a random value from a range of values, and means for comparing said sampled angle and said randomly selected value, wherein said means for selecting a random value comprises; means for sampling the potential across a first capacitor, means for causing the potential of the capacitor to correspond to a randomly selected potential from a range of potentials, and means including a neon tube for producing a random potential within a range of random potentials.

3,140,578
LIMITED AUTOMATIC REGULATING MECHANISM FOR A TIMEPIECE
John A. Van Horn, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1960, Ser. No. 16,425
20 Claims. (Cl. 58—85.5)

1. A timepiece comprising: time measuring means including a source of power and a gear; time indicating means actuated by said time measuring means; time setting means for setting said time indicating means to any position in its time indicating range; said time setting means having time setting and non-setting positions; rate regulating means for regulating the rate of said time measuring means; automatic regulating means actuated by said time setting means for adjusting said rate regulating means; said automatic regulating means including first and second gears; said first gear being adapted to mesh with said time measuring means gear when said time setting means is moved to its time setting position; the rotation of said first gear causing said second gear to rotate for adjusting said rate regulating means; means for automatically disengaging said first gear from said time measuring means gear after said first gear has been



rotated through a predetermined angle by said time measuring means gear when said time setting means is actuated in its time setting position; and said second gear being adapted to mesh with said time measuring means gear when said time setting means is returned to its non-setting position after a time setting operation so that rotation of said second gear causes said first gear to return to its original position.

3,140,579
LAPEL TIMEPIECE
George Skakel, Jr., Greenwich, Conn., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1962, Ser. No. 232,791
4 Claims. (Cl. 58—88)

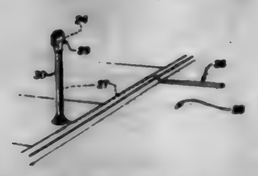


1. In a timepiece including a timekeeping mechanism enclosed in a case, a watch face, a protective transparent cover over the face, and a closure pivotally connected to the case and adapted when closed to cover the face, the improvement comprising:
hands engaged with the timekeeping mechanism and rotatable about the face in a counter-clockwise direction,
calibrations co-operative with the hands for telling time, said calibrations being a mirror image of those found on an ordinary watch, and
a mirror contained within the closure and having a first side of light reflection adjacent the watch face when the closure is closed, and a second side of light transparency.

3,140,580
PARKING METER TIME CANCELLATION MECHANISM
Charles E. Anglin and Rollin A. Armer, Berkeley, and John R. Handley, Los Altos, Calif., assignors to Calpat Products, Inc., a corporation of Nevada
Filed Mar. 2, 1960, Ser. No. 12,476
15 Claims. (Cl. 58—142)

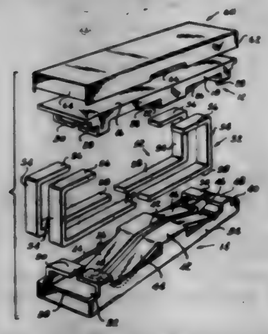
1. In a clock mechanism, a support, a main spring, an escapment, a gear train connection between said spring

and escapement and including a shaft carried by said support for endwise displacement, a gear on said shaft and movable axially therewith between a first entrained position providing a slow timed unwinding of said clock mechanism and a slow rotation of said shaft and a second disentrained position permitting rapid unwinding of said clock mechanism and rapid rotation of said shaft, means biasing said shaft to said first position, means displacing said shaft to said second position against the resistance of said last named biasing means, a weight carried by said



shaft for rotation therewith and being pivotally mounted for rotation about an axis perpendicular to said shaft, said weight having weight centers causing said weight to assume a first rotated position on said shaft when the shaft is rotating at said slow rotation and a second rotated position on the shaft during said rapid rotation, and means carried by said weight and engageable with said support in said second rotated position to hold said shaft in said second disentrained position against the action of said biasing means during said rapid unwinding of said clock mechanism.

3,140,581
UNITARY SPRING AND LINK CONSTRUCTION
Seymour Hauser, North Bergen, N.J., assignor to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey
Filed Mar. 7, 1962, Ser. No. 178,080
12 Claims. (Cl. 59—79)

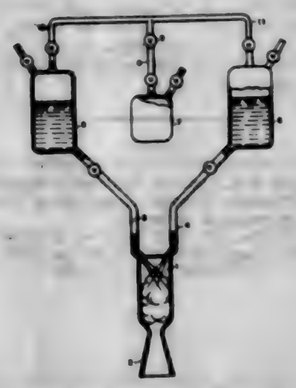


1. In an expansible band, a link comprising a base and a cantilever spring arm unitary with said base.

2. In an expansible band, a link comprising a base, and an inwardly directed offset carried by said base and a resilient arm unitary with and extending from said offset toward said base.

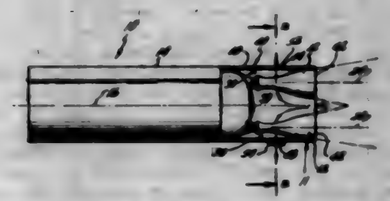
3,140,582
ROCKET PROPULSION METHOD USING BORON AND NITROGEN COMPOUNDS
George N. Tyson, Jr., Claremont, Calif., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Apr. 14, 1959, Ser. No. 806,396
20 Claims. (Cl. 60—35.4)

12. A method for producing thrust to a rocket which comprises introducing a bipropellant consisting essentially of a nitrogen containing compound composed only of nitrogen, hydrogen and carbon containing up to 14 nitrogen atoms and up to 9 carbon atoms and a boron containing compound composed only of boron, hydrogen and carbon containing up to 10 boron atoms and up to 6 carbon atoms, at least one of the said compounds con-



taining hydrogen, and at least one of the said compounds containing carbon, into a rocket in contact with each other in a reaction zone therein in proportions approximately stoichiometric for the reaction of all of the nitrogen with all of the boron to form boron nitride, BN, and reacting the bipropellant in the reaction zone.

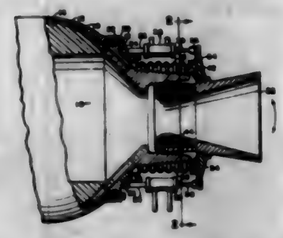
3,140,583
VECTORING SYSTEM FOR MULTIPLE ROCKET NOZZLE CONFIGURATION
Philip S. Hopper, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 21, 1961, Ser. No. 126,734
6 Claims. (Cl. 60—35.54)



6. The method of controlling high altitude flight direction, attitude and roll of a multiple jet nozzle cluster flight vehicle comprising entrapping the recirculating gas flowing forwardly between the nozzles, and then controllably releasing the entrapped gas in selected directions to effect steering control.

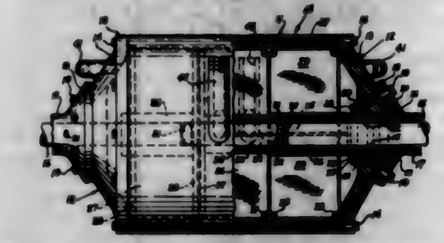
3,140,584
STEERING DEVICE FOR ROCKET-POWERED VEHICLES
Harold W. Ritchey, Huntsville, Ala., Allan E. Williams, Newark, Del., and Charles B. Roberts, Brigham City, Utah, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed May 7, 1959, Ser. No. 811,760
4 Claims. (Cl. 60—35.55)

1. A rocket motor comprising, in combination, an elongated plastic lined cylindrical casing having an opening at one end thereof, said plastic lining extending beyond said casing and defining a discharge end, a tiltable discharge nozzle generally aligned with the central longitudinal axis of said casing, the anterior portion of said discharge nozzle being suspended within said discharge end, means for suspending said tiltable discharge nozzle in said discharge end out of contact with the extended plastic lining except when in extreme tilted position, said suspending means interconnecting said casing and nozzle and comprising (1) a flexible tube exterior to said ex-



tended plastic lining, and (2) nozzle actuating means adapted to tilt said nozzle relative to said axis of said casing, and annular baffle means disposed adjacent to said discharge end on the exterior surface of said nozzle and adjacent to the interior surface of said flexible tube, whereby hot gases generated in said rocket motor are deflected from direct incidence on said flexible tube by said extended plastic lining and said annular baffle means.

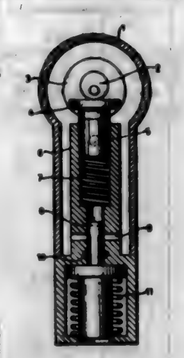
3,140,585
HYDROKINETIC COUPLING FOR A DIFFERENTIAL FLUID DRIVE FOR VEHICLES
John W. Quynn, 220 E. Patrick St., Frederick, Md.
Filed Dec. 1, 1961, Ser. No. 156,214
4 Claims. (Cl. 60—54)



1. In a fluid drive mechanism, the combination of a cylindrical casing, an end plate having a central opening therein closing each end of said casing, a driven axle extending through each opening into said casing, a free running drive axle positioned in alignment with and between said driven axles, and mounted in the ends of said driven axles and rotatable independently thereof, a drive rotor comprised of a plurality of blades fixed to said drive axle wholly contained within said casing and having no external connections, a driven rotor composed of a plurality of blades affixed to each driven axle, a tangential fluid inlet in said casing adjacent said drive rotor, and a fluid outlet in each end plate whereby the sole driving connection between said drive axle and said driven axle comprises the fluid transmitted by the blades of said drive rotor to the blades of said driven rotors.

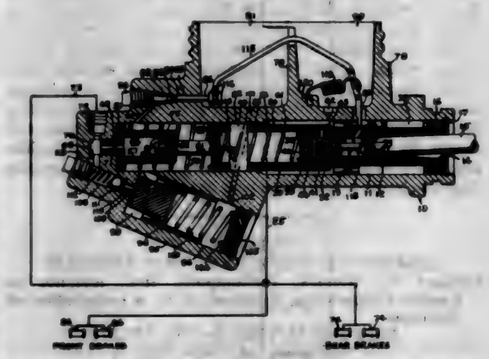
3,140,586
HYDRAULICALLY OPERATED APPARATUS
Karl-Evert Anders Jonsson, Torget 2, Nyköping, Sweden
Filed Sept. 11, 1961, Ser. No. 137,372
Claims priority, application Sweden Sept. 19, 1960
6 Claims. (Cl. 60—54.5)

1. A hydraulically operated percussive apparatus comprising a sump on the apparatus, containing hydraulic liquid, a first cylinder, a drive piston slidable in said first cylinder, eccentric means for reciprocating said drive piston so that the drive piston attains its maximum speed in the driving direction at a position intermediate the ends of its stroke, a second cylinder having a smaller diameter than said first cylinder, an impact piston slidable in said second cylinder, passageway means between the first and second cylinders, means to supply the passageway



means with liquid from the sump, whereby movement of said drive piston in its driving direction hydraulically drives said impact piston, and valve means for bleeding hydraulic liquid from the passageway means to the sump, and thus disconnecting the hydraulic drive between said pistons, on each pressure stroke of the drive piston at said intermediate position at which it attains its maximum speed.

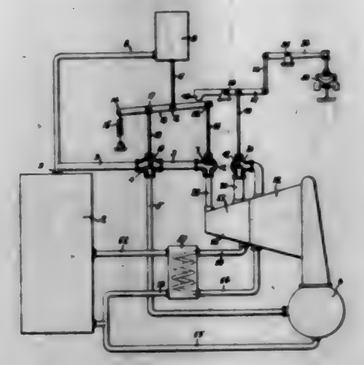
3,140,587
DIVIDED OUTPUT COMPOUND MASTER CYLINDER
William Stoner, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Jan. 29, 1963, Ser. No. 254,734
15 Claims. (Cl. 60—54.6)



1. In a hydraulic braking system including two sets of wheel cylinders to apply the brakes, in combination, a master cylinder, a first and second fluid displacing means therein to displace fluid therefrom to one set of wheel cylinders, a third and fourth fluid displacing means in said master cylinder to displace fluid to the other set of wheel cylinders, said third and fourth fluid displacing means being adapted to be operated by fluid pressure from said second fluid pressure displacing means, an expansible chamber adapted to yield at a predetermined hydraulic pressure to receive fluid from said fourth fluid pressure dis-

placing means, and valve means to provide communication from said second and fourth fluid displacing means to the first and second set of wheel cylinders, respectively, below a predetermined hydraulic pressure and to close above such predetermined pressure, said first fluid displacing means being permanently connected to one set of wheel cylinders and said third fluid displacing means being permanently connected to the other set of wheel cylinders.

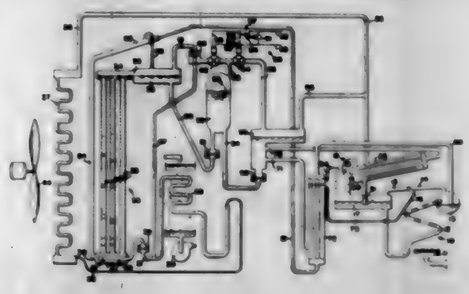
3,140,588
REACTOR-TURBINE CONTROL SYSTEM
Dale H. Brown, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 29, 1960, Ser. No. 79,376
3 Claims. (Cl. 60—73)



1. In a control system, the combination of an engine having a first stage and reheat stage and being adapted to utilize a working fluid, a nuclear reactor utilizing working fluid as a moderator, said nuclear reactor supplying working fluid in a gaseous form to the first stage of said engine and liquid working fluid for reheat, means for supplying gaseous working fluid to the first stage of said engine, a reheat heat exchanger for receiving a controlled quantity of gas discharged by the first stage for passage to the reheat stage, means for supplying liquid working fluid to the reheat heat exchanger to be placed in heat exchange relation with said controlled quantity of gaseous working fluid discharged from the first stage of the engine, and means for controlling the energy output of the nuclear reactor in response to the condition of the liquid working fluid discharged from the reheat heat exchanger.

3,140,589
ABSORPTION REFRIGERATION SYSTEMS
Richard H. Merrick, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,575
6 Claims. (Cl. 62—232)

1. In an absorption refrigeration system having a high pressure side and a low pressure side, a solution transfer arrangement for transferring solution from the low pressure side of said system to the high pressure side thereof, comprising:
a trap chamber,
solution inlet passage means for admitting solution into said trap chamber from the low pressure side of said system,
solution outlet passage means for discharging solution from said trap chamber to the high pressure side of said system,
high pressure vapor passage means adapted to supply vapor under pressure to said chamber to expel solution therein through said outlet passage,
low pressure vapor passage means adapted to vent said chamber to a low pressure region to admit solution into said trap chamber from the low pressure side of said system,



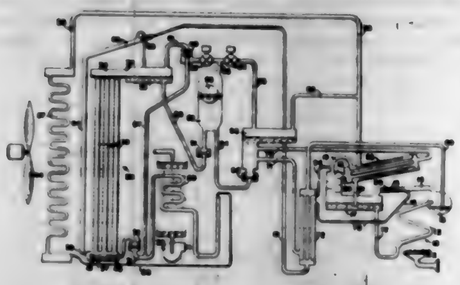
valve means in said vapor passages, and
timing means associated with said valve means to alternately vent or pressurize said strap chamber in accordance with predetermined time intervals to transfer solution in said trap chamber from the low side of said system to the high side thereof in accordance with a predetermined maximum time interval.

3,140,590
AIR CONDITIONER FOR A FACE MASK
Frederick M. Gloeckler, Rte. 70, E. Marlton Pike, Marlton, N.J.
Filed Apr. 26, 1963, Ser. No. 276,047
4 Claims. (Cl. 62—459)



1. In combination with a respirator including a face mask, an air passage through which air is conveyed to the face mask from the atmosphere, and an air filter interposed in said air passage; an air conditioning unit including a receptacle containing ice, said receptacle forming a part of the air passage for cooling the air passing therethrough and being disposed below the level of the air filter, said receptacle having an open top, a removable closure for said open top, a conduit communicating with said receptacle and extending from said closure to the mask and forming a part of the air passage, and a second conduit forming a part of the air passage having a lower discharge end opening into said receptacle beneath said closure and an upper inlet end connected to and communicating with an outlet port of the air filter.

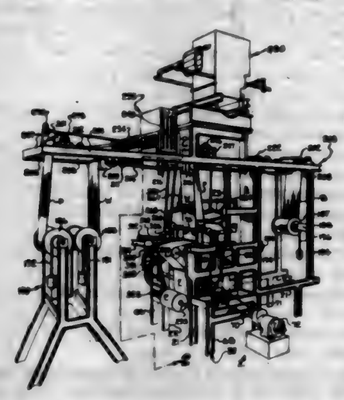
3,140,591
ABSORPTION REFRIGERATION SYSTEMS
Earl L. Brown, Jr., and Richard A. English, Indianapolis, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,585
4 Claims. (Cl. 62—495)



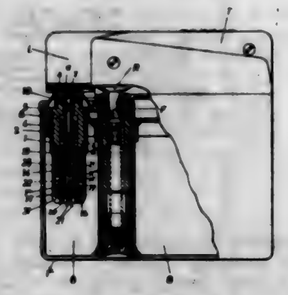
1. An absorption refrigeration system comprising:
an absorber section,
a generator section for vaporizing refrigerant,
a heat exchanger section,
an analyzer and rectifier section,
passage means for passing a portion of weak absorbent solution from said absorber section to said analyzer and rectifier section to purify refrigerant vapor passed thereto,
passage means for passing strong absorbent solution from said generator section to said heat exchanger section,
passage means for passing another portion of weak absorbent solution to said heat exchanger section for heat exchange with the strong solution passed thereto, and
a preanalyzer section comprising: preanalyzer passage means for passing vapor formed in said generator section to said analyzer and rectifier solution and passage means for passing weak absorbent solution from said heat exchanger section concurrently through said preanalyzer passage means in direct contact with said vapor passing therethrough, prior to mixture of said weak absorbent solution heated in said heat exchanger section with the portion of weak absorbent solution passed through said analyzer and rectifier section and also prior to the entrance of said vapor into said analyzer and rectifier section.

3,140,592
APPARATUS FOR KNITTING VARIANT HEIGHT PILE FABRICS
Eugene F. Clark, Leaksville, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware
Filed Nov. 2, 1960, Ser. No. 66,856
5 Claims. (Cl. 66—85)

1. In a warp knitting machine having a transverse row of spaced knitting needles and first chain warp feed guides for guiding chain warps about said needles to knit chains therefrom, and drive means for said needles and said feed guides; the combination of a fixed platform spaced rearwardly of said needles, lower and upper carriages mounted beneath and upon said platform, respectively, a second series of weft yarn feed guides on said lower carriage and a third series of pile yarn feed guides on said upper carriage and through which respective weft yarns and pile yarns pass to the fabric being knit, a plurality of longitudinal pile wires having free front ends between adjacent needles and being carried by said platform, means for imparting transverse reciprocatory movement to said lower and upper carriages in timed relation to the operation of said needles and said first feed guides comprising at least one shaft adjacent a corresponding end of said platform and being connected to said drive means, a pair of cams fixed on said shaft, follower means movable in substantially fixed relation to said carriages and being engageable by the respective cams, means urging said follower means into engagement with said cams, and the throw of said cams being such that reciprocation of said carriages causes the respective weft and pile yarns to be shogged across at least certain of said needles, and whereby said carriages reciprocate relative to and transversely of the pile wires.



3,140,593
GAS FUELED LIGHTER
Kurt Baumann, Solingen-Merscheid, and Klaus Buss, Solingen, Germany, assignors to Firma Wieden & Co. G.m.b.H., Solingen-Ohligs, Germany, a corporation of Germany
Filed Sept. 21, 1962, Ser. No. 225,273
Claims priority, application Germany Oct. 11, 1961
5 Claims. (Cl. 67—7.1)



1. A gas fueled lighter comprising
a container, defining a fuel chamber,
a tubular burner housing rigidly secured to and disposed within said fuel chamber,
a closing cap pivotally mounted on said burner housing,
said tubular burner housing having an inner thread at its upper end,
a hollow shaft having an outer thread at its upper end complementary to said inner thread of said tubular burner and threadedly received by the latter,
a burner tube mounted in said hollow shaft,
spring means surrounding the upper end of said burner tube and urging said burner tube into its outermost position,

a valve piston disposed in said hollow shaft below said burner tube,

a valve cone disposed in said burner housing below and opposite said valve piston and having an upper seat and an axial fuel discharge bore extending through said valve cone,

said valve piston being axially spaced apart from said valve cone in its operative, lifted and fuel-feeding position and urged against the upper side of said valve cone upon closing said closing cap in its lowered, inoperative position,

a core member disposed in said bruner housing below said valve cone.

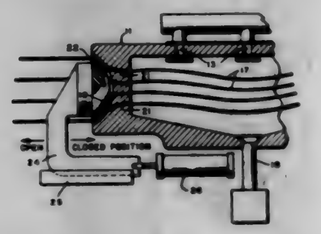
a wick surrounding said core member and said valve cone being pressed on said wick by means with a variable pressure in order to control the fuel feed from said wick through said discharge bore of said valve cone,

a fibrous stopper disposed in said discharge bore of said valve cone,

the run of the fibers of said fibrous stopper being disposed crosswise to the fibers of said wick within the range of engagement of the lower face of said valve cone with said wick,

the inner end of said burner housing below said valve cone defining a chamber receiving said wick and having an opening for communication between said last-mentioned chamber and said fuel chamber, and said fibrous stopper, being disposed in said discharge bore of said valve cone, has a length amounting to a multiple of the diameter of said discharge bore and extends to a point short of said upper seat of said valve cone.

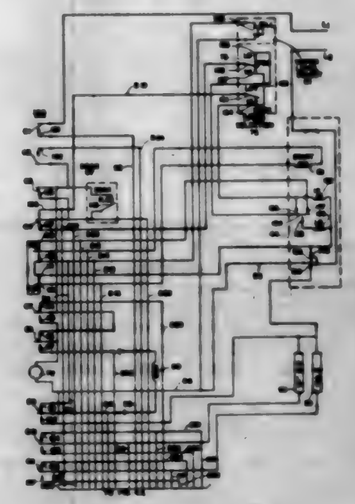
3,140,594
ANNEALING APPARATUS
Ernest P. Carter, Durham, N.C., assignor to Monsanto Company, a corporation of Delaware
Original application Sept. 8, 1959, Ser. No. 838,472. Divided and this application Apr. 22, 1963, Ser. No. 274,731
5 Claims. (Cl. 68—5)

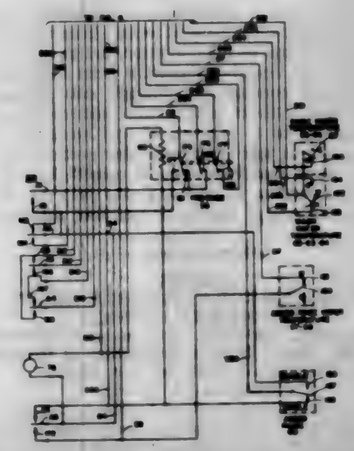


4. An apparatus for annealing a filament, comprising an elongated annealing chamber, a recessed wall in the end of said chamber having a passageway extending therethrough, a closure member movable into the recess to close the passageway, said passageway intersecting the surface of the closure member at substantially a tangent to said closure member, and means for introducing steam into the chamber.

3,140,595
CONTROL CIRCUIT FOR CLOTHES WASHING MACHINE
Frank D. Low, La Grange Park, Ill., assignor to General Electric Company, a corporation of New York
Filed May 25, 1962, Ser. No. 197,725
11 Claims. (Cl. 68—12)

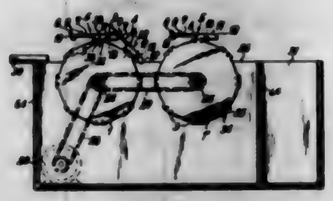
4. In a clothes washing machine including a tub adapted to receive clothes to be washed, first mechanism operative to introduce water into said tub, second mechanism operative to agitate the clothes in the water in said tub, and third mechanism operative to expel the water from said tub and from the clothes therein; the combination comprising a main timer having both a wash cycle and a main rinse cycle, said main timer being operative through its wash cycle sequentially to operate said three mechanisms in the order named to produce a corresponding wash cycle in said machine, said main timer being operative through its main rinse cycle sequentially to operate said three mechanisms in the order named to produce a corresponding main rinse cycle in said machine, an auxiliary timer having an auxiliary rinse cycle, said





auxiliary timer being operative through its auxiliary cycle sequentially to operate said three mechanisms in the order named to produce a corresponding auxiliary rinse cycle in said machine, a manually operable auxiliary rinse preset switch having inclusion and exclusion positions, a manually operable common start switch, means responsive to operation of said common start switch and governed by said auxiliary rinse preset switch in its inclusion position for initiating immediate operation of said auxiliary timer, means responsive to initiation of operation of said auxiliary timer for continuing the operation thereof through its auxiliary rinse cycle, means responsive to operation of said auxiliary timer through its auxiliary rinse cycle for then initiating operation of said main timer, means responsive to operation of said common start switch and governed by said auxiliary rinse preset switch in its exclusion position for initiating immediate operation of said main timer, and means responsive to initiation of operation of said main timer for continuing the operation thereof first through its wash cycle and then through its main rinse cycle.

3,140,596
APPARATUS FOR THE DEPILATION OF ANIMAL SKINS
Alfred Vogel, Jenfelderdeich 68, Hamburg-Kirchdorf, Germany
Filed Mar. 20, 1962, Ser. No. 181,028
Claims priority, application Germany Mar. 22, 1961
21 Claims. (Cl. 69—37)



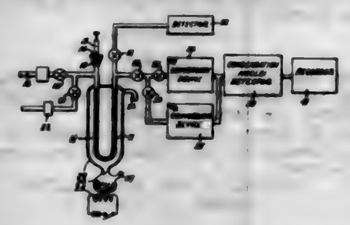
1. An animal-skin-depilating machine, comprising at least one rotatably arranged wheel, and a plurality of elongated skin beaters which are spaced detachably around the circumference of the wheel, each beater being integrally constructed from synthetic-resin material, each of said beaters comprising an attachment portion for fixing the beater to the wheel, and an elastically deflectable limb integral with said portion, the upper surface of each beater being formed with at least one scraper member substantially transverse to the longitudinal axis of the beater, the deflectable limb of each beater being provided with a contact surface for supporting the limb in a position of maximum deflection.

3,140,597
MEANS FOR LOCKING VERTICALLY SLIDING GLASSES OF AUTOMOBILES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed June 25, 1962, Ser. No. 205,615
Claims priority, application France July 11, 1961
4 Claims. (Cl. 70—90)



1. Device for locking a vertically slidably glass in the door of an automobile, notably a door hingedly mounted about a horizontal axis along its lower edge, which comprises a keeper having a horizontal retaining edge which is rigid with the lower portion of the glass and adapted in the uppermost position thereof to co-operate with a first sector-shaped pivoted bolt actuated by means of a key operated barrel provided with an eccentric pin actuating a link pivoted on said sector-shaped bolt, in the intermediate position with a long bolt, and in the lowermost position with a short bolt, said long and short bolts, each provided with a catch enabling them to retain the keeper in the open door position, being pivoted on a common fixed pivot pin and adapted to be locked in their disengaged position when the door is closed while being urged toward said keeper by separate springs, the short bolt being adapted however to carry along the long bolt beyond a certain angle of pivoting and in a direction opposite to the direction of engagement by means of a stop carried by the long bolt and of an arm pivoted on said short bolt, said arm extending through the lower portion of the door so as to be pushed back by a section member rigid with the body of the vehicle when said door is being closed.

3,140,598
APPARATUS FOR CHROMATOGRAPHIC GAS ANALYSIS
Stuart B. Dunham, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 24, 1962, Ser. No. 197,453
1 Claim. (Cl. 73—23.1)

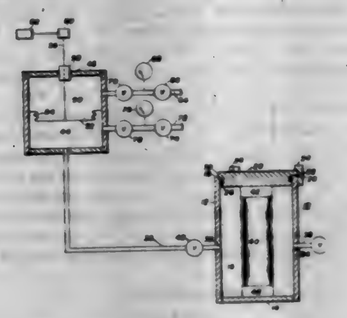


A gas analyzing apparatus comprising a chromatographic column, means for introducing a carrier gas into the chromatographic column, means for introducing gaseous sample to be analyzed into the chromatographic column along with the carrier gas, means for heating the chromatographic column for maintaining its temperature substantially constant, a plurality of gas-to-nucleogenic particle conversion devices, valving means connected between the output of the chromatographic column and the inputs of said gas-to-nucleogenic particle conversion devices for selectivsly supplying the fractionated gaseous sample emanating from the output of the chromatographic column to the input of a selected one of the conversion devices, and a condensation nuclei meter having its input effectively connected to the outputs of the plurality of gas to nucleogenic particle conversion devices.

3,140,599
METHOD AND APPARATUS FOR DETERMINING PERMEABILITY OF EARTH FORMATIONS
Habib S. Rahme and Lynn E. Ellison, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Dec. 7, 1961, Ser. No. 157,707
9 Claims. (Cl. 73—38)

1. An apparatus for determining the permeability of a cylindrical specimen comprising, in combination, a container having fixed, rigid walls and a fluid-tight removable lid, means cooperating with said fixed container walls and lid for engaging and sealing the flat ends of a cylindrical specimen, whereby said specimen is automatically sup-

ported within said container in a fixed position with the flat ends of said specimen sealed when said lid is secured to said container, valve-controlled conduit means connecting said container with a first chamber having fluid-tight walls, a second chamber having fluid-tight walls and a movable common dividing wall with said first chamber, whereby the volume of said second chamber is increased as the volume of said first chamber is decreased, valve-controlled conduit means for admitting fluid to each of said chambers, said first-named conduit means being adapted to be open when said second-named conduit means is closed, and means for measuring the volume of said first chamber.

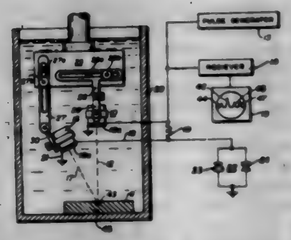


3,140,600

LIQUID IMMERSION ULTRASONIC APPARATUS AND METHOD FOR THE NON-DESTRUCTIVE TESTING OF SOLID BODIES

Douglass H. Howry, Boulder, Colo., assignor to Elm Research Laboratories, Inc., Boulder, Colo., a corporation of Colorado

Filed Jan. 15, 1960, Ser. No. 2,774
7 Claims. (Cl. 73—67.7)



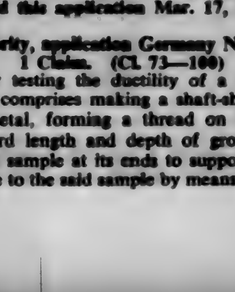
1. An ultrasonic wave apparatus of the liquid immersion type for the detection of discontinuities in solid bodies below substantially plane surfaces thereof which comprises means for transmitting ultrasonic energy through the liquid medium of the apparatus along a predetermined axis and into a body to be examined, means for supporting the body to be examined in spaced relationship to said transmitting means, means for exciting said transmitting means, means spaced from said body supporting means for receiving echoes of the transmitted energy reflected from the body under examination passing through the liquid medium along a path lying at an angle in the range of from about 27° up to 90° with respect to the axis of the transmitted energy whereby when said transmitting means directs energy along a path normal to a substantially plane surface of the body to be examined echoes reaching said receiving means from the plane surface are minimized and significant echoes from discontinuities in the body are received, and means connected with said receiving means and utilizing echoes received by said receiving means for indicating the presence of discontinuities in the body under examination.

3,140,601

FIBER STRENGTH MEASURING DEVICE

Herman Gerrit Weyland, Arnhem, and Herman Westmijze, Velp, Netherlands, assignors to N. V. Onderzoekingsinstituut Research, Arnhem, Netherlands, a corporation of the Netherlands

Filed June 22, 1962, Ser. No. 204,470
Claims priority, application Netherlands June 26, 1961
3 Claims. (Cl. 73—89)



1. An apparatus for testing the tensile strength of strand-like material having a capacitor assembly cooperating with an electric bridge comprising an integral U-shaped frame including a first and a second horizontal leg parallel to each other and a vertical yoke connecting said legs, said second leg being provided with an aperture, a first, a second and a third block, a first and a second capacitor plate, said first and said second plate being attached to said first and said second leg by means of said first and said second block respectively, a third capacitor plate, said third plate being arranged between said first and said second plate, at least one horizontal spring member, said spring member being assembled with said yoke, a vertical member being attached to said horizontal spring member, said third plate being secured to said vertical member by means of said third block, a vertical rod and a first fixed clamp, said rod penetrating said aperture and connecting said first clamp to said vertical member, a second movable clamp, said first and said second clamp adapted to receive said material therebetween, means to move said second clamp toward and away from said first clamp, means to indicate the tensile force applied to said material by said means to move said second clamp and means to indicate the elongation of said material resulting from said tensile force.

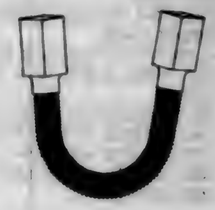
3,140,602

TESTING OF STRUCTURAL MATERIALS FOR LOW TEMPERATURES

Heinz Alfred Barth, Pullach im Isartal, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Hollriegelskreuth, near Munich, Germany, a company of Germany

Original application Nov. 17, 1959, Ser. No. 853,599. Divided and this application Mar. 17, 1961, Ser. No. 96,584
Claims priority, application Germany Nov. 21, 1958
1 Claim. (Cl. 73—100)

Process for testing the ductility of a test sample of metal, which comprises making a shaft-shaped test sample of the metal, forming a thread on it of predetermined standard length and depth of groove and pitch, clamping said sample at its ends to support said sample, applying force to the said sample by means of said clamps so as to bend the sample in an arc, observing the appearance of the first crack in the threaded area, and measuring the precise bending angle defined by the flexed sample at that moment.

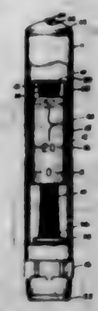


3,140,603

TIRE GAUGE

Selden T. Williams, Middlebury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Aug. 9, 1961, Ser. No. 130,373
5 Claims. (Cl. 73—146.3)



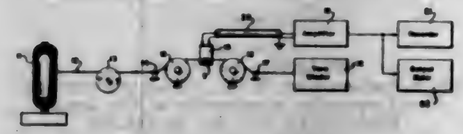
1. A tire gauge comprising an elongated air-tight hollow casing having a chuck at one end adapted to be placed on a tire valve stem to admit air from the tire to the casing, a pressure-responsive member consisting of a body of foam material located wholly within said casing and attached thereto at one of its ends, a scale of rigid material attached to the other end and extending alongside said body of foam material for a portion of its length, at least a portion of said casing being transparent and having an index mark co-operating with said scale indicia for indicating the pressure as determined by the position of the scale within the casing.

3,140,604

FUZZ METER

Edwin J. Bernet, Charlottesville, Va., assignor to Institute of Textile Technology, Charlottesville, Va., a corporation of Virginia

Filed Apr. 5, 1960, Ser. No. 20,103
14 Claims. (Cl. 73—160)



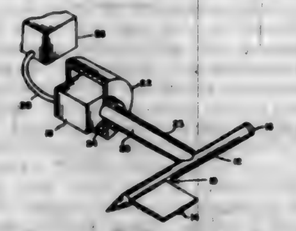
1. Apparatus for automatically measuring the amount of fuzz fibers per unit length of yarn, projecting from the surface of a strand of moving yarn, comprising an electro-mechanical transducer having a probe element for sensing the presence of surface fuzz fibers on said yarn, said transducer being adapted to vibrate at audio frequencies and to produce output voltage pulses of a frequency within the lower audio-frequency range when said probe element is brought into brush contact with a succession of fuzz fibers and is moved thereby in a direction substantially parallel to the axis of the yarn, a pair of guides for guiding and supporting said yarn strand while said strand is in transit past said probe element, a frame for supporting said transducer and said guides, means supporting said transducer at a position intermediate said guides with said probe element spaced a predetermined distance from the surface of said yarn strand, microadjusting means for predetermining said distance, whereby only surface fuzz fibers come in brush contact with said probe element, means for moving said yarn strand between said guides at a substantially constant velocity such as to produce said pulses at a low audio-frequency, and indicating means adapted to respond to voltage pulses within the lower audio-frequency range produced by said transducer so as continuously to measure the amount of fuzz fibers per unit length of yarn as a function of voltage.

3,140,605

AERODYNAMICALLY ALIGNED ACCELEROMETER

George J. Randolph, Jr., Manhattan Beach, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 3, 1959, Ser. No. 838,000
5 Claims. (Cl. 73—178)
(Granted under Title 35, U.S. Code (1952), sec. 266)



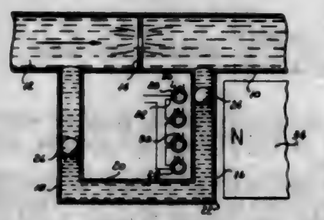
1. A device for directly acquiring aircraft flight acceleration data along the flight path of an aircraft comprising: a longitudinal accelerometer, a vane, and means for connecting said vane to said accelerometer continually maintaining the longitudinal axis of the vane parallel to the sensitive axis of the accelerometer.

3,140,606

DIGITAL RATE OF FLOW TRANSDUCER

Martin R. Kramer, Jackson Heights, and Theodore J. Silver, Merrick, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

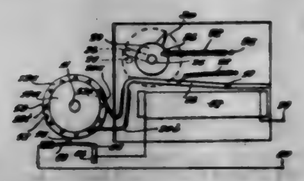
Filed Sept. 29, 1960, Ser. No. 59,354
9 Claims. (Cl. 73—205)



2. A digital rate of flow transducer including in combination means for carrying a movable fluid, means acting

on said fluid for creating a pressure differential on opposite sides thereof, magnetic means adapted to be positioned along a path in response to said pressure differential, a plurality of magnetic field sensors, said sensors being individually responsive to said magnetic means, and means for positioning said sensors at spaced locations adjacent said path whereby said sensors produce a digital indication of the fluid rate of flow.

3,140,607
REGISTER FOR GAS METERS
Arthur Alexander and Herbert William Clements, both of Sale, England, assignors to Parkinson Cowan Limited, London, England, a company of Great Britain and Northern Ireland
Filed Dec. 19, 1961, Ser. No. 160,607
Claims priority, application Great Britain Dec. 19, 1960
10 Claims. (Cl. 73—272)



1. In a fluid meter, means for reading the meter from the remote position comprising, in combination, a rotary drive shaft driven by the meter mechanism, a revolution recording device mounted on the meter and transmission means between the shaft and said device to move the device from a zero position, the transmission means including an eccentric extension fixed to said shaft, an intermediate rotary member having respective engagement means for said eccentric extension and the recording device, impulse means acting upon said intermediate member to increase its speed of rotation over a predetermined arc of its movement when it is moved into said arc by the rotation of said drive shaft, said arcuate movement producing a step-wise rotation of the revolution recording device, reading drive means operatively connected to said recording device and including an electrically energiseable element and circuit breaking means for the isolation of said element, said drive means being energiseable to operate said recording device in a step-wise manner, the circuit breaking means being operable by said recording device to isolate said element when a zero position is reached.

3,140,608
LIQUID LEVEL GAUGE
John J. Clark, Hoboken, N.J., assignor to Brooks Equipment Corporation, Hoboken, N.J., a corporation of New York
Filed Dec. 16, 1960, Ser. No. 76,217
9 Claims. (Cl. 73—304)



8. An electronically operated gauge for automatically indicating the level of liquid in a container, said gauge comprising:

(*a*) oscillator means including a tuned resonant circuit for producing a variable frequency output signal,

(*b*) probe means adapted to mount in said container and provided to vary the operating frequency of said oscillator in response to changes in container liquid level, said probe including a variable capacitor comprising said container, said liquid and an insulated sensing element,

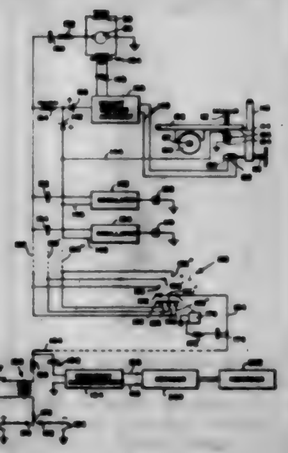
(*c*) first circuit means for operatively connecting said probe to said resonant circuit,

(*d*) second circuit means for translating the frequency of said oscillator output signal to a substantially lower frequency signal,

(*e*) filter means for translating frequency variations in said lower frequency signal to an indicator control signal having corresponding amplitude variations,

(*f*) and means responsive to said control signal for indicating the amplitude thereof.

3,140,609
SIGNAL TRANSMITTING AND CONTROL SYSTEM
Fred M. Mayes, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 8, 1956, Ser. No. 621,113
18 Claims. (Cl. 73—311)

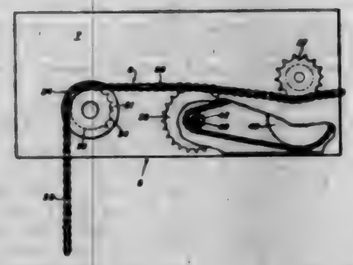


2. In combination, a plurality of signal originating stations, switching means, means providing an individual single transmitting channel comprising only two conductive paths between each of said stations and said switching means, means supplying power current through said switching means and transmitting channels selectively to said stations, means supplying control currents different from said power current through said switching means and the same transmitting channels selectively to said stations, indicating means connected to said switching means, and means in said originating stations controlled by said power current and said control currents for selectively providing a plurality of different high frequency signals through the same transmitting channels and said switching means to said indicating means.

3,140,610
BIN LEVEL INDICATOR
Shelby R. Lanham, Gary, W.Va., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 21, 1962, Ser. No. 181,344
3 Claims. (Cl. 73—321)

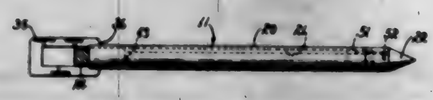
1. Apparatus for determining the level of bulk material in a bin comprising a gaging member arranged in said bin for supporting engagement on said material, said gaging member being in the form of a conically-shaped

metal shell, a vertically extending sprocket chain having a connection at its lower end with the upper end of said shell, a sprocket wheel having sprocket teeth about only a portion of its periphery for meshing engagement with said chain, means for rotating said wheel to render said sprocket teeth effective during each revolution thereof to elevate said chain a fixed distance in said bin, said chain being released upon movement of said teeth out of meshing engagement therewith for downward move-



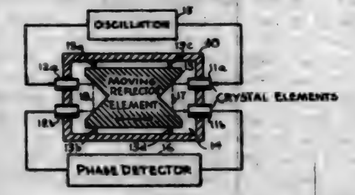
ment of said gaging member a variable distance determined by the surface level of the material in said bin to a gaging position supported on its said surface, a plurality of anchoring pins at circumferentially spaced points about the base of said shell and extending axially downwardly for anchoring engagement in the material in said bin, and means responsive to vertical movement of said gaging member for determining its vertical position in said bin and thereby the surface level of the material therein.

3,140,611
TEMPERATURE SIGNALING DEVICE
George G. Kliewer, Fresno, Calif., assignor to Commodity Marketers, Inc., a corporation of California
Filed July 24, 1961, Ser. No. 126,261
11 Claims. (Cl. 73—358)



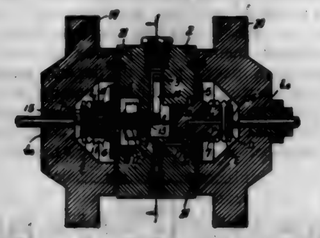
6. A signaling device to be inserted into an article to indicate attainment of a predetermined internal temperature comprising an elongated housing having a penetrating tip at once end and an opening at the opposite end, the housing being fluid-tight except for said opening, formed of a thermally conductive imperforate material, and provided with an axial cavity therein leading to the open end; an axially extended indicator rod received in said cavity and adapted for axial slidable movement relative to the housing to and from retracted and extended positions, the rod having a transverse bore therethrough, said cavity having therein latching means; resilient biasing means interposed the rod and the housing and adapted to urge the rod toward its extended position; means affording a lateral projection carried by the housing to limit penetration thereof into an article; and a fusible latch pin disposed through said transverse rod bore and retained against said latching means normally to restrain the biasing means and to maintain the rod in its retracted position, the pin being in thermally conductive relationship to the housing and adapted to release the rod upon attainment of said predetermined temperature.

3,140,612
ULTRASONIC SENSOR DEVICE
Richard B. Houghton and Frank P. De Luca, Los Angeles, Calif., assignors to Electro-Sonic Systems, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 8, 1961, Ser. No. 136,909
14 Claims. (Cl. 73—398)



1. A sensor device comprising: a hollow structure adapted to contain a fluid, a fluid medium capable of readily propagating sonic and ultrasonic waves filling the hollow of said structure; an element mounted in said fluid medium in such a manner as to be displaceable along the line of propagation of the waves in response to forces applied to it; first means for transmitting a pair of acoustical signals at a frequency selected from the sonic and ultrasonic frequency range through said fluid medium to opposing surfaces of said element; and second means for detecting the times of arrival of said acoustical signals at said element, the time lag between said pair of signals being a measure of the displacement of said element from its normal position.

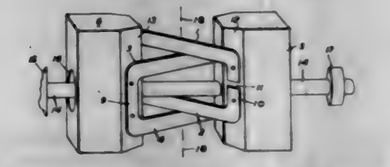
3,140,613
DIFFERENTIAL PRESSURE TRANSMITTERS
Hikaru Hasegawa, Hitachi, Ibaragi Prefecture, Japan, assignor to Hitachi Limited, Tokyo, Japan, a corporation of Japan
Filed June 19, 1961, Ser. No. 117,895
Claims priority, application Japan July 26, 1960
2 Claims. (Cl. 73—407)



1. A differential pressure transmitter, which comprises a main body provided with a central chamber, flanges fixed to the opposite side of said main body for forming a high pressure chamber and a low pressure chamber therein, one set of high and low pressure responsive bellows fixed at one end and movable at the other end and fitted to the opposite sides of said main body in spaces provided inside of said high and low pressure chambers respectively, a differential pressure responsive bellows fixed at one end to a part of the main body and movable at the other end, the inside of said differential pressure responsive bellows communicating with the central chamber which is in communication with the inside of said high pressure responsive bellows through a duct, the outside of said differential pressure responsive bellows being in communication with the inside of said low pressure responsive bellows, liquid enclosed inside and outside of said bellows, a movable end plate disposed in said differential pressure responsive bellows, a flexible spring fixed at one end to said movable end plate for transmitting the deflec-

tion of said movable end plate to the other end, a cantilever arm fixed at one end to the other end of said spring which other end converts the deformation of said movable end plate to a rotary deformation thereof, a torque tube fixed at one end to the other end of said cantilever and fixed at the other end to a holding member secured to said main body, said one end of said torque tube being twisted, a spindle inserted into said torque tube and fixed thereto at its root for transmitting the pressure difference acting on one set of the cooperating bellows by converting it to a rotary deflection to the outside of the main body, a measuring mechanism operatively connected to said spindle so as to be operated by the rotary deflection transmitted thereto, and a compensating element provided in the central chamber for compensating the temperature variation by adjusting its volume to make the quantities of liquid sealed inside and outside of said differential pressure responsive bellows equal.

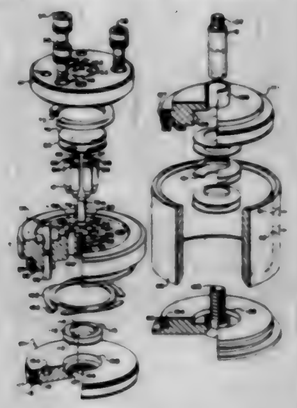
3,140,614
LOW FRICTION PIVOTAL MOVEMENT FOR TRANSDUCERS
Kenneth James Willis, Pinner, England, assignor to J. Langham Thompson Limited
Filed Jan. 11, 1961, Ser. No. 82,000
Claims priority, application Great Britain Jan. 13, 1960
8 Claims. (Cl. 73—410)



1. A transducer system comprising in combination a fixed member having an aperture therethrough, a movable member mounted on said fixed member for pivotal movement with respect thereto, two spaced pairs of flexible members providing pivotal connections between said fixed and movable members, each pair of flexible members being crossed, a coupling member rigidly attached to said movable member and passing symmetrically between said two spaced pairs of flexible members and through said aperture of said fixed member to a point on the side of the pivot axis remote from the movable member, and a force-transmitting member connected to said coupling member at an extended part thereof.

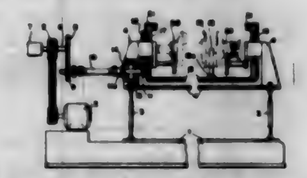
3,140,615
PNEUMATIC AMPLIFIER SAMPLING VALVE FOR CHROMATOGRAPHIC ANALYZERS
Arthur B. Broerman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 25, 1962, Ser. No. 232,933
8 Claims. (Cl. 73—422)

1. A fluid-motor actuated valve system for distributing a first fluid to a selected conduit comprising, in combination: a first body having two opposite faces; first, second, and third spaced passages in said body, each of said spaced passages communicating between said faces; a second body having an upper face spaced from the lower face of said first body; a first flexible sealing diaphragm of a diameter at least sufficient to cover said spaced passages; first, second, and third cylindrical recesses in said upper face, opposite said first, second, and third spaced passages, respectively; first and second cylindrical passages traversing said second body, within the circle described by said cylindrical recesses; first and second plunger rods slidably disposed in said first and second cylindrical passages, respectively; the upper ends of said first and second rods adjacents said diaphragm and intermediate the ports of said first, second, and third spaced passages, so that said first rod seals against said diaphragm intermediate said first and second spaced passages, and so that said second rod seals against said diaphragm intermediate said second and third spaced passages; a first power piston disposed adjacent and below said second body and normally biased out of contact with said second rod; a first chamber defined by the lower face of said second body and the upper face of said first power piston; first biasing means disposed in said first chamber normally biasing said first piston downward; a second power piston disposed adjacent and below said first power piston and normally biased in contact with said first plunger rod; a third body disposed adjacent and below said second piston and normally spaced therefrom; a second chamber defined at its upper end by the lower face of said first power piston and at its lower end by the upper face of said second power piston; a cylindrical casing the inner surface of which makes sealing contact with the peripheries of said power pistons, the upper edge of said casing makes sealing contact with said second body, and the lower edge of said casing makes sealing contact with said third body; a second and stronger biasing means disposed intermediate said second power piston and said third body normally biasing the former upward; means to secure said first, second, and third



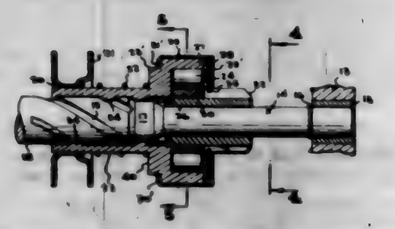
bodies and said power pistons adjacent to one another in a fixed relationship; a first conduit means connected to supply said first fluid to be distributed under a first pressure to said second spaced passage; a second conduit means connected to receive said first fluid from said first spaced passage; a third conduit means connected to receive said first fluid from said third spaced passage; a fourth conduit means connected to supply, during a first time interval, a second fluid under a second pressure greater than said first pressure to said second chamber to exert upward pressure on said first power piston, first overcoming said first biasing means and exerting force on said second plunger rod, contacting the upper side of said first power piston to force a first portion of said sealing diaphragm adjacent thereto to seal between the ports of said third and second spaced passages of said first body; said second fluid simultaneously exerting increasing downward pressure on said second power piston, overcoming said second biasing means, thus retracting said second piston means, permitting said first plunger rod to break sealing contact with a second portion of said sealing diaphragm adjacent thereto, thereby establishing communication between the ports of said first and second spaced passages; whereby first fluid enters said valve system through said second passage and passes out of said system through said first passage; said fourth conduit means adapted to vent said second chamber, during a second time interval, whereupon said power pistons revert to their first described position, during which said first fluid pressure will establish communication between said third and second spaced passages under said diaphragm, while maintaining sealing communication between said first and second spaced passages, whereby said first fluid enters said system through said second spaced passage and passes out of said system through said third passage.

3,140,616
DYNAMIC BALANCING MACHINE
Heinrich Hack, Darmstadt, Germany, assignor to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, a corporation of Germany
Filed Dec. 20, 1960, Ser. No. 77,250
Claims priority, application Germany Dec. 21, 1959
12 Claims. (Cl. 73—460)



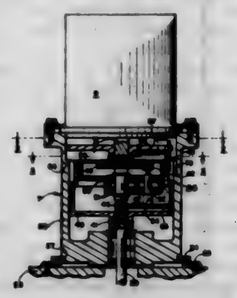
1. A balancing machine comprising a fixed machine structure, a rigid frame vibratorily mounted on said structure and having journal means for rotatably supporting a workpiece to be balanced, coupling means rotatably mounted on said frame in coaxial relation to said journal means for rotating the workpiece, a step-down gear mechanism also mounted on said frame and having input and output shafts of which the latter is joined with said coupling means, a cardanic shaft having two ends of which one is connected with said input shaft, a drive motor mounted on said fixed structure, and step-down transmission means connecting said motor with said other end of said cardanic shaft.

3,140,617
ENGINE STARTING APPARATUS
Jean A. Palmer, Kokomo, Ind.
Filed Aug. 22, 1962, Ser. No. 218,789
4 Claims. (Cl. 74—6)



1. In combination, a starting motor, a starting pinion and a one-way over-running clutch for connecting the starting motor with the starting pinion to crank an engine and for permitting the pinion to overrun the motor when the engine becomes self-operative, said clutch comprising an outer driving member adapted to be connected with the motor and an inner driven member concentrically mounted for rotation, means for connecting said driving and driven members in driving relation to each other including a plurality of roller-receiving recesses formed on the inner surface of the driving member and facing said driven member, each of said recesses having a cam surface between which and the outer periphery of the driven member a roller of predetermined diameter is adapted to be wedged when driving relation is established between the driving and driven members, said recesses each defining a first area wherein the radial distance between the driven member and the wall of the recess is substantially equal to the diameter of said roller and defining a second area wherein said radial distance is less than the diameter of said roller, a plurality of rollers, one of which is positioned in each first recess area, spring means in each second recess area engaging the roller and one end wall of said recess and exerting a force tending to move said roller to wedging position, and means connecting said inner driven member to the pinion comprising interengaging longitudinal splines on the driven member and pinion, washer means rotatably engaged with the pinion and disposed adjacent the driving member, the teeth of said pinion being formed with circumferential notches receiving said washer means, and means restraining said washer means against axial movement relative to said driving member, whereby said pinion is held by said washer means against axial movement in any direction relative to said driving member.

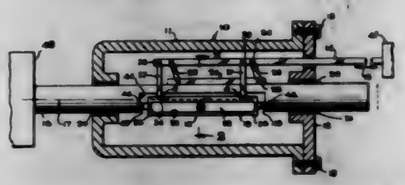
3,140,618
OVERTRAVEL MECHANISM
Billy J. Russell, La Mirada, Calif., assignor to North American Aviation, Inc.
Filed Apr. 7, 1960, Ser. No. 20,783
4 Claims. (Cl. 74—10.2)



1. In combination with a rotatable member arranged to be turned through a range of a plurality of turns, and having an internal stop at the end of said turning range; means for providing an expanded ratio between the rotations of an input shaft and the rotations of said rotatable member over a selected range comprising: a housing arranged to support said rotatable member and to have an input shaft extending rotatably and coaxially thereto; an input coupling ring fixed to said input shaft within said housing, a locking aperture being formed through a circumferential portion of said coupling ring; a pinion fixed to said input shaft; a shaft extending from said rotatable member coaxially into said housing opposite said input shaft; a coupling arm holder fixed to said rotatable member shaft; a coupling arm pivotally fixed to said coupling arm holder; a locking roller rotatably secured on said coupling arm, said roller being positioned parallel to the said rotatable member shaft; means for resiliently urging said roller toward the axis of rotation of said rotatable member; said housing having a locking recess formed therein adapted for engagement with said locking roller; a planetary carrier rotatably mounted on said rotatable member shaft, said planetary carrier having an alinement aperture formed therein adapted for engagement with said locking roller member alternatively with the engagement of said locking roller member with said locking recess formed in said housing; a first driven planetary gear rotatably supported on said planetary carrier in position to engage said input shaft pinion; a driving planetary

pinion fixedly connected to said first planetary gear in coaxial relationship thereto; and a planetary sun gear meshing with said driving planetary pinion and fixed to said rotatable member shaft, whereby said locking roller engages said locking recess to lock said rotatable member shaft to said housing when said rotatable member reaches the end of its turning range and said planetary carrier rotates with said input shaft relative to said rotatable member shaft.

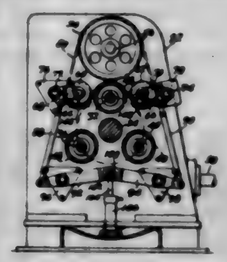
3,140,619
LINEAR MOTION POWER AMPLIFIER
Wendell S. Miller, 1341 Comstock Ave., Los Angeles 24, Calif.
Filed Apr. 17, 1961, Ser. No. 103,384
17 Claims. (Cl. 74—30)



1. A power amplifier comprising an input element mounted for generally linear movement between a large number of successive positions, an output element mounted for generally linear movement in essentially the same direction as said input element and between a large number of successive positions corresponding respectively to said positions of the input element, a connection attaching said input element to said output element for swinging movement relative thereto in a direction to advance linearly relative to the ouput element and to simultaneously shift transversely of said direction of linear movement, power driven rotary drive means, releasable power transmitting means connected to said output element to drive it linearly but shiftable laterally relative thereto between different positions, said power transmitting means and said rotary drive means having faces engageable in said different positions of the power transmitting means to drive the power transmitting means in opposite linear directions and thereby drive the output element in opposite linear directions, and automatic follow-up means for shifting said power transmitting means between said different positions in response to said swinging movement of the input element relative to the output element and in a relation causing said rotary drive means to power actuate the output element linearly to said different position thereof in essential correspondence with the linear movement of said input element to said different corresponding positions thereof.

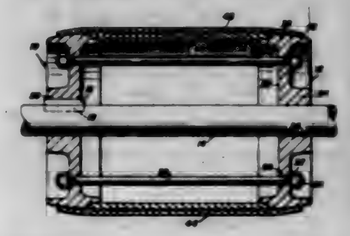
3,140,620
DRIVE MECHANISM FOR MULTIPLE SHAFT MECHANISMS
James T. Ferara, Atco, N.J., assignor to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed June 21, 1960, Ser. No. 37,627
4 Claims. (Cl. 74—221)

1. In a machine for slitting and scoring continuously moving web stock, a plurality of sets of shafts for slitting and scoring elements, a common rotary carrier for said shafts, said shafts being uniformly spaced radially from the rotary axis of said carrier so as to transcribe a common circular path as the carrier is rotated, said elements being selectively movable into operative position with respect to the web and out of operative position, a main drive pulley, drive pulleys for each seperate shaft, a flexible continuous toothed drive belt entrained partially about said main drive pulley, at least one idler pulley movably mounted with respect to said common drive pulley and adapted for engagement with said belt for tightening or loosening the same, said belt being engageable with said shaft drive pulleys, said shaft drive pulleys



being toothed and having side flanges thereon, said main drive pulley having a smooth peripheral surface and side flanges, said belt having a friction enhancing coated smooth surface in driving engagement with the surface of said main drive pulley.

3,140,621
PULLEY HUB WITH CROWNED OUTER FACE
Guthrie B. Stone, Stone Conveyor Co. Inc., Honeoye, N.Y.
Filed Apr. 2, 1962, Ser. No. 184,265
7 Claims. (Cl. 74—230.3)



1. A pulley construction comprising a pair of end hubs adapted to be connected with a shaft, means interconnecting the hubs, and a cylindrical member of standard size disposed between the hubs thereby forming a cylindrical intermediate portion for the pulley, each hub having a crown effect formed in the outer surface thereof for retaining a belt in proper tracking relation on the pulley, the external surface of the cylindrical member forming a continuation of the inner end of the outer surface of the hubs.

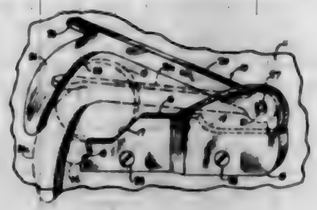
3,140,622
OPENER FOR SCREW TOP CONTAINERS
Anthony John Russo, 13768 Wimbledon Road, Shaker Heights, Ohio
Filed Aug. 22, 1960, Ser. No. 50,937
1 Claim. (Cl. 81—3.3)

An opener for screw cap containers comprising in combination:

(*a*) An elongated base member including means for securing said base member to a vertical surface,

(*b*) an arm having a jaw depending therefrom at one extremity, said jaw having a serrated gripping surface, said arm having the other extremity pivotally connected to one end of said base member for tilting movement toward and away from said base member,

(*c*) said base member having a plurality of V-notches of different sizes disposed in spaced relation there along and in confronting relation with said jaw, the smaller of said V-notches opening forwardly at the other end of said base, and the larger of said V-notches being disposed adjacent said smaller of said



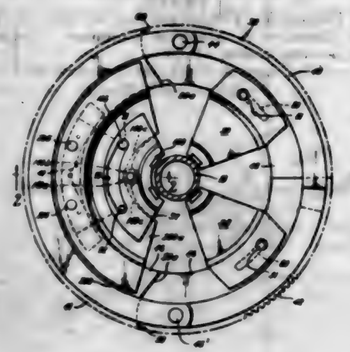
V-notches and opening generally upwardly, said arm coacting selectively with said V-notches for clamping a container cap therebetween.

3,140,623
PREDETERMINED TORQUE RELEASE WRENCH
William E. Van Hoose, Bell, Calif., assignor, by mesne assignments, to Pendleton Tool Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Aug. 29, 1961, Ser. No. 134,772
5 Claims. (Cl. 81—52.4)



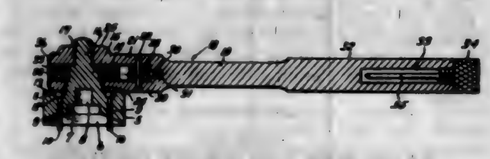
1. A predetermined torque release wrench, comprising:
a tubular handle,
a work-engaging member rotatably mounted on said handle for turning on a transverse axis of the handle,
an arm rigidly secured at one end to said member and extending longitudinally through said handle,
a plunger longitudinally movable in said handle opposite the other end of said arm,
a first roller on the end of said plunger adjacent said other end of said arm,
a spring acting between said handle and plunger for urging the latter toward said arm to a position wherein the curved surface of said roller engages said other end of said arm to releasably restrain the latter and said member against turning in one direction with respect to said handle, whereby an applied torque which tends to turn said arm and member in said one direction relative to said handle creates a longitudinal camming force on said plunger tending to retract the latter against the action of said spring and thereby release said arm and member for rotation in said one direction relative to said handle, and a lateral thrust on said roller directed toward one side of said handle,
said plunger including a longitudinally extending wall between said roller and said one side of said handle, and said wall having an opening opposite said roller, and
a second roller in said opening seating against said first roller and the inner surface of said handle, whereby the lateral thrust of said arm against said first roller is transmitted directly through said rollers to said handle and said rollers cooperate to support said plunger for free longitudinal movement in said handle.

3,140,624
ARRANGEMENT FOR INCREASING THE GRIPPING ACTION IN A PIPE TONG IN RELATION TO PIPE DIAMETER
Albert L. George, Lafayette, La., assignor to Lamb Rental Tools, Inc., a corporation of Louisiana
Filed Mar. 5, 1962, Ser. No. 177,556
4 Claims. (Cl. 81—57)



1. In a rotary power tong for engaging a tubular member wherein a segmented rotary ring is provided with jaw segments on each segment of the ring and wherein at least one of the jaw segments and rotary ring segments includes a cam arrangement to move the jaw segment radially to contact the tubular member, the improvement comprising, an additional cam arrangement, means to support said additional cam arrangement radially towards the longitudinal axis of the tubular member prior to engagement of the jaw segment with said tubular member, said additional cam arrangement creating a greater resulting force between the jaw segment and tubular member when they are engaged for any amount of torque which may be applied to the tong, said support means including a support plate for fitting on one segment of said rotary ring, a projecting surface on said support means for receiving a jaw segment thereon, and said additional cam arrangement being formed on the edge of said surface and on said jaw segment whereby rotation of said rotary ring and support plate secured thereto feeds said jaw segment inwardly to grip the tubular member.

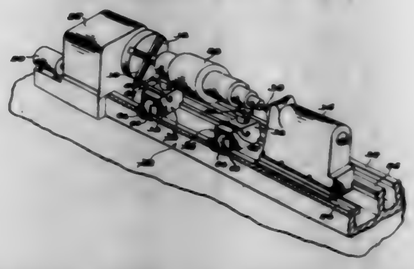
3,140,625
GOLF SHOE SPIKE WRENCH
Michael L. Passanno, Hollywood, Fla. (Stone Road, R.R. 3, Bristol, Conn.)
Filed Feb. 21, 1963, Ser. No. 260,280
4 Claims. (Cl. 81—63)



1. A wrench for rotating calks in golf shoes and whereby to remove and replace the calks that comprises a body portion including a cylindrical head that is apertured to removably support spanner pins that engage in recesses formed in the calks, the head having an upstanding axially arranged extension that receives a ratchet wrench for the rotation of the head in either direction, the head upon its bottom being recessed to have a mating engagement with the calk, the ratchet wrench being detachably connected

to the extension and with a jaw of the ratchet wrench seating upon heads of the pins to prevent shifting of the pins, the pins projecting below the bottom of the head.

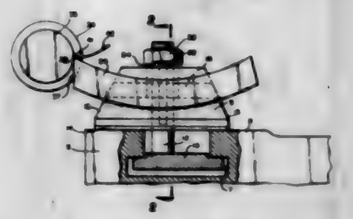
3,140,626
METHOD FOR LOADING WORKPIECES ONTO A LATHE
Robert Davies, Jr., Pittsburgh, Pa., assignor to Youngstown Foundry & Machine Company, Youngstown, Ohio, a corporation of Ohio
Filed June 4, 1962, Ser. No. 199,785
2 Claims. (Cl. 82—1)



2. In the method for processing large heavy rolling mill rolls on a metalworking apparatus having a bed, a headstock and a tailstock at opposite ends of the bed, and a pair of spaced elevatable roll-supporting cradles on the bed between the headstock and tailstock and independently reciprocable thereon, the rolls being of varying lengths and shapes and having neck portions of varying diameters at their opposite ends; the steps of separately positioning the respective cradles at spaced locations between the headstock and tailstock to accommodate rolls of a particular length whereby the cradles will be spaced apart in an amount substantially equal to the spacing between the neck portions of said rolls, lowering the neck portions of a roll onto said cradles after the cradles are spaced apart by an amount less than the length of the roll, independently adjusting the height of said cradles whereby the opposite ends of the roll will be centered with respect to the tailstock and headstock, moving said roll supported on said cradles toward said headstock until one end of the roll engages the headstock, thereafter moving at least a portion of the tailstock into engagement with the other end of said roll, lowering said cradles to permit the roll to freely rotate between the headstock and tailstock with the weight of the roll being carried on the headstock and tailstock, performing a metalworking operation on said roll while it rotates between the headstock and tailstock, independently raising said cradles into engagement with the roll after said metalworking operation whereby the roll will again be supported on the cradles, moving said tailstock away from the roll whereby it is no longer in engagement with the workpiece, moving the roll on said cradle structures away from the headstock, and by means of an overhead crane elevating the roll off said cradle structures.

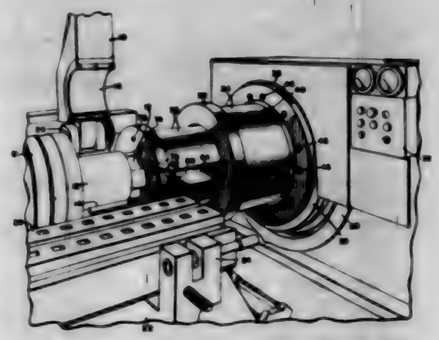
3,140,627
LATHE TOOL AND HOLDER THEREFOR
Casper M. Walby, Rte. 3, Box 198, Tracy, Calif.
Filed Dec. 26, 1961, Ser. No. 162,136
2 Claims. (Cl. 82—37)

1. A lathe tool in combination with a tool holder for mounting on the compound rest of a lathe, and comprising, a holder block, a horizontally extending slot formed in the block to form two vertically spaced jaws, a clamping stud extending vertically through the block and adapted for clamping the lower of said jaws to the compound rest, a clamping stud for selectively closing the jaws towards each other, said jaws having arcuate recesses formed therein, a tool bit having arcuate and parallel upper and lower edges, parallel side faces, a groove in its



upper edge and a tapered lower edge, for engagement by said jaws and extending therebeyond in a upwardly extending arc to terminate with a cutting point adapted for a cut-off operation.

3,140,628
COUPLING BOX ASSEMBLY
Jack N. Blum, 4886 Oaklawn Drive, Cincinnati 27, Ohio
Filed Oct. 26, 1959, Ser. No. 848,691
12 Claims. (Cl. 82—46)

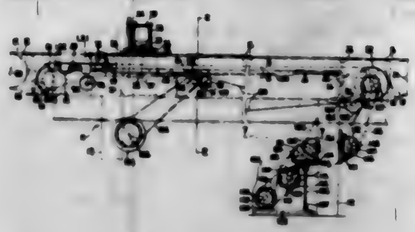


1. A coupling device for transmitting rotation of a roll lathe face-plate to a longitudinal non-circular extension of a roll work piece subject to turning in the roll lathe, said device consisting in combination of a coupling plate having a transverse aperture substantially conforming in contour to the cross sectional contour of the non-circular roll extension to be received therein and into and through which aperture said extension may slide longitudinally to have peripheral driven engagement with the edge of the aperture, and means loosely supporting the coupling plate independently of its engagement with the extension of a roll workpiece and for radial and axial movement relative to the axis of rotation of the face plate and in driven connection with the latter, for compensating for angular and for parallel offset of each of the axis of rotation of said face plate and the said roll workpiece extension.

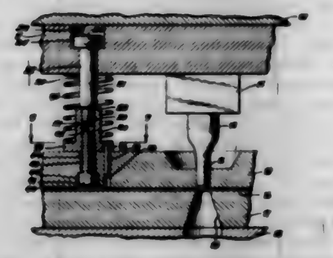
3,140,629
GLASS CUTTING APPARATUS
Edward D. Ingold, Henryetta, Okla., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1961, Ser. No. 90,854
7 Claims. (Cl. 83—11)

1. An apparatus for cutting a moving glass sheet along a line normal to the leading edge of the moving sheet

which comprises a supporting structure, conveyor means to move a horizontal glass sheet in a horizontal path of travel, a glass scoring tool mounted on the supporting structure to score the sheet along a line at a scoring station during travel of the sheet provided by said conveyor means, a pair of sheet-stopping means, said sheet-stopping means being spaced from each other in a vertical plane normal to the horizontal path of travel of the sheet and each sheet-stopping means being mounted for movement between a first position in the path of travel of the moving sheet and a second position out of the path of travel of the moving sheet, actuated power means to move said pair of sheet-stopping means parallel to the path of travel of the moving sheet between a first station and a second station, said scoring station being between said first and second stations, means to move said pair of sheet-stopping means to be at the first position when said pair is at the first station, means to maintain said pair at the first position during movement of said pair from the first station to the second station, means to move said pair to the second position at the second station, sheet-sensing means mounted to be responsive to arrival of the moving sheet with its leading edge at a position at least as far away from the scoring station as the first station, said sheet-sensing means actuating said power means to move said sheet-stopping means from the first station to the second station, and means responsive to the moving sheet to actuate said power means to move said pair of sheet-stopping means from the second station to the first station.

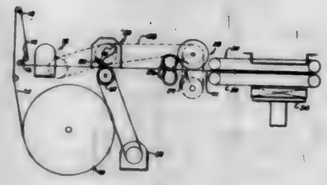


3,140,630
STRIPPER SPRING UNIT FOR PRESSES
Lewis H. Wolf, 58 Orchard Drive, Kenmore, N.Y.
Filed Oct. 31, 1960, Ser. No. 66,276
6 Claims. (Cl. 83—140)



1. A stripper spring unit forming one of a plurality supporting a stripper plate from the shoe of a press and actuating the stripper plate to strip the workpiece from the tools on the shoe following each operation of the press, comprising a stripper bolt mounted on said shoe for limited longitudinal movement relative to said shoe in the direction toward said stripper plate, a nut on the end of said bolt projecting toward said stripper plate, a spring under compression interposed between said nut and shoe and biasing said nut and stripper bolt toward said stripper plate, said stripper plate being provided with a through bore coaxial with said stripper bolt and nut, a retaining screw in said through bore anchored in said nut and securing said nut to the face of said stripper plate opposing said shoe, and means on said stripper plate preventing said nut from turning, whereby said stripper plate can be removed by merely removing said retaining screws without disturbing the adjustment of any stripper spring unit or altering the compression of any of said springs.

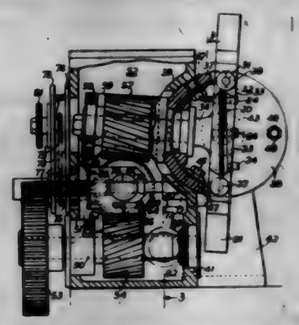
3,140,631
WRAPPER FORMING MEANS FOR WRAPPING MACHINES
David R. Burkman, Longmeadow, Mass., assignor to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts
Original application Aug. 29, 1958, Ser. No. 758,030, now Patent No. 3,008,286, dated Nov. 14, 1961. Divided and this application Aug. 22, 1960, Ser. No. 51,138
6 Claims. (Cl. 83—302)



1. In a wrapping machine, a wrapper supply system comprising means for continuously drawing a web of wrapper material having printed panels thereon from a supply roll, means for guiding said web along a horizontal run, a transverse shaft spaced beneath the horizontal run of said web, a pair of circular knives having equal cutting diameters secured to said shaft and axially spaced apart therealong a distance approximating the width of the end faces of articles to be wrapped, said knives being spaced slightly beneath said web, means for continuously rotating said shaft, a pair of plates longitudinally spaced on either side of said knives with their upper faces supporting the horizontal run of said web, a second transverse shaft spaced above said web and in general overlying relation with the first-mentioned transverse shaft, a pair of depressors extending radially from said transverse shaft, said depressors having web-engaging surfaces formed on a radius from said second shaft slightly greater than the distance to said web and having a limited arcuate length, the combined widths of said web-engaging surfaces at least approximating the width of said web, said surfaces being peripherally grooved to provide clearance for receiving said circular knives, means for rotating said second shaft so that said depressors will intermittently displace the web into engagement with said knives thereby longitudinally slitting said web along transversely spaced parallel lines which are coextensive in length, means for severing the web into individual wrappers along a transverse line bisecting the length of said slits to form individual wrappers having discrete flaps at each end thereof, means for registering said severing means with said printed panels and means interconnecting said second shaft rotating means with said severing means in such fashion that the depressors

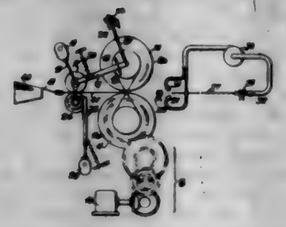
deflect the web into engagement with said knives intermediate the printed panels thereon.

3,140,632
CIGARETTE ROD CUT-OFF DEVICE WITH KNIFE ADJUSTABLE ABOUT THREE AXES
Tom Rowlands and James Arthur Mason, London, England, assignors to Molins Machine Company Limited, Deptford, London, England, a British company
Filed Nov. 18, 1960, Ser. No. 68,559
Claims priority, application Great Britain Nov. 13, 1959
5 Claims. (Cl. 83—310)



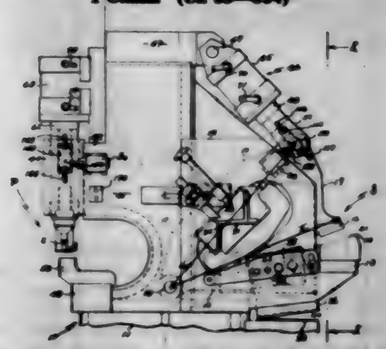
1. A cut-off for a continuous rod cigarette-making machine comprising a helical knife for cutting-off cigarette lengths from a continuous cigarette rod, the helical knife having a sickle edge, a rotatable knife-carrying member, a driving shaft carrying the knife-carrying member, means detachably and adjustably mounting said knife on said member to permit replacement of the knife and its adjustment in a plane parallel with the axis of rotation of the member and over a small range about and including the position at which the knife is a helix about the axis of rotation of the member, so that the knife is at least substantially a helix about the axis of rotation of the member, stationary structure, means rotatably mounting the driving shaft of said knife-carrying member in said stationary structure for angular adjustment of its rotational axis about an axis mutually perpendicular to the rotational axis and the cigarette rod at the point of cutting, to bring the knife into a position at which the cigarette rod is cut at right angles, whereby different cigarette length can be cut off by utilising a knife of appropirate helix and making the adjustments.

3,140,633
LAYING OF YARNS OR FILAMENT BY MEANS OF A HIGH VELOCITY FEED MEANS
John Joseph Vincent, Alderley Edge, England, assignor to The Manchester College of Science and Technology, Manchester, England, a corporation of Great Britain
Filed Feb. 9, 1960, Ser. No. 7,617
Claims priority, application Great Britain Feb. 14, 1959
12 Claims. (Cl. 83—402)



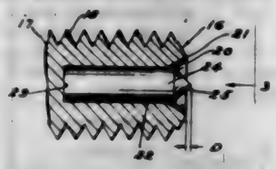
1. An apparatus for laying a length of yarn as a weft yarn in a shed of warp threads including feed rollers for a length of the yarn; means for driving the rollers including at least one single Hooke's joint and a step up gear train so arranged as to provide a cycle of acceleration and deceleration and having a part of its deceleration cycle suitable for progressively decreasing the velocity of projection, and means for engaging the yarn with such rollers, said means being timed so as to use such portion of the cycle, whereby the projected portion of yarn is maintained in tension and relatively straight by virtue of its momentum.

3,140,634
DRIVE MEANS FOR METAL FABRICATING APPARATUS
Augustus C. McDaniel, Jr., Shaker Heights, Ohio, assignor to The Hill Acme Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 7, 1961, Ser. No. 136,490
1 Claim. (Cl. 83—454)



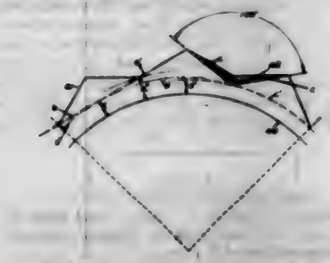
A hydraulic control circuit for use in a combination shear and punching apparatus having movable shear and punching means and reversibly actuatable drive means separately hydraulically operable for moving said shear and punching means, comprising a source of hydraulic fluid, first conduit means connecting to said source, a pair of hydraulic valves connected in parallel with said first conduit means, second conduit means connecting with one of said valves and the drive means for said shear means, third conduit means connecting the other of said valves and the drive means for said punching means, means for actuating said one valve effective to connect the drive means for said shear means in hydraulic communication with said source through said first and second conduit means so as to move said shear means in a first direction in its shearing stroke, means actuatable by said shear means during said stroke effective to actuate said one valve and reversibly connect said drive means for said shear means in hydraulic communication with said source so as to move said shear means in a second direction, means for actuating said other valve effective to connect the drive means for said punch means in hydraulic communication with said source through said first and third conduit means so as to move said punch means in a first direction in its punching stroke, and means actuatable by said punch means during said stroke effective to actuate said other valve and reversibly connect said drive means for said punch means in hydraulic communication with said source so as to move said punch means in a second direction, fourth conduit means connecting with said first conduit means, a relief valve connecting at its inlet to said fourth conduit means, third valve means connecting with the outlet of said relief valve, fifth conduit means bypassing the other of said pair of valve means and connecting between said third valve means and said drive means for said punching means, means for repetitively actuating said valve means effective to connect the drive means for said punch means in hydraulic communication with said source through said first and fourth conduit means so as to incrementally move said punching means through its punching stroke.

3,140,635
FASTENING MEANS FOR FAUCET HANDLE
Leo Richard Davidson, 400 Norwood Ave., Sturgis, Mich.
Filed May 4, 1962, Ser. No. 192,892
3 Claims. (Cl. 85—1)



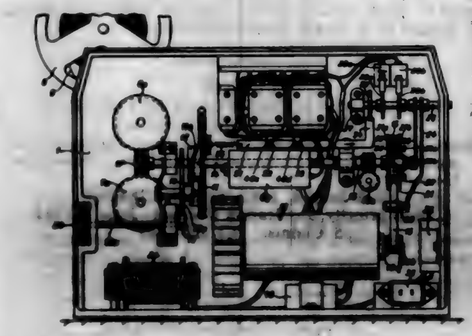
1. A set screw having a threaded periphery and adapted to be threaded into a first member with the inner end thereof engaging and holding a second member,
said set screw having an axial cylindrical opening in said inner end,
an insert having a bearing fit with said opening and rotatably mounted in said end of said opening in said set screw,
one end of said insert rotatably engaging the base of said axial opening,
the other end of said insert extending beyond said end of said set screw,
said insert having a centrally located point,
said set screw having an annular V-shaped edge surrounding said point,
such that when said set screw is threaded inwardly relative to a said first member into a second member, the point on the end of said insert first engages said second member and the set screw thereafter rotates relative to said insert and the annular edge engages said second member.

3,140,636
TWELVE-POINT NUT
David W. Grimm, Fullerton, Calif., assignor, by mesne assignments, to Rayner Mfg. Co., Inc., Pico-Rivera, Calif., a corporation of California
Continuation of application Ser. No. 696,993, Nov. 14, 1957. This application Sept. 20, 1963, Ser. No. 236,478
3 Claims. (Cl. 85—32)



1. A high tensile strength lightweight lock-nut comprising: an internally threaded annulus having a main body portion with an outer wall configuration in the form of a regular polygon having twelve outwardly extending points of a size to be engaged by standard size wrench means of a size less than usual for the size thread involved, the contiguous wall surfaces between two successive outwardly extending points being at least in part substantially flat and lying in planes intersecting at an angle of about 130 degrees to 138 degrees, the wall of the nut at the intersection of such contiguous wall surfaces having a positive but minimum radial dimension throughout the axial extent of the intersection of the wall surfaces, as measured to the base of said threads, not greater than the radial distance between the base of said threads and a concentric circumscribing circle equal in radius to a circle inscribed in a regular hexagon having the same major diagonal dimension across points as the said regular polygon with twelve points.

3,140,637
MOTION PICTURE PROJECTOR OPERABLE ON DIFFERENT A.C. SOURCES
Helmuth Frenk and Herbert Lässen, Wetzlar (Lahn), and Robert Moos, Wissmar, Kreis Wetzlar (Lahn), Germany, assignors to Ernst Leitz Gesellschaft mit beschränkter Haftung, Wetzlar (Lahn), Germany
Filed June 27, 1961, Ser. No. 119,892
Claims priority, application Germany July 1, 1960
21 Claims. (Cl. 88—17)

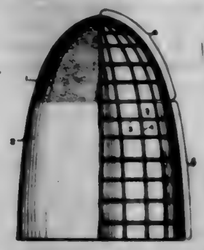


1. A motion picture projector for connection to A.C. power sources of different voltage and frequency, and comprising terminal means, a single-phase induction motor having a condenser for phase displacement of the current therein, a shaft for driving several of the components of the projector, a variable speed transmission drivingly connecting said motor and said shaft, a transformer having primary and secondary windings variably connecting means for connecting said primary winding to said terminal means and said motor to said secondary winding, a second condenser adapted to be connected in parallel with said first condenser, switch means for connecting said second condenser in parallel to said first condenser, and means for simultaneously adjusting (*a*) said variable transmission, (*b*) said connecting means, once for power source voltage adaption and again for frequency adaption and (*c*) said switch means for said second condenser to correspond to the frequency of the A.C. power source to which the projector is connected.

3,140,638
FAIRING
Peter L. De Luca, Elgin, Ill., assignor to Hawley Products Company, St. Charles, Ill., a corporation of Delaware
Filed July 27, 1962, Ser. No. 212,944
10 Claims. (Cl. 89—1.7)

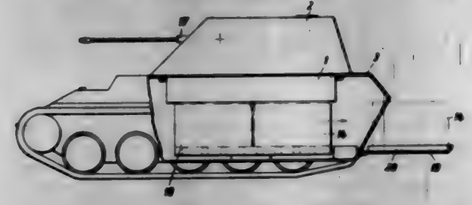
1. A frangible firing comprising a one-piece, molded, hollow substantially cone-shaped shell of fibers impregnated with a brittle resin, a smooth, outer surface on said shell having aerodynamic characteristics enabling it to withstand air pressures to which it is subjected when mounted on a flying aircraft, said shell having thin wall segments alternating both longitudinally and circumferentially with thicker wall segments, said thicker wall segments forming raised portions on the inner surface of said

shell, said thicker wall segments having a lower fiber density throughout than the fiber density of said thinner wall segments and being impregnated with said brittle resin at a relative proportion of said resin to said fiber



sufficiently greater than the resin to fiber ratio in said thin wall segments to cause said thicker wall segments to be the more brittle segments and to increase the tendency to shear at said thicker portions when said fairing is broken by a rocket fired therethrough.

3,140,639
TURRET PLATFORM FOR A REVOLVING-TURRET GUN MOUNTING
Bruno Werner, Duesseldorf-Gerresheim, Germany, assignor to Firma Rheinmetall G.m.b.H., Duesseldorf, Germany
Filed June 3, 1963, Ser. No. 284,867
Claims priority, application Germany June 1, 1962
5 Claims. (Cl. 89—36)



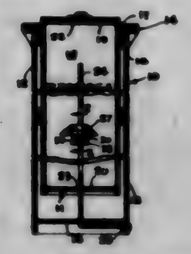
1. A revolving gun turret comprising a turret platform consisting of a self-supporting structure of cup-like form composed of a plastic material, a dividing wall formed integrally with said platform, a cupola secured to said platform, means for sealing said dividing wall to said cupola whereby the turret is divided into a weapon compartment and a crew compartment, and an open-ended box-shaped ammunition store secured and composed of a plastic material beneath said platform.

3,140,640
ROUTERSHAPER
Edwin F. Egger, Shiffshein and W. 46, Seattle, Wash.
Filed July 13, 1959, Ser. No. 826,561
7 Claims. (Cl. 90—16)



5. A surfacing machine for surfacing a substantially spherical object, said machine comprising in combination a support stand, a support member for the substantially spherical object, said support member presenting a support defining a circle, and a tool-positioning assembly on said support stand, said positioning assembly comprising two spaced-apart jaws, each jaw having an inner face facing the other jaw, each jaw having a V-shaped groove in its inner face and aligned with the groove in the other jaw, said grooves defining substantially a 90° angle, a movable block, the lateral cross-sectional configuration of the block being substantially a square for coitting with the V-shaped grooves, a motor, a holding means associated with the block for positioning the motor, and means to move the block in the jaws, a surface-finishing tool associated with said motor, and said surface-finishing tool being aligned with said support member to surface finish the substantially spherical object.

3,140,641
VEHICLE LIFT APPARATUS
Jesse E. Clarke, Hinsdale, and Dudley S. Clarke, Chicago, Ill., assignors to Autoquip Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 24, 1963, Ser. No. 315,659
14 Claims. (Cl. 91—4)

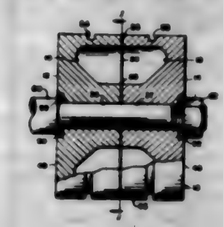


1. A lift for a vehicle or the like comprising: a hydraulic cylinder having its axis generally vertical and adapted to contain a quantity of hydraulic fluid; a hollow hydraulic ram in said cylinder, said ram having an opening in the bottom thereof; a fixed air tube attached to said cylinder and extending upwardly through said opening into the interior of said ram above the normal level of hydraulic fluid therein, said tube being smaller than said opening to define an orifice thereabout; a float inside said ram, surrounding said tube and movable vertically with respect to said tube, said float having means on the bottom thereof to form a fluid seal between the float and the bottom of said ram about said orifice when said float and bottom are in juxtaposition, said float being buoyant with respect to said hydraulic fluid; means between said float and tube to form a seal therebetween when said float and bottom are in juxtaposition; and means to limit the extent of upward movement of the float with respect to the tube, the last means being vertically adjustable whereby the height to which the float will rise may be varied.

3,140,642
PISTON CONSTRUCTION
Arvid L. Nelson, Franklin T. Seeger, and John E. Seckman, Quincy, Ill., assignors to Gardner-Denver Company, a corporation of Delaware
Filed Sept. 4, 1962, Ser. No. 221,251
5 Claims. (Cl. 92—248)

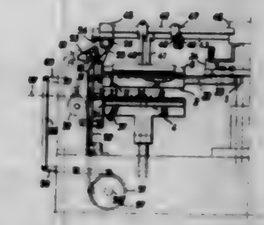
1. In a piston construction:
(*a*) reversely turned piston halves having radially spaced mating surfaces;
(*b*) substantially noncompressible spacer means disposed between and in abutting relation with said piston halves; said spacer means providing axial spaces between said surfaces;
(*c*) a layer of adhesive material received in said axial spaces and structurally joining said halves; and,

(*d*) said spacer means being disposed in coaxial relation with said halves and having angularly spaced



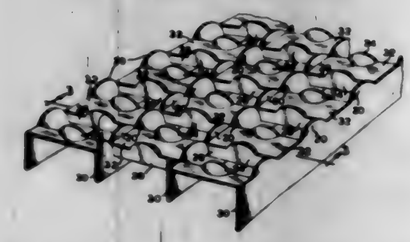
arm portions extending therefrom and in part defining said axial spaces.

3,140,643
MACHINE FOR MANUFACTURING PACKAGING BAGS
Otto Barthelmess, Stuttgart-Bad Cannstatt, Germany, assignor to Fa. Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany
Filed Oct. 2, 1962, Ser. No. 227,901
Claims priority, application Germany Nov. 3, 1961
6 Claims. (Cl. 93—12)



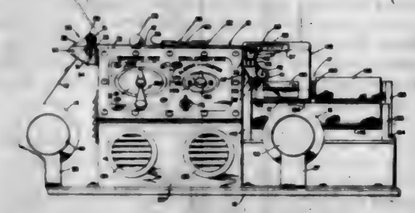
1. In a machine for manufacturing packaging bags, assembly for seaming bag blanks comprising at least one folding mandrel, means to convey a blank to and fold it around said mandrel, and heat sealing jaws movable to engage, along a line adjacent a longitudinal zone of said mandrel, the margins of a blank enfolding said mandrel, thereby to form the blank into a sleeve with a heat-sealed longitudinal seam, said mandrel having blowing openings along said longitudinal zone and being formed internally with an air distributing ducting communicating with said blowing openings.

3,140,644
NON-SKID GRATING
Royal B. Lee, 840 Medford St., El Cajon, Calif.
Filed May 28, 1962, Ser. No. 198,076
6 Claims. (Cl. 94—30)



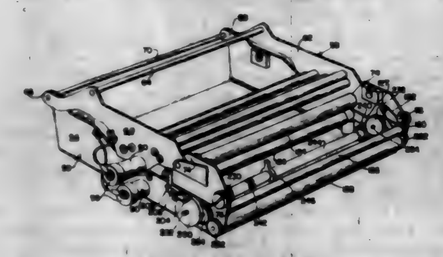
1. A non-skid grating, comprising:
a unitary sheet element having a plurality of spaced, longitudinal return folded ribs;
rows of longitudinally spaced, substantially coplanar platform portions between said ribs and having openings therebetween;
said ribs having upwardly projecting tabs at the ends of said openings;
and said platform portions having upwardly projecting tabs at the sides thereof normal to said first mentioned tabs and constituting therewith a reticulated array of non-skid elements.

3,140,645
PHOTOPRINTER TIMING APPARATUS
Charles Block, North Bellmore, and John R. Gardner, Staten Island, N.Y., assignors, by mesne assignments, to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 5, 1957, Ser. No. 676,261
8 Claims. (Cl. 95—73)



1. A photoprinting apparatus comprising means for holding an original and a duplicate member in reproducing relationship, said means including a selectively movable pressure platen for engaging the duplicate member, a source of printing light, a shutter selectively movable into shutter-closed position between the source of printing light and the original and duplicate members, a timer, means responsive to the placing of the platen in closed, duplicate-engaging position to start the timer, and means operated by and responsive to the timer to move the shutter to open position when the timer is running and to move the shutter to closed position when the timer is stopped.

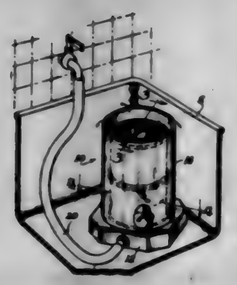
3,140,646
PHOTOGRAPHIC DOCUMENT COPYING APPARATUS
Paul B. Mason, Magnolia, and Arthur J. Sable, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 23, 1961, Ser. No. 133,398
14 Claims. (Cl. 95—75)



1. Photographic document copying apparatus comprising, in combination, means for exposing successive areas of a photosensitive sheet during movement of said sheet through said apparatus; means for engaging and processing said exposed photosensitive areas of said photosensitive sheet during movement thereof through said apparatus; and indexing means for controlling the advancement of said photosensitive sheet through said

apparatus by arresting the movement of said photosensitive sheet when an exposed area has been advanced into engagement with said processing means, said indexing means being adjustable to permit advancement of predetermined selected lengths of said photosensitive sheet through said apparatus, said lengths being selected so that areas of said photosensitive sheet correspond in length to the lengths of original documents being copied, said indexing means including an engagement member positioned in engagement with said photosensitive sheet and movable in response to movement of said photosensitive sheet through said apparatus, and control means including two stop means capable of being selectively coupled with said engagement member for predeterminedly limiting the movement of said member in response to movement of said photosensitive sheet, said stop means including a common stop member movable through a fixed distance and two coupling means for coupling said stop member with said engagement member to permit movement of said engagement member through different fixed distances predeterminedly selected in accordance with the lengths of the original documents to be copied during movement of said stop member through said fixed distance.

3,140,647
FILM WASHER
Roy L. Miller, 9337 S. Ada St., Chicago 20, Ill.
Filed July 3, 1961, Ser. No. 121,640
2 Claims. (Cl. 95—93)

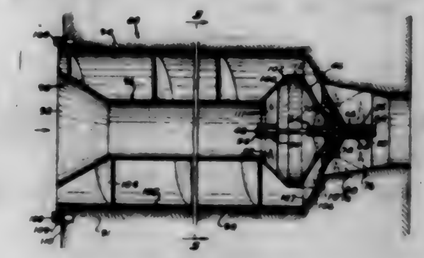


1. A washer for photographic roll film comprising a tank, a reel for supporting roll film in said tank with the convolutions of said film radially spaced from each other with respect to the vertical axis of said reel, first and second water inlet passages inclined upwardly and radially outwardly for admitting wash water to the lower end of said tank, said first and second water inlet passages being respectively located on opposite sides of the vertical axis of said reel and being directed in opposite directions away from the diameter of said reel, whereby water entering said tank through said passages is directed against said film and the spiral convolutions thereof and therefore produces a turning moment on said reel to cause said reel and the film carried thereby to revolve about the vertical axis of said reel.

3,140,648
ANTI-BLAST VALVE
Sten Gosta Ariel Bergman, Forsalagsvagen 19, Stocksund, Sweden, and John Bertil Stalfors, Gullmarsvagen 48, Johanneshov, Sweden
Filed Jan. 31, 1963, Ser. No. 170,060
Claims priority, application Sweden Mar. 4, 1959
21 Claims. (Cl. 98—119)

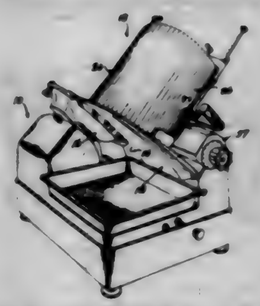
1. Means for protecting air ventilating and flue gas channels against air shock waves, comprising, in combination:

(a) means defining a rectilinear inflow channel for receiving shock waves entering at one end of said inflow channel, said end being open to the atmosphere;
(b) means providing an enlarged chamber in said inflow channel remote from said inflow channel one end and including means forming a valve seat at the end of said chamber remote from said inflow channel one end;
(c) a concave-convex valve body located in said enlarged chamber with its concave face facing said inflow channel one end;
(d) means mounting said valve member for axial movement in said chamber toward and away from said seat;



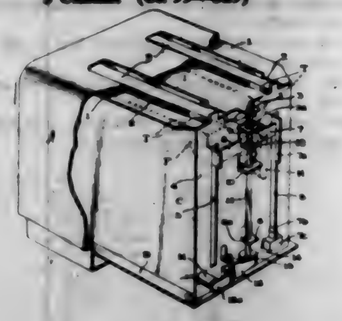
(e) spring means for maintaining said valve body in normal ventilating position in axially spaced relation to said valve seat forming means;
(f) said valve seat forming means having a sealing shoulder for engaging said valve body when said valve body is in its closed sealing position;
(g) said inflow channel being arranged and disposed relative to said valve body to impart an incident shock wave entering said inflow channel one end a directive effect toward the center of said valve body to displace it to its closed position under the action of the shock wave;
(h) said valve seat forming means including a rigid, apertured valve supporting grate means of concave form complementary to the convex surface of said valve body for supporting said valve body in its closed position.

3,140,649
HEATED AND MOISTURIZED MEAT CONTAINER FOR SLICERS
Pierre J. Bacqua, 13000 S. Biscayne River Drive, Miami 61, Fla.
Filed Mar. 30, 1962, Ser. No. 183,916
15 Claims. (Cl. 99—234)



1. In combination, a mechanical meat slicer comprising a frame having thereon a gauge plate having an edge and a knife having a cutting edge spaced from the gauge plate edge, an open bottom imperforate walled housing supported on the frame over the gauge plate and the knife and opening to the space between the gauge plate edge and the cutting edge of the knife, means closing the top of the housing, said housing having a steam jacket extending partially thereabout and having communication with the interior of the housing.

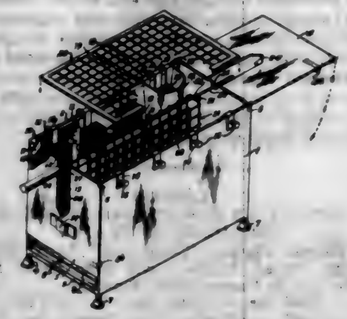
3,140,650
TOASTER
Joseph Warne, 2313 Ashbury Ave., Cornwells Heights, Pa.
Filed Aug. 2, 1963, Ser. No. 299,552
3 Claims. (Cl. 99—329)



1. In a toaster having a timed heating circuit including
a push-pull switch (7c) and an electromagnet (M),
an inner frame (F) having a front wall (4),
a carriage (7+8+9+10) mounted for sliding movement on said front wall,
a retractile spring connected with said inner frame (F) and said carriage (7, 8, 9, 10),
a nut (12) having an opening (13) of substantially rectangular cross section mounted on said carriage,
a spiral shaft (11) threaded into and adapted to be actuated by said nut (12),
a disc (13) carried by said spiral shaft (11) and having a notch,
and latch means (15, 16, 17) normally spring biased to maintain said latch engaging said notch (14), said latch means responsive to said electromagnet to release the latch from the notch (14) in the disc (13) to permit the spiral shaft to turn under the influence of the said carriage.

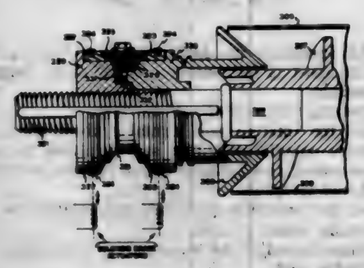
3,140,651
CHARCOAL COOKER
Orville C. Burnett, 553 Edgelake, Dallas, Tex.
Filed Nov. 14, 1962, Ser. No. 237,652
4 Claims. (Cl. 99—339)

2. In a vertical grill type of charcoal cooker;
a housing including
side walls,
end walls,
a bottom,
a removal drip pan disposed on the bottom;
suspension rods pivotally attached between the upper ends of the side walls;
an end wall attached to each suspension rod,
said end walls being free of attachment at their lower ends
whereby they may be raised to horizontal position to cause same to extend outwardly of the side walls;
aligned vertical slots in the upper edges of the end walls;
downwardly directed aligned loops formed in the rods within each slot;
a vertically disposed grill including
separable foraminous sides,
a plurality of loops extending substantially right angularly outwardly from each corner of the grill sides,
said loops being arranged to overlap in coinciding relationship when placed in juxtaposed position;



a rod-like member removably extending through aligned overlapping loops at the upper edge of the grill with the ends thereof extending beyond the ends of the grill and suspended in the loops in the rods;
a rod-like member removably positioned in overlapping loops on the lower edge of the grill; a plurality of charcoal baskets having foraminous walls; and
a hook attached to the upper edge of each basket slidably suspended over the upper edges of the side walls.

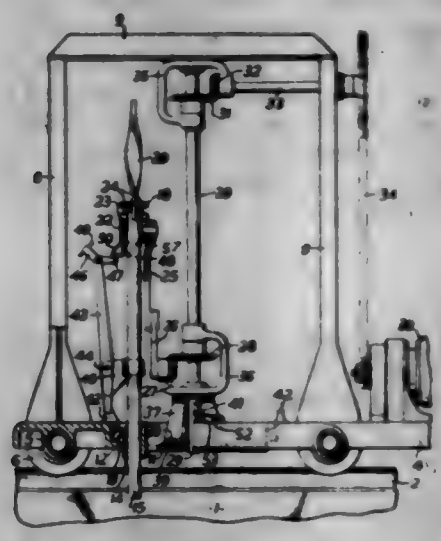
3,140,652
DEWATERING PRESS CONE ADJUSTING DEVICE
Roy Milton Williams, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,557
2 Claims. (Cl. 100—148)



1. An improved press apparatus for extracting liquid from a compressible mass containing a liquid, said apparatus comprising in combination, a hollow foraminous cylindrical casing having a central axis, a rotating assembly mounted for rotation about the axis of said casing and positioned adjacent one end of said casing, said assembly comprising a first rotating element positioned within said casing and having a material forwarding surface, said element and said material forwarding surface constructed and arranged to positively displace a mass of material positioned within the casing in a given axial direction toward said one end of the casing, said assembly, further comprising a second element mounted for rotation with said assembly positioned adjacent said one end of said casing, said second element constructed and arranged to oppose movement of material displaced toward

said end of said casing to compress the same during rotation of said assembly, said second element cooperating with said one end of the casing to form a restricted discharge passageway for exit of the compressed material during rotation of said assembly, said second element mounted for limited axial movement along the casing axis with respect to the casing during rotation of said assembly, said assembly further comprising a planetary gear means directly physically engaged with said second element, and braking means cooperating with said planetary gear means, said braking means actuatable for positively rapidly smoothly selectively adjusting the axial position of said second element with respect to said one end of said casing in an infinitely variable and reversible manner during rotation of said assembly to thus vary the size of the restricted discharge passageway.

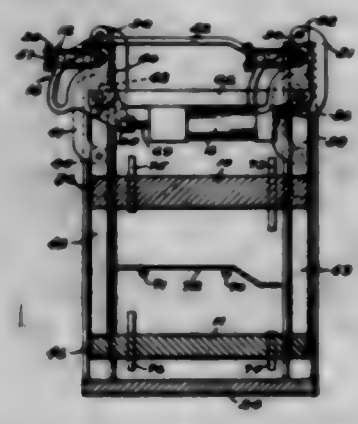
3,140,653
APPARATUS FOR THE MECHANICAL TREADING OF GRAPES
Frank Joseph Clarke, "Crestwood," Lynx Hill, East Horsley, Surrey, England, and John Henry Smithes, 83 Travessa de Passos, Porto, Portugal
Filed Jan. 12, 1962, Ser. No. 165,912
Claims priority, application Great Britain Jan. 12, 1961
5 Claims. (Cl. 100—336)



2. An apparatus for expressing must from grapes in a vat and assisting fermentation of said must, comprising:
a carriage;
a turntable mounted on said carriage;
means for rotating said turntable about its axis;
a platen spindle guided in said turntable for vertical movement and rotation about its axis, eccentrically of said turntable;
means for vertically oscillating and rotating the platen spindle about its axis;
a platen carried by the lower part of said platen spindle; and
means for moving the carriage over the vat in such a manner that substantially the whole grape containing area of said vat is traversed by said platen.

3,140,654
DOUBLE ACTING PRESS
Walter L. Jewett, Royal Oak, Mich., assignor to Allied Welder Corporation, Detroit, Mich., a corporation of Michigan
Filed June 14, 1962, Ser. No. 202,622
4 Claims. (Cl. 100—264)

1. A double platen action harmonic press comprising
paired spaced parallel shafts lying in a horizontal plane,
support means and bearing means rotatably supporting said shafts above a floor plane,
means rotationally interconnecting said shafts for substantially identical angular movement,
at least one first radial crank on each said shaft,
at least one second radial crank on each said shaft at 180 degrees from said first crank;
and power means on said support means from rotating said shafts to swing said cranks to actuate said platens;
both said first and second cranks on said shafts normally lying in a vertical plane with said first crank having an outer end extending upwardly and said second crank having an outer end extending downwardly;
normally widely spaced top and bottom platens below said shafts,
a link interconnecting each said first crank outer end with said top platen,
a link interconnecting each said second crank outer end with said bottom platen;
pivot pins and bearings connecting said links to said cranks and platens at pivot points;

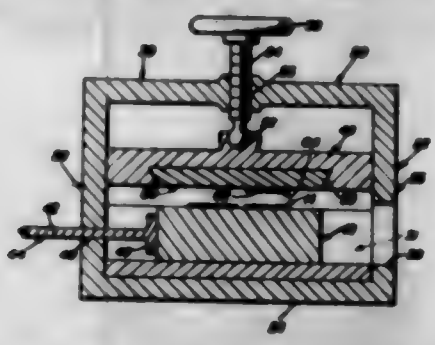


said cranks swinging with said shafts to locate their outer ends in opposite down and up locations upon 180 degree rotation of said shafts so that said first crank outer end extends downwardly and said second crank outer end extends upwardly;
said top platen and links moving downwardly with said first crank outer end with 180 degree rotation of said shaft;
said bottom platen and links moving upwardly with said second crank outer ends with 180 degree rotation of said shafts;
said platens thereby moving towards one another from their normal wide spaced position to a close spaced position in conjunction with 180 degree rotation of said shafts;
said shafts upon further 180 degree rotation swinging said cranks to their normal vertical position moving said top platen upwardly and said bottom platen downwardly to their normal wide spaced locations;
said shafts, cranks, links, and pins coacting in a toggle action at the beginning and end of 180 degree angular movement of said shafts to forcefully urge said platens together in the initial 180 degree shaft rotation and to forcefully urge said platens apart in the subsequent 180 degree shaft rotation.

3,140,655
APPARATUS FOR IMPRESSING TYPE FACE
John J. Lolly, 2529 Dewey St., Hollywood, Fla.
Filed Nov. 3, 1961, Ser. No. 150,031
3 Claims. (Cl. 101—4)

1. For use with an elongated type slug having a generally planar transverse face defining indicia, an apparatus for impressing said planar transverse face comprising a receptacle, said receptacle including top and bottom walls interconnecting them by means of opposite side walls, an abutment member, means mounting said

abutment member in said receptacle between said top and bottom walls for controlled movement toward and away from the bottom wall, said bottom wall including means defining at least one elongated groove opening upwardly toward said abutment member and adapted to snugly and slidably receive said slug for longitudinal shifting of the latter in said slot, with the planar transverse face of said slug opposing said abutment member, an impressing member including a generally planar face having a design impressed therein, means mounting said impressing member on said abutment member with said design impressed face facing toward said groove whereby said impressed face may be penetratingly engaged with said transverse face to impress said design in the transverse



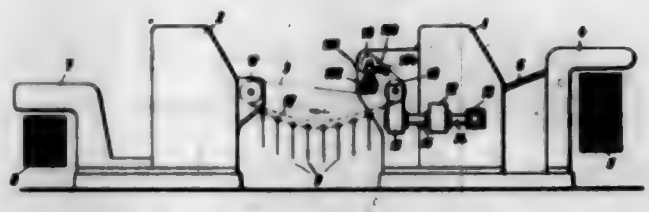
face of said indicia with equal pressure being applied to each of said indicia by said impressed face, one of said side walls having an opening formed therein in registry with one open end of said groove whereby said slug may be removed from said receptacle through said opening, the other of said side walls having an opening formed therein in registry with the other open end of said groove, an ejecting tool comprising an elongated shank portion slidably received through said last-mentioned opening and including an enlarged inner end portion disposed in said groove and adapted to abut the end of said slug remote from the first-mentioned opening and to eject said slug through the first-mentioned opening when said shank portion is shifted toward said first-mentioned opening.

3,140,656
LUMBER GRADE MARKER
Granville Dee Shook, Darby, Mont.
Filed Aug. 4, 1960, Ser. No. 46,625
5 Claims. (Cl. 101—35)



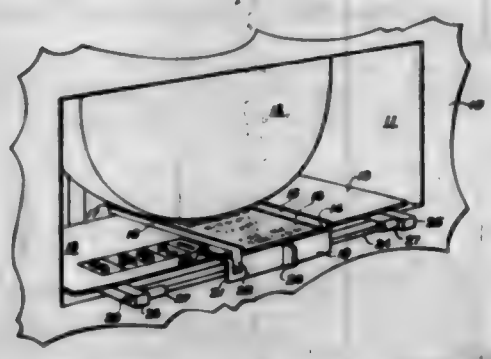
2. Apparatus for grade marking lumber comprising conveyor means for moving lumber to be graded and marked, grading station alignment means for enabling endwise grade positioning of the lumber on the conveyor relative to a reference line, and marking means operative in response to an endwise position of the lumber relative to said reference line for automatically placing only one of a plurality of grade marks on the lumber in spaced relation from one end thereof as the lumber passes said marking means from said grading station alignment means, said marking means comprising a plurality of interconnected markers spaced from each other in endwise positions relative to said reference line and corresponding to the lumber grades, and means supporting said markers above the conveyor means at different stepped levels relative to the lumber so that the marker at the lowest level will engage lumber at an extreme endwise grade position and thereby raise all other markers above the lumber.

3,140,657
MULTICOLOR SHEET FED PRINTING MACHINE
Werner Koch, Offenbach am Main, Germany, assignor to Roland Offsetmaschinenfabrik Faber & Schleicher AG., Offenbach am Main, Germany, a German body corporate
Filed Jan. 24, 1962, Ser. No. 168,431
Claims priority, application Germany Feb. 4, 1961
9 Claims. (Cl. 101—183)



1. In a printing machine having at least two successively arranged printing units, a chain conveyer intermediate the two printing units carrying sheets therebetween, drive means for driving said chain conveyer simultaneously from both units, means for varying the working length of said chain conveyer, and control means associated with one of said printing units, for interrupting the drive means of the conveyer chain at said one printing unit for a predetermined number of working cycles of said printing unit as determined by a change in the number of sheets carried by said conveyer, while continuing the drive of said chain at the other unit.

3,140,658
TRUCK SCALE WEIGHT CARD HOLDER
Jay E. Marshall, Box 486, Silica Road, North Jackson, Ohio
Filed Nov. 22, 1961, Ser. No. 154,192
1 Claim. (Cl. 101—407)



A device which is designed to receive a record card and selectively present said record card to a printing head of a printing scale, said device comprising:

(*a*) a card receiving and holding member,
(*b*) guide members on the sides and back of said card receiving and holding member for locating and retaining said record card thereon,
(*c*) a rod on said scale positioned transversely thereof,
(*d*) a portion of said card receiving and holding member having a downwardly flanged portion with inturned side portions which have apertures formed therein slidably engaging said rod,
(*e*) indicia on said scale alongside said printing head,
(*f*) an indicator on said card receiving and holding member arranged to terminate adjacent said indicia in registering relation therewith,

(*g*) said card receiving and holding member being arranged to move along a straight line transverse path relative to said printing head, and

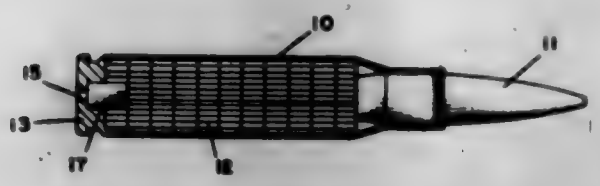
(*h*) means on said rod limiting movement of said card receiving and holding member.

3,140,659

METAL-COATED PROPELLANT GRANULES

Earl F. Van Artsdalen, Joseph Quinlan, and Elwood J. Vetter, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Apr. 23, 1962, Ser. No. 189,653
2 Claims. (Cl. 102—38)
(Granted under Title 35, U.S. Code (1952), sec. 266)



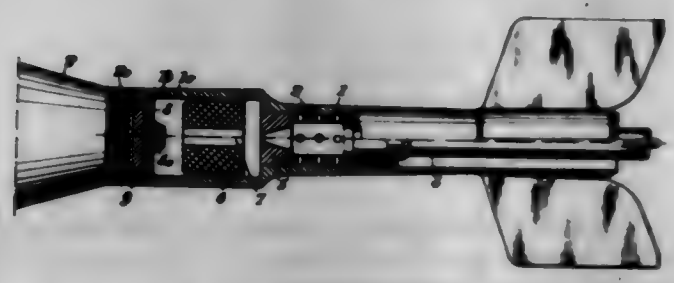
1. A small arms cartridge comprising a cartridge case of non-magnetic material, a projectile secured to said case, a plurality of propellant granules within said case, each of said granules having its entire exposed surface provided with a metal coating about .0006 inch thick of magnetic material sealing each of the granules separately against the ingress of moisture and against the egress of decomposition products, said coating enhancing the strength of all of the granules as a mass against fracture and breakage into smaller particles having a more rapid combustion rate, said granules being magnetically symmetrically arranged longitudinally within said case, whereby said round is more compactly loaded with propellant than would be possible were the granules asymmetrically arranged.

3,140,660

GRENADES COMPRISING A BOOSTER AND SIMILAR DEVICES TO BE LAUNCHED BY A FIREARM

Giulio Wyser, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a society of Switzerland

Filed Nov. 26, 1962, Ser. No. 239,880
Claims priority, application Luxembourg Dec. 7, 1961
3 Claims. (Cl. 102—65.2)



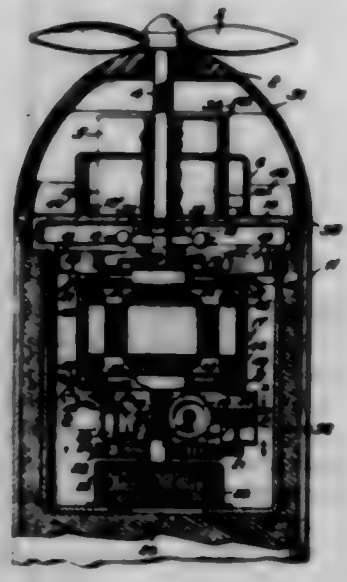
1. A projectile to be launched by a firearm intended normally to fire a normal ammunition, this projectile being intended to be launched by a blank ammunition fired by said firearm, this projectile comprising, in combination, a war head, a tubular casing coaxial with said war head permanently secured thereto at the rear thereof and adapted to fit on the front end of the barrel of said firearm, the front end of said casing forming a combustion chamber at the rear of said war head, an axial rearwardly directed nozzle secured to the rear end of said chamber to form the outlet thereof, said nozzle being constantly freely open, said nozzle having a throat of a diameter smaller than the caliber of said firearm, a charge of propelling powder in said chamber, and a circular shield capable of resisting the impact of a normal ammunition bullet permanently secured between said combustion chamber and said war head to form the front wall of said chamber, said chamber containing a central coaxial aperture for allowing said bullet to pass therethrough.

3,140,661

GENERATOR-POWERED FUZE

Allen S. Clarke, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 19, 1946, Ser. No. 710,919
4 Claims. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



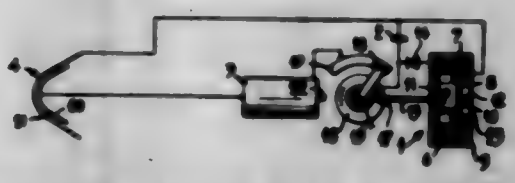
4. In an arming device for use in a projectile fuze having a firing train, the combination of an element normally interrupting the train, motive means, a gear train operated by said motive means to move said element to an armed position, and a firing switch operable by said gear train after the normal firing interval for self-destruction of said fuze.

3,140,662

GENERATORS FOR THE ELECTRICAL IGNITION OF A PROJECTILE

Samuel Zaugg, Soleure, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a corporation of Switzerland

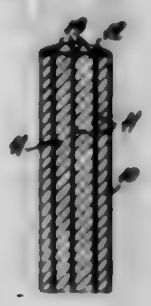
Filed Oct. 28, 1960, Ser. No. 65,813
Claims priority, application Switzerland Oct. 30, 1959
6 Claims. (Cl. 102—70.2)



3. A generator for the electric ignition of a projectile comprising, a magnetic circuit, a movable core in the form of a permanent magnet in said circuit, a coil surrounding said magnet, a casing surrounding said coil, said core adapted to be moved from a first position to a second position relatively to the remainder of said magnetic circuit for providing a variation of the magnetic flux passing through said coil and thus inducing a voltage in said coil, one terminal for said coil being electrically connected to said magnetic circuit, and means short-circuiting said coil when said core is in said first position and opening said short circuit through said coil when said core

passes into its second position, said means including a contact formed by a conducting finger connected to said core and engageable with a conductive part insulated relatively to said magnetic circuit for electrically connecting said part and said magnetic circuit when the core is in its first position, and for disconnecting said part from said magnetic circuit when said core is in its second position.

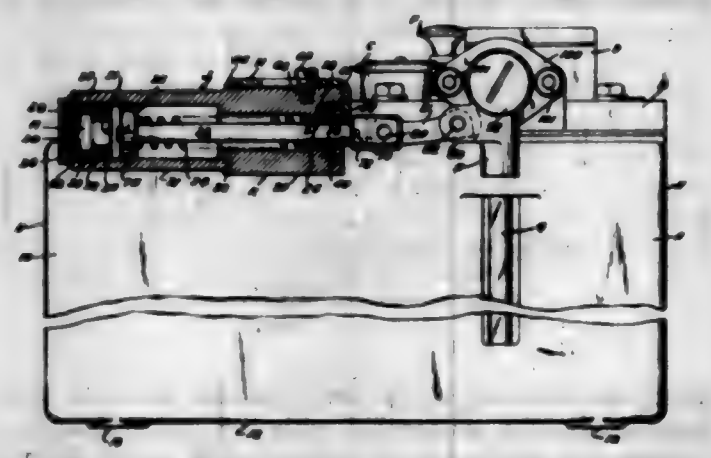
3,140,663
PROPELLENT GRAINS
Keith E. Rumbel, Falls Church, Va., Melvin Cohen, Washington, D.C., Robert G. Nugent, Alexandria, Va., and Arch C. Scurlock, Washington, D.C., assignors to Atlantic Research Corporation, Alexandria, Va., a corporation of Virginia
Filed June 9, 1955, Ser. No. 514,254
15 Claims. (Cl. 102—98)



1. A solid propellent grain, said grain comprising a self-oxidant, solid propellent matrix, the combustion of which generates propellent gases, and having at least one initial, exposed ignition surface, said matrix containing embedded therein a plurality of elongated metal heat conductors substantially spaced from each other in the plane transverse to the direction of flame propagation, said metal heat conductors being positioned substantially normal to the plane of said initial ignition surface of said grain and being continuously and longitudinally disposed in the direction of flame propagation of the grain, said conductors within the body of the grain having a length of at least about 0.2 inch and having a maximum thickness of about 0.05 inch in at least one transverse direction, the entire surface of said length of said metal conductors lying within the body of the propellent grain and being in intimate, gas-sealing contact with the propellent matrix, the burning surface of said grain, after ignition, regenerating progressively along each of said metal heat conductors and in so doing, forming a recess which is substantially V-shaped in at least one plane with each of said metal heat conductors at the apex of said recess, thereby forming a recessed surface of substantially larger surface area than that of a plane burning surface, said metal heat conductors being spaced sufficiently apart to permit said recessing of the burning surface, the metal heat conductors thereby serving to increase the mass burning rate, and, thereby, the mass rate of gas generation of said propellent grain.

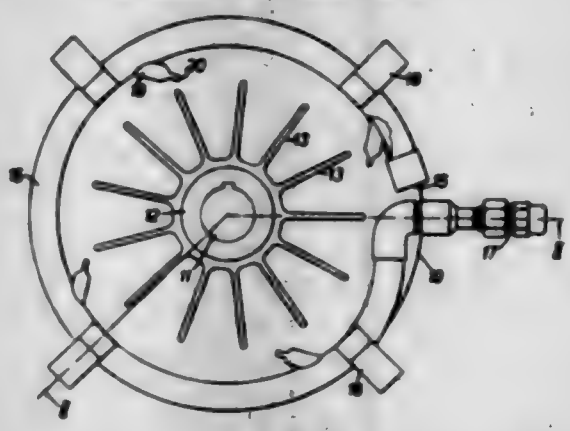
3,140,664
LUBRICATION
Thomas R. Thomas, New York, N.Y., assignor to Auto Research Corporation, Dover, Del., a corporation of Delaware
Filed Feb. 19, 1960, Ser. No. 9,945
5 Claims. (Cl. 103—47)

1. A hydraulically controlled central reciprocating spring returned piston pump for a centralized lubricating branched distributing piping system having a reduction gearing arrangement periodically to raise and release said piston against spring pressure and an adjustable stroke reciprocating hydraulic piston having a connecting rod, a lever, a drive linkage between said rod and lever, a shaft, a drive ratchet at one end of said shaft, said lever driving the ratchet, and a drive connection from the other end of said shaft to said gearing arrangement to actuate said gearing arrangement, said pump having a piston and a



connecting rod and a return coil spring encircling said connecting rod to return said piston.

3,140,665
METHOD OF AND MEANS FOR PRIMING A LIQUID PUMP
Anthony Dinwoodie Robson, Epping, England, assignor to The British Oxygen Limited, London, England, a British company
Filed Mar. 29, 1963, Ser. No. 268,874
Claims priority, application Great Britain Apr. 11, 1962
4 Claims. (Cl. 103—87)

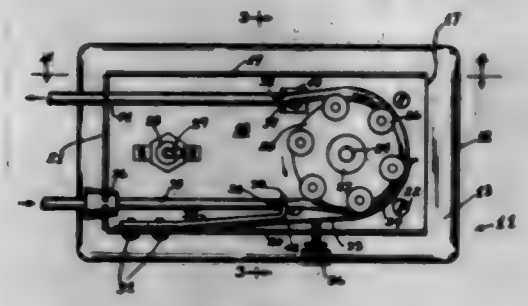


1. Means for priming a liquid pump of the rotary type, comprising an electric motor having a drive shaft coupled to said pump, a cooling fan mounted on said drive shaft adjacent to said motor, a common casing enclosing said motor and said fan, a tubular manifold concentric with and surrounding said fan, a plurality of nozzles surrounding and directed towards said fan and carried by and communicating with said tubular manifold, and means connecting said manifold to a supply of compressed gas feeding said nozzles, each said nozzle being arranged to direct a jet of the compressed gas against the blades of said fan so as to exert a force thereon in a direction to cause said fan to rotate.

3,140,666
PERISTALTIC PUMP
Lauchlin M. Currie, Washington, D.C., assignor to American Instrument Company, Inc., Silver Spring, Md.
Filed June 11, 1962, Ser. No. 201,520
10 Claims. (Cl. 103—149)

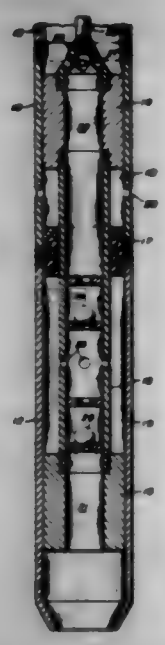
1. A peristaltic pump comprising a support, a spider member rotatably mounted on said support, a plurality of tube-squeezing cam elements on said spider member, said cam elements being spaced around a circle concentric with the axis of said spider member, a leaf spring secured at one end portion to said support and having its other end portion extending outwardly adjacent at least

one of the cam elements and being arranged to exert yieldable inward force thereagainst, means to rotate said spider member, and a flexible tube extending between the leaf



spring and said one of the cam elements, said leaf spring being resiliently cooperable with the cam elements to produce moving zones of compression along the tube responsive to rotation of said spider member.

3,148,667
SUBSURFACE PUMP
Robert L. Anderson and John M. Robrig, Huntington Beach, Calif., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 3, 1962, Ser. No. 241,836
3 Claims. (Cl. 103—189)



1. A subsurface pump comprising upper and lower barrels of similar cross section joined end to end, upper and lower plungers of similar cross section mounted for reciprocable movement in the respective barrels, a tube attached at opposite ends to said plungers, a packing assembly fixed within said barrels between said plungers and closely receiving said tube, said plungers and tube providing a passage extending the length thereof, spaced apart upper and lower valves mounted in said passage, and means for attaching a rod string to said upper plunger, said tube having a port located between said valves and leading to said lower barrel said packing assembly, whereby said upper plunger and upper valve are subject to the full weight of a fluid column in a well to maintain the rod string under tension.

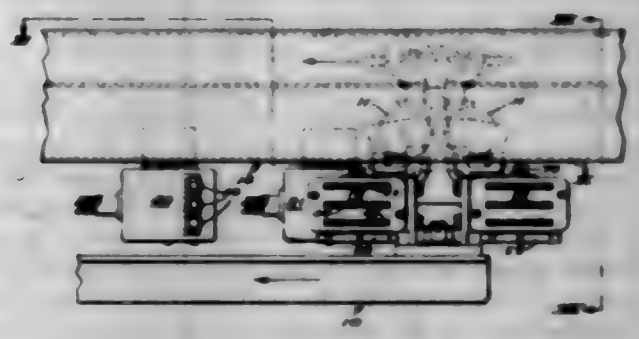
3,148,668
WELL TOOL
Hugh A. Breaux, P.O. Box 294, Lorenaville, La.
Filed Nov. 7, 1961, Ser. No. 150,722
9 Claims. (Cl. 103—221)

1. A well pump in combination with a fluid release assembly for draining a tubing, said combination comprising: a hollow chamber, a plunger slidably operable in said chamber, separate valve means in each of said plunger and said chamber operable upon relative movement of said chamber and plunger to permit fluid flow therethrough, fluid release means positioned below and secured to said plunger, said fluid release means extending radially within the radial extent of said chamber, and



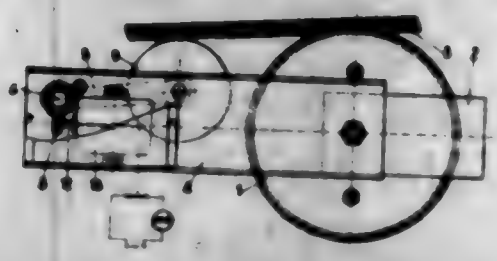
operable upon relative movement between said plunger and said chamber, said fluid release means comprising a slidable activator having a cam provided thereon and having a fluid passage extending transversely through the axis of movement of said activator valve means operable by said activator to provide fluid communication to drain a tubing.

3,148,669
CONVEYOR DISPATCH SYSTEM
Humphrey F. Parker, Buffalo, N.Y., assignor to Columbus McKinnon Corporation
Filed May 5, 1960, Ser. No. 27,132
8 Claims. (Cl. 104—88)



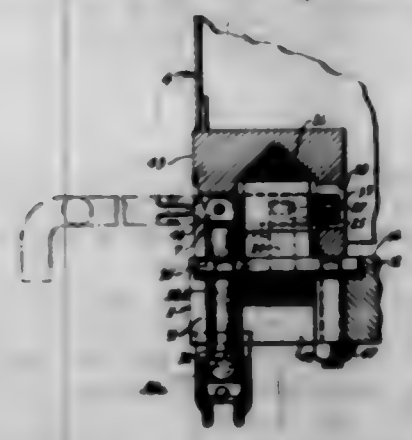
1. A conveyor system including a main line and a plurality of subsidiary lines interconnected therewith, there being certain of said subsidiary lines provided with a plurality of unloading stations, a plurality of trolleys movable from a common point on said main line for programming to any one of said subsidiary lines containing said unloading stations, first means carried by each of said trolleys for routing each trolley individually to its destined stated subsidiary line, and second means carried by each of said trolleys for routing each associated trolley to a predetermined one of said unloading stations, said first and second means comprising similar coding units, there being a plurality of readout mechanisms within said system for directing each trolley successively to its destined subsidiary line in response to actuation at said first coding unit, there being further readout mechanisms by each of said unloading stations responding to actuation by each of said second coding units.

3,140,670
AERIAL CABLEWAYS
Otto Rossinger, Wolfurt, Vorarlberg, Austria, assignor to Konrad Doppelmayr & Sohn, Maschinenfabrik, Wolfurt, Vorarlberg, Austria
Filed May 4, 1962, Ser. No. 192,399
Claims priority, application Austria May 5, 1961
6 Claims. (Cl. 104—178)



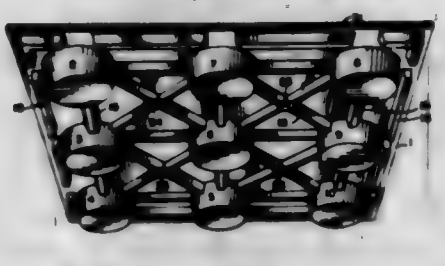
1. A cable control mechanism for ropeways and the like having a cable running over a cable guide roller and an electrical motor with an electrical circuit for driving said cable comprising a feeler contacting said cable when said cable moves normally in proper position over said cable guide roller, a support on which said feeler is mounted, an electrical switch in said circuit mounted on said support adjacent said cable guide roller, a member on said feeler to operate said electrical switch to stop said motor when said cable moves laterally on said cable guide roller beyond a predetermined distance, said feeler having a cable contacting portion smaller in width than said cable guide roller so that the stopping of said motor occurs before said cable is released from said guide roller.

3,140,671
CARGO TIE-DOWN APPARATUS
Edward Kozak and Alan R. Stevens, Cleveland, Ohio, assignors to National Castings Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 23, 1961, Ser. No. 146,731
7 Claims. (Cl. 105—366)



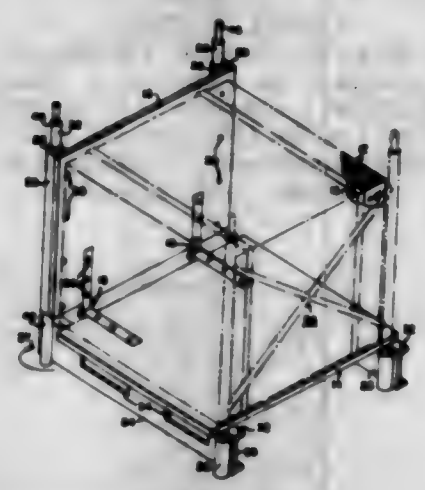
1. In combination: a lower corner member for a cargo container comprising walls defining an undersurface and a recess extending upwardly therefrom, and a pair of opposing walls having apertures disposed along a horizontal axis extending through said recess, one of said apertures extending downwardly as a slot in one of said walls to divide its lower extremity, the other aperture having a continuous periphery; an anchor member having a base and a stud projecting above the base adapted for extension into said recess with the base engaging said undersurface; the stud having a keyway extending therethrough along an axis and, when positioned in the container member, coinciding generally with said axis of the member; said keyway being eccentrically enlarged to define a radially offset region along an intermediate portion of its length, and a groove extending lengthwise of the keyway from said region to the terminus of the keyway at one side of the stud; the angular extent of the groove about the axis of the keyway being substantially less than that of said region; a key comprising a handle and a pin connected in end-to-end pivotal relation with respect to an axis perpendicular to the length of the pin; the pin having a laterally projecting lug traversable through said groove and when disposed with the lug in said region having its end portion protruding into said corner member aperture of continuous periphery; said key being movable to traverse the lug lengthwise of the keyway toward said one side of the stud to retract said protruding pin portion within the stud; said handle, with said lug positioned in said offset region, folding relatively to the pin into said slot and a recessed porton of said base.

3,140,672
MOLDED PALLET
Peter L. De Luca, Elgin, Ill., assignor to Hawley Products Company, St. Charles, Ill., a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,392
8 Claims. (Cl. 108—53)



1. A pallet comprising a unitary structure molded from a resin-impregnated, fiber composition and embodying a deck providing load-supporting surface, a plurality of spaced, hollow, legs depending from the opposite surface of said deck, a network of ribs projecting from said opposite surface and forming a network of corresponding channels in said load-supporting surface, said ribs extending between pairs of said hollow legs, at least some of said ribs crossing each other, and reverse indentations in the walls of said ribs at the intersections of the crossing ribs forming projections in said channels at said intersections and adding greatly to the strength of said pallet.

3,140,673
GLASS BUCK
James L. Williams, Kingsport, Tenn., assignor to American-Saint Gobain Corporation, Kingsport, Tenn., a corporation of Delaware
Filed May 14, 1963, Ser. No. 280,363
11 Claims. (Cl. 108—53)



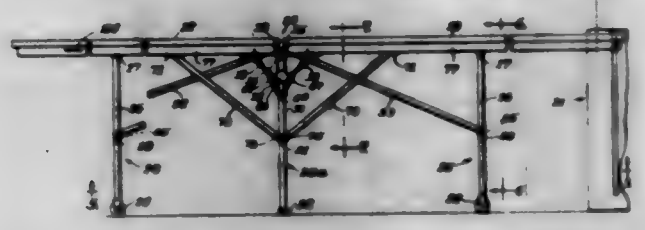
1. A foldable buck comprising:
(*a*) a rectangular shaped deck board;
(*b*) a rectangular shaped back board pivotally attached along one edge to one edge of said deck board so that said boards are pivotally adjustable in respect to one another and may be folded together, and
(*c*) frame members consisting of two L-shaped members, one leg of each said L-shaped members being

rotatably attached to said back board so that the other legs of said L-shaped members are disposed to rotate about said one leg in a common plane, said one legs of each said L-shaped members being disposed to support said back board vertically when said other legs are positioned to support said one legs vertically so that said deck board may be pivotally positioned horizontally above said common plane and said other legs are disposed to support said deck board when positioned thereunder.

3,140,674
FOLDING TABLE AND STORAGE POCKET CONSTRUCTION

Earl J. Cisler, Two Rivers, Wis., assignor to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin

Filed Feb. 16, 1962, Ser. No. 173,752
3 Claims. (Cl. 108—113)

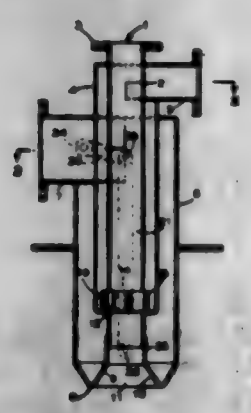


1. A folding table convertible between open and folded positions, comprising a pair of end leg supports and a center leg support, a pair of table top sections pivotally mounted on said end and center leg supports, said supports being operable to position said top sections in end-to-end horizontal relation when said table is in said open position and in substantially vertical and parallel relation when said table is in said folded position, a lock bar having one end pivotally connected to the underside of each of said table top sections between said center leg support and said end leg supports, a cross brace for said center leg support, each of said lock bars being pivotable longitudinally of said table toward said center leg support and having a length such that the unconnected end of each of said lock bars is operable to bear against said cross brace when said table is in said open position, and clip means mounted on said cross brace for releasably engaging and holding said lock bars.

3,140,675
FUEL BURNER

Jurgen F. J. Pohr-Westerheide, Oberhausen, Rhineland, Germany, assignor to Babcock & Wilcox, Limited, London, England, a company of Great Britain

Filed Jan. 25, 1961, Ser. No. 84,797
Claims priority, application Germany Feb. 11, 1960
1 Claim. (Cl. 110—28)



A fuel burner comprising an unobstructed fuel conduit having a fuel inlet at one end and an axially adjustable outwardly flaring fuel discharge nozzle at its opposite end and adapted to conduct granular fuel carried in a stream of air from its inlet to a position adjacent its discharge end in a generally straight path of travel therein parallel to the axis of the conduit, means for introducing a stream of combustion air into said conduit, while imparting a whirling motion to said combustion air to cause a substantial portion of the axially moving fuel stream to assume a whirling motion throughout the remainder of its path of travel through said conduit, said last named means including vanes disposed outside said conduit out of contact with the fuel flow through said conduit and extending along only a portion of the length of said conduit at a position adjacent its discharge end, means for discharging an annular stream of combustion air into the fuel stream as it discharges from said nozzle including casing cooperating with said nozzle to form an orifice, and means for adjusting said nozzle axially of said conduit to vary the size of said orifice.

3,140,676
REFRACTORY BRICK UNITS

Lorne R. Duncan, Lachute, Quebec, Canada, assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 18, 1963, Ser. No. 266,990
4 Claims. (Cl. 110—99)



1. In a refractory brick unit:
(A) a block of refractory material,
  (1) having at least one pair of opposed, substantially parallel side faces,
  (2) and having a pair of end faces, a first one being a cold face and the second one being a hot face, the hot face and cold face both being substantially perpendicular to the opposed parallel side faces;
(B) a channel-like member,
  (1) including a flat web portion and a pair of unidirectionally extending legs,
  (2) fabricated of an oxidizable metal,
  (3) being shorter than the opposed side faces,
  (4) being mounted substantially centrally through a first of the opposed side faces,
    (i) with its legs extending inwardly of the block but terminating short of the other opposed side face,
    (ii) with one of its ends terminating short of the cold face;
(C) a bendable L shaped member,
  (1) having a pair of straight arms which join each other at approximately a 90° angle encompassing an edge of the cold face,
  (2) fabricated of an oxidizable metal,
  (3) a first arm,
    (i) at least a portion of which is mounted along the first opposed side face,

(ii) only a portion of which is rigidly held in position by the end of the web of the channel-like member which terminates short of the cold face,

(4) the other arm extending from the first opposed side face substantially centrally across the cold face,

(i) but terminating short of the other opposed side face,

(ii) being narrower than the cold face,

(iii) being embedded in a depression in the cold face,

(iv) its outer face lying in substantially the same plane as the cold face,

(v) means formed therein for hanging the unit;

(D) at least one groove extending across the cold face,

(1) parallel to an edge of the L shaped member's arm which is embedded in the cold face,

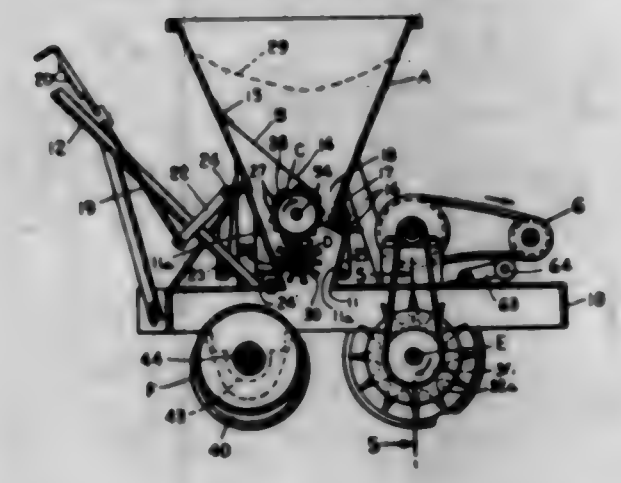
(i) exposing that edge.

3,168,677

COMBINATION TOP DRESSER, SPIKER AND PLANTER

Elbert E. Fraser, Travelers Rest, S.C.
(Box 761, Brevard, N.C.)

Filed Oct. 3, 1962, Ser. No. 228,198
1 Claim. (Cl. 111—8)



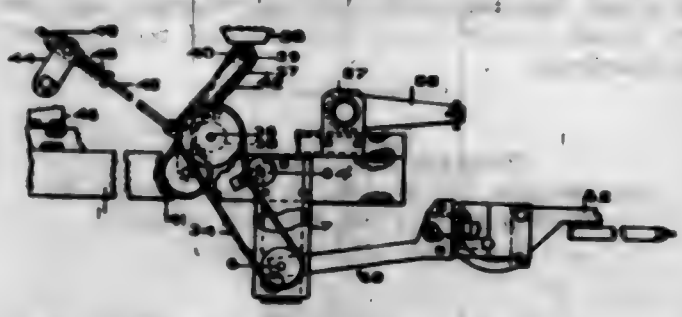
In a vehicle for planting grass stolons and for spreading top dressing material and the like upon the ground, the improvement including, a vertical hopper carried in an intermediate portion of the vehicle, said hopper having an opening in the lower portion thereof, a roll having circumferentially spaced protuberances carried within the hopper adjacent the lower portion thereof receiving top dressing material therefrom, a plate carried within the hopper, the upper end of said plate being pivoted with respect to the hopper, the lower end of said plate being engaged by the protuberances agitating the plate, a roll carrying a plurality of cristies carried within the hopper engaging the roll having protuberances so that the bristles receive top dressing material from the roll having protuberances and positively remove top dressing material therefrom, a transverse shaft carried by the vehicle forwardly of the hopper, wheels removably positioned upon such shaft, spaced spiking means carried by said shaft intermediate the wheels, spaced discs carried between spiking means limiting their penetration into the ground when said wheels are removed and for pressing grass stolons and the like into the ground prior to receiving the top dressing material, means driving said shaft and the roll having protuberances, means driving the roll carrying the bristles from the roll having protuberances at an increased speed relative to the speed of the roll having protuberances, transversely disposed roller means carried by the vehicle rearwardly of the hopper, whereby the vehicle is pulled forwardly by the spiking means when the wheels are removed and the top dressing material spread evenly upon the planted stolons.

3,168,678

COMBINED SEEDING, SOIL CULTIVATING AND WEEDING IMPLEMENT

George Henry Morris, 37 6th Ave. N., Yorkton, Saskatchewan, Canada

Filed Sept. 24, 1962, Ser. No. 225,451
4 Claims. (Cl. 111—67)



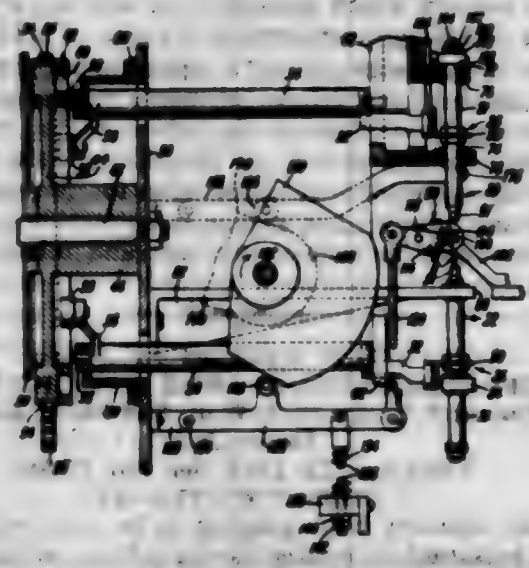
1. In a cultivating, seeding and weeding implement having a main frame and ground wheels supporting the frame and stub axle shafts rotatable in the frame and on which the ground wheels are fixed, a pair of seed boxes mounted on the frame, said boxes each having grain feeds and a feed run shaft, driving means for the feed run shafts comprising shafts mounted in the frame connected by chains and sprockets to be driven from the ground wheel stub axle shafts, swinging arms pivoted on the feed run shafts, sprockets mounted on the swinging arms connected by sprockets and chains in driving relation to the feed run shafts, and further sprockets on the shafts that are connected to be driven by the stub axle shafts, said further sprockets being engageable by the chains connecting the sprockets on the swinging arm and feed run shafts and disengageable therefrom by moving the swinging arms to and from said chains.

3,168,679

BUTTON STITCHING MACHINE

Mathias Pedersen, Valley Stream, N.Y., assignor to American Machine and Foundry Company, a corporation of New Jersey

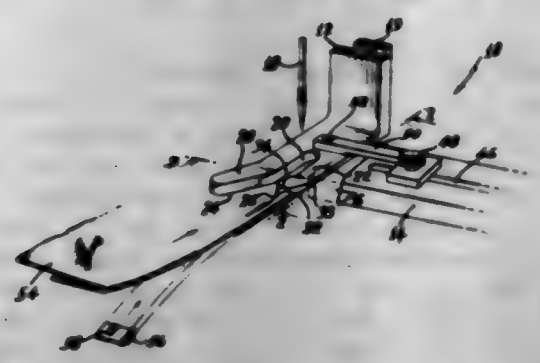
Filed Oct. 30, 1962, Ser. No. 234,068
14 Claims. (Cl. 112—110)



1. In a button stitching machine having a pair of opposed needle bars, means for alternately operating said needle bars to pass a double pointed needle back and forth from one needle bar to the other, a button chuck, means mounting said chuck for movement between a button receiving and releasing position and a button stitching position, and means mounting said needle bars in said machine in cooperative arrangement with said chuck with

a space therebetween sufficient to allow said chuck to move with a button through said space into said button stitching position relative to said needle from said button receiving and releasing position in timed relation with the movement of said needle bars, and mechanism operative when said chuck moves between said positions with an oversized button having a diameter greater than can be accommodated in said space between said needle bars for increasing said space between said needle bars, and means for maintaining said increased spaced relationship between said needle bars during each movement of said chuck between said positions, whereby said oversized button can be moved between said positions without obstruction.

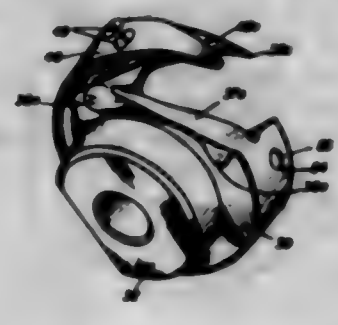
3,140,680
ZIPPER FOOT DEVICE
Abe Dreamer, 255 W. 23rd St., New York, N.Y.
Filed Jan. 17, 1964, Ser. No. 338,413
8 Claims. (Cl. 112—151)



1. In a zipper foot device for sewing a zipper and material together, the combination comprising a pair of substantially horizontal legs having a separation defined therebetween to accommodate a reciprocating sewing needle therein, one of said horizontal legs having a groove of uniform shape defined therein extending the length of said one leg along the lower corner which is remote from said separation, said groove having a lower edge along the bottom of said one horizontal leg in the same horizontal plane as the bottom of the other of the pair of horizontal legs and an upper edge along that side of said one horizontal leg which is most remote from said separation, the defining surface of said groove curving upwardly from said lower edge and extending into a curved portion which terminates at said upper edge, the surface of said groove forming a guide to press material against gripper elements of a zipper to be sewn thereto as the material and gripper elements are moved beneath the sewing needle during the operation of the sewing machine, limiting means on the side of said one horizontal leg adjacent said upper edge for movement relative to said groove, and means to releasably secure said limiting means to said zipper foot and relative to said groove.

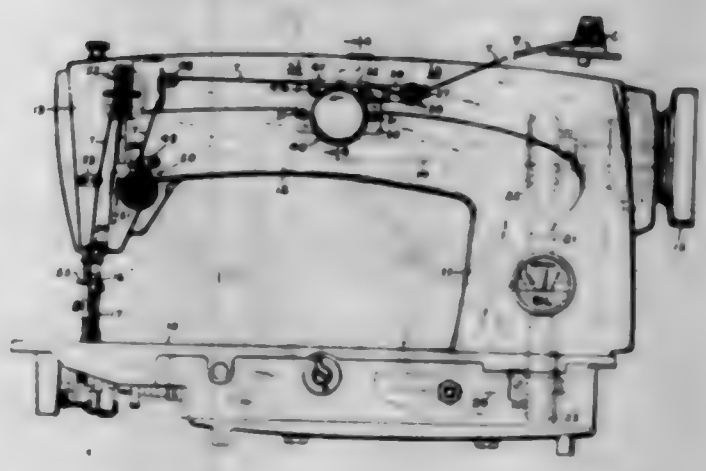
3,140,681
REPLACEABLE POINT FOR A LOOP-TAKER
Robert J. Corey, % J. Wall, Box 588A, Rte. 1, Dover, N.J.
Filed Jan. 18, 1961, Ser. No. 83,580
5 Claims. (Cl. 112—228)

1. An auxiliary hook adapted to be used with a single needle lockstitch looptaker having a base, an arcuate wall extending transversely from said base, said wall having ends defining a cut-away portion therein, one of said ends terminating in a main point, an integral boss disposed on the exterior of said wall and a first means disposed in said boss, said auxiliary hook comprising an arcuate substantially triangular body portion, a loopseizing point forming the apex of said body portion, a ridge extending transversely from said body portion for engagement with said boss, a flange extending from said ridge, said flange being parallel to said body portion and adapted to partially cover said boss, a second means disposed in said flange adapted to align with said first means, said



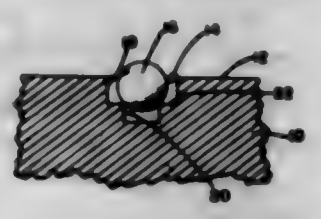
first and second means adapted to cooperate with a securing means to attach said auxiliary hook to said boss and detachably mount said loopseizing point over said main point.

3,140,682
THREAD CONTROL MECHANISM
Arthur N. Hale, Park Ridge, and John N. Covert, Lombard, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 29, 1961, Ser. No. 141,888
12 Claims. (Cl. 112—242)



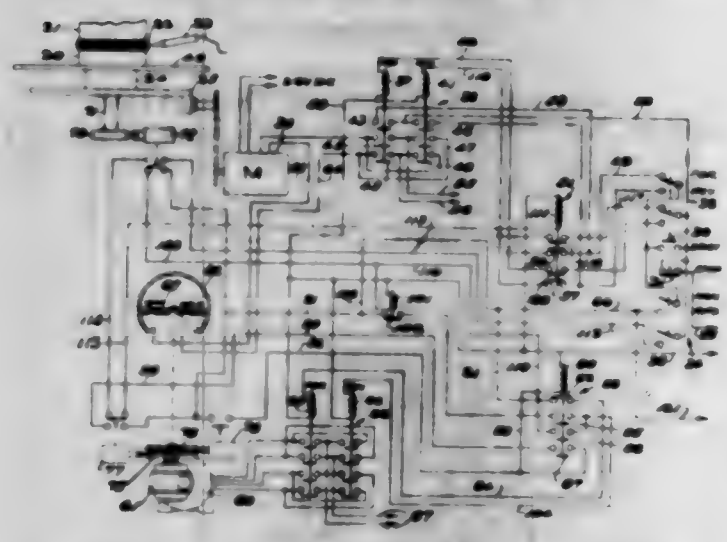
1. In a sewing machine having a rotary drive shaft, stitch forming means including at least one stitch forming element, and connections from the drive shaft for operating said stitch forming means, the combination which includes a source of thread supply, rotary thread pull-off means for pulling thread from said source of supply and delivering the same to said stitch forming element, said pull-off means having a straight cylindrical outer surface about which at least one turn of thread may be wrapped, thread tensioning means cooperating with said thread between said thread pull-off means and the point at which said thread is delivered to said stitch forming element, one-way driving connections from said drive shaft to said pull-off means for continuously rotating said pull-off means, said connections permitting free rotation of said pull-off means in the direction in which it is rotated by said driving connections independently of the operation of said driving connections but preventing reverse rotation of said pull-off means, means spaced in a direction parallel with the axis of said pull-off means for delivering thread to said pull-off means and for directing thread away therefrom to insure the wrapping of at least one complete turn of the thread about said pull-off means, whereby a capstan action in pulling the thread from said source of supply is provided and an accumulation of a small extra amount of thread about said pull-off means is produced when the thread supplied thereby exceeds the demand of said stitch forming element.

3,140,683
ALLOYING FIXTURE
Valentin Moll, Freiburg im Breisgau, Germany, assignor to Clevite Corporation, a corporation of Ohio
Filed July 5, 1961, Ser. No. 123,367
Claims priority, application Germany July 6, 1960
7 Claims. (Cl. 113—99)



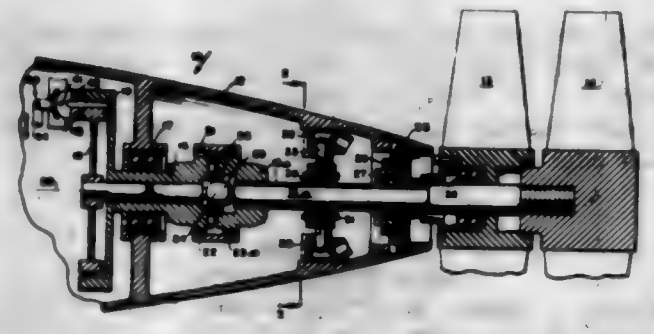
1. A fixture for alloying a pellet onto a semiconductor wafer including: a member having a surface adapted to support a wafer of semiconductor material; means defining in said surface a pellet receiving recess comprising coaxial segments of different cross-sectional dimension, one of said segments being cylindrical in configuration and having one end opening at said surface and its opposite end joining a second segment of smaller cross-section than said one segment and defining, by means of, and at, the junction therewith, a shoulder circumscribing, and having inner edges equispaced from, the longitudinal axis of said one segment, said shoulder having a diameter less than that of the pellet to retain and support the pellet during alloying thereof to the wafer.

3,140,684
SPEED-SLOPE CONTROL FOR WELDING APPARATUS
Charles N. Aronson, Arcade, N.Y., assignor to Aronson Machine Company, Inc., Arcade, N.Y.
Filed Feb. 25, 1963, Ser. No. 260,734
10 Claims. (Cl. 113—124)



1. Welding apparatus comprising a rotatable work holder, variable speed drive means for rotating the same, and automatic means for varying the speed of said drive means to vary the thickness of weld metal deposited circumferentially on a work piece rotating coaxially with said holder, said automatic means comprising a controller movable to vary the speed of said drive means, reversible power means for moving said controller in opposite directions, first means operative upon initial movement of said work holder for actuating said power means to move said controller in a direction to decrease the speed of said drive means, second means operable upon predetermined movement of said controller to stop said power means whereby said drive means continues operation at a constant speed, said first means being operative upon 360° of work holder rotation to actuate said power means in a reverse direction to move said controller in a speed-increasing direction, and means operative when said controller reaches initial position for again stopping said power means.

3,140,685
PROPELLER STABILIZED AND CONTROLLED TORPEDOES
Thomas G. Lang, San Gabriel, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 5, 1958, Ser. No. 772,146
4 Claims. (Cl. 114—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A torpedo having an elongated hull devoid of fixed yaw and pitch stabilizing fins, tandem contra-rotating torque balanced propellers disposed at its rear end, rotatable about its longitudinal axis, said propellers having a diameter at least substantially the maximum diameter of the hull and of sufficient area to solely effect stabilization of the torpedo in yaw and pitch, means for rotating the propellers, and means for steering the torpedo to move it in desired directions.

3,140,686
HULL OF SPECIAL STABILIZED SHAPE
Elia Olivetti, Via F.lli Bandiera 13, Treviso, Italy
Filed Apr. 10, 1961, Ser. No. 101,890
Claims priority, application Italy Apr. 11, 1960
1 Claim. (Cl. 114—56)

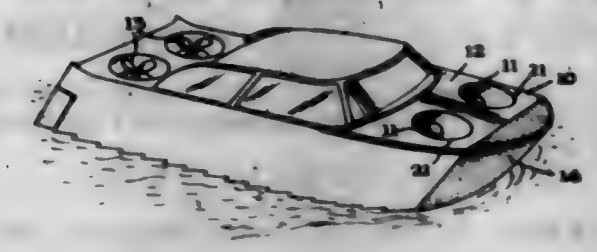


A boat hull comprising a hydro-dynamically shaped underwater body portion extending from stem to stern and having a sharp keel and curved sides extending outwardly of said keel, and an integral overwater portion having two hydro-dynamic side stabilizers extending from stem to stern on both sides of said underwater body portion, each of said stabilizers having a substantially flat and substantially horizontal undersurface located above the waterline and extending outwardly from one of said curved sides, and a substantially vertical side extending above said undersurface and a convex surface joining said undersurface with said side, whereby in water said underwater portion has a cleaving effect while said overwater portion has a planing effect.

3,140,687
WATER TRAVERSING AIR CUSHION VEHICLE
Melville W. Beardsley, Severna Park, Md., assignor, by mesne assignments, to National Research Associates, Inc., Laurel, Md., a corporation of Maryland
Filed Feb. 28, 1961, Ser. No. 99,006
11 Claims. (Cl. 114—67)

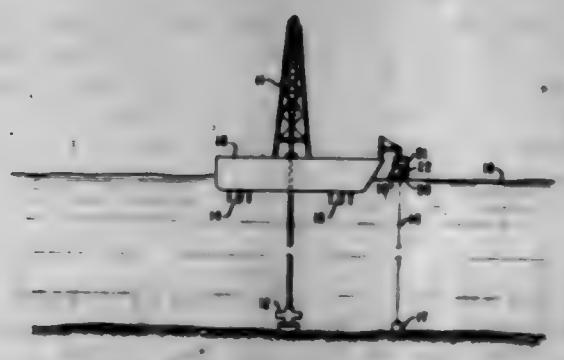
1. An air cushion vehicle for travel primarily over water comprising a hull having a horizontal bottom, longitudinal vertical wall members extending downwardly from the sides and below the horizontal bottom of said hull, a

first means for blowing air under the generally forward part of said hull, a second means for blowing air under the generally rear part of said hull, an inflatable lateral member extending downwardly below the horizontal bot-



tom of said hull and between said longitudinal wall members, and substantially downwardly opening exhaust means in said inflatable member for controlling the air pressure therein thereby controlling the height of the lower edge of said lateral member.

3,140,688
SHIP POSITIONING
Howard L. Shatto, Jr., Palos Verdes, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 5, 1963, Ser. No. 271,820
7 Claims. (Cl. 114—144)



1. A system for automatically positioning a floating vessel over a desired position comprising:

a plurality of multiple-blade vertical-axis propulsion means disposed on said vessel to propel said vessel, said propulsion means in addition being spaced from the center of rotation of the vessel, and having a steering shaft for controlling the magnitude and direction of thrust supplied by each propulsion unit;

a first sensing and controlling means disposed on the vessel for determining the displacement of the vessel from the desired position in two directions, said directions being aligned with the longitudinal and athwartship axes of the vessel;

a second sensing and controlling means disposed on said vessel for determining the difference between the actual heading of the vessel and the desired heading;

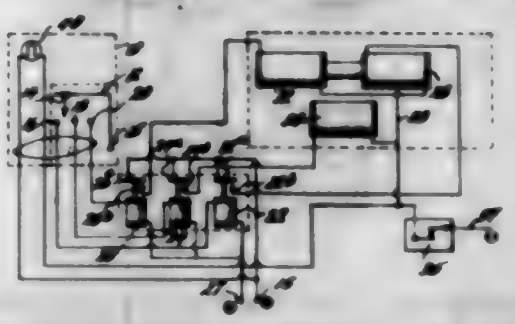
first actuator means coupled to each of said steering shafts to move said steering shafts along a first axis;

second actuator means coupled to each of said steering shafts to move said steering shafts along a second axis at an angle to said first axis;

said first sensing and controlling means being coupled to said first and second actuator means to position said first and second actuator means in response to the displacement of the vessel along the longitudinal and athwartship axes; and

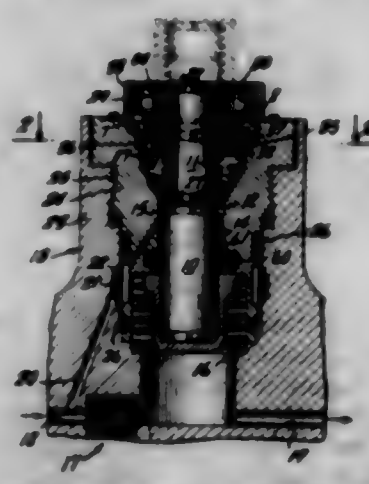
said second sensing and controlling means being coupled to one of said actuator means to position said one actuator means in response to the said measured difference between the desired and actual heading of the vessel to give a rotational vector at right angles to a line between the center of rotation of the vessel and the propulsion means.

3,140,689
REMOTE CONTROL SYSTEM FOR OUTBOARD MOTORS
John E. Minor, 1406 2nd Ave. N., Clear Lake, Iowa
Filed June 26, 1961, Ser. No. 119,723
5 Claims. (Cl. 115—17)



1. A remote control system for shifting gears in an outboard motor having a forward-neutral-reverse gear shift lever thereon comprising a link connected to said gear shift lever, three solenoids inductively connected to said link for selectively positioning said link in the three positions corresponding to the forward-neutral-reverse positions of said gear shift lever, power source means connected in circuit with said solenoids and three position switch means in circuit with said solenoids for selectively connecting a corresponding one said solenoids to said power source means for each of the three positions wherein said solenoids include a pair of axially aligned solenoids with a common reciprocably mounted core positionable in a single one of said pair of solenoids and wherein said core is reciprocated to a position intermediate the two solenoids so that either of said pair of solenoids may inductively position the core by the selective energization of the third said solenoid, and means connecting the third solenoid to an intermediate neutral position of said switch means.

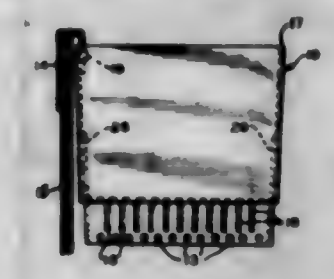
3,140,690
MAGNETIC PRESSURE INDICATOR
Mathias P. L. Siebel, Roslyn Heights, Long Island, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Dec. 4, 1963, Ser. No. 327,935
12 Claims. (Cl. 116—70)



1. A pressure indicating device comprising a housing, first magnetic means movable towards and away from a first position, first bias means urging the first magnetic means towards and normally retaining the first magnetic means in the first position, fluid duct means communicating with a source of fluid under pressure and with one end of the magnetic means to urge it away from the first position, second magnetic means movable towards and away from the first magnetic means between first and second positions, respectively, and normally retained towards the first magnetic means by magnetic attraction when the first magnetic means is in the first position,

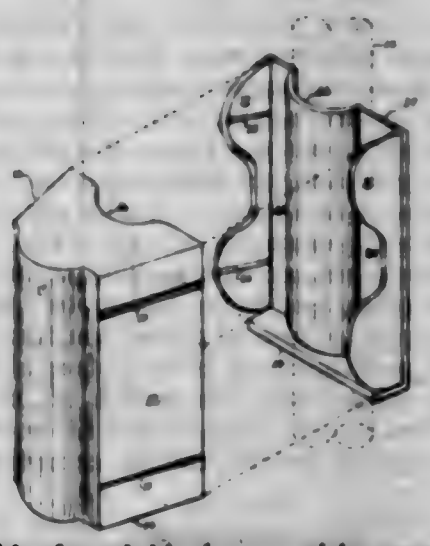
second bias means urging the second magnetic means away from the first magnetic means selected to overcome the forces of magnetic attraction when the first magnetic means is more than a predetermined distance away from the second magnetic means, and third magnetic means retaining the second magnetic means at one of its said positions.

3,140,691
FISH BREEDER TRAP
Ludwig Stark, Springfield, N.J., assignor to Springfield Tool & Die Co., Inc., Springfield, N.J., a corporation of New Jersey
Filed Aug. 21, 1963, Ser. No. 303,494
4 Claims. (Cl. 119—5)



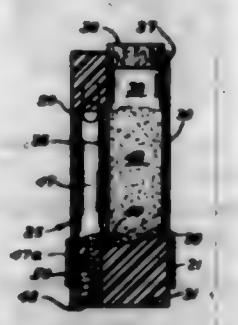
1. A multi purpose fish breeder comprising a casing having an open top, said casing having a bottom wall formed with a plurality of apertures therein, support means on the casing sides, a trough member adapted to be removably positioned in the casing on said support means in spaced relation to the bottom wall of the casing, said trough being of V-form transversely of its length, an aperture formed at the bottom of the trough, said tank having shouldered means formed therein adjacent the bottom thereof and a bottom closure tray adapted to be removably positioned on the shouldered means of the tank wall to thereby close the bottom of the casing.

3,140,692
SALT BLOCK HOLDER
Frank Howe Beyea, Union Springs, N.Y.
Filed Oct. 30, 1961, Ser. No. 148,458
2 Claims. (Cl. 119—51)



1. A holder for salt blocks comprising supporting means for a salt block, backing means to vertically position said salt block, retaining means to hold said block against said supporting and backing means, and fastening means to position said holder against a desired object, said supporting means comprising a narrow ledgelike portion extending horizontally from said backing means at the bottom thereof, said backing means having a semicircular portion extending vertically through the central portion thereof, said portion shaped to fit against a cylindrical object, said retaining means consisting of tapered sides provided with cut outs to expose a maximum amount of salt, said sides having protuberances mounted on the inside portions thereof, said protuberances extending in a substantial horizontal direction to eliminate vertical movement of said salt block, said fastening means being integral with said body and backing means, said fastening means inside surface being of a semicircular configuration, and of such dimensions as to be rendered flexible; said supporting means, backing means, retaining means and fastening means comprised of a semirigid plastic material, said retaining means of sufficient thickness as to be rendered flexible.

3,140,693
AUTOMATIC FEEDING DEVICE FOR AQUARIUM
Lawrence L. Kemmer, 3542 Newton Ave. N., Minneapolis, Minn.
Filed June 14, 1963, Ser. No. 288,027
2 Claims. (Cl. 119—51)

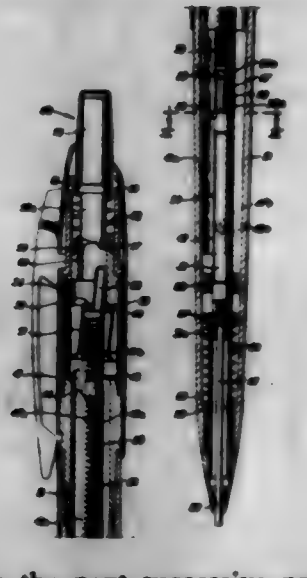


1. A feeding device for fish in connection with an aquarium having in combination,
a single body member comprising a storage chamber and a metering chamber,
said storage chamber having its bottom wall inclined downwardly from about its periphery to a given low point adjacent said metering chamber,
a passage between said chambers at said low point,
said metering chamber being disposed below the level of said passage with said body member in upright position,
a plug member adjustably secured within said metering chamber below the level of said passage adjusting the capacity of said metering chamber,
a discharge passage forming a continuation of said metering chamber extending axially thereof for some distance and having a terminal portion angling outwardly to the atmosphere in a direction opposite to the normal direction of rotation of said body member, and
rotating means supporting said body member and rotating the same about an axis parallel to the direction of said first mentioned passage and in a direction opposite that of the direction of said angled portion of said discharge passage.

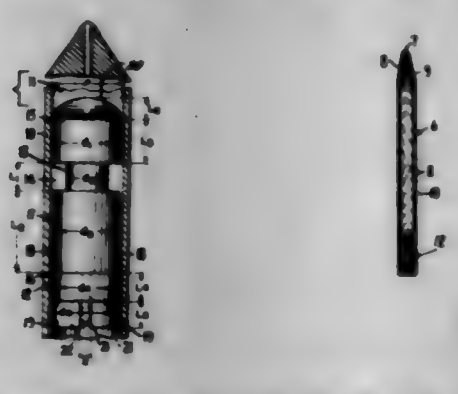
3,140,694
REFILLABLE AND RETRACTABLE LEAD PENCIL
Muriel F. Reed, Los Angeles, Calif., assignor to Paper Mate Manufacturing Co., Santa Monica, Calif., a corporation of Delaware
Filed Apr. 10, 1961, Ser. No. 101,956
12 Claims. (Cl. 120—14.9)

11. A refillable pencil having lead adapted to be projected into and out of writing position, comprising: an elongated hollow barrel having a forward opening for receiving a stick of lead, a lead carrier member slidably carried in said barrel and adapted to carry a stick of lead on its forward end, selectively operable, project-retract mechanism carried on said barrel and cooperating with latching means for moving said lead carrier axially in said barrel and for projecting and retracting the stick of lead through said barrel opening, and separate lead wear

compensating means including a spring for automatically moving said lead carrier and stick of lead forwardly after the lead has been retracted through said barrel opening to place the end of the lead into the entrance of the barrel opening before the next successive projection of the lead, said barrel opening having a diameter such that the lead is prevented from passing therethrough under pressure from only said spring.

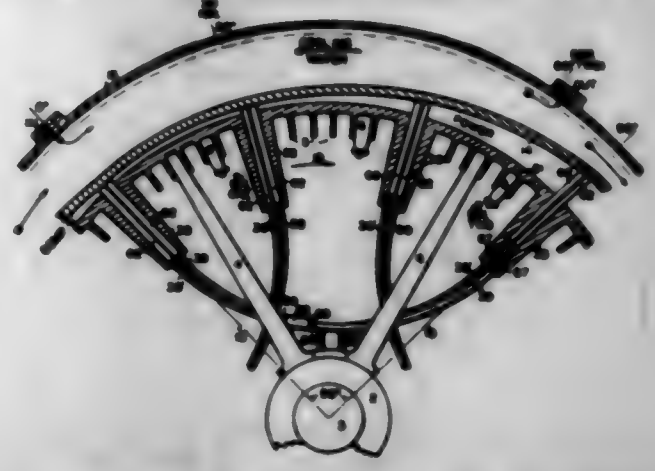


3,140,695
RESERVOIR SEAL FOR WRITING INSTRUMENT
Hans Reinhard Fehling, Zug, Switzerland, and Edward Henry Harvey, London, England, assignors to I. R. C. Limited, London, England, a company of Great Britain
Filed July 28, 1961, Ser. No. 125,552
Claims priority, application Great Britain July 30, 1960
9 Claims. (Cl. 120—42.4)



1. The combination of a tubular liquid reservoir and a sealing member comprising two piston elements each having a peripheral surface which forms a close sliding fit in the tubular reservoir to provide an annular clearance of capillary dimensions with the reservoir wall and which terminates in a relatively sharp corner at the end adjacent to the other piston element, means spaced from the reservoir wall at a substantially greater distance than the piston elements and joining the two piston elements to hold them in spaced relation, a body of liquid contained in the reservoir extending into the annular clearance surrounding a first of the two piston elements, a second body of liquid separated from the reservoir liquid extending into the annular clearance surrounding the second of the two piston elements, a body of gas trapped in the space between the two piston elements completely separating the two bodies of liquid, one of the piston elements including an expansion duct portion adjacent to the space between the two elements, the expansion duct portion including expansion duct means forming a liquid-sealed duct of capillary dimensions communicating directly with the space between the piston elements, the means forming the duct being spaced from the reservoir wall throughout its length by a distance greater than said annular clearance between the piston elements and the reservoir wall, thereby permitting expansion or contraction of the trapped body of gas while maintaining an annulus of liquid in the space surrounding each piston element.

3,140,696
ROTARY INTERNAL COMBUSTION MOTOR
Joseph F. Rhodes, Los Angeles, Calif.; Baldo M. Kristovich, administrator of said Joseph F. Rhodes, deceased
Filed Mar. 13, 1959, Ser. No. 799,356
15 Claims. (Cl. 123—16)

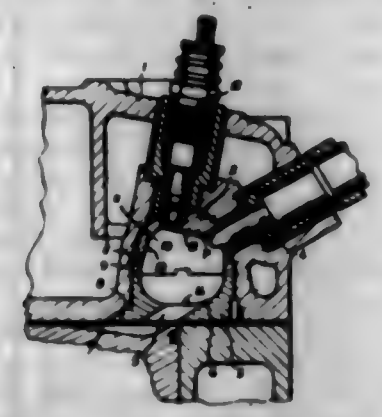


5. A rotary internal combustion motor comprising an inner rotor having twelve slots, a pair of reciprocable vanes in each slot, a stationary cam surrounding said rotor and radially beyond said vanes, sides attached to said rotor bearing upon the sides af said cam, said vanes bearing upon the inner surface of said cam, said cam constructed of four pieces, two of said pieces having identical changes in radius and two of said pieces having a common constant radius, the recited pieces alternated in position to give two circumferential pieces of changing radius spaced by two pieces of fixed radius, said pieces of fixed radius being approximately one-fourth as long circumferenitally as the other said pieces, the change in radius of said pieces being such that the sum of any two radial distances taken at radii ninety degrees apart is a constant, curved flexible connectors connecting each said vane to another vane at ninety degrees away, hollow tubes to contain said flexible connectors in a curvilinear path, means to adjust the length of said hollow tubes to provide a gas tight fit of the pairs of connected vanes to said inner cam surface, an oil reservoir adjacent to said hollow tubes at the minimum radius thereof near the center of rotation of said rotor, an opening in each said hollow tube into said reservoir, oil grooves in said vanes, metallic packing at the inner and the outer extremity of each said vane, said reservoir, hollow tubes, metallic packing and oil grooves constituting an oiling system for said motor, the flow of oil in which occurs because of centrifugal force, and exhaust and inlet ports upon the inner surface of said cam, each said port substantially one-twelfth of the full circumference in extent and having oblique ribs to retain said vanes in appropriate radial position according to the shape of said cam.

3,140,697
COMPRESSION IGNITION ENGINES
Lucien Pérus, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed May 21, 1963, Ser. No. 282,095
Claims priority, application France Dec. 28, 1959
4 Claims. (Cl. 123—32)

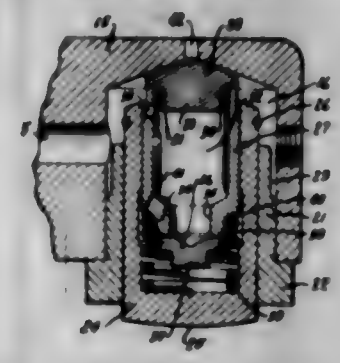
1. A compression-ignition engine comprising a cylinder, a cylinder head, a pre-combustion chamber mounted in the cylinder head and including separate upper and lower portions, said upper portion being spaced from the

cylinder head so as to be heat insulated therefrom by air in the space whereby the upper portion in operation provides a hot vault, said upper portion having a substantially flat inner surface, a fuel injector arranged to direct fuel jets against the inner face of said vault at a small angle of incidence with respect thereto, and an air



transfer passage between said cylinder and said chamber, said air transfer passage opening into said chamber substantially tangentially with respect to a wall thereof and in such a direction that the air delivered to said chamber through said transfer passage during operation passes over said fuel injector before contacting said inner face.

3,140,698
HYDRAULIC TAPPET UNIT INVERTED
Carl Veorhies, 917 S. Knight, Park Ridge, Ill.
Filed Apr. 13, 1962, Ser. No. 187,366
5 Claims. (Cl. 123—90)



1. A hydraulic lash adjuster unit, said unit comprising a guide insertable in a closed-end cavity of a movable element of a valve actuating linkage, a cylinder mounted therein for reciprocation, means preventing separation of said cylinder from said guide, a hollow piston mounted within said cylinder for reciprocation, an opening in one end of said piston, the opposite end of said piston being closed by a member shaped with a rounded exterior surface portion disposed to engage the closed end of said cavity when the unit is inserted therein, said piston being perforated in its wall, there being clearance between said piston and the adjacent wall of said cylinder adapted to establish a passage to the interior of said piston.

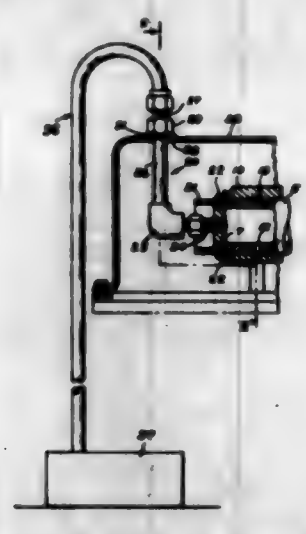
3,140,699
METHOD FOR REMOVING SEDIMENT FROM ROCKER ARM SHAFTS IN GASOLINE ENGINES AND A DEVICE FOR FACILITATING THE SAME
Jerry V. Rasmussen, 1695 43rd Ave.,
San Francisco, Calif.
Filed Feb. 10, 1964, Ser. No. 343,860
6 Claims. (Cl. 123—90)

1. A method of cleaning a closed tubular rocker arm shaft in an engine having an oil pump and an oil passage from said pump to said shaft, said method comprising the following steps:

opening one end of the shaft;

replacing engine oil with a new oil;

starting the engine and raising the oil pressure to approximately 30 pounds;

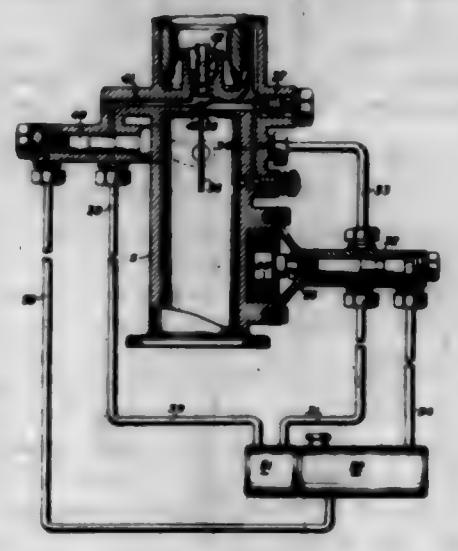


holding said pressure for a few minutes for discharging through said open end about a pint of oil and thereby washing sediments out of said shaft and passage;

stopping the engine; and

closing the open end of the shaft.

3,140,700
PROCESS AND APPARATUS FOR LUBRICATING INTERNAL COMBUSTION ENGINES
Friedrich K. H. Nallinger, Stuttgart, Germany, assignor to Auto Union G.m.b.H., Ingolstadt (Danube), Germany
Filed Apr. 27, 1961, Ser. No. 106,083
Claims priority, application Germany Apr. 29, 1960
8 Claims. (Cl. 123—119)

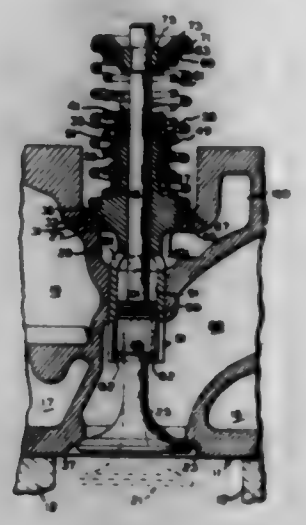


1. In an internal combustion engine having fuel supplying means, a fuel charging passage and means supplying oil to the engine through said fuel charging passage, said fuel supplying means comprising a throttle valve having a shaft, and means connected with said shaft and said oil supplying means for regulating the amount of the supplied oil depending upon the positions of said shaft, said engine further comprising a speed regulating device connected with said oil supplying device for additionally regulating the supply of oil.

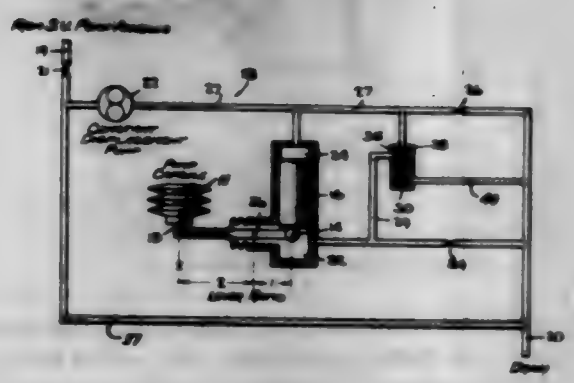
3,140,701
FUEL REGULATING INTAKE VALVE
Carlton K. Cooper and Thomas E. Speight, Gallup, N. Mex., assignors to El Paso Natural Gas Products Company, a corporation of Texas
Filed Jan. 22, 1963, Ser. No. 253,109
7 Claims. (Cl. 123—120)

1. An improved intake valve-gas metering valve unit for gas engines of the piston operated internal combus-

tion type which comprises, in combination, an intake valve having an integral valve stem, a metering piston containing a sealing ring groove secured to said stem at a position displaced from said valve, a gas sealing ring in said groove, means for adjusting the position of said piston on said stem, and a gas port element surrounding said piston and ring and having a critically positioned metering port edge adapted to cooperate with said piston for precise and accurate metering of fuel gas to the vicinity of said intake valve.



3,140,702
VOLUMETRIC EFFICIENCY CONTROL FOR FUEL INJECTION SYSTEMS
Bernard Fishman, New York, and Norvan W. Bostwick, Montrose, N.Y., assignors to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed Apr. 16, 1963, Ser. No. 273,507
5 Claims. (Cl. 123—140)



1. A volumetric efficiency control device adapted to provide a partial control over the output of a pneumatically controlled fuel injection jump in an internal combustion engine, wherein the pneumatic control includes a pressure responsive element responsive to energize manifold pressure for controlling the fuel pump, comprising:

a pivotally mounted lever having its first end in contact with said pneumatic control device whereby variations in the position of said first end of said lever will cause said pneumatic control device to vary the output of said pump,

a piston in contact with said second end of said lever and mounted in a casing thereby dividing said casing into a first chamber and a second chamber, said second end of said lever being in said second chamber of said casing, whereby variations in the axial position of said piston will cause said lever to rotate about its pivot point and thereby vary the position of said first end of said lever,

a substantially constant pressure source of fluid,

a secondary pump having its input connected to said source of fluid, said secondary pump being run off said engine so that the rate of said fluid pumped by said pump is a function of engine speed,

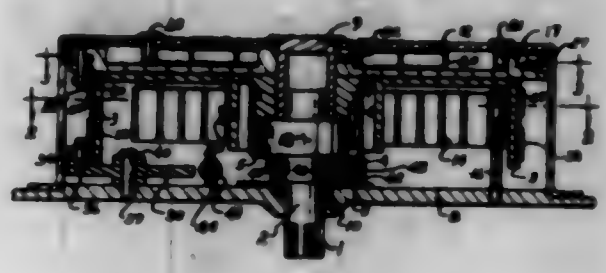
a main fluid pressure line connected to the output of said pump,

a first subsidiary fluid line connecting said first chamber of said casing to said main fluid pressure line downstream from the output of said pump,

a second subsidiary fluid line connecting said second chamber of said casing to said main fluid pressure line downstream of the main fluid line connection to said first subsidiary fluid line, and

a normally closed relief valve in said second subsidiary line, said relief valve opening at a pre-determined pressure to admit fluid from said main line to said second chamber when main line pressure is above said pre-determined value.

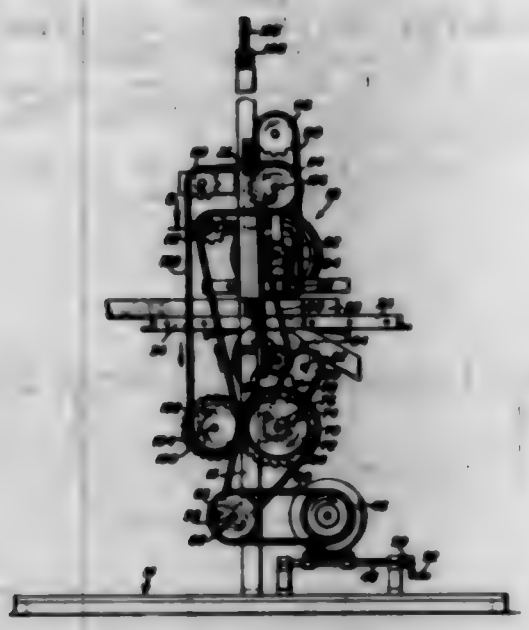
3,140,703
CAM ENERGIZED ENGINE STARTER
William H. Burr, 51 Liberty Pole Road, Hingham, Mass.
Filed Oct. 18, 1960, Ser. No. 63,449
6 Claims. (Cl. 123—179)



1. A releasable device for turning a rotatable body comprising a starting spring, a rotatable cylinder, a fixed base plate, means fixing one end of said starting spring to said rotatable cylinder, means fixing the other end of said starting spring to said base plate, a first unidirectional coupling means, a second unidirectional coupling means, said first and second unidirectional coupling means acting on said rotatable cylinder each comprising a spring tightly wound to sieze said rotatable cylinder when said rotatable cylinder tends to rotate in a first direction relative to either unidirectional coupling means, and releasing means acting on said first and second unidirectional coupling means for releasing their hold on said rotatable cylinder for permitting said rotatable cylinder to rotate in said first direction.

3,140,704
MASONRY VENEER FABRICATOR
Elmer F. Mangis, Frankfort, Ind., assignor to E & R Mfg. Co., Inc., Kirklin, Ind., a corporation of Indiana
Filed May 15, 1963, Ser. No. 280,579
11 Claims. (Cl. 125—33)

1. In a device for producing a pitched face on a masonry unit moving therethrough, a support, upper and lower means on said support for firmly engaging the upper and lower surfaces of the unit at vertically aligned points, and vertically spaced and aligned cutter knives mounted for continuous simultaneous reciprocal movement toward and away from each other in a manner so as to periodically engage the upper and lower surfaces of the unit adjacent one edge face thereof and effect a systematic pitching of this edge face, said cutter knives being located



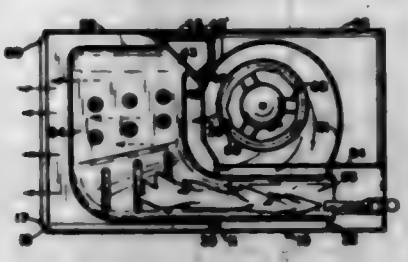
laterally to one side of said upper and lower means and in lateral alignment with the points of engagement of these means with the upper and lower surfaces of the unit.

3,140,705
PORTABLE HOT AIR HEATER
Hal Smith Dry, P.O. Box 427, Winters, Tex.
Filed Jan. 17, 1963, Ser. No. 252,188
2 Claims. (Cl. 126—93)



1. A portable heater comprising a platform, an upright outer shell having a back wall and opposed side walls extending about three sides of said platform, a cap member extending over the upper ends of said back wall and said side walls, a vertically disposed openable and closeable door hingedly connected along the upper end thereof to the edge of said cap member opposite to said back wall, an inner shell having spaced side walls and a back wall rising from said platform in spaced relation with respect to said outer shell, the portion of said platform bounded by said inner shell side walls, said inner back wall, and said door being adapted to support a container of fuel, there being openings in said outer shell back wall and said outer shell side walls for egress of heated air, said platform being provided with holes opening into the space between said inner shell side walls and said inner shell back wall for ingress of combustion air, the portion of said platform between said inner shell wall and said outer shell walls being provided with openings for the ingress of air to be heated, said inner shell providing a closed conduit for air with said outer shell between the openings in said platform and the openings in said outer shell, said door being provided with upper and lower louvered sections, and means within said outer shell for deflecting combustion products away from said cap member, said inner shell providing with said door a vertical unobstructed conduit for heat between said louvered sections and between said platform and said deflecting means.

3,140,706
AIR HEATING APPARATUS
Leo Block, Monterey Park, and John H. Hollingsworth, Fullerton, Calif., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 11, 1960, Ser. No. 41,982
2 Claims. (Cl. 126—110)

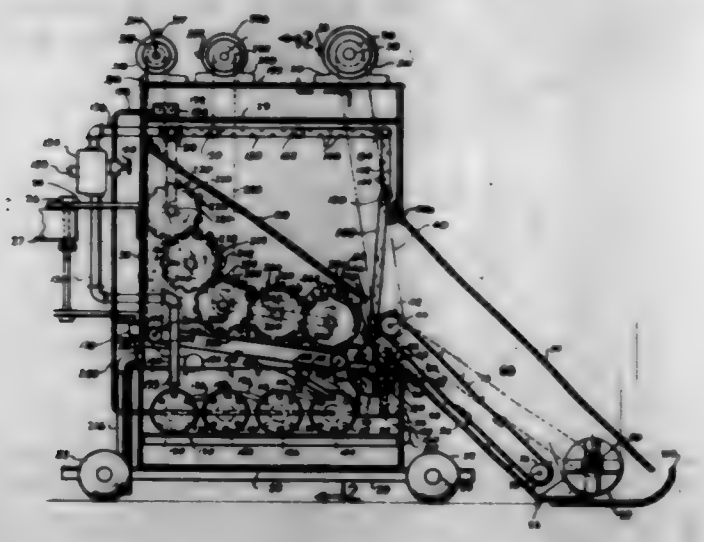


2. Air heating apparatus comprising casing means forming an enclosure having an inlet and an outlet; heat transfer members arranged in spaced relation to one another and to said casing in said enclosure, said heat transfer members having a first substantially horizontal section, the horizontal length of which is relatively large compared to its height and a second substantially vertical section, the horizontal length of which is relatively small compared to its height; burner means for supplying an ignited fuel-air mixture to the horizontal section of each of said heat transfer members, said heat transfer members forming a path for the flow of said ignited fuel mixture having a first horizontal portion, the horizontal length of which first portion is relatively large compared to the height and width thereof and a second vertical portion the height of which second portion is relatively large relative to horizontal length while the width remains substantially constant with the width of said first portion, the horizontal length of said second portion being greater than the width thereof; plate means disposed within said enclosure supporting one end of the horizontal sections of the heat transfer members in spaced relation to said casing means, said plate means having openings therein providing inlets for said members; partition means including a substantially vertical section and a substantially horizontal section, said vertical section supporting the other end of said heat transfer members and providing outlets for said heat transfer members, said partition means forming with said casing means and said plate means a compartment within said enclosure accommodating said heat transfer members, said partition means defining an opening having a vertical portion and a horizontal portion; a fan assembly including a fan member and a partial scroll supported on said partition means and discharging through the opening in said partition means so that air discharged from the fan is initially directed downwardly over the first subetantially horizontal sections of the heat transfer members and forwardly over the second substantially vertical sections of the heat transfer members utilizing the space defined by the casing, plate and partition means for diffusion to the outlet of said casing.

3,140,707
SNOW DISPOSAL APPARATUS
Anthony F. Spinelli, 21 Sheridan Drive, Milton, Mass.
Filed Apr. 13, 1961, Ser. No. 102,714
1 Claim. (Cl. 126—343.5)

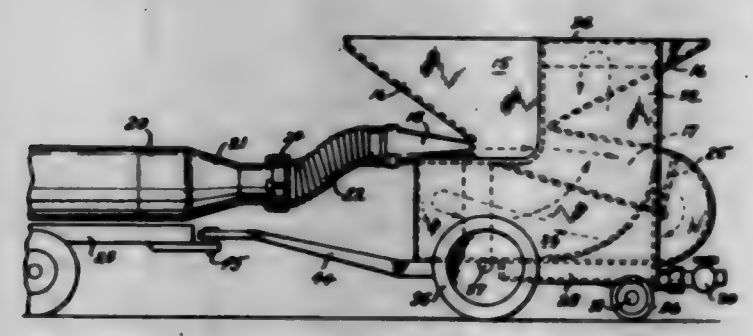
Snow melting apparatus comprising a tank adapted to receive snow delivered at a point adjacent the front wall thereof, an inclined stationary screen in said tank extend-

ing upwardly from said delivery point and adapted to receive snow thrown above said delivery point, a plurality of rotary corrugated intermeshing cylinders in said tank disposed below said inclined screen arranged to receive snow passing from said screen and to press the same between said intermeshing corrugations, means to distribute a snow melting medium onto said screen, said cylinders being hollow and having openings therein and mounted



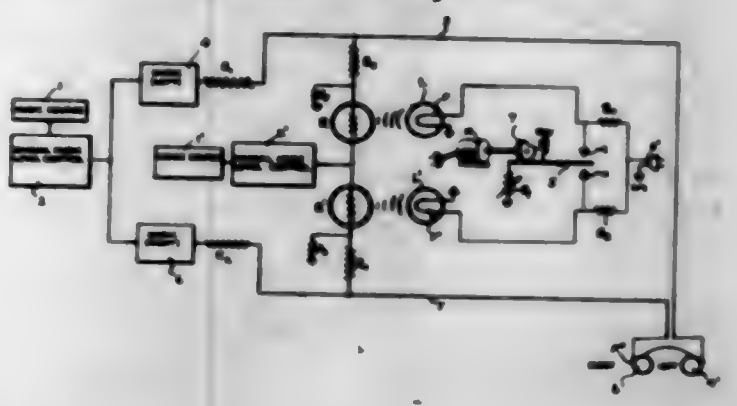
on hollow shafts having ports communicating with said distributing means whereby the snow melting medium may pass through said openings onto snow passing from said receiving screen, a disposal device in said tank arranged to receive snow delivered adjacent said front wall, and an inclined moving belt disposed below said cylinders and arranged to direct any snow passing onto the conveyor into said disposal device.

3,140,788
SNOW AND ICE MELTER
Joseph J. Petlak and Robert Reichheim, both % The Bristol Sheet Metal Co., Wallingford, Conn.
Filed May 31, 1962, Ser. No. 199,894
2 Claims. (Cl. 126—343.5)



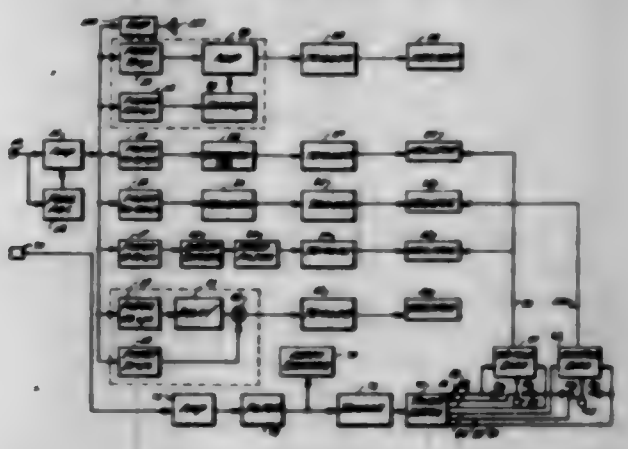
1. A snow and ice melter, in combination with a jet engine, comprising a hopper tapering downwardly and inwardly and having an open top for the inlet of snow and ice, a melting duct below the hopper and communicating with the bottom thereof, said hopper having an inlet opening above the duct, a nozzle in said inlet opening and extending outwardly thereof, a flexible duct having one end connected to the outer end of the nozzle, the other end of the flexible duct connected to the exhaust gas outlet of the jet engine, said hopper having reflex ducts on the sides of the melting duct communicating with said melting duct and leading to the interior of the hopper at the top thereof, a water sump chamber below said ducts, ice breaking bars in said melting duct in the path of movement of the ice and snow, the floor of said ducts constituting the roof of the sump chamber, and a screen in said floor.

3,140,709
APPARATUS AND PROCESS FOR RELIEVING PAIN AND DISCOMFORT
Alexander Z. Weiss, Belmont, Mass., assignor to Bolt Beranek and Newman Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 29, 1961, Ser. No. 113,476
11 Claims. (Cl. 128—1)



1. A process for obviating a patient's reaction of pain and discomfort to a pain- or discomfort-producing stimulus, that comprises, producing acoustic energy including noise-like sound signals of amplitude level adjustable at least to substantially 100 decibels above 0.0002 microbar, applying the energy to the auditory system of the patient during the application of said stimulus, adjusting the level of the acoustic energy to a value at which the patient's said reaction is substantially obviated, and alternating the application of the energy between opposite sides of the said auditory system.

3,140,710
METHOD AND APPARATUS FOR AUTOMATICALLY ANALYZING DISORDERS OF THE HUMAN BODY
Harvey F. Glasmer, Culver City, Ronald E. Smith, Terrance, and Jack H. Watson, Los Angeles, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Feb. 29, 1960, Ser. No. 11,578
16 Claims. (Cl. 128—2.05)



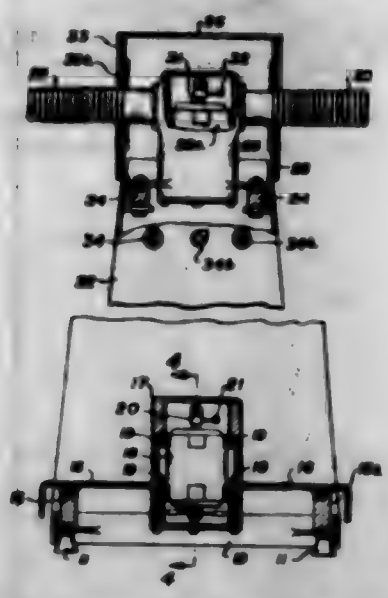
11. Apparatus for analyzing and classifying heart sound to automatically diagnose a heart condition comprising: transducer means for picking up heart sound and developing an electrical signal conforming thereto; a plurality of parallel filter circuits passing frequencies of various values, which frequencies are characteristic but not conclusive of the existence of certain heart conditions; means for feeding said electrical signal through said filter circuits; means for operating on the outputs, if any, of said filter circuits to produce resultant signals which are uniquely indicative of the existence of said certain heart conditions; indicating means for each resultant signal for giving a diagnostic conclusion of the existence of the certain heart condition of which it is indicative; means for

generating voltages corresponding to the systole and diastole portions of the heart cycle and to the time parts of said portions in which heart sounds occur; means for diagnostically indicating said time parts of said portions; and means for combining said voltages with the resultant signals for systolic and diastolic heart conditions in said indicating means so that the diagnostic conclusion of the existence of a condition is based also upon the proper relation of the resultant signal to the portion of the heart cycle.

3,140,711
KINESTHETIC THERAPEUTIC EXERCISING DEVICE

Wendell Harry McGathey, 374 George St., Fredericton, New Brunswick, Canada

Filed Dec. 31, 1962, Ser. No. 248,639
7 Claims. (Cl. 128—33)



1. A kinesthetic therapeutic exercising device comprising in combination a base, a pedestal mounted on one end of said base, a platform on said base adjacent said pedestal, a plurality of resilient mounts between said base and said platform maintaining said platform in spaced relationship from said base, a lower motor casing fixedly mounted on said platform, a plurality of resilient mounts within said casing supporting a motor and maintaining said motor in spaced relationship from said lower casing, two eccentric weights axially mounted on said motor, said pedestal having an internally projecting mount member fixedly attached thereto near the upper end thereof, resilient mounts on said mount member, an upper motor casing mounted on said last named motor mounts and projecting upwardly from said pedestal, a plurality of resilient mounts within said upper motor casing supporting a motor and maintaining said motor in spaced relationship from said casing, a motor hood fixedly attached to the upper periphery of said pedestal, encasing said upper motor and its casing in spaced relationship, and a pair of handles fixedly attached to said motor casing and being diametrically opposed thereon, said handles projecting through said motor hood, resilient lips on said motor hood through which said handles project in spaced relationship, and two axially mounted eccentric weights on said last named motor, and control switches on said pedestal controlling both of said motors.

3,140,712
ARTICULATED JOINTS

William S. Hunter, 356 Greenwich St., San Francisco, Calif.

Filed Aug. 17, 1961, Ser. No. 132,038
2 Claims. (Cl. 128—92)

1. In the art of articulated prosthetic devices and medical arts mannequins, a joint whose members are both pivotally and laterally slidable with respect to each other comprising, a first member with an engaging end convexly contoured in the general shape of a spherical segment of first radius, a second member having a socket for cooperative engagement with said first member's engaging

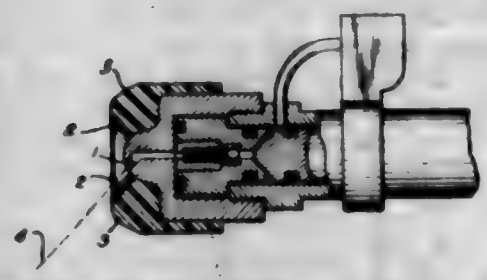


end, said socket concavely contoured in the general shape of a flattened spherical segment whose spherical segment's radius is greater than said first radius so that constant contact occurs throughout said pivotal and lateral sliding, and magnet means holding said first and second members in said cooperative engagement.

3,140,713
INTRADERMAL NOZZLE FOR JET INJECTION DEVICES

Aaron Ismach, Brooklyn, N.Y., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 25, 1963, Ser. No. 267,869
1 Claim. (Cl. 128—173)
(Granted under Title 35, U.S. Code (1952), sec. 266)

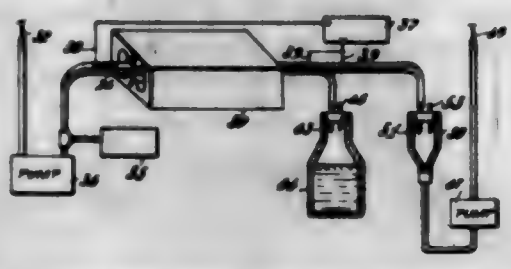


In a hypodermic jet injection device an intradermal nozzle comprising an orifice with a longitudinal axis angularly offset with respect to the longitudinal axis of the device, said offset being at an angle of approximately 45 degrees, and a shoulder encircling and extending distally of said orifice with the inner surface of said shoulder at one point substantially parallel to the axis of said orifice and at a distance of approximately 1/32 of an inch from said orifice.

3,140,714
BLOOD SEPARATION METHOD

William P. Murphy, Jr. and Walter B. Dandliker, Miami, Fla., assignors to Cordis Corporation, Miami, Fla., a corporation of Florida

Filed June 28, 1962, Ser. No. 205,905
6 Claims. (Cl. 128—214)



1. The method of separating the differentially conductive components of a non-homogeneous mixture, comprising passing said mixture along a relatively narrow

and extended flow path, passing an electric current through the flow along a portion of said path, applying to the flow in said portion a strong magnetic field transversely of said path, the vector cross product of the magnetic field and the electric current flow being always in the same direction with regard to the direction of mixture flow at any given point along said portion of said path, and dividing the flow at a point adjacent the downstream end of said portion along a plane of division extending substantially parallel to the magnetic flux lines of said field whereby each part of the divided flow is relatively enriched in one of the mixture's components.

3,140,715
FORCEPS

Aldean W. Whitton, Jr., Glenview, and William G. Whitney, Evanston, Ill., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed Sept. 19, 1960, Ser. No. 56,886
3 Claims. (Cl. 128—321)

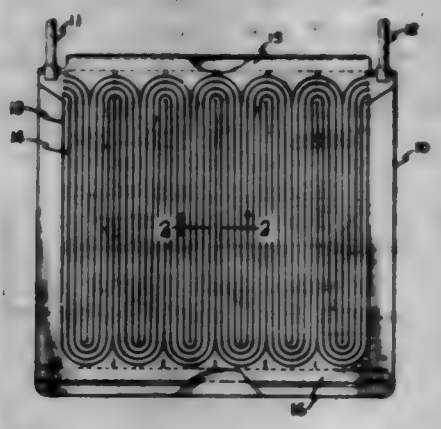


1. In a pair of forceps formed from plastic material, a pair of flexible plastic arms of generally T-shaped cross section having longitudinal ribs extending along the inner opposing surfaces thereof, said arms being provided with opposing jaws at the free ends thereof and having their opposite ends maintained in spaced relation by a connecting portion formed integrally therewith, said ribs diminishing in height adjacent said connecting portion, whereby, the stiffening effect of said ribs diminishes adjacent said connecting portion, said arms having their intermediate portions substantially unflexed when said jaws are partially closed and having said intermediate portions flexed and bowed inwardly towards each other when said jaws are fully closed, said jaws when partially closed engaging each other at their tips and having their opposing faces diverging rearwardly, said jaws when fully closed having their faces in substantially full mutual engagement, and means provided by said arms for preventing relative lateral displacement of said arms and jaws when said jaws are partially to fully closed.

3,140,716
HEAT EXCHANGER FOR BLOOD

Robert R. Harrison, Park Ridge, and Leonard F. Waldman, Jr., Niles, Ill., assignors to Baxter Laboratories, Inc.

Filed June 26, 1961, Ser. No. 119,537
1 Claim. (Cl. 128—399)

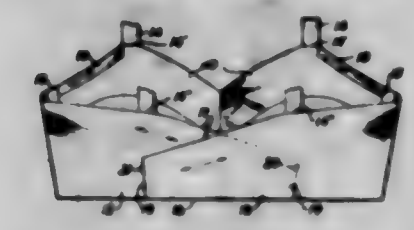


In an apparatus for use in changing the temperature of the body of a living animal by circulating the blood of said animal extracorporeally through a closed system comprising at least in part a heat exchanger and then returning blood of changed temperature to the animal, the improved heat exchanger which comprises a unitary, disposable, pre-sterilized blood conducting panel constructed of transparent, hemorepellant, sterilizable and heat sealable plastic material, said panel being provided with a single blood inlet, a single blood outlet and a plurality of elongated, tortuous, serpentine passages adapted to promote the exchange of heat energy between the blood and the outside environment, said passages communicating at one end with the single blood inlet and at the other end with the single blood outlet, the lumen of said passages having a slit-like shape which promotes the flowing of the blood and the exchange of heat energy between the blood and the outside environment.

3,140,717
BRASSIERES

Marcel Gingras, Quebec, Quebec, Canada, assignor to Dominion Corset Company Limited, Quebec, Quebec, Canada

Filed Jan. 17, 1961, Ser. No. 83,296
3 Claims. (Cl. 128—583)



1. A brassiere having a pair of front breast cup sections and a pair of back closure panel members each secured at one end to the outer edge of an adjacent one of said front breast cup sections, the said back closure members being disposed in crossed overlapping relation with each other, the overlapping portion of each of said panel members being fastened to an intermediate portion lengthwise of the other of said panel members, the said panel members having their lower edges disposed horizontally and their upper edges disposed at an angle to the horizontal from a maximum height adjacent the said cup sections and stretchable exclusively along lines parallel with their angled upper edges and in directions opposite to each other when the panels are in overlapped engagement with each other.

3,140,718
PANTY GIRDLE WITH REMOVABLE CROTCH-PIECE

Manny Farkas, 1314 46th St., Brooklyn, N.Y.

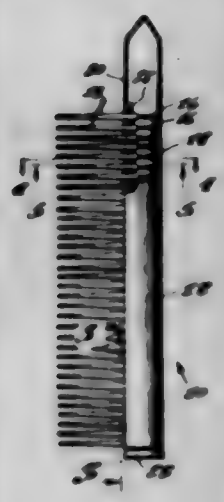
Filed Jan. 21, 1964, Ser. No. 339,284
8 Claims. (Cl. 128—837)



1. A panty girdle having interconnected front and rear wall portions and thigh-encircling leg portions, said leg portions having inner thigh wall portions, means forming a downwardly and rearwardly unobstructed crotch opening between said wall portions, said thigh wall portions each having an upper panel with a hem defining the forward upper limit of each thigh wall portion, and said

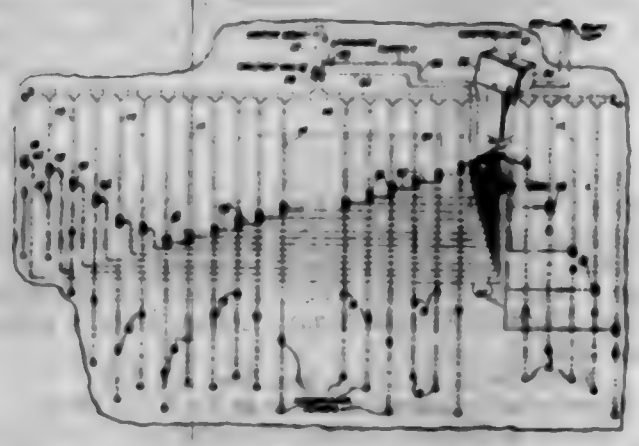
hems defining forward and lateral boundaries of said crotch opening, said panels extending forwardly and having respective overlapping upper ends both connected at their terminals to said front wall portion, the lower ends of each of said hems terminating at a respective inner thigh wall portion, said overlapping upper ends being located so as to cover the forward part of the crotch opening and the mons veneris area of the wearer in standing position of the latter and being spreadable in seated position of the wearer, said means forming the crotch opening including a rearward hem in said rear wall portion forming the rear boundary of said crotch opening located so as to end said crotch opening rearwardly above the anal orifice of the wearer.

3,140,719
FOLDING COMB
George Hansen, 860 57th St., Brooklyn 20, N.Y.
Filed Dec. 21, 1960, Ser. No. 77,448
3 Claims. (Cl. 132—151)



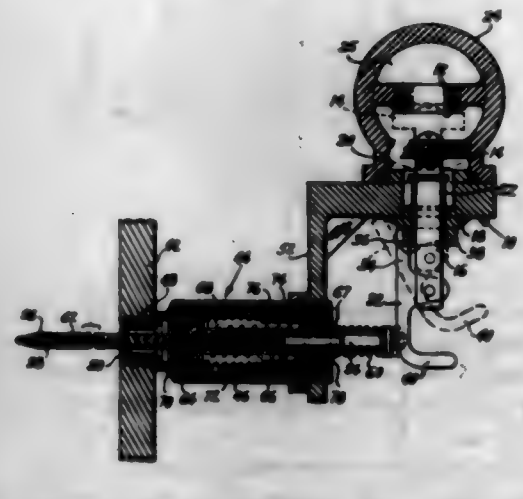
3. A pocket comb comprising a head assembly including a tubular housing having a longitudinal slot therein, a series of spaced independent foldable teeth pivotally mounted in the housing and operable in the slot, a longitudinal member rotatably mounted in the housing, and means on said member engageable between the individual teeth.

3,140,720
FLUID DISTRIBUTION CONTROL SYSTEM
Lee M. Griswold, Pasadena, Calif., assignor to Donald G. Griswold, Newport Beach, Calif.
Filed Jan. 24, 1961, Ser. No. 89,088
27 Claims. (Cl. 137—59)



1. A control system for a water distribution system having a water supply pipe, and a plurality of branch conduits connected therewith, and a flow control valve in each branch conduit, comprising: cyclically operable means to open and close said flow control valves in a predetermined sequence; and a timing means, including a motor-operated timing switch, and a separate time selector control device associated with each valve and connected to said switch to selectively set the duration of the period that its associated valve remains open, said timing means being structurally independent of and operably connected with said cyclically operable means.

3,140,721
PRESSURE AND TEMPERATURE PROTECTOR FOR AUTOMATIC FULL FLOW SHUT-OFF VALVE
Timothy J. Sullivan, 2280 Cross Drive, Butte, Mont.
Filed Jan. 8, 1962, Ser. No. 164,666
4 Claims. (Cl. 137—73)



1. A pressure and temperature protector for a closed fluid vessel having a supply of energy which comprises a normally-off supply control having on and off positions; trigger means for retaining said control in on-position;

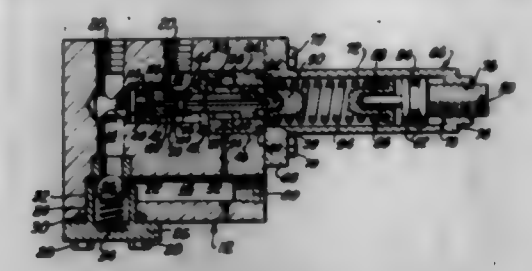
means for sensing the pressure and temperature conditions in said vessel;

means for tripping said trigger means to release said control to its off position in response to an excessive rise in one of said conditions, said tripping means including a closed casing adapted for mounting on the outside of said vessel in communication with the inside thereof through a restricted passage; said sensing means including a hollow temperature probe extending through said restricted passage into the inside of said vessel; said tripping means further including a rod extending through said hollow probe and fixed at its inner end to said probe by a mass of fusible material having a melting point at a temperature approaching the dangerous temperature against which said vessel is to be protected, the outer end of said rod extending to said trigger means when cocked, and a spring biasing said rod outwardly, whereby upon fusion of said fusible material the freed rod trips said trigger means, said probe having a sleeve extending outwardly with a shoulder flange outside the end of said casing; said rod having a head; said shoulder flange being spring biased against said casing end; a stepped piston reciprocable in said casing, said probe sleeve being threadably adjustable in said piston, said casing end comprising an outer sleeve threadably adjustable in said end, an internal sleeve threadably adjustable in said outer sleeve, and a spring between said internal sleeve and said piston for biasing said shoulder flange againtt said internal sleeve.

3,140,722
HYDRAULIC UNLOADER VALVES
Carroll G. Gordon, 3 William Court, Menlo Park, Calif., assignor of one-half to William F. Stoesser, Mountain View, Calif.
Filed May 29, 1961, Ser. No. 113,494
3 Claims. (Cl. 137—108)

2. In a hydraulic unloader valve having a housing,

inlet, system and return ports, check valve means connecting said inlet and system ports for permitting fluid flow between said inlet and said system ports, a structure which comprises: passage means including a valve seat located so as to connect said inlet and said return ports, cylinder means located adjacent to said connecting passage, piston means moveably mounted in said cylinder means, a piston rod attached to said piston means so as to lead therefrom adjacent to said valve seat, valve body means mounted on said piston rod, said valve body means being capable of seating against said valve seat so as to form a seal, spring means for applying force to said piston rod so as to bias said valve body means into engagement with said valve seat, said springs means



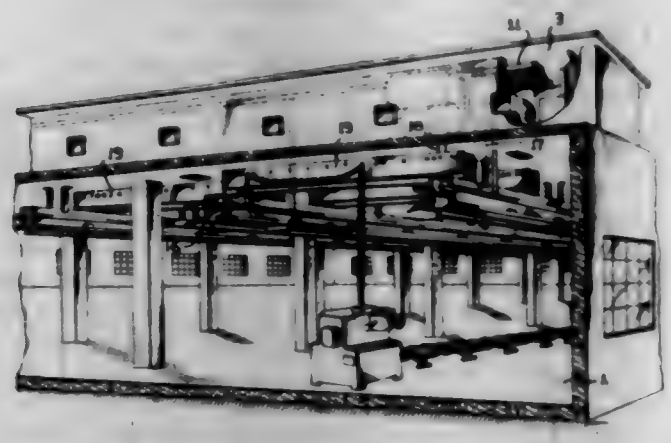
being operatively associated with said piston rod and said housing, and first connection means for introducing inlet pressure into said cylinder means against one side of said piston means so that inlet pressure urges said piston rod and said valve body against said valve seat, said first connection means comprising a series of holes in communication with one another and extending through said valve body means, said piston rod and said piston means, and including orifice means located in said hole in said valve body means, and second connection means for introducing system pressure into said cylinder means on the side of said piston means remote from said first connection means so that system pressure tends to bias said rod and said valve seat to an open position.

3,140,723

DISTRIBUTION PLANTS FOR THE SUPPLY OF POWER MEDIA

Ivar Olof Josef Dybeck, Enkoping, Sweden, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden

Filed Sept. 12, 1960, Ser. No. 55,596
3 Claims. (Cl. 137—357)



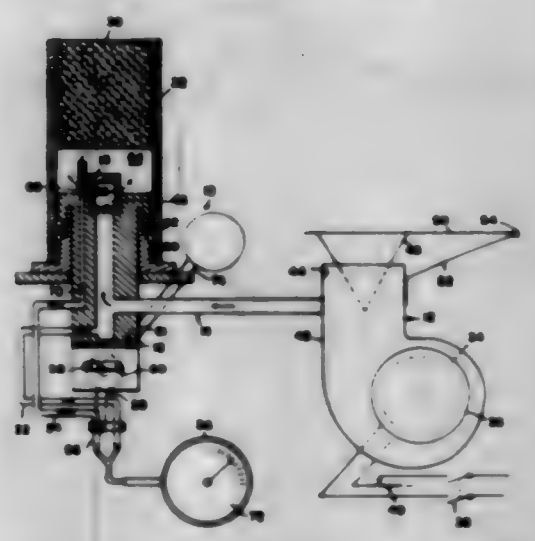
1. A building of the type described comprising a tunnel-like housing disposed on the upper side of the roof, said housing being elongated and of substantially the same length as one of the main dimensions of the building, apparatus and conduits for generating and distribution of different media and electrical cables for the building disposed within said housing, distribution beams disposed under the roof at substantially equal locations therealong and capable of serving as ventilation and evacuation ducts, shelf means disposed on said distribution beams for carrying conduits for the different media and electrical cables, means interconnecting said distribution beams and the conduits and electrical cables carried thereby with same of said housing, and means connecting machinery disposed in said building with the distribution media and electrical cables in said distribution beams.

3,140,724

PIVOTED PRESSURE RELEASE VALVE FOR USE WITH A PERMEABILITY METER

Harry W. Dietert, Kerrville, Tex., and Ralph E. Steinmueller and Randolph L. Dietert, Detroit, Mich., assignors to Harry W. Dietert Co., a corporation of Michigan

Filed Nov. 7, 1960, Ser. No. 67,698
7 Claims. (Cl. 137—527.6)



1. A source of constant pressure air comprising an air duct having an opening therein, a conduit connected to said duct through which air is drawn from the duct at the constant pressure, a blower positioned within the duct operable to blow air into the duct in excess of the quantity of air required to maintain the constant pressure in the duct and means for controlling the area of the opening in the duct in accordance with the air blown into said one end of the duct and the air withdrawn through said conduit whereby the air escaping from the duct through the opening is equal to the air blown into said duct by the blower in excess of the air withdrawn therefrom through the conduit and that required to maintain the constant pressure in the duct including a bracket secured to said duct adjacent said opening, a lever pivotally secured at one end to said bracket and a closure member secured to the other end of said lever and urged only by gravity into a closed position with respect to said opening, said closure member including a base having a cross section larger than said opening, an apex within said duct and surfaces converging from the base toward the apex.

3,140,725

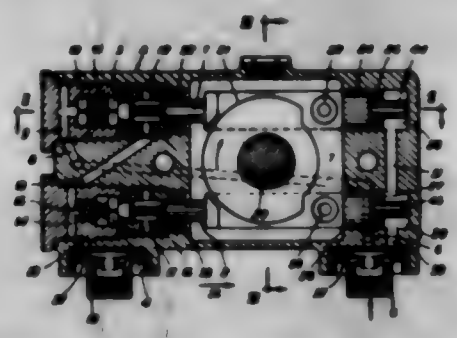
SERVO ACTUABLE LEVELER FOR CONTROLLING PNEUMATIC SUSPENSION SYSTEMS FOR VEHICLES

Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation of Italy

Filed Sept. 6, 1961, Ser. No. 136,324
Claims priority, application Italy Sept. 27, 1960
7 Claims. (Cl. 137—550)

1. A servo-actuable leveler, for controlling a pressurized fluid suspension system for vehicles comprising, in combination, first and second cylinder and piston assemblies; a first relatively elongated rod means connected to the piston of said first assembly and extending outwardly therefrom; a second relatively elongated rod means con-

nected to the piston of said second assembly and extending outwardly therefrom; means forming an inlet for connection to a source of pressurized fluid; means forming an outlet for connection to the suspension system; means forming an exhaust port; a first normally closed valve means controlling connection of said inlet to said outlet; a second normally closed valve means controlling connection of said outlet to said exhaust port; means connecting said inlet to the cylinders of said assemblies for supply of pressurized fluid thereto to move the cylinders thereof outwardly; respective spring means engaged with said rod means and biasing said rod means to move their respective pistons inwardly of the associated cylinders to a limiting retracted position; said first rod means; upon a predetermined outward movement thereof, engaging said first valve means to open the same, and said second rod means, upon a predetermined outward movement thereof, engaging said second valve means to open the same; rotatable cam means positioned in the path of outward movement of both of said rod means; said cam means having a neutral position and first and second operated positions spaced angularly in opposed directions from said neutral



position; said cam means, in its neutral position, engaging said rod means, upon outward movement thereof, to limit such outward movement to a position in which said rod means are ineffective to open the associated valve means; said cam means, in its first operated position, providing for outward movement of said first rod means to a position opening said first valve means while restraining outward movement of said second rod means to a position where it is ineffective to open said second valve means; said cam means, in a second operated position, providing for outward movement of said second rod means to a position in which said second rod means opens said second valve means and restraining outward movement of said first rod means to a position where it is ineffective to open said first valve means; said first and second rod means being moved outwardly upon application of the pressurized fluid to the respective pistons connected thereto and against the force of the respective spring means, the respective spring means, upon interruption of the application of pressurized fluid to the pistons of said assemblies, moving said rod means and the connected pistons to said retracted position.

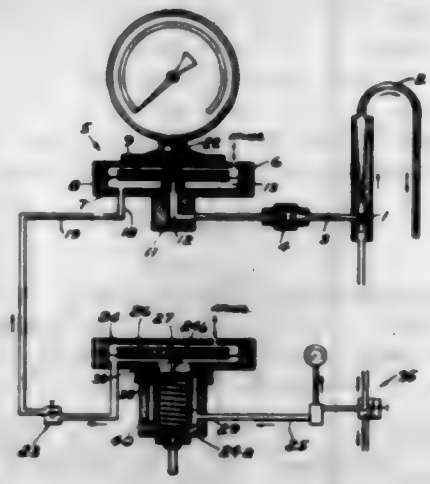
3,140,726

MEASURING DEVICE FOR MEASURING A FLUID FLOW

Karl-Heinz Arenbold, Karlsruhe-Durlach, Germany, assignor to Chloretor G.m.b.H., Gretzingen, Karlsruhe, Germany, a company of Germany

Filed Aug. 18, 1960, Ser. No. 50,397
Claims priority, application Germany Oct. 23, 1959
17 Claims. (Cl. 137—557)

1. In an installation in which treatment fluid is fed from a supply of treatment fluid to a fluid flow to be treated through a feed conduit maintained at a sub-atmospheric pressure by a suction means, a closed housing, one wall of said housing being formed by a diaphragm deflected in response to a pressure differential between the pressure within the housing and the ambient atmosphere, said housing being interposed between feed conduit portions leading to said treatment fluid supply and said suction means respectively thereby subjecting the said housing to the pressure condition in the feed conduit, valve means within said housing controlled by the deflection of said diaphragm in response to said pressure differential and controlling the rate of flow of treatment fluid through said



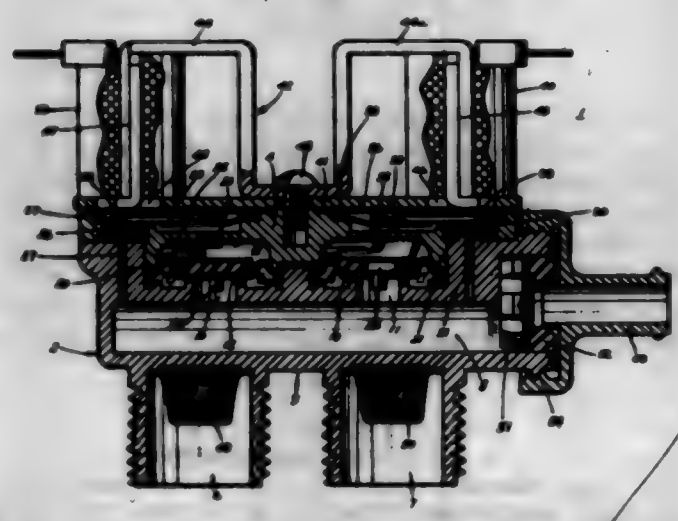
housing and feed conduit, and indicating means drivingly coupled with the middle of said diaphragm on the side thereof exposed to the atmosphere to detect and indicate deflections thereof, said deflections being indicative of the rate of flow of treatment fluid through said feed conduit.

3,140,727

PILOT CONTROLLED VALVE

Leon H. Cutler, New Haven, Conn., assignor to General Electric Company, a corporation of New York

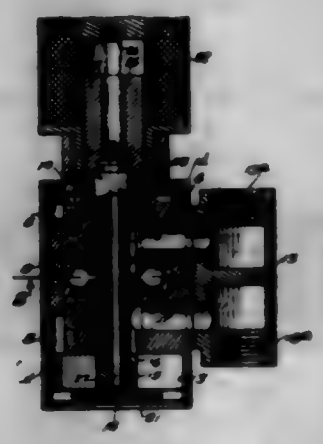
Filed Dec. 26, 1961, Ser. No. 162,092
11 Claims. (Cl. 137—606)



1. In a pilot controlled valve having a valve body having a valve seat, an inlet leading to said valve seat, and an outlet leading from said valve seat, a diaphragm supported by said valve body and arranged to engage said valve seat to shut off flow between said inlet and outlet, a chamber formed in said valve body over said diaphragm, a bleed aperture in said diaphragm for introducing fluid into said chamber from said inlet at substantially the inlet pressure for closing said diaphragm onto said valve seat, and a control passageway in said valve body leading from said chamber to said outlet for releasing fluid from said chamber to allow said diaphragm to open, said passageway including a pilot control port therein, the improvement comprising improved means for opening and closing said port thereby to control the operation of said diaphragm relative to said valve seat, said means including a control cavity formed in said valve body, a solenoid coil disposed adjacent to but exterior of said cavity, an elongated clapper-like armature operated by said coil, said armature being disposed in

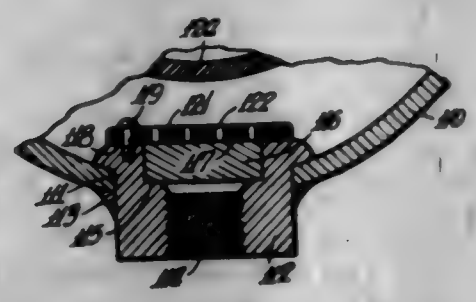
said control cavity and arranged to engage said resilient washer to close said port, and a leaf spring supported at one end by said valve body and supporting said armature at its either end, said armature engaging said port adjacent one end thereof and having an offset section spaced from said port, said offset section being disposed immediately adjacent the roof of said cavity and said spring extending past said offset portion to engage said armature, said spring normally biasing said armature into engagement with said port to close said port, and said coil being arranged to swing said armature off said port upon the energization thereof, thereby to open said port and release the fluid pressure over said diaphragm for opening said valve.

3,140,728
HIGH PRESSURE FOUR-WAY VALVE
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of William F. MacGlashan, Jr., and Harry J. Margraf
Filed Apr. 20, 1961, Ser. No. 188,377
5 Claims. (Cl. 137—625.69)



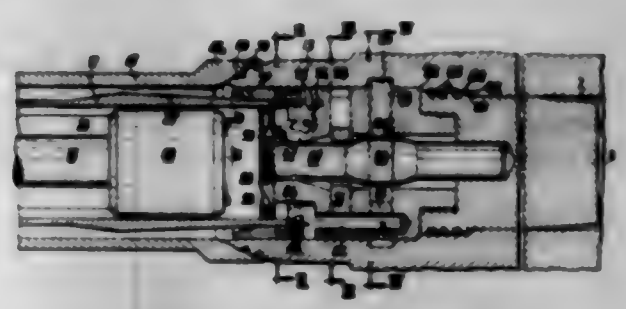
1. A valve structure, comprising: a valve body having a bore therein, and an inlet port in the form of an annular channel; a valve armature slidable in said valve body, said armature defining an annular O-ring groove and having flanking lands slidably fitting said bore, said lands having axial dimensions greater than said inlet port; and an O-ring in said groove adapted to pass across said inlet port while said lands restrict flow therethrough.

3,140,729
VALVE ASSEMBLY
Jean Mercier, 1185 Park Ave., New York, N.Y.
Original application Feb. 23, 1956, Ser. No. 567,110. Divided and this application June 22, 1959, Ser. No. 822,045
2 Claims. (Cl. 138—30)



1. A pressure vessel comprising a rigid container having a port and a deformable expansible partition therein defining two chambers, one of which is in communication with said port, a rigid porous member extending over said port, a flexible member positioned in said container and extending over the surface of said porous member, said flexible member having a plurality of passageways therethrough, said partition upon expansion thereof abutting against said flexible member and means mounting said flexible member to permit movement of at least a portion thereof away from said porous member.

3,140,730
PLUG FOR AN ATOMIC REACTOR CHANNEL
Didier Coutes, Paris, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Aug. 3, 1962, Ser. No. 214,632
Claims priority, application France Aug. 16, 1961
11 Claims. (Cl. 138—89)

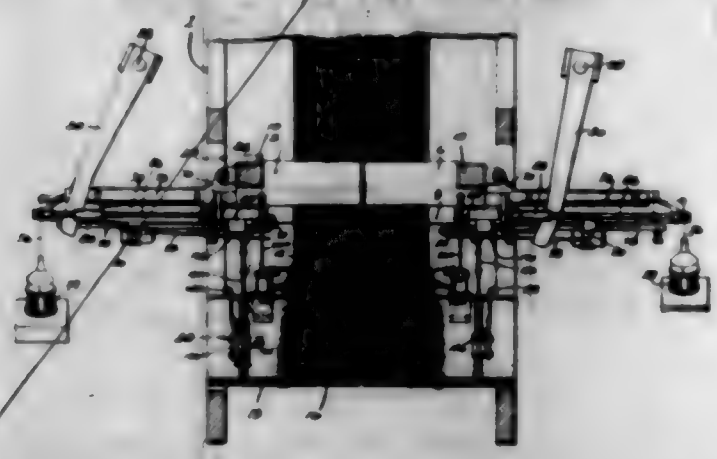


1. In combination, a nuclear reactor channel, a plug for said channel, said plug comprising a body for closing said channel, a conveyor element, latching means on said plug cooperating with said conveyor element for engagement with said channel and for latching said plug to said conveyor element, a control element for actuating said latching means during displacement relative to said conveyor element, said latching means comprising a first set of latching members for connecting said plug to said conveyor element, a second set of latching members for securing said plug to said reactor channel and mechanical connecting means between said two sets of latching members so constructed and arranged that when one set of said latching members is latched said other set of latching members is unlatched, and an operating member cooperating with said control element and movable in said plug body between two extreme positions, one of said positions corresponding to the latched position of one of said sets of latching members and to the unlatched position of the other of said sets of latching members, and the other of said positions corresponding to the opposite positions of said sets of latching members.

3,140,731
LOOM WITH A PIRNLESS SHUTTLE
Kenneth G. Jones, De Pere, Wis., assignor to Wisconsin Wire Works, Appleton, Wis., a corporation of Wisconsin
Filed Apr. 17, 1962, Ser. No. 188,037
8 Claims. (Cl. 139—126)

1. In a loom, the combination with an elongated shuttle having means for providing a longitudinal way, of a gripper reciprocably mounted in said way for movement longitudinally of the shuttle and provided at its ends with weft clamping jaws, movable jaw means for cooperating therewith, mechanism for selectively releasing the movable jaw means from one of the jaws and engaging it with the other, means providing a race for the shuttle having shuttle receiving pockets at its ends, weft guides for leading weft strands to the respective pockets in alignment with the race, weft feeders having means mounting them for limited reciprocation in the ends of the pockets in the path of the shuttle, the feeders being movable between advanced positions and retracted positions in their respective pockets and having weft cut-off means, means biasing the respective feeders to their ad-

vanced positions in the respective pockets, the feeders being yieldable against said biasing means under impact of a shuttle arriving in the respective pocket, whereby to



expose the severed end of a weft strand stationary in its guide means during yielding of the feeder to its retracted position, vertically adjustable means for positioning such severed end to be engaged on the jaw of said gripper.

3,140,733

APPARATUS FOR SUPPLYING YARN PACKAGES OF DIFFERENT COLORS AUTOMATICALLY TO A LOOM

Peter Stucki, Tann-Rueti, Zurich, Switzerland, assignor to Rueti Machinery Works Ltd., formerly Casper Honegger, Zurich, Switzerland

Filed Oct. 3, 1961, Ser. No. 142,555
Claims priority, application Switzerland Dec. 28, 1960
8 Claims. (Cl. 139—345)



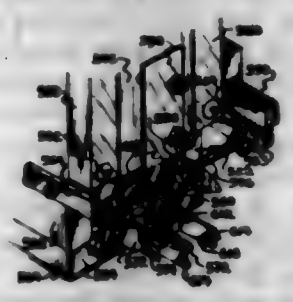
1. Apparatus for supplying yarn packages automatically to a loom magazine, said magazine having a plurality of compartments for receiving yarn packages therein, said apparatus comprising a plurality of containers each for transporting a plurality of yarn packages to be loaded into a respective compartment in said magazine, means for automatically supplying said yarn packages from each container to a respective magazine compartment comprising unloading means to unload each of said yarn packages in a given container into a respective compartment, means positioned automatically to convey and divert the yarn packages from said unloading means to a respective compartment, means to automatically position said containers in position for unloading by said unloading means in dependence upon which compartment of said magazine needs yarn packages, means responsive to the presence and absence of yarn packages in the respective compartments, and means controlled by the last mentioned means for actuating said means for positioning said containers, said unloading means and for positioning said means to convey and divert said yarn packages in dependence upon which magazine compartment requires yarn packages.

3,140,733

COMPONENT HANDLING AND TIPPING MACHINE

Robert Ullmann, Harrisburg, Henry F. Forinn, Palmyra, John M. Middleton, Harrisburg, Glendon H. Schwalm, York, and Russell L. Tritt, Lemoyne, Pa., assignors to AMP Incorporated, a corporation of New Jersey

Original application Oct. 2, 1956, Ser. No. 613,416, now Patent No. 2,961,077, dated Nov. 22, 1960. Divided and this application Nov. 30, 1959, Ser. No. 4,845
8 Claims. (Cl. 140—71)



7. Mechanism operable upon electrical components each having a body and leads projecting longitudinally from the opposite ends of said body, said mechanism comprising in combination; a pair of coaxial index wheels each having radial notches transversely aligned across from each other and spaced around the periphery of each wheel and operable to receive the leads of a series of said components and move the same stepwise in spaced relationship to each other along a predetermined path; means positioned adjacent said path and operable sequentially to receive said components from said index wheels and bend the leads of said components to predetermined shape, said bending mechanism comprising anvil means projecting substantially transversely to the periphery of said index wheels and longitudinally aligned with the radial notches of the index wheels when a pair of said notches holding a component is moved into alignment therewith for transfer of a component thereto; transfer means operable to move a component from said notches onto said anvil means when such longitudinal alignment is established; clamping means operable to engage the leads of said component when transferred to said anvil means and clamp the same against said anvil means, said clamping means having a surface substantially parallel to said anvil means and initially spaced therefrom to form a guideway for the leads of the component being received; means engageable with at least one of said leads when clamped to bend the same to predetermined shape; means operable to discharge the shaped component from said anvil means; power means operable to rotate said index wheels stepwise, a plurality of fluid operated cylinder and piston units respectively connected to said clamping and discharge means to operate the same; and control means for said fluid operated units operable by said power means for said wheels to actuate the movements of said wheels and various means in timed sequence relative to each other.

3,140,734

EXHAUST APPARATUS AND HEAD THEREFOR

Bernard Chauvin, Cedar Grove, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 23, 1961, Ser. No. 91,172
5 Claims. (Cl. 141—66)

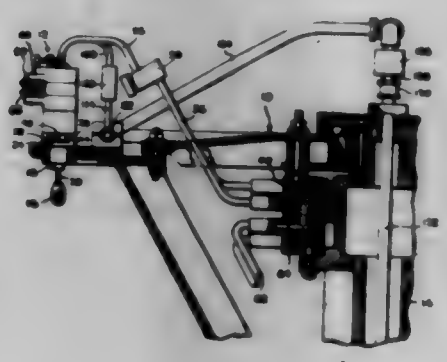
3. In combination with a machine for exhausting and gas-filling a hollow member, said machine having a rotatable turret, and evacuating means and high-pressure-gas supply means associated with said machine, the improvement which comprises a head carried on said turret, said head comprising:

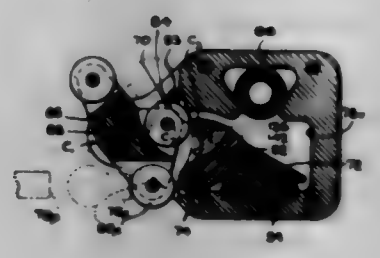
(*a*) a compression rubber assembly for hermetically securing a hollow member to be exhausted and gas filled;

(*b*) a first conduit connected to said evacuating means and in communication with said compression rubber assembly;

(*c*) a second conduit connected to said high-pressure-gas supply means and in communication with said compression rubber assembly;

(*d*) a first operating means disposed adjacent to said first conduit and operable to move into first-conduit-closing position to close off said first conduit, and said first operating means also operable to move into first-conduit-open position to permit said first conduit to open, said first operating means comprising a first pivoted pinch clamp lever and a first actuating roller which is movable to pivot said first pinch clamp lever to close said first conduit, said first roller after pivoting said first pinch clamp lever to first-conduit-closing position locking said first pinch clamp lever in such conduit-closing position, and said first pinch clamp lever when pivoted to first-conduit-open position remaining in such conduit-open position until moved into conduit-closing position by said first actuating roller;





(*e*) a second operating means disposed adjacent to said second conduit and operable to move into second-conduit-closing position to close off said second conduit, and said second operating means also operable to move into second-conduit-open position to permit said second conduit to open, said second operating means comprising a second pivoted pinch clamp lever and a second actuating roller which is movable to pivot said second pinch clamp lever to close said second conduit, said second roller after pivoting said second pinch clamp lever to second-conduit-closing position locking said second pinch clamp lever in such conduit-closing position, and said second pinch clamp lever when pivoted to second-conduit-open position remaining in such conduit-open position until moved into conduit-closing position by said second actuating roller; and

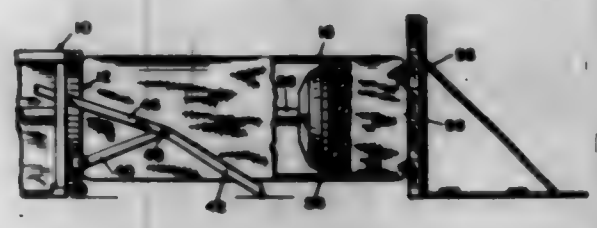
(*f*) locking means reciprocable between a position of locking engagement with said first operating means when in first-conduit-closing position and a position of locking engagement with said second operating means when in second-conduit-closing position, and the total reciprocation of said locking means limited so that said locking means is always in locking engagement with one of said first operating means and said second operating means.

3,140,735

HORIZONTAL BAGGING MACHINE AND LIFT

Winfred W. Windle and Jonathan W. Windle, Sutton, Mass., assignors to Windle Engineering Company, Inc., Millbury, Mass., a corporation of Massachusetts

Filed Jan. 19, 1962, Ser. No. 167,287
6 Claims. (Cl. 141—73)



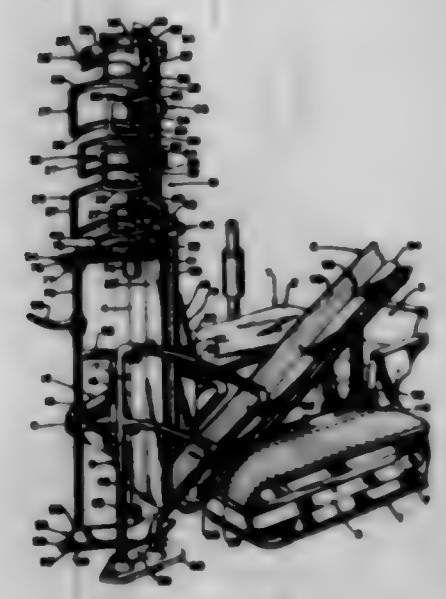
4. A bagging machine comprising a generally horizontal framework, a horizontal reciprocating ram therein, means to reciprocate the ram, means at one end of the framework for receiving the open neck of a bag to be filled, a plunger plate on the ram for entering and filling the bag, and means for lifting the open end of the bag after the same has been filled, said lifting means being mounted on said framework, and means associated with said lifting means for engagement with said ram for operating the lifting means.

3,140,736

TIMBER HARVESTING METHOD AND APPARATUS

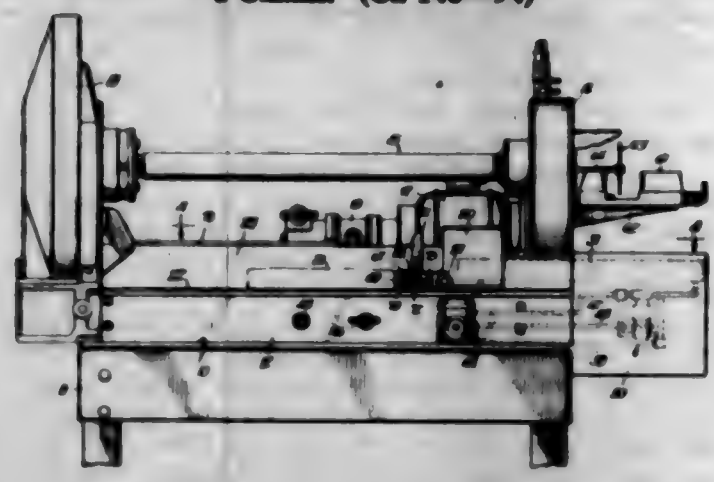
Robert L. Propst, 2347 Londonderry, Ann Arbor, Mich.

Filed Mar. 28, 1963, Ser. No. 183,192
14 Claims. (Cl. 144—3)



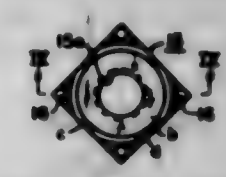
2. A timber harvesting apparatus comprising, an angularly adjustable mast adapted for alignment with a tree to be cut, tree gripping means on the mast arranged to grip a portion of the tree trunk in spaced relation above the base, spaced upper and lower severing means beneath said gripping means including drive means to energize said severing means for horizontal advancement through the trunk at spaced intervals, and tree descent means between said gripping means and said severing means to selectively grip the uncut section of the tree trunk for lowering into cutting position between said severing means, thereby to provide for severing the tree into selected lengths according to the spacing between said severing means.

3,140,737
SLICER FEED CONTROL APPARATUS
Oscar E. Solferth, Glenn M. Austin, and Harold E. Snyder, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 23, 1961, Ser. No. 84,139
8 Claims. (Cl. 146—94)



8. In a slicing machine having a slicing blade mounted on a rotatable supporting shaft and a reciprocating carriage for feeding the product to be sliced to the blade, hydraulic means for moving the carriage comprising a hydraulic cylinder having a reciprocating piston connected to said carriage and operating fluid lines connected to the cylinder for reciprocating the piston, means for supplying a fluid under pressure to said lines, a valve normally controlling the direction of flow of the fluid in the lines and thereby controlling the direction of movement of said carriage, means operative in response to movements of the carriage to control said valve whereby to automatically reciprocate said carriage and an auxiliary control means comprising an auxiliary control valve in one of the lines between said flow control valve and the cylinder, a slice counting mechanism actuated in response to rotation of the blade supporting shaft and having a connection with said auxiliary control valve for operating said flow control valve to stop the flow of fluid to said cylinder at intervals determined by the slice counting mechanism and thereby stop the forward movement of the carriage, and means in said lines for causing a relatively slight reversal of the movement of the feed carriage when it is stopped in its forward movement by operation of said auxiliary control valve.

3,140,738
WELD ELEMENT, METHOD OF MAKING AND UTILIZING IT
Kenneth L. Johnson, 707 Lowell Ave., Erie, Pa.
Filed Dec. 27, 1960, Ser. No. 78,447
2 Claims. (Cl. 151—41.7)



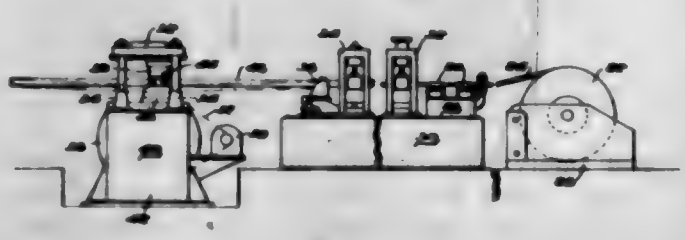
1. An improved weld nut of the type that is to be weld-secured to a surface of a metal article; said weld nut comprising, a substantially square body portion having an integral side for cooperating with the metal article, and having a central threaded bore extending therethrough and intersecting said integral side, said side comprising:

(A) a single, continuous, substantially planar bearing surface that completely surrounds said central threaded bore,

(B) a weld projection located at each of the four corners of said substantially square body portion and extending outwardly beyond the plane of said bearing surface, and

(C) metal receiving groove means positioned between each of said weld projections and said bearing surface, the volume of said groove means being at least equal to the volume of that portion of said projections that extends beyond the plane of said bearing surface, said groove means being associated with each of said weld projections and extending across the corners of said body portion from one peripheral edge of said side to the adjacent edge to effectively isolate said bearing surface from all of said weld projections.

3,140,739
METHOD AND APPARATUS FOR FORMING CONTINUOUSLY MOVING STRIP MATERIAL
Floyd J. Moltchan, Canfield, Ohio
(2108 S. Meridian Road, Youngstown, Ohio)
Filed July 5, 1961, Ser. No. 121,952
5 Claims. (Cl. 153—2)



1. In the method for forming continuously moving longitudinally corrugated strip material along a plane extending transverse to the direction of movement of the strip, with the strip material moving along a straight line path extending parallel to its longitudinal axis, the steps of passing the strip material between a punch and die with the punch being located below the straight line path of travel of the strip, accelerating said punch and die to move in the direction of strip movement until they move in synchronism with the strip, thereafter forcing the punch into the die while deforming the corrugated material in a sideways direction with respect to its direction of travel and while deflecting the strip downwardly from its normal path of travel, and finally separating the punch and die while forcing the strip back into its normal path of travel such that it will pass over the die with its cross section formed into the shape of the die.

3,140,740
INTERCHANGEABLE BASE UNITS FOR GAS APPLIANCES
Magnus Lagreid and William L. Lindgren, Sycamore, Ill., assignors to Turner Corporation, Sycamore, Ill., a corporation of Illinois
Filed June 8, 1959, Ser. No. 818,788
2 Claims. (Cl. 158—36)

1. A portable light and heat set for use with liquified petroleum fuel comprising,

a base plate including

a centrally apertured sheet form member extending horizontally to form a top wall and having a depending peripheral flange forming a side wall terminating in a lowermost horizontal support edge,

a conduit member extending generally horizontally through said flange above said horizontal support edge and underlying said sheet form member in concealed relation with respect thereto,

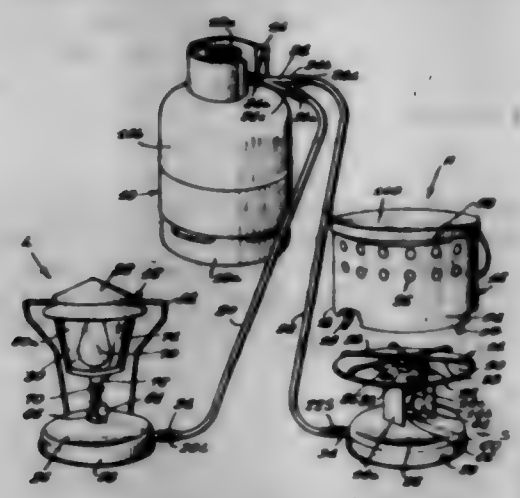
one end of said conduit member outside of said flange having coupling means thereon to connect said conduit member to a source of fuel,

an elbow on the other end of said conduit member lying in register with the central aperture in said sheet form member,

a safety valve mounted in said sheet form member at the centrally apertured portion thereof, and being connected to said elbow,

said safety valve having a normally closed spring-biased valve,

and including an actuator stem extending upwardly with respect to said base plate,



said safety valve having an enlarged boss overlying said sheet form member and forming coupling means, and alternatively selective gas appliances for connection to said coupling means and supportable by said base plate including a mantle type lantern for burning fuel for illumination,

and a burner unit to burn fuel for heating purposes as a griddle, or when combined with an upstanding baffle housing mountable thereon, to diffuse the thermal energy for space heating,

said lantern and said burner unit each having a control valve assembly including a coupling portion for engagement with said coupling means and further including a push-pin to actuatingly engage said actuator stem of said safety valve,

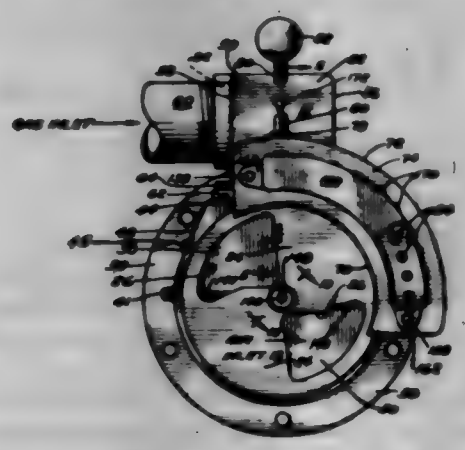
thereby to admit liquified petroleum feul from the base plate into the appliance and selectively carried thereby.

3,148,741

FLUID PROPORTIONING APPARATUS

James P. Keating and Eugene J. Skerkoske, Rockford, Ill., assignors to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois

Filed June 17, 1963, Ser. No. 288,184
19 Claims. (Cl. 158—119)



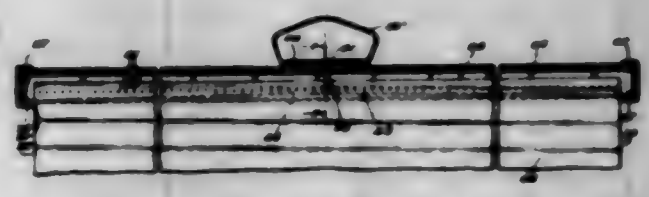
1. A proportioning apparatus adapted to effect a combustible mixture of fuel and air for delivery to a burner or the like and comprising a main body casing establishing a mixing chamber and having a generally cylindrical wall defining an open-ended bore, the rear end of which constitutes a discharge outlet for the combustible mixture from the mixing chamber, and the front end of which constitutes an air inlet for the mixing chamber, said wall being provided with a gas entry port for the mixing chamber, a gas inlet casing defining a gas entry chamber, mounted on said main body casing exteriorly thereof and having an open end encompassing a portion of said generally cylindrical wall and in register with the gas entry port whereby communication between the gas entry and mixing chambers is established through said gas entry port, a fixed shutter plate extending across the front end of the mixing chamber, a rotatable shutter casting mounted on said main body casing for limited angular turning movements about the axis of said generally cylindrical wall and including a movable shutter plate designed for cooperation with said fixed shutter plate, there being cooperating shutter openings in said shutter plates defining a variable air inlet opening for the mixing chamber, a slide valve disposed within said gas entry chamber and movable across said gas entry port between open and closed positions, an actuating rod connected to the slide valve and projecting outwardly through a wall of the gas inlet casing, cooperating cam means on said shutter casting and engageable with the outwardly projecting portion of the actuating rod for effecting simultaneous movement of the slide valve and movable shutter plate during angular turning movements of the shutter casting, and an operating lever on said shutter casting.

3,148,742

PORTABLE MOVIE SCREEN

Edward J. Petrick, Park Ridge, and Hilliard J. Bleecker, Schiller Park, Ill., assignors to Knox Manufacturing Co., a corporation of Illinois

Filed Dec. 18, 1963, Ser. No. 245,680
6 Claims. (Cl. 160—24)



1. A movie screen device comprising: a pair of elongated support members adapted to be positioned in spaced substantially parallel relation to each other; a flexible screen having a marginal edge secured to one of said support members; and an elongated resilient strip supported at its end portions by the other of said support members, said strip having an intermediate arched portion facing and bowed away from said one support member, and being secured to the opposite marginal edge of said flexible screen at points adjacent its end portions and at least one intermediate point, whereby movement of said support members away from each other exposes the screen in viewing position and flexes said arched portion toward a straightened condition so that reactive forces in said resilient strip exert tensioning forces in said screen to stretch said screen taut.

3,148,743

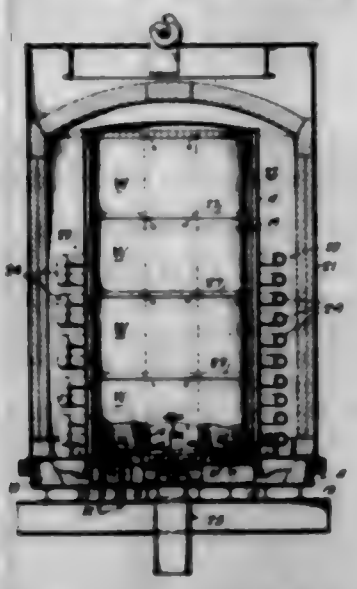
HEAT TREATING APPARATUS

Carroll Coss, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed Feb. 1, 1963, Ser. No. 255,433
7 Claims. (Cl. 166—61)

1. Heat treating apparatus comprising, in combination: a furnace base comprising a lower base plate and an apertured upper base plate spaced above the lower base plate and forming an atmosphere circulating space thereabove; an inner cover disposed over the base and forming a treating chamber therewith; a fan extending upwardly through the base into the chamber and having an

impeller with a bladed portion generally axially aligned with the aperture of the upper base plate and generally horizontally aligned with said space for circulating atmosphere within the treating chamber in a circuit from the portion of the treating chamber above the upper base plate through the aperture to the atmosphere circulating space and thence generally radially outwardly through said space and back to said portion of the treating chamber; an



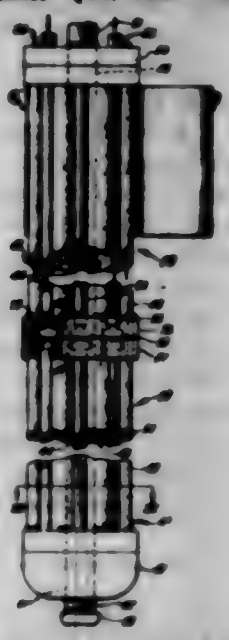
outer cover removably circumposing the inner cover and forming a heating chamber therewith; heating means for adding heat to the heating chamber; generally horizontally disposed arcuate tubular heat exchanger means disposed within said atmosphere circulating space in a generally circular configuration surrounding the bladed portion of the impeller and generally concentrically therewith; and means for passing coolant through the heat exchanger means when the outer cover is removed.

3,140,744

OIL WELL HEATER

Florent H. Bailly, Arcadia, Calif., assignor to Variperm Company, Los Angeles, Calif., a corporation of California

Filed May 29, 1961, Ser. No. 113,388
3 Claims. (Cl. 166—61)



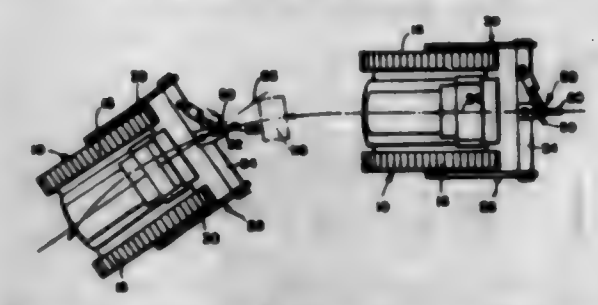
1. A heater insertable into an underground oil-bearing stratum through an oil well casing comprising an upper manifold, a lower manifold, a plurality of vertical fluid circulating tubes extending between the manifolds and fluidly communicating with the manifolds for circulation of fluid between the manifolds, said tubes being disposed about a vertical axis of the heater, arcuate permeable concrete shell sections disposed between the tubes and extending between the manifolds and the tubes to define a central longitudinal cavity axially of the heater extending from the upper manifold to the lower manifold, an oil conductor pipe, means for connecting the oil conductor pipe to the heater for fluid flow communication with the cavity, means for connecting the upper manifold to a source of heated fluid, and means for connecting the upper manifold to heated fluid outlet means.

3,140,745

MEANS FOR STEERING A TRACTOR BY VARYING THE POINT OF LOAD APPLICATION TO A TRANSVERSE TOW BAR SUPPORTED BY THE TRACTOR

Ronald C. Hinkle, Bettendorf, Iowa, Harvey R. Pope, Moline, Ill., and Lewis R. Fugate, Davenport, Iowa, assignors to Alterfer Machinery Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 25, 1958, Ser. No. 750,938
13 Claims. (Cl. 172—292)



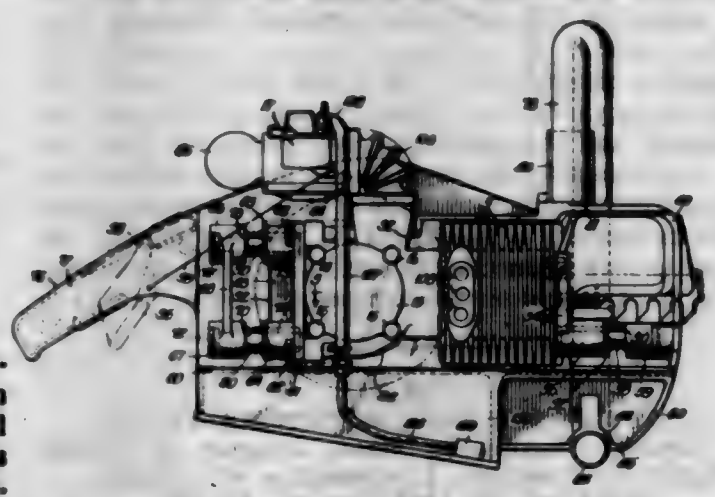
12. In combination an endless track crawler tractor of predetermined pulling power for straight-away operation, tow means supported at one end thereof, a working implement comprising a vertically disposed earth cutting blade disposed normally in edgewise alignment with the longitudinal center line of the tractor and pivotally supported on said tow means for movement about a vertical axis located ahead of the leading edge of said cutting blade for exerting a predetermined load on the tractor, and hydraulic means including an adjusting control element interconnecting said tow means and earth working implement for moving the cutting blade laterally about said pivoted axis with respect to said center line to shift the effective load of said implement on the tractor laterally with respect to the longitudinal center line of the tractor during straight-away operation to steer said tractor.

3,140,746

PORTABLE POWER SAW

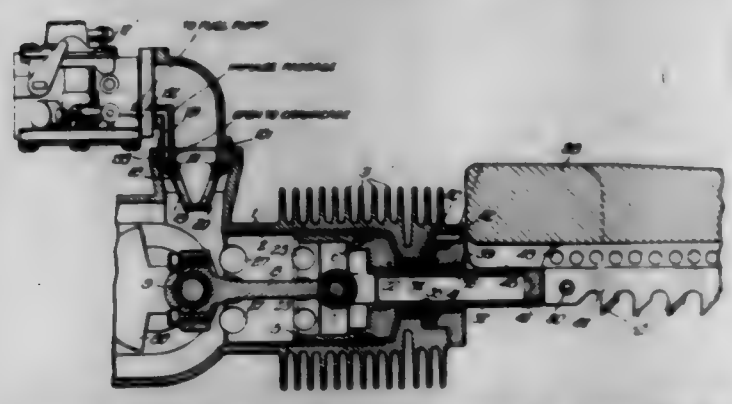
Walter P. La Force, Sheboygan, Wis., assignor to Thomas Industries Inc., Louisville, Ky., a corporation of Delaware

Filed Feb. 11, 1960, Ser. No. 8,164
9 Claims. (Cl. 173—162)



1. A portable power saw comprising a single cylinder portable internal combustion engine having a bore in which a single piston constituting a firing piston is oper-

able, a sealed combustion chamber and a crankshaft, a connecting rod connecting said piston to said crankshaft, a reciprocating power output taken directly from said firing piston by means of a firing piston extension passing through the sealed combustion chamber, a saw blade actuated by said firing piston extension, crankshaft counterweight means mounted on the crankshaft and of such weight as to eliminate only rotary unbalance introduced by the crankshaft throw and rotating movement of the connecting rod and disposed so that the remaining unbalance is reciprocatory in a direction confined to a plane parallel to the axis of the engine and parallel to the saw blade and cylinder bore, guide pins on which the engine is movable in the direction of travel of the firing piston, and shock absorbing springs associated with said guide pins and coacting with the engine to cushion the vibration of the engine in the direction of travel of the firing piston.



7. A portable power tool comprising in combination an internal combustion engine having a single reciprocating piston, a tool actuated by said piston, a main frame extending throughout substantially the length of said engine, first boss means rigid with said main frame and projecting laterally therefrom in position normally spaced from one end of said engine, second boss means rigid with said main frame and projecting laterally therefrom in position normally spaced from the opposite end of said engine, first guide pin means carried by said first boss means and projecting toward one end of said engine, second guide pin means carried by said second boss means and projecting toward the opposite end of said engine, boss means rigid with the opposite ends of said engine and guided longitudinally on said guide pin means, resilient means surrounding said first guide pin means and acting between said first boss means and the boss means at one end of said engine for absorbing vibration of the engine in one direction, resilient means surrounding said second guide pin means and acting between said second boss means and the boss means at the opposite end of said engine for absorbing vibration of the engine in the opposite direction, a rear handle rigid with said main frame and extending rearwardly, a sidewardly disposed front handle attached to said main frame, a carburetor for supplying a fuel mixture to the engine and attached to said main frame, a flexible bellows connected between the carburetor and the engine through which the fuel mixture is supplied to the engine, said flexible bellows permitting reciprocating movement of the engine with respect to the carburetor, a fingerpiece on the rear handle, and a throttle wire connected at one end to said fingerpiece and at its other end to the carburetor throttle.

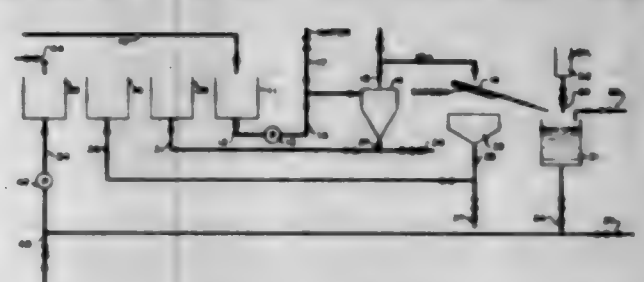
3,140,747

WATER-IN-OIL EMULSION WELL FLUID

Bill Mitacek, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 27, 1960, Ser. No. 45,699
21 Claims. (Cl. 175—66)

1. A well servicing fluid comprising a water-in-oil emulsion containing a water soluble stabilizing agent, a polymer selected from the group consisting of polyethylene, polypropylene, copolymers of ethylene and propylene,



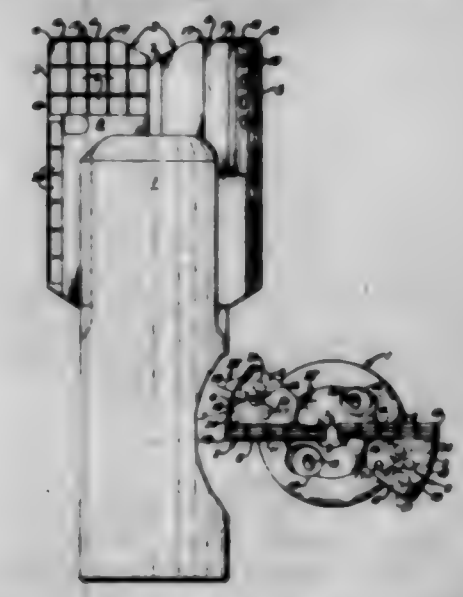
and mixtures thereof colloidally dispersed in the oil phase of said emulsion, and an oil soluble dispersing agent.

3,140,748

EARTH BORING DRILL BIT

Edgar W. Engle and James L. Foster, Jr., Laughlintown, Pa., assignors to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania

Filed May 16, 1963, Ser. No. 280,969
6 Claims. (Cl. 175—410)



1. A drilling bit of the drag bit type adapted to be rotated about its longitudinal axis, the bit comprising: a body, a plurality of wings supported by the body, each wing extending radially beyond the body to provide a hole-gauging face in the form of a portion of a cylindrical surface that subtends a substantial circumferential arc, each wing also extending axially ahead of the body to provide an end drilling face in the form generally of a sector of an annulus, and each wing also having an extended forward face of generally planar form, a layer of hard alloy material secured to each forward face to provide hard cutting edges at the junctions of that face with the gauging and drilling faces, and cemented tungsten carbide inserts embedded in each wing behind the forward face with portions of the inserts exposed on the gauging and drilling faces for limiting wear of the wing material supporting the cutting edges of the hard alloy material on the forward face and for supplementing the cutting action of those edges.

3,140,749

WEDGE INSERTS FOR DRILL BIT

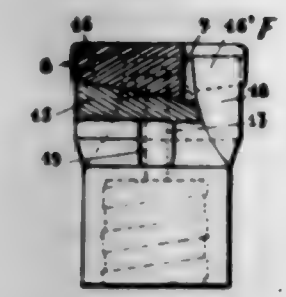
Joseph Dionisotti, Monthey, Valais, Switzerland

Filed Dec. 3, 1959, Ser. No. 857,178
Claims priority, application Switzerland Dec. 5, 1958
4 Claims. (Cl. 175—410)

1. A rock drilling tool comprising a head, having a pair of grooves therein, said grooves having a pair of converging sides and an inclined base, a detachable insert disposed in each of said grooves, said inserts having a cutting edge, a rear face, a front face, a pair of

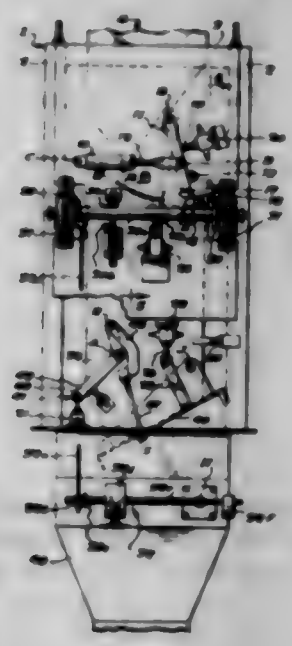
sides converging from said rear face to said front face and a flat base inclined longitudinally from said front face to said rear face, said inserts disposed in said grooves with their longitudinal axes parallel to each other and the front face of one of said inserts disposed in a direction opposite to the front face of the other of inserts, all of said sides and bases converging in a direction so that following installation of said inserts in said grooves the pressure exerted on the inserts during operation of the tool causes said inserts to be wedged firmly in said





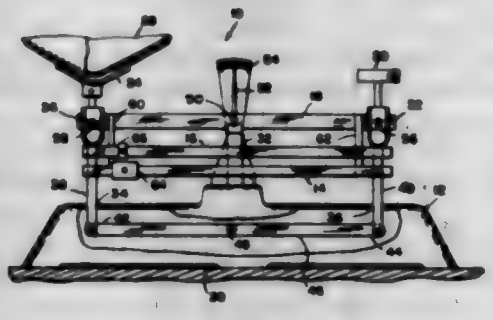
head, said head having a central opening through which scavenging air for discharging the waste of the drilling operation passes, each of said inserts directed perpendicularly to the center axis of the tool, the front faces of said inserts being of greater height than the rear faces thereof and situated adjacent the center axis of the head, the rear faces of said inserts being of greater width than said front faces thereof, said head having at least two diametrically opposite arcuate peripheral recesses to facilitate discharge of drilling waste matter.

3,140,750
SCALE APPARATUS
Theodore G. Mueller, Kenmore, N.Y., assignor to Consolidated Packaging Machinery Corporation, Buffalo, N.Y., a corporation of New York
Filed Aug. 6, 1963, Ser. No. 300,203
2 Claims. (Cl. 177—107)



1. An automatic weighing machine for powdered and particulate solid materials comprising a framework;
a material hopper having an open bottom and opposing sides and being mounted within the framework;
a bottom gate and lever arm suspended for rotation from the sides;
a pneumatic pressure gate control having a pressure source, a pressure cylinder having first and second pressure ports at opposing ends, first and second pressure communicating means disposed between the source and the ports, a movable piston head disposed within the cylinder between the ports, a piston rod connected at one end to the piston head and at the other end to the lever arm;
a gate opener having first valve means disposed in the first pressure communicating means between the source and the first pressure port;
a gate closer having second valve means disposed in the second pressure communicating means between the source and the second pressure port;
a first flexible blade mounted on the framework;
a weighing beam having one end adapted to impinge against and open the second valve means when the weighing beam is in equilibrium and being suspended for rotation from the first flexible blade;
a counterpoise connected to the one end of the weighing beam;
a second flexible blade mounted on the other end of the weighing beam;
a material weighing bucket having an open upper end positioned beneath the bottom, an open lower end, and opposing lateral surfaces and being suspended for rotation from the second flexible blade;
a lower end trap door having means adapted to open the first valve means when the door is closed and being suspended for rotation from the surfaces;
a door fastener having fastener toggle joints and a fastener weight and being suspended for rotation from the surfaces, the fastener toggle joints having primary legs each connected at one end to the fastener weight and suspended for rotation from a surface and having secondary legs each suspended at one end for rotation from an other end of a primary leg and suspended at the other end for rotation from the door;
a pneumatic fastener release device having a third pressure communicating means connected at one end to the second pressure communicating means between the second pressure port and the second valve means and at the other end to a movable prod adapted to impinge against the fastener weight from below when the weighing beam is in equilibrium, a third valve means disposed in the third pressure communicating means between its ends and adapted to be impinged against by the lever arm.

3,140,751
BEAM BALANCE
Harry W. Dietert, Kerrville, Tex., assignor to Harry W. Dietert Co., Detroit, Mich., a corporation of Michigan
Original application Aug. 21, 1961, Ser. No. 132,902. Divided and this application Sept. 17, 1962, Ser. No. 224,000
5 Claims. (Cl. 177—247)



1. A balance comprising a balance beam, pivotal mounting means centrally pivotally mounting the balance

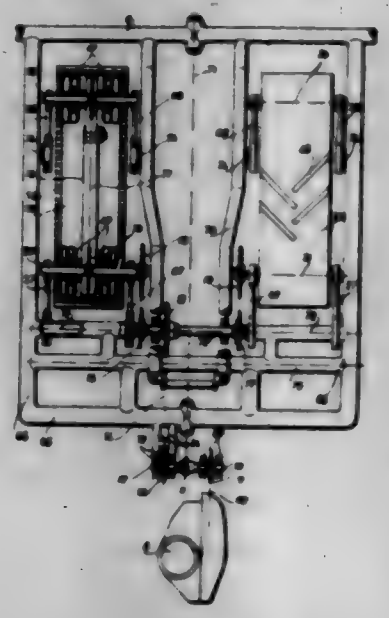
beam, a first weight fixedly positioned on one end of the balance beam, a first scale supported by the balance beam and extending from one end to the other thereof substantially parallel thereto having graduations thereon from zero to five spaced linearly from one end to the other thereof, a second weight positioned on said first scale for movement from one end to the other thereof past said pivotal mounting means of said balance beam, a second scale having graduations thereon from zero to one hundred spaced linearly from one end to the other thereof supported by the balance beam and extending from one end to the other thereof past said pivotal mounting means of said balance beam and substantially parallel to the balance beam and first scale, a third weight mounted on said second scale for movement linearly thereof past said pivotal mounting means for said balance beam from one end to the other of said scale, said second weight being equal to two and one-half percent of the total of all of said weights, said third weight being equal to fifty percent of the total of all of said weights and means for supporting a quantity of granular material equal in weight to the combined weight of all of said weights at the other end of the balance beam.

3,140,752

MOTORIZED SNOW VEHICLE

Miguel Feu, also known as Miguel Feu Serrahima, Barcelona, Spain, assignor to L. Joseph F. Nagode, New York, N.Y.

Filed Apr. 7, 1961, Ser. No. 101,507
2 Claims. (Cl. 180—5)



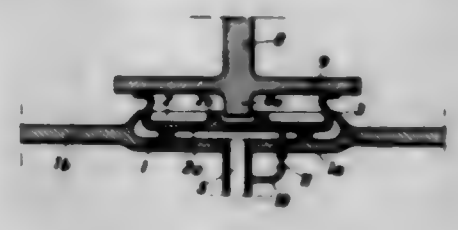
1. A snow vehicle comprising, in combination, an elongated main frame, at least one ski connected to support said main frame, an auxiliary frame pivotally connected to said main frame for displacement about an axis which extends parallel to the longitudinal axis of said main frame, said main frame being elongated in the direction of movement of said vehicle, two further skis connected to support said auxiliary frame, said last-named skis being symmetrically disposed with respect to said axis, two similar traction belt units carried by said auxiliary frame, said traction belt units being symmetrically arranged with respect to said axis, motor means connected to drive said traction belt units, and manually operable means for selectively vertically translating said belt units above said further skis or vertically translating said belt units below said further skis for driving engagement with a snow covered surface upon which said vehicle is to be propelled by said motor means, and wherein said motor means is carried by said main frame, said vehicle further comprising a universal joint through which said motor means is drivingly connected to said belt units, said universal joint having at least one vertical axis of pivoting and at least one horizontal axis of pivoting, said longitudinal axis intersecting said vertical axis and coaxially disposed with respect to said horizontal axis.

3,140,753

SUPPORTING DEVICE USING A LAYER OF FLUID UNDER PRESSURE

Jean Henri Bertin, Neuilly-sur-Seine, France, assignor to Societe Bertin & Cie, Paris, France, a company of France

Filed Nov. 17, 1959, Ser. No. 853,493
Claims priority, application France Nov. 25, 1958
2 Claims. (Cl. 188—7)



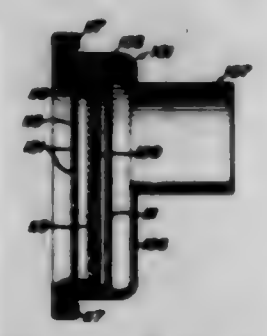
1. A device for providing support between a first member and a second member having a cavity defined between them and being disposed in reciprocal relationship comprising, in combination, a nozzle provided on said first member opposite said second member, a source of fluid under pressure connected to feed said nozzle and to cause issuance of a fluid stream therefrom, said nozzle being formed to direct said stream as a sheet limiting said cavity, and a conduit for discharging fluid into said cavity, said conduit being connected to be fed from said source of fluid under pressure and said conduit including flow-controlling means, whereby said fluid is introduced into said cavity from said conduit and confined by said sheet, and said members are repelled relatively to one another.

3,140,754

GAS MASK SPEECH TRANSMISSION

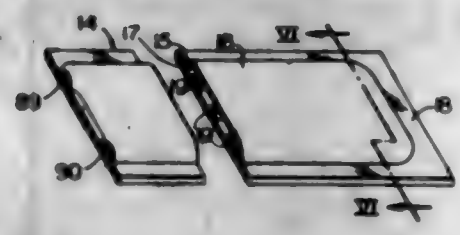
Armand V. Mettinger, near Aberdeen, Md.

Original application Feb. 12, 1954, Ser. No. 410,056, now Patent No. 2,974,665, dated Mar. 14, 1961. Divided and this application Dec. 3, 1959, Ser. No. 102,328
2 Claims. (Cl. 181—31)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A voice-transmitting device for gas masks comprising a cup-shaped housing having a cylindrical wall and a base, at least one aperture for the entrance of sound waves eccentrically positioned in said base, a diaphragm of thin sheet material extending across said housing joined at its periphery to said cylindrical wall, and spaced from and parallel to said base, a perforated plate between and parallel to said base and diaphragm, a second perforated plate on the other side of, spaced from, and substantially parallel to said diaphragm, a third perforated plate between and parallel to said second plate and said diaphragm, said first and third plates being perforated only in their peripheral areas and said second plate being perforated only in its central area.

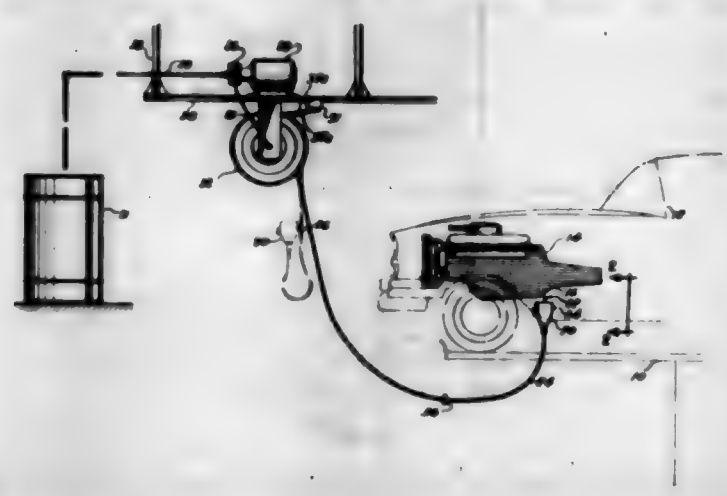
3,140,735
MUFFLER OR OTHER HOLLOW ARTICLE AND FABRICATION OF SAME
Lester Joseph Trunel, St. Louis, Mo., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Apr. 15, 1960, Ser. No. 22,441
11 Claims. (Cl. 181—61)



1. A seamless hollow structure comprising:
(A) a seamless metal sheet having opposed faces,
(1) said sheet having a portion of the thickness thereof bulged outwardly beyond at least one of said opposing faces over a major portion of the area of said sheet thereby defining a pair of opposed spaced apart walls extending over said major area portion;
(2) said sheet further having an integral, seamless, peripherally extending flange portion surrounding said bulged portion whereby said sheet defines, between said walls, an expanded chamber disposed internally within said sheet and peripherally sealed therein,
(3) said portion of the thickness of said sheet being correspondingly bulged outwardly across said flange portion and forming an extension of said spaced apart walls thereby defining a first opening through said sheet adjacent the marginal edge thereof and extending into said chamber to provide a port in communicating relationship externally of said sheet,
(4) said sheet having other opposed portions of its thickness bulged outwardly over an elongated tortuous path to define a system of continuous tubular passageways disposed and extending internally within said other portions of said sheet,
(a) said system of passageways having an opening in a first terminal end thereof to place said system of passageways in communicating relationship with said chamber,
(5) a portion of the thickness of said sheet being bulged outwardly across said flange portion thereby forming a second terminal end of said system of passageways which is disposed internally within said flange portion and in sealed relationship with said chamber, and defining a second opening adjacent the marginal edge of said sheet to place said system of passageways in communicating relationship externally of said sheet.

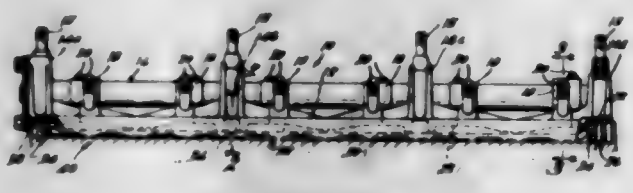
3,140,754
DRAINAGE APPARATUS
Henry T. Dinkelkamp, Mt. Prospect, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Sept. 25, 1961, Ser. No. 140,559
8 Claims. (Cl. 184—1.5)

7. Fluid drainage apparatus for a device of the type described having a fluid drain opening therein, comprising in combination, support structure disposed remote of the device, a suction pump supported on the structure, a fluid receiving funnel adapted to be supported by the device in a fluid catching position in general vertical alignment below the drain opening, a waste drum disposed at a location remote from and independent of the device and the suction pump, a hose interconnecting the funnel and the inlet of the suction pump, conveying means interconnecting the outlet of the suction pump and the waste drum operable to communicate fluid collected in the funnel to



the drum upon operation of the pump, a hose reel secured to the structure adapted to retract at least a portion of the hose, and latch structures on said funnel and said hose connectable to one another to support said funnel in an inoperative position remote from the device.

3,140,757
LUBRICATION SYSTEM
Achilles C. Sampietro, Bloomfield Hills, Mich., assignor to Willys Motors, Inc., Toledo, Ohio, a corporation of Nevada
Filed May 28, 1962, Ser. No. 198,337
7 Claims. (Cl. 184—6)

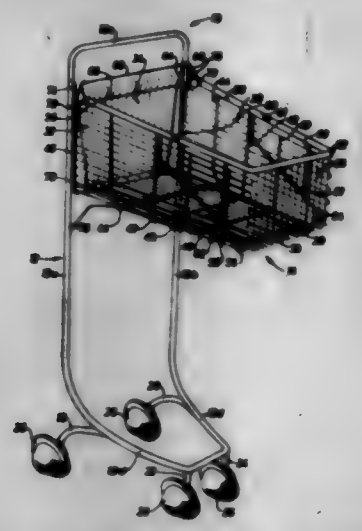


1. Apparatus comprising a longitudinally extending body having a longitudinal axis disposed in a generally horizontal plane and having a front and a rear end, a longitudinally extending oil reservoir in said body partially defined by an upper wall therein, an input passage connected to a selectively pressurizable source of fluid and disposed at said front end of said body, and a tube member disposed in said reservoir and extending substantially longitudinally of said body for supplying fluid to said reservoir, said tube member having an inlet disposed proximate to said upper wall and connected in fluid communication with said input passage and an outlet in fluid communication with said reservoir at said rear end and proximate to said upper wall.

3,140,758
CART
Ragnar Berg, Hagersten, Sweden, assignor to Svenska Dataregister Ab, Stockholm, Sweden, a corporation of Sweden
Filed Aug. 24, 1960, Ser. No. 51,578
Claims priority, application Sweden Aug. 26, 1959
19 Claims. (Cl. 186—1)

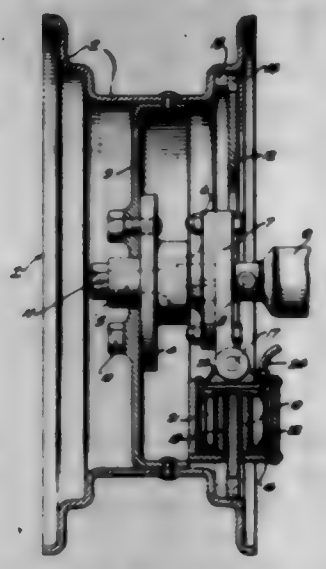
1. An article collecting cart for use with a counter construction having an engaging means, a wheeled frame, a basket having a forwardly and upwardly inclined bottom wall and supported at an elevated position upon said frame, and means pivotally mounting said basket on said wheeled frame with said inclined bottom wall disposed to permit said cart to be advanced to bring said inclined

bottom wall over the engaging means, the basket mounting means including structure engaged by said engaging



means when the cart is advanced for pivoting said basket upon said frame to a position where said bottom wall is downwardly and forwardly inclined.

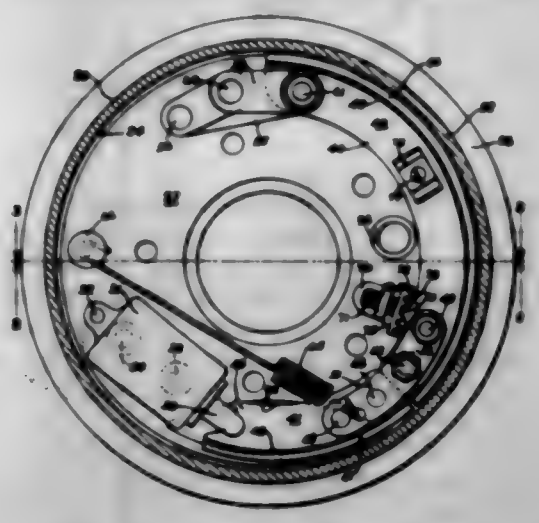
3,140,759
PIVOTED SPOT TYPE DISK BRAKE
Toby T. Cagle, 13403 Stanbridge, Bellflower, Calif.
Filed May 22, 1961, Ser. No. 111,562
6 Claims. (Cl. 188—73)



1. A disk brake for the wheels of a vehicle, comprising a disk, means fixedly securing the disk to said wheel, a non-rotatable flange positioned adjacent the wheel, a brake shoe housing, means perpendicular to the axis of the wheel pivotally mounting the brake shoe housing on said flange, said brake shoe housing being bifurcated such that it straddles the disk, a pair of brake shoes in said housing positioned one on each side of said disk and engageable with the disk, a piston in the housing bearing against each of said brake shoes, said brake shoe housing having a duct therein extending to one side of each of said pistons, and a hydraulic hose extending to said duct to conduct pressure fluid to the pistons to press the pistons against the brake shoes.

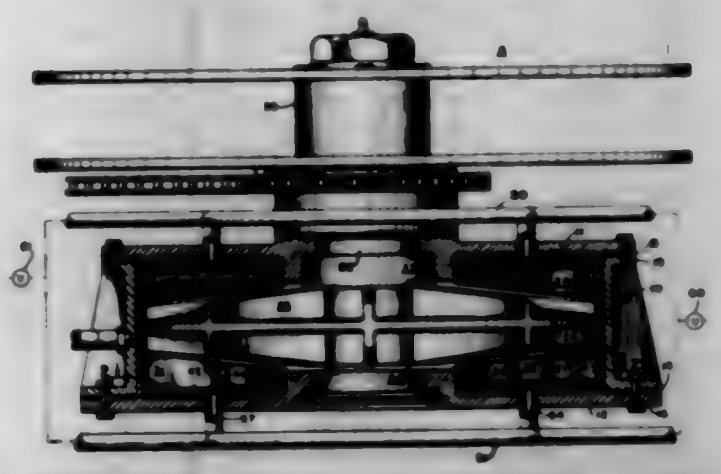
3,140,760
VEHICLE BRAKES
Olaf Rasmussen, R.R. 2, Box 453, Port Clinton, Ohio; Helga Rasmussen, executrix of said Olaf Rasmussen, deceased
Filed July 25, 1960, Ser. No. 45,090
6 Claims. (Cl. 188—78)

1. A brake comprising in combination, a stationary disc; a rotatable brake drum; a composite brake shoe assembly pivotally supported by the stationary disc and movable into frictional engagement with the brake drum, said brake shoe assembly consisting of a plurality of arcuate segments; attaching means for hingedly attaching adjacent ends of said segments one to the other in such a manner that said arcuate segments are concentric when moved into frictional engagement with the brake drum, and predeterminately out of concentricity when moved out of engagement with said drum; an actuator attached to the stationary disc and operative on one end of the composite brake shoe assembly to urge the same into fric-



tional engagement with the brake drum; and a spring anchored to the disc and shoe assembly, operative to retract the shoe assembly from engagement with said drum, and in which combination said attaching means includes a hinge strip rigidly attached to one of said segments and pivotally connected to the other of said segments by a bolt and limited in its pivotal movement with said other segment by a second bolt having an elongated opening connection between said hinge strip and said other of said segments.

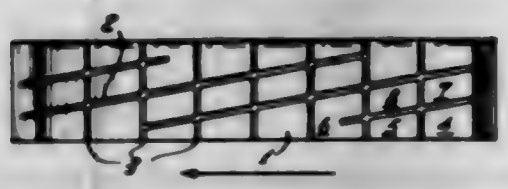
3,140,767
ROTARY FLUID BRAKE MEANS
Donald Beach Doolittle, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 21, 1962, Ser. No. 218,254
4 Claims. (Cl. 188—96)



1. In a fluid brake unit including a housing with vertically spaced upper and lower stator vanes and a rotor therein between said vanes, a vertical rotor shaft on which said rotor is mounted, centrally positioned vertically spaced rotor bearings, said vertical rotor shaft being journalled to rotate at each end in said bearings, control means in the space between said vanes to effect the K factor of the unit, said control means comprising fluid flow path changing means, said control means each including a horizontal plate, each said plate being secured solely to inflatable means, said inflatable means being

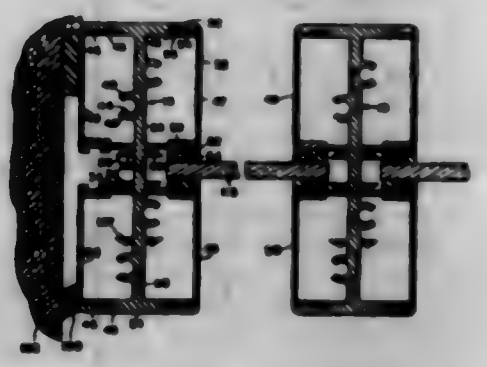
expansible in the housing between the stator vanes to vary depth of the space between said vanes, and means for selectively inflating and deflating said inflatable means.

3,140,762
BRAKE SHOES FOR THE WHEELS OF MOVING VEHICLES
Arnold Trees, Munich, Germany, assignor to Henschel-Werke G.m.b.H., Kassel, Germany
Filed Mar. 27, 1962, Ser. No. 186,580
4 Claims. (Cl. 188—261)



1. A friction element comprising a single piece body of a metallic friction material of substantially uniform thickness having an elongated arcuate configuration substantially forming part of a cylinder and having a friction surface adapted for relative movement with a coacting complementary surface of a member whose motion is to be retarded, the length of said body circumferentially of the axis of said cylinder being several times as great as its width parallel to said axis, said friction surface being interrupted by a plurality of transverse grooves parallel to the axis of said cylinder and extending inwardly from said friction surface to a uniform depth several times greater than the width of said grooves taken circumferentially with respect to said axis, said surface being further interrupted by a plurality of substantially parallel spiral grooves extending helically with respect to said axis and inwardly to the same depth as said transverse grooves, the number of spiral grooves being substantially less than the number of transverse grooves, and said spiral and transverse grooves intersecting to form a network dividing said body into a plurality of thermally distinct, separately expandable sections.

3,140,763
CURTAIN WALL
Bertram W. Edelstein, Detroit, Mich., assignor to The Bertle Company, Inc., Detroit, Mich., a corporation of Michigan
Filed Mar. 6, 1961, Ser. No. 93,652
12 Claims. (Cl. 189—34)



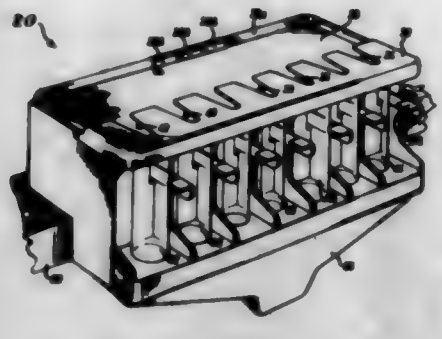
4. A curtain wall construction comprising a pair of spaced vertical I-beams, each having a web connecting a pair of flanges of predetermined width, a pair of spaced horizontal members joining said I-beams to provide a frame opening, flange means on said horizontal members for positioning a closure panel in said frame opening, groove means on the inner wall of said flanges, a pair of grooved ribs extending laterally from each of said webs, and a pair of vertical snap-on members for each of said I-beams, each snap-on member having a wall and a pair of flanges, said snap-on members being adapted to be assembled with the I-beam on opposite sides of said closure panel so that the flanges thereof are received in said groove means and said grooved ribs, a horizontal snap-on member for each of said horizontal members and including end portions adapted to abut the walls of said vertical snap-on members, said horizontal snap-on member holding said closure panel against the flange means provided on the horizontal member.

3,140,764
PRESTRESSED GIRDER MEMBER
David B. Cheskin, 407 S. Dearborn, Chicago, Ill.
Filed Mar. 17, 1960, Ser. No. 15,634
3 Claims. (Cl. 189—37)



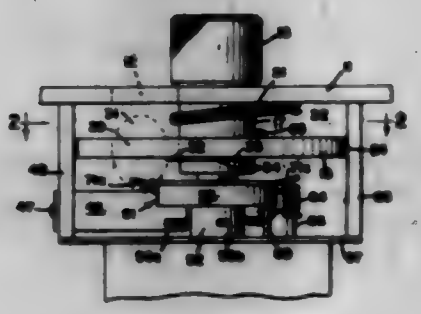
1. A non-arch form prestressed girder member comprising in combination, an upper flange section, a web section, a continuous lower section of relatively low cross-sectional area having an extended width and providing a larger radius of gyration about a central vertical axis than said upper flange section, tensile means having a greater elastic limit than any of the other sections of said girder member having adjustable tensioning means connecting therewith, and means attaching said tensile means to the ends of said lower extended width section while extending parallel therewith across at least a mid-portion of the length of said girder member.

3,140,765
CHANGE DISPENSER
Gunnar E. Sundblad, Bromma, and Rolf B. Andrea, Bandhagen, Sweden, assignors to Svenska Dataregister AB, Stockholm, Sweden, a corporation of Sweden
Filed July 6, 1960, Ser. No. 41,178
Claims priority, application Sweden July 9, 1959
28 Claims. (Cl. 194—9)



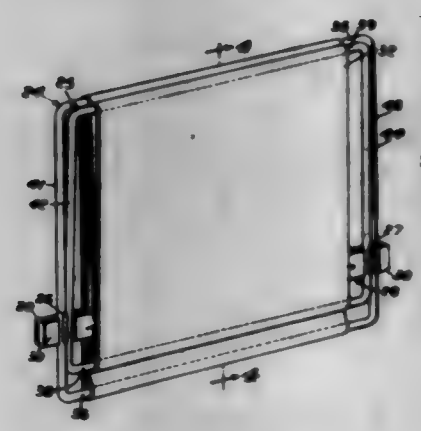
1. In a coin dispensing apparatus, a plurality of counting circuits, means for supplying signals to less than all of said counting circuits to operate said counting circuits to a setting representing a first amount, coin controlled means for supplying signals to all of said counting circuits to operate said circuits to a setting representing the difference between said first amount and the value of the coins represented by the signals supplied by said coin controlled means, and a coin dispensing mechanism controlled by said counting circuits for dispensing coins in an amount corresponding to said difference.

3,140,766
COIN CONTROLLED METERING DEVICE
Christopher George Taylor, South San Francisco, Calif., assignor to Service Distributors, Inc., San Francisco, Calif.
Filed June 4, 1962, Ser. No. 199,919
7 Claims. (Cl. 194—84)



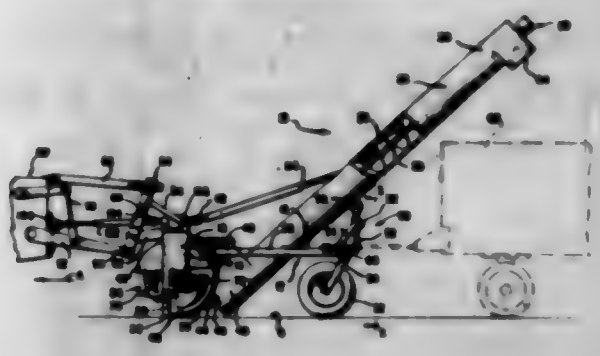
1. In a coin metering device, a shaft, means forming a coin-receiving first slot, a manually rotatable turntable formed with a second slot, means mounting said turntable for rotation concentric with said shaft between a first position in which said slots are substantially vertically aligned and a second position, a cam, means mounting said cam for rotation concentric with said shaft, a plurality of coin-engaging points on said cam positioned below said turntable and arranged to fit ahead of a coin held in said second slot in the direction of movement of said turntable from first to second positions and to be engaged by a coin turned with said turntable to turn said cam, a collar fixed on said shaft, a plurality of removable first projections on said collar, single second projection on said cam extending into the path of movement of said first projections, means for discharging a coin from said second slot in second position of said turntable, said first projections being individually removable.

3,140,767
HIGH SPEED AUTOMATIC MAIL SORTING SYSTEMS
Werner Hauer, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 20, 1962, Ser. No. 218,629
23 Claims. (Cl. 198—1)



1. Handling means for an article sorting system comprising an article holding device having two movable walls disposed opposite one another, means for resiliently urging said walls toward one another, means for moving said walls, and means overlapping portions of said walls to form a closure at one end of said holding device, said closure and walls forming a pocket.

3,140,768
MOBILE LOADER
Robert A. Marr, Rte. 3, Box 84, Winnsboro, Tex.
Filed Dec. 4, 1961, Ser. No. 156,986
4 Claims. (Cl. 198—7)

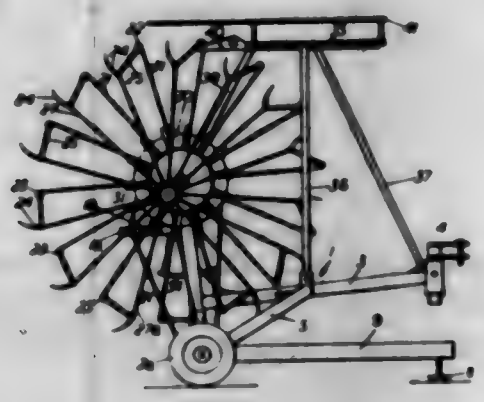


1. A tractor-towed material-collecting loader comprising a carriage having a transverse frame at the forward end thereof, said transverse frame having a horizontal top member and a pair of side members depending therefrom and having a horizontal conveyor mounted between said side members, said horizontal conveyor comprising blade means supported for rotation on said side members and a tubular housing about said blade means having a material entrance space at the lower-front portion thereof, a horizontally extending material-dislodging blade supported between said side members below said space, said carriage having a longitudinal frame extending rearwardly from said transverse frame with a supporting wheel at its rear end, said longitudinal frame being pivotally connected to said transverse frame for relative movement about a horizontal axis, an elevating conveyor extending rearwardly and upwardly from said horizontal conveyor, said elevating conveyor having an elongated housing with a lower end movably mounted behind the housing of said horizontal conveyor and an intermediate portion supported on said longitudinal frame, said housings having communicating openings through which material is fed from said horizontal conveyor to said elevating conveyor, said top member of said transverse frame having means for coupling said carriage to a towing tractor, said coupling means including means for lifting said transverse frame and changing the angle of said dislodging blade, said horizontal conveyor having drive means at one end thereof and said elevating conveyor having drive means at its upper end, and a power transfer unit mounted on the top member of said transverse frame and adapted to be coupled to a power take-off of said towing tractor, said power transfer unit having output means coupled to both said conveyor drive means.

3,140,769
HAY BALE LOADING MACHINE
Charles W. Maxwell, Leith Road, Otaio, New Zealand
Filed Oct. 4, 1962, Ser. No. 228,326
Claims priority, application New Zealand Oct. 17, 1961
10 Claims. (Cl. 198—7)

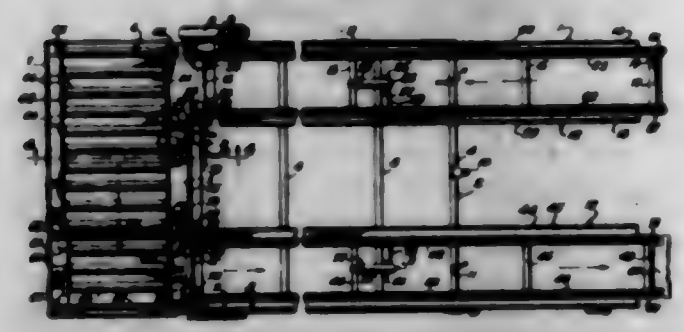
1. A hay bale loading machine comprising a frame adapted to be moved over ground on which hay bales to be loaded are lying, a bale delivery platform adapted to receive bales lifted by the machine, power driven movable hook means operatively mounted on said frame and adapted in use to be hooked into a bale to move it from the ground to said delivery platform, hook operating means adapted in use to mechanically insert said hook means into a hay bale lying on the ground, to lock said hook means in position in said hay bale during lifting and to release said hook means from said bale for delivery, and supporting means movable with said hook means and adapted to support the hay bale being lifted, the construction and arrangement being such that in use on said frame being moved over the ground said hook means

will be mechanically inserted into a hay bale lying on the ground and will lock therein in a manner such that the hay bale will be raised to said delivery platform with



said hook means being automatically unbooked and removed during raising so that the free bale is released for delivery onto said platform.

3,140,770
LOADER
Jerome L. Herring, William T. Grant, and Bernard Raymond Plitner, Rose Hill, N.C., assignors to American Truck Body Company, Murfreesville, Va., a corporation of Virginia
Filed Dec. 11, 1962, Ser. No. 243,767
5 Claims. (Cl. 198—7)



1. A loader comprising, a wheeled frame, a transfer platform carried by the frame, an unloading conveyor and a loading conveyor pivotally connected at their ends to the transfer platform to project from the platform in spaced parallel relation, means interposed between the frame and each of said conveyors to move the conveyors vertically about their pivotal connections, means to drive the unloading conveyor in a direction to deliver articles to the transfer platform, means on the transfer platform adjacent the end of the loading conveyor to pick up articles and deliver them to the loading conveyor, means to drive the pickup means and the loading conveyor to move articles on the loading conveyor away from the transfer platform.

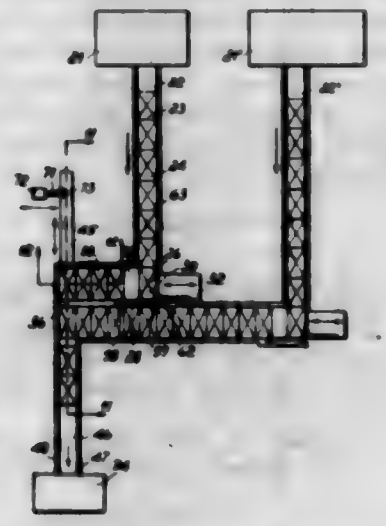
3,140,771
DELIVERY APPARATUS
Walter G. Harrison, Westchester, Leo A. Gery, Chicago, and Allen C. Andet, Arlington Heights, Ill., assignors, by mesne assignments, to Prospect Manufacturing Co. Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 19, 1961, Ser. No. 139,148
15 Claims. (Cl. 198—20)

1. Apparatus for delivering articles to a conveyor moving in a path adjacent the delivery end of said apparatus comprising an endless belt having a delivery end, drive means for said belt having a stop position, a low speed position and a high speed position adapted to drive said belt, said drive means moving said belt at a low speed when said articles to be delivered are placed on the other end of the belt, means for putting said drive means in stop position after said articles have moved a predetermined amount on said belt and means for putting said



drive means in high speed position for causing said articles to be passed onto said conveyor.

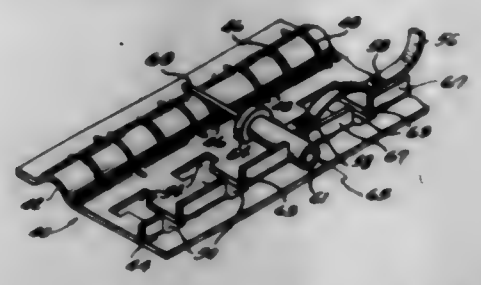
3,140,772
CANALIZING CONVEYOR SYSTEM, PARTICULARLY FOR PACKING MACHINES
Arieste Seragnoli, Bologna, Italy, assignor to G.D. Societa in Accomandita semplice di Enzo Seragnoli ed Arieste Seragnoli, Bologna, Italy, a corporation of Italy
Filed Dec. 18, 1962, Ser. No. 245,483
Claims priority, application Italy Dec. 21, 1961
6 Claims. (Cl. 198—32)



1. A conveyor system comprising in combination at least two first conveyor lines and at least one second conveyor line, said first conveyor lines having ends opening into said second conveyor line, a magazine member having an inlet above said ends of said first conveyor lines where said first conveyor lines open into said second conveyor line, first pushing means to push the articles conveyed in said first conveyor lines towards said opening ends, second pushing means to push against gravity the articles arriving at said opening ends towards the inlet of said magazine member, third pushing means to push the articles arriving at said inlet of the magazine member into said second conveyor line, first stopping means for stopping said third pushing means while allowing said second pushing means to push the articles in said magazine member, second stopping means for stopping said first pushing means when there is a deficiency of articles in said first conveyor lines while allowing said second and said third pushing means to continue their operations and

to push the articles descending from said magazine member at the inlet of said magazine member into said second conveyor line.

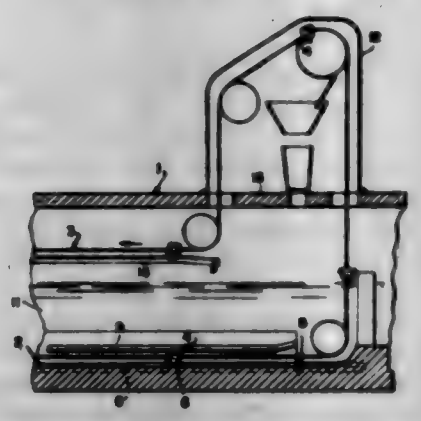
3,148,773
CARRY STRIP
Ernest L. Cheh, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Aug. 29, 1962, Ser. No. 220,218
3 Claims. (Cl. 198—131)



1. A carry strip for transporting a plurality of generally cylindrical articles having longitudinal sections of different diameters, through a machine in which they are to be processed, comprising:

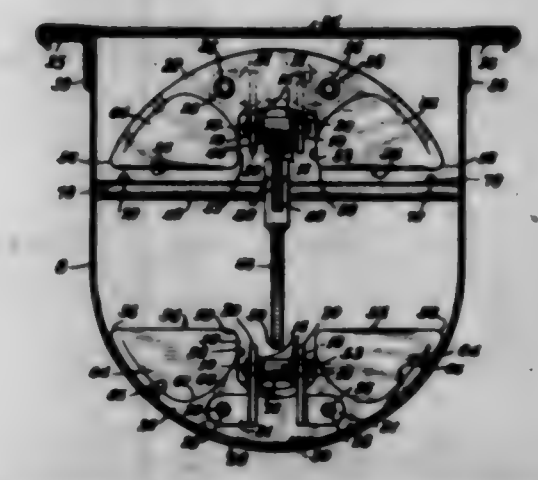
a longitudinally extending strip of flat flexible material having a plurality of parallel longitudinal ribs substantially perpendicular to a surface thereof; said strip including a first plurality of longitudinally spaced apart apertures forming channels through said ribs transverse to said strip, and a second plurality of apertures axially aligned with and spaced from said channels; said second plurality of apertures being dimensioned to partially receive axial portions of said article having one diameter for preventing substantial transverse motion of said articles; said channels being dimensioned to receive axial portions of said articles having another diameter for preventing substantial longitudinal motion of said articles; releasable means secured to said strip for retaining said articles in said channels and apertures; and a plurality of longitudinally spaced apart surface discontinuities on said strip adapted for engagement by said machine.

3,148,774
CONVEYOR WEARING SHOES
William F. Johnston, Delafield, Thomas J. Stencel, Milwaukee, and Arnold H. Sobczak, New Berlin, Wis., assignors to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 16, 1962, Ser. No. 195,175
12 Claims. (Cl. 198—137)



1. In a chain and scraper mechanism for a grit collection system including a trough, parallel tracks extending along each side of the trough, endless chains operating over the tracks and having projecting attachment ears at corresponding intervals, and a scraper connected between chains at each interval, each end of the scraper having spaced attachment lugs and a removable pin extending vertically therethrough and through the corresponding ear of the chain for such connection; upper and lower wearing shoes for each end of each scraper, a U-shaped bracket fixed to each end of each scraper for receiving a shoe therebetween, and bolt means associated with each bracket normally securing said shoe therebetween while allowing periodic rotation of the shoe about its axis to present successively its several sides for sliding engagement with the track for the support of the scraper thereon.

3,148,775
CONVEYOR
Max W. Asher, Riverdale, Ill., assignor to Screw Conveyor Corporation, Hammond, Ind., a corporation of Illinois
Filed Oct. 9, 1962, Ser. No. 229,356
4 Claims. (Cl. 198—174)



1. A conveyor comprising a conveyor trough having a rounded bottom over the major portion of which material is adapted to be conveyed and spaced upright sides, a laterally elongated conveyor flight of generally planar form disposed perpendicular to the bottom of the trough over the major portion thereof and having a rounded lower edge conforming with the bottom of said trough, the upper edge of said conveyor flight having a recess defined by inner side edges disposed in parallel relation, a conveyor chain operable longitudinally within said trough and disposed within said recess in said flight and attached to said flight, the inner side edges of said flight recess being in close proximity to the opposite sides of the chain and extending inwardly of said chain, said flight having horizontal edges extending from the inner ends of the side edges of the flight recess normal to said side edges and to the opposite ends of the rounded lower edge of the flight, each of said horizontal edges of said flight extending laterally in amount greater than the width of the flight recess whereby the flight area and conveying capacity of the conveyor are increased particularly with materials which otherwise would roll or pass back in a direction opposite to the direction in which the material is intended to be conveyed.

3,148,776
RECIPROCATING LINEAR FEEDER
Edward H. Craver, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 8, 1963, Ser. No. 257,137
7 Claims. (Cl. 198—221)

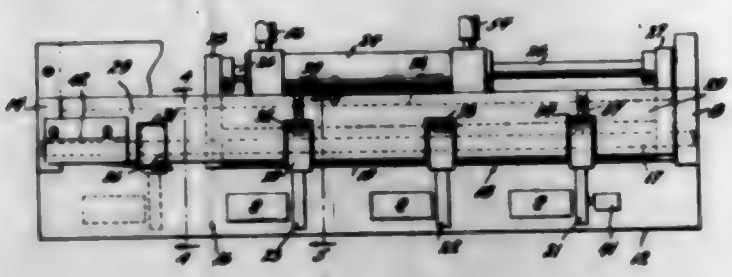
1. In an article transfer device having an article engaging member mounted on a rotatably and axially movable rod,

a camming surface formed on said article engaging member,

a guide means mounted for cooperation with said article engaging member to prevent rotation of the member during axial movement of the rod,

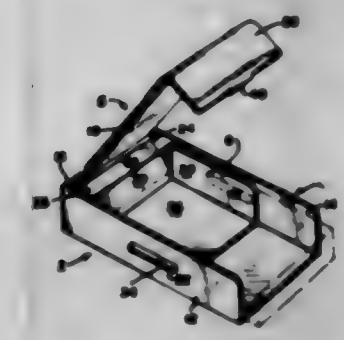
said guide means having a slot formed therein,

means for axially moving said rod to advance said article engaging member into alignment with said slot, and



means responsive to the axial movement of said camming surface for rotating the article engaging member.

3,140,777
CARD CASE
Alvin C. Gordon, Bradshaw, Nebr.
(Highways 34 and 81, Box 336, York, Nebr.)
Filed Jan. 28, 1963, Ser. No. 254,384
1 Claim. (Cl. 206—1)



A card case comprising:

(*a*) an outer tray member, said outer tray member having a longitudinally extending base wall, upstanding side walls of a first length and a rear end wall;

(*b*) a closure member for said outer tray member, said closure member comprising a top wall and a front wall depending from one edge of said top wall;

(*c*) pivot means pivotally mounting said closure member on said side walls of said outer tray member immediately adjacent said rear end wall for pivotal movement from a first position where said top wall overlies said base wall and said front wall closes the end of said outer tray member opposite said rear end wall, to a second position where said front wall is free of said end and said top wall is upward from the location thereof in said first position;

(*d*) an inner tray member reciprocally mounted in said outer tray member, said inner tray member having a rear wall extending parallel to said rear end wall of said outer tray member and side walls having a length less than said first length and being disposed adjacent and parallel to said side walls of said outer tray member;

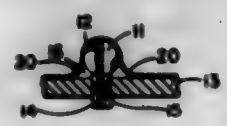
(*e*) a flange depending from said top wall of said closure member, disposed between the rear walls of said outer tray member and said inner tray member and being pivotally movable therewith from a position parallel to said rear wall of said inner tray member to a position angularly disposed thereto;

(*f*) said flange being engageable with said rear wall of said inner tray member to push said inner tray member toward said end of said outer tray member opposite said rear wall;

(*g*) elongated recesses in the side walls of one of said tray members facing the side walls of said other tray member, and projections on the side walls of said other tray member extending into said recesses respectively whereby to reciprocally mount said inner tray member within said outer tray member;

(*h*) said front wall carrying means cooperable with said base wall to maintain said closure member in said first position.

3,140,778
PACKAGING AND UTILITY DEVICE
Clifford F. Kaplan, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Feb. 9, 1961, Ser. No. 88,170
4 Claims. (Cl. 206—80)



1. A vacuum-formed display and packaging device consisting essentially of at least one object having a substantially decreased thickness portion and a projection extending outwardly of said decreased thickness portion, said projection being mounted in a corresponding aperture in a substantially planar base member, a clear, natural nylon thermoplastic film having a thickness of 0.0005 to 0.010 inch covering and closely conforming to the configuration of said object and bonded to at least a portion of said base member, means provided on a portion of said film covering closely conforming to the decreased thickness portion of said object for allowing easy removal of said object from said base member by separation of said film member whereby said object may be removed from said base member along with a portion of said clear, natural film which adheres to said object.

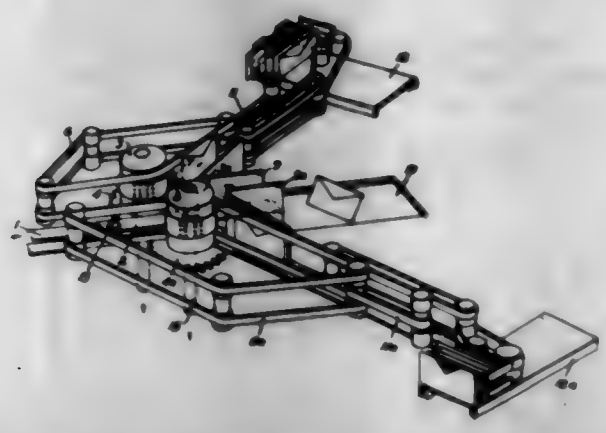
3,140,779
METAL WORKING METHOD AND LUBRICANT
Robert H. Dalton, Corning, N.Y., and William H. Kroeck, Bethlehem, Pa., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 6, 1962, Ser. No. 216,017
6 Claims. (Cl. 207—10)

1. In the art of shaping a body of metal by subjecting it to pressure while the body is maintained within a range of elevated temperatures and is disposed in working relationship to a die member provided with a vitreous lubricant, the method of broadening the range of metal working temperatures which comprises providing as the lubricant a glass consisting of 50–100% B_2O_3 and 0–50% SiO_2, and characterized by a viscosity gradient of about 1.8 in the metal working temperature range.

3,140,780
ARRANGEMENT FOR EDGEWISE CONVEYING SYSTEMS TO SEPARATE AND EQUALLY DISTRIBUTE IRREGULARLY SUPPLIED ARTICLES ON TWO CONVEYING PATHS
Eberhard Richert, Berlin-Steglitz, and Dietrich Eulers, Berlin-Friedenau, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 1, 1960, Ser. No. 12,171
Claims priority, application Germany, Mar. 5, 1959
6 Claims. (Cl. 209—74)

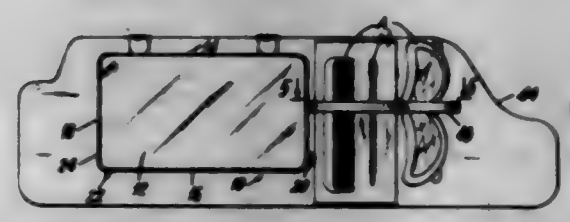
1. An article conveying system to separate and distribute irregularly delivered articles to two or more branching conveying channels, said system comprising an input conveying channel to supply articles along a predetermined path, a first output conveying channel adapted to receive articles and disposed on one side of said predetermined path, a second output conveying channel adapted to receive articles and disposed on the opposite side of

said predetermined path from said first output channel, a first eccentrically mounted rotating drum disposed on one side of said predetermined path adjacent said first output channel, a second eccentrically mounted rotating drum disposed on the opposite side of said predetermined path adjacent said second output channel, a first suction



means carried on said first drum, a second suction means carried on said second drum, both said suction devices positioned on the respective portion of the circumference of their respective drum which is farthest from the eccentric center of rotation of said drums whereby said suction devices alternately are effective to seize and feed articles to said output channels in a predetermined ratio.

3,140,781
COMBINATION MIRROR AND HOLDER
Albert Rothgart, Brooklyn, N.Y., assignor to Visionaire Manufacturing Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed May 21, 1963, Ser. No. 281,952
15 Claims. (Cl. 211—13)



1. A combination rigid article and holder comprising, a rigid, generally flat article, an elongated spring holding member, means for attaching said holding member at the back of the article for movement in a plane parallel to and adjacent to said article and in position for movement of said member from an inoperative non-holding position wholly behind and covered by said article, to an operative holding position with part of said member extending beyond an edge of said article, and means attached to said article for mounting the latter on a support disposed in back of and close to said article and holding member and having a portion extending beyond said article, whereby objects may be inserted between said member and said extending portion of said support and beyond said rigid article when said member is in operative position.

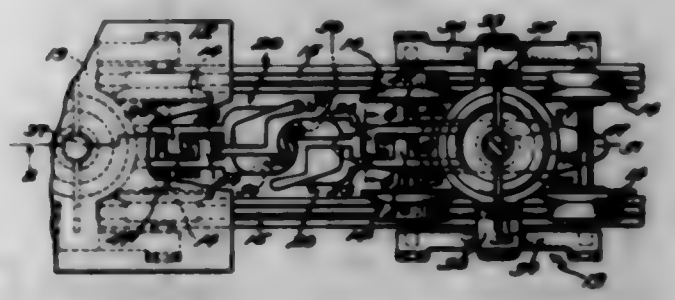
3,140,782
PIPE, CIGAR AND CIGARETTE HOLDER
Max M. Schultz, 672 Springfield Ave., Newark, N.J.
Filed May 4, 1960, Ser. No. 26,909
4 Claims. (Cl. 211—69)

1. A holder for smoking pipes comprising a base, a pair of opposed resilient members yieldably connected to said base for retaining the bowl of a pipe, a pair of opposed arms yieldably connected to said base in alignment with said members to retain the stem of the pipe, and a yieldable projection extending from said base in alignment with said members and arms and adapted to be deflected by the bit end of the stem of said pipe against the yield-



ing action of the members and arms, for retaining said pipe more securely in said holder.

3,140,783
TRUCK AND RELEASABLE COUPLER FOR MINIATURE TRAINS
Minor G. Kretzmer, Jr., Middle Haddam, Robert E. Davis, Jr., Wallingford, and Wayne B. Gross, Cheshire, Conn., assignors to The A. C. Gilbert Company, New Haven, Conn., a corporation of Maryland
Filed Oct. 4, 1960, Ser. No. 60,515
20 Claims. (Cl. 213—75)



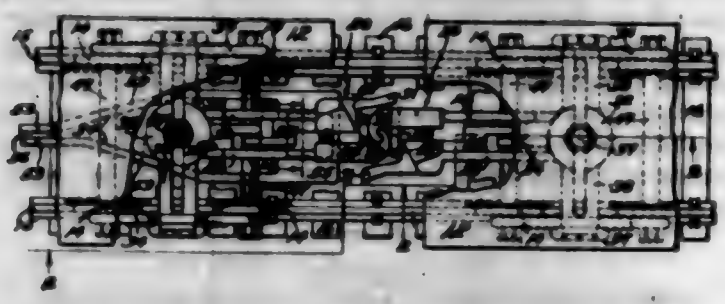
15. A truck for miniature railway cars having a bolster plate of resilient material containing a pivotal mounting hole and a split extending in a direction to intersect said mounting hole, said split being of sufficient extent to permit opposite sides of said hole to be sprung apart within the elastic limit of said bolster plate.

18. A truck as defined in claim 15, in which the said truck frame includes spaced apart side bars containing rotary bearings for a wheel axle, said side bars being bridged by cross beam sections of said structure containing a bearing hole for pivotal connection of the truck to a railway vehicle body and containing a split intersecting said hole and of sufficient length to permit said hole to be enlarged within their elastic limit for assemblage with said vehicle.

3,140,784
SPREADABLE COUPLER FOR HO GAGE MODEL RAILROAD VEHICLES
Bernard H. Goldbeck, West Haven, and Victor V. D'Amato, New Haven, Conn., assignors to The A. C. Gilbert Company, New Haven, Conn., a corporation of Maryland
Filed Nov. 3, 1960, Ser. No. 67,815
4 Claims. (Cl. 213—75)

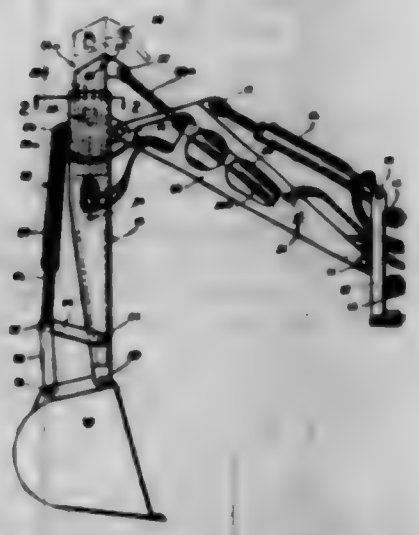
1. A one-piece combined truck and releasable coupler for model railroad rolling stock comprising in a single body of continuous material, a wheeled truck frame adapted to underlie and pivotally support the rolling stock, separate resilient extensions of said truck frame forming sidewise limber arms spaced apart on respectively opposite sides of a medial vertical reference plane paralleling the path of travel of said truck, and coupler head members formed respectively by laterally spaced apart free

end portions of said arms, whereby sidewise flexure of one of said arms causes its said coupler head member to move toward or away from said median plane and the other coupling head member, one of the said coupler



head members terminating in a guide tongue that diverges sidewise from said medial plane, and the other of said head members having a hook-shaped terminal together with an uncoupling striker depending therefrom on the opposite side of said medial plane.

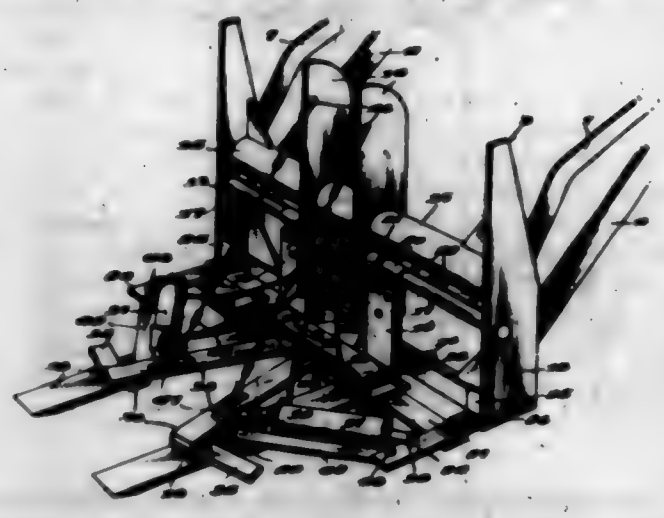
3,140,785
BACKHOE
John S. Pilch, % Ware Machine Works, Inc., P.O. Box 140, Ware, Mass.
Filed Mar. 7, 1963, Ser. No. 263,587
5 Claims. (Cl. 214—138)



1. In a device of the character described, a boom, a dipper stick pivotally connected to said boom, said dipper stick including an adjustable extension and carrying a bucket adjacent its lower end, hydraulic means for pivoting said dipper stick relative to said boom, said hydraulic means being pivotally connected adjacent its opposite ends to said boom and said adjustable extension of said dipper stick, and means connecting said dipper stick and said adjustable extension thereof for varying the distance between the pivot connection of said dipper stick and said boom and the pivotal connection of said hydraulic means to said dipper stick extension such as to thereby vary the speed of operation and power of the apparatus.

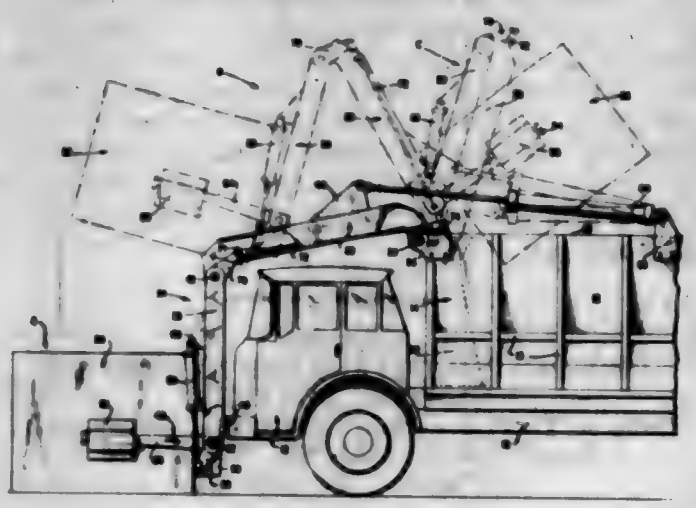
3,140,786
FRONT END ATTACHMENTS FOR TRACTORS
John C. Chatterbock, R.F.D. 1, Purcellville, Va.
Filed June 2, 1960, Ser. No. 33,448
8 Claims. (Cl. 214—147)

1. In a tractor having a front end loader elevating assembly mounted thereon for raising and lowering movements and hydraulic power means operatively connected therewith for effecting said raising and lowering movements, said assembly including a pair of forks extending forwardly therefrom in laterally spaced relation, the combination therewith, of an attachment including a supporting table mounted on the assembly, a pair of jaw members extending lengthwise of the forks, means pivotally supporting the inner ends of the jaw members on the table and with said jaw members extending outwardly therefrom in overlying relation with the forks, means



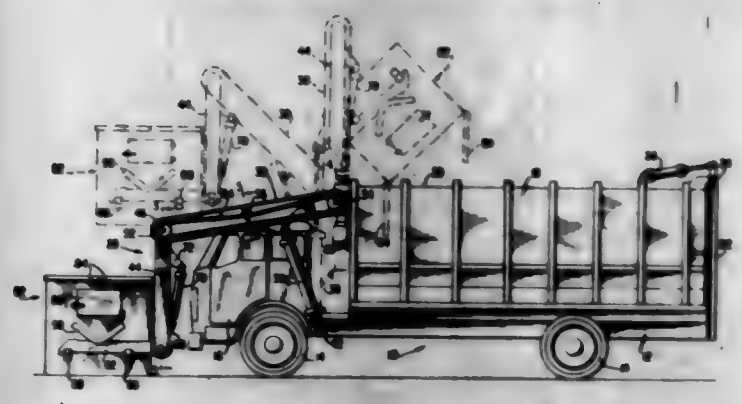
fixed to the outer end portions of the jaw members and supported in bearing relation upon the forks, and hydraulic power devices operatively connected with the jaw members and with the table for effecting clamping action of the jaw members on an object therebetween.

3,140,787
SELF-LOADING VEHICLE
Milton Clar, Silver Spring, Md., assignor to Clar-Shayne, Washington, D.C., a partnership
Filed Apr. 11, 1962, Ser. No. 186,810
12 Claims. (Cl. 214—382)



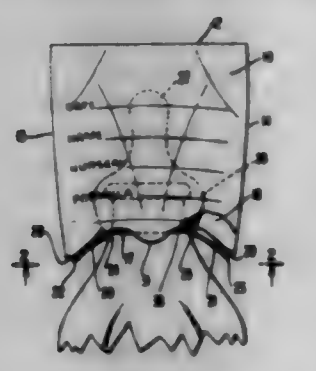
1. A front loading vehicle of the type described, comprising a vehicle chassis having an operator's cab mounted at the front of the chassis and having a body mounted on the chassis behind the cab, said body having an access opening at the top, a loading mechanism including a pair of booms, a pair of lifting arms, and load engaging means, each boom being pivotally mounted at one end of said vehicle adjacent the top-rear of said cab for movement in a substantially vertical plane and having one of said lifting arms pivotally suspended at one end thereof from the other boom end, said load engaging means being supported upon said lifting arms, means for moving said booms from a lowered position in which said booms extend forwardly and said lifting arms extend downwardly adjacent the front of said cab, and a raised position in which said booms extend upwardly and said lifting arms extend downwardly adjacent said body access opening, and means positively turning said lifting arms relative to said booms as said booms are moved, to ensure predetermined orientation of said arms.

3,140,788
SELF-LOADING VEHICLE
Milton Clar, Silver Spring, Md., assignor to Clar-Shayne, Washington, D.C., a partnership
Filed Mar. 14, 1961, Ser. No. 95,701
3 Claims. (Cl. 214—382)



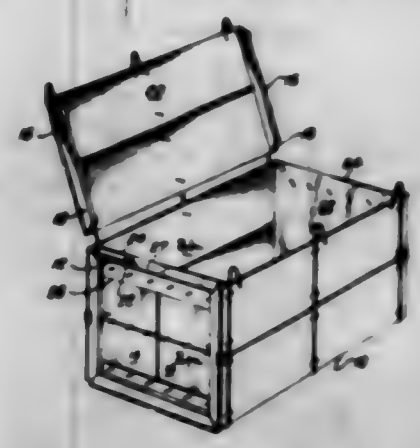
1. A front-loading vehicle of the type described, comprising a vehicle chassis having an operator's cab mounted at the front of the chassis and having a refuse-type body mounted on the chassis behind the cab, said body having an access opening at the top, a loading mechanism including a pair of booms, a pair of lifting arms, and a pair of load-engaging beams, each boom being pivotally mounted at one end on said vehicle adjacent the top-rear of said cab for movement in a substantially vertical plane and having one of said lifting arms pivotally suspended at one end thereof from the other boom end, each of said lifting arms having one of said beams pivotally mounted adjacent the other arm end, each of said booms having a pair of sprocket wheels mounted thereon adjacent its respective ends for rotation in a substantially vertical plane, each pair of wheels having an endless chain passing therearound, a pair of hydraulic rams connected to said booms, respectively for turning them about their pivots, a pair of hydraulic rams connected to said beams, respectively, for turning them about their pivots, a shaft connecting the sprocket wheels adjacent the pivots of said booms, a worm wheel on said shaft, a worm gear meshing with said worm wheel, and a motor for driving said worm gear.

3,140,789
PROTECTING COVERS FOR NIPPLES ON NURSING BOTTLES
Philip A. Di Prima, 2036 Cruger Ave., Bronx, N.Y.
Filed June 25, 1962, Ser. No. 204,676
6 Claims. (Cl. 215—11)



1. A protective cover for use to house a nipple mounted on a nursery bottle, said cover including two side walls of flexible sheet material having a generally rectangular configuration, said walls being connected together at foldlines respectively located at opposite side edges of the walls and at a foldline along the upper edges of the walls, the lower edges of said walls being hingedly connected at foldlines respectively located at opposite sides of a notch in the lower edge of the respective walls, the said notch in each of said side walls together providing a single opening located in the bottom of the cover centrally between said opposite side edges of the walls, the margin of said opening being dimensioned to require flexing for slipping the bottom of an expanded cover outside of the base of a nipple on the neck of a nursery bottle, whereby when the cover is disposed about the nipple the foldlines at the lower edges of said walls are pitched inwardly and upwardly towards the underside of the base of the nipple at opposite sides of the bottle and accidental withdrawal of the cover from over the nipple is resisted thereby.

3,140,790
WIREBOUND BOX LINING CONSTRUCTION
William J. Hogan, Dover, N.J., assignor to Stapling Machine Co., Rockaway, N.J., a corporation of Delaware
Filed May 14, 1962, Ser. No. 194,501
1 Claim. (Cl. 217—3)

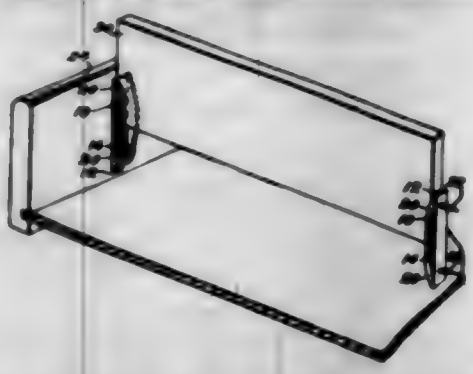


In a lined wirebound box of the type having a plurality of box sections formed of face material with reinforcing cleats secured to the inner face thereof adjacent each end of said box with said sections foldably secured together by binding wires secured thereto, box ends formed of face material secured adjacent the inner faces of said cleats at each end of said box, the upper edge of said face material being below the lower edges of the cleats on the top section of said box, a flexible lining at the inner face of the face material at each box end, said lining projecting above the upper edge of the face material of said box end and being folded over along a line generally parallel to said upper edge and spaced above said edge a sufficient distance to lie opposite the inner face of the adjacent cleat on said top section, the end portion of said lining beyond the line of such fold extending down and overlying the upper portion of the outer face of said face material, and outer board extending transversely of said box end and overlying said end portion of said lining, the upper edge of said outer board being generally aligned with that of the face material of said box end, and staples driven through said outer board, through at least said end portion of said lining, and into said face material to secure these components in assembled relation to one another.

3,140,791
DRAWER DIVIDER SUPPORT
Raymond H. Reiss, Sr., Deal, Paul R. T. Heins, Westfield, and Robert J. Randall, Morristown, N.J., assignors to Rosther Reiss Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 9, 1962, Ser. No. 236,585
2 Claims. (Cl. 217—7)

1. A drawer divider support comprising: a relatively thin elongated strip; two transversely spaced flanges positioned on the strip adjacent each longitudinal edge of one side thereof, each flange lying in a single plane and projecting upwardly and transversely inwardly from the strip

so as to define a channel which is wider at its base than at the outer extremities of the flanges and which extends substantially the length of the strip, the distance between the outer extremities of the flanges being less than the width of the drawer divider to be introduced into the channel whereby drawer dividers of different widths can be restrained against movement by said extremities, each flange having a tapered portion immediately adjacent at least

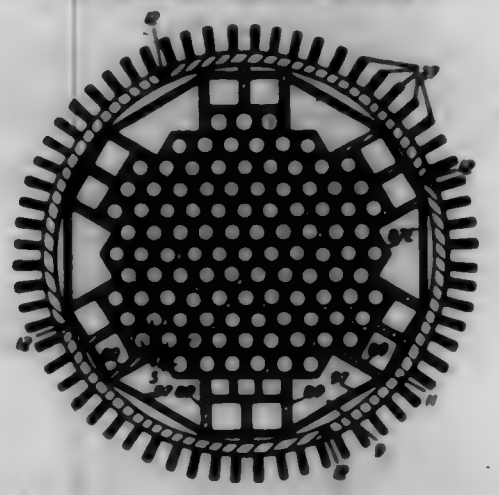


one end of the strip, said tapered portion extending from the strip upwardly and longitudinally inwardly to provide a guide means for the longitudinal introduction of an end drawer divider into the channel, said flanges and strip being of resilient thermoplastic material and of integral construction; and mounting means having a portion molded into the strip and a rigid, sharp-pointed portion projecting from the opposite side of the strip from said flanges.

ERRATUM

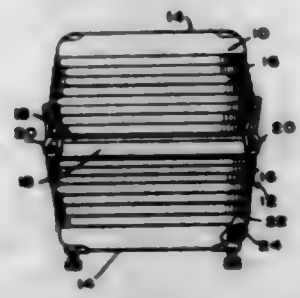
For Class 220—5 see:
Patent No. 3,141,008

3,140,792
PRESSURE VESSEL CLOSURE MEMBER
Herbert Harris, London, England, assignor to Babcock & Wilcox Limited, London, England, a British company
Filed May 23, 1958, Ser. No. 737,377
Claims priority, application Great Britain May 28, 1957
19 Claims. (Cl. 220—24)



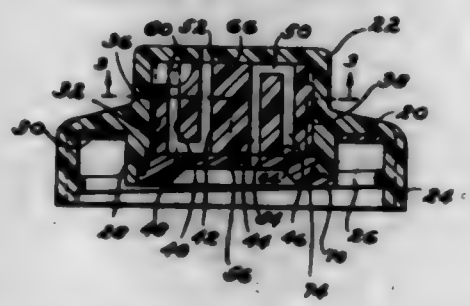
1. A removable built-up metal closure member having a multiplicity of spaced access openings therethrough suitable for a large diameter vertically positioned pressure vessel employed as a nuclear reactor comprising two horizontally disposed spaced flat parallel plates each comprising a single monolithic slab of metal, circular in shape, and having a diameter greater than the interior diameter of said pressure vessel, coupling means rigidly uniting the plates adjacent their peripheries at least at spaced points along those peripheries, vertically arranged metal spacing pieces each extending between the plates in the space therebetween inwardly from the coupling means and welded at their upper and lower ends to said plates, said metal spacing pieces having angularly disposed limbs and being arranged to divide the space between said plates into a multiplicity of vertically extending cells each having a substantially uniform cross section throughout its height and being defined on its sides by said limbs of the metal spacing pieces and top and bottom by said plates, many of the cells being remote from the periphery of the closure member and being surrounded by other cells, aligned access openings in said plates providing an upper and a lower opening to each of said cells, vertically disposed tube assemblies sealingly fitted in fluid-tight relationship into said aligned access openings and forming a passageway through said cells opening into said pressure vessel, plug means for sealing the upper ends of said tube assemblies, and apertures in said metal spacing pieces for the circulation of a cooling fluid serially through said cells.

3,140,793
CONTAINER
Frank W. Lawson, 114 Jefferson Road, Princeton, N.J.
Filed Mar. 6, 1961, Ser. No. 93,520
14 Claims. (Cl. 220—39)



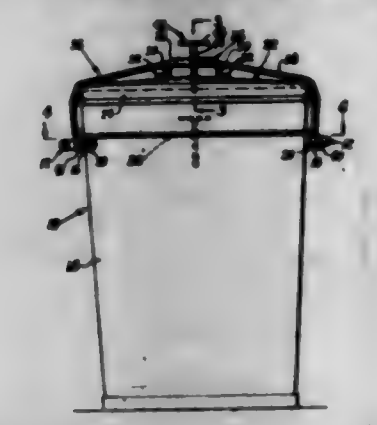
1. A container comprising intersecting side, end and corner walls, one of said corner walls forming an obtuse angle with each of said side and end walls and containing a discharge port, means lying within a space bounded by projections of said side and end walls carried by said corner wall and defining a seat disposed externally of said corner wall, and a closure supported on said seat in port closing relationship.

3,140,794
FUEL TANK CAP
Donald N. Arndt and Charles H. Tuckey, Cass City, Mich., assignors to Walbro Corporation, Cass City, Mich., a corporation of Michigan
Filed June 22, 1962, Ser. No. 204,326
12 Claims. (Cl. 220—44)



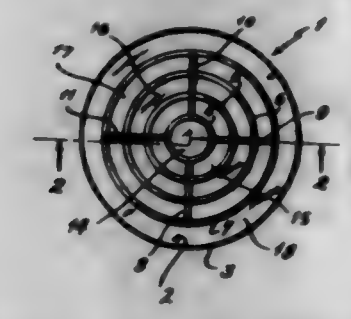
1. A gas cap comprising:
(*a*) a body having a threaded portion to have a sealing relation with a complementary threaded portion of a gas tank, said body having an internal chamber divided by a septum, said chamber having an opening in the top outside wall for atmosphere and an opening in the bottom inside wall.
(*b*) means forming a U-shaped passage to connect each of said openings to recesses on opposite sides of said septum, and
(*c*) means forming a passage through said septum at the top of said chamber.

3,140,795
LID RETAINER
Faye L. Griffith, 325 P. G. Sweet Road, Kelso, Wash., and Donald L. Brynit, 3314 Laurel Road, Longview, Wash.
Filed July 29, 1963, Ser. No. 298,824
7 Claims. (Cl. 220—55.7)



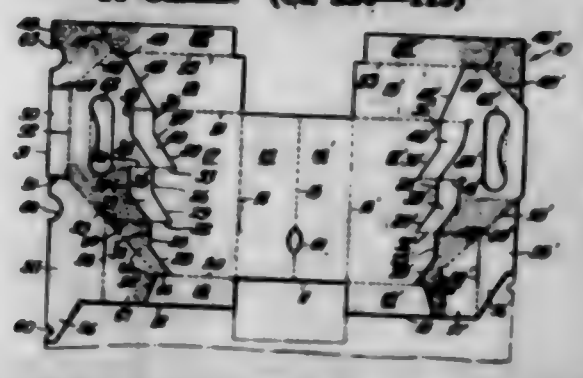
1. In combination, a container having an open upper end, a lid removably receivable over said upper end of said container in closing relationship, said lid having a lid handle secured substantially centrally thereto and including a grip portion, a flexible and expansible retaining element having end portions secured adjacent diametrically opposed portions of said container, said retaining element being engageable over said lid and said lid handle when said lid is received in closing relationship and being normally biased to retain said lid in said relationship, locking means connected to said retaining element to maintain said retaining element in engagement with said lid and said lid handle, grip means connected to said locking means to facilitate disengaging said retaining element to permit said lid to be removed, vertically aligned apertures defined in said lid and said grip portion of said lid handle, a T-shaped handle having a vertically extending member with two ends and a horizontally extending cross bar secured to one of said ends, said retaining element being connected to said vertically extending member intermediate said ends, the portion of said vertically extending member below said retaining member being engageable in said apertures and defining said locking means, and said cross bar defining said grip means.

3,140,796
PLANCHET
Daniel Broida, Ladue, Mo., assignor to Sigma Chemical Company, a corporation of Missouri
Filed Aug. 22, 1962, Ser. No. 218,615
2 Claims. (Cl. 220—66)



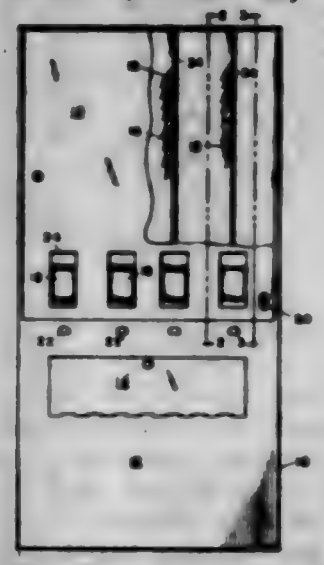
2. In a cupped planchet the improvement comprising a flat bottom having a plurality of concentric annular ridges in its inner surface, the innermost of said ridges defining a central basin in said bottom and the outermost of said ridges defining, with a circumferential rim, an annular outer channel, and a plurality of radially extending, symmetrically positioned ribs on the inner surface of the bottom, said ribs extending between the radially outer side of the innermost ridge and the radially inner side of the outermost ridge, whereby the basin and outer channel are uninterrupted by said ribs, and said ribs being of a height less than the height of said annular ridges.

3,140,797
ARTICLE CARRIER
Edwin L. Arneson, Morris, Ill., assignor to Federal Paper Board Company, Inc., Bogota, N.J., a corporation of New York
Filed July 9, 1962, Ser. No. 208,468
16 Claims. (Cl. 229—113)



1. A cellular article carrier formed from a flexible paperboard blank which is cut and scored to provide, when set up, a foldable bottom wall, upstanding side walls hinged to the side edges of the bottom wall, end walls hinged to opposite end edges of the side walls, a multi-ply longitudinal partition and handle structure hinged at its opposite ends to the end walls and cell defining cross strap members connected on vertical hinge lines at opposite ends thereof to the side walls and to said longitudinal partition and handle structure, said longitudinal partition and handle structure including a pair of outer partition and handle forming panels which extend downwardly from a top edge and have a hinged connection with the cross strap members, and a pair of inner handle reinforcing panels at each end of said longitudinal partition and handle structure which are folded downwardly and inwardly on diagonal fold lines defining downwardly and outwardly inclined top edge portions of said handle structure and which reinforcing panels are sandwiched between the outer partition and handle forming panels and connected to the end walls.

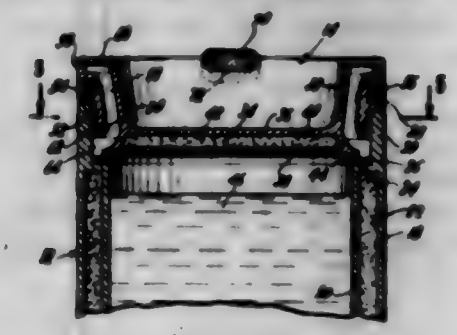
3,140,798
VENDING MACHINE APPARATUS
Campbell K. Dasher, Box 1248, Station A, Marietta, Ga., assignor of fifty percent to Philip J. Malamoon, Marietta, Ga.
Filed June 1, 1961, Ser. No. 114,138
9 Claims. (Cl. 221—89)



1. In a merchandise dispensing apparatus adapted to dispense merchandise in succession in response to the actuation of the apparatus by manual operation, a normally closed merchandise dispensing cabinet having an openable closure thereon openable to expose the merchandise therein for loading, a plurality of individual and separate

merchandise holders vertically disposed in said cabinet each having clamp means releasably clamping the upper portion of each of a successive arrangement of vertically spaced overlapped bags for dispensing therefrom singly in response to the operation of the apparatus, and each of said holders being removably mounted in said cabinet inside said normally closed closure for removal from said cabinet after said closure is open, whereby said holders are independently removable from said dispensing apparatus for loading same with merchandise.

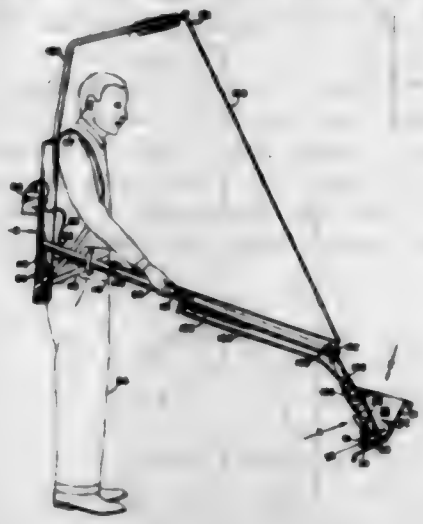
3,140,799
CLOSURE DISPENSER FOR CONTAINERS
Walter Meier, 166 E. 66th St., New York 21, N.Y.
Filed Oct. 17, 1961, Ser. No. 145,573
4 Claims. (Cl. 222—131)



1. In combination with a container having insulated double walls and an upper cylindrical mouth portion having internal threading, with an inwardly-extending annular shoulder beneath said threading; a closure dispenser for said container comprising an integral body portion including a circular base section having a peripheral border registering with the inner border of said shoulder and being of less diameter than the inside of said mouth portion, a peripheral wall projecting upwardly from said base section and terminating in an outwardly directed flange, and a skirt wall coaxial with and depending from and spaced outwardly of said flange to a level above that of said peripheral border and delineating with said peripheral wall an annular conduit having an annular bottom opening, said annular conduit having at its upper end diametrically opposed openings defining a pouring spout and a vent opening respectively and said skirt having external threading engaging said mouth internal threading whereby said closure dispenser may be turned between a raised position in which said conduit is in communication with the interior of said container, and a lowered condition in which said base section peripheral border engages said annular shoulder to provide an insulated seal for the interior of the container.

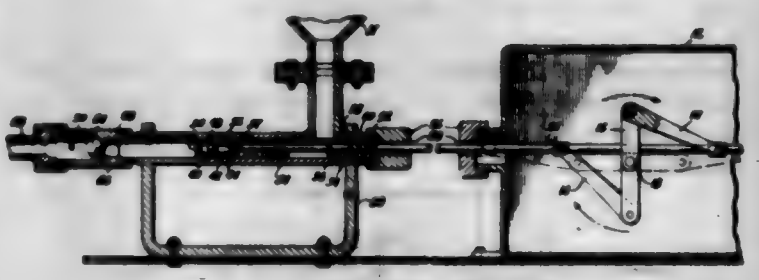
3,140,898
DISPENSER FOR GRANULAR MATERIALS
Charles F. Henderson, Stillwater, Okla., assignor to the United States of America as represented by the Secretary of Agriculture
Filed Feb. 21, 1962, Ser. No. 174,921
3 Claims. (Cl. 222—174)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A device for dispensing granular material comprising a feed hopper adapted to receive the granular material and having a discharge port, a tape mounted on the feed hopper, said tape being divided into sections, each section being of a length corresponding to the length of said discharge port and containing a series of spaced identical perforations, each series of perforations, in turn, varying in spacings from each of the other series, said tape being adapted to be moved in line with said discharge port for dispensing the granular material through said perforations at desired varying rates therethrough, means for linearly moving the tape relative to the discharge port so as to line up the port with desired perfora-



tions, and means for vibrating the hopper containing the granular material to dispense the granular material through the desired perforations.

3,140,931
AUTOMATIC PLASTERING MACHINE
Raymond A. Deligatti, 818 Nuzum Place, Fairmont, W. Va.
Filed July 21, 1961, Ser. No. 125,835
13 Claims. (Cl. 222—380)

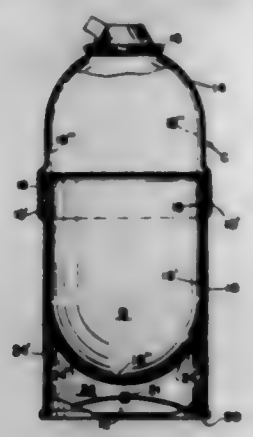


1. A plastering machine comprising a hopper adapted to hold plaster, a piston chamber having a plaster inlet which communicates with said hopper, a piston slidably mounted within said chamber, a piston rod connected to said piston for reciprocally moving said piston within said chamber, outlet means at one end of the chamber, passageway means including a forward and a rearward passage formed axially through said piston, ball valve means positioned within said passageway means, constriction means within said passageway means, said constriction means including a smooth continuous rearwardly sloping surface portion contiguous with said rearward passage and a smooth continuous forwardly sloping surface portion contiguous with said forward passage forming a seat for said ball valve means, the construction and arrangement being such that the passageway means is substantially self-cleaning by reason of the flow of plaster therethrough to prevent substantial build up of plaster within the piston, and cleaning means cooperating with said piston to prevent build up of plaster at the rearward end of said piston and at the rearward end of said chamber.

3,140,982
PRESSURE CONTAINER WITH RIGID BAND
John W. Everett, 3748 Beech Ave., Baltimore 11, Md.
Filed June 25, 1962, Ser. No. 204,850
6 Claims. (Cl. 222—386.5)

1. An internal pressure container for dispensing materials in combination, an outer vertical rigid body portion, an outer rigid bottom for closing the bottom of the body member, and a rigid top portion for closing the upper end of the body portion including a closable opening through

which the material is introduced and dispensed to form a rigid hermetically sealed outer container, a bag having an open and closed end and a side wall extending between the open and closed ends positioned within the rigid outer container, the said side wall and the closed end of the bag being flexible and movable longitudinally of the outer rigid container, a substantially narrow rigid band having a substantially vertical outer wall positioned about the open end of the bag, the band being of greater rigidity than the side wall and closed end of the bag and of substantially less height than the pliable side wall portion,



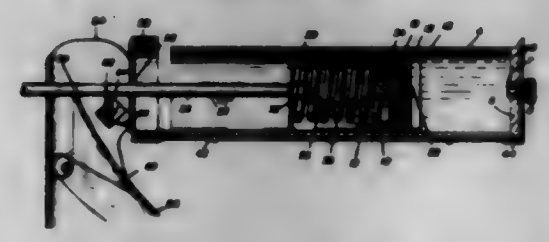
the outer diameter of the band being of substantially the same diameter as the inner diameter of the rigid body portion of the container and providing a close fit about the inner surface of the body portion, means for securing the vertical side of the ring to the inner surface of the vertical side of the rigid container body, a cradle positioned between the bag and the bottom of the container for supporting the closed end of the bag at a predetermined distance from the bottom of the container when the closed end is extended toward the bottom of the container.

3,140,803

LIQUID PUMP ADAPTED FOR FIRE-EXTINGUISHING, ETC.

Felton W. Ebersole, 805 E. Cypress St., Palmyra, Pa., and George E. Trump, Sr., 40 W. Caracas Ave., Hershey, Pa.

Filed Feb. 20, 1961, Ser. No. 90,556
2 Claims. (Cl. 222—391)



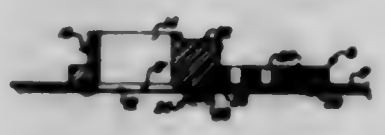
1. A readily refillable liquid dispenser adapted for fire-extinguishing and the like comprising, in combination, a cradle carrying a right-angularly extending abutment at each of its ends; a handle secured to and extending at substantial right angles from one of said right-angularly extending abutments; a cylinder disposed in said cradle; the rearward end of said cylinder which is most adjacent said handle being open; the forward end of said cylinder having a closure and provided with a centrally disposed dispensing nozzle which extends through and projects from the adjacent abutment on said cradle; an assembly comprising a pair of oppositely facing plunger cups reciprocably disposed in said cylinder; at least one cylinder washer disposed between said oppositely facing plunger cups; a relatively inflexible disc disposed in and snugly fitting the interior of the plunger cup which is most adjacent the aforementioned dispensing orifice; a relatively inflexible cup disposed in and snugly fitting the interior of the other of said plunger cups; said relatively inflexible cup comprising an annular sidewall which projects from said other plunger cup for a substantial distance; a rotatably mounted actuating rod extending axially into said cylinder from a position which is adjacent said handle; a pressure plate secured to the inner end of said actuating rod; a coiled compression spring axially disposed in said cylinder between said pressure plate and said relatively inflexible cup; flexible means connecting said assembly to said pressure plate; ratchet teeth on said actuating rod; a pivoted lever on said handle for hand-grasping relationship therewith; the inner end of said operating lever being adapted for cooperation with the ratchet teeth on said actuating rod in advancing the latter into said cylinder to compress said coiled compression spring and move said assembly toward said dispensing nozzle; a pivotally mounted dog on said handle; said pivotally mounted dog being spring-pressed into engagement with the ratchet teeth on said operating rod to prevent its rearward movement when said dog is in engagement with said ratchet teeth; and flexible means connecting said assembly to said pressure plate, whereby pulling said actuating rod rearwardly when the ratchet teeth thereon are rotated out of engagement with said pivotally mounted dog and the inner end of said operating lever will move said assembly rearwardly.

3,140,804

DISPENSING ASSEMBLIES FOR CONTAINERS

John J. Frank, Cincinnati, Ohio, assignor to The Frank Tea and Spice Company, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 7, 1961, Ser. No. 101,413
2 Claims. (Cl. 222—498)



1. A dispensing assembly comprising, in combination:
(*a*) a dispensing container having an end closure wall with at least a portion thereof being substantially planar;
(*b*) a disc member having a substantially planar undersurface adapted to be juxtaposed to said planar closure wall portion; and,
(*c*) means for rotatably mounting said disc on said end closure with said disc undersurface being in continuous intimate contact with the outer surface of said planar closure wall portion;
(*d*) said means including an aperture in said planar closure wall portion and a coupling pin integral with said disc member and depending from its undersurface and through said aperture;
(*e*) said coupling pin having an enlarged portion at its end which contacts the inner surface of said planar closure wall portion to maintain said disc member in intimate juxtaposition thereto;
(*f*) said disc member having an upstanding spout radially spaced from its periphery and a uniform bore extending through said spout and providing a coarse opening in said disc member;
(*g*) said end closure wall having a dispensing outlet therein adapted to be aligned beneath said disc member spout to thereby permit any contents of said container to be dispensed;
(*h*) said disc member also having a fine opening therein formed by a group of closely arranged fine apertures spaced radially from said disc periphery substantially the same distance as said spout and thus adapted to be rotated into alignment with said dispensing outlet;

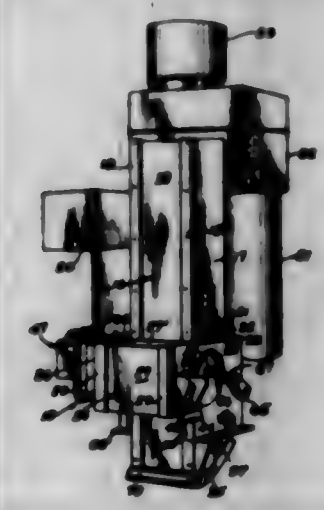
(*l*) said disc member having an upstanding handle integrally projecting from its upper surface and digitally engageable to rotate said disc member to fully close said dispensing outlet or to bring said coarse or fine opening into alignment therewith to facilitate dispensing of the contents of said container.

3,140,803
TAPE DISPENSER
Albert Z. Serer, 1535 N. Clark St., Chicago, Ill.
Filed Apr. 29, 1963, Ser. No. 276,277
1 Claim. (Cl. 225—66)



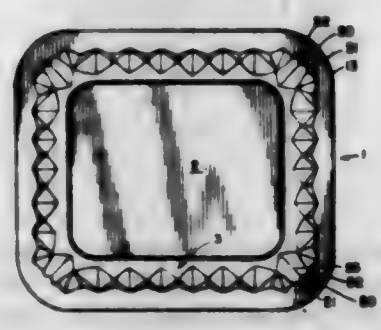
A dispenser for pressure sensitive tape, comprising in combination a pair of side walls, an end wall for supporting said side walls spaced so that a roll of tape can be held therebetween, means extending between said walls for supporting a coiled roll of pressure sensitive tape, a pair of axially aligned holes through said side walls adjacent said end wall, a guide portion having a pair of wings removably pivotally mounted in said holes, a pressure portion issuing from said guide portion and extending over said end wall for holding a length of tape against said end wall while being severed by the end of said pressure portion, said pressure portion extending beyond the edge of said end wall for severing the tape and leaving a portion of tape extending over the edge of said end wall for convenience in grasping when another length of tape is desired, said wings provided with beads forming small journals for holding the guide portion pivotally mounted within the holes in the side walls, and bayonet shaped indents communicating with said holes and the edge of said side walls to form a track for said beads in applying the guide portion to the holder.

3,140,806
ICE DISPENSER
Owen J. Schwertfeger, Chicago, and Frank D. Brill, Norridge, Ill., assignors, by mesne assignments, to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 19, 1960, Ser. No. 56,753
7 Claims. (Cl. 225—103)



4. An ice dispenser comprising: a vertically disposed container for a column of ice chips to be dispensed having an outlet opening at the bottom thereof; a pivotally mounted supporting and cutting unit having a supporting plate normally supporting the column of ice in said container and a cutting blade disposed at a higher level than said plate in such relationship that upon pivotal movement of said unit in one direction said supporting plate will be removed from its ice supporting position and said cutting blade will cut off a predetermined amount of ice from the lower end of the column for discharge through said opening and will support the column while said plate is out of suporting position, while upon movement of said unit in the opposite direction said blade will be removed from supporting position and said plate will be returned to its original supporting position; and actuating mechanism for said unit, including a motor, a control member movable by said motor through a cycle of operation of the dispenser, means coacting with said control member to cause said unit at the beginning of the cycle of operation to be projected with a quick snap action in one direction, thereby driving said blade through a cutting stroke, and to thereafter restore said unit to its initial position and at the same time to cock said coacting means for the next cycle of operation, and means for deenergizing said motor upon completion of said cycle of operation to thereby leave said control member so positioned and said coacting means so cocked, whereby energization of said motor to initiate the next cycle of operation will cause said unit to be instantly projected to forcibly direct said blade through its cutting stroke.

3,140,807
CONTAINER
John Donald Bostrom, Niles, Ill., assignor to Foster Packaging, Inc., Chicago, Ill., a corporation of Delaware
Filed Apr. 12, 1963, Ser. No. 272,631
5 Claims. (Cl. 229—2.5)



3. A container of self-sustaining sheet material having a side wall structure characterized by alternating inwardly and outwardly extending recessed areas formed by intersecting triangular planes which impart rigidity to the side walls, said recessed areas forming a plurality of triangular shapes with their bases at the top of said container and their apices terminating in the lower part of said container and intermediate recessed areas primarily in the lower part of said container formed by intersecting triangular planes, said last mentioned areas terminating in apices adjacent the top of the container and having curved edges intersecting each other near the bottom of the container.

3,140,808
CONTAINER
William Edward Taylor, Fairfield, Conn., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 10, 1963, Ser. No. 286,737
9 Claims. (Cl. 229—4.5)

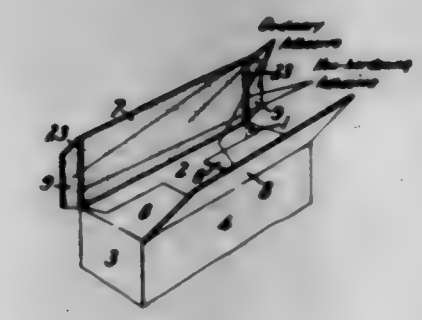
1. A container comprising a tubular fibre body having an inside coating and an outside coating and having opposed marginal edge portions thereof overlapped and secured together to provide a lap side seam having an underlap and an overlap, and a pull tab extending from

the overlap of said seam to facilitate opening the container, said inside coating being more resistant to rupture than said outside coating for producing a break in the



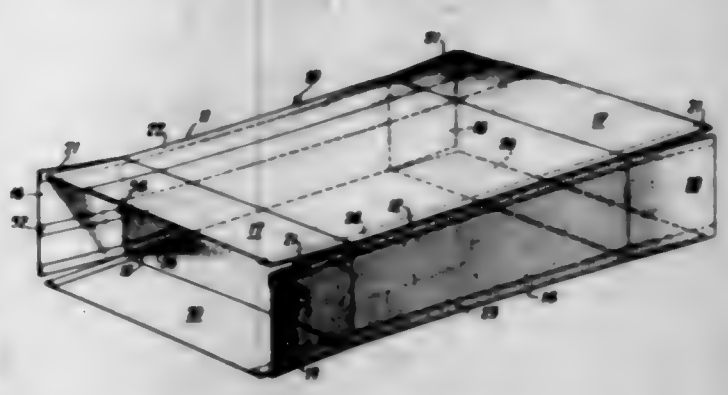
outside coating on the underlap of said lap side seam and for directing the tear into the fibre stock of the underlap of the side seam following the break in said outside coating when said container is opened.

3,140,809
SEALED CARTON
Robert J. Hickin, Seville, and Daniel C. McCullough, Wadsworth, Ohio, assignors to Packaging Corporation of America, Rittman, Ohio, a corporation of Delaware
Original application July 30, 1958, Ser. No. 752,021, now Patent No. 3,007,376, dated Nov. 7, 1961. Divided and this application Jan. 17, 1961, Ser. No. 83,310
6 Claims. (Cl. 229—37)



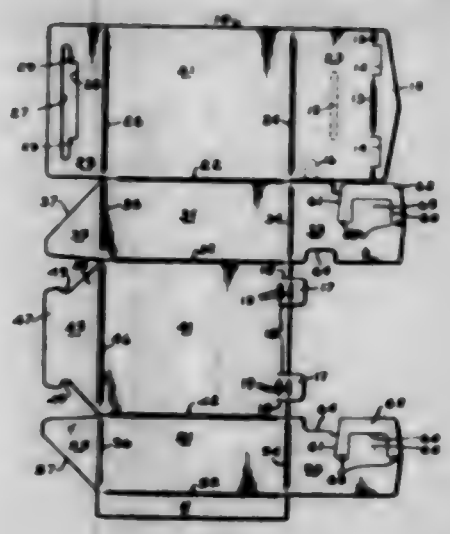
1. A paperboard carton having a body including angularly disposed side walls and inner and outer end closure flaps foldably connected to said side walls on lines of fold and adapted, when in folded relation, to form an end wall closure angularly disposed to said side walls, all of said walls and flaps being free of any exterior surface coating other than that incident to normal ornamentation; and means for joining said flaps in sift-proof and vermin-proof assembly with respect to said body, comprising a permanently setting adhesive interposed between and serving to effect retention of mating surfaces of certain of said inner and outer flaps in end wall-forming relation, and a plastic sealing material disposed in strip form at marginal portions only of said outer flaps and having the property of retaining its plasticity in the presence of all atmospheric conditions to which the sealed carton may normally be subjected, each marginal portion to which such sealing material is applied forming that part of the end wall periphery extending from the line of fold of one of said outer flaps to the line of fold of the other of said outer flaps, said sealing material, in the presence of pressure applied during the flap sealing operation and the coaction of the closure flaps and proximate portions of the side walls incident to such application of pressure, being disposed in sealing relation to the said marginal portions of said end flaps and completely filling any voids adjacent to said marginal portions at the juncture of the carton end wall closure and side walls.

3,140,810
BOX-LIKE CONTAINERS
John J. Goodrich, Rumford, R.I., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Mar. 29, 1962, Ser. No. 186,585
4 Claims. (Cl. 229—37)



1. A case formed of a single web of paper of a base weight between about 90 and 200 and having four parallel corner lines along which such case can be erected from a flattened collapsed condition into box-like configuration having oppositely extending end flaps, which end flaps can be folded inwardly for formation of a box-like container, there being four reinforcing strips of paper adhered to the interior of the case, one each over respective of such corner lines, such case having a first pair of corner lines positioned on opposite side edges thereof when in a flattened collapsed condition and comprising pressed edge folds consisting of corner line regions folded 180° into face-to-face engagement with one another, and having a second pair of corner lines positioned to be diagonally opposed to one another in response to erection of the case but situated between the first mentioned pair of corner lines when the case is in flattened collapsed condition and comprising respectively: a creased corner line formed by folding the web and pressing together portions of the web on opposite sides of such corner line and unfolding same, and a scored corner line region embodying a plurality of contiguous scores extending along such line, one of the latter scores being inverted, such inverted score comprising a reversal of a previously formed score.

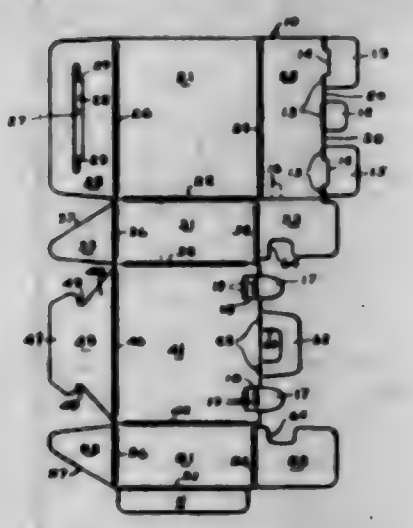
3,140,811
CARTON AND BLANK FOR FORMING
Harrison R. Hall, 21 Morningside Drive, Painted Post, N.Y., and Lewis F. Rens, Canal St., Big Flats, N.Y.
Filed Aug. 24, 1962, Ser. No. 219,186
6 Claims. (Cl. 229—39)



1. A carton having an improved self-locking end closure portion which may be easily assembled into a closed and locked position solely by manipulating its end closure

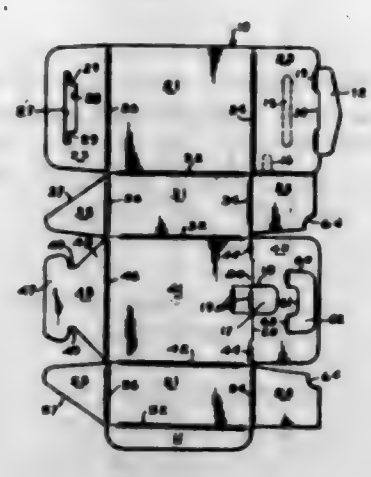
flaps formed in the carton blank which comprises; a plurality of opposed wall panels forming a multi-sided tubular configuration; means for closing one end of said tubular configuration; a plurality of interlocking end closure flaps for locking the opposite end of said tubular configuration in a closed position which includes; a slotted end closure flap formed integrally with one of said side wall panels, a tongued end closure flap secured to a second side wall panel opposite said one side wall panel, and a pair of diagonally-cut end flaps secured to side wall panels intermediate said one and second side wall panels; a closed-sided T-shaped slotted portion formed in and surrounded by said slotted end flap with the stem portion of said T-shaped slotted portion extending toward said one side wall panel; said diagonally-cut end flaps overlying portions of said slotted end flap; said tongued end flap having an outer tongue portion connected to an inner diverging portion by means of recessed catch portions; said tongue portion being positionable within said T-shaped slotted portion with the diverging portion of said tongue end flap overlying outer ortions of said diagonally-cut end flaps to retain them in position, and said catch portions cooperating with wall portions of the stem of said T-shaped slotted portion formed in said slotted end flap to securely lock said tongued end flap within said slotted portion.

3,140,812
MAILABLE CARTON
Harrison R. Hall, 21 Morningside Drive, Painted Post, N.Y., and Lewis F. Ress, Canal St., Big Flats, N.Y.
Filed Aug. 24, 1962, Ser. No. 219,187
3 Claims. (Cl. 229—39)



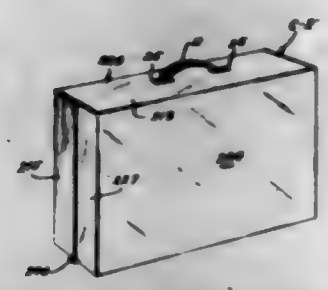
1. A mailable carton having a plurality of bounding wall panels closed at one end and an improved positive-locking end closure portion which comprises, an outer lid formed integrally with one of said bounding wall panels, a central tongue portion and a pair of side portions formed along an outer edge of said lid and separated therefrom by a plurality of crease lines, a plurality of open portions formed along the crease lines adjacent said side tongue portions when such tongue portions are folded therealong, a plurality of locking tabs formed integrally with and extending from a second of said wall panels opposite said one wall panel, a plurality of end flaps formed integrally with wall panels intermediate said one and said second wall panel, a crease line separating each of said end flaps from its respective wall panel, said end flaps being foldable about their respective crease lines into a substantially common plane and each having a recessed portion in alignment with a locking tab when in such folded position, said lid positionable over said folded end flaps with the tongue portions positioned within the carton adjacent an inner surface of said second wall panel, and each of said locking tabs positionable within one of said open portions to lock said end flaps and said lid in a positively locked closed position wherein said locking tabs enter the recessed portions of said end flaps.

3,140,813
CARTON WITH CONCEALABLE HANDLE
Harrison R. Hall, 21 Morningside Drive, Painted Post, N.Y., and Lewis F. Ress, Canal St., Big Flats, N.Y.
Filed Aug. 24, 1962, Ser. No. 219,243
5 Claims. (Cl. 229—39)



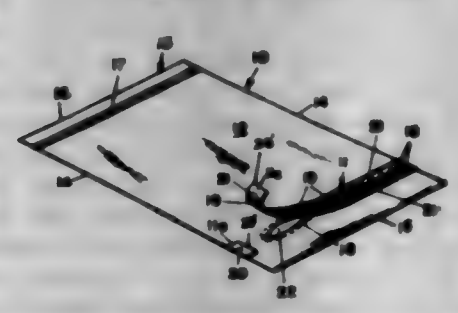
1. A container having a plurality of bounding wall panels closed at one end, an improved closure portion for the other end having concealable carrying handle means which comprises, an outer closure flap foldable along a crease line at a junction with one of said wall panels, a tongue formed along a portion of the outer edge of said closure flap and foldable along a score line at its junction with said flap, an open portion formed along said score line when said tongue is folded therealong, a removable perforated strip formed in said outer closure flap, an intermediate closure flap of substantially the same width and length as said outer closure flap formed integrally with a second of said wall panels and separated therefrom by a crease line, an elongated slot formed along said crease line when said intermediate flap is folded therealong, a locking tab formed integrally with said second wall panel and partially out of said intermediate closure flap, end closure flaps secured to wall panels intermediate said one and said second wall panel, each of said end closure flaps foldable along a crease line at a junction with its wall panel into a substantially common plane, a handle portion forming a part of said intermediate closure flap and foldable along a crease line extending centrally of the width of such flap between a concealed position within the plane of such flap and an operative position substantially normal to such plane; said end closure flaps and said intermediate closure flap including said handle portion underlying said outer closure flap when said improved closure portion is closed with the handle portion in its concealed position, said tongue positionable through said elongated slot and adjacent an inner surface of said second wall panel with said locking tab positionable within said open portion to lock the upper closure flaps in a positively-locked position; and said end closure flaps and said intermediate closure flap underlying said outer closure flap with said handle portion extending through a slot formed by the removal of said perforated strip when said improved closure portion is closed with said handle portion in an extended position, thereby producing a projecting carrying handle means for facilitating the carrying of such container.

3,140,814
CARRYING MEANS FOR CARTONS
Nicholas D. Ellis, Ledue, Mo., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Jan. 28, 1963, Ser. No. 254,322
7 Claims. (Cl. 229—52)



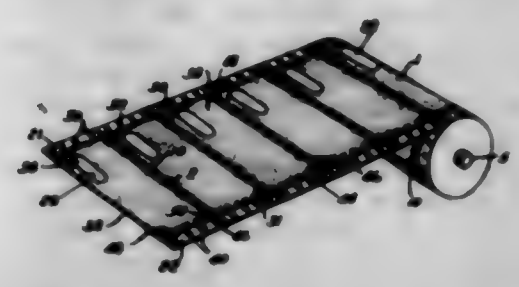
5. A one-piece carton formed from a tubular enclosure with open ends, said carton having a body, a cover, a handle extending through the top wall of said carton, said top wall being of single thickness, and a reinforcement member secured to the underface of said top wall said body and cover each having a side wall, and two end walls which are open during loading, said body and cover having common top and bottom walls, said top and bottom walls each having flaps hingedly connected thereto which are open during loading and are inwardly at right angles thereto after loading, said end walls thereafter being folded into contacting relation with said end flaps and secured thereto, said side wall on said cover panel having an outer top panel which overlies and is secured to said top wall portion of said cover, said other top panel having a handle member hingedly secured thereto, said common top wall provided with a longitudinal score line on which the cover is hingedly connected to the body, the two flaps at each end of said common rear wall being separated from each other by a cut extending from the ends of said longitudinal score line, said end flaps above said score line folded inwardly and adhesively attached to the end walls of said cover, and said end flaps below said score line folded inwardly and adhesively attached to the end walls of said body, and a pull strip extending across said common bottom wall parallel to said hinge for opening the carton.

3,140,815
OPENING AND RECLOSURE MEANS FOR BAGS
John D. Majesky, Bloomfield, N.J., assignor to Chase Bag Company, a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,602
2 Claims. (Cl. 229—66)



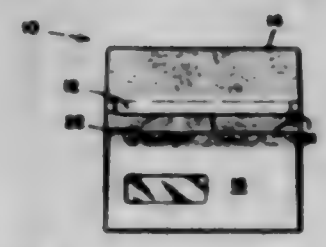
1. A commodity container comprising in combination: superimposed sheets of flexible material joined together along marginal edge portions to define a bag having a front face and a rear face; said bag having two parallel lines of perforations in spaced parallel relation to one end thereof and extending from one side edge of one face of said bag to a point in adjacent spaced relation to the other side edge, a flexible combined tear and tie strip heavily heat welded to said bag medially and longitudinally between said perforations, said strip extending laterally over and beyond said perforations and longitudinally from said one side edge the length of said lines of perforations, and a tab formed integrally with said strip and extending to a point immediately beyond said lines of perforations, said strip and tab being lightly heat sealed to said bag at its peripheral portion.

3,140,816
CONTINUOUS FORM ENVELOPES
Frank L. Schultz, P.O. Box 253, Alamo, Tex.
Filed June 23, 1961, Ser. No. 119,176
9 Claims. (Cl. 229—69)



1. A mailing cover comprising: a front formed of initially transparent material; first coating means on said front rendering said front at least translucent; a back formed of initially transparent material; additional coating means on said back rendering said back at least translucent; and means joining said front and said back together to form an envelope pocket.

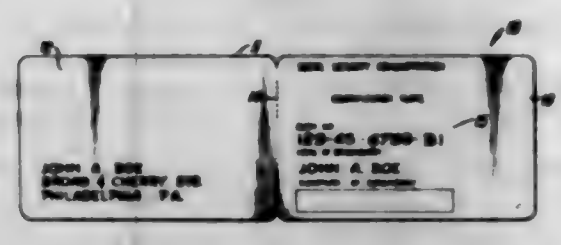
3,140,817
DUPLEX MAILING ENVELOPE
Henry C. Fitzgerald, Belmont, Mass., assignor to Ames Safety Envelope Company, Somerville, Mass., a corporation of Massachusetts
Filed May 31, 1961, Ser. No. 113,706
1 Claim. (Cl. 229—72)



A duplex envelope, comprising a single blank of sheet material, said blank having a rectangular rear panel section, accordion pleat sections extending from opposite side edges of said rear panel section, ears formed in the upper margins of said pleat sections, intermediate panel sections extending from said pleat sections, said intermediate panel sections being of sufficient length that the ends thereof will overlap to form an expansible first compartment when folded back upon said rear panel section and joined, said intermediate panel sections being of a height somewhat less than that of said rear panel section whereby the lower edges of said intermediate panel section are even with the lower edges of said rear panel section while the upper edges of said intermediate panel sections extend below the upper edges of said rear panel section, a rectangular front panel section being hinged to the lower edge of said rear panel section and adapted to form a second compartment when folded back against the folded intermediate panel sections and joined along its two side margins, diagonal portions extending between said pleat sections and said front panel section, said front panel section being of substantially the same width as said rear panel section but of a height somewhat greater than said rear panel section and said intermediate panel sections whereby the upper end edge of the folded front panel section will extend over the upper edges of the folded intermediate panel sections, said front panel section being

formed with an opening therein, means for bonding the side marginal edges of said front panel section to said intermediate panel sections, means for bonding together the free ends of the folded intermediate panel sections and a flap hinged along the upper edge of said rear panel section and adapted to fold over the folded first panel section to seal both of said compartments.

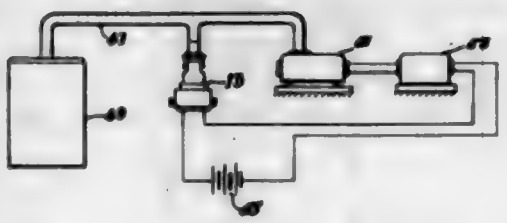
3,140,818
COMBINED IDENTIFICATION AND ADDRESS PLATE
Dunstan Sheldon, Berwyn, Pa., assignor to Dashew Business Machines, Inc., Culver City, Calif., a corporation of Delaware
Filed July 10, 1961, Ser. No. 122,863
1 Claim. (Cl. 229—92.8)



A composite identification and account card means having precollated readable identification information and coded data symbols thereon for error-free transmission to only one addressee, designation or the like comprising: an elongated card-like body member adapted to be handled as an integral unit during transmission and including at least two separable card body portions, one of said card body portions including understandable readable addressee identification information on one face thereof including name and address of addressee, the other of said card body portions, on the face corresponding to said one face, including the name of addressee and coded data symbols comprising account number information relating to addressee and not understandable with respect to addressee identification information, said other card body portion being cooperable with data processing devices for reading and transfer of information contained in said coded data symbols relating to the account of the addressee, said one card body portion being cooperable with a mailing system for error-free identification of and transmission to the said addressee of the other card body portion, said one card body portion when separated from the other card body portion serving as an understandable, readable identification card of the addressee, both card body portions including the name of addressee on a common line parallel to the longitudinal axis of said body member whereby error-free preparation of connected card body portions is provided, and whereby collation of information on said connected card body portions is not required for assuring said other card body portion is transmitted to the selected addressee.

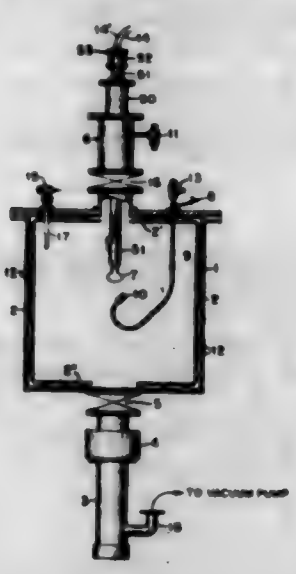
3,140,819
VACUUM CUT-OFF SWITCH
Joseph E. Coyle, Arlington, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 18, 1962, Ser. No. 203,416
4 Claims. (Cl. 230—18)

1. A protective device for controlling the operation of a motor driven vacuum system, said device comprising an evacuated chamber, a pressure responsive bellows means having a single opening therein in communication with said evacuated chamber, said bellows means being held in contracted position by the pressure differential therein, adjustable spring biasing means surrounding said bellows means for urging said bellows means into expanded position, and switch means operatively associated with said bellows means to be actuated thereby, the expansion of said bellows means on the urging of said biasing means causing the actuation of said switching means



thereby resulting in the opening of an electrical circuit to cause cessation of the flow of current to the drive motor.

3,140,820
METHOD FOR MAINTAINING VERY HIGH VACUUM IN A SYSTEM
Robert E. Clausing, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 31, 1962, Ser. No. 199,285
4 Claims. (Cl. 230—69)

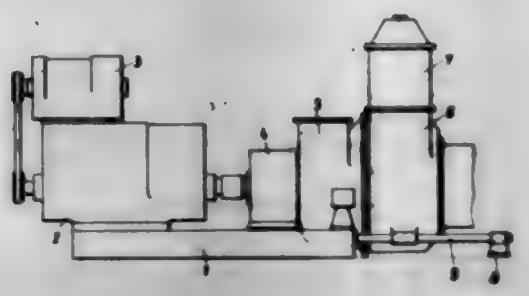


1. A system for maintaining high vacuum in a vessel during the introduction of gaseous material comprising a substantially closed vessel having an inner surface cooled by liquid nitrogen, pumping means providing a reduced pressure in the vessel, means for evaporating getter material in the vessel to contact said cooled surface to produce condensation thereon, and means to introduce an inert gas into the vessel for bathing the cooled surface while the getter material is being deposited.

3,140,821
GAS TURBINE PLANT
Horst Weckwert, Oberstedten, Taunus, and Georg Oberländer and Günther Lange, Oberursel, Taunus, Germany, assignors to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany
Filed Feb. 5, 1962, Ser. No. 172,838
5 Claims. (Cl. 230—116)

1. A gas turbine plant which comprises in combination: a turbine having a runner and a turbine housing, a turbo-compressor having a rotor and a compressor housing and being coaxially arranged with regard to said turbine and being drivingly connected thereto, the driving connection between said turbine and said rotor including a shaft common to said runner and said rotor, bearing means for journalling said shaft, said bearing means including a single bearing interposed between said compressor and said turbine and including a bearing housing, a disc-like wall member mounted between said compressor housing and said turbine housing, means fixedly support-

ingly connecting said bearing to said wall member, said wall member forming an end wall for each housing, each of said housings being apertured at the end facing said wall with a central aperture larger than the rotor in the respective said housing and each housing engaging said wall member in an annular region adjacent the periphery of the wall member and being detachably connected to the wall member so that opening up of said plant along



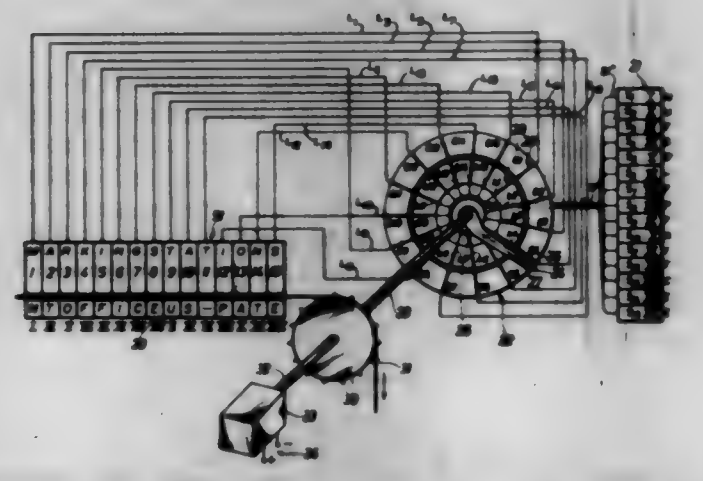
that side of said wall member which faces said compressor by disconnecting the compressor housing from said wall member will permit withdrawal of said compressor housing from about the compressor rotor, while opening up of said plant along that side of said wall member which faces said turbine by disconnecting the turbine housing from said wall member will permit withdrawal of said turbine housing from about the turbine rotor.

3,140,822

METHOD AND ARRANGEMENT FOR TRANSFERRING INFORMATION BETWEEN A STORAGE AND A RECORD CARRIER

Wilhelm Hergert, Wilhelmshaven, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany

Filed July 30, 1962, Ser. No. 213,378
Claims priority, application Germany Aug. 1, 1961
15 Claims. (Cl. 234—1)



1. In a method of transferring, by means of a multistation information transfer device having an odd number of n transfer stations with equal spaces therebetween, information composed of up to n bits between a multistation storage and an information record carrier adapted to carry bit markings and moving through said device, the spacing between adjacent ones of the bit markings representing the complete information corresponding to the spacing between adjacent transfer stations, the step of consecutively connecting, in synchronism with the movement of the record carrier past the transfer stations, the individual stations of the storage with the n individual transfer stations one-by-one so as to activate the latter to effect bit-by-bit transfer of the information between the respectively connected storage and transfer stations, the sequence of said transfer stations which are thus sequentially activated being such that after the activation of the first transfer station those transfer stations are sequentially activated which are spaced from each other alternatingly

$$+a=\frac{n-1}{2}$$

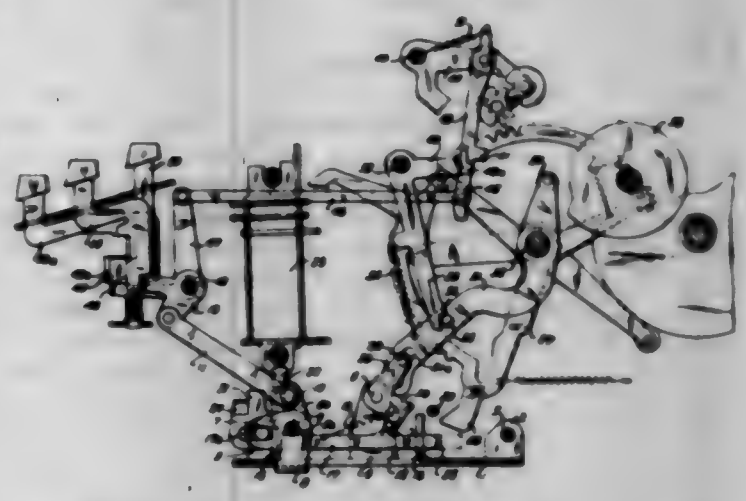
spaces in forward direction of the movement of the record carrier and $-b=a-1$ spaces in opposite direction, respectively, wherein n is the number of said transfer stations, whereby n bits of information are transferred bit-by-bit by n activations of the respective transfer stations between the storage and the record carrier while the latter moves past said n transfer stations.

3,140,823

ARRANGEMENT FOR ALIGNING ORDINAL ELEMENTS FOR A DIVISION

Eugen Kuhn, Alt-Oberndorf, Germany, assignor to Olympia Werke AG, Wilhelmshaven, Germany

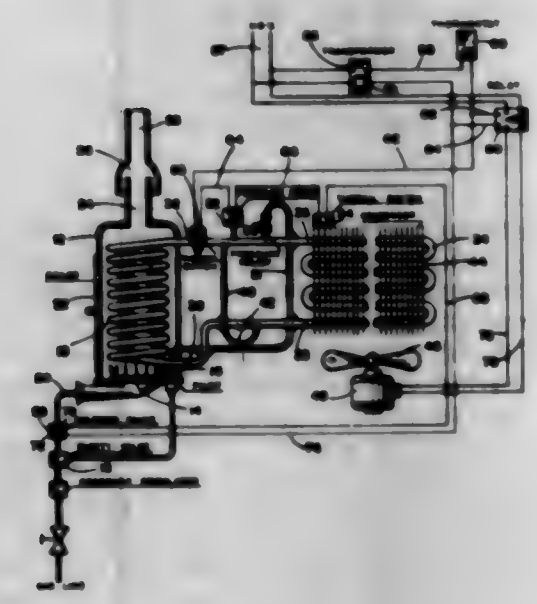
Filed Feb. 12, 1962, Ser. No. 172,501
Claims priority, application Germany Feb. 11, 1961
10 Claims. (Cl. 235—60)



1. In a calculator, in combination, an arrangement for aligning ordinal elements representing the highest orders of a divisor value and of a dividend value, comprising a totalizer having a series of movable ordinal elements for registering representations of a dividend value; a pin carriage having a series of ordinal elements for registering representations of a divisor value and an abutment, said pin carriage being operable to move between a plurality of ordinal positions in which different ordinal elements of said pin carriage and of said totalizer are located opposite each other; an ordinal series of stop means; a movable support supporting each stop means for movement independently of the other stop means between a first position, a second position and a third position, and supporting all stop means for simultaneous movement to a position in which stop means in said third position assume a blocking position located in the path of movement of said abutment of said pin carriage; means for urging said stop means to move to said second position; an ordinal series of differential means each operable to assume a position corresponding to the positions of one ordinal element of said totalizer, each differential means having a zero position and a plurality of other positions, differential means in said other positions causing said stop means to assume said inoperative position, and differential means in said zero positions causing said stop means to move to said blocking position; and key means for operating said support to move all stop means simultaneously so that stop means in said third position move to said blocking position and block movement of said pin car-

riage whereby said pin carriage by engagement with said abutment is stopped by the stop means of the lowest order in which an ordinal element of said totalizer registers zero, said abutment being positioned relative to said ordinal element of said pin carriage so that the highest ordinal element of said stopped pin carriage registering a divisor value is located opposite the highest ordinal element of said totalizer registering a dividend value.

3,140,824
STEAM HEATING SYSTEM
Everett W. Moore, 3837 E. Glenrosa Ave., Phoenix, Ariz.
Filed Aug. 25, 1958, Ser. No. 757,153
1 Claim. (Cl. 237—17)



In a heater the combination of: a hermetically sealed system comprising a boiler; means for heating said boiler; a condenser; second means for exchanging heat from said condenser; a first conduit intercommunicating with upper portions of said boiler and said condenser; a second conduit communicating with lower portions of said condenser and said boiler; said second conduit forming a liquid return passage from said condenser to said boiler; and heat exchange liquid in said system at a pressure considerably below atmospheric pressure, said liquid of a volume which will convert to steam at the upper portions of said boiler and condenser at a temperature below the ambient pressure boiling temperature of the liquid, said heat exchange liquid ranging from 1 pint to 1 quart by volume for energy equal to 25,000 B.t.u.'s per hour exchanged from said condenser.

3,140,825
TRACKS FOR ELECTRICALLY DRIVEN MODEL VEHICLES
Anthony James Kinghorn Edmondson, Selling, Faversham, Kent, England, assignor to Minic Limited
Filed Oct. 24, 1961, Ser. No. 147,285
Claims priority, application Great Britain Jan. 12, 1961
7 Claims. (Cl. 238—10)

1. A section of track for an electrically propelled model vehicle comprising:

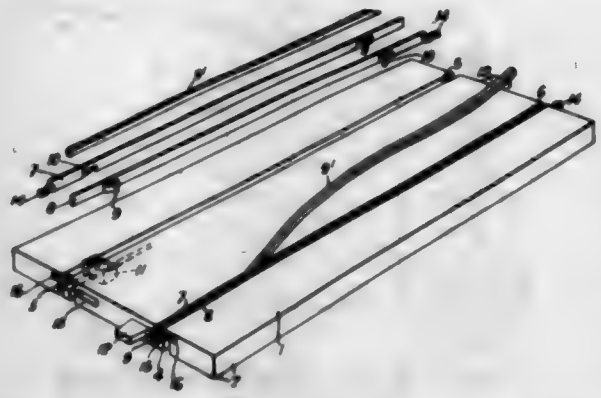
a base of electrically insulating material having a slot in one face thereof;

two conducting rails removably mounted within said slot in contact with the side walls thereof;

an insulating strip co-extensive in length with said rails, dimensioned to be a push fit between said rails, and positioned at the base of said slot to urge said rails against the opposite side walls of said slot;

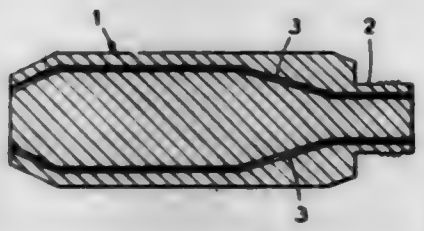
tongues projecting laterally from said rails;

and means defining recesses in the side walls of said slot for receiving said tongues whereby said rails are



positively located within said slot and restrained against both upward and longitudinal movement along and out of said slot respectively.

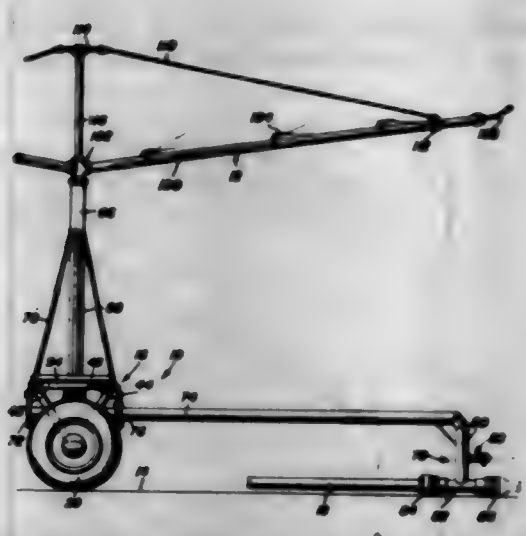
3,140,826
NOZZLES FOR FLAME SPRAYING PISTOLS
Vitalslav Kudelka, London, England, assignor to F. W. Berk & Company Limited, London, England, a British company
Filed Aug. 9, 1961, Ser. No. 130,292
Claims priority, application Great Britain Feb. 1, 1961
1 Claim. (Cl. 239—79)



A nozzle for a pistol for the flame spraying of powders comprising a cylindrical barrel having a main portion tapered at one end and a cylindrical portion of reduced diameter at the other end and first and second groups of passages extending longitudinally through said barrel, each passage in said first group extending through said reduced cylindrical portion with the axis thereof and then being inclined outwards on entering said main portion, after which it runs parallel to the axis of the barrel until being inclined towards said axis at said tapered end and each passage in said second group extending within said main portion parallel with the said axis and being inclined towards said axis at said tapered end, and said passages in said first group alternating with said passages in said second group.

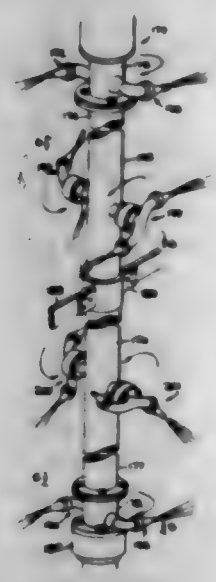
3,140,827
ROTARY SPRINKLER AND TRAILER TYPE VEHICLE THEREFOR
Donald A. Fletcher, Stayton, Oreg., assignor to Farmers Co., Inc., Stayton, Oreg., a corporation of Oregon
Filed Mar. 5, 1963, Ser. No. 262,878
16 Claims. (Cl. 239—178)

11. In a field irrigation device having a rotatable sprinkler boom; a trailer type vehicle adapted to be towed by a towing vehicle comprising, laterally spaced ground supporting wheels, carriage means operatively connected to said wheels, a tubular mast rotatably supported by said carriage means and projecting thereabove for supporting and establishing a fluid connection to said sprinkler boom, elongated rigid conduit means operatively connected to said carriage means and extending forwardly therefrom in perpendicular relation to the tubular mast, ground support means connected to a forward end of said elongated conduit means remote from the carriage means for positioning the tubular mast in a substantially vertical position



above the ground, inlet coupling means mounted substantially at ground level on said ground support means for direct connection to irrigation pipes.

3,140,828
TANK WASHING SYSTEM
Thomas R. Galanor, Riverdale, N.Y., assignor to Theodore E. Ferris & Sons, New York, N.Y., a partnership
Original application Feb. 26, 1963, Ser. No. 261,827, now Patent No. 3,121,827, dated Feb. 11, 1964. Divided and this application Oct. 17, 1963, Ser. No. 320,600
5 Claims. (Cl. 239—227)



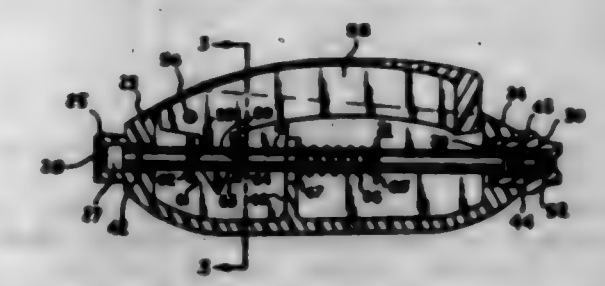
1. An apparatus for washing the interior surfaces of tanks, said apparatus comprising (1) a standpipe adapted to be mounted in bearings within a tank to be washed so as to permit rotation of said standpipe about its own longitudinal axis, (2) rotatable joint means at one end of said standpipe wherethrough fluid may be supplied under pressure to the interior of said standpipe, (3) first and second nozzle assemblies fixedly connected to the exterior of said standpipe near one end, on opposite sides, and in fluid flow communication with the interior thereof, and each having its outlet axis lying in a plane substantially perpendicular to the longitudinal axis of said standpipe and in non-intersecting relation with said axis, and said first and second nozzle assemblies being oppositely directed so that the moments of jet reaction forces of fluid issuing from them tending to rotate the standpipe are additive, and (4) third and fourth nozzle assemblies rotatably connected to the exterior of said standpipe at an intermediate length position, on opposite sides, and in fluid flow communication with the interior thereof, said third and fourth nozzle assemblies being disposed to rotate in planes substantially parallel to the longitudinal axis of said standpipe, and each having its outlet axis lying in its plane of rotation in non-intersecting relation with its axis of rotation.

3,140,829
DETERGENT DISPENSER
Bert J. Rose, 25 Woodruff Ave., Brooklyn, N.Y.
Filed Nov. 28, 1962, Ser. No. 240,527
6 Claims. (Cl. 239—318)



2. An attachment for a liquid aerator having a cylindrical body with a water passage therethrough and having annularly arranged slots in the body constituting air inlets, the improvement comprising a container for storing a supply of liquid detergent, a lateral extension on said container having a semicircular recess, a flat spring secured at one end to the container, the other end of the spring being bent to provide a semicircular curvature disposed opposite the semicircular recess in the extension, said bent portion of the spring and the recess defining a circular opening receiving the cylindrical body of the aerator with the bent portion of the spring in intimate contact therewith for rotatably supporting the container on the body, and valve means carried by the container for controlling passage of the detergent to and through the slotted air inlets to the water passage in the body of the aerator, the curved portion of said spring having a central slot and a tongue supported on said curved portion and extending inwardly of the slot therein and through one of the air inlets in the cylindrical body of the aerator for guiding the rotary movements of the body.

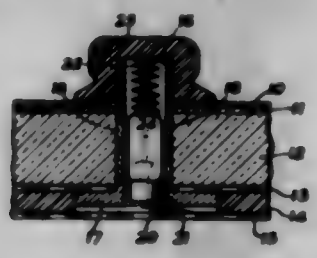
3,140,830
LIQUID SPRAYING APPARATUS
Walter M. Ingold, Louisville, Ky., assignor to W. M. Cissell Manufacturing Company, Louisville, Ky., a corporation of Kentucky
Filed Mar. 11, 1963, Ser. No. 264,318
6 Claims. (Cl. 239—583)



1. Liquid spraying apparatus comprising, a hollow housing having a first cylindrical bore at an inlet end adapted to receive liquid under pressure and an opening at a discharge end axially aligned with said first bore, a nozzle detachably engaged in said opening; said nozzle having a transverse inner face at its outer end forming a valve seat with a spray aperture therein, a second cylindrical bore at its inner end, and an intermediate chamber between said second bore and said valve seat; an elongated tubular valve stem slidably mounted in said housing and having means attached thereto and sealingly

supporting said stem upon the inner walls of each of said first and second bores, said valve stem having a lateral hole in its side wall adjacent its forward end and communicating the interior of said stem with said chamber, an imperforate valve head carried by said stem forwardly of said hole and adapted to contact said valve seat, manually operable means mounted upon said housing and engaging with said valve stem and movable between a first position holding said valve head away from said valve seat and a second position permitting said valve head to contact said valve seat, and means normally urging said valve head to said second position.

3,140,831
TRANS-ILLUMINATED PANELS
John William Strange, 105–109 Judd St., London W.C. 1, England
Filed Dec. 28, 1955, Ser. No. 554,329
Claims priority, application Great Britain Jan. 11, 1955
6 Claims. (Cl. 240—8.16)



4. A panel comprising: a light transmitting sheet, a translucent sheet affixed on one side thereof, an electrically conductive sheet affixed on said translucent sheet and an opaque covering on said electrically conductive sheet.

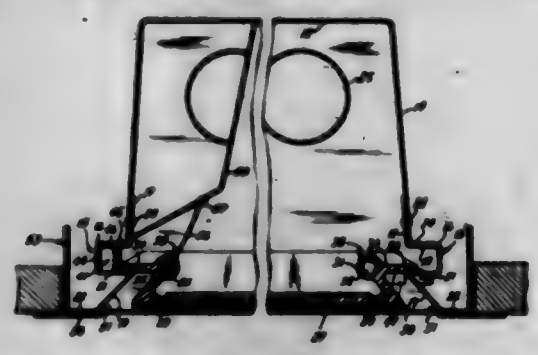
3,140,832
SOUND TAPE MAGAZINE OR THE LIKE
Karl Cech, Modling, near Vienna, Austria, assignor to Karl Vockenhuber, Vienna, Austria
Filed Sept. 13, 1961, Ser. No. 137,610
Claims priority, application Austria Sept. 23, 1960
3 Claims. (Cl. 242—55.13)



1. In a sound tape magazine a casing, two spools disposed adjacent each other, each of said spools comprising a hub and a single flange secured to one side of said hub, windings of sound tape provided on each of said spools, said spools being mounted within said casing with parallel axes and the distance between said axes being slightly greater than the maximum sum of the respective radii lengths of said two sound tape windings on said spools, the radius of the flange of each spool being greater than the difference of the distance between said axes and the radius of said hub, one of said spools being mounted reversed with respect to the other of said spools, and said flange of each of said spools covering at least partially the hub of the other of said spools.

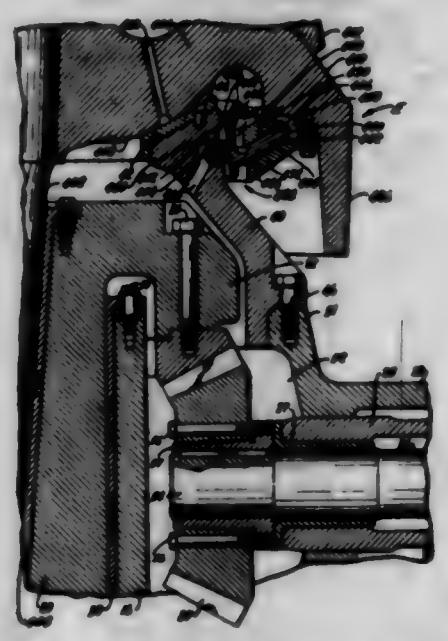
3,140,833
CEILING FIXTURE
Leonard Wolocki, Brooklyn, N.Y., assignor to Lightolier Incorporated, a corporation of New York
Filed Aug. 11, 1961, Ser. No. 130,994
3 Claims. (Cl. 240—78)

1. A lighting fixture comprising a housing having a pair of side walls, a support bracket at the lower edge of each of said side walls, each of said brackets having a channel portion open at one side thereof and opposed to each other, each of said channel portions having a lower supporting surface, the inner edge of each of said supporting surfaces having a downwardly and outwardly extending flange, resilient means in at least one of said channel portions and normally stressed to exert an inwardly directed force toward the other channel portion, a substantially rectangular translucent light diffusing panel, said panel having a side member rising from each of two opposed edges thereof, said side members being inclined toward each other, the upper edge of each of said side members having a support lip which extends outwardly beyond the associated edge of said panel, the outer extremities of said lips resting on an associated lower sup-



porting surface, said resilient means reacting against one of said outer extremities on one of said brackets to urge the panel laterally toward the other bracket, and means to limit the lateral movement of said panel, whereby the panel will be substantially centered on said supporting surfaces between said brackets, with the inclined side members and their associated inclined flanges extending substantially parallel to each other to define a space therebetween whereby the light passing through said lips will illuminate said space, said resilient means being compressible to permit lateral movement of said panel away from said other bracket so that the extremity of the associated lip may be moved clear of the lower supporting surface thereof.

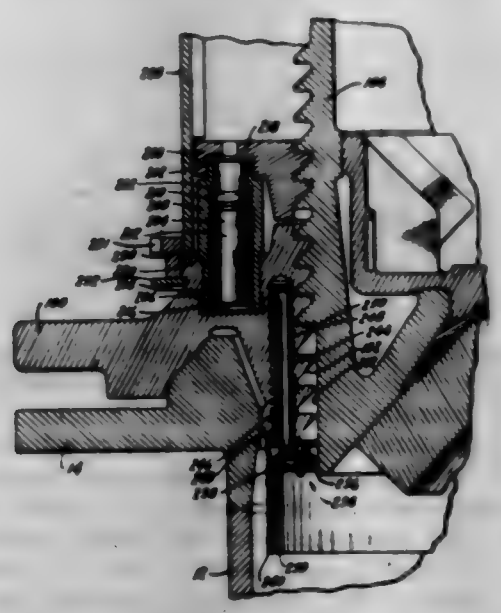
3,140,834
SEAL FOR GYRATORY CRUSHERS
Loren G. Symons, North Hollywood, Calif., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 14, 1961, Ser. No. 152,221
6 Claims. (Cl. 241—216)



1. In combination, in a crusher of the type which includes a circumferential main frame and a head within the frame and means for gyrating it, a support for the

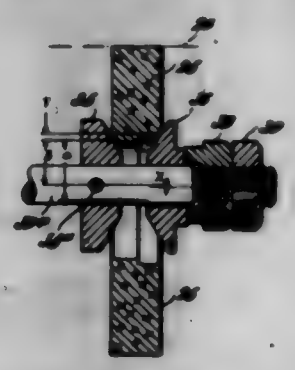
head, and a floating closure between the head and the support which includes a flexible, compressible annulus contacting the support and a movable sealing member slidable in the head, said sealing member abutting and surrounding said annulus and being out of contact, except through said annulus, with the support.

3,140,835
BOWL CLAMPING MECHANISM FOR CONE CRUSHERS
Hansjörg Balmer and Rudolph J. Gasparac, both of Milwaukee, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 14, 1961, Ser. No. 152,222
9 Claims. (Cl. 241—286)



1. In a cone crusher and the like, a main frame, an adjustment ring on the main frame, a spring release normally holding the adjustment ring against tilting movement relative thereto, a bowl screw-threaded in the adjustment ring, a locking ring screw-threaded to the bowl above the adjustment ring, and an annular means arranged generally in a circle between the locking and adjustment rings to provide an upward thrust to the locking ring and bowl to remove thread clearance during normal operation of the crusher.

3,140,836
WINDING MACHINE
Samuel L. Abbott, Wilton, N.H., assignor to Abbott Machine Co., Inc., Wilton, N.H., a corporation of New Hampshire
Original application Apr. 11, 1957, Ser. No. 652,268, now Patent No. 3,091,406, dated May 28, 1963. Divided and this application Dec. 19, 1962, Ser. No. 246,658
5 Claims. (Cl. 242—18.1)

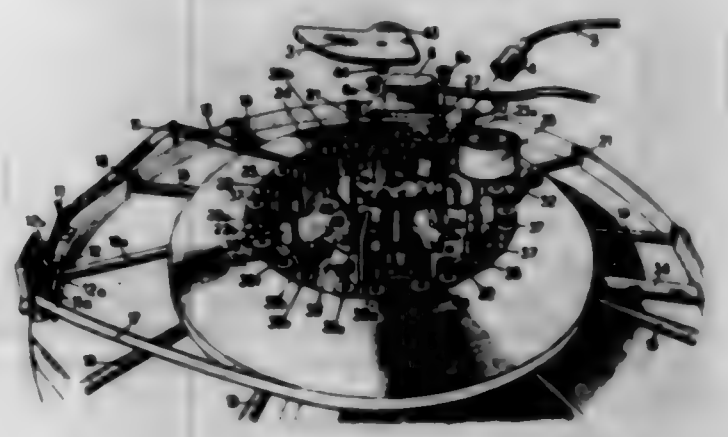


1. A winding machine of the type in which a winding unit includes yarn-traversing means and a tire for driving the traversing means, characterized by two members rotated by the tire and together forming a V-pulley, the radius of that portion of one member which is engaged by the tire being substantially greater than the radius of that portion of the other member which is engaged by the tire so that said members are rotated at substantially different speeds, one of said members being connected to drive the traversing means, and means actuated by the differential in speed between said members for causing an axial shift of one of the members relative to the other to periodically vary the speed of the traversing means.

ERRATUM

For Class 242—55.13 see:
Patent No. 3,140,832

3,140,837
ENDLESS TAPE WINDING CARTRIDGE
Serge Cailliet, 38 Rue du Bois de Boulogne, Neuilly-sur-Seine, Seine, France
Filed Oct. 16, 1961, Ser. No. 145,138
Claims priority, application France Oct. 21, 1960
9 Claims. (Cl. 242—55.19)



1. In an improved tape-holding cartridge provided with means for driving an endless roll of tape rotatably mounted therein, said cartridge being of the type comprising a central plate adapted to be mounted on and driven by the turntable of a conventional record player, a central spindle driven by said plate, and connected thereto to drive the inner portion of said roll of tape, a stationary roller carrier in which said plate is rotatably inserted, and a plurality of radially projecting cylindrical rollers rotatably mounted in said carrier and driven by rotation of said central plate relative to said stationary roller carrier, said rollers being adapted to carry said roll of tape, the improvement which comprises means near the periphery of said cartridge for driving a peripheral portion of said roll of tape more rapidly than its inner portion is driven by said spindle, and means driven by said central plate for driving some of said rollers at a peripheral speed substantially equal to that at which said tape is driven by said spindle and others of said radially disposed rollers at a slower peripheral speed.

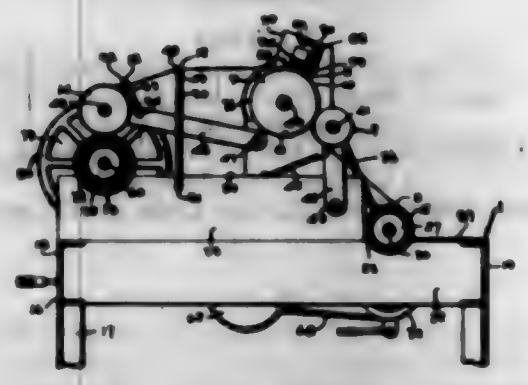
3,140,838
APPARATUS FOR PERFORATING FILM FROM ROLLS
Donald M. Hulett, Independence, Mo., assignor to Clark Products, Inc., Chicago, Ill., a corporation of Ohio
Filed Feb. 23, 1962, Ser. No. 174,973
8 Claims. (Cl. 242—56)

1. Apparatus for forming a linear series of perforations transversely of a moving web to define lines of separation in said web comprising,

(*a*) a blade carrier extending transversely of the path of travel of said web,

(*b*) a blade mounted on said carrier and having a cutting edge adapted to engage the web in response to movement of the carrier,

(*c*) an elongate abutment member extending across the path of the travel of the web and substantially equally spaced radially from the carrier with an adjacent surface adapted to be engaged by portions of the cutting edge of the blade as the blade is moved thereby whereby the cutting edge of the blade and abutment member cooperate in perforating a web passing therebetween,



(*d*) means supporting ends of said elongate abutment member, said abutment member being bendable between said supporting means in response to force applied to the abutment member by the portion of the blade engaged therewith as the blade passes thereunder,

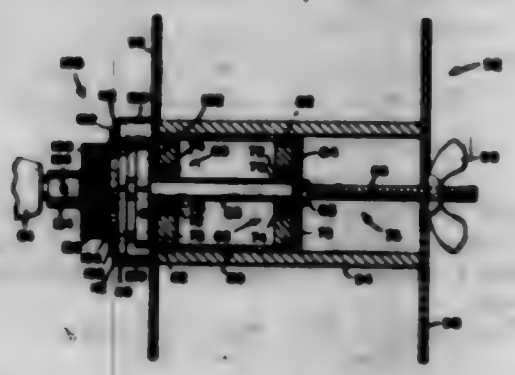
(*e*) and a rigid backing bar supported adjacent the abutment member and adjustable relative thereto to limit the bending of the abutment bar.

3,140,839

DEVICE FOR WINDING UP A CONTINUOUS LENGTH OF FLEXIBLE MATERIAL

Alton E. Whitecar, Westville, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 20, 1961, Ser. No. 96,915
1 Claim. (Cl. 242—68.1)



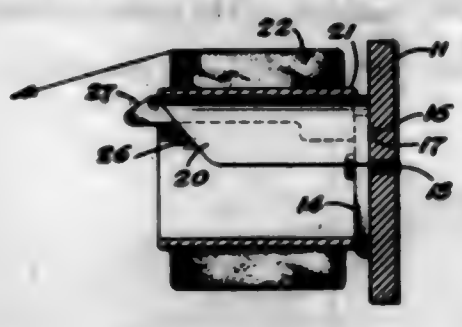
A take-up device for winding a continuous length of flexible material comprising in combination a constant speed drive means having a drive shaft, a bearing assembly secured on said shaft and fixed against axial movement along said shaft, a first disc fixed to said bearing assembly, a cylindrical core removably supported by said bearing assembly and having one end abutting said first disc, a second disc abutting the other end of said core removable clamping means secured to said bearing assembly and engaging said second disc for removably clamping said discs and core in axially abutting relationship so as to form a reel for winding said material, a member mounted for rotation with and axial shifting movement upon said shaft adjacent said first disc, spring means carried by said member, friction engaging means carried by said spring means for frictionally engaging said first disc, and manually adjustable means mounted on said shaft for rotation therewith and for axial movement into engagement with said member for increasing the frictional engagement between said engaging means and said first disc during the winding of said material upon said reel.

3,140,340

BOBBIN HOLDER

John S. Hunsinger and Arthur L. Gottily, Pensacola, Fla., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware

Filed Mar. 20, 1961, Ser. No. 96,899
1 Claim. (Cl. 242—130)



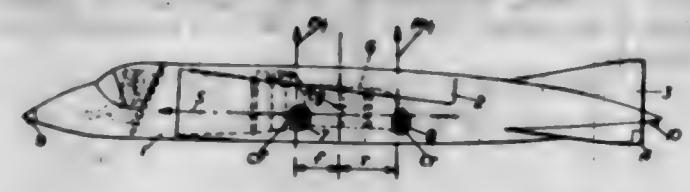
A bobbin holder, comprising a supporting leg adapted to be secured to a base, a member secured at one end to the leg and extending horizontally therefrom for supporting a bobbin, said member having an arcuate cross section adapted to conform to a portion of the inner surface of a tubular bobbin, said member having sides which terminate at points above a horizontal plane through the axis of the bobbin, and a vertical flange secured to the lower surface of the member and extending to a point beyond the distal end of said member, said flange being tapered to guide the bobbin onto said member, said member being tapered at said distal end to facilitate movement of said bobbin onto said member.

3,140,841

CONTROLS FOR VERTICAL TAKE-OFF AIRCRAFT

Francis Charles Iver Marchant and Robert William Jaggard, Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company

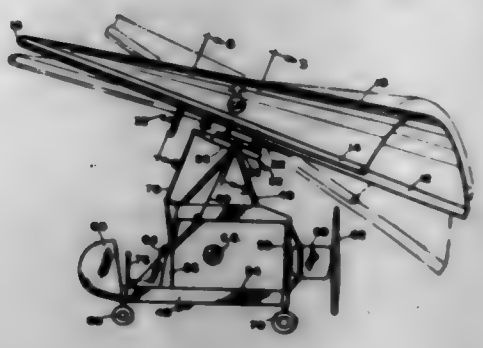
Filed Sept. 10, 1962, Ser. No. 222,398
Claims priority, application Great Britain Sept. 14, 1961
9 Claims. (Cl. 244—23)



1. In an aircraft, a forward jet thrust nozzle system productive of a resultant thrust vector, a rear jet thrust nozzle system productive of a resultant thrust vector, means adjustably mounting each of said nozzle systems to vary the orientation of its thrust vector in a vertical fore-and-aft principal plane through the centre of gravity of the aircraft, the thrust vector of the forward system turning about an orientation centre forward of and lower than the centre of gravity and the thrust vector of the rear system turning about an orientation centre rearward of and not higher than the centre of gravity: a control member movable from an initial position through a first range and thence through a subsequent range, and a control system linking the control member to the nozzle systems and including: means responsive to the control member being in its initial position to hold the systems with their thrust vectors directed substantially vertically upwards, means responsive to movement of the control member from its initial position through the first range to adjust the front nozzle system to turn its

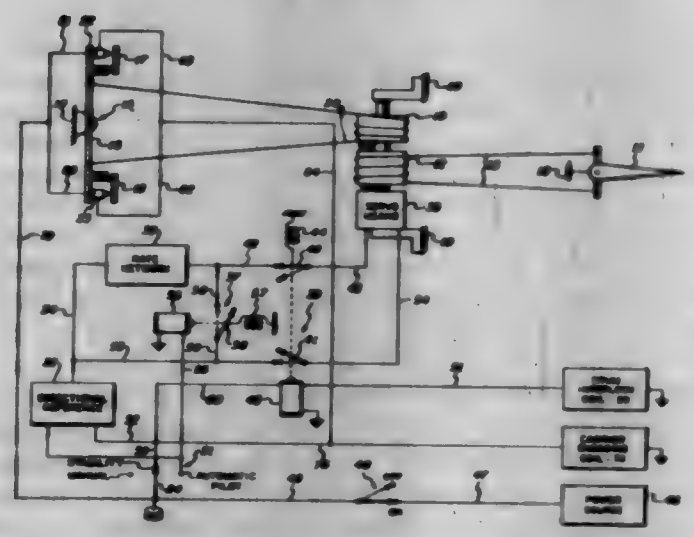
vector forwards until that vector has a maximum moment about the centre of gravity, while preventing the rear system from being adjusted so that its vector is forward of the vertical, and means responsive to movement of the control member through the subsequent range to adjust both systems simultaneously to turn both vectors forwards until the front vector is substantially horizontal.

3,140,842
FLEXIBLE WING AIRCRAFT
Cecil E. Craigo, Harry A. James, and Leo J. Hand, San Diego, Calif., assignors to The Ryan Aeronautical Co., San Diego, Calif.
Filed Mar. 17, 1961, Ser. No. 96,574
8 Claims. (Cl. 244—46)



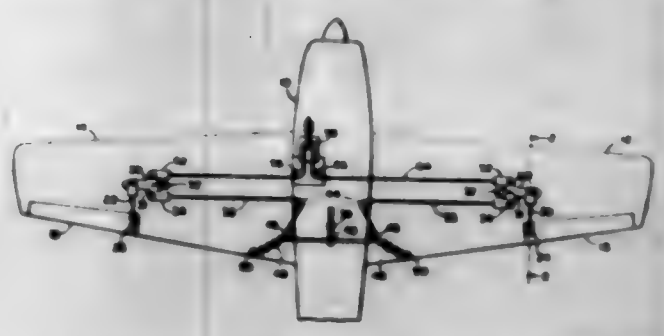
1. An aircraft, comprising:
a wing having a lifting panel, freely flexible in one direction;
supporting structure attached to and supporting certain edges of said panel;
an airframe structure suspended from said wing and being pivotally attached thereto substantially at the aerodynamic center of pressure of the wing;
and control means coupled between said wing and said airframe structure to shift the center of gravity of the airframe structure relative to the center of pressure of the wing, thereby applying a deflecting moment to the aircraft.

3,140,843
SERVO SYSTEM
Robert H. Pettit, Huntington, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Sept. 6, 1962, Ser. No. 221,725
11 Claims. (Cl. 244—77)



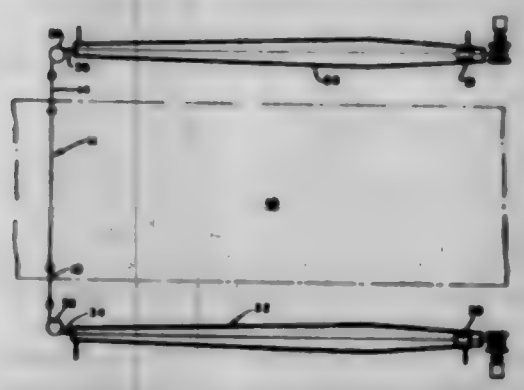
9. In a combined manual and automatic servo system for dirigible craft with a movable control surface, an output drum with an axis connected to move the control surface, a manually operable controller, an input drum operatively connected to the controller arranged in coaxial juxtaposed relation to the output drum, means for rotationally interlocking the juxtaposed input and output drums, and servo means for operating said interlocked drums including an automatic pilot providing an output depending on movement of the craft about an axis corresponding to the axis of the movable control surface.

3,140,844
AIRCRAFT STABILIZATION DEVICE
Alan H. Rich, 4519 Alabama Ave. SE., Washington 19, D.C.
Filed Mar. 29, 1963, Ser. No. 269,214
6 Claims. (Cl. 244—82)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A system for reorienting an aircraft having conventional aileron roll controls from a turning or spiral condition of flight to a straight line condition of flight comprising,
(*a*) means for simultaneously moving both ailerons of said aircraft to a downwardly extending position,
(*b*) tensioned means directly interconnecting said ailerons whereby upward movement of the aileron of the faster moving wing, due to the greater air pressure acting on the under side thereof, will transmit an additional downward movement, equal in magnitude to said upward movement, to the aileron of the slower moving wing, said tensioned interconnecting means gradually returning said ailerons to a parallel position as the pressures acting on said ailerons equalize and the aircraft approaches straight flight.

3,140,845
CROSS DECK OR RUNWAY PENDANT
Robert B. Cotton, Media, Pa., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 2, 1962, Ser. No. 214,615
5 Claims. (Cl. 244—110)



1. A sectional aircraft arrest hook cable comprising a center wear resistant section of cable for aircraft arrest hook engagement, and shock absorbing sections of synthetic plastic coupled to each opposite end of said center section, and coupling means for connection of said sec-

tions of synthetic plastic with the purchase cables of aircraft arrest means.

3,140,846
AIRCRAFT COVERING COMPOSITION AND METHOD OF MAKING SAME
William G. Lott, Santa Monica, Calif., assignor to Econair, Inc., a corporation of California
Filed Apr. 14, 1958, Ser. No. 728,255
4 Claims. (Cl. 244—133)



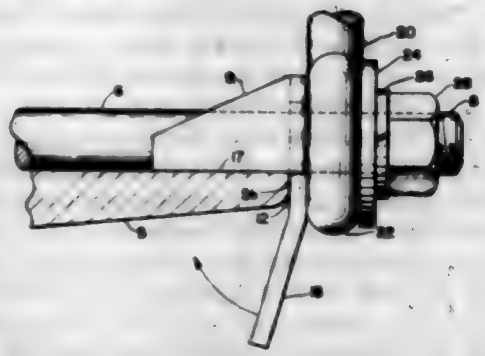
3. A covering composition for an aircraft frame comprising, in combination: sheets of woven synthetic fibers positioned to cover portions of said frame, said fibers having the property of shrinking upon application of heat; woven glass fiber cloth overlying said sheets; an adhesive resin dope material impregnating said cloth and sheets to bond said cloth and sheets together; reinforcing tape overlying portions of said cloth; and stitches passing through said reinforcing tape, cloth, and sheets to secure the same to portions of said frame.

3,140,847
EJECTABLE FLIGHT RECORDER
Henry P. Ames, Jr., Salina, Kans.
(ACSC, Box 65-1147, Maxwell AFB, Ala.)
Filed May 15, 1961, Ser. No. 110,125
5 Claims. (Cl. 244—138)



1. In a flight recording data capsule, the combination which comprises an aircraft having a fuselage with a cavity in the trailing end of the fuselage, a capsule positioned in the cavity of the aircraft, a propulsion rocket in the capsule for ejecting the capsule from the aircraft, a parachute in said capsule, latches for retaining the parachute in the capsule, a tape recorder in said capsule, a multiple cable extended from said tape recorder to signal means in the aircraft whereby signals designating the operation of elements of the aircraft are transmitted to the tape recorder, a radio signal transmitter positioned in the capsule and arranged to transmit signals of the tape recorder for designating the operation and location of the aircraft, a battery in the capsule for supplying current to the tape recorder and transmitter, crash shock actuated switches positioned in said capsule, and explosive means actuated by said crash shock actuated switches for actuating said latches to release said parachute.

3,140,848
TOP BEAM CLAMP
Phillip C. Sherburne, East Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Jan. 30, 1962, Ser. No. 169,728
2 Claims. (Cl. 248—72)



1. In a pipe hanger having a hook rod lying on the top of the top flange of a flanged beam member with one end having a hook engaging one of two running edges of said flange and the other end being threaded and extending beyond the other edge of said flange, a pipe support rod, washer means, and a nut fastened on said threaded other end; a clamp member mounted on said hook rod between said washer means and said beam member comprising:
(*a*) a flat substantially vertical wall having two side edges, a top and a bottom portion,
(*b*) two substantially similar and parallel wing walls extending together one from each of said side edges perpendicular to said flat wall,
(1) each of said walls having a straight lower edge resting on the top of said top flange perpendicular to said flat wall,
(*c*) a hole through said vertical wall slightly larger than said hook rod through which said hook rod extends,
(1) the lower periphery of said hole being substantially in line with the lower edges of said wing walls, whereby said hook rod is assured of firm contact with the top of the top flange,
(*d*) a flat tongue depending from the bottom portion of said flat wall,
(1) said tongue being bendable under an imposed sharp blow to engage the bottom surface of said top flange.

3,140,849
SUPPORT FOR PAINT ROLLERS
Charles G. Garr and Bernard A. Garr, both of 5326 Elmwood, Detroit, Mich.
Filed Jan. 5, 1962, Ser. No. 164,513
1 Claim. (Cl. 248—304)



A one piece support of wire stock for supporting a tubular paint roller member in an open container having a side wall terminating at its upper end in a peripheral

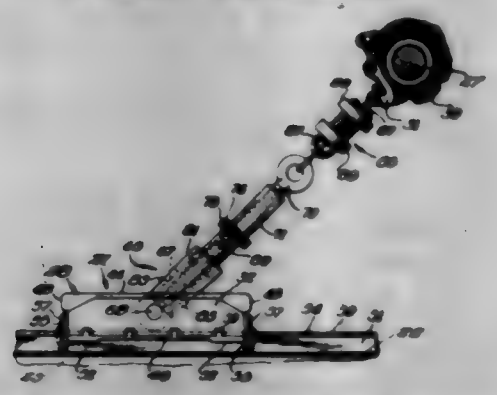
lip, said support comprising: a stem portion having a length greater than the length of a paint roller member to be supported, a hook portion disposed at the lower extremity of said stem portion for engaging the wall at one end of the roller to be supported, clamp means comprising a U-shaped structure defined by a pair of spaced upwardly and downwardly extending leg portions and having an opening sufficient to overengage the peripheral lip of the container, a U-shaped stop member connected at one end to one of said leg portions of said U-shaped structure and extending transversely toward the other of said leg portions of said U-shaped structure, said one of said leg portions being normally inclined toward said stop member to provide upon separation a resilient clamp between the inside and outside surfaces of the wall of the container, a connecting portion having one end connected to the other end of said U-shaped stop member and extending upwardly therefrom, and an intermediate portion having one end secured to the upper end of said stem portion and extending transversely in a direction generally opposite to said U-shaped stop member a distance at least greater than the wall thickness of the tubular paint roller member to be supported and having its opposite end connected to the upper extremity of said connecting portion.

3,140,850

VEHICLE TIE DOWN APPARATUS

Durward I. Packard, Kenilworth, Ill., assignor to Brandon Equipment Company, Inc., Chicago, Ill., a corporation of Delaware

Filed Apr. 29, 1963, Ser. No. 276,371
12 Claims. (Cl. 248—361)



1. Apparatus adapted for anchoring automotive vehicles to a transportation vehicle having a supporting floor,

an elongated channel member adapted to be secured fixedly to the transportation vehicle floor and having spaced apart upstanding side walls and inwardly directed opposed spaced interlock flanges provided with aligned pairs of substantially uniformly spaced notches in their free margins,

a rigid elongated anchor member comprising a frame having side walls rigidly connected by end bars and with the side walls spaced to fit between the facing edges of said interlock flanges,

said side walls of said anchor member having lower marginal elongated outwardly projecting anchoring flanges freely spaced from said upstanding side walls of the channel and opposingly underlying the interlock flanges,

said side walls of said anchor member and said anchoring flanges having lower limited area contact pad portions engageable with the base of the channel for sliding the anchor member longitudinally along the channel to various adjusted positions,

aligned pairs of anchoring lugs extending integrally outwardly of the respective side walls of said anchor member and upwardly of the contiguous anchoring flanges, affording reinforcement for the anchoring flanges and being complementary to and spaced in conformity with said notches for engagement in said notches to anchor the anchor member against longitudinal displacement from adjusted position relative to the channel, said anchoring flanges and anchoring lugs being of a combined height less than the spacing of said channel flanges from the channel base so as to permit free longitudinal adjustment of the anchor member when said pads engage the base of the channel, and

said side walls of said anchor member projecting substantially above the interlock flanges,

and means for maintaining the anchor member releasably elevated in anchored relation of the lugs in selected ones of the interlock flange notches,

and flexible connecting means attached to the anchor member between said side walls of said anchor member for connecting the same to an automotive vehicle to be anchored.

3,140,851

VEHICLE SEAT SUPPORT

Raymond A. Bilancia, Rolling Meadows, Ill., assignor to Coach and Car Equipment Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 6, 1961, Ser. No. 136,292
11 Claims. (Cl. 248—399)



1. Seat structure comprising:

base means;

seat frame means located above said base means;

a first lever extending upwardly and rearwardly from said base means to said seat frame means;

a second lever extending downwardly and rearwardly from said seat frame means to said base means;

means connecting one end of each of said levers to one of said base and seat frame means;

means slidably mounting the other end of each of said levers to the other of said base and seat frame means;

a torsion bar extending between said levers;

means fixedly mounting one of said levers on said torsion bar at a location on said one lever between the ends thereof;

means rotatably mounting the other of said levers on said torsion bar, at a location on said torsion bar axially spaced from said one lever, and at a location on said other lever between the ends thereof;

and adjusting means, constituting a linkage between said torsion bar and said rotatably mounted other lever, for prepositioning the angular relationship between said levers and presetting the vertical distance between said base means and said seat frame means without pre-loading said torsion bar.

3,140,852

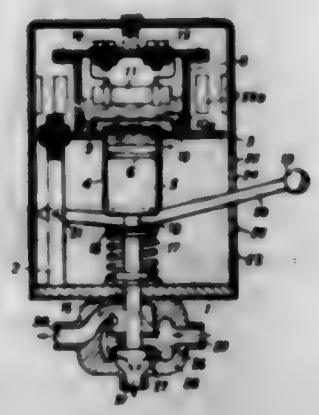
ELECTRICALLY ACTUATED VALVE

Gustav Herzog, Feldmeilen, Zurich, Switzerland, assignor to Albert Lins, Zurich, Switzerland

Filed Jan. 18, 1960, Ser. No. 3,133
Claims priority, application Switzerland Jan. 19, 1959
4 Claims. (Cl. 251—11)

1. An electrically actuated valve comprising walls enclosing a chamber, a diaphragm stretched across said

chamber having a central rigid disc portion and an annular bulging portion of flexible material, a tubular extension defined in a wall opposite said flexible diaphragm, a valve having a movable closure member, a piston of smaller diameter than said flexible diaphragm connected to said closure member and reciprocable in said tubular extension to actuate said movable closure member, means to bias said piston and said closure member, in a direction toward said flexible diaphragm, a liquid disposed in said chamber between said flexible diaphragm and said piston, a vapor-

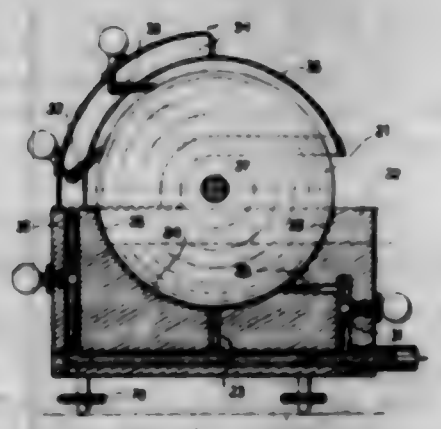


izable liquid disposed in said chamber above said flexible diaphragm, electrical heater means disposed in said chamber containing said vaporizable liquid and heatable in increased intensity in proportion to current flow therethrough to vaporize the liquid in said chamber whereby to displace said flexible diaphragm in a direction toward said piston and move said piston and said closure member, and adjustable means for supporting said chamber walls and said tubular extension at a preselected height above said valve.

3,140,853
BEARINGS

Brer M. Lindner, Stockholm, Sweden, assignor to Alwac International, Inc., Nassau, Bahamas, a corporation of Panama

Continuation of application Ser. No. 646,491, Mar. 15, 1957. This application Mar. 28, 1960, Ser. No. 17,834
Claims priority, application Sweden Mar. 20, 1956
4 Claims. (Cl. 253—3)



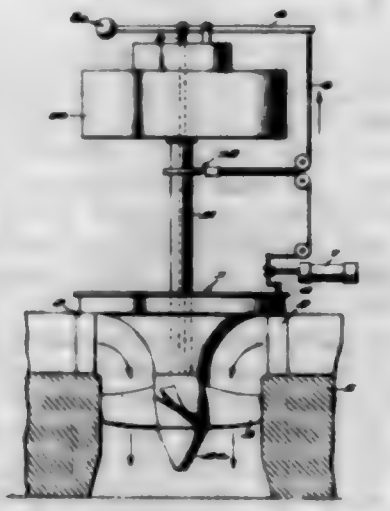
1. In an air bearing assembly, a rotor for carrying a load applied perpendicularly to the rotor rotational axis and having an external bearing surface of revolution convexly curved with respect to the rotational axis of said rotor; and a support structure supporting and receiving said rotor and having an interior cup shaped segmental surface of revolution substantially complementary to said rotor external bearing surface and forming a single centrally located cup shaped pocket; means including a passage opening centrally into said pocket for introducing a compressible fluid under pressure into said pocket for maintaining said rotor continuously airborne on a compressed layer of said fluid and out of contact with said support structure, the portion of said layer of compressed fluid in said pocket having a predetermined depth during normal operation; the segmental surface forming a margin around said pocket and cooperating with said rotor to define an annular outlet surrounding said rotor when said rotor is airborne for discharging said fluid in said pocket to free air with said segmental surface being shaped to form with said rotor an annular fluid passage throat region and a fluid passage flared region between said support structure and said rotor, said throat region being disposed adjacent the extremity of said pocket and having a depth that is substantially less than said predetermined compressed fluid layer depth at said pocket when said rotor is airborne, said flared region being disposed around said rotor between said outlet and said throat region and diverging outwardly toward said outlet whereby the pressure of fluid in said throat region is substantially less than the pressure of fluid in said pocket and less than the pressure of air at said outlet.

2. The air bearing assembly defined in claim 1 comprising means for directing at least one stream of pressurized compressible fluid against the periphery of said rotor and at an angle to the rotational axis of said rotor, said stream being operable to exert a driving torque on said rotor.

3,140,854
SPEED LIMITING DEVICE FOR TURBINES

Lawrence M. Boyd, Senneville, Quebec, Canada, assignor to Dominion Engineering Works Limited, Montreal, Quebec, Canada

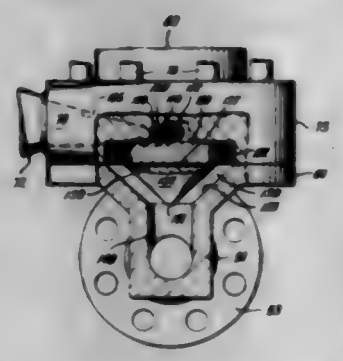
Filed Oct. 31, 1961, Ser. No. 148,927
5 Claims. (Cl. 253—31)



1. A Kaplan type turbine including an output shaft, adjustable wicket gates, adjustable runner blades, a power controlling system for changing the angular positioning of the wicket gates and runner blades in response to variations of the power demand upon the turbine, said controlling system including a wicket gate adjusting mechanism operatively connected to the wicket gates for changing the angular position thereof, a runner blade adjusting mechanism operatively connected to the runner blades for changing the angular position thereof, a normally shortened but lengthwise extensible connecting means interconnecting the wicket gate adjusting mechanism and the runner blade adjusting mechaniam and serving, in its normally shortened condition, to effect operation of the runner blade adjusting mechaniam in response to operation of the wicket gate adjusting mechanism and emergency speed limiting means functioning automatically, in response to a decrease of the power demand upon the turbine and simultaneous failure of

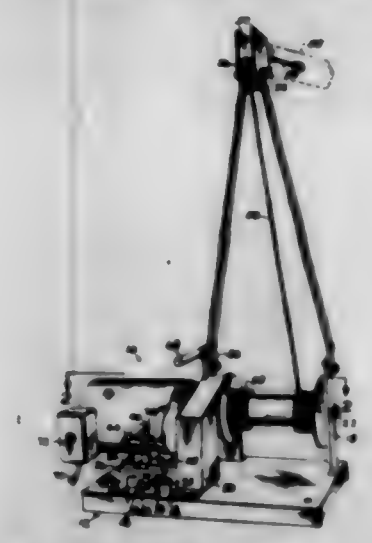
said power control system, to effect operation of the runner blade adjusting mechanism to move the runner blades, independently of the wicket gate adjusting mechanism, to a coarse pitch or fully open position to thereby limit overspeeding of the turbine to a relatively small increase over synchronous speed, said emergency speed limiting means including speed responsive connecting means interconnecting said output shaft and said extensible connecting means and serving to effect operation of the runner blade adjusting mechanism by lengthwise extension of said extensible connecting means to thereby move the runner blades to a coarse pitch or fully open position independently of said wicket gate adjusting mechanism and in response to a relatively small increase in the speed of the turbine over synchronous speed.

3,140,855
CATHODIC PROTECTION OF PIPE LINES AND INLINE TURBO GENERATOR THEREFOR
Harley H. Williams and Robert V. Beason, Houston, Tex., assignors to Well Electronic Supply Co., a corporation of Texas
Filed June 26, 1961, Ser. No. 131,951
1 Claim. (Cl. 253—141)



A gas turbine including a stator having an opening therein, a rotor having a plurality of peripherally disposed radially extending blades, a shaft supporting the rotor and secured thereto, means rotatably supporting the rotor in said stator opening, a nozzle fixed relative to the stator having an inlet and having an outlet orifice adjacent the rotor blades, said nozzle converging from said inlet to said outlet orifice, said nozzle being directed generally toward said rotor blades transverse to the radial extent of the blades, a valve plate between said orifice and said rotor, means for adjusting the position of said valve plate relative to said orifice between positions of more or less obstruction of said orifice, and outlet passage means connected at one end thereof adjacent to said opening in the turbine stator on the opposite side of said rotor from said nozzle, said outlet passage means being connected at the other end thereof to said main pipe at the other side of said pressure reducing means from said nozzle inlet, said rotor blades being curved in cross section taken in planes perpendicular to their radial extent, the spaces between said blades being of uniform cross-sectional area in planes perpendicular to the flow path therethrough, the curves of the blades providing surfaces adjacent the orifice directed substantially in the direction of the nozzle and surfaces adjacent the outlet passage means directed opposite to said surfaces adjacent the orifice, said outlet passage means including means forming a conical annular space with its base adjacent said rotor blades on said opposite side of the rotor, said means forming a conical annular space including a cover having a conical interior and a conically shaped flow director secured to the end of the rotor shaft coaxial with said shaft and with said conical interior of the cover, the apex of said flow director being rounded, said outlet passage means further including means forming a tubular passage connected to the apex of said conical annular space.

3,140,856
CABLE PULLER
Edward F. Carpenter, 8285 NW. 23rd, Oklahoma City, Okla.
Filed Oct. 22, 1962, Ser. No. 232,030
2 Claims. (Cl. 254—134.3)

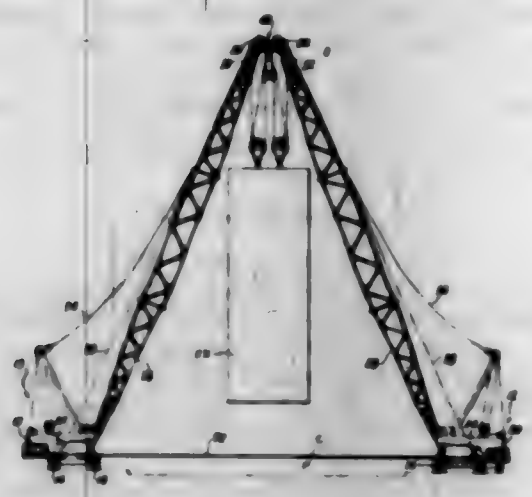


1. An electric cable puller, including: a base; a pair of support members rigidly connected in parallel vertical spaced-apart relation to the upper surface of said base; a reel journaled between said support members in spaced relation with respect to said base; a flexible element secured at one end to said reel and wound on the latter; a gear coaxially connected to one end of said reel; a pair of brackets secured to said base in spaced-apart relation; a shaft journaled by said brackets in parallel off-set relation with respect to the axis of said reel; a rectangular plate secured to said shaft for horizontal pivoting movement of said plate about the axis of said shaft; an electric motor mounted on said plate, said motor having a driving shaft; a pinion coaxially mounted on said driving shaft in contact with said gear for rotating said reel; and pin and pillow block means connected to one end portion of said plate and said base, respectively, for raising and lowering said one end portion of said plate and pivoting said motor about the axis of said shaft and moving said pinion into and out of contact with said gear, said pin and pillow block means comprising a pin pivotally extended through one end portion of said plate with the axis of said pin normal to the plane of said plate, a shoe rigidly connected to the depending end of said pin, and a pair of spaced-apart shoe supporting pillow blocks mounted on the upper surface of said base below said one end portion of said plate, the spacing between said pillow blocks being slightly greater than a transverse dimension of said shoe for removably receiving said shoe therebetween.

3,140,857
METHOD AND APPARATUS FOR HANDLING A LOAD
Edward B. Nicklas, Manitowoc, Wis., assignor to Manitowoc Engineering Corporation, Manitowoc, Wis., a corporation of Wisconsin
Filed Aug. 2, 1961, Ser. No. 128,709
29 Claims. (Cl. 254—139.1)

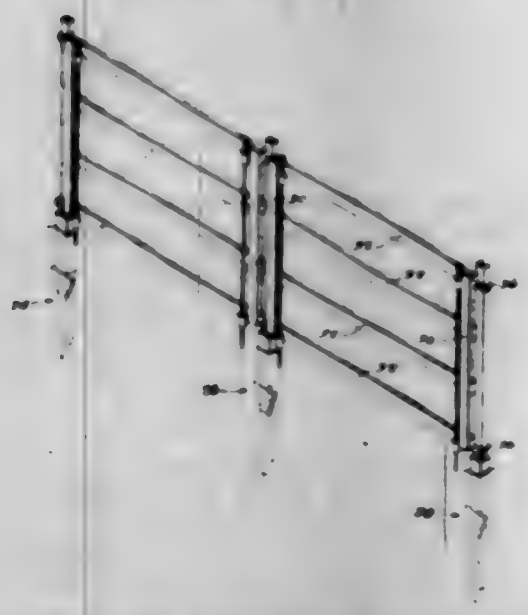
1. In combination with a pair of mobile crane units each of which is provided with an upper works having a hoisting drum, elongated boom structure pivotally mounted to the upper works and extending outwardly therefrom and terminating in a boom point whereat there is disposed a boom point sheave, and a bridle arrangement for moving and normally supporting the boom structure with the bridle arrangement being usually in a tensioned condition; apparatus for enabling the crane units to handle a load greater than the rated capacity thereof, said apparatus comprising structure carried adjacent the boom

point of each of the boom structures for enabling the boom structures to support each other adjacent the boom points thereof and to place said bridle arrangements in a slackened substantially non-tensioned condition with the boom structures extending generally upwardly from the



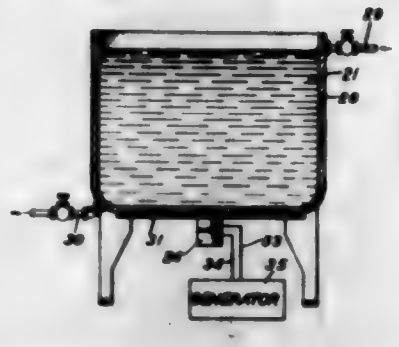
respective upper works and disposed in upwardly converging relationship relative to each other, a device for simultaneously securing a load to each of the crane units, and means for restraining the crane units from moving in generally horizontal directions relative to each other.

3,140,858
FENCE ASSEMBLY
Albert W. Westphal, R.R. 1, Francesville, Ind.
Filed Aug. 24, 1962, Ser. No. 219,286
8 Claims. (Cl. 256—24)



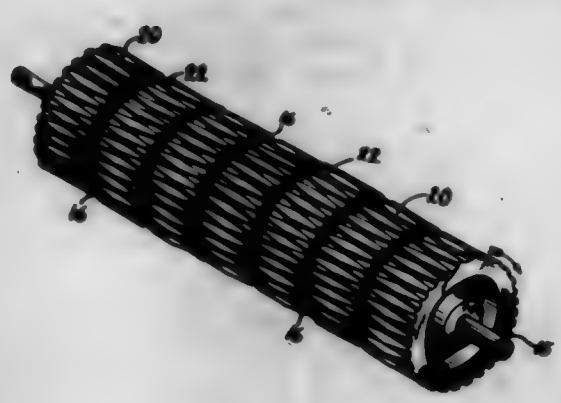
8. A fence assembly, adapted for knock-down, to provide a gateway, comprising a set of at least two, ground-anchored posts, a plurality of hanger brackets on each of said posts, and a unitary section of fence suspended on said brackets, at least one of said posts comprising a ground-anchoring stake, a tubular socket telescopically receivable on the top of the stake, and an upright with its lower end secured in said socket, a plate secured to said stake and having diverging sides extending on both sides of said stake, said upright being telescopically received in said socket, said brackets being secured to each of said uprights, and in spaced relation longitudinally thereof, and each comprising at least one arm extending laterally of the upright with an upstanding, outer end, said fence section adapted to be suspended on said bracket arms, and means embodying keeper rods slidably supported in the outer ends of said bracket arms to retain said sections on said arms.

3,140,859
ELECTROACOUSTIC SANDWICH TRANSDUCERS
Thomas J. Scarpa, Metuchen, N.J., assignor to International Ultrasonics, Inc., Cranford, N.J., a corporation of New Jersey
Filed Jan. 17, 1961, Ser. No. 80,515
20 Claims. (Cl. 259—1)



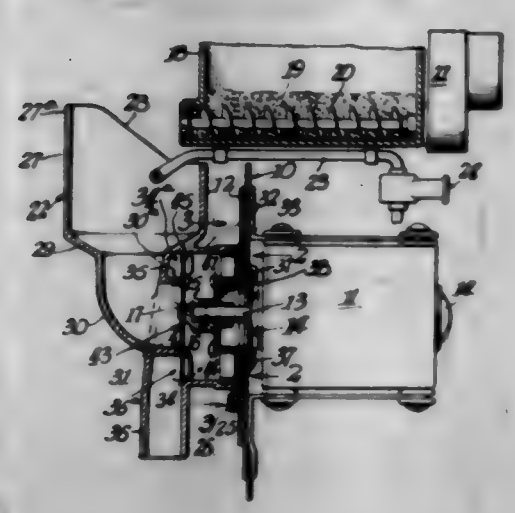
1. An ultrasonic washing device comprising in combination a container for liquid ultrasonic transmitting medium, means for filling said container with said medium and for exhausting said medium from said container, a fitting comprising a metallic plate integrally bonded to a surface of said container, a bolt fixed at one end to said plate, and the other end of said bolt protruding through said plate, and an ultrasonic transducer removably fastened to said bolt, said transducer comprising in combination a piezoelectric element constructed to vibrate in a resonant-thickness mode of vibration, a pair of metallic backing elements forming with said piezoelectric element a sandwich the electrical thickness of which approximates a half-wave-length in a resonant-thickness frequency of said piezoelectric element in the direction of vibration thereof, said bolt axially disposed to engage one end of said sandwich to fasten said sandwich to said metallic plate at substantially an antinode in said resonant-thickness vibrations, coupling said sandwich to said plate in contiguous ultrasonic coupling relation independently of the presence of rigid bonding material at the interface between said plate and said sandwich.

3,140,860
EMULSIFIER
Kenneth E. McConnaughay, P.O. Box 871, Lafayette, Ind.
Filed Dec. 30, 1960, Ser. No. 79,681
6 Claims. (Cl. 259—9)



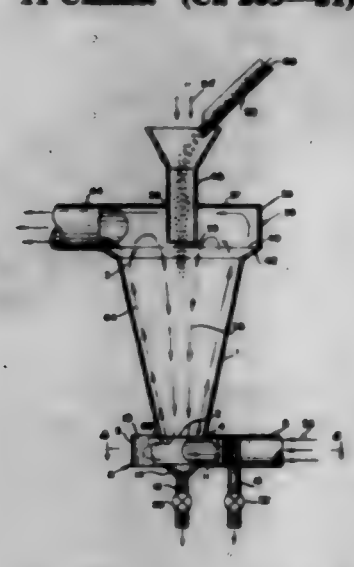
1. An emulsifier, comprising a hollow cylindrical shell having an inlet opening at one end and a discharge opening at the other end, a rotatable shaft coaxial with said shell, said shaft having at least one rotor rigidly mounted thereon for rotation therewith, and a plurality of circumferentially spaced shear blocks on the periphery of each rotor immediately adjacent the inner wall of said shell, said blocks forming alternately disposed constricting and expanding flow passages through the emulsifier.

3,140,861
MIXING DEVICE
Donald E. Krup, Box 112C, Rte. 2, Elgin, Ill.
Filed Aug. 6, 1962, Ser. No. 215,765
16 Claims. (Cl. 259—10)



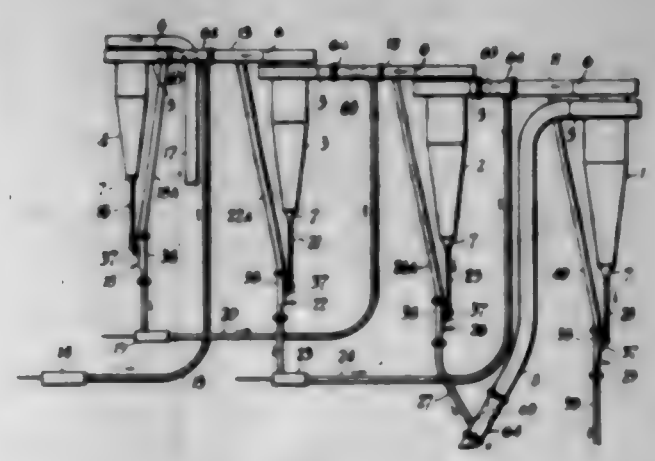
1 In a mixing device of the character described,
(A) a generally cylindrical housing,
(i) said housing being equipped with an axial inlet at one end and an outlet adjacent the inlet,
(ii) said housing being equipped with a closure at the other end to define a chamber within said housing,
(B) a drive shaft extending axially into said housing,
(C) an impeller on said shaft adjacent said inlet, said impeller being
(i) essentially planar and disposed normal to said axis,
(ii) equipped with outer blades adjacent the impeller periphery projecting away from said inlet, and
(iii) equipped with inner blades adjacent said shaft and projecting toward said inlet.

3,140,862
APPARATUS FOR THE PHYSICAL AND/OR CHEMICAL TREATMENT OF GRANULAR SOLIDS OR FINE DUSTS
Fritz Schoppe, Munich-Pasing, Germany, assignor to Metallbau Semler, G.m.b.H., Munich, Germany, a company of Germany
Filed May 4, 1960, Ser. No. 26,795
Claims priority, application Germany Oct. 6, 1958
11 Claims. (Cl. 263—21)



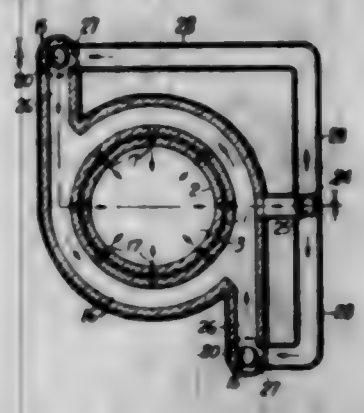
7. An inlet means for a vertically disposed mixing chamber comprising an inlet volute having a substantially vertically disposed side wall and substantially horizontal top and bottom walls, an inlet conduit for said volute extending thereinto, an outlet means comprising an opening formed in the center of the top wall thereof, a second smaller central outlet means located in the bottom wall thereof concentric with said volute outlet opening comprising a funnel shaped upper portion and a tubular extension depending therefrom, and a third peripherally disposed outlet means comprising a vertically disposed depending discharge member having an opening in the upper end thereof, said opening communicating into the peripheral wall of said volute.

3,140,863
APPARATUS FOR HEATING POWDERED MATERIAL SUCH AS RAW CEMENT MATERIAL
George Howard Forsyth, Grange-over-Sands, Arthur Lister Ashley, Barrow-in-Furness, and John Cannon Braithwaite, Askam-in-Furness, England, assignors to Vickers-Armstrongs (Engineers) Limited, London, England, a British company
Filed Aug. 31, 1962, Ser. No. 220,841
Claims priority, application Great Britain Aug. 7, 1962
3 Claims. (Cl. 263—21)



1. Apparatus for heating powdered material by means of a stream of hot gases, the apparatus comprising a series of closely spaced cyclone separators in number greater than two, each separator having a gas inlet, a gas outlet, and a material outlet, said series of cyclone separators having adjacent separators disposed in substantially side-by-side relationship to each other with the inlet of one separator having an axis coincident with an axis of the outlet of an adjacent separator apart from the first separator in the series, a source of hot gases, a duct connecting the gas inlet of the first separator of the series to the source of hot gases, a duct connecting the gas inlet of each separator, apart from the first, to the gas outlet of the next preceding separator of the series, said last-mentioned duct having an axis arranged subetantially coincident with the axis of the gas inlet and the axis of the gas outlet whereby gas flow takes the shortest linear path between the gas inlet and gas outlet connected thereby, a duct connecting the gas outlet of the last separator of the series to exhaust, a material discharge pipe leading from the material outlet of each separator, each material discharge pipe, apart from that leading from said first separator, being connected to the duct through which gas is fed to the next preceding separator of the series, pump means for raising material from the material outlet of each separator following the second separator of the series to the duct leading to the gas inlet of the next preceding separator of the series, and means for feeding material to be heated by said apparatus to the duct leading to the gas inlet of the last separator of the series, the material outlet of the first separator serving for delivering heated material.

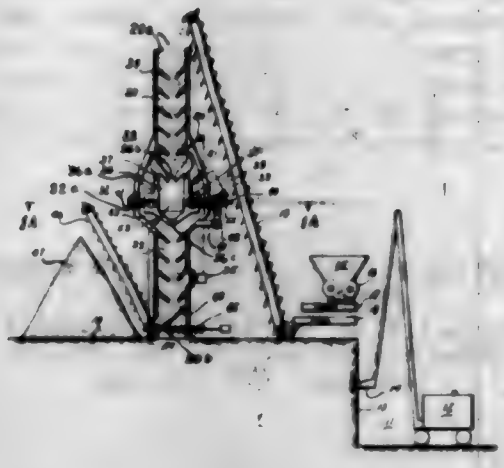
3,140,864
SHAFT KILN
Otto G. Lellep, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 26, 1961, Ser. No. 161,899
9 Claims. (Cl. 263—19)



1. A shaft kiln comprising: a vertical tubular wall for confining a downwardly moving column of material; at least one radial exhaust port through the tubular wall at a horizontal level spaced above the bottom of the tubular wall a distance less than the level is spaced downwardly from the top of the tubular wall; an exhaust header in communication with the column through the exhaust port; at least one inlet nozzle extending radially through and perpendicular to the tubular wall at a horizontal level spaced intermediate the exhaust port and the top of the tubular wall with a relatively great distance between said inlet nozzle level and the exhaust port level; a single combustion chamber transverse to said tubular wall and completely surrounding the tubular wall for burning fuel, said chamber being directly in communication with the column through the inlet nozzle; an air inlet means for furnishing air to the shaft kiln at the bottom of the vertical tubular wall; a vertical conduit connecting the combustion chamber to the exhaust header to thereby define a header system for directing a flow of substantially all the air furnished by the air inlet means upwardly from the bottom of the column out through the exhaust port and introducing such air to the combustion chamber; and a fuel injector communicating with the combustion chamber in substantially the same horizontal plane as the inlet nozzles.

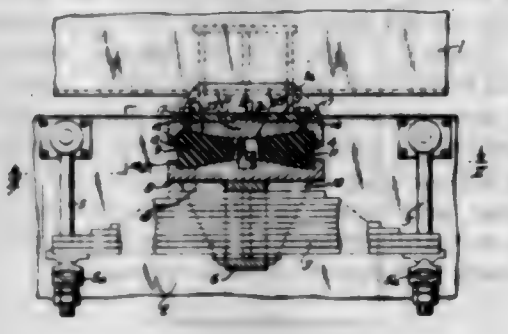
3,140,865
FURNACE FOR BURNT CLAY AND FLEXIBLE ROAD BASE MATERIAL
Aaron J. Cohen, 3607 S. Braeswood, Houston, Tex.
Filed July 11, 1960, Ser. No. 42,156
11 Claims. (Cl. 263—30)

1. In a multichamber shaft-type kiln for progressively drying, burning and cooling clay particles, the combination comprising an elongated hollow housing section having interior walls, said housing section having a particle inlet port at the upper end thereof and a particle outlet port at the lower end thereof; a burning chamber having exterior side walls and being disposed within said housing section between and spaced from the ends of said housing section, said exterior side walls of said burning chamber being spaced apart from and inwardly of the adjacent interior walls of said housing section and providing a gas-flow passageway within said housing section about said burning chamber, said burning chamber having a particle inlet port at the upper end thereof and a particle outlet port at the lower end thereof; first baffle means disposed within a first upper portion of said housing section between said inlet port of said housing section and said inlet port of said chamber for directing particles therebetween along progressive paths extending angularly to the vertical axis of said housing section; second baffle means disposed within a second lower portion of said housing section between said outlet port of said chamber and said outlet port of said housing section for directing particles therebetween along progressive paths extending angularly to the vertical axis of said housing section; selectively operable conveyor means for removing particles from said housing section that have progressively traversed said



first baffle means, said burning chamber, and said second baffle means; means operatively associated with said housing sections for blowing air within said second portion of said housing section past the particles therein and through said passageway into said first portion of said housing section; and means for heating said burning chamber including a combustion chamber disposed in said gas-flow passageway within said housing section.

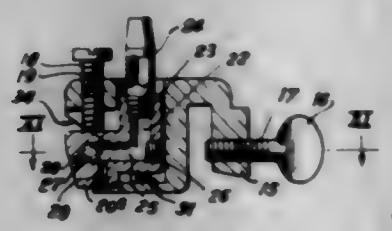
3,140,866
SUSPENSION SYSTEM FOR LOCOMOTIVES AND THE LIKE
Fritz Zöllner, Munich-Allach, Germany, assignor to Krauss-Maffei Aktiengesellschaft, Munich-Allach, Germany
Filed June 19, 1961, Ser. No. 118,064
3 Claims. (Cl. 267—3)



2. In a rail-mounted vehicle, particularly in a locomotive, in combination, a rail-mounted truck; a main frame having a first and a second side, as viewed in the direction of movement of the vehicle; an elongated weight transmitting member extending in the direction of movement of the vehicle and having two spaced end portions; connecting means comprising a pair of pendulum levers each secured to one end portion of said weight transmitting member and each articulately suspended on said truck so that the weight transmitting member is movable back and forth with respect to the truck in directions parallel with the direction of movement of the vehicle; a first cup shaped retaining member rigidly connected to a central portion of and extending upwardly from said weight

transmitting member; a second cup shaped retaining member located above said first retaining member; means providing a rigid connection between said main frame and said second retaining member; and a bi-concave disc-shaped elastic element of rubber-like material received between said retaining members and having a thickness sufficient to normally maintain said retaining members out of actual contact with each other, each of said retaining members having a convex portion in full face to face abutment with said elastic element and said elastic element being arranged to take up axial as well as shearing stresses between said retaining members, said weight transmitting member and said levers together constituting two components of a carrier for said first retaining member and at least one of said components being resiliently yieldable in response to stresses transmitted by said elastic element.

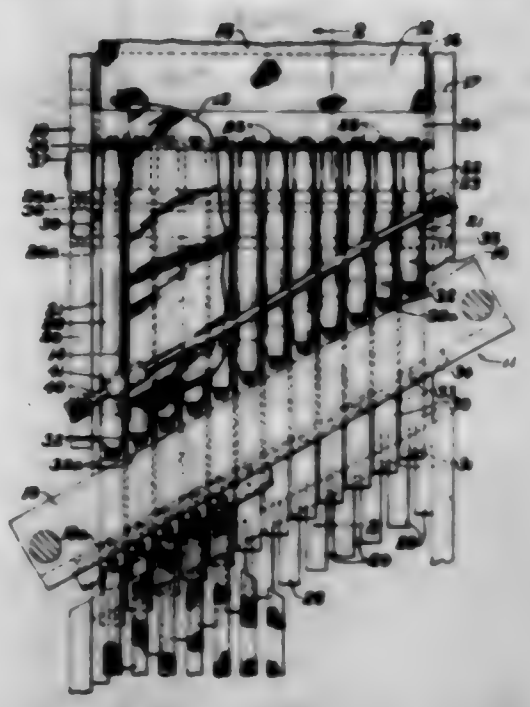
3,140,867
ADJUSTABLE FEEDER SHOE FOR VERTICAL PRINTING PRESSES
Herman L. Cole, 700 W. 7th St., Dallas, Tex.
Filed Nov. 19, 1962, Ser. No. 238,678
4 Claims. (Cl. 271—26)



1. In a suction pickup head for a printing press, a hollow body having an upper wall, spaced side walls, and a lower wall defining a transverse horizontal opening therein with a vertical passage through the upper wall of the hollow body communicating with the opening; means on the hollow body to attach same to a crossbar on a press; a pickup body disposed in the transverse opening; an upwardly extending portion on the pickup body extending into the vertical passage; a vertical suction passage extending through the upwardly extending portion of the pickup body; a horizontal suction passage in the pickup body intersecting the vertical suction passage; a transverse suction passage in the pickup body intersecting the horizontal passage in right angular relationship thereto; a plurality of spaced vertical ports through the lower face of the pickup body communicating with the transverse suction passage; a portion on the pickup body extending outwardly beyond the transverse opening in the hollow body through which portion the vertical ports extend; and means to adjust the relative height between the outwardly extending portion of the pickup body and the lower surface of the hollow body.

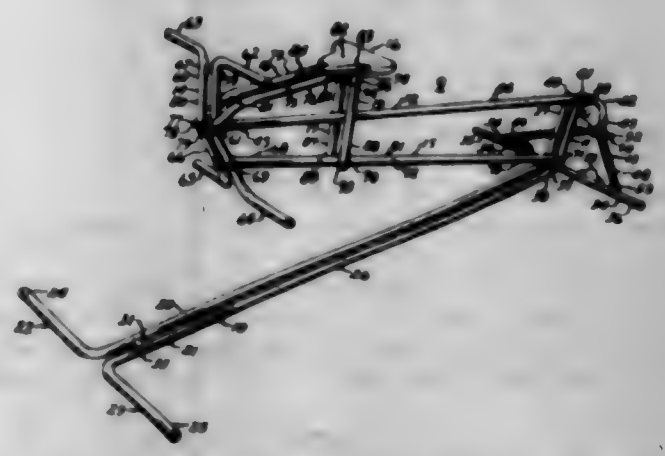
3,140,868
EDGE ALIGNMENT APPARATUS
Victor H. Hasselquist, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Nov. 30, 1961, Ser. No. 155,996
5 Claims. (Cl. 271—59)

1. Sheet material edge alignment apparatus having one end which is angularly adjustable relative to the direction of the length of said apparatus, comprising a plurality of longitudinally contractible and extensible material supporting members rotatably mounted on said apparatus, means responsive to angular adjustment of said one end to contract at least one of said members and to extend the others of said members, material edge guide means mounted on said apparatus parallel to the direction of the length of



said apparatus, and means to rotate said members whereby said material supported thereby is urged toward said guide means.

3,140,869
EXERCISING APPARATUS AND TOY
Peter P. Pucuk, 2355 Cedar Shores Circle, Jacksonville 10, Fla.
Filed Feb. 1, 1963, Ser. No. 256,201
5 Claims. (Cl. 272—55)



1. An exercise apparatus comprising a base frame having one portion adapted to rest on the ground and another portion extending thereabove, a lever component supported on said frame and having a vertically swingable leg portion, first pivot means serving as a fulcrum for said lever component pivotally connecting said lever component and the other portion of said frame, a control lever spaced from said first pivot means and carried by said leg portion, said control lever having handle means and foot rest means at its opposite respective ends, second pivot means between said handle means and said footrest means serving as a fulcrum for said control lever and pivotally connecting said control lever and said lever component, a link component below said leg portion interconnecting said control lever and said base frame, third pivot means below said second pivot means and between said footrest and said second pivot means connecting said link component and said control lever, fourth pivot means pivotally connecting said link component and said base frame, a seat between said first pivot means and said control lever and connected to one of said components for imposing a moment of force on and tending to pivot the leg portion of said lever component downwardly about its fulcrum under the

influence of the weight of an occupant thereof, and spring means for counterbalancing said moment of force.

3,140,870
STARTER DEVICE FOR SWINGS
Elzo G. Walker, 214 W. Mable, Odessa, Tex.
Filed Aug. 22, 1961, Ser. No. 133,135
5 Claims. (Cl. 272—85)



1. The combination of a playground swing having an overhead crossbar with a seat suspended therefrom, and a starter comprising a movable arcuate stairway adjacent to but wholly outside of one side of the area of oscillation of said swing, a track running in the plane of said oscillation and inclined downwardly and away from said swing, rollers attached to said stairway and engaged on said track, a stop to limit the motion of said stairway along said track towards said swing and a stop to limit the motion of said stairway along said track away from said swing.

3,140,871
WHIRLING EXERCISER TOY
James S. Liquori, 196 Wyandanch Blvd., Commack, N.Y.
Filed Jan. 23, 1963, Ser. No. 253,327
2 Claims. (Cl. 272—74)

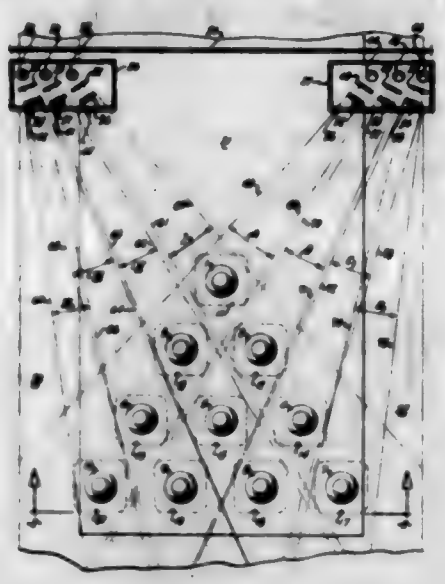


1. An exercising device comprising a suitably long resilient stem having an integral loop at one end, said loop being sufficiently large to receive a foot therethrough, a ball provided with diametrically opposed apertures disposed on said stem through said apertures, whereby said ball is selectively moveable on said stem and securing means selectively mounted on said stem adjacent both ends of the ball for securing the ball in a selected position.

3,140,872
FLASH LAMP AND PHOTOCELL OPERATED BOWLING PIN SENSING DEVICE
John G. Bolger, Jr., Lafayette, Calif., assignor, by mesne assignments, to Deben Labs, Inc., Sunnyvale, Calif., a corporation of California
Filed Mar. 12, 1962, Ser. No. 178,873
12 Claims. (Cl. 273—54)

12. Apparatus for sensing standing bowling pins comprising:

(*a*) means for illuminating the heads of standing ones of a plurality of distinct groups of bowling pins, one group after the next, thereby illuminating all the pins of one group while leaving the remainder dark, the sum of the pins in all such groups comprising all of the pins possibly remaining standing approximately in the position in which they are customarily set, whereby light is reflected from the heads of each such standing pins,



(*b*) a plurality of light sensitive devices each arranged to receive light reflected from the heads of any standing ones of a series of bowling pins, one such series being distinct to each such device, wherein at least some of said series have more than one pin and no two pins in any one of said series are from the same one of said groups, and

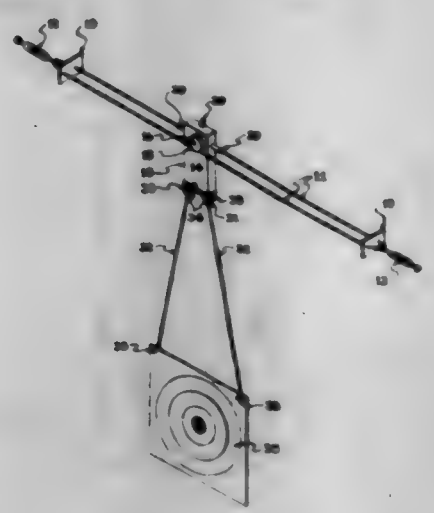
(*c*) standing pin indicating means responsive to said light sensitive devices.

3,140,873
GROOVED GOLF CLUB HANDLE SLEEVE AND STRETCHABLE INSERT TO FILL SAID GROOVE
Hoyte T. Goodwin, Durham, N.C., assignor to Goodwin Manufacturing & Development Company, Inc., Durham, N.C., a corporation of North Carolina
Filed Nov. 18, 1960, Ser. No. 69,313
4 Claims. (Cl. 273—81.5)



1. A golf club grip structure for assembly axially on an end of a golf club shaft and comprising a molded underlisting having a helical rib formed integral thereon, the convolutions of the rib being spaced apart and forming a helical groove therebetween for receiving a wrap-in strip stretchable under tension, and a wrap-in strip having a normal width slightly greater than that of the helical groove, said strip having a degree of stretchability sufficient so that the strip can be reduced in width to permit it to be laid in the helical groove, the opposed side walls of the helical groove being formed for interlocking engagement with the sides of the strip when tension on the strip is relieved.

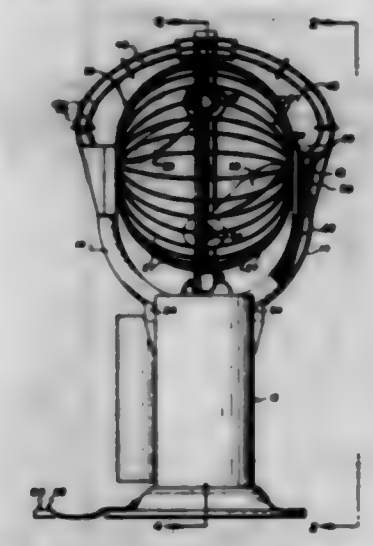
3,140,874
TARGET TOWING DEVICE
Robert P. Jensen, 115 W. Rose St., and Donald W. Sackett, 323 Selby St., both of Owatonna, Minn.
Filed Aug. 30, 1961, Ser. No. 134,902
3 Claims. (Cl. 273—105.2)



1. A device for towing a target for small arms and archery target shooters, comprising in combination, a pair of laterally spaced, parallel cords stretched taut between two opposite points, and a stop plate mounted on said parallel cords at each terminal end thereof, said stop plates further affording means to hold the said pair of parallel cords in laterally spaced relation, a self-propelled carrier unit comprising a casing and a pair of grooved wheels constructed and arranged to travel on the parallel cords, said grooved wheels being mounted externally of said casing, extensions of a shaft journaled in said casing for common rotation therewith, and a large gear mounted on said shaft within the casing for common rotation therewith, an electric motor mounted within said casing and a small gear mounted on the armature shaft of the electric motor and having meshing engagement with the said large gear to thereby drive the shaft and the mounted grooved wheels of said casing, a pair of flashlight batteries mounted in the casing to energize the electric motor, switch means to open and close the electric circuit to said electric motor to manually stop and start the same and a reversing switch having means extending externally of the casing to engage the stop plates mounted on the parallel cords and reverse the flow of electrical current to the electric motor and the direction of travel of the carrier unit on the parallel cords by reversing the direction of rotation of the electric motor.

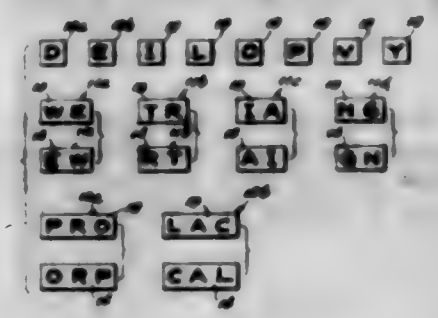
3,140,875
DEVICE FOR MAKING RANDOM SELECTIONS
Elbert V. Abbott, San Francisco, Calif., and John W. Heaston, 1080 Golconda, Reno, Nev.; said Abbott assignor to said Heaston
Filed Oct. 5, 1961, Ser. No. 143,154
20 Claims. (Cl. 273—144)

1. In a device for the random selection of units in a predetermined number from a plurality of such units: a cage mounted for rotary movement about a horizontal axis, said cage having discharge outlet means for units to be discharged therefrom positioned on its periphery, said outlet means lying on a plane generally perpendicular to said horizontal axis, means for rotating said cage, guide means disposed exteriorly of the cage in said perpendicular plane so as to receive units discharged from the cage openings, means conveying said units upwardly into an elevated display position in said guide means, and gate means adapted to interrupt the movement of units into and out of said exterior guide means, said gate means being responsive to movement of a predetermined



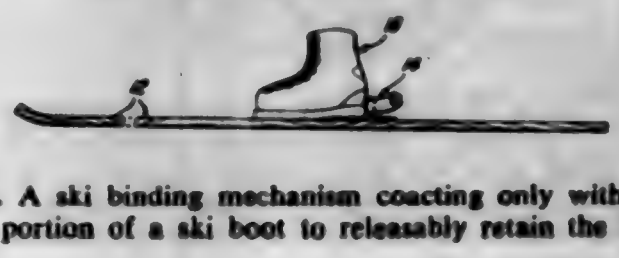
number of units in said guide means to hold such number of units in a display position.

3,140,876
WORD GAME PIECES HAVING CORRELATED INDICIA ON A PLURALITY OF FACES
Harry G. Moss, 80 Santa Fe Ave., Hamden, Conn., assignor of one-third to Gertrude R. Sperling and one-third to Charlotte F. Moss, both of Hamden, Conn.
Filed Sept. 10, 1962, Ser. No. 222,610
7 Claims. (Cl. 273—137)



1. A word game comprising a plurality of separate rectangular playing pieces each displaying in fixed positions thereon a plurality of letters of the alphabet which frequently are juxtaposed in words of the language for which the game is designed, some of said pieces displaying in juxtaposition two consonants and others of said pieces displaying in juxtaposition two vowels and still others of the pieces displaying consonants and vowels juxtaposed, said vowels and consonants on the several pieces being of uniform size and being equispaced on the pieces whereby the pieces may be juxtaposed in abutting relation to form words of equipaced letters, each multi-letter piece having displayed on opposite faces of the piece the same letters, the letters on one face being in the reverse of the order of the letters on the opposite face.

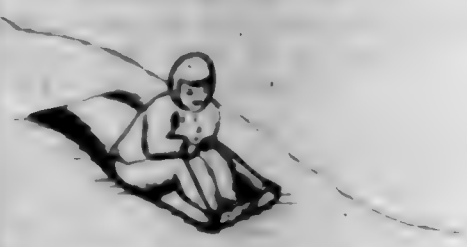
3,140,877
SAFETY BINDING
Richard G. Spademan, 470 N. Woodward Ave., Birmingham, Mich.
Filed Mar. 26, 1962, Ser. No. 183,992
23 Claims. (Cl. 280—11.35)



11. A ski binding mechanism coacting only with the heel portion of a ski boot to releasably retain the boot

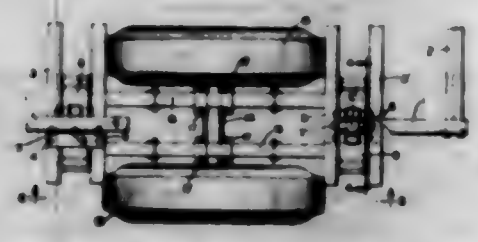
upon a ski and being the only means by which said ski boot is retained on said ski, said mechanism comprising a plate member adapted to be secured to the heel of a ski boot, said plate member including an elevated portion proximate said boot heel, a clamping device adapted to be fixed to the ski, said device including spring actuated means to releasably interlock with the elevated portion of the heel plate to resist longitudinal and vertical movement of the heel plate away from the clamping device.

3,140,878
SLED
Thomas E. Davis, P.O. Box 288, Ypsilanti, Mich.
Filed Oct. 5, 1962, Ser. No. 228,673
2 Claims. (Cl. 280—18)



1. A snow vehicle, comprising a flat, elongated sheet, said sheet being of a flexible, supple material which may be easily rolled and unrolled and adapted to conform to the contour of the surface over which it is moved, said sheet having a multiplicity of longitudinal ribs on both of its surfaces whereby the tendency to sidewise slippage for the rider and for the vehicle during riding is reduced, a stiffening brace of flexible, supple material bound across an end of said sheet material, and a rope attached to said stiffened portion, said vehicle being formed exclusive of any rigid parts of a nature likely to cause injury.

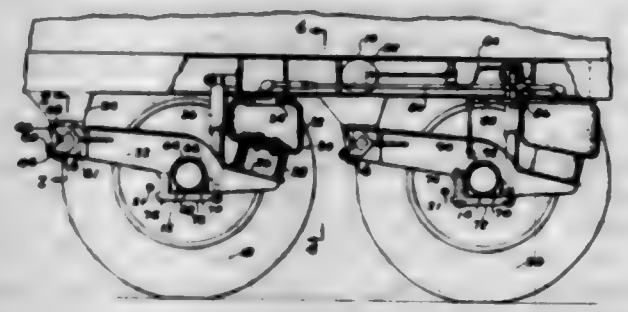
3,140,879
DUAL WHEEL CONSTRUCTION FOR TRAILERS AND THE LIKE
Gustave C. Schaefer, 608 3rd St. NE., Canton, Ohio
Filed Mar. 27, 1962, Ser. No. 182,777
5 Claims. (Cl. 280—81)



1. In combination with the frame of a trailer and the like, dual wheel construction comprising a pair of aligned, transversely disposed, relatively short axles located one under each side of the frame, a wheel mounted upon each end of each axle, brackets longitudinally pivotally mounted on the frame in front of and behind each axle, said pivoted brackets being disposed transversely of the frame, each bracket having a spaced pair of ears depending from each end thereof, shackle bolts located through said ears, and longitudinally disposed resilient means connected to the end portions of the axles adjacent the wheels at the ends of the axles and to the ears at opposite ends of each bracket.

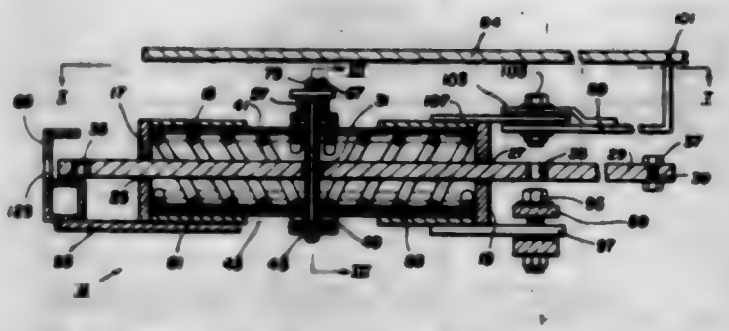
3,140,880
SUSPENSION FOR AUTOMOTIVE VEHICLES
Lloyd D. Masser, Muskegon, Mich., assignor to Neway Equipment Company, Muskegon, Mich., a corporation of Michigan
Filed May 11, 1961, Ser. No. 109,542
7 Claims. (Cl. 280—124)

1. In a vehicle having a frame with ground-engaging wheels suspended therefrom, improved suspension structure comprising, two arms secured to opposite sides of said frame through substantially aligned pivotal mounts, each of said pivotal mounts including a body of resiliently distortable material providing torsional resistance to swinging of its respective arm, a torsion bar secured to said arms in substantially coaxial relation with said pivotal mounts to resist relative swinging of said arms, each arm extending rearwardly of its mount longitudinally of said frame, and having a portion distal of its mount vertically underlying load-receiving means on said frame, a pneumatically expansible bag-type spring disposed in



load-transmitting relation between each of said distal arm portions and load-receiving means, wheel-carrying axle means having connections to said arms at locations spaced longitudinally of the vehicle between said pivotal mounts and said portions distal thereof, said pivotal mounts and axle connections being cooperable of themselves to support said arms against lateral thrust thereon incidental to operation of said vehicle, said torsional resistance having a period of vibration different from that of said air springs to provide a dampening effect on swinging movements of said arms.

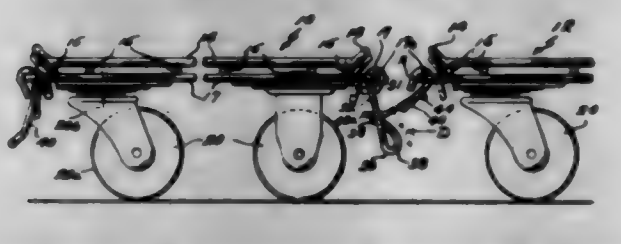
3,140,881
TRAILER HITCH
Marino Antici, 1404 Rose Circle, Clarksdale, Miss.
Filed Mar. 27, 1962, Ser. No. 182,782
9 Claims. (Cl. 280—478)



1. A trailer hitch for vehicles comprising a casing including a body portion and a pair of end pieces fixedly attached to said body portion adjacent the opposite ends thereof, said end pieces being provided with aligned openings therethrough, a draw bar slidably extending through said casing and projecting outwardly in opposite directions through said openings, said draw bar having a pair of spaced holes intermediate the ends thereof, said body portion being provided with diametric elongated slots therethrough, a pin, yieldable means urging said pin towards a latched position relative to said draw bar, when in said latched position said pin removably extending to latch said draw bar, when said pin extends through through said slots and through at least one of said holes one of said holes said draw bar being held in a retracted position and when said pin extends through the other of said holes said draw bar being held in an extended position, carrier means supporting said pin from said casing for movement of said pin lengthwise in said slots and for movement of said pin substantially perpendicular to said draw bar, a first resilient means in said casing on one

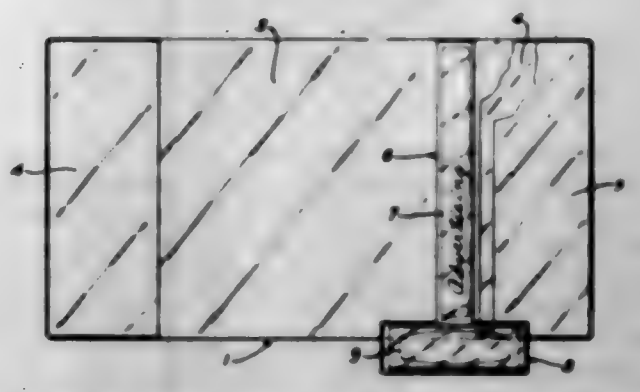
side of said pin to act as a shock absorber in one direction and a second resilient means in said casing on the opposite side of said pin to act as a shock absorber in the opposite direction, handle means attached to said pin for withdrawing said pin against the force of said yieldable means from said latched position to an unlatched position in which said pin is withdrawn from one of said slots and from said holes to a position outside of said draw bar so that said draw bar is free to be moved between said retracted and extended positions and outwardly beyond said extended position to further extended positions, when said handle means is released said yieldable means urging said pin against said draw bar so that when said draw bar is moved to align one of said holes with said pin said pin automatically latches said draw bar, means attached to said casing for swingably mounting said casing from a vehicle for movement in a substantially horizontal plane so that said draw bar can be swung therewith in a substantially horizontal arc, a substantially horizontal plate supported beneath said casing adjacent one end thereof, said plate being provided with at least one aperture therethrough, at least one locking pin, means supporting said locking pin from said casing for vertical movement between a locked position and an unlocked position, when in said locked position said locking pin removably extending into said aperture to lock said casing against swinging movement relative to said plate, when in said unlocked position said locking pin being withdrawn from said aperture so that said casing and said draw bar are free to swing horizontally, elastic means attached to said locking pin to urge said locking pin towards said locked position, grip means attached to said locking pin for withdrawing said locking pin against the force of said elastic means from said locked position to said unlocked position, when said grip means is released said elastic means urging said locking pin against said plate so that when said casing and said draw bar are swung to align said locking pin with said aperture said locking pin automatically locks said casing and said draw bar against swinging movement.

3,140,883
VEHICLE COUPLERS
Theodore R. Mutto, Shaker Heights, Ohio, assignor to Nestaway Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 4, 1961, Ser. No. 192,451
1 Claim. (Cl. 280—481)



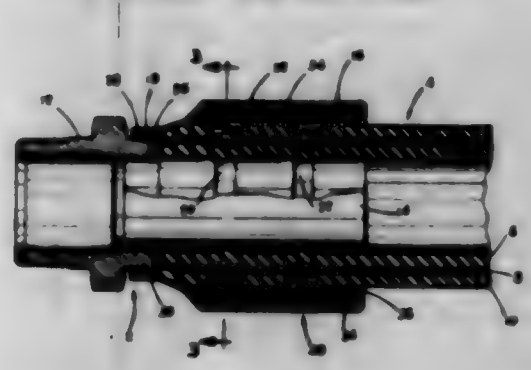
A combination of two couplers for detachably connecting two vehicles wherein one of said couplers is adapted to be secured on a horizontal pivot axis to one of said vehicles and the other of said couplers is adapted to be secured on a horizontal pivot axis to the other of said vehicles, each coupler being an integral rigid member normally hanging downwardly by gravity from its pivot axis and constructed for swinging movement between a pushing position established by pushing action of one vehicle on the other vehicle, a pulling position established by a pulling action of one vehicle on the other vehicle, and an uncoupling position having each coupler located between said pulling and pushing positions; one of said couplers having co-planar support members extending from its associated pivot axis and terminating in a hook bent first away from the plane of said support members and away from its associated vehicle, then bent upwardly and then toward its associated vehicle and through said plane at the distal end of said hook, the other of said couplers having support members extending from its associated pivot axis and terminating in a transverse U-shape member having its bight portion farthest from its associated pivot axis, whereby said U-shape member is adapted to be passed over to embrace said hook and said U-shape member bight portion will lie approximately in the bottom of the bend of said hook when the two vehicles are in pushing engagement thereby preventing uncoupling, and said distal end of said hook preventing uncoupling when the two vehicles are in a pulling position.

3,140,883
BOOK COVER
Ralph L. Anthony, 759 Walnut St., Waukegan, Ill.
Filed Oct. 23, 1962, Ser. No. 232,538
6 Claims. (Cl. 281—34)



1. A book cover comprising, a backing sheet having end pockets to receive the covers of a book, a marker strip having one end attached to the backing sheet and the other end being free, said strip having a length greater than the width of the backing sheet so that said other end of the strip will project outwardly of the book when the book is in the closed position, said strip including a transparent pocket, and a thin magnifying lens disposed within the pocket and adapted to be moved across the pages of the book to magnify portions thereof.

3,140,884
HYDRAULIC HOSE AND COUPLING
Clifford D. Branch, Highland Park, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed June 3, 1960, Ser. No. 33,665
3 Claims. (Cl. 285—242)



1. For use with a one inch or greater I.D. high pressure hose of the type including a fluid-tight inner core and a plurality of layers of flexible wire braid over the core, a reusable readily attachable coupling, comprising a tubular insert of slightly larger dimension than the hose bore but less than the inner dimension of the wire braid and snugly insertable into the hose bore, a sleeve secured at one end to one end of the tubular insert and extending over the tubular insert spaced therefrom in generally concentric relationship therewith, said sleeve having an inner dimension slightly larger than the outer

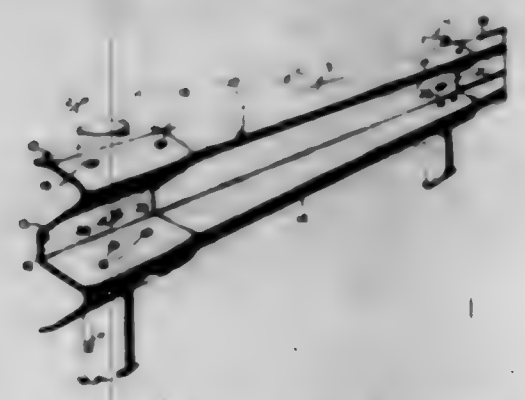
dimension of the hose adapted to receive the hose therein, said tubular insert and sleeve having, respectively, in radial alignment, an edged annular groove and a plurality of closely positioned circumferentially spaced threaded openings open to the groove, and a set screw in each of the threaded openings having a large generally flat transverse end surface adjacent the hose and a smaller centrally located pointed projection therefrom of less height than the composite wall thickness of the wire braid, said set screws being adapted to be tightened against the hose until the flat end surfaces thereof are disposed at a mean inner dimension less than the original outer dimension of the braid, whereat the set screws are in generally close proximity with each other without direct interference and directly against the wire braid, and the end surfaces define generally a polygon with each end surface being part of each side thereof, effective thereby to deform the braid radially toward the tubular insert so as to compress the inner core located therebeneath into sealing relationship with the annular groove of the tubular insert and to embed the projections into the wire braid to establish a direct metal interlock therewith, to seal and secure the hose to the coupling.

3,140,885

LAP JOINT FOR HIGHWAY GUARD RAIL

Thomas E. Bostic, Oakland, and Herbert H. Borup, Concord, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed July 7, 1961, Ser. No. 122,446
3 Claims. (Cl. 287—64)



1. In a lap joint between two substantially identically shaped elongated sheet metal members wherein each member has at least one portion intermediate its sides offset outwardly from the normal plane of the member and extending parallel to said sides of the said member, and wherein said offset is provided with sloping walls whereby a neutral axis is established in said member and the depth of said offset is sufficient to cause an effective fore-shortening of the sloping walls of the offset of the outer member with respect to the similarly sloped walls of the offset of the inner member and misalignment of the axes of any similarly disposed bolt holes in said members when said members are nested and lapped, one end portion of one member being provided with a series of staggered holes in the offset thereof with the axes of said holes all being positioned a predetermined distance from and slightly below the neutral axis of said member, the opposing end portion of the second member being provided with a series of similarly disposed holes in the offset thereof, the axis of said last mentioned holes all being positioned a predetermined distance from and slightly above the neutral axis of said second member, both of said predetermined distances being substantially equal, such that when the opposing end portions of the two members are overlapped, each series of holes is aligned in paired relationship and the axes of the holes in each pair of aligned holes coincide and intersect at the same point with the common neutral axis of the lap joint formed by the overlapped members, said common neutral axis of the lap joint also being located intermediate to the neutral axis of each of the two lapped members, and bolt means projecting through the holes in both series of holes and securing said members together.

3,140,886

COUPLING DEVICE

Edward J. Cotilla, Oakford, and George A. Gimber, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 14, 1963, Ser. No. 280,474
4 Claims. (Cl. 287—119)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A coupling device for securing two adjoining sections of an object to each other, the sections having interfitting ends with peripheral slots disposed around the peripheries thereof and registering with each other comprising:

an explosive bolt assembly adapted to be secured to the one section at the interfitting end and including a boss and an explosive charge therein;

a leaf spring having a plurality of peripheral arms normally arched toward the one section and aligned for the arms to slide into said registered slots when flattened against the one section;

a rigid element disposed on the side of said spring opposite from the one section for distributing a force against said spring;

a set screw passing through said rigid element and said spring and secured to said boss for maintaining said spring in a flat configuration; and

electrical means contained within the one section and connected to said charge for detonating the charge.

3,140,887

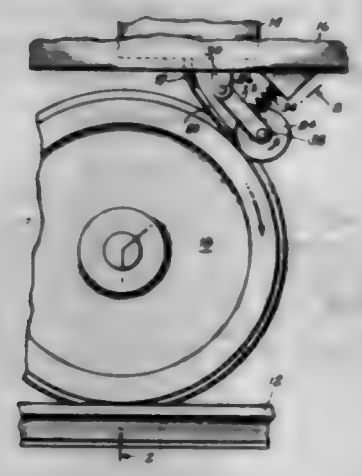
METHOD AND APPARATUS FOR APPLYING TRACTION SAND TO LOCOMOTIVE DRIVING WHEELS

Burgess P. Wallace, Brooklyn, and Ronald E. Melcher, Cambria Heights, N.Y., and John F. Loertscher, Jr., Wayne, N.J., assignors to Whitehead Brothers Company, New York, N.Y., a corporation of New Jersey

Filed June 9, 1961, Ser. No. 116,140
5 Claims. (Cl. 291—1)

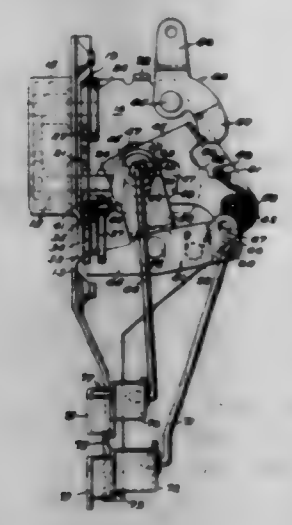
1. A method of improving the traction between the driving surface of locomotive wheels and the tread of the supporting rail which comprises depositing sand particles of various sizes on said driving and revolving surface of said wheels and immediately adjacent the point of deposit of said sand particles on said surface, subjecting

said particles to a crushing force on said driving and revolving surface sufficient to crush the major proportion of



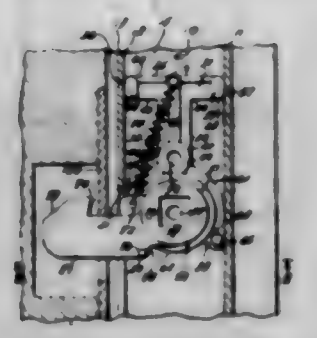
said particles to cause said crushed particles to remain on said driving and revolving surface until said particles are interposed between said surface and said rail tread.

3,140,888
DOOR LATCH MECHANISM
Anthony J. Di Salvo, Garden City, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 20, 1962, Ser. No. 246,056
4 Claims. (Cl. 292—48)



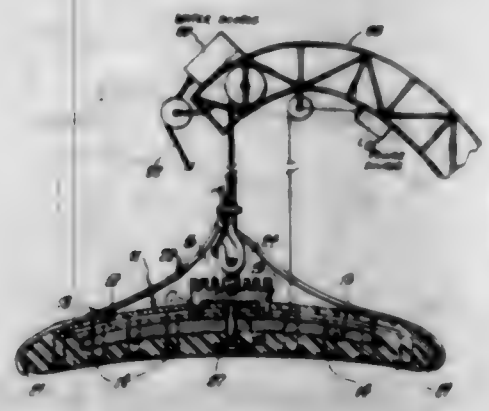
1. A latch mechanism for a swing door comprising:
a support having two angularly related plate portions,
pivotal latch device means mounted on one of said plate portions,
detent means pivotally mounted on said one plate portion and engageable with said latch device means for holding the same in door latched position,
said detent means having a part extending toward the other of said plate portions,
a detent actuating member pivotally mounted on said other plate portion and having a part transversely overlying said part of the detent means,
a control lever pivotally mounted on said other plate portion and having a first arm overlying said detent actuating member and a second arm transversely underlying said part of the detent means,
coupling means coupling said detent actuating member and said control lever first arm together,
said coupling means including overlying slots in said detent actuating member and said control lever first arm,
and a bushing element projecting through said slots,
said control lever slot being arranged to accommodate movement of said bushing element substantially radially of the pivot axis of said control lever,
said actuating member slot being arranged to accommodate movement of said bushing element both radially and circumferentially of the pivot axis of said actuating member,
said bushing element being shiftable by said control lever radially of the pivot axis of said actuating member into a first position thereon in which movement of said bushing element radially of said control lever pivot axis will pivotally move said actuating member in a direction to abut and swing said detent means to cause disengagement of the latter from said latch device means,
or said bushing element being shiftable by said control lever radially of the pivot axis of said actuating member into the portion of said actuating member slot accommodating movement circumferentially of the pivot axis of said actuating member without causing swinging movement of the latter in detent means abutting direction,
and outer manually operable means including a link directly coupled to said bushing element for moving the latter in said control lever slot in said substantially radial direction,
said detent means and said second arm of said actuating member in disengaged position of said detent means being in abutting relation and preventing swinging movement of said control lever to thereby prevent movement of said bushing element into the portion of the slot in said detent actuating member permitting movement circumferentially of the actuating member pivot axis.

3,140,889
LATCH FOR SLIDABLE CLOSURES
Murray A. Sanders, Roslyn Estates, N.Y.
(33—53 62nd St., Woodside 77, N.Y.)
Filed Jan. 21, 1963, Ser. No. 252,923
4 Claims. (Cl. 292—128)



4. In combination, a hollow elongated metallic window frame having a substantially continuous channel therein of given cross section, a latch housing element of corresponding cross section slidably arranged for movement within said channel, said frame having an outer wall forming one side of said channel, there being an elongated slot in said wall communicating with said channel, a latch member mounted upon said latch housing and slidable therewith, said latch member being pivotally movable from a first position in which it lies completely within said channel to a second position in which it projects through said opening in said outer wall upon being aligned opposite said opening; means to fix the position of said latch housing within said channel; resilient means for urging said latch member to said second position; and means communicating with said channel and extending outwardly thereof for manually manipulating said latch member.

3,140,890
THERMOELECTRIC LIFT
Sidney A. Schwartz, 3 Dean Court, East Northport, N.Y.
Filed Mar. 4, 1963, Ser. No. 262,808
8 Claims. (Cl. 294—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



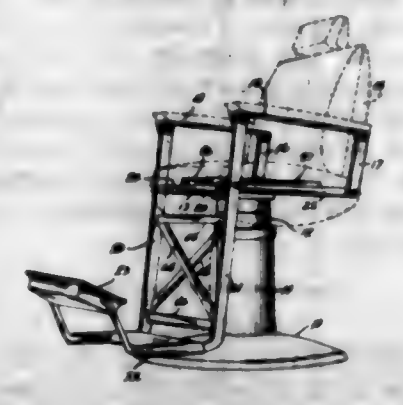
1. Thermoelectric lifting-means comprising: a lift;
a housing having lower and upper surfaces;
a core carried by said housing;
a fluid sprayer mounted on said housing,
said sprayer being operatively connected to a fluid reservoir;
a plurality of temperature control units inlaid in the lower surface of said housing,
said units being coupled to a power producing means; and
heat dissipating means communicating with said core through said upper surface of said housing,
said heat dissipating means being provided with a coupling unit adapted to be attached to said lift.

3,140,891
ROCKER PANEL AND BODY SILL MOULDING
Elwyne O. Shreffler, 262½ W. Division St., Manteno, Ill.
Filed Oct. 12, 1962, Ser. No. 230,081
1 Claim. (Cl. 296—1)



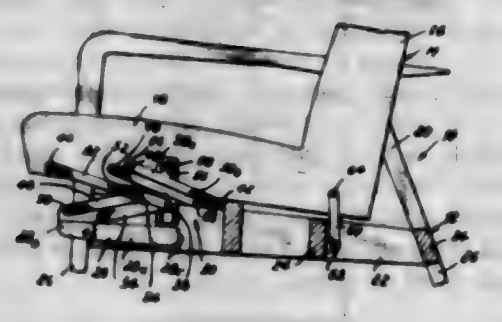
A rocker panel and body sill moulding comprising a central body portion, a lower flange portion bent inwardly from said body portion, an upper flange bent inwardly from said body portion, an outer lip portion bent inwardly from said upper flange portion, said upper flange portion having an outer roll portion, said outer lip portion having an undercut defining its inner extent, said outer lip portion on either side of the door of a car to which attachment is to be made cut to said undercut and bent back on itself, the uncut portion of said outer lip portion sized to fit and extend within the opening of the door of the car and lie on the top portion of the rocker panel of the car, a plurality of spaced screws attaching said outer lip to the top portion of the rocker panel of the car, and said outer roll portion of said upper flange contacting the body sill or fender of the car on either side of the door substantially from front wheel opening to rear wheel opening of the car.

3,140,892
BARBER CHAIR WITH FRAME STRUCTURE
Harry S. Shubert, Evanston, and John A. Diouhy, Oak Park, Ill., assignors to Emil J. Paidar Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 11, 1961, Ser. No. 137,324
9 Claims. (Cl. 297—80)



1. In an elevatable chair structure having a vertical center column adapted for vertical up and down movement to raise and lower a chair, a horizontal chair frame supported on said column and including a plurality of hollow tubular frame bars secured to each other to provide a rigid frame for supporting a seat, horizontal pivot pins secured at the rear of said frame and at the front of said frame, each of said pivot pins having a first threaded diameter extending through an opening at the inner side of said side bar, and having a second larger diameter extending through an opening in the outer side of said side bar, an internally threaded nut member for engagement with said first threaded diameter, whereby each of said pivot pins may be securely mounted to said side bar upon tightening of said nut on said first threaded diameter, backrest arms pivotally mounted on the pins at the back of the frame, and footrest arms pivotally mounted on the pins at the front of the frame.

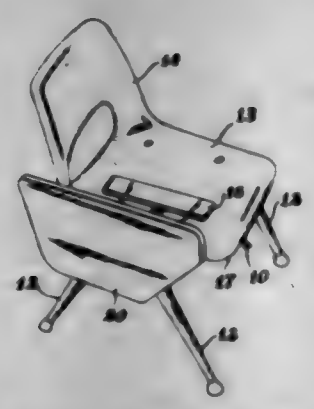
3,140,893
RECLINING CHAIR AND LEG-REST CONTROL ARRANGEMENT
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Aug. 26, 1959, Ser. No. 836,265
11 Claims. (Cl. 297—85)



1. A leg-rest control arrangement for a reclining chair of the type including a support member and body-supporting member including a seat and back-rest movably mounted on said support member, said arrangement comprising a leg-rest, and a leg-rest mounting linkage operatively connected to said leg-rest, to said body-supporting member and to said support member for moving said leg-rest from a stored position to an elevated leg-supporting position in response to movement of said body-supporting member, said leg-rest mounting linkage including first and second pairs of pivotally connected links, means pivotally mounting said first pair of links at a first pivotal mount on said seat, means pivotally connecting said first pair of links to said leg-rest, means pivotally mounting said second pair of links at a second pivotal

mount on one of said members, means pivotally connecting said second pair of links to said leg-rest, lost motion means interconnecting one link of said first pair of one link of said second pair and including a guideway and a pin engaged within said guideway, said pin being disposed at the end of said guideway remote from said first pivotal mount in said stored position and being disposed at the end of said guideway adjacent said first pivotal mount when said leg-rest is moved to its elevated leg-supporting position, and propeller link operatively connected at one end to said one link of said first pair and at the other end to said one of said members and operable in response to movement of said leg-rest from said stored position to said elevated leg-supporting position to displace said pin along said guideway toward said first pivotal mount.

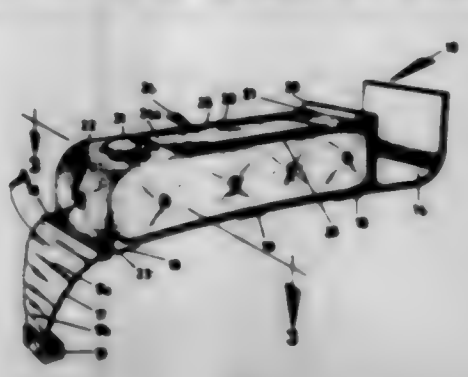
3,148,894
CONVERTIBLE DESK CHAIR
Carroll S. Hicke, Fort Atkinson, Wis., assignor to Brunswick Corporation, a corporation of Delaware
Filed Mar. 22, 1962, Ser. No. 181,738
7 Claims. (Cl. 297—162)



1. A convertible desk chair or the like, comprising, in combination, a frame adapted to rest on a floor or the like, a seat supported on the frame, an upright on the frame beside the seat, a tablet movable between a generally horizontal work position over the upright and a retracted generally vertical depending position alongside the upright on the opposite side thereof from the seat, and means mounting the tablet for movement as described, including a hinge having a first leaf affixed to the tablet and a second leaf pivotably connected to the first leaf for movement relative thereto about a first axis and pivotally mounted on the upright for movement about an axis generally at right angles to said first axis so that the tablet is movable 180° in a generally vertically disposed plane alongside said upright in either direction from said storage position to a third position where the tablet may be swung about the hinge axis to the generally horizontal work position, and detent means for releasably holding said second hinge member with the tablet in each of said storage and third positions.

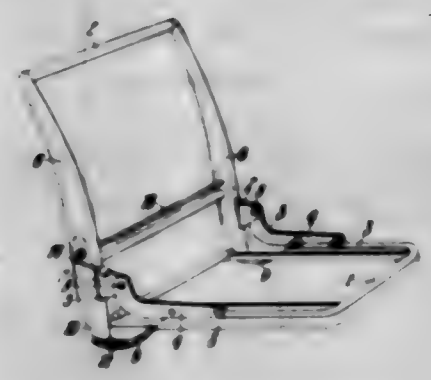
3,148,895
DETACHABLE ARMREST FOR AUTOMOBILE SEATS
Fred Stra[illegible], 376 Best Crescent, Richmond Hill, Ontario, Canada
Filed Sept. 27, 1963, Ser. No. 312,145
3 Claims. (Cl. 297—194)

1. A detachable armrest for use with automobile seats and comprising a baseplate having an arcuate configuration, thereby adapted to conform to an automobile seat; a rear end curved upwardly from said baseplate, whereby said end is secured behind the back of said seat to prevent forward movement of said baseplate; a band of resilient elastic material secured to the front of said baseplate; a hook secured to the free end of said strap whereby said baseplate is secured to said seat by said hook engaging with the underside of said seat, said strap resiliently holding said baseplate; a plurality of friction pads secured to the underside of said baseplate, thereby preventing movement of said baseplate sideways on said seat; a plate secured to the rear of said baseplate and extending verti-



cally, upwardly therefrom; a hollow block of substantially rectangular configuration and extending the length of said baseplate, said block being hingeably secured to one side of said plate, whereby said block can be swung away from said baseplate and an upholstered pad on the top of said block.

3,148,896
SEAT STRUCTURES
Frederick William Babbs, Watford, England, assignor to Cox of Watford Limited, Watford, England, a British company
Filed May 14, 1963, Ser. No. 280,291
Claims priority, application Great Britain Aug. 16, 1962
4 Claims. (Cl. 297—367)

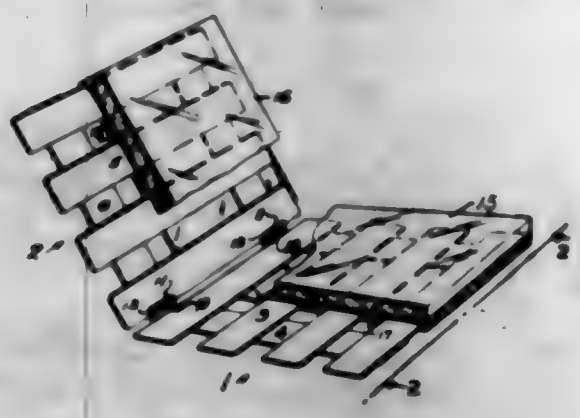


1. Adjustable seat structure comprising a supporting seat frame, and a movable back frame, said seat frame having fixed pivots disposed above the level of the seat frame, and arcuate shape guide members disposed below the level of said seat frame, said back frame having side parts connected to said pivots with their lower ends cooperatively arranged with said guide members, said back frame also having locking rods slidably arranged in said side parts for engaging with any one of a set of slots in said guide members when said back frame is swung about said pivots into a selected position.

3,148,897
BED BOARD AND BACK REST
Louis S. Dougherty, Chambersburg, Pa., assignor, by mesne assignments, to Hennessy Lubricator Co., Inc., Chambersburg, Pa., a corporation of Delaware
Filed Nov. 24, 1961, Ser. No. 154,767
3 Claims. (Cl. 297—378)

1. In a bed board and seat back rest structure, a pair of flat substantially stiff frame sections arranged edge to edge with adjacent edges provided with L-shaped hinge connections accommodating unfolding movement of the sections to a horizontal coplanar alignment, each of said hinge connections including a long leg applied to one

face of the section and a short leg with knuckle-forming elements projecting normally from the other face of the coplanar sections and pinned together and engageable with each other adjacent the pins to limit unfolding movement of the sections to the coplanar alignment, the sections being foldable about the hinge connections and positionable coextensively one above the other with said knuckle-forming elements holding the sections spaced apart at the hinge connections, individual cushions assembled with the sections and lying in a coplanar relation with each other, when the sections are unfolded, and lying coextensively one above the other between said sections, when the sections are folded, each of the cushions having a flap across one face of the cushion forming therewith a pocket corresponding in width to a section and receiving an entire section and being open at one end to facilitate ready application and removal of the cushion to and from a section.



3,140,898
MOLD BOARD ASPHALT CUTTER WHEEL ASSEMBLY
Edgar A. Rogers, 145 E. Main, Grass Valley, Calif.
Filed July 12, 1961, Ser. No. 123,465
4 Claims. (Cl. 299—86)



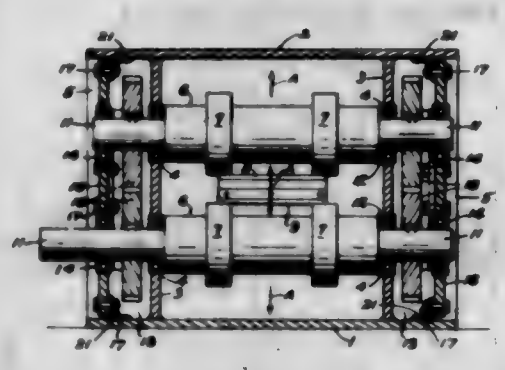
1. An asphalt cutter wheel assembly comprising main support structure including spaced apart parallel channel members arranged to be secured on the mold board of self-propelled construction equipment, a blade mount having an upper bifurcated portion arranged for selective positioning with said main support structure by securing each upper bifurcated member into one of said channel members, said upper bifurcated members being interconnected at their bases and having an extension depending downwardly at one side thereof, a depending hub assembly mounted on and normal to said extension, said hub being positioned below and generally between said upper bifurcated members, a rotatable cutter blade releasably mounted on said hub, and means cooperative between said channel members and said bifurcated members for securing said blade mount at selected positions relative to said main support structure and the mold board.

3,140,899
WHEELS AND THE TRACKS AND TREAD BANDS OF WHEELS
Karl Rudolph Weiss, Woking, England, assignor to National Research Development Corporation, London, England
Filed Feb. 21, 1963, Ser. No. 260,259
10 Claims. (Cl. 305—5)



1. A wheel comprising a hub, at least one endless resilient band supported about said hub, shrouds supported radially about the endless resilient bands, tiltable shoes partially housed in said shrouds, radial webs extending inwardly from said shoes, and links connecting the inner part of each of said webs to the inner parts of the webs of adjacent shoes.

3,140,900
MEANS FOR REDUCING SHAFT DEFLECTION
Merrill D. Martin, Oakland, Calif.
(1250 67th St., Emeryville, Calif.)
Filed Apr. 2, 1962, Ser. No. 184,319
4 Claims. (Cl. 308—22)



1. Means for reducing shaft deflection in rotary devices having parallel coacting shafts, comprising:

(*a*) a fixed inner bearing support at each end of the coacting shafts

(*b*) a pair of spaced inner bearings fixed in each inner bearing support in axial alignment with the coacting shafts in the operating position of said shafts

(*c*) a reduced extension on each end of each shaft extended through and journalled in the adjacent spaced inner bearing

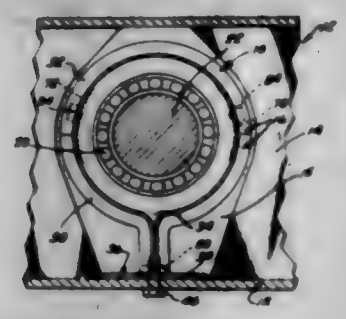
(*d*) a pair of outer bearing plates spaced from said fixed inner bearings

(*e*) an outer bearing fixed in each outer bearing plate initially in axial alignment with the adjacent shaft and journalling the outer end of the adjacent reduced extension

(*f*) jack means between each pair of adjacent bearing plates for prying apart said outer bearing plates with the outer ends of the respective reduced extensions therein thereby to selectively prestress said shafts

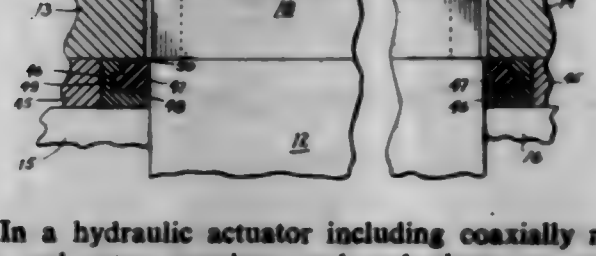
(*g*) and means to fasten said pairs of plates in said prestressing position fixedly relatively to the respective fixed inner bearing supports.

3,140,901
SHAFT SUPPORT
William A. Young, 2933 Lesby St., Muskegon Heights, Mich.
Filed Nov. 27, 1962, Ser. No. 240,360
8 Claims. (Cl. 308—26)



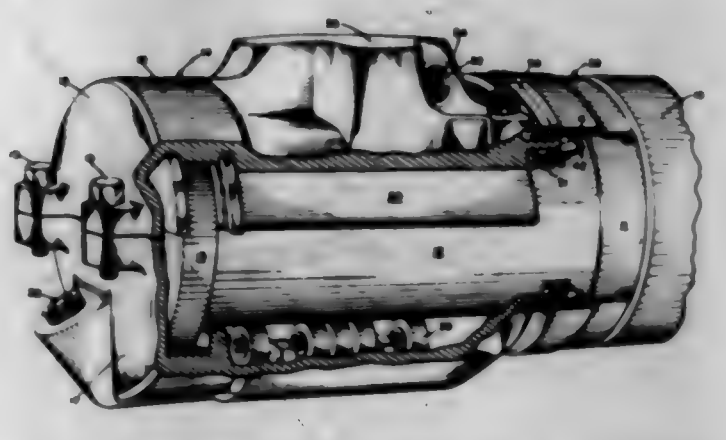
2. A shaft support comprising: a rigid annular support shell having mounting base means projecting from one side; a cushion means in said shell adapted to support a shaft bearing therein; said shell formed of two generally semi-circular portions separable from each other and from said cushion means; connecting means between said shell portions comprising a pair of arcuate ears projecting circumferentially on opposite sides of said shell, and each overlapping both of said shell portions over the severance lines therebetween; said ears having a curvature substantially the same as said shell to fit closely thereagainst; and fastening means between each of said ears to both of said shell portions; with at least one fastening means on each ear being a releasable connection.

3,140,902
HYDRAULIC ACTUATOR SHAFT, BEARING AND SEAL
John A. Herbst, Lake Valhalla, Montville, N.J. (52 Iowa Ave., Paterson, N.J.)
Original application June 17, 1958, Ser. No. 742,671. Divided and this application Apr. 24, 1961, Ser. No. 124,246
3 Claims. (Cl. 308—36.1)



1. In a hydraulic actuator including coaxially related stator and rotor members and end plates on opposite ends of said stator member, said rotor including shaft end portions of reduced diameter forming annular shoulders therebetween, said end plates being formed with bearing openings for passing said shaft end portions on said rotor member, sealing means for sealing the joint between said end plates and said shaft end portions comprising a bearing metal sleeve in the bearing openings of said end plates and fixed to said end plates, said bearing metal sleeve terminating at the inner end thereof short of the inner face of said end plates to expose an inner end portion of the bearing opening in said end plates and to provide an annular recess between the exposed inner end portion of the bearing opening in said end plates, the terminal end of said bearing metal sleeve and the inner end of said shaft end portion, a bearing metal ring of L-shape in cross-section located in said annular recess, said ring including one arm in bearing relation to the inner end of said shaft end portion and the other arm abutting the terminal end of said bearing sleeve, and an annular resilient seal member seated in said bearing metal ring between the arms thereof and having portions thereof abutting a shoulder portion of said shaft end and the exposed inner end portion of the bearing opening in said end plate.

3,140,903
SEAL FOR RAILWAY CAR JOURNAL BEARING
John E. Stricklin, Mentor, and Ronald R. Mattingly, Euclid, Ohio, assignors to Clevite Corporation, a corporation of Ohio
Filed June 13, 1962, Ser. No. 202,260
6 Claims. (Cl. 308—36.1)

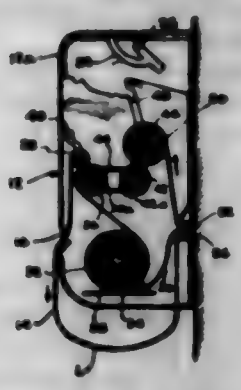


1. A lubricant seal for bearing means for a railway car axle having a first section of one diameter and an end section of a smaller diameter, said bearing means comprising a housing having one end open and the other end closed and the housing being positioned over the end section of the railway car axle with its open end disposed adjacent the first section of the railway car axle and the interior bottom surface of the housing forming a lubricant reservoir and the upper portion of the open end of the housing being provided with a passage in communication with the atmosphere, a lubricant in the lubricant reservoir, said seal comprising a first annular member surrounding and in engagement with the first section of the railway car axle and extending over the open end of the housing to prevent dust from entering the housing, a second annular member surrounding and in engagement with the end section of the railway car axle and mounted on the open end of the housing to prevent lubricant from leaking from the interior of the housing, and a third annular member surrounding the end section of the railway car axle and in engagement with the housing and mounted on the second annular member to minimize lubricant particles flowing out through the passage to the atmosphere.

3,140,904
TOWEL DISPENSING APPARATUS
Trey C. Preston, Mount Carroll, Justin J. Wetzler, Evanston, and Stanley Tyberski, Homewood, Ill., assignors to F. W. Means & Co., Chicago, Ill., a corporation of Illinois
Filed Apr. 24, 1963, Ser. No. 275,322
14 Claims. (Cl. 312—38)

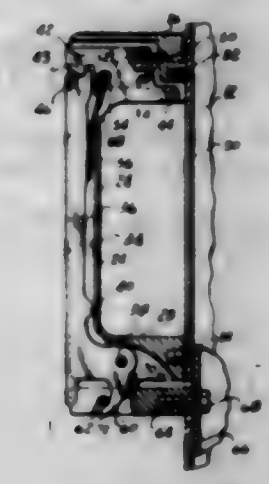
1. A continuous towel dispensing apparatus adapted to dispense an elongated towel, said apparatus comprising:
a housing;
dispensing means mounted on said housing and adapted to receive the elongated towel and to release the same from one point and to take it up from a point horizontally spaced thereof, thus forming a depending towel loop in normal operation, said towel having spaced indicia thereon; and
operating means operatively associated with said dispensing means and mounted on the housing, said operating means including continuous towel discharge means and towel discharge regulating means, said towel discharge regulating means being alter-

nately isolated from and drivingly connected to said continuous towel discharge operating means in re-



sponse to passage of said towel indicia thereby to permit regulation of the amount of toweling that may be removed from the apparatus.

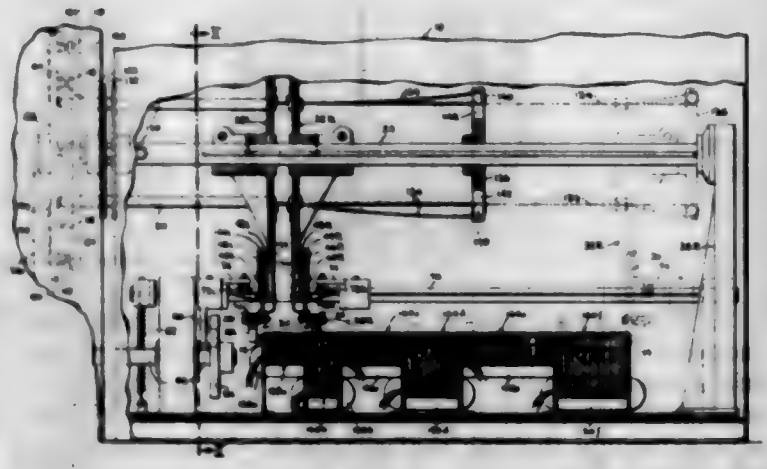
3,140,905
CHASSIS LATCH
Walter Trotter, Fairlawn, and Frank Wheeler, Little Falls, N.J., assignors to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Aug. 1, 1962, Ser. No. 213,989
7 Claims. (Cl. 312—320)



1. A latching assembly for holding a first member in a home position on a mounting member on which said first member can be moved along a predetermined path into and out of said home position including in combination a keeper, means mounting said keeper on one of said members, a latch, means mounting said latch for movement on the other of said members, said latch being adapted to be moved into engagement with said keeper to restrain said first member against movement when said first member moves into its home position and means for restraining said latch against movement to said latching position as said first member approaches its home position in its movement along said path.

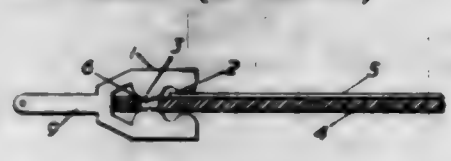
3,140,906
APPARATUS FOR FLASHING LAMP FILAMENTS
Gordon E. Childs, Pompton Plains, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1961, Ser. No. 99,331
11 Claims. (Cl. 316—27)

1. Apparatus for processing an electric lamp by setting a coiled metallic filament contained within the envelope of said lamp and having a substantial unsupported length, said apparatus comprising a plurality of electromagnets, each having its respective coil in overlapping arrangement with the coil of an adjacent electromagnet and its pole pieces aligned in abutting engagement with the pole pieces of the adjacent electromagnet to define a gap corresponding to the longitudinal disposition of said filament and thus provide a uniform magnetic field across said pole pieces, lamp-supporting means adjacent said electromagnets for supporting said lamp and for locating said filament transversely in said uniform magnetic field produced by said electromagnets, and filament-flashing means connected to said lamp for passing a current through said filament and



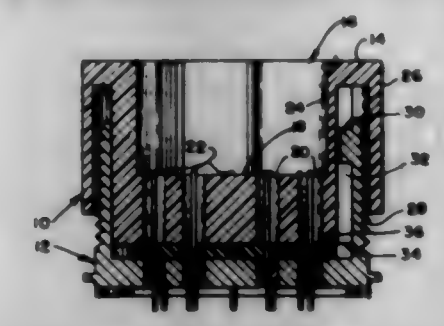
raising said filament to its temperature of recrystallization, thus permitting the force on the current-carrying filament exerted by said uniform magnetic field at right angles to both the motion of said current and the direction of said uniform magnetic field to cancel the force of gravity on said current-carrying filament and thereby preventing sagging of said current-carrying filament during setting thereof.

3,140,907
ELECTRICAL SPRING CONTACT SOCKETS
Geoffrey Davies, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,384
Claims priority, application Great Britain June 3, 1960
4 Claims. (Cl. 339—17)



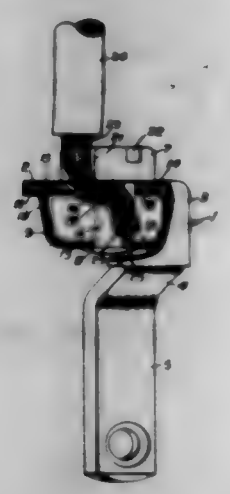
1. An electrical socket for printed circuit boards comprising in combination:
a printed circuit board having
a conductive surface disposed on one surface of said board terminating at a predetermined distance from a given edge of said board, and
a recess in at least said one surface of said board intermediate the termination of said conductive surface and said given edge; and
a socket contact including as an integral unit at least
a first portion external of said given edge, and
a second portion spaced above said one surface of said board having
a contacting portion extending therefrom having a length sufficient to make an electrical connection with said conductive surface, and
a cam surface extending therefrom disposed intermediate said first portion and said contacting portion having a length longer than the length of said contacting portion to extend into and engage said recess for cooperation in releasably securing said socket and said board together.

3,140,908
TERMINAL CONNECTOR CAP
Robert H. McCutcheon, Fair Haven, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 6, 1962, Ser. No. 235,898
3 Claims. (Cl. 339—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



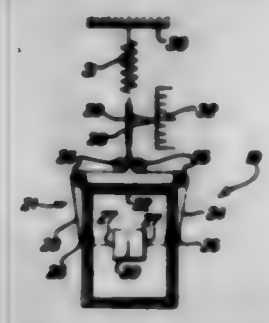
1. A protective cap for a terminal connector having contact pins comprising a body of insulating material including a cavity having a base provided with a plurality of apertures in register with said contact pins, said contact pins extending through said apertures, and means within said cap for electrically isolating at least one pair of contact pins, and means for shorting out said isolated pins.

3,140,909
ELECTRICAL TERMINAL CONNECTOR
Paul P. Danesi, North Attleboro, Mass., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 12, 1962, Ser. No. 201,829
2 Claims. (Cl. 339—249)



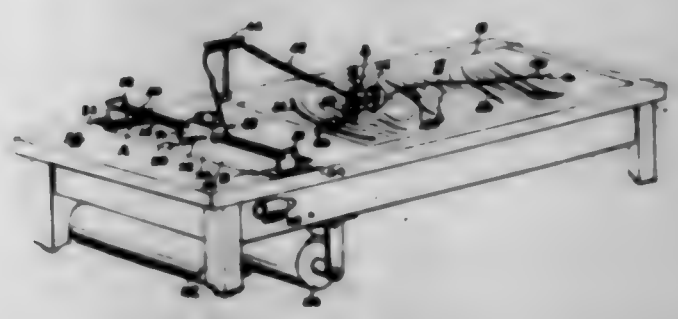
1. A terminal connector for an electric wire comprising:
a plate;
a smooth rod of predetermined length having a head flange and a foot flange and freely mounted for rotation in said plate;
said head flange and said plate having alignable apertures therein;
a clamping surface in the form of a spiral inclined plane disposed between said plate and said head flange and carried by at least one of said plate and said head flange;
said head flange being adapted to receive a tool for rotating it; and
a cup-shaped member axially mounted on said rod with its open end contacting said plate and its closed end contacting said foot flange, whereby a wire inserted through said alignable apertures is gauged and stopped by said cup, and firmly secured between said plate and said head flange upon rotation of said rod.

3,140,910
ISOTROPIC RECORDING ACCELEROMETER
Charles E. Duke and Henri B. Diamant, State College, Pa., assignors to HRB-Singer, Incorporated, State College, Pa., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,146
4 Claims. (Cl. 346—7)



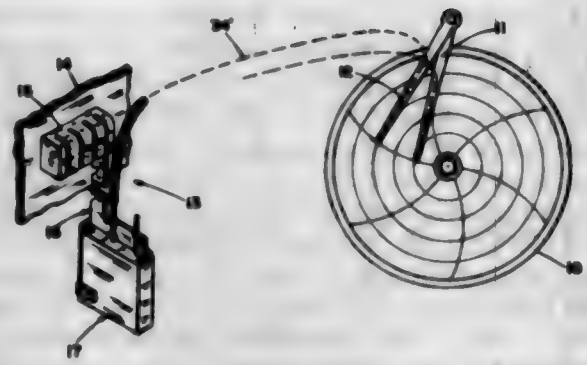
1. A recording accelerometer comprising a frame, suspension means mounted upon said frame, said suspension means including a plurality of pulleys mounted upon said frame and a plurality of elongated flexible strands extending about said pulleys, a mass freely suspended within said frame by said flexible strands for freedom of movement in all directions, and an indicating means mounted upon said frame, said flexible strands being operatively connected to said indicating means.

3,140,911
ELEVATIONAL PROFILE TRANSCRIBING APPARATUS FROM TERRESTRIAL LAND MAPS OR THE LIKE
Charles R. Johnston, 748 Beech Ave., Chula Vista, Calif., assignor of one-tenth to A. F. Graf von Soden, San Diego, Calif.
Filed May 23, 1960, Ser. No. 30,908
1 Claim. (Cl. 346—31)



In the apparatus of the class described for transcribing the elevational profile line from a flat map, the combination of, a table having a terrestrial terrain flat map mounted thereon, said map having a direction indicating line outlined over said terrain and a plurality of light reflecting dots at each side of said indicating line for designating the progressive rise and depression of the ground, a tracer means disposed upon the surface of said map having driving means for propelling same thereover, a rotary indicator connecting said last mentioned means for following said direction indicating line, a tiltable light ray indicator connecting said tracer means for tilting and focusing the light rays upon said light reflecting dots, a transcriber means in said apparatus, means in said tiltable light ray indicator for simultaneously activating the transcriber means, said transcriber means comprising, a movable sliding runner, a scriber in said sliding runner, means disposed beneath said scriber and said sliding runner for continually moving a graph paper thereunder, electric wiring in said transcriber means connecting said tracer means for activating said transcriber and thereby transcribing an elevational profile line upon said graph paper when said tracer means is moved over said indicating line depicted on said map and during the continuous operation of said apparatus.

3,140,912
INK SUPPLY
Lincoln K. Davis, South Easton, and David G. McLelland, Canton, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Sept. 11, 1962, Ser. No. 222,811
3 Claims. (Cl. 346—140)



1. For use in an industrial instrumentation recorder wherein variable condition value representations are penned on a moving chart and for use in an ink supply system of the character described for continuously providing ink for said penning action, a recording ink supply packet comprising a narrow, flexible casing having wall thickness relief for puncturing by ink passage and vent means, the casing thickness to volume ratio being established to make possible full squeezing of said casing on a normal fill basis without ink loss through said vent, through the provision of an air space in said casing at normal fill, with said air space of greater volume than the volume change produced by said full squeezing.

CHEMICAL

3,140,913
WOOD COATED WITH A BENZANTHRONEACRIDINE USED AS A WOODPECKER REPELLENT
Anders E. Lund, Pitcairn, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 15, 1962, Ser. No. 216,989
2 Claims. (Cl. 8—6.5)



1. A wood article containing a benzanthroneacridine impregnated therein to repel woodpeckers from the article.

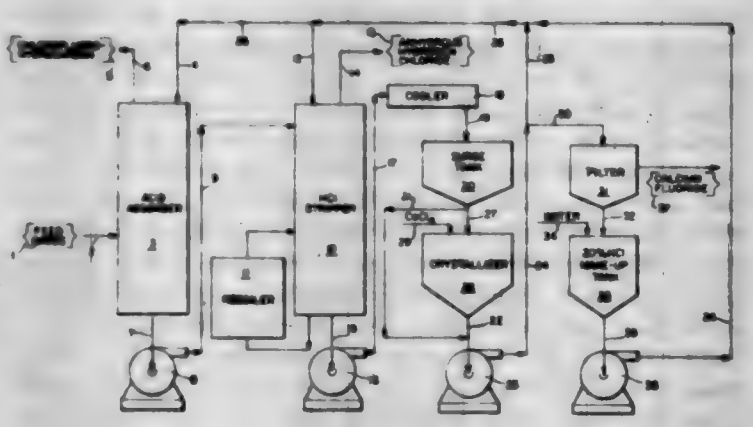
3,140,914
PROCESS FOR DYEING CELLULOSE TRIACETATE BLENDS
George C. Ward and Joseph S. Warner, Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 24, 1958, Ser. No. 775,712
15 Claims. (Cl. 8—24)

8. Process for dyeing with a cellulose acetate dye a fabric comprising about 8 to 92% by weight of cellulose ester fibers containing at most 0.29 alcoholic hydroxyl groups per anhydroglucose unit in the cellulose molecules thereof in admixture with other fibers to obtain a deep shade on said cellulose ester fibers in a single pass while consuming substantially all of the dye applied to said fabric without substantially dyeing said other fibers, comprising impregnating said fabric with an aqueous liquor maintained at a temperature of from 95–212° F. and containing said dye in solution together with about 10 to 30% of triethyl phosphate based on the weight of the solution, by immersing said fabric in said liquor for a period up to one minute, steaming said impregnated fabric at a temperature of from 205–240° F. until said dye has been fixed on said cellulose ester fiber and transferred from said other fibers to said cellulose ester fibers, and washing the dyed fabric so produced.

3,140,915
METHOD OF INHIBITING DISSOLUTION OF CALCIUM SULFATE
Bernard A. Axelrad, Raphael F. Matson, and Freddie J. Touro, New Orleans, La., assignors to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware
Filed Aug. 13, 1962, Ser. No. 216,591
18 Claims. (Cl. 23—89)

1. A method for inhibiting the dissolution of calcium sulphate into an aqueous solvent comprising dispersing into the aqueous solvent an inhibiting compound having at least one active group selected from the class consisting of sulphonate, sulphate, carboxylate, phosphate, phosphite, phosphonate and phosphonite radicals, said active group being attached to at least one hydrocarbon group containing from about 2 to 30 carbon atoms per active group, said compound combining with calcium to form a product that is less soluble than calcium sulphate.

3,140,916
HYDROGEN CHLORIDE RECOVERY AND PURIFICATION FROM GASES CONTAINING HYDROGEN FLUORIDE
Ford R. Lowdermilk, Gwynedd Valley, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 10, 1961, Ser. No. 101,932
6 Claims. (Cl. 23—154)



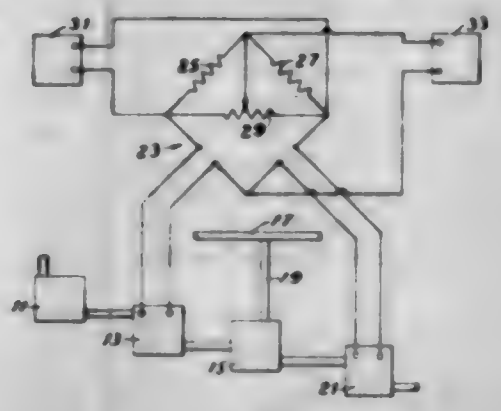
1. A continuous process for recovery of substantially pure anhydrous hydrogen chloride from a gaseous mixture containing a substantial portion of hydrogen chloride and a relatively small amount of hydrogen fluoride, which comprises scrubbing said mixture in an acid absorber with a recycled stream of dilute hydrochloric acid scrubbing solution to form a substantially saturated aqueous acid solution, passing said latter acid solution through a heated stripper from which a portion of the acid is recovered as an overhead product in the form of substantially an-

hydrous, hydrogen fluoride-free hydrogen chloride and the remaining portion is removes as stripper bottoms product containing hydrogen fluoride, reacting the hydrogen fluoride in said bottoms product in a separate vessel at a temperature of at least 55° C. with sufficiently less than a stoichiometric amount of calcium chloride so that the hydrogen fluoride content of the bottoms product after reaction with said calcium chloride is not reduced below about 1.0% by weight of the reacted bottoms product, thereby causing precipitation of crystals of calcium fluoride in filterable form from said reacted bottoms product, separating said crystals from the mother liquor by filtering, and recycling a portion of said mother liquor to the absorber.

3,140,917
POLYMERIZATION REACTOR
Max Klein, Red Bank, N.J., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 19, 1960, Ser. No. 3,290
15 Claims. (Cl. 23—252)

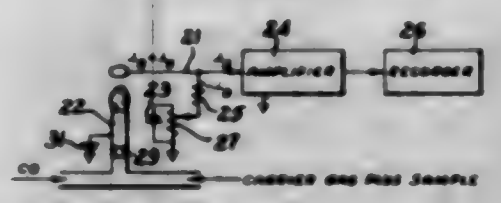
1. Apparatus effective for mass or bulk polymerization of organic substances which polymerize exothermically to form plastic products, which apparatus comprises a plurality of separate compartments, namely, polymerization chambers for holding liquid monomer to be polymerized, and heat-controlling-fluid cells for confining heat-controlling-fluid to flow through them; said compartments being assembled in a series starting and ending with a heat-controlling-fluid cell and with each such latter cell completely closed except for fluid inlet and outlet, and with each polymerization chamber being closed-sided and sandwiched between and secured to a pair of heat-controlling-fluid cells and separated from each respectively adjoining such cell by a common wall of relatively light weight metal of high heat conductivity; with the vertical ends of the exposed sides of each pair of compartments including an adjoining polymerization chamber and a heat-controlling-fluid cell and also the transverse sides of the top and bottom of the heat-controlling-fluid cell being fixedly secured, by respectively separate securing means for each individual pair of said adjoining individual polymerization chamber and heat-controlling-fluid cell, to the outer ends of the common wall between them, to provide an entirely overall rigidly fixed unitary assembly; and each polymerization chamber being provided at its bottom with a closure that closes said bottom, and means operatably engaging with said closure to enable said individual polymerization chamber to be opened and its contents removed from it separately and independently at any stage of the operation from monomer to finished polymer and independently of the operation of any other polymerization chamber and without any need of separating any other adjoining polymerization chamber and heat-controlling-fluid cell from one another or disturbing the respectively separate securing means for fixedly securing them together.

3,140,918
CONTINUOUS CONDUCTOMETRIC ANALYSIS OF AN ALDEHYDE
Italo A. Capuano, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 14, 1960, Ser. No. 55,878
4 Claims. (Cl. 23—230)



1. A method for determining the concentration of an aldehyde present in a first solution, said method comprising the steps of passing Schiff reagent through a first conductometric measuring cell, developing in said first cell a first electrical signal having an amplitude proportional to electrical conductivity of said Schiff reagent, reacting said Schiff reagent after its passage through said first cell with the said first solution to form a second solution containing sulfurous acid, passing said second solution through a second conductometric measuring cell, developing in said second cell a second electrical signal having an amplitude proportional to electrical conductivity of said second solution and subtracting said first signal from said second signal to obtain a third signal having an amplitude proportional to the concentration of the sulfurous acid in said second solution and representative of the concentration of aldehyde in said first solution.

3,140,919
FLAME IONIZATION DETECTION OF MATERIALS
William S. Galloway, Fullerton, Richard A. Foster, La Habra, James C. Sternberg, Fullerton, and Ralph A. Dora, Anaheim, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Apr. 24, 1961, Ser. No. 105,013
7 Claims. (Cl. 23—232)

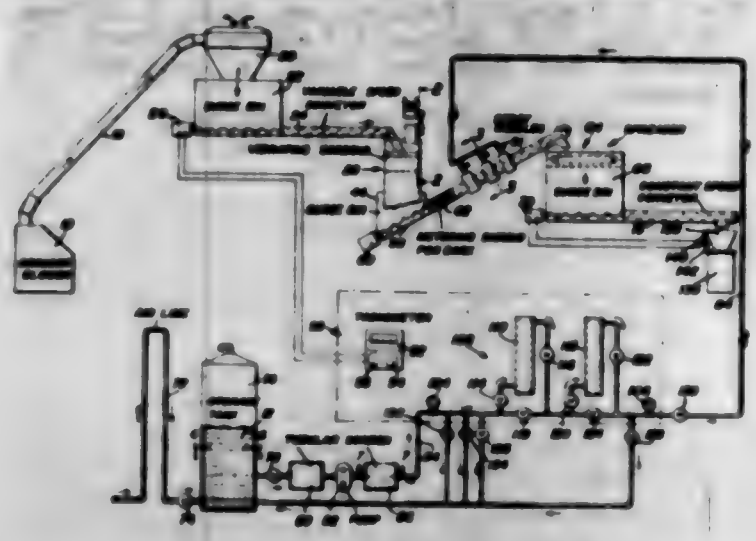


1. In the operation of a flame ionization detector, the improvement comprising:
utilizing carbon monoxide as fuel in the flame.

3,140,920
APPARATUS FOR CONTINUOUSLY PRODUCING A FERTILIZER MIXTURE
John K. Barrow, Jr., 808 South St., Aberdeen, N.C.
Filed Mar. 14, 1961, Ser. No. 95,575
6 Claims. (Cl. 23—259.1)

1. Apparatus for continuously producing a fertilizing mixture, comprising means for collecting and storing a ground up untreated solid plant nutrient carrier of non-uniform particle size, visible flow screening means operatively connected to the collecting means for discharging particles of the carrier within a predetermined size range, variable conveyor means operatively interconnecting the collecting means to the screening means and selectively

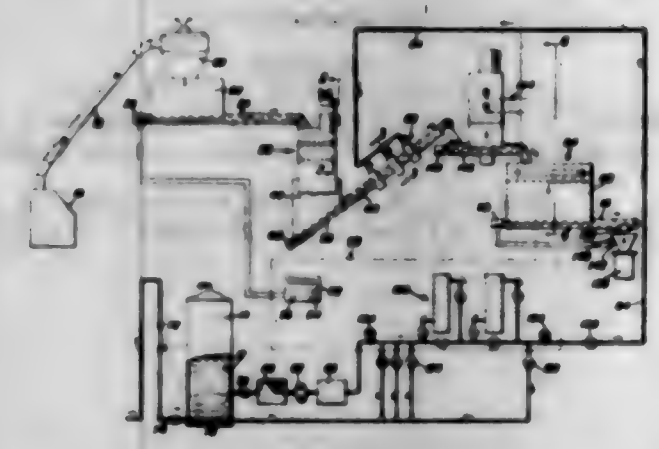
operative to maintain a constant supply of discharged screened carrier particles from the screening means, constant conveyor means operatively connected to the screening means for conveying screened carrier particles at a constant rate of movement, metering means disposed in the constant conveyor means through which the screen carrier particles are conditioned for subsequent move-



ment at a constant volumetric flow rate, and spray means operatively connected to the constant conveyor means for treating the screened and metered carrier particles with liquid and control means operatively connected to the variable conveyor means and spray means to respectively maintain a supply of screened carrier particles and maintain a constant proportion of liquid to nutrient carrier.

3,140,921
APPARATUS FOR PRODUCING A FERTILIZING MIXTURE

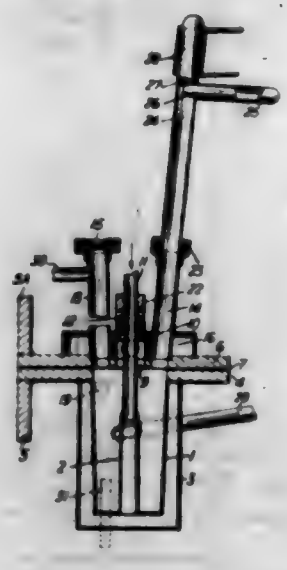
John K. Barrow, Jr., P.O. Box 68, Aberdeen, N.C.
Filed Oct. 13, 1961, Ser. No. 144,999
6 Claims. (Cl. 23—259.1)



1. Apparatus for producing a fertilizing mixture of a raw carrier material and nutrients comprising, means for continuously reducing the raw material to carrier particles of random sizes, output flow indicating means for passing carrier particles of below a predetermined size suitable for continuous flow, variable conveyor means operatively connecting the material reducing means to the flow indicating means for selectively varying delivery of carrier particles to the flow indicating means to maintain a continuous output flow therefrom, flow metering means operatively connected to said flow indicating means for metering flow of the carrier particles below said predetermined size at a constant volumetric flow rate, means operatively connected to the metering means for introducing solid nutrients at a constant flow rate to the metered carrier particles under constant flow conditions, means for collecting a uniformly distributed mixture of said carrier particles and solid nutrients for intermittent withdrawal of quantities of said mixture, and controllable liquid supply means means operatively connected to the metering means for delivery of liquid at a constant flow rate to the metered carrier particles under constant flow conditions prior to the introduction of the solid nutrients.

3,140,922
METHODS AND APPARATUS FOR TREATING REACTIVE MATERIALS

Henley Frank Sterling, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Original application Feb. 26, 1959, Ser. No. 795,635. Divided and this application Feb. 27, 1961, Ser. No. 92,051
Claims priority, application Great Britain Mar. 25, 1958
6 Claims. (Cl. 23—277)



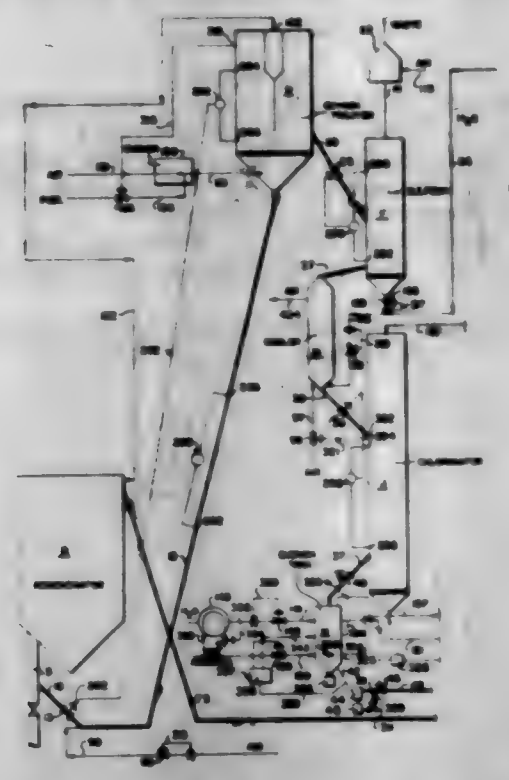
1. A container for treating reactive materials comprising two coaxial tubes and a member which covers the space between them at one end, the said tubes and member forming the crucible in which the material is treated, the said tubes and member being made of a metal of high thermal and electrical conductivity, means for circulating cooling fluid through the inner tube and around the outer tube, and means connecting the inner and outer tubes to the terminals of a radio frequency power supply thus utilizing the tubes themselves as coaxial conductors of the radio frequency supply.

3,140,923
CATALYST DEMETALLIZATION APPARATUS

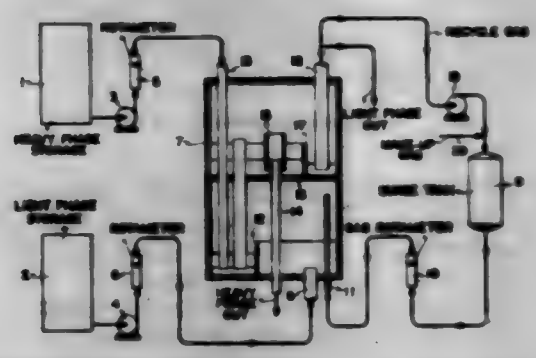
Gerald B. Hoekstra, South Holland, Ill., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1961, Ser. No. 86,444
4 Claims. (Cl. 23—288)

1. An apparatus for removing metal contaminants from a fluidized bed of cracking catalyst comprising in combination a catalyst regenerating chamber, a heated oxygen-treating chamber, a sulfiding chamber, a chlorinating chamber and a quench chamber, said chambers being connected by valved lines and arranged for sequential catalyst movement by gravitational flow from said oxygen-treating chamber through said sulfiding and chlorinating chambers in sequence to said quench chamber, means for supplying gases to and removing gases from said oxygen-treating chamber, sulfiding chamber and chlorinating chamber to react at an elevated temperature with the metal contaminants on the catalyst, means for contacting said gas-treated catalyst with an aqueous liquid in said quench chamber, automatic temperature sensing means in said quench chamber to control the entrance of said catalyst into said quench chamber thereby regulating the flow of catalyst from said chlorinating chamber, means in each

of said chlorinating chamber, sulfiding chamber, and oxygen-treating chamber for regulating the bed level of catalyst in said respective chambers by controlling the flow of catalyst to said chambers from the next preceding chamber, whereby a change in the catalyst flow rate from the chlorinating chamber to the quench chamber controls the catalyst bed levels in and total catalyst flow through the said catalyst demetallization chambers.

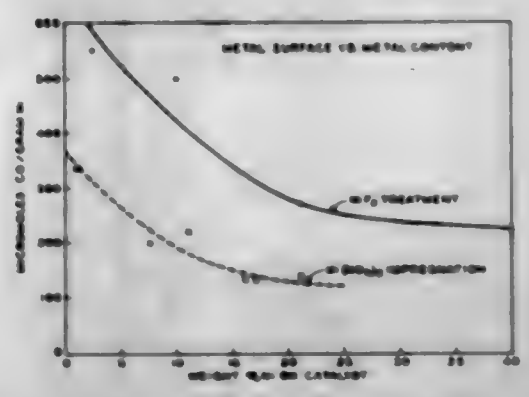


3,140,924
LIQUID-LIQUID EXTRACTION TOWER CONTAINING INDIVIDUAL STAGES
Robert H. McCormick and Harry Lawroski, State College, Pa., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 1, 1959, Ser. No. 856,478
16 Claims. (Cl. 23—310)



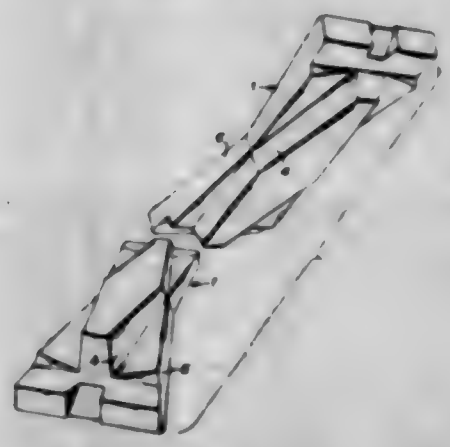
1. A process for contacting a liquid with another liquid incompletely miscible therewith which comprises: flowing one liquid downwardly and the other liquid upwardly through a plurality of stages, each of said stages having a mixing zone and a gas-liquid interface settling zone; effecting intimate cocurrent contact of a gas and said liquids through each of said stages by means of said gas in substantially vertically aligned portions of each of said mixing zones; flowing said liquids and gas cocurrently in a horizontally aligned gas-liquid interface settling zone in each stage, thereby permitting the formation of two essentially distinct liquid phases and a gas phase in each stage; separating said liquids; passing said downwardly flowing liquid to a second mixing zone in a stage at least two stages beneath; passing said upwardly flowing liquid to a third mixing zone in the next above stage; passing to said third mixing zone downwardly flowing liquid from at least two stages above; and effecting cocurrent upward flow of said liquids and gas through said substantially vertically aligned portions of said third mixing zone.

3,140,925
HYDROCARBON CONVERSION CATALYST
Robert H. Lindquist, Berkeley, and Roger O. Billmeyer, Richmond, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed May 19, 1960, Ser. No. 30,373
9 Claims. (Cl. 252—441)



1. The method of preparing catalysts having catalytically active metals in a highly dispersed state on a support containing at least one metal oxide selected from the class consisting of alumina and magnesia which method comprises contacting said metal oxide support in a substantially dehydrated state and having a relatively high surface area with an aqueous solution of a fluoride of at least one of said metals for a sufficient time and with sufficient metal fluoride present to combine said metal with said support in a highly dispersed state to the extent of at least 1%, said contacting time being at least three hours at room temperature and the amount of metal fluoride present being at least 1% by weight, calculated as metal, of said metal-oxide support.

3,140,926
INGOT
Richard N. Schmeckenbecher, Proctor, W. Va., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Nov. 9, 1962, Ser. No. 236,600
10 Claims. (Cl. 29—184)



7. A stack of ingots comprised of layers of said ingots with each of said layers having a plurality of alternatively inverted similar ingots disposed in side-by-side relationship with adjacent ingots in interlocked engagement with one another, each of said ingots comprising a base portion and an upwardly projecting integral body portion extending longitudinally on said base portion, said base portion defining two truncated first triangles in end-to-end relationship and having a common apex, said body por-

tion defining two truncated second triangles in end-to-end relationship extending parallel to said first triangles and having a common base coextending with said common apex with the side walls of said body portion defining an angle complementary to the angle defined by the side walls of said base portion whereby portions of said base portion form laterally projecting flanges at each of the side walls of said base portion adjacent the apexes thereof, each of said flanges having a substantially planar upper face defining an acute angle with its adjacent corresponding side wall of said body portion disposing said flanges in interlocked engagement with the flanges of an adjacent inverted similar ingot disposed in side-by-side relationship in said layer of said stack with the body portion side wall of the first said ingot nested in the base portion side wall of the second said ingot and with the body portion side wall of the second said ingot nested in the base portion side wall of the first said ingot.

3,140,927
WIRE FORM

Adolf G. Pfund, Milford, N.J., and Edward H. Mayer, Bethlehem, Pa., assignors, by mesne assignments, to Bethlehem Steel Company, Bethlehem, Pa., a corporation of Pennsylvania

Filed July 6, 1961, Ser. No. 122,331
2 Claims. (Cl. 29—193)

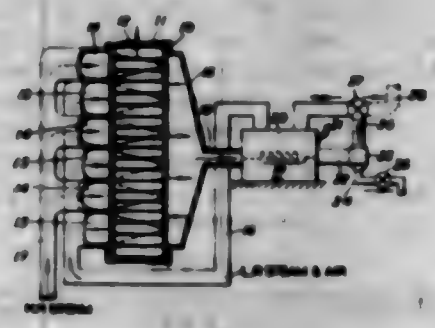


1. An article of manufacture comprising a sinusoidally shaped wire spacer having a series of rounded loops integrally connected by legs, the legs of each loop cooperating with the legs of adjacent loops to form a V-shaped bend, and the included angle of said bend being greater than 60° and less than 90° so that the spacer may maintain two elements spaced apart while having point contact therewith.

3,140,928
PRESSURE EXCHANGER HEAT PUMP APPARATUS

Dudley Brian Spalding, 2 Vineyard Hill Road, London SW. 19, England

Original application Mar. 19, 1956, Ser. No. 572,379, now Patent No. 2,971,343, dated Feb. 14, 1961. Divided and this application Dec. 9, 1960, Ser. No. 74,942
4 Claims. (Cl. 34—62)

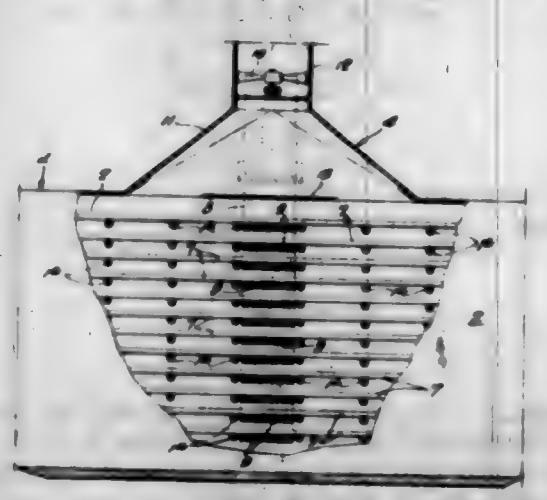


1. Heat pump plant including a heat-exchanger and a pressure exchanger incorporating cells for the compression and expansion of fluid, the cells having open ends, means defining end-walls for the cells, a series of ducts communicating with the cells at circumferentially spaced ports in the end-walls, means for producing relative motion between the cells and the end-walls, the series of ducts including an inlet duct to lead a stream of low-pressure fluid to the cells, an inlet duct to lead a stream of higher-pressure fluid to the cells, the streams of low- and higher-pressure being combined in the cells into a single stream of fluid at a pressure intermediate the low- and higher-pressures, an outlet duct to lead the single stream of intermediate pressure fluid from the cells, the heat-exchanger including a hot pass, an inlet for the hot pass communicating with the outlet duct of the series of ducts, a cold pass, an outlet from the cold pass communicating with the inlet duct of the series of ducts for the admission of low-pressure fluid to the cells, and means to introduce to the heat-exchanger material to be heat processed by heat derived from the hot pass and to remove at least part of the processed material from the heat-exchanger.

3,140,929
COOLING DEVICE FOR DRIED WALL-BOARD SHEETS

Erik Johanson, Sollentuna, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Nacka, Sweden

Filed Mar. 10, 1960, Ser. No. 14,045
Claims priority, application Sweden Mar. 12, 1959
6 Claims. (Cl. 34—148)



1. A device for cooling wall-board sheets after they have been treated in a multi-deck kiln comprising a discharge section communicating at one end with the kiln and open at its opposite end to the atmosphere, said discharge section including spaced side walls and a plurality of rollers mounted between the side walls providing supporting decks for the sheets corresponding in number to the number of decks in the kiln, an air distributing hood adjacent one of the side walls of the discharge section having a plurality of nozzles corresponding in number to the number of decks and projecting through said side wall, each of said nozzles approximately aligned with one of said decks, an air supply duct connecting said air distributing hood with the atmosphere, an air supply fan in said duct, an exhaust hood overlying said nozzles above said discharge section and in communication with said discharge section, an exhaust fan in said exhaust hood operable to exhaust a greater quantity of air than that being supplied by said supply fan so as to provide a negative pressure in said discharge section thereby preventing heat laden air from entering the atmosphere at said opposite end and, a shielding plate in said discharge section intermediate said air distributing hood and exhaust hood, said plate extending horizontally beyond the horizontal extent of said nozzles to thereby prevent the cooling air from being drawn directly into said exhaust hood.

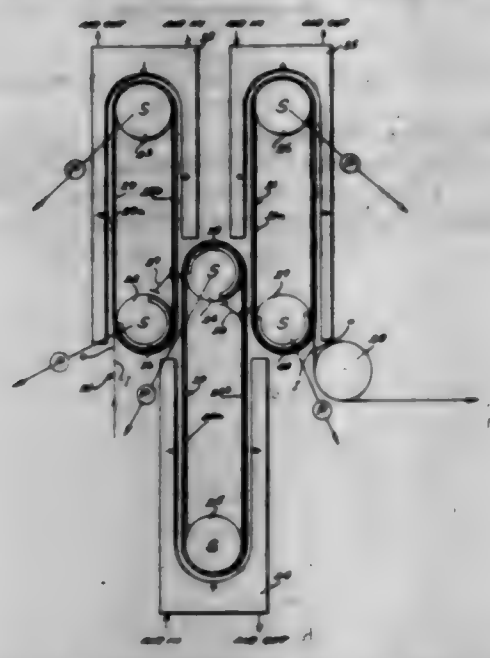
3,140,930
BELT CONVEYOR DRIER FOR WEB MATERIAL

Edgar J. Justus, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin

Filed July 20, 1961, Ser. No. 125,405
9 Claims. (Cl. 34—156)

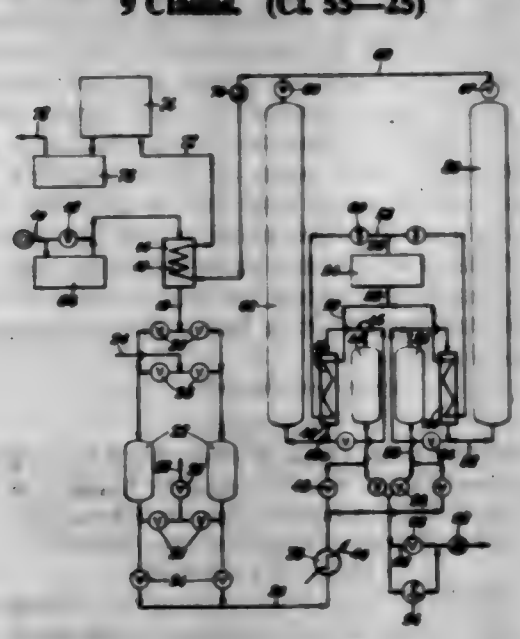
1. In a paper machine dryer section for drying a paper web, first and second closed loops of foraminous flexible belts, first and second pairs of spaced support rolls respectively within said first and second belt with the rolls

for each belt spaced apart for carrying the belt and forming linear runs therebetween, said runs extending substantially parallel to each other, said runs defining a paper web supporting path extending sequentially over the first and second runs of the first belt and thereafter over the first and second runs of the second belt, said belts positioned close together so that the second run of the first belt travels toward the first run of the second belt and in the same direction and has a delivery end spaced close to a receiving end of the first run of the second belt to transfer the web from the first to the second belt at the end



of the second run of the first belt, means for creating a suction within said belts along said runs to hold the web thereon, a first U-shaped hood position over the first belt and having sides extending along said first and second runs, a second U-shaped hood extending over said second belt with the sides extending along said first and second runs said hoods extending over the ends of the belts between said first and second runs, means for directing a flow of heated air from the first hood onto the first belt, and means for directing a flow of heated air from the second hood onto the second belt.

3,140,931
SEPARATION OF AN OXYGEN-NITROGEN MIXTURE
Henry W. McRobbie, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 1, 1960, Ser. No. 73,029
9 Claims. (Cl. 55—25)



1. A process for separating an oxygen-nitrogen mixture comprising the steps of providing an oxygen-nitrogen containing feed gas mixture at ambient temperature and a first higher pressure; contacting the feed gas with a previously cooled bed of recuperative material thereby cooling such feed gas to a first subambient temperature; further cooling the feed gas to a second lower subambient temperature; contacting the further cooled feed gas with a bed of crystalline zeolitic molecular sieve material having apparent pore sizes of at least 4.6 Angstroms, thereby selectively absorbing at least most of said nitrogen from the gas mixture; discharging an oxygen product gas from the molecular sieve bed; as a regeneration stroke, terminating the feed gas-molecular sieve bed contact, drawing the cooled nitrogen desorbate gas from such bed in a direction counter-current to the previous feed gas flow and contacting such desorbate with the recuperative bed thereby recooling such bed for further contacting with the ambient temperature feed gas, such drawing being of sufficient duration and magnitude to reduce the pressure of said molecular sieve bed to a second lower pressure.

3,140,932
SEPARATION OF AN OXYGEN-NITROGEN MIXTURE
Douglas W. McKee, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 2, 1960, Ser. No. 73,215
4 Claims. (Cl. 55—68)

1. A process for separating an oxygen-nitrogen mixture into its components comprising the steps of providing an oxygen-nitrogen containing feed gas mixture at a feed pressure between about 0.5 and 5 atmospheres absolute, contacting such feed gas with a bed of crystalline zeolite X molecular sieve material having as at least one of its cations a member selected from the group consisting of strontium, barium and nickel at a temperature between about 0° and —150° C. thereby adsorbing nitrogen from the gas mixture, and discharging an oxygen-enriched product gas from such bed.

3,140,933
SEPARATION OF AN OXYGEN-NITROGEN MIXTURE
Douglas W. McKee, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 2, 1960, Ser. No. 73,216
4 Claims. (Cl. 55—68)

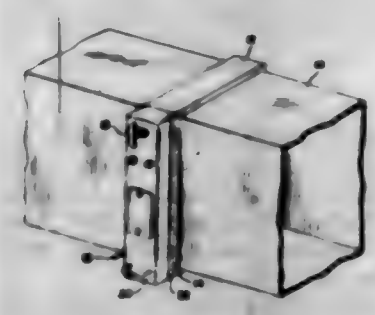
1. A process for separating an oxygen-nitrogen mixture into its components comprising the steps of providing an oxygen-nitrogen containing feed gas mixture at a feed pressure between 0.5 and 5 atmospheres absolute, contacting such feed gas with a bed of crystalline zeolitic molecular sieve material having apparent pore sizes of at least 4 Angstroms and having lithium as at least one cation constituent at a temperature between about 30° and —150° C. thereby adsorbing nitrogen from the gas mixture, and discharging an oxygen-enriched product gas from such bed.

3,140,934
PERCHLORYL FLUORIDE PURIFICATION PROCESS
Harry C. Mandell, Jr., Abington, and Gerhard Barth-Wehrenalp, Ambler, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 13, 1961, Ser. No. 95,022
2 Claims. (Cl. 55—71)

1. A method for rendering breathable air contaminated with perchloryl fluoride which comprises intimately contacting air containing perchloryl fluoridine as an impurity therein with an adsorbent consisting of a synthetic alkali metal alumina silicate characterized by a three dimension-

al network with mutually connected intra-crystalline voids accessible through openings of at least 5 Angstroms in diameter.

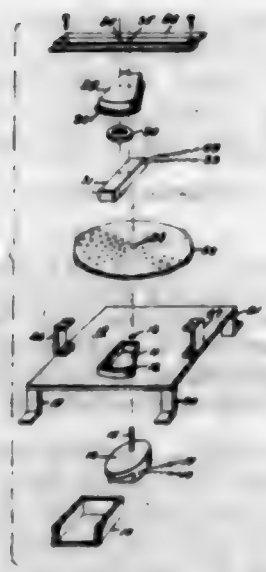
3,140,935
TIMER DEVICE FOR AN ELECTROSTATIC GAS PURIFYING SYSTEM
Raymond P. Flagg, Golden Valley, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,418
4 Claims. (Cl. 55—139)



1. In an electrostatic air cleaner of the type having a plurality of electrodes adapted to be mounted in the ducts of a forced air system and removable therefrom through an access opening in the ducts for washing, means for insuring that the electrodes are dry before the air cleaner is reenergized after washing comprising: power supply means for energizing the electrostatic air cleaner; motor means, said motor means having an output shaft; terminal means adapted to be connected to a source of alternating current; switch means having a first position wherein said terminal means are electrically connected to said power supply means and a second position wherein said terminal means are electrically connected to said motor means; a door adapted to be hinged on the duct and to close the access opening; latch means for locking said door in a closed position; a handle associated with said latch means and rotatable to lock or unlock said door; toothed rack means operably connected to said handle and adapted to be moved axially upon rotation of said handle; cam means driven by said motor means and in operative engagement with said switch means; rotation of said output shaft of said motor means through a predetermined angular distance less than a complete rotation defining a time delay period; and a gear having a toothed portion and a blank portion on its periphery, said gear being fixed on said output shaft, said blank portion of the periphery of said gear being in operative engagement with said rack means during the initial portion of said time delay period and said blank portion thereof being in engagement with said rack means when said gear is in all other angular positions, said rack means coacting with said gear upon rotation of said handle so that said cam is in a position corresponding to the initial portion of said time delay period whenever said door is opened, said cam thus being effective to place said switch means in said second position so that said motor means is energized, said cam means then being driven by said motor means to return said switch means to said first position after said time delay period, said period being sufficiently long to allow said electrodes to dry after washing.

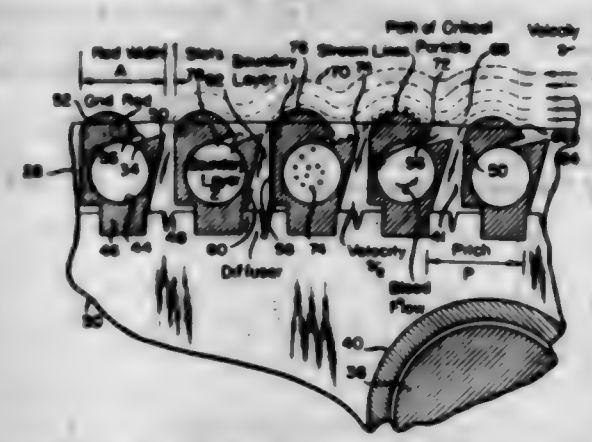
3,140,936
ROTATABLE DEHUMIDIFIER
James W. Schwartz, 354 W. Echo Lane, Phoenix, Ariz.
Filed Apr. 17, 1961, Ser. No. 103,531
12 Claims. (Cl. 55—179)

10. A rotatable disk for a dehumidifier; said rotatable disk comprising a thin metallic disk having a plurality of openings therethrough; each of said openings having a



desiccant therein; said disk having a thickness of the order of 0.03 inches whereby there is a relatively large exposed surface area of desiccant.

3,140,937
SEPARATORS
Bo N. Hoffstrom, Los Angeles, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed May 24, 1960, Ser. No. 31,402
4 Claims. (Cl. 55—442)



1. Apparatus for separating entrained particles from a body of fluid comprising a grid assembly including a plurality of uniformly spaced parallel identical bars, means for causing said fluid to pass in a predetermined path along one surface of said grid structure in a direction generally normal to the axes of said bars, each of said bars having side walls extending transversely of said path and an essentially central opening extending from end to end thereof, said openings communicating with the exterior of said bar through a slot extending longitudinally of said bar, said bars having a smooth convex surface projecting outwardly into said fluid path, one end of said convex surface intersecting one side of said slot in a sharp edge, an essentially flat surface leading away from the opposite edge of said slot and intersecting one of said side walls in a sharp edge extending longitudinally of said bar, said last mentioned edge forming the entrance to the space between adjacent bars.

3,140,938
LIQUID SOIL CONDITIONER AND THE METHOD FOR APPLYING SAID COMPOSITION TO THE SOIL
Jesse E. Martin, P.O. Box 1016, Eagle Pass, Tex., and Arthur T. Ferguson, 152 Thomas Jefferson St., San Antonio, Tex.
No Drawing. Filed Oct. 31, 1962, Ser. No. 234,517
4 Claims. (Cl. 71—1)

1. A liquid composition for admixture with the soil to promote plant growth which comprises 300–400 ounces

of a water soluble non-ionic surface active agent, 300–400 ounces of petroleum ether, 275–350 ounces of sodium bicarbonate, 10–20 ounces of hydrochloric acid, .2–.35 ounce of potassium permanganate, 5–10 ounces of crude oil, and 14,000–18,000 ounces of water.

3,140,939

ALUMINUM-IRON POWDER MIXTURE FOR POWDER LANCING

Charles B. Milton, Matawan, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 3,711, Jan. 21, 1960. This application July 16, 1962, Ser. No. 210,208

4 Claims. (Cl. 75—.5)

1. A premixed flowable oxidizing gas lancing powder mixture consisting essentially of between 70 and 85% by weight iron powder and the remainder aluminum powder, the proportions by weight of particle sizes being of:

Iron on 100 mesh from 16 to 23%, on 200 mesh from 30 to 40%, and on 325 mesh from 20 to 30% with less than 20% passing 325 mesh; and of

Aluminum on 60 mesh from 16 to 23%, on 100 mesh from 53% to 63%, and on 200 mesh from 15 to 25% with less than 3% passing 325 mesh;

To avoid segregation between the aluminum and iron particles and to avoid flashback of the finest particles.

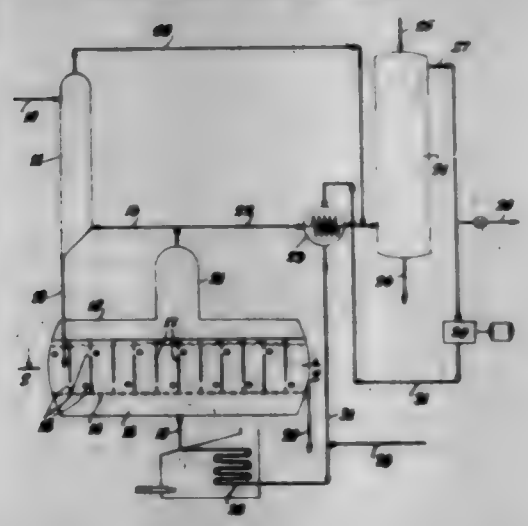
3,140,940

IRON OXIDE REDUCTION WITH HYDROGEN

Percival C. Keith, Peapack, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Original application Jan. 14, 1953, Ser. No. 331,142, now Patent No. 2,900,246, dated Aug. 18, 1959. Divided and this application Oct. 4, 1957, Ser. No. 688,170

12 Claims. (Cl. 75—36)



1. A process for effecting reduction of iron oxide to metallic iron, which comprises passing hydrogen of at least 90 percent purity through a body of said iron oxide in finely divided particle form in an unobstructed reduction zone at a temperature between 700 and 1000° F. and at a pressure of the order of hundreds of pounds per square inch gauge not exceeding about 600 pounds per square inch gauge, the linear velocity of said hydrogen through said body of iron oxide particles being such that said body is maintained in a fluid state with minimum carryover of solids, withdrawing an effluent gas from said reduction zone, removing water from said effluent gas to such an extent that upon recycling said effluent gas together with fresh feed hydrogen as hereinafter recited the composite gas will have a maximum water content not exceeding about 3% by volume of the hydrogen content of said composite gas, recompressing said effluent gas to a pressure of at least 200 pounds per square inch gauge, maintaining a substantially equivalent pressure within the reduction zone except for the pressure difference necessary to produce the required flow through the system, heating said repressured effluent gas to a temperature above that maintained in said reduction zone, adding fresh feed hydrogen of at least 90 percent purity to said effluent gas in an amount to form said composite gas having a ratio of several volumes of said effluent gas to each volume of said fresh feed hydrogen, passing said composite gas into said reduction zone to thereby overcome the temperature and pressure drops occurring in the reduction and water removal steps and maintain said temperature and pressure in said reduction zone, and withdrawing a reaction product containing metallic iron from said reduction zone.

3,140,941

FERROMAGNETIC COMPOSITIONS OF IRON, RHODIUM AND AT LEAST ONE OTHER ELEMENT OF ATOMIC NUMBERS 39–44 AND 57–80

Paul H. L. Walter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 5, 1962, Ser. No. 177,229

9 Claims. (Cl. 75—122)

1. An alloy in which (A) iron, (B) rhodium, and (C) at least one transition element of atomic number 39–44, 46–48, and 57–80 are present in the atom proportions of 0.8–1.2 of (A), 0.8–1.2 of (B), and 0.4–0.1 of (C).

3,140,942

FERROMAGNETIC COMPOSITIONS OF IRON, RHODIUM AND AT LEAST ONE OTHER ELEMENT OF ATOMIC NUMBERS 21–25 AND 27–30

Paul H. L. Walter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 5, 1962, Ser. No. 177,230

6 Claims. (Cl. 75—122)

1. An alloy in which (A) iron, (B) rhodium, and (C) at least one transition element of atomic number 21–25 and 27–30 are present in the atom proportions 0.8 to 1.2 of (A), 0.8 to 1.2 of (B), and 0.4 to 0.01 of (C).

3,140,943

TANTALUM BASE ALLOYS

Alexander L. Field, Jr., Pittsburgh, Robert L. Ammon, Pleasant Hills, and Allen I. Lewis, deceased, late of Forest Hills, Pa., by Bernard J. Ambrose, administrator, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 17, 1962, Ser. No. 167,473

3 Claims. (Cl. 75—174)

1. A readily workable cast member comprising a tantalum base alloy consisting essentially of by weight from 1 to 8% hafnium, from 1 to 8% columbium and the balance tantalum, except for incidental impurities, the cast member being characterized by relatively high strength at elevated temperatures and by relatively good ductility at room and sub-zero temperatures.

3,140,944

METHOD OF SINTERING TUNGSTEN

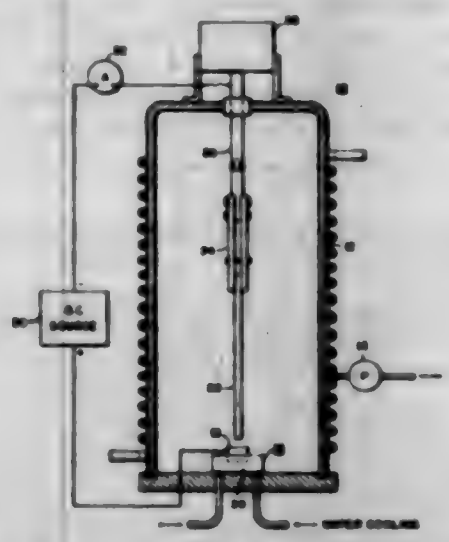
Leonard L. France, Pittsburgh, and Robert L. Ammon, Baldwin Borough, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 21, 1962, Ser. No. 204,274

4 Claims. (Cl. 75—200)

1. The method of rapidly sintering an elongated self-sustaining tungsten compact which has a substantial degree of porosity to convert the porous compact into a unitary mass which has substantially no porosity, which method comprises: securing said porous compact at one

end and in a substantially vertical position with the other end of said compact free and below the secured end of said compact; positioning the free end of said compact proximate to a refractory anode pad, and maintaining said compact and said pad under non-oxidizing conditions; applying a predetermined D.C. potential between the secured end of said compact and said pad to form an electric arc between the free end of said compact and said pad, with said pad maintained as the anode of the formed arc and the free end of said compact maintained as the



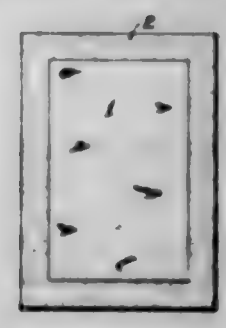
cathode of the formed arc; maintaining through the formed arc for a predetermined period of time a predetermined electric current which is sufficient to heat the arc-current-carrying portion of said compact to a temperature which approaches but does not reach the melting point of tungsten in order to sinter said compact into a unitary mass having substantially no porosity; and discontinuing the arc and at least partially cooling the sintered compact while maintaining the sintered compact under the non-oxidizing conditions.

3,140,945

ELECTROSTATIC PRINTING

Kenneth Archibald Metcalfe, Graysmore, South Australia, and Robert John Wright, Hectorville, South Australia, Australia, assignors to The Commonwealth of Australia, care of the Secretary of the Department of Supply, Melbourne, Victoria, Australia

Filed June 8, 1960, Ser. No. 34,831
Claims priority, application Australia June 19, 1959
2 Claims. (Cl. 96—1)



1. An electrostatic reproduction method comprising forming, on a surface adapted to receive an electrostatic charge, an electrostatic image constituted by the selective positioning of electrostatic charges, and preserving said image by surrounding the same on said surface with an enclosure of a substantially uniform electrostatic charge adapted to repell the first said charges and thus prevent the latter from leaking from said surface, said enclosure having an area of at least about one-half the area which is enclosed.

2. A method as claimed in claim 1 wherein said surface is the surface of a photoconductor sheet, comprising uniformly charging said surface preparatory to generating an electrostatic image and photographically bleeding away the uniform charge in selective manner to form the image while shielding a portion of the surface encircling the image to retain the uniform charge in said portion to create an electrostatic fence.

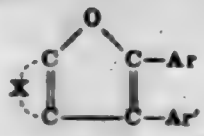
3,140,946

ELECTROPHOTOGRAPHIC MATERIAL

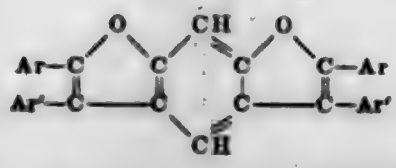
Paul Maria Cassiers, Mortsel-Antwerp, and Jozef Frans Willems, Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Dec. 9, 1960, Ser. No. 74,791
Claims priority, application Belgium Dec. 9, 1959
7 Claims. (Cl. 96—1)

1. In a method of reproduction wherein an electrostatic charge pattern is created on a photoconductive insulating layer and which includes the steps of electrostatically charging and imagewise exposing said photoconductive insulating layer, the improvement of using in said method a photoconductive insulating layer containing as the essential photoconductive material an organic compound having a structural formula selected from the group consisting of:



and



wherein:

X represents the atoms necessary to complete an arylene nucleus;

Ar and Ar' are each a member selected from the group consisting of a phenyl radical, a methoxy substituted phenyl radical, and a dimethylamino substituted phenyl radical.

3,140,947

GRAPHIC DATA COPY SHEET AND METHOD OF USING IT

Peter L. Foris, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed Jan. 25, 1961, Ser. No. 84,749
8 Claims. (Cl. 96—48)

6. A light-sensitive copying process for producing permanent copies from a graphic original, consisting of (1) positioning a thin translucent pliable master sheet of material, having on one surface graphic data to be copied, said graphic data being defined in terms of areas which absorb visible light, in a smooth face-to-face relation with a copy sheet senstive to visible light, which copy sheet is provided with a composition colorable to a distinctive color by exposure to visible light, the composition consisting of a dry mixture of 3,3-bis(4-dimethylaminophenyl)-6-dimethylaminophthalide and carbon tetrabromide, (2) subjecting the two sheets so positioned to visible light rays so that said light will pass through the translucent master sheet, except where prevented from such passage by the light-absorbing areas, to provide a light pattern on the copy sheet which corresponds to the light transmitted through the master sheet, said light inducing a reaction in the light-sensitive composition which without perceptible delay results in the production of a distinctively colored image, and (3) fixing the colored image so formed by heating the copy sheet sufficiently to inactivate the residual light-sensitive ingredients contained therein.

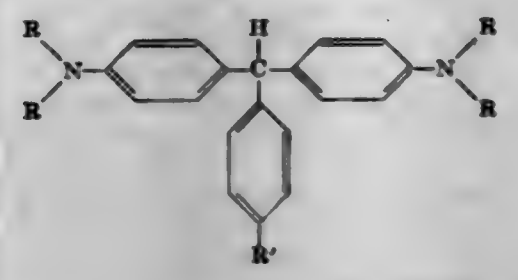
3,140,948
PHOTOGRAPHY

John A. Stewart, Parma, and Robert H. Sprague, Chagrin Falls, Ohio, assignors to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey

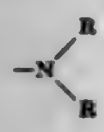
No Drawing. Filed Oct. 18, 1961, Ser. No. 146,019
5 Claims. (Cl. 96—48)

1. A photographic process which comprises: imagewise exposure of a photosensitive mixture coated on a suitable base, said photosensitive mixture consisting essentially of

(1) a leuco base of a triphenylmethane dye represented by the general formula



wherein each R is selected from the group consisting of H, alkyl, aralkyl and aryl and R' is selected from the group consisting of —H and



wherein each R has the same meaning as above; and

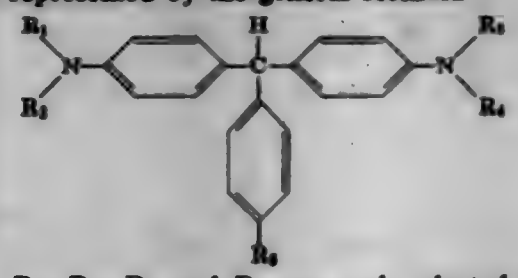
(2) an activator for said leuco base, said activator consisting of a carboxylic compound selected from the group consisting of carboxylic aliphatic acids and carboxylic aromatic acids and carboxylic acid anhydrides; there being between about 0.5 and 24 parts by weight of said activator per part by weight of said leuco base, and thereafter stabilizing the visible image produced as a result of said exposure by contacting the image-bearing exposed material with an alkaline material selected from the group consisting of ammonia and alkyl amines.

3,140,949
PRINTOUT PROCESS AND LEUCO BASES OF TRIPHENYL METHANE DYES USED THEREIN

Robert H. Sprague, Chagrin Falls, and John A. Stewart, Parma, Ohio, assignors to Horizons Incorporated, a corporation of New Jersey

No Drawing. Filed June 7, 1962, Ser. No. 200,664
8 Claims. (Cl. 96—48)

1. A photographic material comprising a composition consisting essentially of a leuco base of a triphenyl methane dye represented by the general formula



wherein R_1, R_2, R_3 and R_4 are each selected from the group consisting of H, alkyl, aralkyl, and aryl and may be different and R_5 represents a monovalent radical selected from the group consisting of —H and



wherein R_1 and R_2 have the same meaning as above, and a material increasing the visible light sensitivity of said leuco base, selected from the group consisting of carboxylic acids and carboxylic acid anhydrides there being between 4 and 24 parts by weight of said material for each part by weight of said leuco base in said composition and said composition being supported by a carrier material which is chemically inert thereto.

3,140,950
BLUEPRINT PAPER AND COATING COMPOSITION INCLUDING POLYVINYL ALCOHOL FOR MAKING SAME

Harold J. Brunk, 7444 N. Maplewood Ave., Chicago 45, Ill.

No Drawing. Filed May 21, 1962, Ser. No. 196,509
4 Claims. (Cl. 96—92)

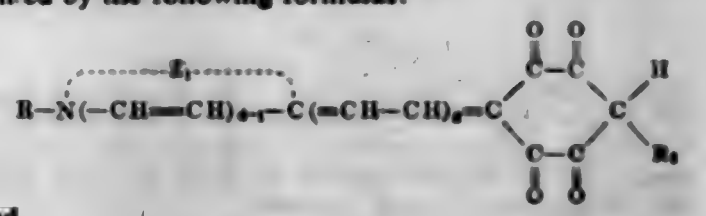
1. A blueprint paper having a coating thereon consisting essentially of an alkali metal ferricyanide, ferric ammonium oxalate and polyvinyl alcohol, the polyvinyl alcohol being present with the ferricyanide in a ratio by weight of between approximately 1–400 and 10 to 400.

3,140,951
DESENSITIZING DYES AND PHOTOGRAPHIC PROCESSES AND MATERIALS

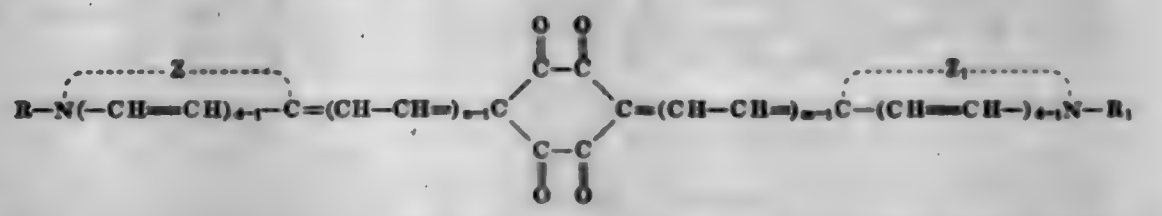
Donald W. Heseltine and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 10, 1963, Ser. No. 286,488
17 Claims. (Cl. 96—101)

9. A light-sensitive photographic silver halide emulsion containing a desensitizing dye selected from those represented by the following formulas:



and



wherein *n* and *m* each represents a positive integer of from 1 to 3, *d* represents a positive integer from 1 to 2, R and R_1 each represents an alkyl group of from 1–12 carbon atoms, R_2 represents a member selected from the group consisting of the hydrogen atom, an alkyl group of from 1–18 carbon atoms and an aryl group, and Z and Z_1 each represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the nuclei consisting of those of the thiazole series, those of the benzothiazole series, those of the naphthothiazole series, those of the thianaphtheno-7',6',4,5-thiazole series, those of the oxazole series, those of the benzoxazole series, those of the naphthoxazole series, those of the selenazole series, those of the benzoselenazole series, those of the naphthoselenazole series, those of the thiazoline series, those of the 2-quinoline series, those of the 4-quinoline series, those of the 1-isoquinoline series, those of the 3,3-dialkylindolenine series, those of the 2-pyridine series, those of the 4-pyridine series, those of the imidazole series, those of the benzi-

midazole series, and those of the naphthimidazole series, and *g* is an integer from 1–2.

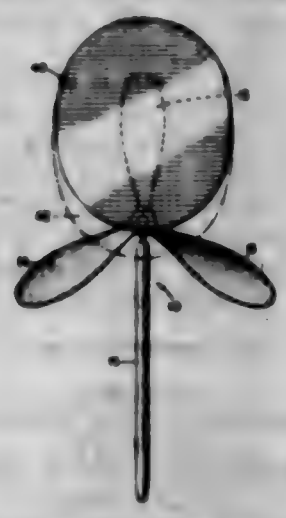
3,148,952
METHOD OF DISPERSING SALT IN A POPCORN SLURRY
Charles J. Cretors, Highland Park, Ill., assignor to C. Cretors & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1961, Ser. No. 155,757
2 Claims. (Cl. 99—81)

1. A method of dispersing popcorn-seasoning salt in a slurry compriting unpopped popcorn and cooking oil, said method including the steps of: mixing said salt with an edible, higher fatty acid glyceride to produce a uniform mixture; tableting said mixture to form discrete pellets; measuring a quantity of said pellets and adding them to said slurry to disperse said salt therein.

3,148,953
OLEAGINOUS FOOD PRODUCT
Robert L. Roberts, Orinda, Calif., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed May 22, 1961, Ser. No. 111,494
8 Claims. (Cl. 99—128)

1. A dry-to-the-touch free-flowing powderous foodstuff derived from a finely comminuted comestible high in oleaginous matter and capable of reconstitution with moisture to a spreadable plastic consistency, said foodstuff having microcrystalline alpha cellulose employed therein to absorb its oleaginous matter, said alpha cellulose having an average particle size of 300 A. to 500 A.

3,148,954
CONFECTION AND SUPPORT THEREFOR
Harry C. Schroeder, Cincinnati, Ohio, assignor to Plastic Specialties, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 28, 1962, Ser. No. 176,387
1 Claim. (Cl. 99—138)



A combined confection and toy article, the toy article having a portion imbedded in the confection for supporting the same, said article consisting in an initial one piece, of a propellor having a centrally apertured hub and at least three blades extending radially therefrom and an elongate member integral at one end with the hub and extending radially therefrom between two of the blades, the third blade being imbedded in the body of confection, said member being adapted to perform the double function of a handle for supporting the confection attached to said third blade and a rotating shaft for the propellor when joined to the hub of the latter after removal of the confection, the member being initially formed for the performance of the second mentioned function by having the said one end formed with a reduced relatively short and thin longitudinally extending shank, as compared to the length and thickness of the major portion, and the shank being weakened to be easily broken away from the hub, and the member having its other end shaped for frictional engagement in the aperture of the hub, when reversed after being broken away at the shank, to extend axially of the hub for use as a shaft to rotate the propellor.

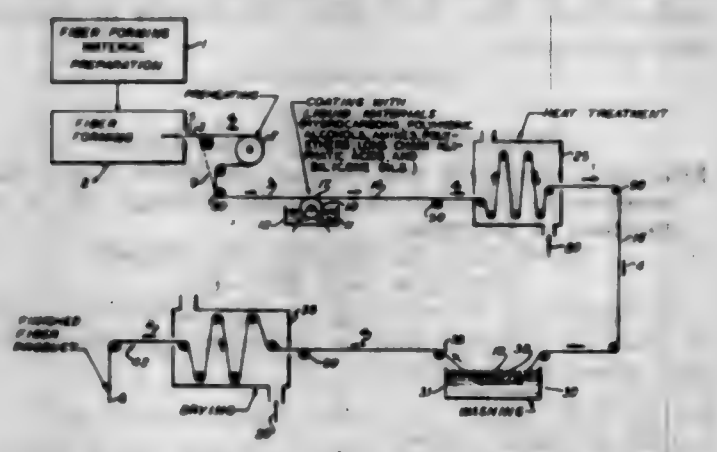
3,148,955
FUSED CAST REFRACTORY
Allen M. Alper, Horseheads, and Robert N. McNally, Corning, N.Y., assignors, by mesne assignments, to Cohart Refractories Company, a corporation of Delaware
Filed Nov. 24, 1961, Ser. No. 154,754
2 Claims. (Cl. 106—59)

1. A fused cast refractory consisting essentially of, by weight, 56% to 85% MgO, 13% to 40% Al_2O_3, the sum of MgO plus Al_2O_3 being at least 90%, 0.4% to 4.5% Cr_2O_3, up to 3.5% FeO, up to 3% CaO, up to 3% SiO_2 and up to 0.5% B_2O_3.

3,148,956
PRODUCTS AND PROCESS FOR IMPROVING PERFORMANCES OF CEMENTS, MORTARS, AND CONCRETES
Jonas Kamlet, New York, N.Y., and William Wilson Binford, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
No Drawing. Filed Oct. 26, 1959, Ser. No. 848,564
8 Claims. (Cl. 106—89)

1. Cements, mortars and concretes having as a basis a member of the group consisting of Portland cement, Portland blast furnace slag cement, pozzolana cement, and Portland-pozzolana cement, having admixed therewith from about 2% to about 20% based on the weight of the cement, of a substantially nonhydroscopic aluminous sinter consisting essentially of sodium aluminate having a molar ratio of $Na_2O:Al_2O_3$ between about 0.88 and about 1.60 in association with oxides of iron, silicon, and calcium, said sinter containing between about 28% and about 81% by weight of sodium aluminate and being stable and free-flowing.

3,148,957
HEAT TREATMENT OF FIBERS
Kenichi Tanabe and Hideo Saito, Kurashiki, Japan, assignors of three-fourths to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan, and of one-fourth to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 23, 1961, Ser. No. 90,929
Claims priority, application Japan Feb. 23, 1960
9 Claims. (Cl. 117—6)



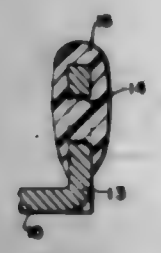
1. A process for the heat treatment of organic fibers benefited by heat treatment which comprises the steps of coating the fibers with a liquid substance resistant to tem-

peratures up to about 250° C., said liquid substance being selected from the group consisting of hydrocarbons, polyhydric alcohols, amines, polyethers, long-chain aliphatic acids, and silicone oils and then exposing said fibers to a member of the group consisting of air and an inert gas heated to a temperature of at least about 140° C.

3,140,958
COMPOSITION FOR PROTECTING THREADED ELEMENTS OF CONDUIT BOXES

Harold Opotow, 400 Howard Ave., Woodmere, N.Y., and Herbert Ginsburg, Woodmere, N.Y. (108—20 180th St., Jamaica 33, N.Y.)

Filed June 2, 1961, Ser. No. 114,538
2 Claims. (Cl. 117—6)



1. The combination with an internally threaded metal member, of a water insoluble, soft waxlike thermoplastic mass coating the threaded portion of said member to prevent the adherence of plaster thereto, said mass comprising rosin, a normally solid polyethylene glycol having a lower melting point than said rosin, lanolin, and a surface tension reducing agent, said mass having a consistency permitting the threaded interengagement of a companion threaded element with said threaded metal member.

3,140,959
PAPER PRODUCT WITH CHEMICAL WATERMARK AND MEANS FOR MAKING SAME

Franz V. E. Vaurio, Appleton, Wis., assignor by mesne assignments, to Castomark Corporation, Appleton, Wis., a corporation of Wisconsin

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,228
8 Claims. (Cl. 117—38)

1. A method of imparting a chemical watermark of selected design to a finished sheet of paper which comprises the steps of printing the design on a portion of the surface of said paper sheet with a liquid composition consisting essentially of a synthetic, thermosetting, curable resin and an organic solvent, and removing said solvent to obtain a substantially colorless chemical watermark of said deposited resin having an index of refraction of about 1.4 to about 1.7, and said chemical watermark being substantially free from gloss, having ink receptivity and resisting discoloration with aging substantially in the same way as the paper.

3,140,960
EDGE SCRAPING APPARATUS

Edward L. Grabczyk and Edward H. Walsh, Gary, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware

Filed June 28, 1961, Ser. No. 120,344
9 Claims. (Cl. 118—122)

2. Apparatus for scraping an edge portion on a strip of material moving along a continuous processing line, said apparatus comprising:

a member;

edge engaging means;

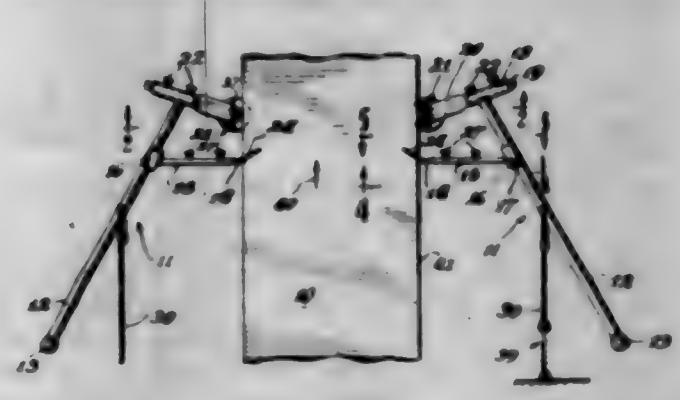
means mounting said edge engaging means on said member;

means mounting said member for movement with said edge engaging means, between a first location in which the engaging means is positioned for contact with an edge of said strip and a second location in which the engaging means is in a non-contacting position;

edge scraping means;

means mounting said scraping means on said member for movement, independent of the member and the engaging means, in a first direction towards the path of the moving strip in response to advancement of said strip and in a second direction, opposite said first direction, in response to a back-up of the strip;

first means for limiting movement of said scraping means in said second direction to a withdrawn, non-scraping location in which the scraping means is positionable to engage an unscraped portion of the advancing strip when said member is in its first location but is incapable of engaging a scraped portion of a backing-up strip;



means normally urging said member towards the first location thereof;

second means for limiting movement of the scraping means in said first direction to a scraping location, spaced from said withdrawn location, and in which the scraping means is positionable to scrape an unscraped advancing strip and engage a scraped backing-up strip;

said scraping means including means for engaging an unscraped portion of the advancing strip without engaging a scraped portion of a backing-up strip, when the scraping means is in said withdrawn location, and for scraping an unscraped advancing strip and engaging a scraped backing-up strip when the scraping means is in its scraping location;

said second movement-limiting means including means for urging said member from its first to its second location in response to movement of the scraping means from its withdrawn to its scraping location.

3,140,961
PEAT MOSS WASHING METHOD AND APPARATUS

Raymond W. Kronlund, 7701 S. 46th Court W., Tacoma, Wash.

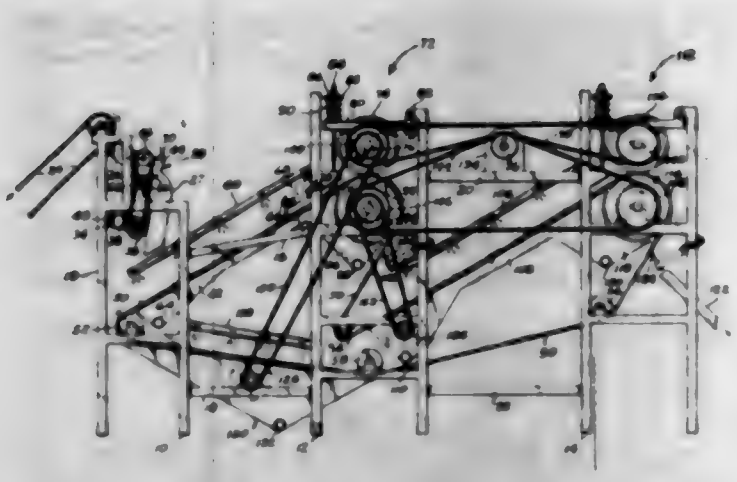
Filed Apr. 12, 1963, Ser. No. 272,673
3 Claims. (Cl. 134—25)

1. The method of washing peat moss containing slime, marl, pumicite and other finely divided impurities which method comprises:

(*a*) depositing the peat moss in particulate form loosely on a moving, continuous, porous blanket, water absorbent,

(*b*) spraying the peat moss as it lies on the blanket with jets of water with sufficient force to dislodge the impurities from the peat moss,

(*c*) passing the washed peat moss and supporting blanket between a pair of press rolls with one roll engaging the peat moss and the other roll engaging the blanket for pressing the water and impurities into and through the blanket while retaining the washed peat moss on the blanket surface,



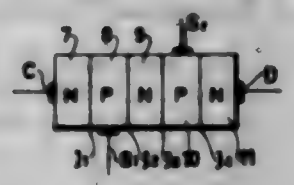
(*d*) removing the washed peat moss from the blanket,
(*e*) and removing the extracted peat moss impurities from the blanket.

3,140,962
TUBULAR BATTERY
Erik G. Sundberg, Nol, Sweden, assignor to Aktiebolaget Tudor, a corporation of Sweden
Filed Sept. 26, 1960, Ser. No. 58,275
6 Claims. (Cl. 136—6)



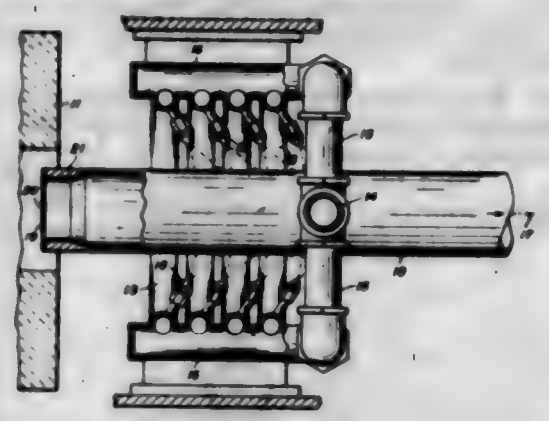
1. An elongated storage battery adapted to fit into a deep cylindrical container space comprising wall means defining at least three cells extending substantially the length of said battery; said wall means including cell-separating portions extending radially outwardly from a central battery axis and disposed at angles of substantially 120° to each other; and a plurality of substantially planar, elongated, parallel electrodes in alternating positive-negative series extending longitudinally within each cell; said electrodes being dimensionally equal to each other in length and width and being disposed in parallel relation to one of said cell-separating wall portions with the longitudinal edges of the electrodes of each cell defining planes parallel to an adjacent cell-separating wall portion.

3,140,963
BIDIRECTIONAL SEMICONDUCTOR SWITCHING DEVICE
Per Gustaf Johannes Svedberg, Vallingby, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden
Filed Jan. 6, 1961, Ser. No. 81,147
Claims priority, application Sweden Jan. 14, 1960
2 Claims. (Cl. 148—33.5)



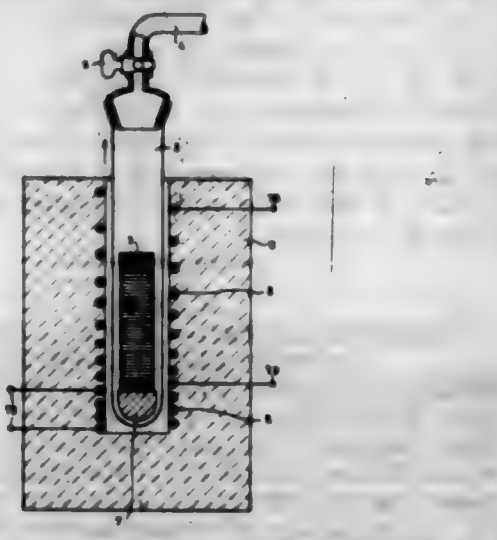
1. A semiconductor device of the switch type having five semiconductor zones of alternating P- and N-conducting type arranged symmetrically and having substantially symmetrical characteristics in both directions and having junctions between each two adjacent zones, said zones being doped with impurities of different concentrations in different zones, the concentration being lowest in the central zone and highest in the outer zones and, in the intermediate zones, of a value between said highest and said lowest values.

3,140,964
METHOD OF QUENCHING PIPE
Robert G. Middlemiss, Greenock Heights, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 21, 1962, Ser. No. 239,252
6 Claims. (Cl. 148—143)



1. A method of hardening metal pipe comprising abutting against one end of a pipe a cover plate having a hole therein thereby to completely seal the inside diameter opening of said pipe end, heating said length above the critical temperature by passing the length through a heating zone with the covered end trailing, then as the length emerges from said zone, passing it through a liquid-spray quenching ring, said hole being dimensioned to dissipate heat from the inside of said trailing end to such an extent as to effect transformation hardening therein.

3,140,965
VAPOR DEPOSITION ONTO STACKED SEMICONDUCTOR WAFERS FOLLOWED BY PARTICULAR COOLING
Konrad Reuschel, Pretzfeld, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed June 27, 1962, Ser. No. 205,740
Claims priority, application Germany July 22, 1961
9 Claims. (Cl. 148—175)



1. The precipitation method of producing electronic semiconductor devices having a monocrystalline semiconductor body with a plurality of monocrystalline layers of respectively different electric conductance properties, which comprises stacking in a sealable vessel a multiplicity of plate members having alternately different

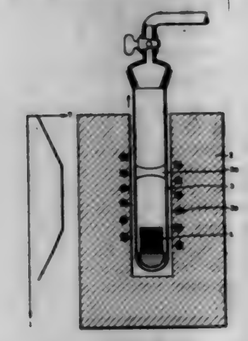
respective conductance properties upon each other to form an axially elongated stack, said members, consisting of semiconductor monocrystals of substantially the same lattice structure as the semiconductor substance to be precipitated; subjecting the stack in the vessel to a reaction gas which contains a halogen compound of semiconductor substance to be precipitated; heating the stack in the presence of the reaction gas to a temperature at which the semiconductor substance is precipitated from the halogen compound, and producing a temperature gradient from one to the other end of the stack with the higher temperature near the bottom of the stack.

3,140,966

VAPOR DEPOSITION ONTO STACKED SEMICONDUCTOR WAFERS FOLLOWED BY PARTICULAR COOLING

Klaus Wartenberg, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed July 11, 1962, Ser. No. 209,489
Claims priority, application Germany May 29, 1962
3 Claims. (Cl. 148—175)



1. The precipitation method of producing electronic semiconductor devices having a monocrystalline semiconductor body with a plurality of monocrystalline layers of respectively different electric conductance properties, which comprises vertically stacking in a sealable vessel a multiplicity of plate members having alternately different respective conductance properties upon each other to form an axially elongated stack, said members consisting of semiconductor monocrystals of substantially the same lattice structure as the semiconductor substance to be precipitated; subjecting the stack in the vessel to a reaction gas which contains a halogen compound of semiconductor substance to be precipitated; heating the stack in the presence of the reaction gas to precipitation temperature, to produce a temperature gradient from one end of the stack to the other with the higher temperature near the top of the stack.

3,140,967

METHOD OF PRODUCING A CEMENTED CARBON ELECTRODE JOINT

Waldemar Kaufmann, Erich Pitzer, Hans-Joachim Pfleiderer, Alfred Pelz, and Wilfried Hub, all of Mettingen, near Augsburg, Germany, assignors to Siemens-Planiawerke Aktiengesellschaft für Kohlefabrikate, Mettingen, near Augsburg, Germany, a German corporation

Filed Apr. 27, 1960, Ser. No. 24,965
Claims priority, application Germany Apr. 30, 1959
6 Claims. (Cl. 156—91)

1. The method of symmetrically and coaxially releasably joining two carbon electrodes, comprising

(1) forming a double-conical threaded nipple plug having an equator portion midway between its ends,

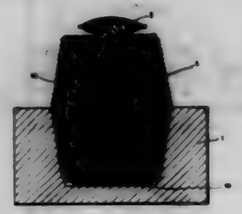
(2) proportioning the distance from the equator portion to each of said nipple plug ends a predetermined selected distance,

(3) forming in the opposing faces of said electrodes threaded female conical socket portions each having a predetermined depth greater than said predetermined distance of said nipple plug,

(4) forming the diameter of said equator portion substantially equal to the greatest diameter of said socket portions,

(5) providing a thermally hardenable cement of selected chemical properties and containing a carbonizable substance,

(6) encasing a measured dosage of said cement in a flaccid and readily deformable plastic envelope, and also inserting in said envelope a normally inactive swelling agent activatable by heat and being thermally decomposable to evolve a hardening catalyst for said cement.



(7) obtaining a symmetrical positioning of the longitudinal halves of said nipple plug in said electrode sockets by forming said envelope with a filled thickness greater than the difference between said socket depth and said nipple plug predetermined distance,

(8) placing one of said envelopes in one of said sockets in one of said electrodes,

(9) tightening said nipple plug into said socket portion against said first envelope until the latter is slightly deformed but not ruptured,

(10) placing another envelope of said cement and swelling agent on the open end of said nipple plug,

(11) screwing a second electrode with its socket into threaded engagement with said nipple plug until said second envelope is slightly deformed but not ruptured,

(12) subjecting said joints to envelope-destroying conditions to release said cement into said joints by screwing said electrodes on said nipple plug until said equator portion substantially abuts the periphery of the greatest diameter portion of each of said socket portions, and

(13) subjecting said joint to sufficient heat to activate the swelling agent, causing the cement to fill the threads and harden.

3,140,968

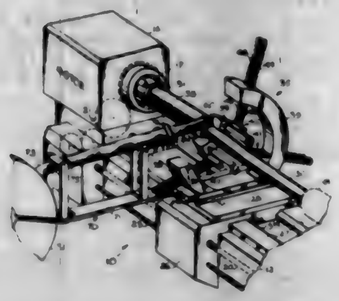
METHOD AND APPARATUS FOR HELICALLY WINDING STRIPS ON EDGE UNDER PRESSURE

Hector R. Barrios, La Mirada, Joseph S. Molletta, Downey, and Robert C. Nordberg, La Mirada, Calif., assignors to H. L. Thompson Fiber Glass Company, Los Angeles, Calif.

Filed Jan. 11, 1960, Ser. No. 1,554
13 Claims. (Cl. 156—192)

1. The method of fabricating a hollow symmetrical resin impregnated fiber reinforced structure in which the fibers are disposed with selected inclinations to a given surface of the structure which includes the steps of cutting a woven cloth which is coated with a partially cured phenolic resin into individual strips which extend diagonally with respect to the weave of the cloth, forming a

continuous double layered strip from the individual strips, pressing the double layered strips together to establish adhesion between the strips, winding the double layered strips helically upon a central form with the strip being maintained edgewise with respect to the form and adjacent flat sides of the strips being together, continually uniformly compressing the wound structure to produce



partial densification by uniformly pressing the turn of strip which is being wound upon the form into the remaining windings, fully densifying the structure by uniformly compressing the structure and fully curing the resin of the fully wound structure while on the central form, removing the structure from the central form, and machining the structure to final dimensions.

3,140,969

GEL-ADHERED STREAMLINED BALLOON AND METHOD OF MANUFACTURE

Moses B. Sherenow, Wanamassa, Asbury Park, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed June 3, 1960, Ser. No. 33,867
2 Claims. (Cl. 156—268)
(Granted under Title 35, U.S. Code (1952), sec. 266)



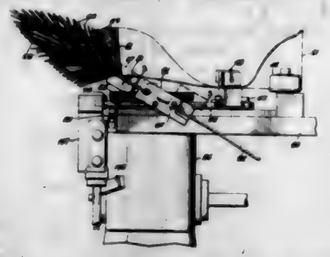
1. In the process of making a gel-adhered streamlined balloon including the steps of forming a first wet gel structure by applying a synthetic rubber gel to a mold, coating said gel covered mold with a partial coating of natural rubber gel, stripping the gels from said mold, inflating said wet gel structure to its gel inflated diameter and drying the same until only the natural rubber gel remains tacky and deflating said gel structure, the improvement comprising masking a portion of the natural rubber gel surface with a material that will not adhere to said tacky natural rubber gel, pressing the masked first gel structure against the tacky rubber gel surface of a second identically prepared gel structure whereby only the circumferential edges of the tacky natural rubber gel portions of said first and second structures will be joined, curing said joined edges, cutting away the unadhered tacky natural rubber gel portion from only one of said balloon structures and removing said mask.

3,140,970

APPARATUS FOR WINDING FOIL ABOUT A RIGID ROD

William B. Reukauf, Haddonfield, N.J., assignor to Carey-McFall Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 17, 1961, Ser. No. 90,130
12 Claims. (Cl. 156—447)



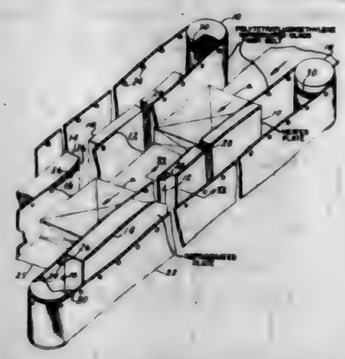
1. Apparatus for winding foil about a rod comprising; a support frame, foil guide means operable to guide said foil to a predetermined location relative to said support frame, a member carried by said support frame having a friction drive surface, drive means to cause movement of said member in a direction lengthwise of said friction drive surface, a rod guide block mounted adjacent said member for movement toward and away from said member, and means including an opening extending through said rod guide block operable to maintain said rod in a predetermined position relative to said member with said rod displaced from the axis of said member and disposed at an angle relative to said friction drive surface.

3,140,971

HEAT SEALING CHANNEL

Francis Crescenzo and Earle J. Fredette, Springfield, Mass., assignors to Package Machinery Company, East Longmeadow, Mass., a corporation of Massachusetts

Filed Mar. 14, 1962, Ser. No. 179,650
3 Claims. (Cl. 156—498)



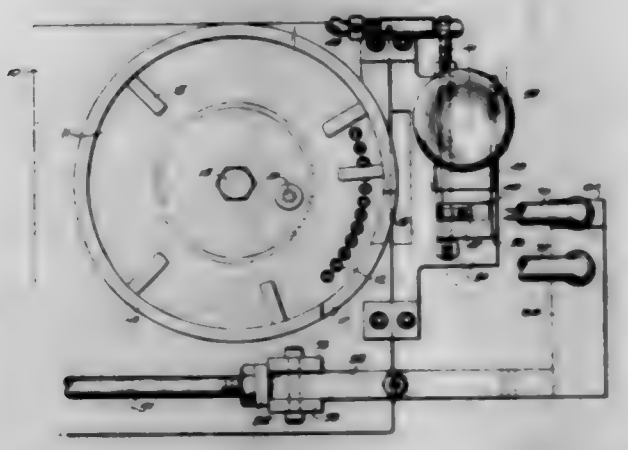
1. A sealing channel comprising a pair of vertically disposed pulleys, a heated plate and a refrigerated plate disposed between said pulleys, said plates being in side-by-side relation and each having a vertical surface disposed in a common plane, a polytetrafluoroethylene impregnated glass fiber belt trained around said pulleys, said pulleys being disposed so that the belt lies against said vertical surfaces, said belt being advanceable across said surfaces, said plates having aligned horizontal grooves in said vertical surfaces and said belt having guide means projecting therefrom and entering said grooves to maintain the belt in a given path of travel relative to said

plates regardless of temperature gradients existing longitudinally and laterally of said belt.

3,140,972
SEMI-AUTOMATIC ORNAMENT GLUING MACHINE

Morris Kortick, Cranston, R.I. (166 Valley St., Providence, R.I.), assignor of one-half to Louis Yanoff, Providence, R.I.

Filed Aug. 31, 1960, Ser. No. 53,089
31 Claims. (Cl. 156—566)

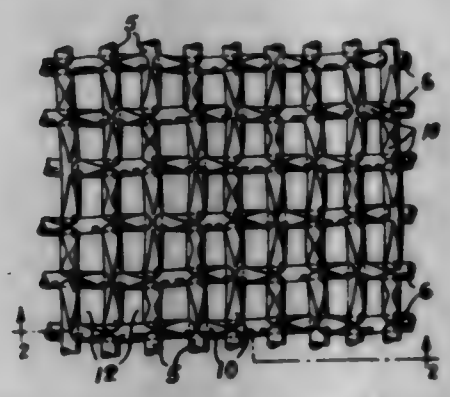


1. In an ornament gluing machine, a base, a hopper mounted on said base and including intermittently rotated means for feeding an ornament to a pickup position, means on said base fixed from movement with respect thereto for retaining a level of glue at a glue station, means mounted for reciprocating movement on said base in a direction generally parallel with said base for picking up an ornament from said pickup position, and means for reciprocating said pickup means in timed relation to movement of said hopper wherein said ornament is moved to said glue station for the deposit of glue on the bottom thereof and is then moved to an assembly position.

3,140,973
FOURDRINIER WIRES FOR PAPER MACHINES

Henry Johnson, % 530 De Courcelle St., Montreal 30, Quebec, Canada

Filed June 19, 1961, Ser. No. 118,127
6 Claims. (Cl. 161—92)



1. In a Fourdrinier wire formed of woven warp and weft strands which combine to form a series of depressions under the longitudinal surface plane of the woven wire, the said depressions being defined by the crests of the knuckles of the warp and weft strands at their point of cross-over with each other, a plastic material filling applied to each of said depressions in the woven wire, the said fillings of plastic material having a width not greater than the diameter of each individual wire strand and extending along the surface of the individual warp and weft strands from the crest of the knuckle of one strand to the crest of the knuckle of the adjacent cross-over strands to fill the said depressions, the said fillings extending vertically from the surface of the strands to the level of the longitudinal surface plane of the Fourdrinier wire as defined by the crests of the knuckles of the individual warp and weft strands.

3,140,974
COMPOSITIONS AND PROCESSES FOR THE TREATMENT OF FOURDRINIER WIRE CLOTHS OF PAPERMAKING MACHINES

John D. Pera, Fred W. Raths, and Robert F. Drescher, Memphis, Tenn., assignors to Buckman Laboratories, Inc., Memphis, Tenn., a corporation of Tennessee

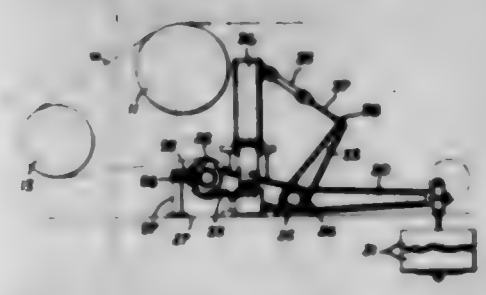
No Drawing. Filed July 3, 1961, Ser. No. 121,383
12 Claims. (Cl. 162—199)

12. A Fourdrinier wire cloth formed of strands of copper-containing alloy wires carrying a film containing 2-mercaptobenzothiazole and 2-aminoethanol.

3,140,975
WIRE TIGHTENER FOR PAPERMAKING MACHINES

Wesley S. Corbin, Watertown, N.Y., assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Apr. 21, 1958, Ser. No. 730,020
5 Claims. (Cl. 162—273)



2. Apparatus for maintaining substantially constant tension in the return run of the forming wire of a Fourdrinier paper machine including a driving roll for the wire located adjacent the end of the machine, comprising a tensioning roll, counterbalancing means supporting said tensioning roll below the return run of the wire for substantially weightless generally vertical movement with respect to and in closely spaced relation with said driving roll, there being no roll between said tensioning roll and said driving roll in order to cause increased wrapping of said driving roll by the wire in response to upward movement of said tensioning roll, fluid pressure means connected to effect controlled movement of said tensioning roll with said counterbalancing means, means for supplying said fluid pressure means with pressure fluid in the direction causing upward movement of said tensioning roll, means for maintaining said pressure fluid at a predetermined pressure developing a correspondingly predetermined tension in the wire under predetermined angular conditions of wrap of said tensioning roll by the wire, and adjustable means located in spaced relation lengthwise of the machine from said tensioning roll for taking up stretching of the wire to cause said tensioning roll normally to maintain an approximately steady vertical position retaining said angular condition of wrap thereof by the wire.

3,140,976
QUATERNARY AMMONIUM GERMICIDE

Donald J. Berenschot, Chicago, Elmer G. King, Aroma Park, Robert K. Stubbs, Bourbonnais, and George R. Bobalik, Kankakee, Ill., assignors, by mesne assignments, to Armour Pharmaceutical Co., a corporation of Delaware

No Drawing. Filed Dec. 16, 1960, Ser. No. 76,160
1 Claim. (Cl. 167—22)

A germicidal composition comprising a synergistic combination consisting of equal parts by weight of do-

decylamine hydrochloride, trimethyltallow quaternary ammonium chloride and octadecylmethyldipolyoxypropylene ammonium methylsulfate.

3,140,977
FUNGICIDAL COMPOSITIONS CONTAINING TRIPHENYL COMPOUNDS
Werner Deyrjes and Willem de Lange, Amsterdam, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 15, 1961, Ser. No. 109,805
Claims priority, application Netherlands May 27, 1960
13 Claims. (Cl. 167—30)

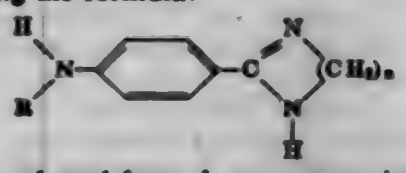
1. A composition for combatting fungi on living plants, containing as the active ingredient a triphenyl tin compound of the formula $[(C_6H_5)_3Sn]_n$—X, wherein *n* is a whole integer from 1 to 2, X is an anionic moiety selected from the group consisting of chloride, bromide, sulfate, borate, acetate, propionate, benzoate, sulfide, disulfide, oxalate, succinate, phthalate, paratoluene sulfonate and ethylene bis-dithiocarbamate, hydroxyl when $n=1$ and oxygen when $n=2$, at least one water soluble basic compound and an organic hydrophilic colloid, the concentration of said basic compound being such that a suspension in water of said composition containing 0.3% by weight of the active ingredient has a pH between 8 and 12.

3,140,978
PHARMACEUTICAL COMPOSITION CONTAINING COMPLEX MAGNESIUM ALUMINUM SILICATE
Margaret Rose Zentner, West Orange, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 2, 1961, Ser. No. 149,539
8 Claims. (Cl. 167—55)

1. A stable and palatable pharmaceutical product produced by mixing complex magnesium aluminum silicate with a therapeutically active compound selected from the group consisting of (*a*) the hydrochloride salt of 4-(2-dimethylaminoethoxy)-N-(3,4,5-trimethoxybenzoyl) - benzylamine and (*b*) the hydrobromide salt of d-3-methoxy-N-methylmorphinan.

3,140,979
METHOD OF PROTECTING THE SKIN AGAINST SUNBURN
Melville Sahyun, % Sahyun Laboratories, 316 Castillo St., Santa Barbara, Calif.
Filed Aug. 4, 1960, Ser. No. 47,571
7 Claims. (Cl. 167—90)

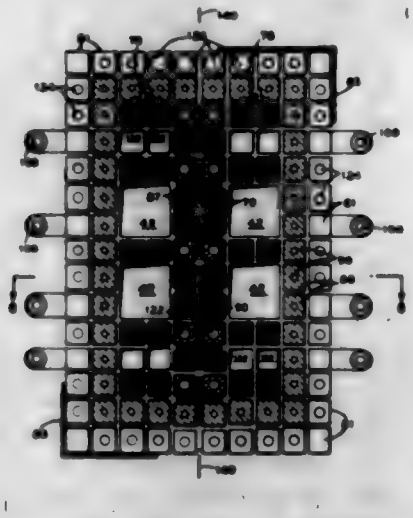
1. The method of protecting skin against sunburn which comprises applying thereto sufficient ultra violet absorbent material to absorb substantially all radiant energy in the 2850 to 3100 Angstrom unit range, said absorbent material being selected from the group consisting of compounds having the formula:



wherein R is selected from the group consisting of hydrogen and lower alkyl and *n* is an integer having the values 2 and 3, and stable non-toxic acid addition salts and hydrates thereof.

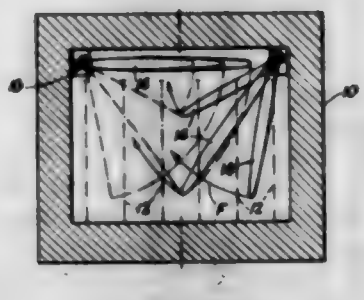
3,140,980
NEUTRONIC REACTOR
William M. Breazeale and Milton C. Edlund, Lynchburg, and Bernard A. Mong, Campbell County, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed May 9, 1960, Ser. No. 27,822
7 Claims. (Cl. 176—17)

1. In a nuclear fuel test reactor, a core comprising a plurality of spaced elongated longitudinally parallel control rods disposed in a common plane, a number of elongated longitudinally parallel heterogeneous fuel elements disposed in said core in a plane parallel and contiguous to said plane of said control rods, a plurality of longitudinally parallel reflector elements disposed about and in parallel spaced relationship with said fuel elements to form a fuel test space therebetween adjacent said fuel elements at a position opposite from said control rods, means including a test element disposed within said test



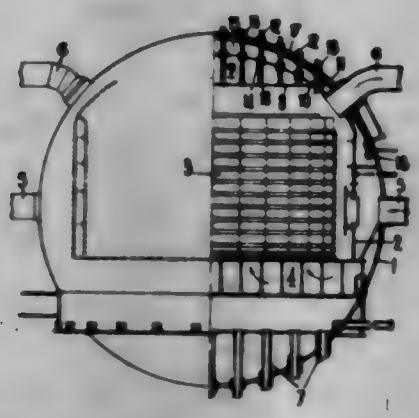
space, a second number of fuel elements disposed between said reflector elements and said plane of said first number of fuel elements in a plane normal to said control rod plane to subdivide said test space into a plurality of adjacent test spaces parallel to said control rod plane, and a number of interior moderator elements positioned one at each intersection of said plane of said first named fuel elements with said normal plane of said second named fuel elements.

3,140,981
APPARATUS FOR CONTROLLING THE ACTIVITY OF A REACTOR
André Huet, 48 Avenue du President Wilson, Paris 16, France
Filed Sept. 12, 1958, Ser. No. 760,808
Claims priority, application France Sept. 26, 1957
2 Claims. (Cl. 176—35)



1. In a nuclear reactor having fuel rods disposed in a reactor shell, and an array of control rods or strips of neutron absorbing material for controlling the reactivity of said reactor mounted entirely inside the reactor shell and above the fuel rods, and means for maintaining the rods or strips of neutron absorbing material in said array in fan-like pivoted relationship about a common pivot point and in a position with their axes normal to the axes of the reactor fuel rods, said means being operable for spreading out the control rods in fan-like manner between the fuel rods when control is to be exercised over the reactivity of the reactor, and said control rods in said array each being of different length, and the planar cross-sections thereof varying from one to the other.

3,140,982
THERMAL REACTORS
Geoffrey Herbert Haines, Upminster, and Peter John Grant, Claygate, England, assignors to The General Electric Company Limited, London, England
Filed Aug. 26, 1960, Ser. No. 52,135
Claims priority, application Great Britain Sept. 27, 1956
4 Claims. (Cl. 176—58)



1. In combination with a nuclear reactor core of the kind having substantially vertical channels therein for the reception of fuel elements and adapted for high temperature operation, an enclosing pressure vessel having a top directly above the upper ends of said channels, said vessel being adapted for the flow through said channels of gaseous cooling medium, a plurality of standpipe means secured to said enclosing vessel, each adapted to provide access to said core and extending within said vessel, and a plurality of plate members incorporating material of high neutron capture cross-section, said members being supported in overlapping fashion by some at least of said standpipe means to lie between and spaced from the top of said core and from the top of the vessel over the upper ends of said channels and substantially to prevent neutrons reaching said top of the enclosing vessel.

3,140,983
NUCLEAR REACTOR FUEL ELEMENTS
Peter Waine, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed July 11, 1961, Ser. No. 123,160
Claims priority, application Great Britain July 12, 1960
3 Claims. (Cl. 176—73)

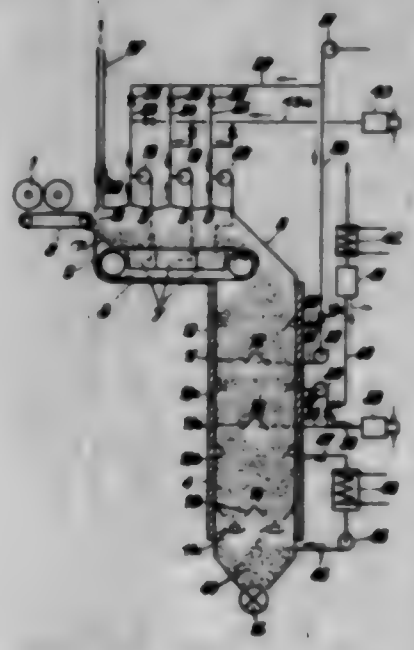


1. A fuel element comprising a tubular sheath, a close-packed column of solid cylindrical pellets in end contact with each other within the sheath, closure members closing-off the ends of the sheath and in contact with the end pellets of the column, a number of said pellets being a nuclear fuel, the ends of the pellets of nuclear fuel having central depressions therein with flat rims bounding said depressions.

3,140,984
PRODUCTION OF HIGH ACTIVITY FIBRINOLYTIC AGENTS
Anthony L. Tessari, Toronto, Ontario, and David A. J. Ives, Weston, Ontario, Canada, assignors of one-half to The Governors of the University of Toronto and one-half to Astra Pharmaceutical Products, Inc., Worcester, Mass., a corporation of New York
No Drawing. Filed Nov. 30, 1961, Ser. No. 156,143
6 Claims. (Cl. 195—66)

1. A process for purifying fibrinolytic material produced from *Aspergillus oryzae* B1273 and removing blood pressure lowering agents therefrom consisting in filtering an aqueous solution of said fibrinolytic material through cross-linked dextran known as Sephadex G50, developing the filter with an eluting agent and collecting the eluate which contains the desired resulting fibrinolytic material.

3,140,985
METHOD OF OXIDATION HARDENING OF BRIQUETTES
Paul Schmalfeld, Bad Homburg, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Sept. 23, 1960, Ser. No. 58,120
Claims priority, application Germany Sept. 26, 1959
10 Claims. (Cl. 202—15)



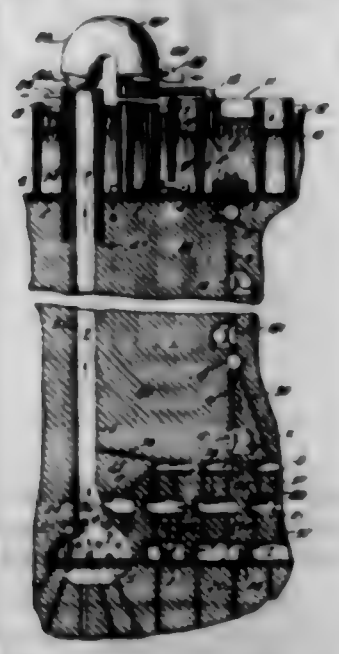
1. In the method of oxygen hardening and degasifying briquettes with hot gases, said briquettes comprising compactions of a binder and a substance selected from the class consisting of solid fuels, ores and mixtures thereof, the improvement comprising forming a bed of the green briquettes resting on a moving conveyor belt, drawing hot oxygen-containing gas at a temperature of from 150 to 300° C. through said bed to partially harden said green briquettes to the crushing strength needed for forming a layer in the upper zone of a shaft furnace, gently passing the partially hardened briquettes from said belt into the upper zone of a shaft furnace, passing oxygen-containing gas at a temperature from 150 to 300° C. through the upper zone to finally harden the briquettes, lowering said hardened briquettes into a middle zone, passing inert degasifying gas at a temperature of from 500 to 700° C. through said middle zone to degasify said briquettes, lowering the degasified briquettes into a lowermost zone, passing inert cooling gas at a temperature of from 20 to 200° C. to cool the briquettes, and then removing the cooled briquettes from the bottom of the shaft furnace.

3,140,986

METHOD AND APPARATUS FOR PRODUCING ELECTRICAL POWER AND DISTILLING WATER BY USE OF GEOTHERMAL ENERGY

Walter A. Hubbard, 6008 Buell St., Bell Gardens, Calif.

Filed Jan. 17, 1958, Ser. No. 709,709
7 Claims. (Cl. 202—52)



1. A system operable to extract energy from falling water and to obtain fresh-water condensate therefrom, comprising reservoir means containing water, a downward passage extending into the earth receiving water dropping from said reservoir means, horizontally extended upper chamber means in hot subterranean rock and communicating with said down passage for collecting and horizontally spreading said water, horizontally extended upper and lower basins in the hot subterranean rock below the level of said upper chamber means, generally vertical bore holes in the hot rock for passing openly falling streams of water in succession from said upper chamber means to said upper basin and then to said lower basin, an up-passage in the earth communicating with said basins for flowing water vapor upwardly therefrom, means for controlling the surface level of water in the lower basin, means for removing brine from the water in said lower basin, means communicating with the upper portion of said up-passage and operable to keep the pressure therein reduced below atmospheric thereby promoting upward flow of said vapor in said up-passage, and means through which said water vapor discharging from said up-passage and said reservoir water circulate independently and in heat exchange relation, condensing said vapor and pre-heating said reservoir water.

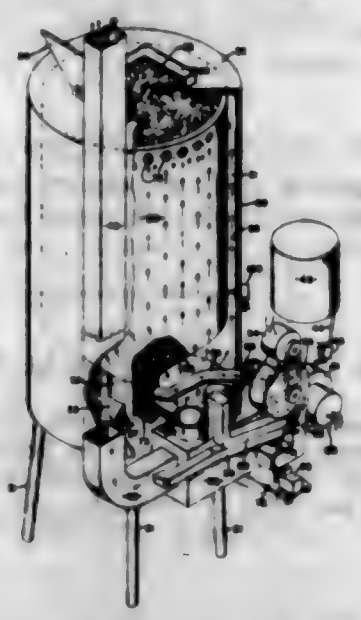
6. The method of extracting energy from falling saline water and of obtaining fresh-water condensate therefrom, that includes dropping a supply stream of saline water through a down passage extending into the earth, collecting said dropping water in upper and lower enlarged basins formed in subterranean rock at elevated temperature so that heat flows from rock to said collected water, openly dropping said water from said upper to said lower basins in divided and transversely distributed streams through rock passages interconnecting said basins, converting said collected water into water vapor, maintaining the lowest basin only partly filled with water so that the water therein has an extensive free surface above which the water vapor collects at reduced pressure, removing concentrated brine from said lowest basin, conducting only water vapor at pressure reduced below atmospheric upwardly from said basins through an up-passage in the earth, holding the pressure in the upper portions of the up-passage reduced below atmospheric thereby to promote upward flow of said vapor in said up-passage, condensing said vapor and pre-heating said supply water by circulating said water and vapor in heat exchange relation, withdrawing the vapor condensate and supplying saline water from a natural body thereof to said down-passage.

3,140,987

CHARCOAL RETORT

Donald F. Warner, Speculator, N.Y., assignor to Cyrus J. Cornell and Bickford E. Cornell, doing business as Cornell Manufacturing Co., Lacyville, Pa.

Filed Sept. 27, 1961, Ser. No. 141,192
7 Claims. (Cl. 202—215)



1. A charcoal producing apparatus comprising imperforate inner and outer shells formed with aligned charging openings at their upper ends and a closure for said openings, said outer shell being formed with a bottom wall having a central aperture, said inner shell being arranged in spaced relation to said outer shell and having a bottom wall inclined downwardly toward the axis of said shells, and having an opening communicating with the central aperture of the bottom wall of said outer shell, a removable closure for said opening, said inner shell being arranged in spaced relation to said outer shell, the space between said outer and inner shells communicating with the interior of said inner shell to the upper end thereof, a combustion chamber mounted externally of said outer shell, a burner connected to said combustion chamber, a discharge passage extending from said combustion chamber through the lower part of said outer shell for the discharge of hot gases from said combustion chamber to the space between said shells, said combustion chamber being provided with an exhaust stack, a blower device having an inlet connected to the bottom wall of said inner shell whereby said blower is operable to draw the hot gases from said combustion chamber upwardly through the space between said inner and outer shells and thence downwardly through the charge in said inner shell, said blower device having a discharge duct extending to said combustion chamber, and damper means operable to connect and disconnect said discharge duct to said combustion chamber.

3,140,988

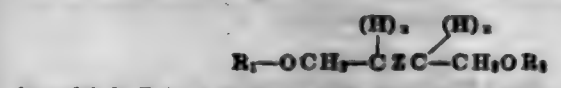
ELECTRODEPOSITION OF NICKEL

Richard J. Clauss, Allen Park, and Henry Brown, Huntington Woods, Mich., assignors, by mesne assignments, to The Udylite Corporation, Warren, Mich., a corporation of Delaware

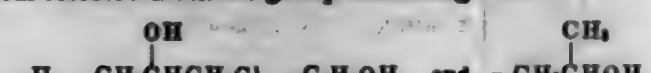
No Drawing. Filed Dec. 6, 1960, Ser. No. 73,985
13 Claims. (Cl. 204—49)

1. A bath for electrodepositing lustrous nickel comprising an aqueous acidic solution of pH range of about 3

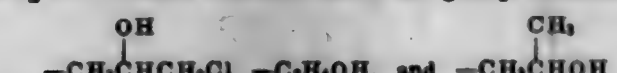
to about 5.5 containing an electrolyte selected from the group consisting of nickel sulfate, nickel chloride and a mixture of nickel sulfate and nickel chloride and containing dissolved therein in concentrations of about 0.01 to about 0.15 gram per liter at least one unsaturated glycol ether compound represented by the formula



in which Z is a linkage selected from the group consisting of double and triple bonds, x is a numeral which is 0 when Z is a triple bond and 1 when Z is a double bond, R_1 is a radical selected from the group consisting



and R_2 is a radical selected from the group consisting of

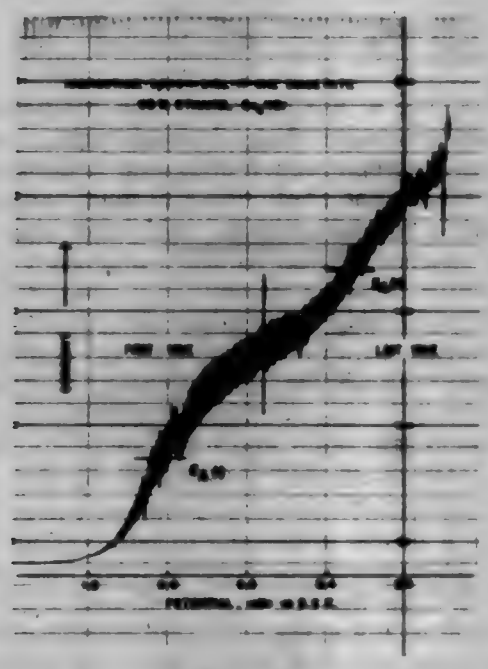


and a halogenated aldehyde selected from the group consisting of chloral hydrate and bromal hydrate in a concentration of about 0.05 to about 0.3 gram per liter.

3,140,989
NOVEL ELECTRO-CHEMICAL REDUCTION PROCESS

Peter Kabasakalian, Bloomfield, and James H. McGlotten, East Orange, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

Filed May 27, 1960, Ser. No. 32,100
13 Claims. (Cl. 204—75)



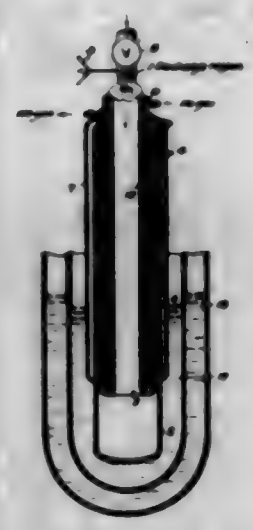
1. A process for reducing a hydroxy group positioned alpha to a ketone group in a steroid compound which comprises electrochemically reducing a steroidal hydroxyketone of the group consisting of a steroidal α-hydroxy ketone and esters thereof at a cathode potential of about at least as negative as the lowest potential on the rising portion of the current-voltage curve of said steroidal hydroxyketone with an electrolyte comprising a salt having a difficultly reducible cation of the group consisting of alkaline earth, alkali metal, and substituted ammonium ions.

3,140,990
METHOD OF PREPARATION OF OZONE

James W. Edwards, Dayton, Ohio, and Joseph S. Hashman, Evans City, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 25, 1960, Ser. No. 17,716
1 Claim. (Cl. 204—176)

A method for producing ozone and carbon monoxide by subjecting carbon dioxide to an electrical discharge capable of dissociating the mixture at ambient temperature and rapidly passing the products of said discharge

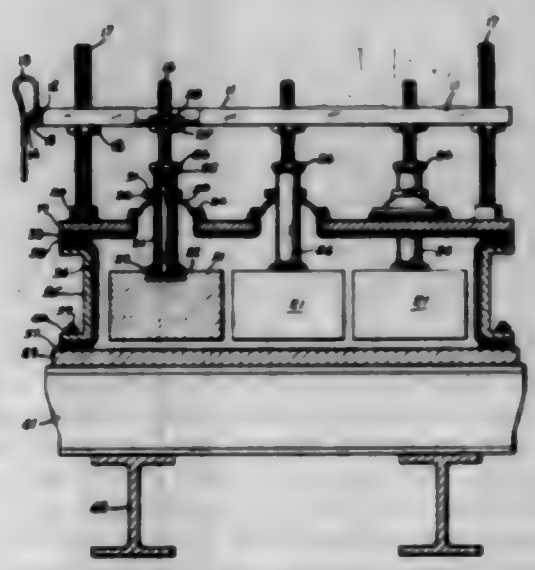


through a phosphoric acid coated channel and into a low temperature cold trap maintained between 4° and 77° K. and recovering the ozone and carbon monoxide.

3,140,991
MERCURY CATHODE ELECTROLYTIC CELLS

William C. Gardiner, Darien, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Dec. 4, 1961, Ser. No. 156,574
2 Claims. (Cl. 204—219)



1. In an apparatus for electrolyzing conductive solutions comprising an elongated inclined trough, a perforated, self-supporting cover over the trough, anodes adjustably suspended through the perforations in said cover at a specified height above the bottom of said trough, a mercury cathode flowing over the bottom of said trough and means for imposing an electric current on said anodes and cathode, the improvement in the means of suspension of said anodes and in the means for conducting the electric current to said anodes consisting of transverse, electrically conductive, metallic channel-shaped members resting adjustably on upright members located above the sides of said trough, the webs of said channel-shaped members arranged horizontally with the flanges vertical, perforations in said webs for supporting said anodes directly from said channel-shaped members, perforations near the ends of said channel-shaped members for receiving said upright members and electrical current carrying means attached to said channel-shaped members.

3,140,992
EROSION REDUCTION

Robert H. Cramer, Woodbury, Robert D. Drew, Wenonah, and Howard W. Shea, Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

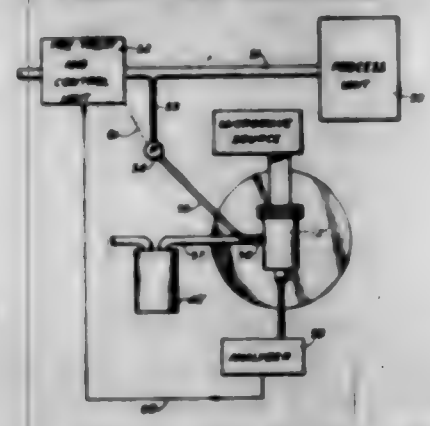
Filed Dec. 20, 1961, Ser. No. 160,810
9 Claims. (Cl. 208—120)

4. In a process for the catalytic cracking of a hydrocarbon charge wherein said charge is contacted in a reaction zone of a cracking unit, under cracking conditions, with a moving bed of siliceous cracking catalyst particles and in which cracked products and deactivated catalyst are continuously withdrawn from said reaction zone and said deactivated catalyst is continuously conducted through a regeneration zone and thereafter returned to said conversion zone, the improvement which comprises reducing erosion in said unit due to the aforesaid movement of said particles by intimately admixing with the catalyst a minor proportion of barytes ore characterized by a weight mean particle diameter of less than about 30 microns.

3,140,993
EXTENDED CORRELATION TIME VANADIUM ANALYSIS

Edwin M. Roberts, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Apr. 21, 1961, Ser. No. 125,291
3 Claims. (Cl. 208—251)



1. In processing hydrocarbons in a system susceptible to vanadium poisoning the method which comprises:

(*a*) sampling the stream of feed stock leading to said system,

(*b*) confining each sample in a test zone,

(*c*) establishing a polarizing magnetic field in said test zone,

(*d*) substantially solidifying each sample in said test zone to extend the molecular correlation time thereof to the region of infinity,

(*e*) irradiating each solidified sample with electromagnetic waves to induce electron spin resonances in each said sample,

(*f*) sensing variations in absorption in successive samples in said test zone to produce vanadium dependent signals independent of molecular correlation time, and

(*g*) modifying the concentration of vanadium in said feed stock in response to a characteristic of said signals attributable to the presence of vanadium in said feed stock.

3,140,994
METHOD OF REDUCING NITROGEN TO NOT MORE THAN 1 P.P.M. IN REFORMER FEED

Walter Rodman Derr, Jr., Ashland, and Julius Plecker III, Pitman, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

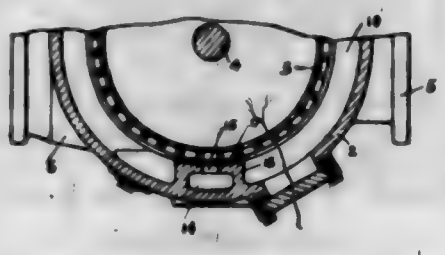
No Drawing. Filed July 12, 1961, Ser. No. 123,421
15 Claims. (Cl. 208—254)

8. A method of enhancing the hydrodenitrogenizing capabilities of hydrogenation catalyst having hydrodesulfurizing and hydrodenitrogenizing capabilities which comprises contacting a hydrogenation catalyst having hydrodesulfurizing and hydrodenitrogenizing capabilities comprising oxides of cobalt and molybdenum on alumina support with sulfur in non-oxidized form to obtain a sulfided hydrogenation catalyst which, when contacted with test naphtha containing about 95 to about 100 p.p.m. of nitrogen at hydrodenitrogenizing conditions of 675° F., 425 p.s.i.g., liquid hourly space velocity of 5, and hydrogen circulation rate of 500 s.c.f./bbl. of said test naphtha, produces C_5 and heavier hydrocarbon product containing at least forty percent less nitrogen than C_5 and heavier hydrocarbon product produced from said test naphtha under said hydrodenitrogenizing conditions employing said hydrogenation catalyst without presulfiding.

3,140,995
SELF-CLEANING ROTARY STRAINER

Selwyne P. Kinney, Pittsburgh, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Aug. 29, 1960, Ser. No. 52,622
1 Claim. (Cl. 210—393)



A rotary strainer comprising a casing with water inlet and outlet connections, a hollow rotary drum within the casing spaced from the interior walls of the casing, the water inlet connection communicating with the space between the casing and the drum, said drum having a smooth exterior surface with radial openings extending therethrough in the periphery thereof with recessed strainer elements in each opening whereby water may pass from the exterior of the casing to the interior, one end of the drum being in open communication with the outlet connection, a backwash shoe in the casing extending along that area of the periphery of the drum in which the strainer elements are provided, said backwash shoe fixedly bearing against the periphery of the drum, and a knife along at least one edge of the backwash shoe having a beveled cutting edge therealong fixedly bearing against the periphery of the drum and pointed in the direction opposite to the direction of rotation of the drum with the bevel sloping away from the drum whereby solid material retained in the recessed strainer elements projecting beyond the periphery of the drum is sheared away as each recessed straining element moves under the beveled cutting edge.

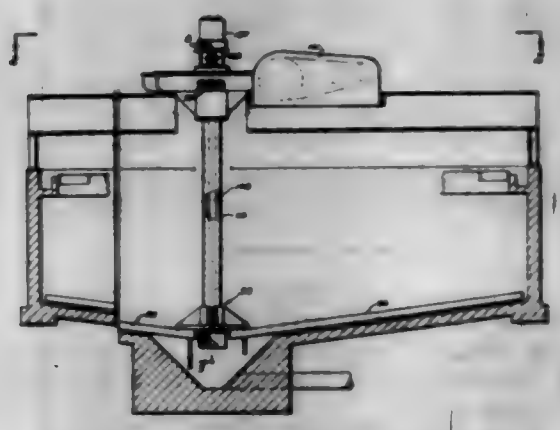
3,140,996
SEDIMENT CONVEYING APPARATUS FOR SETTLING TANKS

Charles H. Scott, South Norwalk, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Filed July 1, 1960, Ser. No. 40,245
4 Claims. (Cl. 210—528)

1. Sediment raking apparatus for a settling tank having a bottom and sediment outlet means, comprising a rake structure in said tank having a vertical portion and sediment engaging bladed means carried thereby, rotatable for progressively moving sediment on the tank bottom to said outlet means; stationary support means; a main drive gear mounted on said stationary support means for rotation about a vertical axis; means for supporting said vertical portion from said gear for limited swinging movement in all directions relative to the axis of rotation of said

gear; main drive means for rotating said gear; torque transmission means effective between said gear and said vertical portion for imparting rotation to said rake structure by the rotation of said gear; impulse producing means carried by said rake structure and operable for imparting to the rotary center of said sediment engaging means, movements relative to said gear along repetitive cyclic paths about the



axis of rotation of said gear, said impulse producing means comprising an unbalanced rotary member mounted for rotation on said rake structure substantially coaxial therewith; and independent auxiliary drive means for rotating said unbalanced member, supported by said gear and effective when operated during the rotation of said gear to loosen the sediment and to facilitate the conveyance thereof by said bladed means to said outlet means.

3,140,997

COLLOIDAL MOLYBDENUM COMPLEXES PREPARED BY KETONE EXTRACTION

John A. Price, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1961, Ser. No. 157,858
10 Claims. (Cl. 252—33)

1. A process for preparing a stable colloidal complex containing molybdenum which comprises extracting an acidic aqueous solution of a molybdenum compound, selected from the group consisting of molybdic acid, ammonium salts of molybdic acid and metal salts of molybdic acid, with a ketone having in the range of 4 to 10 carbon atoms, said acidic solution having been acidified with a mineral acid to an acidity within the range of 2 N to 12 N, dispersing the resultant ketone extract in an oil-soluble basic metal-containing dispersant having sufficient alkalinity to neutralize the free acidity of said extract, and then removing the ketone from the dispersion.

3,140,998

MIXED-CRYSTAL SEMICONDUCTOR DEVICES

Otto Gert Folberth, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Nov. 30, 1959, Ser. No. 856,887
Claims priority, application Germany Nov. 28, 1958
7 Claims. (Cl. 252—62.3)

1. A semiconductor device comprising a semiconductor body consisting of a mixed-crystal of the formula $(Cd_{x/2}In_{1-x}Sn_{x/2})As$, wherein $0.001<x<1$.

3,140,999

METHOD OF PREPARING CUBIC ZINC-CADMIUM SULFIDE ELECTROLUMINESCENT PHOSPHOR

Will Lehmann, Livingston, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 15, 1962, Ser. No. 166,027
5 Claims. (Cl. 252—301.6)

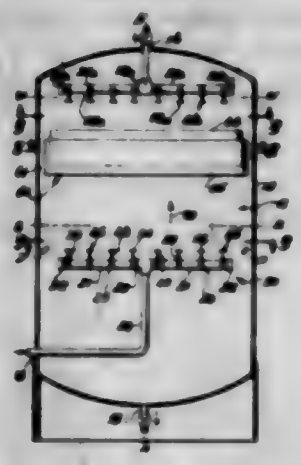
1. The method of making a copper-activated zinc-cadmium sulfide electroluminescent phosphor having a substantially cubic crystalline structure, which method comprises: mixing the following raw-mix constituents in the following stated proportions: zinc and cadmium sulfides in the molar ratio of from about 92:8 to about 85:15, and from 0.002 to 0.03 gram atom of copper in compound form per gram mole of total sulfide; introducing into the raw mix for said phosphor, in amount of from 0.0002 to 0.015 gram atom per gram mole of total sulfide, halogen of the group consisting of bromine and bromine plus iodine, with the gram atom ratio of bromine/iodine in said group at least 1/9; firing the raw mix constituents in an oxygen-free sulfurizing atmosphere at a temperature of from 600° C. to 750° C. for at least about two hours, with the greater the cadmium sulfide concentration within the foregoing molar ratio, the lower the firing temperature and the longer the firing time.

3,141,000

APPARATUS FOR CREATING UNIFORM STREAMS IN FLOW PASSAGES

Delber W. Turner, Houston, Tex., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

Filed July 14, 1959, Ser. No. 826,982
8 Claims. (Cl. 252—360)



1. Apparatus for creating in a flow passage several feet in width having a flow axis parallel to the desired flow direction a uniform flow of liquid in which all segments of such flow move in said flow direction with substantially equal forward velocity measured in each of a plurality of transverse uniform-flow planes disposed progressively along said flow axis, said apparatus including: a large number of nozzles arranged in a uniform pattern in a discharge plane transverse to said axis and upstream from the first of said uniform-flow planes, said nozzles being equally spaced apart in said discharge plane a distance of about 10 to 20 inches, said nozzles having cylindrical nozzle passages with their axes parallel to said flow axis, each cylindrical nozzle passage being of a diameter of about 1 to 3 inches and of an axial length at least twice such diameter, each cylindrical nozzle passage terminating in a discharge orifice in said discharge plane; means for dividing a pressured fast-moving stream of the liquid among said nozzles to form a pattern of smaller streams issuing in said flow direction from said nozzles into said flow passage in said discharge plane; a flat circular plate for each orifice and of a diameter about 1.2 to 2 times the diameter of each discharge orifice; and means for mounting the flat circular plates in an obstruction plane transverse to said axis respectively concentric with the axis of said cylindrical passages and centered in the paths of flow of said small streams to spread the latter, the distance between each circular plate and its discharge orifice being about 1 to 3 times the diameter of such circular plate, the ratio of orifice diameter to plate diameter to plate-orifice-distance being substantially 1.5:2.5:3.5, the spreading streams coming together adjacent the first of said uniform-flow planes to produce said uniform flow at and beyond such plane.

3,141,691

CORROSION INHIBITING COMPOSITIONS

Mel L. Victor, Stillwater, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Mar. 31, 1961, Ser. No. 99,685
2 Claims. (Cl. 252—389)

1. A corrosion inhibiting composition which consists essentially of about 15 parts by weight of a water soluble inorganic chromate and about 10 parts by weight of a saturated fluorinated organic compound of the formula

$$R_fSO_3H$$

wherein R_f is selected from the group consisting of aliphatic C_nF_{2n+1} and cycloaliphatic C_nF_{2n-1} and n is an integer from 1 to 18, and the metal and ammonium salts thereof.

ERRATUM

For Class 252—441 see:
Patent No. 3,140,925

3,141,692

FOAMABLE COMPOSITION COMPRISING A THERMOPLASTIC POLYMER AND BARIUM AZOCARBONATE AND METHOD OF FOAMING

Henry A. Hill, Watertown, Mass., assignor, by mesne assignments, to National Polychemicals, Inc.

No Drawing. Filed July 7, 1959, Ser. No. 825,413
4 Claims. (Cl. 260—2.5)

1. A composition suitable for blowing comprising a thermoplastic polymer derived from an ethylenically unsaturated monomer and barium azocarbonate dispersed therein in an amount effective to produce cells in said thermoplastic polymer.

3,141,693

AQUEOUS SOLUTION OF STEREOREGULAR POLYVINYL ALCOHOL; METHOD OF MAKING SAME; FOAMS, FIBERS, AND FILMS OBTAINED THEREFROM

Clifford A. Neros, Willoughby, and Nelson V. Seeger, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 24, 1960, Ser. No. 31,798
7 Claims. (Cl. 260—2.5)

1. A composition-of-matter consisting essentially of a solution of water containing about 2 percent to about 20 percent, by weight, of stereoregular polyvinyl alcohol which is insoluble in water at 100° C.; said solution being maintained at a pressure of about 15 p.s.i.; said stereoregular polyvinyl alcohol having been prepared by the steps of (1) combining about 0.01 percent to about 1 percent by weight of a peroxide catalyst and a monomer selected from the group consisting of vinyl chloroacetates and vinyl fluoroacetates, (2) polymerizing the monomer at a temperature in the range from about room temperature to about 80° C., (3) hydrolyzing the resultant monomer in the presence of a solvent which is inert in basic anhydrous solutions, the solvent being selected from the group consisting of tetrahydrofuran and dioxane, carrying out the hydrolysis in a refluxing anhydrous alkali metal alcoholate and (4) neutralizing the resultant polyvinyl alcohol.

3,141,694

TRANSPARENT VULCANIZATE

Ralph F. Wolf, Akron, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,863
11 Claims. (Cl. 260—41.5)

1. The process of producing a transparent vulcanizate which comprises mixing a vulcanizable rubber with a reinforcing finely-divided hydrated silica having an average ultimate particle size of 0.01 to 0.05 micron and an index of refraction of 1.450 to 1.465, a vulcanizing agent and an onium compound from the group consisting of ammonium salts and quaternary ammonium salts, and vulcanizing said mixture whereby to form a vulcanizate having an opacity below 50 percent, which opacity is measured as 100 times the ratio of green light reflectance from a 0.075 inch sheet of said vulcanizate over a black background to the reflectance obtained from such sheet over a white background.

3,141,695

PROCESS FOR PRODUCING PHENOL-FORMALDEHYDE RESINS

John E. Noll, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 7, 1959, Ser. No. 844,894
1 Claim. (Cl. 260—59)

In the process of producing a phenol-formaldehyde resin, the steps comprising refluxing one mol of a phenol selected from at least one of the group consisting of hydroxy benzene, cresol, and cresylic acid and from 0.7 mol to 2 mols of an aldehyde selected from the group consisting of formaldehyde and polymers of formaldehyde in the presence of an alkaline catalyst selected from the group consisting of triethanolamine and morpholine for a period of time of from 1 hour to 2 hours to provide a reaction mass, admixing and agitating with the reaction mass a cation exchange resin in at least a stoichiometric amount based on the alkaline catalyst, and removing the cation exchange resin and water from the reaction mass.

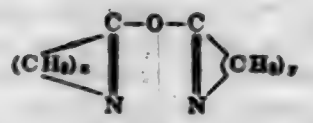
3,141,696

ANIONIC POLYMERIZATION OF LACTAMS WITH DILACTIM ETHERS AS COCATALYSTS

Melvin Ira Kohan, Graylyn Crest, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 5, 1961, Ser. No. 135,792
13 Claims. (Cl. 260—78)

1. A process for the rapid polymerization of an omega-lactam having from 4 to 12 carbon atoms in the lactam ring to a solid polycarboxylamide which comprises mixing the substantially anhydrous omega-lactam with an anionic catalyst consisting of an iminium salt of an omega-lactam and a cocatalyst consisting of a dilactim ether of the formula:



wherein x and y signify integers of at least 3, and maintaining the mixture at a temperature between the fusion point of the omega-lactam and the melting point of the polycarboxylamide until the resulting polycarboxylamide solidifies.

3,141,697

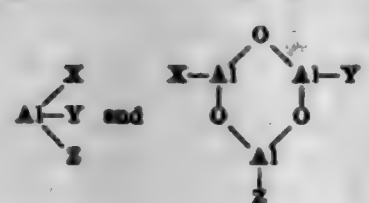
MODIFIED POLYESTER RESINS

Jacobus Rinse, Bernardsville, N.J., assignor to Agrashell, Incorporated, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Aug. 18, 1960, Ser. No. 50,303
Claims priority, application Netherlands Dec. 19, 1955
17 Claims. (Cl. 260—78.5)

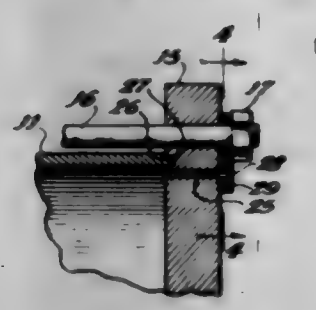
1. A process for producing a resin which comprises forming a mixture of 10–90 percent by weight of a monovinylic monomer and, dispersed therein, 90–10 percent by weight of additional components (a) an

aluminum compound of the formula selected from the group



where X, Y, and Z are selected from the group consisting of alkoxy and phenoxy, and (*b*) a hydrocarbon dicarboxylic acid anhydride, the molar ratio of component (*b*) to component (*a*) in the mixture being between 1:1 and 3:1, at a temperature between about room temperature and about 100° C. and at a pressure at which said monomer is liquid, whereby the components of the mixture react to form said resin.

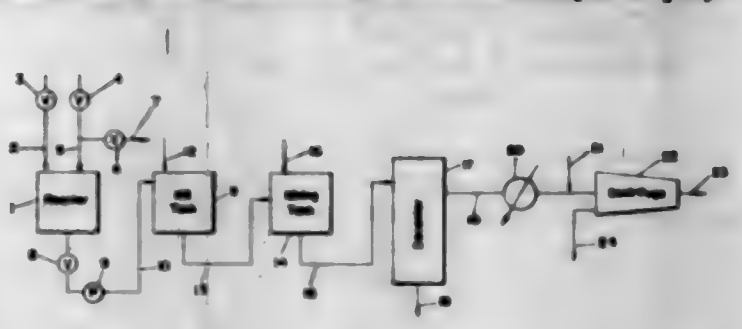
3,141,008
SAFETY VENTING DEVICE
Francis S. Flick, Oak Park, Roy G. Wilkes, Melrose Park, and Walter J. Kudlaty, Elmhurst, Ill., assignors to Flick-Reedy Corporation, a corporation of Illinois
Filed July 6, 1962, Ser. No. 207,961
4 Claims. (Cl. 220—5)



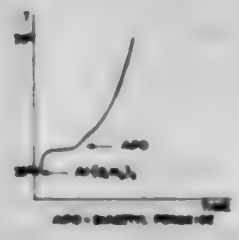
1. A safety venting device for a high pressure pneumatic fluid accumulator and the like, comprising: a cylindrical barrel with a head at each end and a plurality of tie rods equipped with nuts for joining said heads to maintain assembled relation of said barrel and heads and hold fluid at high pressure within the barrel, fluid sealing means between each head and the barrel, a fluid escape passage through at least one head adjacent one of said tie rods and communicating with the interior of said barrel, a plate extending under the tie rod nut and over the passage, and an O-ring surrounding said passage between the head and plate whereby tightening of the tie rod nut positions the O-ring and plate in sealing relationship with the passage and attempted disassembly of the accumulator by loosening a nut on the tie rod will safely vent pneumatic fluid from the interior of the barrel through said passage.

3,141,009
PROCESS FOR FRACTIONATING POLYOLEFINS
Frank R. Shuman, Jr., Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Sept. 24, 1959, Ser. No. 842,010
5 Claims. (Cl. 260—88.2)

1. A process for fractionating polyolefins which comprises mixing with a slurry of solid crystalline polyolefin in a hydrocarbon diluent having a specific gravity less than methanol and containing dissolved amorphous polyolefin, from 10 to 40 volume percent, based on the volume of the slurry, of methanol, whereby to form a system having a hydrocarbon phase and a methanol phase, subjecting the system to centrifugal force whereby to transfer the solid polyolefin from the hydrocarbon phase to the methanol phase, recovering a first product stream consisting essentially of solid polyolefin slurried in methanol and a second product stream consisting essentially of hydrocarbon diluent containing dissolved amorphous polyolefin, separating methanol from the solid polyolefin, and recovering a polyolefin product containing less than about one percent of polyolefin soluble in boiling pentane.



3,141,010
PROCESS FOR THE MANUFACTURE OF VINYL ESTER POLYMERS AND COPOLYMERS
Werner Ehmann and Karl-Heinz Kahrs, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 15, 1960, Ser. No. 75,967
Claims priority, application Germany Dec. 18, 1959
10 Claims. (Cl. 260—89.1)



1. A process for the manufacture of homopolymers of vinyl esters of a monobasic aliphatic saturated carboxylic acid having 2 to 18 carbon atoms and copolymers of said vinyl esters with themselves, which process comprises the step of initiating the polymerization of at least one of said vinyl esters, at a temperature from about −50° to about 72° C., with a catalyst combination consisting essentially of 0.1 to 5 percent of an aluminum trialkyl, the alkyl groups of which contain 1 to 12 carbon atoms, and 0.005 to 0.05 percent of a member selected from the group consisting of organic peroxides and organic hydroperoxides, all percentage figures being calculated on the weight of monomeric vinyl ester.

3,141,011
PREPARATION OF SOLUBILISED REDUCED SULPHURISED VAT DYESTUFFS
Henry Belby Appleton, Lindley, Huddersfield, England, assignor to L. B. Holliday & Company Limited, Huddersfield, England, a British company
No Drawing. Filed Oct. 23, 1961, Ser. No. 147,694
1 Claim. (Cl. 260—128)

A process for the manufacture of preparations of solubilised reduced sulphurised vat dyestuffs which comprises subjecting a sulphurised vat dyestuff to reduction by contacting it with sodium formaldehyde sulphoxylate in the presence of sodium sulphite in a substantially neutral medium having a pH not less than 7 nor appreciably greater than 7 and without the addition of caustic alkali during the reduction, the sodium sulphite being present in at least the stoichiometric amount to combine with the formaldehyde capable of being liberated from the sodium formaldehyde sulphoxylate.

3,141,012

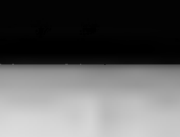
RECOVERING SOLID POLYHYDRIC ALCOHOLS FROM TRANSESTERIFICATION REACTION MASSES

Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, a corporation of New Jersey

No Drawing. Filed June 1, 1960, Ser. No. 33,116
19 Claims. (Cl. 260—210)

1. A process of refining esters of solid polyhydric aliphatic non-reducing alcohols and carboxy acids, said alcohols containing 4 to 18 carbon atoms, at least four hydroxyl groups, being free of groups which interfere with transesterification reactions and having melting points at least as high as 85° C., and said acids having from 2 to about 32 carbon atoms, being free of groups which would interfere with the transesterification reaction, and containing no more than two oxygen atoms in addition to those in the carboxyl group, which esters have been synthesized by transesterification reaction in the presence of alkaline catalyst between said solid polyhydric alcohol and an ester of said carboxy acid and an alcohol which does not interfere with the transesterification reaction in effective reaction ratios of at least 1.2 moles of solid polyhydric alcohol charged per equivalent of ester reagent that reacts by transesterification, said interesterification taking place in a primary reaction solvent from the group consisting of:

(1)



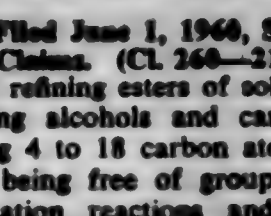
where:

R_1 is of the class consisting of alkyl and alkoxy-alkyl groups having 1 to 5 carbon atoms;

R_2 is of the class consisting of hydrogen, alkyl, and alkoxy-alkyl groups having 1 to 5 carbon atoms; and

R_3 is of the class consisting of hydrogen and an alkyl group having 1 to 3 carbon atoms, the total number of carbon atoms being not greater than 8;

(2)

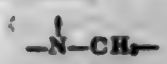


wherein:

R_4 and R_5 are of the class consisting of hydrogen and an alkyl group having 1 to 2 carbon atoms;

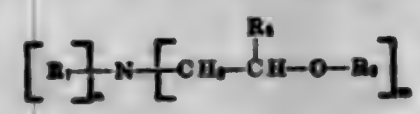
R_6 is of the class consisting of hydrogen and an alkyl group having 1 to 3 carbon atoms; and

X is of the class consisting of —O— and —CH_2—and



the total number of carbon atoms being not greater than 8;

(3)



wherein:

R_7 is alkyl having 1 to 2 carbon atoms;

R_8 is of the class consisting of hydrogen and methyl;

R_9 is alkyl having 1 to 2 carbon atoms;

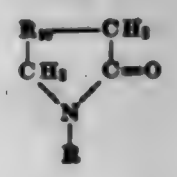
n is an integer of 0 to 2;

m is an integer of 1 to 3; and

$n+m=3$; and the total number of carbon atoms is not greater than 9;

and

(4)



wherein:

R is of the class consisting of hydrogen and alkyl having 1 to 4 carbon atoms; and

R_{10} is of the class consisting of CH_3 and C_2H_4;

the process comprising mixing with the reaction mass after transesterification and while it contains at least 20% by weight of the primary solvent, an amount of a secondary solvent sufficient to cause precipitation of the unreacted polyhydric alcohol, separating the precipitated polyhydric alcohol from the mother liquor, said secondary solvent being a hydrocarbon solvent with 0 to 50% of oxygenated hydrocarbon solvent in which each molecule contains no more than 4 oxygen atoms and no more than 2 hydroxyl groups and no more than 11 carbon atoms, said secondary solvent having an Aniline Point not greater than 130° F.; the precipitation and separation of unreacted polyhydric alcohol from the mother liquor taking place at a temperature between 20 and 140° C. which is sufficiently high to make said primary and said secondary solvents substantially miscible and which is sufficiently high to hold polyhydric alcohol esters in solution but sufficiently low to cause the polyhydric alcohol to precipitate.

11. A process according to claim 1, wherein the solid polyhydric alcohol is ethyl-D-glucoside.

3,141,013

PURIFICATION OF TRANSESTERIFICATION MIXTURES

Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 6, 1963, Ser. No. 263,349
17 Claims. (Cl. 260—210)

1. In a process for refining esters of solid polyhydric aliphatic alcohols and carboxy acids, said ester having been synthesized by a transesterification reaction between said polyhydric alcohol and another ester under conditions which yield a crude mixture which has been stabilized by deactivation of the alkaline transesterification catalyst, and which contains an ester product which is over 50% by weight monoesterified polyhydric alcohol ester, and at least one impurity removable by distillation under vacuum, the improvement which comprises incorporating in said crude mixture at least one fluxing agent which is an oxygenated polar organic compound having a vapor pressure under distillation conditions less than the vapor pressure of said impurity to be removed, said fluxing agent having from 2 to 12 carbon atoms and containing at least 2 polar groups selected from the group consisting of hydroxyl, carboxyl, carboxy ester and ketone carbonyl and having oxygen present in the ratio of at least 1 atom per 3 atoms of carbon and selected from the group consisting of

(*a*) aliphatic diols having 2 to 6 carbon atoms, and esters thereof with the lower fatty acids which have from 2 to 4 carbon atoms in the molecule,

(*b*) aliphatic triols having from 2 to 6 carbon atoms and esters thereof with the lower fatty acids which have from 2 to 4 carbon atoms in the molecule,

(*c*) esters of aliphatic di-carboxylic acids having from 4 to 6 carbon atoms and esters of malic acid with lower monohydric primary and secondary aliphatic alcohols having from 1 to 4 carbon atoms, said esters having from 5 to 10 carbon atoms in the ester molecule,

(*d*) esters of methyl and ethyl alcohols with an acid selected from the group consisting of aconitic, tartaric and citric,

(*e*) esters of lactic acid with the lower primary and secondary aliphatic monohydric alcohols having from 3 to 6 carbon atoms and aliphatic diols having from 2 to 6 carbon atoms in which only one hydroxyl of the diol is esterified,

(*f*) esters of acetoacetic acid and levulinic acid with the primary and secondary aliphatic monohydric alcohols which have from 1 to 5 carbon atoms and the aliphatic diols having from 2 to 6 carbon atoms in which only one hydroxyl of the diol is esterified,

and subjecting said crude mixture including said fluxing agent to distillation to remove said impurity therefrom, the amount of said fluxing agent before the distilling being at least 1% by weight of the sum of weights of the polyhydric alcohol ester and the unreacted polyhydric alcohol, said fluxing agent having the property of and being present in an amount sufficient for maintaining said crude reaction mixture in a more fluid state to facilitate thereby the distillation of said impurity.

3,141,014

SODIUM AND POTASSIUM SALTS OF THE DEXTRAN SULPHURIC ACID ESTER HAVING SUBSTANTIALLY NO ANTICOAGULANT ACTIVITY BUT HAVING LIPOLYTIC ACTIVITY AND THE METHOD OF PREPARATION THEREOF

Eji Morii, Chikusa-ku, Nagoya, and Koichi Iwata and Hidesaburo Kokkoku, Nishi-ku, Nagoya, Japan, assignors to Meito Sangyo Kabushiki Kaisha, Nagoya, Japan, a corporation of Japan

Filed Mar. 21, 1961, Ser. No. 97,311
Claims priority, application Japan Mar. 31, 1960
12 Claims. (Cl. 260—234)

1. A method of preparing an alkali metal salt of dextran sulphuric acid ester having substantially no anticoagulant activity but having lipolytic activity whose intrinsic viscosity in a 0.7 saline solution at 25° C. is 0.020–0.050 and whose sulphur content is 2.0–13.0% by weight, which comprises reacting in the presence of 5–15 parts by volume of formamide 0.025–1.250 parts by volume of chlorosulphonic acid with 1 part by weight of dextran whose intrinsic viscosity in water at 25° C. is 0.025–0.055 and in the absence of pyridine, then reacting with the obtained dextran sulphuric acid ester a caustic alkali thereby forming an alkali metal salt of dextran sulphuric acid ester and thereafter purifying the same.

3,141,015

HOMOPIPERAZINOALKYL ESTERS

John H. Biel and Wallace K. Hoya, Milwaukee, Wis., assignors to Colgate-Palmolive Company, a corporation of Delaware

No Drawing. Filed Dec. 23, 1960, Ser. No. 77,241
2 Claims. (Cl. 260—239)

1. 4-formyl-5-methyl homopiperazine.

2. 1-carbomethoxyethyl-4-formyl-5-methyl homopiperazine.

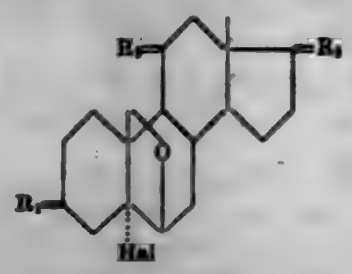
3,141,016

6β:19-OXIDO-ANDROSTANE

Albert Wettstein, Riehen, Georg Anner, Karl Heusler, and Jaroslav Kalvoda, Basel, Helmut Ueberwasser, Riehen, and Jules Heer, Binningen, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,201
Claims priority, application Switzerland July 15, 1960
15 Claims. (Cl. 260—239.55)

1. A 3-oxygenated 5α-halogen-6β:19-oxido-androstane of the formula



wherein

R_1 stands for a member selected from the group consisting of oxo, hydroxy together with hydrogen and acyloxy together with hydrogen,

R_2 stands for a member selected from the group consisting of hydrogen, α-hydroxy together with hydrogen and α-acyloxy together with hydrogen,

R_3 stands for a member selected from the group consisting of oxo, β-hydroxy together with hydrogen, β-acyloxy together with hydrogen, β-hydroxy together with lower alkyl, β-hydroxy together with lower alkenyl and β-hydroxy together with lower alkinyl and

Hal stands for a halogen atom selected from the group consisting of bromine and chlorine, said acyloxy substituents being derived from acids selected from the group consisting of aliphatic, cycloaliphatic, cycloaliphatic-aliphatic, araliphatic, aromatic and heterocyclic carboxylic acids having, at most, 15 carbon atoms.

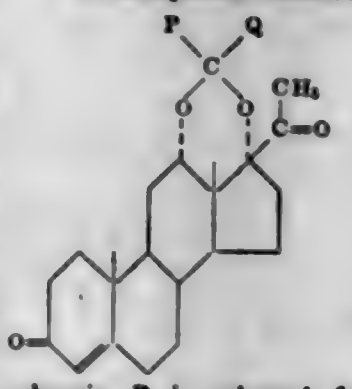
3,141,017

ACETALS AND KETALS OF 12α-DIHYDROXYPROGESTERONE AND 1-DEHYDRO-12α,17α-DIHYDROXYPROGESTERONE

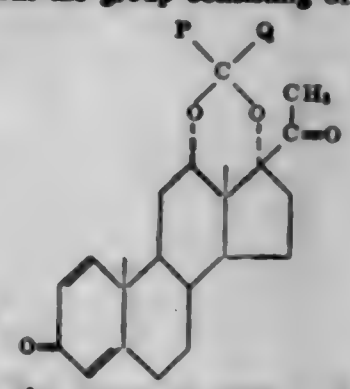
Patrick A. Diassi, Westfield, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,173
6 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of



and



wherein P is selected from the group consisting of hydrogen, lower alkyl, halo lower alkyl, carboxy lower alkyl, monocyclic cycloalkyl, monocyclic aryl, monocyclic aryl lower alkyl, monocyclic heterocyclic and monocyclic heterocyclic lower alkyl; Q is selected from the group consisting of lower alkyl, halo lower alkyl, carboxy lower alkyl, monocyclic cycloalkyl, monocyclic aryl, monocyclic aryl lower alkyl, monocyclic heterocyclic and monocyclic heterocyclic lower alkyl; and together with the carbon atom to which they are joined P and Q is selected from the group consisting of cycloalkyl and monocyclic heterocyclic.

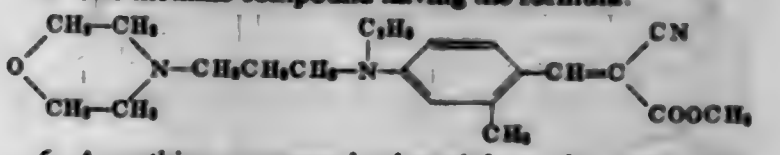
3,141,018

PARA TERTIARY AMINO - ALKYLENE - AMINO-BENZYLIDENE MALONONITRILES AND FUNCTIONAL DERIVATIVES THEREOF

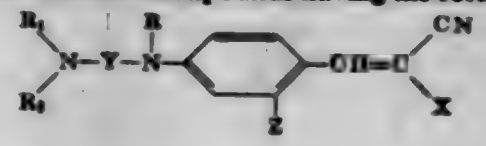
James M. Straley, David J. Wallace, and John G. Fisher, all of Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 28, 1961, Ser. No. 125,343
6 Claims. (Cl. 260—247.2)

5. The methine compound having the formula:



6. A methine compound selected from the group consisting of the methine compounds having the formula



wherein R and R_1 each represents alkyl of 1 to 4 carbon atoms, R_2 represents a member selected from the group consisting of alkyl of 1 to 4 carbon atoms and β-cyanoethyl, Y represents alkylene of 2 to 4 carbon atoms, X represents a member selected from the group consisting of cyano, $-COOCH_2CH_2CN$ and $-COOR_3$, wherein R_3 represents alkyl of 1 to 4 carbon atoms, Z represents a member selected from the group consisting of hydrogen and methyl, and in



R_1 and R_2 form, together with the nitrogen atom, a member selected from the group consisting of morpholino and piperidino.

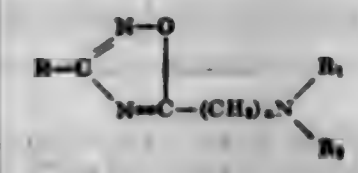
3,141,019

1,2,4-OXADIAZOLES AND PROCESSES FOR PRODUCING THE SAME

Giuseppe Palazzo and Bruno Silvestrini, Rome, Italy, assignors to Angelini Francesco, Azienda Chimiche Riunite, Rome, Italy

No Drawing. Filed Sept. 18, 1960, Ser. No. 56,097
Claims priority, application Austria Sept. 29, 1959
10 Claims. (Cl. 260—247.5)

4. A compound selected from the group consisting of 1,2,4-oxadiazoles of the formula



wherein:

R is a member selected from the group consisting of phenyl, halogenophenyl, nitrophenyl, hydroxyphenyl, alkylphenyl, alkoxyphenyl, phenylalkyl, naphthyl, tetrahydronaphthyl, biphenylyl, and pyridyl; each of said alkyl and alkoxy moieties being of from 1 to 4 carbon atoms;

n is an integer from 1 to 4;

R_1 and R_2 are each members selected from the group consisting of hydrogen, alkyl of from 1 to 4 carbon atoms and benzyl;

R_1 and R_2 taken collectively with the nitrogen atom to which they are joined forming a heterocyclic ring selected from the group consisting of N-pyrrolidinyl, N-piperidinyl, N-morpholinyl, N-piperazinyl and 4-carbamyl-N-piperidinyl, and non-toxic acid addition salts thereof.

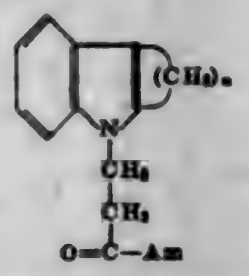
3,141,020

BASIC AMIDES OF 1-(β-CARBOXYETHYL)-2,3-POLYMETHYLENEINDOLES

Meier E. Freed, Philadelphia, Pa., and Leonard M. Rice, Baltimore, Md., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,939
4 Claims. (Cl. 260—268)

1. A compound selected from the group consisting of bases having the formula



where *n* is a number selected from the group consisting of 5 and 6, and Am is a radical of the group consisting of 4-methylpiperazino, 4-phenylpiperazino, β-dimethylaminoethylamino, β-pyrrolidinoethylamino, β-diethylaminoethylamino, and γ-dimethylaminopropylamino, and the salts of said bases with pharmaceutically acceptable acids.

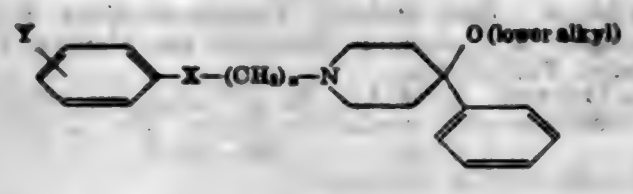
3,141,021

N-ARYLALKYL AND N-ARYLALKENYL DERIVATIVES OF 4-ALKOXY-4-PHENYLPIPERIDINES

Paul A. J. Janssen, Vosselaar, near Turnhout, Belgium, assignor to Research Laboratorium Dr. C. Janssen, N.V., Beerse, Belgium, a company of Belgium

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,428
11 Claims. (Cl. 260—294.7)

1. A compound of the formula



wherein Y is selected from the group consisting of hydrogen, methyl, methoxy, and fluorine; X is selected from the group consisting of $-CH_2-$ and $-CH=CH-$; and *n* is a positive integer less than 4.

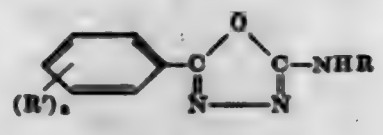
3,141,022

PREPARATION OF 2-AMINO-5-ARYL-1,3,4-OXADIAZOLES

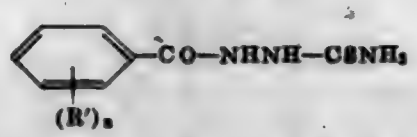
Joseph J. Pitta, Metuchen, and Harry Louis Yale, New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Dec. 12, 1955, Ser. No. 552,246. Divided and this application July 25, 1961, Ser. No. 126,493
2 Claims. (Cl. 260—307)

1. The method of preparing compounds of the formula



wherein R is alkanoyl; *n* is a positive integer less than 6; and R' is selected from the group consisting of hydrogen, lower alkyl, halogen and lower alkoxy; which comprises heating a compound of the formula



wherein R' and *n* are as hereinbefore defined; with a lower alkanoic acid anhydride.

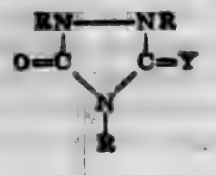
3,141,023

CERTAIN N-CARBAMYLURAZOLES

Euclid W. Bousquet, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 23, 1961, Ser. No. 133,312
5 Claims. (Cl. 260—308)

1. A compound of the formula



wherein Y is of the class consisting of oxygen and sulfur; at least one R is a carbamyl group of the structure



in which X is of the class consisting of oxygen, sulfur and $=NR^3$; R^1, R^2, and R^3 are each selected from the group consisting of hydrogen and hydrocarbyl of up to 13 carbon atoms; and any remaining R's are selected from the group consisting of hydrogen, hydrocarbyl of up to 13 carbon atoms, p-ethoxyphenyl and p-methoxyphenyl.

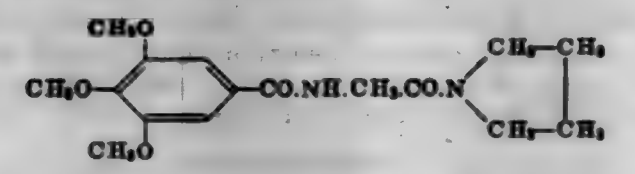
3,141,824

N-(3,4,5-TRIMETHOXY BENZOYL AMINO ACETYL)PYRROLIDINE

Jean-Marie Alfred Houssin, Enghien-les-Bains, France, assignor to Compagnie Francaise des Matieres Colorantes, Paris, France

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,269
Claims priority, application France May 2, 1961
1 Claim. (Cl. 260—326.3)

A compound of the formula



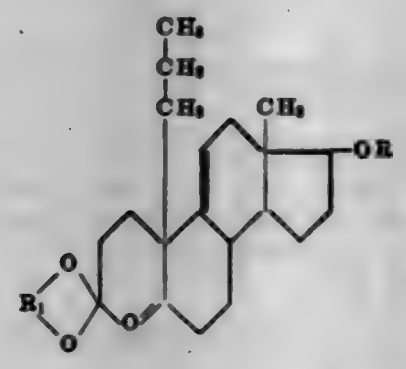
3,141,825

17α-ETHYNYL-10β-PROPYL-$\Delta^{4,9(11)}$-ESTRADIENE-17β-OL-3-ONE AND ITS PREPARATION

Gérard Nominé, Noisy-le-Sec, Robert Bucourt, Clichy-sous-Bois, and André Pierdet, Noisy-le-Sec, France, assignors to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed July 18, 1962, Ser. No. 210,815
Claims priority, application France Aug. 18, 1961
16 Claims. (Cl. 260—340.9)

1. A compound having the formula



wherein R is an acyl radical of an organic carboxylic acid having 1 to 18 carbon atoms and R_1 is lower alkylene.

9. A process for the preparation of 17α-ethynyl-10β-propyl-$\Delta^{4,9(11)}$-estradiene-17β-ol-3-one which comprises catalytically hydrogenating 3-lower alkylenedioxy-17β-acyloxy-10β-allyl-4,5-seco-$\Delta^{9(11)}$-estrene - 5 - one wherein the acyl radical is derived from an organic carboxylic acid having 1 to 18 carbon atoms in the presence of a palladium catalyst to form 3-lower alkylenedioxy-17β-acyloxy-10β-propyl-4,5-seco-$\Delta^{9(11)}$-estrene - 5 - one, hydrolyzing the latter under acidic conditions to form 17β-acyloxy - 10β - propyl-4,5-seco-$\Delta^{9(11)}$-estrene-3,5-dione, simultaneously cyclizing and saponifying the latter in the presence of an alkali-metal hydroxide in a lower alkanol to form 10β-propyl-$\Delta^{4,9(11)}$-estradiene-17β-ol-3-one, oxidizing the latter with chromium trioxide to form 10β-propyl-$\Delta^{4,9(11)}$-estradiene-3,17-dione, reacting the latter with a lower alkyl orthoformate to form 3-lower alkoxy-10β-propyl-$\Delta^{3,5,9(11)}$-estratriene-17-one, reacting the latter with an alkali metal acetylide to form 3-lower alkoxy-10β-propyl-17α-ethynyl-$\Delta^{3,5,9(11)}$-estratriene-17β-ol, hydrolyzing the latter under acid conditions to form 17α-ethynyl-10β-propyl-$\Delta^{4,9(11)}$-estradiene-17β-ol-3-one and recovering the latter.

3,141,826

STABILIZED MALEIC ANHYDRIDE

Manfred Gans, Leonia, N.J., and Robert W. Simon, New York, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Nov. 15, 1960, Ser. No. 69,257
4 Claims. (Cl. 260—346.8)

1. A substantially dust-free flaked composition consisting essentially of at least 99.5 wt. percent maleic anhydride and at least 0.07 wt. percent phthalic anhydride.

3,141,827

ALKANEDIOL BIS(2,3-EPOXYALKANOATES)

Benjamin Phillips and Paul S. Starcher, Charleston, and Donald L. MacPeak, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 12, 1959, Ser. No. 798,835
3 Claims. (Cl. 260—348)

1. Alkanediol bis(2,3-epoxyalkanoate) wherein the alkane moiety contains from 2 to 10 carbon atoms and wherein the epoxyalkanoate moiety contains up to 8 carbon atoms.

2. Ethylene glycol bis(2,3-epoxybutyrate).

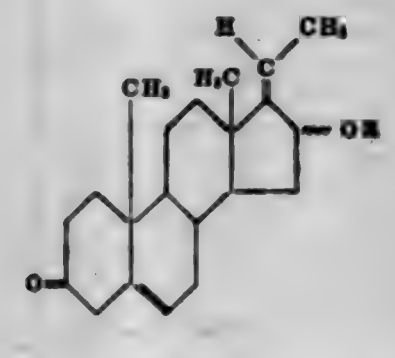
3,141,828

16-OXYGENATED PREGNA-4,17(20)-[TRANS]DIEN-3-ONES AND INTERMEDIATES THERETO

Walter R. Benn, Deerfield, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

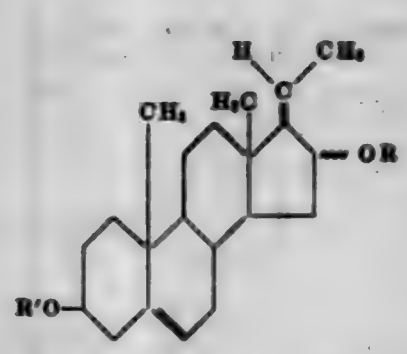
No Drawing. Filed Oct. 2, 1962, Ser. No. 227,707
10 Claims. (Cl. 260—397.4)

1. A compound of the structural formula



wherein R is selected from the group consisting of hydrogen and lower alkanoyl radicals.

6. A compound of the structural formula

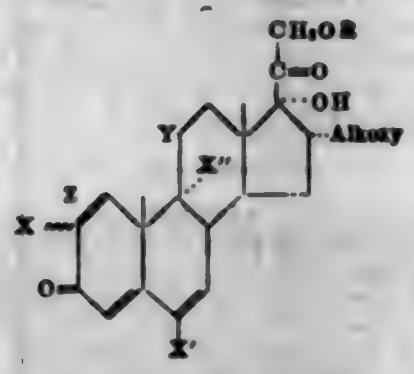


wherein R and R' are selected from the group consisting of hydrogen and lower alkanoyl radicals.

3,141,029
16α-ALKOXY-6-DEHYDROCORTICAL HORMONES

Howard J. Ringold and Albert Bowers, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed July 29, 1959, Ser. No. 830,211
Claims priority, application Mexico July 29, 1958
20 Claims. (Cl. 260—397.45)

1. A compound having the formula



wherein R is selected from the group consisting of hydrogen and hydrocarbon acyl radicals having maximally 12 carbon atoms; X is selected from the group consisting of hydrogen, methyl and ethyl, X' is selected from the group consisting of hydrogen, methyl, fluorine, chlorine and bromine, X'' is selected from the group consisting of hydrogen, fluorine, chlorine, and bromine, Y is selected from the group consisting of =O and



and Z is selected from the group consisting of a single bond between C–1 and C–2 and a double bond between C–1 and C–2.

3,141,030
ACYL LACTYLIC ACID COMPOSITIONS AND METHODS OF PREPARATION THEREOF

Bruce D. Baddemeyer, Overland Park, Kans., and John Robert Messemaker, Kansas City, Mo., assignors to The Pamplin Company, Kansas City, Mo., a corporation of Missouri
No Drawing. Filed Dec. 28, 1961, Ser. No. 162,927
10 Claims. (Cl. 260—410.9)

1. Acyl lactylic acid compositions corresponding to the formula:

$$RCO(OCHCH_3CO)_nOZ$$

wherein RCO is a member selected from the group consisting of acyl radicals of fatty acids containing 16 to 24 carbon atoms, and mixtures thereof, Z is a cation, and n is the number of lactyl groups present per molecule of the composition, the value of n being on the average, less than one but greater than zero.

9. A method of preparing acyl lactylic acid compositions corresponding to the formula:

$$RCO(OCHCH_3CO)_nOZ$$

wherein RCO is a member selected from the group consisting of acyl radicals of fatty acids containing 16 to 24 carbon atoms, and mixtures thereof, Z is a cation, and n is the average number of lactyl groups present per molecule of the composition, the value of n being, on the average, less than one, but greater than zero, which comprises reacting a concentrated lactic acid composition having an average equivalent weight of between about 95 and 130, based on free titratable acidity, and containing less than about 5 weight percent polylactyllactic acid, with a fatty acid halide containing 16 to 24 carbon atoms at a temperature of between about 50 and 95° C.

3,141,031
OLEFIN COBALT CARBONYL COMPOUNDS

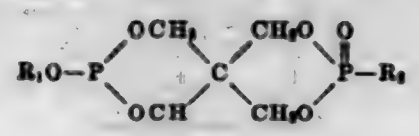
Geoffrey Wilkinson, London, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 1, 1961, Ser. No. 128,371
Claims priority, application Great Britain Aug. 23, 1960
19 Claims. (Cl. 260—439)

1. As a composition of matter a molecular complex consisting of one to two non-cumulated diolefin molecules having 4 to 7 carbon atoms, selected from the class consisting of acyclic diolefins, cyclohexadienes and cycloheptadienes, two cobalt atoms and 4 to 6 carbonyl radicals.

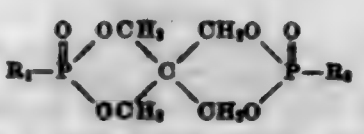
3,141,032
DIALKYL PENTAERYTHRITOL DIPHOSPHONATES AND PHOSPHITE PHOSPHONATES

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 23, 1963, Ser. No. 253,267
9 Claims. (Cl. 260—461)

1. A compound having a formula selected from the group consisting of



and



where R_1 and R_2 are alkyl.

3,141,033
PRODUCTION OF GLYCOLIC ACID NITRILE

Franz Koenig, Offenbach (Main), Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,742
Claims priority, application Germany Nov. 2, 1960
3 Claims. (Cl. 260—465.6)

1. A process for the production of glycolic acid nitrile which comprises reacting hydrogen cyanide with a lower alkyl semiacetal of formaldehyde in the presence of tributyl amine at a pH of between about 7.5 and 8.5 and at a temperature between 0 and 25° C.

3,141,034
PRODUCTION OF UNSATURATED NITRILES

Lawrence J. Krebaum, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 3, 1961, Ser. No. 79,973
5 Claims. (Cl. 260—465.9)

1. A method for the preparation of aliphatic unsaturated mononitriles which consists essentially of reacting acetonitrile with a hydrocarbon chosen from the class consisting of C_3 to C_4 monoolefins and acetylene at a temperature in the range from about 600° C. to about 1000° C.

3,141,035
PROCESS FOR THE PREPARATION OF CHOLINE SALICYLATE

Emil Lorz and Richard S. Begby, Springfield, Mo., assignors to Hoffman-Taff, Inc., Springfield, Mo., a corporation of Missouri
No Drawing. Filed July 17, 1961, Ser. No. 124,338
6 Claims. (Cl. 260—501)

1. A method for preparing choline salicylate, comprising mixing trimethylamine with salicylic acid in aqueous

medium in substantially equimolar proportions to produce a trimethylamine salicylate solution having a pH of approximately 6, then adding ethylene oxide to said solution in approximately equimolar amount with respect to said trimethylamine salicylate and reacting said ethylene oxide and trimethylamine salicylate to obtain a substantially pure aqueous solution of choline salicylate.

3,141,836

CYCLOHEXANE CARBOXYLIC ACID PRODUCED BY HYDROGENATION OF MOLTEN BENZOIC ACID

Leon O. Winstrom, East Aurora, N.Y., and Orvill E. Snider, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 27, 1961, Ser. No. 127,140
7 Claims. (Cl. 260—514)

1. A process for producing cyclohexane carboxylic acid which consists in reacting molten benzoic acid with hydrogen in the presence of a metal hydrogenating catalyst at temperature above the melting point of the benzoic acid and pressure within the range of about 1 to 40 atmospheres and vigorously agitating the molten benzoic acid during the reaction whereby said benzoic acid is substantially entirely converted to cyclohexane carboxylic acid.

3,141,837

PREPARATION OF FUMARIC ACID BY CATALYTICALLY ISOMERIZING MALEIC ACID PRODUCED BY THE OXIDATION OF BUTENE-2

Harry Olenberg, Bronx, and Joseph L. Russell, Ridgewood, N.Y., and Mitchell Becker, Teaneck, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Mar. 3, 1961, Ser. No. 93,829
3 Claims. (Cl. 260—533)

1. In a process for the preparation of fumaric acid having improved color properties by the isomerization of a solution of crude maleic acid obtained from the air oxidation of butene-2, the improvement of blowing from 50 to 2000 volumes of air per volume of solution per hour through said solution at a temperature of from 30 to 95° C. until the air exiting from the solution is substantially free of aldehydes so as to degas the solution prior to isomerization.

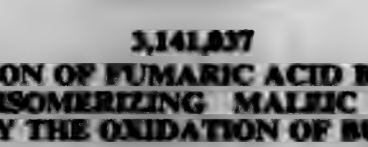
3,141,838

N-HALO-N-METHYL-N'-PHENYL UREAS

Harvey M. Loux, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 13, 1961, Ser. No. 152,843
3 Claims. (Cl. 260—553)

1. A compound of the formula:



wherein

X is selected from the group consisting of hydrogen and halogen;

Y is selected from the group consisting of hydrogen, alkyl of 1 through and including 3 carbon atoms and halogen;

n is selected from the group consisting of 1 and 2;

R is selected from the group consisting of hydrogen, methyl and methoxy; and

Z is selected from the group consisting of fluorine, chlorine and bromine.

3,141,839

PREPARATION OF UREA NITRATE

Roger L. Welchman and William L. Pierce, both of Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,269
5 Claims. (Cl. 260—553)

1. A method for preparing urea nitrate which comprises reacting nitrogen dioxide with urea in solution in glacial acetic acid at about 17 to 70° C. and recovering the urea nitrate which forms.

3,141,840

3-FLUORO-2-PHENYLMALONAMIDE

Charles E. Inman, Glenside, Robert E. Oesterling, Fleurtown, and Edward A. Tyczkowski, Abington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Sept. 22, 1958, Ser. No. 762,248, now Patent No. 3,030,402, dated Apr. 17, 1962. Divided and this application Feb. 19, 1962, Ser. No. 180,387
1 Claim. (Cl. 260—553)

2-fluoro-2-phenylmalonamide.

3,141,841

PREPARATION OF SUBSTITUTED ACETAMIDES

Harold M. Taylor, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 6, 1962, Ser. No. 200,309
9 Claims. (Cl. 260—558)

1. The process which comprises comminuting an alkali metal with a diphenylmethane in a tumbling mill at a temperature below about 200° C. for a time sufficient to effect reaction thereof, said diphenylmethane having at least one replaceable hydrogen atom attached to the methane carbon atom, whereby the corresponding alkali-metallo-diphenylmethane is obtained, and commingling said alkali-metallo-diphenylmethane with an N,N-di(lower-alkyl)carbamyl halide, whereby said substances are caused to react and whereby the corresponding N,N-di-(lower-alkyl)diphenylacetamide is obtained.

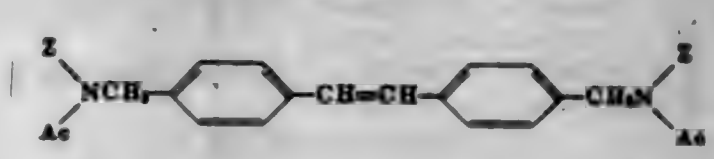
3,141,842

4,4'-BIS(AMINOMETHYL)-STILBENES

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1961, Ser. No. 111,915
7 Claims. (Cl. 260—562)

1. A compound having the formula

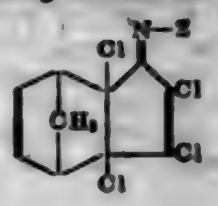


where Ac is halo-(lower-alkanoyl) and Z is a member selected from the group consisting of hydrocarbon of the formula R, hydroxyalkyl of the formula —Y—OH, hydrocarbonoxyalkyl of the formula —Y—O—R and acyloxyalkyl of the formula —Y—O—Ac', where R is hydrocarbon having from one to eight carbon atoms, Y is polycarbon-lower-alkylene having from two to six carbon atoms and having its two free valence bonds on different carbon atoms, and Ac' is carboxylic-acyl having from one to eight carbon atoms.

3. N,N' - bis(dichloroacetyl) - N,N' - diethyl - 4,4'-bis (aminomethyl)stilbene.

3,141,043
CYCLOPENTADIENYLIMINES, PROCESS FOR THEIR PRODUCTION AND CONDENSATION PRODUCTS THEREOF
Earl T. McBee, Lafayette, Ind., assignor to Purdue Research Foundation, West Lafayette, Ind., a corporation of Indiana
No Drawing. Filed Mar. 24, 1961, Ser. No. 98,030
10 Claims. (Cl. 260—566)

6. Compounds having the formula



wherein Z is a member selected from the group consisting of hydroxyl, —NH_2, —NHR and —NRR wherein R in each instance is selected from the group consisting of alkyl, cycloalkyl and monocyclic aryl.

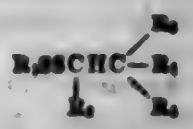
3,141,044
A-NORPREGNA-3,6-DIENE-3,20-DIONE
Frank Lee Weisenborn, Somerset, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 19, 1962, Ser. No. 238,768
1 Claim. (Cl. 260—586)

A-norpregna-3,6-diene-2,20-dione.

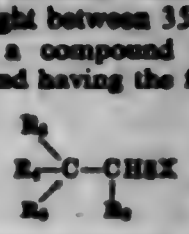
3,141,045
SATURATED DISULFIDES
Paul C. Alchenegg, Prairie Village, Kans., and Carl D. Emerson, Kansas City, Mo., assignors to Chemagro Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 6, 1961, Ser. No. 157,589
11 Claims. (Cl. 260—608)

1. n-Alkyl 2,2,2-trichloroethyl disulfides having 1 to 5 carbon atoms in the alkyl group.

10. A process of preparing a compound having the formula



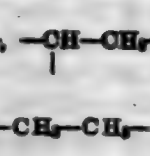
where R_1 is selected from the group consisting of alkyl group of 1 to 12 carbon atoms, benzyl, cyclohexyl, phenyl, alkylphenyl having up to 12 carbon atoms in the alkyl group, naphthyl, phenylphenyl, and halophenyl, R_2 and R_4 are selected from the group consisting of hydrogen and halo, R_3 and R_5 are halo and at least 3 of R_2, R_3, R_4 and R_5 are halo, the halo atoms of said compound having an atomic weight between 35 and 80, said process comprising reacting a compound having the formula R_1SH with a compound having the formula



where X is a halogen atom having an atomic weight between 35 and 80.

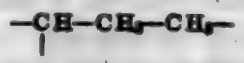
3,141,046
PRODUCTION OF CUMENE HYDROPEROXIDE
Georges Bichet and Georges Pollume, Lyon, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a body corporate of France
No Drawing. Filed Dec. 14, 1959, Ser. No. 859,115
Claims priority, application France Dec. 17, 1958
7 Claims. (Cl. 260—610)

1. A process for the production of cumene hydroperoxide which comprises oxidizing cumene by treatment at elevated temperature with molecular oxygen as a homogeneous liquid phase reaction in the presence of an alkali metal salt of a carboxylic acid of formula:



where R_1 represents a group selected from the class consisting of straight chain alkyl groups of 2 to 4 carbon atoms and phenyl and R_2 represents a trivalent aliphatic hydrocarbon radical in which the carbon atom directly linked to the ethyl radical is also directly linked to R_1 and selected from the class consisting of the radicals of formulae:

and

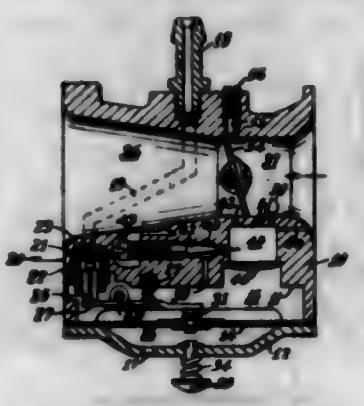


the said alkali metal salt being used in amount sufficient to substantially promote the rate of oxidation of the said cumene.

3,141,047
HIGH MOLECULAR WEIGHT GLYCOLS FROM TELOMER BORATES
Donald D. Emrick, Shaker Heights, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 28, 1961, Ser. No. 141,279
13 Claims. (Cl. 260—635)

1. A process for producing olefin telomer glycols which comprises telomerizing an alpha olefin taxogen having from about two to about twelve carbon atoms in the molecule with an alkylene glycol borate having from about three to thirty carbon atoms in the colecule in the presence of a free radical initiator capable of initiating the telomerization at a temperature at which an evolution of free radicals from the initiator is obtained, and then deborating the resulting boron-containing olefin telomer to produce the corresponding glycol.

3,141,048
CARBURETOR
Kenneth C. Schneider, Bethel, Conn., assignor, by mesne assignments, to Mission Manufacturing Company, Houston, Tex., a corporation of Texas
Filed Aug. 3, 1960, Ser. No. 47,266
1 Claim. (Cl. 261—41)



A carburetor comprising in combination a body member formed with an unvented fuel reservoir, a flexible diaphragm defining one wall of said fuel reservoir, valve means responsive to flexure of said diaphragm for admitting fuel into said reservoir, an air-fuel mixing chamber formed in said body member and having a longitudinally extending constricted throat portion, a separate main orifice opening into said constricted throat portion and primary and secondary idling orifices opening into said constricted throat portion of said mixing chamber, said orifices being closely spaced in said constricted throat portion in substantially longitudinal alignment relative to the axis of said constricted throat portion, fuel-deliv-

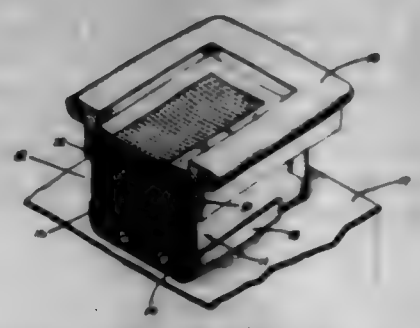
ery conduit means formed in said body member and connecting said fuel reservoir with said constricted throat portion only, said fuel-delivery conduit means comprising an auxiliary fuel chamber, a single passage communicating with said reservoir and said auxiliary chamber, a single adjustable valve located in said single passage for controlling delivery of all fuel from said reservoir to said mixing chamber, and multiple passages communicating with said auxiliary chamber and with the respective orifices, a single valve shutter pivotally mounted in the constricted throat portion of said mixing chamber to control the flow of air therethrough, said valve shutter in its closed position extending across said throat portion upstream relative to said primary idling orifice and downstream relative to said secondary idling orifice and said main orifice, and an adjustable stop screw threadably mounted in said body member and having an end portion extending into said mixing chamber, said end portion being engageable with said shutter for selectively limiting the extent to which said valve shutter may be closed in said mixing chamber.

3,141,049

METHODS FOR FILLING ELECTRICAL APPARATUS WITH POTTING MATERIAL

Robert H. Parsons, Danville, Ill., assignor to General Electric Company, a corporation of New York

Filed June 5, 1961, Ser. No. 114,855
8 Claims. (Cl. 264—138)



1. A method for filling the case of a ballast apparatus with potting material comprising the steps of applying a retaining means on the ballast case for containing an overflow of potting material, pouring liquid potting material into the case so that the potting material fills the case and overflows within said retaining means, causing the potting material adjacent to said retaining means to harden sufficiently so that the overflow of liquid potting material can be contained by said hardened potting material without said retaining means, causing said retaining means to be separated from said ballast case and said potting material, allowing said liquid potting material to harden, and slicing off the overflow of said potting material so that the potting material fills the ballast case, and attaching a coverplate to the case so that the coverplate lies along the surface formed by slicing off the overflow of potting material.

3,141,050

MECHANICAL ORIENTATION OF MAGNETICALLY ANISOTROPIC PARTICLES

Walter S. Blume, Jr., Cincinnati, Ohio, assignor to Leyman Corporation, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 16, 1960, Ser. No. 49,846
6 Claims. (Cl. 264—175)

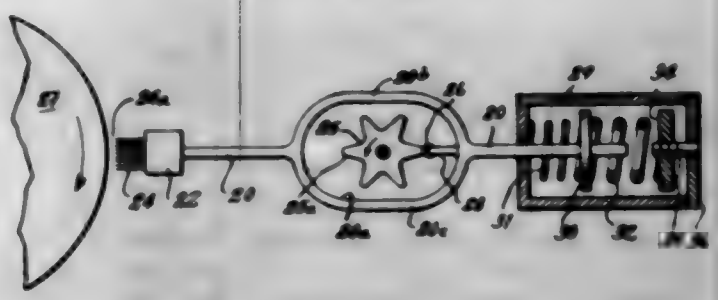
3. A method of improving the sheeting characteristics of a mixture of uncured rubber and ultrafine particles of substantially domain size barium ferrite, wherein the ferrite particles comprise about 55–70% of the total volume of the mixture, said method comprising, subdividing said mixture into granules small enough to pass a 20 mesh screen, and thereafter forming a plurality of said granules in the solid state into a sheet by rolling said granules under pressure between rolls, said granules thereby being formed into a coherent uniform continuous sheet more readily than said mixture can be in the absence of such subdivision.

3,141,051

METHOD AND APPARATUS FOR PREPARING SPECIAL SURFACE FINISHES

Uneichi Takai, Kofu, Yamanashi-ken, Japan, assignor to Elm Coated Fabrics Company, Inc., Brooklyn, N.Y., a corporation of New York

Filed Sept. 14, 1960, Ser. No. 56,036
19 Claims. (Cl. 264—219)



15. A method of preparing a special finish on the surface of a relatively soft yieldable material which comprises repetitively moving the surface of an embossing tool to be pierced relative to a piercing tool provided with a plurality of needle-like piercing members disposed thereon so that only a portion of the needle-like piercing members pierce the surface of said embossing tool when said piercing tool first comes into contact therewith to pierce the surface of said embossing tool, said surface being pierced more deeply by said piercing tool at that location wherein said piercing members thereof first come into contact with the surface of said embossing tool and said surface being pierced less deeply by said piercing members at that location on the surface of said embossing tool which subsequently comes into contact with other piercing members of said piercing tool, thereby providing on the surface of said embossing tool a plurality of holes extending only part of the way downwardly from said surface into said tool, the density of said holes on said surface being greater than the density of said needle-like piercing members provided on said piercing tool, pressing a surface of said relatively soft material into contact with the aforesaid pierced surface of said embossing tool at a pressure and for a period of time sufficient to cause said material to flow into the holes thus-provided in said embossing tool to form on the thus-pressed surface of said material a plurality of separate fibers extending outwardly from said surface and integral with said material, the density, depth and size of fibers thus-formed substantially corresponding to the density and size of the holes provided on the surface of said embossing tool and removing the resulting embossed material from contact with said embossing tool.

3,141,052

METHOD OF FORMING SEAMLESS HOLLOW PLASTIC SHAPES

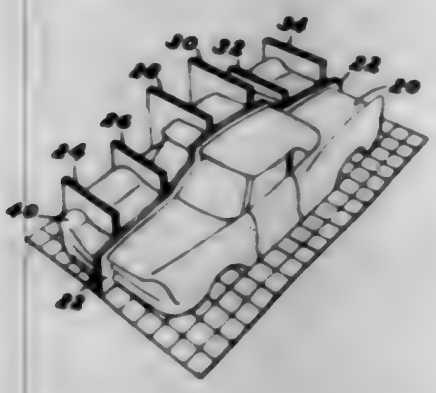
Peter Lubash, Jr., 300 E. Warrington Ave., Pittsburgh 10, Pa.

Filed Sept. 19, 1960, Ser. No. 56,771
2 Claims. (Cl. 264—219)

1. The method of making an elongated seamless hollow body of fiber-reinforced plastic which comprises covering an elongated rigid core with a wax-impregnated fibrous material to provide a continuous covering over the core, wrapping the covered core with a fibrous wrap-

ping material saturated with a reactive resin and curing agent to a desired thickness and contour, effecting the curing of the resin with the wax in the fibrous covering material softened to enable the resin-impregnated wrapping to shrink as the resin cures but continue to provide a firm support therefor until an initial gel has developed, and thereafter stripping the article from the form by heat-softening the wax-impregnated fibrous material.

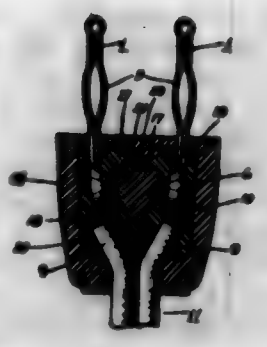
3,141,853
METHOD OF REPRODUCING COMPOUND CONTOURS
Rex A. Terry, Detroit, Mich., assignor to Creative Industries of Detroit, Detroit, Mich., a co-partnership
Filed Apr. 13, 1960, Ser. No. 22,033
6 Claims. (Cl. 264—220)



1. The method of making a master model from a styling dummy formed of clay or other similar material which consists of taking a cast of one-half of the styling dummy and reproducing said one-half in a formed material over a basic armature, taking templets from said recreated one-half and utilizing said templets to recreate the other half of said model over a basic armature independent of said styling dummy, working said recreated model into a proper styling lines and taking molds directly from said model for the formation of sectional die members for manufacture.

3,141,854
METHOD FOR MANUFACTURING MOLDED CONNECTOR PLUGS
Wallace R. Francis, New Haven, Conn., assignor to General Electric Company, a corporation of New York
Original application Jan. 4, 1960, Ser. No. 265. Divided and this application Nov. 29, 1961, Ser. No. 155,736
7 Claims. (Cl. 264—255)

1. A method for manufacturing a wiring device having a plurality of contacts connected to a plurality of associated stranded conductors, said method comprising the steps of premolding a first insulating body around and directly onto the bare connections between said contacts and said stranded conductors and portions of said conductors and contacts contiguous to said connections, and



subsequently molding a second insulating body around said first insulating body to further insulate said connections and form a strong wiring device.

3,141,855
OPEN HEARTH SMELTER SYSTEM
Wilhelm Schmitt, 127 Altenbruckerdamm, Duisburg-Grossenbaum, Germany
Filed Dec. 1, 1958, Ser. No. 777,368
10 Claims. (Cl. 266—33)



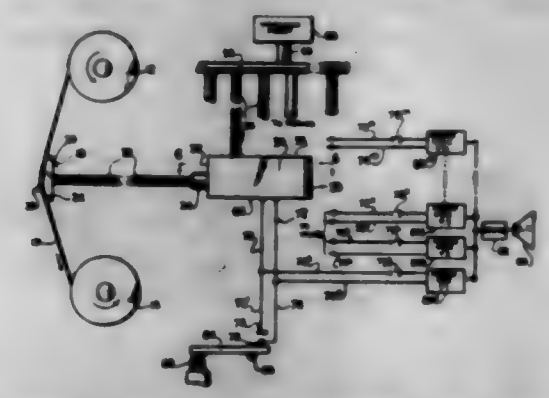
1. In an open hearth smelter, in combination, a furnace chamber adapted to hold material to be smelted; first means for projecting at a relatively high speed against said material to be smelted in said furnace chamber a plurality of fuel streams each of which consists of a multitude of fuel jets which diverge in a fan like manner and are adapted to create, during combustion, a relatively high temperature, avoiding by the high speed of said fuel jets deflection of the flame formed by combustion of the same so as to form a flame contacting a major surface area of said material to be smelted and simultaneously preventing the walls of the furnace chamber from being adversely affected by the high temperature of said flame and covering due to the fan like divergence of said fuel jets of said fuel streams the material to be smelted with an intense high temperature flame sheet; and second means for projecting at a relatively low speed at least one jet of a fuel adapted to create, during combustion, a flame of relatively low elevated temperature against said material to be smelted in said furnace chamber after the same has been first molten by the flame formed by said high-speed, high-temperature fuel jets, permitting due to the low speed of said fuel jet deflection of the flame formed by combustion of the same thereby increasing the total length of said flame so as to obtain a substantially equal effect of said low-speed, low temperature fuel jet along the entire surface of the material.

ELECTRICAL

3,141,856
VACUUM SWITCH
William Robert Kinker, 680 Kingsland Ave., Ridgefield, N.J.
Filed Nov. 28, 1961, Ser. No. 153,663
3 Claims. (Cl. 84—1.03)

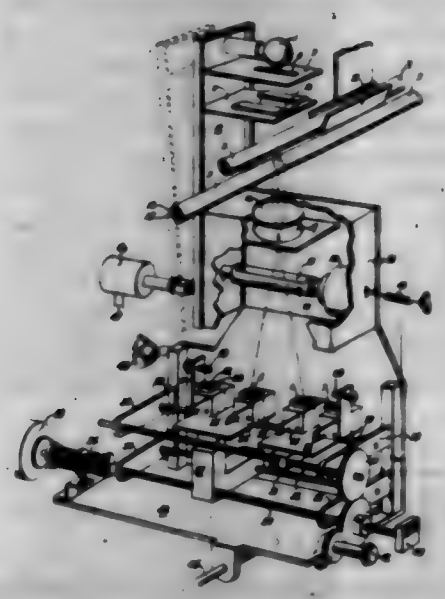
1. A switching system, comprising a closed casing, means connected to said casing for maintaining a vacuum therein, said casing having an opening in one wall thereof, a perforated, hollow cylindrical member in said casing axially aligned with said opening, said member having a radial hole, a piston movably mounted in said member, spring means in said member bearing on said piston and urging said piston to close said hole, a tube connected to said opening, a valve connected to said tube and communicating with the atmosphere for admitting air to the tube and retraction of the piston when the valve is open, a pair of normally open switch contacts disposed in said casing, an electric apparatus in circuit with said switch contacts adapted to be operated when the switch contacts are closed, an actuating element carried by said piston disposed to close the switch contacts when the pis-

ton is retracted, said valve including a head having a passage therethrough communicating with said tube, a flexible valve element carried by said head in normally open position, and a sheet supported between supply and take-up rollers and movable past said head and directly against said valve element under tension so that said flexible valve element is retracted to close said passage, said sheet having spaced perforations arranged in a column extending lengthwise of the sheet in alignment with said valve element, whereby said valve element automatically enters said perforations and open said passage for closing said



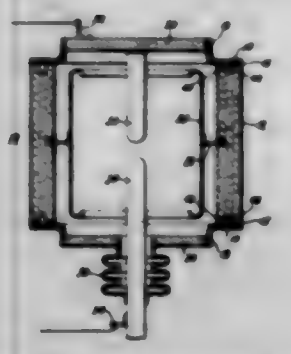
switch contacts, a key, and another pair of switch contacts connected in parallel with the first-named contacts of said electrical apparatus, said other contacts being disposed for actuation by said key, whereby said apparatus is selectively actuated by operating said key and by opening and closing said valve, said apparatus comprising an audio signal generator having an input connected in circuit with the first-named and said other contacts, an amplifier connected to said generator, and a loud-speaker connected to the amplifier, whereby movements of said key and said valve element result in production of sounds of predetermined frequency by the loud-speaker.

3,141,857
NON-CONTACTING MEASURING APPARATUS
Edward S. Acton, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 15, 1961, Ser. No. 89,582
6 Claims. (Cl. 88—14)



1. Apparatus for measuring a dimension of an object comprising a pair of light sensitive cells connected in series circuit, means for forming a beam of collimated light and projecting a portion of said single beam upon one of said cells, means for projecting a second portion of said beam selectively upon a dimension of an object to be measured or upon a corresponding dimension of a reference object, the shadow of such object and the unobstructed rays of said second portion falling upon the other of said cells, a measuring device connected across said cells, means for adjusting the amount of light from said beam falling on said one cell when the unobstructed second portion falls on said other cell to obtain a desired indication on said device, and means for adjusting the width of said second portion reaching said other cell when a reference object is placed in said second portion to obtain said desired indication, whereby when the shadow of an object to be measured falls upon said other cell said device indicates the measurement of the dimension of such object.

3,141,858
CERAMIC-TO-METAL SEAL FOR HIGH VOLTAGE VACUUM DEVICE
Charles H. Titus, Newtown Square, Pa., assignor to General Electric Company, a corporation of New York
Filed Nov. 8, 1962, Ser. No. 236,263
1 Claim. (Cl. 174—50.57)



In a vacuum device that comprises a tubular ceramic part having longitudinally opposed ends between which high voltages are established and having a planar end surface at one of said ends extending transversely of the longitudinal axis of said tubular part, a vacuum-tight ceramic-to-metal joint at said one end comprising:

(*a*) a metallizing coating bonded at one side to said planar end surface,

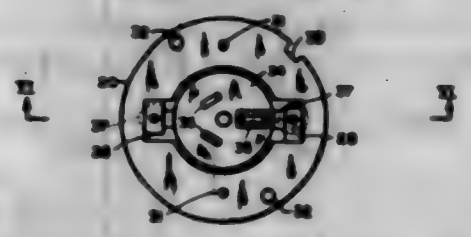
(*b*) a metallic disk having a peripheral portion adjacent the other side of said metallizing coating and bonded in vacuum-tight relationship to said metallizing coating,

(*c*) a generally annular groove in said planar surface substantially surrounding the longitudinal axis of said ceramic part and having a depth that extends longitudinally of the ceramic part from said end surface into said ceramic part,

(*d*) and a metallizing coating covering the surface of said groove and conductively connected to the metallizing coating on said end surface,

(*e*) said groove projecting from said planar surface toward said other end of the ceramic envelope to such an extent that the region of highest electrical stress adjacent said joint is located within the ceramic material of said envelope.

3,141,877
RECEPTACLE MOUNTING PLATE
William A. Lang, Pittsburgh, Pa., assignor to Steel City Electric Company, Pittsburgh, Pa.
Filed Oct. 29, 1962, Ser. No. 233,717
2 Claims. (Cl. 174—57)



1. A receptacle mounting plate comprising,
(A) a circular plate having

(1) a central circular opening to receive the upper portion of an electrical receptacle, and

(B) two lugs

(1) formed from material in said plate which material is positioned radially outward from the edge of said opening on opposite sides of the center of the opening

(2) said lugs having surfaces which extend in a plane parallel to, but spaced away from the plane of said opening;

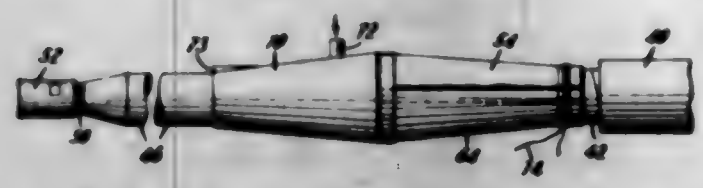
(3) said lugs having holes to receive screws to secure a receptacle mounting strap to the lugs, the holes and the center of the opening being in line with each other.

3,141,060

METAL SHIELDED ELECTRICAL CABLE TERMINATION

Joseph C. Norton, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Nov. 7, 1961, Ser. No. 150,778
1 Claim. (Cl. 174—73)



A cable termination assembly for high-voltage metallic shielded cable having conductor means, insulating means surrounding said conductor means, and metallic shielding means surrounding said insulating means, which termination assembly comprises an open-ended conical metal member and an open-ended conical non-conductive member, the small-diameter end of said metal member making circumferential electrical contact with said metallic shielding means of the cable end to be terminated, and the large-diameter end of said metal member being joined circumferentially to the large-diameter end of said non-conductive member, and the small-diameter end of said non-conductive member making circumferential contact with said insulating means, and said termination assembly being filled with an insulating compound.

3,141,061

HIGH VOLTAGE CABLE TERMINAL

Ernest W. Bianco, Mountain View, and Le Roy H. Franklin, Los Altos, Calif., assignors to Components for Research, Inc., Palo Alto, Calif., a corporation of California

Filed Mar. 25, 1959, Ser. No. 801,891
1 Claim. (Cl. 174—75)



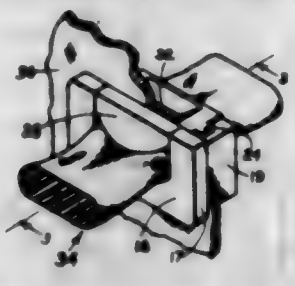
In a high voltage coaxial cable terminal having conductors for respective connection to the inner and outer conductor of the coaxial cable, an arrangement for connecting the outer conductor of the cable to one terminal conductor which comprises a first conductive tubular member arranged to encompass the outer cable conductor and tapered outwardly at one end, a second conductive tubular member having a tapered portion arranged for insertion between the outer cable conductor and the cable insulator therewithin, means for moving said tubular members toward one another to clamp the outer cable conductor between the tapered portions thereof, independent means for removably connecting said tubular clamping members to one conductor of the terminal, and an electrically-conductive resilient gasket arranged adjacent the tapered end of said second tubular member so as to form a seal between said tubular member and the cable insulator therewithin and with its interior surface substantially in concentric alignment therewith.

3,141,062

ARCUATE SLOT STRAIN RELIEF GROMMET

George M. Rapata, Park Ridge, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Aug. 8, 1963, Ser. No. 300,758
9 Claims. (Cl. 174—153)



1. A strain relief grommet adapted for insertion within an apertured panel comprising first and second spaced apart members for accommodating and gripping an elongated workpart therebetween when the members are moved together, at least one of said members having a shank means for axial insertion within the panel aperture and head means engageable with one side of the panel, the other of said members having shoulder means engageable with the other side of the panel when the members are positioned within the aperture, means associated with the members for holding the head and shoulder means of the members in engagement with the respective sides of the panel, means for accommodating the elongated workpart including a longitudinal workpart receiving passageway defined by the spaced apart relationship of the members when in workpiece supporting position and coextensive with the shank means, and cooperating workpart crimping and width reducing surfaces formed on each of the members for deforming the workpart into arcuate form and radially compressing the same to foreshorten the workpart width.

3,141,063

TOUGHENED GLASS, PIN TYPE INSULATOR

Derrik Robert Edwards, Eccleston, St. Helens, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

Filed Jan. 4, 1961, Ser. No. 80,573
Claims priority, application Great Britain Jan. 5, 1960
10 Claims. (Cl. 174—212)



1. A moulded glass insulator blank intended for use in the manufacture from the blank of a toughened glass insulator designed for supporting an electric power cable, said blank consisting of a hollow head closed at the top and formed with a central cavity opening at the bottom

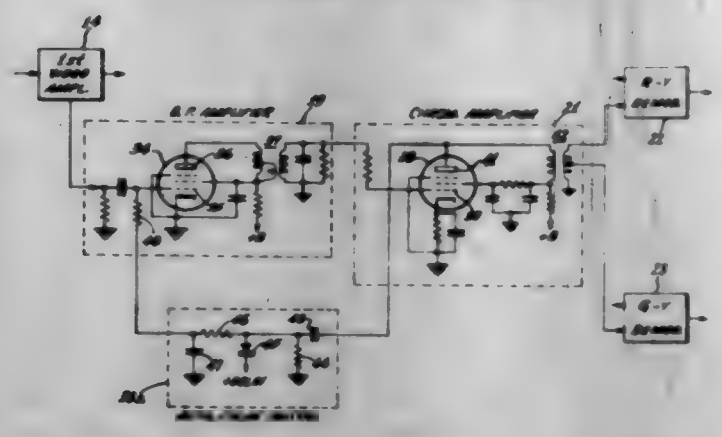
of the head, a skirt extending radially and downwardly around the head and having a radially-extending upper portion, and an intermediate part joining the head to said radially-extending upper portion of the skirt, which intermediate part comprises a part of cylindrical form whose axis coincides with the axis of the blank and an annulus extending from the head substantially at right angles to said axis and merging into the upper end of the cylindrical part through an integral annular part of curved cross-section, which shape of the blank is such that on tempering the blank a stress pattern is induced which arrests in said intermediate part a fracture initiated in the skirt.

3,141,064

AUTOMATIC CHROMA CONTROL FROM CHROMA SIGNAL

Albert Macovski, Palo Alto, Calif., assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 12, 1962, Ser. No. 172,485
9 Claims. (Cl. 178—5.4)



1. In a television receiver including an image reproducing device and adapted to receive a color television signal, said color signal including a luminance video signal component, a chrominance video signal component in the form of a phase and amplitude modulated subcarrier wave of a given frequency, deflection synchronizing pulses and color synchronizing bursts comprising several cycles of said subcarrier wave frequency and having a predetermined amplitude relationship to the amplitude of said deflection synchronizing pulses, the combination comprising:

a chrominance signal channel for processing substantially only said chrominance video signal component and including a chrominance component amplifier;

an automatic color control circuit coupled to said chrominance signal channel for response to peaks of said chrominance video signal to produce a gain controlling signal varying in amplitude in accordance with variations of the magnitude of said chrominance signal peaks;

and means for impressing said gain controlling signal upon said amplifier to automatically control its gain inversely to said variations of the magnitude of said chrominance signal peaks.

3,141,065

SERVO SYSTEM

Arch C. Luther, Jr., Merchantville, Robert N. Hurst, Haddonfield, and Joseph R. West, Blackwood, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 27, 1962, Ser. No. 182,799
10 Claims. (Cl. 178—6.6)

10. A system for synchronizing a first signal and a second signal comprising, in combination,

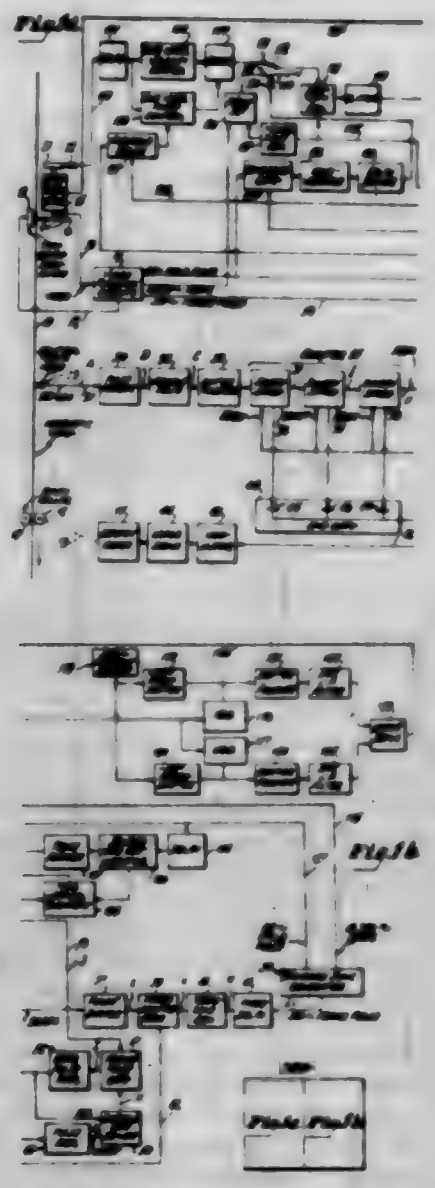
a source of a first signal,

a second source of a second signal,

comparing means coupled to said first and said second source for producing an error signal in accordance with a timing difference between said first and second signals,

timing means coupled to said second source and to said comparing means for changing the timing of said second signal according to said error signal,

switching means,



control means coupled to said timing means and through said switching means to said first source responsive to said second signal as processed by said timing means for operating said first source to change the timing of said first signal in the proper sense to reduce said error signal,

a second comparing means coupled to said first and said second source to produce an output signal upon the existence of a given timing relationship between said first and second signals,

and means coupled between said second comparing means and said switching means responsive to said output signal for operating said switching means to prevent said control means from operating said first source through said switching means so as to make any further change in the timing of said first signal.

3,141,066

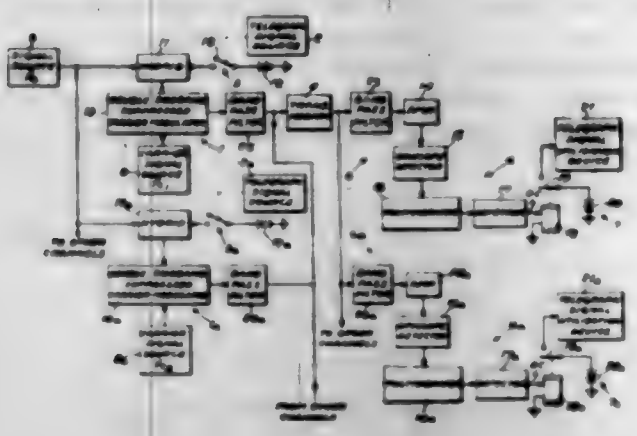
DOUBLE SIDE BAND, SUPPRESSED-CARRIER, PHASE SHIFT TYPE TELEGRAPH SYSTEM

Melvin J. Cotterill, Mountain View, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Oct. 4, 1960, Ser. No. 60,514
20 Claims. (Cl. 178—66)

1. A telegraph system comprising a single modulator coupled to two sine wave sources to generate a signal having a given phase characteristic, a source of telegraph signal, means coupled to said modulator responsive to said

telegraph signal to modify the time of occurrence of said given phase characteristic, means coupled to said modulator to transmit said modified signal to a remote point, means at said remote point responsive to a given char-



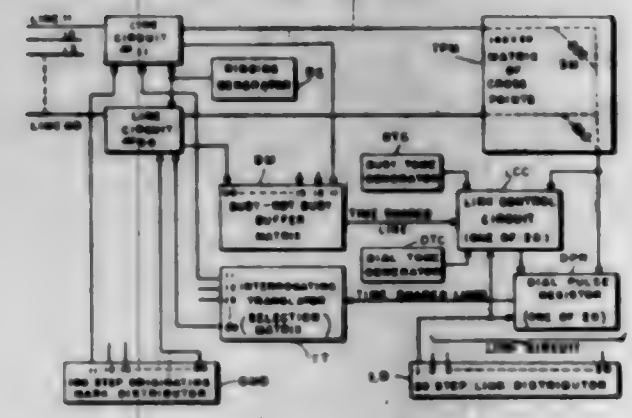
acteristic of said transmitted signal to produce a control signal indicative of said telegraph signal, and means responsive to said control signal to reproduce said telegraph signal.

3,141,867

AUTOMATIC ELECTRONIC COMMUNICATION SWITCHING EXCHANGE

Lester M. Spandorfer, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 17, 1960, Ser. No. 70,086
10 Claims. (Cl. 179—18)



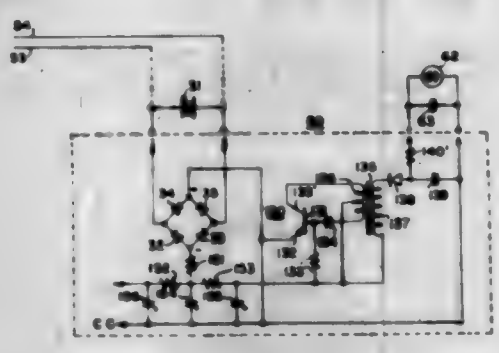
4. An electronic switching office for a two-way communication system including a switching matrix comprising the terminating portions of a plurality of subscriber lines, a plurality of transmission links crossing said terminating line portions at different points; a first plurality of pulse generating means, responsive to signals initiated by a subscriber associated with one of the subscriber lines desiring to communicate with another subscriber associated with another substricker line, to generate a pulse of one polarity and a given amplitude; a second plurality of pulse generating means for generating a pulse of the same polarity and of an amplitude less than that of the pulses of said first generating means; one of said first and second plurality of pulse generating means being connected to each of said subscriber lines; a third plurality of pulse generating means each for generating a pulse of reverse polarity and an amplitude less than that of the pulses of said first generating means; one of said third pulse generating means being connected to each of said transmission links; and bistable crosspoint switching means including a single switching element at the intersection of the lines and links for connecting one of said lines to the adjacent link upon application of one of said first pulses to one of said lines or upon the simultaneous application of one of said second pulses to one of said lines and one of said third pulses to one of said links, whereby the crosspoint switch at the intersection of a calling line and an idle link is switched on in response to one of said first pulses, thereby seizing the link to which that switch is connected, the seizure of the link causing one of the third pulses to be transmitted over the seized link, and simultaneously one of the second pulses to be transmitted over the called line only if the called line is not busy, the combined effect of the second and third pulses being sufficient to cause operation of the switch at the intersection of the called line and the seized link.

3,141,868

ARRANGEMENT FOR LIGHTING A LAMP AT A SUBSTATION

Robert T. Cleary, Lockport, Robert V. Burns, Markham, and Robert F. Hackstadt, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Original application Jan. 15, 1957, Ser. No. 634,184, now Patent No. 3,028,452, dated Apr. 3, 1962. Divided and this application May 10, 1961, Ser. No. 109,865
5 Claims. (Cl. 179—81)



4. In a telephone system, a central office battery, substation apparatus at a remote location with respect to said battery, a subscriber line providing for the transmission of voice signals and supervisory signals and connected at one end to said battery and at its other end to said substation apparatus, subscriber line equipment interposed between said central battery and said one end of said subscriber line for extending direct current from said battery to said substation apparatus, said substation apparatus comprising a lighting device operated by a voltage that is relatively high with respect to the voltage of said battery, and means comprising a transistor oscillator operated by said central battery and connected to said lighting device for supplying said relatively high operating voltage.

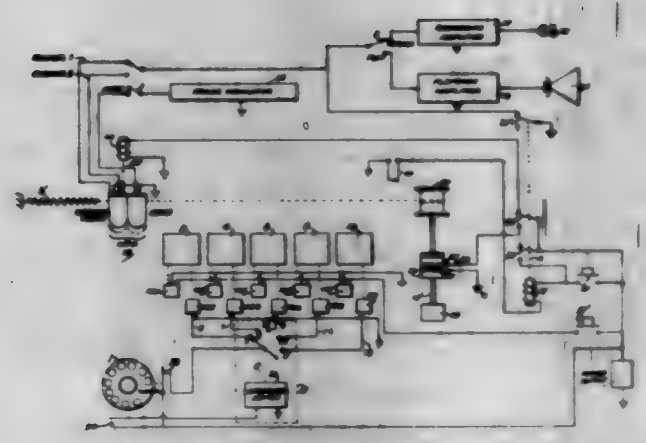
3,141,869

METHOD OF AND APPARATUS FOR RECORDING AND REPRODUCING INFORMATION

Edward L. Withey, 22 Anselm Terrace, Brighton 35, Mass.

Filed Apr. 7, 1959, Ser. No. 804,740
13 Claims. (Cl. 179—100.2)

1. In combination, a plurality of separate intelligence-storage devices arranged in juxtaposed substantially continuous succession along a scanning path, each device having magnetic material provided with a plurality of spaced magnetic intelligence-storage tracks extending across the device in the direction of said path, means for selectively moving each of said devices separately from the other devices to any one of a plurality of predetermined positions at each of which a selected one of its tracks is aligned with said path and juxtaposed with a track of a succeeding device, magnetic pick-up means, means for moving said pick-up means along said path in proximity with said juxta-

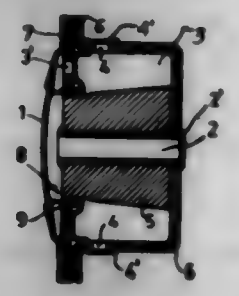


posed tracks, and means coupled to said pick-up means for reproducing substantially continuously the intelligence stored in said juxtaposed tracks.

3,141,870
ELECTRODYNAMIC MICROPHONE

Gerrit Schenkel and Jacob Izaak De Haan, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 7, 1960, Ser. No. 34,556
Claims priority, application Netherlands June 24, 1959
9 Claims. (Cl. 179—115.5)



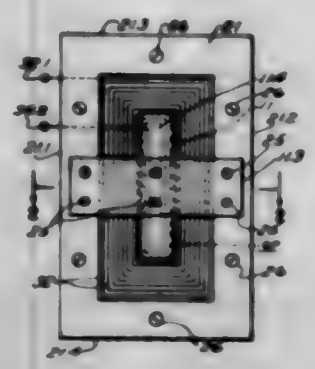
1. An electrodynamic microphone adapted to convert sound waves occurring in an air medium external thereto, said microphone comprising, in combination, a vibratory system including a diaphragm having first and second sides, said first side being accessible to said external air medium and said sound waves occurring therein, a magnetic core having a duct disposed therein having first and second openings communicating, respectively, with said second surface and directly with said external air medium, magnetic housing means enclosing said core and forming therewith an air chamber having a given compliance and having at least one first aperture and at least one second aperture communicating with said second side and said external air medium, respectively, means for terminating said second opening of said duct and said second aperture in acoustical resistances having a predetermined ratio with respect to each other to provide a predetermined directional characteristic for a given frequency characteristic, said given frequency characteristic including the low frequency range of the acoustical frequency spectrum.

3,141,871
FULL RANGE ELECTROACOUSTIC TRANSDUCERS

Stanley R. Rich, Hartford, Conn., assignor, by mesne assignments, to Alfred H. Rosen, Newton, Mass.

Filed July 18, 1960, Ser. No. 43,435
40 Claims. (Cl. 179—115.5)

1. Electrodynamic transducer comprising means to establish a substantially time-constant sheet-form field of magnetic flux extending over a prescribed area, said flux means comprising first pole means located substantially adjacent a mid-region of said area and second pole means located substantially adjacent at least a portion of the periphery of said area, the lines of force of said field extending between said first and second pole means in like sense from the periphery to said mid-region, the area of said first pole means confronting said first-named area being a minor fraction of said first-named area, a substantially imperforate membrane coated on one side



with an elastomer disposed in and extending throughout said first-named area, and a continuous flat spiral of elongated electric conductor means embedded in said elastomer and distributed over the major portion of said membrane substantially from said periphery to and including at least a portion of said mid-region, whereby an alternating current in said conductor means will produce substantially isophasal corresponding alternating motion of said membrane substantially throughout said first-named area.

3,141,872
SUPPORTING DEVICE FOR TELEPHONE INSTRUMENT

Hildaur L. Nelson, 2 Juniper St., Metuchen, N.J.

Filed Nov. 6, 1962, Ser. No. 235,736
16 Claims. (Cl. 179—157)



1. A supporting device for a telephone instrument, comprising a mounting element, resilient fastening means for attaching said element yieldably to said instrument, said element having stabilizing means, operative when the element is thus attached, for holding the latter against material angular movement from the principal longitudinal plane of said instrument, an arm element pivoted to said mounting element for pivoting laterally of the latter toward either side of said plane, and pivot-control means for limiting such lateral pivoting and for holding said arm element in any one of plural positions to which it may thus be pivoted; said mounting element being bodily swingable relatively to said instrument in parallelism with said plane and having a camming portion adapted to slide upon an adjacent surface of said instrument during the latter swinging movement and to coact with said instru-

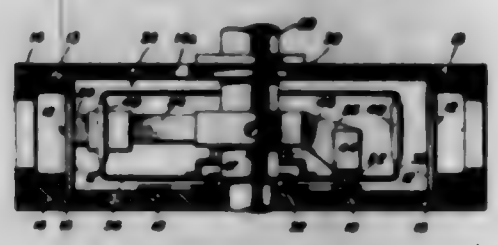
ment and said fastening means to hold said mounting element either in a position corresponding to a dormant position of said arm element or in a position corresponding to a first extended position of said arm element.

3,141,073

HIGH SPEED ROTARY SWITCH WITH CONTACT CLEANING MEANS

Arthur C. Stocker, Collingswood, N.J., Frank Wendzel, San Diego, Calif., and William Rolke, Merchantville, and Karl G. Kaufmann, Pennsauken, N.J., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 25, 1960, Ser. No. 71,847
5 Claims. (Cl. 200—24)



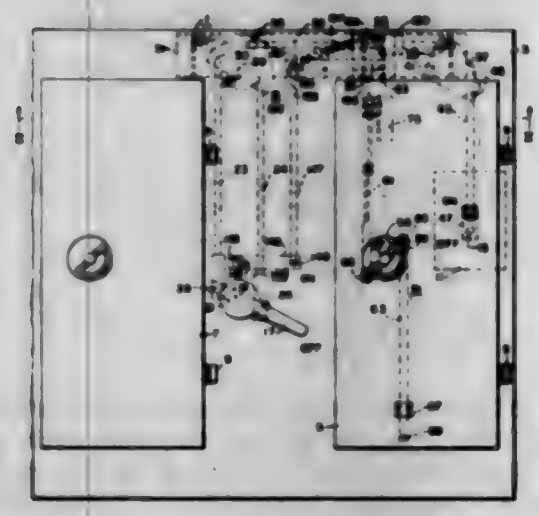
1. In a switch having a housing, said housing comprising a first and second spaced insulating member, contact means fixed to said second insulating member in a circular configuration, a collecting slip ring mounted within said second insulating member, rotating brush means contacting said contact means and said collecting slip ring, said brush means including brush carriers, and air scoops mounted on said brush carriers, said air scoops comprising a baffle member offset from the longitudinal axis of said brsuh carriers and being mounted at an acute angle relative thereto.

3,141,074

ENCLOSURE HAVING AN EXTERNAL OPERATING HANDLE FOR OPERATING AN ENCLOSED CIRCUIT INTERRUPTER

James O. Rexroad, Beaver, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 23, 1961, Ser. No. 83,968
9 Claims. (Cl. 200—50)



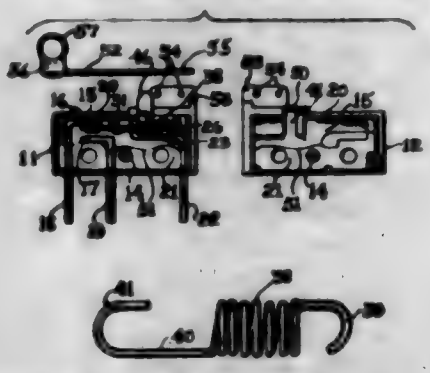
1. In combination, an enclosure comprising a housing structure and an openable cover supported on said housing structure, a circuit interrupting device mounted within said enclosure and having an operating member movable between two operating positions to open and close said circuit interrupting device, a driving mechanism mounted on said housing structure and operatively connected to said operating member, said driving mechanism comprising two elongated drive members, means connecting said drive members together and being responsive to longitudinal movement of a first of said drive members to move the second of said drive members longitudinally in a direction generally perpendicular to the direction of longitudinal movement of said first drive member, a handle mounted externally on said housing structure, connecting means operatively connecting said handle to said driving mechanism, and said handle being movable to operate said connecting means to operate said driving mechanism to open and close said circuit interrupting device.

3,141,075

ELECTRICAL SNAP-ACTION SWITCH

Arnold A. Brevick and Walter L. Cherry, Jr., Highland Park, Ill., assignors to Cherry Electrical Products Corp., Highland Park, Ill., a corporation of Illinois

Filed Mar. 1, 1963, Ser. No. 261,998
6 Claims. (Cl. 200—67)



1. A snap-action switch comprising, in combination,
(*a*) a hollow housing having an inter-locking case and cover,
(*b*) an integral terminal and pivot bracket including as a pre-assembled unit a pivotal switch blade and an overcentering mechanism,
(*c*) said bracket having a pair of spaced apart horizontally extending supporting arms,
(*d*) said arms terminating at one end into an elongated terminal having a free end adapted to be projected out of said housing,
(*e*) a lug struck from said bracket from between said arms and extending vertically therefrom in substantially the same longitudinal plane of said terminal,
(*f*) said arms provided at their opposite ends with angularly disposed pivot posts extending in a spaced parallel relation with respect to each other and said lug,
(*g*) said posts having their free ends connected together by a transversely extending cross member,
(*h*) a pivotal switch blade having pivotal connection with one side of said posts along a line extending beneath said cross member and below the free end of said lug,
(*i*) said overcentering mechanism including a coil spring having one end connected to the free end of said lug and its opposite end connected to said blade,
(*j*) said spring having its coils positioned intermediate said lug and said pivot posts and having an elongated neck portion extending between said posts beneath said cross member and under a portion of said blade so that said spring will lie between said arms of said bracket in an elevated horizontal plane with respect to the normal plane of said blade so as to overcenter said blade into a first contact position,
(*k*) a switch actuator movable through said hollow housing in a plane transversely with respect to said spring and engageable with the coils of said spring at a point between said pivot posts and said lug and adapted to move the coils of said spring between said arms into a horizontal plane beneath the point of pivotal connection between said blade and said posts so as to cause said blade to move with a snap-action into a second contact position.

3,141,876
ROTARY SNAP SWITCH

Randolph F. Hill, Drexel Hill, and Jerome G. Burns, Upper Providence, Pa., assignors to International Resistance Company, Philadelphia, Pa.

Filed Oct. 15, 1959, Ser. No. 846,729
16 Claims. (Cl. 200—74)

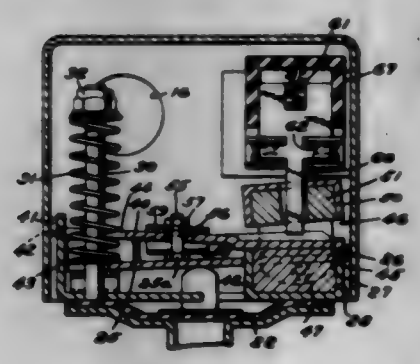


1. A switch comprising a casing of an electrical insulating material, said casing having a cavity therein which is defined by a pair of spaced parallel flat surfaces and a cylindrical surface extending between said flat surfaces, a pair of contacts carried by said casing, one of said contacts having a surface extending along and flush with one of said flat surfaces and the other contact having a surface extending along and flush with the other flat surface directly opposite the surface of said one contact, a rotor of an electrical insulating material rotatably mounted within said cavity, said rotor engaging the flat and cylindrical surfaces of the cavity so as to be supported by the surfaces of the cavity a contact extending through and carried by said rotor, said rotor being rotatable between a closed position in which the rotor contact simultaneously engages said casing contacts and an open position in which the rotor contact is angularly displaced from the casing contacts, spring means adapted to snap said rotor from its open position to its closed position and normally holding said rotor in its closed position, means whereby the rotor can be rotated to its open position, said spring means being under tension when the rotor is in its open position, and means for releasably securing the rotor in its open position.

3,141,877
MAGNETIC TYPE PRESSURE OPERATED SNAP SWITCH

Lyle Beeman, 758 Barrington, Grosse Pointe Park, Mich.

Filed Jan. 13, 1964, Ser. No. 337,320
12 Claims. (Cl. 200—83)

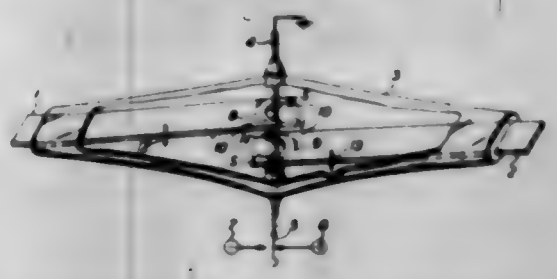


1. In a pressure switch, the combination comprising a casing,
a rigid spring support,
means for movably mounting said support to said casing,
spring means mounted on said casing and yieldingly urging said spring support in one direction,
an armature,
means for movably mounting said armature in said casing for engagement by said spring support,
said armature having a free end,
switch means mounted on said casing and operable by said armature,
pressure responsive means on said casing and operable on said spring support to move said support against the action of said spring means,
a pair of magnet assemblies mounted on said casing on opposite sides of the free end of said armature,
said armature being movable from a position in magnetic contact with one magnet assembly to a position in magnetic contact with the other magnet assembly,
said armature in one of said positions actuating said switch means.

3,141,878
FORKED MAGNETICALLY OPERATED CONTACT ASSEMBLAGE

Harold N. Wagar, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 24, 1962, Ser. No. 197,395
20 Claims. (Cl. 200—87)

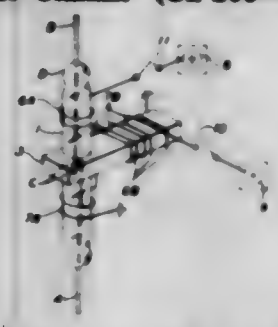


19. An electrical contact device comprising a pair of magnetic members each having a forked end and defining contact portions at said ends and means for controlling the contacting of said contact portions, said means comprising a conductor disposed within the forked ends of said magnetic members and magnetically coupled thereto and means supporting said members such that the open sections of said forked ends are disposed on opposite sides of said conductor.

3,141,879
MAGNETICALLY CONTROLLED SWITCHING DEVICES

Terrell N. Lowry, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

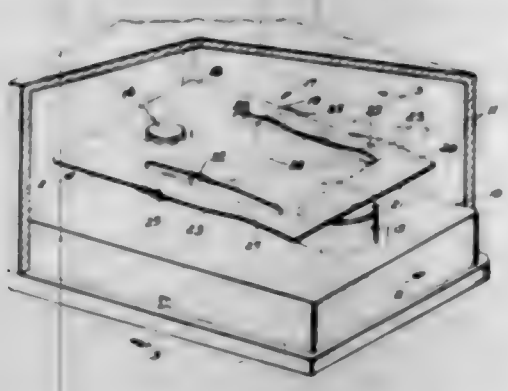
Filed June 29, 1962, Ser. No. 206,501
19 Claims. (Cl. 200—87)



1. A magnetically controlled switching device comprising at least a pair of contact members each having a contact surface adjacent to a mating contact surface of the other said member; biasing means individual to said members for causing a first flux to flow through said members; in the same direction; fluid guide means for directing a second magnetic flux to said adjacent contact surfaces; first control means magnetically coupled to said guide means and effective when only one of said biasing means is energized for causing a second flux to flow along said guide and through said members in opposite directions to overcome said first flux and to inhibit the mating of said contact surfaces; and second control means magnetically coupled to said guide means and effective when both said biasing means are concurrently energized for

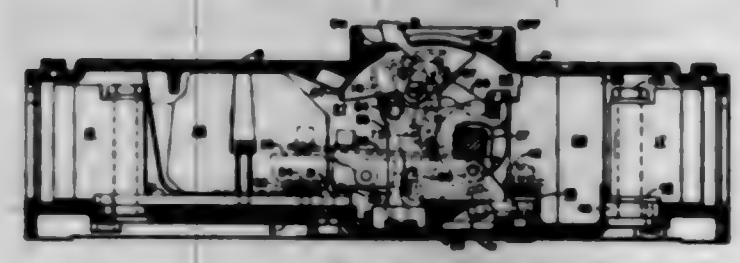
causing a third flux which in vectorial addition with said second flux produces substantially zero flux flow along said guide to said adjacent contact surfaces enabling said surfaces to mate under control of said first flux.

3,141,080
BI-METALLIC CIRCUIT BREAKER SNAP REED
Hans Ege, Chicago, Ill., assignor to Underwriters Safety Device Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 7, 1961, Ser. No. 101,461
1 Claim. (Cl. 200—113)



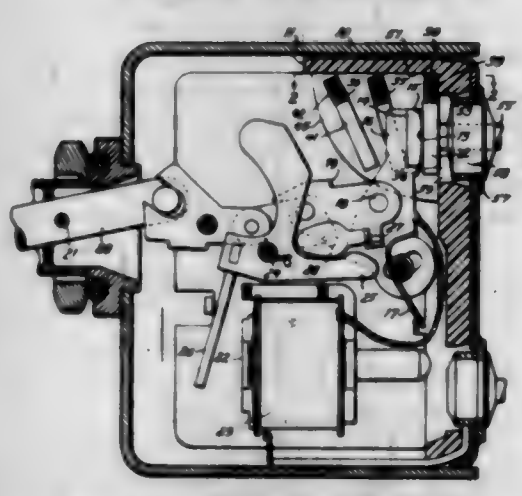
A bi-metallic reed for use in a circuit breaker, said reed being of generally rectangular shape and comprising an end mounting portion, an opposite end contact portion, and a central snap action portion, said snap action portion being defined by a pair of transversely spaced paralleling slots extending longitudinally of said reed adjacent to opposite side margins thereof, the central reed area between said slots being longitudinally tensioned by having been drawn in a direction perpendicular to the plane of said reed along a transverse line extending across said area from one slot to the other centrally of said area and providing said reed with a central dished shape, said slots defining with said side margins relatively thin longitudinally extending ribbon-like portions, each of said ribbon-like portions between opposite ends thereof being arcuately tensioned in offsetting relation from the plane of said reed in a direction opposite to that in which said central reed area is tensioned, said offsetting relation defining concave-convex areas extending continuously substantially the full length of said ribbon-like portions and terminating in transverse line margins inwardly of opposite ends of said slots.

3,141,081
CIRCUIT BREAKER WITH THERMAL TRIPPING MEANS
Albert R. Cellerini, Beaver, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1960, Ser. No. 8,818
3 Claims. (Cl. 200—122)



1. A circuit breaker comprising, separable contacts and means releasable to effect automatic separation of said contacts, a trip device for effecting release of said releasable means, said trip device comprising a core member comprising a generally U-shaped structure of magnetic material and a top part of magnetic material, means movably mounting said top part on the free ends of said U-shaped structure whereby said top part and said U-shaped structure encompass an opening, a conductor connected in electrical series with said contacts and passing through said opening, an elongated bimetallic member supported at one end thereof on said top part in a heat conducting relationship with said top part and the other end thereof extending away from said core member in the direction of the extension of the legs of said U-shaped structure, said top part being adapted to be heated by hysteresis and eddy current losses therein when said conductor is energized by an alternating current, said heat in said top part being conducted to said bimetallic member to heat said bimetallic member, and said bimetallic member when heated a predetermined amount bending to effect release of said releasable means.

3,141,082
CIRCUIT BREAKER HAVING IMPROVED ARC RUNNER OF MAGNETIZABLE MATERIAL
Joseph S. Holyday, Pennington, N.J., assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey
Filed May 15, 1961, Ser. No. 110,241
2 Claims. (Cl. 200—147)



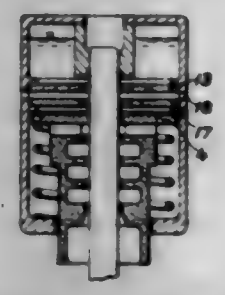
1. In a circuit breaker the combination of a case, stationary and movable contacts, a mechanism for moving said movable contact away from said stationary contact, said contacts being the only electrically conductive elements from which arcs may be drawn on contact separation, and a magnetizable member completely surrounding the stationary contact on three sides thereof, said magnetizable member including a base and two legs in the form of a U-shape, said base having a mass, on the side of the stationary contact toward which movement of the arc is desired, which is equal to or greater than but not less than the mass of one of the legs, said legs being coterminous with the edge portion of said stationary contact farthest from said base and disposed on opposite sides of the stationary contact, whereby the initial arc is immediately surrounded on contact separation by a zone of lowest flux density at the base toward which the arc tends to move, a zone of highest flux density extending between the ends of the legs on the side opposite from that toward which the arc moves and with which the initial arc reacts to initiate movement thereof, and zones of intermediate flux density between the aforesaid zones of high and low flux density and on opposite sides of the arc to magnetically guide the arc toward said base, said case including a peripheral portion of electrical insulating material, said magnetizable member engaging said peripheral case portion and being in intimate physical contact with a portion of the peripheral outer surface of said stationary contact, whereby extinction of the arc is further facilitated by conduction of heat from said arc through said stationary contact and magnetizable member directly to said peripheral case portion.

3,141,883

EXTINGUISHING CHAMBER FOR OIL CIRCUIT BREAKER HAVING DIFFERENTIAL PISTON AND GAS FILLED SPACE THEREIN

Haakon Forwald, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Oct. 23, 1961, Ser. No. 146,889
Claims priority, application Sweden Nov. 8, 1960
5 Claims. (Cl. 200—150)



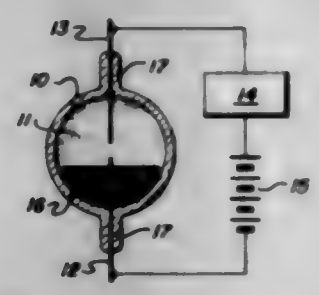
1. Oil circuit breaker comprising an extinguishing chamber immersed in oil, a differential piston dividing said chamber into a pressure chamber and a pump space; the larger surface area of said piston limiting said pressure chamber, a stationary nozzle shaped contact arranged in said pressure chamber; said pressure chamber being partly filled with oil to a predetermined level, said last mentioned oil being in communication with the oil outside the extinguishing chamber through the open nozzle, a gas-filled closed space in the pressure chamber above said level; a channel through said piston and a movable contact arranged to pass through said channel in said piston to engage said stationary contact and close said nozzle, and a slot in said piston connecting said channel and said pump space and controlled by the movable contact for putting said pump space into communication with said channel when said movable contact moves toward said open position.

3,141,884

WEIGHTLESSNESS SWITCH

Robert P. Stromberg, Albuquerque, N. Mex., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed July 11, 1961, Ser. No. 123,322
3 Claims. (Cl. 200—152)



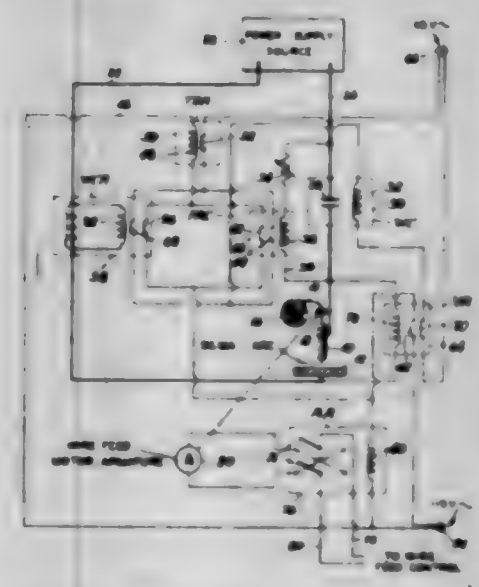
1. A device of the character described comprising body means having therein a cavity with interior walls consisting essentially of spheroidal configuration throughout all portions of the cavity, a pair of electrical conductors each extending through said body means and including an exposed conductive end portion disposed in close proximity to the center of said spheroidal configuration, said end portions being spaced apart and normally electrically isolated from each other, a quantity of mercurial liquid within and supported by said spheroidal configuration walls and confined to corresponding conformation at coextensive contacting surfaces at all positions of said body means when exposed to at least normal gravimetric conditions with said quantity being insufficient to contact said end portions during said normal gravimetric conditions irrespective of the position of said body means, and said quantity of mercurial liquid being such that when in generally spheroidal configuration the diameter thereof is greater than the radius of said cavity, said liquid upon approach of the device to a condition less than normal gravimetric conditions assuming a generally spheroidal configuration of diameter less than that of said cavity but greater than the radius of said cavity and bridging the space between said conductor end portions for electrically connecting them.

3,141,885

WORK-IN-CIRCUIT CONSUMABLE ELECTRODE ARC WELDING

August F. Manz, Newark, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Nov. 23, 1962, Ser. No. 239,499
6 Claims. (Cl. 219—130)



1. Work-in-circuit consumable electrode arc welding, which comprises applying a regulated voltage between an electrode-wire and the work to be welded so that a relatively low current flows when such wire touches the work, relatively slowly feeding such wire toward the work until the wire touches the work; initiating such low current flow as soon as the so-fed wire touches the work, retracting the wire upon initiation of such low current flow by such regulated voltage; drawing a non-spattering pilot-arc between the so-retracted wire and the work by virtue of such low current at such regulated voltage; and in response to such low current flow, stopping the retraction of such wire and feeding it at a welding rate toward such work at a regulated welding voltage such that the welding current arc is smoothly established.

3,141,886

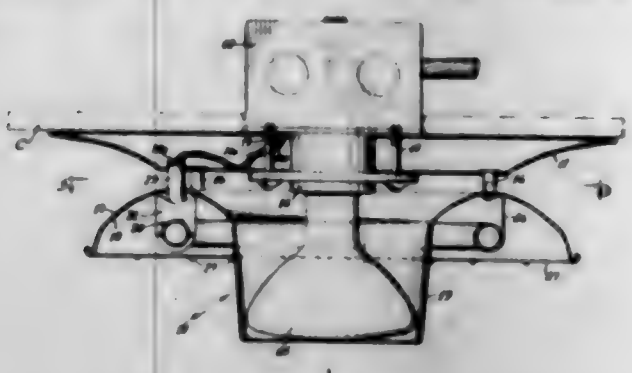
INFRARED HEATING AND ILLUMINATING FIXTURE

Jacob Prager, Westbury, N.Y., assignor to Infrared Corp. of America, Hicksville, N.Y., a corporation of New York

Filed Sept. 27, 1961, Ser. No. 141,067
4 Claims. (Cl. 219—220)

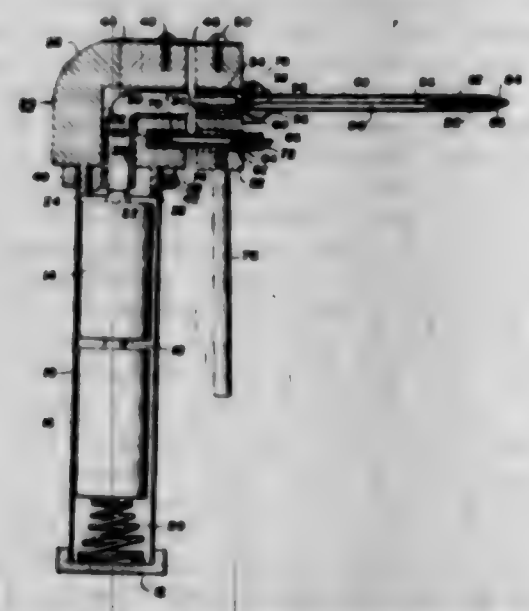
1. A heating and lighting fixture comprising a base assembly adapted to be supported by an overhanging surface and including a laterally extending circular portion disposed generally parallel to the overhanging surface, an annular radiation reflecting member having a central opening defined by the inner edge thereof, means to support the reflecting member beneath the base assembly coaxially disposed with respect thereto and spaced downwardly therefrom to define lateral air passages therebetween, an annular infrared heating source mounted in the reflector member, a depending tubular

member carried by the inner edge of the annular reflecting member in the central opening thereof, extending below the plane of the annular heating source, the outer surface of the tubular member constituting a reflecting surface for radiant energy to disperse the energy with lateral components and the inner surface constituting a chimney for the passage of cooling air upward to said



lateral air passages, and a light source supported by the base and extending downward into the tubular member and spaced radially inwardly therefrom to afford vertical air passages within the chimney, said light source being disposed below the lateral air passages, whereby cooling air is pumped by the heat of the light source upward around the light source and radially outward over the top of the reflecting member.

3,141,057
BATTERY POWERED ELECTRIC SOLDERING IRON
Alexander Schoenwald, Grove City, Pa., assignor to P. Wall Manufacturing Company, Grove City, Pa., a corporation of Pennsylvania
Filed May 22, 1961, Ser. No. 111,579
3 Claims. (Cl. 219—233)



2. A soldering iron comprising a hollow handle formed from electrical conducting material, battery means carried within said handle and having positive and negative terminals, a first member of electrical conducting material secured to and electrically connected to the top of said handle, a bore extending through said first member, an electrical conductor extending through said bore and having one end in engagement with one of said battery terminals, the other battery terminal being electrically connected to said handle, electrical insulating means between said electrical conductor and said first member, a second member of electrical conducting material secured to said first member, means for electrically connecting said second member to the first member, a bore in the second member, a hollow soldering tip of electrical conducting material closed at its forward end and received at its other end in the bore in said second member so as to be electrically connected to said second member, an electrical heating coil disposed within said tip, an electrical connection between one end of the coil and the forward end of said hollow tip, and means for electrically connecting the other end of said heating coil to the electrical conductor extending through said bore in the first member, said last-mentioned means being electrically insulated from the tip and said second member.

3,141,088
ELECTRIC SOLDERING IRON
Arthur L. Johnson, Roselle Park, N.J., assignor, by mesne assignments, to Hexacon Electric Company, Roselle Park, N.J., a corporation of New Jersey
Filed Sept. 10, 1962, Ser. No. 222,486
2 Claims. (Cl. 219—236)

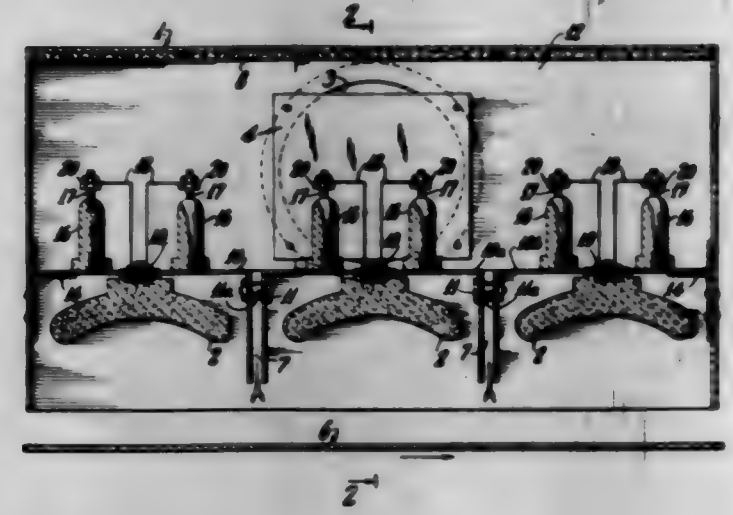


1. An electric soldering iron comprising a handle member having a diametrically enlarged annular head at its forward end and provided with a plurality of circumferentially spaced apart offsetting studs projecting from its forward face, the head of said handle member having at its rear face a series of concentrically spaced, rearwardly offset, successive annular shoulders adapted to increase its area of heat radiating and dispersing surface, said handle member having a finger grip section extending rearwardly behind its head, said grip section having an external surface comprising a plurality of longitudinally extending, radially projecting spaced apart ribs to provide for heat dissipating air circulation between said grip section and the grasping hand of the iron user, a concavo-convex reflector member affixed to and supported by said studs in outwardly spaced away parallel relation to said handle member head, the diameter of said reflector member being greater than the diameter of said head, said studs providing both a reduced path of direct heat conduction toward said handle member as well as air circulation space between said reflector member and the latter, said reflector member having its concave face highly polished and forwardly presented, to thereby reflect heat away from said handle member, all whereby heat radiation, reduced heat conduction and heat reflection are induced relative to the handle member, including air circulation relative to the reflector member to further enhance heat dissipation, a hollow barrel unitary with and projecting forwardly from and in axially aligned relation to said handle member and through said reflector member, a soldering tip affixed to the free end of said barrel, an electric heating element housed in said barrel forwardly of the reflector member and in heat transfer relation to said soldering tip, said handle member having an axial bore extending therethrough, and conductor means extending through said bore to operatively connect said electric heating element with a source of electrical energy.

3,141,089
INFRARED HEATER
Odd Hultgreen, Greenwich, Conn.
(% Comac Engineering Inc., 239 Mill St., Byram, Conn.)
Filed May 3, 1961, Ser. No. 107,399
4 Claims. (Cl. 219—352)

1. An infrared heating unit comprising a housing having an opening for passage of infrared radiation, plate

means in the housing defining therewith a substantially closed chamber, bracket means mounting said plate means for sliding movements in the housing, electrically operable infrared emitter means located at a side of said plate means opposite said chamber and positioned for passage of infrared radiation from said emitter means through said opening, said slidable plate means forming a slot leading from said chamber in the direction of said opening and spaced from said emitter means, said chamber having a cooling air inlet, an air supply duct located externally of said chamber and leading to said inlet, and electrical connectors in said chamber mounted on said slidable plate means and through which said emitter means are adapted to be energized, said connectors being in the path of air flow from said duct to said slot, whereby said connectors and plate means are slidable as a unit in the housing and are cooled by cooling air forced through said inlet and whereby heated air is directed through said slot and housing opening.



3,141,090
PORTABLE HEATING TRAYS
Ralph R. Batcher, Douglaston, N.Y., assignor to Irwin F. Mills Associates, New York, N.Y.
Filed Oct. 24, 1961, Ser. No. 147,249
2 Claims. (Cl. 219—438)



1. A portable heating tray, comprising

(*a*) a main heating member having

(1) a dish-shaped receptacle with a substantially flat bottom and a surrounding wall, and

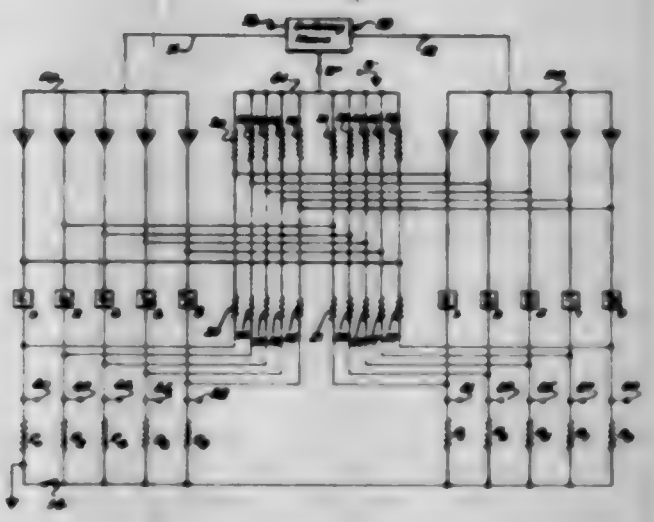
(2) a heating element of flat shape to rest against the flat bottom of the dish-shaped receptacle, and

(3) means secured to said receptacle wall for supporting the heating element in contact with the bottom of the receptacle, said supporting means being so secured by a return folded portion of said receptacle wall, said return folded portion extending below and around the edges of said supporting means and being tightly peened over said edges of said supporting means,

(*b*) a heat baffle suspended from said support for said heating element; and

(*c*) handles secured to the baffle plate to transport the heating tray.

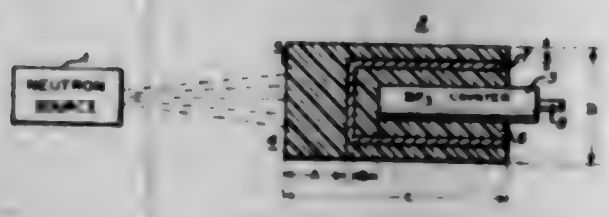
3,141,891
COUNTING CIRCUITS
Robert Creveling, 1415 Park Ave. SW., Albuquerque, N. Mex.
Filed Aug. 23, 1961, Ser. No. 133,505
14 Claims. (Cl. 235—92)



1. A pulse counting circuit comprising, in combination: a predetermined plurality of counting groups, each of said counting groups consisting of a predetermined plurality of substantially identical circuit branches connected in parallel, each of said circuit branches consisting of a series combination of an electrical isolating device and a two-terminal negative resistance device and a load impedance, said negative resistance devices exhibiting a negative resistance characteristic over a portion of their operating range wherein an increase in current flow through the device results in a decrease in the voltage drop across the device, said negative resistance devices being selectively operable through a portion of the negative resistance region of their voltage current curves between inactive and counting states, each of said counting groups being coupled to a source of direct-current operating potential, the electrical energy supplied to said counting groups from said source of direct current operating potential normally biasing all except one of said negative resistance devices in the counting circuit in the inactive state, the remaining negative resistance device being biased in the counting state; direct-current coupling means intercoupling the negative resistance devices of said circuit branches in a counting ring wherein the count progresses successively from group to group in a predetermined order, the junction between the negative resistance device and the load impedance of the Xth circuit branch of one group being coupled to the junction between the electrical isolating device and the negative resistance device of the Xth circuit branch of the next group with the exception that the junction between the negative resistance device and the load impedance of the Xth circuit branch of the last group is coupled to the junction between the electrical isolating device and the negative resistance device of the $(X+1)$th circuit branch of the first group and with the further exception that the junction between the negative resistance device and the load impedance of the last circuit branch of the last group is coupled to the junction between the electrical isolating device and the negative resistance device of the first circuit branch of the first group, where X is a positive integer not in excess of said predetermined number of circuit branches, the direct-current potential drop appearing across the load impedance in the circuit branch containing the negative resistance device in the counting state being coupled to the next negative resistance device to count to prime it with a voltage advantage whereby upon application of a pre-

determined electrical input pulse to the counting groups the primed negative resistance device will be selectively switched from the inactive state to the counting state; and, switching means coupling each of said counting groups to said source of direct-current operating potential, said switching means being responsive to each pulse to be counted by applying a said predetermined electrical input pulse simultaneously to each of said counting groups to thereby cause advancement of the count and by selectively altering the electrical energy supplied to the counting group containing the negative resistance device just switched to the counting state to maintain that particular count until application of the next succeeding predetermined electrical input pulse, said switching means further intercoupling said counting groups to momentarily couple said alteration in electrical energy occurring upon advancement of the count to the counting group containing the negative resistance device indicating the immediately preceding count to selectively switch that negative resistance device from the counting state to the inactive state.

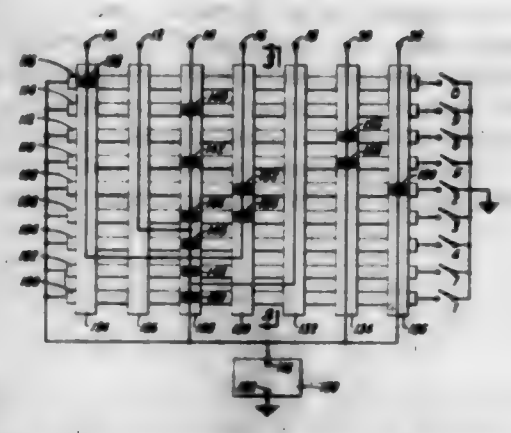
3,141,092
SELECTOR FOR FAST AND INTERMEDIATE ENERGY NEUTRONS POSITIONED WITHIN MODERATOR AND ABSORBER SHIELDS
Leo H. Weinberg, Schenectady, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 9, 1961, Ser. No. 120,119
5 Claims. (Cl. 250—108)



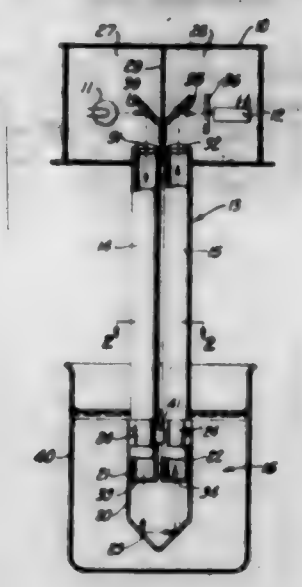
1. Apparatus for measuring biological dosage from a source of fast and intermediate neutrons comprising means for detecting neutrons substantially only in the thermal energy range, said detecting means being positioned with one end for receiving said neutrons from said source, compensating shield means including both a neutron absorbing and slowing material positioned between said source and said end and substantially enclosing and contiguous with said end, said slowing material having one layer positioned between said end and said absorbing material and having another layer positioned between said absorbing layer and said source, the relative thickness of said layers being such that low energy neutrons from the source are absorbed while high energy neutrons are slowed as they pass through the shield and the detector measures a quantity dependent upon the energy level of the neutrons in proportion to the dosage received.

3,141,093
SIGNAL ENCODER USING ELECTROLUMINESCENT AND PHOTOCONDUCTIVE CELLS
Allen L. Solomon, Glen Cove, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Oct. 21, 1960, Ser. No. 64,125
6 Claims. (Cl. 250—213)

1. A device comprising a plurality of separate, parallel, elongated electroluminescent cells arranged in columns, and another plurality of photoconductive cells overlying said columns and arranged in rows, each photoconductive cell overlying only a single column and being optically coupled to the electroluminescent cell constituting said single column, the photoconductive cells in each row being electrically interconnected in series.



3,141,094
PHOTOELECTRIC IMMERSION PROBE
Allen Strickler, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Oct. 27, 1960, Ser. No. 65,452
6 Claims. (Cl. 250—218)

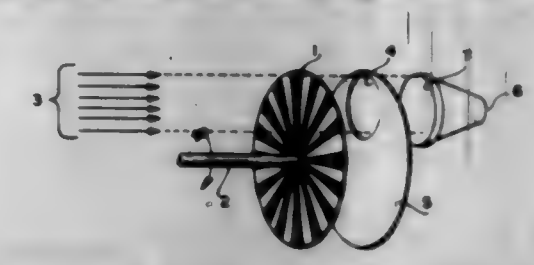


1. In a photoelectric probe for immersion into a fluid for adsorption measurements or the like, the combination of: support means; a radiation source mounted in said support means; a radiation sensing device mounted in said support means; a radiation conductor mounted adjacent one end in said support means and projecting therefrom, with the other end of said conductor being immersible in a fluid; radiation reflecting means; and mounting means for mounting said reflecting means adjacent said other end of said conductor and spaced therefrom, said radiation conductor and said reflecting means defining a radiation path from said source to said sensing means, said radiation path being deflected in said fluid only by said reflecting means, said mounting means including means for varying the spacing between said reflecting means and said other end of said conductor for varying the amount of fluid positioned in said path.

3,141,095
NOISE REDUCTION APERTURE FOR RADIANT ENERGY APPARATUS
George J. Klose, Orange, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Oct. 2, 1961, Ser. No. 142,139
5 Claims. (Cl. 250—233)

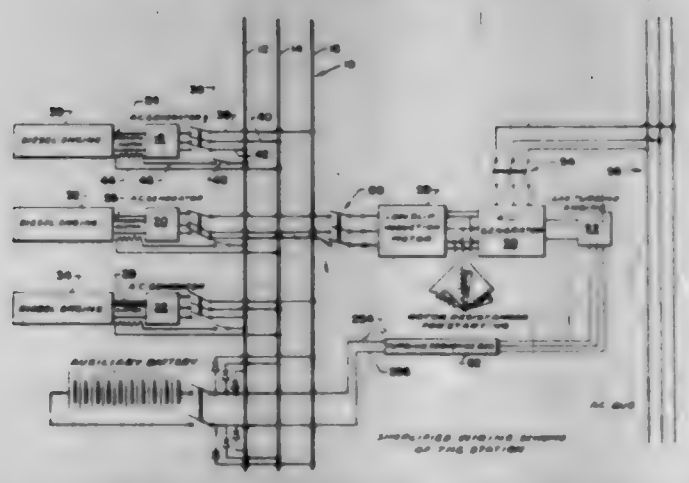
1. A target scanning system responsive to a radiant energy emissive target appearing against a uniform radiant background comprising, an energy responsive detector, a scanning disc mounted for rotation and interposed

between said target and said detector, means for rotating said scanning disc, said scanning disc including a plurality of angularly spaced, alternately arranged energy transparent and opaque areas extending from adjacent the center of rotation of said scanning disc in a generally radial direction, a mask interposed between said scanning disc and said detector and having aperture means therein



whereby upon rotation of said disc the energy striking said detector from said target will be modulated by said scanning disc, said aperture having a plurality of angularly spaced notches, the angular spacing of which conforms with the angular spacing of said sectors whereby the area of exposure of said energy transparent sectors through said mask remains substantially constant while said scanning disc is rotated.

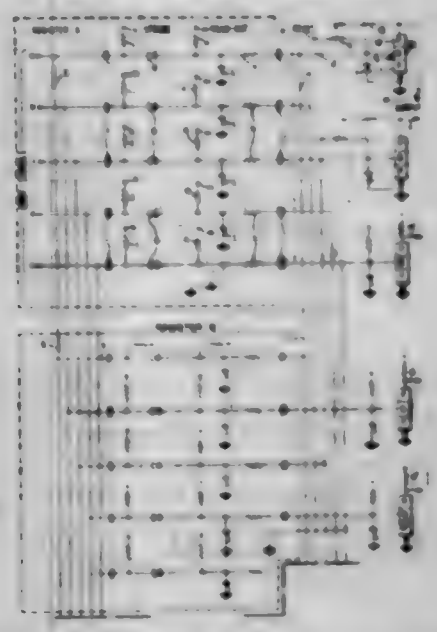
3,141,896
POWER BRIDGE TURBINE ARRANGEMENT
Dietrich E. Singelmann, Buffalo, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed July 3, 1961, Ser. No. 121,390
12 Claims. (Cl. 290—4)



1. A power supply system comprising at least two alternately usable power plants, power generating means driven by said power plants, said power generating means including a rotating generator, and a power bridge mechanism coupled to said rotating generator, said mechanism comprising a flywheel rotated by said rotating generator, a normally stationary turbine, and epicyclic gear means, said gear means having one power path between said generator and said flywheel and another power path between said turbine and said generator, and control means for actuating said turbine, in opposition to said flywheel, responsive to power failure of the operating power plant.

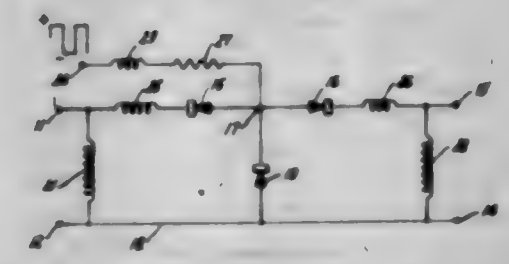
3,141,897
TUNNEL DIODE ADDRESS REGISTER
Harold R. Grubb, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 3, 1961, Ser. No. 102,386
1 Claim. (Cl. 307—88.5)

An addressing circuit comprising, in combination, an input capacitor, a unilateral conducting device, a resistor and an output capacitor connected in series with one another; an input tunnel diode having one terminal connected to the output side of said unilateral conducting device and being energizable to a first or a second stable voltage level in response to binary data; means for applying a biasing voltage to said unilateral conducting device on the input side of said device for controlling the conducting condition thereof and hence the coupling of said input binary data to said input tunnel diode; a read-out means connected to said tunnel diode for returning said tunnel diode to its first level; an output latch comprising an output tunnel diode having first and second stable voltage levels and a transistor having an input and an output portion; said output tunnel diode in said latch



being connected across the input to said transistor for selectively biasing said transistor to an initial and a second conducting condition; the output capacitor being connected to said latch; said input tunnel diode when reset from its second voltage level to its initial voltage level causing a current to flow through said output tunnel diode thereby changing the voltage level of said output tunnel diode to bias said transistor to its second conducting condition; and, reset means for resetting said output tunnel diode to its first voltage level to latch said transistor to its initial conducting condition.

3,141,898
HIGH SPEED ELECTRONIC SWITCHING CIRCUIT
Peter Ravenhill, Baltimore, and Harold Smith, Severna Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1962, Ser. No. 200,900
5 Claims. (Cl. 307—88.5)



1. A high speed electronic switching device operable by positive and negative voltage signals applied to an external gate comprising:
input terminal means,
output terminal means,
first and second crystal diodes each having an anode and a cathode, said anodes being connected together at a junction point, said cathode of said first crystal diode being connected to said input terminal means, and said cathode of said second crystal diode being connected to said output terminal means,
a gating terminal connected to said junction point,

a third crystal diode having a cathode connected to said junction point and an anode connected to both said input terminal means and said output terminal means, and

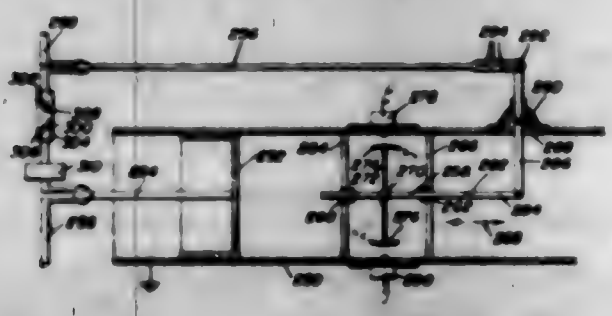
a first choke connected across said input terminal means and a second choke connected across said output terminal whereby said chokes provide direct current paths to ground.

3,141,099

METHOD AND APPARATUS FOR FORMING AND/OR AUGMENTING AN ENERGY WAVE

Clarence W. Brandon, Tulsa, Okla. (1412 Golf Terrace, Tallahassee, Fla.), assignor of twelve and one-half percent to Orpha B. Brandon, Tallahassee, Fla., and fifty percent to Nat A. Hardin, Catherine H. Newton, and Hazel H. Wright, all of Forsyth, Ga.

Continuation of application Ser. No. 431,388, May 21, 1954. This application Aug. 3, 1959, Ser. No. 833,122
10 Claims. (Cl. 310—4)



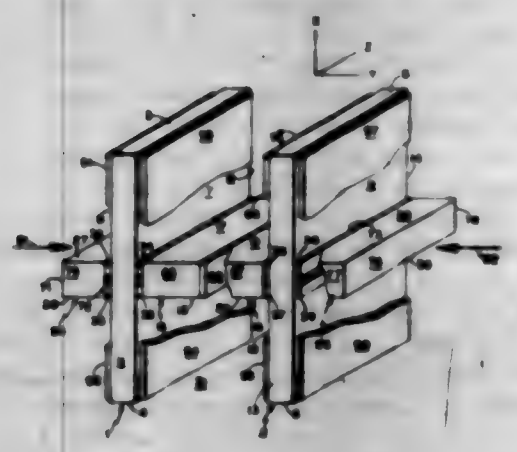
1. The process of augmenting an energy wave in a wave transmitting medium comprising the steps of moving a member in said medium to produce said energy wave, positioning and producing an electric arc in said medium coincident with the movement of said member, whereby the heat energy from said arc is periodically introduced into said energy wave at a predetermined phase angle of said wave.

3,141,100

PIEZOELECTRIC RESONANCE DEVICE

Thomas Gordon Hart, West Acton, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed June 21, 1962, Ser. No. 204,196
20 Claims. (Cl. 310—8.6)



1. In a mechanical resonance device the combination comprising:

(*a*) at least one pair of substantially identical crystal quartz prismatic members having substantially rectangular end faces, said members being disposed in parallel and opposite relationship with respect to equal side faces; and

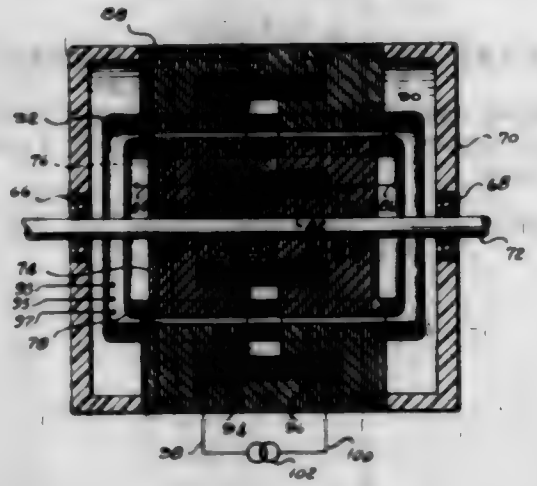
(*b*) crystal quartz constraining means in abutting relationship with said equal side faces substantially equidistant from the ends of said members, the surfaces of said crystal quartz constraining means being oriented with respect to the crystal axes and with respect to said members to substantially match the coefficients of expansion of said constraining means and said members at their abutting surfaces, said prismatic members and said constraining means in combination supporting a resonance condition where in the unconstrained portions of said members are in substantially balanced flexural motion and said constraining means is subjected to substantially only compressional and extensional forces.

3,141,101

BRUSHLESS SYNCHRO CONSTRUCTION

Morris F. Ketay, Great Neck, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 2, 1960, Ser. No. 73,356
2 Claims. (Cl. 310—68)



1. A synchronous device including in combination a stator, a shaft, means mounting said shaft for rotary movement on said stator, means forming an annular winding-receiving slot in said stator, said slot extending around said shaft at a location along the length of said shaft, means forming stator winding-receiving slots in said stator, said stator winding-receiving slots being disposed generally at said location along the shaft length in radially spaced relation to said annular slot, a primary winding disposed in said annular slot, said primary winding having an axis extending substantially parallel to said shaft axis, a stator winding disposed in said stator winding slots, said stator winding comprising a coil having an axis substantially perpendicular to said shaft axis, a secondary winding having an axis extending substantially parallel to said shaft axis, a rotor winding, said rotor winding comprising a coil having an axis extending substantially perpendicular to the axis of said shaft, means mounting said secondary and rotor windings on said shaft in inductive relationship respectively with said primary winding and with said stator winding and means connecting said secondary winding to said rotor winding.

3,141,102

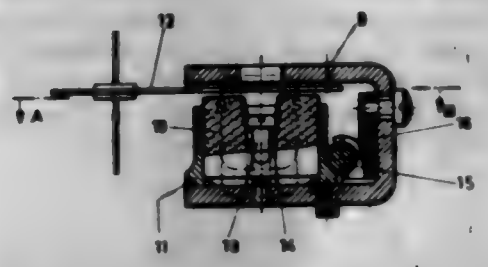
ADJUSTABLE DOUBLE PATH BRAKE MAGNET

Erich Steingroever, Bonn, Germany, assignor to Magnetfabrik Bonn Gewerkschaft Windhorst, Bonn, Germany

Filed Sept. 1, 1960, Ser. No. 53,547
4 Claims. (Cl. 310—93)

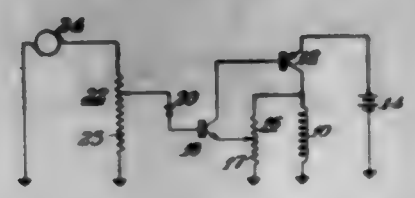
1. An adjustable double path brake magnet comprising a housing of soft iron material, a cylindrical permanent magnet member U-shaped to form a pair of spaced poles of opposite polarity, said magnet being mounted interiorly of said housing on one side thereof, the opposite side of said housing being spaced from said poles and serving as a return path for the magnetic flux, an electrically conductive braking element extending between said poles and said opposite side of the housing

and spaced therefrom, screw means located between the legs of the U-shaped magnet member rotatably securing said member to said housing, and an aperture in said



opposite side of the housing opposite the air gap between said spaced poles, said aperture allowing access to said screw means.

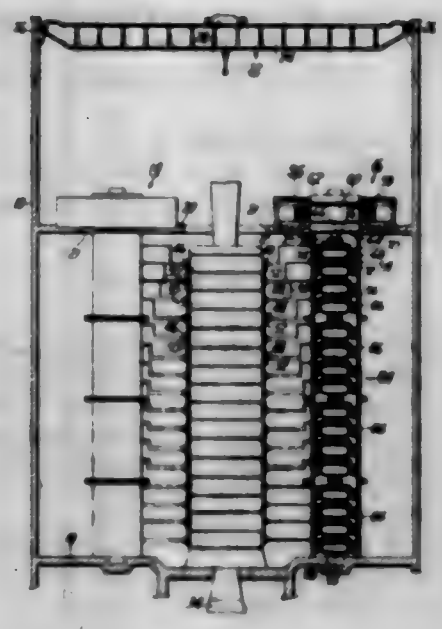
3,141,103
ELECTRIC CONTROL DEVICE FOR ELECTRO-MAGNETIC CLUTCH
Tetsumasa Asano, Himeji, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Jan. 23, 1962, Ser. No. 168,046
Claims priority, application Japan Jan. 30, 1961
3 Claims. (Cl. 310—95)



1. An electric control circuit for an electromagnetic clutch comprising, a first source of direct current voltage, a first transistor, an energizing coil for energizing and actuating the electromagnetic clutch connected to said first source of direct current voltage through said first transistor, a second transistor connected to control the conduction of said first transistor, a Zener diode having a preselected breakdown voltage connected in a base-to-emitter current flow path configuration of the second transistor, and a second source of voltage connected in series with said Zener diode for providing an output voltage applied to said diode as an inverse voltage and for unlocking said second transistor and having a magnitude proportional to a speed of rotation of a driven shaft, whereby when the output voltage from said second source exceeds the Zener diode breakdown voltage of said Zener diode said first transistor is rendered conductive upon conduction of said second transistor and said electromagnetic coil is energized by said first source proportionately to a difference voltage between the voltage of said second source and said breakdown voltage by said Zener diode.

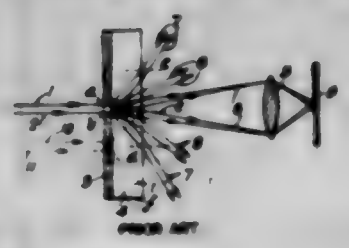
3,141,104
ELECTRICAL CONVERTER
Edward F. Brill, Brookfield, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 27, 1962, Ser. No. 182,848
7 Claims. (Cl. 310—112)

1. In an electrical power plant, in combination, an electrical power generator having power output terminals along its length, and converter means for said generator, said converter means comprising a plurality of motors having their armatures in axial alignment and mechanically connected together, each of said motors being disposed adjacent the power output terminals from which it is energizable and said converter means further comprising



a rotating electrical machine having a stator and a rotor in axial alignment with said motors and adapted to be driven thereby.

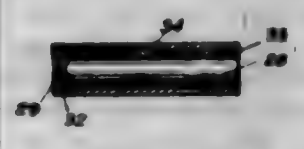
3,141,105
CATHODE RAY TUBE WITH COMPOSITE MULTIPLE GLASS FIBRE FACE
Jeofry Stuart Courtney-Pratt, Springfield, N.J., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass.
Continuation of application Ser. No. 680,308, Aug. 26, 1957. This application Dec. 19, 1963, Ser. No. 332,984
27 Claims. (Cl. 313—68)



1. An electronic tube assembly comprising a first photo-sensitive cathode layer deposited upon a first wall of a first evacuated envelope, a first phosphor layer deposited upon a second wall of the first evacuated envelope, the major area of said second wall being in the form of a bundle of very fine light guiding fibres having smooth side surfaces and of a predetermined index of refraction bonded together into a gas-tight slab by a material having a lower index of refraction and with the fibers oriented in a regular array with their longitudinal axes extending from one major surface of the slab to the other, means for accelerating the electrons emitted by the first cathode layer so that they bombard the first phosphor layer, means for focussing the said electrons into an image-forming beam, a second photo-sensitive cathode layer deposited upon a third wall of a second evacuated envelope, the third wall being in the form of a bundle of light guiding fibres of the above character bonded together into a gas-tight slab with the fibres oriented in a regular array with their longitudinal axes extending from one major surface of the slab to the other, the second and third walls being juxtaposed so that light given off by the first phosphor layer passes along the light guiding fibres, of the second and third walls in succession and activates the second photo-sensitive cathode layer, a second phosphor layer deposited upon a fourth wall of the second envelope, the fourth wall being in the form of a bundle of light guiding fibres of the above character bonded together into a gas-tight slab with the fibres oriented in a regular array with their longitudinal axes extending from one

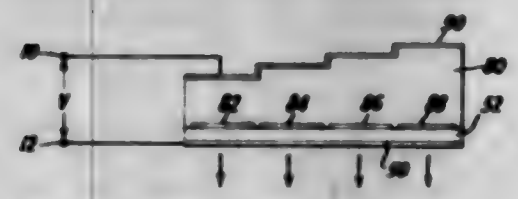
major surface of the slab to the other, means for accelerating electrons emitted by the second photo-sensitive cathode layer so that they bombard the second phosphor layer, and means for focussing the said electrons into an image forming beam.

3,141,105
IMAGE TRANSMITTING SCREEN
Narinder S. Kapany, Chicago, Ill., assignor, by mesne assignments, to American Optical Company, a voluntary association of Massachusetts
Filed Dec. 12, 1958, Ser. No. 779,935
26 Claims. (Cl. 313—92)



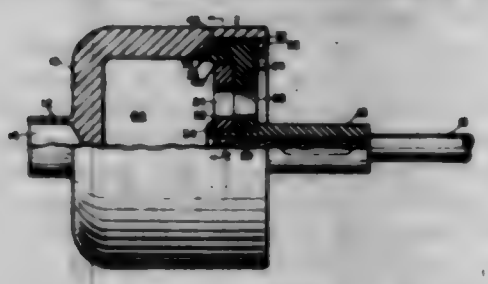
1. A screen comprising phosphor means which emits light upon activation thereof, a thin, transparent member abutting upon one face of said phosphor means, and light-conveying fiber members abutting endwise upon said transparent member, said transparent member being characterized by a lower index of refraction than such index of said fiber members.

3,141,107
ELECTROLUMINESCENT DEVICE WITH NON LINEAR RESISTANCE
Moe Wasserman, Massapequa Park, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,478
6 Claims. (Cl. 313—108)



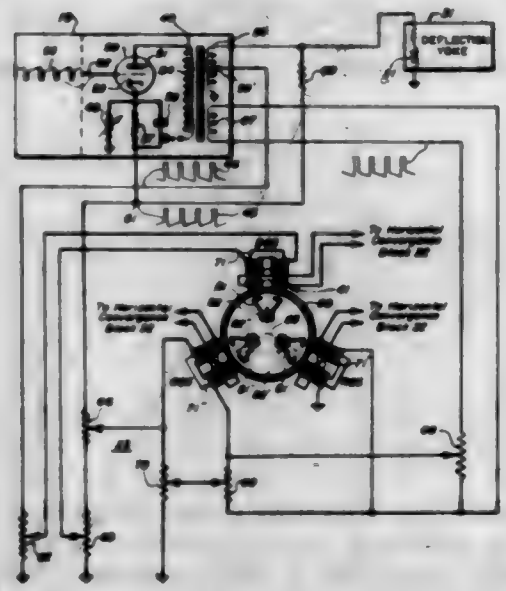
1. An electroluminescent device comprising a plurality of electroluminescent cells, a like plurality of non-linear resistors having different electrical characteristics, each resistor being connected in series with a corresponding cell to form a like plurality of series circuits, means connecting said circuits in parallel, and means to apply a variable signal to all of said parallel connected circuits, said electrical characteristics having values at which each cell is energized at a different threshold voltage level.

3,141,108
LIGHTNING ARRESTER WITH AN ARC-EXTINGUISHING GAS
Winfield H. Benner, Westwood, and James M. Whall, Abington, Mass., assignors to Sigma Instruments, Inc., Braintree, Mass., a corporation of Massachusetts
Filed Dec. 26, 1961, Ser. No. 161,867
7 Claims. (Cl. 313—231)



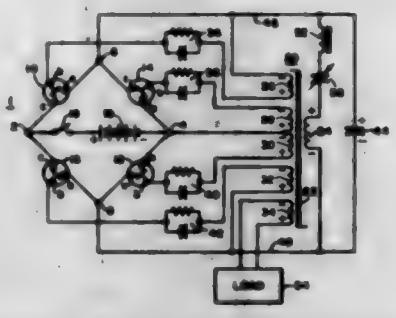
1. An overload voltage arrester comprising an all-metal hollow housing open at one end, a block of insulating material mounted in the open end of the housing, a disk of conducting metal fitting against the inner surface of said block of insulating material, said block of insulating material and disk having aligning holes therethrough, a stem of conducting metal passing through said holes, said stem having formations thereon for clamping said disk and block of insulating material together and to said stem, said conducting disk being supported in definite position spaced from the surface of the housing by said block of insulating material so as to provide a spark gap of fixed dimensions between said disk and the nearest area of said housing.

3,141,109
COLOR TELEVISION CONVERGENCE CIRCUIT
James F. Chandler, Chicago, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Oct. 4, 1960, Ser. No. 60,413
12 Claims. (Cl. 315—22)



1. In a color television receiver: a color image reproducer in which a luminescent screen is scanned by a plurality of electron beams effectively originating from a corresponding plurality of transversely spaced locations; and means for subjecting at least one of said electron beams to a beam-directing field varying in magnitude with respect to time as a parabolic function composed of superimposed portions of a pair of parabolas having their principal axes canted with respect to one another to converge said beams in a surface having a predetermined location relative to that of said screen.

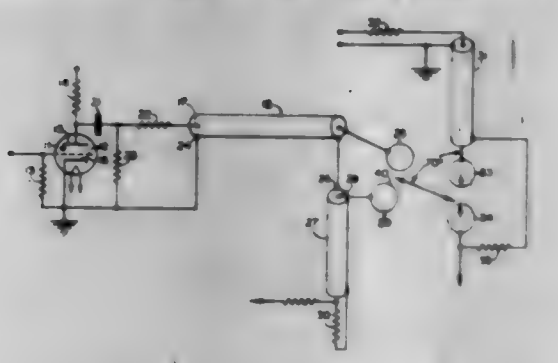
3,141,110
INVERTER NETWORKS
Thomas M. Corry, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 16, 1962, Ser. No. 195,251
6 Claims. (Cl. 315—169)



1. In a network of the character described, a pair of input terminals, a first capacitor, a second capacitor, an inductor, a saturating core transformer having a primary winding and secondary winding means, first and second

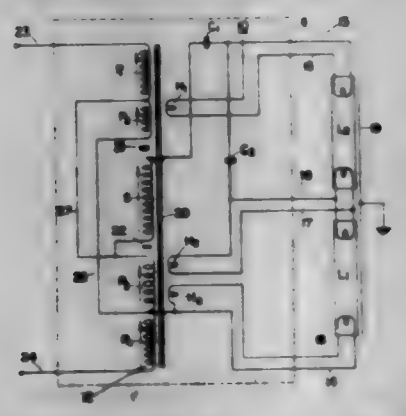
busses, means connecting said inductor and said first capacitor and said primary winding in series between said busses, means connecting said second capacitor between said busses, switch means having control means effective to operate said switch means in response to the application of potentials of alternate polarity being applied thereto, means including said switch means interconnecting said busses and said input terminals whereby said busses are energized from said input terminals in alternate polarity as a consequence of said operation of said switch means, and means interconnecting said secondary winding means and said control means whereby said switch means is energized with alternate polarity.

3,141,111
SPARK GAP TRIGGER CIRCUIT
Terry F. Godlove, Suitland, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 22, 1961, Ser. No. 119,261
3 Claims. (Cl. 315—181)
(Granted under Title 35, U.S. Code (1952), sec. 266)



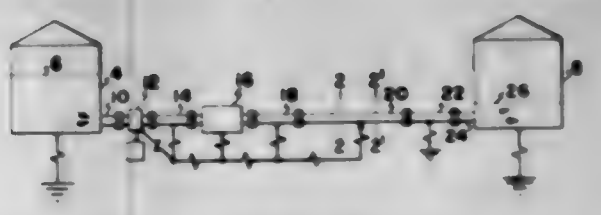
1. A spark gap triggering circuit comprising a voltage source, an electronic switch connected thereto, a spark gap switch comprising a pair of spaced electrodes, an electrical circuitry comprising a series capacitor and resistor and a coaxial cable transmission line electrically connected between said electronic switch and said spaced electrodes of said spark gap switch, said electrical circuitry producing a high voltage pulse across said spaced electrodes, said high voltage pulse producing ultraviolet light of high intensity and for a period of time of the order of magnitude of the time corresponding to one electron drifting across a main gap switch of a main circuit whereby said main gap switch is triggered by said ultraviolet light.

3,141,112
BALLAST APPARATUS FOR STARTING AND OPERATING ELECTRIC DISCHARGE LAMPS
Franklin P. Eppert, Danville, Ill., assignor to General Electric Company, a New York corporation
Filed Aug. 28, 1962, Ser. No. 217,839
6 Claims. (Cl. 315—231)



1. A ballast apparatus for operating electric discharge lamps from an alternating power source comprising: a voltage transforming means including at least one magnetic core, a pair of input leads for connection with the alternating power source, a first, a second, a third and a fourth primary part, said first and fourth primary parts being connected in circuit with the input leads and said second and third primary parts being connected in parallel circuit relation with each other, said parallel connected second and third primary parts being connected in series circuit relation with said first and fourth primary parts, at least one high leakage reactance secondary winding inductively coupled with at least a pair of said primary parts, one junction of said parallel connected second and third primary parts being connected in circuit with one end of said secondary winding and circuit means for supplying the output of the apparatus to said electric discharge lamps and including output leads for connection with said lamps, one of said output leads being connected in circuit with the other end of said secondary winding and the other of said output leads being connected in circuit with the other junction of said parallel connected second and third primary parts.

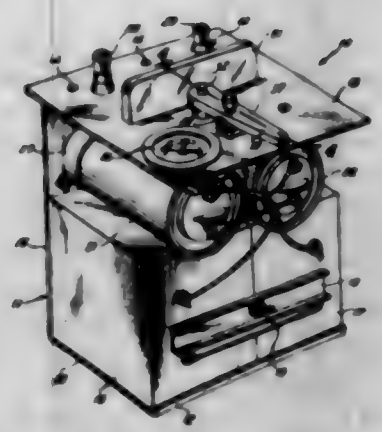
3,141,113
PROCESS OF CONTROLLING ELECTROSTATIC CHARGES
John C. Munday, Cranford, and James A. Wilson, Stanhope, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 26, 1961, Ser. No. 85,058
8 Claims. (Cl. 317—2)



1. The method of handling flammable liquids of the type which form explosive mixtures with air while enclosed in storage vessels, flow lines and the like, and which tend to develop dangerously high electrostatic charges in flowing through zones of moving agitation such as pumps, filters and the like, said method comprising passing said liquids through a zone of moving agitation which is insulated from the ground, subsequently contacting said agitated liquids with at least one pointed electrically conductive electrode insulated from the ground but electrically connected to at least one prior zone of moving agitation.

3,141,114
BLASTING MACHINE
Richard H. Jenkins and Elmer H. Wieber, Evanston, Ill., assignors to Vibration Measurement Engineers, Evanston, Ill., a corporation of Illinois
Filed Mar. 28, 1962, Ser. No. 183,142
7 Claims. (Cl. 317—80)

5. In a blasting machine,
(*a*) a first switch unit having operator means for actuating said switch unit from a normal open position to a closed position,
(*b*) a second switch unit having a conductor means movable from a first position to a second position,
(*c*) control means for said first and second switch units connected to said conductor means for moving said conductor means from said first position to said second position, said control means operatively associated with said operator means of the first switch unit for locking said conductor means of the second switch unit in said first position when said first switch unit is in an open position and unlocking said conductor means when said first switch unit is in a

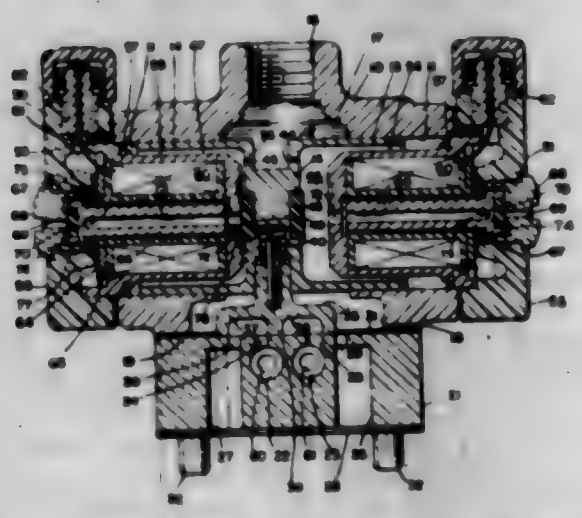


closed position, whereby the first switch unit must be in said closed position before the second switch unit can be moved to said second position.

3,141,115
SOLENOID MOUNTING FOR VALVE OPERATING MECHANISM

Zdenek J. Lansky, North Riverside, and Kurt W. Leibfritz, Norridge, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Jan. 26, 1960, Ser. No. 3,580
9 Claims. (Cl. 317—165)

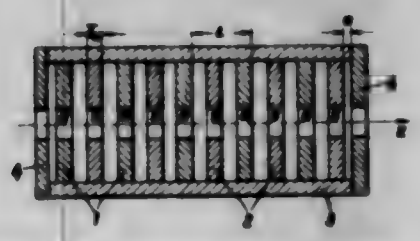


1. A solenoid unit for mounting in the main housing of a device to be controlled by the solenoid unit, comprising a solenoid housing body insertible within said main housing, a solenoid within said body, a cap of non-conducting material attached to said body and to said main housing, and a terminal for said solenoid mounted in said cap, said cap, terminal, and body being removable from said main housing as a unit.

3,141,116
MAGNETIC DEVICE FOR FOCUSING AN ELECTRON BEAM

Willibald Heuse, Ulm (Danube), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Apr. 23, 1962, Ser. No. 189,483
Claims priority, application Germany Apr. 27, 1961
4 Claims. (Cl. 317—200)

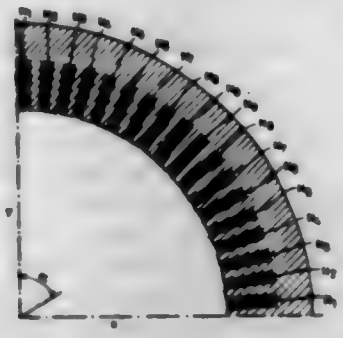


1. In a permanent magnet arrangement for periodically focusing an electron beam in a vacuum envelope, the arrangement being of the type including several radially magnetized permanent ring magnets with consecutive magnets having opposite polarity and disposed coaxially to one another and spaced from each other, and a ferromagnetic cylinder surrounding the outer circumference of the rings, the improvement comprising a ferromagnetic annular disc disposed at each end of the ferromagnetic cylinder.

3,141,117
MAGNETIC LENS DEVICE FOR PRODUCING MAGNETIC FIELDS WITH AN EVEN NUMBER OF FOUR OR MORE POLES

Max Scheer, Wurzburg, and Eberhard Kell, Offenbach am Main, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed July 25, 1962, Ser. No. 217,508
Claims priority, application Germany Aug. 2, 1961
4 Claims. (Cl. 317—200)

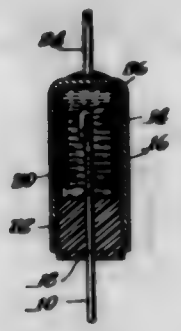


1. A magnetic lens comprising a hollow body having a cylindrical inner opening of circular cross section and having $2n$ magnetic field poles, n being an integer greater than unity, and electric current conductors extending parallel to the cylinder axis and distributed along the cylinder periphery in accordance with a density of the area current on the cylinder surface proportional to the sine of $n \cdot x$, wherein x denotes the azimuth angle, said conductors being wound in directions to produce opposing polarities in adjacent poles.

3,141,118
ELECTROLYTIC CAPACITOR UNIT

Jean W. Runtz, Morton Grove, Ill., assignor to David T. Siegel, Glencoe, Ill.

Filed Mar. 29, 1957, Ser. No. 649,415
12 Claims. (Cl. 317—230)



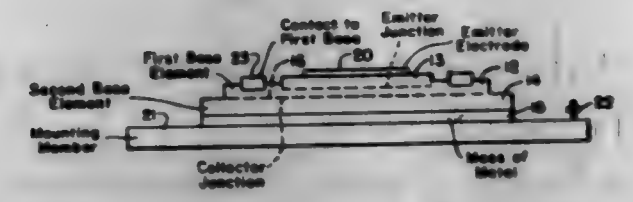
1. A capacitor unit comprising a tubular metallic cathode having an open end and a closed end, a tantalum wire including a smooth portion and a coil-shaped rough portion coated with tantalum oxide and defining an anode extending within said cathode, said smooth wire portion projecting through said open end of said cathode, a closure member seated in said open end of said cathode spaced-apart from said rough portion and tightly embracing said smooth tantalum wire projecting through said open end, the lip of the open end of said cathode being constricted to compress said closure member, and a liquid electrolyte within said tubular cathode.

3,141,119

HYPERCONDUCTIVE TRANSISTOR SWITCHES

John Philips, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 28, 1957, Ser. No. 649,038
1 Claim. (Cl. 317—235)



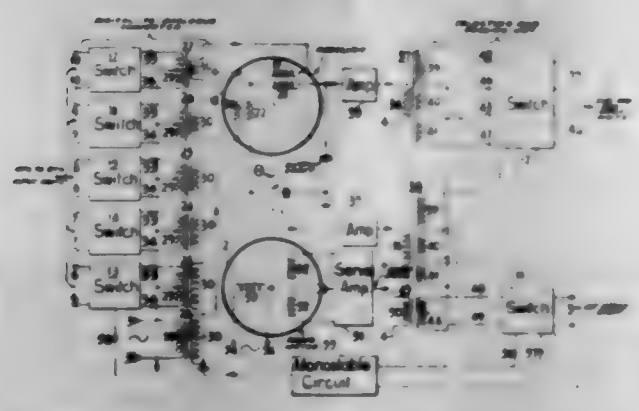
In a semiconductor switch having one condition of a high resistance to the flow of electrical current and a controlled relatively abrupt change to a highly conductive state, the switch comprising four joined layers, the first and uppermost layer being a semiconductor material having a first type of semiconductivity, the second layer being larger in area than said first layer and comprising a semiconductor material of opposite type of semiconductivity, the second layer and said first layer being joined to provide an emitter junction therebetween, the surface of the second layer being exposed completely around the first layer, a ring-shaped ohmic contact encircling the first layer and joined to the exposed surface of the second layer, a third layer of semiconductor material having the first type of semiconductivity and joined to the other surface of the second layer to provide a collector junction therebetween, a fourth layer joined to the third layer to provide means for introducing minority carriers to the third layer when a potential is applied thereto reverse with respect to the collector junction, the distance from the surface where the fourth layer is applied to the third layer being within one diffusion length from the collector junction, and ohmic contact means being applied to the first layer and to the fourth layer, whereby only three electrical leads can be applied to the switch.

3,141,120

ELECTRICAL APPARATUS FOR ANGULARLY POSITIONING A SHAFT IN DEPENDENCE UPON INPUT DIGITAL SIGNALS

Leonard Reginald Joffre Johnson and Cecil John Wayman, Stanmore, England, assignors to The General Electric Company Limited, London, England

Filed June 9, 1961, Ser. No. 116,147
Claims priority, application Great Britain June 10, 1960
11 Claims. (Cl. 318—18)



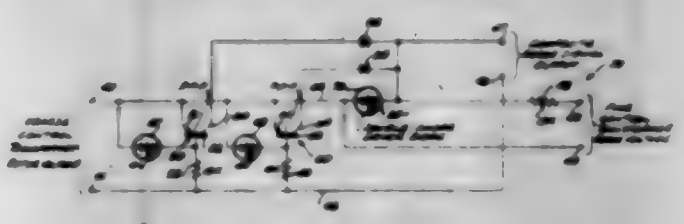
1. Electrical apparatus for angularly positioning a shaft in dependence upon input digital signals, comprising an electric motor for rotating to shaft, means for supplying two signals that are together representative of a shaft position vector as demanded by the digital values of a first group of said input signals, an electric resolver which has a rotor coupled to the shaft to rotate therewith, and which is responsive to said two signals to supply two electric signals the amplitudes of which are representative of the components of said vector along respective axes defined in the rotor, and means for supplying to the motor for controlling rotation of the shaft by the motor an electric signal that is dependent in amplitude selectively upon one or both of the signals supplied by the resolver in dependence upon the digital values of a second group of said input signals, the arrangement being such that the amplitude of the controlling signal is dependent on the one band upon the angular position of the shaft and on the other hand upon the digital values of the input signals, and the motor rotates the shaft so as to tend to reduce the amplitude of the controlling signal to zero and thereby angularly position the shaft in accordance with the digital values.

3,141,121

COMPOSITE SIGNAL GENERATING MEANS FOR MULTIPLE-SPEED POSITIONAL SERVO SYSTEM

Merton Wallace Moody, Anaheim, and Bobby Edred Conley, Fullerton, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 30, 1961, Ser. No. 135,410
5 Claims. (Cl. 318—30)



1. A dual-speed apparatus for indicating the angular position of a rotatable device, said apparatus comprising

(*a*) means coupled to said rotatable device and including a first output rotor for producing a first output signal of an amplitude and phase relative to a reference signal dependent upon the angular position of said first output rotor relative to that of said rotatable device, said first output signal having a predetermined number of phase changes relative to said reference signal per each revolution of said rotatable device when said first output rotor is maintained in a fixed angular position;

(*b*) means coupled to said rotatable device and including a second output rotor for producing a second output signal of an amplitude and phase relative to said reference signal dependent upon the angular position of said second output rotor relative to that of said rotatable device, said second output signal having an even integral number of phase changes relative to said reference signal for each phase change of said first output signal relative to said reference signal when said second output rotor is maintained in a fixed angular position;

(*c*) an electrical network including first, second and third input terminals, said first and second input terminals being connected to opposite extremities of said first output rotor and said first and third input terminals being connected to opposite extremities of said second output rotor whereby the total voltage generated across said first and second output rotors appears across said second and third input terminals; first and second output terminals, said first output terminal being connected to said second input terminal; a voltage dropping resistor connected from said third input terminal to said second output terminal; means having a low internal impedance compared to the ohmic value of said voltage dropping

resistor for producing a potential substantially equal to the voltage across said first and second input terminals at a first junction in response to a potential of positive polarity appearing at said first input terminal relative to said second input terminal; means having a low internal impedance compared to the ohmic value of said voltage dropping resistor for producing a potential substantially equal to the voltage across said first and second input terminals at a second junction in response to a potential of negative polarity appearing at said first input terminal relative to said second input terminal; and first and second unidirectionally conducting devices connected from said first and second junctions, respectively, to said second output terminal, said first unidirectionally conducting device being poled to allow current flow towards said second output terminal and said second unidirectionally conducting device being poled to allow current flow away from said second output terminal thereby to generate a composite error signal representative of the sum of said first and second output signals during intervals that said first and second output signals are of the same phase and representative of said first output signal only during intervals that said first and second output signals are of opposite phase; and

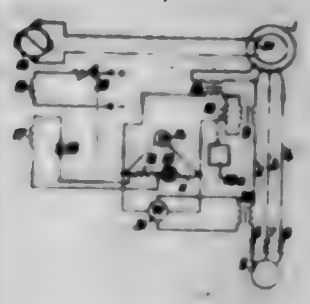
(*d*) means mechanically coupled to said first and second output rotors and responsive to said composite error signal and said reference signal for positioning said first and second output rotors to reduce said error signal to zero amplitude thereby to indicate the angular position of said rotatable device.

3,141,122

CIRCUIT ARRANGEMENT FOR MAINTAINING THE TORQUE OF ASYNCHRONOUS MOTORS CONSTANT

Gerhard Loocks, Berlin-Charlottenburg, Germany, assignor to Allgemeine Elektricitäts-Gesellschaft, Berlin-Grunewald, Germany

Filed Aug. 8, 1960, Ser. No. 48,056
Claims priority, application Germany Aug. 11, 1959
9 Claims. (Cl. 318—148)



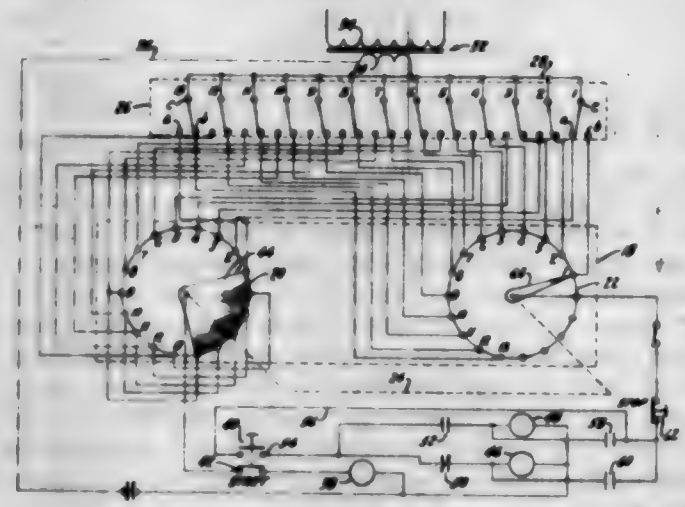
1. A control arrangement comprising, in combination: an asynchronous motor; a synchronous generator for feeding a voltage of variable frequency to said motor, said generator having an excitation circuit which controls the output voltage of said generator; and a circuit for forming the ratio U_L/f (U_L=the voltage drop across the air gap of said motor, and f=frequency) and maintaining said ratio and thereby the break-down torque of said motor constant, said circuit including a series-circuit incorporating an ohmic resistance and an inductance which is large in comparison with said ohmic resistance, first means for applying to said series-circuit a voltage composed of a transformed phase voltage of said generator and an ohmic voltage drop which is proportional to the motor current and which is subtracted from said phase voltage, and second means for applying to said excitation circuit of said generator a voltage which is a function of the voltage across said ohmic resistance.

3,141,123

SELECTION DEVICE

Elmer E. Olson, Nashotah, Wis., assignor to G. B. Lewis Company, Watertown, Wis., a corporation of Wisconsin

Filed Aug. 16, 1962, Ser. No. 217,474
4 Claims. (Cl. 318—467)



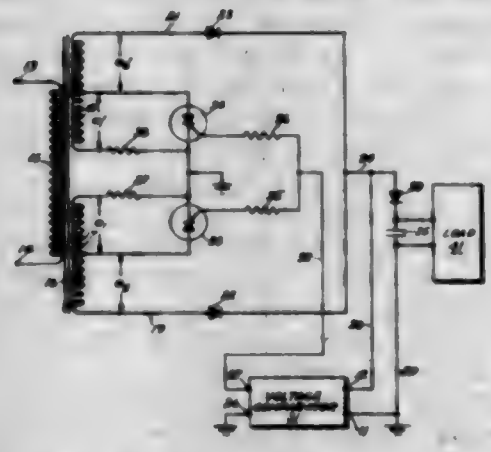
1. A selection device including a plurality of two-position switches, said switches adapted to be moved from one position to another by arrival of selected members at a predetermined point, a pair of multi-position selector switches, ganged together for simultaneous operation, and each having the same number of positions as there are two-position switches, each terminal of one selector switch being connected to a terminal on a two-position switch, each terminal of the other selector switch being connected to the other terminal on a two-position switch, a forward and reverse motor connected to said one selector switch, each of said two-position switches adapted to be connected to a power source and normally being in a position to connect said motor to the power source, and means on the other selector switch for connecting said motor for either forward or reverse operation including means for connecting the selected position on said other selector switch with a number of consecutive adjacent positions on the switch, the number of connected positions being no greater than half the total number of positions on the switch and all being on the same side of the selected position, whereby the member selected is moved through the shortest distance to the predetermined point.

3,141,124

SHUNT REGULATING CHARGING CIRCUIT

Robert R. Atherton, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 29, 1961, Ser. No. 97,115
5 Claims. (Cl. 320—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A circuit for charging and maintaining a storage means at an adjustable exact predetermined level of

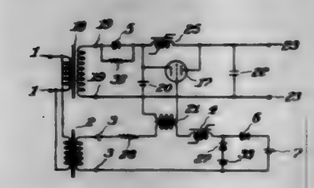
charge comprising: a transforming means having a primary winding and first and second secondary windings, said primary winding being coupled across a source of alternating current potential and said first and second secondary windings being coupled in push-pull arrangement through diode rectifying means for transforming said alternating current potential into a direct current charging potential; a storage means, associated through a coupling means with said transforming means, for storing energy received from said direct current charging potential; first and second control switching elements, said first control switching element being coupled across a portion of said first secondary winding and said second control switching element being coupled across a portion of said second secondary winding; a voltage comparison control means coupled to said storage means and said first and second control switching elements to constantly monitor the amount of charge possessed by said storage means and to send control impulses to said first and second control switching elements to regulate the level of said direct current charging potential supplied to said storage means to maintain its quantity of charge at a predetermined value.

3,141,125

RECTIFYING APPARATUS SYSTEM FOR CONTROLLED RECTIFIED OUTPUT WHEREIN THE CONTROL ELEMENTS ARE CONNECTED IN A RING FORMATION

Toshio Kurimura and Kazuomi Yamamura, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Sept. 18, 1961, Ser. No. 138,696
Claims priority, application Japan Sept. 30, 1960
4 Claims. (Cl. 321—25)



1. A rectifying apparatus capable of producing a constant D.C. voltage and having two D.C. output terminals comprising, alternating current power supply means having two output terminals, rectifying means connected to one of said output terminals of said power supply means comprising a rectifier having two terminals and a first saturable reactor in series, said reactor having a winding connected to one terminal of said rectifier, first regulating means comprising a rectifying element and a first D.C. voltage source in series, one terminal of said rectifying element being connected at a junction between the rectifier and the winding of said first saturable reactor, second regulating means comprising a second D.C. source and a second reactor having a winding connected to said second D.C. source, a rectifying element connected in parallel with said second regulating means, the last mentioned rectifying element having a terminal connected to said first regulating means and having another terminal connected to a terminal of said power supply means, means for supplying a substantially constant direct-current bias connected between said first regulating means and second regulating means whereby a constant output voltage is obtained at said D.C. voltage output terminals, said D.C. output terminals comprising an output connection to the other terminal of the first-mentioned rectifying means and an output connection to the other output terminal of said power supply means.

3,141,126

MOTION DETECTION APPARATUS AND METHOD FOR USE IN BORE HOLE LOGGING

John D. Bennett, Richardson, Preston E. Chaney, Dallas, and Fred M. Mayes, Richardson, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed June 4, 1959, Ser. No. 818,163
9 Claims. (Cl. 324—1)



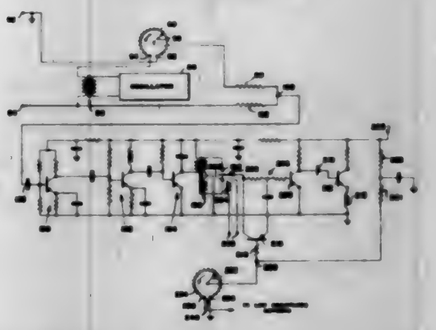
1. Apparatus for bore hole logging comprising means movable along a bore hole providing signals variable with local conditions of the strata penetrated by the hole, recording means vertically movable with the first mentioned means, receiving said signals and providing a record thereof, acceleration-sensitive means movable with the first mentioned means providing signals indicative of the occurrence of acceleration movements of the first mentioned means, said first mentioned means, said recording means and said acceleration-sensitive means being connected together for conjoint movement, and means transmitting the last mentioned signals to said recording means, said recording means recording the last mentioned signals to correlate them with the records of the first mentioned signals.

3,141,127

BORE HOLE LOGGING APPARATUS WITH MEANS FOR PROVIDING A PULSE SPACE MODULATED RECORD OF DETECTED POTENTIALS

Fred M. Mayes, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Oct. 21, 1959, Ser. No. 847,758
4 Claims. (Cl. 324—1)



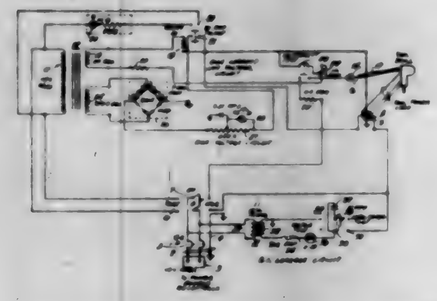
1. Bore hole logging apparatus comprising a housing adapted to be moved lengthwise in a bore hole, electrode means secured to said housing to be lowered therewith, means providing a ground connection to the earth surrounding the hole being logged, said electrode means including an electrode spaced from said means providing a ground connection, means in said housing providing current to the earth through said electrode and said means providing a ground connection, means in said housing advancing a record member at a rate independent of the rate of movement of the housing in the bore hole, and means in said housing for picking up the potential of said electrode produced by said current and providing within said housing a pulse space modulated record of said potential on said record member, the cycles of which record have a substantially constant length along the record member.

3,141,128

APPARATUS FOR TESTING PORTABLE EQUIPMENT FOR A.C. AND D.C. LEAKAGE AND FOR GROUND CONTINUITY

Samuel H. Behr, 1046 Pembroke St., Uniondale, N.Y.

Filed June 26, 1961, Ser. No. 119,743
7 Claims. (Cl. 324—51)
(Granted under Title 35, U.S. Code (1952), sec. 266)



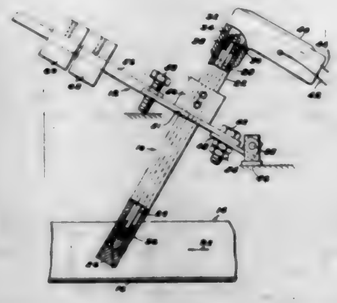
1. An electrical tester for equipment which is energized through a polarized plug and a cable with one conductor of said cable connected to the metallic frame of such equipment which comprises a metallic reference ground, a double pole-double throw switch, conductor means for connecting the switch poles to a power source and said metallic reference ground to an external ground, a polarized receptacle having a pair of power terminals and a ground terminal which mate with said plug, said ground terminal connected to said reference ground, electrical power conductors connecting one set of the switch contacts to said power terminals, a transformer having one primary winding and a high current-low voltage secondary and a high voltage-low current secondary, said primary winding connected across the other set of switch contacts, a current relay having a winding, a pair of rectifier contacts and a pair of test contacts, each of said contact pairs being normally open, a ground continuity electrical path including in series therein said ground terminal, said current relay winding, said high current secondary, an electrical current limiting resistance, and a ground continuity conductor extending exterior of said tester for connection to said metallic frame, a double pole-single throw switch, having two pairs of contacts whereby when said single throw switch is closed the contacts of each pair are connected to one another, a second resistor connected between one contact of each of said pairs, and one of the terminals of said second resistor connected to said ground terminal, a third resistor connected between one of said receptacle power terminals and another contact of said single throw switch, the remaining free contact of said single throw switch connected to said receptacle ground terminal, full wave rectifier means having input and output terminals, said input terminals connected across said high voltage secondary, rectifier current indicator means connected in series with one rectifier output terminal and said one of said power terminals and said rectifier contacts of said relay, the other rectifier output terminal connected to said reference ground, an electrical test path including in series therein said primary, voltage test indicator means and said test relay contacts.

3,141,129

PIVOTING PROBE STRUCTURE FOR ELECTRICALLY SENSING THE MOISTURE CONTENT OF A MOVING GRANULAR MATERIAL

Randolph L. Dietert, Detroit, Mich., assignor to Harry W. Dietert Co., a corporation of Michigan

Filed Oct. 3, 1960, Ser. No. 60,895
7 Claims. (Cl. 324—65)



1. Structure for electrically sensing the moisture content of moving granular material comprising a probe including an elongated, hollow cylindrical outer electrode, an insulating member in each end of the cylindrical electrode, an elongated inner electrode extending longitudinally of the outer electrode centrally thereof and extending through and supported by the insulating members at the opposite ends of the outer electrode in electrical isolation from the outer electrode, means for connecting the opposite terminals of a source of electricity to the inner and outer electrodes and means fixedly located at a sensing position for pivotally mounting the probe in different selected axial positions with respect to the surface of the moving granular material and so that one end of the probe extends different substantial distances into the granular material with the probe making different obtuse angles with the surface of the granular material, said pivot mounting providing for arcuate movement of the probe in the direction of the movement of the granular material to maintain a substantially constant pressure on the end of the probe extending into the granular material.

3,141,130

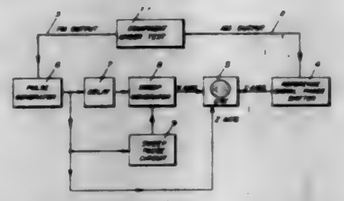
PHASE MEASURING CIRCUIT FOR MEASURING THE PHASE BETWEEN AN F.M. SIGNAL AND AN F.M. REFERENCE SIGNAL INCLUDING A CATHODE RAY TUBE INDICATOR

Robert C. Hilliard, Hampton Falls, N.H., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

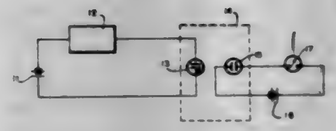
Filed Mar. 28, 1962, Ser. No. 185,312
3 Claims. (Cl. 324—88)

1. A circuit arrangement for measuring the phase relationship between an A.M. reference signal and an F.M. signal consisting of a series of pulses or pulse groups having a repetition rate which varies at the A.M. frequency, said circuit arrangement comprising an oscilloscope having a scanning cathode ray beam, means connecting the A.M. reference signal to one set of deflection plates of said oscilloscope, pulse generator means triggered by each pulse or pulse group in said F.M. signal to produce a set of uniform output pulses, means for

delaying said set of output pulses, sweep circuit means connected to a second set of deflection plates in said oscilloscope and responsive to each one of said delayed output pulses to initiate a sweep cycle, means responsive to each of said output pulses for momentarily stopping said sweep cycle, and means included in said oscilloscope and responsive to each of said output pulses for intensifying said cathode ray beam at the precise moment that said sweep cycle is stopped whereby stable Lissajous patterns indicative of the phase relationship between the A.M. reference signal and the F.M. signal are displayed on said oscilloscope.



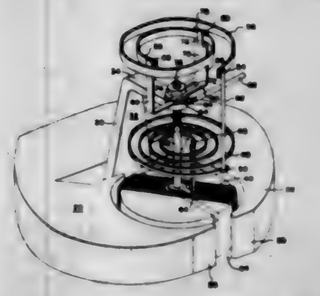
3,141,131
MEASURING INSTRUMENT USING A GLOW TUBE OPERATED BELOW ITS IGNITION THRESHOLD
Marianne McCoy, 5209 N. University Ave., Peoria, Ill.
Filed Nov. 9, 1962, Ser. No. 237,441
2 Claims. (Cl. 324—96)



1. An extended range electrical test instrument comprising a light-tight housing, a gas-filled glow tube situated wtihin said housing, said glow tube including a pair of spaced electrodes within said tube, a photoelectric cell positioned within said housing to receive light generated by said glow tube, the output from said cell being proportional to the amount of light received thereby, means connected to said cell to indicate the output from said cell, a source of electrical energy, the potential of said source being below the ignition threshold of said glow tube, and means for connecting said source and said electrodes of said glow tube in series with an electrical component to be tested whereby the current flowing through said glow tube is the same current which flows through the component being tested.

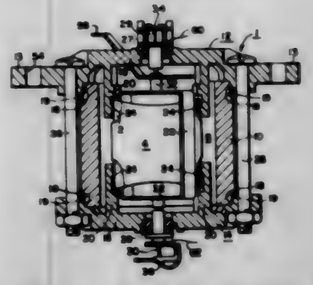
3,141,132
METER WITH ADJUSTABLE SPIRAL TEMPERATURE COMPENSATOR
Trigg Stewart, 13229 Lakeshore Drive, Lakeside, Calif.
Filed May 24, 1960, Ser. No. 31,290
5 Claims. (Cl. 324—105)

1. In combination, an instrument including a frame; a rotatable shaft carried by the frame and movable by the instrument; a spring; means connecting one end of the spring to the shaft for movement with the shaft, said spring having a free end; a spirally shaped bimetal compensator having a free end, the other end of said spirally-shaped compensator being attached to the frame; means connecting the free end of the compensator with the free end of the spring; an anchor arm connected with the compensator remote from the said free end thereof, the connection between said arm and compensator being movable various distances radially of the center of the spirally shaped compensator and rotatable about said center; and



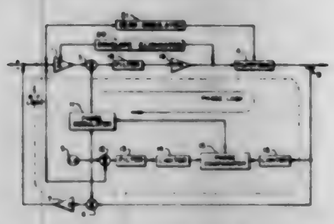
means for fastening the arm in adjusted fixed position on the frame.

3,141,133
ELECTRICAL METER HAVING ITS CORE SUPPORTED BY RESILIENT SUPPORT MEANS
Ragnar Wahlstedt, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1961, Ser. No. 83,090
5 Claims. (Cl. 324—151)



1. An article of manufacture comprising a hollow sleeve having an inner circularly cylindrical surface of a first diameter and having spaced pairs of locating surfaces, a first of said pairs of surfaces being located adjacent one end portion of said sleeve and a second of said pairs of surfaces being located adjacent the other end portion of said sleeve, a cylinder having a circularly cylindrical outer surface of a second diameter less than said first diameter, means providing spaced pairs of axially extending diametrically spaced locating surfaces rigid with said cylinder and intermediate said cylinder and said sleeve, a first of said pairs of said cylinder locating surfaces being located adjacent a first end portion of said cylinder and a second of said pairs of said cylinder locating surfaces being located adjacent a second end portion of said cylinder, means supporting said cylinder in said sleeve to provide an air gap therebetween, said supporting means including first and second cylinder supporting members, each said supporting member comprising a bridge portion with spaced locating surfaces and a pair of spaced elongated laterally extending resilient locating fingers, a first of said supporting members being located adjacent said one end portion of said sleeve with its said locating surfaces in locating engagement with said first pair of locating surfaces of said sleeve, a second of said supporting members being located adjacent said other end portion of said sleeve with its said locating surfaces in locating engagement with said second pair of locating surfaces of said sleeve, said first supporting member having its said spaced locating fingers extending therefrom with their longitudinal axes in a direction such that the directional component of their said longitudinal axis which extends in a direction longitudinally of said sleeve is substantially greater than the directional component which extends radially of said sleeve, said fingers of said first member extending inwardly of said sleeve into said gap, said just mentioned fingers being provided with locating surfaces yieldably movable in a direction radially of said cylinder to a greater extent than in the longitudinal direction of said cylinder to locatingly position said first pair of locating surfaces of said cylinder, said second supporting member having its said spaced fingers extending therefrom with their longitudinal axes in a direction such that the directional component of their said longitudinal axis which extends in a direction longitudinally of said sleeve is substantially greater than the directional component which extends radially of said sleeve, said fingers of said second member extending inwardly of said sleeve into said gap and being provided with locating surfaces yieldably movable in a direction radially of said cylinder to a greater extent than in the longitudinal direction of said cylinder to locatingly position said second pair of locating surfaces of said cylinder, means clamping said supporting members to said sleeve, means establishing magnetic flux across said gap and including said sleeve and said cylinder, and a movable coil aide in said gap.

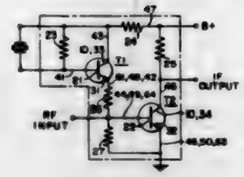
3,141,134
DISTORTION COMPENSATION SYSTEM, FOR A POWER FREQUENCY AMPLIFIER SYSTEM HAVING TRANSPORT LAGS, UTILIZING HETERODYNE FEEDBACK
Eugene F. Osborne, Catonsville, George S. Axelby, Linthicum, and Edward L. Smith, Jr., Baltimore, Md., assignors, by mesne assignments to the United States of America as represented by the Secretary of the Army
Filed July 31, 1961, Ser. No. 128,272
5 Claims. (Cl. 325—159)



2. A radio transmitter signal distortion compensation system comprising: an RF feedback loop having a frequency converter and an amplifier serially connected between the final output stage of said transmitter and a stage of said transmitter preceding said output stage; and means coupled between said output stage and said preceding stage for comparing the phase of the signal present at said output stage with the phase of the signal present at said preceding stage; and means coupled to said phase-comparing means for compensating discrepancies in said phase relationships.

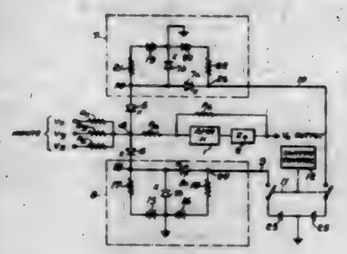
3,141,135
SEMICONDUCTIVE OSCILLATOR-MIXER DEVICE
Philipp R. Amlinger, Latrobe, and John P. Stelmak, Greensburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 11, 1962, Ser. No. 194,132
3 Claims. (Cl. 325—451)

1. Electronic apparatus for producing a local oscillator signal and mixing the local oscillator signal with an input carrier wave; said apparatus comprising first and second transistor means, each including base, emitter and collector regions; means to provide a direct resistive connection between the emitter of said first transistor means and the base of said second transistor; means to provide a resistive feedback loop between the collector and base of said first transistor means to permit operation of said first transistor



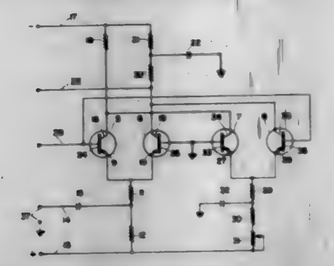
means as an oscillator; means to provide first and second bias resistances connected to the collectors of said first and second transistor means, respectively, means to provide a resistive connection between the emitter and base of said second transistor means so that an input carrier wave applied to the base of said second transistor means is mixed in said second transistor means with an oscillatory signal produced by said first transistor means.

3,141,136
FEEDBACK AMPLIFIER GATE
Carmine N. Pagano, Long Island City, N.Y., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed July 3, 1958, Ser. No. 747,556
3 Claims. (Cl. 328—158)



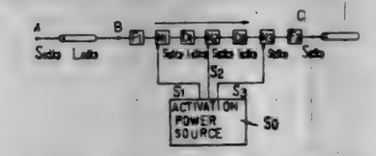
1. A device for gating the input signals to a feedback amplifier having negative feedback impedance coupling the output to the input thereof comprising a separate impedance coupling each of said input signals to a common junction, an impedance coupling said common junction to said amplifier input, first voltage dividing means producing a positive potential at a first terminal, second voltage dividing means producing a negative potential at a second terminal, unidirectional conductive devices coupling said first and second terminals to said common junction and switching means for applying control signals to said first and second voltage dividers, switch control means coupled to said switching means for controlling said switching means at controlled intervals whereby the potentials at said first and second terminals may be controlled so that the potential at said common junction is placed substantially at ground during said controlled intervals, the value of said impedance coupling said common junction to said amplifier being a function of said separate impedances and the impedance of said voltage dividing means together with said unidirectional conductive devices.

3,141,137
BALANCED GAIN CONTROL CIRCUIT
Weldon W. Greetman, Hicksville, Ohio, assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Apr. 20, 1962, Ser. No. 189,071
7 Claims. (Cl. 330—29)



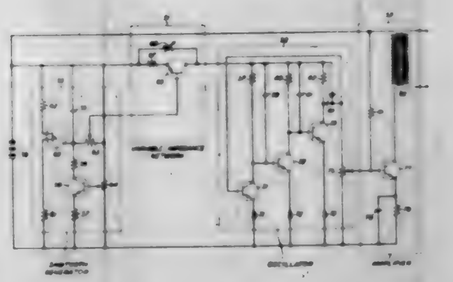
1. A gain control circuit comprising first and second amplifying devices each having current-emitting, current-collecting and control elements, a load impedance coupled in series with the current-collecting element of said second amplifying device, first means conductively connecting both said current-emitting elements together, second means for applying a unidirectional operating potential across said first means and both said current-collecting elements, said load impedance being coupled in series with said second means and said second current-collecting element, third means for applying in alternating signal to the control element of said second device, a signal output circuit coupled to said load impedance and providing a signal in response to current changes through said load impedance, third and fourth amplifying devices each having current-emitting, current-collecting and control elements, fourth means conductively connecting the third and fourth current-emitting elements together, said first and fourth means being conductively connected together, the first and third-current-collecting elements being connected together, the second and fourth current-collecting elements being connected together, the second and third control elements being connected together, means for applying a reference bias potential to said second and third control elements, the first and fourth control elements being connected together, and a control voltage input circuit coupled to said first and fourth control elements for applying a control bias thereto.

3,141,138
UNIDIRECTIONAL AMPLIFIER CONSISTING OF CONCATENATED BIDIRECTIONAL NEGATIVE RESISTANCE AMPLIFIERS WHICH ARE COUPLED BY DELAY NETWORKS AND ENERGIZED SEQUENTIALLY
Shintaro Oshima, Musashino-shi, Hajime Enomoto, Ichikawa-shi, and Kitsutaro Amano, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Oct. 17, 1961, Ser. No. 145,617
Claims priority, application Japan Oct. 24, 1960
5 Claims. (Cl. 330—61)



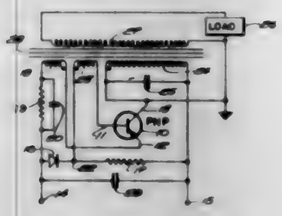
1. A unidirectional amplifier comprising, amplification means comprising negative resistance circuits and delay circuits having the same delay time, means connecting said circuits alternately in cascade, each of said negative resistance circuits having a negative resistance characteristic and capable of amplifying an input signal only when each of said negative resistance circuits is excited by an exciting periodic power signal having a duration equal to the delay time of said delay circuits and a delay between periods equal to an integral multiple of the delay time of said delay circuits, said negative resistance circuits comprising means attenuating an input signal during said delay between periods of said exciting signal, an exciting power source means connected for applying a plurality of said exciting periodic power signals which have the same duration and the same delay between periods respectively and have a phase difference equal to the delay time of said delay circuits successively, said signals equaling in number a number which is equal to the number of said negative resistance circuits, whereby a signal travelling in an amplification direction is amplified each time when the travelling signal passes through said negative resistance circuits, and another signal travelling in an opposite direction to said amplification direction is attenuated each time when the other signal has passed through each of said negative resistance circuits.

3,141,139
DIRECT-COUPLED TRANSISTOR OSCILLATOR HAVING VARIABLE SOURCE IMPEDANCE FOR CONTROLLING FREQUENCY
John K. Mills, Morristown, N.J., and Frank P. Zappa, Bronx, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 26, 1961, Ser. No. 162,287
4 Claims. (Cl. 331—45)



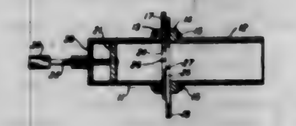
1. A variable-frequency oscillator which comprises, in combination, at least three transistors each having a base electrode and a collector-emitter path, a variable impedance source of a unidirectional potential, at least three resistors each being connected in series with one of said collector-emitter paths across said variable impedance source, the impedance of each of said resistors being substantially greater than the impedance presented by each of said collector-emitter paths and by said variable impedance source, a capacitor connected in parallel with each of said resistors, direct-coupling means for connecting the base electrode of each of said transistors to the junction of the collector-emitter path and the connected resistor of another of said transistors, said direct-coupling means interconnecting said transistors to form a ring of direct-coupled phase-shift amplifying stages, and means for varying the impedance of said variable impedance source to alter the discharge time constant of each of said capacitors whereby the frequency of oscillation of said oscillator is altered.

3,141,140
A.C. OPERATED TRANSISTOR OSCILLATOR OR AMPLIFIER CIRCUITS
Stanley R. Rich, West Hartford, Conn., assignor, by mesne assignments, to Acoustica Associates, Inc., Beverly Hills, Calif., a corporation of New York
Filed May 20, 1959, Ser. No. 814,416
14 Claims. (Cl. 331—71)



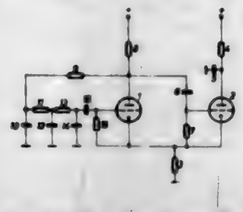
1. Transistor circuit adapted to be energized by alternating current comprising a transistor having base, emitter and collector electrodes, a pair of energizing current input terminals, potential divider means connected directly across said terminals to provide operating potentials for said electrodes, said potential divider means including rectifier means and resistor means in series with said rectifier means poled to constitute said potential divider means a voltage divider providing said potentials during the half-cycle of applied energizing alternating current which biases said transistor for normal operating and effectively to open-circuit whereby the remainder of said potential divider means serves to clamp said base electrode to the same potential as said collector electrode during the reverse half-cycle, said base electrode being connected to the junction of said rectifier means and said resistor means, said collector electrode being connected to said resistor means, and said emitter electrode being connected to the remaining side of said rectifier means.

3,141,141
ELECTRONICALLY TUNABLE SOLID STATE OSCILLATOR
William M. Sharpless, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1961, Ser. No. 163,268
7 Claims. (Cl. 331—107)



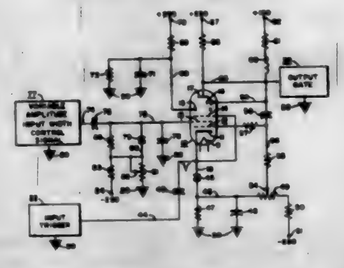
2. In combination, a section of conductively bounded wave guide,
a conductive shorting member positioned across one end of said section,
means for generating electrical oscillations positioned transversely across said guide in a plane parallel to and spaced away from said shorting member,
said means including a negative resistance diode in a resonant environment,
and means for controlling the frequency of said electrical oscillations,
said last recited means including a varactor diode positioned in direct energy coupling relationship with said negative resistance diode.

3,141,142
RELAXATION OSCILLATOR EMPLOYING SELECTIVE AND NON-SELECTIVE FEEDBACK
Gerhard-Günter Gassmann, Berkheim, Germany, assignor, by mesne assignments, to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1960, Ser. No. 70,271
Claims priority, application Germany Dec. 15, 1959
3 Claims. (Cl. 331—144)



1. A frequency stable relaxation oscillator operating on the multivibrator principle and employing two triode systems comprising in combination a high input—low output—impedance frequency selective feedback path connected between the anode and grid of the first triode, said path including a multisection low-pass filter commencing with a T-section and terminating in a π-section, a non-selective feedback path comprising a coupling capacitor connected between said anode and the grid of the second triode, means for connecting the cathodes of said triode systems in common, and a resistor-capacitor network connected to the anode of the second triode for converting the derived relaxation oscillations into sawtooth waves.

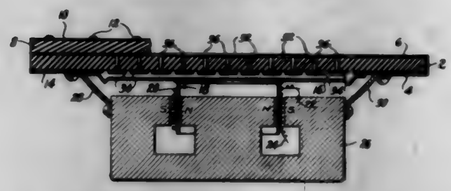
3,141,143
VARIABLE WIDTH PULSE GATE GENERATOR
William L. Gates, Takoma Park, and Carl J. Schubert, Jr., Arbutus, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1960, Ser. No. 63,682
12 Claims. (Cl. 332—9)



1. A gate generator for generating a gate of variable width comprising, in combination, a secondary emission tube having at least a cathode, control grid, screen grid, dynode and anode, a source of a direct current width control potential of uniform polarity and of variable amplitude, circuit means connecting said source to said screen grid for varying the direct current potential on the screen grid, a source of anode potential of predetermined amplitude, a first resistor, a rectifier, said anode, said first resistor, said source of anode potential, said rectifier and said cathode being in series circuit relationship, output lead means connected to said anode, a source of trigger pulses of predetermined amplitude and polarity, further circuit means connecting said last-named source to said cathode, a source of dynode potential, means including a second resistor connecting said source of dynode potential to said dynode, a feedback capacitor operatively con-

necting said dynode to said control grid, a source of control grid biasing potential, and means including a third resistor connecting said source of biasing potential to said control grid, said secondary emission tube normally in the absence of an input trigger applied to said cathode being biased at cut-off by the biasing potential applied to the control grid, a trigger pulse of predetermined polarity applied to said cathode initiating electron flow in said secondary emission tube from said cathode to said dynode, secondary emission from the dynode to the anode consisting of a larger number of electrons than reach said dynode from said cathode whereby said dynode assumes an increased positive potential, said increased positive potential being applied through said feedback capacitor to said control grid, the electron flow from said dynode and cathode to said anode causing a current flow in said first resistor thereby reducing the potential on said anode and causing an output gate pulse of negative polarity on the output lead means, said third resistor in said control grid circuit being selected in value in accordance with the interelectrode resistance between the cathode and control grid of said secondary emission tube whereby said third resistor is substantially greater than said interelectrode resistance thereby providing that the resistance in the charging path of said feedback capacitor is a linear function of the direct current potential on the screen grid, an increase in the positive direct current potential on the screen grid with respect to the cathode accelerating electrons which pass the control grid to a higher velocity whereby fewer electrons are collected by the control grid and the saturated cathode-to-control-grid resistance of the secondary emission tube is increased resulting in a longer charging time for the feedback capacitor and a wider output gate width, a decrease in said direct current potential on the screen grid resulting in a narrower output gate width.

3,141,144
PRINTED CIRCUIT DELAY LINE
Chester B. Watts, Jr., Alexandria, Va., assignor to Seaswell Laboratories, Inc., Springfield, Va., a corporation of Virginia
Filed Feb. 10, 1961, Ser. No. 88,519
4 Claims. (Cl. 333—30)



1. An electrically controlled high speed variable transmission line comprising: a dielectric board; a plurality of spaced conductor strips on one face of said board, each strip defining an inductive device; a series of spaced conductive plates on the opposite face of said board; a plurality of conductors extending through said board and electrically connecting one end of each strip to one of said plates and the other end of the strip to an adjacent plate to define a first conductive path of alternating strips and plates; a flexible metal diaphragm mounted on said opposite face in opposed and outwardly spaced bridging relation to said series of plates but adjacent thereto, said diaphragm defining a second conductive path capacitatively related to said series of plates and having its ends fixed to said board; means for selectively flexing said diaphragm to vary the spacing of its midportion from said plates and thereby vary the capacitance between said second conductive path and said plates in accordance with the flexing thereof.

3,141,145
FEED-THROUGH SMOOTHING FILTER
Warren P. Barrett, Belchertown, Mass., assignor, by mesne assignments, to Three Rivers Industries, Inc., Three Rivers, Mass., a corporation of Massachusetts
Division of application Ser. No. 574,888, Mar. 29, 1956. Continuation of application Ser. No. 814,826, May 21, 1959. This application Sept. 20, 1961, Ser. No. 139,485
3 Claims. (Cl. 333—79)

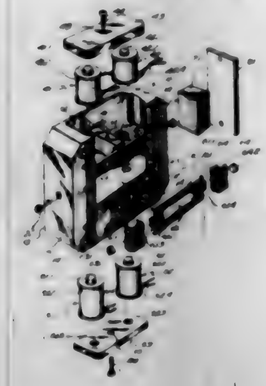


1. In a device of the character described including a plurality of layers continuously rolled into a compact unit said device comprising a pair of conducting layers insulated from each other by a sheet of insulation, one of said conduction layers having an edge extending laterally beyond the edge of the insulation and the edge of the other layer on one side only, said extending edge portion of said layer being grounded throughout the length of said edge portion, the opposite edge of said grounded layer lying within the edge of the insulation, the ungrounded layer being connected in a through circuit by leads connected thereto at spaced points, the ungrounded conducting layer forming an inductance in the through circuit in which it is connected and a distributed capacitance with said grounded layer, said spaced connections being shielded from each other, and an ungrounded layer of magnetic material in end to end spaced relation with said grounded layer beyond the end of said grounded layer and insulated from said ungrounded layer to increase said inductance without capacitance coupling to ground, said layer of magnetic material forming a convolution of said rolled mass.

3,141,146
WAVEGUIDE SWITCH HAVING MOVABLE MAGNETIC SHUTTER SELECTIVELY POSITIONED BY EXTERIOR MAGNETIC FIELD CONTROL MEANS
Sigmund Hilsinh, Cambridge, Mass., assignor to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Filed Apr. 13, 1961, Ser. No. 102,839
2 Claims. (Cl. 333—98)

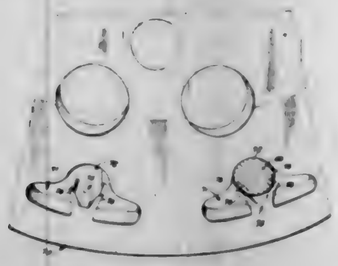
1. An electromagnetic switch device for rectangular waveguides of non-magnetic material, said device comprising a rectangular vane mounted in a section of said waveguide for pivotal movement about an axis transverse to the longitudinal axis of said waveguide between a closed position transverse to said longitudinal axis and an open position parallel to said longitudinal axis, said vane having a substantially flat central portion of non-magnetic material, elongated permanently magnetized portions disposed adjacent each edge of said vane and extending transversely to the pivotal axis thereof, each magnetized portion being thicker than said central portion of said vane and having two unlike poles located one near each end of its respective said edge, the thickness dimensions of said permanently magnetized portions being such that the lumped inductive reactance of said magnetized portions with respect to electromagnetic wave energy intended to be propagated in said waveguide when said vane is in said open position will be substantially matched to the capacitative reactance of the flat portion

of said vane, means cooperating magnetically with one of said magnetized portions for biasing said vane toward said closed portion, electromagnet means mounted exteriorly of said waveguide and having its pole faces so



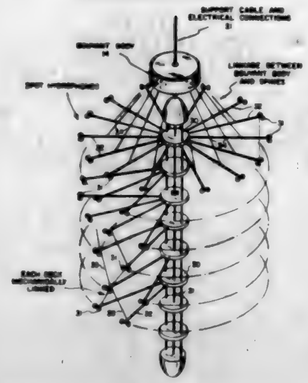
oriented that when it is energized it will repel the poles of said magnetized portions to urge said vane towards said open position, and stop means in said waveguide to hold said vane in said open position against the force imposed by said electromagnet means.

3,141,147
INTEGRALLY BIASED TUNING SLUG RETAINER
William G. Delp, Pasadena, Calif., assignor to Standard Kollsman Industries Inc., Melrose Park, Ill., a corporation of Illinois
Filed May 26, 1961, Ser. No. 112,957
3 Claims. (Cl. 336—131)



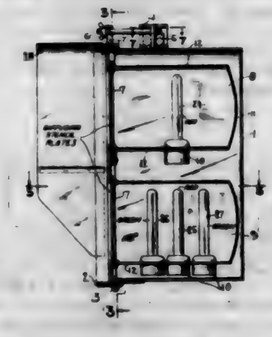
1. Mechanism for selectively restraining movement and for axially moving a member with respect to a coil form comprising a ring, said ring having a plurality of transverse channels circumferentially positioned on said ring; each of said channels incorporating a central arcuate portion and an opposed retaining portion; a screw member, one portion of which is seated in said arcuate portion of said channel; flexible fingers protruding from said ring into said channel at an acute angle with respect to the channel, the sides of said fingers resiliently engaging said member; said arcuate portion and side wall fingers cooperatively forming between them a positioning support for said member; the sides of said fingers when in resilient engagement with said member firmly maintaining said member against said arcuate portion and providing against axial movement while stationary and providing for axial displacement thereof during rotation of said member.

3,141,148
UNDERWATER SOUND APPARATUS
Theodore F. Hueter, Seattle, Wash., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 27, 1960, Ser. No. 78,724
13 Claims. (Cl. 340—9)



1. A hydrophone array assembly adapted to be extended from a collapsed position to an extended operating position upon being lowered into the water comprising: a plurality of interconnected hydrophone means; nonbuoyant means; means connecting said plurality of hydrophone means to said nonbuoyant means to cause said assembly to sink; a buoyant member; means connecting said buoyant member to another portion of said hydrophone means whereby upon submerging said assembly into the water said buoyant member tends to rise with respect to said nonbuoyant means so that said plurality of hydrophone means are extended into operating position.

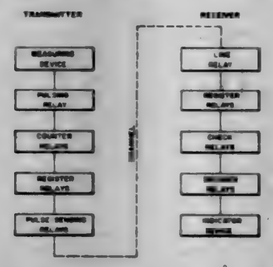
3,141,149
TRAFFIC SIGNAL DEVICE
Lawrence Lawton, 150—47 Village Road, Jamaica 32, N.Y.
Filed Dec. 23, 1959, Ser. No. 861,583
25 Claims. (Cl. 340—44)



1. A traffic signal comprising a housing, an upper and lower parabolic reflector within said housing, stencils on the front of said housing, a light source of a first color at the focus of the first parabolic reflector, a light source of said first color at the focus of the second reflector and at least one light source of a second color in spaced relationship to the focus of the second parabolic reflector, means to energize the light sources of the first color during

one time interval, means to energize the light sources of the second color during another time interval whereby the stencils in front of both reflectors are illuminated by like colors during one time interval and the stencil in front of said second reflector is illuminated by another color during another time interval.

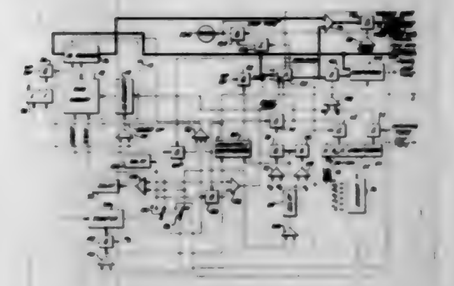
3,141,150
TELEMETERING SYSTEM UTILIZING A VARIABLE SELF-CHECKING CODE
Gyorgy I. Vancsa, East Pittsburgh, and William F. Cruess, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 25, 1959, Ser. No. 815,518
11 Claims. (Cl. 340—146.1)



1. In a coding system for selectively transmitting a plurality of different codes: each code having the same number of signal intervals, each code comprised of a different combination of a first and second type of signals representing a decimal digit, at least one of said codes having more than one signal of said second type; a plurality of selector positions, each corresponding to one of said codes; means for selecting different ones of said selector positions codes; said selector position means being arranged in groups, each group corresponding to a different one of said signal intervals and including therein all the selector positions corresponding to codes having a signal of said second type in the corresponding signal interval; transmitter means normally operable to transmit a signal of said first type in each one of succeeding signal intervals and including a signal control means operable when connected to a selector position as selected by said selector means to substitute a signal of said second type for a signal of said first type; means counting the individual signal intervals and operable at each count to connect the signal control means to a different one of said groups in sequence.

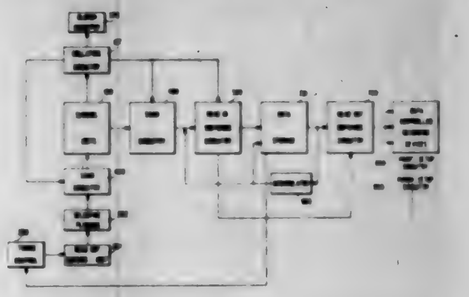
3,141,151
MAGNETIC TAPE STORAGE SYSTEM FOR DIGITAL COMPUTERS WHEREIN AN INDICATION OF THE NUMBER OF BITS IN A MESSAGE IS STORED WITH THE MESSAGE
Paul R. Gilson, West Covina, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 23, 1959, Ser. No. 801,247
13 Claims. (Cl. 340—172.5)

1. A magnetic tape storage system for a digital computer in which words are transferred serially to and from the magnetic tape in blocks, comprising an addressable memory for storing a plurality of words, means for storing at least one preface digit indicative of the number of words in a block to be recorded on the magnetic tape, means synchronized with movement of the magnetic tape for transferring words in successive address locations in the memory to the magnetic tape including means for initially transferring the preface digit from said preface digit storing means to the magnetic tape, whereby a block recorded on tape is preceded by at least one preface digit indicating the number of words in the block, means for counting the number of words transferred from memory



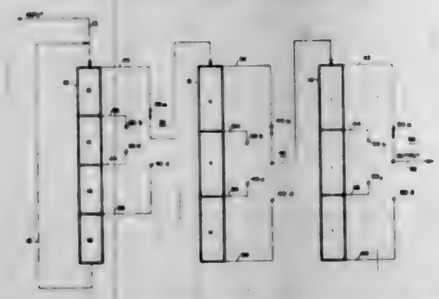
to the tape, and means responsive to the counting means and preface digit storing means for indicating when the required number of words for a complete block are transferred to the magnetic tape.

3,141,152
CONTROL APPARATUS
Jack E. Greene, Vestal, and Joe J. Ingram, Jr., Johnson City, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1959, Ser. No. 860,810
26 Claims. (Cl. 340—172.5)



21. In an arrangement of apparatus comprising: data operably controlled print mechanism for printing data upon record media positioned relative thereto, first data operably controlled punch mechanism for entering a first portion of data in the form of perforations in said record media, and second data operably controlled punch mechanism for entering a second portion of data related to said first portion of data in the form of perforations in said record media to complete the recording of data therein in the form of perforations, the improvement comprising: a plurality of data sources; data storage means having a first storage area for containing data to be printed upon said record media, a second storage area for containing said first portion of data to be entered in the record media in the form of perforations by said first punch mechanism, and a third storage area for containing said second portion of data to be entered in the record media in the form of perforations by said second punch mechanism; first data transferring means for successively transferring data from said plurality of data sources to said data storage means, whereby related data is stored in said first, second and third data storage areas; second data transferring means operable to transfer data from said first, second and third data storage areas to said print mechanism and said first and second punch mechanism, whereby said print mechanism is operably controlled to print data upon said record media at one instant, said first punch is operably controlled to perforate said record media representing data related to said printed data at another instant and said second punch mechanism is operably controlled to perforate said record media representing data related to said printed data at still another instant.

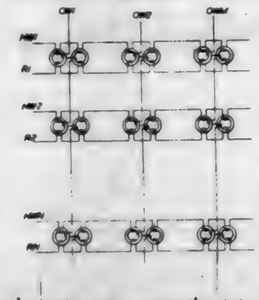
3,141,153
IMMEDIATE SEQUENTIAL ACCESS MEMORY
Walter Klein, Santa Ana, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Oct. 20, 1961, Ser. No. 146,506
13 Claims. (Cl. 340—173)



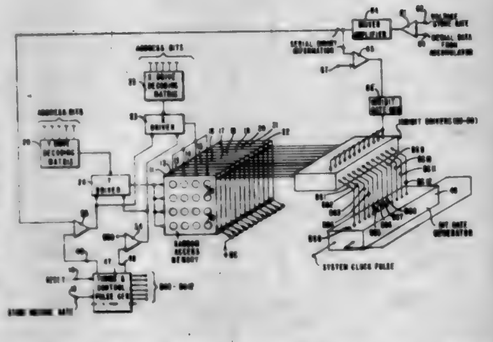
7. In a memory device, a first memory element having an input and a plurality of outputs, a second memory element having an input and a plurality of outputs, input means for applying information to the input of the first memory element, first switch means for sequentially applying the outputs of the first memory element to the input of the second memory element, an output terminal, second switch means for sequentially applying the outputs of the second memory element to the output terminal, first counter means for controlling the sequential operation of said first switch means, second counter means for controlling the sequential operation of said second switch means, control means connected with said second counter means for controlling the frequency of operation of the second counter means, means connecting the second means to said first counter means to cause said first counter means to operate at a frequency which is a submultiple of the frequency of operation of said second counter means, and means for affecting the operation of said control means to inhibit the operation of said second counter means.

3,141,154
INTELLIGENCE STORAGE EQUIPMENT
Ralph Anthony Hall, London, England, assignor to International Standard Electric Corporation, New York, N.Y.
Filed June 10, 1960, Ser. No. 35,175
Claims priority, application Great Britain June 26, 1959
7 Claims. (Cl. 340—174)

1. Intelligence storage device including two substantially identical ferro-magnetic storage elements each capable of being set to either one of two remanent magnetic states, a read wire and an output wire each threading both of the elements with one of the wires passing through the elements in the same direction magnetically and the other wire passing through the elements in opposite directions magnetically, and a source of pulses coupled to said read wire, said pulses having an amplitude such that both of said elements are made to traverse only the reversible portions of their hysteresis loops, in opposite directions, so that by virtue of the different slopes of said reversible portions, the resultant output pulses produced in the output wire are of an amplitude and polarity dependent on the instantaneous magnetic state of said elements, and said magnetic states remain unaffected by said read out pulses.

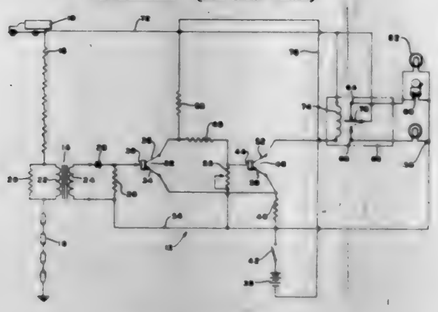


3,141,155
MAGNETIC MEMORY SYSTEM
Albert W. Vinal, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 28, 1961, Ser. No. 120,388
3 Claims. (Cl. 340—174)



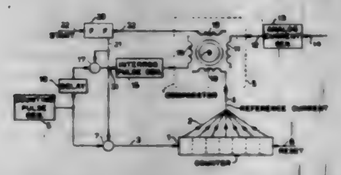
2. An electrical digital memory system for storing binary digital information comprising: a plurality of information storage elements having two distinctive settable stable states, plural of said information elements each representing a bit of a unit of binary digital information; means for selectively energizing all of said plural memory elements so as to set up therein one binary stable state or the other; a separate inhibit energizing means associated with each element of the plural elements representing a given unit of binary digital information; a separate inhibit driver connected to each inhibit energizing means; a generator for generatng bit gate voltages associated in time to correspond with the bit timing of serial binary digital information to be written into the memory; a timing and control pulse generator for generating a series of pulses exceeding by one the number of bits in the serial binary information to be stored, said initial extra pulse being of a first polarity, the remaining timing pulses being of the other polarity; said inhibit drivers responsive to a common input of said serial binary information to be stored and of bit gate voltages from said bit gate generator for selectively energizing the associated inhibit energizing means in cooperative action with said means for selectively energizing all of said plural memory elements so that serial binary digital information is stored in selected elements associated with non-energized inhibit energizing means.

3,141,156
DANGER INDICATOR
Harry J. Freedman, 240 N. 13th St., and Harry A. Romain, 2201 Pennsylvania Ave., both of Philadelphia, Pa.
Filed June 14, 1961, Ser. No. 117,167
3 Claims. (Cl. 340—255)



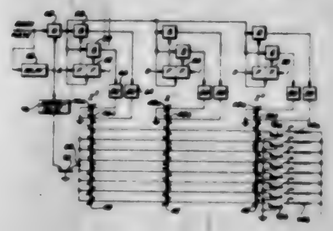
1. A danger indicator comprising a metal frame for supporting personnel, means grounding said frame through a high resistance, a deactivated signalling device on said frame, said signalling device being connected to a source of power, an electrical circuit means connected to said frame and said signalling device for activating said signalling device in response to the presence of a voltage in said frame capable of harming personnel on said frame, said electrical circuit means including the primary of a transformer, said electrical circuit means additionally including a secondary winding in mutual inductive relation with said primary winding, whereby said electrical circuit means is isolated from said means grounding said frame.

3,141,157
ANALOG-TO-DIGITAL CONVERTER
Gianfranco Raffo, Milan, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Feb. 16, 1960, Ser. No. 9,132
Claims priority, application Italy Feb. 20, 1959
1 Claim. (Cl. 340—347)



In a device for setting up a digital representation of an input analog current, a unidirectional counter settable according to said representation, a source of counting pulses for setting said counter, gating means interposed between said source and said counter, means controlled by said counter for generating a unidirectional reference current having a step-wise increasing magnitude depending upon the count of said counter, a bi-stable magnetic core, a first winding on said core fed by said reference current for driving said core toward a predetermined state, a second winding on said core fed by said input analog current for driving said core toward an opposite state, said core being switched from said opposite state to said predetermined state when the magnetizing force applied by said reference current overcomes the magnetizing force applied by said input analog current, a third winding on said core, impulsive excitation means for said third winding including delay means and responsive to each one of said counting pulses for driving said core toward said opposite state, and a fourth winding on said core responsive to the switching of said core from said predetermined state to said opposite state to inhibit said gating means.

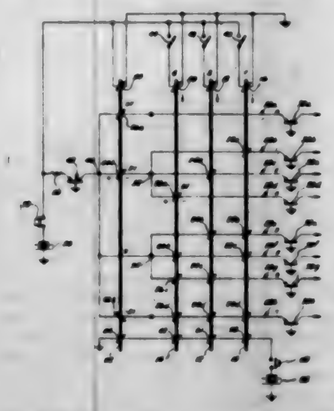
3,141,158
MAGNETIC CORE MATRIX DECODER
Robert C. Minnick, Arcadia, and Edwin S. Lee III, San Gabriel, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 7, 1960, Ser. No. 13,194
8 Claims. (Cl. 340—347)



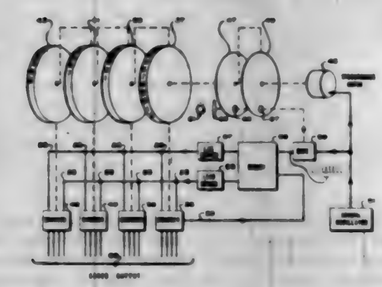
4. A matrix circuit for converting a binary code of N bits to a one-out-of-K code, where K is any digital value up to 2^N, said matrix circuit comprising a plurality of magnetic cores equal in number to the number of binary bits N, there being one core for each binary bit, a plurality of output windings corresponding to the number K wound on each core, each output winding of any one core being connected in series with a corresponding output winding on each of the other cores to form K series circuits each including N output windings, means including input windings on each of the cores for simultaneously reversing the direction of flux in each of the cores, the direction of reversal depending on the value of the associated binary bit, whereby the voltage induced across each of the output windings associated with the cores has one of two polarities depending on the binary value of the input, the output windings in each of the series circuits being connected so that the induced voltages all add in one direction across a given series circuit in response to a particular pattern of flux reversals, which pattern is different for each of the series circuits, whereby for a given pattern of input binary bits only a particular one of the series circuits has a maximum voltage of one polarity across the series circuits, and means associated with each of the series circuits for sensing the maximum voltage condition.

3,141,159
DIGITAL MAGNETIC CODE CONVERTER
Edwin S. Lee III, San Gabriel, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 7, 1960, Ser. No. 13,292
9 Claims. (Cl. 340—347)

6. A matrix circuit for converting a binary coded input of N binary bits to a one-out-of-K code, where $K=2^N$, the matrix circuit comprising a plurality of magnetic core elements equal in number to the number of input binary bits N, an input winding on each core element, means for setting the residual flux in the same direction in all the core elements, means responsive to the binary input for simultaneously pulsing selected input windings to reverse the direction of the residual flux in the selected cores, a plurality of output windings on each core element, a plurality of output circuits equal in number to the number outputs K, each output circuit including a unidirectional conductive device and a number of output windings connected in series, the number of series output windings in each output circuit being any number from zero to N, the output circuits being arranged in N+1 groups with the output circuits in any one group having the same number of series connected output windings and a common terminal, the number of series connected output windings in the output circuits in any one group being different from the number of series connected output windings in any other group, a current pulse source, and a plurality of bias voltage sources respectively connecting each of the common terminals to one side of the current pulse source, the return to the current pulse source being connected to all output circuits at the opposite ends of the output circuits from said common terminals, the bias voltage associated with each group of output circuits decreasing in magnitude as the number of series windings in the output circuits of the associated group increases, the decrease in voltage from one bias voltage means to the next being less than the voltage induced across any one of the output windings by the pulsing of the input windings.

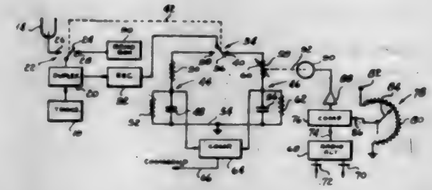


3,141,160
ELECTRO-MECHANICAL SIGNALLING APPARATUS
Dexter C. Hartka, Los Altos Hills, Calif., and Jerome M. Idelsohn, Oak Park, Mich., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 28, 1962, Ser. No. 226,946
1 Claim. (Cl. 340—347)



Electromechanical apparatus comprising:
an oscillator for producing a recurring signal at a fixed frequency;
a synchronous motor connected to receive said recurring signal for producing angular motion related to said fixed frequency;
an element settable in a plurality of angular positions;
means linking said motor to said element for altering the position thereof in response to the angular motion of said motor;
means connected to said oscillator for transmitting a selected occurrence of said signal of fixed frequency once per predetermined number of revolutions of said motor;
encoder means connected to said element for producing a signal related to the angular position of said element; and
means connected to receive the signal from said encoder means for producing an output signal in response to the transmitted occurrence of said signal of fixed frequency.

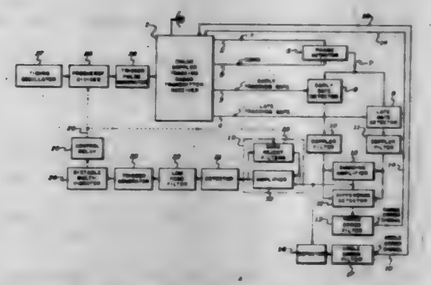
3,141,161
CALIBRATED RADAR ALTITUDE CONTROL WHICH COMPENSATES FOR CHANGES IN GROUND REFLECTIVITY
Kenneth L. King, Eastchester, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,374
5 Claims. (Cl. 343—7)



1. A radar altitude control system for producing a command signal for directing an aircraft to a desired altitude including in combination an antenna, means mounting said antenna on said aircraft, a radar transmitter, means coupling said transmitter to said antenna, means for producing a first electrical signal having an amplitude varying as a function of transmitted power, a radar receiver, means including said receiver for producing a second electrical signal having an amplitude vary as a function of received power, means for comparing the amplitudes of said first and second signals to produce said command signal, means for producing a third signal proportional to the actual altitude over the ground of said aricraft independent of variations in ground reflectivity and means responsive to said third signal for varying the amplitude of one of said first and second signals to compensate for variations in ground reflectivity.

3,141,162
PULSE DOPPLER TRACKING RADAR
Whitfield W. Moretti, New Hyde Park, and Isaac R. Hoxie, Jr., Huntington, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 12, 1959, Ser. No. 846,029
5 Claims. (Cl. 343—7)

1. In a pulse doppler radar system including a receiver producing an output signal having frequency components related to the radial velocity of a detected target, means connected to said receiver for responding solely to a component having a fixed frequency value to generate a control signal upon the occurrence of said component, means for shifting the pulse repetition rate of said radar

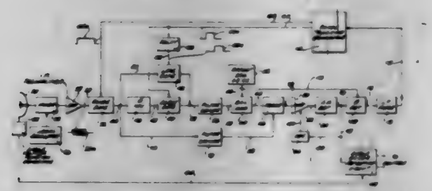


system from one to the other of two fixed values in response to an input signal, and means for applying said control signal as said input signal to said means for shifting.

3,141,163
RANGE GATING SYSTEM WITH NARROW BAND FILTERING

Lowell C. Parode, Manhattan Beach, and Don R. Holcomb, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 6, 1958, Ser. No. 754,697
18 Claims. (Cl. 343—7.3)



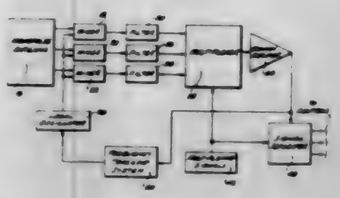
18. A radar receiver for filtering and gating pulses of radio frequency signals received at varying times from an antenna, said radio frequency signals having characteristics indicative of directional information, said receiver comprising: a mixer coupled to said antenna for developing pulses of intermediate frequency signals from said pulses of radio frequency signals; gating means coupled to said mixing means for developing first and second signals having amplitude characteristics indicative of the time of reception of said pulses by said antenna; filtering means coupled to said gating means for developing third and fourth signals in response to said first and second signals respectively, and coupled to said mixer for developing fifth signals from the pulses of intermediate frequency signals; combining means coupled to said filtering means for combining said third, fourth and fifth signals into a common signal; and detecting and pulse forming means coupled to said combining means for developing sixth signals indicative of the directional information, said detecting means and pulse forming means coupled to said gating means to control the time of gating of said pulses received from said antenna.

3,141,164
RADAR RECEIVER UTILIZING NARROW BAND FILTERING AND MULTIPLEXING

Don R. Holcomb, Los Angeles, Richard M. Jaffe, Inglewood, John M. Pew, Los Angeles, and Ercell E. St. John, Hawthorne, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed June 23, 1958, Ser. No. 744,631
10 Claims. (Cl. 343—16)

1. A monopulse receiver responsive to monopulse signals intercepted from a target which signals include a carrier wave and sideband signals, said receiver comprising: a monopulse antenna for intercepting said monopulse signals and for developing a plurality of monopulse input signals having a relative amplitude indicating direction of said target, said input signals including a carrier wave and including sideband components developed from said sideband signals; a plurality of narrow-band filters coupled to said antenna means for passing only the carrier wave of: said monopulse input signals; multiplexer means coupled to said plurality of filters, said multiplexer means developing a combined signal representative of the ampli-

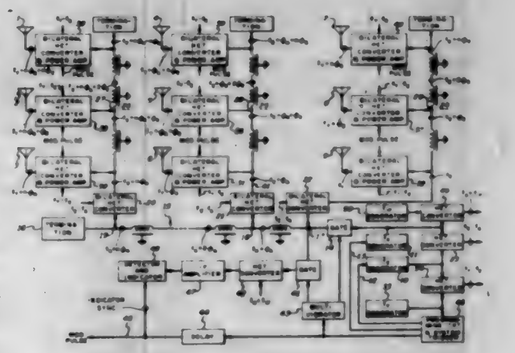


tude of said plurality of monopulse input signals; a common amplifier coupled to said multiplexer means for amplifying said combined signal; and means coupled to said common amplifier for separating the amplified combined signal into output components having relative amplitudes representative of said relative amplitude of said plurality of monopulse input signals, whereby the direction of said target is accurately represented by said output components by removing sideband components from said monopulse input signals before developing said combined signal and passing it through said common amplifier.

3,141,165
ELECTRONICALLY SCANNABLE DIRECTIONAL ANTENNA

Peter J. Kahrilas, Roslyn, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Aug. 12, 1960, Ser. No. 49,364
5 Claims. (Cl. 343—100)

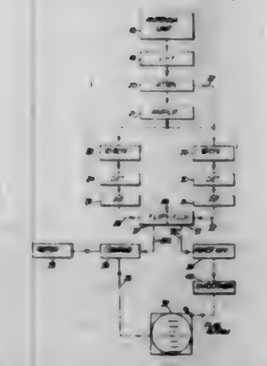


1. In a scannable directional antenna array, means for scanning the directive axis of said array by controlling the phase angle between the signals radiated or received by adjacent ones of the radiating elements comprising said array, said means including a first signal delay line, a source of first signals connected to the input of said first delay line, a plurality of first heterodyne converters each being connected to said first delay line at respective points, a source of second signals having a frequency differing from the frequency of said first signals, means for applying said second signals to each of said first converters, a plurality of second signal delay lines, the input of each said second delay lines being connected to the output of a respective one of said first converters, a plurality of second heterodyne converters each being connected to a respective one of said second delay lines, a source of third signals having a frequency differing from the frequency of said second signals, means for applying said third signals to each of said second converters, means for coupling the output of each of said second converters to a respective one of said radiating elements, and means for changing the frequency of one of said first and second signals.

3,141,166
RADIO BEACON SYSTEM

Charles Eric Strong, William Litsey Garfield, and Anthony Newton Lawson, all of London, England, assignors to International Standard Electric Corporation, New York, N.Y.

Filed Oct. 28, 1958, Ser. No. 770,213
Claims priority, application Great Britain Oct. 31, 1957
5 Claims. (Cl. 343—106)



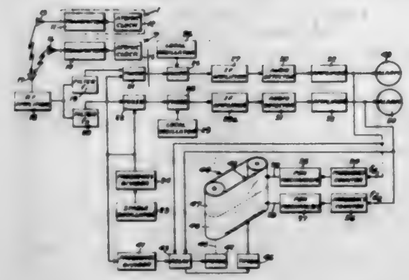
1. A radio approach beacon system for aircraft in which an arc of the approach zone is scanned to and fro with predetermined angular velocity by a beam whose width along the arc of scanning is very narrow comprising; means carried on said aircraft for selecting a predetermined approach path for said aircraft, means for determining the time interval between the pulse of energy received by said aircraft when the beam traverses said aircraft in a predetermined sense of scanning and the pulse of energy received when the aircraft is traversed again by said beam in the immediately following reversal of scanning, and means for giving an indication as to whether or not such time interval corresponds with said predetermined approach path for said craft.

3,141,167
NAVIGATION SYSTEM

Peter C. Sandretto, East Orange, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Dec. 7, 1959, Ser. No. 857,738
6 Claims. (Cl. 343—112)

1. In a navigation system for determining the position of a vehicle relative a source of electromagnetic radiations moving along a known path spaced apart from the earth and at a known velocity; comprising a receiver carried by said vehicle for receiving signals including said radiations, means to detect from said received radiations the doppler modulations produced by the movement of said source relative said vehicle, a frequency counter coupled to said detecting means to determine the frequencies of said doppler modulations and recording means coupled to the output of said frequency counter whereby said doppler frequencies are recorded as a function of time and

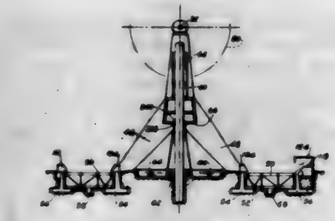


the position of said vehicle relative said source can be computed and means coupling said recording means to the output of said detecting means to actuate said recording means in response to an output from said detecting means.

3,141,168
STEERABLE TRUNNION MOUNTED PARABOLOIDAL ANTENNA

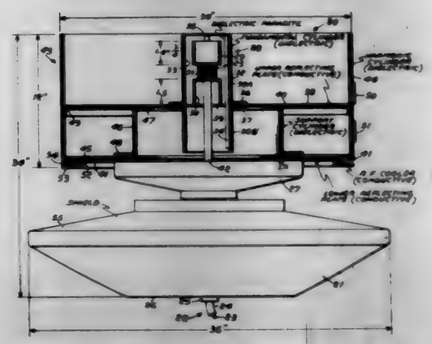
Edward Ned Lowell Ashton, 820 Park Road, Iowa City, Iowa

Filed Feb. 5, 1962, Ser. No. 171,028
14 Claims. (Cl. 343—709)



9. In an antenna, the combination with a supporting tower having four cellular structural legs and a connecting cross piece with the bottoms of the legs spaced about equally apart, a horizontal declination axis having bearings on top of the base, segmental supports carried by each of the bearings, a parabolic antenna dish secured to the ends of the segmental supports, means in connection with the segmental supports and mounted on the base for rotating the antenna dish about the horizontal axis, a ring float to which the lower ends of the tower legs are connected, a floatation ring for containing liquid in which the said ring float is mounted, the floatation chamber comprising inner and outer structural rings connected at the bottom to form a water-tight chamber, means at the upper and inner edge of the ring float and at the upper end of the inner structural ring for pressing downwardly on the inner edge of the ring float, and means at the outer top edge of the ring float and at the top edge of the outer ring structure including pinions, driving motors and gears disposed at an angle to the horizontal for pressing this edge of the ring float downwardly and for the pinions to engage the rack in driving the ring float and the connected tower circularly in azimuth.

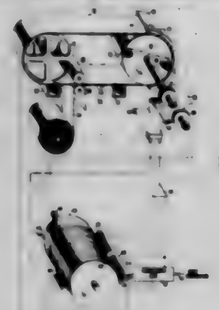
3,141,169
OMNIDIRECTIONAL BEACON ANTENNA HAVING DIPOLE RADIATOR AND PARASITICALLY FED HORN RADIATOR
Howard M. Bellis, Park Ridge, Erwin J. Huber, Midland Park, and Frank E. Kolinsky, Wanaque, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Nov. 21, 1960, Ser. No. 70,830
11 Claims. (Cl. 343—730)



1. An antenna system comprising first and second central radiating members emitting electromagnetic energy, said first member emitting energy into free space, a horn radiating structure, said first central radiating member being disposed apart from said horn radiating structure and separated therefrom by said second radiating member and means coupling a predetermined portion of said electromagnetic energy from said second central member to said horn structure for radiation therefrom.

3,141,170
HIGH SPEED PRINTING APPARATUS
Victor O. Wilkerson and Charles B. Smith, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1959, Ser. No. 823,905
21 Claims. (Cl. 346—74)

7. A high speed printing apparatus for printing on a constantly moving output form without utilizing mechanical impact, said apparatus comprising; a movable record member, a plurality of stationary character defining members positioned adjacent said movable record member, said character defining members being arranged in columns each containing a font of characters and in rows of identical characters, skewed row transducers adapted to be moved in juxtaposition to said intermediate record member and said stationary character defining members and to be selectively energized for recording on said intermediate record member any of the characters defined by the stationary character defining members, there being one transducer in said skewed row for each column of stationary character defining members and the movement of said skewed row being substantially transverse to said columns, means for storing signals indicating the character desired to be printed in each column position of the output form, means for reading out said signals from storage and serially comparing them with the position of each of said transducers in said skewed row adjacent particular row of character defining members, and means for energizing said transducer if a comparison occurs between the character desired to be printed and the position of said transducer, means for processing the read out information through said storage means to present the signals representing the characters to be in different lines for serial comparison with the position of each transducer during all possible positions of said transducers as they move adjacent said stationary character defining members and means for printing out the recorded characters.



DESIGNS

JULY 14, 1964

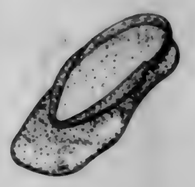
198,616
ILLUMINABLE DISPLAY SIGN
Richard H. Van Den Berg, Glendale, Wis., assignor to Dimensional Products, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 4, 1963, Ser. No. 73,429
Term of patent 14 years
(Cl. D1—12)



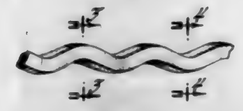
198,617
SHIRT
Elvert Curtis, Gamaliel, Ky., assignor to Washington Manufacturing Company, Nashville, Tenn., a corporation of Tennessee
Filed Jan. 23, 1963, Ser. No. 73,285
Term of patent 14 years
(Cl. D3—25)



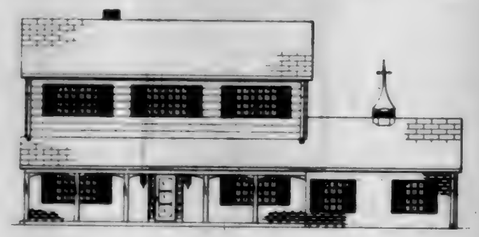
198,618
SLIPPER
William M. Scholl, 213 W. Schiller, Chicago 10, Ill.
Filed May 27, 1963, Ser. No. 75,090
Term of patent 14 years
(Cl. D7—7)



198,619
STRING POTATO PRODUCT
Robert J. Heintz, 1828 Woodsboro, Royal Oak, Mich.
Filed Apr. 12, 1962, Ser. No. 69,679
Term of patent 14 years
(Cl. D8—1)



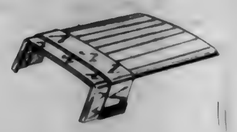
198,620
HOUSE
George A. Arkwright, 6 Chickawane Court, Alexandria, Va., and John R. Minchew, 4443 N. Chesterbrook Road, McLean, Va.
Filed Nov. 26, 1963, Ser. No. 77,575
Term of patent 14 years
(Cl. D13—1)



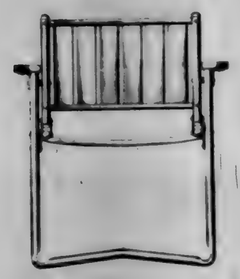
198,621
GARBAGE CAN CADDY
Joseph J. Juen, Melrose, Minn., assignor to Inter-Marc Corporation, Alexandria, Minn., a corporation of Minnesota
Filed Oct. 1, 1963, Ser. No. 76,818
Term of patent 14 years
(Cl. D14—3)



198,622
TOP FOR A VEHICLE
Edward F. Brill, Oconomowoc, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a corporation of Delaware
Filed Feb. 20, 1963, Ser. No. 73,657
Term of patent 14 years
(Cl. D14—27)



198,623
CHAIR
Samuel D. Lockshin, Northampton, Mass., assignor to Hampden Specialty Products Corporation, Easthampton, Mass.
Filed Sept. 27, 1962, Ser. No. 71,888
Term of patent 14 years
(Cl. D15—1)



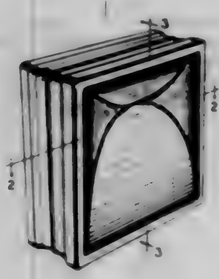
198,624
CHAISE
Samuel D. Lockshin, Northampton, Mass., assignor to Hampden Specialty Products Corporation, Easthampton, Mass.
Filed Nov. 29, 1962, Ser. No. 72,648
Term of patent 14 years
(Cl. D15—1)



198,625
ROCKING CHAIR
Samuel D. Lockshin, Northampton, Mass., assignor to Hampden Specialty Products Corporation, Easthampton, Mass.
Filed Nov. 13, 1962, Ser. No. 72,489
Term of patent 14 years
(Cl. D15—6)



198,626
GLASS BLOCK
Edward P. Lockart and William E. McWhorter, Toledo, Ohio, assignors to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 2, 1963, Ser. No. 75,617
Term of patent 14 years
(Cl. D18—2)



198,627
AUTOMOBILE DESK
Earl F. Hamilton and Edwin K. Moore, Columbus, Ind., assignors to Hamilton Cosco, Inc., a corporation of Indiana
Filed June 26, 1963, Ser. No. 75,539
Term of patent 14 years
(Cl. D33—7)



198,628
CHAIR-DESK OR THE LIKE
Dave Chapman, Chicago, and Kim Yamanaki, Lombard, Ill., assignors to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 21, 1961, Ser. No. 68,083
Term of patent 14 years
(Cl. D33—11)



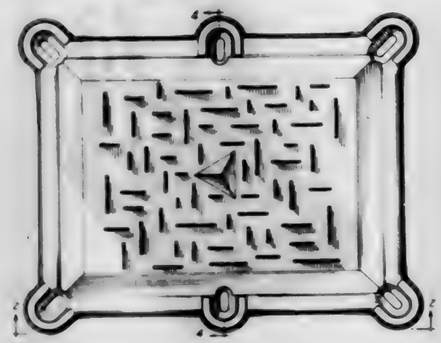
198,629
SET OF GAME PIECES
Philip Youngman-Carter, 91 Great Russell St., London W.C. 1, England
Original design application Feb. 5, 1960, Ser. No. 99,281, now Design Patent No. 192,365, dated Mar. 13, 1962. Divided and this application Aug. 18, 1961, Ser. No. 66,468
Term of patent 14 years
(Cl. D34—5)



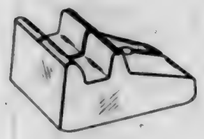




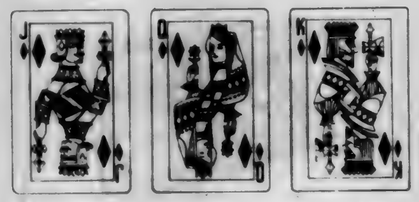
198,630
GAME BOARD
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2080 Arrowwood Drive, Scotch Plains, N.J.
Filed Oct. 18, 1962, Ser. No. 72,183
Term of patent 14 years
(Cl. D34—5)



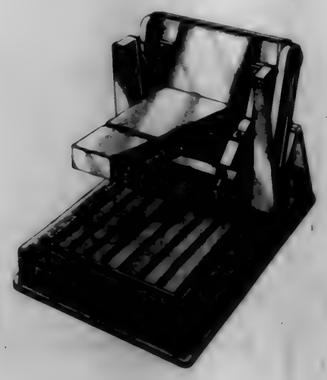
198,631
GOLF CLUB HEAD
Wallace R. Hogan, 3838 SE. 58th Ave., Portland, Oreg.
Filed Jan. 30, 1964, Ser. No. 78,431
Term of patent 14 years
(Cl. D34—5)



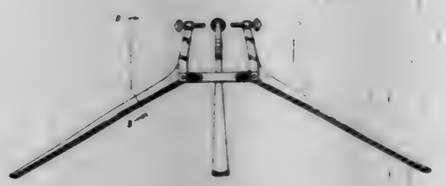
198,632
DECK OF PLAYING CARDS
Albert R. Noble, St. Paul, Minn., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 15, 1963, Ser. No. 76,988
Term of patent 14 years
(Cl. D34—13)



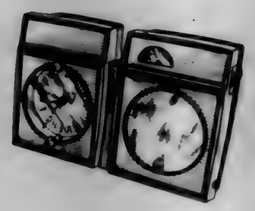
198,633
TOY MOLDING PRESS
Robert Boggild and William L. Dale, both of 5463 Hill and Dale Drive, Cincinnati, Ohio
Filed Mar. 12, 1963, Ser. No. 73,940
Term of patent 14 years
(Cl. D34—15)



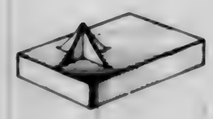
198,634
TREE STAND
Zdenek Ch. Newmann, 7375 Woodward Ave., Detroit, Mich.
Filed Sept. 6, 1961, Ser. No. 66,623
Term of patent 14 years
(Cl. D35—3)



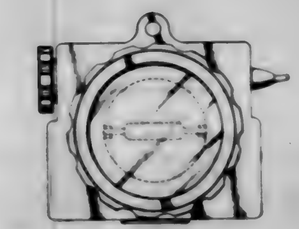
198,635
COMBINED CLOCK AND RADIO
Richard W. Lee, Evanston, and Oswald J. Mazzetta, Jr., Palatine, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 15, 1964, Ser. No. 78,205
Term of patent 14 years
(Cl. D42—7)



198,636
NUT SLITTER OR THE LIKE
Anna A. Micuti, 450 N. May St., Chicago, Ill.
Filed Nov. 16, 1962, Ser. No. 72,522
Term of patent 14 years
(Cl. D44—1)



198,637
FLOODLIGHT OR SIMILAR ARTICLE
Jack Birns, Los Angeles, Calif.
(901 Malcolm, West Los Angeles, Calif.)
Filed Feb. 27, 1963, Ser. No. 73,737
Term of patent 3½ years
(Cl. D48—20)



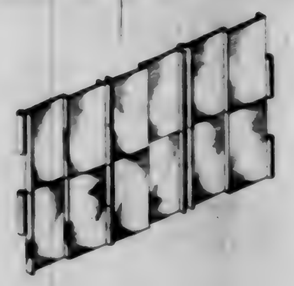
198,638
COMBINED LAMP BASE AND BOOK RACK
George D. Brown, 7001 Bancroft St., Toledo, Ohio
Filed Mar. 23, 1964, Ser. No. 79,131
Term of patent 14 years
(Cl. D48—20)



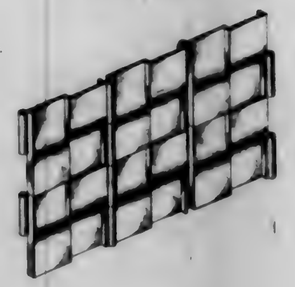
198,639
LIGHTING FIXTURE FOR GARDENS, TERRACES AND THE LIKE
Leonard Atkin, Springfield, and Richard Sangiamo, Roselle Park, N.J., assignors to Stonco Electric Products Company, a corporation of New Jersey
Filed Nov. 26, 1963, Ser. No. 77,557
Term of patent 14 years
(Cl. D48—31)



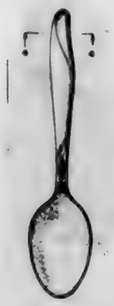
198,640
FOLDABLE TRAVERSING SCREEN
James Hirashiki, 514 W. Olympic Blvd., Los Angeles 15, Calif.
Continuation of design applications Ser. Nos. 68,740, Feb. 9, 1962, and 68,741, Feb. 9, 1962. This application Nov. 12, 1963, Ser. No. 77,549
Term of patent 14 years
(Cl. D54—2)



198,641
FOLDABLE TRAVERSING SCREEN
James Hirashiki, 514 W. Olympic Blvd., Los Angeles 15, Calif.
Continuation of design applications Ser. Nos. 68,641, Feb. 5, 1962, and 68,644, Feb. 5, 1962. This application Nov. 12, 1963, Ser. No. 77,550
Term of patent 14 years
(Cl. D54—2)



198,642
SPOON OR SIMILAR ARTICLE OF FLATWARE
James William Allen, Utica, N.Y., assignor to Utica Cutlery Company, Utica, N.Y., a corporation of New York
Filed June 14, 1963, Ser. No. 75,343
Term of patent 14 years
(Cl. D54—12)

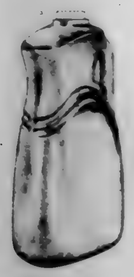


198,643
PAIR OF SUNGLASSES OR THE LIKE
Carl H. Wilson, Waban, and Conrad L. Leblanc, Leominster, Mass., assignors to Foster Grant Co., Inc., Leominster, Mass.
Filed Jan. 17, 1963, Ser. No. 73,213
Term of patent 14 years
(Cl. D57—1)

198,644
PAIR OF SUNGLASSES OR THE LIKE
Carl H. Wilson, Waban, and Conrad L. Leblanc, Leominster, Mass., assignors to Foster Grant Co., Inc., Leominster, Mass.
Filed Jan. 17, 1963, Ser. No. 73,214
Term of patent 14 years
(Cl. D57—1)



198,645
JUG
James A. Shepler, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Jan. 31, 1964, Ser. No. 78,440
Term of patent 14 years
(Cl. D58—5)



198,646
BOTTLE
Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 3, 1964, Ser. No. 78,477
Term of patent 14 years
(Cl. D58—6)



198,647
BOTTLE
Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 3, 1964, Ser. No. 78,478
Term of patent 14 years
(Cl. D58—6)



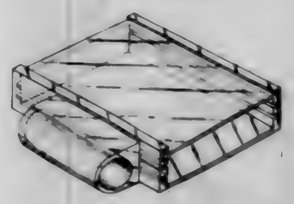
198,648
BOTTLE
Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 3, 1964, Ser. No. 78,479
Term of patent 14 years
(Cl. D58—6)



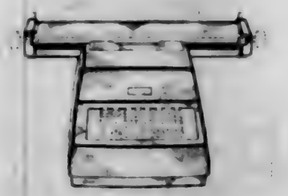
198,649
PACKAGE COVER
Walter James Dobbins, Lake Zurich, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 22, 1963, Ser. No. 74,552
Term of patent 14 years
(Cl. D58—26)



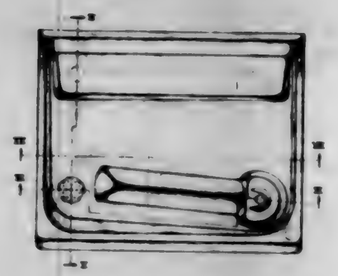
198,650
PHOTOGRAPHIC PRINT HOLDER
Robert E. Lewis, Lockport Township, St. Joseph County, Mich. (Rte. 1, Centreville, Mich.), and Philip A. Tunison, Leonidas Township, St. Joseph County, Mich. (824 Olney Road, Leonidas, Mich.)
Filed May 1, 1963, Ser. No. 74,698
Term of patent 7 years
(Cl. D61—1)



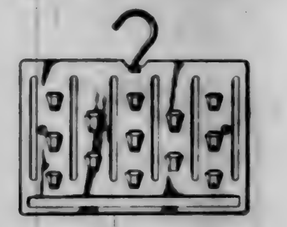
198,651
BOOKKEEPING MACHINE OR THE LIKE
Artur Fröbel, Oberndorf (Neckar), and Fritz Kopp, Aistaig (Neckar), Germany, assignors to Olympia Werke A.G., Wilhelmshaven, Germany
Filed July 25, 1962, Ser. No. 71,053
Claims priority, application Germany May 18, 1962
Term of patent 14 years
(Cl. D64—11)



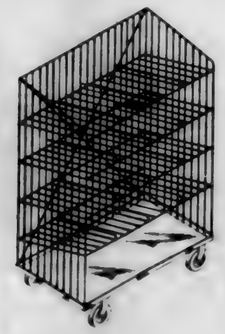
198,653
WATER COOLER TOP OR THE LIKE
Richard M. Stoughton, Prairie Township, Franklin County, and Wallace H. Appel, Upper Arlington Township, Franklin County, Ohio, assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed May 6, 1963, Ser. No. 74,768
Term of patent 14 years
(Cl. D67—4)



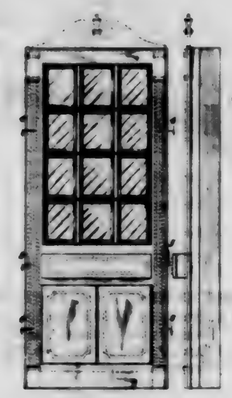
198,653
TIE HOLDER
Laurance J. Foley, Albany, and John Joseph Corrigan, Waterford, N.Y., assignors to Astro Sales, Inc., Waterford, N.Y., a corporation of New York
Filed July 2, 1962, Ser. No. 70,767
Term of patent 7 years
(Cl. D88—3)



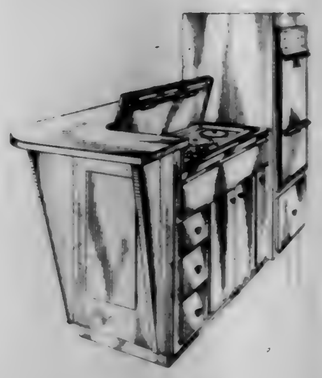
198,654
BOTTLE HANDLING RACK
Adrian B. Scott, Anaheim, Calif., assignor to Vita Pakt Citrus Products, Covina, Calif., a corporation of California
Filed Aug. 15, 1962, Ser. No. 71,301
Term of patent 14 years
(Cl. D60—10)



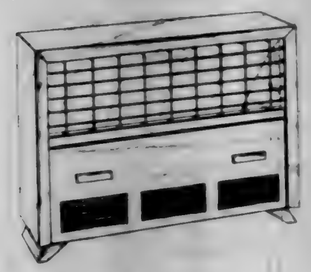
198,655
COMBINED BROCHURE DISPENSER AND DISPLAY CABINET
Charles B. Crawford, Chevy Chase, and Frederick G. Goodwin, Rockville, Md., assignors to Markets Advertising Corporation, a corporation of the District of Columbia
Filed Oct. 25, 1962, Ser. No. 72,255
Term of patent 3½ years
(Cl. D60—11)



198,656
COMBINED COOKING UNIT AND SERVING BAR
Louis J. Jenn and Joseph M. Boarman, Indianapolis, Ind., assignors to Jenn-Air Products Company, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Dec. 14, 1962, Ser. No. 72,856
Term of patent 14 years
(Cl. D81—4)



198,657
HEATER
Donald W. Hartzell, Centralia, Ill., assignor to Lear Siegler, Inc., Centralia, Ill., a corporation of Delaware
Filed Jan. 28, 1964, Ser. No. 78,281
Term of patent 14 years
(Cl. D81—19)



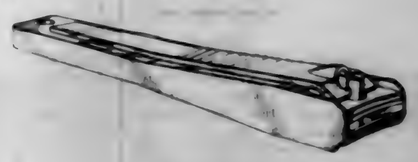
198,658
HYPODERMIC SYRINGE OR SIMILAR ARTICLE
Robert L. Smeton, 74402 Maricopa Drive, Twentynine Palms, Calif.
Filed Dec. 9, 1963, Ser. No. 77,708
Term of patent 14 years
(Cl. D83—12)



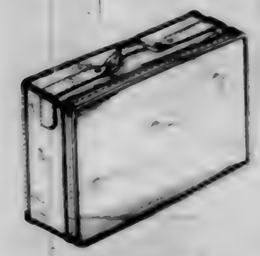
198,659
HYPODERMIC SYRINGE OR SIMILAR ARTICLE
Robert L. Smeton, 74402 Maricopa Drive, Twentynine Palms, Calif.
Filed Dec. 9, 1963, Ser. No. 77,709
Term of patent 14 years
(Cl. D83—12)



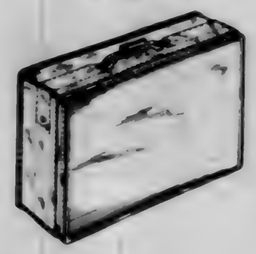
198,660
NAIL CLIPPER
Ernest C. Britton, Newington, Conn., assignor to The H. C. Cook Company, Ansonia, Conn., a corporation of Connecticut
Filed July 5, 1962, Ser. No. 70,829
Term of patent 14 years
(Cl. D86—10)



198,661
LUGGAGE CASE
Harvey L. O'Neil, Lebanon, Tenn., assignor to Hartmann Luggage Company, Lebanon, Tenn., a corporation of Delaware
Filed Aug. 5, 1963, Ser. No. 76,117
Term of patent 14 years
(Cl. D87—5)



198,662
LUGGAGE CASE
Harvey L. O'Neil, Lebanon, Tenn., assignor to Hartmann Luggage Company, Lebanon, Tenn., a corporation of Delaware
Filed Sept. 9, 1963, Ser. No. 76,521
Term of patent 14 years
(Cl. D87—5)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Adams, Richard F., to Olin Mathieson Chemical Corp. Heat exchanger. Re. 25,619, 7-14-64, Cl. 165—148.
Foster Grant Co., Inc.: *See*—
Goodman, Leonard. Re. 25,618.
Goodman, Leonard, to Foster Grant Co., Inc. Multi-wall insulating receptacle. Re. 25,618, 7-14-64, Cl. 220—15.
Lyall, Ralph G. Axle load distributing device for motor cranes and like mobile equipment. Re. 25,617, 7-14-64, Cl. 280—104.5.
Olin Mathieson Chemical Corp.: *See*—
Adams, Richard F. Re. 25,619.
Stanley, Oscar M. Supermarket cart. Re. 25,616, 7-14-64, Cl. 280—33.99.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Fowler Nurseries, Inc. Almond tree. 2,426, 7-14-64, Cl. 30.
Fowler Nurseries, Inc.: *See*—
Anderson, Frederic W. 2,426.
Jackson & Perkins Co.: *See*—
McGredy, Samuel D., IV. 2,424.
McGredy, Samuel D., IV, to Jackson & Perkins Co. Rose plant. 2,424, 7-14-64, Cl. 28.
Merrill, Grant. Peach tree. 2,425, 7-14-64, Cl. 43.
Oki Nursery, Inc.: *See*—
Temple, John R. 2,423.
Temple, John R., to Oki Nursery, Inc. Lantana plant. 2,423, 7-14-64, Cl. 54.
Voeller, Jack R. Chaenomeles lagenaria climber. 2,422, 7-14-64, Cl. 64.

LIST OF DESIGN PATENTEES

Allen, James W., to Utica Cutlery Co. Spoon or similar article of flatware. 198,642, 7-14-64, Cl. D54—12.
Allis-Chalmers Mfg. Co.: *See*—
Brill, Edward F. 198,622.
American Can Co.: *See*—
Dobbins, Walter J. 198,649.
Appel, Wallace H.: *See*—
Stoughton, Richard M., and Appel. 198,652.
Arkwright, George A., and J. R. Minchew. House. 198,620, 7-14-64, Cl. D13—1.
Astro Sales, Inc.: *See*—
Foley, Laurance J., and Corrigan. 198,653.
Atkin, Leonard, and R. Sangiamo, to Stonco Electric Products Co. Lighting fixture for gardens, terraces and the like. 198,639, 7-14-64, Cl. D48—31.
Birns, Jack. Floodlight or similar article. 198,637, 7-14-64, Cl. D48—20.
Boarman, Joseph M.: *See*—
Jenn, Louis J., and Boarman. 198,656.
Borgild, Robert, and W. L. Dale. Toy molding press. 198,633, 7-14-64, Cl. D34—15.
Brill, Edward F., to Allis-Chalmers Mfg. Co. Top for a vehicle. 198,622, 7-14-64, Cl. D14—27.
Britton, Ernest C., to The H. C. Cook Co. Nail clipper. 198,660, 7-14-64, Cl. D86—10.
Brown, George D. Combined lamp base and book rack. 198,638, 7-14-64, Cl. D48—20.
Brunswick Corp.: *See*—
Chapman, Dave, and Yamasaki. 198,628.
Chapman, Dave, and K. Yamasaki, to Brunswick Corp. Chair-desk or the like. 198,628, 7-14-64, Cl. D33—11.
Cook, H. C., Co., The: *See*—
Britton, Ernest C. 198,660.
Corrigan, John J.: *See*—
Foley, Laurance J., and Corrigan. 198,653.
Crawford, Charles B., and F. G. Goodwin, to Markets Advertising Corp. Combined brochure dispenser and display cabinet. 198,655, 7-14-64, Cl. D80—11.
Curtis, Elvert, to Washington Mfg. Co. Shirt. 198,617, 7-14-64, Cl. D3—25.
Dimensional Products, Inc.: *See*—
Van Den Berg, Richard H. 198,616.
Dobbins, Walter J., to American Can Co. Package cover. 198,649, 7-14-64, Cl. D58—26.
Foley, Laurance J., and J. J. Corrigan, to Astro Sales, Inc. Tie holder. 198,653, 7-14-64, Cl. D80—8.
Foster Grant Co., Inc.: *See*—
Wilson, Carl H., and Leblanc. 198,643.
Wilson, Carl H., and Leblanc. 198,644.
Fröbel, Arthur, and F. Kopp, to Olympia Werke AG. Bookkeeping machine or the like. 198,651, 7-14-64, Cl. D64—11.
Goodwin, Frederick G.: *See*—
Crawford, Charles B., and Goodwin. 198,655.
Hamilton Cosco, Inc.: *See*—
Hamilton, Earl F., and Moore. 198,627.
Hamilton, Earl F., and E. K. Moore, to Hamilton Cosco, Inc. Automobile desk. 198,627, 7-14-64, Cl. D33—7.
Hampden Specialty Products Corp.: *See*—
Lockshin, Samuel D. 198,623.
Lockshin, Samuel D. 198,624.
Lockshin, Samuel D. 198,625.
Hartmann Luggage Co.: *See*—
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O'Neil, Harvey L. 198,662.
Hartzell, Donald W., to Lear Siegler, Inc. Heater. 198,657, 7-14-64, Cl. D81—19.
Heints, Robert J. String potato product. 198,619, 7-14-64, Cl. D8—1.
Heller, Isaac: *See*—
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Hirashiki, James. Foldable traversing screen. 198,640, 7-14-64, Cl. D34—2.
Hirashiki, James. Foldable traversing screen. 198,641, 7-14-64, Cl. D54—2.
Hogan, Wallace R. Golf club head. 198,631, 7-14-64, Cl. D34—5.
Inter-Marc Corp.: *See*—
Juen, Joseph J. 198,621.
Jean-Air Products Co., Inc.: *See*—
Jenn, Louis J., and Boarman. 198,656.
Jenn, Louis J., and J. M. Boarman, to Jean-Air Products Co., Inc. Combined cooking unit and serving bar. 198,656, 7-14-64, Cl. D81—4.
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Wilson, Carl H., and Leblanc. 198,643.
Wilson, Carl H., and Leblanc. 198,644.
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Lewis, Robert E. and P. A. Tunison. Photographic print holder. 198,650, 7-14-64, Cl. D61—1.
Lockart, Edward P., and W. E. McWhorter, to Owens-Illinois Glass Co. Glass block. 198,626, 7-14-64, Cl. D18—2.
Lockshin, Samuel D., to Hampden Specialty Products Corp. Chair. 198,623, 7-14-64, Cl. D15—1.
Lockshin, Samuel D., to Hampden Specialty Products Corp. Chaise. 198,624, 7-14-64, Cl. D15—1.
Lockshin, Samuel D., to Hampden Specialty Products Corp. Rocking chair. 198,625, 7-14-64, Cl. D15—6.
Markets Advertising Corp.: *See*—
Crawford, Charles B., and Goodwin. 198,655.
Mazzetta, Oswald J., Jr.: *See*—
Lee, Richard W., and Mazzetta. 198,635.
McWhorter, William E.: *See*—
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Micell, Anna A. Nut slitter or the like. 198,636, 7-14-64, Cl. D44—1.
Minchew, John R.: *See*—
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Noble, Albert R., to Standard Packaging Corp. Deck of playing cards. 198,632, 7-14-64, Cl. D34—13.
Olympia Werke AG.: *See*—
Fröbel, Arthur, and Kopp. 198,651.
O'Neil, Harvey L., to Hartmann Luggage Co. Luggage case. 198,661, 7-14-64, Cl. D87—5.

O'Neil, Harvey L., to Hartmann Luggage Co. Luggage case. 198,662, 7–14–64, Cl. D87—5.
Owens-Illinois Glass Co.: *See*—
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Roberts, Bruce L. 198,646.
Roberts, Bruce L. 198,647.
Roberts, Bruce L. 198,648.
Shepler, James A. 198,645.
Robbins, Saul, and I. Heller. Game board. 198,630, 7–14–64, Cl. D34—5.
Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 198,646, 7–14–64, Cl. D58—6.
Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 198,647, 7–14–64, Cl. D58—6.
Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 198,648, 7–14–64, Cl. D58—6.
Sangiamo, Richard: *See*—
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Scholl, William M. Slipper. 198,618, 7–14–64, Cl. D7—7.
Scott, Adrian B., to Vita Pakt Citrus Products. Bottle handling rack. 198,654, 7–14–64, Cl. D80—10.
Shepler, James A., to Owens-Illinois Glass Co. Jug. 198,645, 7–14–64, Cl. D58—5.
Smeton, Robert L. Hypodermic syringe or similar article. 198,658, 7–14–64, Cl. D83—12.
Smeton, Robert L. Hypodermic syringe or similar article. 198,659, 7–14–64, Cl. D83—12.
Standard Packaging Corp.: *See*—
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Stonco Electric Products Co.: *See*—
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Stoughton, Richard M., and W. H. Appel, to Westinghouse Electric Corp. Water cooler tap or the like. 198,652, 7–14–64, Cl. D67—4.
Tunison, Philip A.: *See*—
Lewis, Robert E., and Tunison. 198,650.
Utica Cutlery Co.: *See*—
Allen, James W. 198,642.
Van Den Berg, Richard H., to Dimensional Products, Inc. Illuminable display sign. 198,616, 7–14–64, Cl. D1—12.
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Wilson, Carl H., and C. L. Leblanc, to Foster Grant Co., Inc. Pair of sunglasses or the like. 198,643, 7–14–64, Cl. D67—1.
Wilson, Carl H., and C. L. Leblanc, to Foster Grant Co., Inc. Pair of sunglasses or the like. 198,644, 7–14–64, Cl. D67—1.
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Youngman-Carter, Philip. Set of game pieces. 198,629, 7–14–64, Cl. D34—5.

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TO WHOM

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AMP Inc.: *See*—
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Abbott, Elbert V., and J. W. Heaston; said Abbott assor. to said Heaston. Device for making random selections. 3,140,875, 7–14–64, Cl. 273—144.
Abbott Machine Co., Inc.: *See*—
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Abbott, Samuel L., to Abbott Machine Co., Inc. Winding machine. 3,140,836, 7–14–64, Cl. 242—18.1.
Acoustica Associates, Inc.: *See*—
Rich, Stanley R. 3,141,140.
Acton, Edward E., to General Electric Co. Non-contacting measuring apparatus. 3,141,057, 7–14–64, Cl. 88—14.
Adams, Richard F., to Olin Mathieson Chemical Corp. Fabrication of hollow articles. 3,140,532, 7–14–64, Cl. 29—157.3.
Agfa Aktiengesellschaft: *See*—
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Agrashell, Inc.: *See*—
Rinse, Jacobus. 3,141,007.
Aichenegg, Paul C., and C. D. Emerson, to Chemagro Corp. Saturated disulfides. 3,141,045, 7–14–64, Cl. 260—608.
Air Reduction Co. Inc.: *See*—
Tanabe, Kenichi, and Saito. 3,140,957.
Aktiebolaget Svenska Flaktfabriken: *See*—
Johansson, Erik. 3,140,929.
Albrycht, Harry J. Receptacle support. 3,140,557, 7–14–64, Cl. 45—28.
Alexander, Arthur, and H. W. Clements, to Parkinson Cowan Ltd. Register for gas meters. 3,140,607, 7–14–64, Cl. 73—272.
Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Servo actuable leveler for controlling pneumatic suspension systems for vehicles. 3,140,725, 7–14–64, Cl. 137—550.
All American Engineering Co.: *See*—
Cotton, Robert B. 3,140,845.
Doolittle, Donald B. 3,140,761.
Allegheny Ludlum Steel Corp.: *See*—
Martland, James B., Jr. 3,140,545.
Allen, Clayton M. Protective cover for plants. 3,140,563, 7–14–64, Cl. 47—20.
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Loocke, Gerhard. 3,141,122.
Allied Chemical Corp.: *See*—
Winstrom, Leon O., and Snider. 3,141,036.
Allied Welder Corp.: *See*—
Jewett, Walter L. 3,140,654.
Allis-Chalmers Mfg. Co.: *See*—
Brill, Edward F. 3,141,104.
Lolley, Otto G. 3,140,864.
Allmänna Svenska Elektriska Aktiebolaget: *See*—
Forwald, Haakon. 3,141,083.
Svedberg, Per G. J. 3,140,963.
Alper, Allen M., and R. N. McNally, to Corhart Refractories Co. Fused cast refractory. 3,140,955, 7–14–64, Cl. 106—59.
Altorfer Machinery Co.: *See*—
Hinkle, Ronald, Pope, and Pugate. 3,140,745.
Alvac International, Inc.: *See*—
Lindner, Brer M. 3,140,853.
Amano, Kitsutaro: *See*—
Oshima, Shintaro, Enomoto, and Amano. 3,141,138.
Ambrose, Bernard J.: *See*—
Field, Alexander L., Jr., Ammon, and Lewis. 3,140,943.
American Can Co.: *See*—
Taylor, William R. 3,140,808.
American Home Products Corp.: *See*—
Freed, Meier E. and Rice. 3,141,020.
American Hospital Supply Corp.: *See*—
Whitton, Aldean W., Jr., and Whitney. 3,140,715.
American Instrument Co., Inc.: *See*—
Currie, Lauchlin M. 3,140,966.
American Machine and Foundry Co.: *See*—
Pedersen, Mathias. 3,140,679.
American Optical Co.: *See*—
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Kapany, Narinder S. 3,141,106.
American-Saint Gobain Corp.: *See*—
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Herring, Jerome L., Grant, and Pistner. 3,140,770.
American White Cross Laboratories, Inc., The: *See*—
Petersen, William, and Wallerstein. 3,140,572.
Ames, Henry P., Jr. Ejectable flight recorder. 3,140,847, 7–14–64, Cl. 244—138.
Ames Safety Envelope Co.: *See*—
Fitzgerald, Henry C. 3,140,817.
Amlinger, Philipp R., and J. P. Stelmak, to Westinghouse Electric Corp. Semiconductive oscillator-mixer device. 3,141,135, 7–14–64, Cl. 325—451.
Ammon, Robert L.: *See*—
Field, Alexander L., Jr., Ammon, and Lewis. 3,140,943.
France, Leonard L., and Ammon. 3,140,944.
Anderson Co., The: *See*—
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Anderson, Robert L., and J. M. Rohrig, to United States Steel Corp. Subsurface pump. 3,140,667, 7–14–64, Cl. 103—189.
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Anglim, Charles E., R. A. Armer, and J. R. Handley, to Calpat Products, Inc. Parking meter time cancellation mechanism. 3,140,580, 7–14–64, Cl. 58—142.
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Anthony, Ralph L. Book cover. 3,140,888, 7–14–64, Cl. 281—34.
Antici, Marino. Trailer hitch. 3,140,881, 7–14–64, Cl. 280—478.
Appleton, Henry B., to I. B. Holliday & Co. Ltd. Preparation of solubilised reduced sulphurised vat dyestuffs. 3,141,011, 7–14–64, Cl. 260—128.
Arenhold, Karl-Heinz, to Chlorator G.m.b.H. Measuring device for measuring a fluid flow. 3,140,726, 7–14–64, Cl. 137—557.
Arenson, Herbert. Furniture support roller. 3,140,506, 7–14–64, Cl. 16—47.
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Armour Pharmaceutical Co.: *See*—
Berenschot, Donald J., King, Stubbs, and Boballk. 3,140,976.
Arndt, Donald N., and C. H. Tuckey, to Walbro Corp. Fuel tank cap. 3,140,794, 7–14–64, Cl. 220—44.
Arneson, Edwin L., to Federal Paper Board Co., Inc. Article carrier. 3,140,797, 7–14–64, Cl. 220—113.
Aronson, Charles N., to Aronson Machine Co., Inc. Speed-slope control for welding apparatus. 3,140,684, 7–14–64, Cl. 113—124.
Aronson Machine Co., Inc.: *See*—
Aronson, Charles N. 3,140,684.
Asano, Tetsumasa, to Mitsubishi Denki Kabushiki Kaisha. Electric control device for electromagnetic clutch. 3,141,103, 7–14–64, Cl. 310—95.
Ash, Bernard E., to International Standard Electric Corp. Apparatus for manufacturing cables. 3,140,577, 7–14–64, Cl. 57—59.
Asher, Max W., to Screw Conveyor Corp. Conveyor. 3,140,775, 7–14–64, Cl. 198—174.
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Puhr-Westerheide, Jurgen F. J. 3,140,675.
Bacque, Pierre J. Heated and moisturized meat container for slicers. 3,140,649, 7–14–64, Cl. 99—284.
Bade, Heins E., to J. F. Behrens. Stapling tool, especially guiding means for the driver thereof. 3,140,492, 7–14–64, Cl. 1—44.4.

Bagby, Richard S.: *See*—
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Bahco, Aktiebolaget: *See*—
Dybeck, Ivar O. J. 3,140,723.

Bailly, Florent H., to Variperm Co. Oil well heater. 3,140,744, 7-14-64, Cl. 166—61.

Balmer, Hansjorg, and R. J. Gasparac, to Nordberg Mfg. Co. Bowl clamping mechanism for cone crushers. 3,140,835, 7-14-64, Cl. 241—286.

Barkman, David R., to Package Machinery Co. Wrapper forming means for wrapping machines. 3,140,631, 7-14-64, Cl. 83—302.

Barnett, Orville C. Charcoal cooker. 3,140,651, 7-14-64, Cl. 99—339.

Barr, William H. Cam energized engine starter. 3,140,703, 7-14-64, Cl. 123—179.

Barrett, Waren P., to Three Rivers Industries, Inc. Feed-through smoothing filter. 3,141,145, 7-14-64, Cl. 333—79.

Barrios, Hector R., J. S. Moiletta, and R. C. Nordberg, to H. I. Thompson Fiber Glass Co. Method and apparatus for helically winding strips on edge under pressure. 3,140,968, 7-14-64, Cl. 156—192.

Barrow, John K., Jr. Apparatus for continuously producing a fertilizer mixture. 3,140,920, 7-14-64, Cl. 23—259.1.

Barrow, John K., Jr. Apparatus for producing a fertilizing mixture. 3,140,921, 7-14-64, Cl. 23—259.1.

Barth, Heinz A., to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Testing of structural materials for low temperatures. 3,140,602, 7-14-64, Cl. 73—100.

Barthelmess, Otto, to Fr. Hesser Maschinenfabrik-Aktiengesellschaft. Machine for manufacturing packaging bags. 3,140,643, 7-14-64, Cl. 93—12.

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Bartlett, Lloyd C.: *See*—
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Bartlett, Reginald C., to L. C. Bartlett. Skin fold caliper. 3,140,546, 7-14-64, Cl. 33—148.

Bastis, Thomas E., and H. H. Borup, to Kaiser Aluminum & Chemical Corp. Lap joint for highway guard rail. 3,140,885, 7-14-64, Cl. 287—64.

Batcher, Ralph R., to Irwin F. Mills Associates. Portable heating trays. 3,141,090, 7-14-64, Cl. 219—438.

Baumann, Kurt, and K. Buss, to Wieden & Co., G.m.b.H., Firma. Gas fueled lighter. 3,140,593, 7-14-64, Cl. 67—7.1.

Baxter Laboratories, Inc.: *See*—
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Beaman, John B., Jr.: *See*—
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Beardsley, Melville W., to National Research Associates, Inc. Water traversing air cushion vehicle. 3,140,687, 7-14-64, Cl. 114—67.

Beasley, George A., to Univis, Inc. Lens blocking device. 3,140,568, 7-14-64, Cl. 51—216.

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Klein, Walter. 3,141,153.
Strickler, Allen. 3,141,094.

Beeman, Lyle. Magnetic type pressure operated snap switch. 3,141,077, 7-14-64, Cl. 200—83.

Behr, Samuel H. Apparatus for testing portable equipment for A.C. and D.C. leakage and for ground continuity. 3,141,128, 7-14-64, Cl. 324—51.

Behrens, Joh. F.: *See*—
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Mills, John K., and Zupa. 3,141,139.
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Bellis, Howard M., E. J. Huber, and F. E. Kolinsky, to International Telephone and Telegraph Corp. Omnidirectional beacon antenna having dipole radiator and parasitically fed horn radiator. 3,141,169, 7-14-64, Cl. 343—730.

Beloit Iron Works: *See*—
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Benn, Walter R., to G. D. Searle & Co. 16-oxygenated pregna-4, 17(20)-[trans]dien-3-ones and intermediates thereto. 3,141,028, 7-14-64, Cl. 260—397.4.

Benner, Winfield H., and J. M. Whall, to Sigma Instruments, Inc. Lightning arrester with an arc-extinguishing gas. 3,141,108, 7-14-64, Cl. 313—231.

Bennett, John D., P. E. Chaney, and F. M. Mayes, to Sun Oil Co. Motion detection apparatus and method for use in bore hole logging. 3,141,126, 7-14-64, Cl. 324—1.

Berenschot, Donald J., E. G. King, R. K. Stubbe, and G. R. Bobalik, to Armour Pharmaceutical Co. Quaternary ammonium germicide. 3,140,976, 7-14-64, Cl. 167—22.

Berg, Ragnar, to Svenska Dataregister Ab. Cart. 3,140,758, 7-14-64, Cl. 180—1.

Bergman, Sten G. A., and J. B. Stalfors. Anti-blast valve. 3,140,648, 7-14-64, Cl. 98—119.

Berk, F. W., & Co. Ltd.: *See*—
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Bernet, Edwin J., to Institute of Textile Technology. Fuss meter. 3,140,604, 7-14-64, Cl. 73—160.

Bertin, Jean H., to Societe Bertin & Cie. Supporting device using a layer of fluid under pressure. 3,140,753, 7-14-64, Cl. 180—7.

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Bichet, Georges, and G. Poilane, to Societe des Usines Chimiques Rhone-Poulenc. Production of cumene hydroperoxide. 3,141,046, 7-14-64, Cl. 260—610.

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Block, Charles, and J. R. Gardner, to Minnesota Mining & Mfg. Co. Photoprinter timing apparatus. 3,140,645, 7-14-64, Cl. 95—73.

Block, Leo, and J. H. Hollingsworth, to Carrier Corp. Air heating apparatus. 3,140,706, 7-14-64, Cl. 126—110.

Blommel, William. Heel jacks. 3,140,547, 7-14-64, Cl. 33—164.

Blume, Walter S., Jr., to Leyman Corp. Mechanical orientation of magnetically anisotropic particles. 3,141,050, 7-14-64, Cl. 264—175.

Bobalik, George R.: *See*—
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Bolger, John G., Jr., to Dovan Labs., Inc. Flash lamp and photocell operated bowling pin sensing device. 3,140,872, 7-14-64, Cl. 273—54.

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Bostrum, John D., to Foster Packaging, Inc. Container. 3,140,807, 7-14-64, Cl. 229—2.5.

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Bousquet, Euclid W., to E. I. du Pont de Nemours and Co. Certain N-carbamyl urazoles. 3,141,023, 7-14-64, Cl. 260—306.

Bowers, Albert: *See*—
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Boyd, Lawrence M., to Dominion Engineering Works Ltd. Speed limiting device for turbines. 3,140,354, 7-14-64, Cl. 253—31.

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Brandon, Clarence W., 12½% to O. B. Brandon, and 50% to N. A. Hardin and H. H. Wright. Method and apparatus for forming and/or augmenting an energy wave. 3,141,099, 7-14-64, Cl. 310—4.

Brandon Equipment Co., Inc.: *See*—
Packard, Durward I. 3,140,880.

Brandon, Orpha B.: *See*—
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Brauck, Clifford D., to Stewart-Warner Corp. Hydraulic hose and coupling. 3,140,884, 7-14-64, Cl. 285—242.

Breaux, Hugh A. Well tool. 3,140,668, 7-14-64, Cl. 103—221.

Breazeale, William M., M. C. Edlund, and B. A. Mong, to The Babcock & Wilcox Co. Neutronic reactor. 3,140,980, 7-14-64, Cl. 176—17.

Brenner, Abe. Zipper foot device. 3,140,680, 7-14-64, Cl. 112—151.

Brevets Aero-Mecaniques S.A.: *See*—
Wyser, Giulio. 3,140,660.
Zaugg, Samuel. 3,140,662.

Brevick, Arnold A., and W. L. Cherry, Jr., to Cherry Electrical Products Corp. Electrical snap-action switch. 3,141,075, 7-14-64, Cl. 200—67.

Brill, Edward F., to Allis-Chalmers Mfg. Co. Electrical converter. 3,141,104, 7-14-64, Cl. 310—112.

Brill, Frank D.: *See*—
Schwertfeger, Owen J., and Brill. 3,140,806.

Bristol Siddeley Engines Ltd.: *See*—
Marchant, Francis C. I., and Jaggard. 3,140,841.

British Oxygen Ltd., The: *See*—
Robson, Anthony D. 3,140,665.

Broerman, Arthur B., to Phillips Petroleum Co. Pneumatic amplifier sampling valve for chromatographic analyzers. 3,140,615, 7-14-64, Cl. 73—422.

Broida, Daniel, to Sigma Chemical Co. Planchet. 3,140,798, 7-14-64, Cl. 220—66.

Brooker, Leslie G. S.: *See*—
Heseltine, Donald W., and Brooker. 3,140,951.

Brooks Equipment Corp.: *See*—
Clark, John J. 3,140,608.

Brown, Dale H., to General Electric Co. Reactor-turbine control system. 3,140,588, 7–14–64, Cl. 60—73.

Brown, Earl L., Jr., and R. A. English, to Carrier Corp. Absorption refrigeration systems. 3,140,591, 7–14–64, Cl. 62—495.

Brown, Francis X., Jr. Spraying and mowing apparatus. 3,140,574, 7–14–64, Cl. 56—229.

Brown, Henry: *See*—
Clauss, Richard J., and Brown. 3,140,988.

Brunk, Harold J. Blueprint paper and coating composition including polyvinyl alcohol for making same. 3,140,950, 7–14–63, Cl. 96—92.

Brunswick Corp.: *See*—
Hicke, Carroll S. 3,140,894.

Bryant, Donald L.: *See*—
Griffith, Faye L., and Bryant. 3,140,795.

Bryon Jackson Inc.: *See*—
Taylor, Raymond G., Jr. 3,140,523.

Buckmann Laboratories, Inc.: *See*—
Pera, John D., Rathe, and Dreecher. 3,140,974.

Bucourt, Robert: *See*—
Nomine, Gerard, Bucourt, and Pierdet. 3,141,025.

Buddemeyer, Bruce D., and J. R. Moneymaker, to The Paniplus Co. Acyl lactylic acid compositions and methods of preparation thereof. 3,141,030, 7–14–64, Cl. 260—410.9.

Burndy Corp.: *See*—
Cheh, Ernest L. 3,140,773.

Burns, Jerome G.: *See*—
Hill, Randolph F., and Burns 3,141,076.

Burns, Robert V.: *See*—
Cleary, Robert T., Burns, and Huckstadt. 3,141,068.

Burroughs Corp.: *See*—
Gilson, Paul R. 3,141,151.
Lee, Edwin S., III. 3,141,159.
Minnick, Robert C., and Lee. 3,141,158.

Buss, Klaus.: *See*—
Baumann, Kurt, and Buss. 3,140,593.

Buttolph, Doyle D., to Phillips Petroleum Co. Film positioning apparatus. 3,140,573, 7–14–64, Cl. 53—51.

Cagle, Toby T. Pivoted spot type disk brake. 3,140,759, 7–14–64, Cl. 188—73.

Cailliot, Serge. Endless tape winding cartridge. 3,140,837, 7–14–64, Cl. 242—55.19.

California Research Corp.: *See*—
Lindquist, Robert H., and Billman. 3,140,925.

Calpat Products, Inc.: *See*—
Anglim, Charles E., Armer, and Handley. 3,140,580.

Camloc Fastener Corp.: *See*—
Trotter, Walter, and Wheeler. 3,140,905.

Campbell, Gabe L. Super pressure generating chamber with flexible sleeve seal. 3,140,514, 7–14–64, Cl. 18—16.

Campbell, John F., W. P. Wright, and W. Nagel; said Campbell assor. to W. Nagel, and W. P. Wright. Die spotting or like press. 3,140,513, 7–14–64, Cl. 18—16.

Capuano, Italo A., to Union Carbide Corp. Continuous conductometric analysis of an aldehyde. 3,140,918, 7–14–64, Cl. 23—230.

Carey-McFall Co.: *See*—
Reukauf, William B. 3,140,970.

Carpenter, Edward F. Cable puller. 3,140,856, 7–14–64, Cl. 254—134.3.

Carrier Corp.: *See*—
Block, Leo, and Hollingsworth. 3,140,706.
Brown, Earl L., Jr., and English. 3,140,591.
Merrick, Richard H. 3,140,589.

Carswell, Benjamin S. Pillow. 3,140,497, 7–14–64, Cl. 5—338.

Carter, Ernest P., to Monsanto Co. Annealing apparatus. 3,140,594, 7–14–64, Cl. 68—5.

Cassidy, Peter P. Book and magazine holder. 3,140,558, 7–14–64, Cl. 40—85.

Cassiers, Paul M., and J. F. Willems, to Gevaert Photo-Production N.V. Electrophotographic material. 3,140,946, 7–14–64, Cl. 96—1.

Cech, Karl, to Karl Vockenhuber. Sound tape magazine or the like. 3,140,832, 7–14–64, Cl. 242—55.13.

Celanese Corp. of America: *See*—
Ward, George C., and Warner. 3,140,914.

Cellerini, Albert R., to Westinghouse Electric Corp. Circuit breaker with thermal tripping means. 3,141,081, 7–14–64, Cl. 200—122.

Certa, Anthony J., to Philco Corp. Method of making semiconductor units and the like. 3,140,530, 7–14–64, Cl. 29—155.5.

Chain Belt Co.: *See*—
Johnston, William F., Stencel, and Sobczak. 3,140,774.

Chandler, James F., to Zenith Radio Corp. Color television convergence circuit. 3,141,109, 7–14–64, Cl. 315—22.

Chaney, Preston E.: *See*—
Bennett, John D., Chaney, and Mayes. 3,141,126.

Chapman, Dave, to Mohasco Industries, Inc. Sound insulating apparatus having movable partition. 3,140,564, 7–14–64, Cl. 50—101.

Chase Bag Co.: *See*—
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Chauvin, Bernard, to Westinghouse Electric Corp. Exhaust apparatus and head therefor. 3,140,784, 7–14–64, Cl. 141—66.

Cheh, Ernest L., to Burndy Corp. Carry strip. 3,140,773, 7–14–64, Cl. 198—131.

Chemagro Corp.: *See*—
Aichenegg, Paul C., and Emerson. 3,141,045.

Cherry Electrical Products Corp.: *See*—
Brevick, Arnold A., and Cherry. 3,141,075.

Cherry, Walter L., Jr.: *See*—
Brevick, Arnold A., and Cherry. 3,141,075.

Cheskin, David B. Prestressed girder member. 3,140,764, 7–14–64, Cl. 189—37.

Childs, Gordon E., to Westinghouse Electric Corp. Apparatus for flashing lamp filaments. 3,140,906, 7–14–64, Cl. 316—27.

Chlorator G.m.b.H.: *See*—
Arenhold, Karl-Heins. 3,140,726.

Ciba Corp.: *See*—
Wettstein, Albert, Anner, Heusler, Kalvoda, Ueberwasser, and Heer. 3,141,016.

Cisler, Earl J.: *See*—
Grow, Harry N., Hoenle, Kanitz, Cisler, and Mueller. 3,140,550.

Cisler, Earl J., to Hamilton Mfg. Co. Folding table and storage pocket construction. 3,140,674, 7–14–64, Cl. 108—113.

Cissell, W. M., Mfg. Co.: *See*—
Ingold, Walter M. 3,140,830.

Clar, Milton, to Clar-Shayne. Self-loading vehicle. 3,140,787, 7–14–64, Cl. 214—302.

Clar, Milton, to Clar-Shayne. Self-loading vehicle. 3,140,788, 7–14–64, Cl. 214—302.

Clark, Eugene F., to Fieldcrest Mills, Inc. Apparatus for knitting variant height pile fabrics. 3,140,592, 7–14–64, Cl. 66—85.

Clark, John J., to Brooks Equipment Corp. Liquid level gauge. 3,140,608, 7–14–64, Cl. 73—304.

Clark Products, Inc.: *See*—
Hulett, Donald M. 3,140,838.

Clarke, Allen S., to United States of America, Army. Generator-powered fuze. 3,140,661, 7–14–64, Cl. 102—70.2.

Clarke, Dudley S.: *See*—
Clarke, Jesse E. and D. S. 3,140,641.

Clarke, Frank J., and J. H. Smithes. Apparatus for the mechanical treading of grapes. 3,140,653, 7–14–64, Cl. 100—238.

Clarke, Jesse E. and D. S., to Autoquip Corp. Vehicle lift apparatus. 3,140,641, 7–14–64, Cl. 91—4.

Clar-Shayne: *See*—
Clar, Milton. 3,140,787.
Clar, Milton. 3,140,788.

Clatterbuck, John C. Front end attachments for tractors. 3,140,786, 7–14–64, Cl. 214—147.

Clausing, Robert E., to United States of America, Atomic Energy Commission. Method for maintaining very high vacuum in a system. 3,140,820, 7–14–64, Cl. 230—69.

Clauss, Richard J., and H. Brown, to The Udylite Corp. Electrodeposition of nickel. 3,140,988, 7–14–64, Cl. 204—49.

Cleary, Robert T., R. V. Burns, and R. F. Huckstadt, to Automatic Electric Laboratories, Inc. Arrangement for lighting a lamp at a substation. 3,141,068, 7–14–64, Cl. 179—81.

Clements, Herbert W.: *See*—
Alexander, Arthur, and Clements. 3,140,607.

Clevite Corp.: *See*—
Moll, Valentin. 3,140,683.
Stricklin, John E., and Mattingly. 3,140,903.

Coach and Car Equipment Corp.: *See*—
Bilancia, Raymond A. 3,140,851.

Cohen, Aaron J. Furnace for burnt clay and flexible road base material. 3,140,865, 7–14–64, Cl. 263—30.

Cohen, Melvin: *See*—
Rumbel, Keith E., Cohen, Nugent, and Scurlock. 3,140,663.

Colby, Richard H., to United States of America, Army. Double, tandem-arranged magazine feeding device. 3,140,554, 7–14–64, Cl. 42—18.

Cold Spring Granite Co.: *See*—
Ward, John R., Jr. 3,140,565.

Cole, Herman L. Adjustable feeder shoe for vertical printing presses. 3,140,867, 7–14–64, Cl. 271—26.

Cole Mfg. Co.: *See*—
Ennis, James W. 3,140,493.

Colgate-Palmolive Co.: *See*—
Biel, John H., and Hoya. 3,141,015.

Columbus McKinnon Corp.: *See*—
Parker, Humphrey F. 3,140,669.

Commissariat a l'Energie Atomique: *See*—
Costes, Didier. 3,140,730.

Commodity Marketers, Inc.: *See*—
Kliewer, George G. 3,140,611.

Commonwealth of Australia, care of the Secretary of the Department of Supply, The: *See*—
Metcalfe, Kenneth A., and Wright. 3,140,945.

Compagnie Francaise des Matieres Colorantes: *See*—
Houssin, Jean-Marie A. 3,141,024.

Components for Research, Inc.: *See*—
Bianco, Ernest W., and Franklin. 3,141,061.

Conch International Methane Ltd.: *See*—
Doaker, Cornelius D. 3,140,515.

Cone, Carroll, to Midland-Ross Corp. Heat treating apparatus. 3,140,743, 7–14–64, Cl. 165—61.

Conley, Bobby E.: *See*—
Moody, Merton W., and Conley. 3,141,121.

Consolidated Packaging Machinery Corp.: *See*—
Mueller, Theodore G. 3,140,750.

Cooper, Carlton K., and T. E. Speight, to El Paso Natural Gas Products Co. Fuel regulating intake valve. 3,140,701, 7–14–64, Cl. 123—120.

Corbin, Wesley S., to The Black-Clawson Co. Wire tightener for papermaking machines. 3,140,975, 7–14–64, Cl. 162—273.

Cordis Corp.: *See*—
Murphy, William P., Jr., and Dandliker. 3,140,714.

Corey, Robert J. Replaceable point for a loop-taker. 3,140,681, 7–14–64, Cl. 112—228.

Corhart Refractories Co.: *See*—
Alper, Allen M., and McNally. 3,140,955.

Cornell, Beckford E.: *See*—
Warner, Donald F. 3,140,987.

Cornell, Cyrus J.: *See*—
Warner, Donald F. 3,140,987.
Cornell Mfg. Co.: *See*—
Warner, Donald F. 3,140,987.
Corning Glass Works: *See*—
Dalton, Robert H., and Kroeck. 3,140,779.
Hildebrand, Arthur R., Jr., Martin, and Pollock. 3,140,-526.
Rosmus, Walter J. 3,140,507.
Corry, Thomas M., to Westinghouse Electric Corp. Inverter networks. 3,141,110, 7-14-64, Cl. 315—169.
Costes, Didier, to Commissariat a l'Energie Atomique. Plug for an atomic reactor channel. 3,140,730, 7-14-64, Cl. 138—89.
Cotilla, Edward J., and G. A. Gimber, to United States of America, Navy. Coupling device. 3,140,886, 7-14-64, Cl. 287—119.
Cotterill, Melvin J., to International Telephone and Telegraph Corp. Double side band, suppressed-carrier, phase shift type telegraph system. 3,141,066, 7-14-64, Cl. 178—66.
Cotton, Robert B., to All American Engineering Co. Cross deck or runway pendant. 3,140,845, 7-14-64, Cl. 244—110.
Courtney-Pratt, Jeofry S., to American Optical Co. Cathode ray tube with composite multiple glass fibre face. 3,141,-105, 7-14-64, Cl. 313—68.
Covert, John N.: *See*—
Hale, Arthur N., and Covert. 3,140,682.
Cox of Watford Ltd.: *See*—
Babbs, Frederick W. 3,140,896.
Coyle, Joseph E., to United States of America, Air Force. Vacuum cut-off switch. 3,140,810, 7-14-64, Cl. 230—18.
Craig, Burnie J. Blade injection type razor. 3,140,541, 7-14-64, Cl. 30—62.
Craig, Burnie J. Safety razor for receiving blades from a magazine. 3,140,542, 7-14-64, Cl. 30—62.
Craigo, Cecil E., H. A. James, and L. J. Hand, to The Ryan Aeronautical Co. Flexible wing aircraft. 3,140,842, 7-14-64, Cl. 244—46.
Cramer, Robert H., R. D. Drew, and H. W. Shea, to Socony Mobil Oil Co., Inc. Erosion reduction. 3,140,992, 7-14-64, Cl. 208—120.
Craver, Edward H., to Western Electric Co., Inc. Reciprocating linear feeder. 3,140,776, 7-14-64, Cl. 198—221.
Creative Industries of Detroit: *See*—
Terry, Rex A. 3,141,053.
Crescenzo, Francis, and E. J. Fredette, to Package Machinery Co. Heat sealing channel. 3,140,971, 7-14-64, Cl. 156—498.
Cretors, C., & Co.: *See*—
Cretors, Charles J. 3,140,952.
Cretors, Charles J., to C. Cretors & Co. Method of dispersing salt in a popcorn slurry. 3,140,952, 7-14-64, Cl. 99—81.
Creveling, Robert. Counting circuits. 3,141,091, 7-14-64, Cl. 235—92.
Cruess, William F.: *See*—
Vancsa, Gyorgy I., and Cruess. 3,141,150.
Currie, Lauchlin M., to American Instrument Co., Inc. Peristaltic pump. 3,140,686, 7-14-64, Cl. 103—149.
Curtis, Glenn R., to Independent Grocers' Alliance Distributing Co. Method for handling meat products. 3,140,510, 7-14-64, Cl. 17—45.
Customark Corp.: *See*—
Vaurio, Frans V. E. 3,140,959.
Cutler, Leon H., to General Electric Co. Pilot controlled valve. 3,140,727, 7-14-64, Cl. 137—606.
Dalton, Robert H., and W. H. Kroeck, to Corning Glass Works. Metal working method and lubricant. 3,140,779, 7-14-64, Cl. 207—10.
D'Amato, Victor V.: *See*—
Goldbech, Bernard H., and D'Amato. 3,140,784.
Dandliker, Walter B.: *See*—
Murphy, William P., Jr., and Dandliker. 3,140,714.
Danesi, Paul P., to International Telephone and Telegraph Corp. Electrical terminal connector. 3,140,909, 7-14-64, Cl. 339—249.
Dasher, Campbell K., 50% to P. J. Malonson. Vending machine apparatus. 3,140,798, 7-14-64, Cl. 221—89.
Dashew Business Machines, Inc.: *See*—
Sheldon, Dunstan. 3,140,818.
Davidson, Leo R. Fastening means for faucet handle. 3,140,-635, 7-14-64. Cl. 85—1.
Davis, Geoffrey, to International Standard Electric Corp. Electrical spring contact sockets. 3,140,907, 7-14-64, Cl. 339—17.
Davies, Robert, Jr., to Youngstown Foundry & Machine Co. Method for loading workpieces onto a lathe. 3,140,626, 7-14-64, Cl. 82—1.
Davis, Lincoln K., and D. G. McLelland, to The Foxboro Co. Ink supply. 3,140,912, 7-14-64, Cl. 346—140.
Davis, Robert E., Jr.: *See*—
Kretzmer, Minor G., Jr., Davis, and Gross. 3,140,783.
Davis, Thomas E. Sled. 3,140,878, 7-14-64, Cl. 280—18.
De Haan, Jacob I.: *See*—
Schenkel, Gerrit, and De Haan. 3,141,070.
De Lange, Willem: *See*—
Duyfjes, Werner, and De Lange. 3,140,977.
Delligatti, Raymond A. Automatic plastering machine. 3,140 801, 7-14-64, Cl. 222—380.
Delp, William G., to Standard Kollsman Industries Inc. Integrally biased tuning slug retainer. 3,141,147, 7-14-64, Cl. 336—131.
De Luca, Frank P.: *See*—
Houghton, Richard B., and De Luca. 3,140,612.
De Luca, Peter L., to Hawley Products Co. Fairing. 3,140,-638, 7-14-64, Cl. 89—1.7.
De Luca, Peter L., to Hawley Products Co. Molded pallet. 3,140,672, 7-14-64, Cl. 108—52.
De Mart, Le Roy S., to Diamond Power Specialty Corp. Soot blower construction. 3,140,503, 7-14-64, Cl. 15—317.
Derr, Walter R., Jr., and J. Plucker III, to Socony Mobil Oil Co. Method of reducing nitrogen to not more than 1 p.p.m. in reformer feed. 3,140,994, 7-14-64, Cl. 208—254.
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Duke, Charles E., and Diamant. 3,140,910.
Diamond Alkali Co.: *See*—
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Diamond Power Specialty Corp.: *See*—
De Mart, Le Roy S. 3,140,503.
Diassi, Patrick A., to Olin Mathieson Chemical Corp. Acetals and ketals of 12a-dihydroxyprogesterone and 1-dehydro-12a, 17a-dihydroxyprogesterone. 3,141,017, 7-14-64, Cl. 260—239.55.
Dietert, Harry W., to Harry W. Dietert Co. Beam balance. 3,140,751, 7-14-64, Cl. 177—247.
Dietert, Harry W., R. E. Steinmueller, and R. L. Dietert, to Harry W. Dietert Co. Pivoted pressure release valve for use with a permeability meter. 3,140,724, 7-14-64, Cl. 137—527.6.
Dietert, Harry W., Co.: *See*—
Dietert, Harry W. 3,140,751.
Dietert, Randolph L. 3,141,129.
Dietert, Harry W., Steinmueller, and R. L. Dietert. 3,140,724.
Dietert, Randolph L.: *See*—
Dietert, Harry W., Steinmueller, and R. L. Dietert. 3,140,724.
Dietert, Randolph L., to Harry W. Dietert Co. Pivoting probe structure for electrically sensing the moisture content of a moving granular material. 3,141,129, 7-14-64, Cl. 324—65.
Dinkelkamp, Henry T., to Stewart-Warner Corp. Drainage apparatus. 3,140,756, 7-14-64, Cl. 184—1.5.
Dionisotti, Joseph. Wedge inserts for drill bit. 3,140,749, 7-14-64, Cl. 175—410.
Di Prima, Philip A. Protecting covers for nipples on nursing bottles. 3,140,789, 7-14-64, Cl. 215—11.
Di Salvo, Anthony J., to Ford Motor Co. Door latch mechanism. 3,140,888, 7-14-64, Cl. 292—48.
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Shubart, Harry S., and Diouhy. 3,140,892.
Dominion Corset Co. Ltd.: *See*—
Gingras, Marcel. 3,140,717.
Dominion Engineering Works Ltd.: *See*—
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Doolittle, Donald B., to All American Engineering Co. Rotary fluid brake means. 3,140,761, 7-14-64, Cl. 188—90.
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Renninger, Otto. 3,140,970.
Dora, Ralph A.: *See*—
Galloway, William S., Foster, Sternberg, and Dora. 3,140,919.
Dorper, Willi, and W. Rauth, to Agfa Aktiengesellschaft. Method of sealing plastic containers and bottles. 3,140,-571, 7-14-64, Cl. 53—39.
Dorr-Oliver Inc.: *See*—
Scott, Charles H. 3,140,996.
Dosker, Cornelius D., to Conch International Methane Ltd. Heat-insulated wall and tank construction. 3,140,515, 7-14-64, Cl. 20—4.
Dougherty, Louis S., to Hennessy Lubricator Co., Inc. Bed board and back rest. 3,140,897, 7-14-64, Cl. 297—378.
Douglas Aircraft Co., Inc.: *See*—
Glassner, Harvey F., Smith, and Watson. 3,140,710.
Hoffstrom, Bo N. 3,140,937.
Dovan Labs., Inc.: *See*—
Bolger, John G., Jr. 3,140,872.
Drescher, Robert F. *See*—
Pera, John D., Ratha, and Drescher. 3,140,974.
Drescher, Walter B., and G. T. Niedermeyer. Golf ball washers. 3,140,498, 7-14-64, Cl. 15—97.
Drew, Robert D.: *See*—
Cramer, Robert H., Drew, and Shea. 3,140,992.
Dry, Hal S. Portable hot air heater. 3,140,705, 7-14-64, Cl. 126—93.
Du Bois, Jean P. Self-cleaning hair brushes. 3,140,499, 7-14-64, Cl. 15—160.
Duke, Charles E., and H. B. Diamant, to HRB-Singer, Inc. Isotropic recording accelerometer. 3,140,910, 7-14-64, Cl. 346—7.
Duncan, Lorne R., to Harbison-Walker Refractories Co. Refractory brick units. 3,140,676, 7-14-64, Cl. 110—99.
Dunham, Stuart B., to General Electric Co. Apparatus for chromatographic gas analysis. 3,140,598, 7-14-64, Cl. 73—23.1.
Du Pont de Nemours, E. I., and Co.: *See*—
Bousquet, Euclid W. 3,141,023.
Holtzman, Arnold H. 3,140,539.
Kohan, Melvin I. 3,141,006.
Loux, Harvey M. 3,141,038.
Popoff, Alexis A. 3,140 537.
Walter, Paul H. L. 3,140,941.
Walter, Paul H. L. 3,140,942.
Williams, Roy M. 3,140,652.
Duyfjes, Werner, and W. de Lange, to North American Philips Co., Inc. Fungicidal compositions containing triphenyl compounds. 3,140,977, 7-14-64, Cl. 167—30.
Dybeck, Ivar O. J., to Baheo, Aktiebolaget. Distribution plants for the supply of power media. 3,140,723, 7-14-64, Cl. 137—357.

E & R Mfg. Co., Inc.: *See*—
Mangis, Elmer F. 3,140,704.
Eastman Kodak Co.: *See*—
Heseltine, Donald W., and Brooker. 3,140,951.
Straley, James M., Wallace, and Fisher. 3,141,018.
Ebersole, Felton W., and G. E. Trump, Sr. Liquid pump adapted for fire-extinguishing, etc. 3,140,803, 7–14–64, Cl. 222—391.
Eclipse Fuel Engineering Co.: *See*—
Keating, James P., and Skerkoske. 3,140,741.
Edelstein, Bertram W., to The Bertlo Co., Inc. Curtain wall. 3,140,763, 7–14–64, Cl. 189—34.
Edlund, Milton C.: *See*—
Breazeale, William M., Edlund, and Mong. 3,140,980.
Edmondson, Anthony J. K., to Minic Ltd. Tracks for electrically driven model vehicles. 3,140,825, 7–14–64, Cl. 238—10.
Edwards, Derrik R., to Pilkington Bros. Ltd. Toughened glass, pin type insulator. 3,141,063, 7–14–64, Cl. 174—212.
Edwards, James W., and J. S. Hashman, to United States of America, Army. Method of preparation of ozone. 3,140,990, 7–14–64, Cl. 204—176.
Ege, Hans, to Underwriters Safety Device Co. Bi-metallic circuit breaker snap reed. 3,141,080, 7–14–64, Cl. 200—113.
Egger, Edwin F. Routershaper. 3,140,640, 7–14–64, Cl. 90—16.
Ehmann, Werner, and K.-H. Kahrs, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of vinyl ester polymers and copolymers. 3,141,010, 7–14–64, Cl. 260—89.1.
Electr.-Sonic Systems, Inc.: *See*—
Houghton, Richard B., and De Luca. 3,140,612.
Ellis, Nicholas D., to Anheuser-Busch, Inc. Carrying means for cartons. 3,140,814, 7–14–64, Cl. 229—52.
Ellison, Lynn E.: *See*—
Rahme, Habib S., and Ellison. 3,140,599.
Elm Coated Fabrics Co., Inc.: *See*—
Takai, Unokichi. 3,141,051.
Elm Research Laboratories, Inc.: *See*—
Howry, Douglass H. 3,140,600.
El Paso Natural Gas Products Co.: *See*—
Cooper, Carlton K., and Speight. 3,140,701.
Emerson, Carl D.: *See*—
Aichenegg, Paul C., and Emerson. 3,141,045.
Emrick, Donald D., to The Standard Oil Co. High molecular weight glycols from telomer borates. 3,141,047, 7–14–64, Cl. 260—635.
Engle, Edgar W., and J. L. Foster, Jr., to Kennametal Inc. Earth boring drill bit. 3,140,748, 7–14–64, Cl. 175—410.
English, Richard A.: *See*—
Brown, Earl L., Jr., and English. 3,140,591.
Ennis, James W., to Cole Mfg. Co. Machine for installing clips in door jambs. 3,140,493, 7–14–64, Cl. 1—210.
Enomoto, Hajime: *See*—
Oshima, Shintaro, Enomoto, and Amano. 3,141,138.
Eonair, Inc.: *See*—
Lott, William G. 3,140,846.
Eppert, Franklin P., to General Electric Co. Ballast apparatus for starting and operating electric discharge lamps. 3,131,112, 7–14–64, Cl. 315—231.
Esso Research and Engineering Co.: *See*—
McCormick, Robert H., and Lawroski. 3,140,924.
Munday, John C., and Wilson. 3,141,113.
Price, John A. 3,140,997.
Ethyl Corp.: *See*—
Wilkinson, Geoffrey. 3,141,031.
Eulers, Dietrich: *See*—
Richert, Eberhard, and Eulers. 3,140,780.
Everett, John W. Pressure container with rigid band. 3,140,802, 7–14–64, Cl. 222—386.5.
Fabbrica Italiana Magneti Marelli S.p.A.: *See*—
Alfieri, Giuseppe. 3,140,725.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Ehmann, Werner, and Kahrs. 3,141,010.
Farkas, Manny. Panty girdle with removable crotch-piece. 3,140,718, 7–14–64, Cl. 128—527.
Farmers Co., Inc.: *See*—
Fletcher, Donald A. 3,140,827.
Federal Paper Board Co., Inc.: *See*—
Arneson, Edwin L. 3,140,797.
Fehling, Hans R., and E. H. Harvey, to I. R. C. Ltd. Reservoir seal for writing instrument. 3,140,605, 7–14–64, Cl. 120—42.4.
Ferara, James T., to Samuel M. Langston Co. Drive mechanism for multiple shaft mechanisms. 3,140,620, 7–14–64, Cl. 74—221.
Ferguson, Arthur T.: *See*—
Martin, Jesse E., and Ferguson. 3,140,938.
Ferranti Ltd.: *See*—
Taylor, Maurice K. 3,140,553.
Ferris, Theodore R., & Sons: *See*—
Galanor, Thomas R. 3,140,828.
Feu, Miguel, also known as M. F. Serrahima, to L. J. F. Nagode. Motorized snow vehicle. 3,140,752, 7–14–64, Cl. 180—5.
Field, Alexander L., Jr., R. L. Ammon, and A. I. Lewis, deceased, by B. J. Ambrose for said deceased, to Westinghouse Electric Corp. Tantalum base alloys. 3,140,943, 7–14–64, Cl. 75—174.
Fieldcrest Mills, Inc.: *See*—
Clark, Eugene F. 3,140,592.
Fierce, William L.: *See*—
Weichman, Roger L., and Fierce. 3,141,039.
Fink, Max: *See*—
Prout, Elmer W. 3,140,522.
Fisher, John G.: *See*—
Straley, James M., Wallace, and Fisher. 3,141,018.
Fishman, Bernard, and N. W. Bostwick, to Simmonds Precision Products, Inc. Volumetric efficiency control for fuel injection systems. 3,140,702, 7–14–64, Cl. 123—140.
Fitzer, Erich: *See*—
Kaufman, Weidemar, Fitzer, Pfleiderer, Pelz, and Hub. 3,140,967.
Fitzgerald, Henry C., to Ames Safety Envelope Co. Duplex mailing envelope. 3,140,817, 7–14–64, Cl. 229—72.
Flagg, Raymond P., to Minneapolis-Honeywell Regulator Co. Timer device for an electrostatic gas purifying system. 3,140,935, 7–14–64, Cl. 55—139.
Fletcher, Donald A., to Farmers Co., Inc. Rotary sprinkler and trailer type vehicle therefor. 3,140,827, 7–14–64, Cl. 239—178.
Flick, Francis S., R. G. Wilkes, and W. J. Kudlaty, to Flick-Reedy Corp. Safety venting device. 3,141,008, 7–14–64, Cl. 220—5.
Flick-Reedy Corp.: *See*—
Flick, Francis S., Wilkes, and Kudlaty. 3,141,006.
Folberth, Otto G., to Siemens-Schuckertwerke Aktiengesellschaft. Mixed-crystal semiconductor devices. 3,140,998, 7–14–64, Cl. 252—62.3.
Ford Motor Co.: *See*—
Di Salvo, Anthony J. 3,140,888.
Foris, Peter L., to The National Cash Register Co. Graphic data copy sheet and method of using it. 3,140,947, 7–14–64, Cl. 96—48.
Forsyth, George H., A. L. Ashley, and J. C. Braithwaite, to Vickers-Armstrongs (Engineers) Ltd. Apparatus for heating powdered material such as raw cement material. 3,140,863, 7–14–64, Cl. 263—21.
Fortna, Henry F.: *See*—
Ullman, Robert, Fortna, Middleton, Schwalm, and Tritt. 3,140,733.
Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Extinguishing chamber for oil circuit breaker having differential piston and gas filled space therein. 3,141,083, 7–14–64, Cl. 200—150.
Foster Grant Co., Inc.: *See*—
Kaplan, Clifford F. 3,140,778.
Foster, James L., Jr.: *See*—
Engle, Edgar W., and Foster. 3,140,748.
Foster, Richard A.: *See*—
Gallaway, William S., Foster, Sternberg, and Dora. 3,140,919.
Foxboro Co., The: *See*—
Davis, Lincoln K., and McLellan. 3,140,912.
France, Leonard L., and R. L. Ammon, to Westinghouse Electric Corp. Method of sintering tungsten. 3,140,944, 7–14–64, Cl. 75—200.
Francis, Wallace R., to General Electric Co. Method for manufacturing molded connector plugs. 3,141,054, 7–14–64, Cl. 264—255.
Frank, John J., to The Frank Tea and Spice Co. Dispensing assemblies for containers. 3,140,804, 7–14–64, Cl. 222—480.
Franklin, Le Roy H.: *See*—
Bianco, Ernest W., and Franklin. 3,141,061.
Frank Tea and Spice Co., The: *See*—
Frank, John J. 3,140,804.
Fraser, Elbert E. Combination top dresser, spiker and planter. 3,140,677, 7–14–64, Cl. 111—8.
Fredette, Earle J.: *See*—
Crescenzo, Francis, and Fredette. 3,140,971.
Freed, Meier E., and L. M. Rice, to Americal Home Products Corp. Basic amides of 1-(β-carboxyethyl)-2,3-polymethyleneindoles. 3,141,020, 7–14–64, Cl. 260—268.
Freedman, Harry J., and H. A. Romain. Danger indicator. 3,141,156, 7–14–64, Cl. 340—255.
Freeport Sulphur Co.: *See*—
Axelrad, Bernard, Matson, and Touro. 3,140,915.
Frenk, Helmuth, H. Lüssem, and R. Mees, to Ernst Leitz Gesellschaft mit beschrankter Haftung. Motion picture projector operable on different A.C. sources. 3,140,687, 7–14–64, Cl. 88—17.
Fridland, James A.: *See*—
Murray, Robert W. 3,140,569.
Friedman, Lester, to Union Carbide Corp. Dialkyl pentaerythritol diphosphonates and phosphite phosphonates. 3,141,032, 7–14–64, Cl. 260—461.
Fritsch, Rudolf: *See*—
Seufert, Wilhelm, and Fritsch. 6,140,511.
G. D. Societa in Accomandita semplice di Enzo Seragnoli ed Ariosto Seragnoli: *See*—
Seragnoli, Ariosto. 3,140,772.
Galanor, Thomas R., to Theodore R. Ferris & Sons. Tank washing system. 3,140,828, 7–14–64, Cl. 239—227.
Gallaway, William S., R. A. Foster, J. C. Sternberg, and R. A. Dora, to Beckman Instruments, Inc. Flame ionization detection of materials. 3,140,919, 7–14–64, Cl. 23—232.
Gans, Manfred, and R. W. Simon, to Halcon International, Inc. Stabilized maleic anhydride. 3,141,026, 7–14–64, Cl. 260—346.8.
Gardiner, William C., to Olin Mathieson Chemical Corp. Mercury cathode electrolytic cells. 3,140,991, 7–14–64, Cl. 204—219.
Gardner-Denver Co.: *See*—
Nelson, Arvid L., Saeger, and Seckman. 3,140,642.
Gardner, John R.: *See*—
Block, Charles, and Gardner. 3,140,645.
Garfield, William L.: *See*—
Strong, Charles E., Garfield, and Lawson. 3,141,166.
Garr, Bernard A.: *See*—
Garr, Charles G. and B. A. 3,140,849.

Garr, Charles G. and B. A. Support for paint rollers. 3,140,840, 7-14-64, Cl. 248—304.
Gary, Leo A.: *See*—
Harrison, Walter G., Gary, and Audet. 3,140,771.
Gasparac, Rudolph J.: *See*—
Balmer, Hanajörg, and Gasparac. 3,140,835.
Gassmann, Gerhard-Gunter, to International Standard Electric Corp. Relaxation oscillator employing selective and non-selective feedback. 3,141,142, 7-14-64, Cl. 331—144.
Gates, William L., and C. J. Schubert, Jr., to Westinghouse Electric Corp. Variable width pulse gate generator. 3,141,143, 7-14-64, Cl. 332—9.
General Electric Co.: *See*—
Acton, Edward S. 3,141,057.
Brown, Dale H. 3,140,588.
Cutler, Leon H. 3,140,727.
Dunham, Stuart B. 3,140,598.
Eppert, Franklin P. 3,141,112.
Francis, Wallace R. 3,141,054.
Low, Frank D. 3,140,595.
Parsons, Robert H. 3,141,049.
Titus, Charles H. 3,141,058.
General Electric Co. Ltd., The: *See*—
Haines, Geoffrey H., and Grant. 3,140,982.
Johnson, Leonard R. J., and Wayman. 3,141,120.
General Foods Corp.: *See*—
Roberts, Robert L. 3,140,953.
General Telephone and Electronics Laboratories, Inc.: *See*—
Solomon, Allen L. 3,141,093.
Wasserman, Moe. 3,141,107.
Geoffroy-Delore, Societe Anonyme: *See*—
Haugwitz, Otto. 3,140,576.
George, Albert L., to Lamb Rental Tools, Inc. Arrangement for increasing the gripping action in a pipe tong in relation to pipe diameter. 3,140,624, 7-14-64, Cl. 81—57.
Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft: *See*—
Barth, Heinz A. 3,140,602.
Gevaert Photo-Production N.V.: *See*—
Cassiers, Paul M., and Willems. 3,140,946.
Gicquel, Rene M.: *See*—
Valdman, Henri, and Gicquel. 3,140,527.
Gilbert, A. C., Co., The: *See*—
Goldbeck, Bernard H., and D'Amato. 3,140,784.
Kretzmer, Minor G., Jr., Davis, and Gross. 3,140,783.
Gilson, Paul R., to Burroughs Corp. Magnetic tape storage system for digital computers wherein an indication of the number of bits in a message is stored with the message. 3,141,151, 7-14-64, Cl. 340—172.5.
Gimber, George A.: *See*—
Cotilla, Edward J., and Gimber. 3,140,886.
Gingras, Marcel, to Dominion Corset Co. Ltd. Brassieres. 3,140,717, 7-14-64, Cl. 128—503.
Ginsburg, Herbert: *See*—
Opotow, Harold, and Ginsburg. 3,140,958.
Glassner, Harvey F., R. E. Smith, and J. H. Watson, to Douglas Aircraft Co., Inc. Method and apparatus for automatically analyzing disorders of the human body. 3,140,710, 7-14-64, Cl. 128—2.05.
Gleockler, Frederick M. Air conditioner for a face mask. 3,140,590, 7-14-64, Cl. 62—459
Godlove, Terry F., to United States of America, Navy. Spark gap trigger circuit. 3,141,111, 7-14-64, Cl. 315—181.
Goldbeck, Bernard H., and V. V. D'Amato, to The A. C. Gilbert Co. Spreadable coupler for HO gage model railroad vehicles. 3,140,784, 7-14-64, Cl. 213—75.
Goodrich, B. F., Co., The: *See*—
Hasselquist, Victor H. 3,140,868.
Goodrich, John J., to St. Regis Paper Co. Box-like containers. 3,140,810, 7-14-64, Cl. 229—37.
Goodwin, Hoyle T., to Goodwin Mfg. & Development Co., Inc. Grooved golf club handle sleeve and stretchable insert to fill said groove. 3,140,873, 7-14-64, Cl. 273—81.5.
Goodwin Mfg. & Development Co., Inc.: *See*—
Goodwin, Hoyle T. 3,140,873.
Gordan, Alvin C. Card case. 3,140,777, 7-14-64, Cl. 206—1.
Gordon, Carroll G., ½ to W. F. Stoeaser. Hydraulic unloader valves. 3,140,722, 7-14-64, Cl. 137—108.
Gottlly, Arthur L.: *See*—
Hunsinger, John S., and Gottlly. 3,140,840.
Gottwik, Carl K., to The Wilson Rubber Co. Glove assembly. 3,140,495, 7-14-64, Cl. 2—270.
Grabczyk, Edward L., and E. H. Walsh, to Inland Steel Co. Edge scraping apparatus. 3,140,960, 7-14-64, Cl. 118—121.
Grace, W. R., & Co.: *See*—
Vanik, Milton C., Sanchez, and Herrera. 3,140,531.
Graf von Soden, A. F.: *See*—
Johnston, Charles R. 3,140,911.
Graf von Soden, Adolph F.: *See*—
Marino, Anthony J., Belfiore, and Graf von Soden. 3,140,520.
Grant, Peter J.: *See*—
Haines, Geoffrey H., and Grant. 3,140,982.
Grant, William T.: *See*—
Herring, Jerome L., Grant, and Pistner. 3,140,770.
Great Lakes Carbon Corp.: *See*—
Skakel, George, Jr. 3,140,579.
Greene, Jack E., and J. J. Ingram, Jr., to International Business Machines Corp. Control apparatus. 3,141,152, 7-14-64, Cl. 340—172.5.
Greenman, Murry. Method for connecting presemiflanged rungs to preapertured spaced ladder rails. 3,140,540, 7-14-64, Cl. 29—512.
Greutman, Weldon W., to International Telephone and Telegraph Corp. Balanced gain control circuit. 3,141,137, 7-14-64, Cl. 330—29.
Griffith, Faye L., and D. L. Bryant. Lid retainer. 3,140,795, 7-14-64, Cl. 220—55.7.
Grimm, David W., to Kayner Mfg. Co., Inc. Twelve-point nut. 3,140,636, 7-14-64, Cl. 85—32.
Grinnell Corp.: *See*—
Sherburne, Philip C. 3,140,848.
Griswold, Donald G.: *See*—
Griswold, Lee M. 3,140,720.
Griswold, Lee M., to D. G. Griswold. Fluid distribution control system. 3,140,720, 7-14-64, Cl. 137—59.
Gross, Herbert L. Water kite device. 3,140,555, 7-14-64, Cl. 43—43.13.
Gross, Wayne B.: *See*—
Kretzmer, Minor G., Jr., Davis, and Gross. 3,140,783.
Grow, Harry N., R. R. Hoenle, R. E. Kanitz, E. J. Cisler, and F. F. Mueller, to Hamilton Mfg. Co. Drafting table. 3,140,559, 7-14-64, Cl. 45—131.
Grub, Harold R., to International Business Machines Corp. Tunnel diode address register. 3,141,097, 7-14-64, Cl. 307—88.5.
Gutierrez, Peter P. Aerial toy and support. 3,140,500, 7-14-64, Cl. 46—32.
HRB-Singer, Inc.: *See*—
Duke, Charles E., and Diamant. 3,140,910.
Hack, Heinrich, to Carl Schenck Maschinenfabrik G.m.b.H. Dynamic balancing machine. 3,140,616, 7-14-64, Cl. 73—460.
Hahn & Clay: *See*—
Pechacek, Raymond E. 3,140,535.
Hahn, Paul R. T.: *See*—
Reiss, Raymond H., Sr., Hahn, and Randall. 3,140,791.
Haines, Geoffrey H., and P. J. Grant, to The General Electric Co. Ltd. Thermal reactors. 3,140,982, 7-14-64, Cl. 176—58.
Halcon International, Inc.: *See*—
Gans, Manfred, and Simon. 3,141,026.
Okenberg, Harry, Russell, and Becker. 3,141,037.
Hale, Arthur N., and J. N. Covert, to Union Special Machine Co. Thread control mechanism. 3,140,682, 7-14-64, Cl. 112—242.
Hall, Harrison R., and L. F. Reas. Carton and blank for forming. 3,140,811, 7-14-64, Cl. 229—39.
Hall, Harrison R., and L. F. Reas. Mailable carton. 3,140,812. 7-14-64. Cl. 229—39.
Hall, Harrison R., and L. F. Reas. Carton with concealable handle. 3,140,813, 7-14-64, Cl. 229—39.
Hall, Ralph A., to International Standard Electric Corp. Intelligence storage equipment. 3,141,154, 7-14-64, Cl. 340—174.
Hamilton Mfg. Co.: *See*—
Cisler, Earl J. 3,140,674.
Grow, Harry N., Hoenle, Kanitz, Cisler, and Mueller. 3,140,559.
Hamilton Watch Co.: *See*—
Van Horn, John A. 3,140,578.
Hand, Leo J.: *See*—
Craigo, Cecil E., James, and Hand. 3,140,842.
Handley, John R.: *See*—
Anglim, Charles E., Armer, and Handley. 3,140,580.
Handtmann, Albert, Firma: *See*—
Müller, Johann. 3,140,509.
Hansen, George. Folding comb. 3,140,719, 7-14-64, Cl. 132—151.
Harbison-Walker Refractories Co.: *See*—
Duncan, Lorne R. 3,140,676.
Hardin, Nat A.: *See*—
Brandon, Clarence W. 3,141,099.
Harris, Herbert, to Babcock & Wilcox Ltd. Pressure vessel closure member. 3,140,792, 7-14-64, Cl. 220—24.
Harrison, Robert R., and L. F. Waldman, Jr., to Baxter Laboratories, Inc. Heat exchanger for blood. 3,140,716, 7-14-64, Cl. 128—399.
Harrison, Walter G., L. A. Gary, and A. C. Audet, to Prospect Mfg. Co. Inc. Delivery apparatus. 3,140,771, 7-14-64, Cl. 198—20.
Hart, Thomas G., to Avco Corp. Piezoelectric resonance device. 3,141,100, 7-14-64, Cl. 310—8.6.
Hartke, Dexter C., and J. M. Idelsohn, to Hewlett-Packard Co. Electro-mechanical signalling apparatus. 3,141,160, 7-14-64, Cl. 340—347.
Harvey, Edward H.: *See*—
Fehling, Hans R., and Harvey. 3,140,695.
Hasegawa, Hikaru, to Hitachi Ltd. Differential pressure transmitters. 3,140,613, 7-14-64, Cl. 73—407.
Hashman, Joseph S.: *See*—
Edwards, James W., and Hashman. 3,140,990.
Hasselquist, Victor H., to The B. F. Goodrich Co. Edge alignment apparatus. 3,140,868, 7-14-64, Cl. 271—69.
Hauer, Werner, to International Telephone and Telegraph Corp. High speed automatic mail sorting systems. 3,140,767, 7-14-64, Cl. 198—1.
Haugwitz, Otto, to Societe Anonyme Geoffroy-Delore. Cable making apparatus. 3,140,576, 7-14-64. Cl. 57—13.
Hauser, Seymour, to Jacques Kreisler Mfg. Corp. Unitary spring and link construction. 3,140,551, 7-14-64, Cl. 59—79.
Hausman, John M. Apparatus and method for controlling the crowning of rolls and the like. 3,140,512, 7-14-64, Cl. 18—2.
Hawley Products Co.: *See*—
De Luca, Peter L. 3,140,638.
De Luca, Peter L. 3,140,672.
Heaston, John W.: *See*—
Abbott, Elbert V., and Heaston. 3,140,875.
Heer, Jules: *See*—
Wettstein, Albert, Anner, Heusler, Kalvoda, Ueberwasser, and Heer. 3,141,016.
Heim Universal Corp., The: *See*—
Rozentals, Alfreds. 3,140,529.
Heinemann Electric Co.: *See*—
Hollyday, Joseph S. 3,141,082.

Henderson, Charles F., to United States of America, Agriculture. Dispenser for granular materials. 3,140,800, 7-14-64, Cl. 222—174.
Henne, Willibald, to Telefunken Patentverwertungs-G.m.b.H. Magnetic device for focusing an electron beam. 3,141,116, 7-14-64, Cl. 317—200.
Hennessy Lubricator Co., Inc.: *See*—
Dougherty, Louis S. 3,140,897.
Henschel-Werke G.m.b.H.: *See*—
Tross, Arnold. 3,140,762.
Herbst, John A. Hydraulic actuator shaft, bearing and seal. 3,140,902, 7-14-64, Cl. 308—36.1.
Hergert, Wilhelm, to Olympia Werke A.G. Method and arrangement for transferring information between a storage and a record carrier. 3,140,822, 7-14-64, Cl. 234—1.
Herrera, Jose E.: *See*—
Vanik, Milton C., Sanchez, and Herrera. 3,140,531.
Herring Jerome L., W. T. Grant, and B. R. Pistner, to American Truck Body Co. Loader. 3,140,770, 7-14-64, Cl. 198—7.
Herzog, Gustav, to A. Lins. Electrically actuated valve. 3,140,852, 7-14-64, Cl. 251—11.
Heseltine, Donald W., and L. G. S. Brooker, to Eastman Kodak Co. Desensitizing dyes and photographic processes and materials. 3,140,951, 7-14-64, Cl. 96—101.
Hesser, Fr., Maschinenfabrik-Aktiengesellschaft: *See*—
Barthelmess, Otto. 3,140,643.
Heusler, Karl: *See*—
Wettstein, Albert, Anner, Heusler, Kalvoda, Ueberwasser, and Heer. 3,141,016.
Hewlett-Packard Co.: *See*—
Hartke, Dexter C., and Idelsohn. 3,141,160.
Hexacon Electric Co.: *See*—
Johnson, Arthur L. 3,141,088
Hicke, Carroll S., to Brunswick Corp. Convertible desk chair. 3,140,894, 7-14-64, Cl. 297—162.
Hickin, Robert J., to Packaging Corp. of America. Method of and apparatus for closing a foldable carton. 3,140,570, 7-14-64, Cl. 53—38.
Hickin, Robert J., and D. C. McCullough, to Packaging Corp. of America. Sealed carton. 3,140,809, 7-14-64, Cl. 229—37.
Hildebrand, Arthur R., Jr., F. W. Martin, and K. G. Pollock, to Corning Glass Works. Multiple lead faceplate. 3,140,528, 7-14-64, Cl. 29—25.14.
Hill Acme Co., The: *See*—
McDaniel, Augustus C., Jr. 3,140,634.
Hill, Henry A., to National Polychemicals, Inc. Foamable composition comprising a thermoplastic polymer and barium azocarbonate and method of foaming. 3,141,002, 7-14-64, Cl. 260—2.5.
Hill, Randolph F., and J. G. Burns, to International Resistance Co. Rotary snap switch. 3,141,076, 7-14-64, Cl. 200—74.
Hilliard, Robert C., to United States of America, Navy. Phase measuring circuit for measuring the phase between an F.M. signal and an F.M. reference signal including a cathode ray tube indicator. 3,141,130, 7-14-64, Cl. 324—88.
Hinkle, Ronald, H. R. Pope, and L. R. Fugate, to Altorfer Machinery Co. Means for steering a tractor by varying the point of load application to a transverse tow bar supported by the tractor. 3,140,745, 7-14-64, Cl. 172—292.
Hinlein, Sigmund, to Microwave Associates, Inc. Waveguide switch having movable magnetic shutter selectively positioned by exterior magnetic field control means. 3,141,146, 7-14-64, Cl. 333—98.
Hitachi Ltd.: *See*—
Hasegawa, Hikaru. 3,140,613.
Hoekstra, Gerald B., to Sinclair Research, Inc. Catalyst demetallization apparatus. 3,140,923, 7-14-64, Cl. 23—288.
Hoenle, Egon R.: *See*—
Grow, Harry N., Hoenle, Kanitz, Cisler, and Mueller. 3,140,559.
Hoffman-Taff, Inc.: *See*—
Lora, Emil, and Bagby. 3,141,035.
Hoffmann-La Roche Inc.: *See*—
Zenther, Margaret R. 3,140,978.
Hoffstrom, Bo N., to Douglas Aircraft Co., Inc. Separators. 3,140,937, 7-14-64, Cl. 55—442.
Hogan, William J., to Stapling Machine Co. Wirebound box lining construction. 3,140,780, 7-14-64, Cl. 217—3.
Holcomb, Don R.: *See*—
Parode, Lowell C., and Holcomb. 3,141,163.
Holcomb, Don R., R. M. Jaffe, J. M. Pew, and E. E. St. John, to Hughes Aircraft Co. Radar receiver utilizing narrow band filtering and multiplexing. 3,141,164, 7-14-64, Cl. 343—16.
Holliday, L. B., & Co. Ltd.: *See*—
Appleton, Henry B. 3,141,011.
Hollingsworth, John B.: *See*—
Block, Leo, and Hollingsworth. 3,140,706.
Hollyday, Joseph S., to Heinemann Electric Co. Circuit breaker having improved arc runner of magnetizable material. 3,141,082, 7-14-64, Cl. 200—147.
Holtzman, Arnold H., to E. I. du Pont de Nemours and Co. Process for bonding metals by explosive means. 3,140,539, 7-14-64, Cl. 29—497.5.
Honegger, Casper: *See*—
Stucki, Peter. 3,140,732.
Hopper, Philip S., to United Aircraft Corp. Vectoring system for multiple rocket nozzle configuration. 3,140,583, 7-14-64, Cl. 60—35.54.
Horizons Inc.: *See*—
Sprague, Robert H., and Stewart. 3,140,949.
Stewart, John A., and Sprague. 3,140,948.
Horner, George L. Spinning toy comprising a disk and a removable shaft with projections thereon for securing said disk thereto. 3,140,561, 7-14-64, Cl. 46—82.
Houghton, Richard B., and F. P. De Luca, to Electro-Sonic Systems, Inc. Ultrasonic sensor device. 3,140,612, 7-14-64, Cl. 73—398.
Houssin, Jean-Marie A., to Compagnie Francaise des Matieres Colorantes. N-(3,4,5 trimethoxy benzoyl amino acetyl) pyrrolidene. 3,141,024, 7-14-64, Cl. 260—326.3.
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McKee, Douglas W., to Union Carbide Corp. Separation of an oxygen-nitrogen mixture. 3,140,933, 7-14-64, Cl. 55—68.
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McNally, Robert N.: *See*—
Alper, Allen M., and McNally. 3,140,955.
McRobbie, Henry W., to Union Carbide Corp. Separation of an oxygen-nitrogen mixture. 3,140,931, 7-14-64, Cl. 55—25.
Means, F. W., & Co.: *See*—
Preston, Troy C., Wetzler, and Tyburski. 3,140,904.
Mees, Robert: *See*—
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Mehr, Walter. Closure dispenser for containers. 3,140,799, 7-14-64, Cl. 222—131.
Meito Sangyo Kabushiki Kaisha: *See*—
Morii, Eji, Iwata, and Kokkoku. 3,141,014.
Melcher, Ronald E.: *See*—
Wallace, Burgess P., Melcher, and Loertscher. 3,140,887.
Menter, Albion R. Crown for bovine teeth. 3,140,543, 7-14-64, Cl. 32—12.
Mercier, Jean. Valve assembly. 3,140,729, 7-14-64, Cl. 138—30.
Merrick, Richard H., to Carrier Corp. Absorption refrigeration systems. 3,140,589, 7-14-64, Cl. 62—232.
Messina, Nicholas J. Kit and method for forming pipe line templates. 3,140,584, 7-14-64, Cl. 29—407.
Metallbau Semier, G.m.b.H.: *See*—
Schoppe, Fritz. 3,140,862.
Metallgesellschaft Aktiengesellschaft: *See*—
Schmalfeld, Paul. 3,140,985.
Metcalfe, Kenneth A., and R. J. Wright, to The Commonwealth of Australia, care of the Secretary of the Department of Supply. Electrostatic printing. 3,140,945, 7-14-64, Cl. 96—1.
Microwave Associates, Inc.: *See*—
Hinlein, Sigmund. 3,141,146.
Middlemiss, Robert G., to United States Steel Corp. Method of quenching pipe. 3,140,964, 7-14-64, Cl. 148—143.
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Ullman, Robert, Fortna, Middleton, Schwalm, and Tritt. 3,140,733.
Midland-Ross Corp.: *See*—
Cone, Carroll. 3,140,743.
Miller, Robert E.: *See*—
Soong, William E., Miller, Des Jardins, and Sharper. 3,140,567.

Miller, Roy L. Film washer. 3,140,647, 7-14-64, Cl. 95—93.

Miller, Wendell S. Linear motion power amplifier. 3,140,619, 7-14-64, Cl. 74—30.

Mills, Irwin F., Associates: *See*—
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Mills, John K., and F. P. Zupa, to Bell Telephone Laboratories, Inc. Direct-coupled transistor oscillator having variable source impedance for controlling frequency. 3,141,139, 7-14-64, Cl. 331—45.

Milton, Charles B., to Union Carbide Corp. Aluminum-iron powder mixture for powder lancing. 3,140,939, 7-14-64, Cl. 75—.5.

Miner, John E. Remote control system for outboard motors. 3,140,689, 7-14-64, Cl. 115—17.

Minic Ltd.: *See*—
Edmondson, Anthony J. K. 3,140,825.

Minneapolis-Honeywell Regulator Co.: *See*—
Flagg, Raymond P. 3,140,935.
Hueter, Theodore F. 3,141,148.

Minnesota Mining & Mfg. Co.: *See*—
Block, Charles, and Gardner. 3,140,645.
Vietor, Mel L. 3,141,001.

Minnick, Robert C., and E. S. Lee, III, to Burroughs Corp. Magnetic core matrix decoder. 3,141,158, 7-14-64, Cl. 340—347.

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Mitacek, Bill, to Phillips Petroleum Co. Water-in-oil emulsion well fluid. 3,140,747, 7-14-64, Cl. 175—66.

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Chapman, Dave. 3,140,564.

Molins Machine Co. Ltd.: *See*—
Rowlands, Tom, and Mason. 3,140,632.

Moll, Valentin, to Clevite Corp. Alloying fixture. 3,140,683, 7-14-64, Cl. 113—99.

Molletta, Joseph S.: *See*—
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Moltchan, Floyd J. Method and apparatus for forming continuously moving strip material. 3,140,739, 7-14-64, Cl. 153—2.

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Buddemeyer, Bruce D., and Moneymaker. 3,141,030.

Mong, Bernard A.: *See*—
Breazeale, William M., Edlund, and Mong. 3,140,980.

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Hunsinger, John S., and Gottlly. 3,140,840.
Krebaum, Lawrence J. 3,141,084.
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Moody, Merton W., and B. E. Conley, to Hughes Aircraft Co. Composite signal generating means for multiple speed positional servo system. 3,141,121, 7-14-64, Cl. 318—30.

Moore, Everett W. Steam heating system. 3,140,824, 7-14-64, Cl. 237—17.

Moretti, Whitfield W., and I. R. Hoxie, Jr., to Sperry Rand Corp. Pulse doppler tracking radar. 3,141,162, 7-14-64, Cl. 343—7.

Morii, Eji, K. Iwata, and H. Kokkoku, to Meito Sangyo Kabushiki Kaisha. Sodium and potassium salts of the dextran sulphuric acid ester having substantially no anticoagulant activity but having lipolytic activity and the method of preparation thereof. 3,141,014, 7-14-64, Cl. 260—234.

Morris, George H. Combined seeding, soil cultivating and weeding implement. 3,140,678, 7-14-64, Cl. 111—67.

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Moss, Harry G. 3,140,876.

Moss, Harry G., ½ to G. R. Sperling, ½ to C. F. Moss. Word game pieces having correlated indicia on a plurality of faces. 3,140,876, 7-14-64, Cl. 273—137.

Motsinger, Armard V., to United States of America, Army. Gas mask speech transmission. 3,140,754, 7-14-64, Cl. 181—31.

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Grow, Harry N., Hoenle, Kanits, Cisler, and Mueller. 3,140,559.

Mueller, Theodore G., to Consolidated Packaging Machinery Corp. Scale apparatus. 3,140,750, 7-14-64, Cl. 177—107.

Müller, Johann, to Albert Handtmann Firma. Sausage manufacturing apparatus. 3,140 509, 7-14-64, Cl. 17—33.

Munday, John C., and J. A. Wilson, to Esso Research and Engineering Co. Process of controlling electrostatic charges. 3,141,113, 7-14-64, Cl. 317—2.

Murphy, William P. Jr., and W. B. Dandliker, to Cordis Corp. Blood separation method. 3,140,714, 7-14-64, Cl. 128—214.

Murray, Robert W., 25% to J. A. Fridland. Chuck for a valve grinder. 3,140,569, 7-14-64, Cl. 51—236.

Murtland, James B., Jr., to Allegheny Ludlum Steel Corp. Deviation thickness gage. 3,140,545, 7-14-64, Cl. 33—147.

Mutto, Theodore R., to Nestaway Inc. Vehicle couplers. 3,140,882, 7-14-64, Cl. 280—481.

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Nagode, L. Joseph F.: *See*—
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Nallinger, Friedrich K. H., to Auto Union G.m.b.H. Process and apparatus for lubricating internal combustion engines. 3,140,700, 7-14-64, Cl. 123—119.

National Aeronautics & Space Administration: *See*—
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National Cash Register Co., The: *See*—
Foris, Peter L. 3,140,947.

National Castings Co.: *See*—
Kozak, Edward, and Stevens. 3,140,671.

National Polychemicals, Inc.: *See*—
Hill, Henry A. 3,131,002.

National Research Associates, Inc.: *See*—
Beardsley, Melville W. 3,140,687.

National Research Development Corp.: *See*—
Weiss, Karl R. 3,140,899.

Neilsen, Hildaur L. Supporting device for telephone instrument. 3,141,072, 7-14-64, Cl. 179—167.

Nelson, Arthur E.: *See*—
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Nelson, Arvid L., F. T. Saeger, and J. E. Seckman, to Gardner-Denver Co. Piston construction. 3,140,642, 7-14-64, Cl. 92—248.

Neros, Clifford A., and N. V. Seeger, to Diamond Alkali Co. Aqueous solution of steroregular polyvinyl alcohol; method of making same; foams; fibers, and fibers obtained therefrom. 3,141,003, 7-14-64, Cl. 260—2.5.

Nestaway Inc.: *See*—
Mutto, Theodore R. 3,140,882.

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Masser, Lloyd D. 3,140,880.

Nickles, Edward B., to Manitowoc Engineering Corp. Method and apparatus for handling a load. 3,140,887, 7-14-64, Cl. 254—139.1.

Niedermeyer, George T.: *See*—
Drescher, Walter B., and Niedermeyer. 3,140,498.

Noll, John E., to Westinghouse Electric Corp. Process for producing phenol-formaldehyde resins. 3,141,005, 7-14-64, Cl. 260—59.

Nomine, Gerard, R. Bucourt, and A. Pierdet, to Roussel-UCLAF, S.A.. 17α-ethynyl-10β-propyl-Δ 4,9(11)-estradiene-17β-ol-3-one and its preparation. 3,141,025, 7-14-64, Cl. 260—340.9.

Nordberg Mfg. Co.: *See*—
Balmer, Hanajorg, and Gasparac. 3,140,835.
Symons, Loren G. 3,140,834.

Nordberg, Robert C.: *See*—
Barrios, Hector R., Molletta, and Nordberg. 3,140,968.

North American Aviation, Inc.: *See*—
Russell, Billy J. 3,140,618.

North American Philips Co., Inc.: *See*—
Duyfjes, Werner, and de Lange. 3,140,977.
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North American Sugar Industries Inc.: *See*—
O'Boyle, Charles J. 3,141,012.
O'Boyle, Charles J. 3,141,013.

Norton, Joseph C., to Union Carbide Corp. Metal shielded-electrical cable termination. 3,141,060, 7-14-64, Cl. 174—73.

Nugent, Robert G.: *See*—
Rumbel, Keith E., Cohen, Nugent, and Scurlock. 3,140,663.

Oberländer, Georg: *See*—
Weckwert, Horst, Oberländer, and Lange. 3,140,821.

O'Boyle, Charles J., to North American Sugar Industries Inc. Recovering solid polyhydric alcohols from transesterification reaction masses. 3,141,012, 7-14-64, Cl. 260—210.

O'Boyle, Charles J., to North American Sugar Industries Inc. Purification of transesterification mixtures. 3,141,013, 7-14-64, Cl. 260—210.

Oesterling, Robert E.: *See*—
Inman, Charles E., Oesterling, and Tyczkowski. 3,141,040.

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Adams, Richard F. 3,140,532.
Diassi, Patrick A. 3,141,017.
Gardiner, William C. 3,140,991.
Piala, Joseph J., and Yale. 3,141,022.
Schnacke, Richard N. 3,140,926.
Tranel, Lester J. 3,140,755.
Tyson, George N., Jr. 3,140,582.
Weisenborn, Frank L. 3,141,044.

Olivetti, Ing. C., & C., S.p.A.: *See*—
Raffo, Gianfranco. 3,141,157.

Olivotti, Elia. Hull of special stabilized shape. 3,140,686, 7-14-64, Cl. 114—66.

Olson, Elmer E., to G. B. Lewis Co. Selection device. 3,141,123, 7-14-64, Cl. 318—467.

Olympia Werke A.G.: *See*—
Hergert, Wilhelm. 3,140,822.
Kuhn, Eugen. 3,140,823.

Onderzoekingsinstituut Research, N.V.: *See*—
Weyland, Herman G., and Westmijze. 3,140,601.

Opotow, Harold, and H. Ginsburg. Composition for protecting threaded elements of conduit boxes. 3,140,958, 7-14-64, Cl. 117—6.

Osborne, Eugene F., G. S. Axelby, and E. L. Smith, Jr., to United States of America, Army. Distortion compensation system, for a power frequency amplifier system having transport lags, utilizing heterodyne feedback. 3,141,134, 7-14-64, Cl. 325—159.

Oshima, Shintaro, H. Enomoto, and K. Amano, to Kokusai Denshin Denwa Kabushiki Kaisha. Unidirectional amplifier consisting of concatenated bidirectional negative resistance amplifiers which are coupled by delay networks and energized sequentially. 3,141,138, 7-14-64, Cl. 330—61.

Ott, Vivian L., and J. B. Beaman, Jr. Cutter unit for rotary mowers. 3,140,575, 7-14-64, Cl. 56—295.

Package Machinery Co.: *See*—
Barkman, David R. 3,140,631.
Crescenzo, Francis, and Fredette. 3,140,971.

Packaging Corp. of America: *See*—
Hickin, Robert J. 3,140,570.
Hickin, Robert J., and McCollough. 3,140,809.

Packard, Durward L., to Brandon Equipment Co., Inc. Vehicle tie down apparatus. 3,140,850, 7-14-64, Cl. 248—361.

Pacuk, Peter P. Exercising apparatus and toy. 3,140,869, 7-14-64, Cl. 272—65.

Pagano, Carmine N., to International Telephone and Telegraph Corp. Feedback amplifier gate. 3,141,136, 7-14-64, Cl. 328—158.

Paidar, Emil J., Co. : *See*—
Shubart, Harry S., and Diouhy. 3,140,892.

Palazzo, Giuseppe, and B. Silvestrini, to Angelini Francesco, Azienda Chimiche Riunite. 1.2.4-oxadiazoles and processes for producing the same. 3,141,019, 7-14-64, Cl. 260—247.5.

Pall Corp. : *See*—
Siebel, Mathias P. L. 3,140,690.

Palmer, Jean A. Engine starting apparatus. 3,140,617, 7-14-64, Cl. 74—6.

Paniplus Co., The : *See*—
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Pannozzo, Michael L. Golf shoe spike wrench. 3,140,625, 7-14-64, Cl. 81—63.

Paparozzi, Frank M. Printing ruler. 3,140,548, 7-14-64, Cl. 33—174.

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Reed, Meuriel F. 3,140,694.

Parker, Humphrey F., to Columbus McKinnon Corp. Conveyor dispatch system. 3,140,669, 7-14-64, Cl. 104—68.

Parker-Hannifin Corp. : *See*—
Lansky, Zdenek J., and Leibfritz. 3,141,115.

Parkinson Cowan Ltd. : *See*—
Alexander, Arthur, and Clements. 3,140,607.

Parode, Lowell C., and D. R. Holcomb, to Hughes Aircraft Co. Range gating system with narrow band filtering. 3,141,163, 7-14-64, Cl. 343—7.3.

Parsons, Robert H., to General Electric Co. Methods for filling electrical apparatus with potting material. 3,141,049, 7-14-64, Cl. 264—138.

Pechacek, Raymond E., to Hahn & Clay. Autofrettage method and apparatus. 3,140,535, 7-14-64, Cl. 29—421.

Pedersen, Mathias, to American Machine and Foundry Co. Button stitching machine. 3,140,679, 7-14-64, Cl. 112—110.

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Kaufmann, Waldemar, Fitter, Pfeiderer, Pelz, and Hub. 3,140,967.

Pendleton Tool Industries, Inc. : *See*—
Van Hoose, William E. 3,140,823.

Penland, Joseph H. Line stretcher. 3,140,521, 7-14-64, Cl. 24—134.

Pennsalt Chemicals Corp. : *See*—
Inman, Charles E., Oesterling, and Tyczkowski. 3,141,040.
Lowdermilk, Ford R. 3,140,916.
Mandell, Harry C., Jr., and Barth-Wehrenalp. 3,140,934.

Pera, John D., F. W. Ratha, and R. F. Drescher, to Buckman Laboratories, Inc. Compositions and processes for the treatment of fourdrinier wire cloths of papermaking machines. 3,140,974, 7-14-64, Cl. 162—199.

Peras, Lucien, to Regie Nationale des Usines Renault. Means for locking vertically sliding glasses of automobiles. 3,140,597, 7-14-64, Cl. 70—90.

Peras, Lucien, to Regie Nationale des Usines Renault. Compression ignition engines. 3,140,697, 7-14-64, Cl. 123—32.

Petersen, William, and L. B. Wallerstein, to The American White Cross Laboratories, Inc. Surgical dressing packaging. 3,140,872, 7-14-64, Cl. 53—28.

Petlak, Joseph J., and R. Reichheim. Snow and ice melter. 3,140,708, 7-14-64, Cl. 126—343.5.

Petrick, Edward J., and H. J. Bieschke, to Knox Mfg. Co. Portable movie screen. 3,140,742, 7-14-64, Cl. 160—24.

Petrolite Corp. : *See*—
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Pettit, Robert H., to Sperry Rand Corp. Servo system. 3,140,843, 7-14-64, Cl. 244—77.

Pew, John M. : *See*—
Holcomb, Don R., Jaffe, Pew, and St. John. 3,141,164.

Pfeiderer, Hans-Joachim : *See*—
Kaufmann, Waldemar, Fitter, Pfeiderer, Pelz, and Hub. 3,140,967.

Pfund, Adolf G., and E. H. Mayer, to Bethlehem Steel Co. Wire form. 3,140,927, 7-14-64, Cl. 29—193.

Philco Corp. : *See*—
Certa, Anthony J. 3,140,530.

Philips, John, to Westinghouse Electric Corp. Hyperconductive transistor switches. 3,141,119, 7-14-64, Cl. 317—235.

Phillips, Benjamin, P. S. Starcher, and D. L. MacPeek, to Union Carbide Corp. Alkanediol bis(2,3-epoxyalkanoates). 3,141,027, 7-14-64, Cl. 260—348.

Phillips Petroleum Co. : *See*—
Broerman, Arthur B. 3,140,615.
Buttolph, Doyle D. 3,140,573.
Mitacek, Bill. 3,140,747.

Piala, Joseph J., and H. L. Yale, to Olin Mathieson Chemical Corp. Preparation of 2-amino-5-aryl-1,3,4-oxadiazoles. 3,141,022, 7-14-64, Cl. 260—307.

Pierdet, Andre : *See*—
Nomine, Gerard, Bucourt, and Pierdet. 6,141,025.

Pilch, John S., Backhoe. 3,140,785, 7-14-64, Cl. 214—138.

Pilkington Brothers Ltd. : *See*—
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Pilla, Anthony. Floats for spreading concrete or the like. 3,140,500, 7-14-64, Cl. 15—235.4.

Pistner, Bernard R. : *See*—
Herring, Jerome L., Grant, and Pistner. 3,140,770.

Pittsburgh Plate Glass Co. : *See*—
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Plastic Specialties, Inc. : *See*—
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Plucker, Julius, III : *See*—
Derr, Walter R., Jr., and Plucker. 3,140,994.

Poilane, Georges : *See*—
Bichet, Georges, and Poilane. 3,141,046.

Polaroid Corp. : *See*—
Mason, Paul B., and Sable. 3,140,646.

Pollock, Kenneth G. : *See*—
Hildebrand, Arthur R., Jr., Martin, and Pollock. 3,140,528.

Pope, Harvey R. : *See*—
Hinkle, Ronald, Pope, and Fugate. 3,140,745.

Popoff, Alexis A., to E. I du Pont de Nemours and Co. Explosive welding process. 3,140,537, 7-14-64, Cl. 29—474.3.

Poster Packaging, Inc. : *See*—
Bostrom, John D. 3,140,807.

Prager, Jacob, to Infrared Corp. of America. Infrared heating and illuminating fixture. 3,141,086, 7-14-64, Cl. 219—220.

Pratt, Alexander M. Matrix retainer. 3,140,544, 7-14-64, Cl. 32—63.

Preston, Troy C., J. J. Wetzler, and S. Tyburski, to F. W. Means & Co. Towel dispensing apparatus. 3,140,904, 7-14-64, Cl. 312—38.

Price, John A., to Esso Research and Engineering Co. Colloidal molybdenum complexes prepared by ketone extraction. 3,140,997, 7-14-64, Cl. 252—33.

Propst, Robert L. Timber harvesting method and apparatus. 3,140,736, 7-14-64, Cl. 144—3.

Prospect Mfg. Co. Inc. : *See*—
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Prout, Elmer W., 20% to M. Fink, and 41% to E. C. Elsner. Mechanical connection. 3,140,522, 7-14-64, Cl. 24—223.

Puhr-Westerheide, Jurgen F. J., to Babcock & Wilcox, Ltd. Fuel burner. 3,140,675, 7-14-64, Cl. 110—28.

Purdue Research Foundation : *See*—
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Pure Oil Co., The : *See*—
Rahme, Habib S., and Ellison. 3,140,599.
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Quynn, John W. Hydrokinetic coupling for a differential fluid drive for vehicles. 3,140,585, 7-14-64, Cl. 60—54.

Radio Corp. of America : *See*—
Kusnetzoff, Philip. 3,140,536.
Luther, Arch C., Jr., Hurst, and West. 3,141,065.
Macovski, Albert. 3,141,064.

Raffo, Gianfranco, to Ing. C. Olivetti & C., S.p.A. Analog-to-digital converter. 3,141,157, 7-14-64, Cl. 340—347.

Rahme, Habib S., and L. E. Ellison, to The Pure Oil Co. Method and apparatus for determining permeability of earth formations. 3,140,599, 7-14-64, Cl. 73—38.

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Rapata, George M., to Illinois Tool Works Inc. Arcuate slot strain relief grommet. 3,141,062, 7-14-64, Cl. 174—153.

Rasmussen, Helga : *See*—
Rasmussen, Olaf. 3,140,760.

Rasmussen, Olaf, deceased, H. Rasmussen, executrix. Vehicle brakes. 3,140,760, 7-14-64, Cl. 188—78.

Rassushin, Jerry V. Method for removing sediment from rocker arm shafts in gasoline engines and a device for facilitating the same. 3,140,699, 7-14-64, Cl. 123—90.

Ratha, Fred W. : *See*—
Pera, John D., Ratha, and Drescher. 3,140,974.

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Reas, Lewis F. : *See*—
Hall, Harrison R., and Reas. 3,140,811.
Hall, Harrison R., and Reas. 3,140,812.
Hall, Harrison R., and Reas. 3,140,813.

Reed, Meuriel F., to Paper Mate Mfg. Co. Refillable and retractable lead pencil. 3,140,694, 7-14-64, Cl. 120—14.9.

Regie Nationale des Usines Renault : *See*—
Peras, Lucien. 3,140,597.
Peras, Lucien. 3,140,697.

Reichheim, Robert : *See*—
Petlak, Joseph J., and Reichheim. 3,140,708.

Reiss, Raymond H., Sr., P. R. T. Hahn, and R. J. Randall, to Ronthor Reiss Corp. Drawer divider support. 3,140,791, 7-14-64, Cl. 217—7.

Renninger, Otto, to Konrad Doppelmayr & Sohn, Maschinenfabrik. Aerial cableways. 3,140,670, 7-14-64, Cl. 104—178.

Research Laboratorium Dr. C. Janssen, N.V. : *See*—
Janssen, Paul A. J. 3,141,021.

Reukauf, William B., to Carey-McFall Co. Apparatus for winding foil about a rigid rod. 3,140,970, 7-14-64, Cl. 156—447.

Reuschel, Konrad, to Siemens-Schuckertwerke Aktiengesellschaft. Vapor deposition onto stacked semiconductor wafers followed by particular cooling. 3,140,965, 7-14-64, Cl. 148—175.

Rexroad, James O., to Westinghouse Electric Corp. Enclosure having an external operating handle for operating an enclosed circuit interrupter. 3,141,074, 7-14-64, Cl. 200—50.

Reynolds Metals Co. : *See*—
Kamlet, Jonas, and Binford. 3,140,956.

Rheinmetall, G.m.b.H., Firma : *See*—
Werner, Bruno. 3,140,639.

Rhodes, Joseph F., deceased, B. M. Kristovich, administrator. Rotary internal combustion motor. 3,140,696, 7-14-64, Cl. 123—16.

Rice, Leonard M.: *See*—
Freed, Meier E., and Rice. 3,141,020.

Rich, Alan H. Aircraft stabilization device. 3,140,844, 7-14-64, Cl. 244—82.

Rich, Stanley R., to A. H. Rosen. Full range electroacoustic transducers. 3,141,071, 7-14-64, Cl. 179—115.5.

Rich, Stanley R., to Acoustica Associates, Inc. A.C. operated transistor oscillator or amplifier circuits. 3,141,140, 7-14-64, Cl. 331—71.

Richert, Eberhard, and D. Eulers, to International Standard Electric Corp. Arrangement for edgewise conveying systems to separate and equally distribute irregularly supplied articles on two conveying paths. 3,140,780, 7-14-64, Cl. 209—74.

Richter, Stanley H. Door stop seal assembly. 3,140,517, 7-14-64, Cl. 20—69.

Ridge Nassau Corp.: *See*—
Switzgable, Elvin C. 3,140,508.

Ringold, Howard J., and A. Bowers, to Syntex Corp. 16-alkoxy-6-dehydro cortical hormones. 3,141,029, 7-14-64, Cl. 260—397.45.

Rinse, Jacobus, to Agrashell, Inc. Modified polyester resins. 3,141,007, 7-14-64, Cl. 260—78.5.

Ritchey, Harold W., A. E. Williams, and C. B. Roberts, to Thiokol Chemical Corp. Steering device for rocket-powered vehicles. 3,140,584, 7-14-64, Cl. 60—35.55.

Riva, William, to The Luchland Co. Wheeled simulated telephone with pull cord simulating a telephone cord. 3,140,562, 7-14-64, Cl. 46—202.

Roberts, Charles S.: *See*—
Ritchey, Harold W., Williams, and Roberts. 3,140,584.

Roberts, Edwin M., to Socony Mobil Oil Co. Extended correlation time vanadium analysis. 3,140,993, 7-14-64, Cl. 208—251.

Roberts, Robert L., to General Foods Corp. Oleaginous food product. 3,140,953, 7-14-64, Cl. 99—123.

Robson, Anthony D., to The British Oxygen Ltd. Method and means for priming a liquid pump. 3,140,665; 7-14-64, Cl. 103—87.

Rogers, Edgar A. Mold board asphalt cutter wheel assembly. 3,140,898, 7-14-64, Cl. 299—86.

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Anderson, Robert L., and Rohrig. 3,140,667.

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Romain, Harry A.: *See*—
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Ronbeck, Arne I., to Aktiebolaget Separator. Apparatus for weaving fin and tube radiators. 3,140,533, 7-14-64, Cl. 29—202.

Ronthor Reiss Corp.: *See*—
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Rose, Bert J. Detergent dispenser. 3,140,829, 7-14-64, Cl. 239—318.

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Rothgart, Albert, to Visionade Mfg. Co., Inc. Combination mirror and holder. 3,140,781, 7-14-64, Cl. 211—13.

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Rowlands, Tom, and J. A. Mason, to Molins Machine Co. Ltd. Cigarette rod cut-off device with knife adjustable about three axes. 3,140,632, 7-14-64, Cl. 83—310.

Rozear, Frederick C. Shoe-shaping device. 3,140,502, 7-14-64, Cl. 15—267.

Rozentals, Alfreds, to The Heim Universal Corp. Method and apparatus for manufacturing bearings. 3,140,529, 7-14-64, Cl. 29—90.

Rozmus, Walter J., to Corning Glass Works. Hinge. 3,140,507, 7-14-64, Cl. 16—128.

Rumbel, Keith E., M. Cohen, R. G. Nugent, and A. C. Scurlock, to Atlantic Research Corp. Propellent grains. 3,140,663, 7-14-64, Cl. 102—98.

Runtz, Jean W., to D. T. Siegal. Electrolytic capacitor unit. 3,141,118, 7-14-64, Cl. 317—230.

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Sampietro, Achilles C., to Willys Motors, Inc. Lubrication system. 3,140,757, 7-14-64, Cl. 184—6.

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Sanders, Murray A. Latch for slidable closures. 3,140,889, 7-14-64, Cl. 292—128.

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Scheer, Max, and H. Keil, to Siemens-Schuckertwerke Aktiengesellschaft. Magnetic lens device for producing magnetic fields with an even number of four or more poles. 3,141,-117, 7-14-64, Cl. 317—200.

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Schmalfeld, Paul, to Metallgesellschaft Aktiengesellschaft. Method of oxidation hardening of briquettes. 3,140,985, 7-14-64, Cl. 202—15.

Schmidt, Paul A. Form-supporting structure for erecting concrete buildings. 3,140,524, 7-14-64, Cl. 25—131.

Schmitt, Wilhelm. Open hearth smelter system. 3,141,055, 7-14-64, Cl. 266—33.

Schnacke, Richard N., to Olin Mathieson Chemical Corp. Ingot. 3,140,926, 7-14-64, Cl. 29—184.

Schneider, Kenneth C., to Mission Mfg. Co. Carburetor. 3,141,048, 7-14-64, Cl. 261—41.

Schoenwald, Alexander, to P. Wall Mfg. Co. Battery powered electric soldering iron. 3,141,087, 7-14-64, Cl. 219—233.

Schoppe, Fritz, to Metallbau Semler, G.m.b.H. Apparatus for the physical and/or chemical treatment of granular solids or fine dusts. 3,140,862, 7-14-64, Cl. 263—21.

Schroeder, Harry C., to Plastic Specialties, Inc. Confection and support therefor. 3,140,954, 7-14-64, Cl. 99—138.

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Schwartz, Sidney A. Thermoelectric lift. 3,140,800, 7-14-64, Cl. 294—1.

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Seragnoli, Ariosto, to G. D. Societa in Accomandita semplice di Enso Seragnoli ed Ariosto Seragnoli. Canalizing conveyor system, particularly for packing machines. 3,140,772, 7-14-64, Cl. 198—33.

Seror, Albert Z. Tape dispenser. 3,140,805, 7-14-64, Cl. 225—66.

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Seufert, Wilhelm, and R. Fritsch, to Werner & Pfleiderer. Method of and a device for granulating a plastic material. 3,140,511, 7-14-64, Cl. 18—1.

Sharenow, Moses B., to United States of America, Army. Gel-adhered streamlined balloon and method of manufacture. 3,140,969, 7-14-64, Cl. 156—288.

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Sharpless, William M., to Bell Telephone Laboratories, Inc. Electronically tunable solid state oscillator. 3,141,141, 7-14-64, Cl. 331—107.

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Shimamura, Shigeki. Writing pen. 3,140,505, 7–14–64, Cl. 15—363.
Shook, Granville D. Lumber grade marker. 3,140,650, 7–14–64, Cl. 101—35.
Shreffler, Elwyne O. Rocker panel and body sill moulding. 3,140,891, 7–14–64, Cl. 296—1.
Shubart, Harry S., and J. A. Diouhy, to Emil J. Paidar Co. Barber chair with frame structure. 3,140,892, 7–14–64, Cl. 297—60.
Shuman, Frank R., Jr., to Sun Oil Co. Process for fractionating polyolefins. 3,141,009, 7–14–64, Cl. 260—88.2.
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Solomon, Allen L., to General Telephone and Electronics Laboratories, Inc. Signal encoder using electroluminescent and photoconductive cells. 3,141,093, 7–14–64, Cl. 250—213.
Soong, William E., R. E. Miller, J. Des Jardins, and L. H. Sharper, to United States of America, Army. Lens centering and beveling machine. 3,140,567, 7–14–64, Cl. 51—108.
Spademan, Richard G. Safety binding. 3,140,877, 7–14–64, Cl. 280—11.35.
Spalding, Dudley B. Pressure exchanger heat pump apparatus. 3,140,928, 7–14–64, Cl. 24—62.
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Spinelli, Anthony F. Snow disposal apparatus. 3,140,707, 7–14–64, Cl. 126—343.5.
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Sprague, Robert H., and J. A. Stewart, to Horizons Inc. Printout process and leuco bases of triphenyl methane dyes used therein. 3,140,949, 7–14–64, Cl. 96—48.
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Stack, Emmet G. Method of manufacturing bow-shaped panels. 3,140,516, 7–14–64, Cl. 20—15.
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Sterling, Henley F., to International Standard Electric Corp. Method and apparatus for treating reactive materials. 3,140,922, 7–14–64, Cl. 23—277.
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Stocker, Arthur C., F. Wendsel, W. Rolke, and K. G. Kaufmann, to United States of America, Navy. High speed rotary switch with contact cleaning means. 3,141,073, 7–14–64, Cl. 200—24.
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Straumann, Fred. Detachable armrest for automobile seats. 3,140,895, 7–14–64, Cl. 297—194.
Strickler, Allen, to Beckman Instruments, Inc. Photoelectric immersion probe. 3,141,094, 7–14–64, Cl. 250—218.
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Surrey, Alexander R., to Sterling Drug Inc. 4,4′-bis(aminomethyl)-stilbenes. 3,141,042, 7–14–64, Cl. 260—562.
Svedberg, Per G. J., to Allmanna Svenska Elektriska Aktiebolaget. Bidirectional semiconductor switching device. 3,140,963, 7–14–64, Cl. 148—33.5.
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Taylor, Maurice K., to Ferranti Ltd. Magnetically operated sign. 3,140,553, 7-14-64, Cl. 40—28.

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Taylor, William E., to American Can Co. Container. 3,140,808, 7-14-64, Cl. 229—4.5.

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Terry, Rex A., to Creative Industries of Detroit. Method of reproducing compound contours. 3,141,053, 7-14-64, Cl. 264—220.

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Thompson, John H. Bath tub grip. 3,140,496, 7-14-64, Cl. 4—185.

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Tlamicha, Adolf J. Method and apparatus for delustering plastic thread for textiles. 3,140,526, 7-14-64, Cl. 28—67.

Tosoni, Anthony L., and D. A. J. Ives, ½ to The Governors of the University of Toronto, and ½ to Astra Pharmaceutical Products, Inc. Production of high activity fibrinolytic agents. 3,140,984, 7-14-64, Cl. 195—66.

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Tranel, Lester J., to Olin Mathieson Chemical Corp. Muffler or other hollow article and fabrication of same. 3,140,755, 7-14-64, Cl. 181—61.

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 14, 1964 Volume 804 Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 102,054 (AGRICO), The American Agricultural Chemical Company, Guano; Reg. No. 170,022 (AGRINITE), same, Fertilizer; Reg. No. 204,116 (AGRICO), same, Guano, commercial fertilizers used for agricultural purposes, and limestone used for agricultural purposes and as a soil conditioner; Reg. No. 226,113 (AGRI-PHOS), same, Chemical adjuvants for the treatment of feeds, and of silage and other feeds; Reg. No. 241,441 (AGRIVITA), Organic manure from chickens with no additives during processing; Reg. No. 272,488 (AGRI-PHOS), same, Superphosphates; Reg. No. 280,042 (AGRICO), same, Spreaders, filed Sept. 5, 1962, D.C. Kans. (Kansas City), Doc. KC-1810, *The American Agricultural Chemical Company* v. *Agricultural Business Company*. Stipulation and order of dismissal without prejudice Jan. 17, 1964.

Reg. No. 170,022. (See Reg. No. 102,054.)

Reg. No. 201,694 (CADILLAC), General Motors Corporation, Automobiles; Reg. No. 201,702 (DESIGN OF SHIELD), same; Reg. No. 267,241 (CADILLAC), same, Maintenance and repair service for automotive vehicles, parts, and accessories; Reg. No. 268,018 (DESIGN OF CADILLAC EMBLEM), same, filed Jan. 22, 1964, D.C., S.D. Calif. (San Diego), Doc. 2207-SD-K, *General Motors Corporation* v. *Albert V. Rendell*. Final consent judgment; defendant enjoined (notice May 11, 1964). Same, Doc. 2098-SD-C, *General Motors Corporation* v. *Leonard Jesses*. Final consent judgment; defendant enjoined (notice Mar. 2, 1964).

Reg. No. 201,702. (See Reg. No. 201,694.)

Reg. No. 204,116. (See Reg. No. 102,054.)

Reg. No. 208,697 (GENUINE DUNCAN YO-YO AND DESIGN), Donald F. Duncan, Bandelore toy spinning tops; Reg. No. 209,504 (YO-YO), Donald F. Duncan, Inc., same; Reg. No. 221,242 (BUTTERFLY), same, Tops of the bandalore return type, filed Sept. 12, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c1532, *Donald F. Duncan, Inc.* v. *Royal Tops Mfg. Co., Inc., et al.* Trademarks held valid and infringed; defendant enjoined Jan. 17, 1964.

Reg. No. 209,504. (See Reg. No. 208,697.)

Reg. No. 209,504 (FRANGO in script), Marshall Field & Company, also doing business as Frederick & Nelson, Candies, filed Jan. 22, 1964, D.C. Oreg. (Portland), Doc. 64-25, *Frederick & Nelson* v. *Lipman Wolfe & Company*. Stipulation and order of dismissal with prejudice Apr. 15, 1964.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,244
Date of oldest new application	Oct. 7, 1963
Date of oldest amended application	Sept. 3, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
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Applications filed during the month of May 1964—2,192

Registrations Issued	406—No. 772,992 to No. 773,397
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.50 per annum, foreign mailing $2.75 additional; single copies, 20 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Reg. No. 344,587 (CORONET), David A. Smart, assignor to Coronet, Inc., Magazines issued monthly, filed Nov. 18, 1963, D.C., S.D.N.Y., Doc. 63/3374, *H.S. Publications, Inc.* v. *Readers Digest Association.* Same, filed Nov. 19, 1963, D.C., S.D.N.Y., Doc. 63/3384, *Readers Digest Association* v. *H.S. Publications, Inc. et al.*

Reg. No. 396,113. (See Reg. No. 166,054.)

Reg. No. 567,089 (ALLIED PRINTING TRADES UNION LABEL COUNCIL AND DESIGN), International Allied Printing Trades Association, Almanacs, annual publications, catalogues, daily newspapers, data sheets, etc., filed Aug. 28, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1536, *International Allied Printing Trades Association* v. *Progressive Manifold Manufacturers of America, Local No. 285 et al.* Order on stipulation enjoining defendants Jan. 17, 1964.

Reg. No. 533,023 (TILLAMOOK), Tillamook County Creamery Association, Cheese and butter, filed Jan. 24, 1964, D.C. Oreg. (Portland), Doc. 64–37, *Tillamook Cheese and Dairy Association* v. *Tillamook County Creamery Association et al.*

Reg. No. 554,885 (DURATITE AND DESIGN), Webb Products Company, Putties—namely, wood dough, seam compound, surfacing putty, etc., filed Mar. 14, 1963, D.C., S.D.N.Y., Doc. 63/726, *Dap, Inc.* v. *Production Paints & Coatings, Inc.* Stipulation and order of dismissal Jan. 20, 1964.

Reg. No. 541,441. (See Reg. No. 166,054.)

Reg. No. 574,747 (NYLONU in script), Samuel Pressner, doing business as American Brands Company, Household bleach, having incidental detergent properties, filed Jan. 24, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C–67, *Samuel S. Pressner* v. *Addy Sherwin.* Same, filed Jan. 24, 1964, D.C., S.D.N.Y., Doc. 64/261, *Samuel S. Pressner* v. *Heirs Publishing Co.*

Reg. No. 642,400 (SNONUTS AND DESIGN), Snonuts Company, Frozen confections—namely, ice cream shaped like a doughnut and disposed between two edible wafers, filed Nov. 19, 1960, D.C., E.D. Wash. (Spokane), Doc. 2015, *Floyd L. Gray et al.* v. *Arden Farms Company.* Action dismissed without prejudice Sept. 23, 1963.

Reg. No. 647,941. (See Reg. No. 201,694.)

Reg. No. 658,918. (See Reg. No. 201,694.)

Reg. No. 678,909 (JUPITER), General Export Company, Radio receivers, filed Jan. 23, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–93–CC, *General Export Co.* v. *Benjamin Ross et al.*

Reg. No. 679,458. (See Reg. No. 166,054.)

Reg. No. 686,048. (See Reg. No. 208,697.)

Reg. No. 707,656 (AMWAY), Amway Sales Corporation, Waxes and polishes, particularly furniture polishes and floor waxes; Reg. No. 716,135, same, Water purifying and softening apparatus; Reg. No. 716,672, same, Cleaners and cleaning compounds, specifically, abrasive and polishing cleaners; Reg. No. 724,666, same, All purpose cleaning concentrates, detergents and soaps in liquid, powder and solid form; Reg. No. 727,567, same, Bleaches and germicides; Reg. No. 728,656, same, Prefabricated survival shelters, particularly steel shelters designed for sub-surface installation; Reg. No. 732,666, same, Protective and decorative coatings—namely, an anti-soil coating material for rugs, upholstery, painted surfaces and draperies; Reg. No. 736,694, same, Fire extinguishers; Reg. No. 734,702, same, Clothing—namely, hosiery; Reg. No. 737,767, same, Cleaning and maintenance equipment—namely, rug and upholstery shampoo applicators, filed Dec. 31, 1963, D.C., E.D. Wis. (Milwaukee), Doc. 63–C–327, *Amway Sales Corporation* v. *Acme Chemical Co.*

Reg. No. 713,057 (NOUVELLE VIE), Jon Pierre Cosmetics, Inc., Skin conditioning cream, filed Dec. 8, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 30–613, *Jon Pierre Cosmetics, Inc.* v. *Frances Denney, Inc.* Stipulation of dismissal with prejudice Jan. 8, 1964.

Reg. No. 716,186. (See Reg. No. 707,656.)

Reg. No. 716,672. (See Reg. No. 707,656.)

Reg. No. 724,666. (See Reg. No. 707,656.)

Reg. No. 727,567. (See Reg. No. 707,656.)

Reg. No. 728,656. (See Reg. No. 166,054.)

Reg. No. 734,694. (See Reg. No. 707,656.)

Reg. No. 732,666. (See Reg. No. 707,656.)

Reg. No. 736,694. (See Reg. No. 707,656.)

Reg. No. 734,702. (See Reg. No. 707,656.)

Reg. No. 737,767. (See Reg. No. 707,656.)

Erratum

In the OFFICIAL GAZETTE, issue of June 2, 1964, under the heading "Trademark Suits," p. TM 2, column 2, lines 18 and 19, for "Purex Corporation, Ltd. v. Gold Seal Company." read *Gold Seal Company v. Purex Corporation, Ltd.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 180,030. Shell Oil Company, New York, N.Y. Filed Oct. 29, 1963.

ALDOMER

For Synthetic Resins.
First use Oct. 2, 1963.

SN 180,610. Rohm & Haas Company, Philadelphia, Pa. Filed Nov. 6, 1963.

OROBLEND

Owner of Reg. Nos. 501,227 and 766,933.
For Blends of Fibers.
First use on or about Aug. 5, 1963.

SN 180,938. Magie Decorator Company, St. Louis, Mo. Filed Nov. 12, 1963.

MAGNA-FLEX

For Pelletised Plastic Material Containing Magnetising Solids.
First use Oct. 26, 1963.

SN 180,974. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Nov. 12, 1963.

PACTENE

For Plastic Material in the Form of Blocks, Strips, Sheets and the Like, and Adapted To Be Made Up or Fabricated Into Machine Parts.
First use July 19, 1963.

SN 184,616. The Dow Chemical Company, Midland, Mich. Filed Jan. 15, 1964.

DORVON

Owner of Reg. No. 705,104.
For Synthetic Resins in the Expanded Form.
First use Nov. 8, 1963.

Class 2—Receptacles

SN 178,620. Menda Company, City of Industry, Calif. Filed Oct. 9, 1963.

LADY MENDA

For Empty Plastic Containers—Namely, Lotion Dispensers, Soap Dishes, Puff and Powder Boxes, Tumblers, Waste Baskets, Facial Tissue Dispensers, and Lipstick Caddies.
First use Aug. 22, 1963.

SN 178,626. Morgan & Company, Inc., Boston, Mass. Filed Oct. 9, 1963.

BUCKET BRIGADE

The word "Bucket" is disclaimed apart from the mark as shown.
For Ice Buckets.
First use on or about June 10, 1963.

SN 181,220. Diamond National Corporation, New York, N.Y. Filed Nov. 15, 1963.

POULTRYTAINER

Owner of Reg. No. 726,889.
For Pulp Trays.
First use Mar. 5, 1963.

SN 186,346. The Finn Industries, Inc., Chicago, Ill. Filed Feb. 10, 1964.



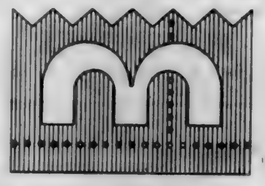
The mark comprises the letters "FI" and a block design.
For Paperboard Folding Cartons, Set-Up Boxes, Display Cards, and Folders.
First use Jan. 21, 1964.

SN 187,117. L'Air Liquide, Societe Anonyme Pour l'Etude et l'Exploitation des Procedes Georges Claude, Paris, France. Filed Feb. 20, 1964.



Owner of French Reg. No. 487,418, dated Apr. 8, 1960 (Paris); Natl. Inst. No. 142,566.
For Bottles and Containers for Storing Gas Under Pressure, Dissolved Gases and Liquified Gases Under Pressure or at Low Temperature.

SN 188,180. Moser Bag and Paper Company, Cleveland, Ohio. Filed Mar. 6, 1964.



The drawing is lined for the color red, but no claim is made to color as a part of the mark.
For Bags or Containers of Paper and/or Polyethylene.
First use May 1960.

SN 191,484. Paragon Oil Company, Inc., Long Island City, N.Y. Filed Apr. 17, 1964.

PAR-O-MATIC

For Expansion Water Tanks.
First use Aug. 12, 1963.

SN 192,405. Keyes Fibre Company, Waterville, Maine. Filed Apr. 30, 1964.

FINGER-PAK

The word "Pak" is disclaimed apart from the mark as shown.
For Packing Trays of Molded Pulp.
First use Mar. 21, 1964.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 188,635. A & L Seamon, Inc., Brooklyn, N.Y. Filed May 10, 1963.

BIG MIDGET

For Pass Cases.
First use Jan. 2, 1963.

SN 190,287. Schlesinger Brothers, Philadelphia, Pa. Filed Apr. 3, 1964.

PELANOVA

For Billfolds, Cigarette Cases, Key Cases, Card Cases, Letter Cases, Pocket Secretaries, Tobacco Pouches, Purses, Luggage, Brief Cases and Attaché Cases.
First use Feb. 13, 1964, on billfolds, letter cases, and key cases.

SN 190,354. Ever-Wear, Inc., Chicago, Ill. Filed Apr. 6, 1964.

EXECUTAIR

For Baggage, Including Carrier for Bar Equipment.
First use Apr. 20, 1963.

SN 190,446. U.S. Handbag Corporation, New York, N.Y. Filed Apr. 6, 1964.

BURLY TWIST

For Ladies' Handbags.
First use Jan. 28, 1964.

Class 4 — Abrasives and Polishing Materials

SN 182,070. "42" Products, Ltd. Inc., Santa Monica, Calif. Filed Nov. 20, 1963.

MANPOWER

For Polishing Wax for Use Upon Floors and Furniture.
First use Dec. 11, 1962.

Class 5 — Adhesives

SN 173,418. Geoffrey Forsythe Bogeaus, d.b.a. Stickum Tape Company, Los Angeles, Calif. Filed Apr. 6, 1964.

STICKUM-STIX

For Adhesive Tape.
First use July 8, 1963.

SN 179,894. General Gummed Products, Inc., Linden, N.J. Filed Oct. 28, 1963.

GGP KLEERFLEX

For Reinforced Gummed Tape.
First use June 7, 1963.

SN 182,886. Manifold Supplies Company, Brooklyn, N.Y. Filed Dec. 13, 1963.

DOO DAB

For Paste Pens.
First use Sept. 19, 1963.

Class 6 — Chemicals and Chemical Compositions

SN 121,819. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 12, 1961.

GY

Owner of Reg. Nos. 433,070, 724,936, and others.
For Dyes, Dyestuffs; Textile Chemical Specialties—Namely, Leveling Agents, Softening Agents, Whitening Agents; Agricultural Chemicals—Namely, Pesticides; and Industrial Chemicals—Namely, Chelating Agents, Surface-Active Compounds, Ultra-Violet Absorbers and Synthetic Waxes.
First use Nov. 15, 1960, on agricultural chemicals.

SN 187,385. Monsanto Chemical Company, St. Louis, Mo. Filed Nov. 16, 1962.

DEQUEST

For Deflocculation and Sequestration Agents.
First use Oct. 5, 1962.

SN 159,303. Terra Sphere Chemical, Inc., Fresno, Calif. Filed Dec. 17, 1962.

TSC

For Water Conditioning Chemicals for the Prevention of Rust and Scale—Namely, Calcium Carbonate, in Water Confining Tanks; for the Control of pH of Water in Such Tanks; and for the Control of Electrolytic Action in Such Confined Water.
First use July 19, 1962.

SN 163,271. The Pillsbury Company, Minneapolis, Minn. Filed Feb. 21, 1963.

GRID

For Insecticides.
First use Apr. 10, 1962.

SN 170,379. Continental Oil Company, Ponca City, Okla. Filed June 5, 1963.

NALKYLENE

For Alkylated Aromatic Hydrocarbons for Use as Chemical Intermediates in the Manufacture of Synthetic Detergents.
First use May 17, 1963.

SN 172,284. American Cyanamid Company, Wayne, N.J. Filed July 2, 1963.

SUR-TEN

For Wetting Agent for Agricultural Purposes.
First use June 19, 1963.

SN 174,096. F & M Scientific Corporation, Avondale, Pa. Filed July 31, 1963.

HALOPORT

For Fluorinated Resins for Use as a Solid Support in Gas Chromatographic Columns.
First use February 1960.

SN 175,614. Shell Oil Company, New York, N.Y. Filed Aug. 22, 1963.

AKTON

For Insecticide.
First use Aug. 14, 1963.

SN 180,889. Philip A. Hunt Chemical Corporation, Palisades Park, N.J., by merger from Philip A. Hunt Company, Palisades Park, N.J. Filed Nov. 12, 1963.

PRIME

For Etching Additive.
First use June 27, 1962.

SN 181,963. Corn Products Company, New York, N.Y. Filed Nov. 27, 1963.

FLEXIBLE

Owner of Reg. No. 68,523.
For Starch and Dextrines for Industrial Purposes.
First use at least as early as May 8, 1963; June 5, 1889, in a different form.

SN 182,036. American Cyanamid Company, Wayne, N.J. Filed Nov. 29, 1963.

CYCLE ONE

For Fabric Softener.
First use Nov. 7, 1963.

SN 182,044. Crompton & Knowles Corporation, Worcester, Mass. Filed Nov. 29, 1963.

SOL-AQUA-SET

For Resin Fixative for Dyes.
First use on or about Apr. 4, 1963.

SN 182,045. Crompton & Knowles Corporation, Worcester, Mass. Filed Nov. 29, 1963.

CENEGEN

For Leveling Agent for Dyes.
First use on or about Feb. 12, 1962.

SN 182,047. Crompton & Knowles Corporation, Worcester, Mass. Filed Nov. 29, 1963.

RESAMIDE

For Reserving Agent for Dyes.
First use on or about Feb. 19, 1963.

SN 182,066. Faultless Starch Company, Kansas City, Mo. Filed Nov. 29, 1963.

RHYTHM

For Sizing and Finishing Agent for Fabrics.
First use Nov. 11, 1963.

SN 167,118. L'Air Liquide, Societe Anonyme Pour l'Etude et l'Exploitation des Procedes Georges Claude, Paris, France. Filed Feb. 20, 1964.



Owner of French Reg. No. 487,418, dated Apr. 8, 1960 (Paris); Natl. Inst. No. 142,566.
For Chemical Products, in Particular, Ammonia, Flux and Chemical Preparations for Welding; Materials for Cleaning, Drying or Separation of Gases; Industrial Gases, in Particular, Hydrogen, Acetylene, Methane, Butane, Propane, Ethylene, Propylene, Oxygen, Ozone, Nitrogen, Argon, Helium, Rare Gases, Carbon Dioxide, Gas Mixtures; Medical Gases, in Particular, Oxygen, Nitrous Oxide and Cyclopropane; and Liquid Oxygen Explosives.

Class 7 — Cordage

SN 152,742. American Manufacturing Company, Inc., Brooklyn, N.Y. Filed Sept. 10, 1962.



The drawing is lined for shading purposes only. Owner of Reg. Nos. 109,054 and 683,106.
For Non-Metallic Strapping and Tying Materials and Accessories Therefor—Namely, Plastic Strapping, Buckles and Seals.
First use as early as June 18, 1962.

SN 186,468. Theron V. Moss, d.b.a. South Eastern Cordage, Cleveland, Ohio. Filed Feb. 11, 1964.



For Cordage.
First use at least as early as June 18, 1962.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 167,508. Transamerican Match Corporation, Englewood Cliffs, N.J. Filed Apr. 24, 1963.



Owner of Reg. No. 155,645.
For Matches.
First use October 1962; July 31, 1919, as to "Three Torches."

SN 182,723. Seymour M. Gluck, Far Rockaway, N.Y. Filed Dec. 10, 1963.



The representation of the outside of the book of matches is disclaimed apart from the mark as shown.
For Book Matches.
First use Oct. 2, 1963.

Class 10 — Fertilizers

SN 171,427. Bruno Minerals Co., Phoenix, Ariz. Filed June 20, 1963.

Meteorite

For Chelated Agricultural Mixtures of Essential and Trace Minerals.
First use Feb. 1, 1962.

SN 173,049. Scope Chemicals of Texas, Houston, Tex. Filed Sept. 24, 1963.



For Liquid Plant Food (Fertilizer).
First use Aug. 15, 1957.

Class 11 — Inks and Inking Materials

SN 142,610. The Carter's Ink Company, Cambridge, Mass. Filed Apr. 19, 1962.

X-PERT

For Carbon Paper and Typewriter Ribbon.
First use October 1957.

SN 186,199. Shoreline Rubber Stamps, Inc., Racine, Wis. Filed Feb. 6, 1964.



The drawing is lined for the color gold, but no claim is made to color.
For Rubber Stamps for Printing.
First use on or about Sept. 1, 1962.

Class 12 — Construction Materials

SN 180,747. Hong Kong Teakwood Products Company, Chicago, Ill. Filed Mar. 18, 1963.

KING TEAK

The word "Teak" is disclaimed apart from the mark as shown.
For Wood Paneling.
First use Sept. 1, 1961.

SN 154,874. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Oct. 10, 1962.

COREX

Owner of Reg. Nos. 524,582 and 688,758.
For Plastic Panels.
First use Jan. 19, 1959.

SN 163,674. Torginol of America, Inc., Huntington Park, Calif. Filed Feb. 28, 1963.

DURESQUE

For Synthetic Resin Mastic Surface Surface Composition With Decorative Chips for Floors, Walls, Counter Tops, and for All Like Uses.
First use May 1, 1962.

SN 166,467. Koppers Company, Inc., Pittsburgh, Pa. Filed Apr. 10, 1963.

CELLON

For Pressure Treated Wood.
First use Feb. 27, 1961.

SN 171,212. Wood Conversion Company, St. Paul, Minn. Filed June 17, 1963.

NU-GRID

Owner of Reg. Nos. 195,987 and 569,682.
For Ceiling Panel Suspension Systems and Parts Therefor.
First use Feb. 25, 1963.

SN 171,835. American Metal Climax, Inc., New York, N.Y. Filed June 26, 1963.

RAILCRAFT

For Railings and Railing Components, Including Rails, Posts, Balusters, Brackets, and Fittings.
First use in March 1959.

SN 172,462. C. & M. Goodall, Barton-under-Needwood, near Burton-upon-Trent, England. Filed July 5, 1963.

SWYF-TYTE

Owner of British Reg. Nos. 832,773, dated Mar. 30, 1962, and 839,864, dated Oct. 1, 1962.
For Metal and Wooden Fencing.

SN 174,392. Lifetime Bathtub Enclosures, Inc., Philadelphia, Pa. Filed Aug. 5, 1963.

Piv-otte

For Bath Tub Enclosures.
First use June 27, 1963.

SN 176,143. Basic Incorporated, Cleveland, Ohio. Filed Sept. 3, 1963.

HOT SHOT

For Granular Refractory Mix Having a Binder, Particularly Coal Tar Pitch.
First use July 24, 1963.

SN 176,460. The Loxcreen Company, Inc., Columbia, S.C. Filed Oct. 7, 1963.



The drawing is lined for green, but no claim is made to color as a regular part of the mark. The mark consists of the small letter "l" with a circle or "o," surrounding the crossing point of the legs on the "l," which spells "lox," or an abbreviation of our true name "Loxcreen."

For Packaged Aluminum Window Screens, Doors, Aluminum and Steel Rolled Forms, Aluminum and Steel Stampings, Aluminum Extrusions, Etc.
First use on or about Apr. 15, 1963.

SN 178,488. Southern Steel Company, San Antonio, Tex. Filed Oct. 7, 1963.

SOUTHERN STEEL CO.

For Steel Plate and Grating, and Shower Stalls.
First use Sept. 17, 1963.

SN 180,988. Master Pools, Inc., City of Industry, Calif. Filed Nov. 12, 1963.

MASTER POOLS

The word "Pools" is disclaimed apart from the mark.
For Swimming Pools.
First use Sept. 12, 1962.

SN 182,289. R-O-W Window Sales Company, Ferndale, Mich. Filed Dec. 3, 1963.

SELF-LOK
R·O·W
ROYAL CASEMENT

The words "Royal Casement" and "Self-Lok" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 561,787, 595,411, and others.
For Wood Casement Containing Automatic Sash Lock.
First use on or about Oct. 12, 1963.

SN 182,291. R-O-W Window Sales Company, Ferndale, Mich. Filed Dec. 3, 1963.

DUAL-DOR
R·O·W
WOOD PATIO DOOR

The words "Wood Patio Door" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 561,787, 595,411, and others.
For Sliding Glass Patio Doors Made With Wood.
First use on or about Oct. 8, 1963.

SN 184,343. Balsa Ecuador Lumber Corporation, New York, N.Y. Filed Jan. 10, 1964.

CERTIFIED KILNDRIED
D 100
BELCOBALSA

The words "Certified Kilndried" and the representation of the load of lumber are disclaimed apart from the mark as shown. Owner of Reg. Nos. 580,244 and 669,170.
For Lumber and End-Grain Panels.
First use July 1961.

SN 184,494. Nelson Bros., Inc., Chicago, Ill. Filed Jan. 13, 1964.

UNI-CURB

For Curbing for Roofs.
First use Dec. 10, 1963.

SN 184,617. The Dow Chemical Company, Midland, Mich. Filed Jan. 15, 1964.

DORVON

Owner of Reg. No. 705,104.
For Insulation.
First use Nov. 8, 1963.

SN 184,637. Bird & Son, Inc., East Walpole, Mass. Filed Jan. 16, 1964.

CENTALOK

For Plastic Siding.
First use Dec. 6, 1963.

SN 184,741. James P. Moore, St. Louis, Mo. Filed Jan. 16, 1964.

BUJITWALL

For Movable Wall Partitions.
First use Jan. 13, 1964.

SN 185,348. American Olean Tile Company, Inc., Lansdale, Pa. Filed Jan. 27, 1964.

MASTER-TRIM

For Ceramic Tile.
First use Oct. 18, 1963.

SN 185,469. Wheeling Corrugating Company, Wheeling, W. Va. Filed Jan. 27, 1964.

BARNMASTER

For Metal Roofing.
First use Jan. 10, 1964.

SN 192,504. Monsanto Company, St. Louis, Mo. Filed May 1, 1964.

Monsanto

For Portable Buildings.
First use at least as early as Mar. 30, 1963.

SN 192,506. Monsanto Company, St. Louis, Mo. Filed May 1, 1964.

MONSANTO

For Portable Buildings.
First use at least as early as Mar. 30, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 176,952. Reliance Manufacturing Company, New York, N.Y. Filed Sept. 13, 1963.

BIG YANK

Owner of Reg. Nos. 223,606, 784,960, and others.
For Zippers.
First use July 1, 1963.

SN 177,292. Reliance Manufacturing Company, New York, N.Y. Filed Sept. 18, 1963.

AMBLER

For Zippers.
First use July 1, 1963.

SN 179,261. The Salmon Stiles Corporation, El Monte, Calif. Filed Oct. 18, 1963.

AERO MARINE Equipped

No claim is made to the exclusive right to use "Marine" and "Equipped," but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Marine Hardware, Including In-Board Marine Equipment for Boats, and Struts, and Foot Assemblies.
First use Oct. 3, 1961.

SN 181,361. Jetty Tool Company, Houston, Tex. Filed Nov. 18, 1963.

JETTY

For Pipe Flanges and Other Special Pipe Fittings.
First use about August 1955.

SN 181,579. Veeder-Root Incorporated, d.b.a. Holo-Krome Company, West Hartford, Conn. Filed Nov. 20, 1963.

HOLO-KNURL

For Socket Set Screws.
First use Sept. 13, 1963.

SN 181,763. Chatleff Controls, Inc., Austin, Tex. Filed Nov. 22, 1963.

For Valves.
First use Oct. 23, 1963.

SN 184,509. Anchor Coupling Co., Inc., Libertyville, Ill. Filed Jan. 16, 1964.

Owner of Reg. No. 561,544.
For Industrial Hose, Pipe, Couplings, and Fittings.
First use on or about Apr. 17, 1963.

SN 185,560. Consolidated Spring Corp., Brooklyn, N.Y. Filed Jan. 20, 1964.

CORTEM

For Conductive Springs.
First use June 30, 1963.

SN 185,675. Harvey Hubbell, Incorporated, Bridgeport, Conn. Filed Jan. 20, 1964.

IT PAYS TO HAVE GOOD CONNECTIONS

Owner of Reg. Nos. 746,499 and 754,595.
For Cold Headed Fasteners—Namely, Screws, Machine Screws, Rivets and Special Fastening Devices.
First use about January 1956.

SN 185,696. Marquette Coppersmithing Company, Inc., Philadelphia, Pa. Filed Jan. 20, 1964.

OMEGA

For Toroidal Corrugated Metal Expansion Joints.
First use Dec. 1, 1943.

SN 185,697. Marquette Coppersmithing Company, Inc., Philadelphia, Pa. Filed Jan. 20, 1964.

MF MAR-FLEX

For Continuous Wave Corrugated Metal Expansion Joints.
First use Jan. 15, 1951.

SN 185,856. The Babcock & Wilcox Company, New York, N.Y. Filed Feb. 3, 1964.

STROLOY

For Metallic Tubes.
First use Nov. 22, 1963.

SN 185,862. The CW Manufacturing Company, Dallas, Tex. Filed Feb. 3, 1964.

CATCH-A-DRIP

For Leak-Proof Plumbing Receptacle.
First use in August 1958.

SN 186,114. Pipeco Steel Corporation, West Caldwell, N.J. Filed Feb. 5, 1964.

ULTRAWELD

For Welded Pipes.
First use January 1964.

SN 186,309. Desurik Corporation, Sartell, Minn. Filed Jan. 8, 1964.

DEZURIK

For Fluid Handling Equipment—Namely, Fluid Control Valves, Fluid Regulating Apparatus, Consistency Regulating Apparatus and Parts and Accessories for Said Equipment.
First use at least as early as May 3, 1945, on fluid control valves and fluid regulating apparatus.

SN 186,310. Desurik Corporation, Sartell, Minn. Filed Jan. 8, 1964.



For Fluid Handling Equipment—Namely, Fluid Control Valves, Fluid Regulating Apparatus, Consistency Regulating Apparatus, and Parts and Accessories for Said Equipment.
First use Dec. 23, 1960, on fluid control valves and fluid regulating apparatus.

Class 14—Metals and Metal Castings and Forgings

SN 186,908. Thompson Wire Company, Mattapan, Mass. Filed Feb. 17, 1964.

THOMPCO

For Flat Wire, Specialty Wire, and Strip and Tempered Spring Steel.
First use Dec. 6, 1962.

SN 186,914. Vereinigte Leichtmetall-Werke Gesellschaft mit beschrankter Haftung, Bonn, Germany. Filed Feb. 17, 1964.

MONALCELL

Owner of German Reg. No. 765,769, dated Sept. 25, 1962.
For Half-Finished Products of Aluminum or Aluminum Alloys—Namely, Sheet Metal and Compound Sheet Metal With Separating Elements Contained Therein in the Form of Heat-Resistant Bands; and Honey-Combed Half-Finished Products—Namely, Mats, Blocks, and Formed Parts of Aluminum or Aluminum Alloys.

SN 187,064. Anaconda American Brass Company, Waterbury, Conn. Filed Feb. 20, 1964.

LUBRIGRIP

For Sheet Metal Prepared for Press-Forming.
First use Nov. 8, 1963.

SN 187,726. Colvilles Limited, Glasgow, Scotland. Filed Mar. 2, 1964.

COLCREST

Owner of British Reg. No. 819,826, dated Apr. 22, 1961.
For Sheets, Plates, Bars, and Shaped Sections All of Common Metal.

Class 15—Oils and Greases

SN 181,522. Caterpillar Tractor Co., East Peoria, Ill. Filed Nov. 20, 1963.

CAT

Owner of Reg. Nos. 564,272 and 742,294.
For Anti-Seize and Sealing Lubricant.
First use before Nov. 27, 1962.

SN 187,783. V. Mueller & Company, Chicago, Ill. Filed Mar. 2, 1964.

LUBRITECT

For Rust-Prohibitor and Lubricant for Surgical Instruments.
First use on or before Dec. 19, 1963.

SN 188,379. Mac's Super Gloss Co., Inc., Los Angeles, Calif. Filed Mar. 10, 1964.

SCAM

For Additive for Automotive Motor Oil and Automatic Transmission Fluid.
First use May 1, 1963.

SN 188,586. Shell Oil Company, New York, N.Y. Filed Mar. 12, 1964.

BUDGET

For Motor Oil.
First use Dec. 11, 1963.

SN 188,601. F. W. Woolworth Co., New York, N.Y. Filed Mar. 12, 1964.



The words "Your Symbol of Quality" are disclaimed apart from the mark as shown.
For Candles.
First use Dec. 17, 1963.

Class 16—Protective and Decorative Coatings

SN 134,071. Acorn Chemical Company, Cleveland, Ohio. Filed Dec. 15, 1961.

GRIPTITE

For Asphalt and Asphalt Asbestos Based Protective Roof Coatings and Aluminized Protective Coatings, With and Without Colored Pigments for Roofing, Storage Tanks, Side Walls, and the Like.
First use Jan. 11, 1924.

SN 169,186. Carver H. Tripp, d.b.a. C. H. Tripp Finishing Co., La Jolla, Calif. Filed May 17, 1963.

Tone-'n-tique

For Finish Used on Furniture, Picture Frames, Paneling, and Cabinets To Produce an Antique Appearance.
First use Sept. 5, 1962.

SN 176,181. Muirhead & Co. Limited, Beckenham, Kent, England. Filed Oct. 1, 1963.

MUBLAK

Owner of British Reg. Nos. 831,136 and 831,137, dated Feb. 21, 1962.
For Heat Curable Stainless Steel Blacking Compound and Substances in the Nature of Paints, Pigments or of Colouring Matters, All for Imparting a Black Surface Finish to Stainless Steel.

Class 17—Tobacco Products

SN 162,593. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

SOCIALITE

For Cigars.
First use Nov. 19, 1963.

SN 162,594. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

MONA LISA

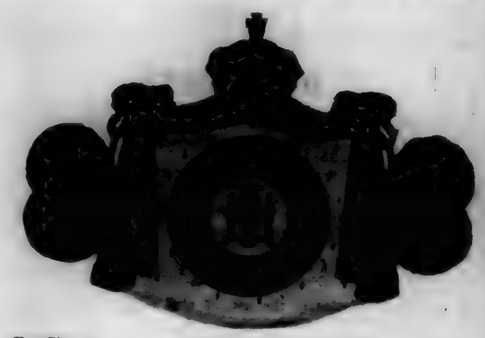
For Cigars.
First use Nov. 19, 1963.

SN 162,595. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

GUARDSMAN

For Cigars.
First use Nov. 19, 1963.

SN 163,413. Jamaica Tobacco Company Ltd., Half-Way-Tree, Jamaica, British West Indies. Filed Dec. 23, 1963.



For Cigars.
First use June 9, 1948; in commerce July 1950.

Class 18—Medicines and Pharmaceutical Preparations

SN 153,400. Jerry Georgas, d.b.a. Mathew Matsuni Laboratories, Washington, D.C. Filed Sept. 18, 1962.

MATHEW'S MATZUNI

The term "Matsuni" means "candy." The term "Matsuni" is disclaimed apart from the mark shown. Owner of Reg. Nos. 400,447, 415,362, and others.
For Medicine for the Relief of Dyspepsia, Constipation, and Stomach Disorders.
First use Sept. 28, 1942.

SN 172,947. Scott-Lee Laboratories, Inc., New Orleans, La. Filed July 12, 1963.

LEOTIC

For Antibiotic Eardrops.
First use Aug. 4, 1960.

SN 175,436. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed Aug. 20, 1963.

EMTRYMIX

Priority claimed under Sec. 44(d) on French Reg. No. 814,066, dated June 18, 1963 (Paris); Natl. Inst. No. 207,196.
For Medicinal Supplement Incorporated as an Ingredient in Animal Feeds.

SN 179,431. Kwik Veterinary Products, Inc., East Aurora, N.Y. Filed Oct. 21, 1963.



For Veterinary Preparations—Namely, Liniment and Tightener, Freeze and Paint.
First use in or about February 1951.

SN 182,619. Hi-G Inc., New York, N.Y. Filed Dec. 9, 1963.

HYGENETS

For Antiseptic Impregnated Sheets Used for Cleansing Body Parts.
First use Nov. 18, 1963.

SN 183,563. California Institutional Supply Co. Inc., Hollywood, Calif. Filed Dec. 26, 1963.

CIS POLY F

Applicant disclaims the use of the letter "F" as used in connection with the goods.
For Vitamins and Fluoride Drops.
First use on or about Sept. 15, 1963.

SN 183,565. California Institutional Supply Co. Inc., Hollywood, Calif. Filed Dec. 26, 1963.

CIS POLY F. TABS

Applicant disclaims the use of the letter "F" and the word "Tabs" as used in connection with the goods.
For Vitamins and Fluoride Chewable Tablets.
First use on or about Sept. 15, 1963.

SN 183,861. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed Dec. 31, 1963.

NEO-FLAGYL

Priority claimed under Sec. 44(d) on French Reg. No. 516,504, dated Oct. 17, 1963 (Paris); Natl. Inst. No. 213,155. Owner of U.S. Reg. No. 684,680.
For Pharmaceutical Composition for the Treatment of Genito-Urinary Infections.

SN 183,877. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Jan. 2, 1964.

EUPRACTONE

For Anticonvulsant.
First use Oct. 24, 1963.

SN 184,148. E. C. De Witt & Co., Inc., Chicago, Ill. Filed Jan. 7, 1964.

VANQULES

For Analgesic Preparation.
First use Dec. 6, 1963.

SN 184,433. Bristol-Myers Company, New York, N.Y. Filed Jan. 13, 1964.

AGREE

For Digestive Aid Tablet.
First use Aug. 15, 1963.

SN 193,429. Alberto-Culver Company, Melrose Park, Ill. Filed May 14, 1964.

ALTROL

For Preparation for the Relief of Allergy Symptoms.
First use Apr. 28, 1964.

Class 19—Vehicles

SN 179,363. The Salmon Stiles Corporation, El Monte, Calif. Filed Oct. 18, 1963.



No claim is made to the exclusive right to use "Marine" and "Equipped" but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Boats.
First use Oct. 8, 1961.

SN 180,189. Dura Corporation, d.b.a. Page & Page Co., Oak Park, Mich. Filed Oct. 31, 1963.



The term "Portland, Oregon" is disclaimed as being geographically descriptive.
For Heavy-Duty Automotive Trailers for Transporting Timber, Automobiles and Heavy Machinery; Car and Trailer Mounted Equipment for Mounting and Securing Automotive Trailers on Railroad Cars for Transport; and Truck and Trailer Suspension Systems.
First use October 1951.

SN 182,920. Armstrong Hydraulics, Inc., Chicago, Ill. Filed Dec. 13, 1963.

ADJUSTARIDE

For Shock Absorbers for Vehicles and Parts Thereof.
First use in March 1963.

SN 185,411. Hensley Mobile Homes, Inc., Arlington, Tex. Filed Jan. 27, 1964.

americana

For House Trailers.
First use Mar. 22, 1960.

SN 185,442. Regie Nationale des Usines Renault, Billancourt, Seine, France. Filed Jan. 27, 1964.

R.N.U.R.

Owner of French Reg. No. 515,124, dated July 30, 1963 (Seine); Natl. Inst. No. 210,005.
For Automobiles and Trucks, Including Bodies and Structural Parts.

SN 185,447. The Ryan Aeronautical Co., San Diego, Calif. Filed Jan. 27, 1964.

FLEEP

For Utility Airplane with a "Rogallo" Type Wing and a Body Suspended Below the Wing.
First use June 15, 1962.

SN 185,547. American Brake Shoe Company, New York, N.Y. Filed Jan. 29, 1964.

VIP

For Railroad Brake Shoes.
First use Dec. 28, 1963.

SN 185,548. American Brake Shoe Company, New York, N.Y. Filed Jan. 29, 1964.



For Railroad Brake Shoes.
First use Dec. 28, 1963.

SN 185,677. Inland Marine Corporation, Minneapolis, Minn. Filed Jan. 30, 1964.

SEABIRD

For Sailboats.
First use Nov. 20, 1962.

SN 185,678. Inland Marine Corporation, Minneapolis, Minn. Filed Jan. 30, 1964.

FIREBIRD

For Sailboats.
First use Nov. 20, 1962.

SN 185,749. Aktiebolaget Scania-Vabis, Sodertalje, Sweden. Filed Jan. 31, 1964.



Owner of Swedish Reg. No. 87,050, dated Apr. 30, 1959, and U.S. Reg. Nos. 687,840 and 688,722.
For Motorcars, Especially Trucks and Busses, and Parts Thereof.

SN 185,782. E. Lehnert & Sons, Incorporated, Baltimore, Md. Filed Jan. 31, 1964.



For Truck Bodies.
First use Sept. 1, 1954.

SN 185,847. American Parts Company, Inc., Houston, Tex. Filed Feb. 3, 1964.

"POWERIDE-LINE"

For Chassis Parts for Automobiles, Trucks and Similar Vehicles—Namely, Shock Absorbers, Bushings, Mountings, Brake Drums, Casters, Springs, Coil Springs, Bearings, Shims, Wheel Suspension Assemblies, Ball Joints, and Shackles, and Similar Parts.
First use 23, 1962.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 129,451. D. H. Baldwin Company, Cincinnati, Ohio, by change of name from The Baldwin Piano Company, Cincinnati, Ohio. Filed Oct. 9, 1961.

PANORAMIC TONE

Applicant disclaims the word "Tone" except in the association shown.
For Electro-Mechanical Apparatus for Imparting the Effects of Reverberation and Other Tonal Enhancement to Electrical Oscillations for Musical Purposes.
First use Aug. 12, 1961.

SN 152,103. Synchro-Start Products, Incorporated, Skokie, Ill. Filed Aug. 28, 1962.



For Automatic Engine Controls Including Overspeed Governors, Underspeed Governors, Starting Units, Engine Failure Alarm Sets, Speed Sensitive Switches, Oil Pressure Responsive Switches, Temperature Responsive Switches and Solenoids.

First use April 1955.

SN 153,284. V-M Corporation, Benton Harbor, Mich. Filed Sept. 14, 1962.

THE VOICE VM OF MUSIC

Owner of Reg. Nos. 683,593, 685,061, 756,442, and 756,443.

For Electrical-Mechanical Apparatus for Recording and/or Playing Audio and Electrical Signals and for Amplifiers, Speakers, and Tuners.

First use June 28, 1962, on electrical-mechanical apparatus for playing audio signals; July 29, 1955, as to "The Voice VM of Music," in a modified form on electrical-mechanical apparatus for playing audio signals; and May 1949 as to "VM."

SN 156,100. Electronic Molding Corporation, Pawtucket, R.I. Filed Oct. 29, 1962.

NURL-LOC

For Terminals and Test Jacks.

First use Dec. 4, 1961.

SN 156,977. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.

HOOVER

Owner of Reg. Nos. 165,890, 715,708, and others.

For Kit Containing Attachments for Converting a Floor Polisher to a Shampooing Unit.

First use Mar. 7, 1961.

SN 156,979. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.



Owner of Reg. Nos. 165,890, 715,708, and others.

For Kit Containing Attachments for Converting a Floor Polisher to a Shampooing Unit.

First use Mar. 7, 1961.

SN 164,567. Phelps Dodge Copper Products Corporation, New York, N.Y. Filed Mar. 13, 1963.

CDC

For Electrical Cables.

First use July 12, 1962.

SN 170,208. Nuclear Electronic Laboratories Incorporated, Walnut Creek, Calif. Filed June 3, 1963.

TRANS-NITION

For Electronic Ignition Systems.

First use October 1962.

SN 171,738. Anaconda Wire and Cable Company, New York, N.Y., by assignment and change of name from Anaconda Wire and Cable Company, Hastings-on-Hudson, N.Y. Filed June 25, 1963.

ANACAP

For High-Temperature Electrical Potting Compound.

First use May 23, 1963.

SN 171,739. Anaconda Wire and Cable Company, New York, N.Y., by assignment and change of name from Anaconda Wire and Cable Company, Hastings-on-Hudson, N.Y. Filed June 25, 1963.

ANAFLEX

For Electrical Insulating Sheet and Tape.

First use June 3, 1963.

SN 171,740. Anaconda Wire and Cable Company, New York, N.Y., by assignment and change of name from Anaconda Wire and Cable Company, Hastings-on-Hudson, N.Y. Filed June 25, 1963.

ANA-DUR

For Insulated Electrical Conductor.

First use May 23, 1963.

SN 172,434. Symphonic Electronic Corporation, New York, N.Y. Filed July 8, 1963.



Owner of Reg. Nos. 625,834 and 706,244.

For Radio Receiving Sets and Television Receiving Sets.

First use May 17, 1962.

SN 173,804. Weinschel Engineering Co., Inc., Gaithersburg, Md. Filed July 18, 1963.

BLUE LINE

For Electrical Attenuators, Particularly for Microwave Applications, and Electrical Coaxial Cable Terminations.
First use July 1, 1963.

SN 173,846. Altec Lansing Corporation, Anaheim, Calif. Filed July 22, 1963.

GIANT VOICE

The word "Voice" is disclaimed apart from the mark as a whole.
For Voice Projection System, Including Loudspeaker Drivers of the Type Used for Public Address and Announcing Systems.
First use Apr. 8, 1962.

SN 173,855. International Telephone and Telegraph Corporation, Chicago, Ill. Filed July 24, 1963.

KEL-O-RAD

For Portable Radio Communication Equipment.
First use on or before Nov. 30, 1962.

SN 174,412. Michigan Magnetics, Inc., Vermontville, Mich. Filed Aug. 5, 1963.

CHECKMATE

For Flight Information and Check List Recorder and Playback Instrument for Aircraft.
First use on or about June 19, 1963.

SN 175,082. Guillemin Networks Inc., Newton, Mass. Filed Aug. 14, 1963.

GUILLEMIN NETWORKS 

The word "Networks" is disclaimed apart from the mark as a whole.
For Electronic Networks for Use in Control Circuits and the Like.
First use in or about September 1962.

SN 176,327. The Superior Electric Company, Bristol, Conn. Filed Sept. 4, 1963.

SLO-SYN

Owner of Reg. No. 685,066.
For Preset Indexers for Electrically Controlling Indexing Operations of Other Apparatus.
First use Mar. 22, 1963.

SN 176,587. The Viking Corporation, Hastings, Mich. Filed Sept. 9, 1963.

VIKING

Owner of Reg. No. 190,589.
For Electrical Equipment Used in and as Part of Sprinkler Systems for Prevention and Control of Fires.
First use in or about October 1956.

SN 179,309. American Bosch Arma Corporation, Springfield, Mass. Filed Oct. 18, 1963.

PULSE-TRONIC

For Transistorized, Breakerless Ignition Systems for Internal Combustion Engines.
First use July 5, 1963.

SN 179,351. Ajax Magnethermic Corporation, Warren, Ohio. Filed Oct. 21, 1963.



The mark comprises the letters "AM" in symbolic design.
For Electrical Induction Heating and Melting Equipment Utilizing Electromagnetic Fields for Generating Currents Within a Workpiece.
First use Oct. 1, 1962.

SN 180,812. L'Eclairage des Vehicules Sur Rail, Paris, France. Filed Nov. 1, 1963.

STATODYNE

Owner of French Reg. Nos. 467,893, dated Mar. 28, 1957 (Seine); Natl. Inst. No. 97,423, and 472,886, dated Mar. 19, 1958 (Seine); Natl. Inst. No. 107,990.
For Electrical Motors and Generators, Current Generators, Alternator Dynamos; and Electrical Apparatus—Namely, Rectifiers, Amplifiers, Speed Regulators, and Relays.

SN 181,842. Essex Wire Corporation, Fort Wayne, Ind. Filed Nov. 18, 1963.

RBM

Owner of Reg. Nos. 418,351 and 703,856.
For Electrical Switches, Relays, Contactors, Solenoids, Coils, Voltage Regulators, Fuse Blocks, Resistors, Terminals and Sounders; Electric Blanket Controls; Electrical Motor

Starting Controls; Electrical Alarm Receiving and Signalling Units; Metal Enclosures and Panels for Use With Electrical Switches, Relays and Controls; Electrical Ignition Systems for Gas Burners and Their Parts—Namely, Electrical Igniters, Flame Detector Switches, and Safety Switch Controls.
First use May 6, 1947.

SN 182,187. Wonderland Creations, Los Angeles, Calif. Filed Nov. 29, 1962.

SMASHEROO LINE

For Novelty Table and Bar Lamps.
First use Oct. 14, 1962.

SN 182,959. Minneapolis Scientific Controls Corp., Minneapolis, Minn. Filed Dec. 18, 1962.

JET CONTROL

For Electric Insect Traps.
First use Nov. 6, 1962.

SN 185,502. The Electric Storage Battery Company, Philadelphia, Pa. Filed Jan. 28, 1964.

CHLORIVOLT

For Electric Batteries and Parts Thereof.
First use Dec. 27, 1962.

SN 191,425. Methode Electronics, Inc., Chicago, Ill. Filed Apr. 17, 1964.

PLYO-DUCT

For Multi-Conductor Electrical Cables and Fittings and Connectors Therefor.
First use May 28, 1958.
Subj. to Intf. with SN 179,875.

Class 22 — Games, Toys, and Sporting Goods

SN 126,693. Margarete Steiff GmbH, Giengen (Brenz), Wurttemberg, Germany. Filed Aug. 26, 1961.



Priority claimed under Sec. 44(d) on German application filed Mar. 2, 1961; Reg. No. 749,919, dated June 14, 1961. Owner of U.S. Reg. No. 759,547.
For Balloons for Children, Balloons for Advertising and Decorative Purposes, Model Aircraft for Playing, Advertising and Technical Purposes, and Toys.

SN 140,400. J. Swedlin, Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. Filed Mar. 21, 1962.

PUPPETETTES

For Hand Puppets, Dancing Puppets and Suspended Toys.
First use May 2, 1957.

SN 170,917. Alfred D. Lerner, Jamaica, N.Y. Filed June 13, 1963.

CATECHISM

For Equipment Sold as a Unit for Playing a Board Game.
First use May 23, 1963.

SN 171,625. Emenee Industries, Inc., New York, N.Y. Filed June 24, 1963.

ENLARG-A-GRAPH

For Toy Sketching Devices Including a Transparency Projector and a Translucent Tracing Screen on the Rear Surface of Which the Image Is Projected.
First use Apr. 4, 1963.

SN 171,786. Maria Perego Caldara, Milan, Italy. Filed June 25, 1963.



Owner of Italian Reg. No. 160,857, dated Jan. 18, 1962.
For Toys, Especially Animated and Nonanimated, Stuffed and Unstuffed, Inflatable and Rigid Dolls, Puppets and the Like Having Animal Configurations; Games and the Like Associated With Animated and Nonanimated Dolls, Puppets and the Like.

SN 174,069. Alfred Gembruch Sen., d.b.a. Alfred Gembruch Kommanditgesellschaft, Ludenscheid, Westphalia, Germany. Filed July 31, 1963.

ALGE-FLEXOFIX

Owner of German Reg. No. 769,134, dated Jan. 8, 1963.
For Ski Bindings.

SN 174,362. Girl Scouts of the United States of America, New York, N.Y. Filed Aug. 5, 1963.

ROUNDUP

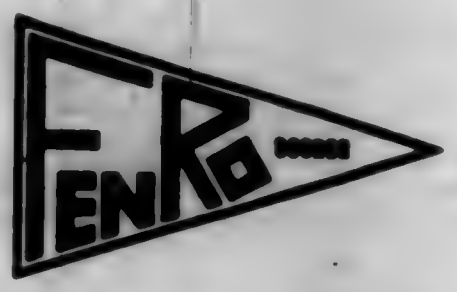
For Sleeping Tents.
First use June 12, 1963.

SN 174,262. Girl Scouts of the United States of America, New York, N.Y. Filed Aug. 5, 1963.

Girl Scout ROUNDUP

For Sleeping Tents.
First use June 12, 1963.

SN 174,856. Fenro Scorer Company, Amarillo, Tex. Filed Aug. 12, 1963.



No claim of exclusive right is made to "Scorer" for the goods recited.
For Bowling Score Projector Writing Surface and a Cleaning Solution for Such Surface.
First use Feb. 27, 1963.

SN 175,086. The American Athletic Equipment Co., Jefferson, Iowa. Filed Oct. 1, 1963.



The drawing is lined for red. Owner of Reg. Nos. 698,795 and 781,274.
For Athletic Equipment—Namely, Trampolines, Trampoline Roller Stands, Tumbling Belts, Side Horses, Parallel Bars, Horizontal Bars, Vaulting Buck, Gymnasium Mats, Balance Beams, Gymnastic Slippers, Isometric Contraction Bars, Horizontal Ladders, Hurdles, Obstacle Course Dodge Posts, Obstacle Course Crawling Tunnels, Obstacle Course Fences, Athletic Field Markers and Athletic Field Marking Paint.
First use Jan. 29, 1960, on trampolines.

SN 175,499. Sidney A. Tarreson Co., Chicago, Ill. Filed Oct. 7, 1963.

COMBAT

For Equipment Sold as a Unit for Playing an Electronic Controlled Table War Game.
First use Feb. 7, 1963.

SN 175,633. Bruce B. Mixon, Inc., Los Angeles, Calif. Filed Oct. 9, 1963.

MAXIMA CHAMELEON

For Fishing Line.
First use Aug. 10, 1963.

SN 179,287. Louis Kessler, d.b.a. Novelty Games Co., Brooklyn, N.Y. Filed Oct. 17, 1963.

WINOH

Owner of Reg. No. 322,290.
For Equipment Comprising Cards for Playing a Number Game.
First use June 1, 1940.

SN 184,578. Hilb Manufacturing Company, Denver, Colo. Filed Jan. 14, 1964.

VAIL

For Skis, Ski Bindings, Ski Poles, Ski Gloves, and Ski Straps.
First use Nov. 10, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 132,881. American Machine & Foundry Company, New York, N.Y. Filed Mar. 2, 1962.

VERSATRAN

For Electronically Controlled Automatic Transfer Devices and Machines Including Parts and Components Thereof.
First use Dec. 29, 1961.

SN 152,742. American Manufacturing Company, Inc., Brooklyn, N.Y. Filed Sept. 10, 1962.



The drawing is lined for shading purposes only. Owner of Reg. Nos. 109,054 and 683,106.
For Tools and Other Equipment for Applying and Dispensing Said Materials and Accessories—Namely, Strap Tensioning Tools and Equipment, Crimping Tools for Fastening Said Seals to Said Strapping, and Dispensers for Said Strapping.
First use at least as early as June 18, 1962.

SN 169,231. Greene Datatape, Incorporated, Richmond, Calif. Filed Dec. 17, 1962.

LETTERITER

For Electric Typewriters and Associated Apparatus for Operating Same From Tapes.
First use Sept. 2, 1962.

SN 163,862. Otis Elevator Company, New York, N.Y. Filed Mar. 4, 1963.

HI TAILER

For Industrial, Material Handling Trucks.
First use at least as early as November 1961.

SN 165,993. Culligan Soft Water Service of Pittsburgh, Inc., Pittsburgh, Pa. Filed Apr. 3, 1963.

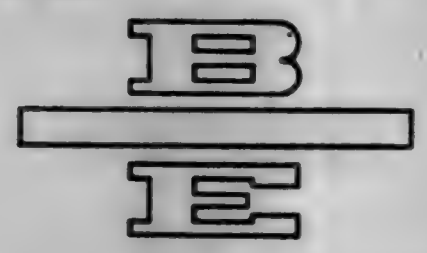


The mark is lined for the color red. The design of the tool, which is considered to be a descriptive representation thereof, is hereby disclaimed as being any part of the mark.

For Tool To Remove Unwanted Vegetation Such as Dandelion Plat or Thistle.

First use Mar. 22, 1963.

SN 168,803. Bucyrus-Erie Company, South Milwaukee, Wis. Filed May 14, 1963.



For Power Shovels, Cranes, Tower Cranes, Excavators, Drills, Attachments and Parts Therefor.

First use Apr. 30, 1962, on drills.

SN 169,236. Engis Equipment Company, Chicago, Ill. Filed May 20, 1963.

ABRA-CAPS

For Disposable Grinding and Finishing Cover for Rotary Tools and Bits.

First use Mar. 9, 1961.

SN 169,306. Wallace Mfg. Corp., West Springfield, Mass. Filed May 27, 1963.

POWER-LINK

For Hand Tools, Especially Garden Tools, Such as Shears, Pruners, and the Like.

First use Nov. 3, 1960.

SN 171,057. Wallace Mfg. Corp., West Springfield, Mass. Filed June 14, 1963.

POWER-LEVER

For Hand Tools, Especially Garden Tools, Such as Shears, Pruners, and the Like.

First use Apr. 16, 1963.

SN 171,954. Bell & Gossett Company, Morton Grove, Ill. Filed June 27, 1963.

TRASH HOG

For Pumps—Namely, Slurry, Sludge, or Silt Pumps.

First use May 23, 1963.

SN 172,406. Johnstone Corporation, d.b.a. Johnstone Supply, Portland, Oreg. Filed July 22, 1963.



The mark consists of the letter "J" in red located inside an equilateral triangle and the name "Johnstone" and the word "Supply," as shown beneath the triangle. The name "Johnstone" and the word "Supply" separately and apart from the mark are disclaimed.

For Replacement Parts, Including Bearings, Pipe Fittings, Valves, Gaskets, Drive Belts, and Fan Blades, for Common Household Appliances, Including Washing Machines, Dryers, and Refrigerators.

First use Apr. 15, 1963.

SN 175,510. Perma-Flex Industries Limited, Toronto, Ontario, Canada. Filed Aug. 21, 1963.

PERMATONE

Owner of Canadian Reg. No. 125,302, dated Feb. 2, 1962.

For Printing Rollers.

First use Nov. 15, 1961; in commerce Nov. 15, 1961.

SN 175,775. Millers Falls Company, Greenfield, Mass. Filed Aug. 26, 1963.



The drawing is lined to indicate the color red. The words "Quality Tools" are disclaimed apart from the mark as shown.

Owner of Reg. Nos. 156,709, 642,593, and others.

For Hand, Precision, Electric, Pneumatic, Hydraulic and Engine Driven Tools, Metal-Cutting Blades, Centrifugal Pumps, and Portable Compressors.

First use July 2, 1963.

SN 176,588. The Viking Corporation, Hastings, Mich. Filed Sept. 9, 1963.

VIKING

Owner of Reg. No. 190,589.

For Compressors for Use in and as Part of Sprinkler Systems and Mechanical Alarms.

First use in or about the year of 1926.

SN 178,195. The Huffman Manufacturing Company, Dayton, Ohio. Filed Oct. 2, 1963.

PURE-SPOUT

Owner of Reg. Nos. 543,888 and 551,427.
For Combination Can Opener and Pouring Spout.
First use January 1956.

SN 178,197. The Huffman Manufacturing Company, Dayton, Ohio. Filed Oct. 2, 1963.

HAN-D-GUARD

For Protective Tool for Removing Radiator Caps and the Like.
First use May 1959.

SN 178,198. The Huffman Manufacturing Company, Dayton, Ohio. Filed Oct. 2, 1963.

JUMBO

For Combination Container Opener and Pouring Spout.
First use February 1959.

SN 178,670. H. W. Bliss Company, Pittsburgh, Pa. Filed Oct. 10, 1963.



The drawing is lined for red and yellow.
For Hot Strip Mill Work Rolls.
First use on or about May 20, 1963.

SN 178,762. Acme Industrial Products, Inc., Madison Heights, Mich. Filed Oct. 11, 1963.



For Die Makers' Tools—Namely, Punches, Retainers, and Die Buttons.
First use in or about January 1948.

SN 179,248. Gordon W. Murrey and Charles D. Trown, Jr. (joint owners), Gardena, Calif. Filed Oct. 17, 1963.

KOOL TOOL

The word "Tool" is disclaimed apart from the balance of the mark.
For Radiator Cap Removal Tool.
First use Oct. 18, 1962.

SN 179,388. Haysen Manufacturing Company, Sheboygan, Wis. Filed Oct. 18, 1963.

EXPANDETTE

Owner of Reg. No. 740,564.
For Automatic Packaging Machines.
First use Sept. 17, 1963.

SN 179,389. Royal McBee Corporation, New York, N.Y. Filed Oct. 18, 1963.

JET

For Typewriting Machines and Parts Thereof.
First use Oct. 1, 1963.

SN 179,404. Eugene G. Danner Manufacturing, Inc., Brooklyn, N.Y. Filed Oct. 21, 1963.

DYNAMASTER

Owner of Reg. Nos. 726,587, 762,725, and others.
For Air Pumps for Aquariums.
First use February 1963.

SN 179,855. Asonic Products, Inc., Palos Heights, Ill. Filed Oct. 28, 1963.

WISKER DISK

For Wire Control Devices Comprising a Central Plate Having a Plurality of Generally Radially Extending Strands for Use With Spools of Wire in Maintaining Wire Drawn From the Spool Through the Strands Against Distortion.
First use Mar. 24, 1958.

SN 180,112. Mullins Manufacturing Corporation, Salem, Ohio. Filed Oct. 30, 1963.



The English equivalent of the German word "Gegrundet" is "founded." No claim is made to the word "Gegrundet" or the numerals "1834," other than in the mark as shown.
For Machinery for Chocolate Processing, Cocoa Liquor Mills, Millstone Dressing Machines, Emulsifiers, Paste Mixers, Screening Machines, Ink and Paint Machinery and Various Assorted Calenders and Mills for Grinding, Pulverizing and Processing Various Ingredients.
First use on or about Apr. 30, 1963.

SN 180,283. Century Laboratories Inc., Newark, N.J. Filed Nov. 1, 1963.

CENTURY

For Razor Blades.
First use Oct. 8, 1963.

SN 182,158. Auto-Transcript Institute, Inc., Gainesville, Fla. Filed Dec. 2, 1963.

Type-a-Matic

For Power Operated Typewriters, Punch Units for Producing Code-Punched Record Media and Reader Units for Reading Media, Printing Machines Automatically Controlled by Information Read From Code-Punched Record Media, Punched-Code Converters and Reconverters, Punched-Code Distributor and Collector Units, Verifying Typewriters, Auxiliary Equipment and Supply Materials for Use With Any of the Foregoing.
First use August 1962.

SN 183,273. Casalbi Company, Jackson, Mich. Filed Dec. 23, 1963.

GLOBE

For Metal Finishing Tumbling Machines.
First use Nov. 9, 1934.

SN 183,433. Maschinenfabrik Rieter A.G., Winterthur, Switzerland. Filed Dec. 23, 1963.

KAROUSEL

Owner of Swiss Reg. No. 190,386, dated Feb. 20, 1963.
For Machines and Auxiliary Machines for Spinning Mills.
First use Feb. 20, 1962; in commerce January 1963.

SN 184,810. The Globe Tool & Engineering Company, Dayton, Ohio. Filed Jan. 17, 1964.

GLOBE

Owner of Reg. Nos. 509,076 and 636,400.
For Coil Winding Machines, Armature Winding Machines, and Component Parts Thereof.
First use 1934 on coil winding machines.

SN 184,922. Karl William Hoehn, Red Deer, Alberta, Canada. Filed Jan. 20, 1964.

FUEL-O-MATIC

Owner of Canadian Reg. No. 183,036, dated Oct. 11, 1963.
For Regulating Valve for Use in the Fuel Line of an Engine.

SN 185,164. Sonic Engineering Corporation, Norwalk, Conn. Filed Jan. 23, 1964.

Sonic

Owner of Reg. No. 760,583.
For Pumps.
First use in about April 1957.

SN 185,171. Van Brode Milling Co., Inc., Clinton, Mass. Filed Jan. 22, 1964.

PARAGON

For Molded Articles of Plastic Composition—Namely, Knives, Forks, and Spoons.
First use Oct. 22, 1963.

SN 185,436. Omaha Steel Works, Omaha, Nebr. Filed Jan. 27, 1964.

OMSTEEL

Owner of Reg. No. 653,740.
For Heavy Machinery—Namely, Snow Plows, Snow Wings, Shoulder Finishers, Bulldozers, Road Planers and Levelers, Blade-Gates, and Boomcasters.
First use at least as early as December 1962.

SN 185,598. The Hobart Manufacturing Company, Troy, Ohio. Filed Jan. 29, 1964.

CHLORITIZER

For Apparatus for Automatically Adding Chemicals to the Water in a Dishwashing Machine.
First use Dec. 6, 1962.

SN 185,708. Oversewing Machine Company of America, Medford, Mass. Filed Jan. 30, 1964.

OMCOA

For Bookbinding Products, Equipment and Machinery.
First use in April 1957.

SN 185,723. The Seeburg Corporation, Chicago, Ill. Filed Jan. 30, 1964.

PICK-A-PAC

For Vending Machines.
First use on or about Jan. 10, 1964.

SN 185,900. Johnson-Fagg, Inc., Tulsa, Okla. Filed Feb. 3, 1964.

LITTLE GIANT

Owner of Reg. No. 580,230.
For Pumping T's, Polished Rod Liners and Liner Heads, Stuffing Boxes and Stuffing Box Packing, and Hard-Surfaced Polished Rods.
First use June 1954 on pumping T's.

SN 185,911. The M. T. & D. Company, Cleveland, Ohio Filed Feb. 3, 1964.

LAWNFLITE

Owner of Reg. No. 676,666.
For Lawn-Mowers, Hand and Power-Driven.
First use July 1, 1958.

SN 186,277. Harold T. Prebasco, d.b.a. Harby Industries, Van Nuys, Calif. Filed Feb. 7, 1964.

KING KOIN

For Coin-Operated Vending Machines.
First use Apr. 24, 1963.

SN 186,872. Mastabar Mining Equipment Co., Limited, Marfleet, Hull, England. Filed Feb. 10, 1964.

PATHFINDER

Owner of British Reg. No. 764,842, dated Apr. 27, 1957.
For Hydraulically Operated Pit Props of Metal.

SN 186,381. Morehead Mills, Inc., Spray, N.C. Filed Feb. 10, 1964.

UNIT-SPIN

Owner of Reg. No. 751,905.
For Textile Fiber Processing Machinery.
First use on or about Jan. 15, 1964.

SN 186,382. Morey Machinery Co., Inc., New York, N.Y. Filed Feb. 10, 1964.

HERCULES AJAX

Owner of Reg. No. 670,194.
For Lathes.
First use in June 1963.

SN 187,180. Cyclo Floor Machine Corporation, Newark, N.J. Filed Feb. 21, 1964.

HM

For Electrical Polishing Machines.
First use Jan. 10, 1964.

SN 187,211. Royal McBee Corporation, New York, N.Y. Filed Feb. 21, 1964.

JUBILEE

For Typewriters and Parts Thereof.
First use Feb. 11, 1964.

SN 187,212. Royal McBee Corporation, New York, N.Y. Filed Feb. 21, 1964.

WINDSOR

For Typewriters and Parts Thereof.
First use Feb. 13, 1964.

SN 187,284. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Feb. 24, 1964.

SPRA-BOY

Owner of Reg. No. 637,667.
For Sprayers and Applicators for Dispensing or Distributing Insecticides, Fungicides, Pesticides, Weed Killers, Fertilizers, and the Like.
First use Jan. 14, 1964.

SN 187,467. Barry Wright Corporation, Watertown, Mass. Filed Feb. 26, 1964.

BARRY B CONTROLS

No claim is made to the word "Controls" apart from the mark as shown. Owner of Reg. Nos. 587,542, 608,702, and 618,146.
For Vibration, Shock, and/or Sound Absorption Mountings for Minimizing and/or Isolating the Effects of the Same.
First use Jan. 3, 1964.

SN 187,482. Dahlgren Manufacturing Company, Inc., Dallas, Tex. Filed Feb. 26, 1964.

DAHLGREN

For Dampeners for Lithographic Offset Printing Presses.
First use Sept. 12, 1958.

SN 187,885. The Warner & Swasey Company, Cleveland, Ohio. Filed Mar. 2, 1964.

2-MC

For Lathes.
First use Sept. 6, 1960.

SN 187,951. Berlex Carton Company, Inc., New York, N.Y. Filed Mar. 3, 1964.

ENVO-PAK

For Gluing and Sealing Machines.
First use Feb. 20, 1964.

SN 187,972. Krakmaster, Inc., St. Paul, Minn. Filed Mar. 3, 1964.

KRAKMASTER

For Tool for Filling of Cracks in Plaster Walls and Ceilings.
First use Aug. 28, 1956.

SN 187,921. The Forgrove Machinery Company Limited, Leeds, England. Filed Mar. 4, 1964.

FLOWPAK

Owner of British Reg. No. B766,444, dated June 11, 1957.
For Wrapping and Packaging Machines and Parts Thereof.

SN 188,033. Royal McBee Corporation, New York, N.Y. Filed Mar. 5, 1964.

HERALD

For Typewriters and Parts Thereof.
First use Feb. 4, 1964.

SN 188,242. Iri Daffin Associates, Incorporated, Lancaster, Pa. Filed Mar. 9, 1964.

ASTROPELLETER

For Pelleting Machine.
First use Jan. 21, 1964.

SN 188,258. Marquette Tool and Die Company, St. Louis, Mo. Filed Mar. 9, 1964.

MARQUAY

For Transmissions for Gasoline Driven Vehicles.
First use Feb. 15, 1964.

Class 24 — Laundry Appliances and Machines

SN 158,937. The Proctor-Silex Corporation, Philadelphia, Pa. Filed Dec. 11, 1962.

PROCTOR

Owner of Reg. No. 696,024.
For Ironing Tables, Ironing Table Pads and Covers.
First use in August 1949.

SN 181,044. Steam Sales & Service Co., Los Angeles, Calif., assignee of Walter Klein, d.b.a. Walter Klein Co., Los Angeles, Calif. Filed Nov. 13, 1963.

WONDER-FLO

For Automatic Feed Apparatus for Steam Iron.
First use on or before June 22, 1953.

SN 187,716. Ametek, Inc., East Moline, Ill. Filed Mar. 2, 1964.

WXC

Owner of Reg. No. 692,280.
For Laundry Washing Machines.
First use Jan. 21, 1964.

Class 25 — Locks and Safes

SN 178,498. Southern Steel Company, San Antonio, Tex. Filed Oct. 7, 1963.

SOUTHERN STEEL CO.

For Locking Systems and Keys and Locks.
First use Sept. 17, 1963.

Class 26 — Measuring and Scientific Appliances

SN 127,875. Joh. A. Benckiser GmbH Chemische Fabrik, Ludwigshafen (Rhine), Germany. Filed Sept. 7, 1961.

SELECTOMAT

Owner of German Reg. No. 742,171, dated Nov. 8, 1960.
For Dosing Apparatus for Controlling Proportions of Water Mixed With Solid Chemicals for Water Treatment.

SN 137,204. American Cryogenics, Inc., South San Francisco, Calif. Filed Feb. 5, 1962.

ACROMETER

For Fluid Flowmeters and Pressure Regulators and Parts Thereof.
First use on or about Nov. 24, 1961.

SN 150,277. Picker X-Ray Corporation, White Plains, N.Y. Filed Dec. 17, 1962.

SPECTROSCALER

For Radiation Detectors.
First use Dec. 1, 1959.

SN 165,569. Botany Industries, Inc., d.b.a. Renauld of France and/or Sea and Ski Company, Reno, Nev. Filed Mar. 29, 1963.

R

For Sun Glasses.
First use about May 1, 1962.

SN 166,797. Lockey Laboratories, Inc., San Bernardino, Calif. Filed Apr. 1, 1963.

Mōbat.

For Devices for Detecting the Presence of Alcohol.
First use Apr. 5, 1963.

SN 171,485. Rochester Gauges, Inc. of Texas, Dallas, Tex. Filed June 20, 1963.

TWIN SITE

For Liquid Level Gauges of the Remote Indicating Type.
First use Apr. 15, 1963.

SN 171,853. Communication Papers Inc., Moosic, Pa. Filed June 26, 1963.

CPI

For Electrosensitive Recording Paper.
First use Apr. 24, 1963.

SN 172,941. Jerome A. Rodder, d.b.a. Microtech Services Company, Los Altos, Calif. Filed July 1, 1963.

VACRAC

For Platforms for Supporting Laboratory Equipment, Such as Vacuum Flasks.
First use May 8, 1963.

SN 174,592. La Spirotechnique, Paris, France. Filed Aug. 7, 1963.

MISTRAL

Owner of French Reg. No. 452,524, dated Aug. 25, 1955 (Seine); Natl. Inst. No. 61,145.
For Underwater Breathing Apparatus, Pressure Regulators, Demand Valve Regulators for Underwater Breathing Apparatus, Etc.

SN 178,862. Irving P. Filderman, Memphis, Tenn. Filed Oct. 7, 1963.

NODEMA

For Contact Lenses.
First use Sept. 25, 1963.

SN 178,962. Opto-Electronic Devices, Inc., Mountain View, Calif. Filed Oct. 14, 1963.

OED

Owner of Reg. No. 749,845.
For Photoelectric Devices.
First use Nov. 18, 1962.

SN 181,179. Reeves Industries, Inc., New York, N.Y. Filed Nov. 14, 1963.

REEVES DRY COPY

Applicant hereby disclaims the words "Dry Copy" apart from the mark as shown.
For Photo Copying Apparatus.
First use July 15, 1963.

SN 181,199. Spex Industries, Inc., Metuchen, N.J. Filed Nov. 1, 1963.

Lazyprobe

For Spark Sampler for Metal Analysis.
First use Oct. 12, 1963.

SN 181,342. Essex Wire Corporation, Fort Wayne, Ind. Filed Nov. 15, 1963.

RBM

Owner of Reg. Nos. 418,851 and 703,856.
For Electrical Time Delay Controls; Electrical Thermal and Current Overload Controls for Protecting Electrical Equipment; Electrical Thermostatic Switches and Controls; and Electrical Telemetric Apparatus, Particularly Remote Station Metering and Signalling Equipment and Central Station Receiving and Recording Equipment.
First use May 6, 1947.

SN 183,089. Digitronics Corporation, Albertson, N.Y. Filed Dec. 16, 1963.

DATA-VERTER

For Data Processing Apparatus and Component Parts Thereof.
First use Oct. 16, 1963.

SN 183,416. Laboratory Furniture Company, Inc., Mineola, N.Y. Filed Dec. 23, 1963.

PLANTORIUM

For Controlled Environment Laboratory.
First use Oct. 30, 1963.

SN 183,468. Savin Business Machines Corporation, New York, N.Y. Filed Dec. 23, 1963.

SAHARA

For Photocopy Machines.
First use Nov. 20, 1963.

SN 183,732. Botany Industries, Inc., d.b.a. Sea and Ski Company, Reno, Nev. Filed Dec. 30, 1963.

SEA & SKI

For Portable Battery Powered Image Projectors.
First use Oct. 8, 1963.

SN 183,733. Botany Industries, Inc., d.b.a. Sea and Ski Company, Reno, Nev. Filed Dec. 30, 1963.

MAGIC LANTERN

For Portable Battery Powered Image Projectors.
First use Oct. 8, 1963.

SN 183,804. Spiratone, Inc., Flushing, N.Y. Filed Dec. 30, 1963.

DIAMATIC

For Photographic Lenses and the Containers in Which They Are Sold.
First use Nov. 15, 1963.

SN 184,341. B-D Laboratories, West Chester, Pa. Filed Jan. 10, 1964.

RODAC

For Sterile Plastic Culture Dishes.
First use on or about Feb. 20, 1963.

SN 184,373. General Precision, Inc., Tarrytown, N.Y. Filed Jan. 10, 1964.

TALAR

For Radar Landing and Approach Systems.
First use Apr. 1, 1963.

SN 184,888. Comptone Company, Ltd., New York, N.Y. Filed Jan. 20, 1964.

OPTI-GUARD

For Eye Glasses, Sun Glasses, Spectacles, Frames and Parts Thereof, Including Lenses.
First use Dec. 23, 1963.

SN 184,890. Comptone Company, Ltd., New York, N.Y. Filed Jan. 20, 1964.

TEEN STARS

For Eye Glasses, Sun Glasses, Spectacles, Frames and Parts Thereof, Including Lenses.
First use Dec. 23, 1963.

SN 184,892. Comptone Company, Ltd., New York, N.Y. Filed Jan. 20, 1964.

SUN AND SKY

For Eye Glasses, Sun Glasses, Spectacles, Frames and Parts Thereof, Including Lenses.
First use Dec. 23, 1963.

SN 185,415. John Merrishaw Hoyte, d.b.a. Spectrex Company, Palo Alto, Calif. Filed Jan. 27, 1964.

SPECTREX

For Spectroscopes.
First use Jan. 4, 1964.

Class 27 — Horological Instruments

SN 153,704. The Western Union Telegraph Company, New York, N.Y. Filed Sept. 21, 1962.

Sport Timer

For Clocks.
First use Oct. 20, 1934.

SN 153,707. The Western Union Telegraph Company, New York, N.Y. Filed Sept. 21, 1962.

Sport Timer
A WESTERN UNION SERVICE

For the purpose of this registration the words "A," and "Service" are disclaimed apart from the mark as shown.
For Clocks.
First use Oct. 20, 1934.

SN 185,649. Bulova Watch Company, Inc., Flushing, N.Y. Filed Jan. 30, 1964.

TIME BUDS

The exclusive use of the term "Time" as shown is disclaimed apart from the mark as a whole.
For Watches.
First use Jan. 15, 1964.

SN 185,650. Bulova Watch Company, Inc., Flushing, N.Y. Filed Jan. 30, 1964.

TIME FLOWERS

The exclusive use of the term "Time" as shown is disclaimed apart from the mark as a whole.
For Watches.
First use Jan. 15, 1964.

Class 28 — Jewelry and Precious-Metal Ware

SN 172,290. College Seal and Crest Company, Cambridge, Mass. Filed July 2, 1963.

18+

For Finger Rings, Charms, Emblems and Other Jewelry and Novelty Items Made Wholly or in Part of, or Plated With, Precious Metal; and Sterling Silver Flatware and Holloware.
First use May 3, 1962.

SN 180,245. D. Swarovski & Co., Glasschleiferei, Wattens, Tyrol, Austria. Filed Oct. 31, 1963.

PAGODA

Priority claimed under Sec. 44(d) on Austrian application filed June 11, 1963; Reg. No. 50,666, dated July 30, 1963.
For Genuine and Imitation Gems.
First use June 17, 1963; in commerce June 17, 1963.

SN 187,454. Leonard Krower & Son, Inc., New Orleans, La. Filed Feb. 18, 1964.

LK&S

For Jewelry.
First use Jan. 3, 1963.

SN 187,491. HMH Publishing Co., Inc., Chicago, Ill. Filed Feb. 26, 1964.

PLAYMATE

For Bracelets, Ankle Bracelets, Earrings, Bracelet and Earring Sets, Pins, Necklaces, Charms, Key Chains and Pendants.
First use on or about Jan. 22, 1964, on pins.

SN 187,971. Edward D. Sultan Co., Ltd., Honolulu, Hawaii. Filed Mar. 4, 1964.

SULTAN

Owner of Reg. No. 418,278.
For Gold, Silver and Other Metal Charms and Rings.
First use Sept. 5, 1950.

SN 190,742. Nomo Products, Inc., Johnston, R.I. Filed Apr. 9, 1964.

PETITE LOOK

For Jewelry.
First use on or about Mar. 11, 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 175,280. The Drackett Company, Cincinnati, Ohio. Filed Aug. 19, 1963.

TROPHY

For Mops and Brooms.
First use Aug. 8, 1963.

SN 186,790. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 31, 1964.

SOFF

For Absorbent Textile Wipes for Body Care, Cosmetic Use, and General Use.
First use Jan. 9, 1964.

SN 186,468. Theron V. Moss, d.b.a. South Eastern Cordage, Cleveland, Ohio. Filed Feb. 11, 1964.

SECO

For Mop Heads.
First use Feb. 8, 1964.

SN 187,144. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Feb. 20, 1964.

PROFILE

Owner of Reg. Nos. 249,120, 562,833, and others.
For Toothbrushes.
First use Jan. 21, 1964.

SN 188,087. The Drackett Company, Cincinnati, Ohio. Filed Mar. 6, 1964.

TULOK

For Sponge Mop Fastening Device.
First use Feb. 26, 1964.

Class 30 — Crockery, Earthenware, and Porcelain

SN 184,754. Our Own Import, Inc., Carteret, N.J. Filed Nov. 6, 1963.

OUR OWN IMPORT

For Giftware and Housewares—Namely, Ceramic Vases, Planters, Egg Dishes, Hors d'Oeuvres Dishes, Salad Bowls, Tid Bit Sets, Beverage Sets, Dinner Sets, Snack Sets, Cheese Sets, Butter Dishes, Drinking Mugs, Serving Trays, Butter Melters, Corn Servers, Coasters, Tea Pots, Ashtrays, Measuring Sets, Banks, Candy Jars, Candy Dishes, Match Holders, Pencil Holders, Jam Jars, Bathroom Jars, Condiment Jars, Salt and Pepper Shakers and Sets, Gravy Ladles, Spoon Rests and Holders, Shaving Mirrors Having Ceramic Stands, Candle Holders, Toothpick Holders, Canister Sets, Ceramic Serving Pieces and Tableware, and Ceramic Wall Plates.
First use Sept. 15, 1963.

Class 31 — Filters and Refrigerators

SN 175,760. Yao Denki Kabushiki Kaisha, Kawasaki, Japan. Filed Aug. 26, 1963.

The present trademark is an original and new design symbolizing the letter "G." Owner of Japanese Reg. No. 597,798, dated Sept. 25, 1962.
For Electric Refrigerators and Water Coolers.
First use May 27, 1961.

Class 32 — Furniture and Upholstery

SN 184,874. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Oct. 10, 1963.

COREX

Owner of Reg. Nos. 534,533 and 688,758.
For Desk Tops and Countertops.
First use Jan. 19, 1959.

SN 158,721. Naito Iron Works, Ltd., Arakawa-ku, Tokyo, Japan. Filed Oct. 7, 1963.

ELECOMPACK

Owner of Japanese Reg. No. 619,352, dated June 28, 1963.
For Shiftable Stack Assemblies—Namely, Shelves, Bins, Racks and the Like Movable in Fixed Paths.

SN 178,493. Southern Steel Company, San Antonio, Tex. Filed Oct. 7, 1963.

SOUTHERN STEEL CO.

For Benches and Steel Plate Tables.
First use Sept. 17, 1963.

SN 184,434. Mattress Specialists, Inc., New York, N.Y. Filed Jan. 13, 1964.

GOLDEN LINE

For Mattresses.
First use Nov. 25, 1963.

SN 184,876. Beauty Bright Products, Inc., New York, N.Y. Filed Jan. 20, 1964.

BEAUTY BRIGHT

For Illuminated Makeup Mirror.
First use Dec. 4, 1963.

SN 184,969. Rusco Industries, Inc., Bedford Heights, Ohio. Filed Jan. 20, 1964.

SPIRO-SPRING

For Beds.
First use Jan. 2, 1955.

Class 33 — Glassware

SN 149,518. American Heritage Industries, Waterloo, Iowa. Filed July 22, 1962.

Silver HERITAGE

The word "Silver" is disclaimed apart from its association with the entire mark.
For Silver Trimmed Glassware—Namely, Tumblers, Compotes, Martini Sets, Cake Sets, Cream and Sugar Serving Sets, Mayonnaise Sets, Gravy Sets, Candy Jars, Brandy Snifters and Chip and Dip Serving Pieces.
First use Jan. 5, 1962.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 177,602. The Arbee Corporation, d.b.a. Manheim Manufacturing and Belting Company, Manheim, Pa. Filed Sept. 24, 1963.

TWISTLINK

For V-Link Belting.
First use Aug. 13, 1962.

SN 185,635. United States Rubber Company, New York, N.Y. Filed Jan. 29, 1964.

4 STAR ★★★★ TUBES

Applicant makes no claim to the word "Tubes" apart from the mark as shown.
For Inner Tubes for Pneumatic Tires.
First use Dec. 18, 1963.

SN 185,662. Andrew Fisher Cycle Co., Inc., New York, N.Y. Filed Jan. 30, 1964.

PARAGON

For Bicycle Tires and Tubes.
First use Nov. 1, 1963.

Class 36 — Musical Instruments and Supplies

SN 140,695. Horizon Records, Inc., Los Angeles, Calif. Filed Mar. 26, 1962.

HORIZON RECORDS

Applicant disclaims the word "Records" in its application.
For Grooved Phonograph Records.
First use Mar. 18, 1962.

SN 144,215. Avedis Zildjian Co., Quincy, Mass. Filed May 9, 1962.

AVEDIS ZILDJIAN CO.

The English translation of the Turkish characters appearing on the drawing is "Avedis Zildjian Co." Owner of Reg. No. 296,179.
For Gongs.
First use in or about 1944.

SN 166,868. Capitol Records, Inc., Los Angeles, Calif. Filed Apr. 17, 1963.



No claim is made to the word "Classics" apart from the other features of the mark. Owner of Reg. No. 621,325.
For Phonograph Records.
First use Mar. 4, 1963.

SN 172,434. Symphonic Electronic Corporation, New York, N.Y. Filed July 8, 1963.



Owner of Reg. Nos. 525,884 and 706,244.
For Manual and Automatic Phonographs and Tape Recorders.
First use May 17, 1962.

SN 181,592. Carl Fischer Musical Instrument Co., Inc., New York, N.Y., assignee of Schreiber & Sohne, Nauheim, Germany. Filed Nov. 21, 1963.



Applicant disclaims the wording "Made in Germany" and "Nauheim b. Gross-Gerau."
For Bassoons and Clarinets.
First use 1946; in commerce 1946.

Class 37 — Paper and Stationery

SN 167,265. The Interstate Folding Box Company, Middletown, Ohio. Filed Apr. 22, 1963.

GLOSSCOAT

Owner of Reg. No. 682,337.
For Paperboard Having a Pre-Cast Mineral-Adhesive Layer Adhered to a Surface Thereof.
First use June 12, 1962.

SN 171,097. Crandon Paper Mills, Inc., Chicago, Ill. Filed June 17, 1963.

WEATHERITE

For Semi-Chemical Paper Known as Corrugating Medium.
First use on or about June 21, 1962.

SN 171,599. Samuel A. Aiser, New York, N.Y. Filed June 24, 1963.

PEEL 'N STIC

For Wallpaper.
First use May 14, 1963.

SN 171,600. Samuel A. Aiser, New York, N.Y. Filed June 24, 1963.

TIMBER-TAC

Owner of Reg. No. 628,256.
For Wallpaper.
First use May 14, 1963.

SN 174,108. McCrory Corporation, New York, N.Y. Filed July 31, 1963.

PEACOCK

For Stationery Items Such as Crayons, Artists' Brushes, Paint Sets, Pens, Pencils, Erasers, Writing Paper, and Paste.
First use Mar. 25, 1963.

SN 177,086. Hammermill Paper Company, Erie, Pa. Filed Sept. 16, 1963.

The MICRatized safety paper

The letters "MICR" and the words "Safety Paper" are disclaimed apart from the mark. Owner of Reg. No. 735,674.
For Safety Paper.
First use Apr. 17, 1963.

SN 179,234. Jackson Bag Corporation, Jackson, Tenn. Filed Oct. 17, 1963.

BONWOOD

For Wrapping Paper for Food Products.
First use Sept. 27, 1963.

SN 181,350. Fort Howard Paper Company, Green Bay, Wis. Filed Nov. 18, 1963.

SOF-KNIT

For Paper Towels.
First use Nov. 5, 1963.

SN 181,365. Kimberly-Clark Corporation, Neenah, Wis. Filed Nov. 18, 1963.

INTERLAKE

Owner of Reg. No. 407,204.
For Absorbent Paper Tissue Suitable for Hygienic, Cosmestic, and Cleaning Purposes.
First use on or about Jan. 2, 1918.

SN 182,995. Diebold, Incorporated, Baltimore, Md. Filed Dec. 12, 1963.

COMP-CHECS

For Blank Checks, Check Stubs and Check Books.
First use Oct. 1, 1963.

Class 38—Prints and Publications

SN 174,690. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

The English translation of the Japanese word "Mitsubishi" is "three rhomboids." Owner of Japanese Reg. No. 579,806, dated Sept. 1, 1961.

For Printed Matter, Books and Periodicals—Namely, Artistic Drawings, Advertising Photographs, Photographic Letter Cards, Newspapers, Advertising Leaflets, Scientific Books and Commercial Magazines.

SN 174,699. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 12, 1963.



Owner of Japanese Reg. No. 98,102, dated Nov. 15, 1918.

For Printed Matter, Books and Periodicals—Namely, Artistic Drawings, Advertising Photographs, Photographic Letter Cards, Newspapers, Advertising Leaflets, Scientific Books and Commercial Magazines.

Class 39—Clothing

SN 172,896. Mr. Ralph Inc., New York, N.Y. Filed July 3, 1963.

FOUR FREEDOMS

For Men's Pajamas.

First use February 1963.

SN 172,442. Weather-Rite Sportswear Co., Inc., New York, N.Y. Filed July 3, 1963.

WEATHERITE

For Rainwear—Namely, Raincoats, Rainsuits, Rainhats, Ponchos, and Waterproof Fishing Shirts, Hunting Shirts, Vests and Jackets, Sport Jackets, Boots, Shoes and Overshoes, and Ground Cloths.

First use in or about September 1941.

SN 176,888. G. C. Murphy Company, McKeesport, Pa. Filed Sept. 5, 1963.

PELHAM

Owner of Reg. No. 512,150.

For Men's and Boys' Suits, Sport Coats, Jackets, Trousers, Outer Shirts, Outer Shorts, Sweaters, Raincoats, Hats, Caps, Gloves, Mittens, Hosiery, Neckties, Handkerchiefs, Belts, Suspenders, Under Shirts and Shorts, Sweat Shirts, T-Shirts, Underwear, and Pajamas.

First use Oct. 26, 1941, on dress shirts, undershirts, shorts, and neckties.

SN 174,460. Princeton Hosiery Mills, Incorporated, Princeton, Ky. Filed Sept. 6, 1963.

UPPITY

For Hosiery and Clothing for Infants Including Hooded Jacket, Playsuits, Sunsuits, Overalls, Coveralls, Diaper Shirts, Robes, Jumpsuits, and Pants.

First use Aug. 15, 1963.

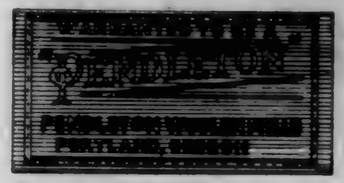
SN 176,895. Christian Dior, Paris, France. Filed Sept. 13, 1963.

MONSIEUR X

Priority claimed under Sec. 44(d) on French Reg. No. 514,244, dated June 20, 1963 (Seine); Natl. Inst. No. 207,624. Owner of U.S. Reg. No. 696,190.

For Men's Ties, Neckerchiefs, and Scarves.

SN 176,724. Pendleton Woolen Mills, Portland, Oreg. Filed Oct. 10, 1963.



No registration rights are claimed for the wording "Warranted To Be" and "Portland, Oregon" apart from the mark as shown. The drawing is lined for blue and gold. Owner of Reg. Nos. 662,601, 664,870, and others.

For Men's Wear—Namely, Dress Shirts, Sport Shirts, Jackets, Sport Coats, Trousers, Lounging Robes, Mufflers, Socks, and Caps; and Women's Wear—Namely, Coats, Jackets, Skirts, Shorts, Pedal Pushers, Slacks, Lounging Robes, Dresses, Blouses, Sweaters, Wookits, and Collars.

First use Dec. 31, 1910, on lounging robes.

SN 179,517. Colebrook Mills, Inc., Hialeah, Fla. Filed Oct. 22, 1963.

COLESETA

Owner of Reg. Nos. 700,579, 727,747, and 746,699.

For Sweaters, Skirts, Dresses, Ladies' Jackets and Suits.

First use Aug. 7, 1963.

SN 161,979. Genesco, Inc., Nashville, Tenn. Filed Nov. 27, 1963.

MOUNT AIRE

For Suits, Top Coats, Overcoats, Slacks, Sport Coats and Jackets for Men, Boys and Youths.

First use Oct. 22, 1963.

SN 155,212. Maidenform, Inc., New York, N.Y. Filed Dec. 18, 1963.

CYMBALINE

Owner of Reg. No. 838,752.

For Foundation Garments.

First use Dec. 3, 1963.

SN 164,573. Hilb Manufacturing Company, Denver, Colo. Filed Jan. 14, 1964.

VAIL

For Men's, Ladies' and Children's Skiwear and Sportswear—Namely, Coats, Shirts, Pants, Sweaters, Shirts, Jackets, Parkas, Blouses, Shorts, Nethergarments Worn With Skiwear, Scarves, Caps, Dresses, Slacks, and Ski Boots.

First use Nov. 10, 1963.

SN 164,670. Wembley, Inc., New Orleans, La. Filed Jan. 15, 1964.

Wemgard

For Neckwear.

First use Aug. 1, 1963.

SN 164,672. Wembley, Inc., New Orleans, La. Filed Jan. 15, 1964.

WEMLON

Owner of Reg. No. 739,779.

For Neckties.

First use Dec. 17, 1963.

Class 40—Fancy Goods, Furnishings, and Notions

SN 176,371. Etablissements Albert Gallant, Roubaix, Nord, France. Filed Oct. 3, 1963.

NIGAL

Owner of French Reg. No. 7,299, dated Mar. 19, 1954 (Roubaix); Natl. Inst. No. 32,299.

For Gummed Bands, Ribbons and Fabrics Sold in Roll and Piece Form, Used for Repairing, Patching, Reinforcing or Decorating Articles of Clothing and Fabrics.

SN 176,372. Etablissements Albert Gallant, Roubaix, Nord, France. Filed Oct. 3, 1963.

BELT-A-GAL

Owner of French Reg. No. 8,906, dated Jan. 6, 1962 (Roubaix); Natl. Inst. No. 178,411.

For Textile Bands for Reinforcing and Backing Garment Belts.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 174,886. Wm. Whitaker & Sons, Inc., Philadelphia, Pa. Filed Aug. 1, 1963.

FLAX-LON

For Textile Fabrics Woven in Whole or in Part From Yarns Comprised in Part of Linen or Flax Fibers.

First use May 10, 1963.

SN 174,662. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

The Japanese word "Mitsubishi," when translated into English, means "three rhomboids." Owner of Japanese Reg. Nos. 556,006, dated Jan. 15, 1948; 578,296, dated Aug. 1, 1961; 556,009, dated Jan. 15, 1948; 556,011, dated Jan. 15, 1948; and 569,890, dated Apr. 1, 1961.

For Cotton Fabrics, Silk Fabrics, Woolen Fabrics, Hemp Fabrics, Linen Fabrics, Rayon Fabrics, Acetate Fabrics, Polyamide Fabrics, Polyester Fabrics, and Interwoven Fabrics of Cotton, Wool and Polyester.

SN 176,725. Pendleton Woolen Mills, Portland, Oreg. Filed Oct. 10, 1963.



No registration rights are claimed for the wording "Warranted To Be" and "Portland, Oregon" apart from the mark as shown. The drawing is lined for colors blue and gold. Owner of Reg. Nos. 662,601, 664,870, and others.

For Piece Goods, Blankets, Motor Robes, Bed Throws, and Steamer Rugs of Wool, Cotton, Silk, Rayon, Nylon, and Other Natural and Synthetic Fibers.

First use 1895 on blankets.

SN 179,518. H. Davis Textile Co., Lynn, Mass. Filed Oct. 22, 1963.

FABALON

For Textile Fabrics Used for Interfacing Purposes in Garments of All Types and Description.

First use Jan. 2, 1959.

SN 179,813. Reliable Textile Company, Inc., New York, N.Y. Filed Oct. 25, 1963.

DARDENELLA

For Fabric Used in Making Men's, Women's, and Children's Garments, Such as, Dresses, Sportswear, Playclothes, and the Like.

First use Sept. 24, 1963.

SN 179,816. Shirley Fabrics Corporation, New York, N.Y. Filed Oct. 25, 1963.

DUBLINEEN

For Textile Fabrics in the Piece of Cotton, Rayon, Synthetic Fibres, and Mixtures Thereof.

First use June 4, 1963.

SN 180,238. L. J. Schott Company, Akron, Ohio. Filed Oct. 31, 1963.

NYNYL

For Plastic Coated Fabrics Used in Tents, Tarpulins, Covers for Trucks, Vehicles, Swimming Pools, and the Like.
First use Oct. 7, 1963.

Class 43 — Thread and Yarn

SN 174,783. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 9, 1962.

THREE DIAMONDS

Owner of Japanese Reg. Nos. 190,313, dated Apr. 22, 1927; 255,668, dated Dec. 14, 1942; 451,570, dated Sept. 14, 1954; and 571,462, dated May 1, 1961.
For Threads for Sewing and Embroidering, and Yarns for Weaving and Knitting, of Silk, Cotton, Wool, Hemp, and Synthetics.

Class 44 — Dental, Medical, and Surgical Appliances

SN 162,035. Bernard H. Stauffer, San Marino, Calif. Filed Feb. 4, 1963.

STAUFFER

Owner of Reg. No. 541,195.
For Electrically Operated Table With Mechanical Motion for Passive Exercise as an Aid to Weight Reduction and Figure Control.
First use 1935.

SN 178,866. Botany Industries, Inc., d.b.a. Sea and Ski Company, Reno, Nev. Filed Oct. 14, 1963.

SEA & SKI

For Ultraviolet Globes or Bulbs for Sun or Tanning Lamps, Sun or Tanning Lamp Sets, and Combination Sets of Sun or Tanning Lamps and Desk Lamps for Illumination Purposes, Sun or Tanning Lamps, Sets and Combinations Having a Therapeutic Purpose.
First use Aug. 1, 1963.

SN 181,739. Societe Rhovyl, Paris, France. Filed Nov. 8, 1963.

IONIVYL

Priority claimed under Sec. 44(d) on French Reg. No. 509,691, dated Dec. 6, 1962 (Paris); Natl. Inst. No. 195,914. (Claim based on co-pending application Ser. No. 165,848, filed in U.S. on Apr. 1, 1963.) Owner of U.S. Reg. No. 762,081.
For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 185,206. The Foregger Company, Inc., Roslyn Heights, N.Y. Filed Jan. 23, 1964.

FOR-LAST

For Conductive Breathing Bags Used in Systems for Administering Anesthesia.
First use June 7, 1963.

SN 186,782. Johnson & Johnson, d.b.a. Pharmedica Laboratories, New Brunswick, N.J. Filed Jan. 31, 1964.



For Sanitary Tampons.
First use Nov. 14, 1963.

SN 185,850. Aristo Manufacturing Co., Chicago, Ill. Filed Feb. 3, 1964.

ARISTETTE

For Electric Hair Dryers.
First use May 1948.

SN 185,945. Simmons Company, New York, N.Y. Filed Feb. 3, 1964.

VARI-HITE

Owner of Reg. No. 528,277.
For Hospital Beds.
First use May 11, 1949.

SN 186,296. Westinghouse Electric Corporation, Baltimore, Md. Filed Feb. 7, 1964.

IRON HEART

For Portable Pneumatic Device for External Intermittent Heart Compression.
First use on or about Dec. 28, 1962.

SN 186,505. Aristo Manufacturing Co., Chicago, Ill. Filed Feb. 12, 1964.

PRINCESS

For Electric Hair Dryers.
First use Mar. 31, 1954.

SN 186,506. Aristo Manufacturing Co., Chicago, Ill. Filed Feb. 12, 1964.

TIARA

For Electric Hair Dryers.
First use Feb. 28, 1964.

SN 186,565. Radco, Inc., Dubuque, Iowa. Filed Feb. 12, 1964.

Hydro-Mat

For Home Whirlpool Bath.
First use Dec. 27, 1963.

Class 45—Soft Drinks and Carbonated Waters

SN 177,877. Fairmont Foods Company, Omaha, Nebr. Filed Sept. 27, 1963.



Owner of Reg. No. 579,011.

For Non-Carbonated Soft Drinks—Namely, Orange Drink, Lemon-Lime Drink, Grape Drink, Fruit Punch, and Frozen Concentrate for Lemonade.

First use on or about Apr. 8, 1961; May 1884 as to "Fairmont."

SN 182,964. Royal Crown Cola Co., Columbus, Ga. Filed May 8, 1964.

ROYAL CROWN COLA

Applicant disclaims the exclusive right to the use of the word "Cola" in the mark. Owner of Reg. Nos. 351,710, 750,933, and 750,934.

For Cola-Flavoured Soft Drink and Concentrates for Same.

First use Dec. 24, 1934.

SN 182,965. Royal Crown Cola Co., Columbus, Ga. Filed May 8, 1964.



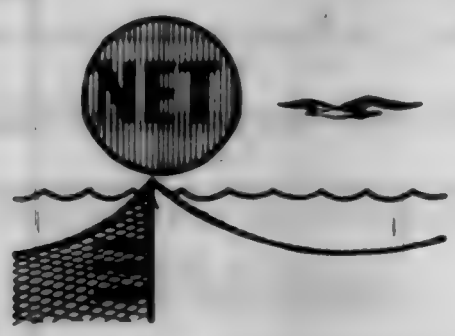
Applicant disclaims the exclusive right to the use of the word "Cola" in the mark. Owner of Reg. Nos. 351,710, 750,933, and 750,934.

For Cola-Flavoured Soft Drink.

First use Apr. 24, 1961.

Class 46—Foods and Ingredients of Foods

SN 184,085. Astoria Fish Factors, Inc., Astoria, Oreg. Filed Dec. 15, 1961.



The drawing is lined for red.

For Fresh Frozen Fish.

First use Oct. 8, 1961.

SN 142,787. Blue Seal Extract Co., Inc., Cambridge, Mass. Filed Apr. 28, 1962.

IFP

Owner of Reg. No. 749,857.

For Flavor Bases, Complete Flavors and Flavor Raw Materials—Namely, Aromatic Chemicals, Colors, Concentrated Oils, Essential Oils, Oleo Resins, and True Fruit Flavors for Use in the Dairy and Food Processing Industries.

First use during March 1958.

SN 164,922. Vic Cassano's Pizza Provision, Inc., Dayton, Ohio. Filed Mar. 18, 1963.



Owner of Reg. No. 689,117.

For Pizzas.

First use November 1958.

SN 171,002. Francisco Jose Marshall Jimenez, San Jose, Costa Rica. Filed June 14, 1963.

COSTA RICA GOLD

Applicant disclaims the words "Costa Rica" apart from the mark as shown and without prejudice to his common law rights.

For Coffee.

First use Feb. 20, 1963; in commerce Feb. 20, 1963.

SN 174,489. Geo. Benz & Sons, d.b.a. Oak Grove Dairy, St. Paul, Minn. Filed Aug. 6, 1963.

Oak Grove

For Fortified Homogenized, Fresh, Sour, Cultured, Frozen and Refrigerated Dairy Products—Namely, Butter, Cream, Sour Cream, Buttermilk, Cottage Cheese, Ice Cream, Half and Half, Skim Milk, Whipping Cream, Flavored Drinks Made With Milk, and Non-Alcoholic Eggnog; and Non-Carbonated Fruit Flavored Drinks—Namely, Orange, Grape, and Lemonade.

First use Nov. 25, 1946.

SN 177,922. Sweet Candy Company, Salt Lake City, Utah. Filed Sept. 27, 1963.



The drawing is lined for green and orange. The wording "Chocolate Orange Stick Patty" is disclaimed apart from the mark shown. Owner of Reg. No. 413,217.
For Candy.
First use July 1, 1963.

SN 178,952. Mutual Citrus Products Company, Anaheim, Calif. Filed Oct. 14, 1963.



Owner of Reg. Nos. 329,231, 385,449, and others.
For Frozen Concentrates for Making Fruit Juice Base Drinks.
First use June 15, 1963.

SN 180,727. Geigy Chemical Corporation, Ardsley, N.Y. Filed Nov. 8, 1963.

CARBANIN

For Nutritional Poultry Feed Additive.
First use Aug. 20, 1963.

SN 181,879. Michael F. McNulty, d.b.a. Michael's Farm, Montclair, N.J. Filed Nov. 18, 1963.



For Butter, Fresh Eggs, Cheese, and Peanut Butter.
First use Oct. 26, 1963.

SN 181,418. Jack Behn, d.b.a. Skokie Produce Co., Chicago, Ill. Filed Nov. 18, 1963.

SKOKIE

For Canned Fruits and Vegetables.
First use Apr. 11, 1963.

SN 181,420. United Biscuit Company of America, Melrose Park, Ill. Filed Nov. 18, 1963.

SUPREME

Owner of Reg. No. 134,976.
For Candy.
First use Oct. 18, 1962.

SN 181,977. Foremost Dairies, Inc., San Francisco, Calif. Filed Nov. 27, 1963.

Peebles' BRAND

V-LER

Applicant disclaims the word "Brand" apart from the mark as shown. Owner of Reg. Nos. 547,094, 736,560, and others.
For Milk Replacer for Veal-Type Calves.
First use Jan. 16, 1963; Mar. 15, 1930, as to "Peebles."

SN 182,046. Ocean Spray Cranberries, Inc., Hanson, Mass. Filed Dec. 9, 1963.

CRANWICH

For Frozen Prepared Sandwiches.
First use Oct. 15, 1963.

SN 185,255. Blue Goose Growers, Inc., Fullerton, Calif. Filed Jan. 27, 1964.

CAMERON BAY

For Fresh Citrus Fruits.
First use Oct. 21, 1961.

SN 186,017. The Nestlé Company, Inc., d.b.a. The Crosse & Blackwell Company, White Plains, N.Y. Filed Feb. 4, 1964.

CROSSE & BLACKWELL

Owner of Reg. Nos. 801,073, 739,113, 739,114, and others.
For Instant Coffee.
First use Jan. 2, 1964.

Class 48 — Malt Beverages and Liquors

SN 157,800. Hopsaver Hopfenverarbeitungs-G.m.b.H., Pfaffenhofen (Ilm), Germany. Filed June 7, 1962.

HOPULEXAN

Owner of German Reg. No. 761,174, dated May 9, 1962.
For Hops and Hop Products—Namely, Hop Extracts for the Production of Beer.

Class 50 — Merchandise Not Otherwise Classified

SN 169,611. Continental Oil Company, Ponca City, Okla. Filed May 24, 1963.

E-Z-ART

For Art Goods in the Form of Blocks From Which Articles Can Be Carved.
First use May 6, 1963.

SN 171,976. Easy-Way, Inc., Lewisburg, Ky. Filed June 27, 1963.

EASY-WAY

For Farrow Factory Comprising Housing, Flooring, Farrowing Units, Heaters, Waterers, and Ventilating Equipment.
First use December 1961.

SN 177,848. Phillips Eckardt Electronic Corporation, Chicago, Ill. Filed Sept. 19, 1963.

TRIM TIME

For Christmas Tree Ornaments.
First use Aug. 1, 1963.

SN 184,151. Fantasies Unlimited, Troy, Mich. Filed Jan. 7, 1964.

TOOTH FAIRY

For Statuette Whose Base Is a Box for Use by a Child To Receive an Exfoliated Tooth.
First use on or about Nov. 22, 1963.

SN 184,992. Unarco Industries, Inc., Chicago, Ill. Filed Jan. 20, 1964.

TRUCK MATE

For Mechanical Dock Boards.
First use Dec. 14, 1963.

SN 183,223. John Evans Sons, Inc., Philadelphia, Pa. Filed Mar. 9, 1964.

PORTaCONE

For Safety Markers for Temporary or Emergency Use To Indicate Danger Areas or Traffic Channels or To Function as a Barricade.
First use Feb. 11, 1964.

SN 189,990. Gilbert M. Dunn, Penacook, N.H. Filed Mar. 31, 1964.

FLIGHT CONTROL

Owner of Reg. No. 629,686.
For Wild Bird Feeder Stations.
First use Feb. 4, 1963.

SN 189,991. Gilbert M. Dunn, Penacook, N.H. Filed Mar. 31, 1964.

FLIGHT DOME

Owner of Reg. No. 629,686.
For Wild Bird Feeder Stations.
First use Feb. 23, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 126,721. Clairol Incorporated, New York, N.Y. Filed Aug. 10, 1961.

YOUNG COLOR

Applicant disclaims the word "Color" apart from the mark as shown.
For Hair Tinting and Coloring Preparations.
First use Feb. 27, 1961.

SN 172,818. The Gillette Company, Boston, Mass. Filed July 11, 1963.

KEEN

For Cologne, Talcum Powder, and Hair Dressing.
First use May 29, 1963.

SN 175,545. Beauty Aids, Inc., Los Angeles, Calif. Filed Aug. 22, 1963.

Liz Barton

The name "Liz Barton" is fictitious.
For Finger Nail and Toe Nail Manicuring Preparations.
First use Aug. 9, 1963.

SN 178,264. Dusharme Products, Inc., Minneapolis, Minn. Filed Oct. 8, 1963.

QUOTA PRO

For Protein Hair Conditioning Treatment.
First use June 12, 1963.

SN 179,018. P. A. Benjamin Mfg. Co. Ltd., Kingston, Jamaica, West Indies. Filed Oct. 15, 1963.

KHUS KHUS

For Perfumes, Toilet Water, Cologne, and After Shave Lotion.
First use Dec. 31, 1930; in commerce Dec. 31, 1930.

SN 181,214. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 15, 1963.

MFP

For Dentifrice.
First use July 8, 1963.

SN 161,562. Payne Products Company, Charlotte, N.C. Filed Nov. 20, 1963.

DANDI-MAN

For Hair Color Lotion.
First use Oct. 10, 1961.

Class 52 — Detergents and Soaps

SN 156,977. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.

HOOVER

Owner of Reg. Nos. 165,890, 715,708, and others.
For Liquid Shampoo To Clean Rugs, Carpets and the Like.
First use Sept. 27, 1961.

SN 156,979. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.



Owner of Reg. Nos. 165,890, 715,708, and others.
For Liquid Shampoo To Clean Rugs, Carpets and the Like.
First use Sept. 27, 1961.

SN 157,388. Monsanto Chemical Company, St. Louis, Mo. Filed Nov. 16, 1962.

DEQUEST

For Ingredients Used in the Manufacture of Washing Compositions.
First use Oct. 5, 1962.

SN 163,269. The Pillsbury Company, Minneapolis, Minn. Filed Feb. 21, 1963.

GRID

For General Purpose Cleaner and Sanitizer Preparation.
First use Jan. 10, 1963.

SN 163,527. Cambridge Chemical Products, Inc., Dearborn, Mich. Filed Feb. 27, 1963.

ERADO-SOL

For Stain Remover for Use in Laboratories.
First use Feb. 14, 1963.

SN 164,812. Colonial Carbon Company, Skokie, Ill. Filed Mar. 18, 1963.

COLOR COPY

For Hand Cleanser.
First use Oct. 25, 1957.

SN 167,797. Canale Chemical Corporation, Glen Cove, N.Y. Filed Apr. 30, 1963.

SHOO

For All-Purpose Liquid Detergent.
First use Nov. 15, 1962.

SN 170,042. Helene Curtis Industries, Inc., Chicago, Ill. Filed May 31, 1963.

RETENTOL

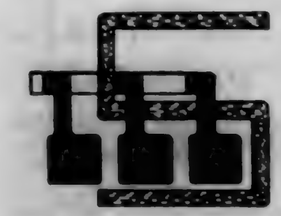
For Hair Shampoo.
First use on or about Apr. 26, 1963.

SN 172,818. The Gillette Company, Boston, Mass. Filed July 11, 1963.

KEEN

For Hair Shampoo.
First use May 29, 1963.

SN 178,811. Micr-Shield Company, Phoenix, Ariz. Filed Oct. 11, 1963.



The drawing is lined for silver, but no claim is made to color. The mark comprises the stylized letters M and S.
For Solvents for Removing Magnetic Ink.
First use Nov. 5, 1962.

SN 179,244. Micr-Shield Company, Phoenix, Ariz. Filed Oct. 17, 1963.

MICR-SHIELD

For Solvents for Removing Magnetic Ink.
First use Nov. 5, 1962.

SN 180,160. Acme Chemical Company, Milwaukee, Wis. Filed Oct. 31, 1963.

ACCOTAIN

Owner of Reg. Nos. 411,032, 412,805, and 758,977.
For Liquid Cleaner for Floors, Walls, Woodwork, Tile, Wood and Metal Furniture, Appliances, Leather and Plastics.
First use Aug. 10, 1963.

SERVICE MARKS

Class 100 — Miscellaneous

SN 151,625. Erwin Vogel, d.b.a. "Copy-Write" Creations, Brooklyn, N.Y. Filed Aug. 21, 1962.



For Custom-Designing and Printing of Personalized Greeting Cards; Composing Songs, Complete With Lyrics, for Others; Composing Complete Musical Scores for Shows To Be Put on by Schools or Other Community Groups; and Composing Poems for Others for Special Occasions.
First use Mar. 23, 1962.

SN 166,748. Phillips Petroleum Company, Bartlesville, Okla. Filed Apr. 15, 1963.



The drawing is lined for red.
For Marina Services.
First use Jan. 28, 1957.

SN 170,466. Micro-Pat, Inc., Marblehead, Mass. Filed June 6, 1963.

MICRO-PAT

For Services in Regard to the Reproduction, Classification, Translation and Editing of Worldwide Patents and Technical Information Into Specific Product Areas for Others.
First use Nov. 8, 1961.

SN 175,055. Owens-Illinois Glass Company, Toledo, Ohio. Filed Aug. 14, 1963.

PLASTECHNICS

For Custom Designing of Plastic Bottles or Containers.
First use Dec. 1, 1962.

SN 176,496. Field Financial Corporation, Minneapolis, Minn. Filed Oct. 7, 1963.

HERITAGE

For Providing of Nursing Home Care for the Elderly and the Convalescent.
First use Jan. 7, 1963.

Class 101 — Advertising and Business

SN 152,517. McCrory Corporation, New York, N.Y. Filed Sept. 5, 1962.

MC CRORY'S

For Retail Department Store Services.
First use 1884.

SN 160,089. Bradfute Corporation, Eastchester, N.Y. Filed Jan. 8, 1963.

TREASURE CARD

No claim is made to the exclusive use of the term "Card" apart from the use of the mark as shown.
For Promoting the Sales of Goods and Services by Others by Means of a Contest Open to Those Who Visit the Participating Stores.
First use Sept. 5, 1962.

SN 166,657. Accounts Receivable Management, Inc., Dallas, Tex. Filed May 13, 1963.



For Accounts Receivable Management for Doctors and Dentists.
First use May 15, 1960.

SN 174,165. Cadillac Personnel, Inc., St. Louis, Mo. Filed Aug. 1, 1963.

CADILLAC

For Employment Agency Services.
First use Apr. 17, 1955.
Subj. to Intf. with SN 177,951.

SN 177,951. Lon D. Barton, Chicago, Ill. Filed Sept. 30, 1963.



For Employment Agency Services.
First use December 1922.
Subj. to Intf. with SN 174,165.

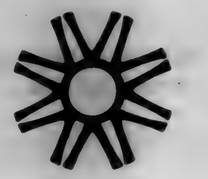
Class 102 — Insurance and Financial

SN 176,711. Citizens Mortgage Corporation, Detroit, Mich. Filed Sept. 11, 1963.



For Commercial Loan Services.
First use June 1, 1963.

SN 177,122. Virginia National Bank, Norfolk, Va. Filed Sept. 16, 1963.



For Banking Services.
First use Apr. 29, 1963.

SN 178,473. The Ohio National Life Insurance Company, Cincinnati, Ohio. Filed Oct. 7, 1963.

we guarantee dreams

For Underwriting Insurance.
First use April 1961.

Class 103 — Construction and Repair

SN 164,690. Atlas Lift Truck Rentals & Sales, Inc., Schiller Park, Ill. Filed Mar. 15, 1963.



Owner of Reg. No. 753,867.
For Leasing of Industrial Fork Lift Trucks.
First use Feb. 7, 1963; prior to 1953 as to "Atlas."

SN 167,906. W. R. Grace & Co., New York, N.Y. Filed May 1, 1963.

GRACE

Owner of Reg. No. 715,958.
For Application of Fertilizer Materials to Lawns.
First use Oct. 25, 1962.

SN 176,797. The Hobart Manufacturing Company, Troy, Ohio. Filed Sept. 12, 1963.

KitchenAid

Owner of Reg. Nos. 133,143, 672,776, and others.
For Inspection, Maintenance and Repairing of Dishwashing Machines, Machines for Beating and Mixing Food Materials, and Coffee Grinders, and of Attachments, Accessories and Parts Therefor.
First use as early as November 1919.

SN 178,493. Southern Steel Company, San Antonio, Tex. Filed Oct. 7, 1963.

SOUTHERN STEEL CO.

For Services of Designing Prisons and Other Penal Institutions for Others.
First use Sept. 17, 1963.

Class 105 — Transportation and Storage

SN 176,461. Routed Thru-Pac, Inc., New York, N.Y. Filed Sept. 6, 1963.

THRU-PAC

For Special Packing and Foreign and Domestic Transportation of the Goods of Others by Truck, Rail, Plane, or Ship.
First use on or about June 26, 1960.

SN 176,837. Routed Thru-Pac, Inc., New York, N.Y. Filed Sept. 12, 1963.



The drawing consists of a circular design of two arcuate arrows enclosing a black and white cube, the white portions of said cube depicting the letters "TP."
For Special Packing and Foreign and Domestic Transportation of the Goods of Others by Truck, Rail, Plane, or Ship.
First use on or about Apr. 1, 1963.

Class 107 — Education and Entertainment

SN 176,420. Norman Bennett, Washington, D.C. Filed Sept. 6, 1963.

CAR-COMBAT

For Entertainment Services—Namely, Contests of Endurance and Maneuverability of Automobiles Performed Publicly.
First use Aug. 5, 1963.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

772,992. BEEBE 76. Beebe Rubber Company. SN 157,276. Pub. 2-11-64. Filed 11-15-62.

772,993. NJR DESIGN. New Jersey Rubber Company. SN 157,533. Pub. 1-21-64. Filed 11-23-62.

772,994. RESILO-WRAP. Armstrong Cork Company. SN 165,107. Pub. 4-28-64. Filed 2-20-63.

772,995. ROFLAST. Rotacta, Inc. SN 165,459. Pub. 4-28-64. Filed 3-26-63.

772,996. ROLUBE. Rotacta, Inc. SN 165,460. Pub. 4-28-64. Filed 3-26-63.

772,997. LLAMA. Barrett & Company, Inc. SN 166,483. Pub. 4-28-64. Filed 4-10-63.

772,998. JET STREAM MUMS. Harry Vlachos, Inc. SN 169,583. Pub. 4-28-64. Filed 5-22-63.

772,999. COGOLON. The Cotton Goods Company, Inc. SN 170,297. Pub. 4-28-64. Filed 6-4-63.

773,000. KINGSFORD. Kingsford Company. SN 170,648. Pub. 4-28-64. Filed 6-10-63.

773,001. PEGULAN. Pegulan-Werke Aktiengesellschaft, MULTIPLE CLASS (Classes 1 and 42). SN 170,666. Pub. 4-28-64. Filed 6-10-63.

773,002. BETA. Central Soya Company, Inc. SN 173,565. Pub. 4-28-64. Filed 7-22-63.

773,003. FP AND DESIGN. Favorite Plastic Corp. SN 174,502. Pub. 4-28-64. Filed 8-6-63.

773,004. AGRA-PROP. Agrashell, Inc. SN 174,934. Pub. 4-28-64. Filed 8-12-63.

773,005. SOF SPUN. The Goodyear Tire & Rubber Company. SN 175,276. Pub. 4-28-64. Filed 8-19-63.

773,006. FASSON. Avery Adhesive Products, Inc. SN 176,614. Pub. 4-28-64. Filed 9-10-63.

773,007. OLEMER. Avisun Corporation. SN 176,617. Pub. 4-28-64. Filed 9-10-63.

773,008. CRASH-DASH. Tech Aerofoam Products, Inc. SN 177,811. Pub. 4-28-64. Filed 9-18-63.

773,009. LOFT-LOCK. Kem-Wove Industries, Inc. SN 178,006. Pub. 4-28-64. Filed 9-30-63.

773,010. ANAKROM. Analytical Engineering Laboratories, Inc. SN 178,092. Pub. 4-28-64. Filed 10-1-63.

773,011. ASBALTIC. Johns-Manville Corporation. SN 178,124. Pub. 4-28-64. Filed 10-1-63.

Class 2 — Receptacles

773,012. PUL LIP AND DESIGN. Hercules Membrino, d.b.a. Hercalyce Sales Company. SN 158,839. Pub. 4-28-64. Filed 12-10-62.

773,013. TASTEE-FREEZ. Harico Manufacturing Co. MULTIPLE CLASS (Classes 2 and 37). SN 161,707. Pub. 4-28-64. Filed 1-30-63.

773,014. GOODWOOD AND DESIGN. Julio Pomerants, Inc. SN 171,377. Pub. 4-28-64. Filed 6-19-63.

773,015. UNI-STAK. United Steel & Wire Company. SN 176,465. Pub. 4-28-64. Filed 9-6-63.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

773,016. HANDLES WITH CARE AND DESIGN. Philadelphia Handle Company, Inc. SN 171,178. Pub. 4-28-64. Filed 6-17-63.

773,017. LUGGAGE BY US AND DESIGN. United States Trunk Company, Inc. SN 171,937. Pub. 4-28-64. Filed 6-26-63.

773,018. PARURIER. Etienne Aigner Sales Corp. SN 176,767. Pub. 4-28-64. Filed 9-12-63.

773,019. SAMSONITE STREAMLITE. Shwayder Bros., Inc. SN 177,454. Pub. 4-28-64. Filed 9-20-63.

773,020. SNAP-VU AND DESIGN. Kleer-Vu Industries, Inc. SN 179,641. Pub. 4-28-64. Filed 10-22-63.

Class 4 — Abrasives and Polishing Materials

773,021. MAIN LINE CHEMICALS. Hunt & Company, Inc. SN 170,317. Pub. 12-17-63. Filed 6-4-63.

773,022. CRECOAT. Creco Company, Inc. SN 176,777. Pub. 4-28-64. Filed 10-25-63.

Class 5 — Adhesives

773,023. FASSON. Avery Adhesive Products, Inc. SN 176,616. Pub. 4-28-64. Filed 9-10-63.

Class 6 — Chemicals and Chemical Compositions

773,024. MER-SORB. Merck & Co., Inc. SN 147,944. Pub. 4-28-64. Filed 6-28-62.

773,025. VECTO. The Dow Chemical Company. SN 156,945. Pub. 4-28-64. Filed 11-8-62.

773,026. DRILLOSE. Gamlen Research and Development Company. SN 158,812. Pub. 2-18-64. Filed 12-10-62.

773,027. VILLDRAN. The Dow Chemical Company. SN 163,613. Pub. 2-18-64. Filed 2-26-63.

773,028. VASCONOL. Gamlen Chemical Company. SN 164,961. Pub. 4-28-64. Filed 3-19-63.

773,029. VASCONITE. Gamlen Chemical Company. SN 164,962. Pub. 4-28-64. Filed 3-19-63.

773,030. AIR GUARD. Bendix-Westinghouse Automotive Air Brake Company. SN 165,111. Pub. 4-28-64. Filed 3-21-63.

773,031. HI-SPERSE. Hayes-Sammons Chemical Co. SN 165,229. Pub. 4-28-64. Filed 3-22-63.

773,032. CY-KIL. Industrial Filter & Pump Mfg. Co. SN 166,589. Pub. 4-28-64. Filed 4-11-63.

773,033. SERENE. Sheffield Laboratories, Inc. SN 166,639. Pub. 4-28-64. Filed 4-15-63.

773,034. COBAN S. Cosan Chemical Corporation. SN 166,587. Pub. 4-28-64. Filed 5-10-63.

773,035. COSKIN M. Cosan Chemical Corporation. SN 166,590. Pub. 4-28-64. Filed 5-10-63.

773,036. CALTEX AND DESIGN. California Texas Oil Corporation. SN 169,011. Pub. 4-28-64. Filed 5-16-63.

773,037. DIXO. Dixo Company, Inc. MULTIPLE CLASS (Classes 6 and 52). SN 169,117. Pub. 4-28-64. Filed 5-17-63.

773,038. 2-26. Corrosion Reaction Consultants, Inc. SN 171,429. Pub. 4-28-64. Filed 6-20-63.

773,039. 3-26. Corrosion Reaction Consultants, Inc. SN 171,481. Pub. 4-28-64. Filed 6-20-63.

773,040. FLEET HEAT AND DESIGN. Fleet-Wing Corporation. SN 172,580. Pub. 4-28-64. Filed 7-8-63.

773,041. STAY-AWAY. Sterling Drug Inc. SN 173,712. Pub. 4-28-64. Filed 7-24-63.

773,042. GROVIN. Shell Oil Company. SN 176,752. Pub. 4-28-64. Filed 9-11-63.

773,043. HI-LITE. Diamond Alkali Company. SN 177,502. Pub. 4-28-64. Filed 9-23-63.

773,044. SPAIR. Edward R. Jaslow, d.b.a. Jaslow Laboratories. SN 177,638. Pub. 4-28-64. Filed 9-24-63.

773,045. NOLED. Durham Chemicals Limited. SN 177,777. Pub. 4-28-64. Filed 9-26-63.

773,046. NICLATE. R. T. Vanderbilt Company, Inc. SN 177,822. Pub. 4-28-64. Filed 9-26-63.

773,047. VANZAK-WL. R. T. Vanderbilt Company, Inc. SN 177,823. Pub. 4-28-64. Filed 9-26-63.

773,048. VANZAK-RA. R. T. Vanderbilt Company, Inc. SN 177,824. Pub. 4-28-64. Filed 9-26-63.

773,049. CALCOSOL. American Cyanamid Company. SN 177,835. Pub. 4-28-64. Filed 9-27-63.

773,050. DU PONT AND DESIGN. E. I. du Pont de Nemours and Company. SN 177,873. Pub. 4-28-64. Filed 9-27-63.

Class 9—Explosives, Firearms, Equipments, and Projectiles

773,051. BREDA AND DESIGN. Breda Meccanica Bresciana S.p.A. SN 140,917. Pub. 4-28-64. Filed 3-28-62.

773,052. PHOENIX. Rocket Power, Inc. SN 168,854. Pub. 4-28-64. Filed 5-14-63.

Class 10—Fertilizers

773,053. COT-O-MULCH. Comet Mills, Inc. SN 170,173. Pub. 4-28-64. Filed 6-3-63.

773,054. ROCKET. Parker Fertiliser Company, d.b.a. Parker Plant Food Company. SN 176,946. Pub. 4-28-64. Filed 9-13-63.

Class 11—Inks and Inking Materials

773,055. MAMARCO. Mason Marking Systems Corporation. SN 151,149. Pub. 4-28-64. Filed 8-14-62.

Class 12—Construction Materials

773,056. DAXCEL FOAMSHIELD. Daxcar Chemical Products Company. SN 156,862. Pub. 4-28-64. Filed 11-8-62.

773,057. GUN LATH. K-Lath Corporation. SN 167,515. Pub. 4-28-64. Filed 11-19-62.

773,058. MENGEL. Mengel Wood Industries, Inc. SN 160,871. Pub. 4-28-64. Filed 1-17-63.

773,059. E-Z LIVING HOMES AND DESIGN. Imperial Homes, Inc. SN 162,440. Pub. 4-28-64. Filed 2-11-63.

773,060. LOCKWALL. Potlatch Forests, Inc. SN 165,255. Pub. 4-28-64. Filed 3-22-63.

773,061. INSEL SONIC. Mastic Corporation. SN 165,344. Pub. 4-28-64. Filed 3-25-63.

773,062. STAIN-MATE. Electro-Cote Co., d.b.a. Stain-Mate. SN 165,502. Pub. 4-28-64. Filed 3-27-63.

773,063. PULVO. Chas. Pfizer & Co., Inc. SN 165,820. Pub. 4-28-64. Filed 4-1-63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

773,064. HY TEMP. Columbus McKinnon Corporation. SN 162,004. Pub. 4-28-64. Filed 2-4-63.

773,065. INSUFLEX. Durant Insulated Pipe Co., Inc. SN 162,125. Pub. 4-28-64. Filed 2-4-63.

773,066. RAPI DOOR AND DESIGN. Welding and Steel Fabrication Co., Inc. SN 162,513. Pub. 4-28-64. Filed 2-11-63.

773,067. FENESTEEL AND DESIGN. Automatic Devices Company. SN 165,667. Pub. 4-28-64. Filed 3-29-63.

773,068. SPINTIE. Utility Products Manufacturing Company. SN 178,153. Pub. 4-28-64. Filed 10-1-63.

Class 14—Metals and Metal Castings and Forgings

773,069. MS AND DESIGN. Mill Strip Products Co. SN 147,386. Pub. 4-28-64. Filed 6-21-62.

773,070. CHROMASCO. Chromium Mining & Smelting Corporation, Limited. SN 154,471. Pub. 12-24-63. Filed 10-4-62.

773,071. LEKCROMATE. Jay R. Smith Mfg. Co. SN 162,057. Pub. 4-28-64. Filed 2-1-63.

Class 15—Oils and Greases

773,072. PENNANT TYPE DESIGN. The Singer Company, assignee of The Singer Manufacturing Company. CONSOLIDATED CERTIFICATE. SN 134,687, pub. 4-21-64, filed 12-26-61, Cl. 15; SN 134,688, pub. 4-21-64, filed 12-26-61, Cl. 23.

773,073. "PROFITS IN PENNIES" TOPPS AND DESIGN. Plymouth Wholesale Corporation. SN 156,763. Pub. 4-28-64. Filed 11-6-62.

773,074. S'OK !. Eugene J. McMullen, d.b.a. Shamrock Specialties Co. SN 166,824. Pub. 4-28-64. Filed 4-16-63.

773,075. CALTEX. California Texas Oil Corporation. SN 169,008. Pub. 4-28-64. Filed 5-16-63.

773,076. CALTEX AND DESIGN. California Texas Oil Corporation. SN 169,012. Pub. 4-28-64. Filed 5-16-63.

Class 16—Protective and Decorative Coatings

773,077. CAL/INK AND DESIGN. The California Ink Company, Inc. SN 176,625. Pub. 4-28-64. Filed 9-10-63.

Class 18—Medicines and Pharmaceutical Preparations

773,078. RHINEX. Lemmon Pharmacal Company. SN 134,134. Pub. 4-28-64. Filed 12-15-61.

773,079. WP. Wickman Pharmaceuticals (new partnership), assignee of Wickman Pharmaceuticals. SN 152,858. Pub. 4-28-64. Filed S.R. 9-10-62; Am. P.R. 7-23-63.

773,080. AMPHAPLEX. Palmedico, Inc. SN 155,356. Pub. 4-28-64. Filed 10-17-62.

773,081. SOLU-TRI. Fellows Medical Mfg. Co. Inc. SN 168,177. Pub. 4-28-64. Filed 5-6-63.

773,082. DIHISTASOL. Fellows Medical Mfg. Co. Inc. SN 168,181. Pub. 4-28-64. Filed 5-6-63.

773,083. RADIVAC. Summit Laboratories, Inc. SN 169,579. Pub. 4-28-64. Filed 5-22-63.

773,084. UNIGARD. Fuller Pharmaceutical Company. SN 169,627. Pub. 4-28-64. Filed 5-24-63.

773,085. SPECTROCAINE. Olin Mathieson Chemical Corporation. SN 171,374. Pub. 4-28-64. Filed 6-19-63.

773,086. KENYON'S. Kenyon Stores, Inc., d.b.a. Kenyon Pharmacal Company. SN 173,305. Pub. 4-28-64. Filed 7-19-63.

773,087. DURAGEL. Warner-Lambert Pharmaceutical Company. SN 174,140. Pub. 4-28-64. Filed 7-31-63.

773,088. AVED-M. Anabolic, Incorporated. SN 174,497. Pub. 4-28-64. Filed 8-6-63.

773,089. OPTOC. Hudson Vitamin Products, Inc. SN 178,449. Pub. 4-28-64. Filed 10-7-63.

773,090. MATEB. William McCord. SN 180,105. Pub. 4-28-64. Filed 10-30-63.

773,091. NICATONE. National Council on Smoking and Health Inc. SN 180,602. Pub. 4-28-64. Filed 11-6-63.

773,092. PERITINIC. American Cyanamid Company. SN 180,817. Pub. 4-28-64. Filed 11-12-63.

773,093. MELMICINA. American Cyanamid Company. SN 180,818. Pub. 4-28-64. Filed 11-12-63.

773,094. THOMAL. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 180,833. Pub. 4-28-64. Filed 11-12-63.

773,095. ZYLOPRIM. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 180,834. Pub. 4-28-64. Filed 11-12-63.

773,096. PYRODOL. The Central Pharmacal Company. SN 181,119. Pub. 4-28-64. Filed 11-14-63.

773,097. ANTI-CHYMO CHIBRET. Laboratoires Chibret, Société Anonyme. SN 181,155. Pub. 4-28-64. Filed 11-14-63.

773,098. UVELINE. Laboratoires Chibret, Société Anonyme. SN 181,157. Pub. 4-28-64. Filed 11-14-63.

773,099. DIFRAREL. Laboratoires Chibret, Société Anonyme. SN 181,158. Pub. 4-28-64. Filed 11-14-63.

773,100. PROVENO. Dr. Madaus & Co. SN 181,339. Pub. 4-28-64. Filed 11-18-63.

773,101. ARVYNOL. Chas. Pfizer & Co., Inc. SN 181,906. Pub. 4-28-64. Filed 11-27-63.

773,102. DURENAT. A. H. Robins Company, Inc. SN 186,136. Pub. 4-28-64. Filed 2-10-64.

Class 19—Vehicles

773,103. WALKING STICK. Walking Stick Radiator Co., Inc. SN 163,437. Pub. 4-28-64. Filed 3-25-63.

773,104. SKY RIDE. Von Roll Ltd. SN 169,671. Pub. 4-28-64. Filed 5-24-63.

773,105. CARRI-ETTE. Philip Adler. SN 179,644. Pub. 4-28-64. Filed 10-28-63.

773,106. ATLAS. Atlas Supply Company. SN 179,850. Pub. 4-28-64. Filed 10-28-63.

773,107. S DESIGN. North American Aviation, Inc. SN 179,919. Pub. 4-28-64. Filed 10-28-63.

Class 21—Electrical Apparatus, Machines, and Supplies

773,108. HOLDAFONE. Holdafone Music Corporation. SN 134,364. Pub. 4-28-64. Filed 7-20-61.

773,109. THE HOUSE OF LIGHT. Walters Electric. SN 144,298. Pub. 4-28-64. Filed 5-10-62.

773,110. RESLO. Resloscund Limited. SN 149,489. Pub. 4-28-64. Filed 7-20-62.

773,111. CORY. Cory Corporation. SN 153,742. Pub. 4-28-64. Filed 9-24-62.

773,112. CUBEX AND DESIGN. Westinghouse Electric Corporation. SN 153,916. Pub. 4-28-64. Filed 9-25-62.

773,113. CERACIRCUIT. Sprague Electric Company. SN 161,211. Pub. 4-28-64. Filed 1-22-63.

773,114. IN-COM. Hoffman Electronics Corporation. SN 167,385. Pub. 4-28-64. Filed 4-23-63.

773,115. CP AND DESIGN. Columbia Products Company. SN 169,348. Pub. 4-28-64. Filed 5-21-63.

773,116. TRANS ELECTRONIC ETC. BUGSNATCHER AND DESIGN. Trans-Southwest Manufacturing Inc. SN 174,312. Pub. 4-28-64. Filed 8-2-63.

773,117. W AND DESIGN. Waring Products Corporation. SN 175,820. Pub. 4-28-64. Filed 8-26-63.

773,118. SONALERT. Electropac, Inc. SN 177,975. Pub. 4-28-64. Filed 9-27-63.

773,119. COOPER. Cooper Tire & Rubber Company. SN 178,592. Pub. 4-28-64. Filed 10-9-63.

773,120. HELP. Triple A Specialty Co. SN 179,484. Pub. 4-28-64. Filed 10-21-63.

773,121. DATALAMP. Dialight Corporation. SN 179,621. Pub. 4-28-64. Filed 10-23-63.

773,122. STRATABALANCE AND DESIGN. Fisher Radio Corporation. SN 180,390. Pub. 4-28-64. Filed 11-4-63.

773,123. OXYDAIRE. Oxytronic Corp. SN 180,435. Pub. 4-28-64. Filed 11-4-63.

Class 22—Games, Toys, and Sporting Goods

773,124. LAKESIDE. Lakeside Toys, Inc., by change of name from Lakeside Industries, Inc. SN 133,802. Pub. 4-28-64. Filed 12-11-61.

773,125. LO-GEAR. Mattel, Inc. SN 157,230. Pub. 4-28-64. Filed 11-14-62.

773,126. ONE ARM BANDIT. Cadaco-Ellis, Inc., assignee of Lorraine G. Wolfson, d.b.a. Robert Rosche Associates. SN 163,988. Pub. 4-28-64. Filed 3-5-63.

773,127. FASHION QUEEN. Mattel, Inc. SN 165,035. Pub. 4-28-64. Filed 4-2-63.

773,128. TRAIL KING. Spartans Industries, Inc. SN 166,585. Pub. 4-28-64. Filed 4-11-63.

773,129. DOBAN. Doban Labs, Inc. SN 167,128. Pub. 4-28-64. Filed 4-19-63.

773,130. MULTI-BAR. Coach's Sporting Goods Corporation. SN 168,904. Pub. 4-28-64. Filed 5-15-63.

773,131. DE LUXE READING CORP. AND DESIGN. De Luxe Reading Corporation. SN 170,617. Pub. 4-28-64. Filed 6-10-63.

773,132. PLAYBOY. HMH Publishing Co., Inc. SN 170,643. Pub. 4-28-64. Filed 6-10-63.

773,133. TRESSY. American Doll & Toy Corp. SN 170,721. Pub. 4-28-64. Filed 6-11-63.

773,134. TEE-TOTALER. Anderson Manufacturing Company. SN 171,523. Pub. 4-28-64. Filed 6-21-63.

773,135. WHICH ONE. Lewis A. Sinclair, d.b.a. Lou's Lures. SN 172,012. Pub. 4-28-64. Filed 6-27-63.

773,136. NOC OUT AND DESIGN. Mebuco, Inc. SN 172,753. Pub. 4-28-64. Filed 7-10-63.

773,137. KINDER CLAY. Sifo Company. SN 173,193. Pub. 4-28-64. Filed 7-17-63.

773,138. ZIP-FLYTE. Stowe-Woodward, Inc. SN 173,293. Pub. 4-28-64. Filed 7-19-63.

773,139. EBONITE. Stowe-Woodward, Inc. SN 173,294. Pub. 4-28-64. Filed 7-19-63.

773,140. ADMIRAL BLACKIE'S. Buddy Schoellkopf Products Inc. SN 173,706. Pub. 4-28-64. Filed 7-24-63.

773,141. GOLDEN GRIP. Brunswick Corporation. SN 173,806. Pub. 4-28-64. Filed 7-22-63.

773,142. THE MIGHTY KONG. Louis Marx & Co., Inc. SN 174,214. Pub. 4-28-64. Filed 8-1-63.

773,143. PUTTN BUTTN. Columbia Bedding Company. SN 174,749. Pub. 4-28-64. Filed 8-9-63.

773,144. ADMIRAL BLACKIE'S BRAND MARINE SAFETY SEAL OF AMERICA AND DESIGN ETC. Buddy Schoellkopf Products Inc. SN 174,794. Pub. 4-28-64. Filed 8-9-63.

773,145. DESIGN OF A SEAL LOOKING OUT A PORT HOLE. Buddy Schoellkopf Products Inc. SN 174,795. Pub. 4-28-64. Filed 8-9-63.

773,146. PUSH PENNY. Thomas E. Hunnemann. SN 175,034. Pub. 4-28-64. Filed 8-14-63.

773,147. RODEO. Manson Metal Equipment Co. SN 175,049. Pub. 4-28-64. Filed 8-14-63.

773,148. "ELMER'S FLY." Thompson Fishing Tackle Company, Inc. SN 175,816. Pub. 4-28-64. Filed 8-26-63.

773,149. WIKIUP. Boise Cascade Corporation, assignee of Ames Harris Neville Co. SN 176,442. Pub. 4-14-64. Filed 9-6-63.

773,150. G.I. JOE. Hasenfeld Bros., Inc. SN 177,037. Pub. 4-28-64. Filed 9-16-63.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

773,072. CONSOLIDATED CERTIFICATE. See Class 15.

773,151. BUFFETWARE. The Washburn Company. SN 162,044. Pub. 4-28-64. Filed 2-4-63.

773,152. KARTRIDG PAK. The Kartridg Pak Co. SN 163,558. Pub. 4-28-64. Filed 2-27-63.

773,153. OTIS AND DESIGN. Otis Elevator Company. SN 163,864. Pub. 4-28-64. Filed 3-4-63.

773,154. OTIS. Otis Elevator Company. SN 163,865. Pub. 4-28-64. Filed 3-4-63.

773,155. BUDDY-BOY. Lighter Corporation of America. SN 164,537. Pub. 4-28-64. Filed 3-13-63.

773,156. TRODAT AND DESIGN. Frans Just & Söhne Stempelwarenfabrik. SN 171,344. Pub. 4-28-64. Filed 6-19-63.

773,157. CHANGE-O-MATIC. Stewart-Warner Corporation. SN 174,990. Pub. 3-3-64. Filed 8-13-63.

773,158. AUTOFROTH. Pacific Vegetable Oil Corporation. SN 177,434. Pub. 4-28-64. Filed 9-20-63.

773,159. BLUE LAKE. Landon, Inc. SN 177,530. Pub. 4-28-64. Filed 9-23-63.

773,160. ROLCON. Marlin-Rockwell Corporation. SN 177,533. Pub. 4-28-64. Filed 9-23-63.

773,161. ANY-SIZER AND DESIGN. Dayton Perforators, Inc. SN 181,528. Pub. 4-28-64. Filed 11-20-63.

773,162. PERMA-LINER III. Perma-Line Manufacturing Corporation of America. SN 181,920. Pub. 4-28-64. Filed 11-26-63.

Class 25 — Locks and Safes

773,163. WIZARD. Western Auto Supply Company. SN 178,512. Pub. 4-28-64. Filed 10-7-63.

773,164. SIMPLEX. Simplex Lock Corporation. SN 178,641. Pub. 4-28-64. Filed 10-9-63.

Class 26 — Measuring and Scientific Appliances

773,165. TUTOR. U.S. Industries, Inc. SN 115,095. Pub. 4-28-64. Filed 3-7-61.

773,166. QUAN-TECH. Quan-Tech Laboratories, Inc. SN 145,290. Pub. 4-28-64. Filed 5-23-62.

773,167. AEROPAD. American Radiator & Standard Sanitary Corporation. SN 158,125. Pub. 4-28-64. Filed 11-29-62.

773,168. KEITHLEY. Keithley Instruments, Inc. SN 164,250. Pub. 4-28-64. Filed 3-8-63.

773,169. KLENZADE AND DESIGN. Economics Laboratory, Inc. SN 175,255. Pub. 4-28-64. Filed 8-16-63.

Class 28 — Jewelry and Precious-Metal Ware

773,170. GL AND DESIGN. Goldcrest Jewelry, Inc. SN 160,419. Pub. 4-28-64. Filed 1-9-63.

773,171. TRB (FANCIFUL). Freshmans Jewelers Supply. SN 162,252. Pub. 4-28-64. Filed 2-7-63.

773,172. MOONOPALS AND DESIGN. Luminerals Ltd. SN 163,154. Pub. 4-28-64. Filed 2-20-63.

773,173. SUN O PALS AND DESIGN. Luminerals Ltd. SN 163,155. Pub. 4-28-64. Filed 2-20-63.

773,174. DESIGN OF A GOBLET. Aktieselskapet Th. Marthinsen Solvvarefabrikk. SN 167,077. Pub. 4-28-64. Filed 5-25-63.

773,175. ROYAL PASTELLI AND DESIGN. Royal of Pittsburgh, Inc. SN 170,680. Pub. 4-28-64. Filed 6-10-63.

773,176. JH. Norman E. Haertel, d.b.a. Janicon-Haertel. SN 173,111. Pub. 4-28-64. Filed 7-16-63.

773,177. WASHINGTON. James Smithmeyer, d.b.a. Washington Ring Mfg. Co. SN 175,485. Pub. 4-28-64. Filed 8-20-63.

Class 29 — Brooms, Brushes, and Dusters

773,178. ROFCO. Marcel Refé, d.b.a. Marcel Refé Company. SN 166,490. Pub. 4-28-64. Filed 4-10-63.

773,179. KLENZADE AND DESIGN. Economics Laboratory, Inc. SN 175,256. Pub. 4-28-64. Filed 8-16-63.

Class 31 — Filters and Refrigerators

773,180. REFRESHERATOR. Great Bear Spring Company. SN 177,354. Pub. 4-28-64. Filed 9-19-63.

773,181. DESIGN OF A BIRD. Thermoelectric Systems Corporation. SN 179,980. Pub. 4-28-64. Filed 10-28-63.

773,182. DIAL-PURE. Sylvan Pools, Inc. SN 180,462. Pub. 4-28-64. Filed 11-4-63.

Class 32 — Furniture and Upholstery

773,183. MENGEL. Mengel Wood Industries, Inc. SN 160,876. Pub. 4-28-64. Filed 1-17-63.

773,184. TIFFANY STAND ETC. AND DESIGN. Tiffany Stand Company. SN 166,547. Pub. 3-10-64. Filed 5-27-63.

Class 34 — Heating, Lighting, and Ventilating Apparatus

773,185. SCAMP. Crutcher-Rolfs-Cummings, Inc. SN 159,567. Pub. 4-7-64. Filed 12-21-62.

773,186. SUNSORB. Wallace W. Miller. SN 165,805. Pub. 4-28-64. Filed 4-1-63.

773,187. HOB-O. Weld Tooling Corporation. SN 166,881. Pub. 4-28-64. Filed 5-14-63.

773,188. HI-WAVE ETC. AND DESIGN. The Taylor-Winfield Corporation. SN 174,295. Pub. 4-28-64. Filed 8-2-63.

773,189. AUTO FIRE AND DESIGN. Auto Fire Corporation. SN 180,995. Pub. 4-28-64. Filed 11-13-63.

773,190. EUTECTIC AND DESIGN. Eutectic Welding Alloys Corporation. SN 181,026. Pub. 4-28-64. Filed 11-13-63.

773,191. CERA FORM. Johns-Manville Corporation. SN 181,150. Pub. 4-28-64. Filed 11-14-63.

773,192. WHIRLOUT. Swartwout Fabricators, Inc. SN 181,191. Pub. 4-28-64 Filed 11-14-63

773,193. INDUCTO. Inductotherm Corporation. SN 181,238. Pub. 4-28-64. Filed 11-15-63.

773,194. PAPERFLAME. Boone Manufacturing Corp. SN 181,310. Pub. 4-28-64. Filed 11-18-63.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

773,195. TOTER-KIT. Gross Manufacturing Company, Inc. SN 166,709. Pub. 4–28–64. Filed 4–15–63.

Class 37—Paper and Stationery

773,013. (See Class 2 for this trademark.)

773,196. BREWER AND DESIGN. Brewer Pharmacal Engineering Corporation. SN 169,811. Pub. 4–28–64. Filed 1–25–62.

773,197. VIZ-A-BACK. The Colad Company, Inc. SN 159,470. Pub. 4–28–64. Filed 12–20–62.

Class 38—Prints and Publications

773,198. TUTORTEXT. U.S. Industries, Inc. SN 115,096. Pub. 4–28–64. Filed 3–7–61.

773,199. TUTORFILM. U.S. Industries, Inc. SN 141,558. Pub. 4–28–64. Filed 4–4–62.

773,200. AMERICAN EDUCATION SERIES. American Education Series, Inc., assignee of Frank P. Dinsmore II, d.b.a. American Education Series. SN 158,789. Pub. 4–28–64. Filed 12–10–62.

773,201. ELECTRONIC PROCUREMENT. Ojibway Press, Inc. SN 158,926. Pub. 4–28–64. Filed 12–11–62.

773,202. CARIBBEAN PANORAMA. Helen Lowe Auble, d.b.a. Caribbean Publications. SN 161,227. Pub. 4–28–64. Filed 1–23–63.

773,203. TOCSIN. Tocsin, Inc., assignee of Charles Fox, George H. Keith and David G. Rosehill. SN 164,339. Pub. 4–28–64. Filed 3–11–63.

773,204. OFFICIAL STEAMSHIP GUIDE. Transportation Guides, Inc. SN 166,419. Pub. 4–28–64. Filed 4–9–63.

773,205. HIAWATHA. Hiawatha Card Company. SN 169,028. Pub. 4–28–64. Filed 5–16–63.

773,206. IEEE TRANSACTIONS. The Institute of Electrical and Electronics Engineers, Incorporated. SN 170,912. Pub. 4–28–64. Filed 6–13–63.

773,207. ETCH O GRAPH. Gerald Cleveland, d.b.a. Pictographics. SN 171,309. Pub. 4–28–64. Filed 6–19–63.

773,208. ELECTRONICS BUYERS' GUIDE. McGraw-Hill, Inc., by change of name from McGraw-Hill Publishing Company, Inc. SN 171,471. Pub. 4–21–64. Filed 6–20–63.

773,209. DINING WITH JANE AND DESIGN. Ruth Walbridge, d.b.a. Jane Matthews. SN 171,822. Pub. 4–28–64. Filed 6–25–63.

773,210. SHOPPING WITH JANE AND DESIGN. Ruth Walbridge, d.b.a. Jane Matthews. SN 171,823. Pub. 4–28–64. Filed 6–25–63.

773,211. VALOR THE OFFICIAL POLICE REVIEW. National Police Officers Association of America, Inc. SN 171,908. Pub. 4–28–64. Filed 6–26–63.

773,212. XLO. Excello Specialty Company. SN 173,242. Pub. 4–28–64. Filed 7–18–63.

773,213. ELECTRONIC PROGRESS. Raytheon Company. SN 173,694. Pub. 4–28–64. Filed 7–24–63.

773,214. THE TEN MINUTE REPORT AND DESIGN. Ten Minute Reports, Inc. SN 173,883. Pub. 4–28–64. Filed 7–29–63.

773,215. ISA JOURNAL. Instrument Society of America. SN 174,589. Pub. 4–28–64. Filed 8–7–63.

773,216. REXALLITE REPORTER AND DESIGN. Rexall Drug and Chemical Company. SN 174,709. Pub. 4–28–64. Filed 8–8–63.

773,217. COLONIAL COVERLET GUILD OF AMERICA AND DESIGN. Colonial Coverlet Guild of America. SN 175,703. Pub. 4–28–64. Filed 8–6–63.

773,218. LITO AND DESIGN. Halstagbergs Litografiska Aktiebolag. SN 175,752. Pub. 4–28–64. Filed 8–26–63.

773,219. ISA TRANSACTIONS. Instrument Society of America. SN 176,806. Pub. 4–28–64. Filed 9–4–63.

773,220. SMI. Success Motivation Institute, Inc. SN 183,932. Pub. 4–28–64. Filed 1–2–64.

Class 39—Clothing

773,221. WEATHEROGUE BY FABRINI. Fabrini Imports, Ltd. SN 132,989. Pub. 4–28–64. Filed 11–29–61.

773,222. PRIM. Prim Products, Inc. SN 140,582. Pub. 3–17–64. Filed 3–21–62.

773,223. DUNHILL TAILORS. Dunhill Tailored Clothes, Inc. SN 162,427. Pub. 3–27–63. Filed 2–11–63.

773,224. MARATHON. Redbee Hosiery Company, Inc. SN 162,590. Pub. 3–17–64. Filed 2–12–63.

773,225. DE LUXE. Sturm & Scheinberg, Inc. SN 163,426. Pub. 4–28–64. Filed 2–25–63.

773,226. RODIFLEX. Sociedad Anonima Sanilehi. SN 163,693. Pub. 4–28–64. Filed 2–28–63.

773,227. FIT-TOGETHERS. The H. W. Gossard Company, d.b.a. The Artemis Company. SN 163,836. Pub. 4–28–64. Filed 3–4–63.

773,228. TEN-TWENTY 1020 COLLECTION. Irwin B. Schwabe Company, Incorporated. SN 166,217. Pub. 4–28–64. Filed 4–5–63.

773,229. FIRST FAMILY HOSIERY FOR YOUR FIRST FAMILY. Penron Associated Hosiery Mills, Inc., assignee of Penron Associated Hosiery Mills. SN 168,660. Pub. 4–28–64. Filed 5–10–63.

773,230. DESIGN OF MAN IN WELDER'S COSTUME. American Optical Company. SN 170,800. Pub. 4–28–64. Filed 6–12–63.

773,231. TROPILANO. Hickey-Freeman Company. SN 175,577. Pub. 3–17–64. Filed 8–22–63.

773,232. SLIM-LASTIC. Carlyle Shirt Co., Inc. SN 179,398. Pub. 4–28–64. Filed 10–21–63.

Class 40—Fancy Goods, Furnishings, and Notions

773,233. FIXLOCK. Aktiebolaget Fixfabriken. SN 168,263. Pub. 4–28–64. Filed 5–3–63.

773,234. POUFF. Maryon Hosiery Mill, Inc. SN 171,550. Pub. 4–28–64. Filed 6–21–63.

773,235. SUEDE-X. Pentapco, Inc. SN 174,045. Pub. 4–28–64. Filed 7–30–63.

773,236. EZE-GLIDE. Hattie Lorena Forsee. SN 174,858. Pub. 4–28–64. Filed 8–12–63.

773,237. ROYALE. I. B. Kleinert Rubber Company. SN 180,099. Pub. 4–28–64. Filed 10–30–63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

773,238. LADY CAROLYN. Carolyn Chenilles, Inc. SN 127,199. Pub. 4–28–64. Filed 9–5–61.

773,239. POOLTEX. Collins & Aikman Corporation. SN 163,933. Pub. 4–28–64. Filed 3–5–63.

773,240. OXSPORT. Dan River Mills, Incorporated. SN 176,171. Pub. 4–28–64. Filed 9–3–63.

773,241. THERMASTAR. Beaunit Corporation. SN 176,419. Pub. 4–28–64. Filed 9–6–63.

Class 44—Dental, Medical, and Surgical Appliances

773,242. F & M. F & M Scientific Corporation. SN 146,284. Pub. 4–28–64. Filed 6–8–62.

773,243. UNIGARD. Fuller Pharmaceutical Company. SN 169,626. Pub. 4-28-64. Filed 5-24-63.

Class 45—Soft Drinks and Carbonated Waters

773,244. C & C WILSHIRE CLUB 7-11. Cantrell & Cochrane Ltd., Inc., d.b.a. C & C Wilshire Club Beverage Co. SN 152,202. Pub. 4-28-64. Filed 8-30-62.

773,245. ZATARAIN'S. Pa-Poose Products Co., Inc. SN 165,617. Pub. 4-28-64. Filed 3-28-63.

Class 46—Foods and Ingredients of Foods

773,246. SCHOONERS. The South Shore Packing Corporation. SN 129,638. Pub. 4-28-64. Filed 10-10-61.

773,247. ZALOOM AND DESIGN. Jos. A. Zaloom & Co., Inc. SN 138,343. Pub. 4-28-64. Filed 2-20-62.

773,248. ZALOOM AND DESIGN. Jos. A. Zaloom & Co., Inc. SN 138,344. Pub. 4-28-64. Filed 2-20-62.

773,249. COATSWELL. Hooton Chocolate Company. SN 140,093. Pub. 4-28-64. Filed 3-26-62.

773,250. FLAVORCOAT. Hooton Chocolate Company. SN 140,094. Pub. 4-28-64. Filed 3-26-62.

773,251. YANKEE KINGDOM ORCHARDS AND DESIGN. William H. Findlesen. SN 141,514. Pub. 4-28-64. Filed 4-4-62.

773,252. ANGELUS. Angelus Frozen Foods. SN 149,521. Pub. 4-28-64. Filed 7-23-62.

773,253. POPPETS. George Payne & Co., Limited. SN 152,081. Pub. 4-28-64. Filed 8-28-62.

773,254. MRS. T'S FRY-A-PIE AND DESIGN. Ateeco, Inc. SN 153,146. Pub. 4-28-64. Filed 9-14-62.

773,255. GRO-GETTER. Central Soya Company, Inc., d.b.a. Central Soya. SN 156,220. Pub. 1-21-64. Filed 10-30-62.

773,256. HOT TAMALE CONE ETC. AND DESIGN. Joseph F. De Frates, d.b.a. Joseph F. De Frates Co. SN 156,802. Pub. 4-28-64. Filed 11-7-62.

773,257. MR. SEYMOUR AND DESIGN. Sol Lazar, d.b.a. Lazar's Kosher Sausage Factory. SN 157,915. Pub. 3-3-64. Filed 11-26-62.

773,258. HILLSIDE. National Tea Co. SN 158,942. Pub. 4-28-64. Filed 12-11-62.

773,259. TONE'S. Tone Brothers. SN 162,371. Pub. 4-28-64. Filed 2-8-63.

773,260. MING FOY AND DESIGN. Chinese Trading Company. SN 162,822. Pub. 4-28-64. Filed 2-15-63.

773,261. CAN D LITE AND DESIGN. The Kansas Wholesale Grocery Company. SN 162,955. Pub. 4-28-64. Filed 2-18-63.

773,262. BREST O' GOLD. Central Cooperative Turkey Producers. SN 163,319. Pub. 4-28-64. Filed 2-25-63.

773,263. C.R.O. Columbia River Orchards Company. SN 163,320. Pub. 4-28-64. Filed 2-25-63.

773,264. ALEMAGNA PANETTONE AND DESIGN. Alemagna Panettoni Di Gioachino Alemagna & C. SN 164,088. Pub. 4-28-64. Filed 3-6-63.

773,265. FORTEX. Dallas Egg Products Company, Inc. SN 164,309. Pub. 4-28-64. Filed 3-11-63.

773,266. HOT STUF. Pa-Poose Products Co., Inc. SN 164,461. Pub. 4-28-64. Filed 3-12-63.

773,267. GARVEY'S. Pa-Poose Products Co., Inc. SN 164,462. Pub. 4-28-64. Filed 3-12-63.

773,268. MANLEY'S AND DESIGN. Manley, Inc. SN 164,863. Pub. 4-28-64. Filed 3-18-63.

773,269. ZATARAIN'S. Pa-Poose Products Co., Inc. SN 165,618. Pub. 4-28-64. Filed 3-28-63.

773,270. DAIRY QUEEN. American Dairy Queen Corporation. SN 166,147. Pub. 4-28-64. Filed 4-5-63.

773,271. DAIRY QUEEN. American Dairy Queen Corporation. SN 166,148. Pub. 4-28-64. Filed 4-5-63.

773,272. FLAVOS AND DESIGN. Flavo-Rite Foods, Inc. SN 166,272. Pub. 4-28-64. Filed 4-8-63.

773,273. PEPPI-PRONTO. Savio T. La Guardia, d.b.a. Savio T. La Guardia Co. SN 166,812. Pub. 3-18-64. Filed 4-16-63.

773,274. OLYMPIC. M. Caratan, Inc., d.b.a. M. Caratan. SN 168,154. Pub. 4-28-64. Filed 5-6-63.

773,275. CASCADE INN AND DESIGN. Benner Tea Company. SN 169,691. Pub. 4-28-64. Filed 5-27-63.

773,276. MEIL-A-MAID AND DESIGN. Frozen Institutional Sales Co-Op, Inc., d.b.a. Fisco. SN 170,059. Pub. 4-28-64. Filed 5-31-63.

773,277. MIZRACH. Mizrach Kosher Provisions, Inc. SN 171,695. Pub. 4-28-64. Filed 6-24-63.

773,278. OAK FARMS. The Southland Corporation, d.b.a. Oak Farms Dairies. SN 172,346. Pub. 4-28-64. Filed 7-2-63.

773,279. MEISTO AND DESIGN. Meiji Shoji Kabushiki Kaisha. SN 172,754. Pub. 4-28-64. Filed 7-10-63.

773,280. BOKOO. Beatrice Foods Co. SN 173,811. Pub. 4-28-64. Filed 7-26-63.

773,281. PAN WHIZ. The Pillsbury Company. SN 173,954. Pub. 4-28-64. Filed 7-29-63.

773,282. BARNEY'S. Bernan Food Products Co. SN 174,074. Pub. 4-28-64. Filed 7-31-63.

773,283. FLAMBE INTERNATIONALE. Contact International, Inc. SN 174,835. Pub. 4-28-64. Filed 8-12-63.

773,284. OUTSIDE-INSIDE. Good Humor Corporation. SN 175,275. Pub. 4-28-64. Filed 8-19-63.

773,285. CAFE LITE. Cafe Lite Inc. SN 175,284. Pub. 4-28-64. Filed 8-20-63.

773,286. CRANAPPLE. Ocean Spray Cranberries, Inc. SN 175,429. Pub. 4-28-64. Filed 8-20-63.

773,287. DRI-CARB. Fries & Fries, Inc. SN 175,570. Pub. 4-28-64. Filed 8-22-63.

773,288. SQUARONI. Prince Macaroni Manufacturing Company. SN 175,790. Pub. 4-28-64. Filed 8-26-63.

773,289. KOVENTRY. William H. Singer, d.b.a. Singer Brokerage Company and as Wm. H. Singer. SN 176,679. Pub. 4-28-64. Filed 9-10-63.

773,290. CELENTANO. Celentano Bros., Inc. SN 177,000. Pub. 4-28-64. Filed 9-16-63.

773,291. DEMITASSE. Forest Laboratories, Inc. SN 177,346. Pub. 4-28-64. Filed 9-19-63.

773,292. SWEET-NUF. Forest Laboratories, Inc. SN 177,347. Pub. 4-28-64. Filed 9-19-63.

773,293. SWEET-EZE. Forest Laboratories, Inc. SN 177,348. Pub. 4-28-64. Filed 9-19-63.

773,294. MERRY GO ROUND AND DESIGN. Streshmann Brothers Company. SN 177,602. Pub. 4-28-64. Filed 9-24-63.

773,295. ROUND 'WICH. C. J. Patterson Company. SN 178,218. Pub. 4-28-64. Filed 10-2-63.

773,296. KLEIN'S K AND DESIGN. Klein Chocolate Company. SN 178,357. Pub. 4-28-64. Filed 10-4-63.

773,297. WANTED. Valley Vegetable Shippers, Inc. SN 178,506. Pub. 4-28-64. Filed 10-7-63.

773,298. PERMA LIFE. Sterneo Industries, Inc. SN 178,652. Pub. 4-28-64. Filed 10-9-63.

773,299. CHECKERBOARD DESIGN. Ralston Purina Company. SN 179,927. Pub. 4-14-64. Filed 10-28-63.

773,300. SOLU-SMOKE. Red Arrow Products Corporation. SN 181,067. Pub. 4-28-64. Filed 11-13-63.

773,301. COOPER AND DESIGN. W. S. Pope & Son, d.b.a. W. S. Pope & Sons. SN 181,277. Pub. 4-28-64. Filed 11-15-63.

773,302. DESIGN PORTRAITS. Harry and David. SN 181,354. Pub. 4-28-64. Filed 11-18-63.

773,303. DELTRIX. Delta Industries, Inc. SN 181,591. Pub. 4-28-64. Filed 11-6-63.

773,304. REPRESENTATION OF A FEMALE FIGURE. C. F. Mueller Company. SN 181,663. Pub. 4-28-64. Filed 11-21-63.

773,306. A. W. PERDUE & SON, INC. AND DESIGN. A. W. Perdue & Son, Inc. SN 181,672. Pub. 4-28-64. Filed 11-21-63.

773,309. GRIDDLE-QUICK. General Mills, Inc. SN 181,820. Pub. 4-28-64. Filed 11-25-63.

Class 47 — Wines

773,307. SABER. Soc. Com. Abel Pereira da Fonseca (S.A.R.L.). SN 160,416. Pub. 4-28-64. Filed 4-9-63.

773,308. PICCOLO. Henkell & Co. SN 171,984. Pub. 4-28-64. Filed 6-27-63.

773,309. SANGRE DE TORO. Miguel Torres. SN 175,340. Pub. 4-28-64. Filed 8-19-63.

Class 49 — Distilled Alcoholic Liquors

773,310. GREEN FISH. Diego Zamora Conesa y Cia., S.R.C. SN 159,392. Pub. 4-28-64. Filed 5-22-63.

773,311. PAST AGES AND DESIGN. H. C. Macpherson, d.b.a. Macpherson & Company and A. & B. Mackay, Ltd. SN 176,663. Pub. 4-28-64. Filed 9-10-63.

Class 50 — Merchandise Not Otherwise Classified

773,312. KETCH ALL. Ketch-All Company. SN 129,013. Pub. 4-28-64. Filed 10-2-61.

773,313. IMPERIAL. Addlife Inc., d.b.a. Addlife's. SN 153,613. Pub. 4-28-64. Filed 9-21-62.

773,314. SIGN-O-MATIC. Cue Industries, Inc. SN 154,479. Pub. 4-28-64. Filed 10-4-62.

773,315. PIXIE PIX. Harold Leonard & Co. Inc. SN 155,161. Pub. 4-28-64. Filed 10-15-62.

773,316. CADE-MASTER. The Brewer-Titchener Corporation. SN 174,076. Pub. 4-28-64. Filed 7-31-63.

773,317. SILVERLITH. Silverlith Corporation. SN 175,219. Pub. 4-28-64. Filed 8-16-63.

773,318. FASSON. Avery Adhesive Products, Inc. SN 176,772. Pub. 4-28-64. Filed 9-11-63.

773,319. LONGLIFE. Sterneo Industries, Inc. SN 176,966. Pub. 4-28-64. Filed 9-13-63.

773,320. U.S.C. United States Crown Corporation. SN 180,340. Pub. 4-28-64. Filed 11-1-63.

773,321. VENDADCO. Vendadco, Inc. SN 180,471. Pub. 4-28-64. Filed 11-4-63.

Class 51 — Cosmetics and Toilet Preparations

773,322. MILLIONAIRE. Physico-Chemical Processes Ltd. SN 123,495. Pub. 4-28-64. Filed 7-6-61.

773,323. MILLIONAIRESS. Physico-Chemical Processes Ltd. SN 123,496. Pub. 4-28-64. Filed 7-6-61.

773,324. COUTURINE. Revlon, Inc. SN 132,370. Pub. 7-23-63. Filed 11-20-61.

773,325. ARONAL. Gaba Ltd. SN 157,364. Pub. 4-28-64. Filed 6-6-63.

773,326. MAN'S MAN. Rudolph J. Prezioni, d.b.a. Gerard Products Co. SN 161,903. Pub. 4-28-64. Filed 2-1-63.

773,327. MASCAROFF. American Hygienic Laboratories, Inc. SN 167,597. Pub. 4-28-64. Filed 4-26-63.

773,328. GELI FLOID. Haugron Cientifical, S.A. SN 167,676. Pub. 4-28-64. Filed 4-25-63.

773,329. BIO GELE. Elisabeth of Sweden. SN 167,713. Pub. 4-28-64. Filed 4-29-63.

773,330. STAY SO. Demert & Dougherty, Inc. SN 169,116. Pub. 4-28-64. Filed 5-17-63.

773,331. THROAT MAGIC. Lusier Incorporated. SN 170,082. Pub. 4-28-64. Filed 5-31-63.

773,332. D AND DESIGN. Rilling Dermetics Company. SN170,219. Pub. 4-28-64. Pub. 6-3-63.

773,333. McK AND DESIGN. McKesson & Robbins, Incorporated. SN 171,691. Pub. 4-28-64. Filed 6-24-63.

773,334. BAL A VERSAILLES. Jean Despres. SN 173,156. Pub. 4-28-64. Filed 7-17-63.

773,335. JOLLY NIGHT. Lander Co. Inc., d.b.a. Lander. SN 174,671. Pub. 4-28-64. Filed 8-8-63.

773,336. CROSSBOW. F. J. Lawrence Co. SN 175,766. Pub. 4-28-64. Filed 8-26-63.

773,337. HOME SALON. Avon Products, Inc. SN 176,874. Pub. 4-28-64. Filed 9-13-63.

773,338. DOUBLE CLEEN. Avon Products, Inc. SN 177,149. Pub. 4-28-64. Filed 9-17-63.

773,339. CANDID. Avon Products, Inc. SN 177,150. Pub. 4-28-64. Filed 9-17-63.

773,340. VIVACIOUS. The Nestle Lemur Company, d.b.a. Irresistible. SN 177,184. Pub. 4-28-64. Filed 9-17-63.

773,341. IMPETUOUS. Rilling Dermetics Company. SN 177,296. Pub. 4-28-64. Filed 9-18-63.

773,342. SMOOTH TOUCH. Rilling Dermetics Company. SN 177,297. Pub. 4-28-64. Filed 9-18-63.

773,343. JERLON. J. Strickland & Co. SN 177,568. Pub. 4-28-64. Filed 9-23-63.

Class 52 — Detergents and Soaps

773,344. RAMI-LIFE. Hodges Research & Development Company. SN 153,763. Pub. 1-28-64. Filed 9-24-62.

773,345. RAU'S LAZYMANS' CLEANER. Ted Brown Sales Co. SN 158,958. Pub. 4-28-64. Filed 12-12-62.

773,346. PC-430. Plunkett Chemical Company. SN 166,404. Pub. 4-28-64. Filed 4-9-63.

773,347. GOBI. Ros, Inc. SN 172,778. Pub. 4-28-64. Filed 7-10-63.

773,348. SILVEX AND DESIGN. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores. SN 175,159. Pub. 4-28-64. Filed 8-16-63.

773,349. MONDIAL. Armour and Company. SN 175,711. Pub. 4-28-64. Filed 8-26-63.

773,350. SILVER SONIC. Winfield Brooks Company, Inc. SN 176,487. Pub. 4-28-64. Filed 9-9-63.

773,351. SORB-IT. Hillyard Enterprises, Inc., by change of name from Hillyard Chemical Company. SN 176,734. Pub. 4-28-64. Filed 9-11-63.

773,352. JETISOIL. Purex Corporation, Ltd., d.b.a. Turco Products, Inc. SN 177,067. Pub. 4-28-64. Filed 9-16-63.

773,353. COLOR-POO. Drone Enterprises. SN 177,236. Pub. 4-28-64. Filed 9-18-63.

773,354. TILE-O. Purex Corporation, Ltd., d.b.a. Turco Products, Inc. SN 177,288. Pub. 4-28-64. Filed 9-18-63.

773,355. KARPETREET. Multi-Clean Products, Incorporated. SN 177,432. Pub. 4-28-64. Filed 9-20-63.

773,356. ATLAS. Atlas Supply Company. SN 177,674. Pub. 4-28-64. Filed 9-25-63.

773,357. PRIDE OF THE KITCHEN. East Coast Soap Corporation. SN 177,778. Pub. 4-28-64. Filed 9-26-63.

773,358. POWERHOUSE. Lestoil Products, Inc. SN 177,799. Pub. 4-28-64. Filed 9-26-63.

773,359. NEPTUNE. Lever Brothers Company. SN 177,899. Pub. 4-28-64. Filed 9-27-63.

773,360. KLENZADE AND DESIGN. Economics Laboratory, Inc. SN 177,977. Pub. 4-28-64. Filed 9-30-63.

773,361. VITA-POWER. Western Auto Supply Company. SN 178,513. Pub. 4-28-64. Filed 10-7-63.

Service Marks

Class 100 — Miscellaneous

773,362. ARC. Atlantic Research Corporation. SN 144,038. Pub. 4-28-64. Filed 5-8-62.

773,363. BREWER AND DESIGN. Brewer Pharmacal Engineering Corporation. SN 149,812. Pub. 4-28-64. Filed 7-26-62.

773,364. PUBLIC SERVICE CO. OF COLORADO IN ANNULAR BORDER ENCLOSING FLAME DESIGN. Public Service Company of Colorado. SN 155,188. Pub. 4-28-64. Filed 10-15-62.

773,365. FUNERAL SECURITY PLANS, INC. AND DESIGN. Funeral Security Plans, Inc. SN 160,629. Pub. 4-28-64. Filed 1-14-63.

773,366. AMERICAN LAND TITLE ASSOCIATION AND DESIGN. American Land Title Association. SN 177,473. Pub. 4-28-64. Filed 9-23-63.

Class 101 — Advertising and Business

773,367. HAPI ETC. IN CIRCLE AND DESIGN. National Retail Lumber Dealers Association. SN 136,916. Pub. 4-28-64. Filed 1-30-62.

773,368. HAPI ETC. AND DESIGN. National Retail Lumber Dealers Association. SN 136,917. Pub. 4-28-64. Filed 1-30-62.

773,369. TOP DOLLAR. Reginald R. Oakley, d.b.a. Top Dollar Auctioneers of America. SN 147,951. Pub. 4-28-64. Filed 6-25-62.

773,370. THEY DID IT AGAIN, RICH PORT ETC. AND DESIGN. Rich Port Realtor, Inc. SN 158,100. Pub. 4-28-64. Filed 11-28-62.

773,371. CASH-DRAWER. Lee Coleman, d.b.a. Lee Coleman Co. SN 162,168. Pub. 4-28-64. Filed 2-6-63.

773,372. PSI AND DESIGN. Programming and Systems, Inc. SN 163,275. Pub. 4-28-64. Filed 2-21-63.

773,373. E.R.A. Economics Research Associates. SN 167,289. Pub. 4-28-64. Filed 4-22-63.

773,374. HEALTH CROSS. A. Robinson & Co., Inc., d.b.a. Health Cross Discount Centers. SN 170,557. Pub. 4-28-64. Filed 6-7-63.

773,375. CAMPUS PAC. Guest Pac Corporation. SN 171,131. Pub. 4-28-64. Filed 6-17-63.

773,376. THE GRACIOUS LADY SERVICE. The Gracious Lady Service, Inc., assignee of Practical Surveys, Inc. SN 174,607. Pub. 4-28-64. Filed 8-7-63.

Class 102 — Insurance and Financial

773,377. IN BUSINESS TO HELP BUSINESS. The Iroquois Company. SN 98,487. Pub. 4-28-64. Filed 6-6-60.

773,378. BIC BUDGET INSURANCE CENTER AND DESIGN. Continental Casualty Company. SN 148,490. Pub. 4-28-64. Filed 7-6-62.

773,379. DOLLARCARE. Mid-States Life Insurance Company of America. SN 157,528. Pub. 4-28-64. Filed 11-19-62.

773,380. AMERICAN FAMILY INSURANCE AND DESIGN. American Family Mutual Insurance Co., by change of name from Farmers Mutual Automobile Insurance Company. SN 161,485. Pub. 4-28-64. Filed 1-28-63.

773,381. AMERICAN FAMILY. American Family Mutual Insurance Co., by change of name from Farmers Mutual Automobile Insurance Company. SN 161,486. Pub. 4-28-64. Filed 1-28-63.

Class 103 — Construction and Repair

773,382. CME AND DESIGN. Carolina Medical Electronics, Inc. SN 149,818. Pub. 4-28-64. Filed 7-26-62.

773,383. OTIS AND DESIGN. Otis Elevator Company. SN 163,861. Pub. 4-28-64. Filed 3-4-63.

773,384. ARKRAFT. McElrath-Stewart Lumber Company. SN 169,643. Pub. 4-28-64. Filed 5-24-63.

Class 105 — Transportation and Storage

773,385. SKYROAD AND DESIGN. The Flying Tiger Line Inc. SN 161,331. Pub. 4-28-64. Filed 1-24-63.

773,386. MONITORED MOVEMENT. Air Express International Corp. SN 169,193. Pub. 4-28-64. Filed 5-20-63.

773,387. AEI-PAC. Air Express International Corp. SN 169,194. Pub. 4-28-64. Filed 5-20-63.

773,389. SOUTHERN SERVES THE SOUTH. Southern Railway Company. SN 169,684. Pub. 4-28-64. Filed 5-24-63.

Class 107 — Education and Entertainment

773,389. SCENOPHONIC. Walter T. Everest. SN 152,969. Pub. 4-28-64. Filed 9-12-62.

773,390. ACTION SALES CLINICS. Frank C. Russell, d.b.a. F. C. Russell Institute of Selling. SN 164,176. Pub. 4-28-64. Filed 3-7-63.

Collective Membership Mark

Class 200

773,391. LIGHTNING CLASS ASSOCIATION AND DESIGN. Lightning Class Association. SN 103,729. Pub. 4-28-64. Filed 5-31-60.

773,392. AJBC AND DESIGN. The American Junior Bowling Congress. SN 159,035. Pub. 4-28-64. Filed 12-13-62.

773,393. NATIONAL INSTITUTE OF LOCKER & FREEZER PROVISIONERS AND DESIGN. National Institute of Locker and Freezer Provisioners. SN 162,278. Pub. 4-28-64. Filed 2-7-63.

773,394. FLORISTS' TELEGRAPH DEL. ETC. AND DESIGN. Florists' Telegraph Delivery Association. SN 171,635. Pub. 4-28-64. Filed 6-24-63.

773,395. TWIU AND DESIGN. Tobacco Workers International Union, AFL-CIO, CLC. SN 175,138. Pub. 4-28-64. Filed 8-15-63.

773,396. AMERICAN LAND TITLE ASSOCIATION. American Land Title Association. SN 177,474. Pub. 4-28-64. Filed 9-23-63.

Certification Marks

Class A — Goods

773,397. DESIGN OF LIGHTNING. Lightning Class Association. SN 173,930. Pub. 4-28-64. Filed 7-29-63.

TRADEMARK REGISTRATIONS RENEWED

178,466. VIRGINIA DARE. Cl. 46. 2-12-24.
182,775. EVERYBODY'S. Cl. 52. 4-15-24.
183,966. CARNATION. Cl. 46. 5-13-24.
185,406. PLUTO. Cl. 37. 6-17-24.
185,953. GROZ-IT. Cl. 10. 7-1-24.
186,044. CLIMAX. Cl. 43. 7-1-24.
186,308. ROYAL PARK. Cl. 39. 7-8-24.
186,379. STYLUS. Cl. 40. 7-0-24.
187,291. ROSS. Cl. 18. 8-5-24.
187,410. ETHYL. Cl. 6. 8-5-24.
187,631. DR. ROSS. Cl. 18. 8-5-24.
188,326. KEN-L-RATION. Cl. 46. 8-26-24.
188,553. FUL-O-PEP AND DESIGN. Cl. 46. 8-26-24.
189,018. LAND-O-LAKES. Cl. 46. 9-9-24.
189,176. THE HOPP PRESS AND DESIGN. Cl. 37. 9-16-24.
189,281. ODIN. Cl. 37. 9-16-24.
189,282. THOR. Cl. 37. 9-16-24.
189,304. TOMATINE. Cl. 46. 9-16-24.
189,381. WRIGHT'S HEALTH UNDERWEAR AND DESIGN. Cl. 39. 9-16-24.
189,726. UNUSUAL CANDIES. Cl. 46. 9-23-24.
189,892. SECURITY. Cl. 46. 9-30-24.
189,911. MUFFETS. Cl. 46. 9-30-24.
190,490. WEATHERBEST. Cl. 12. 10-14-24.
190,495. CORDUROY. Cl. 35. 10-14-24.
190,711. PAR-O-VIS. Cl. 15. 10-21-24.
190,914. RED HAND AND DESIGN. Cl. 16. 10-28-24.
191,316. ERNST HEINRICH ROTH. Cl. 36. 11-4-24.
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408,646. CELLUGLOSS. Cl. 37. 8-22-44.
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408,917. PERMANIZED COLD SPRINGS. Cl. 37. 9-5-44.
408,920. TABU. Cl. 2. 9-5-44.
409,004. JEFFSON BY LORD JEFF AND DESIGN. Cl. 39. 9-12-44.
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409,442. FORMFIT. Cl. 39. 10-3-44.
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Section 8

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662,071. VUE. Cl. 1.
662,074. VACATION. Cl. 2.
662,076. POR-N-STOR. Cl. 2.
662,080. DYSTRIP. Cl. 6.
662,088. DESIGN OF LION'S HEAD AND CROSSED KEYS. Cl. 6.
662,094. ADECANE. Cl. 6.
662,095. BAFSIL. Cl. 6.
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662,106. K & M. Cl. 12.
662,110. POWERS CONTROL AND DESIGN. Cl. 13.
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662,121. DELIFEC. Cl. 18.
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662,146. BENACORTOL. Cl. 18.
662,147. CO-ALBA. Cl. 18.
662,151. ERGOPHETAMINE. Cl. 18.
662,154. CHRONOSULES. Cl. 18.
662,163. JET-A-WAY. Cl. 19.
662,164. JET-STREAM. Cl. 19.
662,168. FLYIN FLIVVER. Cl. 19.
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662,215. AMERICAN REDDI-LARM. Cl. 20.
662,218. SHADO-SCREEN. Cl. 26.
662,221. PAUL VERMOT. Cl. 27.
662,222. OMNIA AMOR VINCIT. Cl. 28.
662,226. NATURA "95." Cl. 28.
662,228. LEODENT. Cl. 28.
662,229. QUIK CLOTH. Cl. 29.
662,233. DESIGN OF BEAR. Cl. 32.
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662,298. TOPIC. Cl. 42.
662,299. MEADOWLANE. Cl. 42.
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662,308. "K & M." Cl. 43.
662,318. SLENDERELLA. Cl. 46.
662,318. ORANGE SUZIE. Cl. 46.
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662,327. BIG 8. Cl. 46.
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662,351. SALESMOBILE. Cl. 50.
662,352. SALES SENTRY. Cl. 50.
662,353. PERMA-PLATE. Cl. 50.
662,356. MAGIC ILLUSION. Cl. 51.
662,363. OLD AND NEW. Cl. 52.
662,371. CRAN-GLOW. Cl. 106.
662,375. SODA POP HOP. Cl. 107.
662,376. WESFA AND DESIGN. Cl. 200.
662,385. OVALLIPTIC. Cl. 51.
662,386. RAIL-DOR SERVICE. Cl. 106.

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714,539. BOYLENE. Cl. 18. 4-25-61.

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181,854. GREEN MOUNTAIN AND DESIGN. Cl. 18. 8–18–24. J. H. Guild Company, Inc., Rupert, Vt. Corrected: In the certificate, lines 8 and 16, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.

270,983. CAVANAGH HATS ETC. AND DESIGN. Cl. 3. 5–20–30. John Cavanagh, Ltd. Hat Corporation of America, Norwalk, Conn. Amended: In the statement, as amended, lines 9 and 10, "and the notation 'Park Avenue at 47th Street New York'" is deleted, and in lines 10 through 12, "in the nature of luggage, hat trunks, and traveling cases for canes" is deleted, and the drawing is amended to appear:



584,813. OAKITE. Cl. 52. 1–19–54. Oakite Products, Inc., New York, N.Y. Amended: In the statement, column 1, lines 6 and 7, "which is lined to indicate the color red," is deleted, and column 1, line 22 through column 2, line 4, as amended, is deleted, and the drawing is amended to appear:

OAKITE

598,499. PLANE FAX AND DESIGN. Cl. 38. 11–23–54. Standard Oil Company of California, San Francisco, Calif. Amended to appear:



671,993. STA-PREST. Cl. 39. 12–30–58. A. Solomon Co., New Orleans, La. Amended to appear:

STA-PREST

716,971. SCRUB-A-MATIC. Cl. 52. 6–13–61. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

717,644. AQUA-SPA. Cl. 44. 6–27–61. The Aqua-Spa Corporation, New York, N.Y. Corrected: In the statement, column 2, line 2, after "motor" *for use in a bath to create a whirlpool effect and for independent use as a massage head* should be inserted.

733,666. SAYF. Cl. 18. 7–3–62. The Gerson Stewart Corp., Cleveland, Ohio: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

734,696. SURGI-SCRUB. Cl. 52. 7–17–62. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

736,472. SYSTEMATIZED SANITATION. Cl. 4. 8–21–62. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

736,574. SYSTEMATIZED SANITATION. Cl. 6. 8–21–62. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

736,577. SYSTEMATIZED SANITATION. Cl. 16. 8–21–62. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

736,596. SYSTEMATIZED SANITATION. Cl. 52. 8–21–62. The Gerson Stewart Corp., Cleveland, Ohio. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Corp.* should be inserted.

767,094. MEDIAMATIC. Cl. 28. 3–24–64. Roto-Finish Company, Kalamazoo, Mich. Corrected: In the statement, column 2, line 2, "polish" should be deleted and *polishing* should be inserted.

768,006. DEL WEBB'S SUN CITY. Cl. 103. 4–7–64. The Del E. Webb Corporation, Phoenix, Ariz. Corrected: In the statement, column 1, line 2, "2800" should be deleted and *3800* should be inserted.

769,249. SHELTEX. Cl. 46. 5–5–64. Eastern States Farmers' Exchange, Incorporated, West Springfield, Mass. Corrected: In the statement, column 2, line 1, before "poultry" *protein* should be inserted.

769,378. PXP. Cl. 12. 5–12–64. Manhattan Terrasse Brass Strip Co., Inc., Norwalk, Conn. In the statement, column 2, line 2, "of" should be deleted and *or* should be inserted.

769,490. MICRO-GRIP. Cl. 23. 5–12–64. Lecount Tool Works, Inc., Cheshire, Conn. Corrected: In the statement, column 1, line 2, "352" should be deleted and *252* should be inserted.

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Addlife Inc., d.b.a. Addlife's, New York, N.Y. 773,313, pub. 4–28–64. Cl. 50.
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Addlife Inc.
Adler, Philip, Davis Islands, Tampa, Fla. 773,105, pub. 4–28–64. Cl. 19.
Agrashell, Inc., Los Angeles, Calif. 773,004, pub. 4–28–64. Cl. 1.
Aigner, Etienne, Sales Corp., New York, N.Y. 773,013, pub. 4–28–64. Cl. 3.
Air Express International Corp., New York, N.Y. 773,396–7, pub. 4–28–64. Cl. 105.
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Alamagna Panettoni Di Gioachino Alemagna & C., Milan, Italy. 773,264, pub. 4–28–64. Cl. 46.
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American Cyanamid Co., Wayne, N.J. 773,049, pub. 4–28–64. Cl. 6.
American Cyanamid Co., Wayne, N.J. 773,092–3, pub. 4–28–64. Cl. 18.
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American Education Series, Inc., Independence, Oreg., from Frank F. Dinsmore II, d.b.a. American Education Series, Monmouth, Oreg. 773,200, pub. 4–28–64. Cl. 38.
American Family Mutual Insurance Co., from Farmers Mutual Automobile Insurance Co., Madison, Wis. 773,380–1, pub. 4–28–64. Cl. 102.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 186,379, ren. 7–14–64. Cl. 40.
American Hygienic Laboratories, Inc., Miami Beach, Fla. 773,327, pub. 4–28–64. Cl. 51.
American Junior Bowling Congress, The, Chicago, Ill. 773,392, pub. 4–28–64. Cl. 200.
American Land Title Association, Washington, D.C. 773,366, pub. 4–28–64. Cl. 100.
American Land Title Association, Washington, D.C. 773,396, pub. 4–28–64. Cl. 200.
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Associated Distributors, Chicago, Ill., to Les Parfums De Dana, Inc., New York, N.Y. 408,920, ren. 7–14–64. Cl. 2.
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Atlantic Research Corp., Alexandria, Va. 773,262, pub. 4–28–64. Cl. 100.
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Atlas Supply Co., Newark, N.J. 773,256, pub. 4–28–64. Cl. 52.
Auble, Helen L., d.b.a. Caribbean Publications, St. Thomas, Virgin Islands. 773,202, pub. 4–28–64. Cl. 38.
Auto Fire Corp., Corinth, Miss. 773,189, pub. 4–28–64. Cl. 34.
Automatic Devices Co., Allentown, Pa. 773,067, pub. 4–28–64. Cl. 13.
Autrey Brothers, Inc., Denver, Colo. 662,267, canc. Cl. 38.
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B.J.D.L. Corp., Chicago, Ill. 662,319, canc. Cl. 46.
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Brunswick Corp., Chicago, Ill. 773,141, pub. 4–28–64. Cl. 22.
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Bryant Paper Co., to Allied Paper Corp., Kalamazoo, Mich. 408,666, ren. 7–14–64. Cl. 37.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 773,094–5, pub. 4–28–64. Cl. 18.
Butt, H. E., Grocery Co., d.b.a. H.E.B. Food Stores, Corpus Christi, Tex. 773,348, pub. 4–28–64. Cl. 52.
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Cadaco-Ellis, Inc., from L. G. Wolfson, d.b.a. Robert Rosche Associates, Chicago, Ill. 773,126, pub. 4–28–64. Cl. 22.
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California Ink Co., Inc., The, San Francisco, Calif. 773,077, pub. 4–28–64. Cl. 16.
California Texas Oil Corp., New York, N.Y. 773,036, pub. 4–28–64. Cl. 6.
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Auble, Helen L.
Carlyle Shirt Co., Inc., New York, N.Y. 773,232, pub. 4–28–64. Cl. 39.
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Carnation Milk Products Co., Wilmington, Del., Seattle, Wash., and Oconomowoc, Wis., to Carnation Co., Los Angeles, Calif. 183,986, ren. 7–14–64. Cl. 46.
Carolina Medical Electronics, Inc., Winston-Salem, N.C. 773,382, pub. 4–28–64. Cl. 103.

Carolyn Chenilles, Inc., New York, N.Y. 773,238, pub. 4-28-64. Cl. 42.
Cavanagh, John, Ltd. Hat Corp of America, Norwalk, Conn. 270,983. Am. 7(d). Cl. 3.
Celentano Bros., Inc., Newark, N.J. 773,290, pub. 4-28-64. Cl. 46.
Central Cooperative Turkey Producers, Ellsworth, Iowa. 773,262, pub. 4-28-64. Cl. 46.
Central Pharmacal Co., The, Seymour, Ind. 773,096, pub. 4-28-64. Cl. 18.
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Central Soya Co., Inc., Fort Wayne, Ind. 773,002, pub. 4-28-64. Cl. 1.
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Circle S Mfg. Co., to Lasso Mfg. Co., San Antonio, Tex. 662,287, canc. Cl. 39.
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Colad Co., Inc., The, Buffalo, N.Y. 773,197, pub. 4-28-64. Cl. 37.
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Collins & Aikman Corp., New York, N.Y. 773,239, pub. 4-28-64. Cl. 42.
Colonial Coverlet Guild of America, Lombard, Ill. 773,217, pub. 4-28-64. Cl. 38.
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Columbia River Orchards Co., Wenatchee, Wash. 773,263, pub. 4-28-64. Cl. 46.
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Coro, Inc., New York, N.Y. 408,246, ren. 7-14-64. Cl. 28.
Corrosion Reaction Consultants, Inc., Philadelphia, Pa. 773,038-9, pub. 4-28-64. Cl. 6.
Cory Corp., Chicago, Ill. 773,111, pub. 4-28-64. Cl. 21.
Cosan Chemical Corp., Elizabeth, N.J. 773,034-5, pub. 4-28-64. Cl. 6.
Cotton Goods Co., Inc., The, New York, N.Y. 772,999, pub. 4-28-64. Cl. 1.
Cranston Print Works Co., New York, N.Y. 662,271, canc. Cl. 106.
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Dacar Chemical Products Co., Pittsburgh, Pa. 773,056, pub. 4-28-64. Cl. 12.
Dan River Mills, Inc., Danville, Va. 773,240, pub. 4-28-64. Cl. 42.
Danbury Rubber Co., Inc., The, Danbury, Conn. 662,105, canc. Cl. 12.
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Desprez, Jean, Neuilly-sur-Seine (Seine), France. 773,334, pub. 4-28-64. Cl. 51.
Develco, Windom, Minn. 662,076, canc. Cl. 2.
Dialight Corp., Brooklyn, N.Y. 773,121, pub. 4-28-64. Cl. 21.
Diamond Alkali Co., Cleveland, Ohio. 773,043, pub. 4-28-64. Cl. 6.
Diego Zamora Conesa y Cia., S.R.C., San Antonio Abad-Cartagena, Murcia, Spain. 773,310, pub. 4-28-64. Cl. 49.
Dinsmore, Frank F., II: *See*—
American Education Series, Inc.
Dixo Co., Inc., Rochelle Park, N.J. 773,037, pub. 4-28-64. Multiple Class (Classes 6 and 52).
Doban Labs, Inc., Sunnyvale, Calif. 773,129, pub. 4-28-64. Cl. 22.
Dr. Madaus & Co., Cologne-Mercheim, Germany. 773,100, pub. 4-28-64. Cl. 18.
Dow Chemical Co., The, Midland, Mich. 773,025, pub. 4-28-64. Cl. 6.
Dow Chemical Co., The, Midland, Mich. 773,027, pub. 2-18-64. Cl. 6.
Drone Enterprises, Brooklyn, N.Y. 773,253, pub. 4-28-64. Cl. 52.
Dunhill Tailored Clothes, Inc., New York, N.Y. 773,223, pub. 8-27-63. Cl. 39.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 773,050, pub. 4-28-64. Cl. 6.
Durant Insulated Pipe Co., Inc., Niles, Mich. 773,065, pub. 4-28-64. Cl. 13.
Durham Chemicals Ltd., Birtley, Durham, England. 773,045, pub. 4-28-64. Cl. 6.
East Coast Soap Corp., Brooklyn, N.Y. 773,357, pub. 4-28-64. Cl. 52.
Eastern States Farmers' Exchange, Inc., West Springfield, Mass. 769,249, cor. Cl. 46.
Economics Laboratory, Inc., St. Paul, Minn. 773,169, pub. 4-28-64. Cl. 26.
Economics Laboratory, Inc., St. Paul, Minn. 773,179, pub. 4-28-64. Cl. 29.
Economics Laboratory, Inc., St. Paul, Minn. 773,860, pub. 4-28-64. Cl. 52.
Economics Research Associates, Los Angeles, Calif. 773,373, pub. 4-28-64. Cl. 101.
Edison, Thomas A., Inc., West Orange, N.J., to McGraw-Edison Co., Elgin, Ill. 400,966, ren. 7-14-64. Cl. 36.
Electro-cote Co., d.b.a. Stain-mate, Minneapolis, Minn. 773,062, pub. 4-28-64. Cl. 12.
Electropac, Inc., Peterborough, N.H. 773,118, pub. 4-28-64. Cl. 21.
Elisabeth of Sweden, Haledon, N.J. 773,329, pub. 4-28-64. Cl. 51.
Embart Mfg. Co., Hartford, Conn. 662,194, canc. Cl. 23.
Ethyl Corp.: *See*—
General Motors Chemical Co.
Eutectic Welding Alloys Corp., Flushing, N.Y. 773,190, pub. 4-28-64. Cl. 34.
Everest, Walter T., Lansdowne, Pa. 773,380, pub. 4-28-64. Cl. 107.
Excello Specialty Co., Cleveland, Ohio. 773,212, pub. 4-28-64. Cl. 38.
F & M Scientific Corp., near Avondale, Pa. 773,242, pub. 4-28-64. Cl. 44.
Fabrini Imports, Ltd., New York, N.Y. 773,221, pub. 4-28-64. Cl. 39.
Farmers Mutual Automobile Insurance Co.: *See*—
American Family Mutual Insurance Co.
Fashion Park Inc.: *See*—
Rosenberg Bros. & Co. Inc.
Fastening Devices, Inc., Brooklyn, N.Y. 662,204, canc. Cl. 23.
Favorite Plastic Corp., Brooklyn, N.Y. 773,008, pub. 4-28-64. Cl. 1.
Feature Ring Co., Inc., New York, N.Y. 662,222, canc. Cl. 28.
Fellows Medical Mfg. Co. Inc., Detroit, Mich. 773,081-2, pub. 4-28-64. Cl. 18.
Ferguson, Edgar A., Research Developments Inc., Brooklyn, N.Y. 662,151, canc. Cl. 18.
Findlesen, William H., Vergennes, Vt. 773,251, pub. 4-28-64. Cl. 46.
Fine Products Corp.: *See*—
Hollingsworth Candy Co.
Fine Products Corp., Augusta, Ga. 409,265, ren. 7-14-64. Cl. 46.
Fisco: *See*—
Frozen Institutional Sales Co-op, Inc.
Fisher Radio Corp., Long Island City, N.Y. 773,122, pub. 4-28-64. Cl. 21.
Flash Chemical Co., Cambridge, to Flash Sales Co., Inc., Woburn, Mass. 182,775, ren. 7-14-64. Cl. 52.
Flash Sales Co., Inc.: *See*—
Flash Chemical Co.
Flavo-Rite Foods, Inc., New York, N.Y. 773,272, pub. 4-28-64. Cl. 46.
Fleet-Wing Corp., Cleveland, Ohio. 773,040, pub. 4-28-64. Cl. 6.
Florists' Telegraph Delivery Association, Detroit, Mich. 773,394, pub. 4-28-64. Cl. 200.
Flying Tiger Line Inc., The, Burbank, Calif. 773,366, pub. 4-28-64. Cl. 105.
Forest Laboratories, Inc., Brooklyn, N.Y. 773,291-3, pub. 4-28-64. Cl. 46.
Formfit Co., The, Chicago, Ill., to Genesco Inc., Nashville, Tenn. 409,442, ren. 7-14-64. Cl. 39.
Forsee, Hattie L., Vallejo, Calif. 773,286, pub. 4-28-64. Cl. 40.
Fox, Charles: *See*—
Tocsin, Inc.
Freshmans Jewelers Supply, Salt Lake City, Utah. 773,171, pub. 4-28-64. Cl. 28.
Fries & Fries, Inc., Cincinnati, Ohio. 773,287, pub. 4-28-64. Cl. 46.
Frozen Institutional Sales Co-op, Inc., d.b.a. Fisco, San Francisco, Calif. 773,276, pub. 4-28-64. Cl. 46.
Fuller Pharmaceutical Co., Minneapolis, Minn. 773,084, pub. 4-28-64. Cl. 18.

Fuller Pharmaceutical Co., Minneapolis, Minn. 773,245, pub. 4-28-64. Cl. 44.
Funeral Security Plans, Inc., Kansas City, Mo. 773,365, pub. 4-28-64. Cl. 100.
Gaba Ltd., Basel, Switzerland. 773,325, pub. 4-28-64. Cl. 51.
Gamlen Chemical Co., South San Francisco, Calif. 773,029-9, pub. 4-28-64. Cl. 6.
Gamlen Research and Development Co., South San Francisco, Calif. 773,026, pub. 2-18-64. Cl. 6.
Gem-Dandy, Inc., Madison, N.C. 407,166, ren. 7-14-64. Cl. 39.
General Mills, Inc., Minneapolis, Minn. 773,306, pub. 4-28-64. Cl. 46.
General Motors Chemical Co., Moraine City, near Dayton, Ohio, to Ethyl Corp., New York, N.Y. 187,410, ren. 7-14-64. Cl. 6.
Genesco Inc.: *See*—
Formfit Co., The.
Gerard Products Co.: *See*—
Preziosi, Rudolph J.
Glenmore Distilleries Co., Louisville, Ky. 662,350, canc. Cl. 49.
Goldcrest Jewelry, Inc., New York, N.Y. 773,170, pub. 4-28-64. Cl. 28.
Good Humor Corp., Englewood Cliff, N.J. 773,284, pub. 4-28-64. Cl. 46.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 773,005, pub. 4-28-64. Cl. 1.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 662,066, canc. Cl. 1.
Gossard, H. W., Co., The, d.b.a. The Artemis Co., St. Louis, Mo. 773,227, pub. 4-28-64. Cl. 39.
Gracious Lady Service, Inc., The, from Practical Surveys, Inc., Philadelphia, Pa. 773,376, pub. 4-28-64. Cl. 101.
Great Bear Spring Co., New York, N.Y. 773,180, pub. 4-28-64. Cl. 31.
Gross Mfg. Co., Inc., Monrovia, Calif. 773,195, pub. 4-28-64. Cl. 35.
Growers Fertiliser Co.: *See*—
Pacific Manure & Fertiliser Co.
Guest Pac Corp., Mount Vernon, N.Y. 773,375, pub. 4-28-64. Cl. 101.
Guild, J. H., Co., Inc., Rupert, Vt. 181,354, cor. Cl. 18.
Gulf Coast Distributing Co.: *See*—
Martin, James A., Jr.
H.E.B. Food Stores: *See*—
Butt, H. E., Grocery Co.
HMH Publishing Co., Inc., Chicago, Ill. 773,132, pub. 4-28-64. Cl. 22.
Haertel, Norman E., d.b.a. Janison-Haertel, New York, N.Y. 773,178, pub. 4-28-64. Cl. 28.
Halsingborgs Litografiska Aktiebolag, Halsingborg, Sweden. 773,216, pub. 4-28-64. Cl. 38.
Hansen Baking Co., Inc., Seattle, Wash. 662,321, canc. Cl. 46.
Hanson, Dean E., Wyoming, Minn. 662,168, canc. Cl. 19.
Hardtmuth, L. & C., Inc.: *See*—
Kohinoor Bleistiftfabrik L. & C. Hardtmuth in Budweis.
Harlee Mfg. Co., Chicago, Ill. 773,013, pub. 4-28-64. Multiple Class (Classes 2 and 37).
Harry and David, Medford, Oreg. 773,302, pub. 4-28-64. Cl. 46.
Hartford Electric Steel Corp., The, Hartford, Conn. 662,118, canc. Cl. 14.
Hasenfeld Bros., Inc., Central Falls, R.I. 773,150, pub. 4-28-64. Cl. 22.
Hat Corp. of America: *See*—
Cavanagh, John, Ltd.
Haugron Cientifical, S.A., Barcelona, Spain. 773,326, pub. 4-28-64. Cl. 51.
Hayes-Sammons Chemical Co., Mission, Tex. 773,021, pub. 4-28-64. Cl. 6.
Health Cross Discount Centers: *See*—
Robinson, A. & Co., Inc.
Henkell & Co., Wiesbaden-Biebrich, Germany. 773,308, pub. 4-28-64. Cl. 47.
Hercalyce Sales Co.: *See*—
Membrino, Hercules.
Hiawatha Card Co., Ypsilanti, Mich. 773,305, pub. 4-28-64. Cl. 38.
Hickey-Freeman Co., Rochester, N.Y. 773,221, pub. 8-17-64. Cl. 39.
Hillyard Chemical Co.: *See*—
Hillyard Enterprises, Inc.
Hillyard Enterprises, Inc., from Hillyard Chemical Co., St. Joseph, Mo. 773,351, pub. 4-28-64. Cl. 52.
Hodges Research & Development Co., New York, N.Y. 773,344, pub. 1-28-64. Cl. 52.
Hoffman Electronics Corp., Los Angeles, Calif. 773,114, pub. 4-28-64. Cl. 21.
Holdafone Music Corp., New York, N.Y. 773,108, pub. 4-28-64. Cl. 21.
Hollingsworth Candy Co., to Fine Products Corp., Augusta, Ga. 189,726, ren. 7-14-64. Cl. 46.
Hollywood Brands, Inc.: *See*—
Martocello, P. A., Macaroni Co.
Homefield Associates, Inc., Chicago, Ill. 662,292, canc. Cl. 42.
Hooton Chocolate Co., Newark, N.J. 773,249-50, pub. 4-28-64. Cl. 46.
Hopp Press Inc., The, New York, N.Y. 189,176, ren. 7-14-64. Cl. 37.
Hudson Vitamin Products, Inc., New York, N.Y. 773,069, pub. 4-28-64. Cl. 18.
Hunnemann, Thomas E., Chicago, Ill. 773,146, pub. 4-28-64. Cl. 22.
Hunt & Co., Inc., Greensboro, N.C. 773,021, pub. 12-17-63. Cl. 4.
Imperial Homes, Inc., Griffin, Ga. 773,059, pub. 4-28-64. Cl. 12.
Indian Head Mills, Inc.: *See*—
Linen Thread Co., The.
Ullmann, Bernhard, Co. Inc.
Inductotherm Corp., Rancocas, N.J. 773,193, pub. 4-28-64. Cl. 34.
Industrial Filter & Pump Mfg. Co., Cicero, Ill. 773,082, pub. 4-28-64. Cl. 6.
Institute of Electrical and Electronics Engineers, Inc., The, New York, N.Y. 773,206, pub. 4-28-64. Cl. 38.
Instrument Society of America, Pittsburgh, Pa. 773,215, pub. 4-28-64. Cl. 38.
Instrument Society of America, Pittsburgh, Pa. 773,219, pub. 4-28-64. Cl. 38.
Iroquois Co., The, Chicago, Ill. 773,377, pub. 4-28-64. Cl. 102.
Irresistible: *See*—
Nestle LeMur Co., The.
Jackson Mattress Co., Inc., Fayetteville, N.C. 662,240, canc. Cl. 32.
Jancik & Hartness Produce Co., Inc.: *See*—
Self & Jancik.
Janison-Haertel: *See*—
Haertel, Norman E.
Jaslow, Edward R., d.b.a. Jaslow Laboratories, Lafayette Hill, Pa. 773,044, pub. 4-28-64. Cl. 6.
Jaslow Laboratories: *See*—
Jaslow, Edward R.
Johns-Manville Corp., New York, N.Y. 773,011, pub. 4-28-64. Cl. 1.
Johns-Manville Corp., New York, N.Y. 773,191, pub. 4-28-64. Cl. 34.
Just, Franz, & Sohne Stempelwarenfabrik, Wels, Austria. 773,156, pub. 4-28-64. Cl. 23.
Kansas Wholesale Grocery Co., The, Coffeyville, Kans. 773,261, pub. 4-28-64. Cl. 46.
Kartridg Pak Co., The, Davenport, Iowa. 773,152, pub. 4-28-64. Cl. 23.
Kearney & Mattison Co., Ambler, Pa. 662,106, canc. Cl. 12.
Kearney & Mattison Co., Ambler, Pa. 662,306, canc. Cl. 46.
Keith, George H.: *See*—
Tocsin, Inc.
Keithley Instruments, Inc., Cleveland, Ohio. 773,168, pub. 4-28-64. Cl. 26.
Kellogg Co., Battle Creek, Mich. 662,327, canc. Cl. 46.
Kem-Wove Industries, Inc., Charlotte, N.C. 773,009, pub. 4-28-64. Cl. 1.
Kendall Co., The: *See*—
American Bleached Goods Co., Inc.
Kenyon Pharmacal Co.: *See*—
Kenyon Stores, Inc.
Kenyon Stores, Inc., d.b.a. Kenyon Pharmacal Co., Newark, N.J. 773,086, pub. 4-28-64. Cl. 18.
Ketch-All Co., San Diego, Calif. 773,312, pub. 4-28-64. Cl. 50.
Kingsford Co., Louisville, Ky. 773,000, pub. 4-28-64. Cl. 1.
Kitch-N-Ese Co.: *See*—
Averdieck, Ed.
K-Lath Corp., Monrovia, Calif. 773,057, pub. 4-28-64. Cl. 12.
Kleer-Vu Industries, Inc., New York, N.Y. 773,020, pub. 4-28-64. Cl. 3.
Klein Chocolate Co., Elizabethtown, Pa. 773,296, pub. 4-28-64. Cl. 46.
Kleinert, I. B., Rubber Co., New York, N.Y. 773,227, pub. 4-28-64. Cl. 40.
Knowles, Margaret L., La Grange, to The Tru-Ade Co., Elgin, Ill. 409,989, ren. 7-14-64. Cl. 45.
Kofuku Sangyo Co., Ltd., Nakaku, Nagoya, Japan. 662,214, canc. Cl. 26.
Kohinoor Bleistiftfabrik L. & C. Hardtmuth in Budweis, Budweis, Czecho-Slovakia, to L. & C. Hardtmuth, Inc., Bloomsbury, N.J. 185,406, ren. 7-14-64. Cl. 37.
Labertew, E. W., d.b.a. Quick-Cloth Co., Lamar, Colo. 662,230, canc. Cl. 29.
Laboratoires Chibret, Societe Anonyme, Clermont-Ferrand, Puy-de-Dome, France. 773,097-9, pub. 4-28-64. Cl. 18.
LaGuardia, Savio T., d.b.a. Savio T. LaGuardia Co., Kingston, N.Y. 773,273, pub. 2-18-64. Cl. 46.
LaGuardia, Savio T., Co.: *See*—
LaGuardia, Savio T.
Lakeside Industries, Inc.: *See*—
Lakeside Toys, Inc.
Lakeside Toys, Inc., from Lakeside Industries, Inc., Minneapolis, Minn. 773,124, pub. 4-28-64. Cl. 22.
Lander: *See*—
Lander Co. Inc.
Lander Co. Inc., d.b.a. Lander, New York, N.Y. 773,325, pub. 4-28-64. Cl. 51.
Landon Inc., San Carlos, Calif. 773,159, pub. 4-28-64. Cl. 23.
Lasso Mfg. Co.: *See*—
Circle S Mfg. Co.
Lawrence, F. J., Co., Montclair, N.J. 773,336, pub. 4-28-64. Cl. 51.
Lawrence Process Co., Inc., The, North Andover, Mass. 662,353, canc. Cl. 50.
Lazar, Sol, d.b.a. Lazar's Kosher Sausage Factory, Chicago, Ill. 773,257, pub. 3-3-64. Cl. 46.
Lazar's Kosher Sausage Factory: *See*—
Lazar, Sol.
Lecount Tool Works, Inc., Cheshire, Conn. 769,490, cor. Cl. 23.
Lemmon Pharmacal Co., Sellersville, Pa. 773,078, pub. 4-28-64. Cl. 18.
Leonard Harold, & Co. Inc., New York, N.Y. 773,315, pub. 4-28-64. Cl. 50.
Leo-Werke G m.b.H., Frankfurt am Main, Germany. 662,228, canc. Cl. 29.
Lee Parfums De Dana, Inc.: *See*—
Associated Distributors.

Lestoil Products, Inc., Holyoke, Mass. 773,358, pub. 4-28-64. Cl. 52.
Lever Brothers Co., New York, N.Y. 773,359, pub. 4-28-64. Cl. 52.
Lighter Corp. of America, Newington, Conn. 773,155, pub. 4-28-64. Cl. 23.
Lightning Class Association, South Haven, Mich. 773,391, pub. 4-28-64. Cl. 200.
Lightning Class Association, South Haven, Mich. 773,397, pub. 4-28-64. Cl. A.
Linen Thread Co., The, to Indian Head Mills, Inc., New York, N.Y. 186,044, ren. 7-14-64. Cl. 43.
Lord Jeff Knitting Co., Inc., Maspeth, N.Y. 409,004, ren. 7-14-64. Cl. 39.
Lou's Lures: *See*—
Sinclair, Lewis A.
Luminerals Ltd., New York, N.Y. 773,172-3, pub. 4-28-64. Cl. 26.
Luxor Hat Co., Inc., New York, N.Y. 662,276, canc. Cl. 39.
Lusier Inc., Kansas City, Mo. 773,331, pub. 4-28-64. Cl. 51.
MacKay, A. & B., Ltd.: *See*—
MacPherson, H. C.
MacPherson, H. C., d.b.a. MacPherson & Co. and A. & B. MacKay, Ltd., San Francisco, Calif. 773,311, pub. 4-28-64. Cl. 49.
Manhattan Terrazzo Brass Strip Co., Inc., Norwalk, Conn. 769,376. Am. 7(d). Cl. 12.
Manley, Inc., Kansas City, Mo. 773,268, pub. 4-28-64. Cl. 46.
Manson Metal Equipment Co., Reading, Pa. 773,147, pub. 4-28-64. Cl. 22.
Marglen, Juliette, Inc., to Juliette Marglen, Inc., Ridgefield, N.J. 662,385, canc. Cl. 51.
Marlin-Rockwell Corp., Jamestown, N.Y. 773,160, pub. 4-28-64. Cl. 28.
Martin, James A., Jr., d.b.a. Gulf Coast Distributing Co., Biloxi, Miss. 662,346, canc. Cl. 48.
Martoccio, F. A., Macaroni Co., Minneapolis, Minn., to Hollywood Brands, Inc., Centralia, Ill. 191,366, ren. 7-14-64. Cl. 46.
Marvella Pearls, Inc., New York, N.Y. 662,220, canc. Cl. 28.
Marx, Louis, & Co., Inc., New York, N.Y. 773,142, pub. 4-28-64. Cl. 22.
Maryon Hosiery Mill, Inc., Carrollton, Ga. 773,234, pub. 4-28-64. Cl. 40.
Mason Marking Systems Corp., Norfolk, Va. 773,055, pub. 4-28-64. Cl. 11.
Mastic Corp., South Bend, Ind. 773,061, pub. 4-28-64. Cl. 12.
Mattel, Inc., Hawthorne, Calif. 773,125, pub. 4-28-64. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 773,127, pub. 4-28-64. Cl. 22.
Matthews, Jane: *See*—
Walbridge, Ruth.
McCord, William, Pasadena, Tex. 773,090, pub. 4-28-64. Cl. 18.
McElrath-Stewart Lumber Co., Milledgeville, Ga. 773,384, pub. 4-28-64. Cl. 103.
McGraw-Edison Co.: *See*—
Edison, Thomas A., Inc.
McGraw-Hill, Inc., from McGraw-Hill Publishing Co., Inc., New York, N.Y. 773,208, pub. 4-28-64. Cl. 38.
McGraw-Hill Publishing Co., Inc.: *See*—
McGraw-Hill, Inc.
McKesson & Robbins, Inc., New York, N.Y. 773,333, pub. 4-28-64. Cl. 51.
McKinnon, Columbus, Corp., Tonawanda, N.Y. 773,064, pub. 4-28-64. Cl. 13.
McMullen, Eugene J., d.b.a. Shamrock Specialties Co., Texas City, Tex. 773,074, pub. 4-28-64. Cl. 15.
Mebuco, Inc., Mansfield, Ohio. 773,130, pub. 4-28-64. Cl. 22.
Meer Corp., New York, N.Y. 662,135, canc. Cl. 18.
Meiji Shoji Kabushiki Kaisha, Chuo-ku, Tokyo, Japan. 773,279, pub. 4-28-64. Cl. 46.
Membrino, Hercules, d.b.a. Hercalyce Sales Co., Paoli, Pa. 773,012, pub. 4-28-64. Cl. 2.
Mengel Wood Industries, Inc., Louisville, Ky. 773,058, pub. 4-28-64. Cl. 12.
Mengel Wood Industries, Inc., Louisville, Ky. 773,183, pub. 4-28-64. Cl. 32.
Merck & Co., Inc., Rahway, N.J. 773,024, pub. 4-28-64. Cl. 6.
Mid-States Life Insurance Co. of America, Evanston, Ill. 773,379, pub. 4-28-64. Cl. 102.
Mill Strip Products Co., Evanston, Ill. 773,069, pub. 4-28-64. Cl. 14.
Miller, Wallace W., El Cajon, Calif. 773,186, pub. 4-28-64. Cl. 34.
Mizrach Kosher Provisions, Inc., New York, N.Y. 773,277, pub. 4-28-64. Cl. 46.
Monarch Rug Mills, Inc., Dalton, Ga. 662,298-9, canc. Cl. 42.
Monark Silver King, Inc., Chicago, Ill. 662,168-4, canc. Cl. 19.
Monsanto Chemical Co., St. Louis, Mo. 662,095, canc. Cl. 6.
Mueller, C. F., Co., Jersey City, N.J. 773,304, pub. 4-28-64. Cl. 46.
Muffets Co., The: *See*—
Perky, Scott H.
Multi-Clean Products, Inc., St. Paul, Minn. 773,355, pub. 4-28-64. Cl. 52.
Myerson, Anne D., d.b.a. Wis Products Co., to Anne D. Myerson and M. C. Myerson, Philadelphia, Pa. 409,000, ren. 7-14-64. Cl. 46.
National Council on Smoking and Health Inc., New York, N.Y. 773,091, pub. 4-28-64. Cl. 18.
National Institute of Locker and Freezer Provisioners, Elizabethown, Pa. 773,393, pub. 4-28-64. Cl. 200.
National Police Officers Association of America, Inc., Venice, Fla. 773,211, pub. 4-28-64. Cl. 39.
National Retail Lumber Dealers Association, Washington, D.C. 773,367-8, pub. 4-28-64. Cl. 101.
National Tea Co., Chicago, Ill. 773,258, pub. 4-28-64. Cl. 46.
Nestle LeMur Co., The, d.b.a. Irresistible, New York, N.Y. 773,340, pub. 4-28-64. Cl. 51.
New Jersey Rubber Co., Taunton, Mass. 772,993, pub. 1-21-64. Cl. 1.
North American Aviation, Inc., El Segundo, Calif. 773,-107, pub. 4-28-64. Cl. 19.
Northrop Aircraft, Inc., Hawthorne, Calif. 662,169, canc. Cl. 19.
Northwest Wholesale Inc.: *See*—
Washington Sales, Inc.
Oak Farms Dairies: *See*—
Southland Corp., The.
Oakite Products, Inc., New York, N.Y. 564,813. Am. 7(d). Cl. 52.
Oakley, Reginald R., d.b.a. Top Dollar Auctioneers of America, Silver City, S. Dak. 773,369, pub. 4-28-64. Cl. 101.
Ocean Spray Cranberries, Inc., Hanson, Mass. 773,286, pub. 4-28-64. Cl. 46.
Oconomowoc Canning Co., Oconomowoc, Wis. 189,018, ren. 7-14-64. Cl. 46.
Ojibway Press, Inc., Duluth, Minn. 773,201, pub. 4-28-64. Cl. 38.
Olin Mathieson Chemical Corp., New York, N.Y. 773,085, pub. 4-28-64. Cl. 18.
Orange Susie Co. Inc., Los Angeles, Calif. 662,218, canc. Cl. 46.
Ortho Pharmaceutical Corp.: *See*—
Vitaminerals, Inc.
Otis Elevator Co., New York, N.Y. 773,153-4, pub. 4-28-64. Cl. 23.
Otis Elevator Co., New York, N.Y. 773,383, pub. 4-28-64. Cl. 103.
Oxytronic Corp., Van Nuys, Calif. 773,133, pub. 4-28-64. Cl. 21.
Pacific Manure & Fertiliser Co., San Francisco, Calif., to Growers Fertiliser Co., Stockton, Calif. 185,958, ren. 7-14-64. Cl. 10.
Pacific Vegetable Oil Corp., Richmond, Calif. 773,156, pub. 4-28-64. Cl. 23.
Palmedico, Inc., Columbia, S.C. 773,080, pub. 4-28-64. Cl. 18.
Pa-Poose Products Co., Inc., Gretna, La. 773,345, pub. 4-28-64. Cl. 45.
Pa-Poose Products Co., Inc., Gretna, La. 773,366-7, pub. 4-28-64. Cl. 46.
Pa-Poose Products Co., Inc., Gretna, La. 773,369, pub. 4-28-64. Cl. 46.
Parke, Davis & Co., Detroit, Mich. 662,146, canc. Cl. 18.
Parker Fertiliser Co., d.b.a. Parker Plant Food Co., Sylacauga, Ala. 773,054, pub. 4-28-64. Cl. 10.
Parker Plant Food Co.: *See*—
Parker Fertiliser Co.
Patroon Broadcasting Co., Inc., Albany, N.Y. 662,373, canc. Cl. 107.
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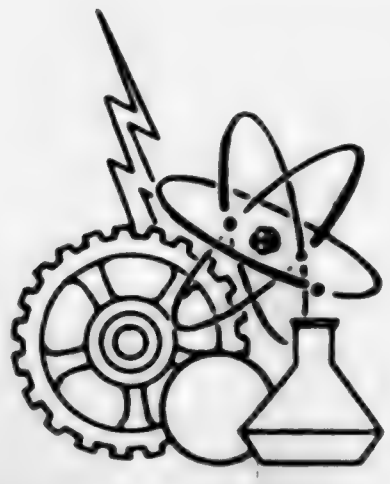
EDWARD J. BRENNER, *Commissioner*

Official Gazette

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Containing Patents, Designs & Trademarks issued

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OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 21, 1964 Volume 804 Number 3

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NOTICES

Board of Appeals Decisions Rendered in the Month of May 1964

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Listing of Prior Art Cited by Applicants

Pursuant to the Commissioner's Notice of May 19, 1964 (802 O.G. 601), and under the conditions set forth therein the citation of references submitted by applicants, attorneys, or agents will be printed in the patent of all applications allowed after August 1, 1964, unless a specific request to the contrary is received. The submitted list of prior art will be printed under a separate category from the listing of references cited by the Examiner, except that references cited by the Examiner and included in the submitted citations will not appear in the separate category of the printed patent.

Only citations submitted prior to the closing of prosecution of the application before the Examiner will be considered for listing in the printed patent.

No reference citation will be printed unless the supplied information includes the name, number, and date for domestic patents; the country, number, and date for foreign patents; and the title, date and page numbers for publications.

The submitted list will not be removed from the file when applicant so requests unless the citations have been filed in a separate paper.

EDWARD J. BRENNER,
Commissioner.

June 22, 1964.

Rule 345—Advertising

CLASSIFIED TELEPHONE DIRECTORIES

In *Miller* v. *Watson*, 1961 C.D. 122, 773 O.G. 4, the United States District Court for the District of Columbia held that multi-city common form listings in telephone directories constituted advertising within the prohibition of Rule 345 of the Rules of Practice in the United States Patent Office. It is not considered, however, that this prohibition applies to cases in which separate telephone directories have been issued for each of two or more communities which were formerly included in a single directory, nor to listing in each of the several directories of a single metropolitan area. Accordingly, such listings will not be considered as being in violation of Rule 345.

EDWARD J. BRENNER,
Commissioner.

June 29, 1964.

Classification of References Listed in Patents

In patents issued on applications which are allowed on or after August 3, 1964, the classification of each of the references cited by the Examiner will be given in the list of references appearing in the printed patent. While this procedure is not fully equivalent to a listing of all the classes and subclasses searched by the Examiner, it will serve to indicate where the most pertinent art was found, and in view of this fact, no further consideration will be given, at least for the present, to the proposal to list the field of search in printed patents.

EDWARD J. BRENNER,
Commissioner of Patents.

June 12, 1964.

Interference—Declaration

Effective July 1, 1964, no interference will be declared between pending applications, if there is a difference of more than three (3) months in the effective filing dates of the applications in the case of inventions of a simple character, or a difference of more than six (6) months in other cases, except in exceptional situations, as determined and approved by the Commissioner.

EDWARD J. BRENNER,
Commissioner.

June 26, 1964.

Adjudicated Patent

(D.C. La.) Scaramucci Patent No. 2,763,455 (267—54), for frame construction for playgyms. Claims 1, 4, and 5 *Held* invalid and not infringed. *Scaramucci* v. *Universal Mfg. Co.*, 226 F. Supp. 680; 141 USPQ 378.

Disclaimer

3,121,796.—*William Oliver Reed*, Wellesley, Mass. INDEPENDENTLY PULSED FEEDBACK PATH FOR IMAGE TRANSDUCING SYSTEMS. Patent dated Feb. 18, 1964. Disclaimer filed Apr. 20, 1964, by the assignee, *The Rauland Corporation*.

Hereby enters this disclaimer to claim 3 of said patent.

Patents Available for Licensing or Sale

2,767,663. Toy Waterwheel. Owen Laird, R.F.D. #2, Godfrey, Ill.

3,120,330. Liquid Storing, Dispensing and Metering Arrangement. Rich. Ermecke, Sauerland, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

New Applications Received During May 1964

Patents	7,158
Designs	446
Plant Patents	6
Reissues	10
Total	7,620

Issue—July 21, 1964

Patents	895	No. 3,141,171 to No. 3,142,065, incl.
Designs	77	No. 198,663 to No. 198,739, incl.
Plant Patents	1	No. 2,427
Reissues	2	No. 25,620 to No. 25,621, incl.
Total	975	

3,120,909. Collapsible Container and Closure Member Therefor. I. M. Miller, Cromwell, Box 1253, Gig Harbor, Wash.

3,133,292. Bathroom Safety Liner. H. G. Spier, 1 Prince Edward Lane, Media, Pa., 19063.

Pennsalt Chemicals Corporation is prepared to grant non-exclusive licenses upon reasonable terms to responsible domestic applicants (under the circumstances prevailing at the time) under the following patent.

3,130,035. Method for Defoliating and Desiccating Cotton.

Applications for license may be addressed to: Manager, Patent Department, Pennsalt Chemicals Corporation, 900 1st Ave., King of Prussia, Pa., 19406.

General Electric Company is prepared to grant non-exclusive licenses under the following 7 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, Atomic Products Division, Attention: Patent Counsel, 175 Curtner Ave., San Jose, Calif.

3,113,063. Plate Assembly and Method of Fabrication.

Applications for license under the following patent may be addressed to: Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,122,017. Electrical Apparatus Having Means for Indicating Liquid Level.

Applications for license under the following 5 patents may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

3,025,235. Cobalt Base Brazing Alloy.

3,107,180. Process for Deposition of Pyrolytic Graphite.

3,110,588. Brazing Alloy.

3,110,613. Magnetic Material.

3,120,450. Method for Depositing Carbon Coatings on High Temperature Material Members.

Department of Commerce
Patent Office

[37 CFR Parts 1, 3]

FORMS AND RULES OF PRACTICE

Notice of Proposed Rule Making

Notice is hereby given that the United States Patent Office proposes to amend several of its rules, to add a new § 1.68 and to provide additional forms relating to patents. The amendments are proposed pursuant to the authority contained in Title 35, U.S.C., section 6.

Section 1.65 of Title 37, Code of Federal Regulations, requires an oath by the inventor when filing application for a patent. Provision is also made §§ 1.42, 1.43, and 1.47 for filing such an oath by a representative of the inventor in cases where the inventor is unable or unwilling to join in the application. Similarly, an oath is required by § 1.67 when presenting a claim for matter not originally claimed, by § 1.172 when applying for a reissue patent, by § 1.151 when applying for a patent for designs, and by § 1.161 when applying for a patent for plants.

Public Law 88-292, of March 26, 1964, authorized the Commissioner to prescribe instances where documents required to be filed in the Patent Office under oath might be accepted if, in lieu of the required document under oath, the applicant were to provide a written declaration setting forth required information. Such a declaration may not be used unless it includes a warning statement that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001).

The proposed amendment to § 1.65 announces the acceptability of such an alternate procedure in connection with the filing of the original application for a patent. The new § 1.68 would set forth the form of the declaration and announce its acceptability in connection with the filing of documents required by §§ 1.67, 1.151, 1.161, and 1.172.

An alternative form (3.11(a)) is provided to the present oath form (3.11) reflecting the required form of a written declaration.

Other sections of rules and forms which will be conformed to the acceptable alternative procedure of the written declaration are listed. These items will merely be changed to make clear that the written declaration in proper form is an acceptable alternative to the oath.

Two important points must be remembered in connection with these changes: (1) The use of the declaration is an alternative to the use of the oath. Either in proper form is acceptable. (2) The declaration may only be used in lieu of the oath in those instances where the Commissioner has provided that it will be an acceptable alternative.

All persons who desire to submit written data, views, arguments or suggestions for consideration in connection with the proposed amendments, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., within 60 days of publication in the Federal Register. An oral hearing will not be scheduled.

The heading preceding § 1.65 and the text of that section as proposed to be amended are as follows:

STATEMENT; OATH OR DECLARATION

§ 1.65 *Statement of applicant.*

(a)(1) The applicant, if the inventor, must state that he verily believes himself to be the original and first inventor or discoverer of the process, machine, manufacture, composition of matter, or improvement thereof, for which he solicits a patent; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, and shall state of what country he is a citizen and where he resides, and whether he is a sole or joint inventor of the invention claimed in his application. In every original application the applicant must distinctly state that to the best of his knowledge and belief the invention has not been in public use or on sale in the United States more than one year prior to his application, or patented or described in any printed publication in any country before his invention or more than one year prior to his application, or patented in any foreign country prior to the date of his application on an application filed by himself or his legal representatives or assigns more than twelve months prior to his application in this country. He shall state whether or not any application for patent on the same invention has been filed in any foreign country, either by the applicant or by his legal representatives or assigns. If any such application has been filed, the applicant shall name the country in which the earliest such application was filed, and shall give the day, month, and year of its filing; he shall also identify by country and by day, month, and year of filing, every such foreign application filed more than twelve months before the filing of the application in this country. (2) This statement (i) must be subscribed to by the applicant, and (ii) must either (a) be sworn to (or affirmed) as provided in §1.68, or (b) include the personal declaration of the applicant as prescribed in § 1.68. See § 1.153 for design cases and § 1.162 for plant cases.

(b) If the application is made as provided in § 1.42, 1.43, or 1.47, the applicant shall state his relationship to the inventor and, upon information and belief, the facts which the inventor is required by this section to state.

(c) An additional statement may be required if the application has not been filed in the Patent Office within a reasonable time after execution of the original statement.

The text of the new proposed § 1.68 follows:

§ 1.68 *Declaration in lieu of application oath.*

(a) The applicant may, in lieu of making an oath or affirmation in the manner provided by § 1.68, set forth in the body of the statement required from him by § 1.65 his written declaration that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true, if, and only if, the applicant is, on the same paper, warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

(b) A written declaration by the applicant, satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (section 1.67), when applying for a reissue patent (section 1.172), when applying for a patent for designs (section 1.151), and when applying for a patent for plants (section 1.161).

Sections 1.41, 1.42, 1.43, 1.45, 1.47, 1.51, 1.52, 1.57, 1.61, 1.67, 1.76, 1.153, 1.162, 1.172, and 1.175 will be modified to reflect the acceptance of a written declaration in proper form as directed by § 1.68.

The text of form 3.11(a), an alternative to form 3.11, *Oath to accompany application for patent* follows:

3.11(a) *Declaration to accompany application for patent.*

(Sections 1.65 and 1.68 provide for a declaration in lieu or in place of an oath in certain instances. The petition and specification precede the declaration).

(1) _____, the above named petitioner __ declare __ that _____ citizen __ of the United States (2) and resident __ of (3) _____ that _____ verily believe __ (4) _____ to be the original, first, and (5) _____ inventor __ of the improvement in (6) _____ described and claimed in the annexed specification; that (7) _____ do __ not know and do __ not believe that the same was ever known or used before (8) _____ invention thereof, or patented or described in any printed publication in any country before (8) _____ invention thereof, or more than one year prior to this application, or in public use or on sale in the United States more than one year prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by (9) _____ or (8) _____ legal representatives or assigns more than twelve month prior to this application; and that no application for patent on said invention has been filed by (9) _____ or (8) _____ representatives or assigns in any country foreign to the United States, except as follows: (10) _____.

The undersigned petitioner _____ declare __ further that all statements made herein of (8) _____ own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon. Inventor's full name or names (11) _____.

_____
(Signature)

Date _____

NOTES: See §§ 1.65 and 1.68.

(1) Name of inventor; if the invention is joint, the names of all the joint inventors.

(2) If the applicant be an alien, state of what foreign country he is a citizen or subject.

(3) Give city and state, or if a foreign resident, city and country, of residence. If more than one inventor gives residences of each inventor if different. Street address need not be given here as it appears elsewhere.

(4) "Himself" in the case of a sole inventor; "themselves" in the case of joint inventors.

(5) "Sole" in the case of a sole inventor; "joint" in the case of joint inventors.

(6) Title of the invention.

(7) "He" in the case of a sole inventor; "they" in the case of joint inventors.

(8) "His" in the case of a sole inventor; "their" in the case of joint inventors.

(9) "Him" in the case of a sole inventor; "them" in the case of joint inventors.

(10) If no application has been filed in a foreign country strike out the words "except as follows:". If one or more applications have been filed in foreign countries, the first application and each application more than twelve months old (six months in design cases) must be recited. The country and date of filing the foreign application must be given and the number of the application or other identifying data may also be stated. The claim for priority under 35 U.S.C. 119 (see § 1.55) may be made here. The following examples illustrate various situations.

(a) Only one prior foreign application filed: that "in (country) on (date)." If the right of priority is also claimed add "the right of priority of which application is claimed."

(b) More than one prior foreign application: state "in (country) on (date) and in other countries on subsequent dates." The country and date do not need to be recited except for the first filed application and each application more than twelve months old (six months in design cases).

(11) All petitioners are to sign (see section 1.41).

Alternates to forms 3.12, 3.13, 3.14, 3.16, 3.21, 3.23, 3.25, 3.28, 3.29, 3.31, and 3.32 will be provided as in the case of 3.11(a) to reflect the allowable procedure of a written declaration in lieu of an oath in these instances.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; P.L. 88-292, 78 Stat. 171)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: June 17, 1964.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-6268; Filed, June 23, 1964; 8:49 a.m.]

Published in 29 F.R. 8011, June 24, 1964

REVISED EXAMINING PROCEDURES EFFECTIVE JULY 1, 1964

On June 22, 1964, the memorandum reproduced below was distributed to the Patent Examining Corps. It is presented here for the information of all applicants and their representatives.

Optimum Examining Procedure—Memorandum No. 4

In the last few years, examining procedures have been extensively revised for the purpose of reducing to a minimum the total examining time necessary to bring each application to an equitable conclusion.

Under the broad title of compact prosecution, the guiding principle has been cooperative effort by Office and all applicants and patent practitioners to do everything essential to bring every case to an equitable conclusion in the minimum total time.

On June 8, 1964, Commissioner Edward J. Brenner in an address to the Examining Corps outlined further revisions of procedure which will become effective July 1, 1964, designed to reduce further both the processing time needed for each application and its total time of pendency in the Patent Office.

This Optimum Examining Procedure Memorandum No. 4 specifies the procedures by which the new policies will be effectuated. Issued to all employees in the Examining Corps on June 22, 1964, it will be published in an early issue of the OFFICIAL GAZETTE for the information of the public.

By direction of the Commissioner, the procedures of this Memorandum override and replace any contrary directives either in the Manual of Patent Examining Procedure, or in OEP Memoranda No. 1, No. 2 and No. 3 previously issued.

It is hoped that a completely revised issue of the MPEP may be possible soon.

(1) The first major change under Commissioner Brenner's program concerns the priority of examination for pending applications. Like the "third action special" program followed since 1961, it is directed toward disposing of older cases more quickly, but goes much farther.

Hereafter, each Examiner will give priority to that application in his docket, whether amended or new, which has the *oldest effective U.S. filing date*. Except as rare circumstances may justify Group Supervisors in granting individual exceptions, this basic policy applies to all applications.

Whether a given application has an effective U.S. filing date earlier than its actual filing date is determined by whether the disclosure of a parent case adequately supports any claim or claims of the later case. Examiners are responsible for making this determination. If at any time an Examiner determines that the "effective filing date" status of any application differs from what the records show, he should so inform the Clerk of Group, who should promptly amend the records to show the correct status, with the date of correction.

The new order of examination for each Examiner will continue top priority for those special cases having a fixed 60-day due date, such as Examiner's Answers and Decisions on Motions. Most other cases still remaining in the "special" category (for example, reissues, interference cases, cases made special by petition, cases ready for final conclusion, etc.) will continue in this category, with the first effective U.S. filing date normally controlling priority.

(2) The second major change involves the "more thorough first action" feature of compact prosecution. The heavy emphasis upon this more thorough first action is continued.

In addition, however, policy now emphasizes that the Examiner wherever possible must point out allowable claims or claimed subject matter or ways in which claims might be amended to make them allowable.

Further, while interviews before a first response are normally discouraged, an Examiner's suggestion of allowable subject matter may justify his indicating the possible desirability of an earlier interview to accelerate early agreement on allowable claims.

The first search should be such that the Examiner need not ordinarily make a second search of the prior art, unless necessitated by amendments to the claims by the applicant in the first response, except to check to determine whether any reference which would appear to be substantially more pertinent than the prior art cited in the first Office action has become available subsequent to the initial prior art search. It should cover the invention as described and claimed, including the inventive concepts toward which the claims appear to be directed. It should not be extended merely to add immaterial variants.

While attorneys note favorably a higher proportion of better first actions now being received, they comment also that too many superficial or poorly phrased first actions leave them still at sea about the Examiner's full attitude.

It is of highest importance, therefore, that this and later actions cover completely the questions of major importance, namely (1) whether there is adequate disclosure to support a patent, and (2) whether any inventive subject matter present is defined adequately to support a legally enforceable contract.

Intensive effort by individual Examiners and by those in supervisory position to aid and direct Examiners in adopting the most effective and rapid examining procedures for each action is urgently needed. The Commissioner has stated that success in our drive for improvement will hinge on "the capability and willingness of each Examiner to accept new methods and ideas in practice and procedure, and to wholeheartedly implement new concepts."

Shortening the time of prosecution following the first action is the major objective of the third and fourth major changes.

(3) The third change requires that, except in rare circumstances where the Group Supervisors may authorize exceptions, *all* second actions on the merits shall be *final*.

Current experience indicates that with the full cooperation of the applicant, this measure can be adopted without sacrificing any of applicant's rights.

For foreign applicants, the practice explained in Item 2 of OEP Memorandum No. 3, published April 14, 1964, 801 O.G. 267, gives full protection for those who comply with U.S. Patent Office procedural requirements.

Attorneys who have cooperatively revised their own procedures to incorporate in their first responses all changes of whatever character which they consider necessary to make each application completely ready for issue or appeal, regardless of what the Examiner's next action may be, have found this practice extremely effective in expediting cases to early conclusion.

To offset any increased rigor of prosecution due to earlier final rejection, Examiners are authorized to grant one interview after final rejection.

While the Office will continue rigorous enforcement of Rule 116, citation of new art by the Examiner in a final rejection will obviate further showing under Rule 116(b) for any amendment necessitated by the new art.

(4) The fourth change aids in shortening prosecution time by routine setting of *four-month shortened statutory periods for response* in nearly all first and subsequent rejections.

An exception will be made where a new reference is cited as a ground of rejection in the second Office action on the merits, the applicant in such cases being permitted the full statutory period of six months from the date of the Office action, except that where the new reference is necessitated by an amendment to the claims in applicant's first response, the normal four-month period will apply.

A related change directs that in case of an action consisting of only a requirement for restriction or in which the only rejection is for multiplicity, the period for response shall be set to expire two months from the date of the Office action.

Extension of time for reply will be governed by the provisions of Rule 136(b).

For the guidance of attorneys in knowing when their cases will be reached for action, the dates cited in the OFFICIAL GAZETTE for each Group will consist of (1) effective U.S.

filing date of the *oldest* case awaiting action in any Examiner's docket, and (2) date of the oldest case awaiting *first* action.

It is apparent from the above stated priority of examination that only the old cases already under amendment will be acted upon for some months to come. It is hoped that thereafter, as a response to an action in any case is received, the case may be acted upon within the next month.

(5) The fifth major change affects interference practice. Effective July 1, 1964, interferences will not be declared between pending applications if there is a difference of more than three months in the effective filing dates of the oldest and next oldest applications, in the case of inventions of a simple character, or a difference of more than six months in the effective filing dates of the applications in other cases. If an interference is declared, all applications having the same interfering subject matter should be included.

H. B. WHITMORE,
June 22, 1964. *Superintendent of the Examining Corps.*

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7- 8-62	7- 3-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	10-29-62	11- 5-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1- 4-63	1- 2-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7- 2-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-28-62	10-19-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-11-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	8-29-62	7-13-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11- 5-62	11- 6-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	9-18-62	9- 5-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-29-62	11-19-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	11- 8-62	10- 1-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	5- 2-62	5- 9-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	9-13-62	9-11-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9- 5-62	9- 4-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	12- 5-62	12- 3-62

CONDITION OF PATENT APPLICATIONS AS OF MAY 31, 1964

Total number of pending applications (excluding Designs)	210, 122
Total number of Design applications pending	6, 073
Total number of applications awaiting action (excluding Designs)	125, 460
Total number of Design applications awaiting action	2, 002
Date of oldest new application awaiting action	May 2, 1962
Date of oldest amended application awaiting action	May 9, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents ..... Numbers 2,423,076 to 2,424,957, inclusive

Plant Patents ..... Numbers 740 to 780, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	3- 6-63	3- 7-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	1- 9-63	1-11-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10- 3-62	9-19-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-15-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12- 5-62	10- 3-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	12-31-62	2-15-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GARBAU, Supervisory Examiner Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	2- 8-63	1-25-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	2-25-63	3- 5-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	4-30-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	2-15-63	1-29-63
PHYSICS, GROUP 430—R. L. EVANS, Supervisory Examiner Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11- 1-62	11-20-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-11-63	4-10-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-25-63	2-18-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-28-63	3-25-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner Printing; Typewriters; Stationery; Material Treatment.	11-16-62	12-13-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	3- 4-63	3- 4-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner Industrial Arts; Household, Personal and Fine Arts.	12-16-62	12-10-62

DECISIONS IN PATENT AND TRADEMARK CASES

United States Court of Appeals
District of Columbia Circuit

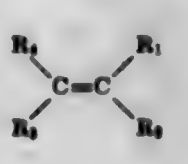
E. I. DU PONT DE NEMOURS AND COMPANY v. DAVID L. LADD, COMMISSIONER OF PATENTS, AND LUTHER H. HODGES, SECRETARY OF COMMERCE

No. 17,883. Decided January 30, 1964. Petition for clarification denied March 12, 1964

[— U.S.App.D.C. —; — F.2d —; 140 USPQ 297]

1. PATENTABILITY—ANTICIPATION—COMPOUND.

In connection with the citation against claim 1 on appeal, reading "Tetracyanoethylene," of a patent to Alder et al., which includes the formula:



wherein R_1 and R_2 stand for a member of the group consisting of CN, acyl and an esterified carboxylic acid group,
R_3 stands for a member of the group consisting of hydrogen, CN, acyl and an esterified carboxylic acid group and
R_4 stands for a member of the group consisting of alkyl, oxalkyl, aryl, CN, acyl and an esterified carboxylic acid group
and which also includes the sentence: "Examples for the other reaction components falling within the above definition are the products of the condensation of aldehydes and acetyl acetic acid esters or malonic acid esters, furthermore, ethylene-tetra-carboxylic acid esters, the corresponding nitriles, and furthermore, the products of the condensation of aldehydes and 1.3-diketones such as acetylacetone," *Held* that "the disclosures in the Alder patent would not have taught one skilled in the art the subject-matter of claim 1", and that "It follows that claim 1 is not rendered unpatentable by 35 U.S.C. § 102."

2. SAME—SAME—SAME.

With reference to the citation by appellees of the decision of the Court of Customs and Patent Appeals in *Application of Baranauckas*, 43 C.C.P.A. (Patents) 727, 228 F.2d 413, *Held* that "Even if there were some doubt that the Alder patent was not an implicit disclosure of tetracyanoethylene, within the meaning of the *Baranauckas* holding, the policy considerations suggested by that court would compel the same result" and that "Certainly the Alder patent, allowing as it did an infinite number of possibilities, would be minimally described as an implicit 'publication of theoretical lists of hundreds or thousands of possible compounds,' and thus would not be an appropriate anticipation of a later patent application for a specific compound."

3. SAME—SAME—SAME.

"It seems clear, * * *, that tetracyanoethylene differs in kind, rather than merely in degree, from the general Alder formula or any of its other possible substituent combinations. Consequently, on this additional ground, the prior patent would not be an anticipation sufficient to preclude the granting of letters patent on the instant application."

4. SAME—SAME.

The cases of *National Lead Co.* v. *Marzall*, 91 U.S. App. D.C. 63, 198 F.2d 296, and *Roberts* v. *Ryer*, 91 U.S. 150, *Held* "not controlling where, as here, a novel or unique product is involved."

5. CLAIM—PARTICULARITY—35 U.S.C. 112.

"The second major issue, raised by appellees after the trial and urged on appeal, is that claim 1 ['Tetracyanoethylene'] does not meet the standard of particularity required by 35 U.S.C. § 112, and hence is not patentable. In short, appellees argue that the word 'tetracyanoethylene' does not define an invention within the meaning of the statute. We think that a contrary conclusion is compelled."

6. SAME—SAME—SAME.

"* * *, it should be noted that the so-called 'Geneva' system of nomenclature, from which the name tetracyanoethylene is derived, is a standard system of identification for various chemical compounds. The compound here involved is called an ethylene, or derivative of ethylene, because of the central nucleus of the two carbon atoms (C=C); the tetracyano part of the name means that four cyano (CN) groups are attached to the ethylene nucleus. It seems, therefore, that the word tetracyanoethylene is little more than the structural formula of the compound converted into an utterable combination of letters. We do not understand appellees to assert that a chemical formula would not adequately describe a compound claimed in a patent application, and since it seems apparent that the name here is as equally descriptive of the compound as a line-and-symbol formula, it is as sufficient for purposes of statutory particularity."

7. PATENTABILITY—PARTICULAR SUBJECT MATTER—"POLYMERIZABLE NITRILE AND POLYMERIC PRODUCT OBTAINED THEREFROM."

Upon consideration of claims 1 and 3 in an application entitled "Polymerizable Nitrile and Polymeric Product Obtained Therefrom," *Held* that the compound represented by claims 1 and 3 is patentable under 35 U.S.C. 102 and that claim 1 meets the standards of particularity and distinctness required by 35 U.S.C. 112.

Appeal from the United States District Court for the District of Columbia.

REVERSED.

W. Philip Churchill, with whom *C. Harold Herr* and *Frederick Schafer* were on the brief, for appellant.

Clarence W. Moore (*J. Schimmel* of counsel) for appellees.

Before EDGERTON, *Senior Circuit Judge*, and WILBUR K. MILLER and BASTIAN, *Circuit Judges*

BASTIAN, *Circuit Judge:*

In September 1952, two employees of appellant, E. I. du Pont de Nemours and Company, filed with the United States Patent Office a patent application entitled "Polymerizable Nitrile and Polymeric Product Obtained Therefrom."[1] Subsequently, Du Pont, applicants' assignee, duly prosecuted the application in accordance with the requirements of law and the rules of the Patent Office. On September 27, 1957, the Primary Examiner of the Patent Office entered a Final Rejection of all claims included in the application. Du Pont thereupon appealed the final rejection of claim 1 and, in amended form, claims 3 and 4, to the Board of Appeals of the Patent Office, which, on October 17, 1960, rendered a decision affirming the Primary Examiner's rejection of claims 1, 3 and 4. The Board subsequently denied Du Pont's petition for reconsideration.

Appellant then filed its complaint against the Commissioner of Patents and the Secretary of Commerce, appellees here, in the United States District Court for the District of Columbia pursuant to 35 U.S.C. § 145,[2] seeking a decree authorizing the Commissioner of Patents to issue Letters Patent on the rejected claims of the patent application. A trial on the merits was had and, on March 20, 1963, the district court entered an order dismissing the complaint, finding that appellant was not entitled to a patent containing claims 1 and 3.[3] This appeal followed.

Essentially, two issues are presented: (1) whether the compound

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[1] Serial No. 311,544, subsequently Serial No. 382,842 as a continuation-in-part application.

[2] 66 Stat. 803 (1952), 35 U.S.C. § 145 (1958).

[3] Claim 4 was likewise dismissed, appellant having abandoned that claim at the trial.

represented by claims 1 and 3 is unpatentable under 35 U.S.C. § 102;[4] and (2) whether claim 1 is further unpatentable for failure to meet the standards of particularity and distinctness required by 35 U.S.C. § 112.[5]

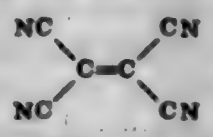
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The claims involved here read as follows:

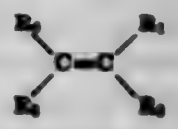
"1. Tetracyanoethylene.

"3. White crystalline monomeric tetracyanoethylene characterized (1) by melting within the range of 195–200° C. in a sealed tube, (2) by being sublimable in air at 120–150° C., (3) by having an infrared absorption spectrum with a divided band characteristic of conjugated unsaturated nitriles, and (4) by formation with toluene of an orange-colored 1 : 1 complex having a light absorption maximum at 4050 A when dissolved therein."

Tetracyanoethylene is described as an organic chemical compound having extraordinary properties. As indicated by the application, the substance reacts with certain other chemicals to produce strong permanent dyes for synthetic fibers, and its polymers and co-polymers are highly useful as insecticides, as well as motor coil and transformer wire insulation where high temperatures are encountered. The compound itself has the following structural formula:



The tribunals of the Patent Office rejected both claims 1 and 3 on the ground that they had been anticipated, and hence precluded from patentability, by a prior patent (No. 2,264,354) issued to Alder et al. in 1941 entitled "Addition Products of Dienes and Unsaturated Esters, Ketones, or Nitriles." Included in that patent was the following formula:



"wherein R_1 and R_2 stand for a member of the group consisting of CN, acyl and an esterified carboxylic acid group,

R_3 stands for a member of the group consisting of hydrogen, CN, acyl and an esterified carboxylic acid group and

R_4 stands for a member of the group consisting of alkyl, oxalkyl, aryl, CN, acyl and an esterified carboxylic acid group."

A second reference in the Alder patent found to be significant by the district court, and indicated on appeal, is the following sentence:

"Examples for the other reaction components falling within the above definition are the products of the condensation of aldehydes and acetyl acetic acid esters or malonic acid esters, furthermore, ethylene-tetra-carboxylic acid esters, the corresponding nitriles, and furthermore, the products of the condensation of aldehydes and 1.3-diketones such as acetyl-acetone."

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[4] 66 Stat. 797 (1952), 35 U.S.C. § 102 (1958): "*Conditions for patentability; novelty and loss of right to patent.* A person shall be entitled to a patent unless—

"(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

"(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . ."

[5] 66 Stat. 798 (1952), 35 U.S.C. § 112 (1958): "*Specification.*

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

"The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

"An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

The Patent Office argued, and the district court agreed, that the disclosures made by the earlier Alder patent "would clearly teach a person of ordinary skill in the art that certain chemical structures would be obtained by making directed substitutions in a general formula specifically disclosed," and that, consequently, the disclosures of the Alder patent were "sufficient under the law to bar a later applicant from obtaining a claim to said chemical structure." Accordingly, on the basis of *Application of Baranauckas*, 43 C.C.P.A. (Patents) 727, 228 F.2d 413 (1955), the district court held that appellant was not entitled to a patent on claim 1. Further, while noting that the "pure compound" of claim 3 was *not* suggested by the Alder patent, the court reasoned that its unique properties could be ascertained only after having successfully produced the compound of claim 1. Thus, claim 1 having been determined to be implicit in the Alder patent, claim 3 was considered merely "an increase in knowledge of a prior disclosure," and therefore unpatentable under *National Lead Co.* v. *Marzall*, 91 U.S.App.D.C. 63, 198 F.2d 296 (1952).

Claim 1

In *Shell Development Co.* v. *Watson*, 102 U.S.App.D.C. 297, 252 F.2d 861 (1958), this court adopted the district court holding that, in order to defeat a patent application on the basis of 35 U.S.C. § 102(a),[6] a prior publication must "exhibit the thing claimed in such an intelligible manner as to enable persons skilled in the art to which the invention is related, to comprehend it." Moreover, in *Application of Le Grice*, 49 C.C.P.A. (Patents) 1124, 1138, 301 F.2d 929, 939 (1962), it was said:

"[T]he proper test of a description in a publication as a bar to a patent as the clause is used in section 102(b) requires a determination of whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought. Unless this condition prevails, the description in the printed publication is inadequate as a statutory bar to patentability under section 102(b)."

In the case before us, three of the four expert witnesses who testified regarding the anticipation of claims 1 and 3 by the earlier Alder patent [Theodore L. Cairns, Louis F. Fieser and Arthur C. Cope] stated that the general R_1, R_2, R_3, R_4 formula gives rise to an infinite number of possible compounds inasmuch as the acyl, alkyl, aryl, oxalkyl and esterified carboxylic acid groups mentioned in the formula represent *classes* or *groups* of substituents, within each of which are an infinite (or at least an indefinite) number of specific elements. Hence, even if one were to pick and hold constant a substituent for R_1, R_2 and R_3 in the general formula, an infinite number of specific compounds would be suggested each time one of the above-named substituents was substituted for R_4. The unequivocal testimony of these three witnesses was that, as a consequence of the vast scope of the general formula, this disclosure in the Alder patent would not suggest tetracyanoethylene to one skilled in the art of organic chemistry. As graphically stated by Dr. Cope:

"Taking all of the possible combinations and permutations of R_1 and R_2 and R_3 and R_4, and recognizing how many of them may be of infinite scope, that formula is just about as broad as the universe; and, in my opinion, it is so broad that it would lead no chemist to the selection of any specific compound falling

[6] Note 4, supra.

within that area. . . . I would say that this is so broad that for a chemist to be led to any specific compound by this formula would be just about the same as being led to a specific Chinese baby being born at this moment."

The district court, however, based its decision on the cross-examination testimony of Donald J. Cram, the fourth of appellant's experts to testify regarding the scope of the Alder patent. The court stated:

"It appears in the record that Dr. Cram, an expert testifying on behalf of plaintiff stated that if the directions shown by the reference for making the substitutions in the general formula are made 'you would encounter tetracyanoethylene as the eighth compound,' and, accordingly, it would appear that the holding of the Baranauskas case, supra, is clearly pertinent and would teach a person of ordinary skill in the art that a structure would be obtained by making directed substitutions, which is exactly equivalent to one in which compounds are actually illustrated."

The court was therefore of the view that since the formula for tetracyanoethylene could be arrived at by a mechanical application of the named substituents in the Alder formula, the earlier patent was an anticipation under 35 U.S.C. § 102, and the present application was properly rejected.

We are of the opinion that a close reading of the entire deposition of Dr. Cram clearly indicates a contrary conclusion. On direct examination, Dr. Cram was shown the Alder patent and asked whether, as a chemist, he would find in the general formula and language of that patent "any description of tetracyanoethylene that is meaningful to you as a chemist?" His answer was:

"If I had never heard the term 'tetracyanoethylene' or seen its formula written down and I read this patent I would not consider that I had heard of tetracyanoethylene."

He further testified:

"I don't see anything here that would lead me to the structure of tetracyanoethylene in reading of this.

* * * * * * *

"I can't conceive of predicting the properties of tetracyanoethylene as I know them today from anything this is written down in this patent."

Under cross-examination by counsel for the Patent Office, Dr. Cram testified that although the cyano (CN) group was the first one mentioned for R_1 and R_2, it did not stand out from the other groups also mentioned by Alder for R_1 and R_2. His testimony continued:

"Q. Isn't it reasonable to assume that one skilled in the art would select the first one mentioned?

"A. Not necessarily. I think he might well pick the one with which he had had the most experience."

Dr. Cram was then directed by the cross-examiner to *assume first that R_1 and R_2 of the general formula were both CN groups*, and then to make the substitutions for R_3 and R_4 in the order mentioned in the patent.[7] It was only in answer to this restrictive question, relating more to statistical probabilities than to a chemist's usage of the Alder formula, that Dr. Cram testified:

"Then I believe that you would encounter tetracyanoethylene as the eighth compound."

Dr. Cram's testimony on re-direct examination is explanatory of that statement. When asked how many different organic chemical compounds would be covered if he started with CN groups substituted for

[7] Significant is the testimony of Dr. Fieser concerning the substitution of more than two cyano groups in the general Alder formula: ". . . I feel that as a chemist I couldn't interpret this general formula with a cyano-hydrocarbon beyond those containing 1 and 2 cyano groups, because there are no other examples but those included in the patent, and in Alder's original paper no mention is made of anything having more than two cyano groups and I think I would have to stop at that point."

R_1, R_2 and R_3, and then went through all the possible variations for R_4, he stated:

"You could conceive of arriving at this tetracyano compound after listing an infinite number of—almost an infinite number of other compounds, but *you would arrive at the tetracyano compound eighth if you are willing to use family structures of compounds and not particular compounds;* and that is a thought that *my questioner on cross-examination was referring to classes of organic compounds when I arrived at that number eight or eighth, and not to particular compounds.*" [Emphasis added.]

It seems clear, therefore, that Dr. Cram's testimony, viewed in its entirety, indicates his complete accord with the other three expert witnesses regarding the infinite breadth of the Alder formula and the resultant improbability of a skilled chemist being led by that formula to tetracyanoethylene as a specific compound.

A second reference in the Alder patent, "ethylene-tetra-carboxylic acid esters, the corresponding nitriles," was also urged as a disclosure sufficient to preclude patentability inasmuch as one of the corresponding nitriles of ethylene-tetra-carboxylic acid esters would be tetracyanoethylene. On this point all the expert testimony was uniform that the entire sentence (set forth supra in full) was ambiguous, and that the words "corresponding nitriles" referred not only to ethylene-tetra-carboxylic acid esters, but to *all* the prior references in the sentence. In the words of Dr. Cope:

"I have read this sentence many times, and I find it completely ambiguous. I do not know what is meant by 'corresponding nitriles.' . . . I don't know what a nitrile is corresponding to in any of these classes. That is not a chemically precise definition, and my conclusion would be that, whatever it means, it is of the same infinite scope essentially as the R_1, R_2, R_3, R_4 formula."

Based on this ambiguity, and the fact that this reference, like the general formula, allows of innumerable possibilities, the expert testimony indicated clearly that tetracyanoethylene would not be suggested to one skilled in the art.

Additional testimony established that a scientific article published in 1939 by Alder and Rickert, covering essentially the same subject-matter as the 1941 patent and using many of the same examples, did not include tetracyanoethylene directly, indirectly, by implication or otherwise. Moreover, in 1942 an abstract of the Alder patent, prepared by a trained chemist, appeared in Chemical Abstracts (a publication of the American Chemical Society) summarizing for chemists what the Alder patent described. It is significant that, according to Dr. Cairns's testimony, this abstract not only did not mention tetracyanoethylene, but described the ethylene family of compounds used in the Alder process in language which would not even include tetracyanoethylene within its scope.

[1] It seems clear to us, therefore, from a reading of the entire record, that the disclosures in the Alder patent would not have taught one skilled in the art the subject-matter of claim 1. It follows that claim 1 is not rendered unpatentable by 35 U.S.C. § 102.

The cases of *Shell Development Co.* v. *Watson*, supra, and *Application of Baranauckas*, supra, are cited by appellee as authority compelling a contrary result. We disagree.

In Shell Development, the prior publication, unlike the Alder patent, gave in detail the specific formula of the specific compound in question and was part of the standard chemical literature understood to describe *already known* compounds. Also, there was testimony in that case that one skilled in the art could easily have arrived at the claimed compound from a reading of the earlier publication.

In Baranauckas, the prior publication relied upon was one of the standard authoritative German publications of chemical literature. This publication described a bromine compound which exactly corresponded to the chlorine compound claimed by the applicant except for the diffence between bromine and chlorine atoms. In addition, the publication described how to make these compounds and stated that chlorine and bromine behaved identically in the process of making the compound. The court reasoned there that it was a simple procedure to substitute chlorine for bromine in the process set out in the prior publication, and hence "would clearly teach a person of ordinary skill in the art" the claimed compounds.

Contrasting with the two cases cited by appellees, the testimony in the case before us is clear and specific that one skilled in the art would not be led to tetracyanoethylene by the Alder patent. Hence those cases are inapposite to the facts here.

It should be noted also that the court in Baranauckas stated:

". . . though our decision is compelled by the existing law, we feel constrained to point out that there are limits to the doctrine of those cases. What the precise boundary lines are, we are unable now to discern. Certainly they do not extend so far as to permit publication of theoretical lists of hundreds or thousands of possible compounds to deny patent protection on such compounds to those who actually discovered them later. . . ." 48 C.C.P.A. (Patents) at 731, 228 F.2d at 416.

[2] Even if there were some doubt that the Alder patent was not an implicit disclosure of tetracyanoethylene, within the meaning of the Baranauckas holding, the policy considerations suggested by that court would compel the same result. Certainly the Alder patent, allowing as it did an infinite number of possibilities, would be minimally described as an implicit "publication of theoretical lists of hundreds or thousands of possible compounds," and thus would not be an appropriate anticipation of a later patent application for a specific compound.

Finally, the following language of the district court in *Phillips Petroleum Co.* v. *Ladd*, 219 F.Supp. 366, 369 (D.D.C. 1963), is singularly applicable:

"When, by reason of a combination of properties and characteristics, a new product constitutes a substantial improvement, providing unforeseen uses and results, the product represents a difference in kind and not merely in result. [Citing cases.] As distinguished from difference in degree, difference in kind exists when a product possesses a unique combination of extraordinary and novel properties and characteristics of which the prior art was not aware." [Citing cases.]

In the present case, the expert testimony established tetracyanoethylene as an organic chemical compound having extraordinary properties. The substance exhibits an unusual stability to oxidation but, when it does burn, produces an extremely hot flame. It reacts uniquely with certain aromatic solvents to produce various color complexes. The compound enters into substitution reactions with nucleophiles, evidences an unusually stable radical anion, and is possessed of many other unusual characteristics. Perhaps most striking is the fact that the compound is composed entirely of carbon and nitrogen atoms, unlike ninety-nine per cent or more of the known organic compounds, which contain hydrogen.

Dr. Cairns stated that tetracyanoethylene possessed properties shared by *none* of the other chemical groupings included in the Alder substituents. Similarly, Dr. Fieser testified:

"Q. Do you consider that this was a material the properties or characteristics

of which could have been predicted by skilled chemists from looking at the formula or the name on a piece of paper?

"A. No, I certainly don't think so at that time without any knowledge of the compound or even closely related compounds. I don't think one could have predicted the substance was capable of existence. . . ."

[3] It seems clear, therefore, that tetracyanoethylene differs in kind, rather than merely in degree, from the general Alder formula or any of its other possible substituent combinations. Consequently, on this additional ground, the prior patent would not be an anticipation sufficient to preclude the granting of letters patent on the instant application.[8]

Claim 3

While claims 1 and 3 were dealt with jointly by the Patent Office tribunals, the district court correctly considered the claims separately, noting that claim 1 was the broader, while claim 3 was limited to an "essentially pure compound." The court went on:

"Counsel [for the Patent Office] admits that the Alder et al. patent does not suggest the claimed properties set out in claim 3. Furthermore, both parties agree that the properties expressed in claim 3 are not predictable, and that such properties could be ascertained only after successfully producing the compound."

Notwithstanding, the court held:

"[I]n accordance with the holding in *National Lead Co.* v. *Marzall*, 91 U.S.App.D.C. 63, 198 F.2d 296, an increase in knowledge of a prior disclosure or the discovery of new properties thereof does not justify the grant of a patent."

While we do not dispute the district court's interpretation of the National Lead decision, we feel that case is not applicable here. In the National Lead case, the patent applicant was seeking to patent a drilling fluid having a certain combination of chemical ingredients which would determine its viscosity. In affirming the denial of letters patent, this court pointed out that well-drilling fluid containing the ingredients included in the application was known, and that the mere novel proportion of the chemical additives was insufficient to warrant a patent. *Roberts* v. *Ryer*, 91 U.S. 150 (1875), cited in the National Lead opinion, dealt with a slight modification of the design of a refrigerator, also a well-known product.

[4] Hence those cases are not controlling where, as here, a novel or unique product is involved. It is significant that, while the Primary Examiner stated that the properties recited in claim 3 were inherent in the compound suggested by Alder, the district court found as a fact that there was not the slightest suggestion of these properties in the Alder patent. We hold that the district court's finding on this point compelled a result contrary to that which the court reached, for the same reasons set forth *supra* relating to claim 1.

II

[5] The second major issue, raised by appellees after the trial and urged on appeal, is that claim 1 does not meet the standard of particularity required by 35 U.S.C. § 112,[9] and hence is not patentable. In short, appellees argue that the word "tetracyanoethylene" does not define an invention within the meaning of the statute. We think that a contrary conclusion is compelled.

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[8] Cf. *Application of Papesch*, 50 C.C.P.A. (Patents) —, 315 F.2d 381 (1963); *Mathieson Alkali Works, Inc.* v. *Coe*, 69 App.D.C. 210, 99 F.2d 443 (1938); *Rem-Cru Titanium, Inc.* v. *Watson*, 147 F.Supp. 915 (D.D.C. 1956).

[9] Note 5, supra.

[6] Preliminarily, it should be noted that the so-called "Geneva" system of nomenclature, from which the name tetracyanoethylene is derived, is a standard system of identification for various chemical compounds. The compound here involved is called an ethylene, or derivative of ethylene, because of the central nucleus of the two carbon atoms (C=C); the tetracyano part of the name means that four cyano (CN) groups are attached to the ethylene nucleus. It seems, therefore, that the word tetracyanoethylene is little more than the structural formula of the compound converted into an utterable combination of letters. We do not understand appellees to assert that a chemical formula would not adequately describe a compound claimed in a patent application, and since it seems apparent that the name here is as equally descriptive of the compound as a line-and-symbol formula, it is as sufficient for purposes of statutory particularity.[10]

More important, however, the ultimate factor controlling a question of the sufficiency of a claim is well stated in *Application of Nelson*, 47 C.C.P.A. (Patents) 1031, 1045, 280 F.2d 172, 181 (1960):

"The descriptions in patents are not addressed to the public generally, to lawyers or to judges, but, as section 112 says, to those skilled in the art to which the invention pertains or with which it is most nearly connected. The sufficiency of a specification must be tested in the light of this fact and judged by what it conveys to those who *are* skilled in the art."

In the district court proceedings, uncontroverted expert testimony established that the name of the compound tetracyanoethylene did describe the compound, and that one skilled in the art would understand what was indicated by the use of the name.[11] Consequently, we are of the opinion that claim 1 is not defective for lack of statutory particularity.

[7] For the above reasons, the order of the district court must be reversed, and the case remanded to that court with instructions to enter an order authorizing the Commissioner of Patents to issue a patent to appellant on claims 1 and 3.

So ordered.

REVERSED.

EDGERTON, *Senior Circuit Judge*, dissents.

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[10] We are also persuaded somewhat by the history of the Patent Office in granting letters patent for application claims having the same descriptive nature as claim 1 herein.

[11] *E.g.*, by Dr. Fieser:

"Q. . . . In your opinion, is the naming of a compound per se and only that a sufficient and proper identification of that compound?

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"A. Well, it depends. Are you talking about tetracyanoethylene?

"Q. I will ask you that question directly. Is that a sufficient and complete definition of a new product?

"A. Either the name or the formula in that case, it seems to me, is a sufficient description."

United States Court of Appeals
District of Columbia Circuit

HUDSON FOAM PLASTICS CORPORATION

v.

DAVID L. LADD, COMMISSIONER OF PATENTS

No. 18,074. Decided February 13, 1964.

[— U.S.APP. D.C. —; 329 F.2d 891; 140 USPQ 408]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"FOAMED POLYESTER RESIN LAMINATED PRODUCTS."

The judgment of the district court, dismissing the complaint in a suit under 35 U.S.C. 145 to authorize the issuance of a patent on a claim of appellant's

application, entitled "Foamed Polyester Resin Laminated Products," is affirmed.

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Bertram Ottinger, pro hac vice, *Morris Kirschstein*, *Martin T. Fisher*, and *Arnold B. Christen* for appellant.

Clarence W. Moore (*J. E. Armore* of counsel) for appellee.

Before WILBUR K. MILLER, WASHINGTON and DANAHER, *Circuit Judges*

PER CURIAM:

This suit was brought under 35 U.S.C. § 145, seeking authorization of the issuance of a patent on claim 28 of plaintiff-appellant's application, Serial No. 441,984, entitled "Foamed Polyester Resin Laminated Products." Claim 28, as summarized in plaintiff-appellant's brief, covers a process "whereby such articles as soft, resilient seat cushions, arm rests and the like, comprising a resilient foam body and a flexible outer skin cover to which the body is directly bonded without an intermediate adhesive, can be produced entirely within a mold." After a trial de novo, the district court decided in favor of the defendant-appellee Commissioner of Patents, relying chiefly on the disclosures contained in Patent No. 2,639,252, issued to Simon and others on May 19, 1953. The court concluded:

"For the reason that the evidence shows that the process set out in claim 28 is old, and the only difference is that it recites analogous materials which are clearly shown to have been known to the art when the application was filed, it is clear that the use of such materials in the method of Simon et al. would be obvious to one skilled in the art."

We find no error affecting substantial rights. Compare *Zenith Radio Corp.* v. *Ladd*, 114 U.S.App.D.C. 54, 310 F.2d 859 (1962). [1] The judgment of the district court, dismissing the complaint, will accordingly be affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE FRANK PETER DOYLE, JOHN HERBERT CHARLES NAYLER AND GEORGE NEWBOLT ROLINSON

No. 7098. Decided February 13, 1964

[51 CCPA —; 327 F.2d 513; 140 USPQ 421]

1. PATENTABILITY—COMPOUND—OBVIOUSNESS—PURIFICATION OF KNOWN MATERIAL.

"While the mere purification of a known material ordinarily does not result in a patentable product, a pure compound may, under certain conditions, be patentable over the same compound in an impure form. *In re Williams*, 36 CCPA 756, 171 F.2d 319, 80 USPQ 150. We think such conditions prevail here. Appellants have disclosed that use of substantially pure 6-APA [6-Aminopenicillanic acid] in solid nonhygroscopic form results in a greater quantity of pure antibiotic with a lesser quantity of added reagent than is obtainable with impure 6-APA. In fact, the affidavit of record, indicates that when 6-APA with a purity of less than 90% is acylated the amount of an antibiotic of requisite quality obtained is reduced in yield too far for commercial acceptance."

2. SAME—PARTICULAR SUBJECT MATTER—"SUBSTANCES PRODUCED FROM PENICILLIN-PRODUCING MOULDS."

The refusal of two claims in an application entitled "Substances Produced From Penicillin-Producing Moulds," as unpatentable over the prior art, is reversed as to one claim and affirmed as to the other.

APPEAL from the Patent Office. Serial No. 833,680.

MODIFIED.

Kenyon & Kenyon, Ralph L. Chappell, for appellants.

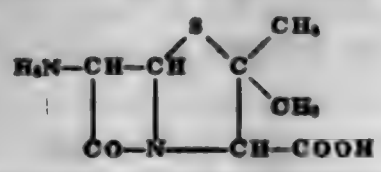
Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

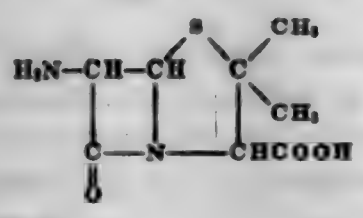
This is an appeal from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 2 and 4, the only remaining claims in appellants' application Serial No. 833,680, filed August 14, 1959 for Substances Produced From Penicillin-Producing Moulds.

2. 6-Aminopenicillanic[1] acid having the structural formula:



which is capable of reacting with phenylacetyl chloride to produce benzylpenicillin, and which gives a negative Bratten-Marshall test and a negative ninhydrin test.

4. Solid, nonhygroscopic 6-aminopenicillanic acid having the structural formula



and melting at about 209–210° C.

The application discloses that 6-APA is used in preparing antibiotic substances.

The references relied on by the Examiner and the Board are:

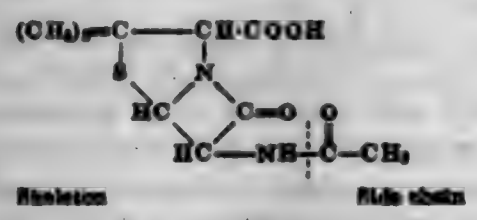
Kuhne—Pharmazie, Vol. I, pages 200–201 (1946).

Sakaguchi et al.—J. Agri. Chem. Soc. (Japan), Vol. 23, page 411 (1950).

Arnstein et al.—Biochem J., Vol. 67, pages 180–187 (1957).

Hockenhull et al.—Arch. Biochem., Vol. 23, pages 160–161[2] (1949).

The Kuhne article discloses that a more complete investigation of the material known as penicillin A has revealed that it is not a simple substance but consists of several different penicillins, all of which have a common skeleton and differ only by a side chain always located in the same position. Penicillin G, one of such penicillins, is depicted as having the following structural formula:

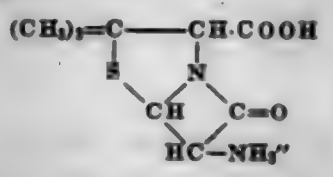


Kuhne indicates that although the skeleton portion of penicillin G had not been named it has been proposed to "include the keto-C atom in the side chain, and to refer to the linkage of this C-atom to the

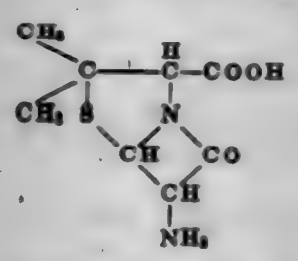
[1] Hereafter referred to in the opinion as 6-APA.

[2] The Board considered the Hockenhull et al. publication as being merely cumulative and did not discuss its disclosure or apply it to the claims. We find nothing in that publication calling for specific consideration here and thus agree with the Board's treatment.

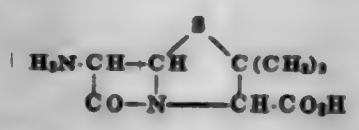
nitrogen as a peptide linkage, so that the skeleton would be that of an amine of the following structure:



The Sakaguchi et al. publication discloses a new enzyme, penicillin-amidase, which splits penicillin G. The authors indicate that from the reaction mixture of pencillin G and penicillin-amidase, "phenyl acetic acid and a substance which we presume 'penicin' have been isolated, the latter substance being in the form of hygroscopic crystalline needles giving M.P. 158–159° C. This substance, which itself does not give ninhydrin reaction,[3] develops an intense blue violet coloration by ninhydrin reagent after it was acted with [upon by] penicillinase." "Penicin" is depicted as having the formula:



Arnstein et al. disclose suggested pathways of penicillin biosynthesis. Set forth as a possible reaction mechanism is a process which starts with cysteinylvaline, the final step in the penicillin biosynthesis being postulated as consisting of the acylation of a compound having the structural formula:



The Examiner rejected claims 2 and 4 as "lacking invention" over Kuhne or Sakaguchi et al. or Arnstein et al., all of which were considered to "teach the *concept* of 6-aminopenicillanic acid which is the compound that is instantly being claimed." The Examiner stated that the presence of 6–APA could be readily appreciated by one skilled in the art in view of the cited references. The patentability of isolating 6–APA from the fermentation liquor obtained in the biosynthesis of penicillins was said by the Examiner to have been recognized by the Patent Office since appellants' parent application, Serial No. 750,057, of the instant application Serial No. 833,680[4] has matured into U.S. Patent No. 2,941,995 and the claims of the parent application "are directed to a *method of recovering* the 6-aminopenicillanic acid from an aqueous solution."

In affirming the Examiner's rejection the Board stated:

> In each of these publications [Sakaguchi et al., Kuhne and Arnstein et al.] the compound claimed was described by its structural formula which is the means most commonly used by chemists to accurately describe an organic chemical. From the publications a chemist would be informed of, and understand the exact nature of the claimed compound and its relationship to valuable compounds of the prior art.

Appellants contend that they have produced a compound which was not available before and have made possible "new penicillins both for

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[3] Noller, Chemistry of Organic Compounds 283 (1952) discloses that in the ninhydrin reaction, α-amino acids, and proteins or their degradation products that contain a free carboxyl group having an α-amino group, yield a blue color when heated in dilute solution with triketohydrindene hydrate (ninhydrin).

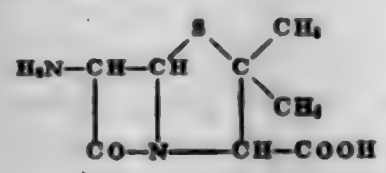
[4] Serial No. 833,680 is stated by appellants to be a division of Serial No. 750,057.

commercial exploitation and for extensive research work." They urge that they were the first to produce, isolate and purify solid 6–APA and to determine its properties. It is argued that the prior art had depicted the structural formula of 6–APA, not to describe an alleged existing compound, but rather as a possible merely theoretical intermediate which might exist along a suggested pathway of reaction in penicillin biosynthesis; as a non-existant, purely theoretical skeleton to form the basis for a new system of penicillin nomenclature; and as a "presumed" structural formula for a material isolated from the reaction mass after enzymatic action on penicillin, but not having the physical properties of 6–APA.

We think the issue facing this court is whether the compound as recited in the appealed claims is described in, or obvious from, the cited art. To determine that question, a careful analysis of appellants' application is necessary.

According to the application, appellants have found that substances having antibiotic activity can be obtained by reacting, with a suitable chemical reagent, the fermentation liquor obtained by growing a pencillin-producing mould, such as penicillium chrysogenum.

The application discloses that the fermentation liquor contains a compound of the structural formula:



which "we term 6-aminopenicillanic acid following the nomenclature adopted by other workers in analogous fields." Appellants state that this 6–APA is a nonhygroscopic compound which in a substantially pure form has a melting point of 209 to 210° C. and gives the following analysis: carbon 44.6%; hydrogen 5.7%; nitrogen 13.1%; and sulfur 14.1%. Compared with this analysis they point out that $C_8H_{12}O_3N_2S$, the empirical formula of 6–APA, requires: carbon 44.4%; hydrogen 5.6%; nitrogen 13.0% and sulfur 14.8%. The compound 6–APA is stated to give a negative Bratten-Marshall test and a negative ninhydrin test and to be capable of reacting with phenylacetyl chloride to produce benzylpenicillin.

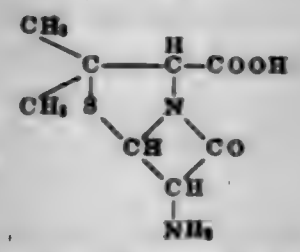
Appellants state in their application that the procedure to be followed in preparing antibiotic substances from 6–APA depends largely upon the extent to which the 6–APA has itself been purified. Thus, it is said that 6–APA may be used in three different states of purification: (1) isolated 6–APA, (2) 6–APA concentrate and (3) the dilute fermentation brew containing 6–APA. 6–APA concentrate is described as a clarified fermentation liquor which has been subjected to an initial concentration procedure and from which the natural penicillins have been substantially removed by solvent extraction at pH 2 to 3. It is said to usually contain 0.6–1.2 mg./ml. of 6–APA which represents about 1% of the total solids present. The dilute brew is the original clarified fermentation brew from which natural penicillins have been substantially removed by solvent extraction at a pH of 2 to 3 but which has not been concentrated. The dilute brew is said to be about ten times more dilute than the 6–APA concentrate.

Appellants disclose in the application that when 6–APA is available in relatively pure form it is only necessary to use a small excess of added reagent in preparing the antibiotics and that the products are, in turn, obtained in a fairly pure state. On the other hand,

appellants indicate that when the starting material is a 6–APA concentrate, it is necessary to use a much larger excess of reagent and the resulting products, as compared with those obtained when starting with 6–APA in relatively pure form, are "very much less pure." With the dilute brew, as with the 6–APA concentrate, appellants state that a "large excess of reagent" is necessary in preparing the antibiotics.

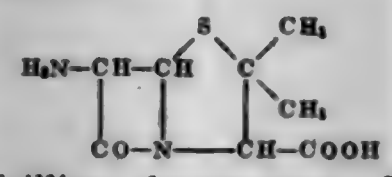
The Examiner has readily conceded that 6–APA "is a valuable intermediate" but considers that from the art of record "its presence could be readily appreciated." We agree with the Examiner that this is the case with respect to appellants' claim 2, especially in light of the Sakaguchi et al. reference.

Sakaguchi et al. state they have found in the mycelium of penicillium chrysogenum that the enzyme penicillin-amidase "splits penicillin G into its components, i.e. phenyl acetic acid and a residual portion of penicillin G" which they have assigned the structural formula:



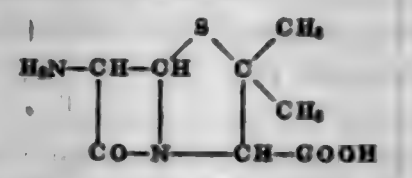
That residual portion does not give a ninhydrin reaction but is said to develop an intense blue violet coloration by ninhydrin reagent after it is acted upon by penicillinase. The authors have further postulated, through a reaction mechanism, that the splitting of penicillin G involves an hydrolysis of penicillin G.

Appellants obtain a compound which they have characterized as having the structural formula:



from a strain of penicillium chrysogenum. The compound gives a negative ninhydrin test. In an affidavit of one Sidney N. Sadoff, submitted by appellants, it is stated that the enzyme penicillinase destroys 6–APA, and thus contamination of an aqueous solution of 6–APA with bacteria that produce penicillinase ordinarily leads to the destruction of 6–APA. In exhibits attached to the Sadoff affidavit it is stated that during a hydrolysis reaction an amidase enzyme hydrolyzes penicillin G to 6–APA and phenylacetic acid.

Thus both Sakaguchi et al. and appellants start with a strain of *Penicillium chrysogenum* and both indicate that through a hydrolysis reaction, catalyzed by an amidase enzyme, they obtain the compound, phenyl acetic acid, and a compound which does *not* give a ninhydrin reaction and has the structural formula



Furthermore, Sakaguchi et al. indicate, as do appellants, that the latter compound is unstable in the presence of the enzyme penicillinase. Such close correlation from the record convinces us that the 6–APA as defined in claim 2 is disclosed in the Sakaguchi et al. reference.

Although the record indicates that 6–APA when in a solid nonhydroscopic form melting at 209 to 210° C. is pure, claim 2 does not specify the melting point of the 6–APA therein claimed nor for that matter, the form in which it occurs. See *In re Kebrich*, 40 CCPA 780, 785; 201 F.2d 951, 954; 96 USPQ 411, 413. Thus, we think that the Sakaguchi et al. reference describes the 6–APA as recited in claim 2.

We are not persuaded, however, that the 6–APA as recited in claim 4 is described in, or obvious from the cited art. That claim recites solid, nonhygroscopic 6–APA melting at about 209–210° C. and the application indicates that 6–APA with those physical characteristics is substantially pure. In none of the art record do we find even a suggestion of 6–APA in a solid, nonhygroscopic substantially pure form nor a suggestion of obtaining 6–APA as such.

[1] While the mere purification of a known material ordinarily does not result in a patentable product, a pure compound may, under certain conditions, be patentable over the same compound in an impure form. *In re Williams*, 36 CCPA 756, 171 F.2d 319, 80 USPQ 150. We think such conditions prevail here. Appellants have disclosed that use of substantially pure 6–APA in solid nonhygroscopic form results in a greater quantity of pure antibiotic with a lesser quantity of added reagent than is obtainable with impure 6–APA. In fact, the affidavit of record, indicates that when 6–APA with a purity of less than 90% is acylated the amount of an antibiotic of requisite quality obtained is reduced in yield too far for commercial acceptance.

[2] Accordingly for the reasons set forth above the decision of the Board is reversed as to claim 4 but affirmed as to claim 2.

MODIFIED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,922,271, E. F. Norelius, BEARING; 2,967,262, F. A. Schick, BEARING AND SEAL ASSEMBLY, filed May 4, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62–640–TC, *Allis-Chalmers Manufacturing Company* v. *Westrac Company*. Final consent judgment; patents held valid; defendant enjoined; counterclaim dismissed with prejudice Jan. 24, 1964.

2,416,234, Stillman and Scott, SERIES OF NITROFURAN COMPOUNDS; Reg. No. 482,279 (FURACIN), The Norwich Pharmacal Company, Antiseptics and germicides; Reg. No. 441,715, same, Eaton Laboratories, Inc., Antibacterial preparations, filed Feb. 17, 1964, D.C., E.D. Mo. (St. Louis), Doc. 64C 74(1), *The Norwich Pharmacal Co.* v. *Blue Line Chemical Co., Inc.*

2,512,262, W. H. St. Thomas, COMBINATION BILLFOLD, PURSE, AND POCKET CASE, filed Feb. 24, 1964, D.C.N.J. (Newark), Doc. 158–64, *St. Thomas, Inc.* v. *Holiday Billfolds Corporation*.

2,537,586, V. L. Lillenstern, DOLL HEAD WITH HAIR, filed Feb. 25, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C–202, *American Character, Inc.* v. *Sunshine Doll Co.* Same, filed Apr. 14, 1964, D.C., S.D.N.Y., Doc. 64/1166, *American Character, Inc. et al.* v. *Gimbel Bros., Inc.*

2,538,966, C. Wittgren, TRANSFER SHEET AND METHOD, filed Feb. 2, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–166–PH, *Visual Art Industries* v. *Instantype, Inc. et al.*

2,563,794, Rickes and Wood, VITAMIN B_{12}; 2,763,592, same, VITAMIN B_{12}-ACTIVE COMPOSITION AND PROCESS OF PREPARING SAME, filed Dec. 1, 1961, D.C., S.D.N.Y., Doc. 61/4251, *Merck & Co., Inc.* v. *Afro American Trading Corp. et al.* Consent judgment; defendants enjoined Feb. 7, 1964. Same, filed Apr. 16, 1963, D.C., S.D.N.Y., Doc. 63/1068, *Merck & Co., Inc.* v. *Jordan Chemical Corp. et ano.* Consent judgment; defendants enjoined June 10, 1964. Same, filed May 22, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C–544, *Merck & Co., Inc.* v. *Woline Pharmacal Corp.*

2,583,546, C. F. Carlson, ELECTROPHOTOGRAPHIC RECORDING; 2,588,699(a), same, ELECTROPHOTOGRAPHIC APPARATUS; 2,690,394, same, ELECTROPHOTOGRAPHY; 2,761,416, same, DEVELOPMENT MECHANISM FOR ELECTROSTATIC IMAGES; 2,836,725, R. G. Vyverberg, CORONA CHARGING DEVICE; 2,915,994, Carlson and Bogdonoff, ELECTROSTATIC IMAGE REPRODUCTION, filed Feb. 6, 1964, D.C., S.D.N.Y., Doc. 64/418, *SCM Corporation* v. *Xerox Corporation*. Stipulation and order of dismissal without prejudice Apr. 17, 1964.

2,588,699(a). (See 2,583,546.)

2,588,699(b), C. F. Carlson, ELECTROPHOTOGRAPHIC APPARATUS, filed Feb. 7, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c243, *Xerox Corporation* v. *SCM Corporation*. Stipulation of dismissal without prejudice (notice Apr. 20, 1964).

2,588,699(c), C. F. Carlson, ELECTROPHOTOGRAPHIC APPARATUS; 2,638,416, Walkup and Wise, DEVELOPER COMPOSITION FOR DEVELOPING AN ELECTROSTATIC LATENT IMAGE; 2,901,671, P. E. Kurz, PREPARING PLANOGRAPHIC PLATES AND SOLUTION THEREFOR; 2,121,906(c), Middleton and Reynolds, PHOTOACTIVE MEMBER FOR XEROGRAPHY; Re. 25,136, C. F. Carlson, ELECTROSTATIC DEVELOPER COMPOSITION AND METHOD THEREFOR, filed Feb. 11, 1964, D.C.N.J. (Newark), Doc. 130–64, *Addressograph-Multigraph Corp.* v. *Xerox Corporation*. Same, filed Feb. 11, 1964, D.C., N.D. Ill. (Chicago), Doc. 64/200, *Xerox Corporation* v. *Addressograph-Multigraph Corporation*.

2,901,940, J. G. Livingstone, FITTING AND SEALING MEANS THEREFOR; 2,742,944, same, POURING SPOUT

WITH CAP AND DRIP RETURN; 2,768,488, same, ADAPTER, filed Feb. 13, 1964, D.C., N.D. Ohio (Cleveland), Doc. C64–118, *Jay G. Livingstone* v. *Standard Oil Company*.

2,680,663, T. F. Peterson, HELICALLY PREFORMED ELEMENTS ON STANDARD LINE; 2,761,273, same, DEAD END FOR CABLES, filed C.C.A., 6th Cir., Doc. 15117, *Preformed Line Products Company* v. *The Fanner Manufacturing Company*. Judgment of District Court affirmed Feb. 19, 1964. Same, Doc. 15118, *Preformed Line Products Company* v. *The Fanner Manufacturing Company*. Decree as above.

2,632,627, D. Torr, METHOD OF TREATING ANIMAL BONES, filed May 16, 1961, D.C., S.D.N.Y., Doc. 61/1780, *David Torr* v. *Associated Products, Inc. et al.* Stipulation and order of dismissal with prejudice Feb. 6, 1964.

2,638,416. (See 2,588,690(c).)

2,657,618(a), W. Eisbein, DEVELOPING APPARATUS, filed Oct. 9, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1876, *American Photocopy Equipment Company* v. *Formfoto Manufacturing Co., Inc.* Consent decree; patent held valid and infringed June 1, 1964.

2,657,618(b), W. Eisbein, DEVELOPING APPARATUS; 2,685,778, L. J. Stuckens, PHOTOCOPY APPARATUS AND DOCUMENT CARRIER FOR SAME, filed June 17, 1963, D.C., N.D. Calif. (San Francisco), Doc. 41565, *American Photocopy Equipment Company* v. *Pacific Copy Corporation*. Consent judgment in favor of plaintiff; patents held valid Jan. 23, 1964.

2,667,293. (See 2,283,871.)

2,690,304. (See 2,563,546.)

2,703,262. (See 2,563,794.)

2,721,145, R. R. Reading, SPRAY DEVICE FOR RETREADING TIRES AND THE LIKE USES; 2,938,645, same, SPRAY DEVICE, filed Feb. 4, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–148–CC, *Retreading Process Co.* v. *Doney B. Clay*. Same, Doc. 64–149–CC, *Retreading Process Co.* v. *Lancaster Tire Company et al.*

2,743,944. (See 2,601,040.)

2,754,870, S. N. Glantz, BOWLING BALL BAG, filed Feb. 18, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c292, *Samuel N. Glantz et al.* v. *Goldblatt Brothers, Inc. et al.*

2,755,371, E. R. Jackson, DEFROSTER FOR FREEZING COILS, filed Sept. 2, 1958, D.C. Md. (Baltimore), Doc. 10867, *Earl R. Jackson* v. *Dunham-Bush, Inc. et al.* Order that sole claim of Patent No. 2,755,371 is invalid and not infringed Sept. 3, 1963. Same, filed Oct. 31, 1963, C.C.A., 4th Cir., Doc. 10867, *Earl R. Jackson* v. *Dunham-Bush, Inc. et al.* Decree of District Court affirmed June 10, 1964.

2,761,273. (See 2,609,653.)

2,761,416. (See 2,563,546.)

2,768,602. (See 2,601,040.)

2,778,696. S. Rosenthal, POCKET STRUCTURE FOR WASHABLE WORK CLOTHES, filed Nov. 28, 1962, D.C., E.D. Mo. (St. Louis), Doc. 62C 396(3), *Leighton A. Rosenthal et al.* v. *Angelica Uniform Company*. Consent judgment; patent held valid and infringed Feb. 6, 1964.

2,778,786, C. Wagner, METHOD OF DEEP FAT COOKING FOODS UNDER PRESSURE, filed Dec. 14, 1961, D.C., S.D. Ohio (Dayton), Doc. 2672, *Ballantyne Instruments & Electronics, Inc.* v. *Chester Wagner et al.* Plaintiffs motion for summary judgment sustained; defendant's Patent 2,778,736 and all claims thereunder held invalid Feb. 14, 1964.

2,780,864, J. L. Kleinman, SHAVING IMPLEMENTS; 2,787,055, same, SHAVING IMPLEMENT HAVING RECIPROCATING CUTTERS IN A PIVOTALLY CONNECTED HEAD AND WASTE COLLECTING MEANS; 2,822,610, same, SHAVING IMPLEMENT HAVING A FRICTIONAL MOTOR COMPARTMENT COVER, filed Feb. 10, 1964, D.C., S.D.N.Y., Doc. 64/441, *Jacob L. Kleinman* v. *North American Philips Company, Inc.*

2,784,122, E. N. Maisel, AIR PERMEABLE FIBROUS BATT, filed Feb. 19, 1964, D.C. Conn. (New Haven), Doc. 10297, *Fiber Bond Corporation* v. *Kimberly-Stevens Corp.*

2,787,053. (See 2,780,864.)

2,801,630(a), A. R. Moore, CERVICAL COLLAR, filed July 15, 1960, D.C. Oreg. (Portland), Doc. 60–283, *Florida Brace Corporation et al.* v. *William L. Bartels et al.* Case dismissed Aug. 8, 1963.

2,801,630(b), A. R. Moore, CERVICAL COLLAR; 2,911,970, W. L. Bartels, same, filed June 8, 1962, D.C. Oreg. (Portland), Doc. 62–222, *Florida Brace Corporation et al.* v. *William L. Bartels et al.* Case dismissed Sept. 12, 1962.

2,822,610. (See 2,780,864.)

2,836,735. (See 2,563,546.)

2,861,310, W. A. Wulle, VENTILATING APPARATUS; Re. 24,687, same, FORAMINOUS CEILING VENTILATING APPARATUS, filed July 31, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1480, *The Pyle-National Company* v. *Thomas Industries, Inc. et al.* Patents infringed; injunction issued Feb. 5, 1964.

2,911,970. (See 2,801,630(b).)

2,961,672. (See 2,588,690(c).)

2,915,304. (See 2,563,546.)

2,935,738. (See 2,657,618(b).)

2,938,645. (See 2,721,145.)

2,940,231, P. P. Biringer, SELF-BALANCING POWER SUPPLY SYSTEM HAVING A SINGLE PHASE OUTPUT ENERGIZED BY A MULTIPHASE SOURCE, filed Oct. 1, 1963, D.C., W.D.N.C. (Charlotte), Doc. 1821, *Ajax Magnethermic Corporation* v. *Alloys Metals Company*. Dismissed with prejudice on agreement June 8, 1964. Same, filed Oct. 18, 1963, D.C., N.D. Ohio (Cleveland), Doc. C63–799, *Inductotherm Corporation* v. *Ajax Magnethermic Corporation*. Consent decree; patent held valid and infringed; case dismissed with prejudice June 8, 1964.

3,121,008(a). (See 2,588,690(c).)

3,121,008(b), Middleton and Reynolds, PHOTO-ACTIVE MEMBER FOR XEROGRAPHY, filed Feb. 11, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c259, *Xerox Corporation* v. *SCM Corporation*.

Re. 24,687. (See 2,861,310.)

Re. 24,693, C. Schnell, METHOD OF COMMINUTING MEAT; Re. 24,764, same, COMMINUTING MACHINE, filed Jan. 14, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c62, *The Allbright-Nell Co.* v. *The Griffith Laboratories, Inc. et al.* Patents held valid; The Allbright-Nell Co. and Peter Eckrich and Sons, Inc. have infringed; injunction to issue; counterclaims dismissed Jan. 6, 1964.

Re. 24,764. (See Re. 24,693.)

Re. 25,126. (See 2,588,690(c).)

REISSUES

JULY 21, 1964

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,620
POLISHING SYNTHETIC RESIN LENSES

George M. J. Sarofeen, Colonial Heights, Va., assignor to Titmus Optical Company, Inc., Petersburg, Va., a corporation of Virginia

Original No. 3,077,707, dated Feb. 19, 1963, Ser. No. 37,277, June 20, 1960. Application for reissue July 8, 1963, Ser. No. 295,280

23 Claims. (Cl. 51—284)



1. A composition suitable for polishing synthetic resin lenses comprising [grinding compound] *stannic oxide* and an inert viscous liquid having a viscosity substantially greater than water comprising a polyhydric alcohol.

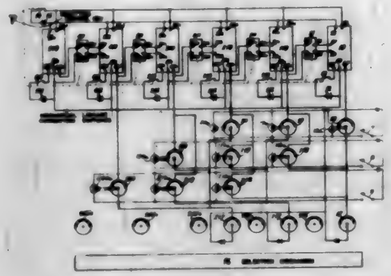
25. A method of polishing an optical surface made of a synthetic resin comprising supporting a homogeneous mass including stannic oxide as the cutting agent and a liquid polyhydric alcohol on a solid yieldable surfacing medium and contacting said optical surface with said solid yieldable surfacing medium supporting said homogeneous mass.

25,621
REGISTERS

Benjamin J. Chromy, 15335 Via Colina, and Philip H. Allen, 14590 Horseshoe Drive, both of Saratoga, Calif.

Original No. 2,727,683, dated Dec. 20, 1955, Ser. No. 640,464, Jan. 11, 1946. Application for reissue Feb. 8, 1960, Ser. No. 16,906

45 Claims. (Cl. 235—173)



43. An opto-electronic apparatus comprising a plurality of thermionic devices, each of said devices comprising a light source including a phosphor and electric discharge means for agitating said phosphor to generate light, a plurality of photoconductive elements, a first electrical series combination including a first one of said thermionic devices and a first one of said photoconductive elements, a second electrical series combination including a second one of said thermionic devices and a second one of said photoconductive elements, means for connecting said first series combination and said second series combination electrically in parallel, means for connecting additional ones of said photoconductive elements in controlling relation to said first and said second thermionic devices, and means for optically coupling said second series combination thermionic device to said additional photoconductive element of said first series combination.

PLANT PATENTS

GRANTED JULY 21, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,427
SORBARONIA HYBRIDA PLANT

Peter E. Girard, Geneva, Ohio

Filed June 15, 1962, Ser. No. 202,927

1 Claim. (Cl. Plt.—51)

A new and distinct variety of *Sorbaronia hybrida* plant, an ornamental tree as described and illustrated, characterized particularly as to novelty by its vigorour growth habits; its deep, lustrous green foliage; its numerous clusters of creamy white to milky white flowers having 75–100 florets in each rounded cluster; its numerous purplish wine-red berries; its upright growth habits; and its easy propagation by budding, grafting, or cuttings.

PATENTS

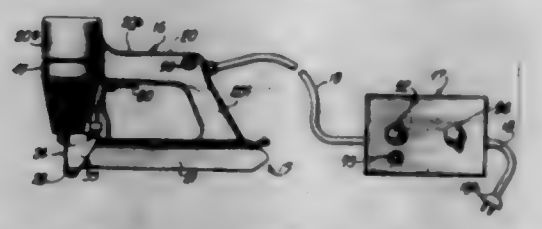
GRANTED JULY 21, 1964

GENERAL AND MECHANICAL

3,141,171
ELECTRIC POWER TOOL

Richard H. Doyle, Mount Prospect, Le Roy N. Hermann, St. Charles, and Joseph S. Naber, Wheeling, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed Dec. 22, 1961, Ser. No. 161,651
18 Claims. (Cl. 1—49)

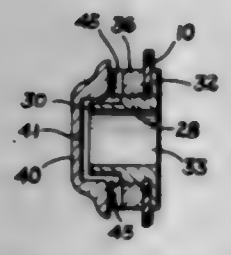


1. In an electrically operated tool for driving fasteners, a housing having a generally inclined portion defining a chamber having an inclined wall surface, winding means having an inner wall defining an axially extending opening and an outer wall that is at least partially inclined inwardly toward the axis of said opening, said winding being disposed in said chamber with the inclined wall on the winding means adjacent the inclined wall of the chamber, and armature means movable in said axially extending opening and including work engaging means extending out of said housing, said armature means normally being disposed with an end portion within one end of the axial opening and being movable through the axial opening in the direction in which the outer wall of the winding means inclines inwardly toward the axial opening when the winding means is energized.

3,141,172
VENTILATED GOGGLES

Jack B. Hirschmann, Fairhaven, Mass.
(% The H. L. Bouton Co., Buzzards Bay, Mass.)

Filed Sept. 18, 1961, Ser. No. 138,892
3 Claims. (Cl. 2—14)

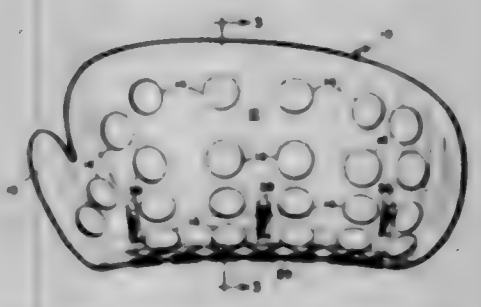


1. In a safety goggle having a frame including an impervious wall, a safety ventilator providing for ventilation while protecting the wearer against accidental intrusion of harmful liquids into the interior of the goggle, comprising a hollow tubular portion extending axially through an opeing in the goggle wall and terminating at one end interiorly of the goggle and at an outer end exteriorly of the wall with said outer end being positioned in spaced relation from the wall, means forming a pair of axially spaced inner and outer annular flange portions on said ventilator one of which is received on each side of the goggle wall at said opening to support said tubular portion directly on the goggle wall in sealing relation with the wall, means on said ventilator forming a generally cup-shaped cap having an impervious outer end and axially inwardly extending sides overlapping the outer end of said tubular portion with the inner surfaces of said cap being proportioned respectively in spaced relation to the sides and outer end of said tubular portion, and means in said cap sides defining at least one combined drain and ventilating opening therethrough positioned adjacent said outer flange and axially inwardly of the radial projection of said outer end of said tubular portion for the air passage through said tubular portion into the interior of the goggle and providing for the drainage of liquids outwardly from within said cap.

3,141,173
CATCHER'S MITT

James A. Jackson, 1151 Washington Heights Place, and Walter L. Jackson, 1069 Washington Heights Place, both of El Cajon, Calif., assignors of thirteen percent to Donald F. Oderkirk, El Cajon, Calif.

Filed Mar. 4, 1963, Ser. No. 262,476
6 Claims. (Cl. 2—19)



1. A hand-held catcher's mitt comprising:
a substantially rigid dish-shaped receptacle for receiving a ball; and
a plurality of suction cups mounted on the concave surface thereof adapted to receive and hold a smooth surfaced ball.

3,141,174
DRESS SHIELD

Elvira Meier-Nieper, Kunzlistrasse 19, Zurich, Switzerland

Filed July 18, 1961, Ser. No. 124,827
1 Claim. (Cl. 2—53)



In a dress shield of crescent shape with opposed convex and concave edges and adapted for use in a garment to absorb body secretions, in combination:
(*a*) an absorbent layer on the side destined to face the body,

(*b*) a protective foil sheet on the side destined to face the garment,

(*c*) said protective foil sheet being adhered to and extending beyond said absorbent layer at the concave edge thereof,

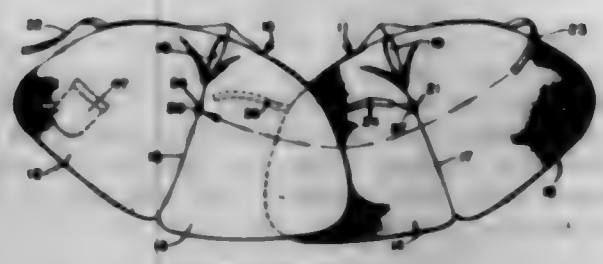
(*d*) the extended portion of said protective foil sheet being provided with a layer of self-sticking dry adhesive material for detachably securing the dress shield to the garment.

3,141,175

TWO PIECE REVERSIBLE GARMENT

Martha Ann Heater, 291 W. Foothill Blvd., and Jean M. Von Sternberg, 181 White Oak Drive, both of Arcadia, Calif.

Filed July 13, 1961, Ser. No. 123,685
3 Claims. (Cl. 2—74)



1. A dress, comprising, in combination: a first half and a second half, said halves being essentially similar in shape, each said half being composed of a front panel and a back panel identical in shape to said front panel but a mirror image thereof, said panels being joined together at a juncture line, each said half having an arm opening adjacent the top and a tie means passing aperture below said arm opening, each of said panels bearing a tie means on its outer edge adapted to passing through said tie means passing aperture, said dress in its assembled form presenting a front composed of a panel of one of said halves overlapping a panel of the other of said halves, and a back composed of the remaining two panels likewise in overlapping relationship and said first and second halves being joined only by said tie means.

3,141,176

COMBINATION HEAD-GEAR AND SCARF

Vera Neumann, Croton-on-Hudson, N.Y., assignor to Scarves By Vera, Inc., New York, N.Y., a corporation of New York

Filed July 2, 1962, Ser. No. 206,676
1 Claim. (Cl. 2—207)



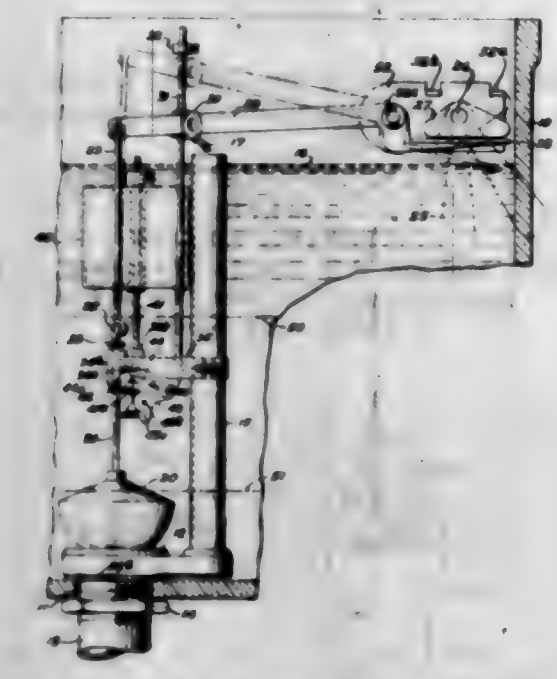
A combination head-gear and scarf of the character described, comprising a generally triangular scarf which is adapted to serve as a head covering, said scarf consisting of two superimposed plies and having an annular stiffener sewn into said scarf between said plies and midway between the ends of said scarf to form a cap portion therein, a pair of radially spaced concentric lines of stitching being sewn into the two plies of the scarf to form an annular channel between them, said stiffener occupying said annular channel, said annular stiffener comprising a split ring formed of a generally flat resilient plastic strip which is curled into annular shape with its ends in overlapping positions, an opening being provided in one of the triangular plies, said opening being formed between the two concentric lines of stitching, said split annular ring being insertable and removable endwise through said opening into and out of said annular channel.

3,141,177

FLUSH VALVE

Frank W. Kertell, Oakland, Calif. (% Brooks Walker, 1288 Columbus Ave., San Francisco 11, Calif.), assignor of one-half interest to Brooks Walker, San Francisco, Calif.

Filed Oct. 26, 1962, Ser. No. 233,414
3 Claims. (Cl. 4—53)



1. A selective dual volume dump valve mechanism for flush toilets, a flush tank, said valve comprising a drain valve seat, a drain pipe connected to said seat, a float-type flexible valve, a secondary float, said secondary float connected to said valve so as to effectively ride on said flexible valve and sink it prior to the surface of the liquid in said flush tank reaching the top of said flexible valve, a two position trip mechanism connected to said valve and float, said trip mechanism in a first trip position raises said flexible valve off its seat when said flush tank is substantially full and simultaneously holding said float in its raised position, said trip mechanism in its second trip position lifting said flexible valve off its seat and releasing said float so its weight rides on said flexible valve to sink said flexible valve to close the flow to said drain pipe while the level of water in said tank is substantially higher than the level when said flexible valve seats after being tripped in the first position of said trip mechanism.

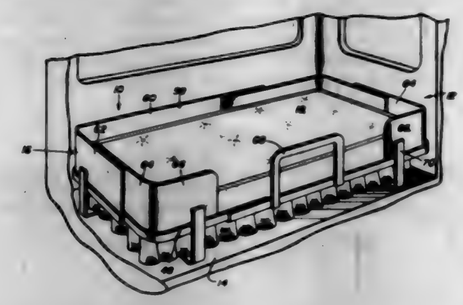
3,141,178

ADJUSTABLE BED FOR TRUCKERS

Earl L. Campbell, 9601 Constitution NE., Albuquerque, N. Mex.

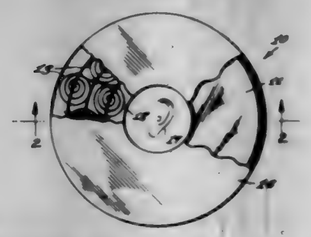
Filed Dec. 21, 1962, Ser. No. 246,632
9 Claims. (Cl. 5—118)

1. In a bed construction for a moving vehicle or the like, a supporting frame assembly mounted on the floor of the vehicle comprising, peripheral frame means, supporting surface means connected to said peripheral frame means, a plurality of spring pod assemblies resting on the floor and connected to said supporting surface means for sole support thereof above the floor, rigid guide means mounted on the floor in close spaced relation to the peripheral frame means, and yieldable means operatively mounted on said peripheral frame means and engageable



with said guide means in substantially a single plane for resisting horizontal displacement of the supporting surface means.

3,141,179
LISTENING PILLOW
Clyde L. McLean, P.O. Box 144, Menoken, N. Dak.
Filed July 16, 1962, Ser. No. 209,885
1 Claim. (Cl. 5—337)



In a headrest the combination of a pair of cushion-like elements in vertical, spaced apart relationship, an air space between said elements, each of said elements having a single, central opening therethrough and communicating with said air space and means for maintaining said air space between said cushion-like layers, each of said cushion-like elements being comprised of foam rubber and having an outer covering, said covering having an unbroken surface for comfortable placement adjacent a person's head, said means for maintaining said air space comprising a plurality of compression coil springs, one end of each of said coil springs bearing against one of said foam rubber cushion-like elements and the other end of said spring bearing against the other of said foam rubber cushion-like elements, said air space containing said springs, said air space having a peripheral wall of material of lattice-like construction to permit entry of sound waves therethrough into said air space.

3,141,180
SWIMSUIT WITH ATTACHED FLOAT
Florence M. Pursley and Norman B. Pursley, Gracewood, Ga.
Filed May 9, 1962, Ser. No. 193,434
4 Claims. (Cl. 9—334)

4. A swimsuit construction comprising a body forming a swimsuit and constructed of fabric-type material, and a float means attached to the exterior of said body and disposed in the waist region thereof for encircling the waist region of a wearer, said float means comprising an elongated flexible buoyant member, a fabric cover for said member, means attaching the fabric cover to the body of the swimsuit, and belt means attached to the exterior midportion of the fabric cover and having detachable means on the ends thereof for detachable engagement for retaining the float member in snug encircling relation to the waist area of the wearer, said fabric cover for the float member including depending rear and bottom panels stiched to the body of the swimsuit at a point adjacent the bottom edge of the float member thereby securing the float member to the swimsuit only along the bottom edge thereof, the stitching connection between the fabric cover for the float member and the swimsuit extending only from side edge to side edge of the swimsuit across its front thus enabling the swimsuit to be more easily put on without interference from the float member.



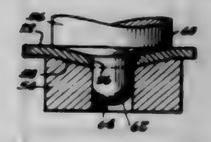
3,141,181
WATER VEHICLE
Raymond J. Cedar, 14915 Stoepel, Detroit 38, Mich.
Filed Mar. 7, 1962, Ser. No. 178,039
5 Claims. (Cl. 9—347)



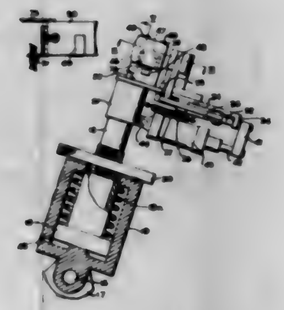
3. A water vehicle comprising: a pair of elongated floats adapted to be supported in the water with their central axes parallel to the water; and a frame operative to connect to both of the floats so as to maintain them with their central axes parallel to one another and to provide an occupant supporting seat, said frame consisting of a pair of bars joined together intermediate of their ends so as to extend parallel to one another and in contacting relationship along the section of their joindure, first right angle bends in each of said bars adjacent to one end of their joined section so as to extend such end sections at 180 degrees with respect to one another, such end sections forming an occupant supporting seat, and second bends in each of said bars adjacent to the other end of their joined section, the extreme ends of such second bend sections making connections with the two floats.

3,141,182
METHOD OF FORMING AND ASSEMBLING WASHER AND FASTENER UNIT
James C. Lanius, Jr., Chicago, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 7, 1962, Ser. No. 222,110
3 Claims. (Cl. 10—86)

1. A method of making a pre-assembled fastener unit comprising providing a nut member having a clamping face and an annular skirt projecting from said clamping face and having a substantially cylindrical outer surface and an outwardly flaring inner surface, providing a piece of sheet material stock of predetermined thickness for a washer and supporting said piece of sheet material stock along an annular area thereof and leaving a portion of the sheet material stock within said area unsupported, then drawing and forming said portion of the sheet material stock and thereby providing a central cup-shaped section surrounded by an annular section substantially inclined away from the remainder of the sheet material stock, then supporting said annular section and punching said cup-shaped section from said stock material and thereby providing an aperture having a substantially cylindrical wall of uniform diameter defining an inner margin of said annular section and having an axial extent greater than the thickness of said sheet material stock, subsequently at least partially flattening said annular section and simultaneously forming said wall into a substantially frusto-conical configuration, punching said annular section from the remainder of the stock material to provide a washer, then assembling said washer over said skirt element of the nut member, and swaging an outer end of said skirt element for axially collapsing the skirt element and forming said outer surface of the skirt element for engaging beneath said frusto-conical wall of the washer.

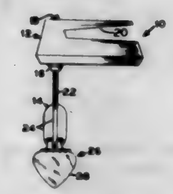


3,141,183
MACHINES FOR LASTING FOOTWEAR
George Trevor Ralphs, Oadby, England, assignor to Ralphs Engineering Company Limited, Leicester, England
Filed June 30, 1960, Ser. No. 39,911
Claims priority, application Great Britain July 1, 1959
3 Claims. (Cl. 12—8.2)



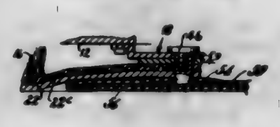
1. A lasting machine for operating on the heel end of a shoe comprising a mounting, a form supported by the mounting and adapted to be received in the heel end of the shoe upper, means for holding a shoe in a definite position on the form, an inflatable mould adapted to embrace and grip the heel end portion of the shoe upper while on the form and to press it thereagainst, means comprising a backing strip extending throughout the depth of said mould together with shorter length packing strips disposed between said backing strip and inflatable mould, said packing strips comprising the portion of the mould engaging the shoe upper in the region of the feather line and being relatively incompressible, means for wiping the lasting margin of the upper material around the heel end of the shoe and against an insole while on said form and while the heelward part of the upper is embraced by said mould and pressed by it against the form, and means for tensioning the shoe upper by drawing the same tightly against the form, said tensioning means comprising a central gripper member and a gripper jaw on each side thereof for gripping and tensioning the shoe upper.

3,141,184
ATTACHMENT FOR MIXERS OR THE LIKE
Robert J. Notes, 3094 N. Adrian Road, Adrian, Mich.
Filed Jan. 4, 1962, Ser. No. 164,231
9 Claims. (Cl. 15—97)



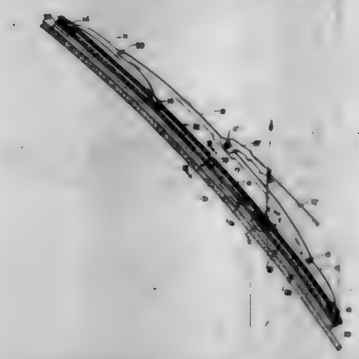
1. An attachment for a beater blade assembly of a mixer or the like comprising an attaching, resiliently flexible neck and a body extending outwardly therefrom, said neck having mutually perpendicular slots therein dividing said neck into four equal quadrants, said slots being wider at the bottom than at the top, and a split ring adapted to slide over and encompass a portion of said neck when blades of said blade assembly are in said slots, to prevent spreading of said quadrants, the inner corners of said quadrants being notched to receive a central shaft of the blade assembly.

3,141,185
APPLICATOR ATTACHMENT
Nishan G. Terzian, 1192 Massachusetts Ave., Arlington, Mass.
Filed Feb. 27, 1962, Ser. No. 176,019
4 Claims. (Cl. 15—246)



1. An adapter for operatively attaching a flexible pad to an annular disc-shaped brush of the kind having a rigid base containing a center hole, bristles on one side of the base, and means on the other side to operatively attach said brush to a floor machine; said adapter comprising a circular anchor plate having diametrically extending attaching flanges for receiving screws by means of which it is adapted to be fastened to said base diametrically of the center hole, said anchor plate containing a center hole, a clamping plate, and an attaching stud secured at one end to the clamping plate, said stud containing in its opposite end a threaded hole for receiving a left-hand threaded screw bolt for securing the clamping plate to the anchor plate, and plies of relatively soft non-abrasive material of larger diameter than the clamping plate secured to the upper and lower sides of the clamping plate for engagement, said upper ply adapted to afford frictional engagement with a pad and said lower ply providing a non-abrasive surface next to the floor.

3,141,186
WINDSHIELD WIPER
Anthony C. Scinta, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Sept. 11, 1961, Ser. No. 137,210
6 Claims. (Cl. 15—250.42)



1. A windshield wiper comprising a primary yoke, first and second pressure equalizers, pivotal connections between the outer ends of said primary yoke and central portions of said first and second pressure equalizers, means associated with one end of said primary yoke and said first pressure equalizer to permit said first pressure equalizer to be detached from said primary yoke, a backing strip, means on the ends of said first and second pressure equalizers located inwardly and outwardly of said pivotal connections for engaging select spaced areas of said backing strip, a wiping element mounted on said backing strip, and notch means extending laterally from the edge of said backing strip for receiving said means on the inward end of said second pressure equalizer, said backing strip including slot means extending longitudinally thereof for receiving said wiping element and wherein said longitudinal slot means possesses an enlarged portion in the area of said notch means, whereby said backing strip can be attached to said pressure equalizer by a relative sliding movement when said first pressure equalizer is detached from said primary yoke.

3,141,187
MARKING INSTRUMENT
Albert E. Simon, Jr., Glenside, and Harold E. Steinberg, Philadelphia, Pa., assignors to Esterbrook Pen Company, Camden, N.J., a corporation of New Jersey
Filed Sept. 5, 1962, Ser. No. 221,608
5 Claims. (Cl. 15—563)



1. A marking instrument comprising a generally cylindrical hollow ink reservoir having an opening at one end thereof, a nib support structure mounted end wise of said one end of the ink reservoir including a nib holder and tip section, said nib holder having an elongated neck provided with an axial bore therethrough and a resilient radial flange at its inner end disposed in outwardly overlying engagement with said one end of the reservoir, said tip section having an elongated neck snugly embracing the neck of the nib holder and having at its inner end a radially extending flange portion snugly engaged over the flange of the nib holder and terminating in a peripheral skirt outwardly overlying the adjacent side wall of the ink reservoir, interengaging locking means releasably mounting said flange portion of said tip section to said adjacent surface of the ink reservoir operable to permit said tip section to be detached from said reservoir by movement axially thereof, and an elongated nib mounted in the bore of the neck of the nib holder with the inner end of said nib extending interiorly of the ink reservoir and its outer end projecting beyond the outer end of the nib holder.

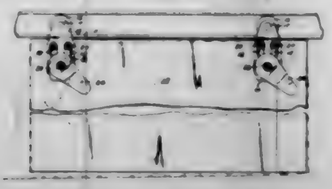
3,141,188
DOOR STOP
James H. Gray, St. Louis, Mo., assignor to Dresman-Gray Corporation, Clayton, Mo., a corporation of Missouri
Filed Nov. 21, 1960, Ser. No. 70,735
5 Claims. (Cl. 16—86)



1. A door stop comprising a mounting bracket for attachment to the side of a door a short distance above the bottom of the door, a rod having one end pivotally supported by the bracket so that the weight of the rod biases the rod downwardly about the pivot support, spring means for biasing the rod upwardly about the pivot support, the moment applied by the spring means being greater than the moment applied by the weight of the rod, means for locking the rod with its free end against the floor beneath the door, and with the free end of the rod spaced further from the door than its supported end, means for releasing the locking means so that the spring means can pivot the free end of the rod away from the doro, means for releasably locking the rod in a position substantially normal to the door, and means for locking the rod with its free end aganst the floor comprising slidable block means slidably supported by the bracket and engageable with the rod to limit its upward movement.

3,141,189
VERTICALLY ADJUSTABLE PANEL HANGER
Richard L. Ferguson, Elkhart, Ind., assignor to Elco Products Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 9, 1961, Ser. No. 151,249
1 Claim. (Cl. 16—105)

A sliding door hanger assembly including a bracket, a track engaging roller attached to the upper end of said bracket, and means providing an adjustable connection between said bracket and a door in suspended relation thereto to accommodate adjustment of said door between raised and lowered positions relative to said roller, said means including an arm portion on said bracket for overlapping engagement with an upright face of a door extending lengthwise of the path of sliding movement of said door adjacent the upper edge thereof, said arm having an opening of elongated vertical dimension formed therein, said opening having a sinuous configuration along one upright edge thereof to define a succession of teeth and of straight line configuration along the opposite upright edge thereof, and a lever secured to the surface of the door facing said opening in the arm of the bracket for pivotal movement about a fixed axis in spaced parallel relation to the axis of said track engaging roller, said lever having an integral axial extension defining a head portion of such dimension as to be received within the confines of said opening in the arm of the bracket, said



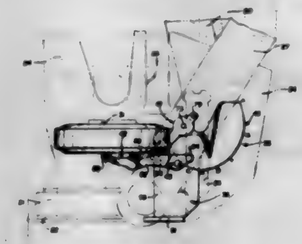
head portion having a part of its edge provided with a series of teeth along the arc of a circle concentric with the axis of pivotal movement of the lever, said teeth having intermeshing engagement with the teeth formed along the edge of the opening in said arm of the bracket and said head portion having another part of its edge continuously curved along the arc of the circle along which the teeth of said head portion are arranged for continuous rolling engagement with the edge of the opening in said arm of the bracket opposite the toothed edge of said opening during said pivotal movement of the lever whereby said pivotal movement of the lever is effective to move said bracket relative to said door, said lever having a radial extension projecting beyond the edges of the arm of the bracket, and a boss provided at the outer end of said radial extension of the lever having sliding bearing engagement with the surface of the door extending beyond the area of said surface occupied by the arm.

3,141,190
SEPARABLE HINGE ASSEMBLY WITH SPACER
Edmund F. Reiss, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Mar. 31, 1961, Ser. No. 99,867
4 Claims. (Cl. 16—171)



1. In combination, a supporting structure; a door; and a hinge assembly pivotally mounting said door upon said supporting structure comprising a pair of hinges each having a pair of leaves pivotally connected in overlying relationship by a pivot pin adjacent one end, means mounting the inner leaves of the hinges to the door and the outer leaves to the supporting structure, said pivot pins being secured in one leaf and having a projecting portion detachably seated in the other leaf and being of a length to permit disengagement of one pin from its associated leaf while maintaining the other pin seated in its associated leaf, and a spacing member releasably engaged between the leaves of one of said hinges to maintain said pivot pins seated in said other leaves, said spacing member being generally U-shaped and having a pair of legs providing a channel therebetween, said channel having a portion adjacent its inner end dimensioned to closely receive the hinge pin of said one of said hinges and a portion of lesser width than the diameter of such hinge pin to provide a resiliently expandable lock to retain the spacing member about the pin.

3,141,191
PRESS FOR SHAPING AND CURING PNEUMATIC TIRES
Leslie Edward Soderquist, Silver Lake, Ohio, assignor to The McNeil Machine & Engineering Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 28, 1961, Ser. No. 98,854
8 Claims. (Cl. 18—2)

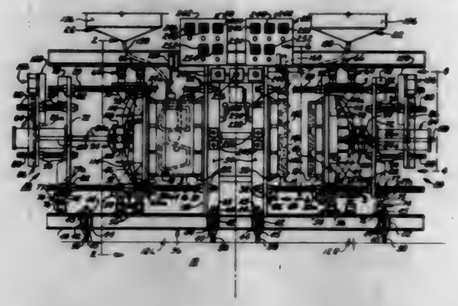


1. Apparatus for removing cured tires from a press for shaping and curing tires, said press having a lower mold section and a tire forming mechanism adapted to elevate the cured tire above the lower mold section, said apparatus being mounted on said press and movable under control of a cam means into contact with the under side of a cured tire and then to an inclined position to tilt the tire for discharge from said press, said apparatus comprising, a stanchion attached to the base of said press adjacent a lower mold section, a drive shaft extending transversely of said stanchion and having an outboard end, power means on said stanchion to rotate said shaft, an arm attached to an outboard end of said shaft, a U shaped conveyor pivotally carried by said arm, cam follower means on said conveyor, and a cam plate between said stanchion and said conveyor, said cam plate having a downwardly directed asynarcuate curvilinear surface intersecting a downwardly inclined linear surface, said cam surfaces being engaged by said follower means during rotation of said shaft.

3,141,192
MOLDING APPARATUS
Frank John Benedetto, Harwood Heights, Chicago, Ill., assignor to Creative Ideas Inc., Lake Forest, Ill., a corporation of Delaware
Filed Dec. 19, 1961, Ser. No. 160,497
6 Claims. (Cl. 18—5)

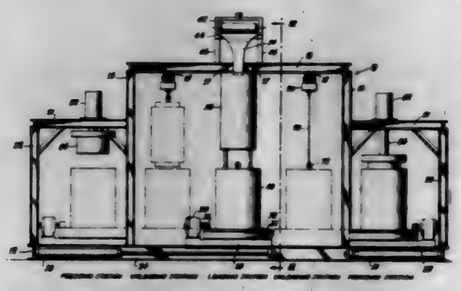
1. Apparatus for producing molded products such as of polystyrene and the like formed in a mold having a cope and a drag, said apparatus comprising a fixed first platen for supporting the cope of the mold, second platen fixedly spaced from said first platen, a plurality of rods interconnecting said platens, a third platen intermediate said first and second platens for supporting the drag of

the mold in movable confronting relation to a cope, means operatively associated with said second and third platens for moving said third platen toward and away from the first-mentioned platen, stop means provided on said rods



intermediate said second and third platens when said mold is closed, and means operatively associated with said third platen for engaging said stop means to lock said third platen in a mold-closed position.

3,141,193
APPARATUS FOR MOLDING GRANULATED PLASTIC MATERIAL
Charles O. Slemmons, Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Mar. 16, 1962, Ser. No. 180,173
7 Claims. (Cl. 18—5)



1. Apparatus for forming a dense, consolidated annular body from granulated vinyl plastic comprising in combination:

(*a*) a frame establishing laterally disposed loading, pressing and unloading stations;

(*b*) a heating oven mounted on said frame above said loading station to heat granulated plastic therein;

(*c*) at least one carriage mounted on said frame for movement between said stations;

(*d*) a mold having an annular cavity therein supported on said carriage;

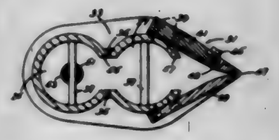
(*e*) means at said loading station for loading said mold with heated granulated plastic from said oven, said means including a plurality of tampers disposable in the cavity of said mold for tamping the granulated plastic as it is loaded into said mold;

(*f*) means for moving said carriage and said mold between said stations;

(*g*) an annular pressing member mounted on said frame above said pressing station and disposable in the cavity of said mold to press the tamped granulated plastic to form a dense, consolidated body therein;

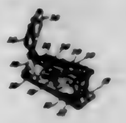
(*h*) and means at said unloading station for removing the formed body of vinyl plastic from said mold.

3,141,194
GAS DELIVERY NOZZLE FOR FILM CASTING APPARATUS
Edward Jester, Wilmington, Del., assignor to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 9, 1962, Ser. No. 172,217
8 Claims. (Cl. 18—15)



1. In an apparatus for casting of films from molten thermoplastic material which includes a die for extruding a shaped stream of molten thermoplastic material, a chill surface for receiving the extruded stream of molten thermoplastic material and cooling the same into a film, means for moving the chill surface at a uniform predetermined rate, means for maintaining the chill surface at a selected temperature, an improved nozzle for impinging a stream of gaseous medium against the shaped stream of molten thermoplastic material with substantially uniform pressure at least across a portion of the width thereof, said nozzle including an elongated manifold, a plenum chamber extending at least coextensively with said manifold, walls defining an elongated opening interconnecting said manifold and plenum chamber, a pair of spaced blades connected to said plenum chamber and together defining an exit orifice, an elongated slot in said plenum chamber opening in-between said blades, said elongated opening and slot each being narrower than the said plenum chamber, plates extending across the ends of said manifold, plenum chamber, and blades, and means for delivering gaseous medium into the opposite ends of said manifold through inlet openings formed in said plates.

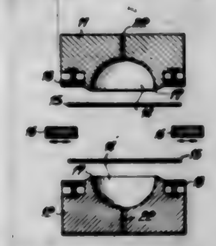
3,141,195
MOLD ASSEMBLY FOR MOLDED SHOE BOTTOM
Edgar Haas, New York, N.Y., assignor to Herman Schwabe, Inc., Brooklyn, N.Y., a corporation of New York
Filed Jan. 18, 1963, Ser. No. 252,383
18 Claims. (Cl. 18—17)



1. A mold assembly for molding a shoe bottom, said assembly comprising a base having a pedestal at one end, means to mount an inverted shoe last for supporting an upper, a longitudinally split ring mold to enclose the upper near the sole, ring support levers carrying the halves of the ring mold, means to fulcrum said levers on said pedestal for universal pivotal movement, a horizontal toggle linkage connected between the outer ends of the ring support levers, an upright toggle linkage connected at its upper end to the middle of the horizontal toggle linkage, and a manually operable control lever to either release or to straighten the upright toggle linkage, the arrangement being such that the halves of the ring are

separated and raised out of the way when the upright toggle linkage is released by the control lever.

3,141,196
APPARATUS FOR INFLATING HOLLOW BODIES FROM RIBBONS OF THERMOPLASTIC MATERIAL
Erhard Langrecher, Meinerzhagen, Westphalia, Germany, assignor to Firma Gebruder Buttenfeld, Meinerzhagen, Westphalia, Germany, a corporation of Germany
Filed Mar. 31, 1961, Ser. No. 99,757
Claims priority, application Germany Apr. 1, 1960
6 Claims. (Cl. 18—19)



1. An apparatus for the fabrication by inflation-molding of hollow bodies from two ribbons of synthetic material to be thermoplastically sealed along their edges comprising

means for extruding two plastic ribbons substantially parallel relative to each other to define an open space therebetween,

means forming a hollow inflation-mold connected with said extruding means and comprising two separable mold halves receiving said plastic ribbons therebetween and defining a cavity therein,

said mold halves being movable from a spaced apart position having said two plastic ribbons therebetween to an engaging closed position having said plastic ribbons engaging their inner walls,

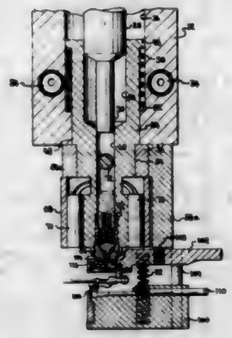
each of said mold halves having a laterally disposed recess in the face engaging the other of said mold halves adjacent to said cavity in said mold, and

a separating member disposed between each pair of said oppositely located recesses of said mold halves,

resilient means to urge said separating members into engagement with said plastic ribbons and to permit closing of said mold halves during said engagement, thereby sealing airtightly the space defined between said plastic ribbons prior to said closing of said mold halves and during the closing period up to the closing of said mold halves, in order to prevent safely a sticking together of said plastic ribbons.

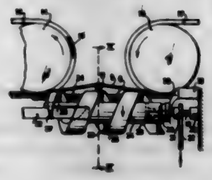
3,141,197
MOLDING APPARATUS
Paul T. Hahn, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed May 15, 1961, Ser. No. 110,254
6 Claims. (Cl. 18—30)

1. Injection molding apparatus comprising, a plunger, a cylinder in surrounding relationship to said plunger, a normally open two-part mold, one part of said mold being disposed adjacent to said cylinder and being adapted to move towards the other part thereof to close said mold, resilient means biasing said cylinder relative to said plunger away from said mold, a nozzle on the end of said cylinder which is adjacent to said mold and a passageway in said mold in alignment with said nozzle whereby, upon movement of said plunger towards said mold, molding material in said cylinder is compressed and said cylinder is thereby moved against the force of said resilient means towards said mold, and said mold is thereafter closed, and upon further movement of said plunger



towards said mold and relative to said cylinder, molding material is injected into the cavity of said mold.

3,141,198
METHOD AND APPARATUS FOR HACKLING BAST FIBRE STALKS
Cornelis Bok, Delft, Netherlands, assignor to N. V. Novivlas, Delft, Netherlands, a corporation of the Netherlands
Filed Feb. 10, 1961, Ser. No. 88,448
Claims priority, application Netherlands Feb. 12, 1960
12 Claims. (Cl. 19—13)



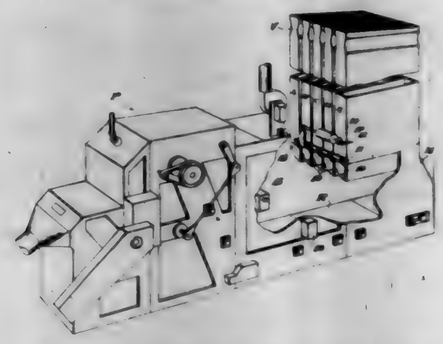
4. An apparatus for hackling bast fibre stalks which comprises two separate vertical hackling sections which are horizontally aligned in essentially a common plane, each of said hackling sections having a pair of endless rotatable sheets provided with a plurality of hackling elements, said sheets in each of said hackling sections being spaced sufficiently close that said hackling elements on both of said sheets contact fibre stalks passed between said pair of sheets, a continuous clamping and transporting means for said stalks which is operable over the entire width of each of said hackling sections, said clamping means being adapted to clamp one end of said stalks to allow the other end of said stalks to hang freely between said sheets of said hackling sections, means for unclamping said stalks from said hackling section clamping and transporting means after the passage of said stalks through the first of said hackling sections, and means operable with said hackling section clamping and transporting means for transporting said unclamped stalks between said two separate hackling sections, said means for transporting said unclamped stalks between said two separate hackling sections including means for shifting said unclamped stalks transversely to bring the ends of said stalks which were unclamped during the passage of said stalks through the first of said hackling sections into alignment with said hackling section clamping and transporting means so that said stalks are reclamped by said hackling section clamping and transporting means at the previously hackled ends of said stalks for passage through the second of said two

hackling sections, and said means for transporting said unclamped stalks between said two separate hackling sections further including means to gather said unclamped stalks between said two separate hackling sections into a plurality of separate densified bundles of stalks, each of which bundles having a density greater than that of the mass of stalks passed through the first of said hackling sections and to maintain said densified bundles separate from one another until clamped in that form by said hackling section clamping and transporting means for passage through said second hackling section.

3,141,199
APPARATUS FOR USE IN MIXING AND BLENDING FIBERS

Eugene W. Hilt, Saco, Maine, and Ernest G. Whalon, Jr., Danielson, Conn., assignors to Pepperell Manufacturing Company, Boston, Mass., a corporation of Massachusetts

Filed Nov. 17, 1960, Ser. No. 70,026
9 Claims. (Cl. 19—145.5)



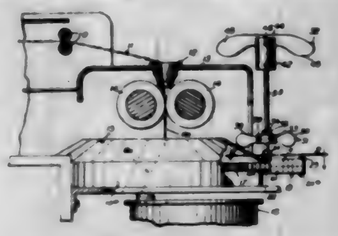
1. Blending apparatus for use in assembling predetermined quantities of fibrous materials having different characteristics for delivery to mixing machinery, said blending apparatus comprising a conveyor having a material-supporting run, means for driving said conveyor, means operative simultaneously to deposit upon said run, in side-by-side relation, a discrete mass of predetermined size of each, respectively, of the several constituents of the desired mix, means operative simultaneously to remove material from the advancing ends of the several individual masses of material carried by the conveyor, means defining compartments arranged above and with their lower ends spaced from said material-supporting run of the conveyor, each of said compartments being open at its top and having a hinged door which normally closes its lower end, each compartment being of a size and shape such as to provide for the accumulation therein of a predetermined quantity of one of the respective constituent materials to form the mix, means normally holding the doors closed thereby to permit the accumulation within each of said compartments of the desired predetermined quantity of material, and means operative automatically to open all of said doors simultaneously thereby to permit the material accumulated in the compartments to drop as a discrete mass upon the material-supporting run of the conveyor.

3,141,200
LINT CLEARING MEANS FOR DRAWING FRAMES AND THE LIKE

William Franklin Lee, P.O. Box 14, Glendale, S.C.

Filed May 18, 1959, Ser. No. 813,918
12 Claims. (Cl. 19—159)

9. The combination with a drawing frame or analogous textile machine having a work traversing area; of an air circulating impeller adjacent said work traversing area, a mount for said impeller, said textile machine having a coiler means including a driven coiler gear, a coiler means cover as a drawing frame provided portion and having a side flange surrounding said coiler gear, said impeller

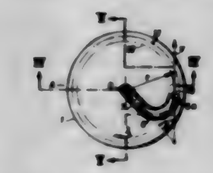


mount carried by said cover flange, and an impeller drive gear incorporated in said impeller mount and operatively engaging said coiler gear, said mount and flange having aligned openings through which a portion of said drive gear extends.

3,141,201
METHOD AND MEANS FOR LAYING OUT SLIVERS AND THE LIKE

Hermann Ganser, Zurich, Switzerland, assignor, by mesne assignments, to Pacemaker Corporation, Charlotte, N.C., a corporation of Delaware

Filed Sept. 6, 1960, Ser. No. 54,287
Claims priority, application Switzerland Sept. 8, 1959
19 Claims. (Cl. 19—159)



1. A method of laying out endless webs and the like in predetermined configuration; comprising the steps of advancing a web through a guide tube designed for delivering said web rearwardly with respect to the rotation of said guide tube which is rotating at a predetermined velocity in a first predetermined direction of travel, controlling the rate of movement of said web through said guide tube while altering the direction of travel of said web for further movement and discharge of said web from said guide tube in a second predetermined direction of travel which is opposite to the direction of rotation of said guide tube so that the tangential velocity of the guide tube at its outlet is counteracted by an equal and oppositely directed horizontal component of the relative velocity of the web leaving said guide tube at said outlet.

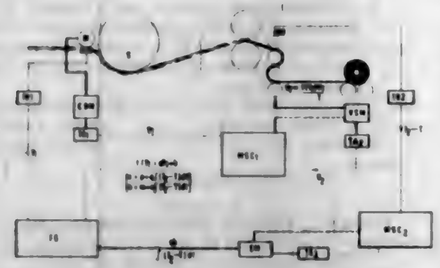
3,141,202
REGULARITY CONTROL IN MACHINES FOR CONTINUOUSLY MODIFYING A PROPERTY OF A MATERIAL PROCESSED THEREBY

Arthur Linnert and Harold Catling, Manchester, and Albert E. De Barr, Cheadle, England, assignors to The Cotton Silk and Man Made Fibres Research Association, a British association of Great Britain, Northern Ireland, and the Isle of Man

Filed Aug. 8, 1961, Ser. No. 130,037
Claims priority, application Great Britain Aug. 13, 1960
7 Claims. (Cl. 19—240)

1. In a machine which so acts upon a continuous length of material fed to and through it that the value of a selected characteristic of the material is modified during the course of passage of the material through the machine, a control means which comprises:

(1) means for producing a first electric signal continuously proportional to the input value of said characteristic,



(2) means controlled by said signal for modifying the action of the machine to maintain a predetermined relationship between said input value and the corresponding output value,

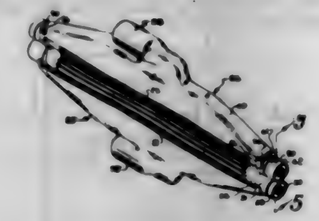
(3) means for producing a second electric signal proportional to the integral, with respect to time, of deviations of said output value from a selected datum, and

(4) means controlled by said second signal for so modifying said first signal that said deviation is reduced.

3,141,203
METHOD AND MEANS FOR CLEARING TEXTILE ROLLS

Marcus G. Whitehurst and Joe R. Whitehurst, Bessemer City, N.C., assignors to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina

Filed Dec. 31, 1958, Ser. No. 784,124
1 Claim. (Cl. 19—263)

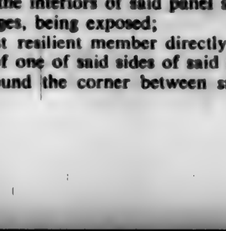


A device for collecting and removing residual fibers in machines for performing a textile operation on fibrous material and wherein said machine has cooperating rolls for passing therebetween fibers being processed and bearing members in which opposite ends of each roll are journaled, said device comprising a suction element extending longitudinally of each roll, said suction element being connected to a source of suction at its medial portion and being open throughout at least that portion of its length disposed adjacent the working surface of the corresponding roll, said element at least partially encompassing said corresponding roll and having its opposite side edges disposed in close proximity to the periphery of the corresponding roll, means adjustably supporting said element to facilitate maintaining predetermined spaced relationship between the periphery of the corresponding roll and said opposite side edges of said element, said means adjustably supporting said element including spaced substantially radially extending adjustment screws threaded in each end of each suction element and engaging respective bearing members, and said element being so arranged as to form ingress openings at opposite ends thereof to thereby cause air to flow into opposite ends of the element and generally longitudinally of the roll surfaces for withdrawing from the roll surfaces loose lint and other waste material resulting from the textile operation.

3,141,204
DOOR FRAME CONSTRUCTION

James D. Wheeler, Birmingham, Ala., assignor to Brasco Manufacturing Company, Harvey, Ill., a corporation of Delaware

Filed Nov. 7, 1961, Ser. No. 150,727
2 Claims. (Cl. 20—11)

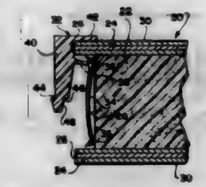


1. A door frame comprising parallel extending side frame members, a top header secured to the said side frame members, and a threshhold at the bottom of the door opening defined by the said side frame members, the side frame members consisting of channel sections having pressure plate retaining ribs thereon, pressure plates mounted in the channel sections having spaced channels in the faces thereof and retainer ribs thereon for engagement with the retaining ribs on the channel sections, a flexible cushion mounted at each of its edges in the spaced channels in the pressure plates and extending outwardly therefrom, and of substantially greater width than is the door engaged thereby, and elastic members mounted between the pressure plates and the web of the channel section normally biasing the face plates to their outer positions and permitting inward movement of the said pressure plates.

3,141,205
JAMB AND DOOR CONSTRUCTION

Gordon C. Russell, Studio City, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Mar. 2, 1962, Ser. No. 177,070
6 Claims. (Cl. 20—11)



1. A jamb construction which includes:

(*a*) a building panel having sides located so as to be spaced from another, said building panel having an edge;

(1) the interiors of said panel sides adjacent said edges, being exposed;

(*b*) a first resilient member directly engaging the exterior of one of said sides of said panel and extending around the corner between said side and said edge,

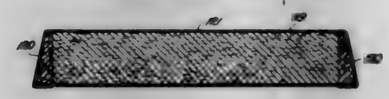
(1) means carried by and integral with said first member for engaging said interiors of said panel sides;

(c) a second resilient member directly engaging the exterior of the other of said sides and extending around the corner between the other of said sides and said edge,

(1) said second member including means for holding said means for engaging the interior of said sides in engagement with both of said interiors of said sides, said means for engaging and said means for holding contacting one another; and

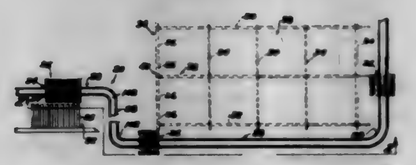
(d) co-acting latch means formed on said first and second members for securing said members to one another so as to hold said members in engagement with said panel.

3,141,206
EDGE SEALING INSULATION PANELS
Joseph F. Stephens, Kansas City, Mo., assignor to Gustin-Bacon Manufacturing Company, a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,679
3 Claims. (Cl. 20—15)



1. An insulation panel adapted to be pressed fitted into an open space defined by at least two structural supports comprising a main block composed of bonded fibrous mat honeycombed with interstitial air spaces and having opposed parallel major faces, the width of said block being less than the spacing of the supports and the lay of the fibers therein being predominantly parallel with the major faces of the mat whereby to resist compressive displacement of the edges of the block in a direction normal to the major faces and stiffen the block against flexure out of the normal major plane thereof, and an edging secured to the block and forming a continuation thereof, said edging dimensioned to increase the width of the panel beyond the spacing between the structural supports, said edging comprising a bonded fibrous material honeycombed with interstitial air spaces and having the predominant lay of the fibers normal to the major plane of the main block whereby to provide the edging with resiliency and yieldability to forces exerted thereagainst in directions parallel to the major plane of the block.

3,141,207
MOVABLE WALL SYSTEM
Marvin D. Kahler, 1933 Long Lake Shore Drive, Orchard Lake, Mich.
Filed Apr. 2, 1962, Ser. No. 184,407
13 Claims. (Cl. 20—19)

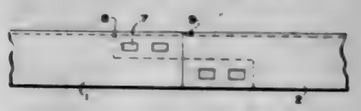


1. A movable partition system for transfer between a storage area and a room area of a building with a floor and a ceiling, said system comprising a plurality of partition panel suspension room-subdividing tracks secured to and depending from the room area ceiling in laterally-spaced relationship, a partition panel transporter mounted for travel between the storage area and the room area,

said transporter having thereon a multiplicity of partition panel transfer tracks secured in depending relationship thereto at approximately the same horizontal level as said partition panel suspension room-subdividing tracks for alignment therewith,

and a multiplicity of partition panels suspended from and movably mounted on said transfer tracks for interchange to and from said room-subdividing tracks.

3,141,208
LOCKING DEVICE FOR PRESSURE RING
Giuseppe Stradella, Via Roma 9, Genoa-Rocco, Italy
Filed May 19, 1961, Ser. No. 127,411
Claims priority, application Italy May 20, 1960
3 Claims. (Cl. 24—20)



1. A simplified locking device for locking a discontinuous, tight pressure ring made of plain strip material, said ring having two ends, comprising: lugs on said ends, said lugs being cut at right angles, reducing the width of said strip material to one-half of the original width thereof within the area of said lugs, said lugs on said ends being oppositely offset materially not interfering with one another, said lugs engaging the undersurface of the corresponding opposite ends of said ring, at least one ratchet tooth on each one of said lugs, and holes punched in the areas behind said right angle cuts, corresponding to said ratchet tooth so that said ratchet teeth may snap into said holes upon closing said ring, forming a closure of said ring presenting a smooth, plane surface.

3,141,209
MOLDING ASSEMBLY
Harold S. van Buren, Jr., 54 Boylston St., Cambridge, Mass.
Filed Aug. 3, 1961, Ser. No. 129,059
1 Claim. (Cl. 24—73)



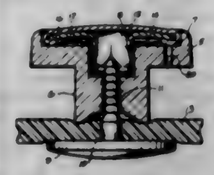
A molding assembly comprising, in combination, a hollow molding of metal having a longitudinal opening at its underside and inturned flanges at opposite sides of the longitudinal opening, a support for the molding also of metal, a fastener unit holding the molding to the support, and means of holding the fastener unit to the support, said fastener unit having an elongated base of synthetic molded plastic material spanning the longitudinal opening and engaging the opposed inturned flanges, and said fastener unit having a flexible flange means in the form of a truncated cone and the outer peripbery thereof providing an insulating skirt integral with the elongated base and extending in spaced relation to said base beyond the periphery of said base, entirely around the periphery of said base and extending between said hollow molding and said support thereby insulating said molding from said support in any position of the elongated base relative to the support to prevent corrosion and to provide a seal.

3,141,210
COVER HOLDDOWN DEVICE
William J. Bryant, 2 Ravine Ave., Glenwood Heights, Wheeling, W. Va.
Filed May 9, 1962, Ser. No. 193,464
11 Claims. (Cl. 24—73)



1. A cover hdlddown device mountable upon an open top object comprising a member mountable upon an open top object over an edge defining one side of said open top, a second member pivotally connected to said first member and positioned relative thereto for being suspended from said first member when mounted on said object, means adjustably carried by said second member for being moved to and retained at various positions along the length of said second member, and a hook for engaging the cover being pivotally connected to said adjustable means and extending lengthwise of said second member.

3,141,211
ORNAMENTAL BUTTON
John T. Blake, Wolcott, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 17, 1962, Ser. No. 217,617
1 Claim. (Cl. 24—90)



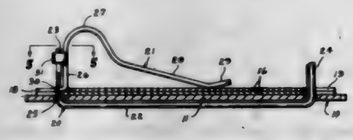
A button assembly comprising a one-piece body having a button head and an inwardly projecting hub of substantially smaller cross-sectional area than said head, button-attaching means having a shank projecting through a central hole in said hub to secure the button to a flexible support, said body having a central cylindrical recess extending from the front surface of the button into a portion of the hub, said recess being of substantially larger diameter than the shank of said attaching means, an outwardly directed flange around the outer edge of said head, and an ornamental insert bearing against and covering the major portion of the outer surface of said head and fitting loosely against the inside surface of said flange, said insert having a centrally arranged inwardly projecting resilient stud secured thereto, which stud is dimensioned to extend into said recess to near the bottom thereof and to bear against the cylindrical surface of said recess with sufficient force to prevent accidental turning of said ornamental insert, said stud having an opening in its inner end to receive the end of said shank of the button-attaching means.

3,141,212
CLOTHESPIN
William J. Coffey, 5110 31st Ave. N., St. Petersburg 10, Fla.
Filed Oct. 1, 1962, Ser. No. 227,313
3 Claims. (Cl. 24—138)



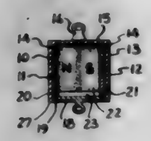
1. An integrally fabricated fastening device of suitably resilient material for securing pliable articles to a supporting member, said fastening device comprising an arm portion and a handle portion joined by an arched connecting member located therebetween, said arm portion consisting of a strip of said resilient material of shorter length than said handle portion and having a curved end extremity outwardly disposed with respect to said handle portion, said handle portion consisting of a complementary strip of said resilient material facing said arm portion and having a handle joined thereto, said complementary strip cooperating with said arm portion to form an elongated slot of varying lateral dimension, said elongated slot terminated by said arched connecting member in a semi-circular aperture and having its minimum lateral dimension spaced at a distance from the longitudinal axis of said semi-circular aperture, said minimum lateral dimension being slightly less than the lateral dimension of said supporting member, said handle lying in a plane normal to said longitudinal axis of said circular aperture.

3,141,213
PASS CASE BINDER
Nicholas Rinaldi, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Dec. 4, 1962, Ser. No. 242,274
3 Claims. (Cl. 24—153)



1. A pass case binder for securing winged envelopes to a foldable pass case, said binder comprising an anchor bar having an elongated base with upstanding posts at its opposite ends, said bar base adapted to be disposed against the outer surface of the fold area of said pass case with the posts projecting through openings in the fold area of said case, a spring clip for holding envelopes in said case comprising a retaining arm, a spring loop and a finger extension, and means for detachably connecting said retaining arm to only one of said upstanding posts whereby said finger extension will be tensioned against said anchor bar base or against any envelopes disposed therebetween.

3,141,214
MAGNETIC PULL-APART KEY HOLDER
Ahmet K. Bey, Chicago, Ill., assignor to Power Brake Parts Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 19, 1962, Ser. No. 224,685
2 Claims. (Cl. 24—201)



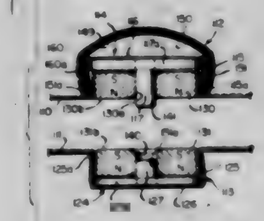
1. A pull-apart key holder comprising a magnet having a longitudinal axis longer than the width of said magnet, said magnet polarized transversely of the longitudinal axis thereof; a magnetizable pole plate secured against each polar face of the magnet, said pole plates having extensions extending beyond one end of said magnet; a non-magnetic housing mounted about said magnet and pole plates and having an end opening extending beyond said extensions, and a magnetizable pull member having a solid flat face magnetically retained in said end opening by engagement of said face against the ends of said pole plates.

3,141,215
QUICK RELEASE FASTENER
Pino G. Turolla, 2054 Prairie Ave., Miami Beach, Fla.
Filed June 1, 1962, Ser. No. 199,452
1 Claim. (Cl. 24—201)



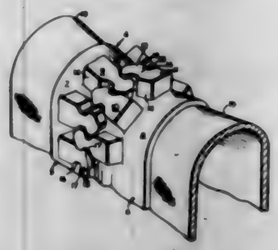
A releasable coupler for use between a parachute riser and harness strap comprising a male and female fitting detachably connected to each other and separable due to tension imposed therebetween; said female fitting comprising an elongated body portion having a bore opening into one end thereof, said female fitting including a loop portion extending vertically from said body portion and offset to one side of said bore for engagement with a harness strap, said loop terminating in an upper, generally concave fulcrum portion generally opening toward and overlying said bore portion, said female fitting including a laterally opening recess at the upper end of said body opening away from said female fitting loop portion and intersecting said bore portion, a reciprocally supported piston in said bore portion and including an upper abutment end portion positionable into alignment with said recess, a compression spring element seated in said bore portion and engaged with said piston and movably urging the abutment end portion of said piston toward intersecting engagement with said recess, said male fitting including an upper generally convex edge generally complementary to said fulcrum portion and an intermediate, laterally offset loop portion for engaging a riser strap, the lower end of said male fitting comprising a lower abutment portion pivotal through said recess about said fulcrum portion, the upper abutment end of said piston and the lower abutment portion of said male fitting including interengaged portions for restraining said male element from pivoting about said fulcrum portion, and a pull element on the lower end of said piston for permitting said piston to be drawn into said bore whereby said interengaged abutment portions are disengaged and tension between said male and female fittings permit said male fitting to pivot on said fulcrum portion.

3,141,216
MAGNETIC FASTENING MEANS
Elizabeth Brett, 250 E. 49th St., New York, N.Y.; now by change of name to Elizabeth W. Haskell
Filed Nov. 19, 1962, Ser. No. 238,700
6 Claims. (Cl. 24—201)



1. Fastening means for a pair of flaps comprising:
(1) first and second supports each having a cylindrical peripheral wall, an outer ferromagnetic end closure wall and an axially extending ferromagnetic post within said cylindrical wall and connected to said end wall;
(2) first and second annular ferromagnets with respective through central openings respectively frictionally received within said cylindrical walls and protruding beyond the open inner ends thereof, said posts respectively extending clearingly into the central openings of said magnets,
(*a*) the first support post extending slightly less than the full length of the central opening of the first magnet to define a relatively shallow central socket,
(*b*) the second support post extending correspondingly slightly more than the length of the central opening of the second magnet to define a protrusion,
(*c*) the exposed faces of said magnets being of opposite polarities and thereby releasably lockable in flush abutting, opposing position, said protrusion being locatingly received in said socket in endwise abutment with said first support post; and
(3) means respectively engageable with the free ends of said respective cylindrical walls between said free ends and the exposed faces of said magnets for attaching the respective flaps to said supports.

3,141,217
SLIDE FASTENER STRINGER
Arthur Llewelyn Jones and Eric Engel Cuckson, both of Penrith, New South Wales, Australia, assignors to W. E. Cuckson & Son Proprietary Limited, St. Marys, New South Wales, Australia, a corporation of New South Wales
Filed July 25, 1961, Ser. No. 134,063
6 Claims. (Cl. 24—205.1)



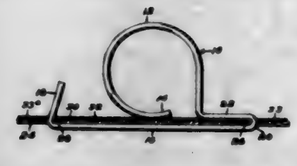
1. A support for a sliding clasp fastener constituted by a pair of stringers each comprising a strip of flexible tape, transverse interlocking elements of the same material as said tape and integral with said tape, said transverse interlocking elements extending from at least one face of the tape, each element including a head and being spaced from adjacent of the said elements to leave a recess between each pair of interlocking elements with at least part of the recess overlying the tape and at least a portion of the head extending laterally past a longitudinal edge of the tape, whereby when said stringer is mated with a corresponding stringer, each head being received in an opposed recess with the extending portion overlying the mating tape and held in position against displacement in two directions, and a substantially fixed-length, reinforcing cord embedded in said tape beneath the interlocking elements, extending longitudinally through said tape adjacent the said edge, each head having a chamfered surface beyond said edge of the tape, the tape being of thermoplastic material and having said edge of the tape longer than the opposite longitudinal edge with the relative difference in lengths between the two edges dispersed uniformly over the length of the tape, said stringers being assembled to form said support with shorter edges of the stringers in confronting relation.

3,141,218
SPRING CLIP
Gordon Eckman, Fullerton, Calif., assignor to Kaynar Mfg. Co., Inc., Fullerton, Calif., a corporation of California
Filed Dec. 10, 1962, Ser. No. 243,461
16 Claims. (Cl. 24—252)



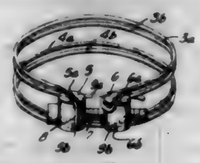
1. A spring clip comprising: two elongated lever members each having an inside and an outside face and each also having a grip portion and a jaw portion; said members being arranged with their inside faces opposing each other; fulcrum means establishing an axis about which the two members pivot relative to each other; said fulcrum means comprising at least one tab struck from one lever member and extending from the inside face of said one lever member past the other lever member, said tab having means engaging the outside surface of said other lever member to hold the two lever members against separation while permitting relative pivotal movement thereof; and spring means engaging the two lever members on the grip side of the fulcrum means to urge the jaw portions toward each other; said spring means having a portion extended opposite the outside face of a part of the jaw portion of said one lever member adjacent said fulcrum means.

3,141,219
SWING CLIP
Stuart T. Shears, Belmont, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,473
1 Claim. (Cl. 24—261)



A unitary, wire formed, pass case clip device wherein all the portions of the device lie in a common plane, said clip comprising a base portion, an arcuate connector portion integral with one end of said base portion, the other end of said base portion being bent from the plane of said base portion to form a guide portion, a holder portion integral with said connector portion and in spaced parallel relation to said base portion to provide a space adapted to receive a pass holder therebetween, and a loop portion integral with said holder portion and defining an arc of at least 180°, said loop portion having a free terminal end spaced from said base portion to provide a space adapted to receive a pass holder therebetween, and said loop portion and said guide portion lying on the same side of said base portion.

3,141,220
CLAMPING COLLARS
Lucien Victor Gewiss, Ville-d'Avray, France, assignor to Marc Wood Societe Anonyme pour la Promotion des Echanges Techniques Internationaux, Paris, France, a French company
Filed Jan. 15, 1959, Ser. No. 787,049
Claims priority, application France Jan. 30, 1958
4 Claims. (Cl. 24—283)



1. A clamping collar for tightly securing a cylindrical sheath concentrically about a rigid cylindrical member comprising a pair of clamping band sections; each clamping band section being comprised of a helically arranged band having at least one complete convolution for completely encircling and peripherally engaging said cylindrical sheath; each of said helically arranged bands having two terminal portions; a pair of spaced terminal cylindrical clamping members each of which has a central portion and an end portion on either side of said central portion; said central portion and end portions of each of said clamping members being substantially in alignment in a

direction parallel to the axes of said clamping band sections; one of the terminal portions of each of said helically arranged bands being secured to opposite end portions of one of said clamping members at a point substantially coincident with the longitudinal axis of the latter; the other of the terminal portions of each of said helically arranged bands being secured to the opposite end portions of the other of said clamping members at a point substantially coincident with the longitudinal axis of the latter; each of the terminal portions of said clamping band sections extending outwardly substantially tangentially to its respective convolution along a longitudinally extending medial plane of one of said clamping members and being attached to said clamping member in that position, each of said terminal portions being substantially linear from the point of tangency to said convolutions at least up to and including its point of attachment to its respective clamping member; said clamping members having their longitudinal axes parallel to the axes of said clamping band sections and lying against said complete convolutions in said clamping band sections when said clamping collar is in clamping position about said sheath and cylindrical member; and means connected to each of said clamping members for urging the latter towards one another and for drawing said band sections into clamping relationship with the associated cylindrical sheath and rigid member through the application of a force on said central portion of each of said clamping members.

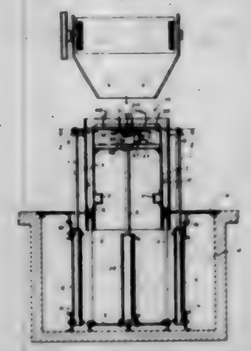
3,141,221
CLOSURE FOR FLEXIBLE BAGS
Everett S. Faulls, Jr., Brookfield, Wis., assignor to Amtec, Inc., Brookfield, Wis., a corporation of Wisconsin
Filed Nov. 13, 1962, Ser. No. 236,847
1 Claim. (Cl. 24—30.5)



A bag closure device comprising, a pair of elongated members of complementary cross-sectional shape and including an outer, generally U-shaped member and an inner core member, said core member interengagingly insertable together with a portion of a bag transversely into said U-shaped member for general co-axial alignment therewith and to hold said bag portion therebetween, said U-shaped member having a pair of resilient legs which flex to permit said core member to be tranversely inserted therebetween and embraced thereby, said U-shaped member having a plurality of circumferentially spaced ribs extending longitudinally along its inner surface to thereby provide gripping contact of the bag between said members, said ribs facilitating lengthwise slidable movement of said U-shaped member from the core member and bag when in an assembled bag gripping position to thereby release the latter said ribs preventing rotation of said inner core member and consequent transverse withdrawal of said bag.

3,141,222
CONCRETE PIPE MAKING APPARATUS
Harry Steiro, 3725 Lexington Ave., Madison, Wis.
Filed Feb. 4, 1963, Ser. No. 255,826
8 Claims. (Cl. 25—30)

1. Concrete pipe making apparatus comprising vertically positioned and concentric outer and inner molds that define an annular space therebetween into which low-slump concrete mix is poured to form a pipe, means for vertically shifting said inner mold in a downward direction to strip it from the pipe, a top across the upper end of said inner core, a distributor head mounted centrally on said top and having an outwardly extending distributing arm mounted for rotation around said top to thereby push mix outwardly and into said annular space, said



arm having an outer end which terminates within the diameter of said inner mold, said head also having power means for rotating said arm, said power means located beneath and attached to said top and having a driving connection to said arm.

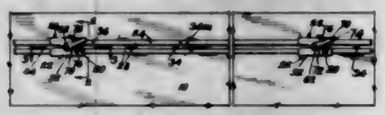
3,141,223
SECTIONALIZED PALLET WITH INTEGRAL GROOVE FORMING MEANS FOR CONCRETE PIPE
Harry Steiro, 3725 Lexington Ave., Madison 4, Wis.
Filed June 2, 1961, Ser. No. 114,494
2 Claims. (Cl. 25—126)

1. End form means adapted to fit entirely between the annular space formed between inner and outer concentric cylindrical forms for molding the spigot end of concrete pipe and comprising, two arcuate and integrally formed sections which when assembled together define a cylindrical form having a lower flange extending radially inwardly to define the end of said pipe and also having an upper flange extending radially outwardly to define a shoulder for said spigot end, an annular rib formed integrally with said sections and within said cylindrical form and located between said flanges to define said peripheral groove in said pipe, each section having an attaching lug adjacent each of its ends, complementary guide means carried by said lugs for accurately locating said sections relative to one another, and means on said sections for detachably securing said arcuate sections rigidly together.

3,141,224
COMBINATION FORM WALL REINFORCING MEMBER AND TIE LOCK
Harris Gordon Gates, Englewood, Colo., assignor to Gates & Sons, Inc., Denver, Colo., a corporation of Colorado
Filed Aug. 8, 1962, Ser. No. 215,561
14 Claims. (Cl. 25—131)

1. The combination concrete pouring form wall reinforcing member and form tie end lock which comprises,

a pair of elongate relatively straight metal channels each having a web bordered on both the front and rear edges thereof by flanges, spacers interconnecting the webs of the channels at longitudinally spaced intervals to define a slot therebetween adapted to pass the ends of concrete form ties projecting beyond the exterior face of a form wall when the inner pair of flanges is placed thereagainst in reinforcing relation, a slide block including a plate covering the slot between the channels and hook-forming



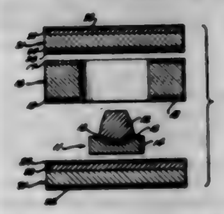
means depending from said plate adapted to engage the outer rail-forming flanges of said channels which cooperate to define a track retaining said block for longitudinal slideable movement, said slide block having at least one side edge thereof notched in position to pass the shank portion of a concrete form tie projecting through the slot between the channels, and latch forming means carried by the slide block movable from an unlocked position into a locked position in engagement with the end of a form tie located within the notch.

3,141,225
METHOD OF SEALING A METAL TUBULATION
Robert P. Watson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Original application May 23, 1960, Ser. No. 30,905. Divided and this application Jan. 28, 1963, Ser. No. 254,190
5 Claims. (Cl. 29—25.1)



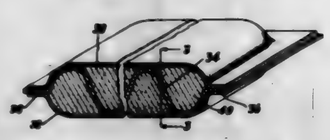
1. A method of sealing a metal exhaust tubulation of an electron discharge device, comprising the steps of reducing a portion of said tubulation to a diameter less than the normal outside diameter thereof and effecting a pinched off seal having a major width no greater than the normal outside diameter of said tubulation in said portion of reduced diameter.

3,141,226
SEMICONDUCTOR ELECTRODE ATTACHMENT
Bob G. Bender, Garden Grove, Calif., and Leonard Bernstein, New York, N.Y., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 27, 1961, Ser. No. 141,996
8 Claims. (Cl. 29—25.3)



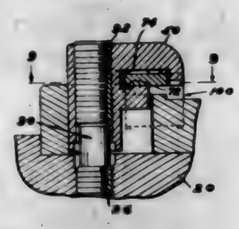
2. The method of bonding a first metallic material to a second metallic material, which comprises: forming a first layer of gold on a portion of the first metallic material; forming a second layer of tin on the gold layer; assembling silicon semiconductor material on the tin layer; heating the assembly to at least 309° C. for a time sufficient to form the tin into a predominantly AuSn alloy, and to a temperature which leaves a portion of the gold layer undissolved by the tin; and cooling the assembly.

3,141,227
METHOD OF NUCLEAR FUEL AND CONTROL ELEMENT FABRICATION
Harold H. Klepfer, Pleasanton, and Morris J. Sanderson, Santa Clara, Calif., assignors to General Electric Company, a corporation of New York
Filed Oct. 20, 1958, Ser. No. 768,471
8 Claims. (Cl. 29—471.5)



1. A method for producing a nuclear reactor core element which comprises forming a billet having a pair of clad channels and a corrugated member therebetween, introducing a body of active nuclear material into the internal open channels adjacent said corrugated member, sealing said material in said billet, and subjecting said billet to thickness reduction to elongate said billet and said internal channels to produce said core element having internal ribbon-shaped channels of irregular but generally rectangular cross-section and which are parallel to the principal exterior surfaces of said element.

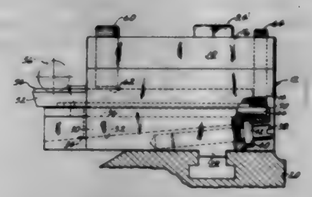
3,141,228
TOOLHOLDER
William Bader and Robert W. Berry, Jr., Ferndale, Mich., assignors, by mesne assignments, to Fansteel Metallurgical Corporation, North Chicago, Ill., a corporation of New York
Filed Nov. 29, 1960, Ser. No. 72,520
9 Claims. (Cl. 29—96)



1. In a toolholder of the type having a body with a seat at an accessible portion thereof, a polygonal cutting insert in said seat, and a screw actuated clamp with a shank recessed into said body and a clamping finger overlying said cutting insert, that improvement which comprises a lobe formation on said shank underlying said finger forming a recess below the finger adjacent said shank, a depending claw on the digital end of said finger overlying but not closing one side of said recess, the inner surface of said claw being serrated, a chip breaker having a portion to overlie said cutting insert and a portion to lie in said recess, one edge being serrated to interengage the serrations on said claw, and spring means to urge said

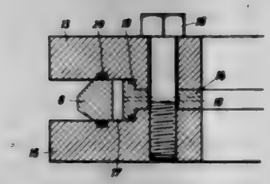
chip breaker toward said claw while permitting lateral motion to disengage said serrations.

3,141,229
TOOL HOLDER
Robert C. Nelson, Southington, Conn., assignor to Accurate Screw Products, Incorporated, Southington, Conn., a corporation of Connecticut
Filed July 24, 1961, Ser. No. 126,110
3 Claims. (Cl. 29—98)



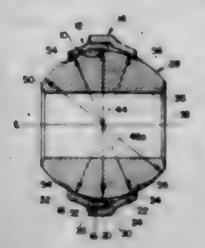
1. A holder for an elongated cutting tool with a cutting edge at one longitudinal end thereof comprising a holder body having a longitudinally extending wedge supporting surface, a wedge member longitudinally slideable on said wedge supporting surface having a concave cylindrical surface portion with a longitudinally extending axis inclined to said wedge supporting surface, a rocker member having a convex cylindrical surface portion conforming to and in slideable engagement with said concave surface portion and a longitudinal tool supporting surface extending substantially parallel to said axis, means for retaining the tool on the tool supporting surface with the longitudinal axis of the tool substantially parallel to the axis of the cylindrical surface, means for angularly adjusting the rocker member on the concave cylindrical surface for angularly adjusting the tool about its longitudinal axis, and means for longitudinally adjusting the wedge member on the wedge supporting surface of the holder body for adjusting the tool in a direction substantially normal to its longitudinal axis.

3,141,230
PROCESS FOR MANUFACTURING BEARING RACES
Heinz Pöhler, Westhofen, Westphalia, and Wolfgang Schmude, Dusseldorf, Germany, assignors to Eisenwerk Rothe Erde G.m.b.H., Dortmund, Germany
Filed Dec. 9, 1960, Ser. No. 74,864
Claims priority, application Germany Dec. 12, 1959
9 Claims. (Cl. 29—148.4)



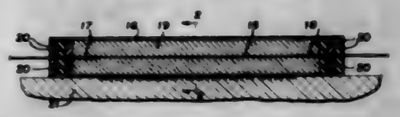
1. In a process for manufacturing bearing races, the steps of heating a high strength light metal alloy ring of uniform cross section to a temperature higher than the solubility temperature of the alloy; then quenching the thus heated ring; then uniformly increasing the diameter of the ring to a diameter where the ring remains permanently at the increased diameter; and then machining the ring to a desired cross sectional configuration.

3,141,231
METHOD OF FABRICATING A BALL AND SOCKET ASSEMBLY
Gilbert E. Davies and Everett V. Weinbrodt, Fort Wayne, Ind., assignors to Superior Ball Joint Corporation, New Haven, Ind.
Filed Apr. 17, 1961, Ser. No. 103,541
7 Claims. (Cl. 29—149.5)



1. The method of fabricating a ball and socket assembly comprising the steps of forming a ball member to an ellipsoidal shape, fabricating a first annular section having a cylindrical portion on one end and an inturned frusto-conically shaped portion on the other end defining a first end opening, fabricating a second annular section having a cylindrical portion on one end and an iturned frusto-conically shaped portion on the other end defining a second end opening, said first and second end openings having substantially the same diameter, assembling both said annular sections onto said ball member with said cylindrical portions being telescoped together, positioning said ball member in said sections such that said inturned portions engage only the larger diameter portions of said ball member, and welding said cylindrical portions together during the aforesaid engagement, thereby providing an integrated socket assembly which retains said ball member.

3,141,232
METHOD FOR PRODUCING STRAIN GAGES
John D. Russell, Hollywood, Calif., assignor to Microdot Inc., South Pasadena, Calif., a corporation of California
Original application Aug. 14, 1958, Ser. No. 754,956. Divided and this application June 8, 1960, Ser. No. 37,017
3 Claims. (Cl. 29—155.5)



1. The method for producing a strain gage that comprises providing an elongated resistance element the resistance of which changes in accordance with forces applied longitudinally thereto and having non-strain responsive lead wires attached to each end thereof, applying to the surface of said element a continuous, solid, adherent covering of electrical insulating material, disposing the resulting insulation-covered resistance element within a thin, readily deformable tubular metal shell with said lead wires extending therefrom, permanently deforming said shell inwardly against said insulating material and thereby clamping the insulating material firmly between said shell and said resistance element, whereby the resistance element is mechanically coupled to the shell to receive, via said insulating material, forces applied longitudinally to the shell, and connecting said lead wires to means

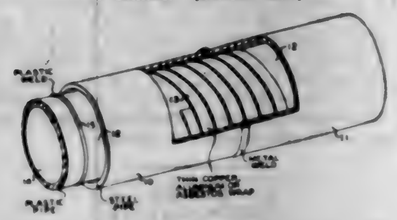
capable of detecting a change in the resistance of said element.

3,141,333
ROTOR AND SHAFT ASSEMBLY METHOD
Emmor V. Schneider, Alliance, Ohio, assignor to The Alliance Manufacturing Company, Division of Consolidated Electronics Industries Corp., a corporation of Delaware
Original application Jan. 13, 1959, Ser. No. 786,560. Divided and this application Feb. 23, 1960, Ser. No. 10,499
10 Claims. (Cl. 29—155.53)



1. The method of assembling a rotor on a shaft, comprising, forming an axial hole in said rotor, establishing a first portion of said shaft as other than cylindrical, grinding and polishing at least one end of said shaft to an outside diameter less than the inside diameter of said hole to have one end of said shaft and said first portion of said shaft readily pass through said hole, assembling said shaft and rotor and applying an adhesive between said first portion of said shaft and said rotor and retained therebetween by capillarity, and hardening said adhesive.

3,141,234
METHOD OF WELDING CONDUITS HAVING A RESINOUS LINER
William D. De Geer, Jr., Fairfax, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 19, 1961, Ser. No. 111,199
5 Claims. (Cl. 29—157)

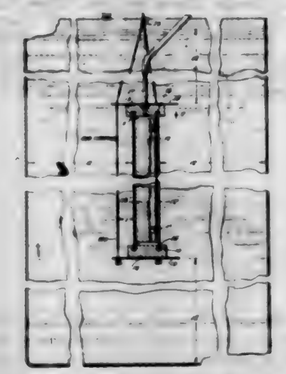


1. The method of installing a resinous liner in a metal conduit wherein metal conduit sections are welded together with the liner inside said conduit which comprises wrapping a layer of protective material around the resinous liner at the locus where the metal conduit sections are to be welded together; welding the conduit sections together; sealing the annulus between the conduit and the liner; and filling the annulus with water.

3,141,235
POWDERED TANTALUM ARTICLES
William H. Lenz, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Apr. 11, 1963, Ser. No. 272,494
6 Claims. (Cl. 29—182)

1. A ductile, workable, sintered metal selected from the class consisting of tantalum, columbium, hafnium, titanium and vanadium containing at least one weight percent yttrium, the balance being essentially at least one of the said metals.

3,141,236
METHOD OF CLADDING
Brian B. Dunne, San Diego, Perry B. Ritter, Encinitas, and Ronald A. Kelsey, Del Mar, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed June 1, 1960, Ser. No. 33,133
3 Claims. (Cl. 29—421)



1. A method of applying a tight-fitting layer of metal to a rigid elongated core, which comprises inserting the core in a loose fitting jacket of malleable metal, evacuating the space defined between the core and the jacket, immersing the jacketed core in a liquid, providing a plurality of elongated bodies of an explosive substance which are spaced from and which extend generally parallel to the jacketed core and which are positioned in generally equi-spaced relationship around the jacketed core, and simultaneously detonating said elongated bodies of explosive substance from the same ends to thereby provide a generally uniform shock wave in the liquid which extends around the jacketed core and which travels progressively along the length of the jacketed core to progressively contract the jacket into generally intimate contact with the core.

3,141,237
WELDING NODULAR IRON
William A. Moore, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
No Drawing. Filed Oct. 29, 1962, Ser. No. 233,937
1 Claim. (Cl. 29—495)

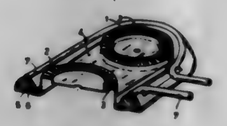
The process of gas welding a ferrous article which has been produced from a metal selected from the group consisting of gray iron and nodular iron consisting of gas melting a ferrous rod produced from a nodular iron composition in the presence of a flux consisting of boric acid 38%, soda ash 40%, ammonium sulphate 2%, powdered iron 15%, and magnesium chloride 5%, and applying the molten metal so produced to the ferrous article.

3,141,238
METHOD OF LOW TEMPERATURE BONDING FOR SUBSEQUENT HIGH TEMPERATURE USE
George G. Harman, Jr., Washington, D.C., assignor to the United States of America as represented by the Secretary of Commerce
No Drawing. Filed Nov. 22, 1960, Ser. No. 70,919
2 Claims. (Cl. 29—498)

1. The method of bonding metal which comprises placing between the surfaces to be bonded a bonding agent

consisting of a mixture of gallium and at least one finely divided metal of the class consisting of gold, copper, nickel, silver and cobalt, pressing together the surfaces to be bonded, and maintaining them so at a temperature at or slightly above that of the melting point of gallium until said bonding agent forms an alloy and hardens.

3,141,239
DRY SHAVING APPARATUS COMPRISING A SHAVING HEAD WITH A COOLING SYSTEM
Hans Joachim Gustav Meyer and Jan Volger, Emmasingel, Eindhoven, Netherlands, and Richard Thees, Aachen, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 7, 1961, Ser. No. 93,952
Claims priority, application Netherlands Mar. 8, 1960
3 Claims. (Cl. 30—34)



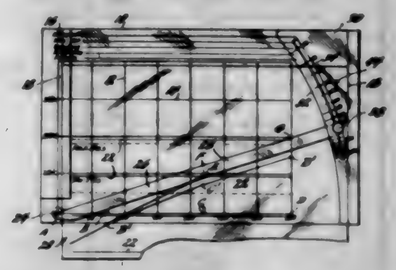
1. A dry shaving apparatus comprising a shaving head provided with a shear plate, a plurality of Peltier elements having both hot and cold portions surrounding said shear plate, a plurality of separated chambers located adjacent to said hot portions thereof and in heat exchanging contact therewith, each having a cooling substance therein, said cold portions thereof being in communication with the shear plate to thereby withdraw the heat from the user's skin and thus cool the same.

3,141,240
MANUALLY OPERATED ROTARY SHAVER
William C. Gwinn, 915 4th St., St. Marys, W. Va.
Filed Aug. 10, 1962, Ser. No. 216,157
10 Claims. (Cl. 30—43)



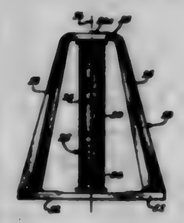
1. In a shaving implement, a casing, an apertured face plate mounted on said casing, a cutter rotatably mounted inwardly adjacent said face plate, a fly wheel rotatably mounted in said casing, means drivingly coupling said fly wheel to said cutter, a driving lever pivoted in said casing and having a portion externally exposed to receive driving force, a ratchet wheel connected to said fly wheel, a driving member rotatably mounted in the casing concentrically with said fly wheel, a pawl pivoted to said driving member adjacent said ratchet wheel, said pawl having at least a portion thereof of magnetic material, a magnet on said driving member exerting magnetic force on said last-named portion and located so as to bias said pawl into driving engagement with said ratchet wheel, and means gearingly coupling said driving lever to said driving member.

3,141,241
AERIAL NAVIGATION DEVICE
David H. Scott, 3050 W. Lane Keys NW., Washington 7, D.C.
Filed July 21, 1960, Ser. No. 44,448
8 Claims. (Cl. 33—97)



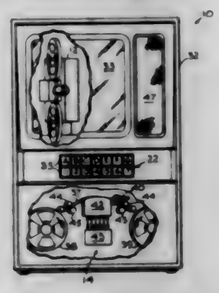
1. An aerial navigation device comprising a generally rectangular flat base having visible indicia on the top surface thereof in the form of a grid of evenly spaced vertical and horizontal lines, said vertical lines representing equal increments of distance increasing from left to right and said horizontal lines representing equal increments of time increasing from bottom to top, additional indicia on said base above said grid providing space for recording navigational data, means forming inwardly open channels along the top side edges of said base, a generally flat rectangular overlay of transparent plastic material slidably received in said channels for vertical movement over the top surface of said base, spaced horizontal lines on said overlay of a contrasting color to that of said horizontal grid lines and corresponding to equal time increments thereof, a movable arm pivotally mounted at the lower left corner of said base at the point of origin of said grid and having a straight edge aligned with said point of origin said movable arm being free of any operative indicia cooperating in the solution of navigational problems, said channel forming means at the right edge of said base varying in width and having a curved through slot adjacent its inner periphery formed as a radial arc about the point of origin of said grid, a stud bolt extending upwardly from said arm through said slot, a yieldable fastener attached to said bolt above said slot for adjustably retaining said arm in various radial positions about said grid origin, and further indicia on said base adjacent said slot cooperating with said straight edge and calibrated in terms of velocity.

3,141,242
VERTICAL LEVEL
Roscoe W. Heath, 940 Smith St., Tempe, Ariz.
Filed May 24, 1962, Ser. No. 197,518
4 Claims. (Cl. 33—215)



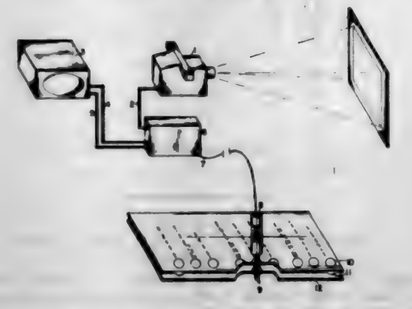
4. A vertical level structure comprising in combination:
(*a*) a frame having,
(*b*) a base plate including,
(*c*) a horizontal bottom surface applicable to horizontal surfaces to be plumbed,
(*d*) upstanding converging pedestal members fixed to the ends of said base plate,
(*e*) a cross bar fixed to the upper ends of said pedestal members,
(*f*) an upwardly projecting center pin fixed intermediate the ends of said base plate,
(*g*) a downwardly projecting center pin having its axis vertically aligned with the axis of said upwardly projecting center pin and vertically axially slidable intermediate the ends of said cross bar,
(*h*) means on said cross bar to yieldingly normally urge said downwardly projecting center pin toward said upwardly projecting center pin,
(*i*) the axes and points of said center pins defining a vertical axis perpendicular to said horizontal bottom surface on said frame,
(*j*) and a demountable vertical level pendulum unit mounted on said center pins including,
(*k*) a pair of vertically axially spaced U-shaped work contacting plates,
(*l*) a rigid transparent tube extending vertically between said plates,
(*m*) means for securing said tube and plates together as a rigid unit,
(*n*) a pendulum rod having a plumb bob point fixed to the lower end of said rod suspended within said transparent tube from the upper one of said U-shaped plates,
(*o*) concentric indicating circles on the lower of said U-shaped plates within said transparent tube and immediately below the pointed end of said plumb bob to indicate the degree of plumb,
(*p*) a conical center hole surface in the top of said upper U-shaped plate and in the bottom of said lower U-shaped plate for mounting said pendulum unit on said center pins of said frame,
(*q*) and vertically and horizontally aligned work contacting areas on each of said U-shaped work contacting plates adapted to engage vertical surfaces to check the plumb thereof when said pendulum unit is removed from said center pin of said frame.

3,141,243
AUTOMATIC TUTORIAL SYSTEM
Robert L. Chapman and James E. Brown, Jr., Littleton, Colo., Janeth T. Carpenter, Canoga Park, Calif., and Clyde M. Wyman, Aurora, Colo., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Maryland
Filed Mar. 27, 1961, Ser. No. 98,502
19 Claims. (Cl. 35—9)



1. A tutoring machine including means for providing a multiplicity of selectable information presentations in sequence, means for producing individual responses from an individual operator at successive points in a sequence of presentations, means providing standard values, means for storing weighted value representations of the individual responses, means for comparing the weighted value representations to selected standard values, and means responsive to the comparison results for selecting another information presentation, from the multiplicity of presentations, in accordance therewith.

3,141,244
AUDIOVISUAL TEACHING DEVICE
Karl U. Smith, 1915 Arlington Place, Madison, Wis.
Filed Nov. 15, 1961, Ser. No. 152,432
7 Claims. (Cl. 35—9)

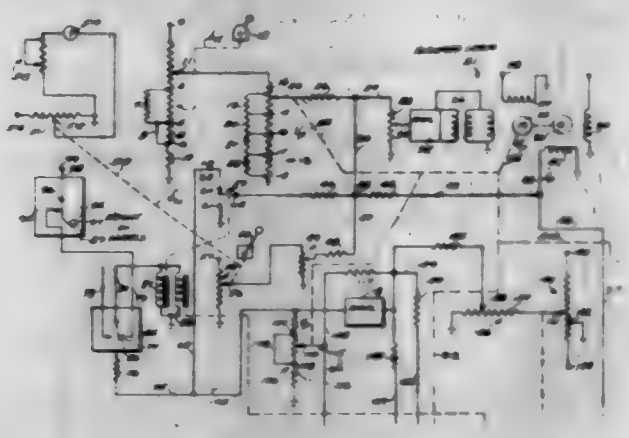


1. A teaching and testing device comprising the combination of:
power operated presentation means to present teaching and question material to a student, which operates in response to closing and opening of a circuit;
a control unit to operate said means in response to a signal received by said unit as a result of closing a circuit which communicates therewith;
a sheet of puncturable, flexible, foldable, non-conductive material having areas which correspond to correct answers to questions propounded in said material presented by said presentation means;
a sheet of non-conductive material having its upper surface underlying said sheet of flexible, foldable material, portions of said upper surface which correspond to correct answers being covered with conductive material;
a probe of relatively rigid conductive material adapted to puncture said sheet of flexible foldable material and contact said conductive material;
means to provide a closed circuit to pass current from said control unit through said probe and through said conductive material back to said control unit while said probe is in contact with said conductive material.

3,141,245
FLIGHT SIMULATOR
Carl W. Satterthwaite, Binghamton, N.Y., assignor to Link Division of General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 185,999
10 Claims. (Cl. 35—12)

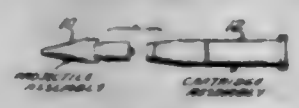
1. Grounded flight training apparatus for simulating the operations of an aircraft, comprising, in combination: a simulated throttle control; first potentiometer means operated by said throttle control and excited by a constant potential for deriving a first potential commensurate with simulated engine thrust; a simulated elevator control; second potentiometer means mechanically connected to be operated by said elevator control to provide a second potential; third potentiometer means connected to modify said second potential to provide a third potential; means for deriving a fourth potential commensurate with flight path elevation angle; an integrating servomechanism responsive to said first, third and fourth potentials for providing an output shaft position commensurate with

simulated air-speed, said third potentiometer means being connected to be operated by said output shaft position;



and a simulated airspeed indicator connected to be operated by said output shaft position.

3,141,246
SEPARABLE SIMULATED ROUND OF AMMUNITION
Andre Boris, Westerly, R.I., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 26, 1962, Ser. No. 233,494
5 Claims. (Cl. 35—25)



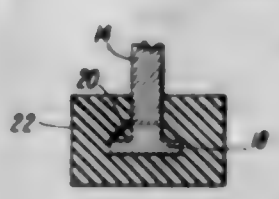
1. A simulated round comprising a projectile and a cartridge, said projectile being separably connected to said cartridge and means for removing and reconnecting said projectile with said cartridge whereby an actual operable round of ammunition is simulated and the projectile is capable of being reused, said projectile containing a detent in its outer surface for insertion of a pawl within a gun simulator for removal of said projectile from said cartridge, wherein said projectile comprises a case, a tube assembly removably mounted within said case, said tube assembly comprising a spring retainer tube and the male member of a clutch coupling, said tube being fixedly attached to said male member of said coupling, a spring retainer attached to one end of said tube, said spring retainer comprising a spring and a positioning nut.

3,141,247
SHOE COVERING
Joyce M. Mackay, Huntington Station, N.Y.
(2 Packet Road, Palos Verdes Peninsula, Calif.)
Filed Jan. 8, 1963, Ser. No. 250,071
2 Claims. (Cl. 36—7.1)



1. A decorative shoe covering comprised of integrally formed elastic sole, heel, vamp, toe and body portions, said portions having inner and outer surfaces, said sole portion having a first protective member adjacent said toe portion and connected to the outer surface of said sole portion, a second protective member connected to the outer surface of said sole portion, said first and second protective members being spacedly related, and a third protective member connected to the inner surface of said sole portion, said second and third protective members being respectively superposed, a part of said sole portion being disposed therebetween, and a fourth protective member connected to the outer surface of said heel portion, said shoe covering being stretchably receivable over a shoe and adapted to assume the contour thereof.

3,141,248
HEEL LIFT
Leonard B. Harris, Glencoe, Ill., assignor to Ny-Linn Chicago Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 23, 1962, Ser. No. 239,587
2 Claims. (Cl. 36—34)



1. A heel lift construction comprising an elongated body portion having a pointed end, a head portion integrally formed at the opposite end of said body portion, a washer member fitting around said body portion adjacent said head portion, said washer member comprising a continuous outer peripheral portion and having inwardly extending fingers engaging said body portion, the internal ends of said fingers defining a central opening in said washer having a diameter slightly less than the outer diameter of said body portion whereby engagement of said fingers with said body portion serves to hold said washer member in place on said body portion in spaced-apart relationship with respect to said head portion, and a wearing portion formed of molding material surrounding said head portion and said washer member, spaces defined between said fingers and between said outer peripheral portion and said body portion, said molding material extending between said head portion and said washer member and within said spaces whereby said wearing portion is firmly secured in said construction.

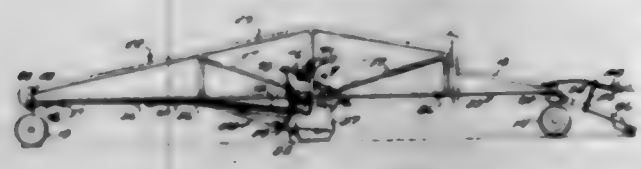
3,141,249
HEEL WITH INTERCHANGEABLE HEEL-LIFT
Pierre Perbost, Rieumes, France
Filed Sept. 23, 1960, Ser. No. 58,101
Claims priority, application France June 2, 1960
6 Claims. (Cl. 36—42)



1. For use with a heel having a recess therein; a detachable lift structure adapted for serving as a lift structure extraction tool: said lift structure comprising a body portion adapted for being engaged in said recess of the heel, a screw on said body portion adapted for being accommodated within said recess with said body portion engaged in said recess, and a lift on said body portion for

constituting a lift for said heel when the body portion of the lift structure is engaged in said recess, said lift and body portion defining a threaded opening which is accessible through said lift and which is adapted for being threadably engaged by the screw of an identical lift structure whereby a lift structure which is engaged in said heel can be extracted from said heel, said threaded opening and screw having corresponding dimensions.

3,141,250
LAND LEVELER
Curtis H. Eddins, 801 E. 2nd St., Stuttgart, Ark.
Filed Oct. 10, 1962, Ser. No. 229,760
14 Claims. (Cl. 37—188)



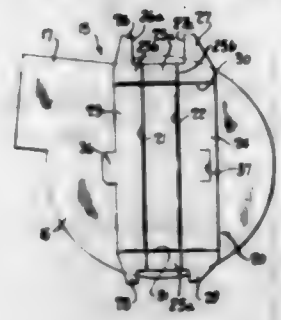
1. A land leveler comprising, in combination, an elongated rigid main frame, front and rear wheels supporting said frame, a blade supporting frame pivoted to said main frame and extending forwardly to a point substantially midway thereof, an upwardly projecting stop mounted on said blade supporting frame, a ground engageable blade arranged transversely of said main frame pivotally mounted on the forward end of said blade supporting frame, and means mounted on said main frame and operably connected with said blade to hold it against said stop in ground leveling position.

3,141,251
ADJUSTABLE CORD SUPPORT
Henry L. Olson, West Dundee, and Philip E. Willman, St. Charles, Ill., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed June 19, 1962, Ser. No. 203,623
4 Claims. (Cl. 38—98)



4. An electric iron comprising: a hollow handle presenting a wall portion; wall surfaces forming a part of said wall portion and defining a first passageway of square cross section, said first passageway through said wall portion tapering from the interior to the exterior of said handle; a resilient grommet having confronting flange surfaces abutting said wall portion adjacent said first passageway and an intermediate stem portion, interconnecting said flange surfaces, of square cross section disposed in and conforming to said first passageway to normally resist rotation of said grommet with respect to said wall portion and tapering in the same direction as said passageway; and a sleeve formed integrally with said grommet having a continuous common second passageway extending through said sleeve and said grommet.

3,141,252
TIRE INSERT DISPLAY SIGNS
James T. Mullen, Cleveland, Ohio, assignor to Dyment Co., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 24, 1961, Ser. No. 133,733
4 Claims. (Cl. 40—125)



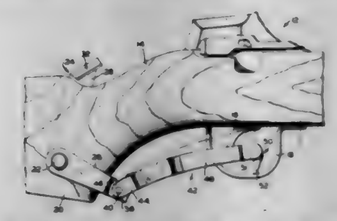
4. A stiffening, locking and supporting easel for an insert display sign adapted to be held thereby against the outer face of a tire, the easel being adapted to engage the inner side of bead rings of tires of different diameters, said easel being formed of stiffening material cut in the form of a blank adapted to extend across the inner side of a display panel, and having three parallel strips connected by parallel fold lines, and having additional fold lines extending transversely across the first pair of fold lines, one adjacent and spaced from each end of the blank thus forming a central section which may be glued to the face of the panel and beyond which are short rectangular sections between two separated ends, and the outer edge of these short sections being extended beyond the first mentioned parallel fold lines, and the blank being so cut as to form outwardly presented parallel shoulders longer at one end of the blank than at the other, and whereby the ends of the panel may be folded inwardly each as a flat section, and the side sections may then be folded toward each other bringing the end portions into positions aligned with the three sections of the easel blank, and means for holding the sides of the easel in the triangular supporting position.

3,141,253
AUTOMOBILE DRIVER'S SIGNALING DEVICE
Earl Bartram, P.O. Box 1125, Bridgeport, Conn.
Filed Aug. 21, 1961, Ser. No. 132,675
3 Claims. (Cl. 40—129)



1. An automobile driver's pedestrian guide comprising a supporting L-shaped bracket having one leg for securing and supporting the guide to and on an automobile, an arm pivoted at one end to the other leg of the bracket for movement between a horizontal non-observable position and a substantially vertical observable position, a guide comprising a substantially flat plate having indicia on one side and a different indicia on the other side, a second L-shaped bracket having two legs, means securing one leg of the second bracket to the guide, and means pivotally mounting the other end of the arm to the other leg of the second bracket for enabling pivotal movement of the guide to show in one direction one indicia or the other when the guide is in the vertical observable position.

3,141,254
AUXILIARY TRIGGER DEVICE WITH SAFETY
Giulio V. Savioli, Westfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 18, 1962, Ser. No. 188,591
4 Claims. (Cl. 42—70)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a firearm, the combination including a trigger fingerpiece actuatable from a firing position, a safety pivotally mounted for manual displacement from a safe to a fire position, a trigger bar joined to said safety for displacement thereby into camming contact with said fingerpiece when said safety is displaced to the fire position and for manual displacement relative to said safety to an elevated position, means on said safety for actuating said trigger bar to a position in camming contact for said fingerpiece when said safety is in the firing position and to a position clear of possible contact with said fingerpiece when said safety is in the safe position, means for normally biasing said trigger bar to the clear position away from camming contact with said fingerpiece, and means when said trigger bar is in camming contact with said fingerpiece for converting displacement of said trigger bar to the elevated position to displacement of said fingerpiece to the firing position.

3,141,255
FISH LURE
Albert T. Randall, 222 E. Pine St., Missoula, Mont.
Filed Dec. 26, 1961, Ser. No. 162,076
7 Claims. (Cl. 43—42.11)



1. A fish lure which comprises:
- a pair of curvilinear strips of greater lateral width than thickness and of a constant thickness throughout their lengths disposed to form a sistroid body having two opposed open sides and secured together at their ends;
- means at the ends of said body for attachment to fishing tackle; and
- a pendulum hingedly connected at one of its ends to one of said last named means for free swinging movement from side to side of said body through said open sides.

3,141,256
FISHING BOBBER
Charles H. McBriar, 1115 Johnson St., Beloit, Wis.
Filed July 5, 1961, Ser. No. 121,942
6 Claims. (Cl. 43—43.11)

1. A fishing bobber comprising a hollow shell made up of two separable halves, both of buoyant hollow construction, two coaxially aligned bearings on a diametrical line through said shell halves, one in the center of each half, the halves each having a generally cylindrical internal recess of equal depth provided therein on opposite sides of the diametrical plane of division in concentric relationship to but of appreciably larger radius than said bearings to accommodate a reel therebetween, means for detachably securing the halves together to form a unitary shell, and a reel of generally cylindrical form and buoyant hollow construction disposed inside said shell in said recesses in the aforesaid diametrical plane through said shell, said reel having projecting from its opposite sides coaxially aligned trunnions received in said bearings, each shell half having a small opening provided therein for extension therethrough of a fishing line, the opening in one shell half being aligned with one side portion of the



reel closest thereto, and the opening in the other shell half being aligned with the other side portion of the reel closest thereto, and said reel having means thereon between the two side portions whereby the fishing line may be secured to the reel between rounds of the line wound in one direction on one side portion and other rounds of the line wound in the same direction on the other side portion of the reel, each of said bearings being provided on a wall normal to the diametrical line through said shell defining on one side the inner end of the aforesaid recess while closing a sealed air chamber on its other side in the shell half, said walls in the assembled relationship of the shell halves being disposed in equally spaced parallel relationship to the diametrical plane of division through said shell.

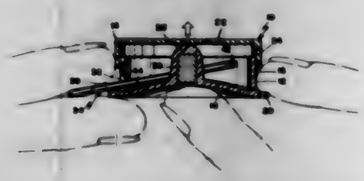
3,141,257
LIVE FISH CONTAINER
Herman L. Stull, 629–B Main St., Watsonville, Calif.
Filed Apr. 1, 1963, Ser. No. 269,309
2 Claims. (Cl. 43—55)



2. A live fish container including a vertical axis cylindrical sack with an open top and a rim protected screen bottom,
- a sack supporting band attached within the edge of the top and terminating at a side with a pair of horizontally spaced radially extending end portions, the ends of the latter being formed in horizontally spaced vertical planes into horizontally aligned substantially closed rings,
- clamping means including an inverted U-plate having downwardly depending flanges and an intermediate horizontal portion,

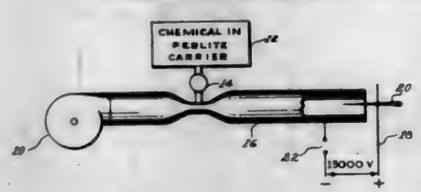
- screw means associated with the depending flanges whereby a general support member such as the gunwale of a boat may be clamped therebetween,
- a horizontal pivot member, a horizontal mounting plate, a vertical axis swivel member projecting upward from said intermediate horizontal portion and horizontally swiveling said mounting plate on said intermediate portion, the clearances at the swivel member being such as to frictionally hold the plates in a desired angular relationship,
- said mounting plate supporting at an arcuate end thereof which is horizontally spaced from the swivel member, the midportion only of said horizontal pivot member, the latter member being embraced near each of its ends by one of said substantially closed rings,
- and means at the ends of the horizontal pivot member to hold the rings of the sack supporting band frictionally tight against the arcuate support of the horizontal pivot member,
- whereby a variation in horizontal clearance between the vertical adjacent portions of a general support, as the gunwale of a boat, and the closest portion of the cylindrical sack at outboard position, is obtainable by positioning the arcuate support end of the mounting plate in its most inboard position or its most outboard position,
- and the clamping means, the mounting plate, and their associated structures will allow the sack to swivel for a complete full circle about a vertical axis, as well as to pivot horizontally at least a half circle, regardless of whether the arcuate support end of the mounting plate is arranged in position for a minimum or maximum clearance between the general support and the sack.

3,141,258
SAFETY CAPSULE FOR FISH HOOKS
Leonard J. Mayer, San Diego, Calif.
(5373 La Jolla Blvd., La Jolla, Calif.)
Filed Sept. 24, 1962, Ser. No. 225,710
4 Claims. (Cl. 43—57.5)



1. A safety capsule for a fish hook, comprising;
- a cylindrical container having a base and an upwardly extending peripheral wall there being a slot in said wall open at the top thereof;
- an upright magnetic post on said base around which a fish hook can be engaged;
- said wall being shaped so the shank of a fish hook may extend from the container through said slot;
- a lid having a downwardly extending wall for a close fit over said container wall;
- said lid wall having a depth less than that of said container wall, whereby a portion of said slot remains exposed when the lid is seated on the container;
- said post extending in close proximity to said lid to prevent passage of a hook between the post and lid when the lid is seated;
- said base having a flange extending substantially radially beyond said container wall;
- and said base being resilient, whereby said post can be pushed upwardly to displace said lid.

3,141,259
AGRICULTURAL DUSTING
Willis R. Winters, P.O. Box 8, Verhalen, Rural Station, Pecos, Tex.
Filed Oct. 26, 1960, Ser. No. 65,224
3 Claims. (Cl. 43—148)



1. In an apparatus for dusting agricultural chemicals upon growing crops including a tube and means for blowing a chemical-air mixture through the tube, the improvement comprising: an insulated electrical conductor extending normal to the axis of the tube, and an elongated pointed conductor element coaxial with the tube pierced through the insulated electrical conductor.

3,141,260
COLLAPSIBLE DRAWING TABLE
Otto Dompierl, 92 Belmont Ave., North Plainfield, N.J.
Filed Jan. 22, 1962, Ser. No. 167,779
4 Claims. (Cl. 45—131)



1. An adjustable, collapsible drawing board stand comprising a drawing board, a pair of legs pivotally attached adjacent a front edge of said board, said legs having a plurality of complementary openings along the inner surfaces thereof, a second pair of legs pivoted to said first pair of legs intermediate the length of said first pair of legs, and a brace member pivotally secured to said board intermediate the front and rear edges of said board, said brace member having projections receivable in a selected pair of complementary openings to provide inclined adjustment of the drawing board.

3,141,261
ANIMATED INFLATED TOY
Louis Mirando, Teaneck, N.J., assignor to The Holiday Line, Inc., Brooklyn, N.Y., a corporation of New York
Filed Jan. 16, 1962, Ser. No. 166,528
4 Claims. (Cl. 46—118)

1. An animated toy having a body member comprising a body casing filled with compressible, resilient, open cellular, filler material; flappable hollow appendages disposed externally of and attached to said body casing adapted to represent facial and body features, the said

appendages communicating through air passage means defined by the walls of said body casing with the interior of said body member, characterized in that the said appendages expand and contract in response to movement of air into and out of the hollow portion thereof through the said air passage means by the application and release of pressure to the said filler material.



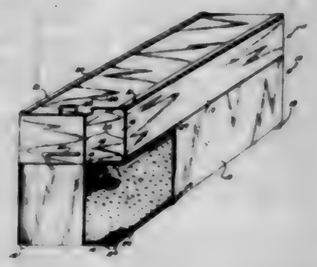
3,141,262
SPINNING TOYS
Edwin D. Burton, 1523 Smallhouse Road, Bowling Green, Ky.
Filed Oct. 15, 1962, Ser. No. 230,474
6 Claims. (Cl. 46—47)



1. A spinning toy comprising a conical shell formed with an inner and outer apex and an inner and outer surface, and an open bottom portion, said shell having a rough inner surface and a rounded inner apex and a recess in said rounded inner apex; and a rod formed with one pointed end, said rod being adapted to be hand held at its nonpointed end, to support the conical shell by the recess in the rounded inner apex at its pointed end, said pointed end being received in said recess, and to be given a rotary motion whereby the pointed end of said rod moves out of the recess and acts on the rough inner surface of the shell to cause the shell to spin, said pointed end of said rod returning to said recess when said rotary motion of said rod is stopped whereby said conical shell spins on said pointed end of said rod.

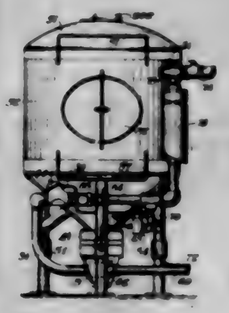
3,141,263
METHOD AND MEANS FOR GROWING EDIBLE BEAN AND LIKE SPROUTS
Gung-Hsing Wang, 8200 S. Indiana Ave., Chicago 19, Ill.
Filed May 15, 1961, Ser. No. 109,949
7 Claims. (Cl. 47—14)

1. In a device for growing edible leguminous sprouts, means defining a growing chamber, a sprouting base in the bottom of said chamber adapted to receive a layer of legumes to be sprouted, said sprouting chamber having a top providing a water receptacle, means for introducing water from said receptacle into said chamber comprising a plurality of drip holes in the bottom of said receptacle, and a filtering and water distribution member



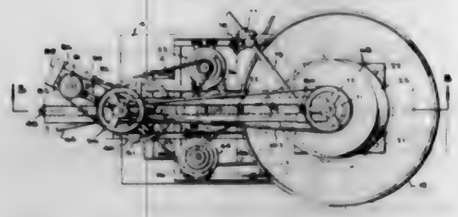
mounted on the underside of said receptacle bottom within said growing chamber.

3,141,264
BLASTING WITH ABRASIVE PARTICLES
Ralph W. Moore, Hagerstown, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,864
9 Claims. (Cl. 51—12)



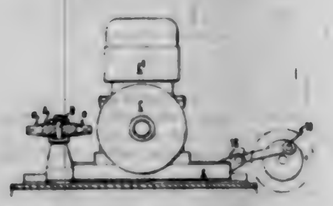
1. In a pressure responsive mixing assembly for feeding and controlling the flow of a stream of particles comprising a particle supply container, a mixing chamber for receiving said particles flowing from said supply container, an inlet for said chamber, an outlet for said chamber, said inlet and outlet serving to pass a blast stream of pressurized air through the mixing chamber which air is mixed with the particles received by the mixing chamber, a flow conduit connecting said supply container with said mixing chamber for passing said particles from the container to said chamber, an axially slidable tube telescopically supported within said conduit through which the particles pass, a valve seat in said conduit beyond the innermost end of the tube within the conduit, an impression spring supported around said tube for urging the tube against said valve seat, pressure responsive diaphragm means holding the tube in place, and a pressure applying connection for varying the pressure acting upon the diaphragm means to lodge the tube against and away from the valve seat to close and open the flow conduit, the improvement of using a resilient shutoff valve element for opening and closing flow through said conduit, and the seating portion of said valve element being a segment of a sphere.

3,141,265
OPTICAL GRINDING AND POLISHING MACHINE
James P. Charlton, P.O. Box 95, Dillwyn, Va.
Filed Dec. 7, 1962, Ser. No. 242,953
13 Claims. (Cl. 51—26)



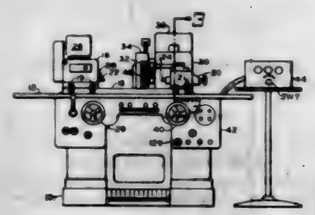
1. A grinding and polishing machine comprising a support, a horizontal bottom tray member, means to rotate said bottom tray member around a vertical axis, means on said bottom tray member to support a lower blank for coaxial rotation therewith, a horizontal arm, means slidably and pivotally supporting said arm on said support with one end thereof extending over said bottom tray member, means on said one end to rotatably support an upper blank adjacent and in overlying relation to said bottom tray member, means to rotate said last-named supporting means, and means driving the other end of said arm in a substantially closed-loop path substantially in a horizontal plane.

3,141,266
MACHINES FOR SHARPENING ROTARY CUTTERS
Alan Stamford Rowley, Grafton St., Pendleton, England
Filed Nov. 15, 1961, Ser. No. 152,574
1 Claim. (Cl. 51—34)



In apparatus for sharpening the cutting faces of a rotatable milling or like cutter, a stationary support, an arbor on which said cutter is adapted to be mounted and disposed for rotation about a fixed axis on said support, a slide member reciprocably mounted on said support for movement toward and from said arbor in a plane perpendicular to the axis of rotation of said cutter, a grinding wheel rotatably mounted on said slide member, motor means on said slide member for continuously rotating said grinding wheel, and synchronized means for intermittently rotating said arbor step by step in a selected direction and reciprocating said slide member into and out of grinding contact with successive faces of said cutter, said cutter being stationary at least during said contact and automatically indexed to position a new face in the path of said grinding wheel during the period that the grinding wheel is out of contact with said cutter, and means in said intermittent drive to said arbor for adjusting the angular position of said cutter relative to the cutter path of reciprocation, said adjustment means comprising coaxial drive and driven spindles in the drive to said arbor, each spindle carrying a pinion meshed with a common idler pinion assembly, a worm wheel carried by the driven spindle and on which said idler pinion assembly is mounted, and means including a manually operable worm meshed with said worm wheel for rotating said worm wheel about its axis and varying the relative angular positions of said spindles.

3,141,267
PRECISION GRINDING MACHINE
Harry E. Laebkemann, Jacob Decker, and Albert H. Dall, all of Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 29, 1962, Ser. No. 183,538
24 Claims. (Cl. 51—165)

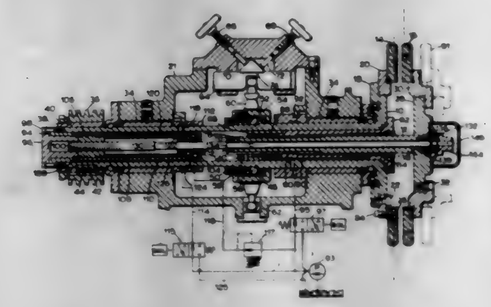


1. A grinding machine comprising:
(*a*) a base having a work supporting area and ways thereon extending toward said area,
(*b*) a wheelhead member slidably received on said ways,
(*c*) a spindle housing having a rotatable spindle therein, said spindle having a grinding wheel fixed thereto,
(*d*) means resiliently to attach said spindle housing to said wheelhead member,
(*e*) a feed mechanism selectively to move said wheelhead member on said ways toward said work supporting area for movement of said grinding wheel in a cutting operation,
(*f*) means selectively to overcome said resilient means and tilt said spindle housing on said wheelhead member in steps to produce movement of said grinding wheel relative to said wheelhead member toward said work supporting area to complete said cutting operation, and
(*g*) means reversely to operate said feed mechanism and to reset said means to tilt to retract said grinding wheel from the work supporting area upon completion of a cutting operation.

3,141,268
GRINDING MACHINE SPINDLE
William B. Seidel and Carl J. Schonhoft, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 25, 1963, Ser. No. 275,697
11 Claims. (Cl. 51—168)

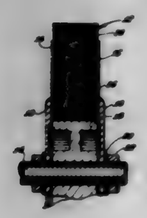
1. A precision grinding machine spindle mechanism comprising in combination:
(*a*) a first rotatable spindle,
(*b*) a second spindle slidably received in said first spindle for movement therein between predetermined axially spaced positions and rotatable therewith, one end of said second spindle extending from said first spindle at one end thereof,
(*c*) a first and second collet fixed respectively on said one end of said first and second spindles, each collet adapted to hold a grinding wheel thereon, and

(*d*) means to shift said second spindle one way and the other in said first spindle between the predetermined



axially spaced positions thereof to alter the relative spacing of said collets.

3,141,269
ABRADING ARTICLE
Aleck Block, Los Angeles, Calif., assignor to Merit Products, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 1, 1961, Ser. No. 149,322
13 Claims. (Cl. 51—193.5)



4. In a flap-type abrasive wheel wherein a rotary hub structure has a plurality of circumferentially spaced transversely extending slots with the radially outward open portions of the slots of narrowed width, a plurality of disposable abrasive units for mounting in said slots respectively, each of said units comprising:
(*a*) a pack of flexible abrasive leaves with a base end for seating in one of said slots;
(*b*) spacer means interposed between the leaves of said pack at said base end and enlarging the base end to a greater width than said narrowed width of the slot and disposed within the slots in the rotary hub structure; and
(*c*) mechanical fastening means extending through the base end of the pack and the inserted spacer means at substantially the position of the narrowed widths of the slots in the rotary hub structure, said fastening means engaging the leaves of the pack for unifying the base end of the pack.

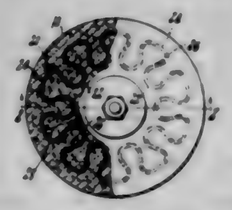
3,141,270
ABRASIVE TOOL
Marcel Ferrand, 13 Les Routes, Toulon, Var, France
Filed Apr. 18, 1962, Ser. No. 188,503
1 Claim. (Cl. 51—205)

As an article of manufacture, a tool for cleaning and shaping electrical contacts comprising
(*a*) a handle of flexible electrical insulating material,
(*b*) a stem connecting said handle to
(*c*) a thin flat blade, said stem having a thickness greater than the thickness of said blade, said blade having flat sides,
(*d*) two stepped shoulders formed in said stem at the line at which said blade and said stem join together at each flat side of said blade,



(*e*) two rigid metal plates each having one exposed side and each fixed on the side opposite said exposed side by a layer of adhesive to each flat side of said blade and each having an edge abutted against each shoulder of said stem and
(*f*) abrasive material on the exposed side of each of said metal plates.

3,141,271
GRINDING WHEELS WITH REINFORCING ELEMENTS
Herbert C. Fischer and Herbert C. Fischer, Jr., both of 3 Sawyer Road, Wellesley, Mass.
Filed Oct. 12, 1962, Ser. No. 230,080
4 Claims. (Cl. 51—206)



1. An annular rotative abrasive article having a central axis of rotation, said article being formed of abrasive grains bonded together with a bonding agent, with integrally bonded reinforcing means imbedded in said article distributed throughout a major portion of the axial and radial dimensions of said article, said reinforcing means comprising fabric element means of substantially greater width than thickness and consisting of a plurality of strands each composed of a multiplicity of glass fibers with said strands being disposed in over and under intercrossing and interlacing relationship providing a multiplicity of strand crossings in a predetermined pattern with a surface pattern of strand projections and depressions, said element means being impregnated with an adherent coating compatible with the bonding agent of said article, and being positioned around the central axis of rotation of the article with its greater widthwise dimension parallel to said axis, said fabric element means having a plurality of portions thereof in the cross section of said article extending in both the circumferential and radial directions around the axis of said article, the greater widthwise dimension of said fabric element means extending for a substantial proportion of the axial dimension of said article, providing an annular rotative abrasive article integrally reinforced with a substantial proportion of glass fibers.

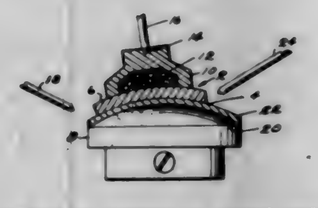
3,141,272
METHOD FOR FINISHING REFINER PLATES
Anton J. Horstman, Houghton, Mich., assignor to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio
Filed June 28, 1962, Ser. No. 205,990
1 Claim. (Cl. 51—281)

A method of refinishing refiner plate units in a disc refiner including opposed relatively rotatable discs mounting opposed refiner plate units consisting of the steps of replacing one of said refiner plate units with an identical unit having a more abrasive exterior surface, inducing



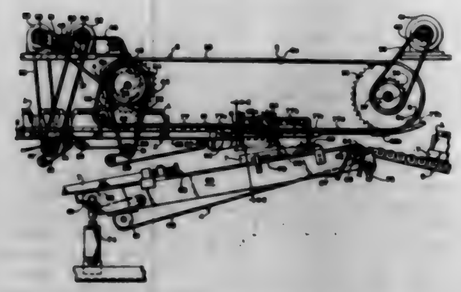
relative rotation and contact between the other of said units and the more abrasive surface to produce a refinishing of said other unit under actual operating conditions.

3,141,273
POLISHING SYNTHETIC RESIN LENSES
George M. J. Sarofeen, Colonial Heights, Va., assignor to Titmus Optical Company, Inc., Petersburg, Va., a corporation of Virginia
Filed Dec. 7, 1962, Ser. No. 243,009
15 Claims. (Cl. 51—284)



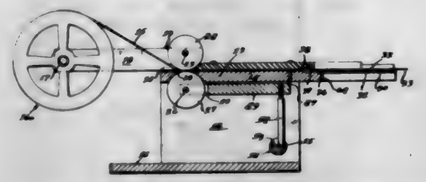
10. A method of polishing an optical surface made of a synthetic resin comprising supporting a homogeneous mass including stannic oxide as the cutting material and an aqueous suspension of a wax on a solid yieldable surfacing medium and contacting said optical surface with said solid yieldable surfacing medium supporting said homogeneous mass, said suspension having a viscosity substantially greater than that of water.

3,141,274
CASE LOADER
Biagio J. Nigrelli, Northbrook, Wendell E. Standley, Lake Forest, and James I. Wittmann and Hugo Boeckmann, Park Ridge, Ill., assignors, by mesne assignments, to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed Jan. 10, 1963, Ser. No. 250,543
21 Claims. (Cl. 53—48)



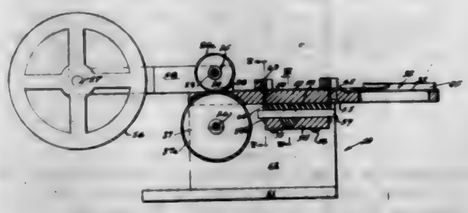
1. The method of loading a group of two upstanding, uniform size articles into an open-top tray or case, which comprises advancing the article group in a fixed path along a cantilever support with the articles arranged in upright position, side-by-side, supporting an open-top, rectangular, four-wall tray closely beneath such path at a small angle converging upwardly toward such path in the direction of movement, tilting the articles laterally outward away from each other during their advance to bring their leading lower portions into engagement against the inside surface of the leading wall of the tray to propel the tray, continuing to advance the article group and tray and concurrently raising the trailing end of the tray to bring it into approximate parallelism with the path of travel of the articles, and finally moving the articles off the cantilever support to let them drop into the tray and assume a supported position on the tray bottom.

3,141,275
FILM MOUNTING ASSEMBLY
Thomas P. Anderson, Winnetka, and Robert Beispel, Chicago, Ill., assignors to Microseal Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 11, 1961, Ser. No. 130,875
9 Claims. (Cl. 53—123)



1. A film feed mechanism for feeding film into record card pockets formed by at least one enveloping member mounted on a card surface which comprises: a support having a film bed and having a card bed recessed slightly from said film bed; a shoulder leading from one to the other of said beds; whereby a record card can be placed upon said card bed with an edge which is parallel to an unsecured edge of its respective enveloping member disposed in engagement with said shoulder; means confining a film strip for travel along said film bed; means for slitting the film strip carried on said film bed to form a film piece suitably sized for placement within a record card pocket; and means for moving said film strip along said film bed to push the film piece into a record card pocket.

3,141,276
FILM MOUNTING ASSEMBLY
Thomas P. Anderson, Winnetka, and Robert Beispel, Chicago, Ill., assignors to Microseal Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 12, 1962, Ser. No. 178,792
3 Claims. (Cl. 53—123)



2. A film feed mechanism for feeding film into record card pockets formed by at least one enveloping member mounted on a card surface which comprises:
(*a*) a support having a film channel formed therein;
(*b*) means feeding a film strip into said film channel;
(*c*) whereby a record card is positioned upon said support at one end of said film channel;

(*d*) a pair of slits formed in spaced relation within said support and extending transversely across said film channel;

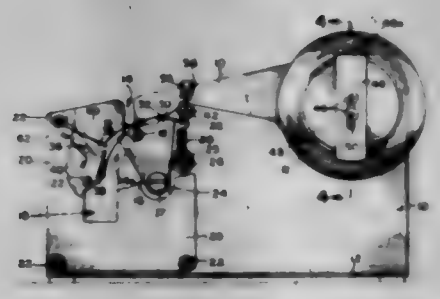
(*e*) slitter blades mounted on said support for movement within said slits;

(*f*) cutting blocks mounted over said film channel adjacent each of said slits;

(*g*) a concave arcuately chamfered edge formed on at least one of said cutting blocks;

(*h*) means moving said slitter blades through said slits and into engagement with said blocks so that one of said blades slides along a side of one of said blocks adjacent said arcuately chamfered edge to cut a film strip lying within said film channel.

3,141,277
BAG SEALING APPARATUS
Garold R. Johnston, 1625 Westmont Drive, Alhambra, Calif., assignor of one-half to Harold L. Fenton, Reseda, Calif.
Filed Nov. 3, 1961, Ser. No. 150,047
12 Claims. (Cl. 53—198)



8. In combination in a bag sealing device;

a frame having an outwardly extending passage in said frame to receive the neck of a bag to be sealed;

a swinging trigger pivoted on said frame and having at its swinging end a wall to receive a strip of sealing tape thereon and the collapsed neck of a bag thereagainst to swing said trigger and press the bag neck against the tape;

means to direct sealing tape across said trigger;

cooperating severing means on said frame adjacent said passage and severing means on said trigger to position between them and sever tape on said bag neck, one of said severing means being directed substantially tangential to the path of movement of said trigger; and

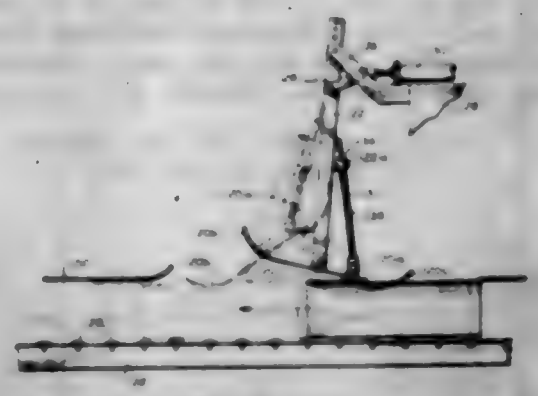
positioning means movable in position adjacent said severing means on said frame for pressing a severed end of the tape into adhering contact with said positioning means, said positioning means comprising a spring finger on said frame and projecting into the path of the severing means on said trigger to receive the severed end of said tape and movable to clear said severing means on said frame.

3,141,278
APPARATUS FOR DIRECTING APPLICATOR AND OTHER CAP EXTENSIONS INTO CONTAINERS
Kazmier Wysocki, 293 Hudson St., Hackensack, N.J.
Filed Mar. 27, 1962, Ser. No. 182,769
12 Claims. (Cl. 53—319)

1. An apparatus for directing the extensions of closure caps into the mouths of small-mouth containers traveling in spaced relation on a conveyor comprising: at least one endless means including thereon spaced placement means which include closure cap extension guide portions in the general form of cooperating jaws; means for moving said endless means so that at least some of said placement means periodically travel in synchronous aligned relation with the mouths of spaced containers on the conveyor; means cooperating with said cap extension guide portions of said aligned placement means for periodically creating with the jaws thereof encircling jaws including an aperture which engage the cap extensions intermediate their length and move the engaged portion thereof into aligned relation with the mouths of the containers while periodically retaining the caps in alignment with said mouths, means forming a part of said placement means for suspending closure caps and their extensions in vertical alignment with the mouths of said containers, and additional means for feeding said caps to said suspension means and guiding them in the path thereof for suspension engagement thereby and initial suspension in a position to be occupied by a container, said suspending means periodically moving vertically after creation of said encircling jaws by said cooperating means to enable movement of a container into said position and to draw said extension upwardly through the aperture of said encircling jaws to clear the top of the container and to effect movement by said jaws of the lower portion of said extension into said aligned relation.

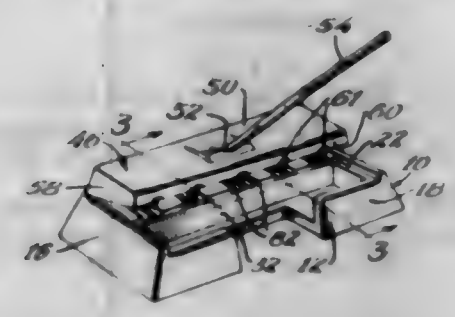


3,141,279
CARTON FLAP-OPENING APPARATUS
Boyd J. Arnett, 1914 Monroe St., Santa Clara, Calif.
Filed Jan. 16, 1961, Ser. No. 82,974
8 Claims. (Cl. 53—382)



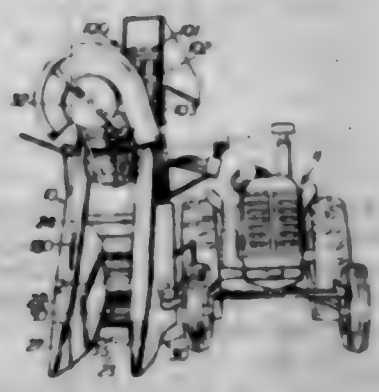
1. A carton flap opener which comprises means for moving a carton in upright disposition along a predetermined path, an arm supported for pivotal motion about substantially a horizontal axis above the path of carton motion and adapted to swing downwardly toward such path, said arm having a hooked portion adapted to engage the transversely-disposed edge of one flap of an advancing carton, means supporting said pivotally-supported arm for translatory motion in the direction of carton advance, and means responsive to engagement by the advancing carton to actuate translatory motion of said arm in the direction of carton motion at a speed substantially greater than the speed of carton advance to open the flap.

3,141,280
TRAY LOCKING APPARATUS
Oren R. Beech, Minneapolis, Minn., assignor to T.O. Plastics, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 2, 1962, Ser. No. 176,935
8 Claims. (Cl. 53—390)



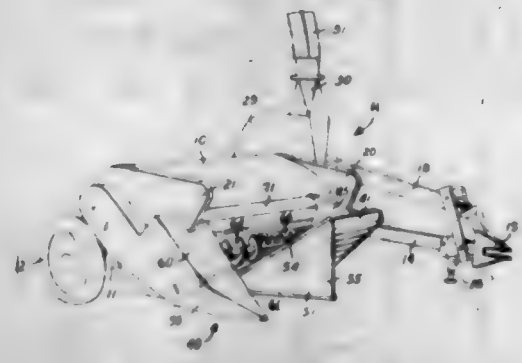
5. A tray locking apparatus for use in conjunction with a container having superimposed sections provided with marginal portions in face contact and in substantially contiguous relation, and a pair of tabs in superimposed relation in said marginal portions the apparatus including a body portion including means for locating the container in a predetermined position, a folding means engageable with the marginal portion of one of said sections intermediate the side edges of said tabs and operable to support center portions of the tabs, and a support mounted for relative movement toward and away from said marginal portions, the support means including a pair of spaced projections engageable with the side edges of the tabs of the other of said sections on opposite sides of said folding means, whereby relative movement between said folding means, and said support means against the tabs may act to fold the side edges of the tabs about said folding means until the edges of said tabs of said other section extend past the marginal portion of said one section which is on opposite sides of said tabs.

3,141,281
MACHINES FOR HARVESTING TALL ROW CROPS
James Kenneth Gaunt, Strathmore, Victoria, and Percival Charles Stephens, Beaumaris, Victoria, Australia, assignors to Massey-Ferguson (Australia) Limited, Sunshine, Victoria, Australia
Filed Dec. 28, 1959, Ser. No. 862,314
Claims priority, application Australia Jan. 7, 1959
3 Claims. (Cl. 56—16)



1. In a harvester for tall row crops, the combination comprising, a frame, a pair of laterally spaced side walls on said frame defining a forwardly opening crop receiving throat, a housing on and projecting inwardly from the inner side of one of said side walls, a rotary cutter journalled beneath said housing for rotation about a generally vertical axis, said cutter defining a solid floor extending between said side walls for supporting the butt ends of severed crop material, means for driving said cutter so that its forward cutting periphery cuts from said one side wall across said throat to the other side wall, and a shield about said housing for guiding crop material entering said throat about said housing.

3,141,282
FLAIL TYPE ROW CROP HARVESTER
Edward C. Procter, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,284
8 Claims. (Cl. 56—24)

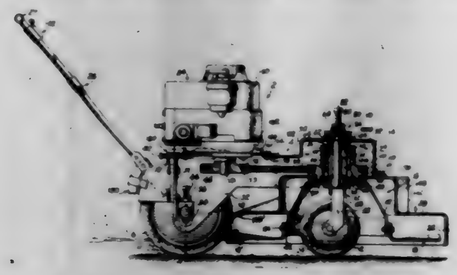


1. A harvester for corn and other tall row crops comprising, in combination, a mobile frame adapted for ground travel forwardly and being of such width that it traverses two rows at least, a table mounted on one side of said frame to extend over a previously cut row and laterally spaced from a next adjacent row of standing material to be harvested, said table being inclined and having a rear portion adjacent the ground and a forward portion substantially spaced from the ground whereby the table extends at an acute angle to the ground, a pair of vertically extending forwardly diverging walls on the opposite side of said frame and laterally spaced relative to each other throughout their entire lengths to define an unobstructed fore-and-aft inlet passage in register with and adapted to receive said row of standing material, rotatable means carried on said frame and having a gathering section extending across a rearward portion of said inlet passage and an infeed section extending over said rear portion of said table, said gathering section comprising an auger which engages said standing material and conveys it laterally onto said inclined table, cutting means supported on said frame and rotatable about a transverse axis, said cutting means being located rearwardly of both said gathering section and said table and operable to sever the standing crop from the ground only after the crop has been gathered and conveyed toward said table, said infeed section being operable to feed table borne crop material along the incline of the table and downwardly and rearwardly to said cutting means.

3,141,283
APPARATUS FOR CUTTING VEGETATION
Harry M. Swindler, Rockbridge County, Va.
(Rte. 1, Lexington, Va.)
Filed Sept. 18, 1961, Ser. No. 138,841
4 Claims. (Cl. 56—25.4)

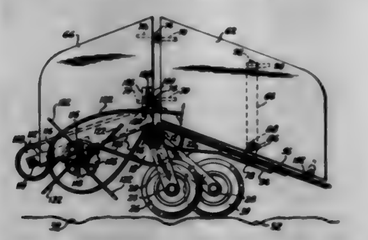
1. In a vegetation mower, the combination of frame means, a pair of spaced apart rear ground engaging wheels fixed to and projecting below said frame means to support the rear portion of the mower, a wheel support projecting below said frame means forward of said rear wheels comprising a hollow shaft member fixedly secured to said frame means, front ground engaging wheel means mounted on said wheel support, a blade support assembly mounted for rotation about said wheel support assembly, said blade support assembly having a lower portion extending in surrounding spaced relation to said front wheel means and carrying laterally projecting cutting blades thereon, said blade support assembly further comprising an upper pulley drive section and a lower

depending skirt portion, said upper pulley drive section being supported on bearings for rotation about said hollow shaft member, a blade enclosing housing detachably coupled to said frame, said housing having an arcuate outlet chute therein disposed to collect and direct cuttings from the rear of said housing forward of said mower, power means carried on said frame means and cooperating with said assembly to drivingly rotate said assembly, said power means including a pulley belt drive cooperating with said pulley drive section, and a motor means mounted on the topside of said frame means and having a drive shaft extending to the underside thereof, a pulley carried on said drive shaft, said pulley belt drive extending cooperatively between said pulley and said



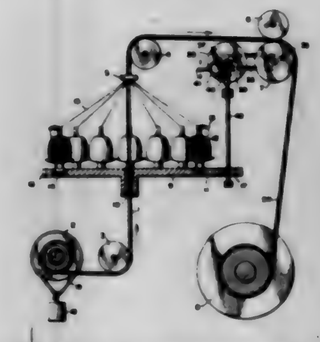
pulley drive section, means for continuously adjusting the vertical position of each of said ground engaging wheels between maximum and minimum projecting positions whereby to permit continuous adjustment of cutting height, a wheel bracket comprising an upper shaft portion rotatably received in said shaft member and a lower bracket portion having said front ground engaging wheel means fixed thereto, screw adjustment means carried by said shaft member and disposed to adjustably limit the vertical level of the top of said shaft position, support plate means for mounting said motor for limited sliding movement along said frame means, and screw adjustment means for permitting continuous adjustment of said support plate means whereby to adjust tension on said pulley belt drive.

3,141,284
WINDROW MOVING DEVICE
Boyd F. Reynolds, Twin Falls, Idaho
(Shady Rest Motel, R.R. 5, Box 105, Nampa, Idaho)
Filed Feb. 6, 1961, Ser. No. 87,176
10 Claims. (Cl. 56—354)



1. A windrow moving device comprising an axle adapted to be hitched to a tractor, supporting wheels on said axle, at least some of said wheels being offset from each other both axially and radially, a downwardly and rearwardly inclined bottom plate mounted on said axle, a pair of side deflector plates, one at each side of said bottom plate, a pair of oppositely disposed stationary side plates mounted on and extending forwardly of said axle, said deflector plates being individually hinged to respective stationary plates, a plurality of rotatable pick-up units axially aligned between said stationary plates, each unit including a plurality of pick-up fingers, a plurality of strippers alternating with said pick-up units, said strippers extending rearwardly over the upper forward edge of said inclined bottom plate, and drive means operatively connecting said pick-up units with at least one of said wheels.

3,141,285
MACHINE FOR MAKING ROPE
Claus Benk, Isny, Allgau, Germany, assignor to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany
Filed Aug. 14, 1962, Ser. No. 216,890
Claims priority, application Germany Aug. 19, 1961
7 Claims. (Cl. 57—13)

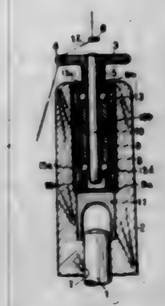


1. A machine useful in the manufacture of ropes comprising a rotatable strand-whipping plate having a hub with an axial passage therethrough permitting a rope core to be drawn through the center of the plate, strand-spool carriers mounted on one face of said plate, means for laying strands from said strand spool carriers on said core in side-by-side spiral windings to form a spirally wound layer about said core when said core is drawn through the rotating plate and last-mentioned means, means for drawing the rope core through said plate and said means for laying said strands, drive means for rotating said means for drawing at predetermined, constant relative speeds to provide a constant, predetermined rate of rotation of the plate per lineal unit of travel of the rope core through said means for laying the strands, and means operatively associated with said drive means and including speed-change mechanism operable to selectively change the setting of the relative rate of rotation of said plate per lineal unit of travel of said rope core.

3,141,286
ROTARY SPINDLE TIP DEVICE
Shigematsu Takita, Takarazuka, Hyogo, Japan, assignor to Nihon Shaft Co., Ltd., Hyogo, Japan
Filed Feb. 6, 1962, Ser. No. 171,468
Claims priority, application Japan May 31, 1961
11 Claims. (Cl. 57—73)

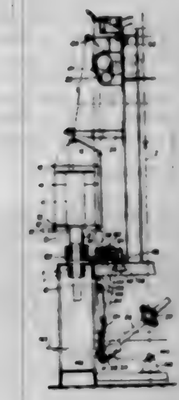
1. An attachment for a spinning machine having a tapered vertical rotary spindle, a winding shell having a central axial aperture in its lower end to frictionally fit said spindle and project upwardly therefrom, the projecting end of said shell being counterbored coaxially of said aperture, a holder frictionally and removably fitting said counterbore, and having a portion projecting upwardly therefrom, there being an axial bore in said portion, opening through the upper end thereof, a sleeve frictionally and removably fitting said bore, a shaft, a twisting disc fixed to the upper end of said shaft, and anti-friction bearing means journaling the lower end of said shaft within said sleeve for rotation on an axis coaxial

with the spindle, said shell, holder, sleeve, shaft and disc being axially removable as a unit from said spindle, and



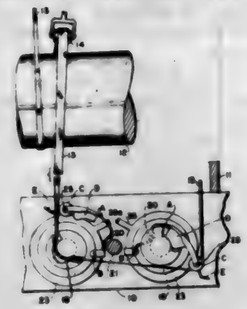
said holder, sleeve, shaft and disc being removable as a unit from said shell.

3,141,287
STOP MOTION FOR BELT-DRIVEN ROTARY SPINDLES
Pierre Bourgeas, 110 Ave. Maurice Faure, Valence, Drome, France
Filed Sept. 18, 1962, Ser. No. 224,474
Claims priority, application Luxembourg Dec. 8, 1961
12 Claims. (Cl. 57—81)



1. A textile machine having a frame and comprising belt-driven rotary spindles, and for each spindle: an individual delivery device for supplying yarn to said spindle, a roller for moving the spindle-driving belt away from the spindle, said roller being mounted on a movable support adapted to assume selectively an inoperative position in which said roller permits the belt to be in driving frictional engagement with the spindle and an operative position in which said roller keeps the belt away from the spindle, the movable support comprising a control member mounted coaxially with said spindle for pivotal movement between an inoperative position and an operative position and operatively connected to said movable support, controllable friction means inserted between said spindle and said control member, and a yarn stop motion unit adapted, in response to yarn breakage, to control said friction means to make them operative for transmitting rotary movement of said spindle to said movable support for turning the latter to brake said spindle and bring said roller into said operative position.

3,141,288
SPINDLE BRAKE
Robert L. Carroll, 408 McIver St., Greenville, S.C.
Filed Dec. 26, 1962, Ser. No. 247,237
8 Claims. (Cl. 57—88)



1. A brake for a spindle with a fixed base having a whorl driven by tape and the like including, an elongated element, a mounting in fixed relation to the spindle base pivotally carrying the elongated element adjacent the spindle and in substantial horizontal alignment with the spindle whorl, a rotatable element carried in fixed relation to the elongated element remote from the mounting, and a braking element carried in fixed relation to the elongated element intermediate the rotatable element and the mounting, said rotatable element when in position receiving the tape extending beyond a line passing through the mounting pivotally carrying the elongated element and the vertical axis of the whorl so as to maintain the braking element against the whorl due to the force applied by the tape to the rotatable element, whereby the elongated element may be moved in one direction causing the tape to be received by the rotatable element removing same from the spindle whorl and causing the braking element to be engaged with the spindle whorl braking the rotation of the spindle.

3,141,289
TRAVELER HAVING MAGNETIC CHARACTERISTICS
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 22, 1962, Ser. No. 218,735
6 Claims. (Cl. 57—125)



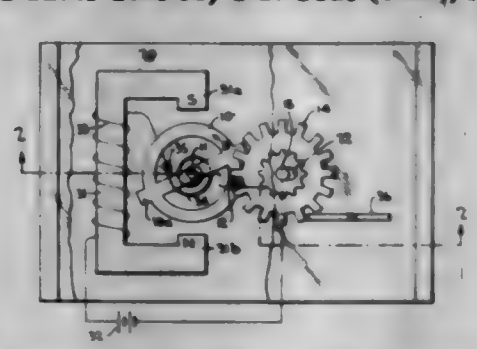
1. A traveler of the character described comprising a body including a shank portion having hook ends, and said body having magnetic characteristics whereby, in movement of a traveler on a magnetic attractable ring, surfaces of said traveler engaging the ring will establish a drag on the ring in controlling action of the traveler on said ring.

2. A traveler as defined in claim 1, wherein said body comprises a thermosetting plastic including magnetic elements.

3,141,290
RUGGED ELECTRIC CLOCK MOVEMENT

Paul G. Gerhard, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 1, 1963, Ser. No. 320,971
3 Claims. (Cl. 58—28)
(Granted under Title 35, U.S. Code (1952), sec. 266)



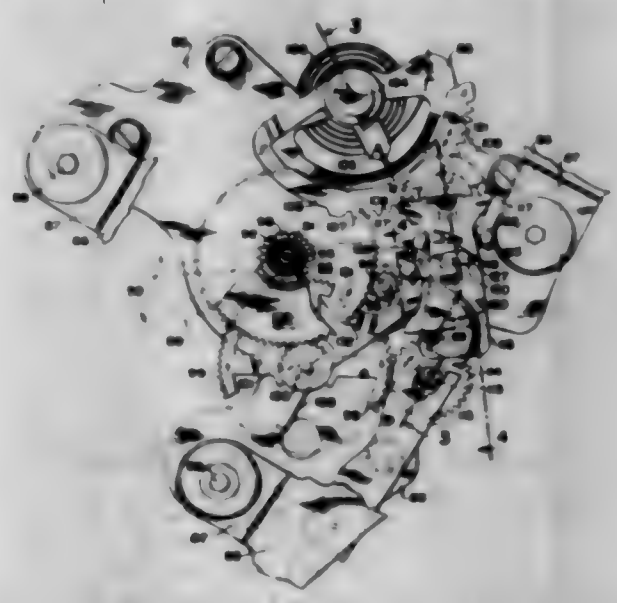
1. An electric timing mechanism comprising:
(*a*) a balance wheel mounted for oscillatory movement, and an index wheel mounted for rotation about an axis perpendicular to the plane of said balance wheel, the plane of said index wheel being parallel to the plane of said balance wheel during rotation of said index wheel,
(*b*) said index wheel tiltable a predetermined amount in said plane, and a series of teeth spaced around the periphery of said index wheel, said teeth overlapping a portion of the periphery of said balance wheel,
(*c*) a pin fixed adjacent the periphery of said balance wheel with the longitudinal axis thereof perpendicular to said plane, said pin being small enough to enter the space between adjacent index wheel teeth, said pin having a perpendicular surface which engages a tooth of said index wheel upon movement of said balance wheel in one direction, and said pin having an inclined surface tilting said tooth and said index wheel said predetermined amount which is sufficient to allow said pin to pass under said tooth and into the space between said tooth and an adjacent index wheel tooth,
(*d*) an electro-magnet having alined opposed poles, said balance wheel being centrally disposed between said poles, and an armature connected to said balance wheel with its longitudinal axis intercepting the axis of rotation of said wheel,
(*e*) means to periodically energize said electro-magnet, said means to energize including said pin and said index wheel, said pin and index wheel periodically making and breaking a circuit between said electro-magnet and a power supply whereby the wiping action caused by the relative movement between said pin and said index wheel frees said contacts of corrosion.

3,141,291
AUTOMATIC REGULATOR ADJUSTING MECHANISM FOR CLOCKS

August L. Spetzler, Peru, Ill., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Original application June 14, 1957, Ser. No. 665,810. Divided and this application Feb. 1, 1961, Ser. No. 86,528
4 Claims. (Cl. 58—85.5)

1. In a clock, a movement including a rate regulator, hands driven by said movement, setting mechanism for said hands comprising a rotatable setting shaft including a setting pinion axially shiftable into and out of mesh with a setting gear, and means for actuating said regulator so as to change the regulator adjustment when the hands are set comprising: a shaft operatively connected to adjust the regulator, a flexible shift lever mounted on said shaft for both rotary and rocking movements, means for biasing said lever in its rotary movement to a central position, a clutch mechanism for connecting said lever to said shaft and engageable by the rocking movement of said shift lever, the outer portion of the shift lever being disposed on the same side of the setting pinion as



the setting gear so that when the setting pinion is shifted axially to cause its teeth to mesh with those of the setting gear one side of the setting pinion frictionally engages the shift lever whereby both rocking and rotational movement can be transmitted thereto, continuing axial movement after such contact causing the flexing of the shift lever and the consequent engagement of the clutch mechanism so that rotation of the setting pinion in order to set the hands will cause the turning of the regulator adjusting shaft.

3,141,292
SELF-CANCELLING PARKING METER

Ralph C. Bailey, John P. Lomenzo, and Sidney J. Salzman, Rochester, N.Y., assignors to Beruz O Matic Corporation, a corporation of New York

Filed Nov. 7, 1961, Ser. No. 150,790
9 Claims. (Cl. 58—142)



1. In a parking meter arrangement having a parking time indicator with an expired position, drive means for driving said indicator to said expired position, a clockwork mechanism for controlling the speed at which said drive means drives said indicator, and electrical detection means for zeroing the meter to its expired position in the absence of a vehicle in the parking area controlled by the meter, the improvement which comprises means, including a solenoid, for disengaging said clockwork mechanism when said solenoid is energized, said detection means comprising a circuit containing an antenna and tuned to the normal capacitance between the antenna and ground

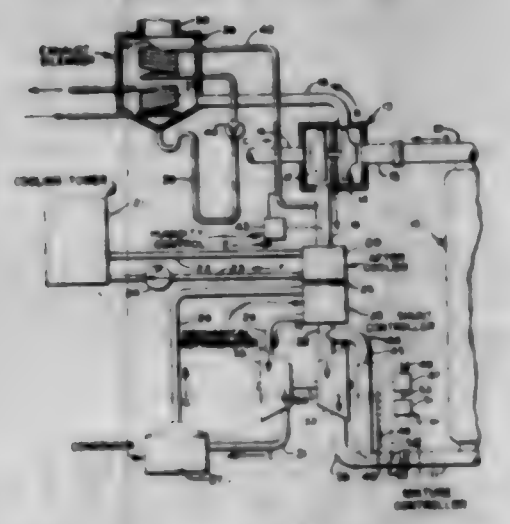
and detuned by capacitance between said antenna and a vehicle in the parking area controlled by the meter, and means for energizing said solenoid when said circuit is tuned.

3,141,293

METHOD AND APPARATUS FOR REFRIGERATING COMBUSTION AIR FOR INTERNAL COMBUSTION ENGINES

William R. Crooks, Mount Vernon, Ohio, assignor to The Cooper-Bessemer Corporation, Mount Vernon, Ohio, a corporation of Ohio

Filed Aug. 22, 1961, Ser. No. 133,148
9 Claims. (Cl. 60—13)



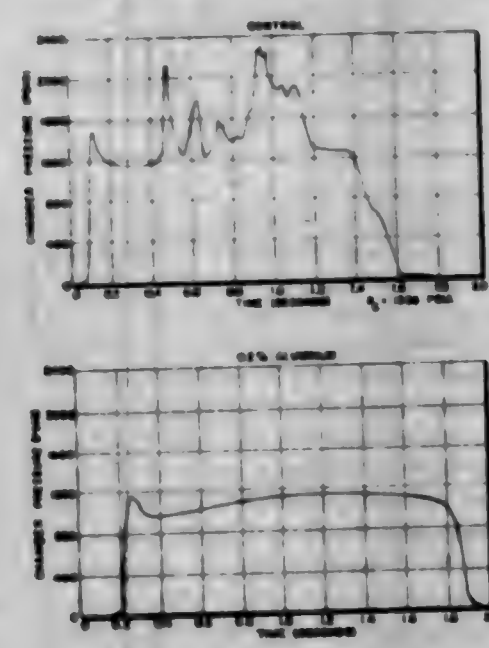
1. In combination with an internal combustion engine having means for compressing the combustion air and an aftercooler for removing heat from the compressed combustion air; the improvement comprising refrigerating means for removing additional heat from the compressed combustion air as said air is discharged from said aftercooler, and air expansion means for further cooling the compressed combustion air after discharge from said refrigerating means.

3,141,294

PROPULSION METHOD EMPLOYING RESONANCE SUPPRESSOR

Ralph W. Lawrence, Glendora, and Albert J. Secchi, Arcadia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed May 31, 1960, Ser. No. 33,055
30 Claims. (Cl. 60—35.4)



24. In the method of producing thrust for propulsion by combusting a substantially homogeneous solid propellant charge, the improvement which comprises burning said propellant in the presence of a material which is uniformly dispersed throughout said propellant charge and which acts as a resonance suppressor selected from the group consisting of aluminum, silicon, graphite, and mixtures thereof, said resonance suppressor material being present in an amount not greater than that corresponding to about 4 percent by weight of the total propellant composition.

3,141,295

PROPELLANT COMPOSITIONS

George A. Olah, 1398 N. Christina St., Sarnia, Ontario, Canada

No Drawing. Filed Apr. 12, 1961, Ser. No. 102,409
5 Claims. (Cl. 60—35.4)

1. A rocket propulsion method which comprises admixing in a rocket combustion chamber a fuel member selected from the group consisting of (1) symmetrical and asymmetrical alkyl substituted hydrazines and their salts, (2) alkyl substituted polyamines, (3) aminodiborane ($NH_2B_2H_5$) and ammonia-amino diborane

$(NH_3 \cdot NH_2B_2H_5)$

complex, hydrazine amino diborane ($N_2H_4 \cdot NH_2B_2H_5$) complex and alkyl substituted hydrazine amino diborane ($RNHNH_2 \cdot NH_2B_2H_5$) complexes wherein R is alkyl and wherein the alkyl substituents of each of the above listed fuel members contain from 1 to 4 carbon atoms, (4) cellulose, ether derivatives of cellulose and ester derivatives of cellulose wherein the molecular species reacted with the cellulose molecule to form the ether and the ester thereof are limited to those reactants containing from 1 to 2 carbon atoms and (5) polyols containing from 2 to 6 carbon atoms and an oxidizer selected from the group consisting of nitronium tetrafluoroborate

(NO_2BF_4)

nitrogen trioxide boron trifluoride complex ($N_2O_3 \cdot BF_3$), nitrogen tetraoxide boron trifluoride complex ($N_2O_4 \cdot BF_3$) and nitrogen pentoxide boron trifluoride complex

$(N_2O_5 \cdot BF_3)$

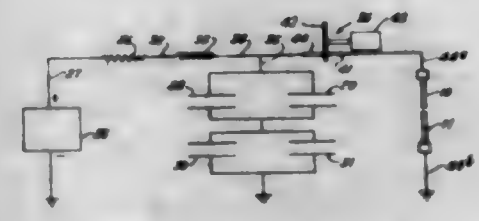
wherein the quantities of said oxidizer and said fuel are such that the ratio of nitric acid equivalents in said oxidizer to each of the above listed amino, hydroxyl and alkyl substituted amino groups in said fuel member is from about 1:1 to about 8:1 thereby to produce a vigorous, hypergolic thermal reaction evolving large volumes of gases.

3,141,296

ELECTRIC DISCHARGE DEVICES

Frank Jacobs, Jr., 2342 Mockingbird Lane, and William H. Savage, Jr., 2040 W. Miller Road, both of Garland, Tex.

Filed Dec. 28, 1960, Ser. No. 78,962
11 Claims. (Cl. 60—35.5)



1. A device comprising: a body having a chamber, said chamber containing liquid; means for generating an electric discharge within the liquid of the chamber between two fixed points in the chamber to cause the production of shock and pressure waves within the liquid, said body having means exposed to the shock and pressure waves in the liquid, said chamber being longitudinal in form and

open at forward and rear ends thereof, said body having an internal wall defining the chamber, said chamber being of smaller cross-sectional area at said rear end than at said forward end, said internal wall adjacent the forward end of said body being divergent outwardly toward said forward end whereby a forward thrust is imparted to said body when an electric discharge is generated within the liquid.

3,141,297
DISPOSABLE JET NOZZLE

James J. Shields, Grosse Pointe Woods, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia

Filed Aug. 21, 1961, Ser. No. 132,942
8 Claims. (Cl. 60—35.6)



1. A nozzle structure for use in a jet engine having a turbine and an afterburner positioned downstream from said turbine, said nozzle structure comprising

(*a*) a main jet nozzle structure having an outlet of a predetermined area designed for the most efficient operation of said engine during operation of said afterburner,

(*b*) a disposable jet nozzle having an outlet of a predetermined area designed for the most efficient operation of said engine without operation of said afterburner,

(*c*) means for detachably securing said disposable jet nozzle to said main jet nozzle, said means comprising a flexible steel cable laced between said main jet nozzle and said disposable jet nozzle,

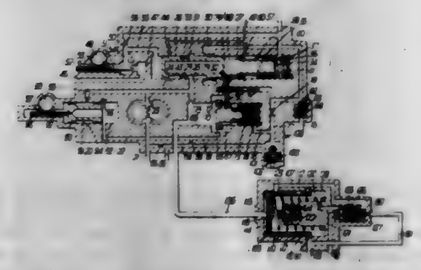
(*d*) means selectively operable to detach said disposable jet nozzle from said main jet nozzle, said means comprising an anvil wire cutter operable to sever said cable, and

(*e*) a cable slack take up device carried by said main jet nozzle and being operable to engage said cable and to tighten the laced cable to securely attach said disposable nozzle to said main jet nozzle.

3,141,298
REHEAT APPARATUS FOR A GAS TURBINE ENGINE

James Reginald Simpson, Littleover, and Gordon Cyril May, Allestree Park, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Nov. 13, 1961, Ser. No. 151,707
Claims priority, application Great Britain Nov. 15, 1960
6 Claims. (Cl. 60—35.6)

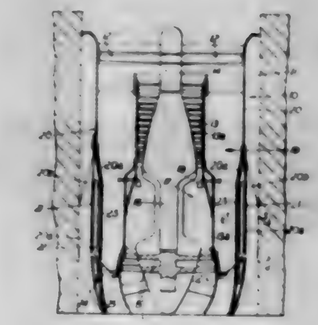


1. A gas turbine engine comprising in flow series a compressor, main combustion equipment, a turbine and an exhaust duct, reheat combustion equipment mounted in said exhaust duct and having a fuel conduit leading thereto, a source of reheat fuel, control means settable to operative and inoperative positions in which it respectively permits and cuts off a flow of reheat fuel from said source to said fuel conduit, and means for supplying to the main combustion equipment a quantity of fuel to form a "hot shot" adapted to ignite the reheat fuel at the reheat combustion equipment, the "hot shot" supply means comprising a fuel passage and a flow control valve therein which is resiliently urged towards the closed position, the fuel passage, on the upstream side of the flow control valve, communicating with the fuel conduit so that the fuel pressures in said fuel conduit and said fuel passage are functionally related to each other, whereby when the control means is set in the operative position the fuel pressure in the fuel passage rises so as to effect opening of the flow control valve, a second valve provided in said fuel passage upstream of the flow control valve, a fuel duct, said second valve controlling fuel flow into the fuel duct and being adapted to be opened by the pressure in the fuel passage the fuel duct communicating with the flow control valve so as to be adapted to apply pressure thereto in a valve closing direction, and means resiliently urging the second valve towards a closed position.

3,141,299
GAS TURBINE ENGINES

James Alexander Petrie and Thomas Steel, Littleover, Derby, England, assignors to Rolls-Royce Limited, Derby, England

Filed Jan. 24, 1962, Ser. No. 168,439
Claims priority, application Great Britain Feb. 10, 1961
2 Claims. (Cl. 60—35.6)

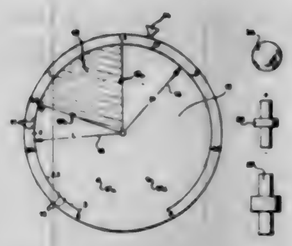


1. In power plant for aircraft, the improvement comprising: an engine bay having a square cross-section; a by-pass gas turbine engine carried in said engine bay, said by-pass gas turbine engine having a casing, compressor means, combustion means, and turbine means arranged in flow series in said casing, and a by-pass duct surrounding said casing and extending longitudinally of at least a portion of said engine, said by-pass duct having an inner wall defined by the outer wall of said casing and an outer wall spaced outwardly of the inner wall; said outer wall merging from a circular cross-section in a region in which the by-pass duct is adjacent to said compressor means to a cross-section formed of at least four intersecting arcuate portions of equal peripheral and radial extent in a region in which the by-pass duct is adjacent said combustion means and said turbine means, each of said arcuate sections being concave relative to the longitudinal axis of the engine and being arranged to touch two walls of the engine bay; external strap members extending between and secured to adjacent arcuate portions of said outer wall, each of said strap members extending in spaced relationship over the intersection of adjacent arcuate portions; rib members extending parallel to the longitudinal axis of the engine and each having a length equal to the length of the arcuate portions, each of said rib members being located between and abutting one of said external straps and the respective intersecting point of adjacent arcuate portions, a second strap member secured to adjacent arcuate portions at the intersecting point of the same on an opposite side from said rib members; a plurality of links pivotally secured to said rib members at one end thereof, said links extending across said by-pass duct in a radial plane of the same and at an inclined angle to the longitudinal axis of the same, said links being pivotally connected at their other end to the inner wall of said by-pass duct.

3,141,300
AIRCRAFT INSTRUMENT FOR THE CONTROL OF AN AIR-INTAKE OF VARIABLE SHAPE FOR A SUPERSONIC ENGINE

André Turcat, Bures-sur-Yvette, France, assignor to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France

Filed Nov. 14, 1962, Ser. No. 237,574
Claims priority, application France Nov. 17, 1961
12 Claims. (Cl. 60—35.6)

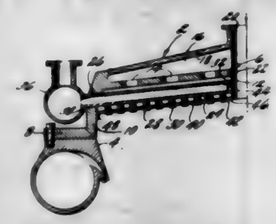


1. An aircraft instrument for checking the positions of displaceable members adapted to vary the shape of the air-intake of a supersonic aircraft engine in dependence on the speed of the aircraft, said air-intake comprising two said displaceable members, a lower lip and an upper profile, said lower lip passing from a low position to a high position when the flight Mach number passes from 0 to 0.8 and returning to its low position when the Mach number passes from 1.7 to its maximum adaptation value, while said upper profile passes from its high position to a low position when the Mach number passes from 1.5 to its maximum value, said instrument comprising essentially a graduated Machmeter dial, an outer pointer moving along the graduations of said dial, and at least two needles adapted to move over said dial, means for actuating a first of said needles in dependence on the displacements of said lower lip so that its position on said graduations is exactly opposite that of said pointer when the Mach number passes from 0 to 0.8, means for actuating a second of said needles in dependence on the displacements of said upper profile so that its position on said dial graduations is exactly opposite that of said pointer when the Mach number passes from 1.5 to its maximum value, said first means also actuating said first needle to move it in the opposite direction, independently of said pointer, over the graduations of said dial between 0.8 and 0.

3,141,301
ROCKET INJECTOR HEAD

Norman E. Whitney, Windsor Locks, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 12, 1960, Ser. No. 21,834
4 Claims. (Cl. 60—39.46)



1. An injector head for a rocket engine including a base plate having a plurality of propellant passages therein in a radial plane, said passages being spaced apart and said plate having slots therethrough between the propellant passages, a cover plate on one side and spaced from said base plate to form a propellant chamber, projecting nozzles on said base plate on the side opposite to said cover plate and communicating with said propellant passages and a second plate mounted on the base plate in spaced relation thereto and substantially in alignment with the ends of the nozzles, said second plate having openings therein to receive the nozzles.

3,141,302
SAFETY DEVICE FOR HYDRAULIC BRAKE SYSTEM

Cole L. Reese, Oklahoma City, Okla.
(6426 Lakewood Blvd., Dallas, Tex.)

Filed Jan. 24, 1962, Ser. No. 168,444
11 Claims. (Cl. 60—54.5)

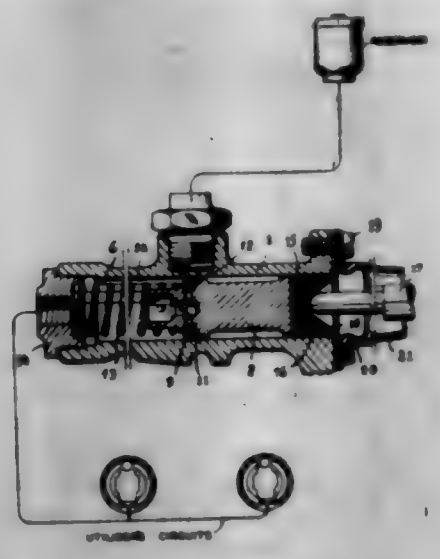


1. A safety device for fluid pressure operated systems of the type having an operating master cylinder unit connected to a pair of operated cylinder units by a pulsator unit interposed therebetween; said pulsator unit comprising a body having an elongated bore whose central portion constitutes an actuator chamber and whose outer ends are closed by end walls and constitutes pulsator chambers each communicating with said actuator chamber and an operated cylinder unit, a pair of plungers each reciprocatable in said bore and each having its inner and outer ends respectively disposed in said actuator chamber and a pulsator chamber, means establishing communication between said master cylinder unit and said actuator chamber, each end wall having an opening therein by which the associated pulsator chamber is placed in communication with an operated cylinder unit, each plunger having a valve member upon its outer end engageable in said opening of the associated end wall in sealing engagement and blocking fluid flow through the latter, latch means on each plunger and its associated end wall retaining said valve means in sealing engagement in said openings, a bleed passage means extending between the opposite ends of each plunger and with its ends respectively opening into said actuator chamber and the associated pulsator chamber and establishing continuous but restricted communication between said actuator and pulsator chambers.

3,141,303
MASTER CYLINDERS FOR HYDRAULIC TRANSMISSION SYSTEMS

Philip S. Baldwin, 15 Piazza S. Spirito, Florence, Italy, assignor of one-half to Fiat Societa per Azioni, Turin, Italy

Filed Jan. 9, 1962, Ser. No. 165,188
Claims priority, application Italy Jan. 11, 1961
2 Claims. (Cl. 60—54.6)



1. In a hydraulic system, the combination of a cylinder, a piston slidable in said cylinder and defining therein a compression chamber connected with utilizing circuits, said cylinder having an opening connected with a fluid reservoir, said piston having a head portion on the piston and facing said compression chamber, a pair of axially spaced annular radial shoulders on said piston head portion, said shoulders facing each other and defining between them a peripheral annular groove in said piston head portion, said groove having a bottom with openings therein communicating with said compression chamber, an annular packing of resilient material in said groove, said packing contacting the inner surface of said cylinder and being spaced from the bottom of said groove, a ring of rectangular cross section with greater radial dimension than axial thickness disposed in said groove between said packing and said radial shoulder remote from said compression chamber, said ring being of material that is substantially underformable at pressures occurring in said compression chamber and slidably engaging the inner surface of said cylinder without circumferential clearance while being spaced from the bottom of said groove, the combined thickness of said packing and ring in an axial direction being less than the spacing between said shoulders whereby said packing and ring are movable axially in said groove to act as a valve controlling communication between said compression chamber and said reservoir through said openings in the bottom of said groove.

3,141,304
SOIL STABILIZATION BY ATACTIC POLYPROPYLENE COATING

Howard V. Moore, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

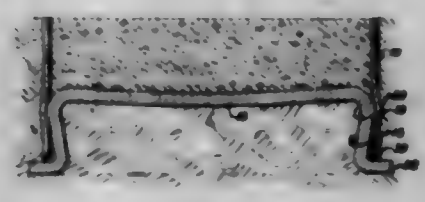
No Drawing. Filed Nov. 14, 1960, Ser. No. 68,634
1 Claim. (Cl. 61—36)

A method for improving the firmness of soil and decreasing the water permeability thereof which comprises the steps of agitating a mixture of a 5 to 15 wt. percent organic solvent solution of atactic polypropylene, water and a surfactant to provide a stable aqueous emulsion, incorporating said aqueous emulsion into the surface of soil to improve thereby the firmness thereof and to decrease thereby the water permeability thereof, said aqueous emulsion containing from about 5 to about 70 wt. percent of water and from about 0.2 to about 5 wt. percent of surfactant, the balance of said emulsion being said organic solvent solution of atactic polypropylene.

3,141,305
PILE SHELL, CLOSURE, AND METHOD

Gustave A. Schenk, Coatesville, Pa., assignor to Lukens Steel Company, Coatesville, Pa., a corporation of Pennsylvania

Filed June 29, 1962, Ser. No. 206,243
8 Claims. (Cl. 61—53)

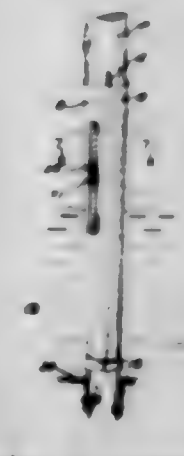


1. A pile shell and shoe therefor to be driven into the ground to receive a suitable filling, comprising a tubular section having an open end, a deformable shoe for said open end having a press fit with said open end, said shoe including a depressed distortable central portion fitted into the said pile shell open end and a flange surrounding the said pile shell open end, the said flange providing an enclosed spaced adjacent said flange and said pile shell open end whereby said enclosed space is reduced by the deformation of said central portion when said pile shell and shoe are driven into the ground.

3,141,306
PROTECTION OF SUBMERGED WOODEN PILES

Orval E. Liddell, P.O. Box 1533, Avalon, Calif.

Filed Mar. 26, 1962, Ser. No. 182,523
4 Claims. (Cl. 61—54)



1. The combination of a partially submerged wooden pile; a barrier that includes a sheet of waterproof material encompassing said pile to define a generally circumferential space between said pile and said sheet that is filled with stagnant water to prevent marine borer attack on the submerged portion of said pile; and a wooden test stick that is substantially as susceptible to said attack as said pile, said stick being disposed within said space to create a bulge in said sheet and thereby provide an indication of the efficacy of said barrier sheet.

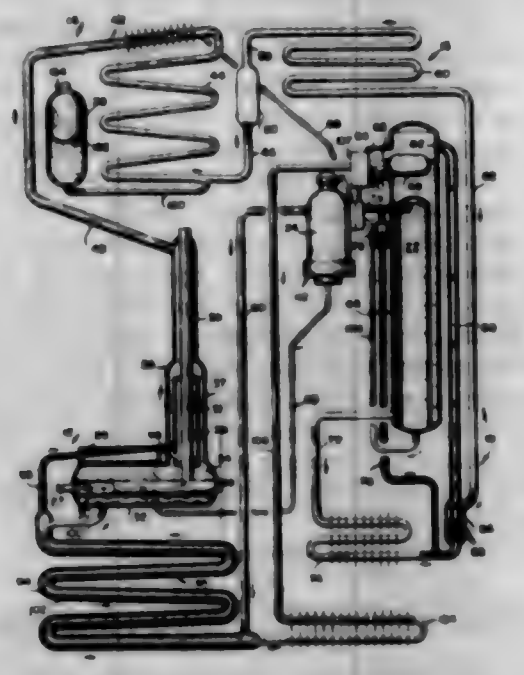
3,141,307
ABSORPTION REFRIGERATION APPARATUS

Lewis D. Beardslee, Greenville, Mich., assignor, by mesne assignments, to Montcalm Inc., Greenville, Mich., a corporation of Michigan

Filed Apr. 12, 1962, Ser. No. 187,824
6 Claims. (Cl. 62—141)

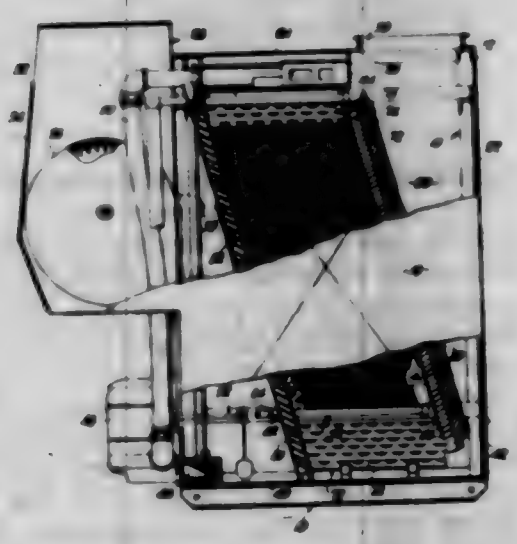
5. In an absorption refrigeration apparatus of the class described, including a generator, a condenser, an evaporator and an absorber: means for controlling the evap-

orator temperature comprising a reservoir in communication with the condenser near its outlet end and a displace-



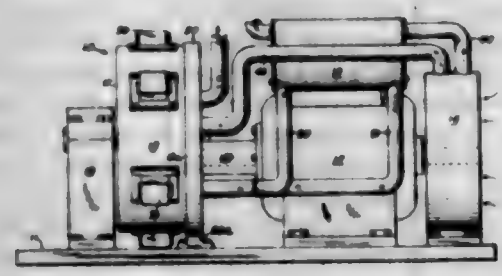
ment member within said reservoir, said displacement member varying the volume of the reservoir in response to changes in the pressure existing in the condenser.

3,141,308
EVAPORATIVE COOLING APPARATUS FOR A REFRIGERANT
David M. Dart, Shawnee Mission, Kans., assignor to The Marley Company, Kansas City, Mo., a corporation of Delaware
Filed July 1, 1963, Ser. No. 291,951
12 Claims. (Cl. 62—305)



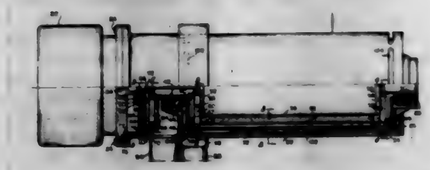
1. Evaporative cooling apparatus comprising: an outer casing provided with an air inlet and an air outlet disposed in horizontally spaced relationship; a plurality of individual, generally upright, horizontally spaced, side-by-side condenser units mounted within the casing between the air inlet and the air outlet, each of said condenser units including a conduit of generally serpentine configuration defining a series of elongated, horizontal, vertically superimposed segments interconnected by upright sections; structure operably coupled to the upper portions of said condenser units for supplying vapor thereto and to the lower extremities thereof for removing liquid from the same upon condensation of the vapor, said structure being connected to said condenser units in parallel supply and return relationship; coolant liquid means carried by said casing in overlying relationship to the uppermost of said segments of the condenser units for delivering coolant liquid onto said condenser units in successive contacting engagement with the outer surfaces of said segments thereof; basin means at the lower end of the casing for collecting the coolant liquid gravitating through the condenser units; mechanism on the casing for forcing air through the casing from the air inlet to the air outlet and in intersecting relationship to the coolant liquid gravitating through the casing from the coolant liquid means to the basin; and means between adjacent vertically spaced segments of the condenser units for engagement by the coolant liquid to increase the surface area thereof between said vertically spaced segments.

3,141,309
AIR CONDITIONING APPARATUS
Carlos I. Gesell, Villa Gesell, via Juancho F.N.G.R., Argentina
Filed July 10, 1962, Ser. No. 208,893
2 Claims. (Cl. 62—401)



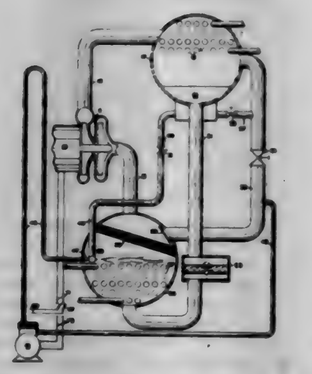
1. A compression and expansion device for working on gases comprising in combination a blower means, a thermal chamber, an exhaust, a rotor means rotatable about an axis and provided with a plurality of compression-expansion chambers and having a polished surface extending transversely to said axis, each of said chambers having a pair of ducts leading to said surface, one of each pair of ducts being at a determined shorter distance from said axis of rotation, the other duct being at a longer distance from said axis of rotation, a fixed wall transversely located to said axis and having a polished surface closely abutting said first mentioned surface and means to press these surfaces to one another for tightness, forming thus a sliding valve; said fixed wall having a pair of ducts in the region where the compression-expansion chambers cyclically have their greatest volume, these ducts being separated equally from said axis as those from the compression-expansion chambers, one duct of the last mentioned being connected to the blower means, the other duct of the last mentioned being connected to said exhaust; another pair of ducts in said rotor means in the region where the compression-expansion chambers are cyclically smallest, both of these ducts leading to the compression-expansion chambers, one of these ducts being where these compression-expansion chambers are cyclically reducing to their smaller volume, the other duct being where these compression-expansion chambers are cyclically enlarging again following their reduction, both of said last mentioned ducts being connected to the thermal chamber, said gases flowing from the blower means, cyclically through the sliding valve to the compression-expansion chamber where the chambers are greatest and in which their volume is reduced, thence to the thermal chamber and back again to the compression-expansion chambers where these are cyclically enlarging again and after expansion to the exhaust where the volume of these compression-expansion chambers is largest.

3,141,310
HEAT PUMPS
Bo N. Hoffstrom, Los Angeles, Calif., assignor to Douglas Aircraft Company, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Oct. 16, 1962, Ser. No. 230,976
9 Claims. (Cl. 62—402)



4. An air cycle heat pump comprising a rotor assembly having an axial air inlet adjacent one end and an axial air outlet adjacent the opposite end and a plurality of axially extending passages disposed radially outwardly of said air inlet passage and said air outlet passage, a set of first radial blades disposed in a first radial passage for moving air from said inlet to one end of said axially extending passages whereby said air is compressed and its temperature is raised, means forming an annular channel in surrounding relation with the portion of said rotor containing said axially extending passages through which a cooling medium is passed in heat exchange relation with the air as it passes through said passages, a second set of radial blades disposed in a second radial passage connecting the opposite end of said axially extending passages and said air outlet to decompress the air passing therethrough and deliver it into said outlet in a revolving flow pattern, the temperature in said air decreasing substantially as it is decompressed, the condensate produced when said air is decompressed being deposited on the wall of said air outlet passage, and the wall of said outlet passage being tapered to cause said condensate to flow outwardly through said second set of blades and through an opening in the wall of said rotor into said stream of cooling medium.

3,141,311
REFRIGERATION SYSTEM AND APPARATUS FOR OPERATING AT PARTIAL LOADS
William L. McGrath, Stanley J. Rachfal, and William E. Clark, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Jan. 14, 1963, Ser. No. 251,291
3 Claims. (Cl. 62—510)



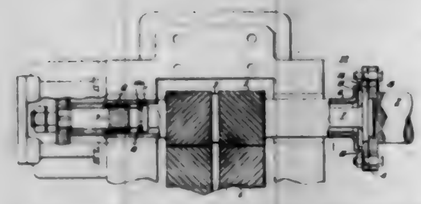
2. In a refrigeration system, the combination of a centrifugal compressor, a condenser, a cooler having tubing therein, a discharge line connecting the centrifugal compressor and the condenser, a suction line connecting the cooler and the centrifugal compressor, and an accessory cooling system for partial load operation when operation of the centrifugal compressor is discontinued including a bypass conduit connecting the cooler and the condenser to forward gaseous refrigerant from the cooler to the condenser, control means in the bypass conduit, an auxiliary compressor, spray means in the cooler above the tubing to discharge a vaporous cloud of refrigerant over the tubing, means placing the auxiliary compressor in communication with the gaseous side of the cooler to pass gaseous refrigerant from the cooler to the auxiliary compressor, a discharge line connecting the spray means with the auxiliary compressor, a liquid line connecting the spray means with the condenser, and control means to discontinue operation of the centrifugal compressor and to actuate the auxiliary compressor thereby shutting down the centrifugal compressor under low load conditions and utilizing the auxiliary compressor to supply required refrigeration.

3,141,312
SHOCK-ABSORBING DRIVE-TRANSMISSION DEVICE
Arthur Clifford Howard and John Arthur Howard, West Horndon, Essex, England, assignors to Rotary Hoes Limited, West Horndon, Essex, England
Filed Jan. 28, 1963, Ser. No. 254,185
Claims priority, application Great Britain Feb. 3, 1962
3 Claims. (Cl. 64—27)



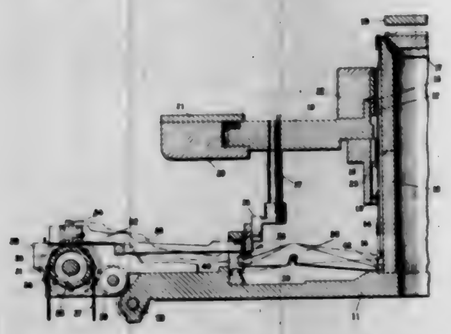
1. A shock-absorbing drive-transmission device comprising a cylindrical driving element and a cylindrical driven element, one of these elements being tubular and arranged coaxially about the other element, an equal plurality of respective abutment means fast with said elements and equi-angularly spaced around their adjacent circumferences, said abutment means of each element extending radially towards the other element, said abutment means extending longitudinally of the element which carries it, to provide opposed side faces, said abutment means of one element intercalated with the abutment means of the other element, said abutment means and said elements defining a circle of cells which is coaxial with said elements, respective resiliently-compressible arcuate members arranged in alternate ones of the cells, each said arcuate member having one end abutted by a side face of an abutment means of one element and the opposite end abutted by a side face of an abutment means of the other element, and respective distance pieces arranged in the intermediate ones of the cells, each said distance piece inserted between the other sides of adjacent abutment means of the two elements being of a width to set said elements in a relatively orientated position in which the abutment means compressively pre-stress the members and urge their respective radially-outer surfaces into engagement with the inner periphery of the tubular element.

3,141,313
TORQUE-LIMITING SHAFT COUPLING ASSEMBLY
Sherman P. Brickett, Derry, N.H., and Herbert N. Hoffman, Lunenburg, Mass., assignors to General Electric Company, a corporation of New York
Filed Jan. 28, 1963, Ser. No. 254,338
5 Claims. (Cl. 64—27)



1. A torque-limiting quill shaft assembly compriaing:
(*a*) a relatively rigid hollow quill shaft,
(*b*) a relatively flexible inner shaft disposed coaxially within and spaced from the quill shaft,
(*c*) first coupling means connecting a first end of said flexible shaft to the adjacent first end of said quill shaft,
(*d*) second coupling means for transmitting torque from the second end of the flexible shaft to the adjacent second end of the quill shaft upon occurrence of a preselected maximum torque, the second coupling means including first and second annular coupling members connected to the quill shaft and flexible shaft respectively and having circumferentially spaced interengaging projections defining substantial circumferential clearances under normal torque loads, said projections being tapered axially in opposite directions so that axial adjustment of said first and second annular coupling members relative to one another varies the circumferential clearance defined by said projections, and
(*e*) means for adjusting the tapered projections of the first and second annular coupling members axially relative to one another to effect variation of said circumferential clearances.

3,141,314
PATTERN CONTROL MEANS FOR KNITTING MACHINES
Thomas C. Lyster, Philadelphia, Pa., assignor to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania
Filed May 6, 1960, Ser. No. 27,412
3 Claims. (Cl. 66—50)



In a knitting machine of the type described, a cylinder, needles operably carried in said cylinder, cam means for actuating said needles and selecting means functioning upon said needles to move them from a non-selected to a selected position thereby to cause them to pass said cam means in a relationship such that a selected needle shall be affected by said cam means differently than shall a non-selected needle, said selecting means comprising a single selecting member acting to displace two adjacent needles, means to impart to said member two selecting motions prior to the affected needles passing through knitting cams, and means to inhibit completion of the selection of one of said two needles at each of the two selecting motions.

3,141,315
WARP KNITTING MACHINE AND METHOD
Herbert Noel Smith, Handforth, England, assignor, by mesne assignments, to The Cotton Silk and Man-Made Fibres Research Association, Shirley Institute, Didsbury, Manchester, England
Filed Oct. 4, 1960, Ser. No. 60,380
Claims priority, application Great Britain Oct. 7, 1959
15 Claims. (Cl. 66—86)

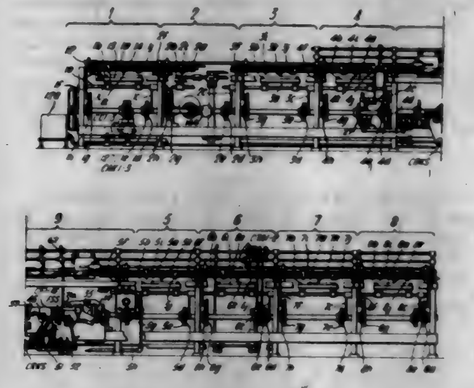


1. A method of automatic warp knitting using needles with hooks, comprising the cyclical course-forming steps of guiding yarn ends passing from the supply to the last course of the fabric, each at a point at the opposite side of the needles to the fabric, substantially longitudinally of the needle bed, to a position corresponding to the desired lay of the yarn ends at the fabric side of the needles, thereafter guiding the yarn ends adjacent the last course of the fabric substantially at right angles to the needle bed to assume the desired lay, all whilst the needles are retracted so as not to interfere with the guided yarn ends, thereafter moving the needles into a position for engagement with said guided yarn ends, thereafter guiding the yarn ends, at a point at the opposite side of the needles to the fabric, substantially longitudinally of the needle bed to a position corresponding to the desired lay of the yarn ends at the opposite side of the needles to the fabric, thereafter guiding the yarn ends, at the opposite side of the needles to the fabric substantially at right angles to the needle bed to assume said desired lay, for engagement with the needle hooks, thereafter operating the needles to engage the yarn so laid, in the hooks thereof, and carry same through the loops of the previously knitted course.

3,141,316
PATTERN CONTROL MECHANISMS
Patrick Gideon McCarthy and Derrick Edward Hewitt, Loughborough, England, assignors to William Cotton Limited
Filed July 6, 1960, Ser. No. 41,076
Claims priority, application Great Britain July 7, 1959
10 Claims. (Cl. 66—154)

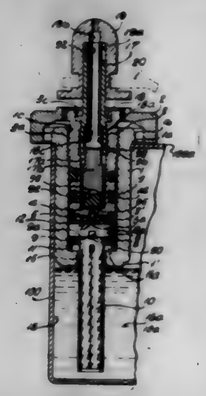
8. A knitting machine having, in combination with first operating means for the machine's knitting course-producing motions and at least second operating means for modified different motions of the machine, programming control means comprising first course counting means for counting stepwise said course-producing motions, and second counting means for counting stepwise said different modified motions, actuator means for the second operating means under control of the counting means, instructional detector means successively operated

to instruct said first and second counting means selectively and jointly by which the first operating means and the actuator means for the second operating means are



controlled, from stored information, and a program carrier carrying the stored information in the form of spaced control points having a wide range of different numerical values in respect of the different motions.

3,141,317
CIGARETTE LIGHTER FUEL CONTROL MECHANISM
Kunijiro Segawa, Ichikawa, Japan, assignor to Borneo Sumatra Trading Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 24, 1962, Ser. No. 219,236
2 Claims. (Cl. 67—7.1)



1. Cigarette lighter gas delivery flow rate control means comprising a cylindrical outer casing having an apertured bottom wall, a valve casing extending sealingly and threadably into the top of said outer casing, said valve casing having a downwardly convex bottom wall defining with said outer casing bottom wall a chamber, means for adjusting the position of said valve casing to vary the height of said chamber, said valve casing bottom wall having a top outlet port, a valve operable to block and unblock said outlet port, said valve casing bottom wall having a bottom recess communicating with said port, a compressible and flexible annular disc in said chamber on said outer casing bottom wall and having a central opening, a wick extending through the bottom wall aperture and into the disc opening and also extending below said casing for immersion in a liquid fuel supply, a rigid gas-impervious disc on said compressible disc and peripherally clearing the outer casing wall and having a bottom diametrically extending groove communicating with said compressible disc opening, a gas-porous disc on said rigid disc and against said valve casing bottom wall and having a through bore registering with said recess, said rigid disc having a central boss extending through said porous disc and slidably clearingly into said recess, said valve casing being adapted to be positioned for compression of said compressible disc and resulting corresponding tension of said porous disc against said valve casing bottom wall to partially seal the disc pores against gas flow to said recess, the compression of said compressible disc being regulable by adjustment of the position of said valve casing so as correspondingly to regulate the rate of gas flow to said recess.

3,141,318
UNDERGARMENT
Harry B. Griffith, Chicago, Ill., assignor to Munsingwear, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 28, 1961, Ser. No. 139,543
10 Claims. (Cl. 66—177)

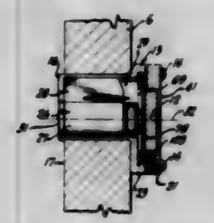


1. A one piece panel for a body molding garment comprising continuously knit fabric having a body portion, leg portions depending therefrom, and a crotch portion at the juncture thereof, said body and leg portions being formed by courses of plated elastic and non-elastic yarns and said crotch portion being formed by courses of non-elastic yarns, the non-elastic yarns on opposite sides of said crotch portion extending across the same and plated with the corresponding elastic yarns on the opposite side.

ERRATUM

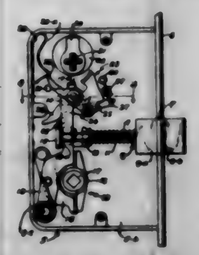
For Class 67—7.1 see:
Patent No. 3,141,317

3,141,319
CABINET LOCK
Ernest L. Schlage, Burlingame, Calif., assignor to Schlage Lock Company, a corporation
Filed Dec. 5, 1961, Ser. No. 157,071
12 Claims. (Cl. 70—91)



2. A cabinet lock comprising a housing, a bolt reciprocable in said housing, means forming a pair of transverse walls on said bolt, a driving member rotatably mounted in said housing, means forming a pair of radial walls on said driving member, a driven member rotatably mounted in said housing, a crank pin projecting from one side of said driven member at a predetermined radial distance from the center thereof and projecting between said transverse walls, a crank boss projecting from the other side of said driven member at a different radial distance from the center thereof and projecting between said radial walls, and means for rotating said driving member.

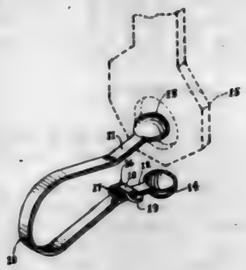
3,141,320
LATCHBOLT HOLDBACK FOR DOORLOCKS
Frank J. McConnell, New Britain, Conn., assignor to The American Hardware Corporation, New Britain, Conn., a corporation of Connecticut
Filed June 28, 1962, Ser. No. 205,915
7 Claims. (Cl. 70—190)



1. In a door lock including a casing, a latchbolt mounted in said casing for movement forwardly therein to projected position and rearwardly to retracted position, spring means biasing said latchbolt forwardly toward projected position and a forwardly facing abutment surface on said latchbolt; the combination of: a carrier member pivotally mounted in said casing for movement between a first position and a second position, a latchbolt holdback member pivotally mounted on said carrier member and being movable bodily relatively to said latchbolt during pivotal movement of said carrier member between its said first and second positions, said latchbolt holdback member having a stop surface thereon opposed to said abutment surface and being pivotally movable relatively to said carrier member between a normal position wherein said stop surface is disposed out of the path of said abutment surface and a latchbolt holdback position wherein said stop surface is engaged with said abutment surface whereby to hold said latchbolt in retracted position against the bias of said spring means, means including cooperative cam surfaces on said casing and said holdback member for causing pivotal movement of said holdback member into and out of latchbolt holdback position upon pivotal movement of said carrier member between its said first and second positions and means associated with said lock for actuating said carrier member.

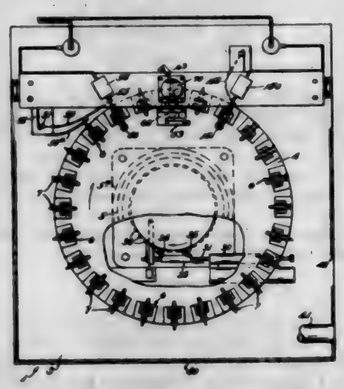
3,141,321
KEY RETAINING MEMBER
Nicholas Rinaldi, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Apr. 12, 1963, Ser. No. 272,675
3 Claims. (Cl. 70—458)

1. A key retaining member comprising a stirrup-shaped loop of relatively stiff spring metal having side portions adjacent the free end of the loop adapted to be brought closely adjacent each other to form a neck, matching end portions of substantially hemispherical form adapted when brought into proximity to one another to form a generally ball-shaped head, said loop in its normal unstrained condition holding said side and head portions sufficiently separated to permit insertion of a key without substantial movement of the end portions, and a retaining hook on



one of said side portions in spaced relation to said hemispherical end portions and adapted to engage around a portion of the other of said side portions to hold said side and end portions in close proximity to each other.

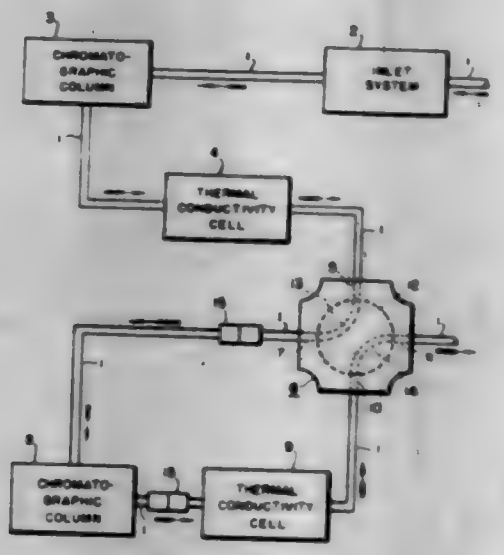
3,141,322
AUTOMATIC CALIBRATION APPARATUS FOR THERMAL CONTROLS
Rudolph Hinsekbaugh, North Royalton, Ohio, assignor to Mechanical Industries Production Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 19, 1961, Ser. No. 146,237
21 Claims. (Cl. 73—1)



1. Apparatus for automatically calibrating thermal protectors, or similar articles having a heat responsive contact carrying metal strip extending thereinto as a cantilever from an end thereof, said articles having normally closed contacts therein spaced from said end thereof, which apparatus comprises a frame, a carrier plate positioned on said frame for rotation in a horizontal plane, a plurality of article supports resiliently carried by said carrier plate about it and at uniformly spaced peripheral portions thereof for limited vertical movement, index means to engage and move said carrier plate an index step equal to the circumferential spacing of said article supports, said carrier plate being indexable by said index means to be moved thereby from one work station to another, a ram carried by said frame for vertical movement into engagement with an article support at a work station and move it down to contact said carrier plate, jaw means operatively associated with said ram to engage a portion of an article on a said article support at a work station and retain it stationary, automatic bending means operatively carried

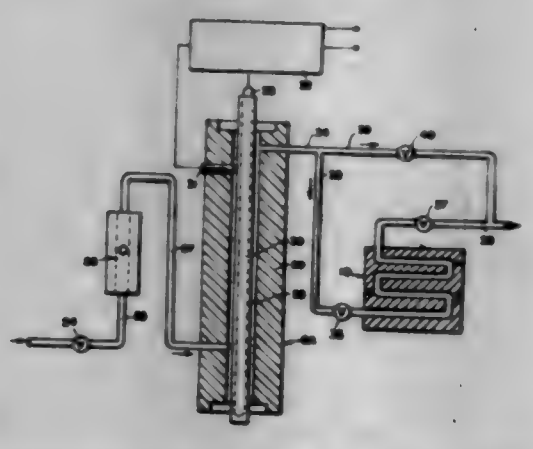
by said frame at said work station to engage and bend the first said end of an article on a said article support progressively by small increments, control means for said jaw means connecting thereto to release said jaw means between each increment of movement of said bending means, and circuit means connecting to said carrier plate and to an article at said work station to energize said last-named means until the contacts therein are opened.

3,141,323
METHOD AND APPARATUS FOR THE SEPARATION AND STORAGE OF FLUIDS BY CHROMATOGRAPHY
Billy W. Taylor and Albert Anthony Poll, Jr., Pittsburgh, Pa., assignors to Fisher Scientific Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 5, 1959, Ser. No. 785,975
7 Claims. (Cl. 73—23.1)



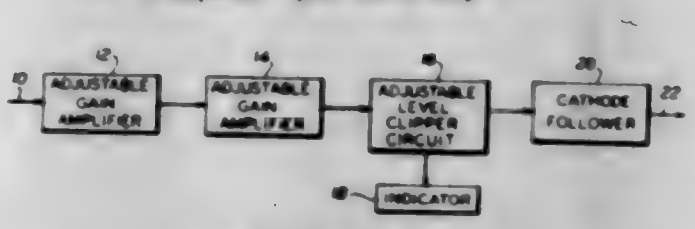
6. A method for separating and storing a fluid which comprises flowing an inert carrier gas through a chromatographic column, injecting a fluid mixture containing the fluid to be stored into said carrier gas in advance of said column, separating the fluid to be stored from the balance of the fluid mixture, flowing the carrier gas and said fluid to be stored into a second chromatographic column, and closing the ends of said second column after the fluid to be stored has entered said second column.

3,141,324
COOLING WATER TEST UNIT
David B. Boies, Chicago, and Arthur J. Freedman, Chicago Heights, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
Filed July 19, 1960, Ser. No. 43,828
4 Claims. (Cl. 73—53)



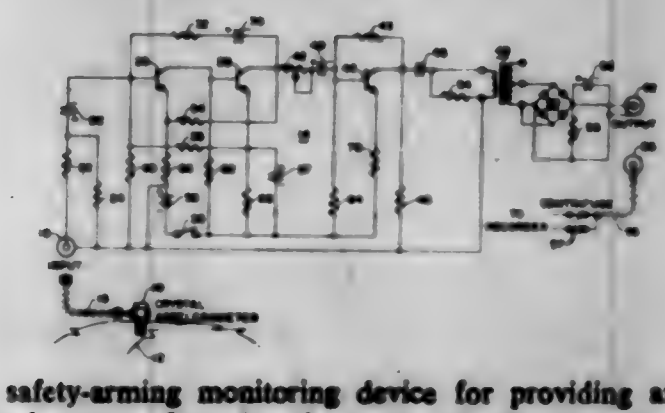
1. Apparatus for testing cooling waters which comprises in combination: a heat transfer unit, said heat transfer unit including a metal tube, heating means for said metal tube, and a transparent outer wall, said metal tube and transparent outer wall defining an annular space through which water passes; conduit means for continuously delivering water from any given source to said heat transfer unit; a coupon holder, said coupon holder including a conduit through which water passes, said coupon holder including means for maintaining metal coupons in contact with water passing through said conduit of said coupon holder; conduit means for continuously delivering water from said heat transfer unit to said coupon holder; and heat sensing means for controlling the operation of said heat transfer unit.

3,141,325
SPECIMEN ACCELERATION LIMITER FOR VIBRATION EXCITER
Gabriel Hajian, East Haven, Conn., assignor to Textron Electronics, Inc., a corporation of Delaware
Filed Dec. 30, 1958, Ser. No. 783,785
8 Claims. (Cl. 73—71.6)



1. An acceleration limiter, for inclusion in a vibration exciter system at a point in the system where the signal voltage is proportionally related to the acceleration of the exciter table, comprising an adjustable level clipper circuit with a manual control having settings representing relative clipping level and calibrated in arbitrary units, an indicator coupled with said clipper circuit for providing an indication whenever clipping is taking place, and an adjustable gain amplifier for adjustably amplifying the signals fed to said clipper circuit, said amplifier including means for determining its adjustment at the appropriate level for exactly compensating for a change in gain before the limiter caused by an alteration of the bandwidth of the signal supplied to the limiter whereby the system gain preceding the clipper circuit can be maintained constant.

3,141,326
SAFETY AND ARMING MONITORING DEVICE
Lester V. Craycraft, Riverside, and Eugene E. Bartlett, Ontario, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 30, 1962, Ser. No. 234,263
1 Claim. (Cl. 73—71.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A safety-arming monitoring device for providing an external means of sensing the modes of operation of a safety-arming device that is subjected to 5 to 100 *g*'s during testing comprising:

(*a*) a safety-arming device mounted on the arm of a centrifuge whereby internal vibrations are produced by the pallet clatter on the gear train, solenoid plunger bottoming, and *g*-weight movement in response to the acceleration of the centrifuge arm,

(*b*) a crystal accelerometer mounted on said safety-arming device and being responsive to said internal vibrations for producing an output signal,

(*c*) an amplifier comprising:

(1) a first transistor having a base coupled to the output of said crystal, an emitter connected to a power source and a collector,

(2) a second transistor having a base connected to the collector of said first transistor, an emitter connected to said power source and a collector,

(3) a series connected resistor-capacitor feedback circuit connected between the collector of said second transistor and the base of said first transistor,

(4) a resistor feedback circuit connected between the collector of said second transistor and the emitter of said first transistor,

(5) a third transistor having a base, an emitter connected to said power source and a collector,

(6) a series circuit consisting of a variable resistor and a capacitor connected between the collector of said second transistor and the base of said third transistor,

(7) a resistor connected between the collector and the base of said third transistor and,

(8) output transformer circuit means capacitor coupled to the collector of said third transistor.

(*d*) full-wave bridge rectifier circuit means coupled to said output transformer circuit means for providing a D.C. step function capable of being recorded on a slow-speed pen recorder, and

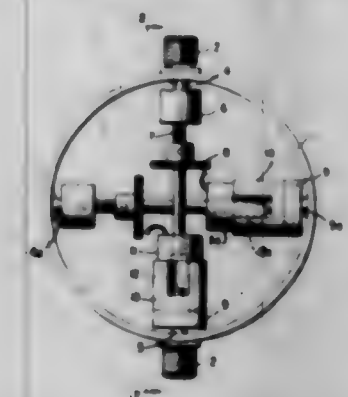
(*e*) slip-rings coupling means coupling the output of said transformer circuit means to a utilization circuit means.

3,141,327

FORCE MEASURING INSTRUMENTS

Donald Z. Hartranft, 2615 Carlton Court, York, Pa.

Filed Feb. 13, 1962, Ser. No. 172,939
4 Claims. (Cl. 73—141)



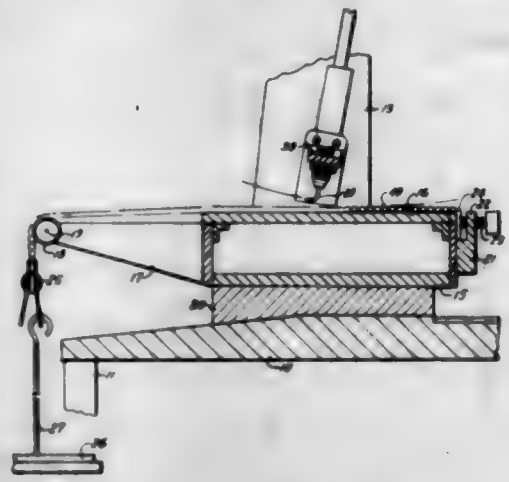
1. In a proving ring subject to distortion by externally applied forces, means for indicating the extent of such distortion comprising a differential transformer mounted within said ring, said transformer having two secondary coils arranged coaxially with the common axis extending radially of said ring, a core for said coils having one end attached to a diametrically opposite point within said ring, said core extending radially from its point of connection into said coils, said core being normally positioned when said ring is not distorted equally within said secondary coils and a second differential transformer of like construction mounted within said ring with the axes of its secondary windings at right angles to the axes of the windings of the first mentioned differential transformer, the secondary coils of the two transformers being so connected that upon expansion or contraction of the ring upon change in temperature the radial movement of the two cores will produce equal and opposite effects on the current induced in the coils.

3,141,328

SNAG TESTER

Louis I. Weiner, West Newton, and Clarence J. Pope, Andover, Mass., assignors to the United States of America as represented by the Secretary of the Army

Filed July 19, 1962, Ser. No. 211,143
7 Claims. (Cl. 73—159)
(Granted under Title 35, U.S. Code (1952), sec. 266)



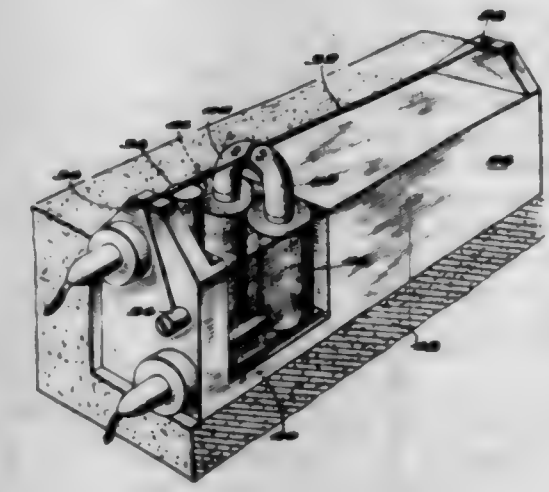
6. In a snag testing apparatus, a supporting frame, a pendulum pivotally supported by said frame, a snagging needle secured to the end of said pendulum at an angle of approximately 90° thereto and pointed in the direction of the plane of travel of said pendulum, a material support carried by said frame below the pendulum pivot in a plane spaced from and perpendicular to the plane of travel of the pendulum, means carried by said pendulum to vary the radius of the arc described by the pendulum needle by a measured amount.

3,141,329

SURFACE DEFECT MONITOR FOR FILAMENTS

Robert Vincent Canning, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 18, 1962, Ser. No. 224,446
6 Claims. (Cl. 73—160)



1. In a yarn defect monitoring apparatus,

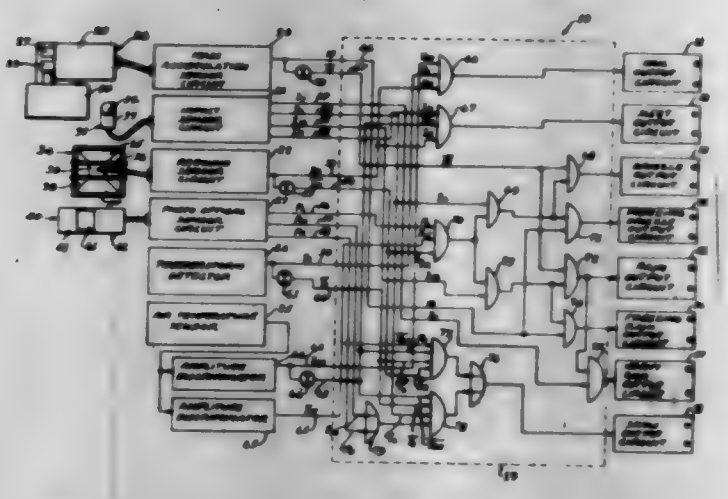
a magnet having upstanding legs of opposite polarity, one of said legs being bifurcated into spaced branches, a stretched wire in engagement with the other leg and passing in close proximity to said branches, the latter having terminal ends normally equidistant from the wire,

and circuitry coupled with said branches for detecting flux flow variations therein,

there being separate flux paths from said wire through said branches,

said wire being located in proximal traversing relationship to an axially advancing yarn and therefore adapted for vibration by the impact of a yarn surface defect.

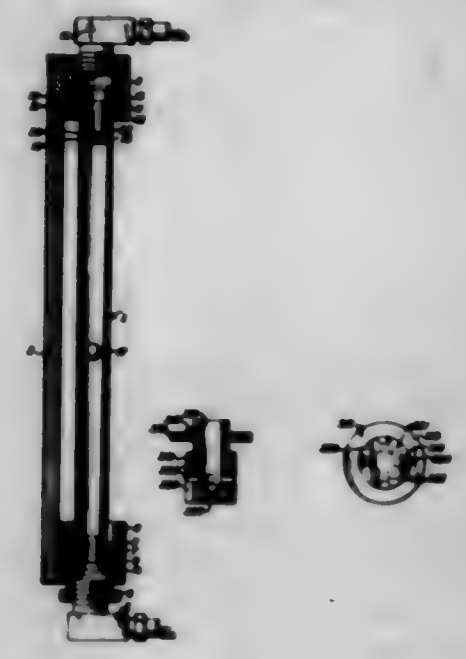
3,141,330
PRECIPITATION SENSING SYSTEM
James E. Murray, Euclid, Fred H. Guth, Warrensville, James David Powell, Euclid, and Wendell Victor Peterson, South Euclid, Ohio, assignors to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 19, 1960, Ser. No. 76,884
36 Claims. (Cl. 73—170)



1. In a precipitation sensing system, impact sensing means including a surface exposed to precipitation and electro-mechanical transducer means for developing control signals in response to impacts of particles on said surface, rebound sensing means including a surface exposed to precipitation and an electro-mechanical transducer device in spaced relation to said surface for developing control signals in response to rebounds of particles from said surface, photo-optical means including a light source for illuminating a certain region through which precipitation falls and photocell means for deriving control signals in response to light impulses arising from reflection of light from particles falling through said region, mass accumulation sensing means including a vibration device having a surface exposed to precipitation and means for developing control signals in response to a lowered natural resonant frequency of vibration of said device caused by accumulation of freezing precipitation on said surface, a plurality of output circuits corresponding to various forms of precipitation, and logic circuitry responsive to said control signals for selectively energizing said output circuits.

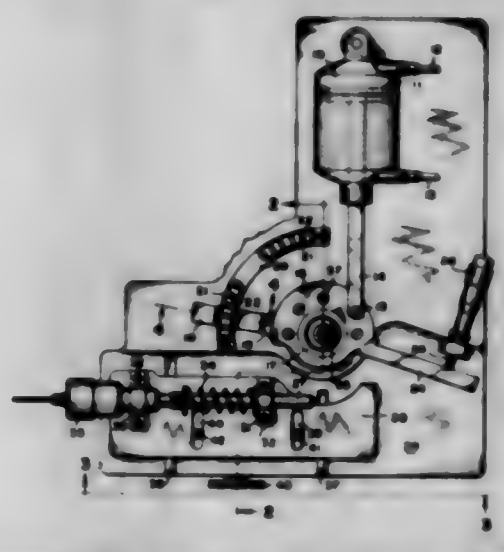
3,141,331
FLUID FLOW METERS OF THE VARIABLE ORIFICE TYPE
Charles K. Wilson, East Williston, N.Y., assignor to Metco Inc., a corporation of New Jersey
Filed Oct. 23, 1958, Ser. No. 769,242
2 Claims. (Cl. 73—209)

1. In a variable orifice fluid flow meter having a substantially vertically positioned glass flow metering tube of circular cross sectional shape progressively increasing in inner cross-sectional area in an upward direction from its inlet end to its outlet end and a float freely positioned in the tube, the improvement which comprises a float stop positioned at the upper outlet end portion of the tube having a substantially flat circular central uninterrupted surface area extending at right angles to the tube axis and facing downwardly toward the inlet end of the tube, and a fluid outlet flow passage defined outwardly of said surface area by a multiple number of anularly positioned passages between the tube wall and said area, said passages extending downstream past said surface area, said uninterrupted surface area being dimensioned so that its outer



extremity is nowhere further from the closest point on the inner wall of said tube than ⅛ the diameter of said float.

3,141,332
LIQUID VOLUME COMPENSATOR
Erskine E. Roach, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Feb. 5, 1960, Ser. No. 6,913
1 Claim. (Cl. 73—223)



Apparatus for correcting the volume of liquid measured in a metering tank to compensate for volume differences of the liquid resulting from changes in a factor that affects the measurement of the liquid comprising a stationary metallic base; rotatable means having a fixed axis of rotation and mounted on said base and movable variable amounts within an arc from an initial position to selected terminal positions and vice versa, each terminal position being representative of selected volumes of said liquid; counter means adapted to register the amount of rotation of said rotatable means; clutch means disengageably connecting said rotatable means and said counter means whereby when connected, said counter means rotates with said rotatable means, said clutch means including a fluid pressure expansible self-retracting metallic bellows arranged on said rotatable means, a clutch plate positioned on one end of said bellows, and another clutch plate arranged on said counter means adapted to engage

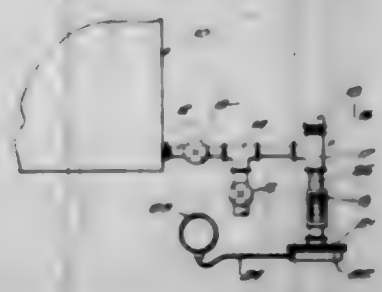
with the clutch plate on said bellows when said bellows expands and to disengage from the clutch plate on said bellows when said bellows retracts, a movable carriage mounted on said base and movable relative thereto adapted to move toward and away from the axis of rotation of said rotatable means; a probe mounted on said movable carriage and automatically movable in response to changes in said factor engagedly connecting with said rotatable means to terminate said movement of said rotatable means at one of said selected positions, the amount of movement of said rotatable means as determined by said selected positions being dependent upon the change in said factor; a metallic screw member interconnecting said movable carriage and said stationary base adapted to move said movable carriage, said metallic screw member being formed of metal having a lesser coefficient of expansion than the metal of which the stationary base is formed so that said probe remains the same distance from the axis of rotation of said rotatable means regardless of change in ambient air temperatures; and magnetic brake means arranged on said base and said rotatable means adapted to dampen movement of said rotatable means adjacent the extremities of the reciprocating movement of said rotatable means.

3,141,333

DEPTH MEASURING APPARATUS

David B. Lester, Cambridge, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Dec. 17, 1962, Ser. No. 244,994
4 Claims. (Cl. 73—299)



3. In association with a tank having diaphragm-operated means to indicate the depth of liquid in said tank, means to prevent a coagulable precipitate from said liquid from forming on said diaphragm and thereby impairing its accuracy which includes a column of liquid having a density higher than that of the contents of said tank, in contact with said diaphragm and interposed between said diaphragm and the liquid contents of the tank, whereby head pressure representing the height of liquid in said tank is imposed on said higher density liquid column, the contact of the coagulum with the diaphragm is prevented.

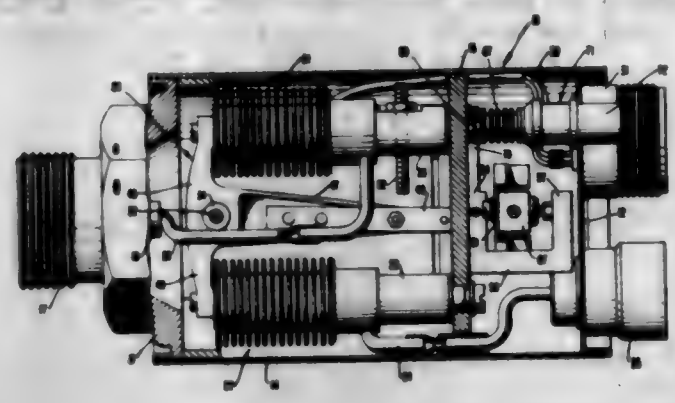
3,141,334

PRESSURE DETECTING INSTRUMENT

Donald F. Hastings, Suffern, N.Y., assignor to The Bendix Corporation, Montrose, Pa., a corporation of Delaware

Filed Oct. 14, 1960, Ser. No. 62,784
3 Claims. (Cl. 73—410)

1. In a pressure differential indicating device, a hermetically sealed casing, a pair of expansible chamber means in said casing and externally subjected to the pressure within the casing, means connecting the interiors of said chamber means to different sources of fluid pressure, a substantially rigid, torsionally-resilient bar fixedly secured adjacent each end thereof, lever means secured to said bar intermediate the ends of the latter, whereby said bar resiliently resists angular movement of the lever means about the axis of the bar in either direction from a null position determined by the relaxed position of the bar, means for operatively so connecting said pair of chamber means to said lever means that fluid pressure within one of said chamber means tends to twist said bar in one direction about its axis and pressure within the other chamber means simultaneously tends to twist said bar in the opposite direction, whereby the bar is subjected to a torque determined by the differential between the pressures within said pair of chamber means, a synchronous generator having a rotor, means operatively connecting said lever means and rotor, whereby angular movement of the rotor by said lever means is indicative of the degree and direction of twist of said bar from said relaxed position thereof, and means rotatable from outside the sealed casing for adjusting said connecting means to effect a zero setting of said rotor relative to said lever means.

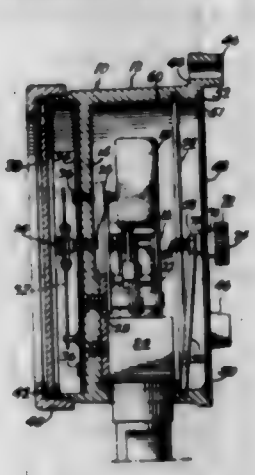


3,141,335

PRESSURE RELIEF MEANS FOR GAUGES

Norman J. Smith, Churchville, Pa., assignor to J. E. Lonergan Company, Philadelphia, Pa., a corporation of Pennsylvania

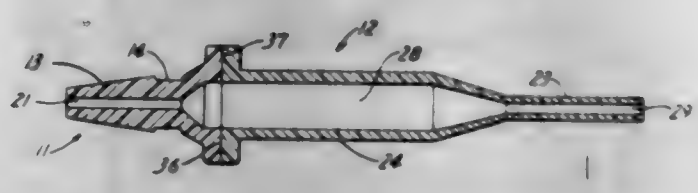
Filed Jan. 4, 1961, Ser. No. 80,673
2 Claims. (Cl. 73—416)



1. A pressure gauge comprising a generally cylindrical housing open at one end, a gauge movement including a pressure-sensitive Bourdon tube mounted within said housing, a cover plate of generally disc-like form mounted in said housing and movable between a seated position closing the open end of said housing to seal the interior thereof from the atmosphere and an unseated position exposing said open end for venting the interior of said housing to the atmosphere, means defining an annular groove on the inner peripheral surface of said housing, biasing means in said housing operable to normally retain said plate in the seated position, and operable in response to excessive pressures in said housing to permit movement of said cover plate to said unseated position, said biasing means consisting of a resilient annulus mounted in said annular groove having a radially inwardly-projecting arm with its terminal end at approximately the center of said annulus, means defining an internally-threaded opening in said terminal end, and a fastener

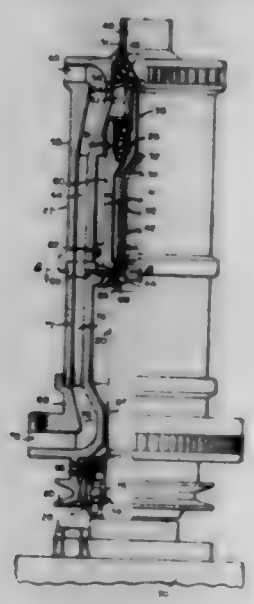
connected to said cover plate having a threaded portion engageable within said threaded opening in said terminal end operable to flex said arm toward said cover plate and thereby urge said cover plate to said seated position.

3,141,336
PIPETTE
William M. Oates, San Carlos, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Mar. 8, 1961, Ser. No. 94,381
5 Claims. (Cl. 73—425.4)



1. A pipette comprising a mounting member formed to include a capillary passage and a relatively enlarged hollow portion, the interior of said capillary passage gradually diverging from one end into said enlarged hollow portion to provide a gradual interior transition therebetween, the exterior of said mounting member being formed with a relatively long conically tapered end region bounded by an annular groove, said annular groove being adapted to lock into an opening in a resilient wall of a dispensing bottle to support the end region cantilevered into the interior of said dispensing bottle, said pipette further comprising a body member formed to include a capillary passage and a relatively enlarged hollow portion, the interior of said body member gradually diverging from the inner end of the last said capillary passage into the last said enlarged portion to provide a gradual interior region of enlargement therebetween, said body member being connected to said mounting member with the interior surfaces of both said enlarged portions dimensioned and aligned to provide a smooth juncture therebetween.

3,141,337
PARTICLE SIZE ANALYZER
Bo N. Hoffstrom, Santa Monica, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed May 3, 1961, Ser. No. 107,447
6 Claims. (Cl. 73—432)



1. Apparatus for analyzing the size of particles in a given sample comprising a rotor forming a longitudinally extending channel having opposed walls, means for rotating said rotor and establishing a stream of fluid flowing axially through said channel, said fluid moving at essentially the same circumferential velocity as said rotor, means for injecting said particles into said channel through one wall thereof transversely of said channel intermediate the ends of said channel with essentially the same rotary velocity as said fluid and with sufficient radial velocity to cause said particles to impinge on the opposite wall of said channel whereby the coarse particles will be moved a predetermined distance axially of said channel by said stream of fluid and the finer particles will be moved a greater distance axially of said channel for deposit on said opposite wall at axially spaced locations.

3,141,338
METHOD AND MACHINE FOR BALANCING ROTORS
Heinrich Hack, Darmstadt, Germany, assignor to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, a corporation of Germany
Filed Jan. 29, 1962, Ser. No. 169,494
Claims priority, application Germany Feb. 1, 1961
7 Claims. (Cl. 73—462)



1. The method of determining unbalance of a rotating workpiece, which comprises

(*a*) rotating the workpiece on journal means elastically deflectable in substantially a single plane transverse to the axis of rotation,

(*b*) simultaneously imposing on the journal means a vibratory excitation in said same plane and at a known excitation frequency different from the rotation frequency,

(*c*) sensing the resultant vibration in a single direction of said plane and translating said vibration into voltage,

(*d*) providing a first reference voltage having said rotation frequency and a second reference voltage having said excitation frequency,

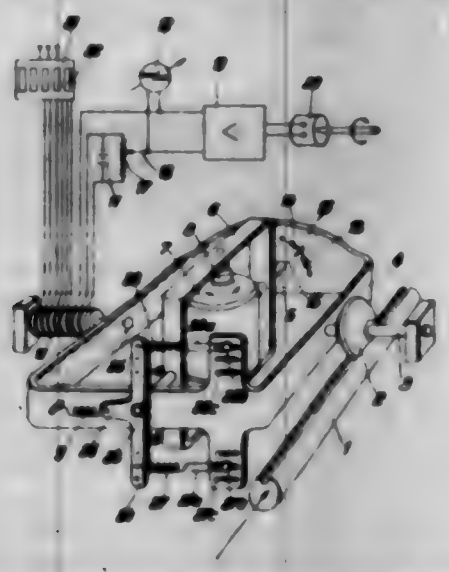
(*e*) electrically multiplying each of said respective reference voltages with said vibration-responsive voltage and thus producing two product voltages,

(*f*) and forming from the two product voltages a magnitude proportional to the ratio of the product voltages and indicative of workpiece unbalance.

3,141,339
CONTROL DEVICE USING GYROSCOPE PRECESSION FOR MEASUREMENT OF DISPLACEMENT
Milo Korll, Stuttgart-Bad Cannstatt, Germany, assignor to Bölkow-Entwicklungen Kommanditgesellschaft, Ottobrunn, near Munich, Germany
Filed June 28, 1961, Ser. No. 118,429
Claims priority, application Germany June 28, 1960
15 Claims. (Cl. 73—504)

1. A device for measuring accurately velocities of very small magnitude comprising, in combination, a gyroscope including a mass rotatable at a substantially constant angular velocity about an axis of rotation; reversible

electric driving means for rotating said mass in opposite rotational directions; means mounting said gyroscope for movement about a pair of mutually perpendicular mounting axes each perpendicular to the axis of rotation of said gyroscope; said gyroscope having a precession deflection about one of said mounting axes in proportion to the rate of angular movement of the latter about the other mounting axis; means operable to rotate said gyroscope bodily about such other mounting axis at a rate proportional to the velocity to be measured; first and second restoring means restraining precession of said gyroscope about said one mounting axis with a force constantly directly proportional to the precession forces; each restoring means restraining precession in a respective one of two opposite directions, and each restoring means being effective over a respective range of precession; said restoring means differing in restoring force, with the restoring force of each restoring means corresponding to its respective



range of precession; an electro-mechanical transducer including components relatively displaceable responsive to such deflection; and electrically energized signal circuit means connected to said transducer to provide a continuous signal proportional to instantaneous values of such precession; whereby, when said rotating means has rotated said gyroscope bodily about such other mounting axis in one direction and through one range of precession, said reversible electric driving means may be operated to reverse the direction of rotation of said mass so that, upon continued rotation of the gyroscope about the other mounting axis by said rotating means, said gyroscope will have a precession deflection in the opposite direction which will be opposed by the other of said restoring means, so that said gyroscope may be bodily rotated about such other mounting axis by said means through the two consecutive ranges of precession, with a different restoring means being effective in each range.

3,141,340
GRAVITY DEVICE
Josef Boehm, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 15, 1961, Ser. No. 159,804
3 Claims. (Cl. 73—517)
(Granted under Title 35, U.S. Code (1952), sec. 266)

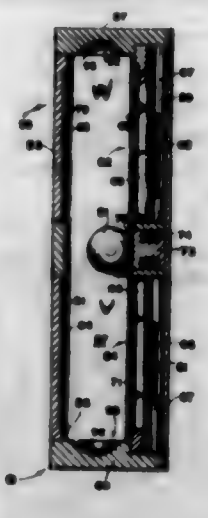
1. In combination with a carrier adapted to accelerate from a starting position toward a gravitational center;

(*a*) a gravity device having an elongated tubular portion with an inner peripheral surface defining an elongated passageway;

(*b*) said gravity device being fixed to said carrier and the longitudinal axis of its elongated passageway being approximately parallel with the longitudinal axis of the path said carrier is adapted to accelerate along;

(*c*) said elongated tubular portion having a top member sealing one end of said elongated passageway and a base member sealing the other end of said elongated passageway;

(*d*) a body within and confined by said elongated passageway and adapted for longitudinal acceleration within said elongated passageway;

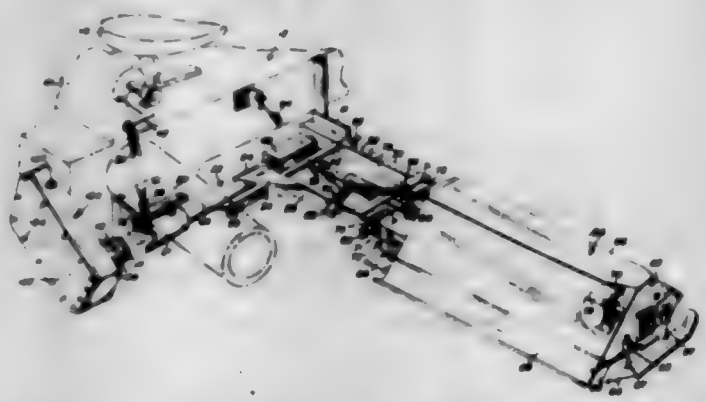


(*e*) said passageway being exhausted of air whereby said body may accelerate in an undisturbed manner;

(*f*) means for initially holding said body stationary within said elongated passageway when said carrier is placed in its starting position and for later releasing said body at the instant said carrier is adapted to start its acceleration from its starting position; and

(*g*) means for detecting the relative displacement of said body from its initial stationary position at any instant whereby the gravitational conditions aboard said accelerating carrier may readily be determined.

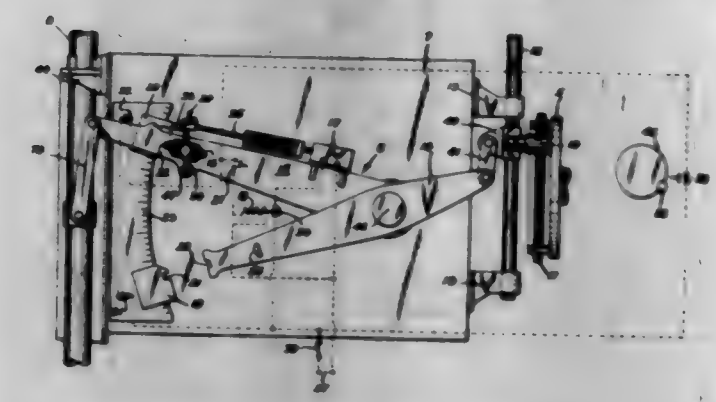
3,141,341
CULTIVATOR DRIVE ASSEMBLY
Allen R. Hutchinson, P.O. Box 3046, Orlando, Fla.
Filed Nov. 16, 1961, Ser. No. 152,868
2 Claims. (Cl. 74—11)



1. In mechanisms for operating implements detachably mounted on mobile vehicles provided with a power take-off shaft, the combination including a main implement frame including an elongated tubular member, detachable mounting means for mounting said frame on a vehicle for limited rotation of said tubular member about its longitudinal axis parallel with the axis of the vehicle take-off shaft, a driven shaft, bearing means for supporting said shaft within the tubular member, first and second sprocket wheels fixed to the take-off shaft and to the driven shaft respectively, flexible chain means operatively connecting the sprocket wheels, elongated housing means enclosing said sprocket wheels and chain means, means for detachably mounting said housing means on a vehicle, said housing means having an opening adjacent one end through which one end of said

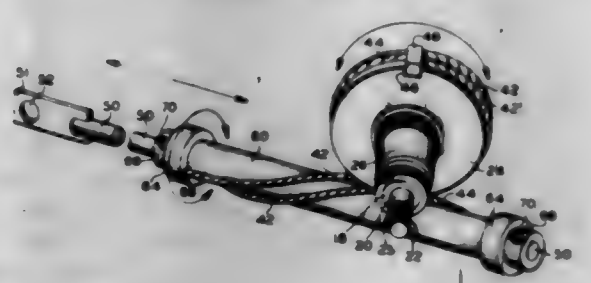
driven shaft may be loosely received, sealing means within the tubular member adjacent said one end of the shaft, and flexible enclosure means joining one end of the tubular member and the elongated housing and surrounding said opening for the driven shaft, whereby lubricating oil may be contained within said housing means and said tubular member may be rotated and radially displaced to a limited extent with respect to the enclosure.

3,141,343
MECHANICAL OSCILLATOR
Denis Breton, 86 Ave. de la Republique, Montrouge, France, and Jean Claude Carre, 24 Blvd. de Jardy, Vaucresson, France
Filed Oct. 4, 1960, Ser. No. 60,324
Claims priority, application France Oct. 30, 1959
11 Claims. (Cl. 74—48)



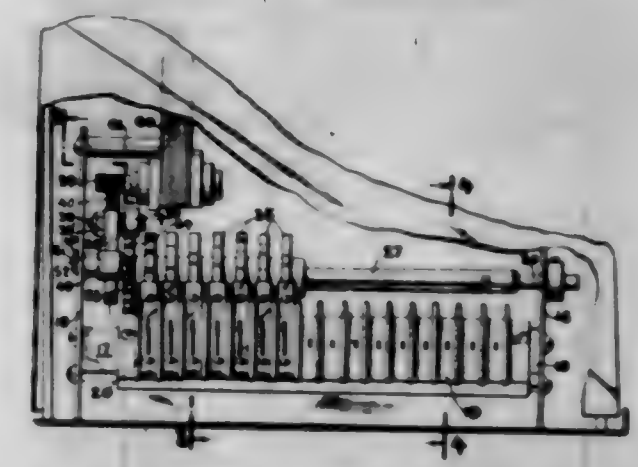
1. A mechanical oscillator comprising: a stationary frame; a first member pivotally mounted on said frame; a second member pivotally mounted on said frame; means for continuously oscillating said first member; means for connecting said first and second members together for simultaneous oscillation of said members; optionally actuatable first means for periodically actuating automatically said connecting means to connect said first member to said second member for single half oscillations only of said second member at intervals separated by an uneven number of half oscillations of said first member; and second means optionally actuatable independently of and alternatively to said first means for continuously maintaining said connecting means connected to said first and second members for continuously locking said two members together for continuous, simultaneous oscillations.

3,141,343
MOTION-TRANSMITTING DEVICE
George W. Rieckenberg, Portage, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed June 14, 1962, Ser. No. 202,592
15 Claims. (Cl. 74—95)



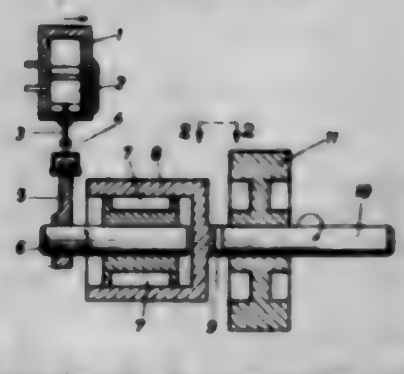
1. In combination:
an elongate driver having an end adapted for connection to a power means,
means carried by said driver and rotatable with respect thereto and spaced from said end,
a driven element adapted for oscillation about a fixed axis disposed at an oblique angle with reference to the longitudinal axis of said driver,
and flexible means connected to said driven element and having portions connected to said means at spaced locations in a manner whereby to effect movement of said driven element relative to said driver in response to the operation of said power means.

3,141,344
CONTROLLER
Stephen J. Nagy, East Orange, N.J., assignor to Marbellite Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Sept. 19, 1958, Ser. No. 762,173
4 Claims. (Cl. 74—126)



1. In a traffic controller, a base; spaced support means mounted on said base; a cam drum mounted between said spaced support means for step-by-step movement; a ratchet wheel fixed to said cam drum; means for indexing said cam drum comprising an oscillatable gear segment; a pawl pivotally attached to said gear segment and cooperable with said ratchet; a pinion meshing with the teeth of said gear segment; adjustable means for limiting the extent of movement of said oscillatable gear segment; means including a motor for rotating said pinion to move the gear segment in one direction toward a position in which the gear segment engages one of said limiting means and for maintaining said gear segment in said position when said motor is energized; resilient means between one of said support means and said gear segment for storing up energy when said motor moves said gear segment in said one direction; and a reverse stop lever adapted to cooperate with said ratchet wheel for preventing the reverse turning of said cam drum.

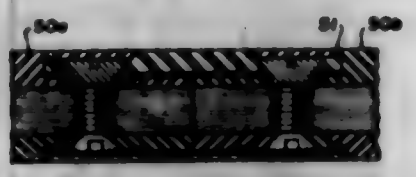
3,141,345
TORQUE-TRANSFORMER
Heinz Hartmann, Bergrheinfeld, Schweinfurt, and Adolf Weber, Schweinfurt, Germany, assignors to Firma Stanley-Werke G.m.b.H., Velbert, Rhineland, Germany, a corporation of Germany
Filed Nov. 28, 1961, Ser. No. 155,356
Claims priority, application Germany Dec. 9, 1960
7 Claims. (Cl. 74—142)



1. A torque transformer for translating power to a rotatable output member from a rotatable input member torsionally driven in one angular direction at periodic intervals comprising, an intermediate rotatable member,

one-way drive means between the input member and the intermediate member, said drive means upon movement of the input member in said one angular direction driving the intermediate member in a first angular direction, means braking the movement of the intermediate member in the opposite angular direction, and coupling means providing a torque transmitting drive between the intermediate and output members, said coupling means being angularly elastic for storing torsional energy for subsequent transmission to the output member between said periodic intervals for driving the output member at a reduced drive ratio.

3,141,346
MEANS FOR JOINING FLEXIBLE BELTS
Val R. Dean, Englewood, Colo., assignor to The Union Supply Company, Denver, Colo., a corporation of Colorado
Filed Sept. 27, 1961, Ser. No. 141,102
8 Claims. (Cl. 74—231)



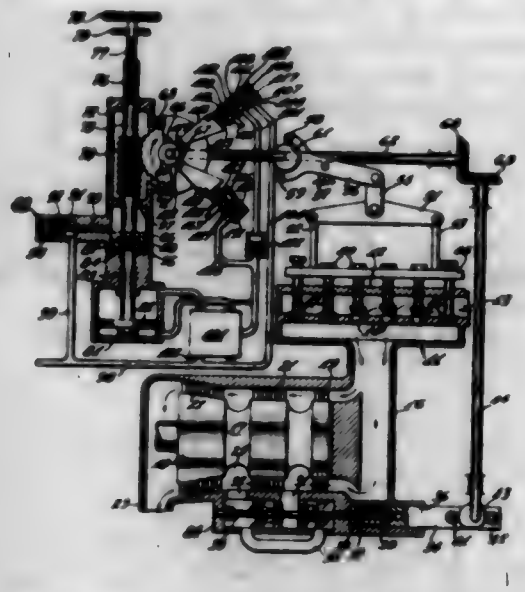
7. The combination with a cleat fitted in adjoining recesses in the top surface of abutting ends of a conveyor belt, of another cleat fitted in similar recesses in a common plane on the underside of said ends, a pair of bolts having their heads covered by a rubber cover on the lower cleat and having shank portions fastened to means in the upper cleat, and support means for said shank portions interiorly of the rubber cover permitting limited flexing movement of the shanks on said lower cleat when the belt is passing over a sheave.

3,141,347
CHAIN
Eugene W. Oesterle and Don M. Glendenning, Huntington, Ind., assignors to The Locke Steel Chain Company, Huntington, Ind., a corporation of Connecticut
Filed Apr. 11, 1961, Ser. No. 102,231
2 Claims. (Cl. 74—250)



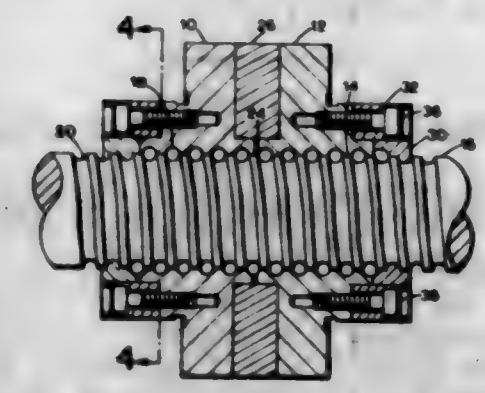
1. A link chain comprising a plurality of chain links and a plurality of hinge pins connecting said links, each of said links comprising a cylindrical bearing portion and a pair of substantially parallel legs extending therefrom, said legs having a transverse non-circular aperture of keyhole shape adjacent their free ends, said keyhole shape being in the form of a substantially isosceles trapezoidal lobe projecting from a circle of relatively larger dimensions, the major base of said trapezoid forming a chord of said circle, the intersecting corners of said trapezoidal lobe and said circle being rounded, the sides of said lobe being slanted toward each other in a direction away from said circle, the apertures of each link being in alignment with the bearing portion of the adjacent link, one of said pins passing through each of said aligned bearing and apertures, a portion of the end of said pins being plastically deformed and substantially filling the trapezoidal lobe portion of the corresponding leg aperture with said portion of said pins, thereby preventing relative rotation between the corresponding pins and apertured legs, said deformed end of the pins being provided with head means on the pins of larger size than the corresponding apertures.

3,141,348
OPERATING MECHANISM
John K. Dixon, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 28, 1961, Ser. No. 134,235
3 Claims. (Cl. 74—425)



1. An operating mechanism comprising: a support; a first shaft rotatably supported by said support; a worm wheel connected to said first shaft for rotation therewith; a second shaft supported by said support, said second shaft being capable of both rotational and longitudinal movement; a worm connected to said second shaft for movement therewith and drivingly engaging said worm wheel; control means connected to said second shaft for rotating same; power means engaging said second shaft and resisting longitudinal movement thereof, said power means being responsive to a predetermined rotated position of said control means to longitudinally move said second shaft to cause said first shaft to rotate a predetermined amount.

3,141,349
BALL BEARING SCREW AND NUT MECHANISM
David L. McDonald, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 17, 1962, Ser. No. 223,937
8 Claims. (Cl. 74—441)



1. A preloaded recirculating ball bearing screw and nut unit comprising in combination:
(*a*) a screw having a helical groove extending therealong.

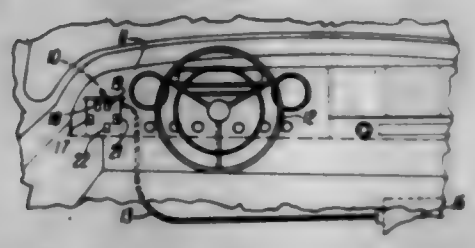
(*b*) a pair of nuts, each of said nuts having a bore therethrough to loosely receive said screw and a helical groove in said bore of the same lead as said screw helical groove,

(*c*) a plurality of balls received between said screw and nut helical grooves to effect a threaded engagement for transmission of relative axial forces therebetween,

(*d*) means to maintain said nuts in alignment on said screw with a relative torque therebetween tending to move said nuts apart whereby said screw and nut grooves define a continuous ball track through said nuts and a preload force is produced between said screw and each of said nuts, and

(*e*) means to recirculate said balls from one end of said ball track to the other end thereof when said nuts and screw are relatively rotated.

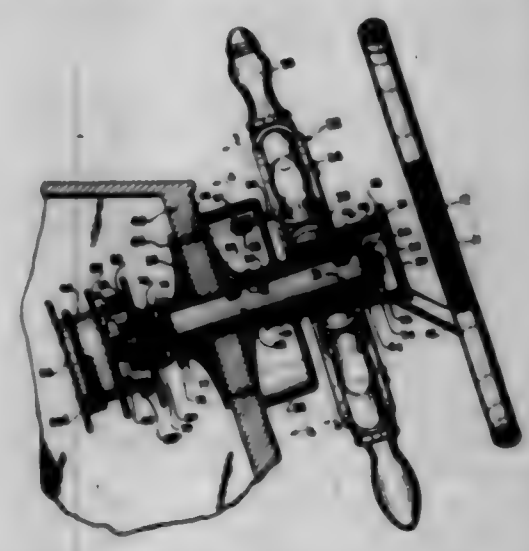
3,141,350
CONTROL SYSTEM
Louis A. Bevacqua, Des Plaines, and Franklin C. Brewster, Franklin Park, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed May 12, 1961, Ser. No. 109,679
3 Claims. (Cl. 74—472)



1. A pushbutton selector device for controlling the automatic transmission in an automotive vehicle and for energizing the starter motor for the engine of such vehicle, said selector device including in combination; a longitudinally movable pushbutton arm having first and second slide portions, vacuum operated means including a transverse bar interposed in the forward path of said second slide portion, and electrical switch means having an actuating portion positioned to be engaged by said transverse bar, said first slide portion of said movable arm being adapted for setting the transmission in the neutral condition when said movable arm is in actuated position, said movable arm having an inherent overtravel in said actuated position whereby said second slide portion engages said transverse bar which in turn engages said actuating portion of said switch means to energize said starter motor and start the engine, said vacuum operated means further including means for retracting said transverse bar from operative engagement with said second slide portion upon starting of the engine thereby preventing inadvertent reactivation of said starter motor while the engine is running.

3,141,351
STEERING, THROTTLE AND GEAR SHIFT CONTROL
Louis R. Behan, 2133 W. 10th St., Brooklyn, N.Y.
Filed Aug. 16, 1962, Ser. No. 217,495
2 Claims. (Cl. 74—484)

1. An assembly for steering a boat and for controlling a throttle and gear shift mechanism of a motor driving the boat, comprising in combination; a bulkhead having an opening therein, a pair of substantially flat flanges having openings therein, means mounting said flanges on opposite sides of said bulkhead within the openings in the flanges in axial alignment with the opening in the bulkhead, a first wheel, a shaft, means securing said shaft to the wheel and axially thereof, one of said flanges having a cylindrical neck extension, said shaft passing axially and rotatably through said neck extension and terminating beyond the other flange, a drum secured on the end of the shaft, first cables engaged on said drum for operating boat steering means, a second wheel, a sleeve secured axially to the second wheel, said sleeve being disposed rotatably on and coaxial with said neck extension, a pair of second cables for operating said throttle and gear shift mechanism of the motor, a control handle, said second cables being operatively connected to said control handle for actuation thereby, a housing covering said one flange and having a front wall with an opening therein, said neck extension, sleeve and shaft passing through the opening in said wall, said wall having an arcuate slot, a pin extending outwardly of the second wheel in the axial direction thereof and passing

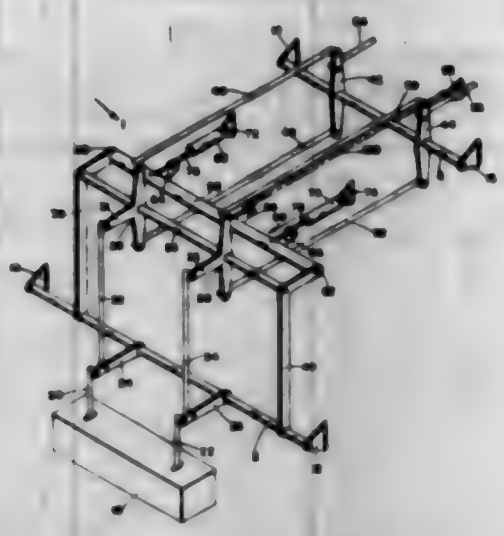


through said slot, and linkage means operatively connecting said pin and said control handle, whereby turning of the second wheel independently of the first wheel moves the control handle to actuate the second cables for operating said throttle and gear shift mechanism, and turning of the first wheel independently of the second wheel actuates the first cables to operate said steering control means, said second wheel having radially extended spoke handles extending outwardly beyond said first wheel for manual grasping by a helmsman while holding on to the first wheel, whereby both wheels can be rotated simultaneously for moving the first and second cables simultaneously to steer the boat in a certain direction while operating the throttle and gear shift mechanism to control speed of the boat in said direction.

3,141,352
SELF-REGULATING TENSION MEANS
Robert F. Richter, Los Angeles, Calif., assignor to North American Aviation, Inc.
Filed May 22, 1961, Ser. No. 126,744
13 Claims. (Cl. 74—501.5)

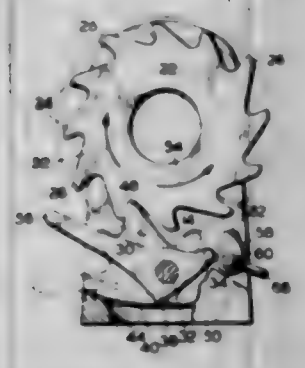
1. In a force transmitting system; a first moment arm mounted for rotation about a relatively stationary first axis in response to the application of a work load, rigid support means mounted for rotation about said first axis, a second moment arm mounted on said rigid support means for rotation about a second axis located parallel to and remotely from said first axis, rigid link means connecting the extremities of said first and second moment arms whereby rotation of said first moment arm about said first axis in response to a work load produces rotation of said second moment arm about said second axis, said link means being substantially parallel with a plane in which said first and second axes lie and said first moment arm being substantially parallel with said second moment arm thereby defining a force parallelogram, pretensioned force transmitting means operatively associated with said second moment arm for transmitting work loads to a

remote location in response to the application of such loads to said first moment arm, and tension maintaining means adapted to apply force to said rigid support



means tending to cause rotation thereof about said first axis to maintain the amount of said pretension substantially constant.

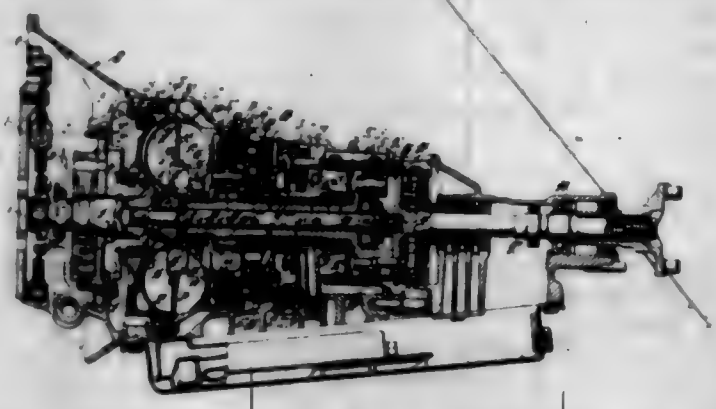
3,141,353
LOAD BINDING WINCH CONTROL MECHANISM
Robert H. Gray, Portland, Oreg., assignor to Preferred Growth Capital, Inc., a corporation of Oregon
Filed June 8, 1962, Ser. No. 201,190
8 Claims. (Cl. 74—577)



1. Control mechanism in combination with a winding shaft comprising a rotatable member integrally connected to said shaft, a pair of sets of projections on said rotatable member operable at different radial distances in the same plane, a latch member pivotally operable between first and second positions, said latch member in the first position thereof being engageable by all of said projections to provide one-way forward winding of said shaft, and in the second position being engageable by one set of projections only upon reverse rotation of said shaft to return said latch member to its first position.

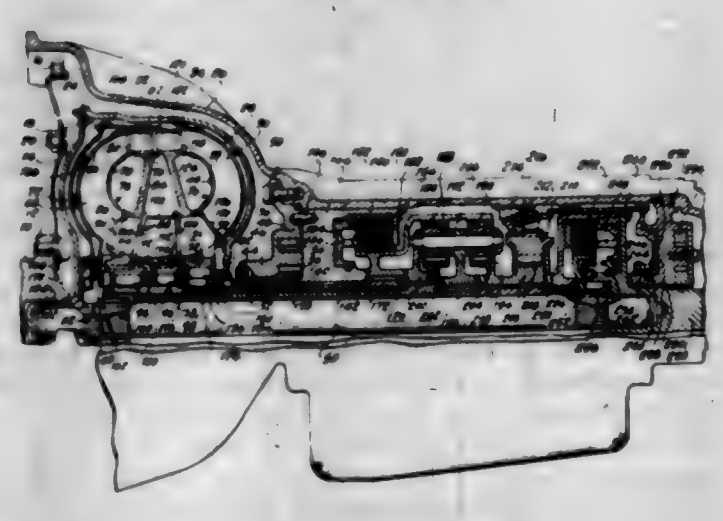
3,141,354
TRANSMISSION
Walter B. Herndon, Ann Arbor, and Howard E. Olsen, Plymouth, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 56,445, Sept. 16, 1960. This application Mar. 8, 1962, Ser. No. 180,922
12 Claims. (Cl. 74—677)

7. In a transmission, a hydrodynamic torque transmitting device of the type adapted to be alternately filled with and emptied of working fluid, said device including an engine driven impeller and first and second turbines, first and second planetary gearing units each having a planet carrier supporting a pinion gear in mesh with a ring gear and a sun gear, a shaft driven by said first turbine having a set of splines thereon adapted to receive splines on said first gear unit sun gear, said shaft being rotatable through a limited angular rotation with respect to said sun gear before driving the same, an anti-rattle device for preventing rattle of said splines comprising a resilient member fixed to said sun gear and having splines thereon closely mating with the splines of said shaft, said resilient member being normally effective to dispose said sun gear on said shaft with the splines of said sun gear out of physical contact with the splines on said shaft when said hydrodynamic torque transmitting member is emptied of



fluid, a final power delivery shaft, means connecting said second turbine, both of said planet carriers and said final power delivery shaft to each other for rotation as a unit, means connecting the ring gear of said first gear unit to the sun gear of said second gear unit for rotation therewith, an engageable and releasable brake effective when engaged to prevent rotation of said first gear unit ring gear and said second gear unit sun gear, and an engageable and releasable clutch effective when engaged to clutch said second gear unit ring gear to said impeller.

3,141,355
GEARED CONVERTER TRANSMISSION
Martin G. Gabriel, Dearborn, Mich., assignor to the Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 3, 1962, Ser. No. 241,725
14 Claims. (Cl. 74—677)



1. A power transmission mechanism comprising a hydrokinetic unit and a gear unit, said hydrokinetic unit comprising an impeller, a first bladed torque transmitting member, a second bladed torque transmitting member, a third bladed torque transmitting member, said impeller and said torque transmitting members being disposed in toroidal fluid flow relationship in a common torus circuit, a driving member connected to said impeller, said gear unit comprising a first torque input element, a second torque input element, a third element forming a geared connection between said first and second elements and a reaction element, brake means for anchoring said reaction element, a driven member, means for connecting said third element to said driven member, a first driving con-

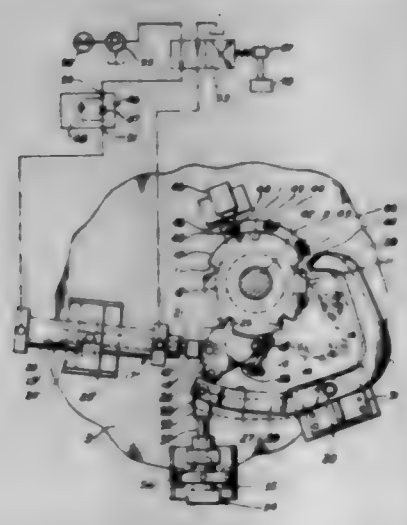
nection between said first bladed torque transmitting member and said first element including an over-running coupling capable of transmitting torque in one direction and capable of free-wheeling in the opposite direction, a second driving connection between said second element and said second torque transmitting member, and a third driving connection between said driven member and said third torque transmitting member, said second driving connection being defined in part by an over-running coupling capable of delivering torque to said second element in a direction opposite to the direction of torque delivered to said first torque input element and capable also of free-wheeling in said latter direction when the speed of said driven member approaches the speed of said driving member.

3,141,356

INDEXING MECHANISM

Earle C. Herbkersman, Parma, Ohio, assignor to The Pipe Machinery Company, Wickliffe, Ohio, a corporation of Ohio

Filed Sept. 26, 1961, Ser. No. 140,751
7 Claims. (Cl. 74—822)



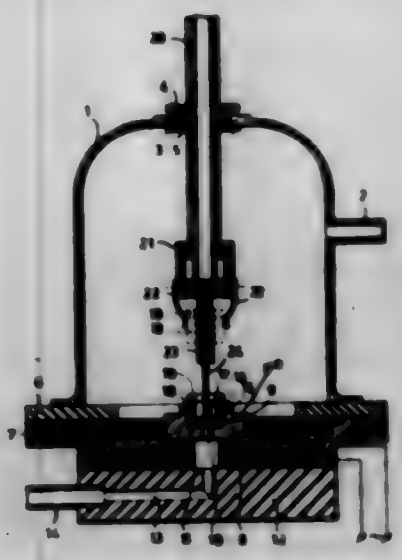
1. A turret and indexing mechanism comprising a support, a turret rotatably mounted thereon, an oscillating member mounted on the support for movement relative thereto and to the turret, a driving member mounted on the oscillating member for movement therewith and relative thereto, a reversible piston and cylinder assemblage connected to the driving member and operable to drive the driving member in opposite directions, selectively, along a predetermined path, detent means on the driving member, a cam follower connected to the driving member, a complementary detent receiving means on the turret, a cam mounted on the support and movable relative thereto in opposite directions, and when moved in one direction to a given position, bearing against the follower and thereby holding the detent means in cooperative relation to the complementary detent receiving means during movement of the driving member in the indexing direction and when moved in the opposite direction to another position, releasing the follower for permitting release of the detent means from the detent receiving means during movement of the driving member in the opposite direction, power means connected to the cam and operable to move the cam in said opposite directions to said positions, selectively, a source of hydraulic fluid under pressure, control means connecting said source to the piston and cylinder assemblage at one side of the piston and also connected so as to vent the assemblage at the opposite side of the piston, throttle means connected to said opposite side and operative to throttle the discharge from said opposite side, and throttle operating means connected to the throttle means and driven in predetermined relation to the rotation of the turret in the indexing direction to increase the degree of throttling by the throttle means progressively in minute increments as the turret approaches final indexed position.

3,141,357

METHOD OF MANUFACTURING DIES

Lubertus Schuitvlot, Emmasingel, Eindhoven, and Abraham Jan van der Wagt, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 9, 1961, Ser. No. 94,635
Claims priority, application Netherlands Mar. 12, 1960
8 Claims. (Cl. 76—107)



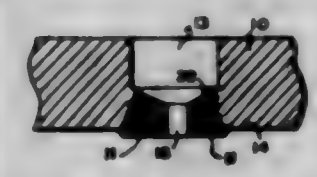
1. A method of manufacturing a drilled diamond die in a metal setting comprising arranging a drilled diamond in a gas-tight chamber in said setting, providing a non-oxidizing gas in said chamber, said chamber having a larger inner diameter than the outer diameter of said diamond, providing a bore in said setting opening centrally into said chamber, said chamber having a central aperture adjacent to and aligned with one end of said bore, providing a metal ring in said chamber surrounding said diamond and having a melting point lower than the melting point of said setting, said metal ring being capable of wetting said diamond and adhering to said setting, the molten and subsequently solidified metal of the ring being located in said chamber, introducing the setting into the field of a concentrator of a high frequency generator to melt said ring, and drilling said metal mass after solidification thereof to provide an opening corresponding to the bore of said diamond and at the other end of said bore.

3,141,358

METHOD FOR FORMING SPINNING ORIFICES IN SPINNERET PLATE STRUCTURES

James De Jarnette Burke, Jr., Kinston, and Curtis Owen Hawkins, Cove City, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 9, 1962, Ser. No. 193,418
9 Claims. (Cl. 76—107)



1. An improved method of forming a spinning orifice and an elongated passageway with substantially parallel side wall elements in a spinneret plate structure, said plate structure provided with one side having a spinning face and an other side, said process comprising deflecting a portion of said plate structure in the direction of the plate

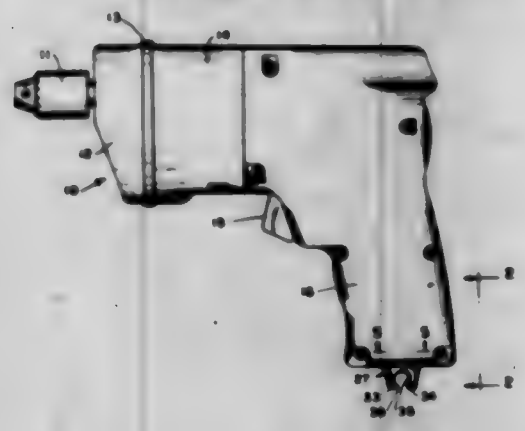
face to form a smoothly contoured protuberance extending from the plate face, forming an indentation with inwardly tapered side walls in the central portion of the protuberance from the face of said plate structure, deflecting the central portion of said protuberance in the reverse direction toward the plane of the plate face a sufficient amount to cause the tapered side walls of the indentation to become substantially parallel, and removing a portion of the plate structure adjacent said indentation to connect said indentation with the other side of said plate structure.

3,141,359

ACCESSORY HOLDER FOR TOOL OR APPLIANCE

John L. Bennett and Allen C. Stanley, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed Aug. 11, 1961, Ser. No. 130,912
1 Claim. (Cl. 77—7)



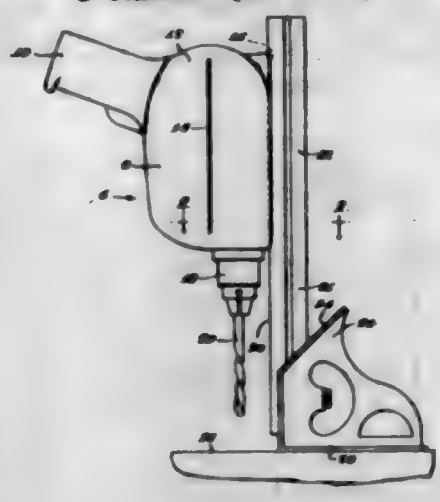
In a portable electric drill, wherein a chuck key is occasionally used in conjunction with the drill: the combination of a pendant handle having a split-housing comprising a pair of complementary mating halves detachably secured together along a common longitudinal midplane, one of said mating halves constituting the cover for the other, each of said mating halves having a lowermost hollow portion including a substantially-flat lowermost wall, said walls being co-planar and each of said walls being reatively thin and having a rectangular recess formed therein, said rectangular recesses communicating with each other when said mating halves are secured together, and a one-piece chuck key holder integrally-molded from a resilient material and comprising an internal portion, an intermediate portion, and an external portion, said intermediate portion having a rectangular cross-sectional shape and size corresponding to that of said communicating recesses in said housing, said internal portion having a larger cross-sectional shape and size than that of said intermediate portion, whereby said molded chuck key holder may be trapped between said mating halves of said split-housing handle as said halves are secured together, and said external portion of said chuck key holder comprising a pair of ears having respective outer side surfaces which are tapered, with the tapers converging towards each other in a direction away from said substantially-flat lowermost wall of said pendant handle, said ears having a cylindrical opening formed therebetween, the axis of which is parallel to said substantially-flat lowermost wall of said pendant handle, spaced therefrom, and transverse to said common plane of said mating halves, the diameter of said cylindrical opening corresponding to the diameter of the shank portion of said chuck key, and said ears further having a mouth portion formed between their respective extremities, said mouth portion communicating with said cylindrical opening and having a width which is less than the diameter of said opening, whereby said ears of said external portion of said resilient integrally-molded holder may be spread apart slightly to receive the shank of said chuck key through said mouth portion and into said cylindrical opening to thereby frictionally grip said chuck key.

3,141,360

GUIDED ELECTRIC DRILL

Samuel Wolf, Rte. 1, Box 66, Spring Grove, Ill.

Filed Feb. 18, 1963, Ser. No. 259,126
3 Claims. (Cl. 77—7)



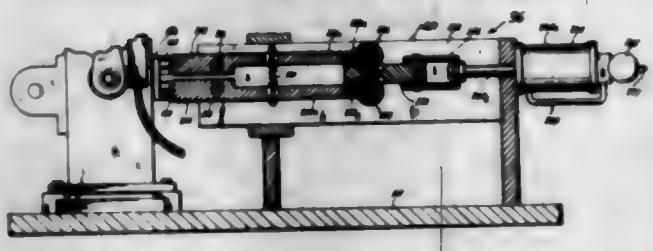
1. For use in drilling a hole in a flat working surface, the temporary combination of a portable electric drill having a chuck and a tool therein and a combination square having a blade with a straight edge and a foot of substantial width and length at right angles to said edge, the barrel of said drill having an unobstructed groove therein about one-sixteenth inch in width and having a depth approximately equal to its width over the greater portion of its length, said groove having straight sides and a bottom all parallel to the axis of said chuck, said groove engaging closely and slidably said edge of said square.

3,141,361

MACHINE AND SWAGING MECHANISM FOR THE MANUFACTURE OF STUDDED ELECTRODES

George B. Erskine and Stanley J. Gartner, Emporium, Pa., assignors to Emporium Specialties Co., Inc., Emporium, Pa., a corporation of Pennsylvania

Original application Oct. 3, 1957, Ser. No. 687,913, now Patent No. 2,951,933, dated Sept. 6, 1960. Divided and this application Jan. 22, 1960, Ser. No. 4,118
3 Claims. (Cl. 78—23)



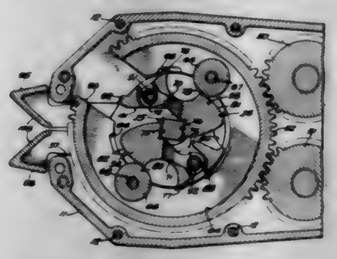
1. In a machine for the manufacture of studded electrodes of the type having a body and one or more radially-extending studs welded thereto, a stud-transfer mechanism having movable jaws adapted to engage successive studs and including operating means for engaging said stud-transfer mechanism on successive studs, actuating means for said stud-transfer mechanism operable to advance successive studs into a swaging position, a swaging mechanism at said swaging position having a pair of opposed jaws adapted to close on and swage the rear ends of successive studs while held by said stud-transfer mechanism and including operating means for closing said swaging mechanism on successive studs at said swaging position, the operating means and actuating means for said stud-transfer mechanism being operable

in a timed relation to the operating means for said swaging mechanism whereby the latter supports successive studs while said stud-transfer mechanism returns to engage the next stud.

3,141,362
JAW OPERATING STRUCTURE FOR A POWER-OPERATED WRENCH

Simon Tamay and Zenas V. Weisel, Los Angeles, Calif., assignors, by mesne assignments, to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed May 12, 1960, Ser. No. 28,746
18 Claims. (Cl. 81—57)

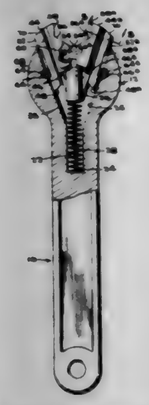


1. In a power tong for gripping an object formed with side faces, the combination of, a rotatable power means formed with a central opening and having camming means rotatable therewith, driven means positioned in said power means for relative rotation thereby and provided with an opening for receiving said object, gripping means movably connected to said driven means and formed with jaw surfaces for fitting said side faces, said gripping means further having means cooperable with said camming means so that upon rotation of said power means with respect to said driven means said jaw surfaces are moved into fitting engagement with said side faces, and means for adjusting said jaw surfaces by minimizing forces for gripping said object and maximizing forces for orienting said jaw surfaces with said side faces so that said jaw surfaces are oriented with said side faces prior to maximum force engagement of said jaw surfaces with said side faces.

3,141,363
DUAL SLIDING JAW WRENCH

Leon J. Ferry, 28 Lake St., Celoron, N.Y.

Filed Dec. 14, 1962, Ser. No. 244,822
3 Claims. (Cl. 81—128)

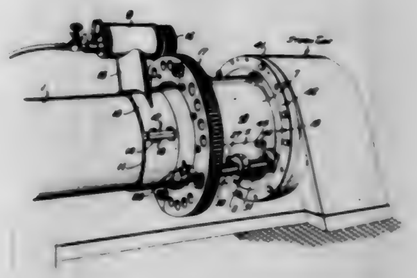


1. A dual sliding jaw wrench comprising a head formed with a forwardly-flaring notch having forwardly-diverging sides, opposed jaws slidably mounted on the head for forward and rearward movements relative to the head at forwardly divergent angles relative to each other, said jaws having opposed gripping means on their laterally inward sides, the rear ends of the jaws being laterally inwardly and forwardly angled, a spring-biased plunger having a conical forward end engaged with the angled rear ends of the jaws and urging the jaws forwardly, and stop means limiting forward movements of the jaws relative to the head.

3,141,364
RESURFACING MACHINE FOR PROPELLER SHAFTS

Kendal R. Kelley, 220 W. 107th St., New York, N.Y., and Reginald F. Milbeiser, 34—21 62nd St., Woodside, N.Y.

Filed June 15, 1960, Ser. No. 36,455
16 Claims. (Cl. 82—4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. Apparatus for resurfacing a selected axially extending portion of a shaft, which comprises a split, cylindrical shell surrounding said shaft and having a flange at at least one end thereof, total encircling means rotatably supporting said shell on said shaft and in contact with said shaft over its entire encirclement, driving means for rotating said shell at a selected speed around said shaft, a tubular guide bar mounted on said shell externally thereof and parallel with the axis of said shell, a tool holder slidable axially on said bar, means for restraining said tool from rotation on said bar, feed means for moving said tool holder axially of said bar, said shell having an opening inwardly of said tool holder to permit a tool carried by said holder to engage said shaft as said shell is rotated about said shaft, and thrust bearing means engaging said flange to position said shell axially of said shaft and hold it against displacement in either axial direction.

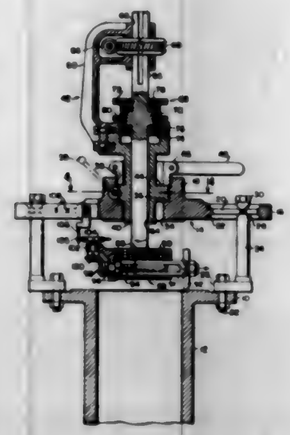
3,141,365
PORTABLE LATHE

James B. Peters, 563 Chestnut St., Lynn, Mass.

Filed Mar. 9, 1961, Ser. No. 94,473
5 Claims. (Cl. 82—4)

1. A portable lathe for working on the face of a workpiece such as a pipe flange, comprising a spider having an opening formed axially therethrough, means for adjustably mounting said spider on a workpiece in spaced relation to the face thereof, a spindle support mounted in the opening of the spider and being rotatably adjustable relative to said spider, said support being formed with a longitudinal opening extending concentrically therethrough and an eccentric collar by which it is supported in the spider, a spindle rotatably mounted in the longitudinal opening of the support, a facing tool mounted on the end of said spindle adjacent said workpiece, and means for rotataing said spindle about its longitudinal

axis to drive said tool, said spindle being adapted to be axially centered with respect to said workpiece by rota-

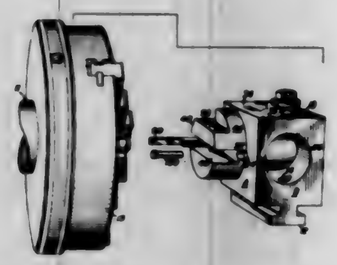


tion of said spindle support with its eccentric collar supplemented by appropriate lateral movement of said spider.

3,141,366
TOOL HOLDER AND MOUNT

Milton A. Frank, Sr., Frederick, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 12, 1962, Ser. No. 179,259
1 Claim. (Cl. 82—36)
(Granted under Title 35, U.S. Code (1952), sec. 266)

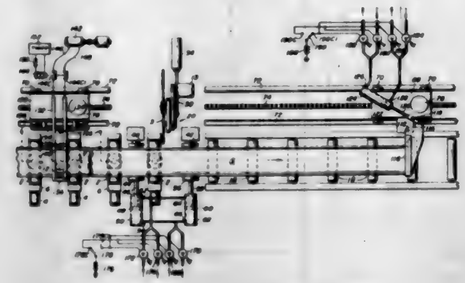


A combination tool holder and tool mount, said tool mount comprising a block, said block having an opening extending horizontally therethrough and positioned so that the axis of said opening lies in a horizontal plane, said block having a second opening in the same plane as and intersecting at right angles said first mentioned opening, a positioning groove on the circumference of one of said openings, said block having a horizontal slit extending between both of said openings, said tool holder comprising an elongated cylindrical portion positioned in one of said openings, an enlarged head provided at one end of said elongated cylindrical portion, said enlarged head provided with a tool holding horizontal slot, means securing a tool in said slot, a groove in said cylindrical portion aligned with said groove in said opening positioning said slot in a horizontal plane, lock plug means inserted in said grooves, and tightening means extending through said block to close the slit and thereby hold said tool holder in said tool mount.

3,141,367
APPARATUS FOR CUTTING ELONGATED ARTICLES TO ACCURATE LENGTH

Everett L. Keener, Pitcairn, and William L. Roberts, Monroeville, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

Filed July 14, 1961, Ser. No. 124,071
2 Claims. (Cl. 83—170)

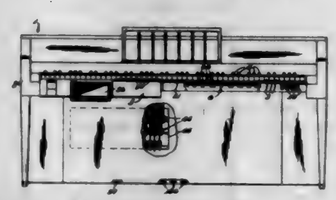


2. Apparatus for cutting elongated articles to accurate length comprising a conveyor for moving said article longitudinally, cutting means adjacent said conveyor intermediate the length thereof, a first carriage on the entry side of said cutting means mounted for movement parallel to said conveyor, a second carriage on the exit side of said cutting means mounted for movement parallel to said conveyor, heating means mounted on said first carriage for heating a relatively small longitudinal portion of said article across its width while maintaining the remainder of the article relatively cold, a stop mounted on said second carriage for movement into and out of the path of travel of articles on said conveyor, article clamping means adjacent said cutting means, means for moving said carriages predetermined and substantially equal distances from said cutting means, means for supplying heat to said heating means when the first carriage is stopped at said last named position, means for moving said article when locally heated along said conveyor until it reaches said stop, means for moving said clamping means to operative position to clamp said article in said last named position, and means for moving said cutting means transversely entirely through the heated portion of said clamped article.

3,141,368
PIANO WITH ELECTRIC NOTE PLAYING MEANS

Lee L. Von Gunten, 379 Broad St., Apt. 1, Tonawanda, N.Y.

Original application Feb. 24, 1959, Ser. No. 794,902. Divided and this application Feb. 28, 1962, Ser. No. 176,274
5 Claims. (Cl. 84—246)

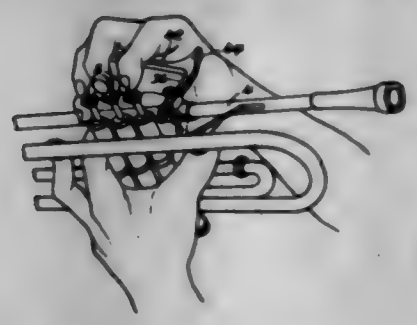


1. In combination with a piano having keys and piano action means with links therein,

individual solenoids including coils and armatures for each key of a control octave in the piano, a said armature for a said coil being positioned on the axis

thereof and at one end of but within said coil when such coil is not energized,
electric power supply means,
circuit means individually connecting said solenoids to said power supply means,
frame means for said solenoid coils and on which they are secured,
said solenoid coils being positioned in a plurality of horizontal rows that are in vertical alignment on said frame means below the keys of the piano,
coupler means individually secured to said armatures and extending forwardly and upwardly therefrom to a point adjacent said links, and
resilient link striking arms individually secured to each of said coupler means and extending to positions immediately below a link controlling a key represented by a said solenoid, the center axis of a said solenoid being on the axis of movement of a said link to cause a piano key to be played when its said solenoid is energized to lift the said armature therefor.

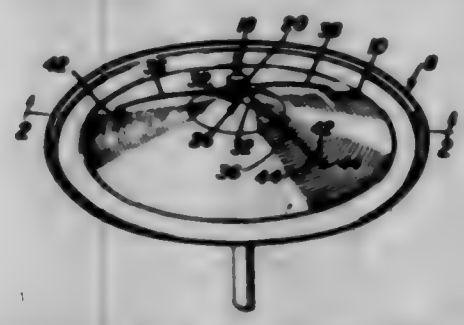
3,141,369
HAND SUPPORT FOR A HORN
Arthur L. Miccio, 5 Guilford Lane, Trenton, N.J.
Filed Nov. 23, 1962, Ser. No. 239,737
1 Claim. (Cl. 84—387)



In combination with a trumpet having a mouth piece tube, a plurality of slide valves and keys arranged in a row generally parallel to said mouth piece tube for actuating said slide valves, an attachment for application to said trumpet, said attachment having a hand support carried thereby, clamping elements formed with complementary concave surfaces engageable with the mouth piece tube of the trumpet and movable longitudinally and circumferentially with respect to the mouth piece tube to a selected position, means for securing said clamping elements and attachment in said selected position on the mouth piece tube of the trumpet, the hand support carried by the attachment being provided with a surface extending generally parallel to the mouth piece tube and row of keys and presenting a shoulder at one end thereof projecting outward from said surface and engageable by the edge of a musician's hand resting on said surface of the hand support to prevent the hand from slipping longitudinally of the hand support when executing the hand or arm vibrato, said hand support having a shank extending therefrom substantially at right angles to the hand support and slidably engageable with one of the clamping elements secured to the mouth piece tube of the trumpet, and means for securing said shank and hand support in a selected position with respect to said clamping elements and the keys of the trumpet.

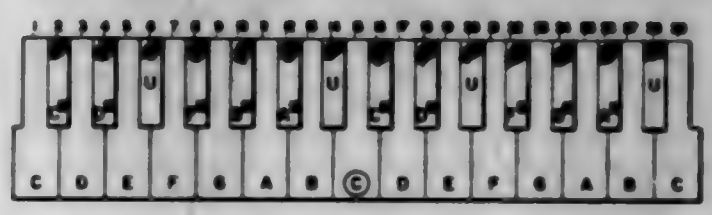
3,141,370
CYMBAL AND SIZZLE COMBINATION
Russel Ross, R.D. 2, Punxsutawney, Pa.
Filed Mar. 29, 1962, Ser. No. 183,425
6 Claims. (Cl. 84—402)

1. A cymbal attachment comprising a centrally apertured hub having at least three marginal radially circumferentially coplanar spaced sleeves in a plane even with the plane of said hub and providing bearings, three radial circumferentially spaced arms having inner ends fitted for



rotary movement in their respective bearings, and the outer end of at least one arm having a lateral depending U-shaped terminal defining a pair of cymbal riding fingers.

3,141,371
KEYBOARD-TYPE MUSICAL INSTRUMENT
Donald K. Coles, 2505 Capitol Ave., Fort Wayne, Ind.
Filed Aug. 18, 1961, Ser. No. 133,012
21 Claims. (Cl. 8—448)

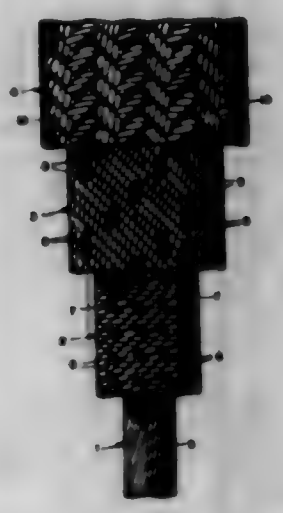


1. A musical instrument comprising: a continuous keyboard having a plurality of manually actuated alternately disposed upper and lower digitals, a plurality of tone actuator means respectively arranged to provide a continuous sequence of tones having pitches proceeding from low to high in an approximately equitempered scale forming at least one octave of twelve semitones; and switching means having at least first and second positions; said switching means in said first position thereof respectively coupling successive ones of said digitals to successively higher pitched one of said tone actuator means for actuating the same thereby to provide a uniform keyboard arrangement having twelve alternating upper and lower digitals per octave and with each successive lower and upper digital actuating a respective tone actuator means of successively higher pitch; said switching means in said second position thereof respectively coupling successive ones of said lower digitals to successively higher pitched ones of said tone actuator means and preselected successive ones of said upper digitals to other successively higher pitched ones of said tone actuator means in a successive pattern of first groups of two adjacent upper digitals and second groups of three adjacent upper digitals spaced from the adjacent first groups by one intermediate upper digital, said intermediate upper digitals being decoupled from said tone generator means in said second position of said switching means thereby to provide a conventional keyboard arrangement with fourteen alternating lower and upper digitals per octave and with each successive lower digital and upper digital of said first and second groups actuating a respective tone actuator means of successively higher pitch.

3,141,372
NONKINKING ROPES
Claus Benk, Isny, Allgau, Germany, assignor to Vereinigte Glanzstoff - Fabriken Aktiengesellschaft, Wuppertal-Elberfeld, Germany
Filed June 19, 1962, Ser. No. 203,513
Claims priority, application Germany June 26, 1961
7 Claims. (Cl. 87—6)

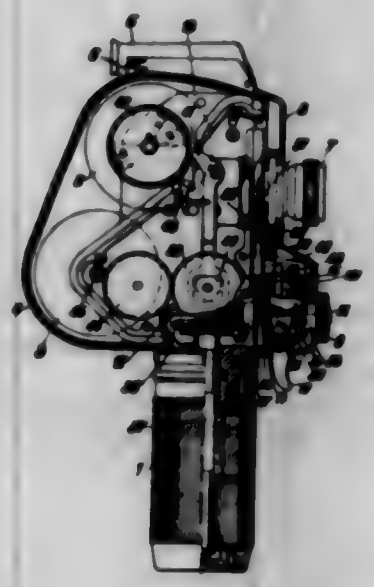
1. A mountaineering rope with a nonkinking core comprising a central core made of strands of synthetic poly-

ner yarns, a core sheath about said central core including an outer layer of spirally-wound strands made of synthetic polymer yarns, said layer having spiral, counter-wound strands interwoven with said spirally-wound strands, the strand diameter of said counter-wound



strands being at most one eighth of the diameter of said spirally-wound strands and the number of said counter wound strands being not greater than the number of said spirally-wound strands in said outer layer, and a mantle of braided strands surrounding said core sheath.

3,141,373
MOTION PICTURE CAMERA CONTROL MECHANISM
Peter Schmuck, 238 Rheinstrasse, Mauren, Liechtenstein
Filed Feb. 12, 1959, Ser. No. 792,847
Claims priority, application Austria Feb. 18, 1958
16 Claims. (Cl. 88—17)



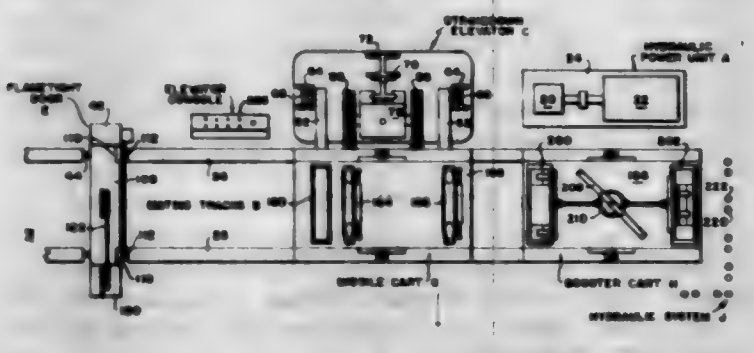
14. In a motion picture camera, in combination, support means; a single manually operable setting means carried by said support means for setting the camera for continuous operation at any one of a plurality of different speeds of operation and for alternatively setting the camera for discontinuous operation to make single exposures; and actuating means carried by said support means and manually operable independently of said setting means, said manually operable actuating means co-operating with said setting means and being actuated by the operator in exactly the same way irrespective of the type of operation selected with said setting means.

3,141,374
AUDIO VIEWER EQUIPMENT
Catherine M. Berry, 4900 Woodman Ave., Sherman Oaks, Calif.
Filed Aug. 8, 1960, Ser. No. 47,998
20 Claims. (Cl. 88—28)



1. An audio viewer card comprising a pair of flat members, means interconnecting said members in spaced relation to define therebetween a first transparency pocket and a second audio disc pocket, said members being provided with viewing apertures aligned with said first pocket to expose a transparency received in said first pocket, and axle openings aligned with said second pocket, an audio disc including a central axle received in said second pocket with said axle extending through and rotatably journaled in said openings and selectively variable program control means mounted on said interconnecting means and one of said members.

3,141,375
MISSILE HANDLING AND MATING SYSTEM
Bert M. Randall, Montgomery County, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 2, 1962, Ser. No. 177,129
12 Claims. (Cl. 89—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A system for receiving, handling, mating and stowing weapons of the type having at least two discrete components to be mated into a unitary weapon, said discrete components being initially received at an essentially exposed area and being handled, mated and stowed in an essentially enclosed area, said system comprising:

(*a*) reciprocating means movable to positions in communication with said essentially exposed and enclosed areas;

(*b*) separate carriage means for each said component, each of said carriage means adapted to be alternately positioned on and carried by said reciprocating means for directly receiving the components in the exposed area and for carrying said components from said exposed area to said enclosed area;

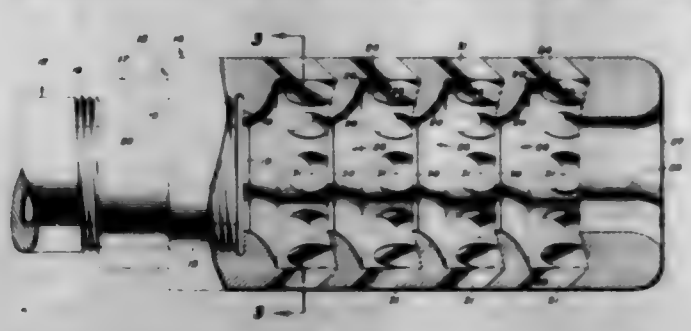
(*c*) track means mounted in said enclosed area along which said carriage means are adapted to travel;

(*d*) drive means selectively and detachably coupled to said separate carriage means for sequentially moving said loaded carriage means along said track means from said reciprocating means to a mating area for

substantial confluence of said carriage means thereat to thereby provide essential mating of said discrete components into a unitary weapon;

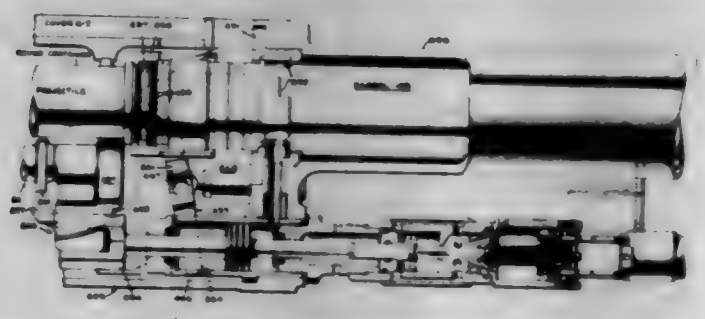
(*e*) and means for moving said unitary weapon from said carriage means to a stowage area.

3,141,376
FLAME-OUT ELIMINATOR
George M. Chinn, 400 Pennsylvania Ave. SE., Washington, D.C.
Filed June 13, 1955, Ser. No. 515,268
3 Claims. (Cl. 89—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



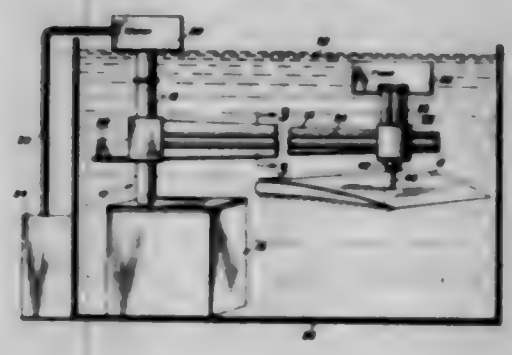
1. In combination with a jet type aircraft having an engine air inlet and a gun mounted in a position adjacent the air inlet thereof, a gun barrel blast deflecting device secured to the muzzle end of the gun and having a central bore coaxial with the gun bore, said blast deflecting device having cylindrical walls and circumferential, longitudinally spaced inwardly and rearwardly extending lands, said walls being separated from one another by said lands to define a plurality of independent, uniform size, annular gas collecting chambers longitudinally spaced along the central bore, portions of each of said walls defining a group of circumferentially arranged, rearwardly directed ports providing communication between the interior and exterior of the gas collecting chamber individual to such group, the lands of each of said collecting chambers forming at the forward end of said chamber a rearwardly inclined gas deflecting face and at the rearward end of such chamber a convex inwardly rounded face, the rearwardly inclined face of each of said lands being coterminous with the forward edge of each of said ports of the respective group of ports next adjacent thereto.

3,141,377
ROUND-TO-BARREL SEALING MECHANISM
Robert Butterworth, District Heights, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 3, 1957, Ser. No. 663,326
4 Claims. (Cl. 89—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)



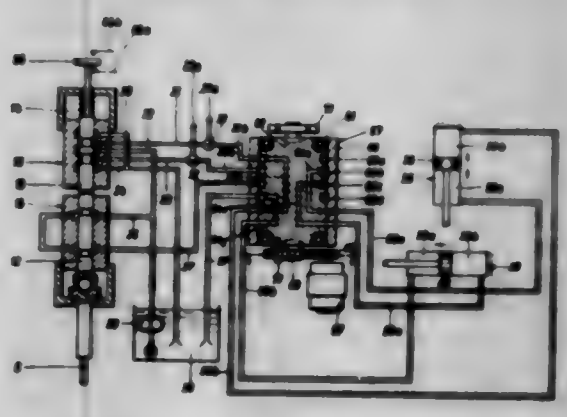
1. In an automatic weapon having a fixed barrel, a receiver, and feed means for successively moving loaded round containers into and empty round containers out of barrel alignment and firing rounds from the containers when in barrel alignment, a round-to-barrel sealing mechanism comprising, a reciprocating drive means operable upon round firing for actuating the feed means, sealing means for successively sealing each round container to the barrel when in barrel alignment and prior to firing of the round then sealed, said sealing means being movably mounted adjacent the breech end of the barrel, said sealing means including a slidable sealing collar successively engageable with one end of each round container, sealing rings carried by the barrel engageable with the inner surface of the collar, and supporting means for said collar carried by the receiver, yoke means engageable at one end with said collar, resilient pivot means for biasing said yoke means in one direction, bell crank linkage means connected to an opposite end of said yoke means, and means engageable in driven relationship with said drive means and carried by said bell crank linkage means whereby reciprocation of said drive means moves said collar between round-to-barrel sealed and unsealed positions.

3,141,378
MACHINE TOOL
Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 15, 1962, Ser. No. 166,178
5 Claims. (Cl. 90—11)



5. In a machine tool of the type having an elongate arm provided with a tool holder for a tool to work on a workpiece; a vessel containing liquid, said machine tool arm located in said liquid, and said arm having walls defining a liquid-tight cavity lengthwise of the arm by which the arm is hydrostatically supported along its length for flotation in the liquid to prevent sag of the arm.

3,141,379
AUTOMATIC TRACING MECHANISM FOR MACHINE TOOLS
Georg Schlapp, Friedrich W. Sallwey, and Paul Kohl, Langen, Hesse, Germany, assignors to Nassovia Werkzeugmaschinenfabrik G.m.b.H., Langen, Hesse, Germany, a company of Germany
Filed Aug. 14, 1961, Ser. No. 131,377
Claims priority, application Germany Aug. 25, 1960
10 Claims. (Cl. 90—62)



1. An automatic tracing mechanism control means for milling machines for contour milling, and in which the

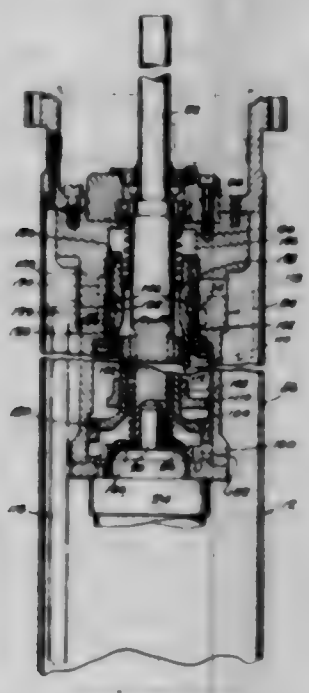
tool feed is hydraulically controlled in a first and a second direction by the tracing mechanism and independently controlled in a third direction, and in which deflection of the tracing pin is transmitted through a ball joint to a control shaft movable only in the direction of the longitudinal axis of said shaft, the improvement comprising a first hydraulic piston for tool feed in one direction of the contour to be milled, a second hydraulic piston for tool feed in the other direction of the contour to be milled, reversing valve means actuatable by said shaft for supplying fluid pressure to either the first or the second hydraulic piston, cutoff valve means actuatable by said shaft for supplying fluid pressure to the other one of the first or second hydraulic piston, said shaft having a central position at which said reversing valve means is closed and said cutoff valve means is opened, switch valve means operative in four different combinations, said switch valve means cyclically interchanging the fluid pressure supply from said reversing valve means and said cutoff valve means to either one or the other of the first or the second hydraulic piston, respectively, when said switch valve means is operated, operating means for moving said switch valve means in either direction, and contact means actuatable by said shaft, said contact means actuating said operating means in one direction when said shaft is in its downward position, and in the other direction when said shaft is in its upward position.

3,141,380

DRIVE MECHANISM

Arthur M. Harris, San Diego, and Eric Ledin, La Jolla, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 2, 1961, Ser. No. 128,912
4 Claims. (Cl. 91—2)



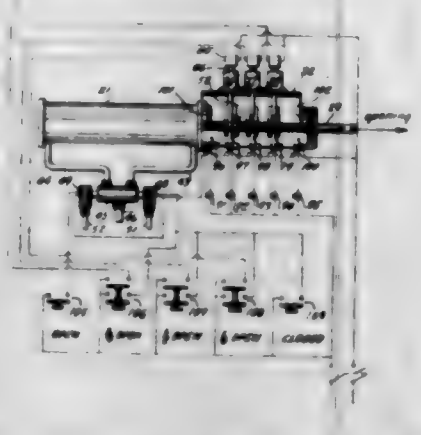
1. Drive mechanism comprising a pressure fluid operated motor, a source of pressure fluid in communication with said motor, a rotatable shaft driven by said motor, and a deceleration means carried by said shaft and comprising a housing enclosing a portion of said shaft, said housing including an inlet port in communication with the pressure fluid discharge from the motor and an outlet port in communication with said inlet port, a valve means in said housing for controlling the flow of fluid through said ports and including a spool mounted coaxially of said shaft and adapted to move along the shaft between a first position permitting the flow of discharge fluid into said inlet port and through said housing and a second position preventing the flow of discharge fluid into said inlet port, means biasing said spool toward said first position, a sleeve non-rotatably fixed to said shaft for rotation therewith, a deceleration nut threaded on said sleeve and including a portion adapted to engage said spool, and means connecting said nut with said housing in a manner preventing rotation of said nut but affording axial movement thereof within said housing, whereby rotation of said shaft and said sleeve causes said deceleration nut to move axially of said housing until said portion of said nut engages said spool and causes the latter to move to said position preventing flow of pressure fluid through said housing.

3,141,381

REMOTE CONTROL APPARATUS

Charles MacDonald, Riverside, Ill., assignor to National Castings Company, a corporation of Ohio

Filed June 20, 1960, Ser. No. 37,233
9 Claims. (Cl. 91—42)



1. Control apparatus comprising: a jack having an external control member movable relative to the body of the jack through advance and return movements along a straight path; detent means mounted on said member projecting therefrom in a lateral direction relative to the path; a second jack mounted in fixed relation with the first jack and having an external gate movable in a straight path toward and away from said path of the member, said gate having an abutment surface facing in a direction parallel to the first path and in reverse relation to advance movements of the member; said second jack disposed relative to the first jack for movement of the gate into and out of the ambit of the detent means for stoppage of the member at an intermediate point of its travel; means for actuating said second jack to normally maintain said gate out of said ambit; and means for simultaneously actuating the first jack in advance movements, and actuating the second jack to advance said gate into position for being engaged by the detent means.

3,141,382

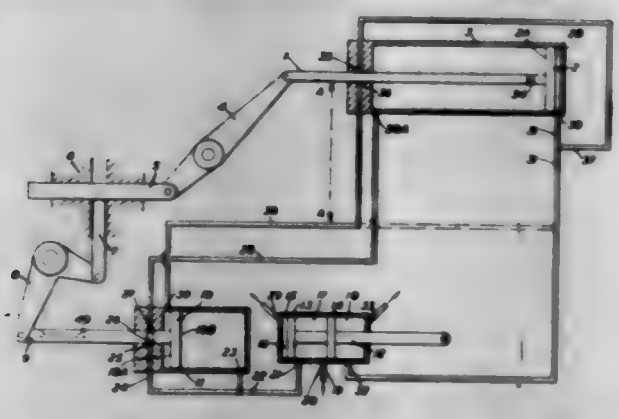
SELF-LOCKING PNEUMATIC ACTUATORS

Thomas Alfred Oldfield, Allestree, Derby, and Roderick Rodd Carr, Galleywood, near Chelmsford, England, assignors to The Plessey Company Limited, Ilford, Essex, England, a British company

Filed Jan. 24, 1963, Ser. No. 253,771
Claims priority, application Great Britain Feb. 2, 1962
7 Claims. (Cl. 91—44)

1. A self-locking fluid-pressure-operated actuator, having a ram cylinder and a piston movable in said cylinder between a first and a second relative position, a baulk element operatively connected to said ram to be moved from a first to a second position as said piston moves from said first to said second relative position and vice versa, a latch member movable, when said baulk element is in its first position, between a locking position in which it prevents the baulk member from moving towards its second position, and a free position in which

it permits such movement of the baulk member, a locking ram operatively connected to the latch member and having a locking ram cylinder and a piston movable therein, a selector valve for connection to a fluid-pressure supply, said valve being movable between a first position in which it establishes connection between such supply and a first service line supplying fluid pressure to the locking ram for moving the latch member to its free position, said first service line having a branch leading to one end of the main ram cylinder for permitting the admission of fluid pressure to move the main ram piston to its said first position, and a second position in



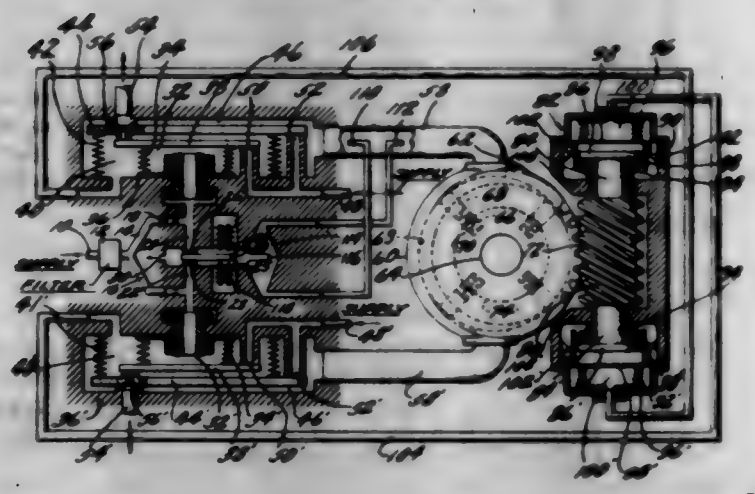
which it establishes connection between said supply and a second service line leading to the other end of the main ram cylinder, for permitting the admission of fluid pressure to move the main ram piston to its second position, said second service line having a branch leading to the locking ram cylinder for the supply thereto of fluid pressure to move the latch to said locking position, and said branch of the first service line including a cut-off valve means operatively connected with the latch member to permit fluid to pass through said branch of the first line only when the latch member is in said free position.

3,141,383

DRUM SERVO CONTROL VALVE

Robert N. Abild, New Britain, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 8, 1961, Ser. No. 111,124
7 Claims. (Cl. 91—45)



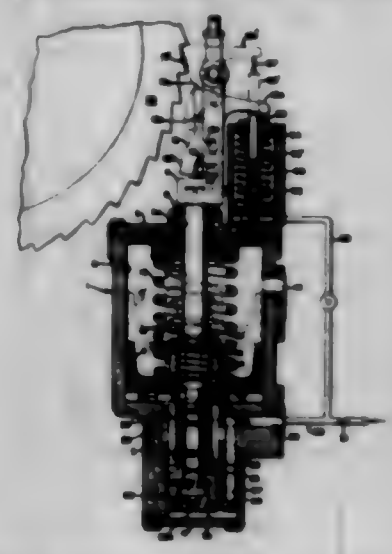
1. In a servo system, a conduit, a servo supply, connected to said conduit means for varying said servo supply including valve means positioned in a chamber to regulate flow through said conduit, motor means, locking means connected to said conduit operatively connected to said motor means for restraining movement of said motor means, means responsive to variations in said servo supply for releasing said locking means and actuating said motor means, feedback means responsive to pressure in said chamber acting on said valve means and additional feedback means responsive to flow in said conduit acting upon said servo supply varying means.

3,141,384

HYDRAULIC RECIPROCATING DEVICE

Herbert N. Hoffman, Lunenburg, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 3, 1962, Ser. No. 241,657
3 Claims. (Cl. 91—53)



1. A hydraulic reciprocating device comprising:
a housing defining primary and secondary cylinders,
main piston means disposed in the primary cylinder and having a bypass valve disposed therein to pass fluid from one side of the main piston means to the other,
first means biasing the main piston means to a retracted position,
second means biasing the bypass valve to a closed position, the force of the second biasing means on the bypass valve being in the same direction as the force of the first biasing means on the main piston means,
valve piston means disposed in said secondary cylinder and connected to actuate the bypass valve and to cut off the flow of fluid to the main piston means when both the main and valve piston means are in an extended position,
a source of hydraulic pressure fluid, and
conduit means supplying a first restricted flow of fluid from said source to actuate the main piston means against the first biasing means, said conduit means also supplying a second, more restricted flow of fluid to actuate the valve piston means against the second biasing means, whereby the valve piston means will move relative to the main piston means against the second biasing means when the fluid supply to the main piston means is cut off, thereby opening the bypass valve and causing the main piston means to retract under the influence of the first biasing means.

3,141,385

PRECISION INDEXING MECHANISM FOR MACHINE TOOLS

Herbert R. Uhlenwoldt, Worcester, Mass., assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

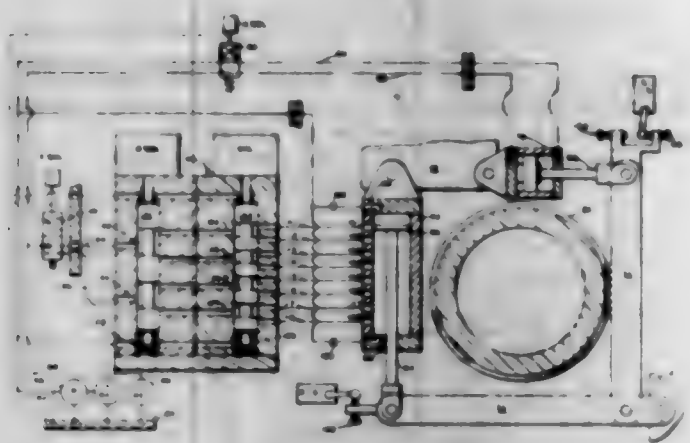
Filed Jan. 15, 1963, Ser. No. 251,595
12 Claims. (Cl. 91—189)

1. In combination with a rotatable member, an angular indexing mechanism comprising,
(*a*) a coarse position motor connected to the member and selectively operable for rotation thereof,
(*b*) means to produce a coarse position signal when the member is rotated to a selected predetermined angular position by said coarse position motor,

(*c*) means responsive to said coarse position signal to deenergize said coarse position motor and stop rotation of the member thereby,

(*d*) means to produce selected fine position signals when the member is in said predetermined angular position,

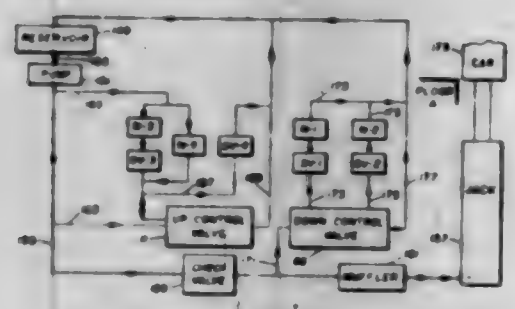
(*e*) a fine position motor,



(*f*) means to connect said fine position motor to the member in response to said coarse position signal, and

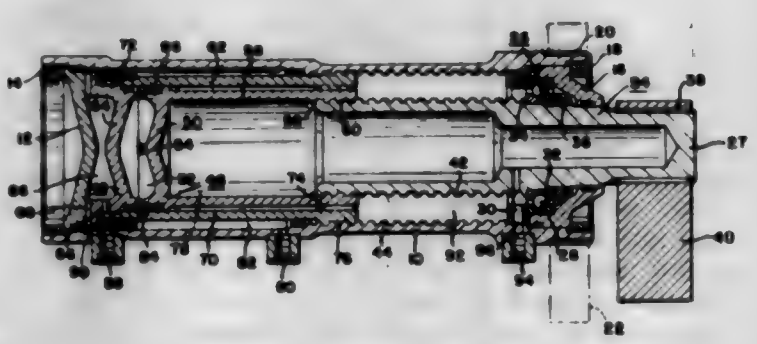
(*g*) means to operate said fine position motor for rotation of the member from said predetermined angular position a preselected amount corresponding to said fine position signals, said fine position motor effective to hold the member in said predetermined angular position when no fine position signals are produced therein.

3,141,386
HYDRAULIC CONTROL APPARATUS AND SYSTEMS
Robert F. Longbridge, 2343 Winton Terrace W., Fort Worth, Tex.
Filed Jan. 15, 1962, Ser. No. 166,192
6 Claims. (Cl. 91—361)



4. In a hydraulic elevator system including a car; a jack having a fluid inlet; a fluid reservoir having a fluid outlet and a fluid inlet; a fluid pump having a fluid outlet and a fluid inlet; a check valve having a fluid outlet and a fluid inlet; a hydraulic control valve comprising: a valve body having inlet and outlet apertures, and a main passage communicating between said apertures; a valve closure including a movable element interposed in said main passage; a cylinder, and a piston reciprocable in said cylinder; a first fluid cavity formed by said piston and cylinder on one side of said piston, and a second fluid cavity formed by said piston and cylinder on the other side of said piston; means linking said movable element to said piston for movement therewith; first fluid passage means communicating between said inlet aperture and said first cavity; second fluid passage means communicating between said second cavity and the exterior of said cylinder; an aperture in said piston and extending in the direction of piston movement; a pin slidably received by said piston aperture; a third cavity within said pin and extending longitudinally thereof, and an orifice communicating between said third cavity and the pin exterior, said orifice being positioned such that it is exposed to said second cavity when said valve is closed and blocked by said piston when said valve is partially opened; third fluid passage means communicating between said third cavity and said outlet aperture; resilient bias means opposing movement of said pin in the axial direction toward said first cavity from said second cavity; and means allowing pressure of fluid in said second cavity to act on said pin in a direction to oppose the force of said bias means; fluid conduit means connecting said reservoir outlet to said pump inlet; fluid conduit means connecting said pump outlet to said check valve inlet; fluid conduit means connecting said check valve outlet to said jack inlet; conduit means connecting said pump outlet to said control valve inlet aperture; conduit means connecting said control valve outlet aperture to said reservoir inlet; a first normally closed solenoid valve having an inlet and an outlet; conduit means connecting said pump outlet to said solenoid valve inlet; conduit means connecting said solenoid valve outlet to said control valve second fluid passage means; a second normally open solenoid valve having an inlet and an outlet; conduit means connecting the outlet of said normally open solenoid valve to said reservoir inlet; conduit means connecting said control valve second fluid passage means to the inlet of said normally open solenoid valve; means for opening said first solenoid valve and closing said second solenoid valve preparatory to movement of said car in the upward direction; means for closing said first solenoid valve as said car nears a floor terminal; and means for closing said second solenoid valve when said car arrives at said floor terminal.

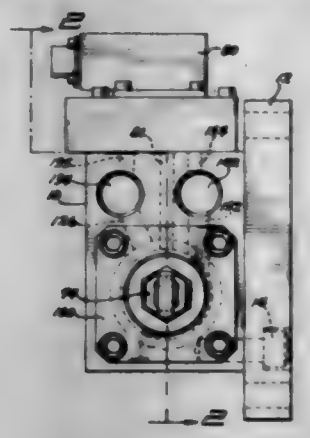
3,141,387
TWIN PISTON ROTARY ACTUATORS
Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 8, 1962, Ser. No. 193,251
20 Claims. (Cl. 92—33)



1. A rotary actuator comprising, a cylinder, a rotary output member journalled in said cylinder, a pair of reciprocable pistons disposed in said cylinder having operative helical connections with said output member for imparting rotation thereto upon reciprocation of either piston, independent means operable to effect movement of each piston in one direction, common means for effecting movement of said pistons in the opposite direction, and a positive mechanical stop engageable with one of said pistons to limit reciprocable movement thereof in said one direction to determine an intermediate angular position of said output member.

3,141,388
LINEAR ACTUATOR

Jack M. Brandstadter, Royal Oak, Mich., assignor to Cadillac Gage Company, Roseville, Mich.
Filed Mar. 27, 1961, Ser. No. 98,549
1 Claim. (Cl. 92—51)



A positioner for linearly positioning a movable reference element in relation to a stationary reference element, said positioner comprising:

a stationary housing defining the stationary reference element and having a substantially cylindrical bore closed at one end and open at the other end;

a slidable output shaft defining the movable reference element and which is movable through the open end of the housing;

a plurality of cascaded motor stages slidably disposed end to end within the bore intermediate the closed end of said bore and the output shaft, each of said motor stages comprising:

a cylinder member slidable within the bore of the the housing and provided with a longitudinally aligned bore having a closed end and an open end,

a bushing sleeve provided within the open end of the cylinder member and defining an abutment shoulder extending a predetermined distance into the bore of said cylinder member,

a piston member slidably disposed within the bore of the cylinder member and being provided with an inner face end proximate the closed end of the bore in the cylinder member and an outer face end protruding thorugh the bushing sleeve in the open end of said bore,

an abutment shoulder on the piston member for limiting the stroke thereof by engagement with the shoulder of the bushing sleeve,

port means to admit fluid under pressure into a chamber defined by the inner face of the closed end of the cylinder member and the inner face end of the piston member to thereby cause said piston member to slidably move within said cylinder member until the abutment shoulder of said piston member is forced to engage the abutment shoulder of the sleeve bushing;

each of the motor stages being disposed in the bore in the housing with the protruding outer face end of its piston member pushing against the outer face of the closed end of the cylinder member of the next motor stage and forcing said next motor stage to travel a distance equal to the stroke of said piston member, and the piston member of the last stage being integral with the end of the output shaft situated within the bore of the housing;

fluid pressure biasing means applied upon an area of the piston member of the last motor stage for maintaining all the motor stages in contact with each other and thereby being less than the area upon which the fluid under pressure exerts the force that extends said piston member;

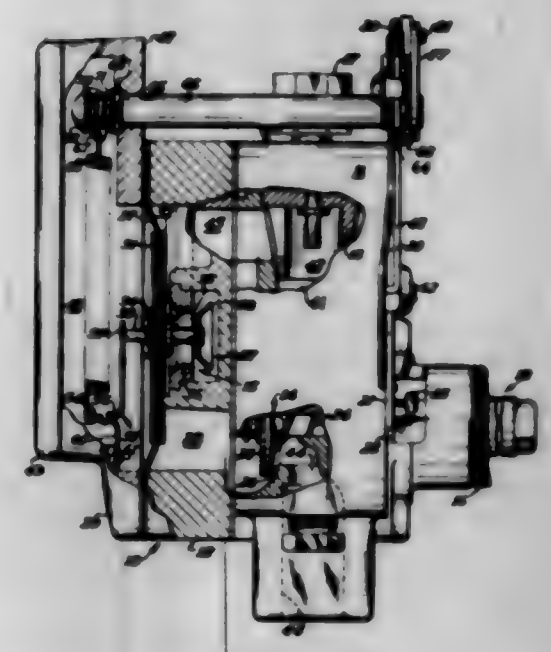
sealing means preventing fluid from leaking to the ambient past the output shaft;

separate sealing means to prevent the fluid admitted to the motor stages from leaking past the piston members of said motor stages;

and means for venting the bore of the housing to thereby preclude accumulation of fluid therein.

3,141,389
SPRING ADJUSTING MEANS FOR CONTROL DEVICES

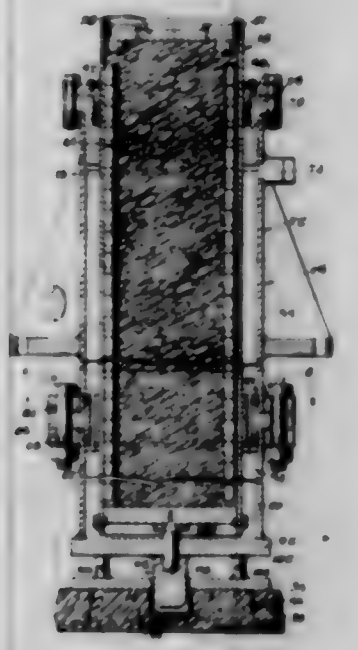
Courtland B. Currie, Long Beach, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 22, 1961, Ser. No. 161,730
5 Claims. (Cl. 92—95)



5. Apparatus for variably loading the diaphragm operator of a pressure responsive control device to render the device adjustable between maximum and minimum operating points comprising: a spring for loading the diaphragm in opposition to the pressure; force transmitting means engaging one end of said spring member and adapted to transmit force therefrom to the diaphragm; a motion transmitting member rotatably mounted on the body of the device; an arm member fixed to said motion transmitting member and extending generally transversely thereto; a selector member mounted on said motion transmitting member; means associated with said selector member for limiting angular movement thereof to movement between two positions corresponding to the maximum and minimum operating points of the device; means associated with said selector member for indicating the operating point of the control device; and calibration means for the device including means for adjusting the rotational position of said selector member on said motion transmitting member and for locking said selector member to said motion transmitting member thereafter, and a spring engaging member mounted on said arm member and adjustable along the axis thereof and engaging the other end of said spring, said spring being so constructed that said arm member is substantially perpendicular to said spring at the maximum operating point and so that said arm member forms an acute angle with said spring at the minimum operating point; said calibration means affording calibration of the device by first rotating said motion transmitting member to a position where the loading on the diaphragm causes the device to operate at the maximum operating point, by adjusting the position of said selector member with respect thereto to indicate the maximum operating point and then by locking said selector member to said motion transmitting

member, by rotating said selector member and said motion transmitting member to said minimum pressure position, and by adjusting said spring engaging member along the axis of said arm member to a position where the loading of the diaphragm causes the device to operate at the minimum operating point.

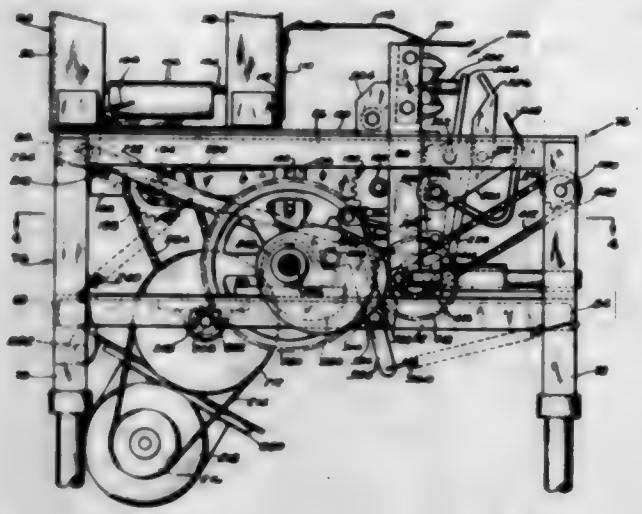
3,141,390
LIFTING DEVICE
John B. McAlpine, Scarborough, Ontario, Canada, assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Sept. 28, 1960, Ser. No. 57,325
7 Claims. (Cl. 92—248)



1. A plunger comprising an elongated tubular casing, a number of slender rods of a material having a substantially high tensile strength inserted within said casing and extending longitudinally within it along its inner wall, securing means joining the ends of said rods to said inner wall adjacent the ends of said tubular casing to increase its tensile strength, and a cementitious mixture substantially filling the interior of said casing for preventing said rods from buckling and minimizing the tendency of said plunger to oscillate as well as increasing the compressive strength of said plunger.

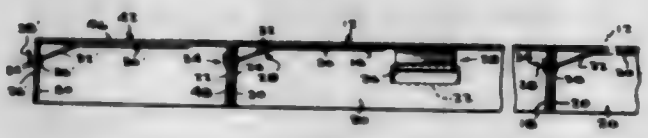
3,141,391
EGG CARTON SET-UP MACHINE
Donald G. Coleman, Battle Creek, Mich., assignor to Michigan Carton Co., Battle Creek, Mich., a corporation of Michigan
Filed May 28, 1962, Ser. No. 198,096
12 Claims. (Cl. 93—37)

7. Apparatus for setting up a collapsed paper board carton blank into an erected cellular carton, said blank being of the type characterized by a connected series of panel members adapted to be erected into side wall forming panel members and a bottom wall forming member of an erected carton and including cross partition forming members foldable out of the plane of a top wall forming member into interlocking engagement with said bottom wall forming member; said apparatus comprising a supporting frame including a set-up zone, a set-up head mounted for movement along said supporting frame to and from said set-up zone, a plurality of pivotally mounted folding plates mounted on said head for engagement with and folding said cross partition forming members in said set-up zone, means for moving said set-up head to and from said set-up zone and being operable to hold said set-up head substantially stationary in said set-up zone during operation of said folding plates to fold said cross partition forming members, means for disposing a carton blank in said set-up zone with said cross partition forming members in engagement with said set-up head, movable tucking means engageable with said bottom wall forming member to move the latter toward said set-up head and



into a final set-up position interlocking with said cross partition forming members, and means operatively connecting said tucking means to said folding plates to actuate the latter to fold said cross partition forming members in response to movement of said tucking means.

3,141,392
PORTABLE SECTIONAL FLOORING
Irene H. Schneider and Albert W. Schneider, both of 724 N. 59th St., East St. Louis, Ill.
Filed Feb. 16, 1962, Ser. No. 173,630
5 Claims. (Cl. 94—13)

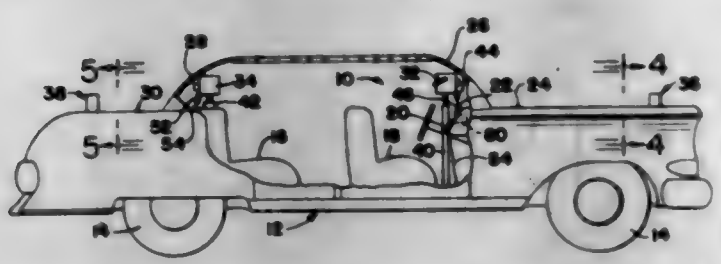


1. In a structure of the character described, a main rectangular portion comprising a plurality of rectangular pan-shaped main sections, each section comprising a flat top wall and pairs of opposed depending side walls, one wall of each pair being formed with longitudinally spaced slots, the other wall thereof being formed with longitudinally spaced slots adapted to register with the slots of the one wall of the adjacent section, spring clips having shanks secured to the under surfaces of the top walls of each section, declining portions on the outer ends of the shanks aligned with the other wall slots, said declining portions terminating in vertically opening hooks having arcuate bight portions extending through the other wall slots, said bight portions terminating in vertical terminals spaced from the outer surfaces of said other walls, said one wall and said other walls of the sections being in abutting relationship with the hook terminals engaged through slots of the one wall and with the bight portions of the hooks spread under tension and clamping abutted one and other walls together.

3,141,393
APPARATUS FOR OBTAINING ROADWAY PHOTOGRAPHS
Fletcher N. Platt, Ann Arbor, Mich., assignor to Photo/File Surveys Inc., Ann Arbor, Mich., a corporation of Delaware
Filed Mar. 14, 1961, Ser. No. 95,626
11 Claims. (Cl. 95—1.1)

1. Apparatus for taking a series of photographs from a moving vehicle showing the roadway traveled by the

vehicle and means identifying each photograph, said apparatus comprising a vehicle, a camera mounted on said vehicle a predetermined distance above said roadway and facing so as to be capable of taking a photograph showing a scene of the roadway corresponding substantially to the view of a vehicle driver, photograph identification means including a counter mounted on said vehicle so that a picture thereof is included in each photograph of said roadway taken with said camera, said counter being

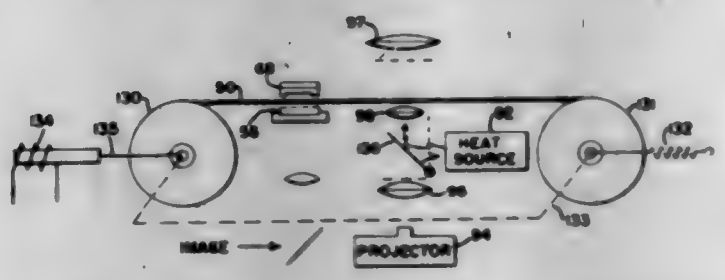


intermittently operable to expose successive numbers thereon to view of said camera, means for actuating said counter each time said vehicle travels a predetermined distance, means for actuating said camera through a cycle of exposure, and control means providing for alternate operation of said counter and camera actuating means so that said camera is actuated between successive actuations of said counter so that each photograph of said roadway includes a picture of said counter in a number exposing position thereof.

3,141,394
DOCUMENT RECORDING SYSTEMS

David R. Cunningham, Syracuse, N.Y., Lewis Edmond Somers, Bethlehem, Pa., and John D. Stone, Pennellville, and Arie W. Hartman, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 26, 1963, Ser. No. 261,575
7 Claims. (Cl. 95—1.7)



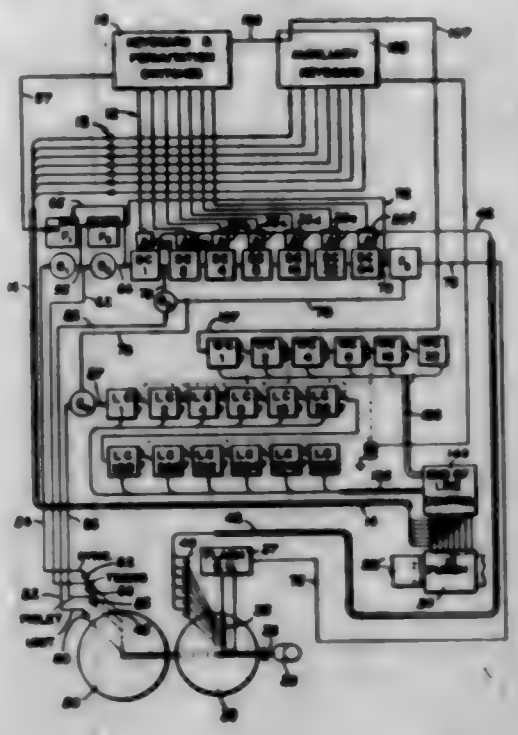
4. Exposure apparatus for developing an electrostatic charge on a flexible thermoplastic tape comprising a rigid photoconductive assembly on one side of said tape having spacing means affixed to the surface adjacent to said tape, a rigid transparent plate on the other side of said tape having opaque markings and a channel on the surface adjacent to said tape, means attached to said photoconductive assembly for bringing said spacing means into intimate contact with the surface of said tape, means attached to said plate for evacuating said channel to draw said tape into intimate contact with the surface of said plate, and means for applying light radiation to said photoconductive assembly through said plate.

3,141,395
PHOTOGRAPHIC TYPE COMPOSITION

Richard C. O'Brien, Cleveland, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed June 30, 1960, Ser. No. 39,858
12 Claims. (Cl. 95—4.5)

1. In apparatus of the character described, the combination of a selector counter, means connected to preset said counter to a code number representing a selected character in a line of composition, means operative with said counter to determine from the character selection code a further code number representing the unit width of the selected character relative to other characters of varying widths, means connected to reset said counter to said further code number, means for representing a variable point set factor by which the unit width of selected

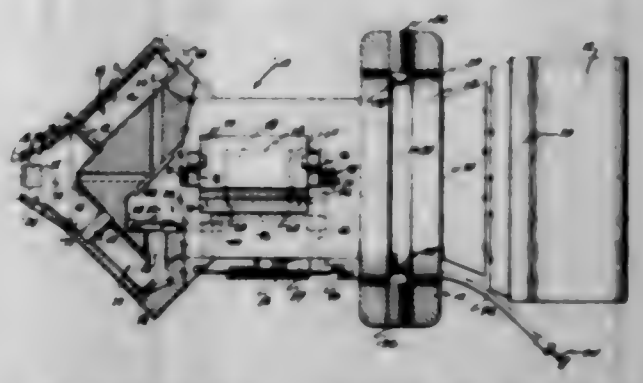


characters is to be modified in computing the actual width of the projected image of each character, means operating with said counter and said factor representing means to produce an output representing the product of the point set factor and the unit width information in said counter, and accumulator means receiving said products and operative to maintain a continuous sum thereof representing the actual space in a line of composition to be occupied by the projected character images.

3,141,396
CORNEAL PROFILOMETER

Oliver Paul Kimball, 2465 S. Downing St., and Robert J. Herbold, 2510 S. Columbine St., both of Denver, Colo., and Willard E. Buck, P.O. Box 930, Boulder, Colo.

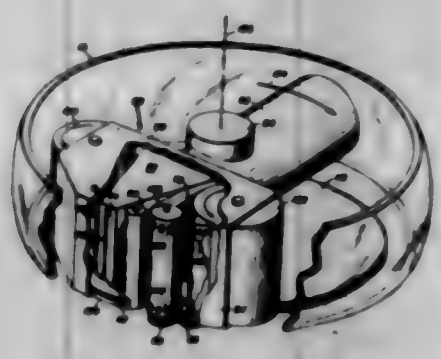
Filed Sept. 27, 1961, Ser. No. 141,039
17 Claims. (Cl. 95—11)



1. In combination in a camera for recording photographically the profile of the anterior corneal portion of the eye: a housing having an eye piece containing an eye-receiving opening; a light source mounted within the housing; means located within the housing adapted to hold a light sensitive photographic film in a plane positioned to receive light from the source thereof; shutter means positioned between the light source and film holding means operative upon actuation to momentarily admit light to the film; and an optical system adapted to trans-

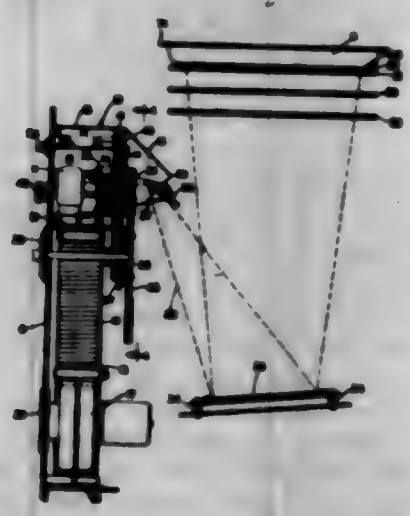
mit light from the source thereof to the film through the shutter means in the form of a silhouette showing the profile of that portion of the anterior corneal area of the eye projecting into the housing through the eye-receiving opening in the eyepiece, said optical system including first means positioned and adapted to receive light from the source thereof and transfer same in the form of parallel rays laterally across the eye-receiving opening in the eyepiece, second means positioned and adapted to receive the parallel rays from the first means and transfer same to the film in the form of a focused image, and third means positioned to receive light directly from the source thereof and reflect same outwardly through the eye-receiving opening so as to illuminate the front of an eye located therein.

3,141,397
UNDERWATER 360° PANORAMIC CAMERA
Gomer T. McNeil, Bethesda, Md., assignor to Photogrammetry, Inc., Rockville, Md., a corporation of Delaware
Filed Oct. 19, 1962, Ser. No. 231,672
13 Claims. (Cl. 95—15)



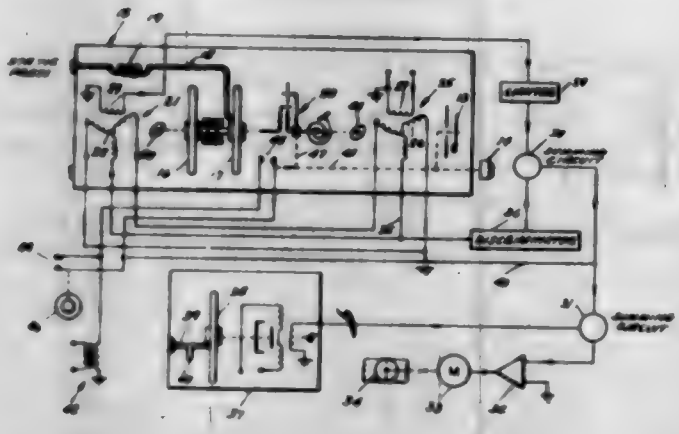
1. In a camera, a housing, an in-line lens system mounted within said housing for rotation about an axis, perpendicular to the axis of said lens system, said lens system having an object distance, an image distance, and spaced front and rear nodal points, said axis of rotation being so positioned that the ratio of the distance between said axis and said front nodal point to the distance between said axis and said rear nodal point is equal to the ratio of said object distance to said image distance.

3,141,398
CONTACT PRINTER
William E. Miller, Salem, Ohio, assignor to Miller-Holzworth, Inc., Salem, Ohio, a corporation of Ohio
Filed Apr. 3, 1961, Ser. No. 100,281
3 Claims. (Cl. 95—73)



1. A contact printer including a light-excluding cabinet having an opening in one side wall, a door closing said opening, a contact printing surface in another side wall of the cabinet, printing light means within the cabinet for directing a path of light to the printing surface, dodging means within the cabinet for modifying the path of light between the light means and the printing surface, the dodging means including light shutter means movably mounted adjacent the path of light, adjustment means for moving the shutter means into and out of the path of light, the dodging means also including a light-reflecting mirror mounted in the path of light, setting means for rotating the mirror, and the light means and the dodging means being mounted on the door of the cabinet.

3,141,399
CABIN PRESSURE REGULATING SYSTEM
John H. Andresen, Jr., Greenwood Lake, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Nov. 16, 1959, Ser. No. 853,261
1 Claim. (Cl. 98—1.5)



The method of regulating cabin pressure in an aircraft cabin which comprises the measurement of cabin pressure, the measurement of pressure external of said cabin, the comparison of the measured external pressure and cabin pressure, and the automatic variation of cabin pressure to force cabin pressure to follow a predetermined schedule with respect to external pressure to provide a maximum of passenger comfort for passengers within said cabin, and measuring the rate of change of cabin pressure and overriding said predetermined schedule to prevent a rate of change of cabin pressure which is greater than some predetermined value, and overriding said schedule to prevent a differential pressure greater than some predetermined value, and preventing the decrease of cabin pressure below some adjustable predetermined value.

3,141,439
EXPANDABLE CAKE PAN
Frank C. Powers, 24 Peterson Drive, Storm Lake, Iowa
Filed Nov. 13, 1961, Ser. No. 151,848
1 Claim. (Cl. 99—439)



An angel food cake item assembly comprising: a lower inner pan shell having a bottom with a central opening; an upper outer pan shell telescopically interfittable with said lower shell to alternately assume a collapsed and an expanded relationship; interfitting locking ridges in said shells to retain them in the expanded condition when placed that way; a pan bottom element in said lower shell covering said central opening; a lower frusto-conical central spacer element projecting upwardly from said bottom

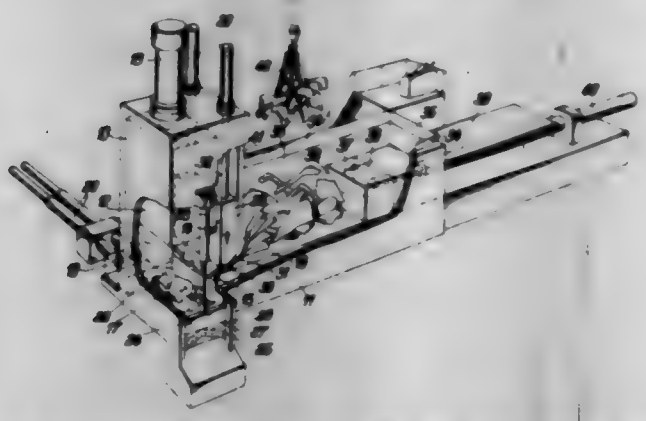
element of said pan said spacer element being hollow and having imperforate walls and openings at both the top and bottom; an upper frusto-conical central spacer element telescopically interfittable with said lower element to an expanded and an alternate collapsed relationship; said upper spacer element being hollow and having imperforate walls and at least an opening in the bottom thereof; said upper spacer element being joined to said upper shell element by a connecting link to thus be raised and alternately lowered therewith; said lower shell capable of being substantially filled with frozen angel food cake batter; said upper spacer element having a diameter at its lower end greater than the diameter of the upper end of the lower spacer element; said elements when telescopically extended having their walls forced together to prevent leakage therebetween whereby said pan when expanded is capable of retaining an expanded baked cake and said pan and spacer can be telescopically expanded and a batter baked therein.

3,141,401

MACHINE FOR PREPARING SCRAP METAL

Waldemar Lindemann, Birkenweg 7, Dusseldorf-Meererbusch, Germany, and Fritz van Endert, Dusseldorf-Oberkassel, Germany; said Van Endert assignor to said Lindemann

Filed May 6, 1958, Ser. No. 733,412
Claims priority, application Germany May 11, 1957
13 Claims. (Cl. 100—98)



9. The combination with a charging box having a delivery end, of a baling chamber to which said charging box opens at said end, a charging ram having means for reciprocating it in the charging box toward and from the baling chamber, a shear ram having means for reciprocating it toward the baling chamber across the delivery end of the charging box, a baling ram having means for reciprocating it in the baling chamber transversely of the charging box and the shear ram, and relatively fixed and movable shear blades respectively fixed at the delivery end of the charging box and connected for movement with the shear ram for cooperation to sever material projecting from the open end of the charging box, said relatively fixed blade comprising a portion disposed obliquely with respect to the path of movement of the shear ram and the blade connected therewith, the charging box having a bottom portion with an oblique disposition corresponding to that of said fixed blade portion, the oblique position of the bottom portion of the charging box tending to bias work in the charging box toward a given position respecting the fixed blade.

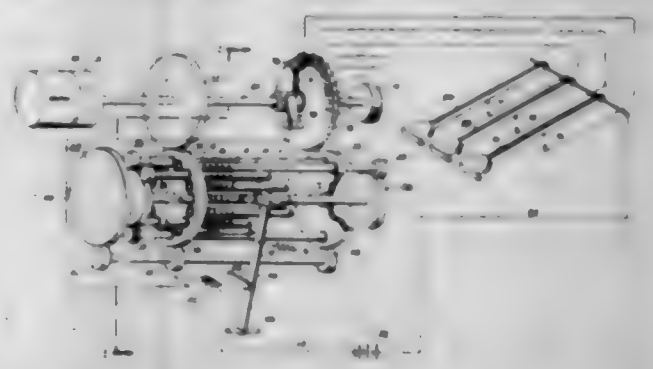
3,141,402

PLANETARY TYPE BODY FOR PRINTER

Bernard Howard, Upper Saddle River, N.J., assignor, by mesne assignments, to Mite Corporation, New Haven, Conn., a corporation of Delaware

Filed Sept. 1, 1960, Ser. No. 53,475
16 Claims. (Cl. 101—93)

1. A rotary printer comprising a hammer, a rotary type body carrying about its periphery a plurality of type elements which are rotatably mounted on the body for rotation relative to the body, an orbit gear for rotating the body, two axially spaced sun gears coaxial with the orbit gear, a planet gear connected to each of said elements, the planet gears of alternate elements meshing with one of said sun gears, the planet gears of the intermediate elements meshing with the other of said sun gears, whereby the planet gear of an element does not interfere with the planet gears of the adjacent elements, and additional gearing connecting the orbit gear to the sun gears and so to the planet gears in such relation that a type element remains facing the hammer plane of the face the body rotates.

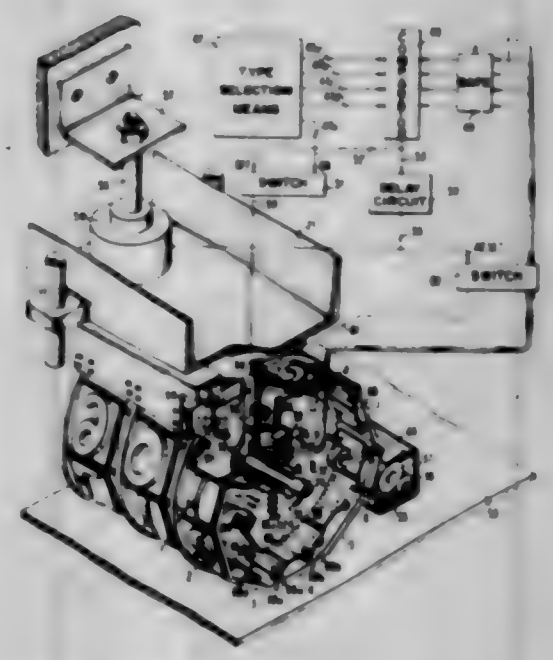


3,141,483

SELECTIVE PRINTING APPARATUS

Robert J. Brown, Yorktown Heights, Donald R. Derr, Mahopac, and Frederick C. Gut, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 27, 1963, Ser. No. 283,462
11 Claims. (Cl. 101—99)

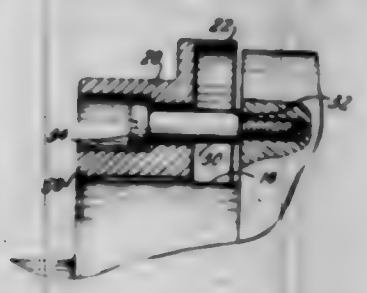


1. A printing apparatus comprising:
at least one type wheel having a plurality of separate type plates mounted thereon,
a rotating disc mounted within said type wheel having coded indicia thereon representative of each of said separate type plates, said disc being releasably coupled to said type wheel for selectively rotating said type wheel about a common axis,
selection means mounted within said type wheel for coaction with said coded indicia on said rotating disc for selecting a given one of said type plates,
and means for disengaging said type wheel from said rotating disc at a given position and for re-engaging said type wheel and said disc when said given one of said type plates is selected.

3,141,404
NOVEL IMAGING PROCESS
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Filed Apr. 12, 1961, Ser. No. 102,598
5 Claims. (Cl. 101—149.5)

1. The method of placing on a copy sheet sharp clear magnetically-sensible images which are devoid of ragged edges, said method comprising the steps of superposing a copy sheet in surface contact with the images on a master sheet, said images being infrared radiation-absorbing and containing magnetically-sensible pigment dispersed in a binder material having a broad melting range so that melting of the images takes place over a temperature range of several degrees, directing a sufficient quantity of radiation rich in infrared against the superposed sheets so that it is selectively absorbed by the images on the master sheet and gradually heats them to their melting range without materially heating the master sheet and the copy sheet, whereby the images soften and become tacky without abrupt liquefication and adhere to the surface of the copy sheet in sharp clear image form, and separating the copy sheet from the master sheet to provide on the copy sheet said sharp clear magnetically-sensible images which are devoid of ragged edges which would cause a distorted signal to be generated by the images in the magnetic sensing process.

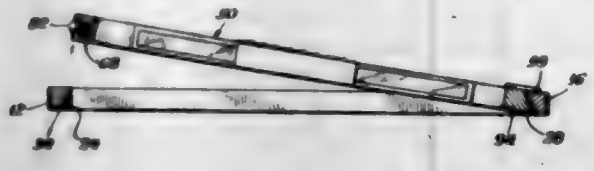
3,141,405
CLAMP FOR FLEXIBLE PRINTING PLATE
Frederick W. De Tombeur, Pompton Lakes, N.J., assignor to Champlain Company, Inc., Roseland, N.J., a corporation of New York
Filed Oct. 9, 1961, Ser. No. 143,768
11 Claims. (Cl. 101—378)



7. A clamp for mounting a flexible printing plate on a printing cylinder having stepped ends, said clamp being a semicircular ring of heavy section fitting in the stepped end of the cylinder and having a thin semicylindrical lip dimensioned to be received over one end of the printing plate, retainers to limit sliding movement of the clamp in axial direction to an amount which brings the lip off the plate in order to release the plate, a clamping screw disposed radially with its head within the body of the ring, said ring having an opening affording access to the head of the clamping screw, said ring having a diameter slightly smaller than that of the cylinder and plate so that the ends of the ring exert a radial pressure when using only a single radial clamp screw at the middle of the clamp, and said ring having an inward radial bead near its outer edge such that the aforesaid clamp screw causes the ends of the clamp to move axially outward to stretch the axially directed edges of the printing plate, there being four such clamps for a printing cylinder intended to receive two printing plates.

3,141,406
DEMOUNTABLE MODULAR CHASE
John H. Weinland, 1254 Columbia Ave., Chicago, Ill.
Filed Aug. 13, 1962, Ser. No. 216,648
5 Claims. (Cl. 101—391)

1. An improved printer's chase comprising the combination of a first rectangular metal frame having an upper side and a lower side and having opposing parallel plane surfaces about an inner perimeter thereof; a second rectangular metal frame having an upper side and a lower side, and parallel plane surfaces about the outer perimeter thereof, the second frame being adapted to fit

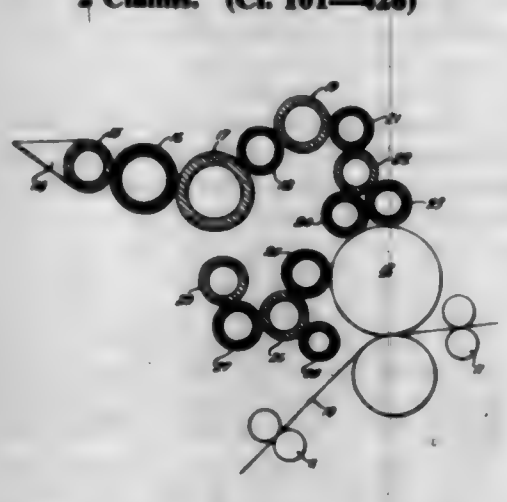


within the first frame coplanar thereto; interlocking tapered means and spring-loaded means for holding the two frames in coplanar relationship, whereby the inner frame may be inserted into and removed from the outer frame by mechanically forcing the spring-loaded means and pivoting about the interlocking tapered means.

3,141,407
HALF-TONE PRINTING MEMBERS AND METHOD FOR MAKING SAME
Harry R. Leeds, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.
No Drawing. Filed Feb. 1, 1960, Ser. No. 5,630
8 Claims. (Cl. 101—401.1)

1. A method of making a printing member capable of producing a half-tone imprint which comprises surfacing a negative mold having a printing surface in half-tone relief with a plastisol without the use of pressure, vacuum, or wetting agents, said plastisol comprising (A) from about 15% to about 65% by weight of a thermoplastic resin powder and (B) from about 35% to about 85% by weight of a plasticizer for the resin and a color carrying liquid which is a nonsolvent for the resin, the plasticizer of (B) being present in an amount equal to at least about 5% by weight of said plastisol; and heating said plastisol to a temperature sufficient to form a microporous resin having a half-tone printing surface, said microporous resin having pores extending throughout the half-tone printing surface and communicating with the interior of said microporous resin, the pores of said microporous resin having disposed therein a printing fluid comprising said color carrying liquid.

3,141,488
HIGH SPEED PRINTING WITH SUPER-FAST INKS
Dominic J. Bernardi, Bohdan V. Burachinsky, and Robert S. Czeropski, Scarsdale, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Nov. 21, 1961, Ser. No. 153,801
2 Claims. (Cl. 101—426)



1. In the method of printing on a moving web of paper moving at a speed through the press in excess of 1,000

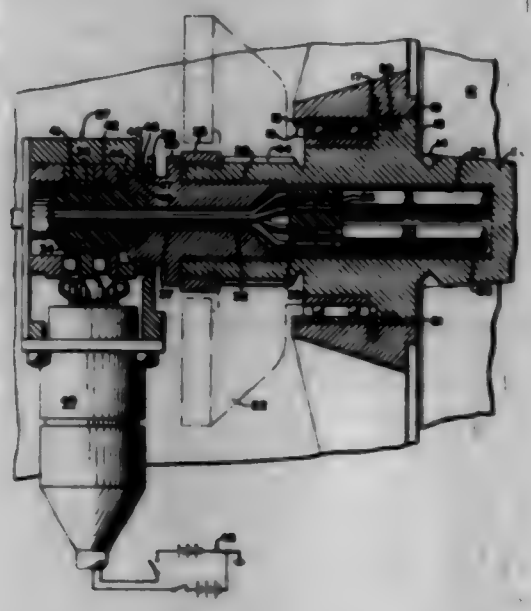
feet per minute using a non-enclosed extended distribution system comprising alternate metal and rubber rollers with a super-fast ink constituted of a resin solution in an organic solvent having a boiling range of from 350° to 425° F., the improvement which comprises passing cooling water at a temperature not exceeding about 40° F. through substantially all of the rollers, including the rubber rollers, to cool the ink films thereon to a temperature below about 65° F. and above the temperature at which substantial hardening of the ink films on the rollers takes place, while maintaining the ink films on the rollers of the distribution system under atmospheric conditions.

3,141,409

AERO FIN REMOVAL SYSTEM

Elmer W. Travis, Clarksville, and Carl L. Wagner, Jr., Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Mar. 2, 1961, Ser. No. 93,901
1 Claim. (Cl. 102—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A depth bomb having a removable fin structure, said structure comprising a fin for controlling and guiding said bomb, connecting rod means attached to said fin and rotatably mounted on said depth bomb for rotating said fin, said connecting rod means having a weakened portion approximately on line with the outside surface of said bomb, a chamber having an internal opening located in said connecting rod means and extending through the weakened portion thereof, an electro-responsive charge located in said chamber in the area of the weakened portion of said rod means and circuit means comprising an electrical commutator connector mounted on said connecting rod means connected to said electro-responsive charge for detonating said charge whereby said detonated charge will remove said fin and a portion of said connecting rod means from said bomb independently of the position of rotation of said connecting rod.

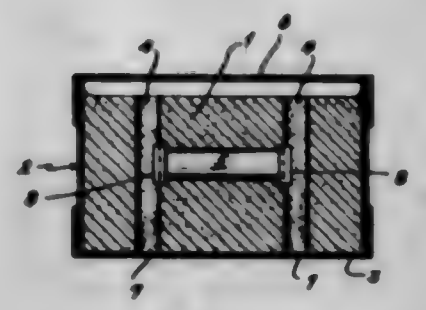
3,141,410

BLASTING INITIATOR

Richard P. Gundlach, Belleville, Ill., and Warren O. Heidbreder, Overland, Mo., assignors to Chromalloy Corporation, Edwardsville, Ill., a corporation of New York

Filed Feb. 8, 1962, Ser. No. 174,345
7 Claims. (Cl. 102—24)

1. An initiator comprising a molded block of explosive composition having cast in situ therein an encased cylinder of explosive material in an amount within the range of about 15 to about 60 grains, said cylinder having its ends each adjacent to a vertical passageway passing through the molded block, wherein said cylinder is located entirely between said passageways, and said passageways having a size such as to accommodate a standard strand of detonating cord.

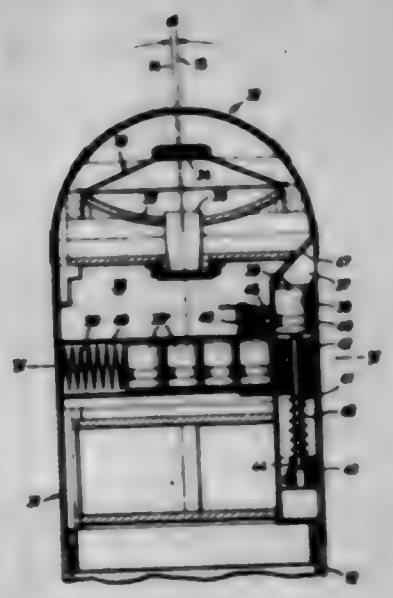


3,141,411

TARGET FINDER FOR MISSILES

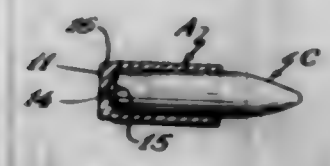
Joseph F. Menke, Heidelberg, Germany, assignor to Elro G.m.b.H. & Co., Gesellschaft für Industrieelektronik, Heidelberg, Germany

Filed Jan. 9, 1961, Ser. No. 95,765
Claims priority, application Germany June 19, 1957
7 Claims. (Cl. 102—50)



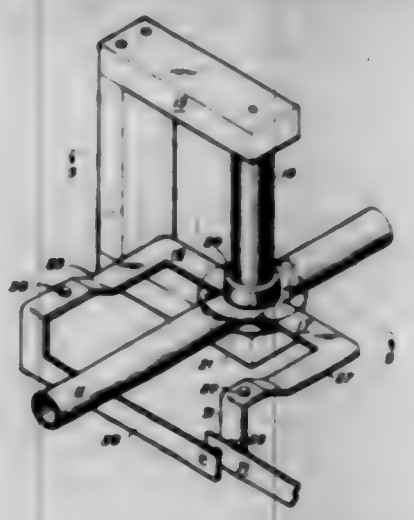
1. A missile comprising, in combination,
(*a*) an elongated body having a longitudinal axis and a center of gravity located on said axis;
(*b*) sensing means in said body for sensing radiation from a target when said target is axially spaced from said body and outside a conical space about said axis, said space flaring in a direction from said body toward said target said sensing means being responsive to the sensed radiation for emitting an electric pulse; and
(*c*) pivoting means for pivoting said axis about said center of gravity, said pivoting means including
(1) firing means in said body responsive to said pulse for releasing an electric detonating current;
(2) a sole combustible charge in said body connected to said firing means for combustion and release of a single stream of gas responsive to said detonating current;
(3) guide means for guiding said stream into a path outward of said body and tangential relative to a circle about said center of gravity in an axially extending plane.

3,141,412
SABOTS
Elroy C. Rosbrugh, 108 San Jose Ave., San Francisco, Calif.
Filed May 18, 1961, Ser. No. 111,068
4 Claims. (Cl. 102—93)



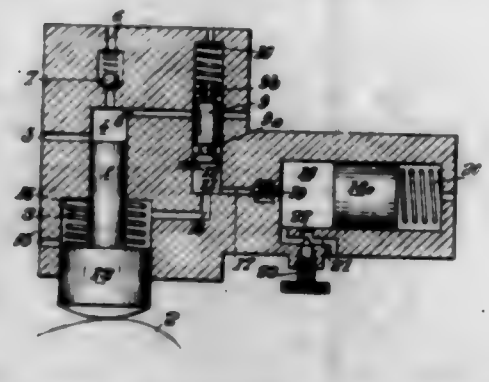
1. A sabot for use with a projectile, the sabot comprising a one piece sleeve of plastic material having an imperforate closed end, means forming a part of said closed end limiting the insertion of the projectile into the sleeve, said closed end including an internal cavity between the end of the fully inserted projectile and said closed end.

3,141,413
REVERSIBLE ELECTROMAGNETIC FLUID PUMP
Henry Heyman, Santa Fe, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 26, 1963, Ser. No. 290,571
3 Claims. (Cl. 103—1)



1. An electromagnetic fluid pump for circulating electrically conductive coolant comprising a fluid duct, a pair of oppositely disposed transverse terminals integral with a portion of said duct, connecting means on said terminals located on an arc with respect to a center point of the duct between the said transverse terminals, a magnetic yoke supported with its pole pieces centrally located and bridging the duct portion between the transverse terminals, said magnetic yoke having an elongated cylindrical pole piece, a pair of excitation coils, reverse wound with respect to each other, rotatably supported on said cylindrical pole piece, means interconnecting the inner ends of said coils, a radial terminal member on the outer end of the lower coil having connecting means located adjacent to the plane of and on the arc of the said transverse terminal-connecting means, terminal extension portions integral with each of said transverse terminals and having end portions having planar surfaces in proximate opposition, a terminal element affixed to the outer turn of the upper coil and having two terminal-connecting portions on an arc centered on the axis of the pole piece, said terminal-connecting portions circumscribing an arc equal to the arc circumscribed by the fluid duct transverse terminal-connecting means, one of a pair of electrical power feed lines having an end terminal portion disposed between the fluid duct terminal extension portions, and the other of the electrical feed lines having an end disposed adjacent in overlapping relation to the upper coil terminal element, whereby reversal of the current path only through the duct is obtained by disconnecting adjacent terminals, rotating the coils to the alternate connecting position and reconnecting the adjacent terminals.

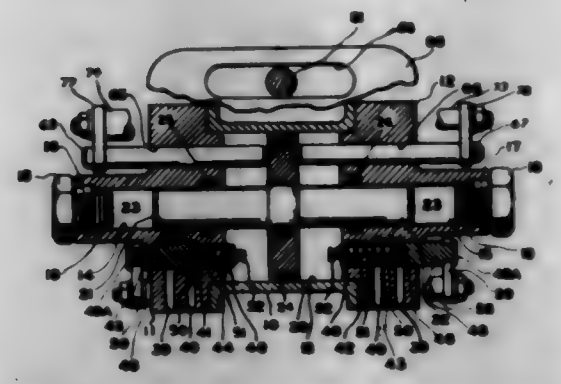
3,141,414
SELF-REGULATING RECIPROCATING PISTON PUMPS
Pierre Etienne Bentiere, Neuilly-sur-Seine, France, assignor to Societe Anonyme pour l'Exploitation des Procedes Chimiques et Physiques, Zug, Switzerland, a Swiss company
Filed July 11, 1962, Ser. No. 209,873
Claims priority, application France July 25, 1961
1 Claim. (Cl. 103—41)



A self-regulating reciprocating piston pump which comprises, in combination, a main cylinder, a main piston slidable with a reciprocating movement in said main cylinder to define therewith a main variable volume working chamber, a liquid inlet conduit positioned to communicate with said main working chamber when the volume thereof is maximum, a delivery conduit leading off from said working chamber, a by-pass conduit leading off from said working chamber, means forming a cylindrical recess fixed with respect to said main cylinder, a shuttle piston in said cylindrical recess and slidable between two end positions, said end positions being a first position and a second position, said shuttle being operable, in said second position thereof, to fully open said by-pass conduit, said shuttle piston defining with said cylindrical recess a variable volume space so that increase of the volume of said space corresponds to a movement of said shuttle piston in the direction from said first position toward said second position, a spring operatively connected with said shuttle piston for constantly urging it toward said first position thereof, an auxiliary pump cylinder fixed with respect to said main cylinder, an auxiliary pump piston slidable in said auxiliary cylinder to define therewith an auxiliary variable volume working chamber, said auxiliary piston being arranged to reciprocate in said auxiliary cylinder in synchronism with the movement of said main piston in said main cylinder, a liquid inlet conduit positioned to communicate with said auxiliary working chamber when the volume thereof is maximum, a conduit extending between said auxiliary working chamber and said variable volume space for permanently connecting said auxiliary working chamber and said space with each other, an accumulator of liquid under pressure, mens for connecting said auxiliary chamber with said accumulator, said last mentioned means comprising a check valve opening only in the direction from said auxiliary chamber toward said accumulator, a permanently open by-pass conduit leading from said accumulator to the outside thereof, and means forming a throttled passage in said last mentioned by-pass conduit, the total volume variation of said auxiliary working chamber, the volume variation of said variable volume space when said shuttle piston passes from its first position to its second position, the characteristic of said spring, the law of variation of the

pressure in said accumulator as a function of the amount of liquid present therein, and the cross-section area of said throttled passage being determined so that, for speeds of reciprocation of said main piston above a given value, said shuttle piston is moved sufficiently far against the resistance of said spring to open said first mentioned by-pass conduit.

3,141,415
PNEUMATIC FUEL PUMP
Richard Chute, Huntington Woods, Mich., assignor to Continental Motors Corporation, Muskegon and Detroit, Mich., a corporation of Virginia
Filed Oct. 8, 1962, Ser. No. 229,838
11 Claims. (Cl. 103—51)



1. A fuel pump for an internal combustion engine and the like comprising

(*a*) a housing structure having a pressure chamber and a fuel chamber,

(*b*) a first piston axially slidably carried in said pressure chamber,

(*c*) a second piston disposed in said fuel chamber,

(*d*) said second piston being operably connected with said first piston and axially slidable therewith,

(*e*) an inlet and an outlet provided in said housing and valve means disposed between said inlet and said pressure chamber and said pressure chamber and said outlet,

(*f*) said inlet being adapted for connection to a source of fluid under pressure and said valve means being operable to alternately direct pressurized fluid to and from said pressure chamber whereby said piston is axially slidably moved in said pressure chamber,

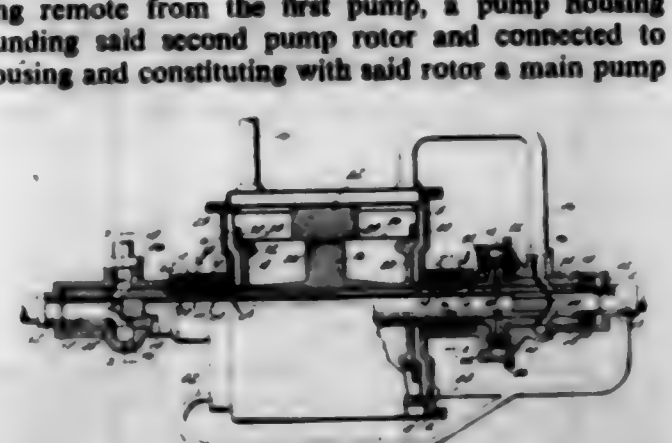
(*g*) a fuel inlet and a fuel outlet connected with said fuel chamber and valve means disposed in said fuel inlet and in said fuel outlet,

(*h*) means manually selectively operable to engage opposite sides of said first portion to axially slidably move same, and

(*i*) means operable to automatically release said first piston from engagement with said manually operable means upon said first piston being moved to a predetermined axial position.

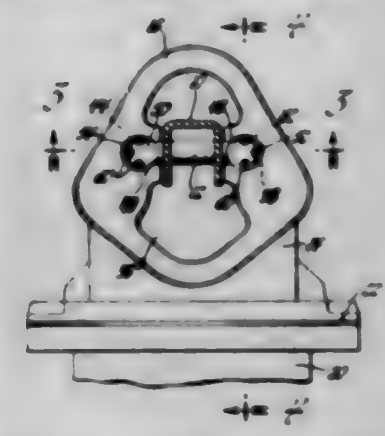
3,141,416
MOTOR FOR PUMPING LIQUID METALS
Peter Bolan, West Hartford, and Robert L. Montgomery, Windsor, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,473
5 Claims. (Cl. 103—87)

1. A combined pump and motor having a housing of substantially circular cross-section with a motor stator therein, a shaft journalled in the housing and having a rotor for the motor thereon, a first pump having a rotor also mounted on the shaft at one end of said housing, a bearing between the rotors, means for supplying liquid from the pump to the bearing for lubricating it, a secondary pump means within the housing adjacent the periphery for removing liquid from the housing, a second pump rotor mounted on the shaft at the end of the housing remote from the first pump, a pump housing surrounding said second pump rotor and connected to the housing and constituting with said rotor a main pump



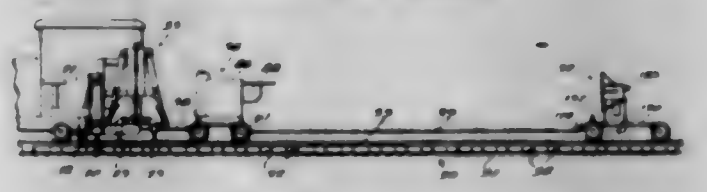
driven by the motor, a hollow annular cooling chamber enveloping said motor stator, first conduit means joining said first pump outlet to said cooling chamber, and second conduit means joining said cooling chamber to said first pump inlet.

3,141,417
ROCKER ARM ASSEMBLY IN PUMP
Carl W. Norberg and Dimitar Teschboff, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1963, Ser. No. 261,603
6 Claims. (Cl. 103—150)



1. A diaphragm type pump having an aperture and a rocker arm extending from the latter, a pivot pin retained in grooves formed in said pump on opposite sides of said aperture, said rocker arm being pivoted on said pin, recesses formed in said pump to overlap said grooves, and metal slugs forced into said recesses and into engagement with said pin to hold the latter in firm nonrotative position in said pump.

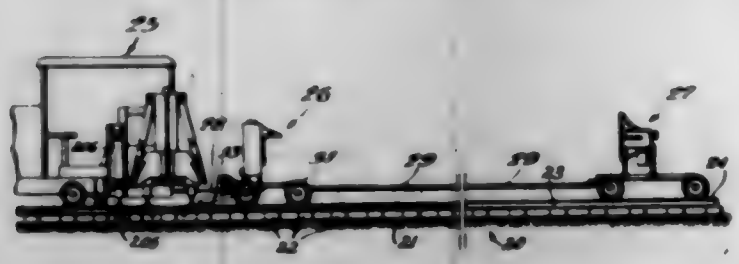
3,141,418
METHOD AND APPARATUS FOR DETERMINING TRACK AND ROAD SURFACES AND THE LIKE
Norman F. Clayborne, Monticello, Ind., and William E. Hamlin, Jackson, and Max E. Kerns, Michigan Center, Mich., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Jan. 4, 1960, Ser. No. 325
21 Claims. (Cl. 104—7)



1. Apparatus for surfacing a section of uncorrected track which is adjacent to a previously corrected section of higher elevation, comprising, in combination, reference means for projecting toward the uncorrected track section

a horizontal beam of light from a point which is at a fixed reference distance above the previously corrected track section, a detector device for sensing said light beam, rail clamping means associated with said detector device for maintaining a vertical distance between said detector device and the uncorrected track section which is equal to said reference distance, jack means associated with and controlled by said detector device for elevating said rail clamping means and said detector device while said second mentioned distance is maintained, and up to a point where said detector device is aligned with said light beam, thereby causing said uncorrected track to be elevated into horizontal alignment with said previously corrected track section to provide a new corrected track section, means for maintaining a fixed horizontal distance between said reference means and said detector device, and means for maintaining said light beam in a horizontal plane as said apparatus is moved into a new position in which said rail clamping means overlies another uncorrected track section.

3,141,419
SURFACING APPARATUS
Norman F. Clayborne, Monticello, Ind., and William E. Hamlin, Jackson, and Max E. Kerns, Michigan Center, Mich., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 26, 1960, Ser. No. 58,381
19 Claims. (Cl. 104—7)



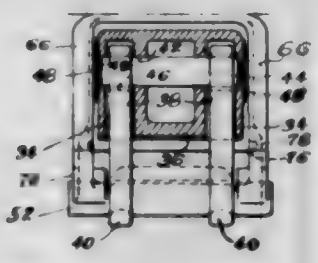
1. A track surfacing device comprising, in combination, a jack tamper having a jack cylinder, reference means spaced from said jack tamper for projecting a horizontal light beam toward same, a vertically shiftable detector connected to said jack tamper for sensing said light beam and for controlling the operation of said jack cylinder to surface the track on which said jack tamper is supported, the gradient of said track being determined by the elevation of said detector with respect to said track, and means responsive to the movement of said jack tamper along said track for controlling the elevation of said detector whereby the elevation thereof is shifted gradually in order to avoid abrupt changes in the gradient established for said track by said jack tamper.

3,141,420
METHOD OF AND ARRANGEMENT FOR AUTOMATICALLY CONTROLLING THE RELEASE OPERATION IN A MARSHALLING YARD
Ernst Garbers, 8 Waldersseestrasse, Hamburg-Othmarschen, Germany
Filed Oct. 15, 1962, Ser. No. 230,557
Claims priority, application Germany Jan. 5, 1962
8 Claims. (Cl. 104—26)



1. The method of automatically controlling the disassembling and classification of railroad cars in a marshalling yeard in which the incoming tracks are inclined downwardly in the direction of the classification tracks at an angle such that the car in average operating condition is barely stable thereon and in which each incoming track has associated with it a first accelerator positioned at a first fixed track location, said method comprising the steps of bringing a railroad train to be disassembled onto said inclined tracks so that said train is in liable balanced condition, the tracks being inclined at such an angle that the average car in any train when placed on said track has its friction substantially balanced by the force of gravity acting thereon and is in labile balanced condition, automatically placing said train in motion by the continuous application by said first accelerator of first external controllable forces only of sufficient amplitude to upset the balanced condition of the cars of said train to accelerate and to retard said train as required to maintain the train in motion at the desired speed, separating the individual cars of said train, and subsequently automatically applying by a second accelerator positioned at a second fixed track location second controllable external forces to said separate cars at spaced intervals of time to provide adequate distances between separated cars for the operation and re-adjusting of distributing switches.

3,141,421
LATERAL MOTION FREIGHT CAR TRUCK
Carl E. Tack, Elmhurst, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed May 24, 1961, Ser. No. 112,274
3 Claims. (Cl. 105—190)

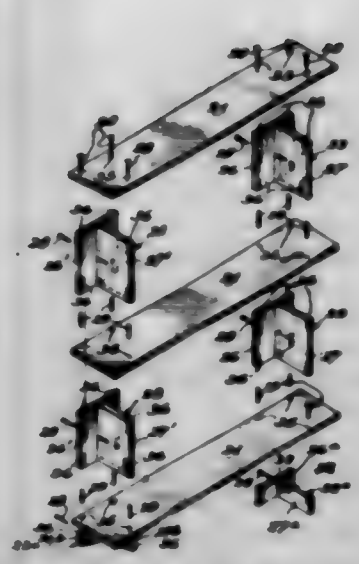


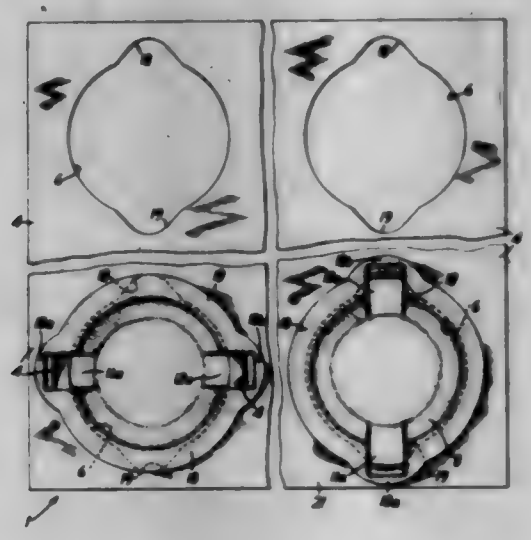
3. In a railway car, the combination comprising wheel-supported side frames, a main bolster having its ends supported in the side frames and having vertical side wall elements, swing hanger means adjacent each end of the main bolster including a transverse pin mounted in the side wall elements, a pair of swing hangers pivoted at their upper ends on the transverse pin, and a transverse bottom connector mounted in the lower ends of the swing hangers and having its ends projecting laterally beyond the main bolster, the combination also comprising an auxiliary bolster of generally inverted U-shape in cross-section having side wall elements straddling the main bolster and pivotally supported on the projected ends of the bottom connector, the bottom connector having concave bearing surfaces in its under side, the swing hangers having apertures in their lower ends defined at their lower limits by bearing surfaces convex in cross section and engaged in said concave bearing surfaces, the end extremities of the bottom connector having upwardly extending lugs, the apertures in the swing hangers being vertically elongated to receive the ends of the bottom connector.

3,141,422
PALLETS
Richard G. Woolworth, Lancaster, Pa., assignor to Animal Trap Company of America, Lititz, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1961, Ser. No. 161,217
6 Claims. (Cl. 108—56)

1. A knock-down pallet comprising, a plurality of spaced apart legs defining spaces therebetween to receive

a device for lifting the pallet, a retaining sheet for retaining the legs spaced apart, said sheet having spaced openings for receiving said legs and holding said legs in position depending from said openings, said legs each comprising a body portion having an end and load-supporting walls provided with a load-supporting flange extending circumferentially of said end and radially of said body portion, each of said legs having at least one radial projection on the body portion extending axially of the leg body portion and in a circumferential direction thereof a given extent, said projection having an upper end surface terminating the projection disposed spaced downwardly from a lower face surface of said flange portion thereby defining a shoulder on said leg, said openings each having at least one radial recess for receiving said radially extending projection of a respective leg, said legs being insertable into respective ones of said openings with said





projection thereof in registry with said recess, said recess being dimensioned to allow the flange on the individual legs to rest on a common side of said sheet when said legs are inserted in respective openings, and said space between the upper end of said shoulder-forming projection and said lower surface of said flange portion having a sufficient axial height to allow angular rotation of each leg relative to said sheet when inserted in a respective opening with said projection in registry with said radial recess and said shoulder and underside of said flange on said legs being spaced apart and cooperating with opposite sides of said sheet to hold the individual legs in fixed angular positions relative to said sheet, whereby upon angular rotation of each leg relative said sheet after insertion in a respective opening each leg is held in fixed position on said sheet and the sheet and legs are transportable in assembly and are readily disassembled.

3,141,423

KNOCK-DOWN SHELVING ASSEMBLY

Ahlman C. Christensen, 2526 N. 52nd St., Phoenix, Ariz.; Julia M. Christensen, executrix of said Ahlman C. Christensen, deceased

Filed May 21, 1962, Ser. No. 196,122
7 Claims. (Cl. 108—111)

1. In a knock-down shelving assembly, a combination comprising: a plurality of elongated vertically spaced shelves each having opposed marginal ends, vertically aligned adjacent spacing and supporting members interposed between adjacent shelves at each opposed marginal end, each of said spacing and supporting members comprising a back portion and a side portion, a removable pin connecting each back portion to its related side portion, and removable pins traversing each shelf and extending into adjacent spacing and supporting members for retaining said shelves and said spacing and supporting members in position.

3,141,424

SUPPORT STRUCTURE FOR FOLDING APPARATUS

Paul Maurice Seymour, Sremont St., Marlboro, Mass.

Filed July 22, 1963, Ser. No. 296,818
4 Claims. (Cl. 108—113)



1. In apparatus including a pair of pivotally attached legs movable between a folded position, wherein said legs are substantially parallel, and an unfolded position, wherein said legs are arranged at an angle, support means for maintaining said apparatus in said unfolded position, said support means comprising, in combination:

(*a*) a pair of support elements, substantially identical in construction, each having an opening and a cam slot therein;

(*b*) a first shaft passing through one of said legs, the opening in one of said elements and the cam slot in the other of said elements; and

(*c*) a second shaft passing through the other of said legs, the opening in said other of said elements and the cam slot in said one of said elements, whereby said elements are oppositely disposed and each is pivotally mounted on one of said legs;

(*d*) said cam slots being so shaped that said elements are moved in opposite directions about their respective pivotal mountings through movement of said shafts along said cam slots as said legs are moved between said folded and unfolded positions.

3,141,425

FOLDING TABLE

Frederick L. Deer, 2810 Madison St., Bellwood, Ill.

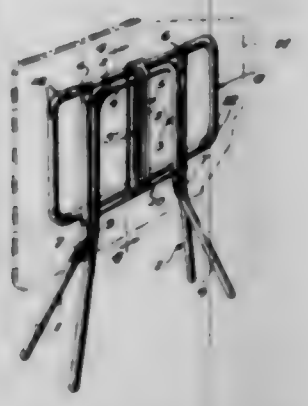
Filed July 31, 1963, Ser. No. 298,842
4 Claims. (Cl. 108—128)

1. A table comprising:

(*a*) relatively paired spaced legs,

(*b*) a rod disposed transversely of and fixedly connected to the upper ends of the paired spaced legs,

(*c*) a frame of inverted substantially U-shaped form the leg portions of which are pivotally connected intermediately of their ends to corresponding portions of the spaced paired legs and the upper and body portion arranged in a plane substantially parallel to and below that of said rod,



(*d*) a table top receiving and supporting frame having one side thereof pivotally mounted on said rod, and,

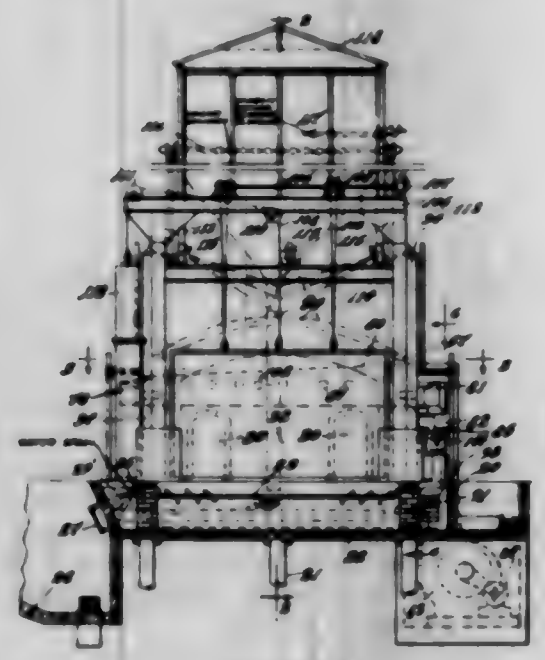
(*e*) a combined guide and motion imparting member having a way therein and therethrough disposed transversely of an intermediate portion of the receiving and supporting frame having one end swingably mounted on the rod and its remaining end fixedly mounted on the opposite side of said receiving and supporting frame slideably receiving the upper and body portion of the U-shaped frame in its way.

3,141,426

INCINERATOR

Arnold A. Zachow, Havertown, Pa., assignor to Module Incinerators, Inc., Philadelphia, Pa., a corporation of Delaware

Filed June 5, 1961, Ser. No. 114,797
15 Claims. (Cl. 110—18)



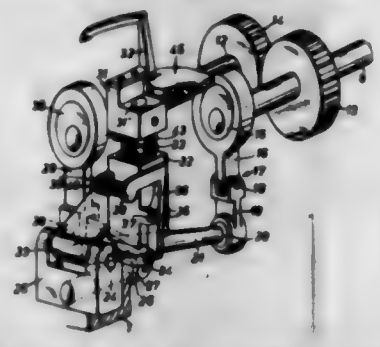
1. In an incinerator, a primary combustion chamber having side walls, a rear wall and a door at the front, a secondary combustion chamber immediately above the primary combustion chamber, grates at the bottom of the primary combustion chamber, a foraminated refractory arch at the top of the primary combustion chamber separating it from the secondary combustion chamber, a stack above the secondary combustion chamber and communicating therewith, means for introducing air through the side walls and the rear wall of the primary combustion chamber, means for introducing air beneath the grates, auxiliary burner means in the secondary combustion chamber, and means responsive to smoke density variation for turning on said auxiliary burner means in the secondary combustion chamber.

3,141,427

LOOP TAKER ADJUSTING MECHANISM FOR CHAINSTITCH SEWING MACHINES

Helmut Gross, Kaiserslautern, Pfalz, Germany, assignor to G. M. Pfaff AG, Kaiserslautern, Pfalz, Germany, a corporation of Germany

Filed June 11, 1963, Ser. No. 287,146
Claims priority, application Germany June 13, 1962
11 Claims. (Cl. 112—200)



1. In a chainstitch sewing machine of the type having a reciprocatory needle, a thread-carrying loop taker, a carrier therefor and means to operate the same over an elliptical operating path in synchronism with said needle, to sew double chainstitches in a work piece being operated on; the improvement comprising means to rotatively support said loop taker by said carrier for operation between a sewing and a threading position, releasable locking means including first resilient means to lock said loop taker in the sewing position with said carrier, second resilient means connecting said loop taker with said carrier and adapted in the stressed condition and locked position of said loop taker to rotate the same, said loop taker being positioned at a predetermined point of said operating path prior to a sewing operation and being rotated in a first direction from its sewing to its threading position upon release of said locking means and against the action of said first resilient means, and stationary cam means forming a stop for said loop taker in said threading position and adapted to cam with said loop taker during the initial loop taker displacement by said carrier upon starting of a sewing operation, whereby to initiate the return of the loop taker to the sewing position by rotating the same in the direction opposite to said first direction and against the action of said second resilient means to a position for completion of its return to the locked position by the action of said first resilient means.

3,141,428

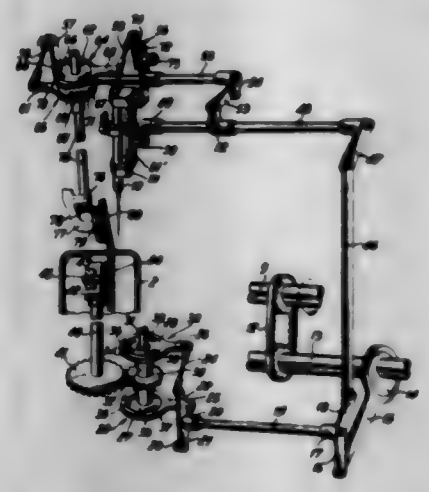
WHEEL-FEED MECHANISM FOR SEWING MACHINES

Rudolf Reeber, Kaiserslautern, Pfalz, and Ernst Albrecht, Hochspeyer, Pfalz, Germany, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany, a corporation of Germany

Filed May 15, 1962, Ser. No. 194,873
Claims priority, application Germany May 25, 1961
9 Claims. (Cl. 112—211)

1. In combination with a sewing machine of the type having a work-feed wheel, a needle and operating means for imparting to said needle combined work-penetrating reciprocating motion and lateral oscillating motion in the line of feed of the work by said wheel, operating mechanism for said wheel comprising actuating means to provide a pair of oscillating drives synchronized with said needle, and a pair of motion-transmitting means including one-way coupling means and each connecting one of said drives with said wheel, whereby to alternately rotate said wheel by said drives in the work-feeding direction by a

series of substantially uninterrupted half-wave sinusoidal feed movements in synchronism with the alternate work-



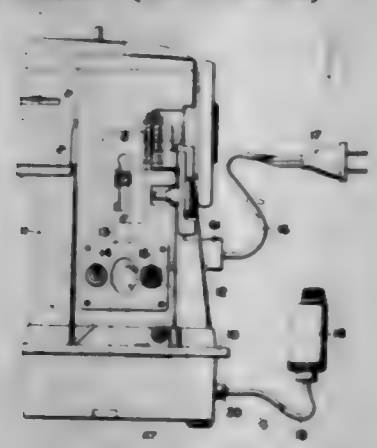
penetrating and work-disengaging oscillating half-cycles, respectively, of said needle.

3,141,429

SEWING MACHINE WITH BUILT-IN ELECTRIC SPEED-RESPONSIVE REGULATING SYSTEMS

James W. Momberg, Somerville, and Edward W. Taylor, Martinsville, N.J., assignors to The Singer Company, a corporation of New Jersey

Filed Dec. 30, 1959, Ser. No. 863,012
4 Claims. (Cl. 112—220)



1. A sewing machine having a frame including a bed and a hollow standard rising therefrom, an electric driving motor of the series commutator type located within said frame, means for securing said motor to said frame in position to drive said sewing machine, a manually actuated controller for regulating the speed of operation of said motor, and circuit means connecting said motor and controller and having terminals adapted to be connected to an external source of electrical energy, said circuit means comprising a plurality of electrical components all of which are mechanically static and at least one of which is a solid state controlled rectifier.

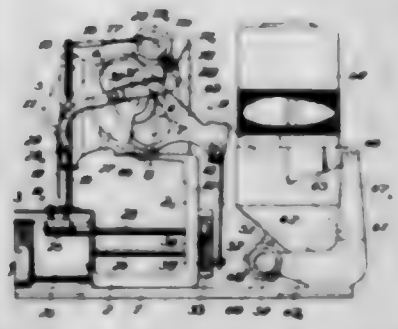
3,141,430

SEWING MACHINE PRESSER MECHANISM

Kosuke Kagiyama, 3938 Obibonmachi, Nichinan-shi, Miyazaki-ken, Japan

Filed Dec. 14, 1962, Ser. No. 244,738
Claims priority, application Japan Dec. 22, 1961
3 Claims. (Cl. 112—237)

1. In a sewing machine comprising work feeding and stitch forming means, the improvement which comprises the provision of a vertically movable presser rod; a presser foot rigidly connected to the lower end of said rod; a first fixed pin; an elongated spring member formed of flexurally resilient wire, said spring member having a convolution formed therein intermediate its ends, said convolution being wound around said first fixed pin; a second fixed pin against which one end portion of said spring bears; coupling means connecting the other end portion of said spring to the upper end portion of said rod, said spring being continuously stressed to urge said rod yieldingly downwardly for causing guiding engagement be-



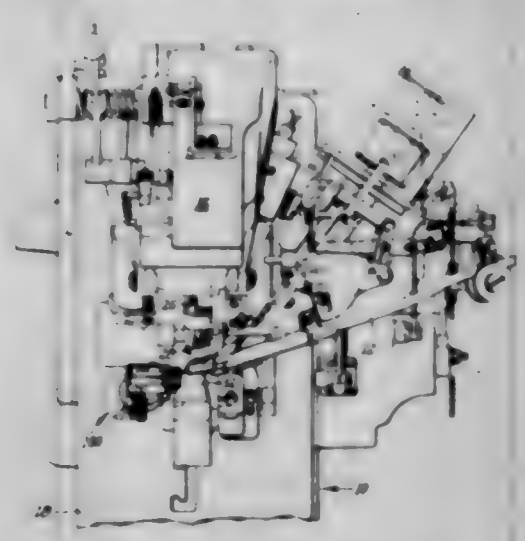
tween a workpiece and said presser foot, and manually operable means engageable with said spring intermediate said convolution and said other end thereof to force said spring against the stressing thereof for raising said presser foot.

3,141,431

THREAD CUTTER MECHANISMS

Lloyd G. Miller, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed June 29, 1961, Ser. No. 120,713
4 Claims. (Cl. 112—252)



1. A thread cutter mechanism comprising a pair of thread gripping means and a thread cutter adapted to cut the thread by a forward cutting stroke, means actuated by the thread cutter during initial portion of the forward cutting stroke for causing both of said thread gripping means to grip the thread, means actuated by the thread cutter during the final portion of the cutting stroke for causing one of said pair of thread gripping means to release the thread, means for thereafter causing retraction of the thread cutting means, and means locking the thread gripping means to the cutting means during the initial portion of the retraction thereof.

3,141,432

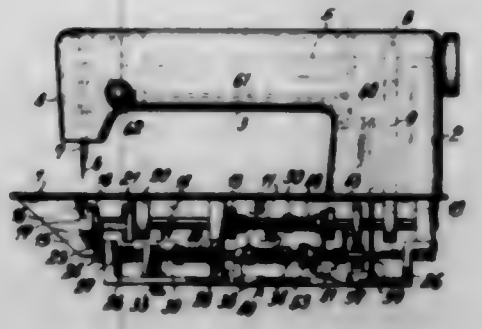
THREAD-TRIMMING MECHANISM FOR SEWING MACHINES

Rudolf Reeber and Herbert Wenz, Kaiserslautern, Pfalz, Germany and Kristen Hedegaard, Gentofte, Denmark, assignors to G. M. Pfaff, A.G., Kaiserslautern, Pfalz, Germany, a corporation of Germany

Filed Apr. 25, 1963, Ser. No. 275,621
Claims priority, application Germany Apr. 26, 1962
12 Claims. (Cl. 112—252)

1. In combination with a sewing machine having a reciprocating needle, a drive shaft operably connected

thereto, and an oscillating cutting device to trim the thread at the end of a sewing operation, operating mechanism for said device comprising a first rockshaft, linkage means operably connecting the same with said device, a second rockshaft coupled with said first rockshaft in axially slidable relation thereto, drive means comprised of an elastic belt, a driving member therefor connected to said shaft and a driven member, releasable coupling means operable by axial shifting of said second rockshaft, to connect the same with and to disconnect it from said driven member, said coupling means adapted to convert rotary motion of said drive shaft into oscillating motion of said rockshafts with the oscillating phase predeterminately related to the rotation of said drive shaft, first resilient biasing means to normally urge said second rockshaft to a position of disengagement from said driven



member, stop means for said second rockshaft controlled by said driven member to be operated in one direction to a first position during rotation of said member and to be operated in the opposite direction to a second position by the elastic energy stored in said belt upon stoppage of said drive shaft, to prevent axial movement of said second rockshaft during rotation of said drive shaft and to allow of axial movement of said second rockshaft upon stoppage of said shaft, respectively, and second resilient means and operating means therefor to temporarily bias said second rockshaft in a direction opposite to the bias by said first resilient means, whereby to operate said coupling means to engaged position by operation of said stop means to said second position upon stoppage of said drive shaft in the biased position of said second resilient means.

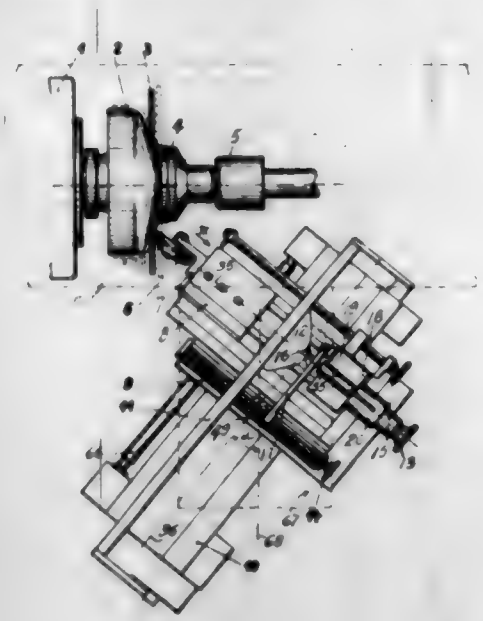
3,141,433

SPINNING LATHE

Walter Booch, Nellingen, Kreis Esslingen, Germany, assignor to Bohner und Kohle Maschinenfabrik, Esslingen (Neckar), Germany

Filed Mar. 12, 1959, Ser. No. 798,938
Claims priority, application Germany Mar. 15, 1958
22 Claims. (Cl. 113—53)

1. In a spinning lathe having a bed, a headstock with a rotatable spindle therein at one side of said bed, means for mounting a spinning chuck on said spindle, said spinning chuck being adapted to hold and rotate a blank to be formed, a spinning roller adapted to press against said blank, a compound slide for mounting said spinning roller on said lathe bed comprising a top slide, said spinning roller being mounted on said top slide, an intermediate slide carrying said top slide, and a lower longitudinal slide carrying said intermediate slide and mounted on said lathe bed, said lower slide being adapted to be swiveled to different angles relative to said lathe bed, said intermediate slide being slidable on said longitudinal slide, means for moving said slides relative to each other and relative to said spinning chuck and for pressing said spinning roller against said blank, said last-mentioned means including a tracer-controlled profiling mechanism, said mechanism comprising a tracer slide mounted on said intermediate slide, means for positively connecting said tracer slide to said top slide whereby movement of said tracer slide controls movement of said top slide and thereby said spinning roller, means for mounting a master template on said longitudinal slide, a tracer adapted to engage with and move along said master template, and means for movably mounting said tracer, and hydraulic



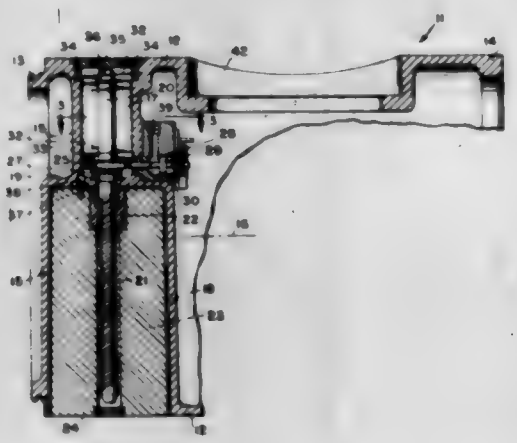
power-transmitting and increasing means, said hydraulic means operatively connecting said tracer and said tracer slide for transmitting the movements of said tracer to said tracer slide and thus also to said top slide and the spinning roller thereon and for transforming the tracer pressure into a high press-on pressure.

3,141,434

TORPEDO BALLAST RELEASE

Lewis H. Van Billiard, Dalton, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 11, 1960, Ser. No. 62,063
8 Claims. (Cl. 114—20)



1. Ballast release apparatus for rendering a non-buoyant torpedo boyant upon release therefrom of ballast, said torpedo having a longitudinal axis and a cylindrical cavity having an axis disposed diametrically transverse to said axis and having an opening at one end thereof to ambient water, comprising;

(*a*) at least one solid cylindrical ballast weight disposed within said cavity,

(*b*) said weight having a threaded central aperture,

(*c*) a shaft disposed axially of said cavity, mounted for rotation,

(*d*) said shaft having threads engaging said threaded central aperture,

(*e*) a torsion spring having one end secured to said shaft and its other end secured to the torpedo,

(*f*) means for selectively latching said shaft against rotation by said spring and for unlatching said shaft for rotation by said spring,

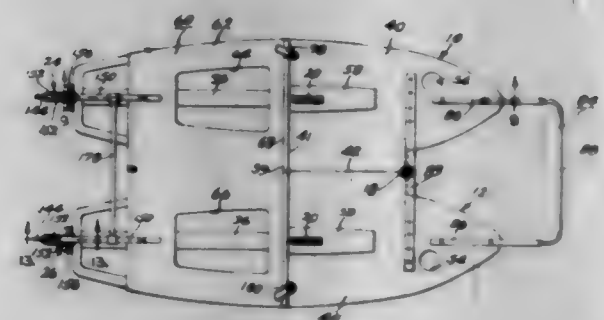
(*g*) one end of said shaft being accessible through an opening in the torpedo for rotating it against the torsional urge of the spring.

3,141,435

SAILING CATAMARAN

Merritt L. Moffitt, Jr., 9 Weirwood Road, Radnor, Pa.

Filed Oct. 2, 1962, Ser. No. 227,903
8 Claims. (Cl. 114—39)



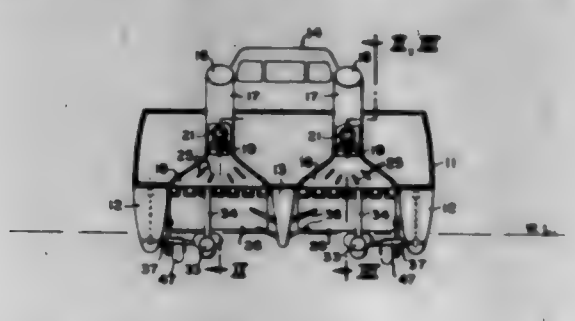
8. In a sailing catamaran having parallel hulls and a mast supporting a sail and boom, the improvement comprising a rigid yoke secured to each of said hulls at a point aft of the mast and attached to the mast to provide longitudinal and transverse support thereto, said yoke having an outwardly bowed configuration to minimize interference with the sail and boom, said yoke comprising a bowed, inverted U-shaped upper support member and lower tubular support members, and means permitting telescoping of said upper and lower support members for adjusting the rake of the mast.

3,141,436

HYDROFOIL ASSISTED AIR CUSHION BOAT

Lincoln D. Cathers, 5117 Brentford Drive, Rockville, Md., and John Bader, 1835 Crandall Drive, San Diego, Calif.

Filed Nov. 25, 1960, Ser. No. 71,838
2 Claims. (Cl. 114—66.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An air cushion craft comprising:

a hull member;

a plurality of open faced compartments formed in said hull for providing an air cushion between said hull and the surface over which said craft is designed to move;

a gas turbine engine;

a plurality of ducts connecting the exhaust of said engine with each of said compartments respectively;

means mounted on said hull for producing translatory motion of said craft;

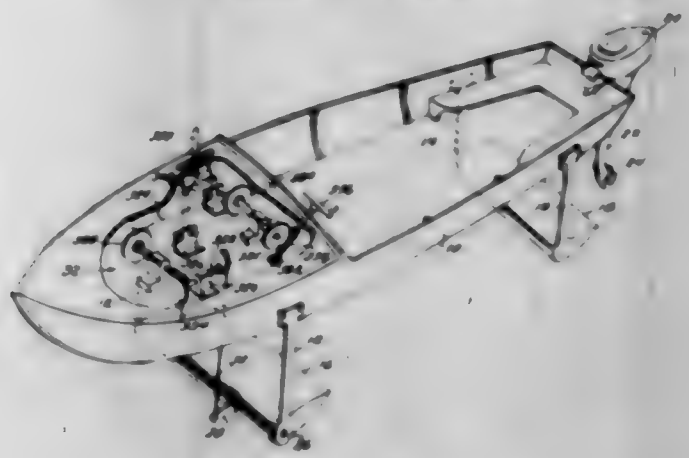
means mounted on selected side walls of said compartments adjacent the open face thereof for stabilizing said craft when traveling over an irregular surface.

3,141,437

CONSTANT LIFT SYSTEM FOR CRAFT

Vannevar Bush, Belmont, Mass., Paul A. Scherer, Marietta, Bowie, Md., and Rudolf X. Meyer, Pacific Palisades, Calif.; said Bush and said Meyer assignors to said Scherer

Filed May 23, 1958, Ser. No. 737,355
6 Claims. (Cl. 114—66.5)



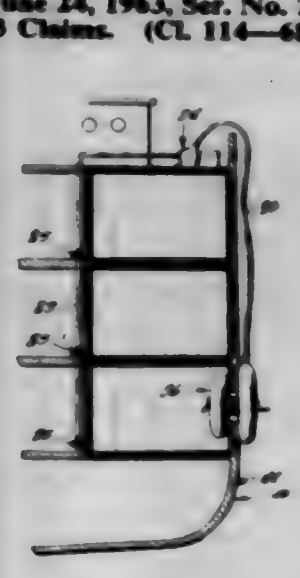
1. A hydrofoil supported craft comprising at least one flotation element, at least one strut depending therefrom, at least one hydrofoil of total submergence design pivotally mounted on said strut, balancing means comprising at least one spring having first and second ends, said first end adjustably fixed to said craft, a monoaxial cam fixed to said second end, flexible means interconnecting the surface of said cam with said hydrofoil, thereby continuously applying an adjustable constant torque to said hydrofoil, said constant torque operating about the pivot in opposition to the lift of said foil, the moment of said force remaining equal to the moment of said lift, the lift of said hydrofoil being substantially constant in water flow which is variable relative to said hydrofoil.

3,141,438

WATER TIGHT AND AIR TIGHT ROOMS FOR SHIPS

Robert D. Smith, 2742 E. Tremont Ave., Bronx, N.Y.

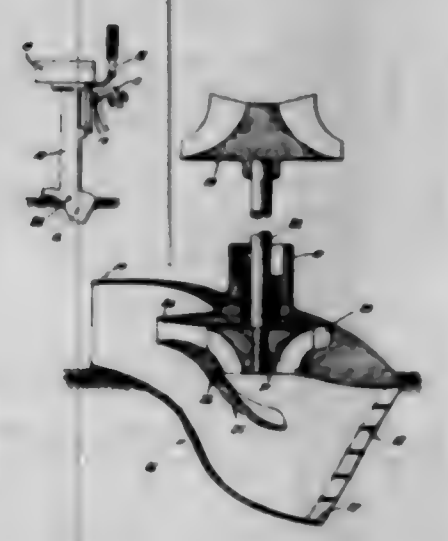
Filed June 24, 1963, Ser. No. 289,858
3 Claims. (Cl. 114—68)



1. In a ship the combination of a hull having a plurality of decks, a plurality of adjacent rooms on each deck, said rooms being formed by walls within said hull, one wall of which is adjacent the outer periphery of said hull, said rooms being completely enclosed within a yieldable rubber casing formed within said walls and decks, means for piping air into said rooms, said rooms including access doorways for entry thereinto, said doorways each comprising an opening through said casing, a recess within said casing adjacent to said opening for receiving a security door slidable from within said recess to within said open-

ing for closing said opening, said casing having a hollow chamber surrounding said opening and said recess, means for supplying air into said hollow chamber for increasing the air pressure within said hollow chamber so that said casing exerts pressure against the top, bottom and front edges of said security door to form an air-tight, water-tight seal, and a bellows shaped air sack within said recess, means for supplying air to said air sack, said air sack in an inflated condition being in a position adjacent the rear edge of said door and exerting pressure thereagainst to form an air-tight, water-tight seal.

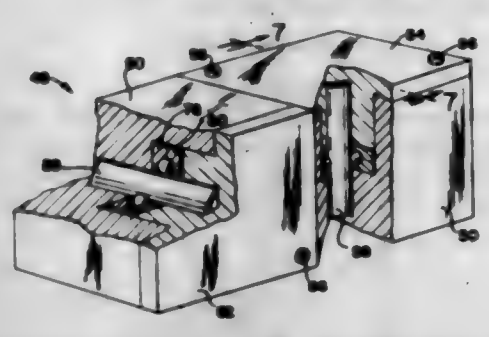
3,141,439
LIQUID PROPELLING DEVICE
Joseph Liston, 900 Robinson St., Lafayette, Ind.
Filed Feb. 5, 1962, Ser. No. 171,131
4 Claims. (Cl. 115—16)



1. A boat-propelling device of the water-jet type, comprising a duct having a water-inlet opening at its forward end and terminating at its rear end in a jet-discharging nozzle, a pump having an inlet communicating with said duct intermediate its length and an outlet located in the duct and directed rearwardly whereby water impelled from the outlet will exert an ejector effect promoting rearward flow of water surrounding the outlet, and a deflector mounted within said duct to direct into the pump a portion of the water entering the duct while permitting another portion of such water to bypass the pump to become subject to said ejector effect, said deflector being adjustable to vary the proportion between water respectively entering and bypassing the pump.

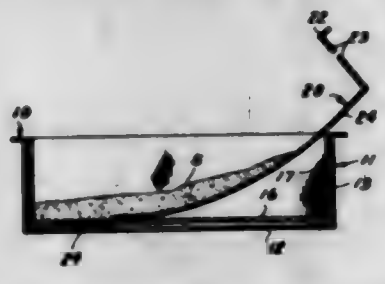
4. An outboard boat-propelling device of the water-jet type comprising a vertically extending frame provided at its lower end with a generally horizontal duct having an inlet opening at one end and at the other end a jet-discharging nozzle disposed above the inlet opening, means for securing said frame to a boat-transom with the duct inlet below and said nozzle at least in part above the water line, said frame being pivotally connected to said means on a vertical axis to permit varying the direction of the jet discharged from said nozzle, said duct having a pump inlet opening in its upper wall, a second nozzle of smaller diameter than said duct, located therein, and disposed to discharge in the direction of flow therethrough, a centrifugal pump receiving water through said pump inlet opening and discharging through said second nozzle to create an ejector effect on water surrounding the second nozzle and promoting flow of such water to and through said jet-forming nozzle, a generally vertical shaft rotatably mounted in said frame, and means at the upper end of said frame for driving said shaft, said pump including an impeller fixed on the lower end of said shaft, and adjustable means for deflecting into the pump inlet opening a variable proportion of the water entering the duct.

3,141,440
IMPACT RECORDING INSTRUMENT
Fletcher N. Platt, 510 Huntington Drive, Ann Arbor, Mich.
Filed Apr. 2, 1962, Ser. No. 184,012
9 Claims. (Cl. 116—114)



1. A gauge for recording the intensity and direction of an impact comprising a housing, a circular structure in said housing having a series of uniformly spaced and uniformly dimensioned radially protruding surfaces, and a recording structure in said housing having a circular surface adjacent to and facing said radially protruding surfaces, one of said structures being retained against movement in said housing, said recording structure having less deformation resistance than said radially protruding surfaces so that on lateral movement of said structures relative to one another caused by an impact said radially protruding surfaces will penetrate said circular surface in numbers and in direction as a function of the magnitude and direction of said impact.

3,141,441
SANITARY RECEPTACLE
Mell Russell, 9743 Tujunga Canyon Blvd., Tujunga, Calif.
Filed Apr. 23, 1962, Ser. No. 189,426
5 Claims. (Cl. 119—1)



1. A sanitary receptacle for holding a granular sand-like material to receive waste material wherein the waste material is separable from the granular material for disposal thereof, comprising:

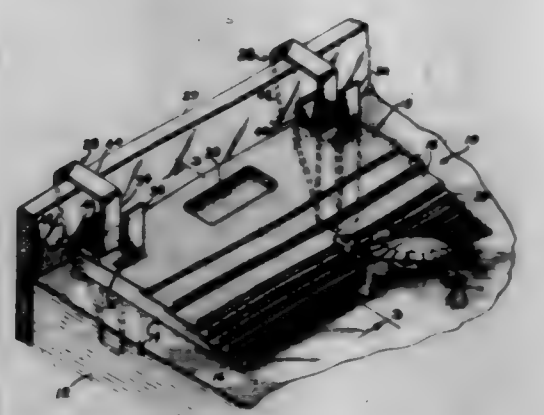
a walled receptacle having an imperforate bottom wall of a predetermined configuration and a peripheral vertical wall secured thereto so as to define an open top;

perforated bottom wall means of a configuration substantially complementary to said imperforate bottom wall so as to be superposable thereto; and

a relatively flat plate having a configuration subetantially complementary to said bottom wall means so as to be superposable thereto for closing the perforations thereof, said perforated bottom wall means being superposed of said imperforated bottom wall and said plate being superposed contiguously of said perforated bottom wall means for holding said granular material out of contact with said perforated bottom wall means to prevent said waste material from plugging the perforations thereof, said plate being re-

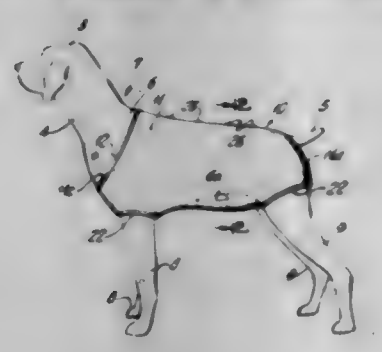
movable from said superposed position for permitting said perforated bottom wall means to support said granular material, said perforated bottom wall means being removable from said walled receptacle for sifting said granular material into said walled receptacle, and said plate being replaceable over said perforated bottom wall means so as to cover said perforated bottom wall means, whereby said granular material is retainable above said perforated bottom wall means when poured thereover.

3,141,442
AQUARIUM RAFT FOR TURTLES AND THE LIKE
Arthur Harris, 341 1st Ave., New York, N.Y.
Filed Jan. 24, 1963, Ser. No. 253,608
6 Claims. (Cl. 119—5)



1. A raft for home aquariums comprising a floatable platform the upper surface of which is stepped upwardly from adjacent the plane of flotation at an edge of the platform, the steps having upwardly protruding gripping means disposed transversely therealong and spaced outwardly of the inner region of the step.

3,141,443
PROTECTIVE COVER FOR DOGS
Joan M. Huey, 408 E. 88th St., New York, N.Y.
Filed July 16, 1963, Ser. No. 295,299
4 Claims. (Cl. 119—143)



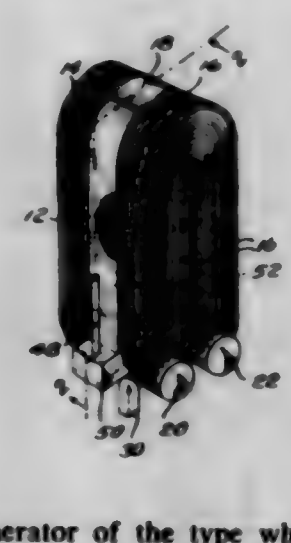
1. Protective cover for four-legged mammals such as dogs, comprising a flexible sheet of water-proof plastic having an inner surface, an outer surface, front and rear ends and longitudinal edges, said sheet being formed into open-ended part-tubular sheath shape with said longitudinal edges permanently joined in the rear portion of said sheet, said sheet having four openings in the plane of said sheet and positioned for step-in location of the mammal's legs therethrough with the tubular portion of said sheet around the mammal's hindquarters and with said longitudinal edges over the top of the mammal's body, said longitudinal edges having releasable fastening means forwardly of their permanently joined portions which can then be closed to complete formation of said sheet into a sheath around the mammal's body with the legs extended through said openings, said sheath having means on its inner surface for releasably holding a pad and positioned to maintain said pad covering a body of said mammal.

3,141,444
TRAP FOR ANIMAL FLIES
Joseph B. Kucera, Traer, Iowa
Filed Apr. 26, 1962, Ser. No. 190,414
1 Claim. (Cl. 119—156)



A fly trap for animals comprising the combination of a feed station with a fly catching means, said means including a cover having an upper surface for the feed station, said cover spaced from said station and including a coating of sticky material on the upper surface, said cover supporting flexible material about said feed station against which an animal's head will brush when entering the station.

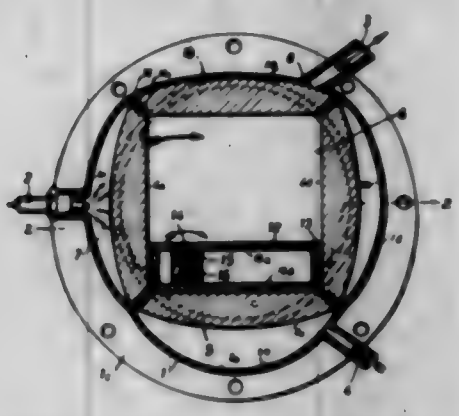
3,141,445
VAPOR GENERATOR WITH INTEGRAL SUPERHEATER
Alan Bell, Cookham, Berk, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Jan. 29, 1962, Ser. No. 169,348
Claims priority, application Great Britain Jan. 30, 1961
4 Claims. (Cl. 122—34)



1. A vapor generator of the type wherein a primary heating medium at a high pressure is caused to give up heat to a fluid by indirect heat exchange comprising a pressure vessel shell; means for introducing the fluid into the shell and means to maintain a liquid level in the shell so as to form a liquid space and a vapor space therein; a tube bundle comprising a plurality of U-shaped tubes disposed within said liquid space; adjacent elongated coextensive inlet and outlet headers within the shell to which opposite ends of the U-shaped tubes are connected, said headers extending across the shell and having end portions adjacent opposing sides of the shell; means to introduce a high pressure heating medium into said inlet header, said tube bundle being substantially coextensive with said headers and comprising an intermediate bank of tubes and end banks of tubes on opposite sides of said intermediate bank of tubes and adjacent said shell opposing sides; trunking means encasing said intermediate bank of tubes and defining a

closed flow path coextensive with and of the general configuration of the tubes of said intermediate bank; means for introducing vapor from said vapor space to said trunking means for superheating the same, said trunking means defining with said vessel shell a space which constitutes part of the liquid space of the vessel such that the vessel shell is shielded from superheat temperature by the liquid in said liquid space; and means arranged to convey superheated vapor from said superheating section.

3,141,446
ROTARY ENGINE
Karl Nittka, Uhland Strasse 7, Wiesbaden, Germany
Filed July 3, 1961, Ser. No. 121,614
Claims priority, application Germany July 1, 1960
13 Claims. (Cl. 123—8)



1. A rotary combustion engine comprising, in combination, a stator having inlet means for a fuel, outlet means, and an inner cavity communicating with said inlet means and outlet means and having an endless guide track and two lateral surfaces, said endless guide track having four curved track portions; a rotor located in said cavity and having a peripheral surface confronting said guide track and having four spaced parts guided along said endless guide track and four curved portions between said parts; an igniting means located on said stator in the region of one of said track portions; a turnable member mounted for turning movement about a stationary axis; and guide means connecting said turnable member with said rotor for rotation, and for translation in two directions transverse to each other and to said axis so that during rotation of said rotor and turnable member, said parts of said rotor move along said endless guide track and form in said cavity an expanding chamber communicating with said inlet means and a contracting chamber communicating with said outlet means, another contracting chamber for compressing the fuel, and another expanding chamber, said igniting means projecting into said last-mentioned chamber.

3,141,447
MOISTURIZERS AND VAPORIZERS FOR INTERNAL COMBUSTION ENGINES
Paul S. Jernigan, 1308 17th St., Wichita Falls, Tex.
Filed Apr. 12, 1963, Ser. No. 272,658
12 Claims. (Cl. 123—25)

1. A device for use in combination with an internal combustion engine to provide a combustible mixture, which device comprises:

(*a*) an air tight reservoir,

(*b*) a water level control tank,

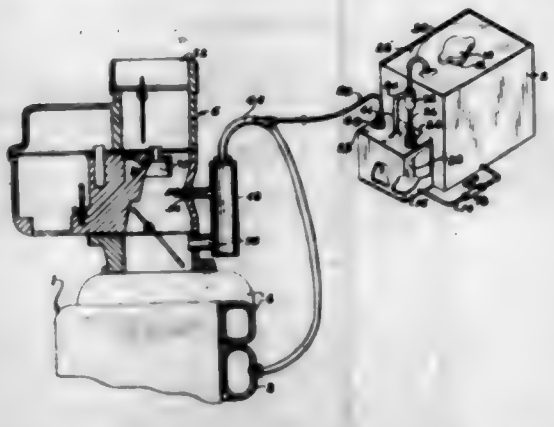
(*c*) conduit means connecting said reservoir with said water level control tank to enable water to flow from said reservoir to said water level control tank,

(*d*) said water level control tank having an opening formed therein, which opening is above the normal water level,

(*e*) a pipe extending into said water level control tank,

(1) the lower end of said pipe being open,

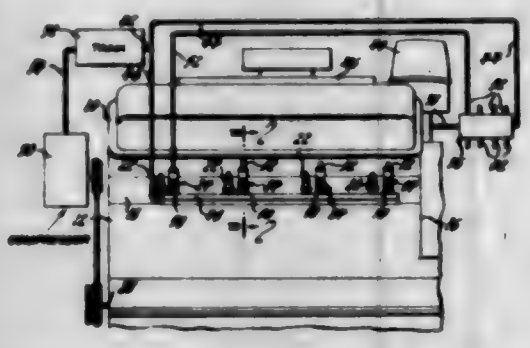
(2) said pipe being spaced from the bottom of said tank,



(*f*) a conduit leading from the upper end of said last mentioned pipe and being connected in fluid tight relation with the upper portion of said air tight reservoir, and

(*g*) a water outlet conduit leading from a point near the bottom of said water level control tank to a barrel of the carburetor of said internal combustion engine and being in open communication therewith at a restricted point in the barrel of said carburetor.

3,141,448
PRESSURIZED FLUID DISTRIBUTION AND TIMING SYSTEM
Alfred Candelise, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Mar. 4, 1960, Ser. No. 12,855, now Patent No. 3,019,777, dated Feb. 6, 1962. Divided and this application May 24, 1961, Ser. No. 112,448
3 Claims. (Cl. 123—26)



1. A compressed air distribution and timing system for delivering compressed air to a combustion chamber of an internal combustion engine in timed operation with a cycle of operation carried out within said combustion chamber, said system comprising air injector means having a compressed air chamber formed therein and valve means for opening and closing said air chamber to communication with said combustion chamber, valve actuating means including a valve actuating piston chamber formed in said air injector means and valve actuating piston means received therein and secured to said valve, first conduit means including a compressed air manifold connected with said compressed air chamber in the air injector means for maintaining compressed air in said air chamber, second conduit means for connecting said valve actuating piston chamber alternately with a source of compressed air and a source of vacuum in that order so that said valve means is positively opened and closed in timed fashion by pressure differentials acting on said valve piston means, and engine driven rotary timing and distribution means connected in said second conduit means

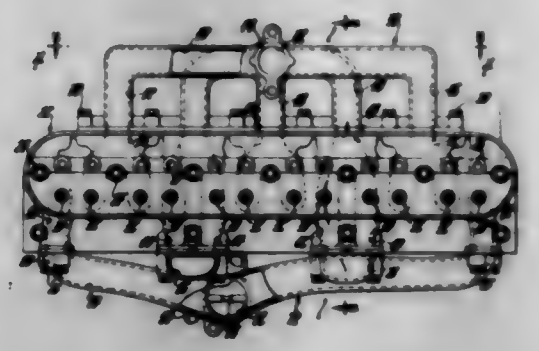
between said air injector means and a compressed air source and a vacuum source for controlling the admission of compressed air and vacuum to said second conduit means in timed relation with the cycle within said combustion chamber.

3,141,449

INTERNAL COMBUSTION ENGINE

Robert J. Dika, Waterford, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 12, 1961, Ser. No. 144,627
3 Claims. (Cl. 123—122)



1. In an internal combustion engine having an engine block containing a row of cylinders;

a cylinder head mounted on said block and having intake valves and exhaust valves therein opening into said cylinders, said intake valves being disposed in pairs along the length of said cylinder head and the inner of said exhaust valves being disposed in pairs between said pairs of intake valves, said cylinder head having a plurality of Y-shaped intake passages therein, the base of each of said passages opening through one wall of said cylinder head and each of the arms of each of said passages communicating with one of said cylinders through one of said intake valves, said cylinder head further having a pair of Y-shaped exhaust passages therethrough, the base of each of said exhaust passages opening through said one wall of said cylinder head and each of the arms of said Y-shaped exhaust passages communicating with one of said cylinders through said exhaust valves and said arms opening through another wall of said cylinder head;

an intake manifold secured to said cylinder head and along said one wall thereof and having a longitudinal passage and a plurality of branch passages, each of said branch passages communicating with the base of one of said Y-shaped passages and with said longitudinal passage, fuel and air inlet means in said intake manifold and communicating with said longitudinal passage, said intake manifold having an exhaust heat passage communicating between the bases of said Y-shaped exhaust passages and passing adjacent said fuel air inlet means;

an exhaust manifold attached to said cylinder head and along said another wall thereof, said exhaust manifold having a longitudinal passage formed therein and a plurality of branch passages therein communicating between said longitudinal passage and said cylinder head, one of said branch passages connecting said arms of one of said Y-shaped exhaust gas passages through said cylinder head, first exhaust gas outlet means formed in said exhaust manifold and communicating with the arms of the other of said Y-shaped exhaust gas passages through said cylinder head, said exhaust manifold having second exhaust gas outlet means communicating with said longitudinal passage;

and a thermostatically controlled valve in said second exhaust gas outlet means, said valve being operative to direct exhaust gases through said longitudinal passage and through said one of said Y-shaped exhaust gas passages in said cylinder head and through said exhaust heat passage in said inlet manifold and through said other of said Y-shaped exhaust gas passages in said cylinder head and out of said first outlet means in said exhaust manifold to heat the incoming fuel and air mixture when the exhaust gases are below a predetermined temperature and to direct exhaust gases directly out of said second exhaust outlet means when the exhaust gases are above a predetermined temperature.

3,141,450

TOY GUN

Mahlon E. Hirsch, Fairview, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York

Filed June 19, 1961, Ser. No. 118,085
11 Claims. (Cl. 124—3)



1. A cap and bullet firing gun, said gun comprising a barrel, a stock behind said barrel, a bullet magazine collateral of the barrel and having its rear end near the breech end of the barrel, a bullet feed spring in said magazine for feeding bullets toward the rear end of the magazine, a cap magazine for receiving a roll of cap strip, a cap feed dog, an anvil, a cap firing hammer, said dog serving to feed said strip from said cap magazine to a position between said anvil and said hammer, a longitudinally reciprocable bullet striker behind said barrel, a spring urging said striker toward the muzzle, means to transfer a bullet from the rear end of the bullet magazine to the breech portion of the barrel ahead of the striker, a sear to hold the striker in retracted position, a sear to hold the cap hammer in retracted position, a trigger to release both sears in order to fire the cap and propel the bullet, and a pivoted lever having a handle portion exposed beneath the stock and its other end having a coupling pin and gear rack and gear operatively connected to the striker and dog and transfer means for cocking the bullet striker, for feeding a cap from the magazine to the anvil, and for transferring a bullet from the bullet magazine to the barrel, and said lever having a projection for cocking the cap hammer.

3,141,451

ARCHER'S BOW

Richard V. Walker, Glen Ellyn, and Robert W. De Land, Wheaton, Ill. (both of 838 Dunne, Glen Ellyn, Ill.)

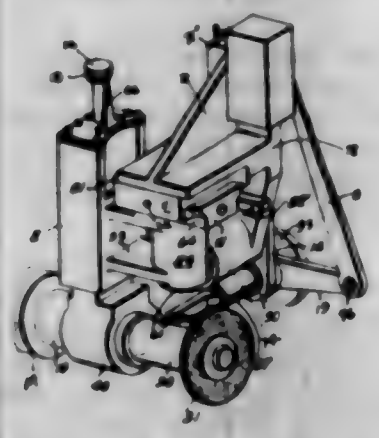
Filed Sept. 16, 1960, Ser. No. 56,447
5 Claims. (Cl. 124—24)



1. An archer's bow comprising, means providing a central hand grip portion, a pair of limbs extending outwardly from said central portion, each of said limbs including a major portion comprised of a thin forward

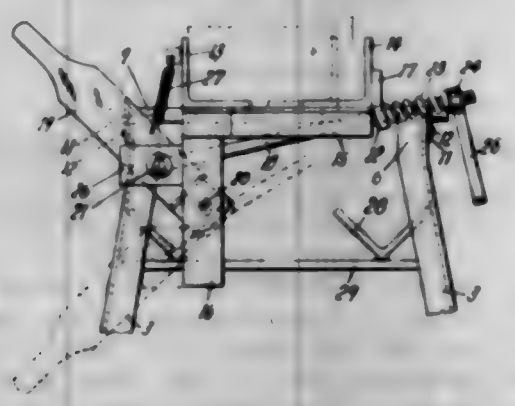
layer formed of a hard, dense, springy material having substantially the physical characteristics of glass fiber reinforced plastic, a thin rearward layer having substantially the characteristics of the forward layer, a multiplicity of parallel stiff struts lying between said layers and extending transversely of the limbs, a multiplicity of slightly resilient members comprised of strips of leather filling the spaces between said struts, said layers, said struts and said filling members being bonded together into a unitary structure.

3,141,452
GRINDING WHEEL DRESSER
Stanley J. Kopec, 577 Randolph St., Northville, Mich.
Filed Aug. 28, 1961, Ser. No. 134,498
6 Claims. (Cl. 125—11)



1. A machine for dressing a rotatably supported grinding wheel comprising a diamond point, means to swing said diamond point in a predetermined path, said swinging means comprising a support for said diamond point rotatably journalled in a bearing and having a rotating arm operably attached thereto, said arm having a linkage connected thereto at one end thereof, said support for said diamond point being swingably connected to said machine by said linkage, a fixed pivot arm attached to said bearing and having a template on the distal end thereof, and a member on the end of said linkage cooperating with said template and urging said diamond point to move in said predetermined path as said linkage rotates to rotate said rotating arm whereby said point is moved in a path modified by the movement of said rotating arm.

3,141,453
WORK HOLDER OR WORK JIG
Roger L. Dickey, R.R. 2, Box 214, Hartford City, Ind.
Filed Mar. 19, 1962, Ser. No. 180,692
10 Claims. (Cl. 125—35)



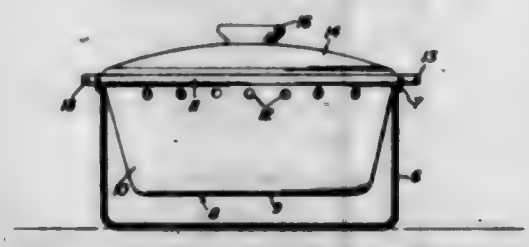
10. A work holder comprising a jig supporting frame including laterally spaced pairs of standards, a jig supporting bar fixedly mounted on one pair of said standards, a jig supporting bar releasably engageable with the other pair of standards, elongated front and rear jig members of angled section disposed in upwardly and inwardly facing relation supportedly mounted on said supporting jig bars, said jig members having downwardly projecting members disposed on opposite sides of said fixed support bar preventing longitudinal movement of said jig members thereon, said releasable jig supporting bar being fixedly mounted on one of said jig members, the other jig member being slidably associated therewith, and means supportedly mounted on said jig bars independent of said standards for adjusting said jig members to and from each other while supportedly engaged by said jig supporting bars, said removable jig supporting bar permitting the tilting of said jig members to facilitate placement and removal of work thereon.

3,141,454
HEAT STORAGE APPARATUS
Nikolaus Laing, Rosenbergstrasse 24a, Stuttgart, Germany
Filed Feb. 13, 1961, Ser. No. 88,950
Claims priority, application Germany Feb. 11, 1960
3 Claims. (Cl. 126—110)



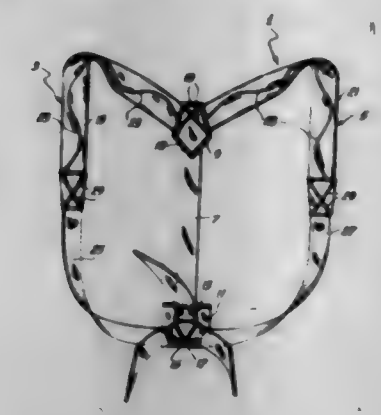
1. Heating apparatus comprising a body having a high heat storage capacity defining a passage through which air can be passed, said passage having an inlet and an outlet, means to heat said body, a blower having an inlet side and an outlet side, said outlet side being disposed adjacent the inlet of said passage whereby operation of said blower causes air flow through the passage, said blower including an impeller and a motor to drive said impeller which motor is located adjacent the body to be heated thereby, and a flue formed in said body, said flue having an inlet means in substantially vertical alignment with said motor and an outlet located above the inlet means whereby upon heating said body a flow of air is established in said flue drawing cooling air over the motor.

3,141,455
STEAM COOKING UTENSIL
Helen E. Dumbeck, 1233½ W. 8th Ave., Eugene, Oreg.
Filed Jan. 10, 1962, Ser. No. 165,374
2 Claims. (Cl. 126—369)



1. A steam cooking utensil comprising a pot for the reception of water, a food receptacle removably mounted in said pot and comprising a top flange resting thereon, said receptacle having in diametrically opposite portions circumferential series of upwardly directed steam inlet openings adjacent the flange, and a removable cover on the receptacle, said cover including on its underside a plurality of integral baffles for distributing incoming steam from the openings uniformly over food in the receptacle, said baffles being spaced concentrically from the periphery of the cover, said baffles further being generally V-shaped and comprising inwardly divergent end portions.

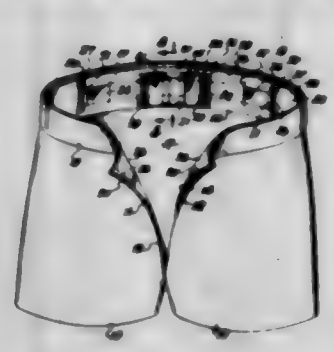
3,141,456
CLAVICLE SPLINT
Cicero P. Meek, 105 Jackson Drive, Aiken, S.C.
Filed Mar. 16, 1962, Ser. No. 180,123
3 Claims. (Cl. 128—87)



1. A clavicle splint, comprising:
(*a*) a first connector means adapted to be disposed against the upper portion of a patient's back;
(*b*) a second connector means adapted to be disposed at a point directly below said first connector means at a level below that of the patient's shoulder blades, said second connector means being free and unattached except with respect to other portions of said clavicle splint;
(*c*) a substantially inextensible, non-elastic back strap member and extending between the respective connector means for interconnecting the same in assembled relation;
(*d*) means at one end of said back strap for adjusting the length thereof and for detachably securing said one end with respect to the adjacent one of said connector means;
(*e*) means at the other end of said back strap for securing said other end to the other one of said connector means;
(*f*) plural buckle means securely connected to said second connector means and directed generally outwardly in either side direction with respect thereto; and
(*g*) substantially inextensible, non-elastic shoulder straps secured at their inner ends to said first connector means and adjustably secured at their outer ends to individual ones of said buckle means, said shoulder straps extending upwardly and outwardly from said first connector means and being free and unattached between their respective inner and outer ends to enable said shoulder straps to pass tightly around the patient's shoulders, closely under the arm pits and directly inwardly therefrom to be drawn tightly and held firmly by said buckle means, the inner and outer end portions of the respective shoulder straps being disposed in generally parallel relation along the patient's back.

3,141,457
LOWER TORSO GARMENT EMBODYING SACROILIAC SUPPORTING WAIST BAND
Sidney Davidson, 3833 Huron St., Culver City, Calif.
Filed July 12, 1963, Ser. No. 294,623
8 Claims. (Cl. 128—95)

1. Sacroiliac supporting means comprising: a lower-torso garment having a waist band; a liner band attached internally to the upper margin of said garment and coextensive with said waist band; a mounting web disposed in a back central area of said liner band and having its repective ends secured thereto; a resilient pressure-applying support pad secured to the center of said mounting web and projecting forwardly; and tension band means extending circumferentially behind said mounting web between respective side areas of said liner band and anchored to the letter at said respective side areas, said tension band means, when unstretched, being shorter than said liner band to provide slack in the rear portion of said liner band for accommodating stretch of said tension band means; and separable fastener means for coupling the



ends of said liner band at the front of the garment, around the waist of a wearer so as to stretch said tension band means, thereby developing tension therein which is applied forwardly against said mounting web and pad, with the slack in said rear portion of the liner band being at least partially taken up.

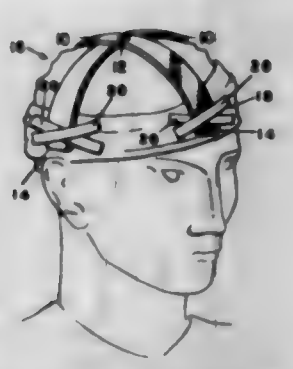
3,141,458
MAN'S SWIM SUIT CONSTRUCTION WITH EMBEDDED SUSPENSORY
Robert C. Burbank, Portland, Oreg., assignor to Jantzen Inc., Portland, Oreg., a corporation of Nevada
Filed Nov. 5, 1962, Ser. No. 235,248
7 Claims. (Cl. 128—159)



1. In a man's swim suit,
a body portion,
a lining,
means securing the lining to at least the upper and lower portions of the front portions of the body portion,
a semi-rigid cup-shaped supporter having a multitude of perforations therein,
and means fastening the supporter to the lining to suspend the supporter in the front portion of the body portion.

3,141,459
METHOD OF SUPPORTING CIRCUMFERENTIAL HEAD BANDAGE
Frances J. Orcutt, 1612 Poplar Road, Feasterville, Pa.
Filed Dec. 5, 1961, Ser. No. 157,619
2 Claims. (Cl. 128—171)

1. The method of supporting a head bandage circumferentially wrapped around the head which comprises (1) fastening one end of a first strip to the head bandage, (2) fastening the other end of said strip to the head bandage, the respective ends of said first strip being approximately 180 degrees from each other, with the center of said strip being at the uppermost portion of the wearer's head, (3) arranging a second strip, having its center pivotally attached to the center of said first strip in a manner so as to prevent overlaying of the wound area, (4) fastening one end of said second strip to the head bandage and (5)



fastening the other end of said second strip to the head bandage, the respective ends of said second strip being approximately 180 degrees from each other.

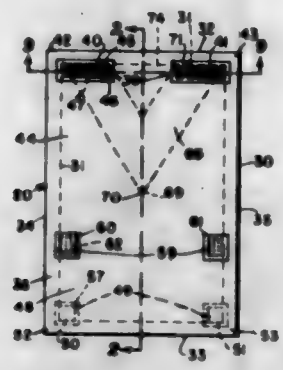
3,141,460
BLOOD COLLECTING ASSEMBLY
Photios Paul Tsochatzopoulos, Rutherford, N.J., assignor to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey
Filed July 7, 1961, Ser. No. 122,513
3 Claims. (Cl. 128—276)



1. A blood collecting assembly including, in combination a rigid tube having one end closed and a pierceable stopper sealing its opposite end to maintain a condition of vacuum within its interior, a holder defining an axially extending bore slideably receiving said opposite tube end and the stopper carried thereby, a cannula mounted by the forward end of said holder and having a stopper-piercing point extending into the bore of the latter, and stop means forming a fixed part of said holder projecting into said bore and arresting the sliding movement of said tube at a zone short of that at which the piercing end of the cannula penetrates through said stopper, the stopper having a radial extension included therein providing the part engaged by said stop means, said extension having a length greater than the transverse dimension of the holder bore within the zone of said stop means and a width less than such dimension.

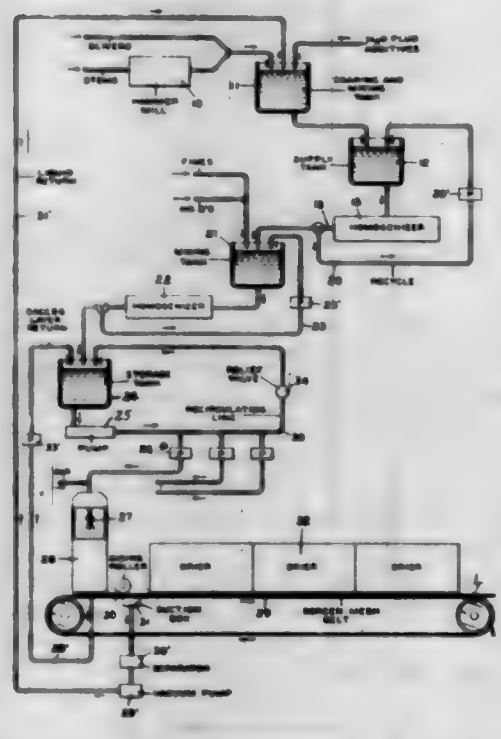
3,141,461
INFANT'S BREECH CLOTH
George D. Farris, 102 Pleasant St., Methuen, Mass.
Filed June 23, 1961, Ser. No. 119,180
9 Claims. (Cl. 128—284)

1. A reusable infant's breech cloth comprising a sheet of absorbent washable fabric prefolded into a rectangular multiply diaper; a line of through stitching extending parallel to the edge of each long and short side of said diaper, said stitching securing said plies into an integral unit and defining a marginal strip therearound; a pair of pile tapes, each overlying a substantial area of an opposite corner of one face along one short side of said diaper and firmly secured thereto by through stitching; a first pair of hook tapes, each overlying an opposite corner of the opposite face of said diaper along the other short side thereof and firmly secured thereto by through stitching, and a second pair of hook tapes,



each overlying the face of said diaper to which said pile tapes are secured along the edge of one of the longer sides thereof, and each firmly secured thereto by through stitching, said first and second pairs of hook tapes being attachable selectively to said pair of pile tapes and strippable by peeling therefrom for adjusting the length of said diaper in accordance with increased growth of said infant.

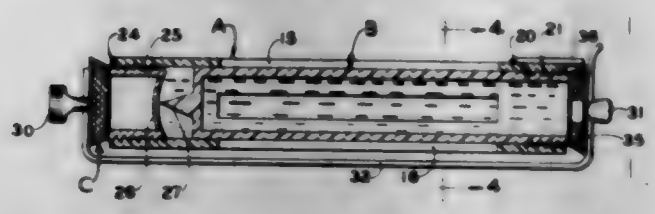
3,141,462
PROCESSING TOBACCO
M Sabel Block, Bloomfield, N.J., and Joseph J. Lubus, Melvin D. Sidbury, and Clifford O. Jensen, Greensboro, N.C., assignors to P. Lorillard Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 22, 1961, Ser. No. 139,928
14 Claims. (Cl. 131—140)



4. A method of producing tobacco sheets from tobacco fragments, comprising forming a mixture of about one part of tobacco stem pieces and about 6 to 13 parts of water, subjecting said mixture to high frequency vibrations to separate, at least partially, the fibers of the fiber bundles of the tobacco stem pieces without substantial reduction of their length which fibers interlace and form a self-sustaining matrix, adding tobacco fines in a finely-

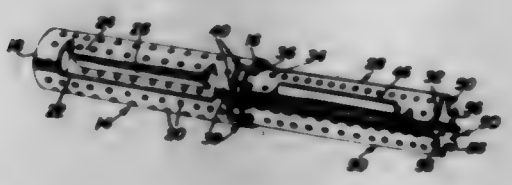
divided state to said mixture, spraying said mixture onto a surface to form a layer thereon containing said fibers in an interlaced condition and forming a matrix containing said finely-divided particles, and heating said layer to evaporate moisture from said layer to form a self-sustaining sheet.

3,141,463
AUTOMATIC PRESSURIZED HAIR CURLER CARRYING COLD WAVING SOLUTION
Golden Grace Hatton, 332 SE. 2nd Ave., Miami, Fla.
Filed Mar. 9, 1962, Ser. No. 178,705
10 Claims. (Cl. 132—42)



6. An automatic cold permanent wave curler constructed of disposable lightweight chemically resistant material comprising three principal parts, the first part being an outer hollow container adapted to receive a coil of hair wound thereabout; the second part being an inner hollow container snugly fitted within said outer container and which contains a predetermined amount of curling fluid, apertures formed in the wall of the first and second containers which are arranged out of alignment with each when originally assembled; the third part containing compressed gas operatively associated with one end of the outer cylinder, and quick operating means to simultaneously align the apertures of the first and second containers and release the compressed gas from the third container to permit the curling fluid to be forced outwardly through the aligned apertures under pressure to saturate a coil of hair wound about the curling rod.

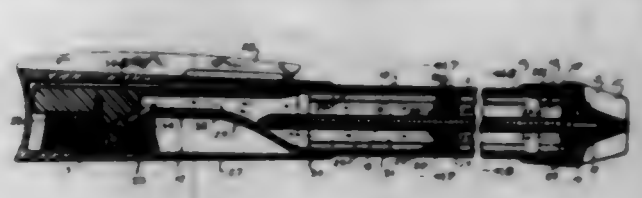
3,141,464
HAIR CURLER
Salvatore John Catania, 2531 S. 90th St., Omaha, Nebr.
Filed Jan. 18, 1961, Ser. No. 83,473
8 Claims. (Cl. 132—41)



6. A hair curler comprising an elongated mandrel having a longitudinally extending slot in its side, clamping means including an elongated leaf having a transversely concave surface for compressively engaging said mandrel side along substantial portions of their lengths, said leaf carrying a longitudinally extending laterally projecting flange movable into said slot and having a surface for clamping the top portions of a strand of hair against said mandrel, mounting means connecting one end portion of said leaf and mandrel whereby to clamp a strand of hair between said leaf and mandrel when said strand is wound about the latter.

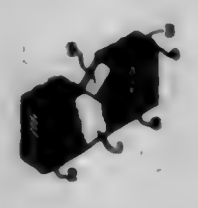
3,141,465
MECHANICAL TOOTHBRUSH
Thomas S. Petropoulos, R.R. 2, Box 1, Caledonia, Wis., assignor of one-half to Nelson Pattern Company, a corporation of Wisconsin
Filed Mar. 3, 1960, Ser. No. 12,623
1 Claim. (Cl. 132—84)

A toothbrush having a hollow paste containing handle section, a brush body carrying brush bristles thereon on one end of said handle section, said brush body having a passageway communicating with said hollow handle section and with said brush bristles, a feed mechanism for said hollow paste containing handle section including, a longitudinally extending feed screw positioned centrally in said hollow paste containing handle section, an end cover threaded on the handle section adjacent the end opposite to said brush body, said cover carrying and supporting said feed screw, an actuating knob carried by said cover secured to said feed screw and adapted to rotate the same, a resilient plunger having internal threads receiving said threaded feed screw, a series of longitudinally extending spaced vanes within said hollow paste containing handle section, said plunger having an inner core portion of a greater material hardness than its outer periphery, and said outer peripbery of said plunger being formed



with a plurality of radial serrations and a plurality of equally spaced longitudinal ribs cooperating with said vanes to prevent rotation of said plunger, the outer periphery of said plunger abutting the inner surface of said hollow paste containing handle section and being compressed to completely seal the same, whereby actuation of the knob will move said plunger in said container for forcing paste onto the brush bristles, said cover having an extended internal bore of a size and configuration to completely receive said plunger in its retracted position and maintain its sealing surface in a compressed status, whereby said cover, actuating knob, feed screw and plunger may be removed from said hollow paste containing end for refilling of the same.

3,141,466
DENTAL CLEANER
John Stuart Fleming, Niagara Falls, N.Y., assignor to Floxite Company, Inc., Niagara Falls, N.Y., a corporation of New York
Filed Mar. 7, 1961, Ser. No. 93,950
2 Claims. (Cl. 132—93)



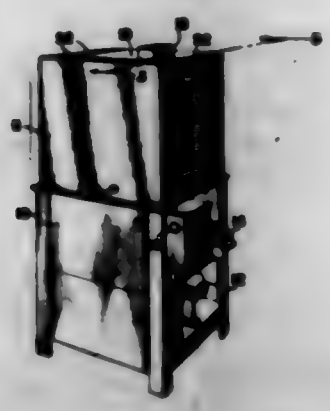
1. A dental cleaner, comprising a strip of thin flexible sized wet strength paper having a soft cushioned brush edge extending along one edge thereof, the paper fibers of said brush edge being bent laterally at each side so that it is of greater thickness than that of the body of the paper, said strip being provided at intervals with shallow V-form notches extending below the brush edge into the body of the paper, said brush edge being longitudinally continuous between said notches, said notches being each engageable between adjacent teeth, said strip being thereupon movable edgewise to cause the roots of the paper fibers of the brush edge to abut against the adjacent edges of said teeth and be thereby bent into upright position into parallel relationship for insertion between adjacent teeth and against the gums.

3,141,467

SAFETY SWITCH AND DOOR LOCK FOR DISHWASHING MACHINES

Frederick W. Robson, Rochester, N.Y., assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio

Filed June 20, 1962, Ser. No. 203,952
4 Claims. (Cl. 134—58)



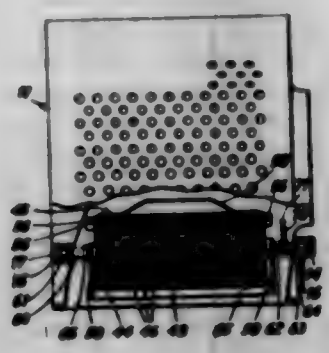
1. In a dishwashing machine having a washing space and a roof thereabove, in combination, door means for enclosing and selectively exposing the space, the door means including a flexible rim engageable with the roof to seal in steam and water, a switch operator which is caught between the rim and the roof when the door means is closed, whereby the switch operator is operated by the rim, and a safety switch operated by the switch operator and adapted, whenever the door means is moved to its exposing position, to prevent operation of the machine, the flexible rim when the door means is closed humping up slightly at the switch operator to allow room for the switch operator between the rim and the roof without breaking said steam and water seal.

3,141,468

APPARATUS FOR USE IN SUPPORTING SYRINGE ELEMENTS AND THE LIKE WITHIN A WASHING DRUM

Marc Kupferschmid, Bevilard, Switzerland, assignor to Etablissements ACIC Arnold Charpilloz Bevilard, Bern, Switzerland, a corporation of Switzerland

Filed Aug. 20, 1962, Ser. No. 217,876
Claims priority, application Switzerland Aug. 25, 1961
11 Claims. (Cl. 134—142)



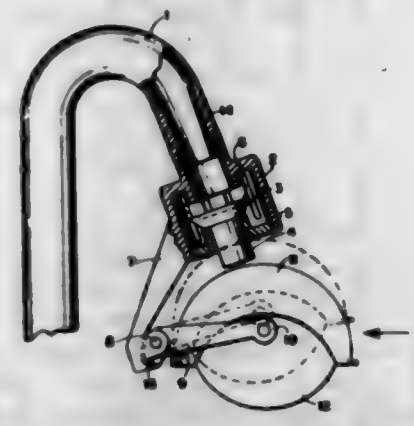
1. Apparatus for use in supporting syringe elements and the like within a washing drum, such apparatus comprising an open frame having means for securement to the interior of the drum of a washing machine, a number of detachable supports for springe elements or the like engaged in the frame, each support carrying members for mounting the said syringe elements, and a cover detachably secured to the frame, the said cover extending relatively to the supports so as to hold them in position on the frame.

3,141,469

ECCENTRIC FLOAT DEVICE FOR THE AUTOMATIC ACTUATION OF THE CHECK VALVE OF THE BREATHING PIPES OF DIVING MASKS OR THE LIKE

Giuseppe Stradella, Via Roma 13, Genoa-Recco, Italy

Filed July 26, 1961, Ser. No. 126,912
Claims priority, application Italy July 29, 1960
4 Claims. (Cl. 137—41)



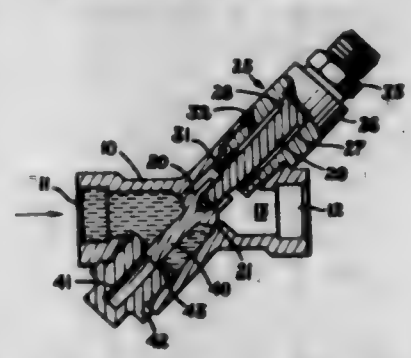
1. Breathing apparatus comprising a valve member axially slidable within a slotted cage on the end of a breathing pipe to be opened and closed, said cage supporting on one side thereof a downwardly projecting first fork which in turn pivotally supports a second fork which is adapted to mount an actuating float by means of a pin which passes through a hole in the body of the float so that said float will rotate with a given eccentricity, the mounting of the float being such that a zone thereof positively engages the surface of the valve member, the float being provided on the side which is opposite to the zone which is engaged by the valve member, which zone comprises an air chamber, with a non-floatable solid projection or lug, said lug serving to unbalance the float, means limiting the pivotal movement of said second fork to a range such that the eccentric movement of said float maintains the positive engagement with said valve due to the upward pivotal movement of the float and second fork resulting from bouyancy, complemented by an eccentric rotation resulting from the inherent tendency of a particular orientation of the float, so that the closure of the valve will be always positive and therefore stable as desired regardless of the position to which said breathing pipe is moved.

3,141,470

VALVE ASSEMBLY

Raymond H. LaFontaine, Dayton, Ohio, assignor to Kochler Aircraft Products Company, Dayton, Ohio, a corporation of Ohio

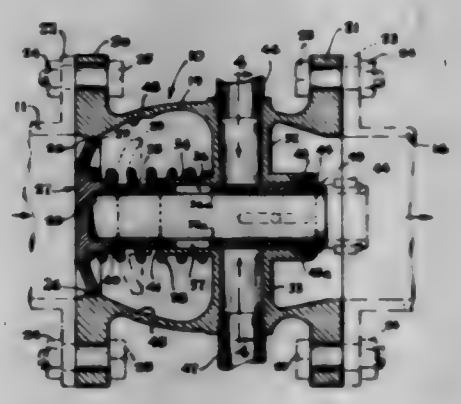
Filed Apr. 21, 1961, Ser. No. 104,585
2 Claims. (Cl. 137—68)



1. A hermetically sealed valve comprising a tubular valve body having therein a fluid conduit for straight line fluid flow therethrough; said conduit having an inlet and an outlet at opposite ends thereof; a flow barrier interposed in said conduit at a predetermined angle to the axis of said conduit; said barrier movable from a flow

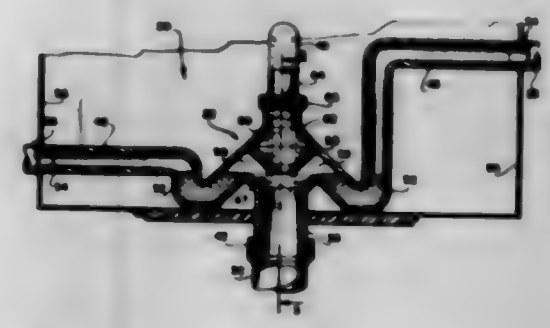
preventing position wherein said inlet is hermetically sealed from said outlet to an open position wherein fluid flows smoothly through said conduit; an integral connection between said barrier and said valve body when said barrier is in said flow preventing position; fluid motor means for moving said barrier between said positions and including a cylinder secured to said body and having a piston reciprocally mounted therein; a piston rod rigidly interconnecting said piston and said barrier for effecting the rupture of the integral connection and for moving said barrier from said flow preventing position to said open position; a guide rod rigidly connected to said barrier and having a predetermined diameter; said barrier being thicker in the central portion thereof at the connections with said guide and piston rods with the thinnest section thereof being around the periphery of said barrier adjacent said body for insuring a clean separation therefrom; and means defining a guide bore in said valve body having a diameter slightly less than said predetermined diameter for receiving said rod during movement of said barrier to said open position thereby insuring proper positioning of said barrier in the open position and a press-fitted locking relationship therebetween to lock said barrier and said actuator means against movement once said barrier is moved to said open position; said bore having an internal chamfer around the entrance thereto corresponding to the shape of said barrier around said guide rod for closely accommodating said barrier in said open position; said cylinder, piston rod, guide rod and bore being coaxial with said predetermined axis of said barrier thereby permitting maximum unrestricted and uninterrupted flow through said conduit when said barrier is moved to said open position.

3,141,471
PROPORTIONING ASSEMBLY
Hilding V. Williamson, Chicago, Ill., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,841
7 Claims. (Cl. 137—114)



1. A liquid proportioning assembly adapted for use in pipe lines comprising, a generally cylindrical tubular housing providing an inlet port with an inwardly tapering wall adjacent said inlet port, a piston having a hollow stem and a head adapted to substantially close said inlet port, a stationary sleeve within said housing adapted to slidably receive said stem member and to align said head with said inlet port, two intake conduits in communication with said sleeve, means to stop the flow of liquid through each said conduit, said stem having two slots therein for registration with each said conduit when said piston head is moved away from said inlet port, the inwardly tapering wall coacting with said piston head to provide an opening of variable dimensions and said slots designed to provide an area of registration with said conduits in proportion to the opening of said orifice, said slots being of a dimension to allow different amounts of liquids to pass therethrough when said slots are in registration with said conduit members with the most remote portion of said slots away from said piston head adapted to communicate with said conduits simultaneously and at the moment said piston head moves away from said inlet port, means to resiliently urge said piston head toward said inlet port, stopping means associated with said piston to prevent said piston head from completely passing through said inlet port, and means associated with said stem member to prevent a transverse movement of said stem member.

3,141,472
TRAP AND DRAIN MANIFOLD
Gordon C. Russell, Studio City, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 2, 1962, Ser. No. 184,346
3 Claims. (Cl. 137—216.1)



1. A unitary multiple trap and drain manifold unit for a centralized plumbing assembly in buildings, comprising:

(*a*) a hollow elbow having an upper end section and a lower end section connected by a curved intermediate section, the upper end section adapted to be connected to a toilet bowl and the lower end section adapted to be connected to a sewer pipe;

(*b*) a plurality of waste lines each having a trap member at the end thereof;

(*c*) a downwardly sloping drain conduit connected to each trap member, the upper end of said drain conduit being connected to the trap member, and the lower end of the drain conduit connected to the intermediate section of the elbow so that a passage for waste is provided from the said trap of the waste lines to the interior of said elbow;

(*d*) a common venting conduit which extends above said elbow and has an open upper end adapted to engage a stack pipe;

(*e*) said common venting conduit having an open lower end within said intermediate curved section of the elbow at a point immediately above the intersection of the said drain conduits with the said intermediate curved portion of the elbows;

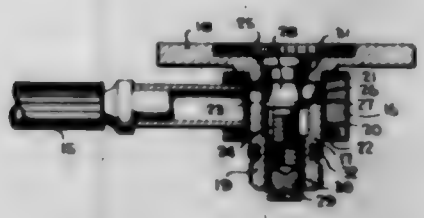
(*f*) the lowermost intersection point of the upper ends of the drain conduits with the trap members being in substantially the same horizontal plane; and

(*g*) the upper wall of said drain conduits forming a flange which extends downwardly to a point substantially even with the said lowermost intersecting point of the upper ends of the drain conduits with the end of the trap members, so that waste material is directed downwardly by said flanges into the said lower section of the elbow and does not flow across into an opposing trap.

3,141,473
CONNECTING MEANS FOR GAS HOSES
Carl-Anker Mejyr, Flen, Sweden, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 15, 1963, Ser. No. 251,520
2 Claims. (Cl. 137—322)

1. Connecting means connecting one end of a gas hose to a fuel container containing a combustible gas com-

pressed into liquid phase, characterized in that said connecting means consists of a ring member to which one end of the hose is connected and which is rotatably mounted on a connecting stud which can be screwed into the outlet of the container, said stud being provided with a spindle which is locked in axial direction but is rotatable independently of the stud by means of a handle, the lower end of said spindle being screwed into a slide displaceable only in an axial direction and adapted to actuate and



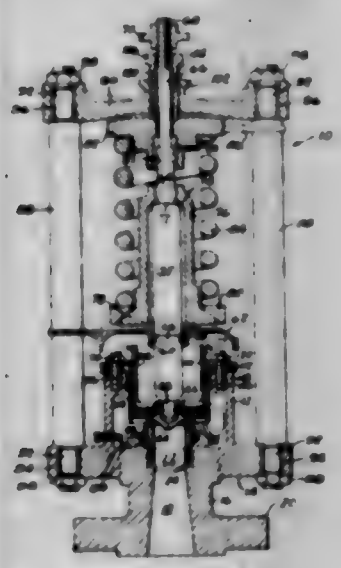
open a closing valve in the gas container during a downward displacement of the same, and in that channels are provided between the slide and the inner side of the stud and between the outer side of the stud and the ring member connected to the hose which channels are sealed towards the atmosphere and when the container-valve is opened allow the gas to flow from the gas container to the hose via a bore or opening in the wall of the ring member.

3,141,474

SAFETY VALVE CONSTRUCTION

Perry H. Gentzel, 607 W. College Ave., State College, Pa.

Filed Aug. 15, 1962, Ser. No. 217,051
1 Claim. (Cl. 137—469)



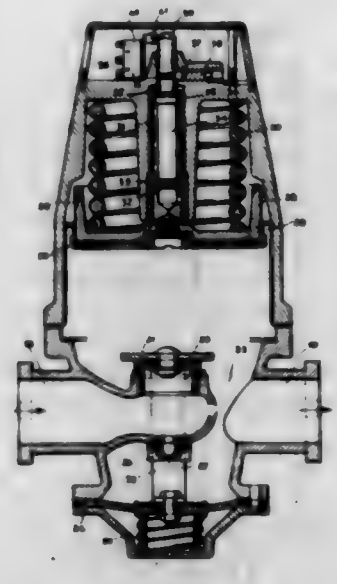
In a safety valve comprising a valve housing, an inlet and an outlet in said housing, said inlet being in fluid connection with a passage adapted to be connected to a source of fluid under pressure and said outlet providing an exhaust to the atmosphere, a valve seat in said inlet within said housing, a guide sleeve in said housing spaced above said valve seat and coaxial therewith, a piston slidable within said guide sleeve, and a valve disc connected to said piston in a position to seat against said valve seat, the improvement comprising a spring assembly operatively connected to said piston for resiliently urging said piston and said valve disc toward said valve seat, said spring assembly comprising a sleeve encompassed by a coil spring and having a flange at one end, said flange having a curved surface, a spring follower, said spring follower having a complementary curved surface mating with the curved surface of said flange to provide a universal joint, a spindle passing through said sleeve, said sleeve resiliently urging the spindle downwardly by the force of said spring, said spindle having a collar thereon which is slidably and universally pivotally received in the bore of a retainer ring against which said spring bears, an annular undercut groove in said piston and concentric with said valve disc, said groove being radially and axially inwardly inclined relative to the body of said piston with a long gradual slope and having an axially outwardly curved radial outer surface, said groove being positioned radially outward of said valve seat and said piston being provided with at least one peripheral recess on its outer peripheral wall, a pair of thin piston rings in said recess, said piston rings ranging in thickness from about 0.024 to 0.030 inch, said piston rings being positioned relative to one another in such a manner that their splits are about 180 degrees apart to form a labyrinth seal with said guide sleeve, whereby said piston rings will be forced against the top of the groove upon the opening of the valve seat and remain slidable relative to said guide sleeve.

3,141,475

REGULATING VALVE FOR A PUMP CONTROLLED BY A PRESSURE RESPONSIVE SWITCH

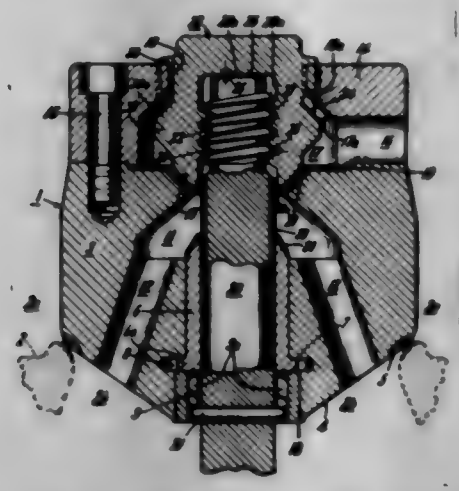
Paul André Guinard, 6 Rue Montesquiou, Saint-Cloud, France, and Gérard Georges Jean Berger, Mercey, France

Filed May 31, 1961, Ser. No. 113,806
Claims priority, application France June 2, 1960
5 Claims. (Cl. 137—568)



1. Apparatus for the delivery of liquid including an electric motor, a pump driven by said motor, a pipe in which said pump discharges under pressure said liquid, drawing cocks connected to said pipe, a pressure reducing valve mounted on said pipe between the pump and the cocks and including a chamber, a lead-in pipe connected with the pump and opening in said chamber to form a seat therein at the open end of the pipe, an outlet pipe connected with the discharge pipe, a valve member adapted to close the seat of the lead-in pipe and subjected, in the direction of the closing, to the pressure existing in the discharge pipe downstream of said valve, a calibrated spring acting upon said valve member in the direction of the opening, a passage having a small section provided in said lead-in pipe to establish direct communication between the pump and the inside of the chamber of the relief-valve and including flow direction selecting means for preventing flow of liquid from the valve chamber to the lead in pipe and a pressure switch connected with the discharge pipe downstream of the pressure reducing valve and controlling the starting and the stopping of the electric motor of the pump.

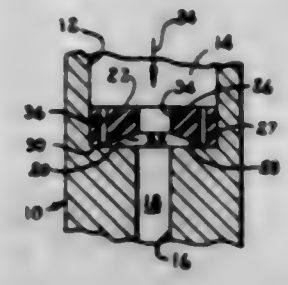
3,141,476
STEAM VALVE DISK ASSEMBLY WITH INTERNAL BYPASS VALVE
Donald H. Davis, Scotia, and Frederick S. O'Bryon, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 28, 1961, Ser. No. 141,437
5 Claims. (Cl. 137—630.14)



4. A valve disk assembly comprising a main valve disk member having an axial bore therethrough, a valve stem projecting into one end of said bore and having an end portion projecting from the other end of the bore, the valve stem being disposed for limited axial sliding motion in said bore, a cap member secured to said main disk member and forming with the main disk member a first central recess surrounding the projecting end portion of the valve stem, the main disk member having a portion forming a second central recess including an annular bypass valve seat defining an annular passage with the valve stem, and a cylindrical bypass valve member disposed in said first recess and having a third central recess receiving the extreme end portion of the valve stem, said projecting end portion of the valve stem and said third central recess forming coarse interengaging helical threads defining a first axial clearance space therebetween when the bypass valve member is in closed position abutting said bypass valve seat, the extreme end surface of the valve stem forming a second axial clearance space smaller than said first clearance space with an adjacent abutment surface of said third central recess, whereby axial movement of the valve stem first causes the second clearance space to close while said first axial clearance space provides clearance on both sides of said interengaging threads, whereby force is transmitted in the valve opening direction entirely through the end surface of the valve stem to the abutting surface of the third central recess with no load on the threaded portions.

3,141,477
FLUID FLOW CONTROL MEANS
Richard L. Campbell, Birmingham, and Thomas E. Noakes, Detroit, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed July 19, 1961, Ser. No. 125,180
3 Claims. (Cl. 138—45)

1. In combination, fluid conduit means defining a relatively large diameter inlet chamber, a relatively small diameter outlet chamber, and an annular shoulder therebetween; a resilient rubber-like flow control annulus of appreciable axial thickness disposed in the inlet chamber and having a continuous outer circumferential portion seated on the outer peripheral portion of the shoulder; said shoulder and flow control annulus having flat opposing surfaces located radially inwardly from the outer peripheral portion of the shoulder, one of said surfaces lying in a radial plane and the other surface being a regular frustro-conical surface, whereby the inner portion of the annulus downstream face is spaced axially from the shoulder; said flow control annulus having at least one auxiliary flow aperture extending from its upstream face



to its aforementioned flat surface at a point located adjacent its outer peripheral seating portion; said auxiliary flow aperture being separate from the central flow aperture formed by the annulus so that fluid flows in separate streams through the individual apertures.

3,141,478
UNDERGROUND SEAL FOR GAS MAINS, ETC.
Lynn L. Copeland, Philadelphia, Pa., assignor to Raxco Products, a partnership
Filed June 25, 1962, Ser. No. 204,966
13 Claims. (Cl. 138—97)



1. A one piece collar for enclosing the periphery of a cylindrical object such as a conduit or the like which comprises an elongated flexible body portion having an axial lap joint, said body portion being of one piece and adapted to extend 360 degrees around a conduit means for clamping said collar to and around the conduit in spaced relation at each side of the portion of the conduit to be sealed, and an inlet in the collar, for introducing a sealing compound around the conduit in said portion to be sealed.

3,141,479
FLUXING PIPE AND METHOD OF MAKING THE SAME OR THE LIKE
Walter W. Mickey, Blanchester, Ohio, assignor to Consolidated Porcelain Enamel Co., Blanchester, Ohio, a corporation of Ohio
Filed July 27, 1961, Ser. No. 127,169
5 Claims. (Cl. 138—143)



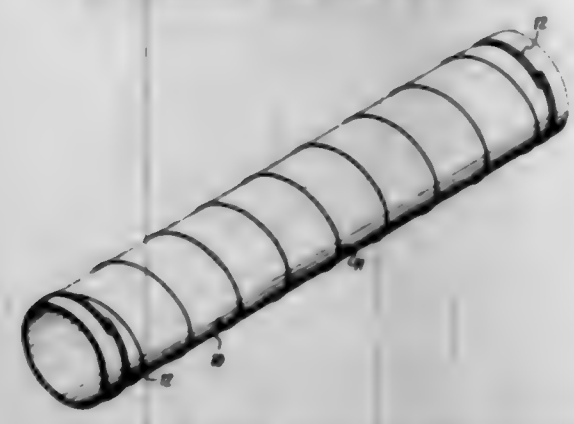
1. An elongate hollow tubular structure, comprising a hollow metal tube having an exterior surface and an interior surface, a coating of ceramic material on and fused to each of said surfaces, a tubular ceramic member concentric with said metal tube and having a surface in opposing relationship with one of said coatings, and a layer of a bonding agent between said surface of said tubular ceramic member and said one of said coatings of ceramic material, said bonding agent securing said ceramic member to said one of said coatings whereby said metal tube, said ceramic coatings, and said ceramic

member form a unitary heat and corrosion resistant structure.

3,141,480
REINFORCED PIPE

Harry R. Ralston, Albuquerque, N. Mex., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Dec. 26, 1961, Ser. No. 162,020
3 Claims. (Cl. 138—172)

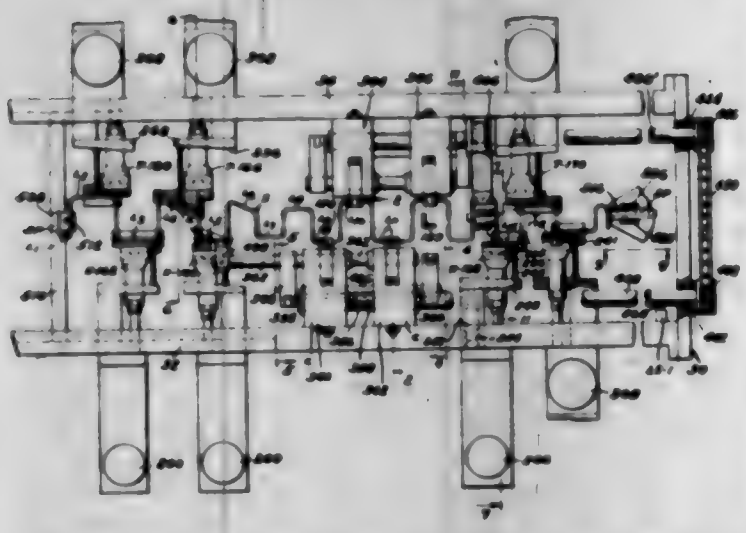


1. A reinforced metallic pipe consisting essentially of a smooth wall pipe having an outside diameter of from 10 to 60 inches and a gauge from 24 for 10 inch pipe to a gauge of 12 for 60 inch pipe, which pipe, while essentially rigid, will flex and distort during handling and placement, said pipe being reinforced externally by a helical member having an internal diameter in its free state slightly less than the outside diameter of said pipe, and having an internal diameter in a compressed state slightly larger than the outside diameter of said pipe, whereby it may be slipped over the pipe in a compressed state and then released to snugly embrace the pipe over substantially its entire length, the spacing between the convolutions of said helical member when released to embrace said pipe being on the order of 65% of the pipe outside diameter, said helical member being formed from metallic tubing having an outside diameter of from about ⅜ inch to 2¾ inches, the diameter of the tubing increasing in proportion to the diameter of the pipe.

3,141,481
METHOD OF AND APPARATUS FOR BENDING PREFORMED FORMED WIRE STRIPS

August T. Gonia, Western Spring, Harry H. Fante, Riverside, and Mitchell J. Shepard, Berwyn, Ill., assignors to Rockwell Standard Corporation, a corporation of Pennsylvania

Filed Aug. 9, 1957, Ser. No. 677,351
20 Claims. (Cl. 140—71)



1. In a machine for twisting a straight-wire loop-connecting portion of a sinuous wire strip: a frame, a rotatable wire-twisting head mounted on the frame and adapted to embrace a loop of a sinuous wire strip, means mounted on the frame to hold against rotation an adjacent oppositely opening loop of the strip from that engaged by said head and at the opposite end of the straight-wire portion to be twisted connecting the two loops, actuating means coupled with the head to rotate it, and distortion-correcting means on said head comprising a member controllably moved to abut the bight portion of the loop embraced by the head and during rotation of the head continuously urge the bight portion of the loop in a direction tending to close the angle between the bight portion and the loop-connecting portion being twisted.

3,141,482
CORE MILL

Sam K. Arness, P.O. Box 426, Hoopa, Calif.

Filed July 19, 1961, Ser. No. 125,270
9 Claims. (Cl. 144—39)



1. A core mill comprising a gang saw assembly including support means defining an elongated support upon which a core may be supported and axially shifted, a housing disposed intermediate the remote ends of said support and including upstanding side walls, a large opening formed in one of said side walls, a closure plate for said opening removably secured thereover and including a first bearing, a second bearing supported from said other side wall and aligned with said first bearing, a blade shaft extending between and having its opposite ends journaled in said first and second bearings, and a plurality of circular saw blades mounted on said shaft for rotation therewith and at points spaced longitudinally therealong, said larger opening having a diameter larger than said circular saw blades whereby said closure plate may be removed and said shaft blades may be removed from between said side walls and outwardly of said opening.

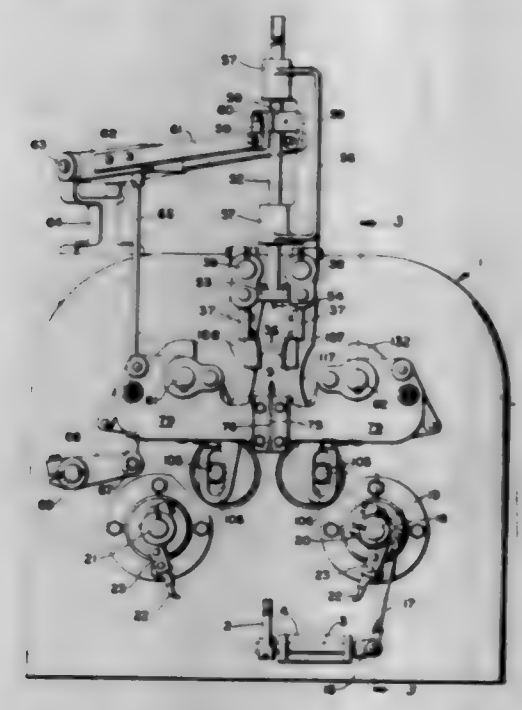
3,141,483
FREESTONE PITTER

George E. Kilner, Oakland, and Joseph Perrelli, El Cerrito, Calif., assignors to Perrelli Freestone Machine, Inc., San Ramon, Calif.

Filed May 31, 1961, Ser. No. 113,871
8 Claims. (Cl. 146—28)

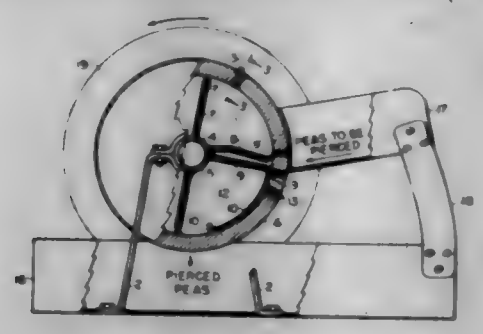
4. In a freestone drupe pitter; a stationary frame; two pairs of drupe bisecting cutters and clamps adapted to hold a drupe half between the cutter and clamp of each pair with the drupe pit connected with and between said halves; each cutter comprising a pair of coplanar, spaced, cutting blades having adjacent spaced edges extending in generally the same direction defining the sides of an elongated, open-ended slot; the said blades of said pairs being in face to face engagement with said edges of one pair in register with the said edges of the other pair; blade supporting means on said frame connected with each pair of blades supporting each pair of blades for movement away from the other pair in a direction transversely of the planes in which said pairs of blades are positioned; blade moving means connected with said pairs of blades for so moving them apart to substantially spaced relation; pit engaging means supported on said frame for movement into one end of each of said slots and toward the other end thereof for engaging one end of a pit in the pit cavity of either of said halves when said pairs of blades are in said spaced relation; and means

supporting said pit engaging means for said movement thereof; and means connected with said pit engaging means for so moving the latter, means pivotally supporting each of said clamps on said blade supporting means for movement therewith and for pivotal movement about an axis adjacent to and parallel with the blade adjacent thereto and against which each clamp is adapted to hold



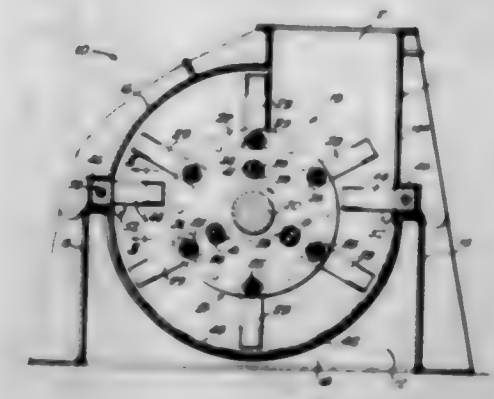
one-half of a drupe whereby each clamp will adjust itself to the outer contour of the half adapted to be engaged thereby, and means respectively on said frame and said blade supporting means actuatable by movement of said blade supporting means for locking said clamps against the outer surfaces of the drupe halves and against said pivotal movement of said clamps upon movement of said pairs of blades to said spaced relation.

3,141,484
PEA PIERCING MACHINE
Edison Lowe, El Cerrito, and Everett L. Durkee, El Sobrante, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Jan. 4, 1963, Ser. No. 249,541
4 Claims. (Cl. 146—56)
(Granted under Title 35, U.S. Code (1952), sec. 266)



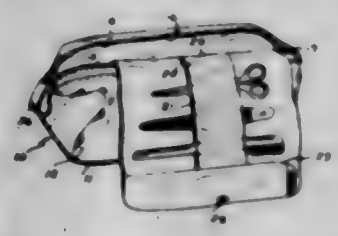
1. A device for piercing food particles which comprises in combination a rotatable hollow drum, a plurality of particle-receiving cavities disposed on the cylindrical surface of the drum, piercing means within each of said cavities adapted for piercing food particles received in said cavities, a plurality of bores connecting said cavities to the interior of the drum, means cooperative with said bores to successively (1) subject said cavities to a reduced fluid pressure whereby to draw food particles into said cavities and into engagement with said associated piercing means and then (2) subject said cavities to an elevated fluid pressure to eject pierced food particles from said cavities.

3,141,485
TOBACCO SHREDDER
Charles W. Bonner, Jr., and Curtis T. Houck, Richmond, Va., assignors to The Cardwell Machine Company, Richmond, Va., a corporation of Virginia
Filed Dec. 4, 1962, Ser. No. 242,584
2 Claims. (Cl. 146—117)



1. In a rotor assembly for threshing machines and the like including a shaft, a group of circular discs of substantially planar configuration disposed in axial alignment in axially spaced parallel planes on said shaft, means for retaining said discs in fixed relation to each other and to said shaft for rotation as a group with said shaft, elongated radially projecting tooth members extending beyond the peripheries of said discs having inner end portions disposed in the spaces between adjacent pairs of said discs, and means for fixing said tooth members in radially extending relation to said discs adjacent the peripheries of the latter at a plurality of circumferentially spaced locations along said peripheries, the improvement comprising a plurality of balancing disc members each having an eccentric hole therein, parallel balancing rods extending in axially offset relation to said shaft through said discs at a plurality of circumferentially spaced locations relative to said shaft, means supporting a plurality of said disc members on each of said balancing rods between selected pairs of said discs for rotary movement with their associated balancing rod, means external of an endmost one of said discs for rotating each of said balancing rods to dispose said disc members at selected angular positions to place the rotor assembly in static and dynamic balance, and means for releasibly locking said rods at their selected angular positions.

3,141,486
TOILET CASE
Orsino H. Bosca and Mario E. Bosca, Springfield, Ohio, assignors to Hugo Bosca Company, Inc., Springfield, Ohio, a corporation of Ohio
Filed Feb. 23, 1962, Ser. No. 176,499
6 Claims. (Cl. 150—34)

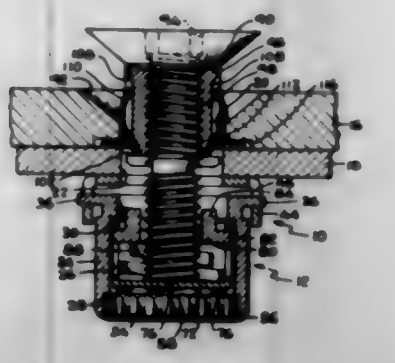


1. A toilet case, including a container having an opening in the top thereof for access thereto, a flap made of a flexible sheet material attached along a portion of the periphery thereof to said container in the interior thereof near said opening, said flap being adapted to be withdrawn from said container through said opening and unfurled to lie outspread on the exterior of the case while remaining anchored to the case, means on said flap for holding toilet accessories and releasable means for holding said flap in a position folded upon itself.

3,141,487
ROTARY FASTENER

Thomas R. Boyd, Rolling Hills Estates, Calif., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Nov. 27, 1961, Ser. No. 154,980
4 Claims. (Cl. 151—13)

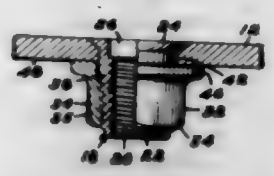


1. A stressed panel fastener adapted to fasten a pair of apertured panels comprising a grommet assembly and a receptacle assembly wherein said grommet has a head and a body, said head being frusto-conical in shape and having driving means at its upper end, said body having a generally cylindrical portion depending from said head and an inwardly tapered portion extending from a point intermediate the length of the body, towards the opposite end, a circumferential laterally extending flange means terminating the tapered portion adjacent said opposite end, a threaded bore extending axially a substantial portion of said body and opening through said opposite end, a transverse diametral slot traversing said flange, resilient retaining means encircling said grommet body and adapted to cooperate with said flange and head to movably retain said grommet assembly in one of said apertured panels, said receptacle assembly positioned in register with the aperture in the second panel including a substantially cylindrical open ended receptacle having a pair of radially dissimilar shoulder means axially spaced within its bore, a headed screw having its stud portion complementary to the bore of said grommet extending coaxially within said receptacle, the head of said screw having a diameter such that it bottoms against one of said shoulder means adjacent one end of said receptacle, the wall of said receptacle at said one end being deformed to non-rotatably retain said screw head between the deformation and said shoulder means, a plurality of protuberance means on the surface of said screw head facing the interior of said receptacle, a cylindrical cup shaped means having an apertured bottom, said cup being telescoped within said receptacle and be rotatably and axially movable along the stud of said screw, the diameter of said cup shaped means being greater than the second and less than the first of said shoulder means whereby said cup shaped means is rotatably captured for limited axial movement between said second shoulder means and the head of said screw, said cup means having at least one means adapted to cooperate with said protuberance means on said head, a pair of axially extending oppositely disposed slots in the wall of said cup shaped means, a ring member freely encircling said stud positioned within said cup and having two pairs of oppositely disposed lugs, one pair of lugs extending radially outwardly in opposite directions from said ring and being accepted in and being axially movable within the slots in said cup shaped means, the second pair of lugs both extending axially towards the open end of said cup shaped means and adapted to be cooperable with the transverse slot in the end of said grommet, resilient means encircling said stud and acting against the bottom wall of said cup and said ring to urge them apart, apertured means for retaining said receptacle assembly in register with an aperture in said second panel whereby said threaded grommet when rotatably engaged with said screw will draw the two panels into fastened relation and said grommet slots engaged with said second pair of ring lugs and acting through the resilient means forces the means on the bottom of the cup into engagement with the protuberance means on said head to prevent unintentional retrograde relative movement between the threaded members.

3,141,488
LOCKING NUT ASSEMBLY

William C. Wootton, Fremont, Calif., assignor to United-Carr Incorporated, a corporation of Delaware

Filed Feb. 8, 1961, Ser. No. 87,941
1 Claim. (Cl. 151—21)

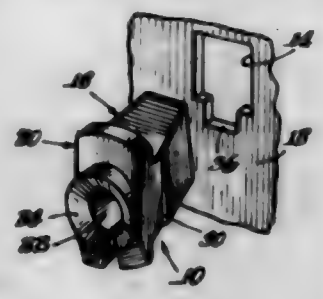


A locking nut assembly comprising, in combination, a support part having an aperture therein, a hollow bushing having an initially cylindrical continuous thin wall of constant thickness and having internal and external threads with initially uniform major and minor diameters throughout the length of said threads, and said bushing having a flared head fitting flush into said aperture, a continuous walled nut threaded onto the external threads of said bushing, a part to be attached to said support part and a screw member threaded into the internal threads of said bushing and holding the said part to said support part, and locking detent means being formed as a part of said nut consisting of circumferentially spaced inwardly distorted sidewalls on said nut forming inwardly set thread portion, said bushing being distorted to a non-circular configuration by said nut side walls, said nut having throughout its length uniform major and minor diameters across the undistorted threaded portion, and whereby the locking torque developed by said detent means on said nut is transmitted to said thin walled bushing and thereby transmitted to said screw member to lock the parts against accidental separation.

3,141,489
SCREW GROMMET

George M. Rapata, Park Ridge, Ill., assignor to Illinois Tool Works Inc., a corporation of Delaware

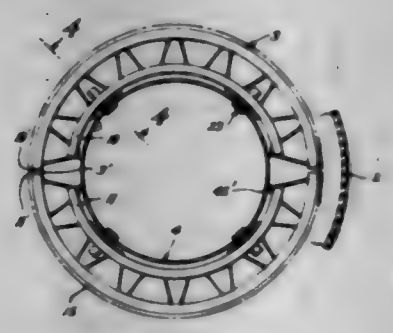
Filed Jan. 7, 1960, Ser. No. 1,046
6 Claims. (Cl. 151—41.75)



1. A one piece plastic grommet for application to a generally upright apertured work piece comprising an elongated laterally extending shank insertable through a work piece aperture, an enlarged head portion integral with a trailing end of said shank and including work piece engageable surface means disposed substantially in a plane traversing a longitudinal axis of the shank, and means defining a bore extending through said head portion and into said shank for accommodating a complementary fastener element such as a screw, said shank including a longitudinally extending upper side section and longitu-

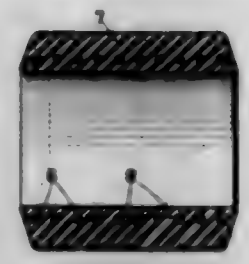
dinally extending laterally facing opposite side sections, all of which sections are continuous throughout their length, said upper portion having an upper surface extending obliquely upwardly from adjacent said head portion for engaging behind an upper margin of the workpiece aperture, said shank including shoulder means integral with said laterally facing side sections substaptially below said upper surface for engaging behind a work piece and combining with said upper surface in obtaining three spaced areas of contact with said workpiece for resisting withdrawal of the shank from the work piece, and said shank including longitudinally extending slot means only in a longitudinally extending bottom side section thereof and intersecting said bore for facilitating collapsing of the shank during insertion thereof into a work piece aperture and also for facilitating subsequent expansion of the shank when the complementary fastener element is inserted into said bore means, said slot means providing the sole interruption entirely through any of said side sections.

3,141,490
TIRE BUFFER SUPPORT
William L. Lindley, 711 Taft, Houston, Tex.
Filed Dec. 7, 1962, Ser. No. 242,986
1 Claim. (Cl. 152—158)



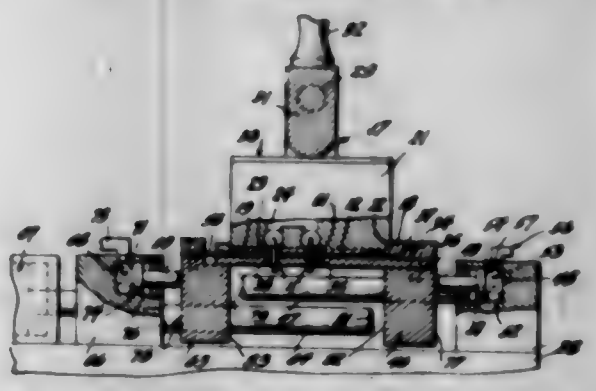
A support assembly adapted to be inserted inside a tubeless tire and attached to a drop center type wheel rim on which the tubeless tire is mounted including a plurality of arcuate sections extending circumferentially about the drop center portion of the wheel rim, each section having concentrically arranged outer and inner members maintained in fixed spaced relation to each other by load-bearing nonradially laterally extending members secured therebetween, said outer member being covered with resilient material in which a plurality of radially extending projections are formed, said projections adapted to engage the tire upon deflation thereof, said projections flexing when engaged with said tire to inhibit damage thereto, said inner member adapted to engage the inner annular sides of the depressed portion of the wheel rim for lateral support, means to support said sections in spaced relation to said wheel rim and means for securing said sections to said wheel rim, said means including a bolt means having a large diameter portion, a small diameter portion, thread means on less than half of said small diameter portion and a tapered portion connecting said large diameter portion and said small diameter portion, a receptacle for receiving said bolt means including a large diameter bore of greater longitudinal extent than the large diameter portion of said bolt means, a small diameter bore threaded to receive the threaded portion of said bolt means, a shoulder means formed at the juncture of said large diameter bore and said small diameter bore, a seal means formed circumferentially of the large diameter bore and abutting said shoulder means, said seal means having a smaller internal diameter than the large diameter portion of said bolt means whereby the seal is extruded into the opening in said wheel rim to provide an airtight seal between said bolt means and said wheel rim.

3,141,491
SOLID TIRE AND MOLD FOR MAKING SAME
Heinz Adolf Ludewig and Fritz Koch, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Aug. 14, 1961, Ser. No. 131,234
Claims priority, application Germany Aug. 16, 1960
1 Claim. (Cl. 152—323)



A solid tire for vehicle wheels, friction wheels, wheels for caterpillar tracks and other wheels, which includes a body portion of solidified castable material and a helical spring shaped self-supporting reinforcing wire insert extending axially in the body portion of said tire and having its windings all of the same diameter and spaced from each other in axial direction of said tire, said insert being coaxial with said tire, the windings of said reinforcing insert being embedded in the body portion of said tire and the ends of the insert being near the ends of the tire, and clamping means respectively clamping each free end of said helical wire insert against the next adjacent winding of said reinforcing wire insert.

3,141,492
APPARATUS FOR FORMING LEADS ATTACHED TO COMPONENTS
Edwyn H. Petree, Frederick E. Robbins, and Robert L. Self, all of Burlington, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y.
Filed Jan. 31, 1962, Ser. No. 170,861
15 Claims. (Cl. 153—2)

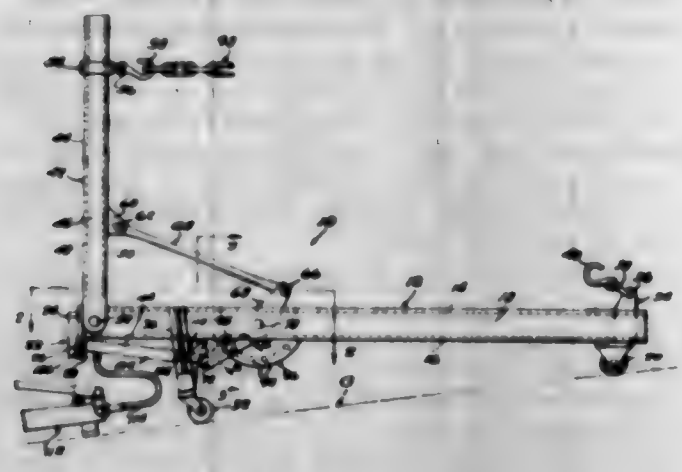


1. In an apparatus for forming a pair of lead wires extending from a component, first slide means having a pair of dies for crimping said component lead wires, second slide means provided with a pair of dies for shearing said component lead wires, means secured to the second slide means for holding a component so that the lead wires extend through the crimping dies and into the shearing dies, and means for successively advancing the first and then the second slide means relative to each other to shear and crimp the lead wires in succession.

3,141,493
PORTABLE STRAIGHTENING DEVICE
Paul August Texter, Sr., 4027 Valle St., New Orleans, La.
Filed Dec. 1, 1961, Ser. No. 156,387
9 Claims. (Cl. 153—32)

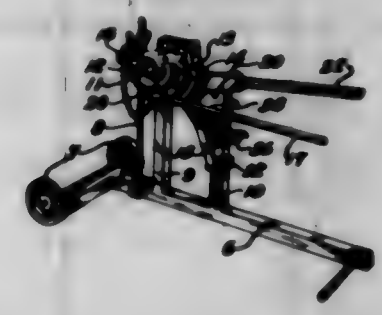
1. A straightening device comprising a horizontal base having first and second ends, an upstanding pull lever pivoted on the base at said second end and having chain attaching means thereon, an upstanding chain anchor lug at the first end of the base, a vertical toggle lever

pivoted on the base, at a point near and spaced from the pull lever, a link extending between and pivoted to the pull lever at a point spaced above the base and to the upper end of the toggle lever, said toggle lever having a lower end located below the base, and releasable locking



means associated with the toggle lever and the base, said base having a downwardly-extending abutment on its second end, and bending force applying means operatively engaged with said abutment in the lower end of the toggle lever.

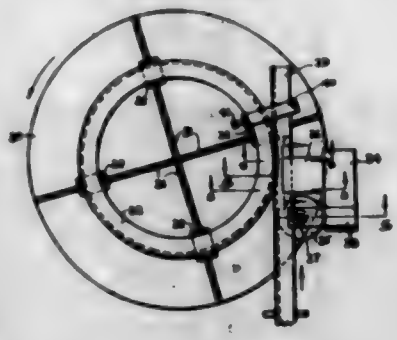
3,141,494
MECHANICAL PIPE BENDER
Clarence L. Fleesate, Waukesha, and Charles G. Pahl, Milwaukee, Wis., assignors to Applied Power Industries, Inc., a corporation of Wisconsin
Filed Aug. 24, 1960, Ser. No. 51,651
4 Claims. (Cl. 153—48)



1. A conduit bender comprising, a frame, a pipe bending shoe pivotally suspended from said frame and having therein an arcuate pipe bending groove, means for guiding a pipe longitudinally into the groove, means for holding the leading end of the pipe within said groove, means for swinging the shoe to bend the retained pipe, and a gauge slidably received by said frame laterally adjacent said shoe for visually indicating the extent to which the pipe has been bent, said gauge having an edge portion coacting with said bending shoe to retain the same against displacement on its pivot.

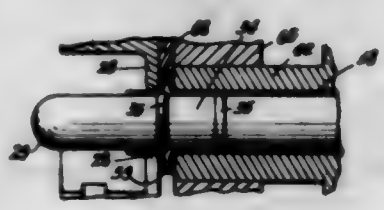
3,141,495
APPARATUS FOR MANUFACTURING EXPANSION JOINTS
James P. Zallea, Wilmington, Del., assignor, by mesne assignments, to Zallea Brothers, Inc., Wilmington, Del., a corporation of Delaware
Original application May 20, 1958, Ser. No. 736,605, now Patent No. 3,091,025, dated May 28, 1963. Divided and this application July 10, 1961, Ser. No. 123,866
3 Claims. (Cl. 153—40)

1. In apparatus for making a stress equalizing ring element for use with the corrugated bellows element of an expansion joint, the combination including bending apparatus comprising a rotatable circular form about whose periphery a piece of longitudinally straight stock is to be bent into a substantially spiral shape, first guiding and bearing means for supportably engaging the straight stock at a point substantially opposite the point of engagement of said stock with the peripbery of said circular form, said first guiding and bearing means comprising a recessed pinch block having apertured leading and trailing faces, the recess being formed by a pair of sloping planar sidewalls running between the face apertures with the leading face aperture being of the same depth as that of the trailing face aperture but of greater width, second guiding and bearing means for engaging the stock on the same side as and at a point in advance of its engagement with said first guiding and bearing means, and third bearing means



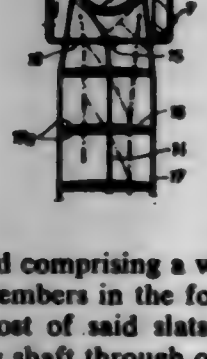
comprising a clamp for clamping the lead-end of the stock to the periphery of the rotatable circular form and causing it to spirally enclose the periphery of said circular form as the latter is rotated by setting-up bending moments in said stock, the bending moments being set-up by counter-rotational forces about a fulcrum established at the point of engagement of the stock with the periphery of the rotatable circular form, one of said counter-rotational forces being established by said second guiding and bearing means and another of said counter-rotational forces being established by said third bearing means, said first guiding and bearing means preventing the stock from twisting and bowing and thereby preventing any appreciable shift of the fulcrum along the periphery of said rotatable circular form.

3,141,496
APPARATUS AND PROCESS FOR FORMING CORRUGATIONS IN TUBING
Joseph W. Yowell, Hillspoint Road, Westport, Conn., and Donald B. Miner, Orange Center Road, Orange, Conn.
Filed Mar. 21, 1957, Ser. No. 647,631
6 Claims. (Cl. 153—73)



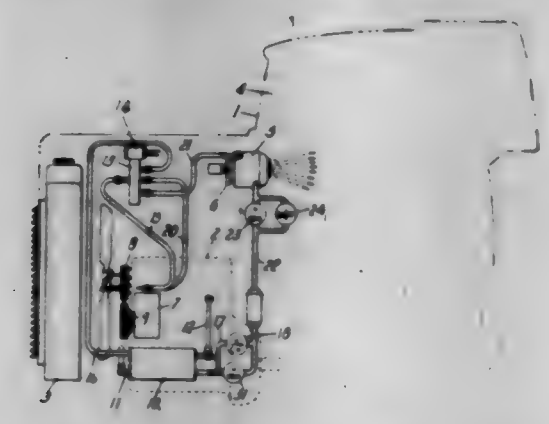
1. The method of forming a corrugation, having a crest whose outermost portion is flattened, in straight, thin-wall tubing comprising the steps of positioning a section of the tubing between two spaced circumferential restrictions to prevent radial outward bulging of the adjacent portion of the tubing; forming a hydraulic chamber within the tubing for at least the length of the section of the tubing; introducing sufficient hydraulic pressure into the chamber to radially deform outwardly the section of tubing; axially compressing the section; and subjecting the arcuate outermost portion of the crest to a mechanical force to flatten the arcuate portion.

3,141,497
VENETIAN BLIND
Fritz Griesser, Aadorf, Thurgau, Switzerland, assignor to Griesser A.G., Aadorf, Thurgau, Switzerland
Filed Aug. 31, 1959, Ser. No. 837,035
Claims priority, application Switzerland Sept. 9, 1958
4 Claims. (Cl. 160—170)



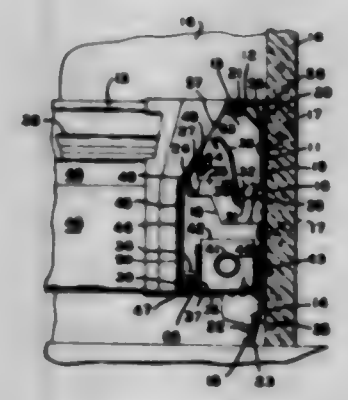
1. A Venetian blind comprising a winding shaft, a plurality of slats, pull members in the form of a single cord engaging the lowermost of said slats and extending upwardly to the winding shaft through openings in the slats, said pull members being adapted to be wound and unwound around said winding shaft, supporting members supporting the slats and adapted to be coupled by frictional engagement with the winding shaft for pivoting the slats, said supporting members engaging the edges of the slats and lying in form of a loop on the winding shaft at the same portion thereof as the pull members, the respective supporting members lying in a plane with the respective pull members, said plane being perpendicular to the winding shaft, said pull members and said supporting members being of a rope-like material.

3,141,498
AUTOMOTIVE HEATING AND COOLING SYSTEM
Asa E. Rouse, Cadillac, Mich., assignor to Kysor Industrial Corporation, Cadillac, Mich.
Filed Jan. 25, 1963, Ser. No. 253,919
8 Claims. (Cl. 165—43)



1. A reversible air conditioning system in an automotive vehicle having a passenger chamber and a liquid cooled engine comprising,
- a first heat exchanger means including a coil having fan means for circulating air in said chamber over the coil,
- a second heat exchanger means including a coil arranged to have coolant liquid from said engine circulated thereover,
- a compressor,
- means including an electrically actuated magnetic clutch arranged to drivingly connect said engine to said compressor,
- means including an electrically controlled four-way valve connected to said compressor and arranged when energized to selectively connect the output pressure side of the compressor to said second heat exchanger coil and the inlet suction side of the compressor to the first of said heat exchanger coils while selectively oppositely connecting the compressor to said heat exchanger coils in the opposite deenergized position of the valve,
- a refrigerant receiver connected between the opposite sides of said heat exchanger coils from said valve,
- means including a pair of pressure reducing valves connected in series one on each side of said receiver and arranged to reduce the pressure of refrigerant passing from said receiver to said heat exchanger coils.
- means including oppositely opening check valves bypassing said pressure reducing valves and opening from the low pressure side to the high pressure side of the reducing valves,
- a main electrical circuit connectable to engage said clutch, said fan means and said valve control,
- a low temperature thermostatic switch and a high temperature thermostatic switch connected in series with said clutch across said circuit to control the operation of said clutch,
- a manually operative switch bridged across said low temperature thermostatic switch,
- a fan energizing circuit including said fan means and a series resistor connected across said main circuit,
- a second manual switch ganged with said first manual switch and bridging said resistor,
- and a third manual switch connected in series with said valve means across said main circuit to control said valve and engaged with said first manual switch,
- said refrigerant system being filled with a low pressure refrigerant,
- said thermostatic switches being actuated in response to temperature at the ends of said first heat exchanger coil.

3,141,499
BASEBOARD RADIATOR WITH CONNECTOR UNITS
Paul H. Bunten, Rydal, Pa., assignor to Repco Products Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1961, Ser. No. 137,317
10 Claims. (Cl. 165—55)



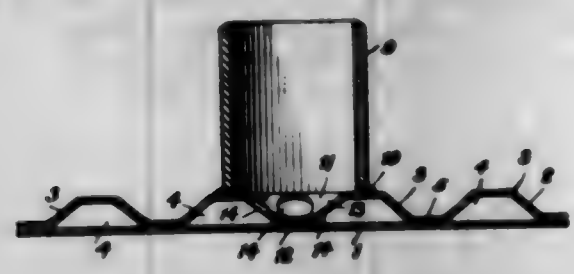
1. In a baseboard radiator having a horizontally disposed back panel with a top horizontal wall and an end, spaced brackets supported by said back panel, a horizontally disposed heat transfer unit supported by said brackets, a horizontal front panel supported by said brackets with a vertical front wall, a unitary connector unit for said back and front panels comprising a top wall portion extending across said top horizontal wall of said back panel and a front wall portion integral therewith and extending over said front wall portion of the front panel, said connector unit having at least one side marginal edge with bendable holding tongues in engagement with a back panel and a front panel.

3,141,500

HEAT EXCHANGER COILS OF THE PANEL TYPE

Walter Raskin, Brooklyn, N.Y., assignor to Dean Products, Inc., Brooklyn, N.Y., a corporation of New York

Filed Feb. 14, 1962, Ser. No. 173,286
4 Claims. (Cl. 165—170)



1. A heat exchanger panel coil comprising a plurality of facially-attached plates, at least one of the plates being corrugated to provide it with a plurality of fluid channels, a depression formed in said plate and defining a cavity, said depression having an inclined side wall, a sleeve mounted over the concave side of the depression and forming an extension of the same, and the inclined wall of the depression having a plurality of orifices surrounded by the sleeve communicating respectively with the channels to form a multiport distribution for the fluid.

3,141,501

CONTROL OF PERMEABILITY DURING WATER FLOODING

George G. Bernard and Orrin C. Holbrook, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Aug. 26, 1960, Ser. No. 52,836
6 Claims. (Cl. 166—9)

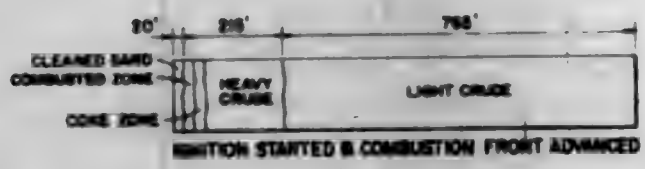
1. In the recovery of oil from underground formations which contain a basic material and a water-sensitive clay by the injection well and into said formation, and the recovery of oil from a producing well, the improvement comprising employing as said floodwater a composition consisting essentially of substantially fresh water acidified to a pH of 1–3 by the addition thereto of an acid capable of reacting with said basic material to form a substantially water-insoluble precipitate.

3,141,502

METHOD OF CONDUCTING IN SITU COMBUSTION

John N. Dew and William L. Martin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Nov. 12, 1959, Ser. No. 852,302
6 Claims. (Cl. 166—11)



1. In a process for recovering high API gravity hydrocarbons through a recovery well from an underground formation wherein said high API gravity hydrocarbons are characterized upon combustion by insufficient coke laydown to provide self-sustained combustion in the vicinity of an injection well, the method which comprises the steps of injecting into said formation through said injection well a quantity of hydrocarbon oil sufficient to support combustion to a point in the formation wherein the high API gravity hydrocarbons are capable of providing self-sustained combustion, injecting gas through said injection well into said formation to disperse said hydrocarbon oil into said formation toward said recovery well, igniting said hydrocarbon oil, injecting a combustion supporting gas into said formation through said injection well to propagate the combustion front through said formation toward said recovery well and recovering hydrocarbon by way of said recovery well.

3,141,503

PLUGGING OF PERMEABLE EARTH FORMATIONS

Nathan Stein, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Feb. 5, 1960, Ser. No. 6,857
14 Claims. (Cl. 166—29)

1. In a process for the drilling of a well borehole into the earth wherein cuttings are removed from said well borehole during drilling by pumping a gas under pressure to the bottom of said well borehole and thence upwardly through said well borehole to the surface of the earth and water within a permeable formation flows into said well borehole from said formation and interferes with the removal of said cuttings from said well borehole, the process for reducing the flow of said water into said well borehole from said formation comprising the steps of:

(*a*) introducing into said formation an ester of titanium,

(*b*) maintaining said ester of titanium within said formation for a period which is at least one-half hour, and

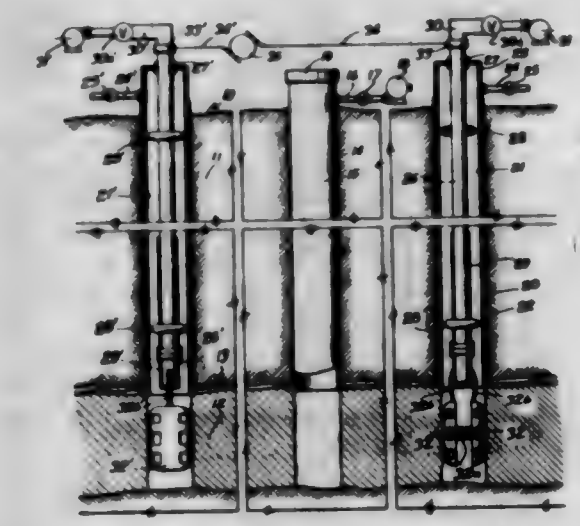
(*c*) forming by reaction of said ester of titanium with said water within said formation an amorphous, gelatinous precipitate within said formation which restricts flow of water from said formation into said well borehole.

3,141,504

ELECTRO-REPRESSURIZATION

Erich Sarapuu, 7943 Campbell, Kansas City, Mo.

Filed Jan. 21, 1960, Ser. No. 3,897
1 Claim. (Cl. 166—36)



A process for improving the oil production characteristics of an oil horizon in an earth formation comprising flowing a quantity of gas through a well bore from the ground surface into said horizon at super-horizon pressure in sufficient quantity to establish a substantially continuous body of gas surrounding said well bore in said horizon, said gas flowed into said horizon of such composition as to form with at least one hydrocarbon in said horizon a detonable gas mixture in said gas body, flowing an inert, nondetonable gas into said wellbore at super-horizon pressure in sufficient quantity to force all detonable gas in the wellbore into said horizon, and

flowing electrical current into said oil horizon within the limits of said gas body after establishment of same in said oil horizon of such character and in such quantity as to detonate said gas body in said horizon.

3,141,585
METHODS AND APPARATUS FOR SCRAPING PARAFFIN
James C. Tripplehorn, 1013 Mary Ellen St., Pampa, Tex.
Filed Apr. 10, 1961, Ser. No. 102,059
8 Claims. (Cl. 166—43)

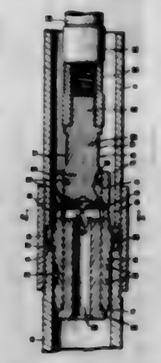


1. The method of cleaning paraffin both from the surface of a pump rod and from the inner wall of a pump tubing, including the steps of reciprocating the former in the latter through a stroke of predetermined length while simultaneously both scraping paraffin from the pump rod at a plurality of substantially fixed locations on the tubing which are mutually spaced apart by the length of the stroke, and also scraping paraffin from the tubing wall at a plurality of locations substantially fixed with respect to the rod and disposed in alternating sequence with said first-mentioned locations and also mutually spaced apart by said length of strokes.

4. For use in a reciprocating pump string including a sucker rod within a pump tubing, the combination of alternately disposed rod-gripping scrapers and tubing-gripping scrapers, said rod-gripping scrapers having means for tightly gripping the sucker rod and being clamped to and spaced apart along the rod substantially by the length of stroke of the pump and fitting freely inside the tubing; and said tubing-gripping scrapers each having resilient means for frictionally gripping the inside surface of the tubing and having a central opening freely passing the sucker rod.

7. A tubing-gripping scraper for cleaning a sucker rod within a string of pump tubing, comprising an annular substantially cylindrical resilient body having circumferentially spaced pairs of internal and external ribs disposed therearound, the ribs in each pair being mutually radially aligned and inclined at an angle to the axis of the body, and the body having a slot through its side located between annularly adjacent pairs of ribs and inclined at the same angle with respect to said axis as said ribs, the width of the slot substantially equaling the diameter of the sucker rod, the diameter of a cylinder touching the outermost surfaces of the external ribs being greater than the inner diameter of the tubing and the diameter of another cylinder touching the innermost edges of the internal ribs being not less than the diameter of the sucker rod.

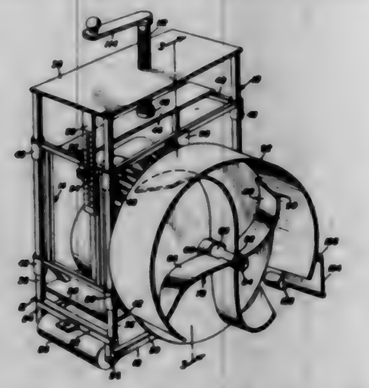
3,141,596
DEVICE FOR USE IN PRESSURIZING WELL TUBING AND THE LIKE AND FOR RELEASING SUCH PRESSURE
George A. Thomas, Abilene, Tex., assignor of thirty-three and one-third percent to John R. Hatch, Big Spring, Tex., thirty-three and one-third percent to David Craven, Philadelphia, Pa., and thirty-three and one-third percent to Republic National Bank of Dallas
Filed May 22, 1962, Ser. No. 196,734
4 Claims. (Cl. 166—226)



2. A reuseable valve device for regulating the circulation of fluid through a well casing or the like and for pressurizing said casing and relieving fluid pressure therein comprising in combination a sleeve having a through bore and radial openings near one end communicating with the through bore, an external fluid seal on said sleeve near its other end and spaced from said radial openings, an external shoulder on said sleeve intermediate said openings and seal, a reciprocatory valve element extending telescopically through said sleeve and having external enlargements formed thereon above and below said sleeve, said enlargements being spaced apart axially a distance exceeding the length of said sleeve, a flexible element secured to the top of the valve element to raise and lower it relative to said sleeve and with said sleeve, said valve element having an axial fluid passage opening through its lower end and radial fluid passages opening through its side wall intermediate its ends and communicating with said axial passage and adapted to register with said sleeve side openings when the lowermost enlargement of the valve element is contacting the lower end of said sleeve, and an external fluid seal on said valve element above said radial passages of the valve element and adapted to seal the bore of said sleeve above and below the radial openings of said sleeve.

3,141,587
CURB TRIMMING MACHINE
Albert G. Henry and Willard E. Johnson, both of 3610 Reagan St., Knoxville, Tenn.
Filed Apr. 24, 1963, Ser. No. 275,305
4 Claims. (Cl. 172—15)

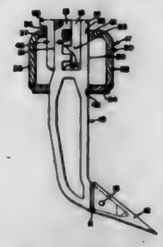
1. A curb trimming machine comprising a support base including depending rolling support means adapted to rollingly support said base from and for movement along one marginal edge portion of a length of curbing or the like, a carriage, guide means carried by said base and guidingly supporting said carriage from said base for vertical movement relative to the latter, a motor driven drive shaft journaled from said carriage and including one end portion projecting outwardly of one side of said base having a bladed cutter wheel mounted thereon for rotation therewith, said support base including means engaged with said carriage for vertically adjusting said carriage relative to said base between a raised inoperative position and a lowered operative position with the lower periphery of said cutter wheel disposed below the lowermost extremities of said rolling support means said support base including front and rear upstanding supports defining said guide means and between which said carriage is received, horizontal brace means interconnecting the upper ends of said supports, said means for vertically adjusting said carriage comprising an upstanding screw shaft threadedly received through said brace means and journaled in an upper portion of said carriage at its lower end against axial shifting relative to said carriage, a full generally circular guard disk disposed inwardly of said cutter wheel and rotatably supported from said carriage for free rotation about an axis coinciding with the axis of rotation of said shaft and relative to the latter, said bladed cutter wheel including a plurality of generally



strap-like blades extending generally radially outwardly of said shaft, the free end portions of said blades being beveled toward said disk, a horizontally disposed generally cylindrical guard supported and projecting longitudinally outwardly from said carriage and enclosing said disk and cutter wheel, said cylindrical guard having its lower peripheral portion cut away and including an annular inner end wall projecting radially inwardly from the inner surfaces of said guard through which said drive shaft projects, the diameter of the inner periphery of said inner end wall being less than the diameter of said guard disk, the latter being disposed closely adjacent and outwardly of said annular inner end wall, and of a diameter at least substantially equal to the diameter of the circular path through which the outer ends of said blades swing, and the lower end of said annular end wall being cut away and conforming to the cutaway portion of said cylindrical guard.

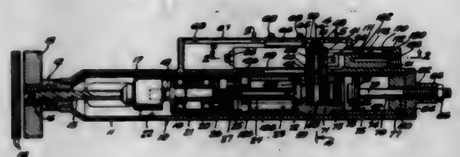
3,141,588
STANDARD AND BEAM CONNECTING MEANS FOR AN EARTH WORKING IMPLEMENT
Larry G. McMullen, Milan, and Lennie B. Eberhart, Rock Island, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Apr. 30, 1962, Ser. No. 190,970
8 Claims. (Cl. 172—744)

3. An earth ripping implement comprising a vertically disposed earth digging tool having a lower earth cutting end with an upwardly projecting shank having front and rear upright edges and comparatively narrow and wide upright portions, said narrow portion defining with the wide portion a vertical guide extending from the top part of the tool and including vertically spaced fore and aft extending notches projecting from the vertical guide; a transverse tool supporting structure having a vertical opening therein for receiving the shank with a front edge forward of the shank and a rear edge rearward of the shank and opposite side edges on opposite sides of the shank, the fore and aft dimension of the opening being substantially greater than the fore and aft dimension of the shank, whereby the shank may be moved in the opening between forward and rearward positions; lug means extending inwardly from the side edges into the



narrow portion of the shank and adapted to seat in the notches upon the shank being in one of the aforesaid positions, to prevent vertical movement of the shank, and to reside in the vertical guide and out of the notches upon the shank being in the other of the aforesaid positions, to permit vertical movement of the shank; and a removable element insertable between the edges of the opening and shank to retain the shank in said one of the aforesaid positions.

3,141,589
ROTARY TOOL WITH POWER FEED
John H. Best, Fullerton, Calif., assignor to Standard Pneumatic Motor Company, Whittier, Calif., a corporation of California
Filed July 30, 1962, Ser. No. 213,371
13 Claims. (Cl. 173—19)

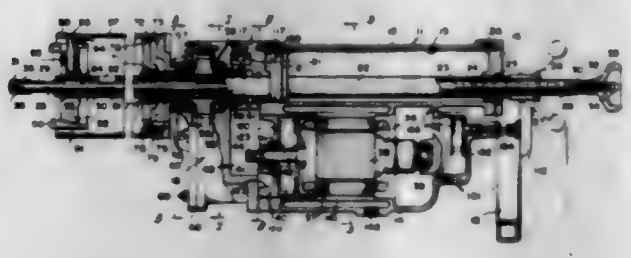


1. In a rotary power tool assembly, the combination of: a housing, a cylindrical carrier mounted for axial movement in the housing, a spindle rotatably mounted axially on the carrier, a motor mounted concentrically within the carrier for movement axially with said carrier, means whereby the motor may rotate said spindle, a positive displacement hydraulic pump mounted concentrically with and driven by said motor and connected for axial movement therewith, a cylinder element extending axially of said carrier, a piston element slidably mounted within said cylinder element and cooperating therewith to define chambers on opposite sides of said piston element, means connecting one of said elements to said housing and the other of said elements to said carrier, and means for delivering the output of said hydraulic pump into either of said chambers to cause axial movement of said spindle in either direction relative to said housing.

3,141,516
ANCHOR MECHANISM FOR ROCK DRILLS
James C. Lawrence, Seattle, Wash., assignor to Alkirk, Inc., Seattle, Wash., a corporation of Delaware
Filed July 31, 1962, Ser. No. 213,760
19 Claims. (Cl. 173—33)

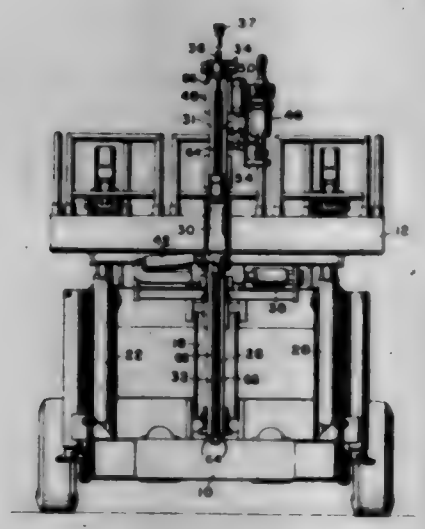
3. In a drill for forming a hole in relatively solid material, a housing, a drive motor mounted on said housing,

means forming a longitudinally disposed cylinder in said housing, a piston slidably mounted in said cylinder, a tubular cutting member rotatably mounted on said housing on an axis parallel to said cylinder, anchor means extending longitudinally through said cutting member comprising a radially expansible section disposed to enter a pilot bore in said material and means for expanding said section after it has been introduced into said bore, means



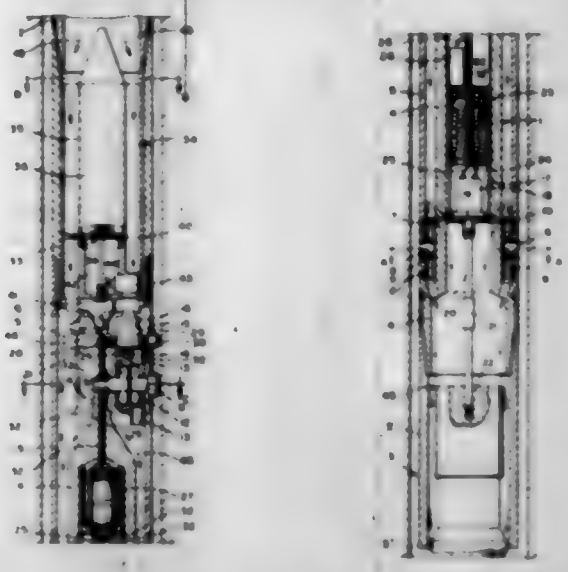
operatively connecting said piston to said anchor means, and means defining a hydraulic system in said housing having a pump driven by said motor and a selector valve for introducing fluid under pressure into said cylinder in operative association with said piston to effect relative longitudinal displacement between said anchored piston and said housing and movement of said cutting member relative to said material.

3,141,511
DRILLING APPARATUS
Paul C. O'Leary, Salt Lake City, Utah, assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 22, 1959, Ser. No. 788,452
4 Claims. (Cl. 173—43)



1. A drilling apparatus comprising, a pressure fluid operated drill, a drill mounting to slidably carry said drill, a feed mechanism operatively connected to said drill to move said drill away from or towards the material to be drilled, a guide slidably connected to said mounting adjacent the forward end of said mounting movable relative thereto and relative to said drill and in parallelism relative to the movement of said drill, a pressure fluid operated wrench having a hinged connection with said guide, said hinged connection being such to permit said wrench to be longitudinally moved with said guide and to be positioned forwardly and in axial relation with said drill after said drill is retracted from the material to be drilled to permit said wrench to be moved by said drill towards the material to be drilled when said drill is moved by said feed mechanism.

3,141,512
STRAIGHT BOREHOLE DRILLING WITH AUTOMATIC DETECTING AND CORRECTING MEANS
Thomas Frobock Gaskell and Edward Henry Norman Watson, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a joint-stock corporation of Great Britain
Filed Nov. 9, 1959, Ser. No. 851,794
Claims priority, application Great Britain Nov. 19, 1958
8 Claims. (Cl. 175—26)



1. Apparatus for carrying out controlled directional drilling of the earth, comprising a drill pipe; a drill having a motor including a non-rotary casing and having a bit adapted to be rotated by said motor relatively to the drill pipe; casing means adapted to be attached to said drill pipe; a lever arm member connected to said non-rotary casing; a universal joint flexibly connecting the non-rotary casing to the casing means; signal-generating detecting means located in said casing means in proximity to said lever arm member, for detecting any deviation in the direction of travel of the drill from a desired direction during drilling; and signal-responsive correcting means in said casing means, connected to said lever arm member and responsive to signals generated by said signal-generating detecting means, for applying a correcting force to said lever arm member when any such deviation occurs, so as to return the drill to the desired direction of travel.

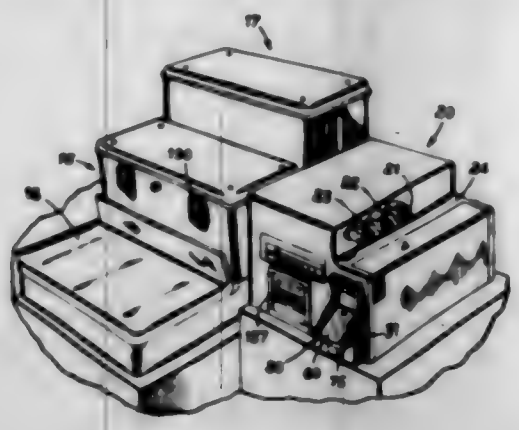
3,141,513
CHEMICAL METHOD OF INJECTING WATER SHUT-OFF AGENT IN AIR DRILLING
George Thomas Davis, Princeton, N.J., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Apr. 12, 1962, Ser. No. 187,006
7 Claims. (Cl. 175—72)



2. In a process for the rotary air drilling of a borehole in the earth, the improved method of operation upon encountering a water-producing formation which comprises introducing a sealing agent into said borehole opposite said water-producing formation, introducing a delayed-action in-situ pressure source opposite said formation, isolating said sealing agent and said pressure source

from the remainder of said borehole, and resuming the drilling operation after a time sufficient to permit said pressure source to force at least a portion of said sealing agent into said water-producing formation and sufficient to permit a portion of said sealing agent to solidify within said formation.

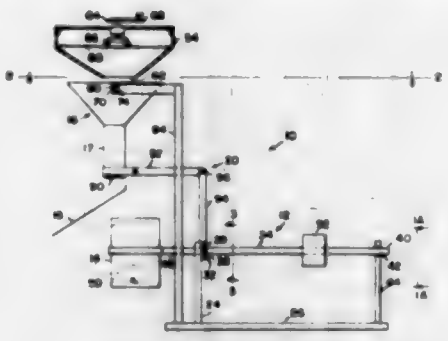
3,141,514
RECORDING SCALE
Kenneth C. Allen, Dayton, and David A. Meeker, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Original application Jan. 25, 1956, Ser. No. 561,336, now Patent No. 2,948,466, dated Aug. 9, 1960. Divided and this application Aug. 1, 1960, Ser. No. 46,408
3 Claims. (Cl. 177—3)



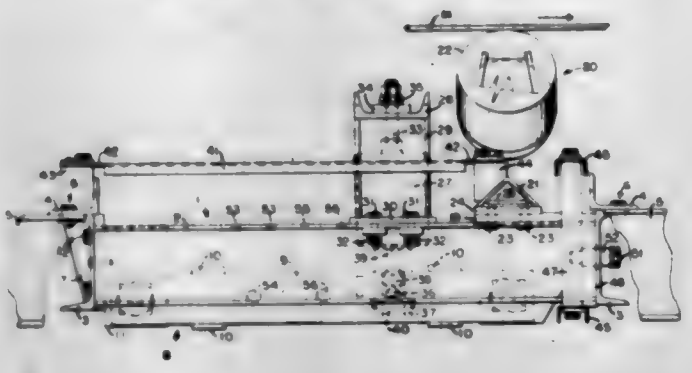
1. In a system for weighing articles and producing a printed record thereof, the combination of a weighing mechanism, a computer for computing the value of an article weighed by said weighing mechanism, a printer including means for printing and issuing a ticket identifying the weight and value of an article weighed by said weighing mechanism, means electrically interconnecting said weighing mechanism with said computer and printer to cause said computing and printing operations thereof in response to the weighing operation of said weighing mechanism on each successive said article, means connected with said printer for receiving each successive ticket issued by said printer and including means responsive to completion of the operation of said printer for delivering each said ticket to a delivery station, means effective at a predetermined point in the operation of said printer and said delivering means for blocking subsequent operation of said printer, means adjacent said delivery station for actuation by the operator in conjunction with the withdrawal of said ticket from said delivery station to release said blocking means for subsequent operation of said printer, means for sensing improper operation of said printer which would result in the printing of a defective ticket, and means actuated by said sensing means for preventing operation of said delivering means until said improper operation of said printer has been corrected.

3,141,515
AUTOMATIC WEIGHING DEVICE
Harry W. Dietert, Kerrville, Tex., and Albert M. Jones, Detroit, Mich., assignors to Harry W. Dietert Co., Detroit, Mich., a corporation of Michigan
Filed Aug. 31, 1960, Ser. No. 53,100
10 Claims. (Cl. 177—116)

1. An automatic weighing device comprising a pivotally supported substantially straight rigid balance beam having a container on one end thereof, means constraining the other end of said balance beam against other than axial movement, a weight variably positionable on said balance beam for balancing material deposited in said container, means for feeding material into said container, intermediate means positioned between the feeding means and said container for intercepting a variable portion of the material discharged from the feeding means, and means responsive to the position of said balance beam for gradually varying the portion of the material intercepted by said intermediate means in accordance with the weight of material deposited in the container.



3,141,516
CONVEYOR WEIGHING SCALE
Walter G. Moring, Jr., Oregon, and Fred H. Weihs, Toledo, Ohio, assignors to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 31, 1960, Ser. No. 53,124
7 Claims. (Cl. 177—246)

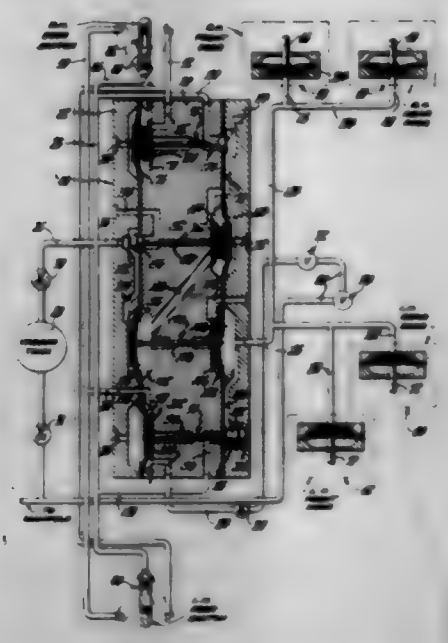


7. In a conveyor weighing scale, in combination, a frame including a plurality of transverse members and a plurality of longitudinal members, pivot means carried by the frame, flexure check link mounting means carried by the frame, a longitudinally extending lever pivotally mounted by the pivot means between a pair of said longitudinal members, weight sensing means, support means carried by and spanning said pair of longitudinal members for supporting the weight sensing means, means operatively connecting the lever to the weight sensing means, and longitudinal and transverse flexure check link means connected to the mounting means and operatively connected to the lever.

3,141,517
VEHICLE VACUUM-PRESSURE DOOR LOCK SYSTEM
Clement A. Detloff, Southfield, and Henry W. Griffin and James D. Leslie, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of abandoned application Ser. No. 848,661, Oct. 26, 1959. This application Dec. 10, 1962, Ser. No. 243,403
11 Claims. (Cl. 180—82)

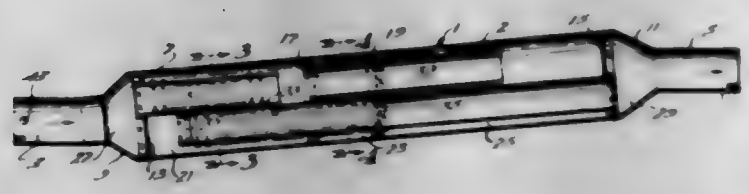
6. In combination with a motor vehicle having a door with a latch lock mechanism and a servo motor connected to the latch locking member thereof for locking the door through the latch, said motor vehicle having a source of suction, a pump serving as a source of positive pressure, means for operating the pump, a power line for establishing communication between the suction source and the servo motor to actuate the latch locking member for locking the door when connected to the suction source, said

pump being connected to pressurize the servo motor for reversing the latter to unlock the door, and valve means



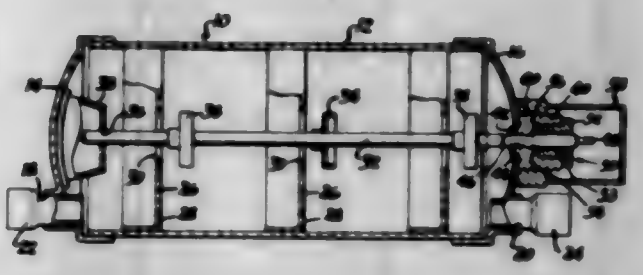
to close off the suction source from the servo motor when the pump is operative.

3,141,518
MUFFLER
Robert A. Heath, Jackson, Mich., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed June 9, 1961, Ser. No. 115,991
7 Claims. (Cl. 181—54)



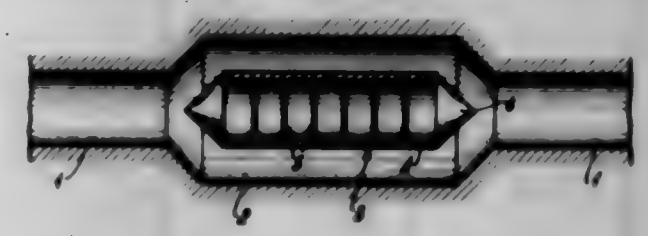
1. In a muffler, a casing having a body portion of maximum width and tapered end portions at opposite ends of the body portion and an inlet and an outlet bushing connected respectively to the ends of the tapered portions, four spaced partitions located in the body portion of the casing and providing in downstream order a tri-flow chamber located between the first and second of the four partitions, a spit chamber located between the second and third of said partitions, and a tuning chamber located between the third and fourth of said partitions, an inlet tube supported in the first partition and terminating upstream of the second partition and being louvered in the tri-flow chamber, an outlet tube extending through the last three partitions and emptying into the tapered section of the casing adjacent the outlet bushing, said outlet tube being louvered in the tri-flow chamber and in the spit chamber, a tuning tube supported in the second and third partitions and extending into the tuning chamber and forming the only inlet and outlet of the tuning chamber, said inlet tube and outlet tube being in engagement with each other and spotwelded together, said inlet tube being out of alignment with the inlet bushing, the inlet of the outlet tube being located in the tri-flow chamber and downstream from the first partition, said tri-flow chamber comprising means for silencing medium and high frequencies, said spit chamber comprising means for silencing high frequencies, and said tuning chamber comprising means for silencing low frequencies, the space in said casing being said inlet bushing and said first partition comprising an unobstructed inlet chamber having the inlet tube as its outlet, and the space in said casing between the fourth partition and the outlet bushing comprising an unobstructed outlet chamber having the outlet tube as its inlet.

3,141,519
ADJUSTABLE MUFFLER
Edward W. Bottum, 9357 Spencer, Brighton, Mich.
Filed Sept. 10, 1962, Ser. No. 222,411
7 Claims. (Cl. 181—57)



1. An adjustable muffler comprising a casing having an inlet and an outlet, a plurality of spaced apart baffles in the casing, said baffles having openings therethrough for the passage of gas through the muffler, a shaft extending into the casing from the exterior thereof, sealing means between the shaft and casing forming a gas-tight seal, a cap over the external portion of the shaft to effect an additional gas-tight seal, said shaft having means providing at least one closure element adjacent one of the openings of a baffle, said closure being related to the opening of the adjacent baffle to form an orifice through the baffle, said shaft being axially movable by actuation thereof exteriorly of the casing to adjust the position of the closure to thereby adjust the size of said orifice.

3,141,520
SOUND ABSORBER FOR GAS CONDUITS
Günther Kurtze, Mannheim-Kafertal, Germany, assignor to Grunzweig und Hartmann A.G., Ludwigshafen (Rhine), Germany
Filed Feb. 11, 1964, Ser. No. 344,854
Claims priority, application Germany Jan. 14, 1960
5 Claims. (Cl. 181—59)



1. A sound attenuator arrangement comprising in combination:

(*a*) a conduit defining a cavity for flow of gas therethrough in a predetermined direction, said conduit having an internal wall extending in said direction;

(*b*) a hollow attenuator body arranged in said cavity, said body having a porous wall extending in said direction and being spacedly opposite said internal wall, said porous wall and said internal wall defining a flow channel therebetween, and said porous wall separating an inner space in said body from said flow channel;

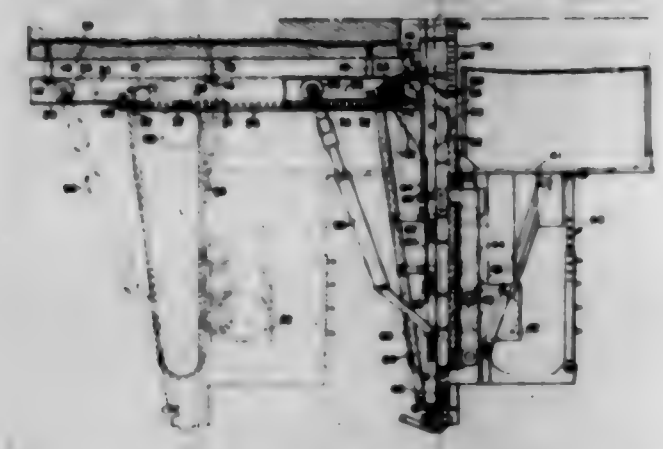
(*c*) a plurality of impervious partitions in said inner space, said partitions extending transversely of said direction and being substantially uniformly spaced in said direction so as to divide said inner space into a plurality of cells of substantially uniform length in said direction,

(1) each cell communicating with said flow channel through said porous wall,

(2) the length of each cell between two adjacent partitions being substantially smaller than the width of said cell transversely of said direction, and smaller than the width of said flow channel between said walls, and

(*d*) a gas filling said flow channel, said cells, and the pores in said wall.

3,141,521
MINING APPARATUS
John A. Read and Mark A. Chadbourne, North Bay, Ontario, Canada, assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1961, Ser. No. 156,283
14 Claims. (Cl. 182—12)



1. In an apparatus for positioning a raise platform which is movable along an elongatable track secured to the wall of an upwardly extending opening which intersects an underground cavity comprising, rail means secured to the roof of such cavity and being in operative alignment with such track, platform support means suspended from and movably connected to said rail means, and selectively operable power means secured to such platform for moving said support means in said cavity into and out of the projected area of such upwardly extending opening and for moving such platform in opposite directions along such elongatable track.

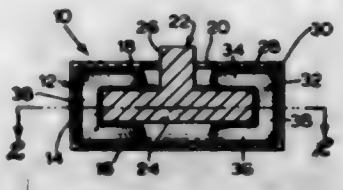
3,141,522
DISPOSABLE ABSORPTIVE MAT
Raymond P. Fitzpatrick, 59 Aberdeen Road, Hauppauge, N.Y.
Filed Oct. 29, 1962, Ser. No. 233,845
2 Claims. (Cl. 184—106)



1. A disposable absorptive mat comprised of an envelope having opposing upper and lower walls disposed in spaced parallel relation; side and end portions connecting said walls; a powdered oil-absorptive substance removably filling the space between said opposing walls; one end portion being an openable flap providing access to within said space, said lower wall and said side and end portions being coated with an oil-resistant material, said upper wall being formed of oil-absorptive material.

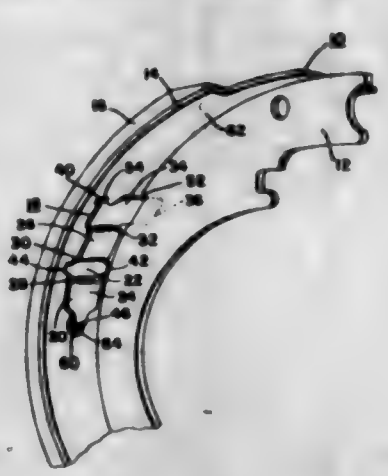
3,141,523
VIBRATION DAMPER
Robert J. Dickie, 718 Maywood Ave., Maywood, N.J.
Filed May 10, 1962, Ser. No. 193,754
8 Claims. (Cl. 188—1)

1. A vibration damper comprising a housing having an opening in one wall thereof, a piston comprising a piston rod with an enlarged piston head on one end thereof, said piston head being positioned within said housing with said piston rod extending through said opening, said piston rod having a diameter substantially less than the diameter of said opening, said piston head having a cross-sectional area substantially less than the corresponding cross-sectional area of said housing, a substantially incompressible fluid material having substantial flow resistance



in said housing, and flexible means defining a toroidal chamber for the containment of said fluid in said housing, said chamber being substantially symmetrical about the plane of said piston head and consisting of two parts, normally of equal volume, overlying annular peripheral portions only of the respective faces of the piston head and interconnected by a third part circumscribing the peripheral edge of the piston head.

3,141,524
BRAKE LINING WEAR WARNING MECHANISM AND METHOD OF GENERATING LINING WEAR WARNING SIGNALS
David D. Mishler, West Milton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 22, 1962, Ser. No. 204,348
8 Claims. (Cl. 188—1)

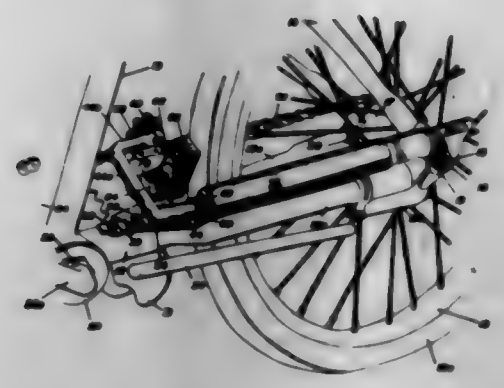


1. A brake lining wear warning device comprising a spring clip having means for securing said clip to a brake shoe and a cantilever spring end section adapted to extend through the brake lining to a depth equal to the predetermined lining thickness at which warning is to occur, said end section being engageable with the brake drum after the lining has been worn to the predetermined lining thickness to be caused to vibrate when the drum is rotating to generate a warning noise audible to the vehicle operator.

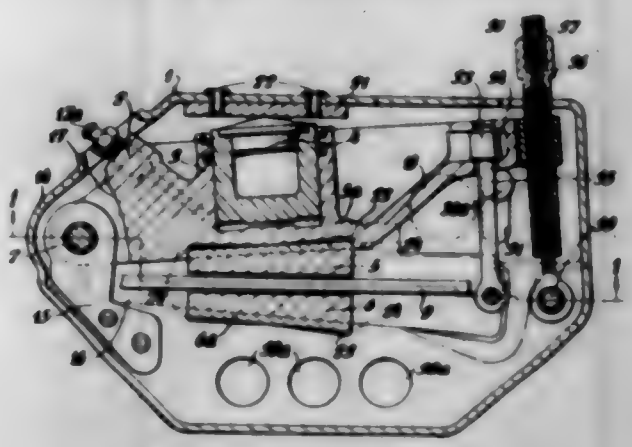
3,141,525
EMERGENCY BRAKES FOR BICYCLES AND THE LIKE
William F. Lee, 404 Howard Aden Apts., Spartanburg, S.C.
Filed Sept. 24, 1962, Ser. No. 225,447
16 Claims. (Cl. 188—24)

1. In a bicycle or the like having a frame, rear wheel and loop-form drive chain for the latter, an emergency brake for said rear wheel and peripherally opposed to the latter, bicycle frame-carried means mounting said brake element for movement to and from operative peripheral

engagement with said wheel, said brake mounting means comprising a cylinder, a piston in said cylinder, a piston-carried rod rockably and slidably journalled in said cylinder and projecting from one end of the latter, said projected rod end terminating in a lateral brake-carrying arm, means normally urging said brake member to operative position against said wheel, latch means provided in part by said cylinder and in part by said piston rod and operable for maintaining the brake element in inoperative position, a drive chain-sustained end portion provided by said piston rod arm and maintaining the latch means in its operative position for so long as the drive chain remains operative, and said latch means being rendered inoperative to admit inward movement of the piston rod and brake under the action of said brake-urging means for wheel engagement by the brake upon downward rocking of the rod and its arm due to failure of said drive chain.

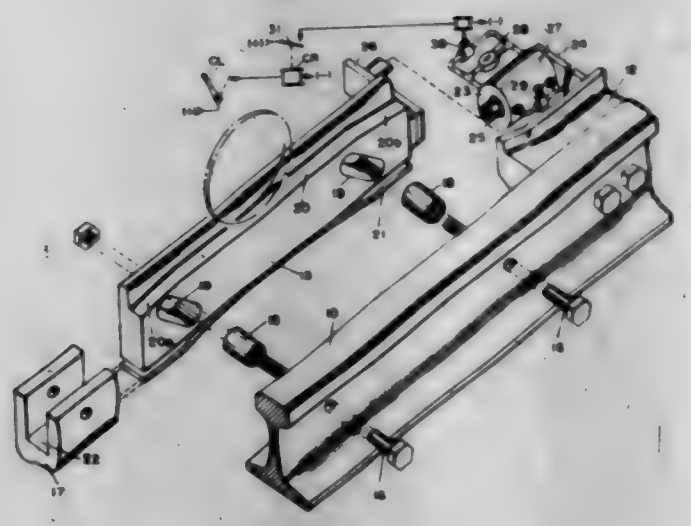


3,141,527
SPOT-TYPE DISC BRAKES
Henry B. Henderson, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed Mar. 13, 1962, Ser. No. 179,376
Claims priority, application Great Britain Mar. 28, 1961
9 Claims. (Cl. 188—73)



1. A disc brake for a vehicle comprising a fixed support, first and second operating members pivotally mounted on said support about a common pivotal axis for swingable movement in a substantially horizontal plane about the corresponding end of said support, said first member having a flat plate portion forming a closed loop structure with a central opening therein for receiving a peripheral portion of the brake disc therethrough, a first brake pad carried by said first member and extending through said opening adapted to contact one side of said brake disc, said second member extending along one side of said opening and carrying a brake pad substantially aligned with said first mentioned brake pad and adapted to contact the opposite side of said brake disc, a wheel cylinder and piston carried by said second member, said piston being disposed in said cylinder to be displaced in a direction away from said opening and to contact said first member to swing said first member and move said first brake pad into contact with the brake disc in said opening, and to cause said second brake pad to contact the opposite side of the brake disc.

3,141,526
TRACKWAY DEVICE FOR GOVERNING THE SPEED OF FREE ROLLING RAILWAY CARS
Harold S. Wynn, Pittsford, N.Y., assignor to General Signal Corporation
Filed May 4, 1962, Ser. No. 192,421
19 Claims. (Cl. 188—62)



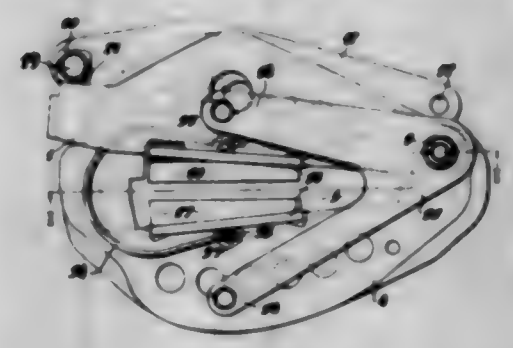
17. A railway car speed control device in a stretch of railway track comprising:

(*a*) at least one shoe secured to the inside of at least one of the track rails,

(*b*) each of said shoes being disposed in a position to support a flange of a car wheel and thereby raise the car wheel off of the associated track rail, and

(*c*) means responsive to the weight of a car on each of said shoes for moving that shoe longitudinally relative to the associated track rail from a normal position in the direction of traffic while fully supporting a car wheel.

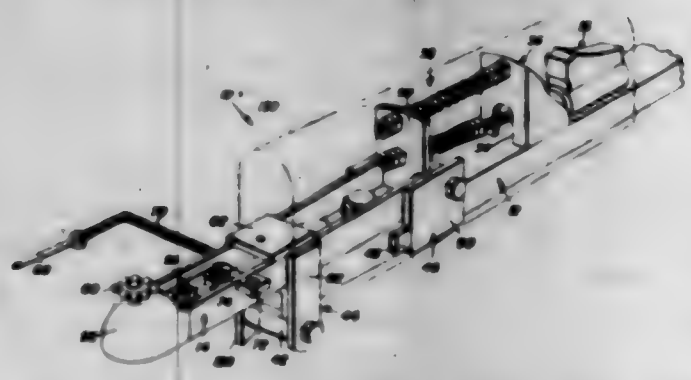
3,141,528
DISC BRAKES
Henry B. Henderson, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed May 9, 1962, Ser. No. 193,589
Claims priority, application Great Britain May 10, 1961
11 Claims. (Cl. 188—73)



1. A disc brake comprising a fixed support with a horizontal flange portion, a continuous movable plate member forming a closed loop with an opening in the center thereof supported by said flange portion, another movable arm member supported by said flange portion, pivot pin means extending through said flange portion adjacent one end thereof, and extending through and dis-

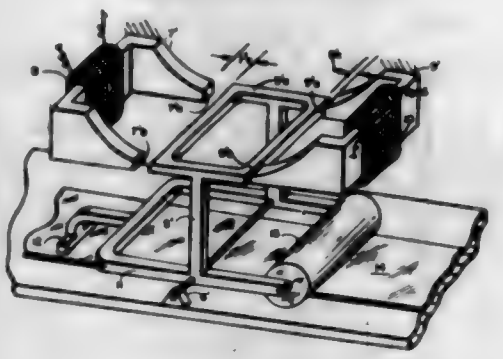
posed adjacent the same end of said plate member and arm member for pivotally mounting said plate and arm members about a common pivot point, said plate and arm members being disposed on said pivot pin means for swinging movement in a plane normal to the plane of rotation of a brake disc adapted to extend into said opening, said arm member being disposed adjacent one side of said plate member and adjacent one side of said opening, a lever operating arm disposed adjacent said one side of said plate member and said one side of said opening, a lever pivot pin extending through said one side of said plate member and said lever arm and pivotally connecting said lever arm for swinging movement in a plane parallel to the plane in which said plate and arm members swing, said lever pivot pin being disposed between said pivot pin means and the opposite end of said plate and arm member, means on said lever arm for engaging said arm member opposite the pivoted end of said arm member for causing said arm member and plate member to move toward each other, and brake pad means carried by said arm and plate members adjacent said opening adapted to engage a brake disc therein.

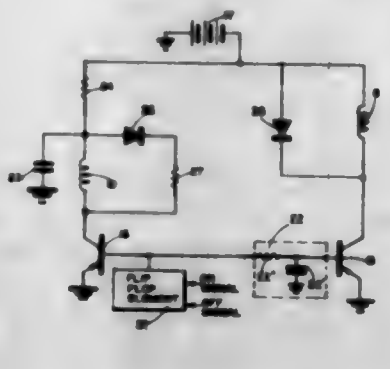
3,141,529
POWER OPERATED TRAILER BRAKE SYSTEM
Alvin E. Hart, 4228 Browne St., Omaha, Nebr., assignor of ten percent to Edythe E. Jewell, and ten percent to Clifford E. Robbins, both of Omaha, Nebr.
Filed May 16, 1962, Ser. No. 195,092
4 Claims. (Cl. 188—112)



1. In combination with a towing vehicle having a disconnectible coupling element and a trailer having hydraulic brakes, a first hitch member of channel section shape with open side up and having a front end carrying a coupling member mating said coupling element of the towing vehicle, said trailer having at its forward end, a second channel section shaped member with its open side disposed downwardly, vertically extending longitudinally spaced side members secured to the outer sides of said channel-section shaped members, said first hitch member having an upwardly extending projection at its rear end a housing mounted on said first hitch member for movement therewith between limits defined by said side members, a spring type shock absorber operatively mounted within said housing, said shock absorber having one end fixedly mounted on said second channel section shaped member spaced from the front end thereof and having its other end connected to said upwardly extending projection at a point spaced from both channel-section shaped members, a master brake cylinder secured to said second channel-section shaped member and having a hydraulic fluid line connection with said brakes, a piston operatively mounted in said cylinder, a push rod socketed in the forward end of the piston, said push rod extending through an opening in said upwardly extending projection below the shock absorber, and a spring mounted on said push rod and reacting against said upwardly extending projection for transferring force from the first hitch member to the piston after a predetermined displacement of the shock absorber by such force.

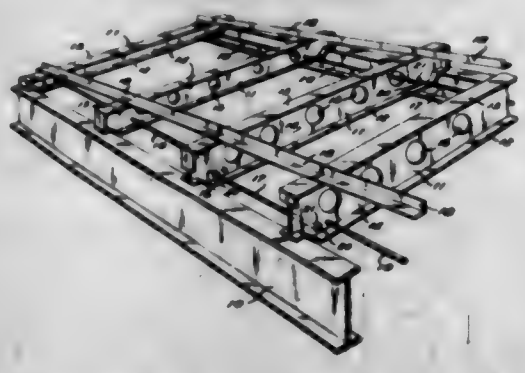
3,141,530
DIFFERENTIAL FORCING APPARATUS
Robert I. Morley, Norwalk, Calif., assignor to North American Aviation, Inc.
Filed May 1, 1961, Ser. No. 106,961
20 Claims. (Cl. 188—163)





8. In a tape reader mechanism, a brake-drive means for alternately stopping and releasing a tape, comprising: a brake solenoid, a control circuit responsive to an input signal for energizing said solenoid to effect exertion of a quiescent force, said solenoid being responsively connected to said control circuit, a rotatably mounted mechanical brake arm of magnetically permeable material, said brake arm and brake solenoid cooperating in said magnetic circuit to achieve a braking moment about said pivot, second means for reducing the effect of the electrical time constant of said brake solenoid, and third means for reducing the effect of the mechanical time constant of said brake arm.

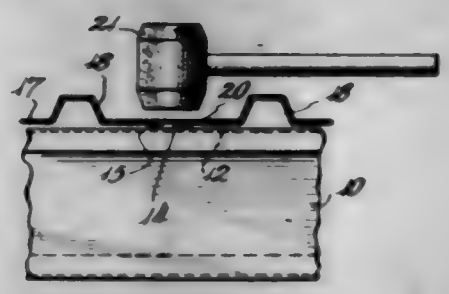
3,141,531
ROOF CONSTRUCTION
Charles H. Montgomery, 3975 Jennings Road, Cleveland 9, Ohio
Filed Jan. 21, 1960, Ser. No. 5,086
4 Claims. (Cl. 189—34)



1. A sub-assembly of a predetermined number of I-beam steel joists each having a web and upper and lower flanges, tie rods and purlins constituting a unitary roof panel, the flanges of each joist being longer than the web thereof with end portions of the upper flange extending down along, and being welded to, the ends of the web and with end portions of the lower flange extending upwardly and then substantially parallel to the top flange along, and being welded to, the lower edge of the web near its ends,

the said tie rods extending through, and being connected to, the webs of the said joists, and means for connecting two of such panels together, said means comprising slots in the webs of adjacent panels and second tie rods extending through said slots and having spaced collars on each end thereof straddling the web.

3,141,532
STRUCTURAL SUPPORTS FOR MOUNTING SHEET METAL PANELS
Edgar A. Runyan, Cincinnati, Ohio, assignor to Inland Steel Products Company, a corporation of Delaware
Continuation of application Ser. No. 797,910, Mar. 9, 1959. This application July 21, 1960, Ser. No. 44,325
8 Claims. (Cl. 189—37)



1. A unitary structural sustainer for the mounting thereon of a thin gauge sheet metal panel, said sustainer comprising a structural metal shape having a cross-sectional configuration imparting strength and rigidity thereto comprising a plurality of flat elements with contiguous elements thereof angularly disposed each to the other, at least one of said elements having a planar metal panel mounting face, said face having provided therein a plurality of spaced mounting apertures extending entirely through said mounting face and adapted to receive a suitable fastener and having a free marginal edge integral with said face, each of said apertures having embossment means adjacent to and integral with said face projecting outwardly therefrom to an extent greater than the thickness of the sheet metal panel to be mounted thereon, said embossment means having a striking surface adapted to deform an area of a sheet metal panel coincident with an adjacent aperture placed on contact therewith upon the application of a suitable force to an area of exposed face of a sheet metal panel overlying said embossment and said aperture, and being sufficiently strong to resist deformation by said force.

3,141,533
LOAD BEARING DOOR FRAMES
Robert F. Below, Brecksville, and Hans E. Renner, Cleveland, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Aug. 28, 1961, Ser. No. 134,204
5 Claims. (Cl. 189—46)

1. An installation for doorways between pre-erected studding and underplate members of the interior wall bearing frame, comprising,

a metal door frame assembly having vertical jambs and a head fixed thereto, said jambs and head both having a web and outwardly extending flanges providing outwardly facing vertical channel portions,

an adjustable load bearing header above said head,

means for effecting adjustment of said load bearing header relative to the head of the metal door frame, said means including,

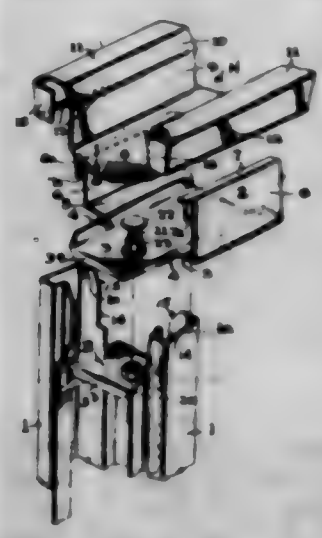
brackets connected with the webs of said jambs adjacent the upper ends thereof and having a downwardly turned flange and an opening inwardly of said flange,

the web of said head having extensions at each end thereof, each of said extensions terminating in a downwardly turned flange which overlies the related flange of said bracket when the head is assembled with the jambs, said extensions also having an opening inwardly of said flange,

the related openings of said brackets and extensions being in registry when said members are in assembled position,

a nut fixed to the lower surface of each of said brackets beneath the openings therein,

a headed bolt threadedly engaged with each of said fixed nuts and extending above the plane of said extensions,



a lock nut engaging said bolts near the upper end thereof and between the head of the bolt and the upper surface of said extensions,

the adjustable load bearing header terminating at its ends in flanges that embrace said related ends of the jambs during initial stages of assembling the adjustable head to the jambs,

whereby, when said jambs, head, and load bearing header are in assembled position, rotation of said bolts will cause movement of said load bearing header to the desired adjusted position.

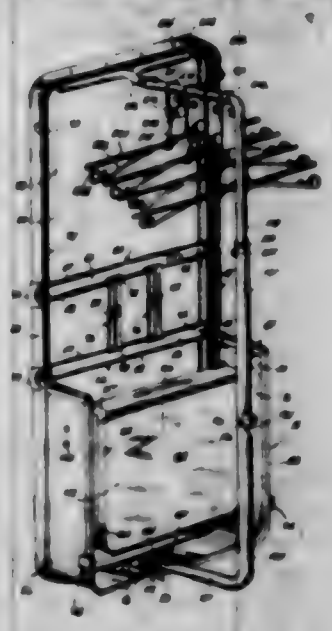
3,141,534
INFLATABLE GROUND ANCHOR
James M. Dunston, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 17, 1960, Ser. No. 50,294
4 Claims. (Cl. 189—92)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A reusable ground anchor for securing guy lines and the like comprising an elongated body having a bore extending substantially therethrough, a tapered nose provided at one end of said body having its base portion of a width substantially identical to the width of said body, said body having a reduced portion adjacent said nose, said reduced portion having a passageway therethrough connecting its periphery with said bore, an inflatable sleeve seated in said reduced portion and covering said passageway, said inflatable sleeve normally clinging to the surface of the reduced portion of the body

so as to remain within the outer margin of said body, means securing the outer ends of said sleeve to said reduced portion to render said sleeve fluid-tight, and valve means controlling the passage of fluid in said bore to inflate or deflate said sleeve.

3,141,535
SUITCASE
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Sept. 27, 1962, Ser. No. 226,649
17 Claims. (Cl. 190—41)



1. In a suitcase,
(*a*) a shell comprising a back panel and three upstanding side walls,
(*b*) a hinge panel swingably connected to said shell and swingable between an open position generally coplanar with said back panel and a closed position generally normal thereto and engaging the ends of a pair of said side walls,
(*c*) a lid swingably connected to said hinge panel and swingable with and with respect to said hinge panel between an open position generally coplanar with said back panel and a closed position overlying said back panel and engaging said side walls,
(*d*) a generally U-shaped standard swingably interconnected at its ends to said shell and lid and provided with telescoping and pivotal joints along its bight for movement between a retracted position in which its ends are disposed adjacent one shell side wall and its bight is disposed adjacent one of said side walls and an extended position in which it has a U-shaped configuration projecting outwardly from said shell generally normal to the plane of said back panel, and
(*e*) means for releasably locking said lid and hinge panel in closed position.

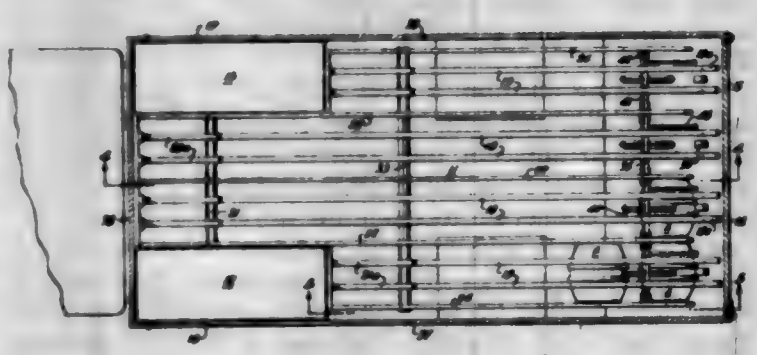
3,141,536
LUGGAGE CONSTRUCTION
James F. Fulton, Mamaroneck, N.Y., assignor to Peter's Bag Corporation, New York, N.Y., a corporation of New York
Filed Oct. 24, 1962, Ser. No. 232,694
2 Claims. (Cl. 190—41)

1. A lightweight luggage case comprising
(*a*) a frame including interconnected rigid top, bottom and side walls;
(*b*) a fabric rear wall connected at its edges to said rigid walls to close one side of the bag;
(*c*) a fabric front wall hingedly connected at one edge of one of said rigid walls and serving as a closure for the other side of the luggage case;
(*d*) a separable slide fastener releasably connecting the other edges of said front wall to each of the other rigid frame walls, said slide fastener having a slider and an operating tab connected to said slider;
(*e*) means in said front wall, adjacent the "closed" position of said slider, forming an elongated recess arranged to receive said operating tab, said recess having a bar extending thereacross; and



(*f*) a resiliently biased depressible lock element on said tab engageable in said recess and movable beneath said bar by depression against the resilient bias of said lock element, said lock element, after passing beneath said bar, being resiliently biased to an extended position in which it has a surface engageable with said bar to prevent retraction of said operating tab from said recess except upon depression of said lock element.

3,141,537
DELIVERY VEHICLE FOR KEG-CONTAINED PRODUCTS
Hubert D. Dilisha, 1901 Oak View Drive, Oakland 2, Calif.
Filed Aug. 24, 1962, Ser. No. 219,259
2 Claims. (Cl. 193—27)



1. A delivery vehicle for both keg-contained and bottled products comprising: a main storage compartment having a rear access opening and closure doors therefor, side storage compartments arranged on opposite sides and at the forward corners of said main storage compartment, said side compartments having separate and respective side access openings and closure doors therefor, each side compartment being partitioned from the main storage compartment by interior side and end walls, means for advancing keg containers from an inner region of said main storage compartment to a delivery point adjacent the rear end of said vehicle, said means comprising upper supporting rails extending forwardly and longitudinally of said vehicle from a loading point adjacent the rear access opening of said main storage compartment to a point intermediate said side storage compartment and their respective interior side walls, at least a portion of said upper supporting rails being inclined downwardly relative to said loading point to induce rolling movement

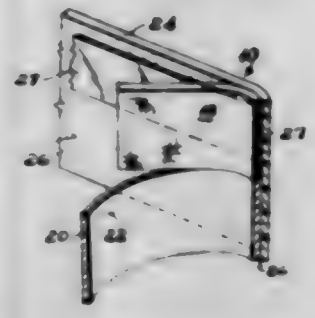
of keg containers, lower supporting rails disposed beneath said upper supporting rails and extending rearwardly and longitudinally of said vehicle from a receiving point forwardly of upper supporting rails and terminating at a delivery point adjacent the rear access opening of said main storage compartment subjacent the loading point of upper supporting rails, at least a portion of said lower supporting rails being inclined downwardly relative to said receiving point to induce rolling movement of the keg-contained products.

3,141,538
COIN-VALUE SENSER AND COUNTER AND COIN-CONTROLLED METER
Morris Goodman, 30 W. Court St., Indianapolis, Ind.
Filed Jan. 18, 1961, Ser. No. 83,514
5 Claims. (Cl. 194—8)



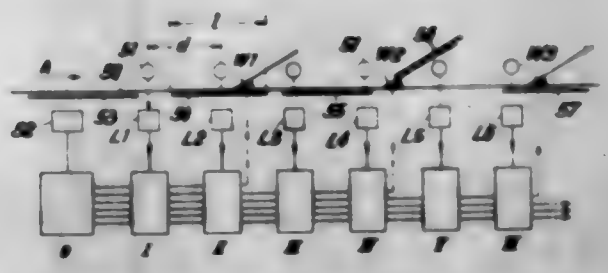
1. In a device of the class described, a coin chute constructed and arranged to provide an inclined side wall, a door hinged adjacent said wall to extend into said chute to a coin-blocking position angularly related to said wall, motor means operatively connected to rock said door to coin-releasing position, a lever disposed in spaced, facing relation to said wall with its upper end hinged and its lower end disposed adjacent the level of said door hinge and swingable toward and away from said wall, motor means operatively connected to swing the lower end of said lever toward said wall, said wall and said door having electrically-conductive surfaces mutually engageable by a coin in said chute resting on said door, said conductive surfaces being electrically insulated from each other but connected in a circuit, closed by such a coin in such mutual engagement therewith, to energize said lever-swinging motor means, a bank of electrically-separated first contacts arranged adjacent said lever, brush means carried by said lever and constructed and arranged to sweep said contacts successively as said lever swings toward said wall, said contacts being so spaced that a coin of any denomination resting on said door will stop said lever with said brush means in engagement with a corresponding one of said contacts, a bank of second contacts interdigitated with said first contacts to be swept by said brush means, said second contacts being so spaced that a slug resting on said door and having a diameter different from that of a genuine coin will stop said lever with said brush means in engagement with one of said second contacts, each of said first contacts being connected in a circuit including said brush means and including also time delay means, for actuating said door-rocking motor means and for actuating counter mechanism, a barrier projectile into said chute at a point downstream from said door, and motor means for projecting said barrier into slug-diverting position, each of said contacts being connected in a circuit including said brush means and including also time delay means, for actuating said door-rocking motor means and said barrier-projecting motor means without actuating said counter mechanism.

3,141,539
TYPEWRITER RIBBON FOR SELECTIVELY TYPING AND OBLITERATING
William Howard Wolowitz, 1742 Holly St. NW., Washington, D.C.
Filed Feb. 8, 1962, Ser. No. 171,963
2 Claims. (Cl. 197—172)



1. A composite typewriter ribbon for selectively typing and obliterating, comprising:
(*a*) an elongated support strip of thin flexible plastic, coated on one surface with a layer of adhesive,
(*b*) one half of the width of the coated surface of said support strip having adhered thereto by said adhesive a strip having an exposed surface layer of pressure-transferable ink-obliterating opaque camouflage material;
(*c*) the remaining half of the width of said support strip having adhesively secured thereto by said adhesive an ink-saturated, woven fabric marking ribbon,
(*d*) said marking ribbon being secured only along its lengthwise edges to said support strip; and
(*e*) an ink-impervious non-absorbent protective strip positioned between the central lengthwise body of said marking ribbon and said coated surface of said support strip.

3,141,540
SHIFT REGISTER CONTROL FOR ARTICLE HANDLING DEVICE
Gisbert Burkhardt, Konstanz (Bodensee), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Aug. 14, 1961, Ser. No. 131,401
Claims priority, application Germany Aug. 18, 1960
21 Claims. (Cl. 198—38)



1. In a sorting machine comprising: a plurality of diverting switches arranged along a conveying path; a control register subdivided into a plurality of sections and subject to a stepwise sequential switching operation proceeding from section to section, which control register controls the actuation of said switches and into whose first section a command signal is fed when an article enters the conveying path, which command signal desig-

nates the switch at which such article is to be diverted; and a plurality of sensing means arranged along said path and responsive to the passage of the articles, said sensing means being connected, respectively, with said sections for effecting, in synchronism with the movement of the individual articles, the stepwise switching of the particular command signal pertaining to each respective article up to the control section associated with the switch located at the point along said path where such article is to be diverted, the improvement that the distance between consecutive sensing means is less than the length of the shortest article to be handled by the sorting machine.

3,141,541
MOTOR OR ENGINE SUPPORT FOR CONVEYOR
Martin Mayrath, 10707 Lennox Lane, Dallas, Tex.
Filed July 24, 1961, Ser. No. 126,325
5 Claims. (Cl. 198—128.5)



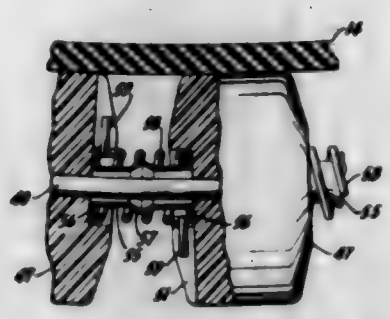
1. In a conveying mechanism, an inclined conveyor having a lower inlet end and an upper discharge end, a vertical column, a vertically elongated slidable member of U-shaped cross-section having a portion between the longitudinal edges thereof corresponding in shape to said column and having spaced parallel sidewalls projecting tangentially therefrom, whereby said slidable member is movable laterally into position around said column and slidably fitting the latter, means projecting through said sidewalls for supporting said conveyor at a point intermediate the ends thereof whereby vertical movement of said slidable member transmits vertical movement at said intermediate point to said conveyor to change its angularity, and means projecting through said sidewalls for supporting with respect to said slidable member a driving motor for said conveyor, said two means projecting through said sidewalls, closing the space therebetween and slidably engageable with said column and preventing lateral displacement of said slidable member from said column.

3,141,542
AUTOMATIC SWITCHING AND STORAGE CONVEYOR
Reid Alexander Mahaffy, Montclair, and John Richard Harder, Cedar Grove, N.J., assignors, by mesne assignments, to Speedco, Inc., Baltimore, Md., a corporation of Maryland
Original application Sept. 2, 1958, Ser. No. 758,186, now Patent No. 3,009,299, dated Nov. 21, 1961. Divided and this application July 20, 1959, Ser. No. 831,924
2 Claims. (Cl. 198—183)



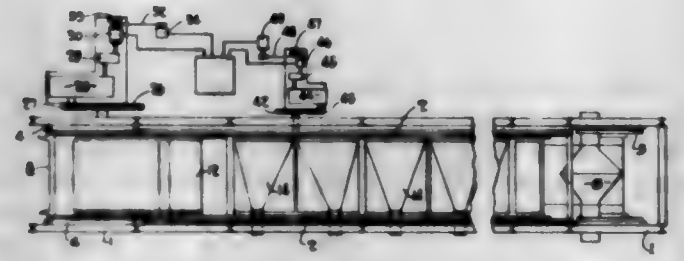
1. A storage conveyor for transferring structurally weak materials such as stacked slices of luncheon meat comprising a pair of parallel endless sprocket chains mounted upon sprockets, said chains having an upper reach and a lower reach, bearing pins fixed to said chains, corrugated surfaced nylon rollers journalled on said pins for forming a low friction non-lubricated bearing and said rollers being closely adjacent each other throughout the entire extent of said chains for supporting a single piece of material solely upon the crests of the corrugations of a plurality of rollers along the upper reach of the chain.

3,141,543
NON-METALLIC FULLY FLEXIBLE IDLER
John R. Madeira, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 8, 1961, Ser. No. 94,181
11 Claims. (Cl. 198—192)



1. A troughing idler assembly especially adapted for use in a belt conveyor, said troughing idler assembly including, in combination,
a tension transmitting shaft,
a plurality of rollers carried by the shaft,
said rollers being rotatable with respect to the shaft,
lubricant retaining means between adjacent rollers,
said lubricant retaining means being yieldable in a direction generally parallel with the shaft to thereby retain lubricant when adjacent rollers work with respect to one another in directions transverse to their normal plane of rotation and,
means for simultaneously maintaining the lubricant retaining means associated with a pair of adjacent rollers in lubricant tight engagement with the rollers, and for connecting the pair of rollers to one another in yieldably spaced relationship.

3,141,544
MEANS FOR CONTROLLING THE MOVEMENT OF PALLETS ON A SINTERING MACHINE
John A. Hansen, Richmond Heights, Ohio, assignor, by mesne assignments, to McDowell-Wellman Engineering Company, Cleveland, Ohio
Filed Jan. 12, 1962, Ser. No. 165,838
7 Claims. (Cl. 198—203)



1. A pallet moving and retarding means for a Dwight-Lloyd type of horizontal sintering machine in which a train of material carrying pallets are moved along a hori-

zontal trackway in contact with each other and the pallets constitute a continuous train around a curved raceway and onto a lower reach of trackway and are then moved upwardly around a curved raceway to the feed end of the horizontal portion; and including

(*a*) main drive sprocket wheel means for raising the pallets while in contact upwardly around the curved raceway and for pushing the train along the upper horizontal raceway;

(*b*) the length of the train of contacting pallets being less than the length of the trackway whereby an expansion gap may be left between successive pallets as they pass a given point;

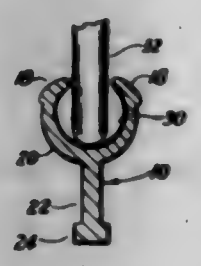
(*c*) a retarder sprocket adapted to engage successive pallets and resist movement of the pallets approaching the gap;

(*d*) electric driving and retarder motors for respectively driving the main drive sprocket wheel means and the retarder sprocket at predetermined speeds, the retarder sprocket being normally driven at a slightly slower speed by its motor, but at the same time being normally forced by movement of the pallets to maintain the speed corresponding to the movement of the main drive sprocket wheel means whereby a resisting hold-back pressure of a small fraction of the driving power of the main drive sprocket wheel means is maintained up to a controlled limit;

(*e*) tachometer generators positively driven with each of said driving and retarder motors; and

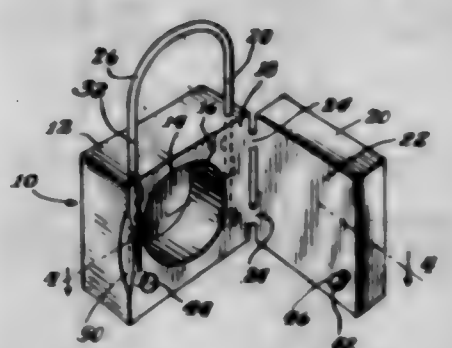
(*f*) means to control the voltage and, therefore, the speed of said retarder motor as a function of the speed of the main drive sprocket wheel means, said control means comprising a booster generator having a voltage output varying as a function of any speed differential between said tachometer generators, said retarder motor being responsive to the voltage output of said booster generator to cause immediate synchronizing of the retarder sprocket with the speed of the main drive sprocket wheel means consequent upon a change of speed of the main drive sprocket wheel means sensed by said tachometer generators.

3,141,545
CONVEYOR STRUCTURE
Edward T. Holland, Jr., Cedar Rapids, Iowa, assignor to Cherry-Burrell Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed Mar. 21, 1960, Ser. No. 16,610
2 Claims. (Cl. 198—213)



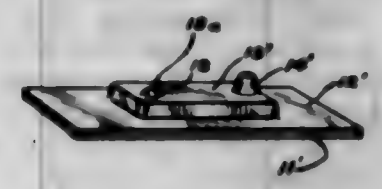
1. In a conveyor structure of the class described, a rail housing having a C-shaped tubular member open at the top along the entire length thereof to provide an elongated recess having a smooth curved surface, two ledges formed in said recess, one on each side of the opening near the top of said member along the entire length thereof, a replaceable liner fitted in said recess, said liner being constructed of a relatively thin, wear-resistant, low-friction material of substantially uniform thickness to provide a smooth curved wearing surface, and a drive shaft seated in said liner and rotatable relative to said housing, said liner being maintained in a fixed position relative to said housing by engagement with said ledges.

3,141,546
COIN AND KEY HOLDER DEVICE
Norbert Leopoldi, 4180 Marine Drive, Chicago, Ill.
Filed Mar. 14, 1962, Ser. No. 179,645
2 Claims. (Cl. 206—.81)



1. A combination coin and key holder comprising:
a flat planar body member defining a generally planar surface on one side of said body member,
said surface being parallel to the plane of said body member,
said body member being formed to define a cylindrical recess having its mouth terminating at said surface,
said recess being proportioned to receive one or more coins,
and said surface being in circumambient relation about said mouth of said recess,
a cover member,
means for hinging said cover member to said body member to one side of said recess and adjacent one edge portion of said surface to swing toward and away from said surface about an axis that extends parallel to the plane of said surface,
a substantially U-shaped key receiving element having one of its legs pivotally connected to said body member adjacent another edge portion of said surface to swing about an axis that extends parallel to the plane of said surface and parallel to the first mentioned axis,
said body member being further formed in said surface to define an elongate rectilinear groove in said surface extending parallel to said axes and proportioned to receive the other leg of said key receiving element,
said groove being positioned between said recess and the edge portion of said surface that is diametrically opposite said one edge portion across said recess,
said groove being formed to define snap lock means for releasably locking said key receiving element other leg in said groove,
said key receiving element defining intermediate said legs thereof a key receiving portion that projects away from said body member,
said cover member being proportioned to overlie said recess and said groove when said cover member is swung adjacent thereto,
and releasable lock means for releasably securing said cover member to said body member in the last mentioned position of said cover member,
said releasable lock means comprising a bulbous projection formed in one of said members and a recess formed in the other of said members positioned and proportioned to frictionally receive said bulbous projection,
said hinge means comprising flexible members, said members being of one piece construction.

3,141,547
COMBINATION CONTAINER AND MICROSCOPE SLIDE STRUCTURE
Chester A. Newby, 3450 Yosemite Ave., Minneapolis 16, Minn.
Filed Dec. 20, 1962, Ser. No. 246,101
1 Claim. (Cl. 206—1)



A container in the form of a miniature aquarium for microorganisms and adapted to be used as a microscope slide, said container comprising

a transparent plate member having a projection at one side thereof forming a chamber, said chamber having a closed side remote from said plate member and having an open side in the plane of said plate member, said plate member having a flange portion about the open side of said chamber,

a projection of small transverse dimension formed integral with the closed side of said chamber and upstanding therefrom,

a transparent flat base plate member underlying said flange portion and the open side of said chamber integral with said flange portion,

said integral projection being severable to form an inlet aperture in the upper end portion thereof for the passage of specimen material into said chamber,

means for closing said aperture,

a second projection of small transverse dimension formed integral with the closed side of said chamber upstanding therefrom and spaced from said severable projection, and

said second projection having an orifice therein of such small dimension as to permit the passage of air while effectively restricting the passage of liquid therethrough.

3,141,548
MICROSCOPE SLIDE STRUCTURE
Chester A. Newby, 3450 Yosemite Ave., Minneapolis 16, Minn.
Filed Dec. 20, 1962, Ser. No. 246,178
1 Claim. (Cl. 206—1)



A container in the form of a miniature aquarium for microorganisms and adapted to be used as a microscope slide having in combination,

an elongated plate member facing upwardly having a row of aligned depending projecting portions integral therewith forming chambers,

said chambers respectively having open sides in the plane of said plate member,

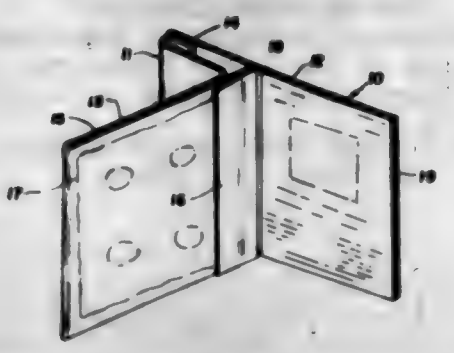
said plate member having flange portions at either side of said row of chambers,

a pair of relatively narrow spacer strip members respectively overlying the longitudinal free edge portions of said flange portions,

a second pair of elongated strip members having a greater width than said first mentioned strip members and respectively overlying said first mentioned strip members and extending inwardly thereof in spaced relation to the underlying portions of said flange portions forming therewith a pair of facing grooves, and

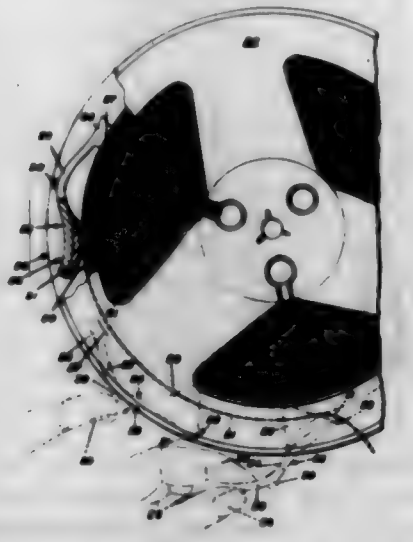
a cover plate member slidable within said grooves having a sealing engagement with the top and bottom surfaces of said grooves and overlying the open sides of said chambers to seal the same.

3,141,549
FOLDABLE POSTAL CARD
Karl Koehler, Coopersburg, Pa.
Filed Oct. 29, 1962, Ser. No. 233,968
4 Claims. (Cl. 206—42)



1. A foldable card having a front panel having a foldable extension with an integral tab, a rear panel adhered to said front portion only along a marginal portion thereof opposite said tab and having a substantially central, vertically extending crease line for effecting a fold, a third panel having a marginal portion adhered to the rear portion of said rear panel on only one side of said crease line, said third panel having a substantial central, vertically extending crease line which is normally sandwiched between said front panel and said rear panel on the other side of said second panel fold, said third panel having an integral tab projecting outwardly beyond the margin of said rear panel, whereby upon pulling said last mentioned tab, said rear panel will be folded over about its crease line as a consequence of sliding movement of said third panel crease line against the rear portion of said front panel to provide flip action after passing the dead center of said second panel crease line, thereby unfolding said third panel and suddenly exposing the interior surface thereof.

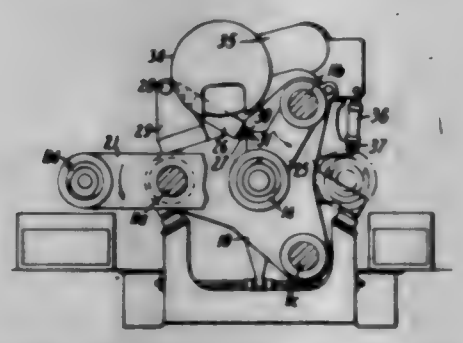
3,141,550
REWINDER AND TAPE LOCK
Donald Edward Simmons, 397 Meadowbrook Drive NE., Atlanta 5, Ga., assignor, by direct and mesne assignments, of 1/10 to Brian R. Carney, Nashville, Tenn., 17.5/100 to Fred R. Sisk, Antioch, Tenn., 1/40 to O. B. Hofstetter, Jr., Nashville, Tenn., and 2.5 to Hazel Schoen, Nashville, Tenn.
Filed May 28, 1962, Ser. No. 198,004
7 Claims. (Cl. 206—53)



3. In a rewinder and tape lock for a reel or spool of the type that is adapted to have tape wound thereon, and

wherein said reel includes spaced parallel side portions, said rewinder and tape lock comprising a body member which is shaped to include an arcuate portion that has an enlargement on one end which defines a foot, said body member further including a head portion, and said head portion including a pair of spaced parallel side sections, and a shoulder on said arcuate portion and said shoulder defining a lock.

3,141,551
EXTRUSION PRESS WITH ROTARY DIE-HOLDER CARRIER
Herbert John Samuel, Northbourne, Bournemouth, England, assignor to The Loewy Engineering Company Limited, Bournemouth, England, a corporation of Great Britain
Filed Apr. 2, 1962, Ser. No. 184,169
6 Claims. (Cl. 207—1)



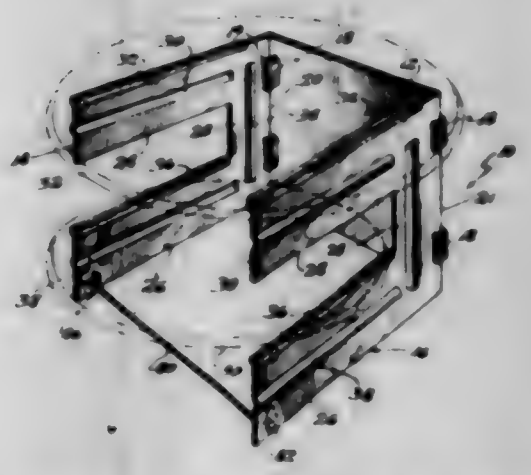
1. A horizontal metal extrusion press having a platen, a billet container with a billet chamber, an extrusion die adapted to be positioned alternatively at one end of said chamber and in alignment with the press axis and at an outside station at a distance from said press axis, said outside station being in the horizontal axial plane of the press, a bolster adapted to be positioned alternatively between die and platen and in alignment with the press axis and at an outside station at a distance from said press axis, said outside station being in the horizontal plane of the press but opposite to the outside station of said die, a first carrier supporting said die and movable for transferring said die from its position in the press axis to its outside station, and a second carrier supporting said bolster and movable for transferring said bolster from its position in the press axis to its outside station.

3,141,552
DISHWASHING RACK
Ralph Ettlinger, Jr., 1370 Lincoln Ave. S., Highland Park, Ill.
Filed June 5, 1961, Ser. No. 114,917
1 Claim. (Cl. 211—41)



A dishwashing rack adapted to support a plurality of plates of varying sizes comprising a peripheral rectangular frame member, a plurality of horizontally disposed struts connected to and extending across said frame in a direction perpendicular to the side walls thereof, said struts intersecting and thereby forming a plurality of spaced apart openings within said frame, said intersecting struts comprising integral girders, crisscrossing brace members extending in the openings formed by said struts, said brace members being integral with said frame, a plurality of vertically extending projections located in the intersections of said struts, the length of said projections being approximately equal to the spacing between said intersections whereby said projections are adapted to engage the back side of plates carried by said rack at a point less than the diameter of said plates whereby said plates can be held between adjacent pairs of said projections at substantially the same angle irrespective of the size difference between said plates.

3,141,553
COLLAPSIBLE POT COVER HOLDER
Alvera A. Hatfield and Charles L. Hatfield, both of 14832 Champlain Ave., Dolton, Ill.
Filed Jan. 24, 1962, Ser. No. 168,430
5 Claims. (Cl. 211—41)

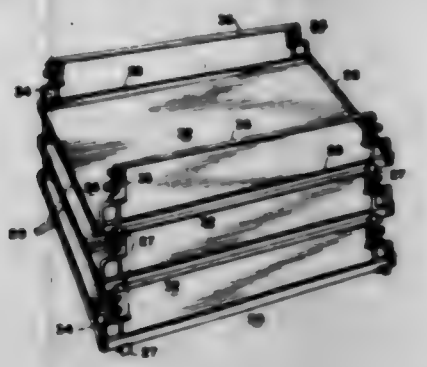


1. A collapsible and portable rack for supporting inverted pot covers which comprises a plate member adapted to be arranged in vertical position adjacent a cooking area, a pair of bracket members of generally U-shaped configuration and each having a pair of elongate arms and a bridging portion, the bridging portions being arranged vertically and hingdely conjoined respectively along vertical opposite edges of the support member, a removable bail connected between the bracket members whereby to enable the said bracket members to be erected in spaced condition for the support of the inverted pot covers thereon, the removal of the bail enabling the bracket members to be interfolded upon the plate member to provide a small package for storage of the said device, said plate member and arms cooperable for supporting said rack on a horizontal support surface in said erected condition of the rack.

3,141,554
ADJUSTABLE MULTIPLE-UNIT TRAY-SUPPORTED RACK
Melvin S. Sussman, Galesburg, and Lee A Sullivan, Jr., Jacksonville, Ill., assignors to Con-O-Miser, Inc., Galesburg, Ill., a corporation of Illinois
Filed June 13, 1962, Ser. No. 202,249
9 Claims. (Cl. 211—126)

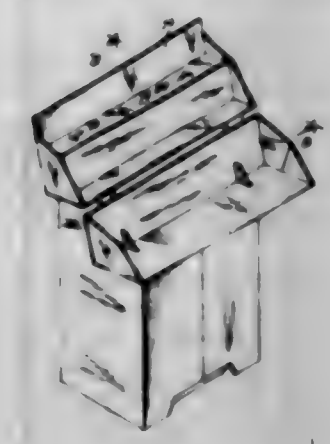
1. A rack-forming unit comprising,
(*a*) a base frame,
(*b*) spacer elements
vertically disposed
adjacent the ends of the base frame,
each having
a plurality of ledges
spaced vertically above and inwardly of the base frame ends,

(c) brackets on the base frame adjacent ends thereof vertically aligned with the element ledges and formed to seat on the spacer-element ledges,



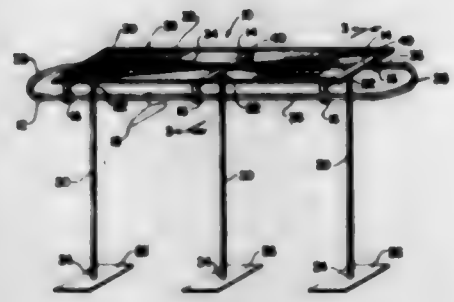
whereby two or more units may be stacked by positioning the brackets of one unit on the ledges of the spacer elements of another unit to selectively dispose the units in predetermined vertically-spaced relationship.

3,141,555
DISPLAY STAND
John L. Funke, Cincinnati, and Richard E. Boulis, Sandusky, Ohio, assignors, by direct and mesne assignments, to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Nov. 1, 1963, Ser. No. 320,661
1 Claim. (Cl. 211—135)



A combination shipping case and display stand comprising in combination a base having four wall panels, two panels of the said four panels forming a pair of side walls connecting another pair of panels, a bottom panel foldably connected along an edge of a base wall panel, the bottom panel being scored transversely and having a spaced pair of elongated apertures extending perpendicularly across the score line, a base shelf catch integrally attached to each side wall panel, an inclined ledge integrally formed in each side wall panel, an anchor tab integrally formed in an edge of each side wall panel, a lower goods tray comprising a bottom, a back foldably attached to the bottom, the bottom having a pair of spaced apertures, the lower tray demountably attached to the base, an upper tray comprising a bottom, a back foldably attached to the bottom, the bottom having a pair of spaced apertures extending into the back, and the upper tray demountably attached to the base, a pop-up tray comprising a bottom, a back foldably connected to the bottom and nested within the upper tray, the bottom of the pop-up tray having a pair of apertures in spaced relationship, the pop-up tray being denestable from the upper tray and then demountably engaged with the anchor tabs of the base.

3,141,556
CONVEYOR CONSTRUCTION OR THE LIKE
Albert C. Klostermann, 5536 Colerain Ave., Cincinnati 39, Ohio
Filed July 13, 1961, Ser. No. 123,765
1 Claim. (Cl. 211—162)



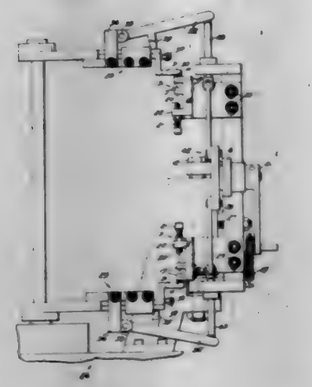
In combination, a plurality of vertical disposed supporting posts each having a base at the lower end thereof and a horizontally disposed frame member at the upper end thereof, means interconnecting said posts together to hold said posts in fixed positions relative to each other, a continuous and stationary conveyor member, and a plurality of substantially J-shaped support members each having a long leg and a short leg, said long legs being respectively interconnected to the free ends of said frame members, said short legs being interconnected to said conveyor member whereby said conveyor member is spaced from said frame members by said support members, said means interconnecting said posts together including horizontally disposed shelf structure interconnected to said frame members and said shelf comprising a rectangular frame carrying a sheet of mesh material.

3,141,557
SUPPORT FOR A STAND AND THE LIKE
Howard J. Marschak, 1544 W. Elmdale Ave., Evanston, Ill.
Filed Jan. 15, 1962, Ser. No. 166,850
3 Claims. (Cl. 211—177)



1. A knocked down type of support for a display stand comprising a pair of two single units each comprising a pair of rigid members each formed to provide a vertical upper section and a downwardly extending leg, with the two rigid members permanently secure to each other at the vertical upper sections to form a single unit with connected and abutting upper sections and with legs diverging in opposite directions, means for securing said two single units together, said means comprising a continuous tubular member enclosing the vertical upper sections of both said units to hold the vertical sections in abutting relation with the legs of both said units in spaced relation with the legs of one unit extending in a direction opposite to the legs of the other unit, said tubular member being connected to an upright post to support said post.

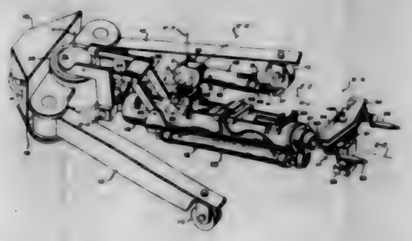
3,141,558
TRANSFER FIXTURE
Nicholas F. Gubitose, Emmaus, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 6, 1962, Ser. No. 200,521
5 Claims. (Cl. 214—1)



1. In an apparatus for transferring a pair of elongated articles from a first location to a second location,
a body movable from the first location to the second location,
a pair of magnetic holders connected to the body for holding the articles in a predetermined relationship with respect to each other,
adjustable means cooperatively associated with the magnetic holders for spacing the articles a prescribed distance from each other,
a pair of chuck holders located at the second location,
cam means cooperatively associated with the chuck holders for moving the chuck holders to an open position,
means for moving the body from the first location to the second location such that a portion of each article extends through its respective open chuck holder, and
linkage means operable for actuating the cam means to cause the chuck holders to close and grasp said portion of each article while maintaining the articles in said predetermined relationship and prescribed distance from each other.

3,141,559
UNIVERSAL LOADER
Leo Dragonuk, Plymouth Meeting, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 31, 1962, Ser. No. 248,819
6 Claims. (Cl. 214—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

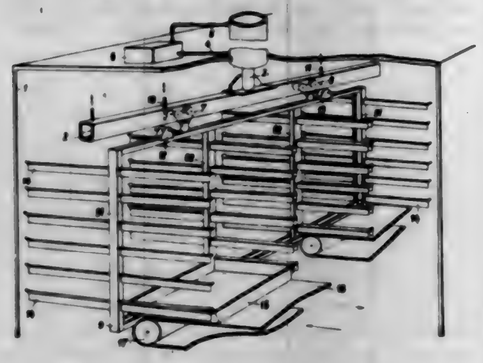
1. A universal weapons loader and control system therefor comprising:
a vehicular chassis having adjustable outriggers thereon;
a telescoping boom having a swivel centrally supported in said chassis on a substantially horizontal boom azimuth axis, an outer housing pivotally supported from said swivel on a substantially horizontal boom elevation axis normal to the boom azimuth axis, an outer spline slidably contained within said housing for extending the outer end of said boom, and an inner spline rotatably supported within said outer spline for rotating the outer end of said boom;
a head unit having a head coupling pivotally connected at the outer end of said boom to said inner spline on a head depression axis normal to the boom axis, and a weapons connector pivotally connected to said head coupling on a head rotation axis normal to the head depression axis;
a command unit having a boom elevate control support pivotally connected to said outer housing on a command azimuth axis normal to said boom axis and in a substantially vertical plane, a control housing pivotally connected in said control support on a command elevation axis normal to the command azimuth axis and in a substantially horizontal plane, a telescopic tube slidably contained within said control housing, a manipulator coupling pivotally connected to the outer end of said tube on a manipulator depression axis normal to the length of said tube, and a manipulator pivotally connected in said coupling on a manipulator rotation axis normal to the length of said tube and to the manipulator depression axis;
first control means operatively connected between said control support and said swivel for causing boom rotation about the boom azimuth axis;



a second control means operatively connected between said control housing and said outer housing for pivoting said boom about the boom elevation axis;
a third control means operatively connected between said telescopic tube and said outer spline for extending and retracting said outer spline along the boom axis;
fourth control means operatively connected between said telescopic tube and said inner spline for rotating the outer end of said boom about the boom axis;
fifth control means operatively connected between said manipulator coupling and said head coupling for rotating the latter about the head depression axis; and
sixth control means operatively connected between said manipulator and said load connector for rotating the latter about the head rotation axis;
said third, fourth, fifth and sixth control means each including an extensible pulley system for transmitting control signals independent of each other, and a follow-up control linkage for positive positioning thereof.

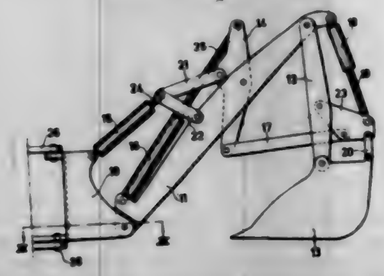
3,141,560
LOADING DEVICE
Helmut Rink, Bonn, Germany, assignor, by mesne assignments, to Leybold-Anlagen Holding A.G., Zug, Switzerland
Filed Sept. 15, 1961, Ser. No. 138,347
Claims priority, application Germany Sept. 17, 1960
13 Claims. (Cl. 214—39)

1. In a continuous freeze drying arrangement including a tank sealable from the atmosphere and having a treating section and a charging and discharging section for the entrance and exit of dish-like receiving vessels, and a horizontally and vertically movable tank traversing carrier element arranged for supporting the dish-like vessels in groups one above the other and which may be loaded and unloaded when the carrier element is in the charging and discharging section, the improvement comprising at least one stationary conveyor belt moving in a horizontal direction and independently of said carrier element, said carrier element including support rods cooperable in groups to support the receiving vessels by gravity, means entering into operative connection with the carrier element when it is in said charging and discharging section



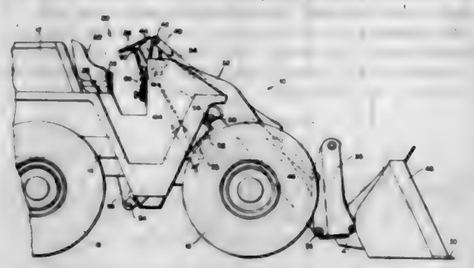
for selectively moving said carrier element vertically, and moving cooperable groups of rods into position with respect to said conveyor for selectively (1) receiving vessels having their bottom surfaces resting on said conveyor and (2) delivering vessels on said rods to said conveyor solely by the frictional forces between the conveyor and the bottoms of the vessels.

3,141,561
DREDGER
John Bertil Björklund, Nyholm, Tibro, Sweden
Filed Dec. 3, 1962, Ser. No. 241,645
Claims priority, application Sweden Dec. 11, 1961
5 Claims. (Cl. 214—138)



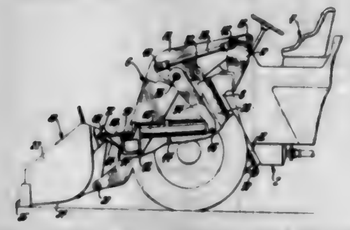
1. A dredger comprising a holder with a derrick mounted thereon which is swingable in the vertical and horizontal plane and on which is pivotally mounted a jib carrying a pivotally mounted scoop adapted to be actuated by a hydraulic cylinder via a cross-link pivotally mounted on the jib and a second link, characterized in that the derrick and the jib can be operated by two hydraulic cylinders for swinging the derrick in the vertical plane, one of the said cylinders mounted for vertical swinging in the holder, and the second cylinder mounted for vertical swinging on the derrick, the piston rod of one of the said cylinders mounted in a link means comprising two members whereof one is in pivotal connection with a second cross-link pivotally carried on the derrick and the other link member is in pivotal connection with the derrick, the piston rod of the second hydraulic cylinder being pivotally connected to the cross-link.

3,141,562
HEIGHT LIMITER
Paul F. McAdams, St. Joseph, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Apr. 12, 1962, Ser. No. 186,957
4 Claims. (Cl. 214—140)



1. An implement height limiter for a vehicle having a pivoted boom arm carrying an implement at the outer end thereof and hydraulic means for raising the boom arm, compriaing: a support, a pivotal member pivotally connected to the said support for pivotal movement about a horizontally disposed axis, a vertically disposed link connected between the said pivotal member and the boom arm, a horizontally disposed cam follower member pivotally connected to the said pivotal member for generally horizontal movement as the said link is moved in a generally vertical direction by upward movement of the boom arm to pivot the said pivotal member, an adjustable cam actuator member arranged to movably engage the said cam follower member, a device operated by the said cam follower member upon movement of the cam follower member, and means responsive to the operation of the said device for operating the hydraulic means to stop raising movement of the boom arm.

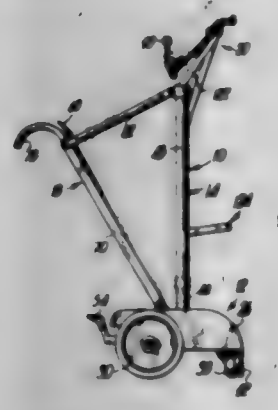
3,141,563
BUCKET POSITION INDICATOR
George A. Fisher, Mentor-on-the-Lake, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 10, 1962, Ser. No. 208,832



4. In a loader vehicle, the combination comprising a vertically adjustable boom pivoted at one end to said vehicle, a material-handling bucket pivoted at the other end of said boom, a tilt linkage operatively connected between said vehicle and bucket for tilting the latter about said boom, said tilt linkage comprising a fluid-operated jack including relatively reciprocable piston and cylinder members, said piston member being connected to said bucket about a transverse pivot axis at a point spaced from said other end of the boom, mechanism for indicating the digging position of said bucket at any boom elevation, said mechanism comprising a pointer mounted to said piston member for pivotal movement about said transverse axis, an upstanding projection rigidly secured to said piston member adjacent the pointer and adapted to serve as an

indicia, one end of said pointer cooperating with said projection to indicate jack length, follower means at the other end of the pointer, a spring connected betwen said piston member and the pointer to urge the latter in one direction, stop means on the pointer and cooperating with said piston member to limit movement of said pointer in the opposite direction, and cam means supported on said cylinder member and located in a vertical plane, said cam means being engageable with the follower means upon extension and retraction of the jack to pivot the pointer relative to the projection.

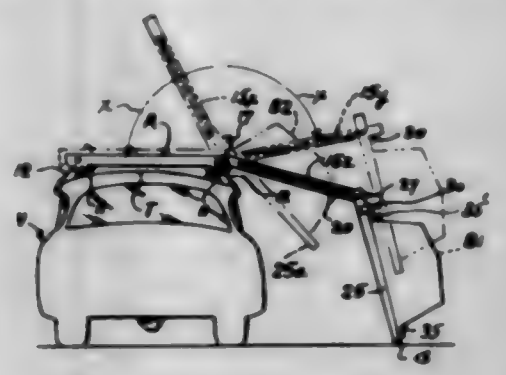
3,141,564
HAND TRUCK
Walter A. Reich, Kansas City, Mo., assignor to A. Reich & Sons, Inc., Kansas City, Mo., a corporation of Missouri
Filed Nov. 20, 1961, Ser. No. 153,565
4 Claims. (Cl. 214—379)



1. A hand truck comprising:
(*a*) a wheeled base;
(*b*) a pair of extensible upright members carried by said base each including an inner tube and an outer tube, said outer tube being shiftable with respect to said inner tube;
(*c*) pump means for introducing fluid into said inner tube whereby to cause the shifting of said outer tube;
(*d*) an articulated handle assembly interconnecting said base and said outer tubes;
(*e*) a gripping head carried by said outer tubes, said gripping head including an inclined supporting plate, a pair of jaws lying in a substantially horizontal plane and swingably coupled to said plate, and shiftable linkage for moving said jaws to an open and closed position; and
(*f*) a cradle carried between said upright members and spanning the distance therebetween, said cradle being vertically spaced from said base and from said head and located at a point therebetween.

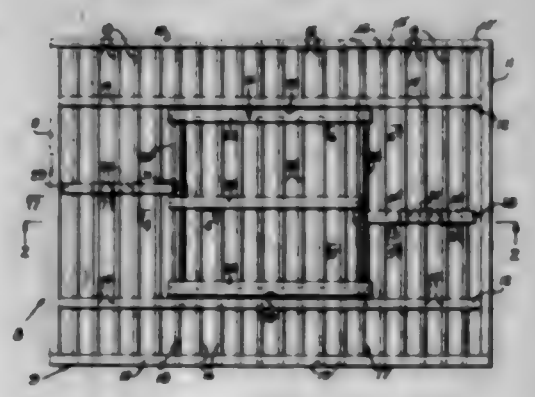
3,141,565
CAR TOP BOAT LOADER
Francis E. Cain, 15118 SE. 41st, Bellevue, Wash.
Filed Oct. 30, 1962, Ser. No. 234,035
6 Claims. (Cl. 214—450)

1. A car top boat loader and carrier mechanism comprising, a pair of cross-bars adapted to be anchored to a car top in longitudinally spaced relationship thereon, a pair of swing bars paired with and normally extending along and supported by said cross-bars, means hingedly securing those ends of said swing bars that are at the boat loading side of the car, to the corresponding ends of said cross-bars for the upward and outward swinging of said swing bars to laterally extending boat loading positions, a leg member for the support of each swing bar when in its laterally extended position, slidingly and hingedly secured at its top end to the swing bar for its inward and outward adjustment therealong, and adapted to be positioned at its lower end on a supporting surface, and means on said legs for the holding support of a boat thereon for loading incident to the inward shifting of said legs to positions inwardly along the extended swing bars and then causing said swing bars to be swung upwardly and across the car top to their normal positions of support on said cross-bars and causing the two legs, with boat as supported thereon, to be slid along said swing bars to positions of rest thereon within their end limits; said swing bars being each mounted by a hinge pin for vertical



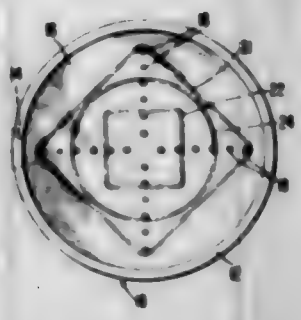
swinging movement on the corresponding cross-bar and said supporting leg for each swing bar being adapted to be rested between its ends on the corresponding hinge pin for its use as a supporting fulcrum in use of the leg as a lever arm for manually actuating the swing bar from its normal position of rest, through its initial upward and outward swinging movement, and for its control in its return to normal position of rest during a boat loading operation.

3,141,566
POULTRY COOP
Ose F. Carpenter, Brightwood, Va.
Filed Jan. 25, 1963, Ser. No. 253,878
3 Claims. (Cl. 217—57)



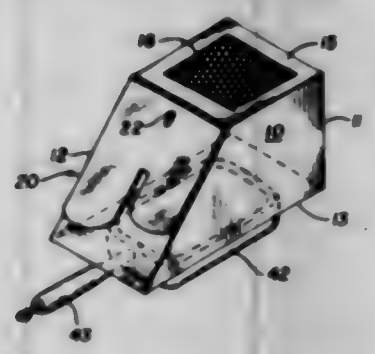
1. In a top panel for a poultry coop, elements defining an access opening, a plurality of spaced, parallel, resilient dowels on at least one side of said elements defining said access opening, a door for the access opening, means hingedly mounting said door on the side of said access opening opposing said dowels, a connecting bar having a plurality of spaced openings defined therein receiving said dowels therethrough, certain of the last-mentioned openings loosely receiving certain of said dowels for permitting limited movement of said connecting bar independently of said certain dowels, and others of said last-mentioned openings receiving others of said dowels in relatively close fit relationship, a resilient keeper dowel spaced toward said access opening from said dowels and parallel to said dowels, said keeper dowel being in abutting engagement with an end portion of said connecting bar, and a latch bar secured to said door, end portions of said latch bar being engageable with said keeper dowel for releasably locking said door in a closed position, said end portions of said latch bar pushing said keeper dowel against the end portion of said connecting bar during closing of said door.

3,141,567
CLOSURE MEMBER
Ned H. Scheerer, 418 N. Eagle Road, Havertown, Pa.
Filed Mar. 28, 1962, Ser. No. 183,307
5 Claims. (Cl. 220—24)



1. A closure comprising:
(*a*) a body member having upper and lower surfaces; and
(*b*) a plurality of radially spaced fingers depending from the said lower surface and arranged in a manner permitting entry of the rim of individual containers of a wide variety of sizes and shapes between a plurality of pairs of adjacent fingers.

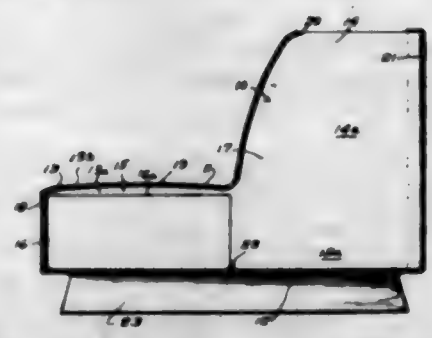
3,141,568
COOKING UTENSIL COVER
Lino U. Chessico, 2333 13th St., Apt. 4, Boulder, Colo.
Filed Sept. 16, 1963, Ser. No. 309,189
4 Claims. (Cl. 220—44)



1. A cooking utensil cover comprising a housing arranged to cover the opening of a cooking pan and having an aperture communicating the interior of the housing with the cooking area of said pan, a filtered vent for said housing, there being an opening in one portion of said housing, a pair of transparent members arranged over said opening in superposed relation, a pin arranged on said housing pivotally supporting said transparent members, one of said transparent members having an elongated slit arranged to seat over said pin for pivotal movement and sliding movement of said member, a first of said members having an elongated slit therein, said first member having one side of the slit shorter than the other side, the other said member having a lateral slit arranged essentially perpendicularly to the slit in said first member, and said second member having a slit extension which is biased to said lateral slit.

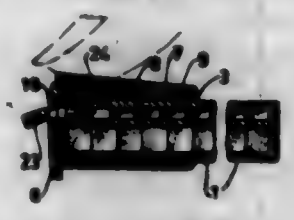
3,141,569
UNITARY ARTICLE AS A TISSUE DISPENSER AND LITTER CONTAINER
Arnold E. Hansen, 2940 Lorain Road, San Marino, Calif.
Filed Jan. 22, 1962, Ser. No. 167,578
8 Claims. (Cl. 221—34)

1. A tissue dispensing and litter container comprising, a shell housing having:
a horizontal base wall of generally angular outline having an area substantially greater than that of the base of a conventional tissue box,
vertical walls rising from said base wall and defining an opening immediately adjacent to said base wall through which a tissue box can be inserted in a horizontal direction onto said base wall,
an integral means within said shell housing for limiting and orienting said tissue box on a predetermined portion of the base wall adjacent to said opening to leave a substantial area of said base wall within the housing free as a litter-receiving space,



and a top wall having a first portion spaced from said base wall provided with a tissue dispensing opening aligned with said predetermined portion of the base wall to closely adjacently overlie the top of the tissue box and affording access to a top tissue opening in the tissue box therebelow,
a second portion of said top wall over said litter-receiving space and beyond said first portion coacting with said vertical walls contiguous with said litter-receiving space extending upwardly substantially higher than said first portion and defining a litter enclosure of substantial horizontal and vertical capacity,
said top wall second portion having a litter inlet opening downwardly into said litter enclosure;
at least a portion of one of the vertical walls defining said litter enclosure comprising a litter-removing discharge opening and having a removable closure panel,
and means releasably retaining said closure panel in place.

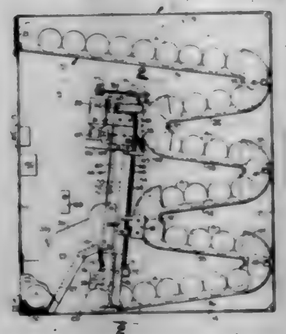
3,141,570
FEEDING DEVICE FOR SMALL UNITS, IN PARTICULAR A DISPENSING DEVICE FOR MEDICINES, SWEETENING AGENTS AND THE LIKE
Per Torsten Engleson, Dunderyd, Stockholms Lan, Sweden, assignor to Bertha Engleson, Geneva, Switzerland
Filed Nov. 17, 1961, Ser. No. 153,007
Claims priority, application Sweden Oct. 6, 1961
8 Claims. (Cl. 221—104)



3. A tablet dispenser comprising a container having walls therein defining an article containing channel, said channel being so dimensioned as to receive a single row of articles, one end of the channel opening through one wall of the container, a closure for said opening, said closure comprising an apertured plate, means mounting said plate on said container and having sliding contact with said end wall of the container, and adapted to move from closing position to dispensing position, the aperture in the plate being adapted to register with the opening in said one wall when the plate is in dispensing position, said mounting means comprising an integral angular extension

plate secured to an adjacent wall of said container and normally held in resilient spaced relation thereto and holding said first-named plate in closed position, said adjacent wall having an opening therethrough extending into the channel in spaced relation to the channel opening, and a resilient projection on the underside of the extension plate operating through said opening in the adjacent wall, said projection entering said channel only upon resiliently depressing said extension wall toward the container wall and simultaneously moving said closure plate to dispensing position.

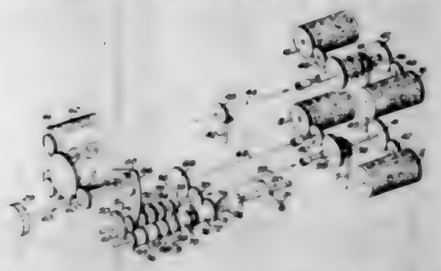
3,141,571
ARTICLE DISPENSING APPARATUS
Harry O. Moore, 2921 Rozzells Ferry Road, Charlotte, N.C., assignor of fifty percent to William E. Hipp, Jr., Charlotte, N.C.
Filed June 25, 1962, Ser. No. 204,720
13 Claims. (Cl. 221—195)



1. Apparatus for dispensing articles comprising
(*a*) a housing having an article dispensing opening therein,
(*b*) a support in said housing adjacent said opening,
(*c*) means to support a supply of articles to be dispensed,
(*d*) a helically grooved rotary shaft vertically positioned within said housing,
(*e*) a follower normally spaced from said shaft,
(*f*) a movable guide supporting said follower and being movable in a path substantially parallel to said shaft,
(*g*) an article grasping device operatively connected to said movable guide and adapted to grasp and elevate an article to be dispensed,
(*h*) means to drive said shaft,
(*i*) electrically operable means to move said follower into engagement with said shaft whereby said shaft imparts an active stroke to said movable guide and thus to said device,
(*j*) manually operable switch means interposed in an electrical circuit to said electrically operable means,
(*k*) means to release the grasped article thus elevated by the grasping device, and
(*l*) means to direct the released article to said support.

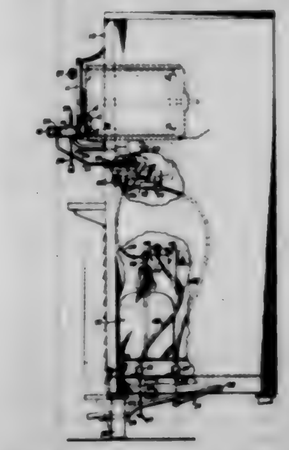
3,141,572
APPARATUS FOR DISPENSING PRESELECTED MIXTURES OF LIQUIDS
Ronald McGavin Garland, Ham Common, near Richmond, and Ernest Stanley Ashford, Oxted, England, assignors, by mesne assignments, to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Oct. 10, 1961, Ser. No. 144,261
Claims priority, application Great Britain Oct. 12, 1960
8 Claims. (Cl. 222—28)

1. In apparatus for dispensing mixtures of two liquids of the type having two flow lines, a flow meter in each line, and a valve mechanism for varying the proportion of liquid flow in the lines comprising valve means in each line coupled together for simultaneous movement, the combination comprising a summing differential connected to both meters and having an output shaft rotated in accordance with the combined output of the meters, a



single variable gear box driven solely by one of the meters, and a control valve differential mechanism having its output connected to the valve mechanism for actuating the same and having one input means connected to the output shaft of the summing differential and having its other input means driven by the gear box.

3,141,573
DISPENSING FREEZER WITH FLAVOR SELECTION
Robert S. Patch, Bainbridge Island, and Harvey F. Swenson, Seattle, Wash., assignors to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington
Filed Nov. 1, 1960, Ser. No. 66,582
8 Claims. (Cl. 222—129.1)



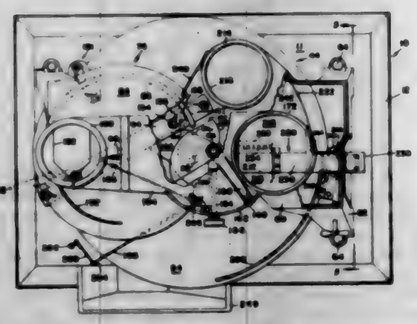
1. In combination, a dispensing freezer having a gate for controlling the delivery of frozen product therefrom, flavoring delivery spouts adjacent said gate and external of said freezer, respective delivery means arranged to supply said spouts with flavoring when activated, a respective pivoted lever for each delivery means interconnected therewith to activate it when the lever is moved, and a single gate opening means operatively associated with said gate and arranged to be activated responsive to swinging movement of any of said levers in the direction activating the respective delivery means whereby such movement of a selected one of said levers results in both delivery of a respective flavoring and of frozen product.

3,141,574
CONTAINER FOR DISPENSING SELECTED QUANTITIES OF FLUID
Robert J. Donoghue, 900 Windsor Ave., Windsor, Conn.
Filed Apr. 22, 1963, Ser. No. 274,696
13 Claims. (Cl. 222—157)



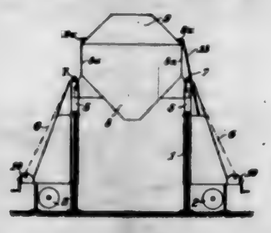
5. A container for dispensing selected quantities of fluid, said container comprising:
a first body portion having flexible wall means defining a first body cavity;
a second body portion having a flexible wall means defining a second body cavity;
connecting means between said first body portion and said second body portion comprising passage means providing communication between said first and said second body cavities;
web means extending laterally of said connecting means and integrally joined with the flexible wall means of said first and second body portions, said web means extending between said first and second body portions;
said first body portion, said web means, said connecting means, and said second body portion comprising integral portions of a unitary body;
outlet means in said first body portion;
at least some portion of said first body portions being sufficiently light transmitting that the contents thereof may be veiwed from its exterior; and
said container including multiple indicia on said first body portion aligned so as to extend consecutively, generally transversely of the axis of said outlet means.

3,141,575
APPARATUS FOR BLENDING MATERIALS
Nathaniel Brewer, Newtown, Pa., assignor to Wilson Products, Inc., Neshanic, N.J., a corporation of New Jersey
Filed Aug. 8, 1962, Ser. No. 215,612
13 Claims. (Cl. 222—132)



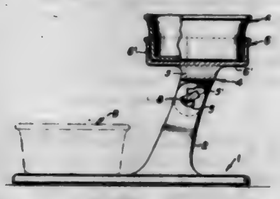
1. Apparatus for blending dry free flowing materials comprising a first hopper having a discharge opening, a first rotatable table for receiving material discharged from said first hopper, a second hopper having a discharge opening, a third hopper adjacent said second hopper and having a discharge opening, a second rotatable table receiving material discharged from said second and third hoppers, means guiding the material received on said second table from said second and third hoppers to join and form a mixture on said second hopper, means at the junction of said materials on said second table for regulating the proportion of second hopper material to third hopper material in said mixture thereof, one of said tables being positioned higher than the other, means for directing the material received on said higher table onto said lower table, and means for discharging from said lower table the material received thereby from its associated hopper means and from said higher table.

3,141,576
MOVABLE STORAGE BIN AND HOPPER
Carl-Hermann Heise, 12 Kalandstrasse, Alfeld (Leine), Germany
Filed Jan. 19, 1962, Ser. No. 167,264
1 Claim. (Cl. 222—169)



A movable storage bin apparatus comprising an upright frame having spaced front and rear supports, wheels on both of said supports to render the apparatus movable, a storage bin slidably mounted between said front and rear supports by means suspending said bin from each side thereof adjacent said front and rear supports and means connected to said suspending means for moving said bin from a lower position to an elevated dispensing position for filling vehicles that may be driven thereunder, said bin comprising upper and lower portions having telescoping relation to each other to vary the capacity thereof, and the lower portion of said bin having walls converging downward to a discharge means, said bin having an inlet opening at its upper end, said front and rear supports of said frame being free of connecting supports below the lower end of said bin when said bin is in said elevated position whereby vehicles for loading may be driven beneath said bin between said spaced front and rear supports.

3,141,577
ADJUSTABLE CONTAINER HOLDER
Susana W. Watson, 2019 Grace Ave., Hollywood 28, Calif.
Filed Jan. 29, 1962, Ser. No. 169,289
3 Claims. (Cl. 222—166)



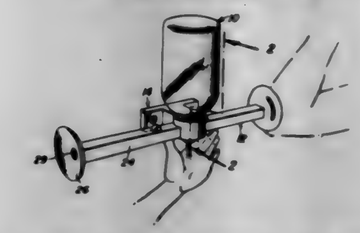
1. A light, simple, adjustable household container holder adapted to facilitate the safe removal of the con-

tents of an open container by one person, only, without spilling said contents, comprising:

(*a*) a base member with a single upright column rigidly attached thereto, said column having a shaped aperture adjacent the top thereof; and

(*b*) a support member including: means to receive a container, means for removably mounting the support member on said column, said mounting means consisting of a yoke having a pair of parallel extensions, with a bar attached between said extensions; said bar, between the extensions of said yoke, removably fitting into said shaped column aperture, the aperture and the bar being shaped so that the fit of said bar in said aperture, when the support member is mounted on the column, permits free rotation of the support member between substantially a horizontal position and substantially a vertical position, said container receiving means being fixedly arranged with respect to said removable mounting means to maintain the support member in each of said positions by the weight of the support member, means connected with said shaped aperture for permitting said support member to be removed from said column merely by tilting and lifting the support member.

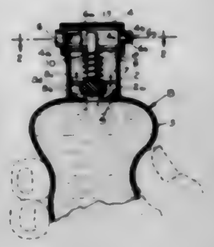
3,141,578
SOAP DISPENSER
James D. Quinn, 223 N. 7th St., St. Joseph, Mo.
Filed Dec. 21, 1962, Ser. No. 246,611
6 Claims. (Cl. 222—175)



1. A soap or liquid dispensing unit comprising a bracket adapted to be attached to a supporting surface, a socket formed integral with the bracket, an aperture formed internally of the socket adapted to removably receive the neck of a soap or liquid container, at least one opening being formed axially through said socket whereby soap or liquid may be dispensed from the container through said opening, said socket having a transversely extending opening formed therethrough and communicated with the interior thereof, an elongated bar slidably disposed through said transverse opening, said bar having at least one transversely extending aperture formed therethrough selectively registrable with said opening in said socket to permit liquid or soap to be intermittently dispensed therethrough upon reciprocation of said bar, said bar being of a length so as to have its opposite ends, simultaneously projecting considerably outwardly from opposite sides of said socket and adapted to at least substantially span the distance between a person's shoulders and including enlarged abutment members on its opposite end portions each, specially adapted to accommodate the elbow of a person whereby the bar may be reciprocated by forces exerted by the elbows.

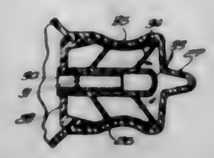
3,141,579
LIQUID MEASURING DISPENSERS
John P. Medlock, Rte. 2, Taylors, S.C.
Filed Oct. 12, 1960, Ser. No. 62,173
4 Claims. (Cl. 222—207)

1. Apparatus for dispensing a measured quantity of liquid comprising: a liquid storage container having flexible walls; said storage container having an opening therein; a dispensing mechanism secured to said opening in said storage container for dispensing a measured quantity of liquid; said dispensing mechanism comprising a neck portion; tapered annular flange means projecting inwardly from said neck portion at the junction of said dispensing mechanism and said storage container; valve means normally biased against said tapered annular flange for forming a liquid tight seal between said storage container and said dispensing mechanism; said valve means being positioned relative to said annular flange so that the application of inward pressure to said flexible walls of said container will force said valve means away from said annular flange through the application of liquid



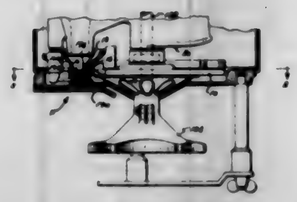
pressure against the former, whereby a measured quantity of liquid from said container may be forced into said dispensing mechanism; rotatable valve means located in said dispensing mechanism for permitting said measured quantity of liquid in said mechanism to be dispensed therefrom said rotatable valve means comprising a cap secured to the top of said dispensing mechanism, said cap having an opening therein, an annulus having an opening mounted within said cap, a lug secured to said annulus and projecting through said cap for rotating said annulus so that said openings are aligned thereby permitting liquid in said mechanism to be dispensed therefrom, and air valve means mounted within said lug to permit ingress and egress of air during the operation of said mechanism.

3,141,580
MEASURING PUMP DISPENSER
Howard L. Rogers, 41 Maple Ave., Lincoln, R.I.
Filed Dec. 9, 1963, Ser. No. 329,140
20 Claims. (Cl. 222—313)



1. A dispensing pump for viscose material comprising a collapsible tube container, an annular housing mounted at the dispensing end of said container, said housing being of a highly resilient material, an inlet into said housing from said container, an outlet from said housing in an end wall thereof opposite said inlet, a valve member slidably mounted in said housing between said inlet and outlet, said valve member normally closing said outlet, and means for moving said valve from said outlet to said inlet when said housing is squeezed to permit the contents to flow out of said outlet, said means returning said valve to said outlet from said inlet on release of the squeezing action.

3,141,581
MEANS FOR VARYING THE AMOUNT OF MATERIAL MEASURED OUT IN DISPENSING APPARATUS
William J. Emmons, Alameda, and Bernard S. Gallagher, Piedmont, Calif., assignors to Salter Machine Company, Alameda, Calif., a corporation of California
Filed June 27, 1961, Ser. No. 120,054
5 Claims. (Cl. 222—283)



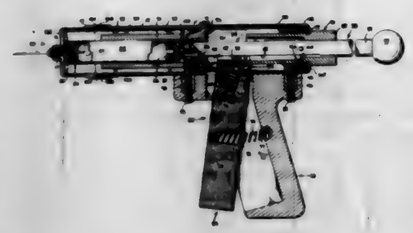
1. In a dispensing apparatus for metering out a predetermined amount of hygroscopic granulated material into each of a series of containers, means for varying the amount of material being metered out by said dispensing apparatus into each said container, said means comprising: a measuring disc having a plurality of spaced apart dispensing stations located around the axis of said disc; each said station having a plurality of bore holes of substantially equal diameter for receiving an amount of material to be dispensed, the total volume of all said bore holes at each said station comprising the maximum amount of said material which said dispenser is capable of dispensing at each said station; removable plug means for insertion in said pockets for varying the amount of said material being dispensed at each station in proportion to the number of said pockets receiving a said plug means, said plug means being formed of a compressed material that is dissolvable in the material already present in the containers and which may be added to said containers without rendering its contents unfit for human consumption.

3,141,582
SLIDING TYPE DISPENSER
Adaline R. Kroodsma, 1238 Seneca SW., Wyoming, Mich., and Clemens A. Warnke, 610 Atwood NE., Grand Rapids, Mich.
Filed May 22, 1961, Ser. No. 111,616
2 Claims. (Cl. 222—284)



2. A dispensing device comprising: stopper means adapted to fit in and close the mouth of a container; said stopper means having an aperture slidably receiving the plunger of a dispenser; said plunger extending into said container and communicating with substance contained therein; a plurality of through-slots of different sizes formed in said plunger for receiving said substance, and lands formed between and at the ends of said slots; said stopper means having an inner relief recess to form a flow path for substance within said container to a certain plunger slot positioned within said recess, and to form a temporary bottom for said certain slot so only that substance is retained therein while passing through the remaining slots; guide grooves and cooperating ribs between said stopper means and said plunger for directing the movement of said plunger and orientating said certain slot with respect to said recess; and handle means secured to said plunger for inserting said plunger and withdrawing said plunger and substance from said container a certain amount for dispensing a controlled volume of substance depending on the certain slot in said recess.

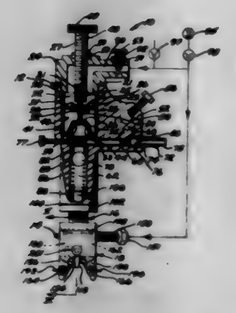
3,141,583
INJECTION GUN
William S. Mapel and Robert D. Jenkins, both of Indianapolis, Ind., assignors, by mesne assignments, to William L. Brickson, Indianapolis, Ind.
Filed Mar. 23, 1962, Ser. No. 181,898
5 Claims. (Cl. 222—369)



1. A dispensing gun comprising a pistol-like body having a downwardly extending grip and having a forwardly projecting barrel to receive a cartridge, a plunger movable longitudinally of the barrel and into a cartridge contained therein to dispense the contents thereof from said barrel, equally spaced ratchet teeth on said plunger, a pawl below said plunger in engagement with said teeth, a lever pivoted in said body and having a short lever arm reciprocably receiving said pawl and a long lever arm extending downward into position to be manually squeezed toward said grip, a spring received within said short lever arm and acting between said short lever and pawl to urge said pawl against said teeth, an annular stop member mounted on said body at the rear of said barrel for rotation about a forwardly extending axis, said stop member having a plurality of progressively forwardly spaced stop surfaces on the forward face thereof, a spring acting between said grip and long lever arm to yieldably retain said short lever arm in engagement with the lowermost of said stop surfaces, said annular stop member having a plurality of apertures around its outer periphery, each of said apertures corresponding to one of said stop surfaces, a ball reciprocably mounted on said body, resilient means acting between said body and ball and urging said ball against said annular stop member at such a location as to selectively engage said apertures for retaining said annular stop member with a selected stop surface downward, means fixed with relation to said barrel for limiting the forward travel of said short lever arm, said stop surfaces limiting the movement of said short arm in one direction while said fixed means limits the movement of

said short arm in the other direction whereby the travel of said lever and plunger for a given squeeze of said lever can be adjusted by rotation of said annular stop member.

3,141,584
SPRAY GUN AND NOZZLE
Forrest E. Wing, 1644 Blaine SE., Grand Rapids, Mich., assignor of one-third to F. C. Bissell, Caledonia, Mich., and one-third to Robert H. Mayer, Grand Rapids, Mich.
Filed June 9, 1961, Ser. No. 116,116
4 Claims. (Cl. 222—309)



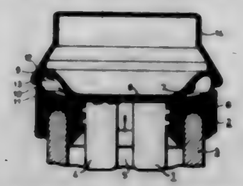
1. A variable, controlled volume dispensing gun for abrasive, flowable materials comprising: housing means containing cylindrical chamber means and having a cap portion on one end; a reciprocable actuating piston in said chamber means and sealingly engaged with the peripheral wall of said cylindrical chamber means; pressurized-fluid passageway means communicable with said chamber means on one side of said piston; abrasive material inlet means communicating with said chamber means on the opposite side of said piston; a diaphragm in said chamber means sealingly engaged across said chamber adjacent one end thereof isolating said inlet and outlet means from contact with said piston; said diaphragm adapted to flex toward said piston under the influence of liquid through said liquid inlet means, and to be reversely flexed by said piston under the influence of pressurized fluid; one side of said piston having an extension engaging said diaphragm to shift said diaphragm upon being actuated by fluid pressure on said one side of said piston; a threaded adjustment volume control stud having an adjusting head outside said cap portion, and extending through and threadably engaged with said cap portion and extending axially into said cylindrical chamber; the said one side of said piston engaging said stud in one extremity of movement of said piston whereby the movement of said piston is regulated by adjustment of said stud to regulate the movement of said diaphragm and thus the volume of abrasive material from said gun; a check valve associated with said inlet means to allow only inward flow; a biased check valve associated with said outlet means to allow only outward flow when said diaphragm means is flexed by said piston; and said biased check valve means being operable only by a pressure greater than the pressure required to open said inlet check valve means, whereby abrasive material under pressure can be forced into said inlet means to shift said diaphragm and thus said piston until said piston engages said adjustable stud, so that pressurized fluid through said passageway and on one side of said piston can shift said piston and said diaphragm in the opposite direction to dispense a controlled volume of abrasive material.

3,141,585
MEASURING DEVICE FOR HAZARDOUS LIQUIDS
George W. Emmert, Box 243, Rte. 5, Catalina Foothills, Tucson, Ariz.
Filed June 15, 1962, Ser. No. 202,896
12 Claims. (Cl. 222—434)



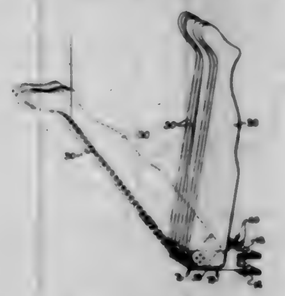
12. In a measuring device of the character described,
(*a*) a single piece body sub-assembly having
(1) a bottom skirt, and
(2) co-axial smaller projections forming an annular valve seat,
(*b*) a generally frusto conical single piece measuring chamber sub-assembly having
(1) a flange at its larger diameter end, and
(2) means forming an internal tapered valve seat at its smaller diameter,
(*c*) means securing said skirt and flange together to form a mixing chamber defined by said body and measuring chamber sub-assemblies,
(*d*) a valve stem sub-assembly reciprocable within the body and having
(1) a tapered valve engageable against said tapered valve seat,
(2) a disc valve engageable against said annular valve seat, and
(3) said valves being spaced to close one as the other opens,
(*e*) means providing a passageway through said body with one end adapted for communication with a source of liquid and one end communicating with the measuring chamber within said annular valve seat.

3,141,586
CONTAINER CLOSURE HAVING PRESSURE RELIEVING MEANS
Stig Wetterek, Mullsjö, Sweden, assignor to Aktiebolaget Jönköpings Vacuumindustri, Jonkoping, Sweden, a firm of Sweden
Filed Sept. 20, 1962, Ser. No. 224,945
Claims priority, application Sweden May 25, 1962
9 Claims. (Cl. 222—476)



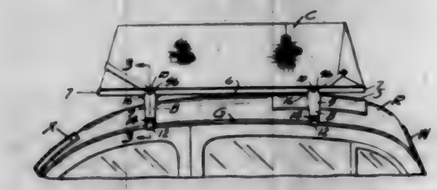
1. A closure device for a container having an opening and a neck enclosing said opening, said device comprising an annular body fitted upon the top of said neck and having at least two annular sealing surfaces at different radial distances from said opening, a valve member having at least two annular sealing portions radially spaced from each other and adapted to engage said sealing surfaces, said valve member having an annular cavity between said annular sealing portions which is adapted to be closed by pressing said sealing portions against said sealing surfaces, means connecting said valve member to said annular body and manually operable means connected with said valve member for lifting the sealing portions thereof off the corresponding sealing surfaces by a step-by-step movement.

3,141,587
ADJUSTABLE HOSIERY BOARDING FORM ASSEMBLY
Walter H. Albertsen and Leslie J. Albertsen, High Point, N.C., and Paul L. Paulson and Henry Richter, Kankakee, Ill., assignors to Paramount Textile Machinery Company, Kankakee, Ill., a corporation of Illinois
Filed Jan. 10, 1961, Ser. No. 81,831
9 Claims. (Cl. 223—75)



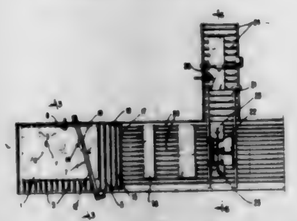
1. An improved form assembly for use in finishing garments wherein a plurality of the form assemblies are desirably arranged in alinement adjacent each other in row formation, said improved assembly comprising a form shaped to receive hosiery and the like thereon and normally being disposed in upright position, an elongate bracket supporting the lower end of said form, means pivotally connecting the lower end of said form to said bracket adjacent one end of the bracket for pivotal movement of the form about a horizontal axis, stop means carried by said bracket and adapted to engage said form and limit pivotal movement thereof in either direction, and a pair of eccentric screws for adjusting the position of said stop means whereby the extent of pivotal movement of the form in either direction may be adjusted for varying the angular disposition of the form and for readily alining the form with adjacent forms.

3,141,588
CAR-TOP LUGGAGE CARRIER WITH CLAMPING, SUPPORT BRACKETS
Urban C. McMiller, Minneapolis, Minn., assignor to Karpak Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 29, 1962, Ser. No. 198,585
3 Claims. (Cl. 224—42.1)



1. In a car-top luggage carrier having a base frame with longitudinal side members of generally rectangular cross sectional shape,
clamping support brackets for rigidly securing said base frame to and in spaced relation with a car top and comprising a plurality of unitary structures, at least a pair thereof being rigidly interconnected in widely spaced relation with each of the longitudinal side members of said frame,
each of said brackets having an upstanding shank of U-shape cross section and including a central section and downwardly converging side or flange sections,
the upper ends of said side sections being rectangularly notched and interlocked with one of the side members of said base frame,
said central section having an upper tongue portion attached to one of said side frame members,
said shank terminating in a foot portion shaped to interfit the upper side of a rain gutter provided by the car-top,
an upwardly extending link within said shank and having a hook element connected with the lower end thereof for engagement against the lower side of said rain gutter,
said link having a threaded upper end extending in proximity to the upper portion of said shank,
and an adjustable clamping element extending through one side of said shank near the upper portion thereof and threadedly engaging said link to produce relative up and down movement upon said hook.

3,141,589
METHOD OF AND APPARATUS FOR CUTTING GLASS SHEETS
Friedrich Jochim, Herzogenrath, Germany, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed May 31, 1960, Ser. No. 32,672
Claims priority, application France June 6, 1959
23 Claims. (Cl. 225—2)

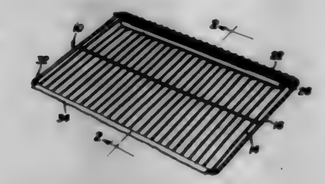


10. A glass sheet estimating and cutting method comprising defect detecting of the sheet, marking the sheet whenever an objectionable defect condition is detected with indicia having first and second characteristics, detecting the indicia having said first characteristic to control first cutting means responsive thereto, and detecting the indicia having said second characteristic to control second cutting means responsive thereto, said first and second cutting means being adapted to cut the sheet in mutually orthogonal first and second directions, respectively, and said marking being adapted to provide the optimum division of the sheet and minimum loss of useful glass therefrom.

3,141,598
OVEN TRAY
Marvin Andy Anderson, 35 Kildare Ave., Joliet, Ill.
Filed May 26, 1961, Ser. No. 112,903
4 Claims. (Cl. 225—6)

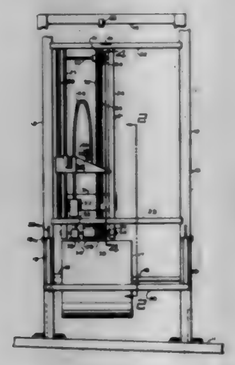
1. A tray for cooking purposes comprising a generally rectangular frame including a plurality of wire-like support members extending between and secured to the opposite longitudinal edges of the frame so as to present a generally flat food receiving surface, said members, at a

point spaced slightly inward of one longitudinal edge of the frame, having aligned depressions therein forming an upwardly opening elongated recess for receiving and supporting a supply roll of sheet material below the food receiving surface, and a smooth elongated guide rod fixed to the frame above the support members and parallel to



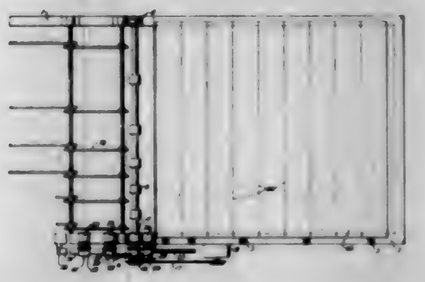
said one longitudinal edge between the recess and said one longitudinal edge, said rod being spaced upwardly from the support members so as to allow a passing of the sheet material therebetween upon a dispensing from the supply roll, and a subsequent reversal of the sheet material over the rod and into overlying relation to the recess and food receiving surface.

3,141,591
DISPENSING MECHANISM
Alex J. Lindenberger, Loveland, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 12, 1962, Ser. No. 172,590
4 Claims. (Cl. 225—12)



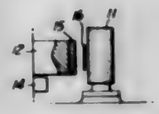
1. A device for dispensing successive sections of elongated material of predetermined equal length comprising in combination:
(1) a trip member movable along a path between two positions spaced apart a distance along said path corresponding to said predetermined length,
(2) means including a roller contacting the material to effect movement of said trip member from one of said positions to the other as said predetermined length is dispensed,
(3) a brake member operable when actuated to stop movement of the material,
(4) means responsive to the arrival of said trip member at said other position to actuate the brake member and to effect separation of said trip member from said material,
(5) and means to bias said trip member toward said one position for return of the trip member to said one position on separation from the material.

3,141,592
APPARATUS FOR BREAKING SHEET GLASS ALONG PARALLEL LINES
Theodore W. Glynn and Carl C. Swann, Kingsport, Tenn., assignors to American-Saint Gobain Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,427
7 Claims. (Cl. 225—98)



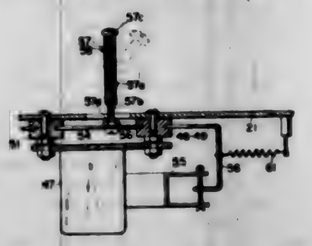
1. Apparatus for breaking traveling sheet glass along parallel uniformly spaced transverse score lines, comprising feed rolls for engaging the upper and lower surfaces of such a glass sheet to feed it forward in a flat plane, a pair of vertically aligned breaker rolls in front of the feed rolls for engaging said surfaces at only one edge of the sheet, the distance between vertical axial planes through said feed rolls and breaker rolls being equal to the distance between the score lines of the glass sheet, and a pressure roll in front of the breaker rolls for engaging the upper surface of the sheet at only said one edge, the vertically aligned breaker rolls being located halfway between said feed rolls and pressure roll, and the bottom of the pressure roll being disposed slightly below said plane to deflect downward the front corner of the sheet striking the pressure roll to cause the sheet to break first along the score line at said edge between the breaker rolls, the breaker rolls extending across the sheet only far enough to cause said break to start at said one edge and then run across the sheet.

3,141,593
CAPSTAN CONSTRUCTION
Walter T. Selsted, Redwood City, and Joseph A. Dinsmore, San Carlos, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Dec. 4, 1958, Ser. No. 778,947
4 Claims. (Cl. 226—193)



4. In the structure of a rotary member for rolling pressure engagement with a recording tape to control the travel thereof, the improvement comprising a peripheral surface of hard wear-resistant material on said rotary member with a distribution of microscopic craters in said peripheral surface of high density to provide a minutely uneven surface finish for engagement with the tape, said surface finish being in the range of 20 to 30 microinch rms.

3,141,594
TAPE LIFTER FOR TAPE RECORDER
Stanley Berger, Brooklyn, N.Y., assignor to Auricord Corporation, Kings County, N.Y., a corporation of New York
Filed May 4, 1962, Ser. No. 192,490
14 Claims. (Cl. 226—199)



1. In a tape recorder or the like having at least one tape head, tape lifting means for lifting tape off said head, said tape lifting means comprising at least one resilient tape lifter, the resiliency of said tape lifter being such as to absorb the impact occurring when said tape lifter engages the tape thereby preventing slackening, breaking and stretching of the tape when said tape lifter is in operation and means for supporting said tape lifter.

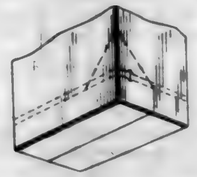
3,141,595
CONTAINER
Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed July 20, 1962, Ser. No. 211,348
6 Claims. (Cl. 229—1.5)



1. A one piece sheet formed container comprising a hollow member having a bottom wall and side wall extending upwardly therefrom to form an open top, said container being characterized in that a cross section of said side wall of the container exposes a first portion having a predetermined thickness and a relatively smooth uninterrupted radially inward and radially outward surface, said side wall having a second portion having relatively smooth radially inward surface and having a radially outward surface having a plurality of closely spaced radially outwardly projecting portions integral therewith, said projecting portions at their greatest radial extent providing an increased thickness of the side wall of the container as compared to said predetermined thickness and the user who grasps said side wall of the container by the projecting portions is separated from the contents of the interior of the container by the increased thickness of said projections.

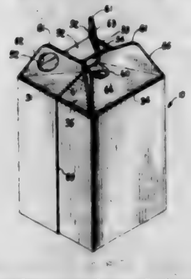
3,141,596
DISPENSING CONTAINERS
James K. Murphy, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Jan. 3, 1963, Ser. No. 249,151
5 Claims. (Cl. 229—17)

1. A dispensing container including,
a series of tubularly arranged walls connected along generally parallel lines of fold,
a bottom closure connecting said walls,
an elongated tear strip intersecting one of said lines of fold and extending at substantially right angles thereto, and



a pair of fold lines in the walls connected by said one fold line converging upwardly from the ends of said tear strip to a common point on said one line of fold which is at a greater distance from said bottom closure than said tear strip,
said converging fold lines, with said tear strip and said one fold line, defining generally triangular flaps foldable inwardly of the walls to which they are connected, whereby when said flaps are folded inwardly they form a canopy overlying the corner opening formed by the inward folding of the flaps.

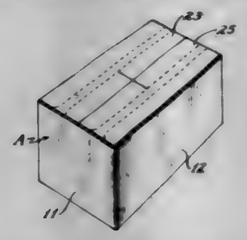
3,141,597
DISPENSING CONTAINER
Robert E. Palmer, Bay Village, Ohio, assignor to Palmer, Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 11, 1963, Ser. No. 308,170
1 Claim. (Cl. 229—17)



A unitary dispensing container of plasticized fiberboard, or the like, comprising, a tubular body having a bottom closure thereon and four side panels of substantially equal width; a plurality of panel extensions corresponding to said side panels, said extensions being scored and folded to form a top closure for the container, comprising, a pair of opposed triangular side roof panels, inclined toward each other; a pair of opposed isosceles trapezoidal front and rear roof panels, inclined toward each other, and abutting the side roof panels; each of the abutting roof panels being joined through two flanking triangular sections formed integral therewith and folded upon themselves, face to face, to define substantially triangular, two-ply, upstanding ears having their apices lying in a common plane parallel to that of the bottom of the container, the ears bounding the inclined edges of the rear roof panel having finger holes centered therein; the front trapezoidiform roof panel having a substantially rectangular extension along its upper edge, scored and folded upward and downward against itself and then outward, to define a two-ply upstanding lip having a downwardly inclined pull tab lying against the upper face of the front roof panel; the rear trapezoidiform roof panel having a rectangular extension along its upper edge, scored and folded upward and downward over the upstanding lip, to define a protective covering therefore; the several op-

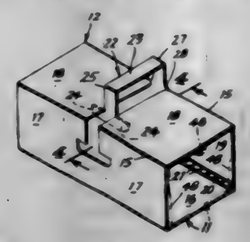
posed faces of the ears, lip and protective flap being heat sealed to form a liquid-tight closure that may be easily opened by pulling forward on the pull tab, whereupon the seal between the protective flap and the lip is broken, leaving the front roof panel free to be tilted forward to form a pouring spout having the lip centered between two peeled back sections of the bounding imperforate ears.

3,141,598
EASY OPENING CONTAINER
Walter H. Rasmussen, St. Paul, and Ronald V. Johnson, Minneapolis, Minn., assignors to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Jan. 3, 1963, Ser. No. 249,178
6 Claims. (Cl. 229—51)



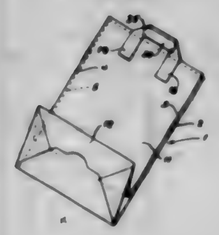
1. An easy opening container including,
a rectangular tubular container including parallel relatively longer side walls and parallel relatively shorter end walls,
closing flaps on said side and end walls, the closing flaps of the side walls extending substantially into end abutting relation when folded into a common plane,
a removable tear strip extending across each side wall closing flap parallel to the lines of fold connecting these side wall closing flaps to said side walls,
each said tear strip being formed by spaced side by side weakened lines of separation, and
weakened lines of separation extending inwardly from the free ends of the side wall closing flaps to the tear strip.

3,141,599
CONTAINER FOR PACKAGING MUSHROOMS
Carl S. Hasselhoff, Glenn Gardens, Glen Burnie, Md., assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Feb. 23, 1961, Ser. No. 91,030
1 Claim. (Cl. 229—52)



A container for packaging mushrooms or the like, comprising an open-topped receptacle formed from a blank of sheet material divided by slits and scored fold lines into bottom, side and end wall panels, an open-ended circumferentially continuous sleeve-like jacket enclosing the sides, top and bottom of said receptacle and formed from a blank of sheet material having scored fold lines dividing the same into top, bottom and side wall panels, and a pull-out handle formed in said jacket by substantially parallel slits extending medially across said top panel and partway down one side wall panel and by abruptly angled extensions of said slits defining the cross bar of a T, the stem of which is defined by said substantially parallel slits, said stem having a pair of transverse fold lines, one of said pair of fold lines being at a certain distance from the adjacent side fold line of said top panel and the other of said pair of fold lines being an equal distance from the adjacent edge of the said cross bar, whereby said handle, when moved to operative position, will have its bight portion in parallel relation to the top of said container, said cross bar being easily pushed to the inside of said jacket and said stem being easily lifted to pull said cross bar up and over the adjacent edge of said receptacle and partway across and under said top panel, whereby said stem constitutes a carrying strap-type handle for said container, the side walls of said receptacle being sufficiently flexible to permit inward flexing of the upper central edges thereof to prevent damaging said cross bar while being pulled upwardly over said adjacent edge.

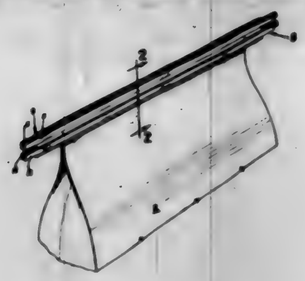
3,141,600
DISPOSABLE BAG TYPE RECEPTACLES
Daniel Rosenthal, 525 Whitehall St., Lynbrook, N.Y.
Filed Apr. 18, 1962, Ser. No. 188,414
5 Claims. (Cl. 229—55)



1. A receptacle for waste and the like formed to be suspended in open position from one of the elongated edges bordering the open mouth thereof, which comprises, a folding paperbag closed at one end and open at the other to provide said open mouth, a tab formed integrally with the wall of the bag and extending from one of the elongated edges of said bag bordering said open mouth, said tab being provided with laterally extending wings, said wings being folded downwardly to overlie the surface of said bag below said elongated edge, said wings being secured to said surface and the face of said tab exposed outwardly with respect to the interior of said bag having an adhesive element with an outwardly exposed adhesive face applied thereto, said adhesive element overlying said tab and portions of said wings folded down over the ends of said tab.

3,141,601
BAG TOP CLOSURE
Richard H. Ayres and Harold K. Fox, Minneapolis, Minn., assignors to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed Sept. 6, 1960, Ser. No. 54,890
8 Claims. (Cl. 229—62)

4. A closed flexible walled bag enclosing material contained therein, the top walls of said bag being pressed together in flatwise relation, the inside surfaces of said top walls of said bag being thermosensitive, said flattened bag top walls being adhesively secured together along a plurality of relatively wide fusion bonding areas adjacent the top edge of the bag and extending the width of the bag, and a strip of thin flexible thermosensitive tape extending over and further sealing the flattened top end of said bag, said bag top and tape being adhesively secured together by a plurality of relatively wide parallel vertically



spaced independent fusion bonding areas each extending the width of the bag body and coextensive with and overlying the bonding areas adhesively securing the bag top walls together.

3,141,602
WRAPPER SHEET
Andrew W. Anderson, West Caldwell, N.J., assignor to Scandia Packaging Machinery Company, North Arlington, N.J., a corporation of New Jersey
Original application Jan. 13, 1961, Ser. No. 82,422. Divided and this application Jan. 18, 1963, Ser. No. 252,439
2 Claims. (Cl. 229—87)



1. A wrapper for forming a resealable package comprising a single rectangular sheet element including parallel upper and lower margins normal to longitudinal side edges, a first line of perforations spaced below the upper margin of said sheet element and parallel thereto, said first line of perforations extending across the entire width of said sheet between said longitudinal side edges, said sheet element including two collinear lines of perforations spaced from and parallel to said lower margin and said first line perforations, said two collinear lines of perforations terminating short of each other.

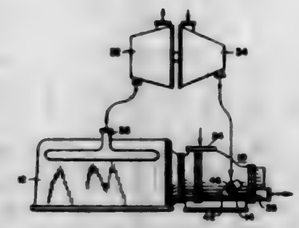
3,141,603
BANKING ENVELOPE
Harlan M. Whitmore, Minneapolis, Minn., assignor to Curtis 1000, Incorporated, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 10, 1962, Ser. No. 186,553
1 Claim. (Cl. 229—70)

A foldable one-piece assembly especially adapted when in folded form for the printing and accurate positioning of identifying indicia thereon by a bank and for the subsequent use as a bank-by-mail envelope by a customer, comprising in combination:
a rectangular envelope comprising
a front panel and a back panel which are superposed and connected together along their bottom edge and both end edges, the upper edges of said panels being closable, one of said panels being slightly narrower than the other of said panels,
a sealing flap connected to and integral with the upper edge of the wider of said panels,
foldably and separably connected to the upper edge of the narrower of said panels a first rectangular supplemental panel which
is shorter and narrower than said wider panel, whereby it can fit inside said envelope without folding,
is slightly wider than said narrower panel so that when it is folded against said narrower panel along said upper edge, it extends below the bottom edge of said envelope, and
extends slightly beyond one end edge of said envelope,



foldably and separatably connected to the opposite edge of said first supplemental panel along a fold line, a second rectangular supplemental panel which is
shorter and narrower than said wider panel, whereby it fits inside said envelope without folding, and
in line with the end edge of said first supplemental panel extending beyond the end edge of said envelope,
whereby, when said first supplemental panel is folded against said narrower panel and said second supplementary panel is folded against said first supplemental panel, magnetic indicia can be printed in accurate predetermined position on said second supplemental panel, stops bearing against the extended edge of said supplemental panels and said fold line and thereby serving to position said assembly respectively laterally and vertically.

3,141,604
COMPRESSOR SUPERCHARGING SYSTEM
Raymond F. Williams, Quincy, Ill., assignor to Gardner-Denver Company, a corporation of Delaware
Filed Sept. 26, 1962, Ser. No. 226,361
7 Claims. (Cl. 230—45)



1. A gas compressor supercharging system comprising:
(a) first gas compressor means providing a source of

charging gas having a predetermined pressure above atmospheric pressure

(*b*) second gas compressor means having

(1) casing means provided with spaced inlet and discharge ports

(2) operating means cooperable with said casing to provide a working chamber wherein a volume of gas is supplied through said inlet port and is compressed, after said inlet port is cut off, to develop a progressively increasing internal pressure in response to displacement of said working chamber from said inlet port to said discharge port

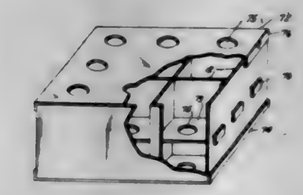
(3) charging port means opening through said casing means to said working chamber as the latter is displaced to register with said charging port means

(4) said charging port means being located with respect to said working chamber to open thereto before the internal developed pressure therein is equal to the pressure of said charging gas thereby to provide a gas pressure differential between said source and said working chamber which is effective to induce flow of charging gas into said working chamber

(5) said charging port means being located with respect to said working chamber to minimize said gas pressure differential whereby expansion of charging gas within said working chamber is minimized

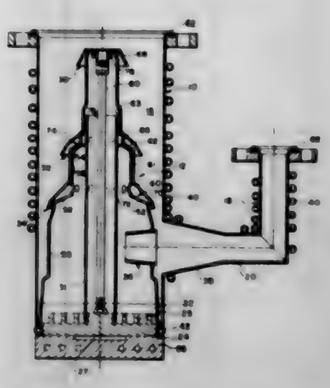
(*c*) means communicating said charging gas from said source to said charging port means.

3,141,605
MAGNETRON TYPE GETTER ION PUMP
Tatuo Asamaki, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan
Filed Aug. 18, 1961, Ser. No. 132,468
6 Claims. (Cl. 230—69)



1. A magnetron type getter ion pump comprising a plurality of pump elements each of which consists of a cathode of predetermined length, said cathode being cylindrical in shape, at least the surface of said cathode being formed of material having high gettering action, a cylindrical shaped metallic anode arranged around the cathode and electrically insulated therefrom; the longitudinal axes of said anode and said cathode being arranged substantially in parallel; first means for generating a magnetic field in the region of said pump element, a vacuum vessel for housing said pump elements; said vessel having at least one cylindrical portion extending from the body of said vessel suitable for connection to a vacuum system to be evacuated; second means positioned outside of said vessel for applying a voltage across said anode and said cathode, the longitudinal axes of each of said pump elements being arranged in parallel relation with said magnetic field, a planar member arranged perpendicular to said longitudinal axes and having apertures for receiving said cathode, each of said apertures having a diameter greater than the diameter of said cathode; said planar member being secured to said anode at one end thereof.

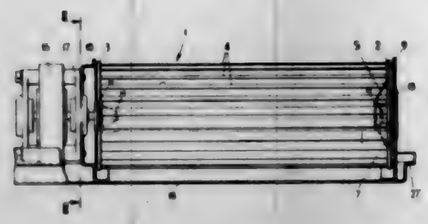
3,141,606
HIGH VACUUM
Arthur A. Lundfors, Sharon, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 17, 1961, Ser. No. 89,981
9 Claims. (Cl. 230—101)



1. A high vacuum diffusion pump comprising a pump body, a vapor jet assembly positioned within said pump body, said jet assembly being smaller than said pump body and defining a pumping chamber with said pump body, at least one jet forming means, located at the top of said jet assembly, arranged to discharge a jet of diffusion pump oil vapors downwardly into said pumping chamber and at least one additional jet forming means, located at a central portion on said jet assembly, arranged to discharge a jet of diffusion jump oil vapors downwardly into said pumping chamber, a boiler for vaporizing diffusion pump oil at the bottom of said pump body, the bottom of said jet assembly being open to vapors generated in said boiler, a foreline connected to said body adjacent the bottom of said pumping chamber, at least one of said additional jet forming means comprising upper and lower outwardly flared portions defining a vapor space which communicates with the interior of the jet assembly by restricted openings, said upper and lower flared portions converging as they extend outwardly from the axis of the jet assembly to form a converging nozzle throat and then diverging to form a diverging downwardly directed nozzle.

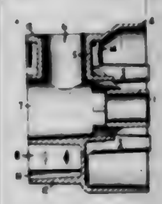
3,141,607
BLOWERS
Leonard Kenneth Morgan Masters, New Barnet, England, assignor to The General Electric Company Limited, London, England, and S. Smith & Sons (England) Limited, London, England
Filed Apr. 10, 1963, Ser. No. 272,039
Claims priority, application Great Britain Apr. 13, 1962
1 Claim. (Cl. 230—117)

A blower comprising a bladed rotor in the form of an elongated cylindrical cage mounted for rotation about its longitudinal axis and having open ends and blades which are concave facing in the direction of rotation of said rotor and which have their radially outer edge leading their radially inner edge in the direction of rotation of said rotor, ducting surrounding the periphery of said rotor and defining an air inlet zone and an air outlet zone which are spaced from each other around the cylindrical periphery of said rotor and which extend the full length of said rotor, the inlet zone extending over an arc of substantially 180° about the longitudinal axis of said rotor and that portion of the ducting extending away from the outlet zone in the direction of rotation of said rotor being concentric with the rotor and extending over an arc about the longitudinal axis of said rotor not exceeding 45°, said ducting also having two parallel side portions transverse to the longitudinal axis of said rotor, the



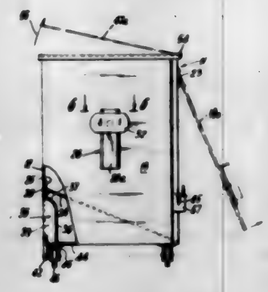
side portions being apertured to permit air to flow to said open ends of said rotor, and an electric motor drivingly connected to said rotor and whose stationary part is fixed to the outside of said ducting at a position such that at least part of the air entering through said aperturing in said ducting passes over said electric motor.

3,141,608
REFRIGERATING MACHINES
Arne Fromm Esmark, Sonderborg, Denmark, assignor to Danfoss A/S, Nordberg, Denmark, a company of Denmark
Filed Nov. 28, 1962, Ser. No. 240,628
Claims priority, application Germany Nov. 28, 1961
4 Claims. (Cl. 230—232)



1. A cast body component for a refrigeration compressor comprising an integral casting having a tubular bearing portion for rotatably supporting a compressor crankshaft therein, wall portions defining another tubular portion defining a compressor chamber substantially coaxial with said annular portion in communication with said tubular bearing portion and having an open end opposite to said bearing portion, a plurality of angularly spaced ribs extending longitudinally of said casting and radially outwardly of said compressor chamber defining a plurality of angularly spaced muffler chambers disposed circumferentially of said compressor chamber, said casting comprising wall portions integrally with another tubular portion defining a cylinder for a piston, said cylinder being disposed intermediate some of said muffler chambers in a circumferential direction relative to said compressor chamber in communication therewith at one end and open at an opposite end, said casting comprising inwardly thereof portions extending inwardly thereof closing in and defining an inner end of said muffler chambers, each of said muffler chambers having an open end opposite to said inner end and opening in a common direction corresponding to a direction in which said compressor chamber opens, and said collar comprising an annular collar integral with said partitions and extending generally in an axial direction of said casting.

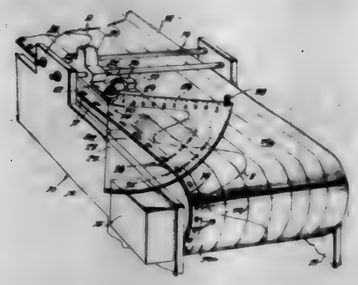
3,141,609
DISPOSAL CONTAINER
Saul Roth, White Plains, N.Y., assignor to Rodan Industries, Inc., New York, N.Y., a corporation of New York
Filed Sept. 17, 1962, Ser. No. 224,099
5 Claims. (Cl. 232—43.1)



1. A disposal device comprising a container comprising a back wall and a pair of side walls rigid with the back wall and extending forwardly from the sides thereof, means to rigidly interconnect the front upper ends of said side walls, a wall rigid with said back and side walls and inclined from the back wall forwardly and downwardly to the front lower ends of said side walls and extending from side wall to side wall, a front door mounted for swinging movement about its upper end on a horizontal axis located near the upper ends of the front edges of said side walls, from a closed position in a plane at the front of said container, outwardly to an open position uncovering substantially the whole front of said container, the lower end of said door being located at the front lower end of said inclined wall in the closed position of said door, said container being open at its upper end, uncoverable means to cover the upper open end of said container, and releasable means to latch the door in closed position, the rear upper end of said inclined wall being disposed substantially nearer the lower ends of said side walls than the upper ends thereof, means on said side walls and between the front and rear ends thereof and above the midheight thereof and attachable to means to lift said container upwardly without substantial tilting, and means on the container and located rearwardly of and below said attachable means, and being engageable by means to tilt the upper end of said container forwardly, to facilitate quick drop out of the contents of the container, with the container in tilted condition and with said door unlatched.

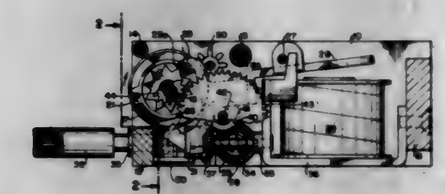
3,141,618
PULMONARY FUNCTION ANALYZING DEVICE
William C. Jones, 16 W. 328 Walnut Lane, Timber Trails, Elmhurst, Ill.
Filed Mar. 22, 1961, Ser. No. 97,598
3 Claims. (Cl. 235—61)

1. In a pulmonary function testing apparatus, a record sheet supported for planar movement in one direction, means provided by said apparatus for advancing said sheet at a constant selected rate, a carriage, means supporting said carriage for movement along a plane parallel with said record sheet and transverse to the direction of movement thereof, and a gauge sheet pivotally carried by and movable with said carriage along



a plane parallel with said record sheet and formed from a rigid transparent material, said gauge sheet being provided with a straight line air volume percentage scale.

3,141,611
BIDIRECTIONALLY SETTABLE IMPULSE COUNTER
John J. Ambrozaitis, Waterbury, Conn., assignor to Hayden Switch & Instrument, Inc., a corporation of Connecticut
Filed Nov. 20, 1962, Ser. No. 238,914
7 Claims. (Cl. 235—91)



1. A bidirectionally settable impulse counter mechanism comprising, in combination,

(*a*) a tens-transfer type counter having a low order counter drum and one or more counter drums of higher order arranged for cascade operation,

(*b*) a multi-tooth cam wheel drivingly connected to said low order drum,

(*c*) a bifurcated impulse lever pivotally mounted in operative association with said cam wheel and having opposed driving elements received alternately between teeth of said cam wheel,

(*d*) said driving elements, upon reciprocating pivotal movement of said impulse lever, being alternately and asymmetrically engaged with said teeth in a manner to effect unidirectional advancement of said cam wheel,

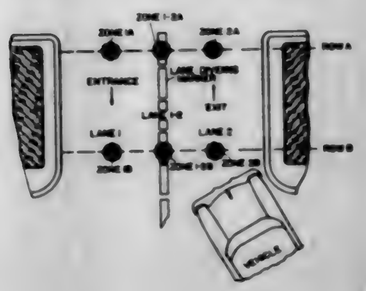
(*e*) said impulse lever normally being urged to one of two alternate limit positions and having a predetermined intermediate position in which said opposed driving elements are free of said cam wheel,

(*f*) actuating means for controllably moving said impulse lever alternately between said limit positions,

(*g*) bidirectional setting means comprising gear means selectively engageable with the low order drum for rotating the drum in either direction and a rotary setting element for engaging and rotating the gear means and the low order drum in a desired manner, and

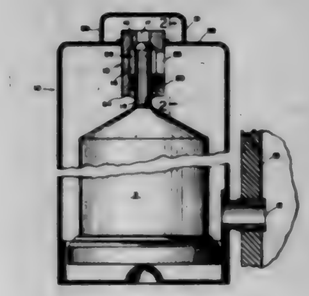
(*h*) control means operatively associated with said setting element and said impulse lever and operative, upon manipulation of said setting element for engagement of said gear means with said low order drum, to move said impulse lever to said predetermined intermediate position to free said drums for setting movement in either direction.

3,141,612
BI-DIRECTIONAL MULTIPLE LANE VEHICLE REGISTERING SYSTEM
Norman A. Bolton, Scottsville, N.Y., assignor to General Signal Corporation
Filed Jan. 16, 1961, Ser. No. 83,043
11 Claims. (Cl. 235—99)



11. In a system for registering the passage of vehicles travelling in a particular direction through a passageway the combination comprising, a plurality of vehicle detectors each defining a respective detection zone and producing a distinctive output signal in response to the entry of a vehicle into the respective detection zone, said vehicle detectors being so positioned and directed that the respective detection zones are arranged in successive pairs across said passageway with the first and second detection zones of any pair which are encountered by a vehicle travelling in said particular direction being disposed generally parallel to the direction of vehicle travel and with the lateral spacing between successive pairs of said detection zones across the width of said passageway being sufficiently small to ensure that a vehicle must traverse in order at least the two detection zones of one pair, and directional vehicle registering means governed by said vehicle detectors for registering the passage of a vehicle in said particular direction only when said vehicle has occupied and then vacated the first detection zone of any pair and has also occupied and vacated the second detection zone of the same pair or an immediately adjacent pair.

3,141,613
RADIATOR VALVES
Otto C. Semonsen, 71 Superior Road, Bellerose, N.Y.
Filed May 24, 1960, Ser. No. 31,463
3 Claims. (Cl. 236—63)



1. A radiator valve comprising a shell enclosing a compartment containing a thermodynamic valve unit, a nipple for connecting the interior of the shell to a radiator, an orifice through which air may pass out of the shell, and a valve seat housing mounted in an opening in a wall of said compartment, said housing having an axial passage therethrough with a valve seat located therein, and at least one orifice above the valve seat, the combination of said valve seat and the thermodynamic valve unit being adapted to control the movement of air and steam through the valve, said passage being provided with means for draining condensate out of a portion thereof extending from a point below the valve seat to and including a portion of an orifice above the valve seat, and means for entry of air or steam into the drained portion of the passage below the valve seat, said passage being so proportioned that the same constitutes means for draining condensate out of the upper portion thereof into the lower portion thereof, the length of said lower portion being such that the level of any condensate accumulating therein will always be positioned below the valve seat, said means for the entry of air or steam into the drained portion of the passage below the valve seat comprising an opening into the passage, a portion of said opening into the passage being positioned above the level attainable by condensate accumulating in the lower portion of the passage.

3,141,614
REINFORCED CONCRETE STRUCTURES FOR RAILWAY CROSSINGS
Ludwig Absenz, Mettmann, and Heinrich Kleuters, Honingen, Germany, assignors to Bau-Stahlgewebe G.m.b.H., Duesseldorf-Oberkassel, Germany, a German company
Filed Feb. 1, 1963, Ser. No. 255,509
Claims priority, application Germany Feb. 5, 1962
2 Claims. (Cl. 238—8)



1. In a concrete slab for use as a railroad level crossing unit having a pair of parallel grooves spaced from its outer edges and adapted for the mounting therein of the rails of a railroad track with the heads of the rails being flush with the surface of said slab, a reinforcing structure embedded in said slab comprising in combination:

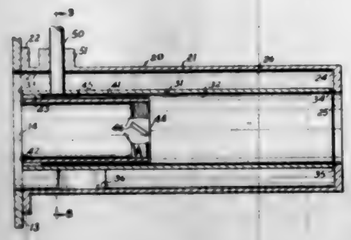
(*a*) a pair of three-dimensional hairpin mat structures having unequal shanks, said structures being disposed with the surfaces formed by their longer shanks in parallel and closely spaced from the lower surface of said slab and with the surfaces formed by their shorter shanks each being close to and spaced from the bottom of one of said grooves, to form the lower reinforcement of said slab,

(*b*) a three-dimensional trapezoidal mat structure being open at the long side and having externally sloping sides terminating in horizontal bases, said trapezoidal structure being disposed between said grooves with said bases located each beneath the bottom of one of said grooves,

(*c*) a three-dimensional inverted U-shaped mat structural also disposed between said grooves and having a central surface close and parallel to the central surface of said trapezoidal structure, to form therewith the upper reinforcement of said slab, said U-shaped structure having side surfaces being parallel and close to the inner sides of said grooves, and

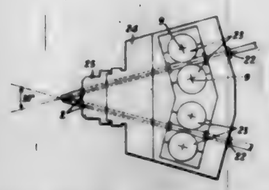
(*d*) a pair of three-dimensional rectangular mat structures disposed each within one of the end spaces of said slab outside of said grooves.

3,141,615
PROCESS AND APPARATUS FOR PRODUCING A FOG
David W. Waldron, Jr., Valdosta, Ga., assignor to Lowndes Engineering Company, Inc., Valdosta, Ga., a corporation of Georgia
Filed Dec. 18, 1961, Ser. No. 160,130
9 Claims. (Cl. 239—8)



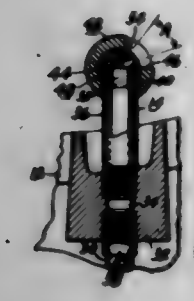
1. In a process of mixing gas and liquid, the steps of heating said gas, passing said gas along a predetermined path of travel, swirling said gas, expanding said gas immediately after it has been swirled, passing liquid into said gas as it is being expanded, and introducing additional heated gas to the mixture in said path for driving particles of the liquid toward the central portion of the mixture.

3,141,616
METAL SPRAYERS
Jacques Cauchetier, Paris, France, assignor to Societe Nouvelle de Metallisation, Paris, France, a company of France
Filed Aug. 6, 1962, Ser. No. 214,982
Claims priority, application France Aug. 11, 1961
6 Claims. (Cl. 239—81)



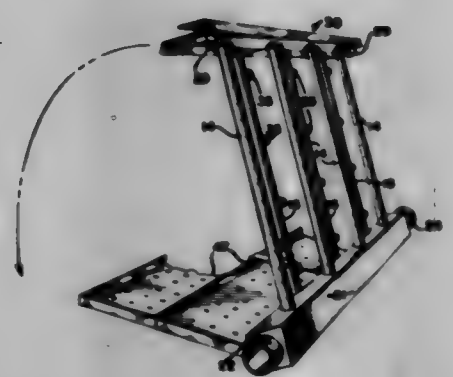
1. In an arc metal spray gun, in combination, a spray nozzle formed with a first pair of rectilinear passage means therethrough adapted to be connected to a supply of gaseous fluid under pressure and having axes located in a first plane and inclined to each other for feeding a gaseous fluid under pressure through said nozzle, and with a second pair of rectilinear passage means therethrough having axes inclined to each other and located in a second plane extending transverse to said first plane for guiding a pair of consumable electrode wires through said nozzle, all of said axes intersecting at a single point located forwardly of said nozzle; feeding means for feeding a pair of electrode wires through said second passage means, respectively; and means for simultaneously supplying electric current to said pair of electrode wires when gaseous fluid is passed through said first passage means and for cutting off the current when the flow of fluid is interrupted.

3,141,617
WINDSHIELD WASHER NOZZLE
Joseph P. Spica, Dearborn, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 23, 1962, Ser. No. 189,528
3 Claims. (Cl. 239—284)



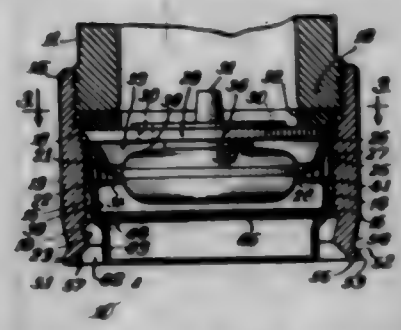
1. A windshield washer nozzle assembly including, a stationary fitting having an elongate arcuate peripheral slot and a pair of intersecting bores, said elongate arcuate slot extending less than 90° around said fitting in a quadrant thereof adapted to be positioned toward a windshield to be cleaned, a tubular solvent supply member communicating with one of said intersecting bores, and a cylindrical insert disposed within the other of said intersecting bores, and supported for rotation relative to said fitting, said insert having a spray orifice communicating with said tubular solvent supply member and being adjustable throughout the range of said elongate arcuate slot for discharging liquid solvent solely through said spray orifice at any position thereof within the range of said elongate arcuate slot.

3,141,618
DISHWASHING MACHINES
Arthur W. Haas, Rochester, N.Y., assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed June 11, 1962, Ser. No. 201,439
4 Claims. (Cl. 239—248)



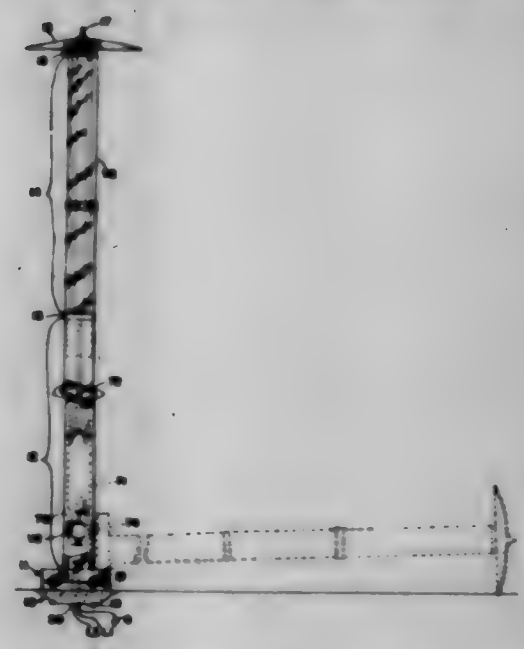
4. In a dishwashing machine, in combination, a supply conduit, at least one spray tube having one end communicating in a slip fit with the conduit transversely thereof, stop means for limiting axial movement of the spray tube relative to the conduit, and releasable means acting on the opposite end of the tube for maintaining the tube in communication with the conduit, said releasable means comprising a mounting member, a pin slidably mounted on the member for movement on the axis of the tube and having means engageable with said opposite tube end for centering the tube and for closing said opposite tube end, and resilient means on the member for urging the pin into engagement with the tube and urging the tube into engagement with the conduit.

3,141,619
AERATING DEVICE
Frank E. Benjamin, Chicago Heights, and John Earnshaw, Chicago, Ill., assignors to Wrightway Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 16, 1961, Ser. No. 152,749
3 Claims. (Cl. 239—424)



1. In an aerating device of the type described having a tubular casing with a liquid inlet at its upper end, means within said casing providing a fluid outlet at the lower end of said casing which is spaced inwardly from said casing to define therebetween an air inlet passage having an opening at the bottom axial end of the device, and means within said casing for intimately mixing a flow of liquid from said liquid inlet with air from said air inlet passage to provide an effluent aerated stream from said fluid outlet; the improvement comprising an annular deflecting flange portion surrounding the lower end of said casing, said flange portion having a straight angular upper surface sloping downwardly and outwardly from said casing and a flat lower axial end surface, said surfaces substantially merging to define an abrupt outermost peripheral edge on said flange portion whereby fluid droplets flowing downwardly along the exterior of said casing are deflected by said flange portion away from said air inlet, and at least the bottom opening of said air inlet passage being enlarged sufficiently to maintain the inlet air velocity low enough to prevent the deflected droplets from being drawn into said air inlet passage.

3,141,620
LIGHTING DEVICE
Kenneth F. Guggenmos, Winsted, Minn.
Filed May 5, 1960, Ser. No. 27,013
14 Claims. (Cl. 240—3)



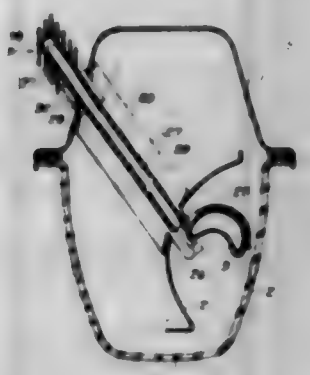
1. A lighting standard comprising a tubular post of metal and a light transparent tube arranged coaxially with the proximal end of said transparent tube at the end of said post and the distal end of said tube away from

the end of said post, a structural frame attached to the post and extending through the transparent tube to the distal end thereof for supporting that end of the transparent tube, said structural frame having sleeve surfaces adjacent the proximal and distal ends of the transparent tube for contacting the inner surface thereof to align said post and transparent tube, the structural frame at the distal end being no larger in girth than the inner surface of the transparent tube, a stop on the sleeve surface at the proximal end against which the transparent tube is seated, said structural frame including conduit means extending from end-to-end thereof and forming a passage within the transparent tube from the proximal end to the distal end thereof, said post having a vent opening to the atmosphere at a position substantially below the structural frame and in fluid communication with the aforementioned conduit means, said structural frame also including a vent opening to atmosphere at said distal end thereof, a plurality of elongated lighting elements within the transparent tube in the space outside the conduit means therein, and a cap fastened to the structural frame adjacent the distal end of the transparent tube for holding the tube against endwise movement.

3,141,621
LUMINAIRE WITH LAMP TEMPERATURE CONTROL

Joseph A. Tolbert, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York

Filed Dec. 27, 1960, Ser. No. 78,521
14 Claims. (Cl. 240—51.11)



1. An illuminating device comprising an enclosure having a transparent wall, a lamp containing a vaporizable substance removably mounted in said enclosure, a temperature controlling device for said lamp, said device including a container having a first portion removably contacting in heat-conducting relation a selected area of said lamp within said enclosure, said container also having a second portion positioned outside said enclosure, and a vaporizable liquid and a non-condensable gas in said container.

3,141,622
APPEARANCE COVER FOR FOOD WASTE DISPOSER

Johnny W. Yertz, Anchorage, and Francis J. Clements, Louisville, Ky., assignors to General Electric Company, a corporation of New York

Filed Apr. 16, 1962, Ser. No. 187,617
8 Claims. (Cl. 241—46)

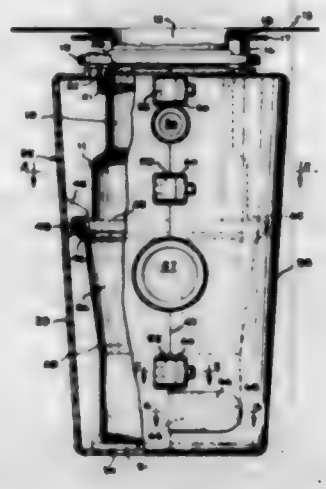
1. In a waste disposal apparatus, the combination of:

vertically extending hopper means having a top access opening for receiving water and waste material,

rotatable comminuting means adjacent to the lower end of said hopper means,

power means below and operatively connected to both said hopper means and comminuting means and operable to drive said comminuting means,

suspension means connected to the upper end of said hopper means and adapted to be connected to a sink drain opening so as to suspend said waste disposal apparatus therefrom,



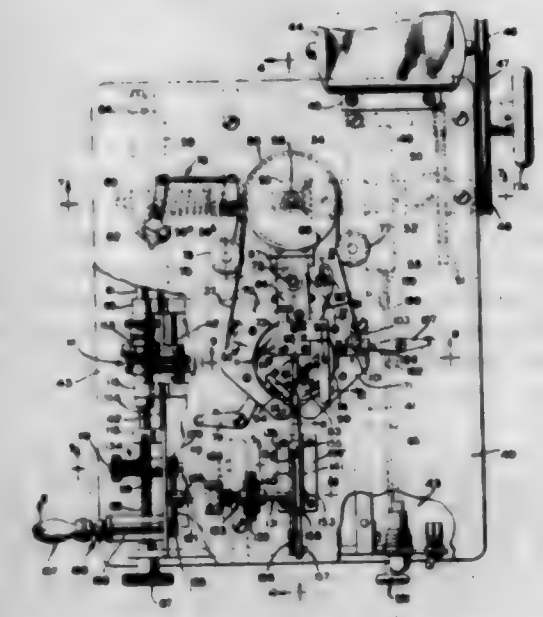
an ornamental appearance cover separate from and enclosing said hopper means, said comminuting means, and said power means and being spaced therefrom with a hollowness therebetween,

the appearance cover being formed of semi-rigid plastic material and split down along one vertical side thereof, the opposite vertical side having at least one longitudinal groove forming a relatively flexible integral hinge means of reduced cross-section so that the cover may be opened to fit around and encompass the apparatus, and locking means adjacent the split side of the cover for holding the cover closed around the apparatus.

3,141,623
COIL WINDING MACHINE

Arthur Berglund, Boca Raton, Fla., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 620,971, Nov. 7, 1956. This application Feb. 13, 1961, Ser. No. 88,817
12 Claims. (Cl. 242—4)



2. In a coil winding machine, a supporting platform, a frame mounted on said platform and having a circular opening therein with a recess formed in the walls of said opening, a wire-supply bobbin disposed in said opening with its periphery extending into said recess, an arm on said frame movable into a position against the inner side of the bobbin to hold it in position in said recess, circuit means including a motor for driving the bobbin and a

switch member connected to and operable by the movement of said arm, said switch being open when the arm is moved against the side of the bobbin and closed when the arm is moved to an inoperative position away from the side of said bobbin to control the operation of said motor.

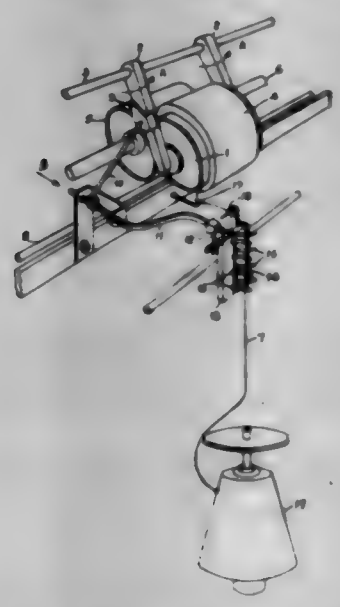
9. In a coil winding machine, a bobbin made in the form of a peripherally slotted hollow split ring, the line of the split being substantially straight and in a non-radial direction across the ring, a hollow slotted plug having one end disposed in one end of the ring, the other end of the plug member being adapted for insertion into the other end of the ring, the lower peripheral surface of said other end of the plug being flattened to permit the end of a wire to be positioned between it and the bottom of the ring, and the ends of the ring being drawn together to clamp the wire and close the ring.

3,141,624

THREAD SHRINKING

Alexander Henderson Gentle, Sidmouth, and Gerald William Hartley Bliss, Heald Green, Cheadle, England, assignors to Courtaulds Limited, London, England, a British company

Filed Mar. 23, 1962, Ser. No. 181,982
Claims priority, application Great Britain Mar. 27, 1961
4 Claims. (Cl. 242—18)



4. A method of producing a yarn shrunk substantially uniformly throughout its length, comprising winding a shrinkable yarn onto a substantially cylindrical former under a yarn tension, and decreasing the tension on the yarn continuously during the winding, thereby producing a package in which the tension in the yarn varies continuously throughout the package from a maximum value at the core of the package to a minimum value at the outside of the package, removing the former from the package and subsequently shrinking the yarn in the package.

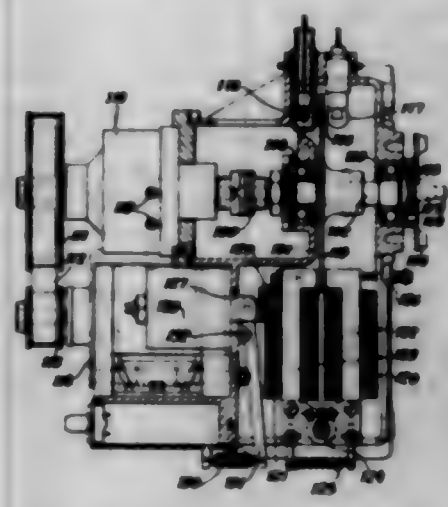
3,141,625

MAGNETIC TAPE RECORDER

Laszlo Namenyi-Katz, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company

Filed June 14, 1960, Ser. No. 36,030
Claims priority, application Great Britain June 18, 1959
5 Claims. (Cl. 242—55.12)

4. A constant speed drive for magnetic tape or the like comprising a spool for alternately feeding and taking up tape according to the direction in which the tape is driven, means for driving said spool including a spindle on which the spool is mounted to be rotatable therewith, a disc mounted on said spindle to be rotatable therewith, said disc having a plurality of perforations therein arranged concentrically with the axis of said spindle, an electromagnetic clutch of which the torque transmitted is proportional to the current fed thereto mounted on said spindle, a motor drivably connected to said clutch to drive said spindle through the clutch, a photoelectric device and a light source disposed to allow transmission of light from said source through said perforations as the disc rotates to produce in said device impulses whose frequency varies



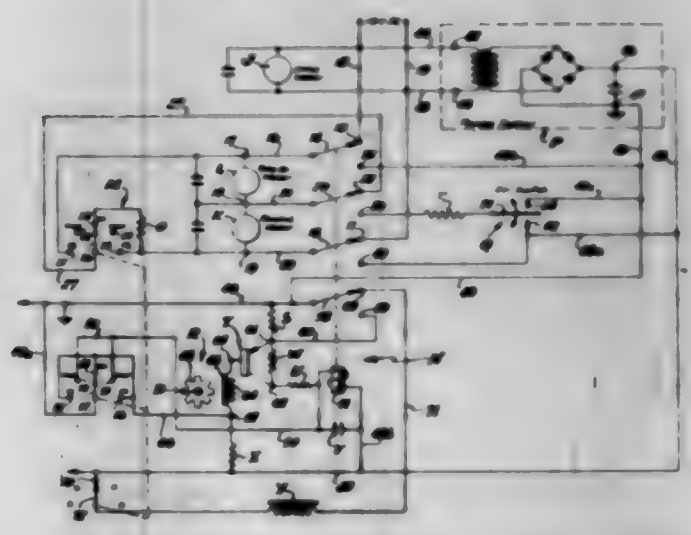
as the speed of the disc, an integrating circuit coupled to said photoelectric device to produce a voltage proportional to said frequency, and an inverting circuit coupled to said integrating circuit to produce an output inversely proportional to said frequency, said inverting circuit being connected to said clutch to feed its output thereto to cause variation of the torque transmitted thereby, according to the speed of the disc.

3,141,636

TAPE CONTROL SYSTEM FOR TAPE RECORDERS AND REPRODUCERS

Richard K. Hoskin, Gardena, Calif., assignor to The Stancil-Hoffman Corporation, Hollywood, Calif., a corporation of California

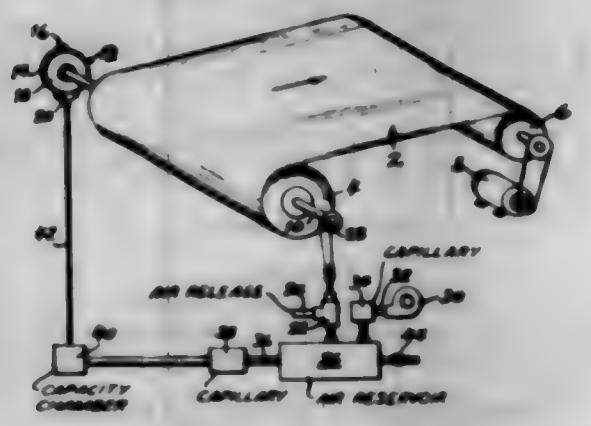
Filed July 17, 1961, Ser. No. 124,637
7 Claims. (Cl. 242—55.12)



4. In a control system for a machine having a supply spindle and a takeup spindle for tape, wire or like material; drive means for operating the supply spindle in a rewind direction; drive means for operating the takeup spindle in a feed direction; drive means for slowly advancing the material; a selector having positions corresponding to rewind, brake, drive, and feed; the positions being so arranged that the selector must be moved through braking position to arrive at drive position from either rewind or feed position; a switching device having a first state and a second state, and having electrically energizable means for positioning the device in its first state, the said switching device being positioned in its second

state upon deenergization of said electrically energizable means; circuit means for operating said drive means in accordance with the position of said selector and dependent upon said two state device being in its second state; circuit means for braking said material and dependent upon said two state device being in its first state; an energization circuit for said electrically energizable means and operable upon movement of said selector to brake position; an alternate energization circuit for said electrically energizable means including a controllable device having a high impedance state and a low impedance state; means operative in response to predetermined speed of said material and dependent upon the two state device being in its first state for causing the controllable device to pass energy to said electrically energizable means via said alternate energization circuit; and means operative only when the selector is between positions for energizing said electrically energizable means.

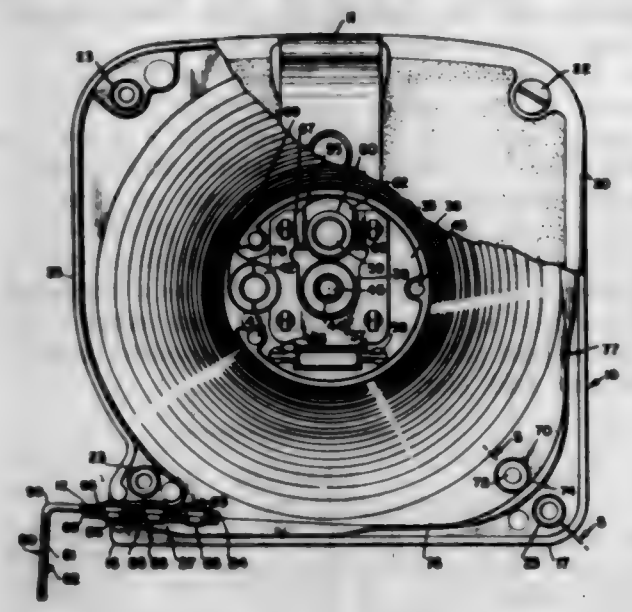
3,141,627
TENSION-CONTROLLING MEANS
Esteban Martinez, Princeton, N.J.
(126 Montgomery St., Apt. 3-D, Highland Park, N.J.)
Filed Aug. 22, 1962, Ser. No. 218,711
5 Claims. (Cl. 242—75.47)



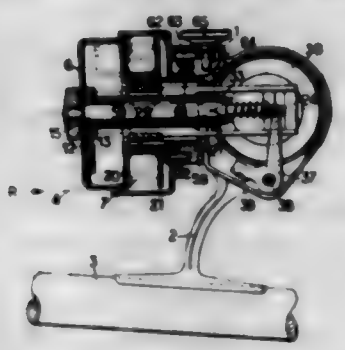
2. In combination with a machine having a roll from which material is to be unwound and a shaft rotatable at a speed variable with the speed of rotation of said roll, means for controlling the tension applied to said material comprising a gas reservoir, means for supplying gas under pressure to said reservoir, means actuated by said shaft for venting gas from said reservoir, and means responsive to the pressure of the gas in said reservoir controlling the speed of rotation of said shaft.

3,141,628
MEASURING APPARATUS
John Joseph Evans, Scotch Plains, and John Joseph Evans, Jr., Westfield, N.J., assignors to The Evans Rule Co., Elizabeth, N.J., a corporation of New Jersey
Filed June 14, 1962, Ser. No. 202,423
11 Claims. (Cl. 242—84.8)

1. In measuring apparatus, in combination, a casing including a tape receiving opening therein and at least one substantially right-angle corner spaced from said opening, said casing having a pair of opposed side walls and a centrally located aperture in one of said walls, a cylindrical reel member rotatably carried within said casing, an elongated tape wound around said reel member and having one end thereof secured to said member, the other end of said tape extending through said opening, crank means mounted on said reel member adjacent the aperture in said one side wall for rotating said reel member to reel an external portion of said tape into said casing, means interposed between said reel member and the other side wall of said casing for maintaining the same in spaced relationship with said reel member and for resisting rotary movement of said member with respect to said casing, and roller means positioned within said casing and rotatable about a fixed axis adjacent the right-angle corner thereof for urging the outer convolution of the tape wound around said reel member into frictional engagement with said casing, to resist relative movement therebetween.



3,141,629
SPINNING REEL WITH FRICTION BRAKE
Michel Roannet, 27 Rue des Girondins, Saint-Cloud, France
Filed Apr. 29, 1960, Ser. No. 25,607
Claims priority, application France June 9, 1959
12 Claims. (Cl. 242—84.21)

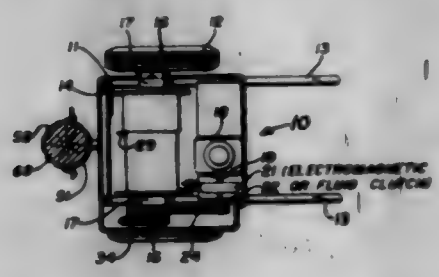


4. In a fishing reel including a normally non-rotating spool arranged to hold a line and mounted for free delivery of the line therefrom substantially axially of the spool, a line pick-up device including an axially displaceable flier arranged to encircle the spool, lever means operable in one direction for axially displacing the flier to a position remote from the spool and return means operable in the other direction to return the flier to a position encircling the spool, common means for rotating the flier to wind in the line when it is in spool encircling position and to impart a reciprocating axial movement to said spool, a braking device including a ring rotatable with said spool and slidingly mounted relative to said spool, and a braking shoe mounted to exert a braking action on said ring to normally hold said spool against rotation.

10. In a fishing reel including a housing, a spool arranged to hold a line and mounted for free delivery of the line therefrom substantially axially of the spool, a line pick-up device including a flier axially displaceable between a winding-in position in which the flier is arranged to encircle the spool, and a casting position in which the flier is arranged in a position remote from said winding-in position, means including a crank for rotating the flier to wind the line in when in spool

encircling position, means operable by said crank for axially displacing the flier from the casting to the winding-in position when said crank rotates in winding-in direction, and to displace the flier from winding-in to casting position when said crank rotates in the reverse direction, means operated by said crank means for imparting to said spool a reciprocating axial movement in combination with said flier rotation, a pick-up member mounted in said flier for radial movement, and a cam fixedly mounted with respect to said housing, said cam being shaped and being operatively positioned with respect to said pick-up member to displace said pick-up member in radial outward direction as a consequence of the rotation of said flier during said return movement, whereby asid pick-up member is caused to protrude relatively to said flier.

3,141,630
CABLE STRINGING APPARATUS
Jay M. Eitel, Los Altos, Calif., assignor to Telsta Corp., San Carlos, Calif., a corporation of California
Original application Apr. 22, 1960, Ser. No. 24,149, now Patent No. 3,018,998, dated Jan. 30, 1962. Divided and this application Aug. 9, 1961, Ser. No. 130,374
8 Claims. (Cl. 242—86.7)



1. In a motor-operated portable winch for use in stringing an elongate flexible element such as strand or cable on a plurality of spaced poles, a portable framework means for securing the framework to a pole to hold the framework stationary, a reel rotatably mounted on the framework, a winch line of relatively light material wound on the reel, motor operated means mounted on the framework and connected to the reel and driving the reel in a direction to wind the winch line onto the reel, said motor-operated means including slippage means for permitting withdrawal of the winch line from the reel by rotation of the reel in a direction opposite to the direction in which the reel is driven by the motor operated means, means for sensing the tension on the winch line as it is withdrawn from the reel, and means operated by said sensing means for regulating the slippage means for permitting rotation of the reel to maintain a substantially uniform tension on the winch line as it is withdrawn from the reel.

3,141,631
YARN CARRIER
Karl Krebs, Schwelm, Westphalia, Germany, assignor to Firma Gerdes & Co., Schwelm, Westphalia, Germany, a corporation of Germany
Filed July 6, 1962, Ser. No. 207,937
2 Claims. (Cl. 242—118.3)

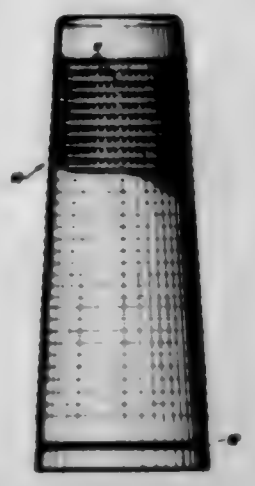
1. A yarn carrier for textile threads or the like comprising

a longitudinal shell having a plurality of scales extending from the outer surface of said shell,

said scales constituting substantially the major portion of the outer surface of said shell,

said scales being disposed along imaginary circular lines disposed in planes perpendicular to the longitudinal axis of said shell and constituting supporting steps having engaging faces and supporting faces,

all scales of said circular lines having corresponding scales in the immediately adjacent circular line arranged in longitudinal direction, thereby forming a groove between each pair of adjacent circular lines,



said engaging faces projecting radially from the outer faces of said shell along said imaginary circular lines, the latter having increased diameters in the direction of one end of said shell,

said supporting faces being inclined to the surface of said shell and leading into said outer surface of said shell, and

each of said supporting faces having a plurality of small annular grooves adapted to receive individual threads.

3,141,632
COIL WINDING FORM
Daniel C. Spitz, Springfield, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 13, 1962, Ser. No. 173,078
2 Claims. (Cl. 242—118.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

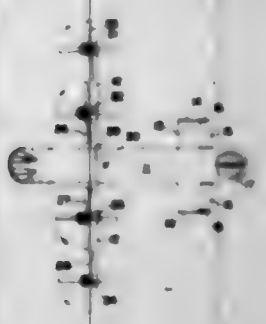


1. A coil winding form comprising, in combination, an axle; a spindle having a substantially rectangular boss integral with each end thereof and being in axial alignment with each other, said spindle being centrally disposed on said axle; a pair of flanges, each flange having a central slot conforming to the contour of said bosses, each of said flanges being fitted on each of said bosses and in abutting relation to said spindle; a pair of disc-shaped plates, each having an axial bore therethrough and a diametrical, rectangular groove in its inner face, said groove being of a width substantially the same as the width of said bosses, said plates being fitted on said axle whereby said groove receives a portion of a said boss and each of said plates will abut a said flange; and a set screw in each said disc for securing said discs against axial movement along said axle to maintain said winding form in its assembled condition.

3,141,633
TILT-WING AIRCRAFT
James K. L. MacKay, Columbus, Ohio, assignor to North American Aviation, Inc.
Filed Nov. 5, 1962, Ser. No. 235,389
6 Claims. (Cl. 244—7)

1. In an aircraft: a fuselage, a tilt-wing joined to said fuselage, nacelles attached to and carried by said tilt-

wing, power plants contained within said nacelles, and propellers rotated by said power plants, said tilt-wing having a span which is terminated at each extreme by a nacelle, and each of said propellers being rotated in a



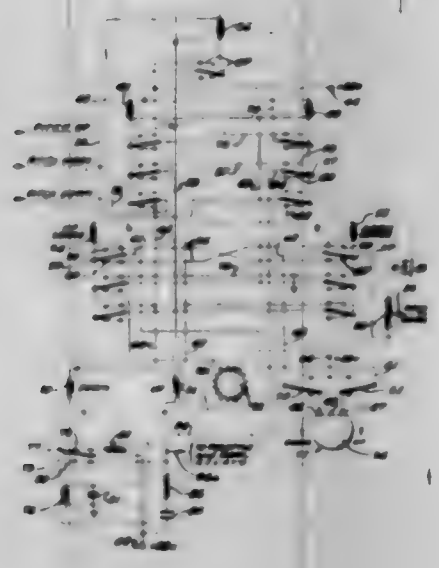
direction whereby the tips of said propeller approach the upper surface of said tilt-wing in a downwardly manner in those portions of the area swept-out by said propeller which is nearest to said fuselage.

3,141,634

DRONE CONTROL SYSTEM

Rex V. Rhoades, Redondo Beach, and Frederick Stevens, Long Beach, Calif., assignors to Northrop Corporation, Hawthorne, Calif., a corporation of California

Filed Mar. 23, 1951, Ser. No. 217,102
16 Claims. (Cl. 244—14)



14. A pulse-operated remote control system for an aircraft having a control member movable in either of two directions, which comprises remote means for transmitting a first control signal at a first frequency in the form of pulses each comprising a substantial number of cycles at said first frequency, remote means for transmitting a second similar control signal at a second frequency, electrically operated stepping means having a positive driving connection with said control member and connected in respective receiving selector circuits to be energized and moved one step in one direction only when one pulse of said first control signal is transmitted and to be moved one step in the opposite direction only when one pulse of said second control signal is transmitted, said stepping means and said control member having a common reference index position, remote means for transmitting a third similar control signal at a third frequency, and indexing means operative in response to one pulse signal at said third frequency to move said stepping means into said index position if not already there.

3,141,635

MISSILE GUIDANCE SYSTEM

Marion F. Davis, 323 Plymouth St., and Albert L. Hedrich, 8705 Leonard Drive, both of Silver Spring, Md.

Filed Feb. 16, 1953, Ser. No. 337,254
12 Claims. (Cl. 244—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



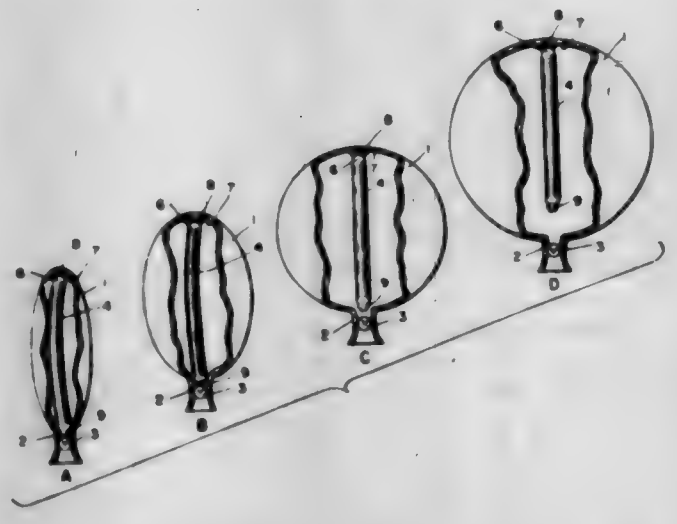
1. Apparatus for indicating the rotational orientation of a radar tracked rotating missile to a radar control station comprising a casing for said missile, and a radar mirror asymmetrically and rigidly mounted on the trailing end of said casing for rotation therewith thereby to continuously vary the intensity of the signal reflected therefrom and received by the radar control station.

3,141,636

STREAMLINED METEOROLOGICAL BALLOONS

Edward W. Merrill, Belmont, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed July 6, 1962, Ser. No. 208,063
5 Claims. (Cl. 244—31)

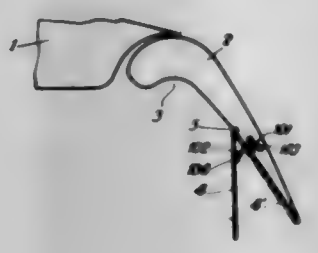


1. A meteorological balloon comprising an expansible spherical envelope having an inlet adapted to pass a predetermined amount of lifting gas into said envelope and an elongated inflatable inelastic tube dependently secured within said envelope in axial vertical alignment with said envelope inlet with the inflatable end of said tube initially and during a substantial portion of the ascent of said balloon in contact with said inlet.

3,141,637
AIRPLANE WING FLAPS

Silvius Dornier, Friedrichshafen, and Oskar Schrenk, Friedrichshafen-Manzell, Germany, assignors to Dornier-Werke G.m.b.H., Friedrichshafen, Germany, a German firm

Filed Nov. 10, 1961, Ser. No. 151,515
Claims priority, application Germany Nov. 12, 1960
1 Claim. (Cl. 244—42)

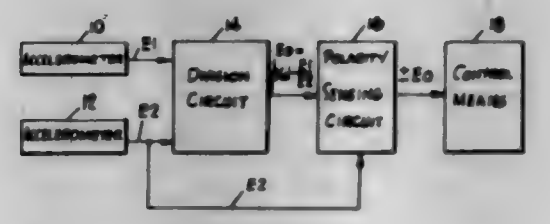


In an airplane wing having at least one flap at the trailing edge, said flap having a trailing edge and a leading edge, and an underside having at least a forward portion concavely shaped and forming a deep cavity, an auxiliary airfoil swingably connected to the underside of the flap for swinging said auxiliary airfoil away from the leading edge and from the trailing edge of the flap and forming an enlarged substantially concavely shaped surface at the underside of the flap upon extension of the flap, and for swinging said auxiliary airfoil to abut against the leading edge of the flap for closing the cavity formed by the concavely shaped underside of the flap upon retraction of said flap.

3,141,638
ANALOG DIVISION CONTROL SYSTEM

William F. Fuhrmeister, Dallas, Tex., and Roger P. Gentile, Santa Monica, and Gordon W. Riedel, Pacific Palisades, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed July 17, 1962, Ser. No. 210,407
17 Claims. (Cl. 244—77)

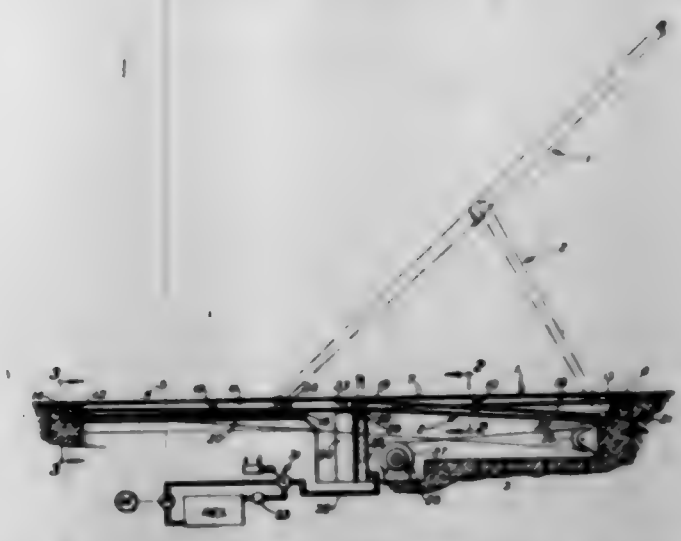


1. A control system, comprising:
a first accelerometer mounted to a vehicle for sensing acceleration of said vehicle in a first direction and generating a first analog signal which is characteristically variable according to said sensed acceleration of said vehicle in said first direction;
a second accelerometer mounted to said vehicle for sensing acceleration of said vehicle in a second direction and generating a second analog signal which is characteristically variable according to said sensed acceleration of said vehicle in said second direction;
an analog division circuit for dividing said first analog signal by said second analog signal to produce an output analog signal which is characteristically variable according to a ratio of said first analog signal to said second analog signal; and
control means responsive to said output analog signal for controlling said vehicle whereby said vehicle is oriented to reduce said first analog signal to zero.

3,141,639
RETRACTABLE BLAST DEFLECTOR AND ACOUSTIC BARRIER

Louis H. Klein, 1328 Vista Grande, Millbrae, Calif., assignor of one-third to Mark Falk and one-third to Corwin Booth, both of San Francisco, Calif.

Filed Apr. 10, 1962, Ser. No. 186,382
18 Claims. (Cl. 244—114)

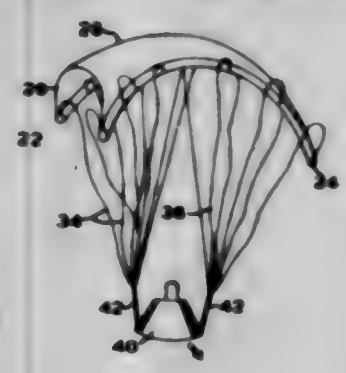


1. A retractable blast deflector and acoustic barrier for deflecting the blast and sound from the engines on an airplane, comprising:
(*a*) a pair of walls in a generally horizontal position on the ground, each having a blast receiving surface adapted to face generally toward the blast from such engines when said walls are in an erected position;
(*b*) means supporting said walls for movement thereof from said generally horizontal position to said erected position, and vice versa, and in which erected position one wall of said pair extends upwardly from the ground at a substantial angle relative to horizontal and said other wall extends upwardly above said one wall with their said blast receiving surfaces disposed in planes intersecting each other at an angle of less than 180 degrees, and
(*c*) means operatively connected with said walls for so moving them from said generally horizontal position to said erected position.

3,141,640
METHOD OF DEPLOYING FLEXIBLE WING GLIDER

John D. Sutliff, Cecil E. Craigo, and Harry E. Rollins, San Diego, Calif., assignors to The Ryan Aeronautical Co., San Diego, Calif.

Filed May 28, 1962, Ser. No. 198,681
12 Claims. (Cl. 244—138)



9. A flexible wing glider and deployment means therefor, comprising:
a completely foldable wing of flexible material;
a plurality of suspension lines attached to said wing for connection to a payload;

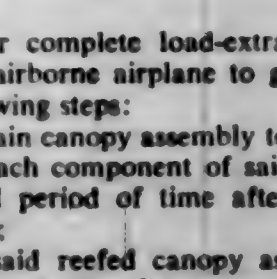
certain of said suspension lines having reefed, shortened portions to hold the wing, when extended, in a parachute-like form;
means to disreef said reefed suspension line portions to allow full extension of the wing;
and means to make portions of said wing substantially rigid in fully extended position.

3,141,641
LOAD-EXTRACTION FROM AIRCRAFT
John Charles William Beadle, Woking, England, and James Gregory, deceased, late of Woking, England, by Robert W. Lock and Beatrice M. Gregory, representatives, both of Woking, England, assignors to G. Q. Parachute Company Limited, Woking, England, a British company
Filed Oct. 23, 1962, Ser. No. 233,196
Claims priority, application Great Britain Oct. 25, 1961
2 Claims. (Cl. 244—138)



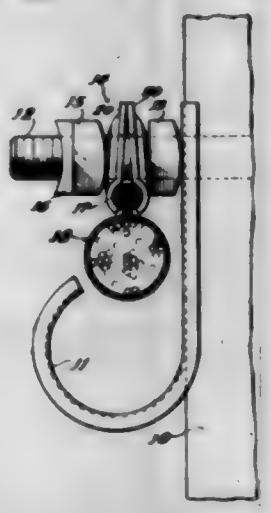
1. A system for complete load-extraction and load-delivery from an airborne airplane to ground level consisting of the following steps:
(1) reefing a main canopy assembly to limit the mouth diameter of each component of said assembly for a predetermined period of time after deployment of said assembly;
(2) deploying said reefed canopy assembly in order to cause inflation of each component thereof;
(3) completely extracting said load by said canopy assembly from said airplane by means only of said inflated reefed main canopy assembly free of any attachment to said airplane;
(4) de-reefing said inflated canopy assembly after said pre-determined time delay to achieve full inflation of each component of said canopy assembly; and
(5) delivering said load through free fall to ground level under complete control of said fully inflated canopy assembly.

3,141,642
SNAP-OVER CLAMP FOR CONVEYOR TUBES
Martin Mayrath, 10707 Lennox Lane, Dallas, Tex.
Filed Apr. 24, 1961, Ser. No. 104,922
2 Claims. (Cl. 248—74)



1. A snap-over clamp and trunnion device comprising a split encircling structure adapted to surround a substantially cylindrically shaped body and to provide it with diametrally-aligned outwardly-extending trunnions, said device comprising an integral substantially semicircular rod shaped to fit around a portion of said body and provided at its ends with radially outwardly-extending trunnion portions in diametral alignment with one another, said device further comprising an arcuate plate curved to conform to the shape of said body, said plate having an aperture at one end through which passes one of said trunnion portions, to extend outwardly beyond said plate; the other end of said plate having an outwardly and backwardly turned lip; said device further comprising a wire having ends and a loop intermediate its ends extending around the root of the other trunnion portion; and an arcuate handle pivotally connected between the ends of said wire and having an extremity spaced from the pivot axis and engageable with said lip as said handle is rotated to overlie said plate; whereby, when the extremity of said handle is engaged with said lip and the handle is swung downwardly to overlie said plate, said device will be subjected to a circumferential pull to clamp said rod, said plate and said wire firmly to said body, with said trunnion portions secured thereto and extending outwardly therefrom along a common diametral axis.

3,141,643
TANGENT SUPPORT FOR MESSENGER CABLE
George R. Shrewsbury, West Chicago, Ill., assignor to Reliable Electric Company, Franklin Park, Ill., a corporation of Illinois
Filed Dec. 21, 1961, Ser. No. 161,170
6 Claims. (Cl. 248—74)

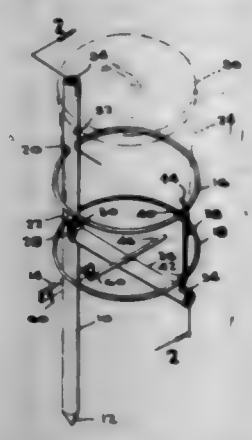


1. A tangent clamp for integrated messenger cable comprising two like plates of stamped sheet metal and screw threaded means including a nut for actuating the same,
each plate having a transversely extending jaw portion formed along the lower edge thereof,
a hole formed in said plate immediately adjacent said jaw portion,
an annular nut bearing surface surrounding said hole, and offset outwardly from the inner surface of said plate to an extent at least as great as the corresponding offset of said jaw portion,
said annular bearing surface extending into said jaw portion to provide a direct transmission of force from said screw threaded clamping means to said jaw portion, and
said annular bearing surface being conically dished to impart resilience to the clamping action exerted by said tangent clamp on the jacketed messenger of said integrated messenger cable.

3,141,644
TRASH CAN HOLDER
Franklin M. Baird, 40 Vernon St., Uniontown, Pa.
Filed May 25, 1962, Ser. No. 197,671
7 Claims. (Cl. 248—146)

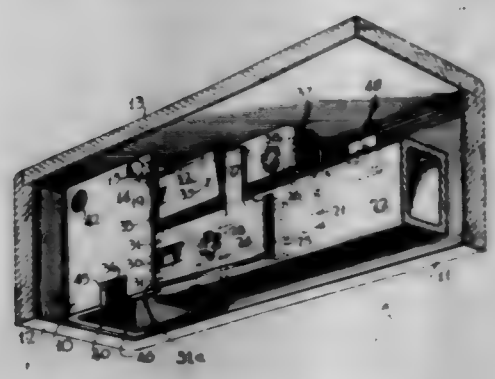
1. A holder for trash cans and the like comprising an upright having a pointed end, two pairs of axially aligned transverse bores at spaced positions intermediately of the length of the upright, a ring threaded through each of said pairs of bores and concentric about a common cylindrical axis, said upright also having two pairs of axially aligned

transverse bores on opposite sides of said rings, and disposed perpendicularly to the first-mentioned bores, a bottom-support member having a transversely disposed end plate bolted to one of the second-mentioned pairs of bores, and an end slot in its outer end edge, a rod secured to said bottom-support member, medially thereof and ar-



ranged transversely thereto, a tie rod having looped portions engaging the respective said rings and having hooked end portions beyond said rings, one of said end portions engaging in said slot in said bottom-support member, and a transverse plate secured to said upright between said pointed end and the nearmost of the second-mentioned pairs of bores.

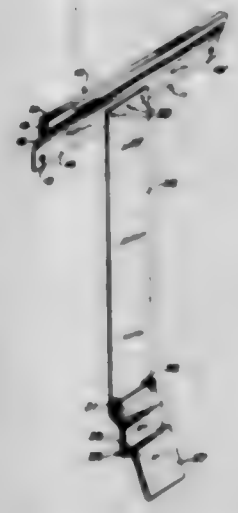
3,141,645
FOLDING LEG MECHANISM FOR TABLES
David Homer Hayden, 513 Venice Lane, Siesta Key, Sarasota, Fla.
Filed Apr. 1, 1963, Ser. No. 269,255
11 Claims. (Cl. 248—188)



1. A folding leg mechanism comprising a frame, a U-shaped bracket secured to said frame, an adjustable threaded hinge pin passing through upper corners of said bracket remote from said base, a hinge leaf suspended from said hinge pin, a leg secured to said hinge leaf, said hinge leaf being wider than the leg to which it is secured whereby the side edges of said leaf have a sliding contact with inner faces of said bracket sides, and adjustment of said hinge pin and bracket sides controls the pressure and friction between the bracket sides and the leaf side edges to avoid wear on said leg, which need not contact either bracket side.

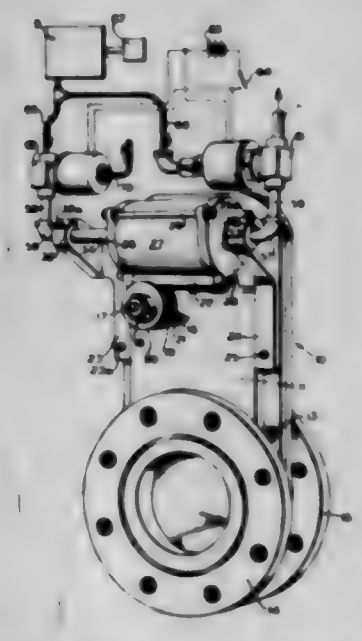
3,141,646
CONTAINER MOUNT
Augustus Mierson, 420 Market St., San Francisco, Calif., assignor of one-half to Harry Gardner, San Francisco, Calif.
Filed June 14, 1962, Ser. No. 202,411
3 Claims. (Cl. 248—313)

1. A container mount for removably seating and clamping a container in a position for receiving waste through an open top thereof, said container mount comprising a horizontally disposed head strip including a horizontally disposed lower section and an integral horizontally disposed upper section outwardly offset from said lower section, and a laterally projecting and then downwardly extending flange on the upper edge of said upper section of said head strip; said flange defining a horizontally extending channel opening toward said lower section for the reception of the upper edge of the back of a container, a vertically disposed arm connected to said lower section of said head strip at approximately the longitudinal center thereof and depending therefrom; said vertically disposed arm including a double off-set arm extension projecting outwardly from and integral with said vertically disposed



arm; said double off-set arm extension defining a lower channel seat for the reception of a portion of the bottom edge of the back of the container, and a container clamping element including a pedal section for actuation to release the container from said horizontally extending channel and said lower channel seat, and fulcrum means connecting the outer end of said arm extension to said vertically disposed arm above the juncture of said off-set arm extension and said vertically disposed arm to provide a double thickness to said off-set arm extension as well as to effect the fulcruming of said pedal section on said vertically disposed arm.

3,141,647
VALVE WITH REMOTE CONTROL ACTUATOR
Hugh L. Perazone, 2775 Lancaster Road, Hayward, Calif.
Filed Aug. 18, 1960, Ser. No. 50,499
5 Claims. (Cl. 251—31)



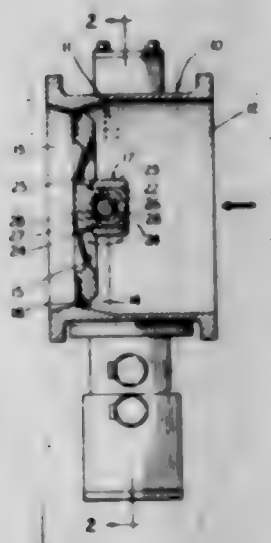
1. In valve control apparatus wherein the valve is provided with a housing having a fluid passage therethrough and slidable means for controlling said passage, said slid-

able means being operable by a member extending out of said housing, the improvement comprising a pinion gear, means for attaching said pinion gear to the valve operating member on the outside of the valve housing, a pair of spaced members attached to said housing, a rod fixedly supported by said spaced members, a piston attached to said rod, a cylinder slidably positioned on said rod and on said piston, a rack having teeth meshing with teeth of said pinion gear, means for attaching said rack to said cylinder so that said valve operating member is operated when said cylinder is moved, and means for supplying fluid pressure to said cylinder for sliding it on said rod and on said piston.

3,141,648
VALVE

Roger F. White, Rutherford, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed June 11, 1962, Ser. No. 201,683
9 Claims. (Cl. 251—163)

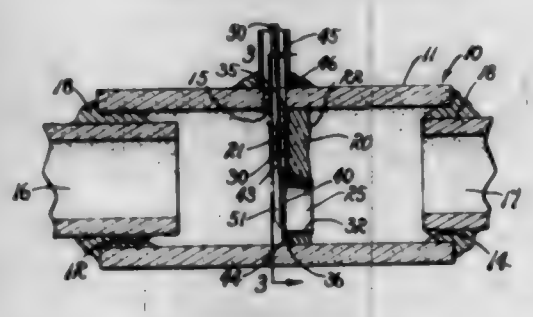


1. In a butterfly-poppet valve, the combination of a valve body having a through flow passage for working fluid with upstream inlet and downstream outlet, an upstreamwardly facing annular valve seat located in the valve body inwardly adjacent to the outlet, a circular butterfly-poppet movable valve disk adapted in closed position to fit the valve seat, a valve-operating shaft extending diametrically through the flow passage of the valve body upstreamwardly with respect to the valve seat with its end journaled in the lateral wall of said valve body and including co-axial inner and outer shaft sections of which corresponding ends protrude exteriorly from the valve body with the inner shaft section protruding further than the outer shaft section, a first motion transmission means connecting the movable valve disk to the inner shaft section in a manner to cause rectilinear movement of said valve disk axially toward and away from the valve seat in a poppet two-stage action when said inner shaft section is rocked in opposite directions through a predetermined arc of angular movement, a second motion transmission means connecting the movable valve disk to the outer shaft section in a manner to cause rotational motion of said valve disk about the axis of the valve operating shaft in a butterfly two-stage action between partially open position and fully open position feathered in the working fluid stream and the reverse when said outer shaft section is rocked in opposite directions through a predetermined arc of angular movement, co-ordinated actuation means for the respective sections of the valve-operating shaft located exteriorly with respect to the valve body, said valve actuation means being constructed and arranged to impart sequential rocking movement to said respective shaft sections in a manner to rock the inner section in one direction followed by rocking of the outer section in the same direction and then to rock said outer section in the reverse direction followed by rocking of said inner section in the reverse direction, the shaft actuation means including pinion gears provided fixedly on the exteriorly protruding ends of the respective inner and outer sections of the valve operating shaft, a unitary toothed actuator rack bar mounted exteriorly with respect to the valve body for longitudinal reciprocation in a rectilinear path tangential to the valve operating shaft and divided along its center line into respective first and second rack sections, of which rack sections said first rack section has a long row of teeth in continual mesh with the pinion gear on the inner shaft section and is of sufficient length to rotate said inner shaft section through an arc of 180 degrees in either direction to cause rectilinear axial movement of the movable valve disk in its poppet action stages, and of which rack sections said second rack section has a short row of teeth extending throughout one-half the length of said first rack section and arranged to be alternately in and out of mesh with the pinion gear on the outer shaft section to rotate the latter through an arc of 90 degrees in either direction and thereby rock the movable valve disk in its successive butterfly action stages, said second rack section having a flat toothless longitudinal bearing face lying in the plane of the roots of the teeth of said short row and extending from the inner end of the latter to the corresponding end of the long row of teeth of said first rack section, and the pinion gear on the outer shaft section having a flat peripheral chordal bearing face merging with the teeth of said pinion gear and arranged for sliding contact with the flat bearing face of said second rack section throughout a dwell period when the teeth of the latter rack sections are out of mesh with the pinion gear on the outer shaft section to prevent rotation of said outer shaft section with respect to said inner shaft section.

3,141,649
EXTERNALLY OPERATED GATE VALVE FOR IRRIGATION CONDUITS

Benjamin Baxter, Box 488, Fowler, Calif.

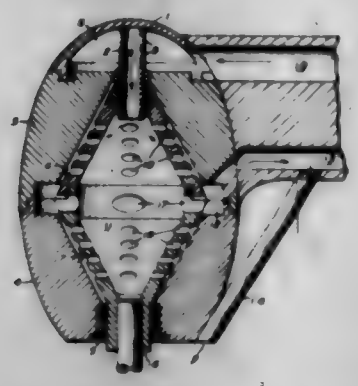
Filed June 12, 1961, Ser. No. 116,522
3 Claims. (Cl. 251—176)



1. A valve comprising a casing having a tubular fluid conducting portion being substantially circular in cross section and having a longitudinal axis, a partition in the casing disposed transversely thereof in a plane substantially normal to the axis of the fluid conducting portion providing an oval-shaped port therethrough having a major axis right angularly related to a diameter of the fluid conducting portion and disposed entirely between the center of the fluid conducting portion of the casing and its periphery, an oval-shaped gate having a major axis and being adapted to seat in said port, and means slidably mounting the gate on the partition with its major axis parallel to the major axis of the port for reciprocal adjustment along said diameter of the fluid conducting portion of the casing between a position seated in the port and a retracted position disposed within said

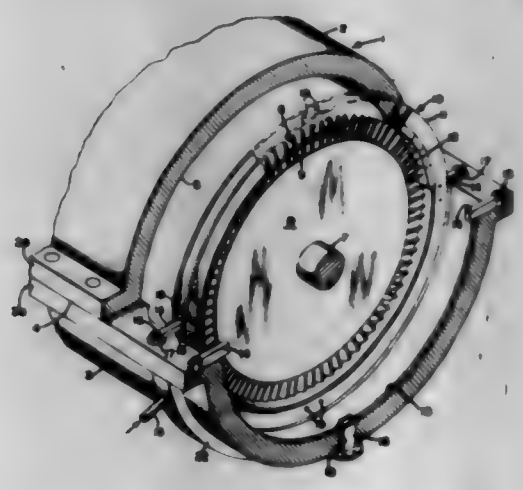
tubular portion of the casing opposite to the center of the fluid conducting portion from the port.

3,141,650
DENTAL HAND PIECE
Jacob A. Saffir, Los Angeles, Calif., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed May 13, 1963, Ser. No. 279,731
9 Claims. (Cl. 253—2)



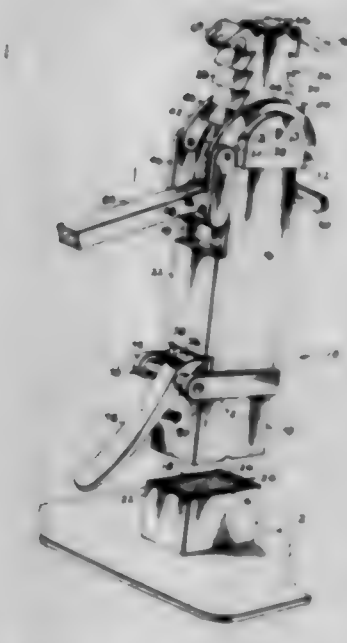
1. A dental turbine comprising a housing, a rotor, a bearing at each end of said rotor holding said rotor against radial movement in said housing, said rotor having a portion of greatest diameter between said bearings and a generally conical tapered wall between said portion of greatest diameter and each said bearing, said rotor being provided with an internal cavity, and with a plurality of tangential nozzles extending from said cavity to said portion of greatest diameter, said housing having an interior shape generally complementary to the shape of said rotor comprising coaxial conical portions surrounding and spaced from the conical walls of said rotor, and having an annular enlarged exhaust passage surrounding said portion of greatest diameter opposite said tangential nozzles, one of said bearings being provided with an air passage leading to said internal cavity, means to provide air under pressure to said air passage, and means to adjust the air pressure between the conical walls of said rotor and the conical walls of said housing according to the axial position of said rotor in said housing, whereby said rotor is biased by air pressure in a direction contrary to its axial movement.

3,141,651
TURBINE SHROUD STRUCTURE
Wayne B. Moyer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 13, 1962, Ser. No. 216,443
5 Claims. (Cl. 253—39)



1. A rotor having a plurality of radially extending blades, a split stator casing having upper and lower halves enclosing said rotor, said stator casing defining a circumferential radially extending tongue, a shroud holder disposed within said casing comprising a continuous circular channel-shaped ring having legs extending radially outward on either side of said tongue, said legs being radially spaced from said casing wall to provide relative radial movement with respect thereto, means holding said continuous shroud holder ring coaxial in said casing, and a plurality of arcuate shroud segments disposed end to end around said ring and forming close clearances with the tips of the rotor blades.

3,141,652
DOUBLE-LIFT JACK
Lawrence C. Montgomery, 2106 SW. 14th, Oklahoma City, Okla.
Filed Feb. 28, 1963, Ser. No. 261,694
4 Claims. (Cl. 254—108)



1. A double-lift jack, comprising: a base; a housing secured to said base; a lift member telescopingly received by said housing, said lift member having a series of ratchet teeth on opposing surfaces; bearings supported by opposing sides of the upper end portion of said housing; a saddle supported by said bearings; a stirrup connected to one end of said saddle; a pawl supported by the other end of said saddle and engaged with the adjacent series of said ratchet teeth; a handle having one end engaging the ratchet teeth on that side of the lift member adjacent said stirrup and fulcrumed by the stirrup to pull said saddle across said bearings and simultaneously apply a lifting force to the ratchet teeth on opposing sides of said lift member and elevate the latter with respect to said housing as the free end of said handle is moved downwardly; and locking means connected with said housing and engaged with one series of said ratchet teeth for holding said lift member in elevated position.

3,141,653
OIL WELL DRILLING STRUCTURE
Cecil Jenkins, Tulsa, Okla., assignor to Lee C. Moore Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1963, Ser. No. 264,891
2 Claims. (Cl. 254—139)

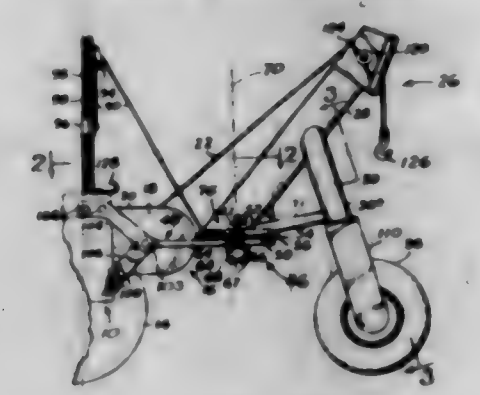
1. In an oil well drilling structure, the combination with a base, drawworks mounted thereon, a gin pole mounted on said base, a reclining mast hinged to the base in front of the gin pole and extending forward away from it, a line extending from the drawworks up over the gin pole and forward to the front end of the mast and then back inside the mast, and a pair of laterally

spaced substantially vertical sheaves mounted on top of the gin pole; of a pair of parallel upper and lower travelling sheaves carried by said line inside the mast, two laterally spaced pairs of substantially vertical sheaves mounted in the upper part of the reclining mast behind said travelling sheaves, and two sling lines extending around the front of the travelling sheaves and back under said mast sheaves, one end of one sling being connected to the top of the gin pole near one side thereof and the other end of that sling extending back under the gin pole



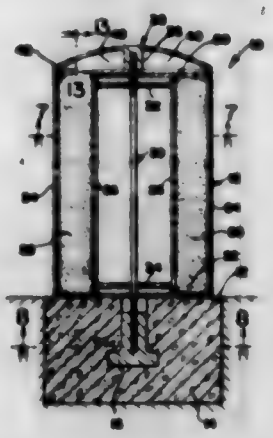
sheave at the opposite side and up around it and forward to connection with the top of the reclining mast in front of the mast sheaves, and one end of the other sling being connected to the top of the gin pole near said opposite side and the other end of that sling extending back under the other gin pole sheave and up around it and forward to connection with said mast top in front of the mast sheaves, whereby when said drawworks is operated to pull the travelling sheaves away from the gin pole the slings will help swing the mast upward and backward toward the gin pole to upright position.

3,141,654
VEHICLE WITH BOOM
Harold L. Bergerson, Kensey Rte., Vernonia, Oreg., and David S. Potter, Vernonia, Oreg.; said Potter assignor to said Bergerson
Filed Feb. 20, 1961, Ser. No. 90,445
4 Claims. (Cl. 254—139.1)



3. In combination with a tractor including a tractor frame, a winch mounted on said frame, a winch line connected to the winch adapted to be taken up by operation of the winch, a pivotable bracket mounted on a rear portion of said frame, pivot means pivotally connecting a forward portion of said bracket to said frame with a rear portion of said bracket swingable up and down in an arc at the rear of said frame, a boom extending upwardly and inclining rearwardly from the rear portion of said bracket, swivel mechanism connecting the base of said boom and the rear portion of said bracket and accommodating swiveling of the boom about a substantially upright swivel axis, ground-engaging wheel means depending from said boom and located to the rear of said swivel mechanism for supporting the boom, means for operatively connecting said winch line to said boom whereby upon said winch line being taken up by the winch said boom is raised to shift said wheel means out of ground contact, and means for locking said swivel mechanism from swivel movement whereby said boom may be stabilized when the same is raised to shift said wheel means out of ground contact.

3,141,655
ENERGY ABSORBING DEVICE
Fletcher N. Platt, 510 Huntington Drive, Ann Arbor, Mich.
Filed Dec. 5, 1961, Ser. No. 157,153
10 Claims. (Cl. 256—1)



10. An energy absorbing device for dissipating by deformation upon impact at least a portion of the kinetic energy of an object moving over a surface comprising in combination:

(*a*) an upright normally closed container having coaxial outer and inner deformable walls, the transverse dimension across said inner deformable wall being sufficient to permit substantial inward deformation thereof,

(*b*) a cap connected to the upper end of the outer deformable wall,

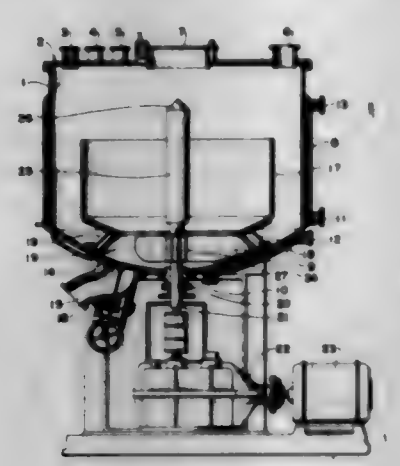
(*c*) a central anchor member connected to said cap to prevent axial displacement of the cap therefrom and extending into said surface and adapted to hold said container against said surface, and

(*d*) fluid material filling the container between the outer and inner deformable walls for absorbing energy of impact of a moving object, said material being capable of transmitting forces generally in all directions so that the energy absorbed thereby is most effectively dissipated.

3,141,656
VISCOSE DISSOLVER
Nanning de Wijn, Arnhem, Arend ten Oever, Velp, and Hulbert Holewijn, Doorwerth, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Jan. 31, 1961, Ser. No. 86,099
Claims priority, application Netherlands Feb. 17, 1960
5 Claims. (Cl. 259—95)

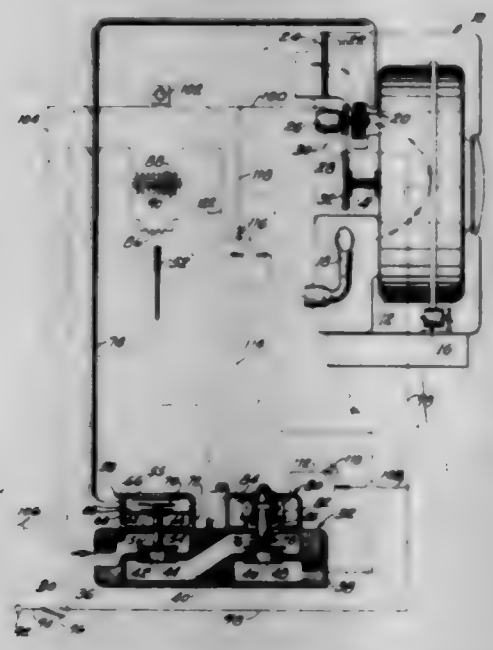
1. A mixing apparatus comprising a vessel having side walls and a bottom for containing liquid to be mixed, a guide tube supported by the bottom of said vessel and extending upwardly therefrom in spaced relationship to said side walls, an impeller rotatably mounted above the bottom and coaxially of said vessel, a drive shaft extending upwardly through said bottom of said vessel and connected to said impeller for rotating it to circulate liquid

contained within said vessel about said guide tube, means for rotating said shaft connected with the end of said shaft extending downwardly from said bottom of said



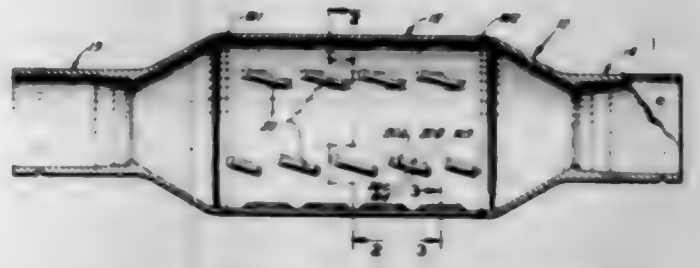
vessel, and an elongated body supported within said guide tube and extending above the liquid level for displacing liquid and eliminating a zone wherein poor mixing occurs.

3,141,657
BURNER CONTROL FOR CLOTHES DRYERS
Thomas P. Fleer, Affton, Mo., assignor, by mesne assignments, to White-Rodgers Company, a corporation of Missouri
Filed Aug. 28, 1961, Ser. No. 134,302
2 Claims. (Cl. 263—33)



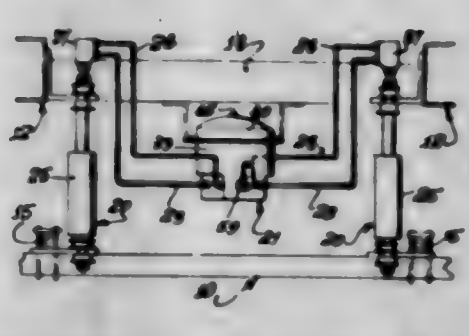
1. In a clothes dryer, a drying drum, means including said drying drum defining an air flow passageway having an inlet portion leading to said drum and an outlet portion leading from said drum, a burner in said inlet portion and a lint trap in said outlet portion, a blower in said outlet portion between said drum and said lint trap and operative to induce air heated by said burner to flow through said drum and exhaust through said outlet portion, said blower having a low pressure side, a fuel conduit leading to said burner, a normally closed valve in said conduit, a pneumatic actuator operatively connected to said valve and operative in response to a drop in pressure below atmospheric to open said valve, and conduit means connecting said actuator with said outlet portion of said passageway at a point adjacent said blower and on the low pressure side thereof.

3,141,658
FURNACE RETORTS
Frank J. Boron, Elyria, Ohio, assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Dec. 21, 1961, Ser. No. 161,190
2 Claims. (Cl. 263—47)



1. In a retort, a heating chamber comprising, first, a relatively large hollow cylinder of substantially uniform cross-sectional geometry and uniform thickness throughout, said hollow cylinder being cast centrifugally from a heat resistant ferrous metal alloy to have a prolonged life under severe high temperature conditions; secondly, a pair of separate cast end members, each of said members having a cylindrical end sleeve integral with the smaller end of an enlarged conical part welded at the larger end of said conical part to the ends of said cylinder; and thirdly, a plurality of separately fabricated ribs of a heat-resistant alloy welded to the inside diameter of said cylinder and at an angle relative to the longitudinal axis of said cylinder; the foregoing arrangement enabling the retort to have the center part only, most severely exposed to high temperature conditions, cast centrifugally from a heat-resistant alloy capable of having welded thereto the separately fabricated ribs.

3,141,659
ADJUSTABLE SHOCK ABSORBER SYSTEM FOR VEHICLES
John K. Lyon, Jr., 1176 Afton St., Pasadena, Calif.
Filed Dec. 7, 1959, Ser. No. 857,769
9 Claims. (Cl. 267—11)

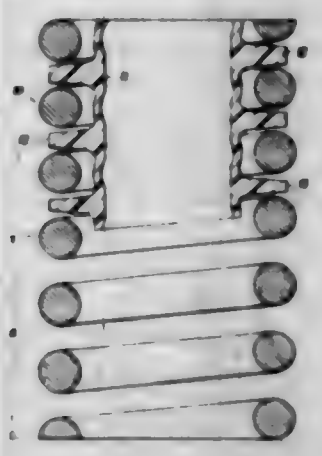


8. In combination: a pair of spaced, fluid-type shock-absorbers for a vehicle; conduit means interconnecting said shock-absorbers for fluid flow therebetween; adjustable flow control means in said conduit means regulating fluid flow between individual shock absorbers of a pair; and hydraulic fluid having an absolute viscosity of not more than about 5 centipoises at 20° C. within the shock-absorbers and the interconnecting conduit means.

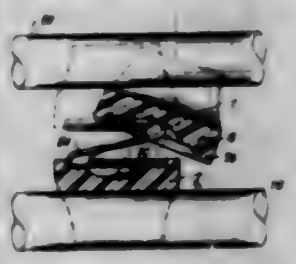
3,141,660
COIL SPRINGS
John Firstbrook Clarke and Ernest Smith Simpson, Ossett, England, assignors to Woodhead Monroe Limited, Ossett, England, a British company
Filed Mar. 8, 1961, Ser. No. 94,191
1 Claim. (Cl. 267—60)

A variable rate spring comprising a constant rate coil spring and a substantially cylindrical element concentrically disposed with respect to said coil spring, said cylindrical element being provided with a helical rib

adapted to be interposed between a preselected number of convolutions of said coil spring, said helical rib having a progressively tapered axial thickness and being operable to preclude the movement of certain of said convolutions upon the application of a predetermined force on said coil spring.



3,141,661
SPACER FOR INSERTION BETWEEN ADJACENT CONVOLUTIONS OF A COIL SPRING
James O. Melton, Norman, and Thomas B. Wilkinson, Oklahoma City, Okla., assignors to Jamco, Inc., Oklahoma City, Okla., a corporation of Oklahoma
Filed Apr. 28, 1962, Ser. No. 189,876
3 Claims. (Cl. 267—60)



1. In combination with a coil spring, a spacing element positioned between adjacent convolutions of the spring for biasing said adjacent convolutions apart from each other, comprising:

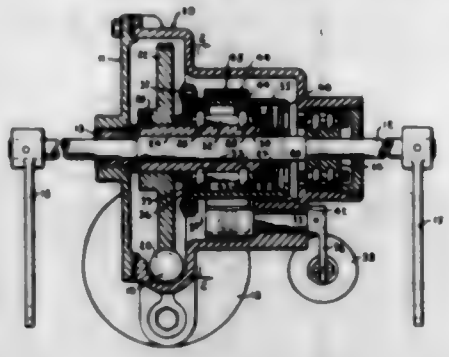
(*a*) a first block having opposed upper and lower substantially parallel surfaces, and having a groove formed in said upper surface and receiving one of the convolutions of said spring;

(*b*) a second block having opposed upper and lower substantially parallel surfaces, and having a groove formed in said lower surface and receiving one of the convolutions of said spring; and

(*c*) a helical spring interposed between said first and second blocks and contacting the lower surface of said first block and the upper surface of said second block for biasing said blocks apart from each other, said blocks each being provided with a retaining flange extending toward the opposite block from the adjacent surfaces of said blocks, said flanges having a generally annular configuration for retaining the ends of said helical spring in contact with the respective surfaces of said blocks.

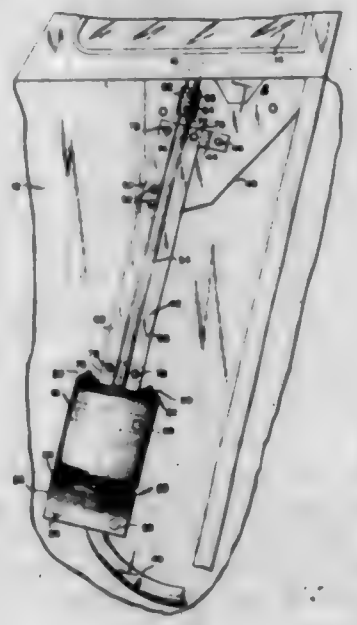
3,141,662
MOTION-TRANSMITTING DEVICE
Ralph H. Wise, Davis Island, Tampa, Fla., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed Oct. 2, 1957, Ser. No. 687,677
3 Claims. (Cl. 268—3)

1. In a vehicle body having an opening, a door hingedly mounted in said opening, and latch means for releasably holding the door closed relative to said body, the combination of means for automatically opening and closing said door comprising a motion-transmitting mechanism mounted in said body adjacent the hinged side of said door, an output shaft extending through the mechanism and beyond the opposite ends thereof, link means carried by said shaft and connected with said door, a sleeve surrounding said shaft in said mechanism, means for rotating said sleeve about said shaft, a pair of axially spaced raceways formed in the outer surface of said sleeve, carrier means surrounding a portion of said sleeve and fixedly attached to said output shaft, roller means nested in openings in said carrier



and seating in said raceways in said sleeve, freely rotatable cylindrically-shaped means surrounding said carrier means and being rotatable simultaneously thereabout and with respect thereto, raceways carried by the inner surface of said cylindrical means in engagement with said roller means, brake means loosely surrounding said cylindrical means and having end portions depending therefrom, means operable on said end portions of the brake means for engaging the brake means to prevent rotation of the cylindrical means, and means for releasing the latch means simultaneously with the application of the brake means and rotation of the output shaft whereby the door is automatically opened.

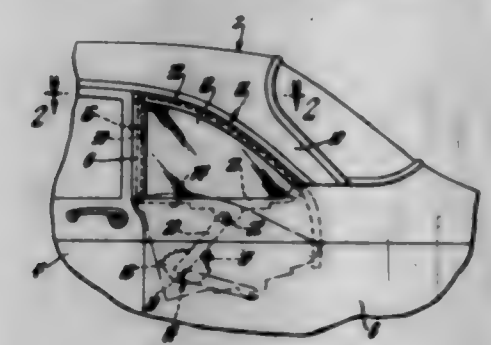
3,141,663
POWER OPERATED VENT WINDOW REGULATOR
Oscar M. Volles, Birmingham, Mich., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Oct. 12, 1961, Ser. No. 144,785
7 Claims. (Cl. 268—121)



3. A power driven window operator for rotating between open and closed positions a vehicle vent window mounted between a pair of axially aligned, spaced apart

pivot members and rotatable by one of said members comprising: a reversible electric drive motor rigid with the vehicle structure and having a rotatable drive shaft; flexible motion transmitting means; means including means operatively connected between said drive shaft and said motion transmitting means for converting the rotational movement of said drive shaft means into axial movement of said flexible motion transmitting means; a hollow rotatably mounted motion transmitting member supported adjacent said motion transmitting means; means connected between said flexible motion transmitting means and said rotatable motion transmitting member for converting axial movement of said flexible member into rotational movement of said rotatable member; and means connecting said rotatable member to said vent window rotating pivot member.

3,141,664
WINDOW REGULATOR
Ronald Chupick, Livonia, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 21, 1962, Ser. No. 218,385
5 Claims. (Cl. 268—126)



1. In a window control mechanism for raising and lowering a window in a motor vehicle body opening;

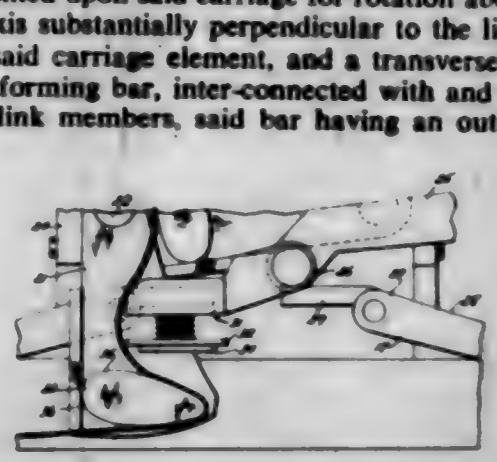
a regulator means mounted on said vehicle body below said opening operable from the interior of said vehicle and including actuating means pivotally connected to the lower edge of said window to raise and lower the same along a curved path;

window guide means mounted to said body at the front of said window opening and extending from the vehicle body belt line to the top of said opening for guiding said window along said curved path in conjunction with said actuating means from a lowered position within said vehicle body to a raised position closing said opening; and

window guide follower means connected to the upper leading edge of said window, said window guide follower means being slidably and pivotally connected to said window guide means, and the remainder of said leading edge of said window being freely received in said window guide means whereby upon actuation of said actuating means said window is tilted on said window guide follower means and partly out of said window guide means and is slidably guided therealong between the raised and lowered positions by said window guide follower means.

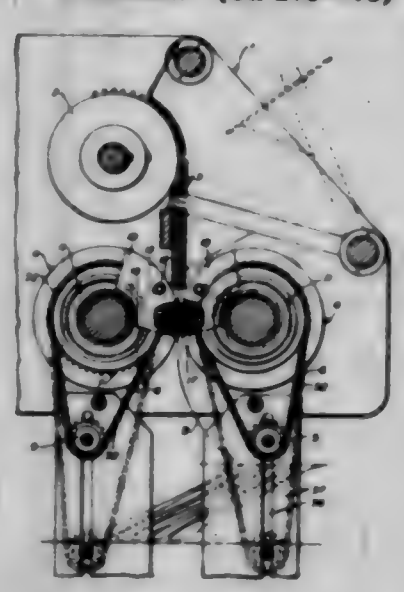
3,141,665
FOLD FORMING ELEMENTS FOR CLOTH LAYING MACHINES
Abner I. Gilbert, New York, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y., a corporation of New York
Filed May 14, 1963, Ser. No. 280,231
3 Claims. (Cl. 270—31)

1. In a cloth-laying machine, including a cloth-laying table, a carriage element supported for reciprocation along a line of motion upon said table, and at least one cloth-retaining fold element periodically raised to an elevated position at the completion of a reciprocating stroke, to permit a fold of cloth to be positioned therebeneath, the improvement comprising: at least one cloth fold-forming element, including first and second link members pivotally mounted upon said carriage for rotation about a horizontal axis substantially perpendicular to the line of motion of said carriage element, and a transversely extending fold-forming bar, inter-connected with and supported by said link members, said bar having an outer surface



including a first portion of relatively large radius of curvature facing outwardly of said table, a second portion to form the fold of relatively smaller radius of curvature facing inwardly of said table and beneath and proximate to said cloth-retaining fold element, and third and fourth portions of radius of curvature greater than that of said first portion and inter-connecting said first and second portions on either side of a median plane, passing between said first and second portions, said third portion positioned adjacent said cloth-retaining fold element for contact therewith as the folded cloth is removed from said bar.

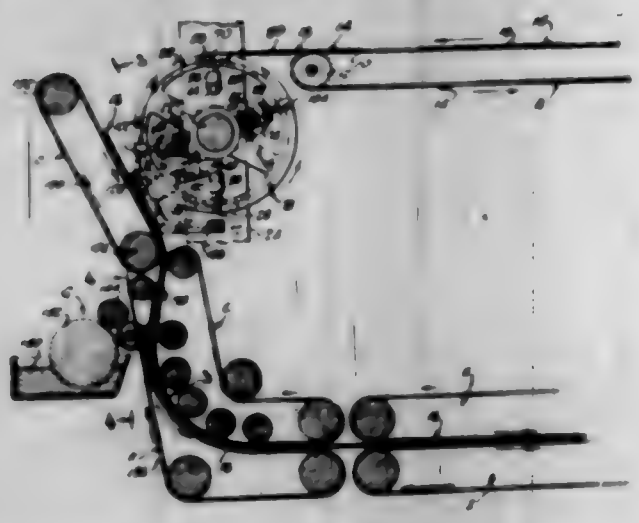
3,141,666
ZIG-ZAG WEB FOLDER
Raymond W. Ashton, Ottawa, Ontario, Canada, assignor to Ashton Press Mfg. Co., Ltd., Ottawa, Ontario, Canada
Filed June 17, 1963, Ser. No. 288,190
6 Claims. (Cl. 270—73)



1. Apparatus for zig-zag folding of a travelling web of paper at any of a plurality of predetermined intervals of length, said apparatus comprising a frame, a pair of opposed drums mounted in said frame, means for driving said drums at the same peripheral speed as the travelling length of material, a circular series of folder blades radially mounted in each said drum for movement between an inoperative position recessed within said drum and an operative position projecting from said drum, said folder blades being equally spaced apart a peripheral distance which can be multiplied by whole numbers to give said predetermined intervals, and control means for

controlling the movement of said folder blades between said positions, said control means including a driving sprocket mounted on each said drum for rotation therewith, a chain engaging each said sprocket, each said chain having a plurality of ordinary links and at least one control link adapted to effect projection of one of said folder blades as said control link travels around said driving sprocket for each chain, an idler sprocket mounted on said frame, and means permitting replacement of each said chain by a chain of different length, the chains being of appropriate length and the control links on the chains being appropriately positioned to correspond to said predetermined intervals, the control links of the two chains in use being staggered so that the drums fold the paper alternately, from opposite sides.

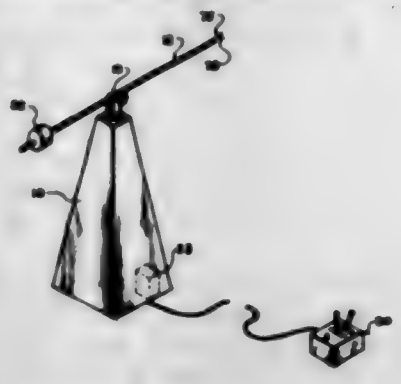
3,141,667
DEVICE FOR FEEDING ENVELOPE BLANKS
Abraham Novick, Flushing, N.Y., assignor to F. L. Smithe Machine Co., Inc., New York, N.Y., a corporation of New York
Filed May 12, 1961, Ser. No. 112,157
19 Claims. (Cl. 271—74)



1. Apparatus for feeding envelope blanks with the edges of each successively fed blank offset and equal predetermined amount comprising, continuously rotating transfer means, means to feed a plurality of envelope blanks in succession to said transfer means, a continuously moving conveyor arranged in proximity to said transfer means, means cooperable with said conveyor to hold each blank fed to said conveyor in a fixed position on said conveyor relative to the next adjacent blank, said transfer means including means for securing each blank thereto and for moving each blank in succession to said conveyor with each succeeding blank positioned over the previously fed blank and with the edges of each successively fed blank offset an equal predetermined amount, said securing means including, first means for grasping the forward edge of each blank advanced by said feeding means and holding it on said transfer means for a predetermined rotation thereof and thereafter releasing said forward edge for deflection to said conveyor, and second means for grasping the trailing portion of each blank prior to release of the forward portion thereof and holding it upon said transfer means for a predetermined rotation thereof and thereafter releasing it onto said conveyor.

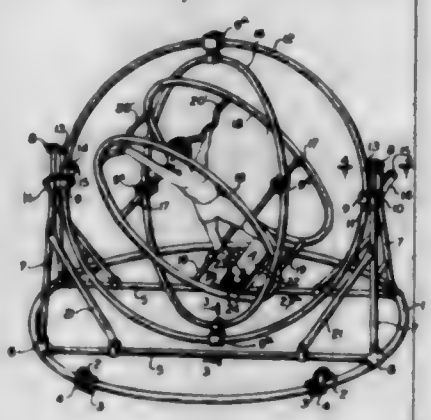
3,141,668
TWIN ROTOR HELICOPTER ROUNDABOUT
Clyde D. Nicholson, Bridgeville, Pa.
(3360 Forest Road, Bethel Park, Pa.)
Filed Jan. 17, 1957, Ser. No. 634,670
4 Claims. (Cl. 272—31)

1. In a toy roundabout the combination comprising a pedestal, an arm member rotatably connected intermediate its end portions to the top of said pedestal, a counterweight positioned on said arm member adjacent one end portion, said counterweight being movable radially on said arm member toward and away from said pedestal, a model helicopter adjacent the other end portion of said arm member having a cylindrical connector member extending transversely therefrom, a sleeve member rotatably positioned on said connector member and having a pair of pin members extending radially therefrom, said other end of said arm member having a pair of ear portions with aligned apertures therethrough, said pin members



extending through said arm member apertures thereby securing said model to said other arm member end portion so that both the longitudinal and radial axes of said model are movable relative to said arm member, said model having a pair of spaced rotor members positioned thereabove and rotatably secured thereto on opposite sides of said connector member, means to rotate said rotors to provide a lifting force for said model and means to regulate the lifting force of said rotors relative to each other to rotate the longitudinal axis of said model relative to said arm member and thereby rotate said model about said pedestal.

3,141,669
HOOP DEVICE
Yun Chul, 898–51 Hawangsimri-dong (Hongik-dong), Songdong-ku, Seoul, Korea
Filed Apr. 26, 1963, Ser. No. 275,905
4 Claims. (Cl. 272—33)



1. A hoop device comprising
a base ring,
two cross bars disposed parallel to and spaced apart from each other and secured within said base ring to the latter,
two bars extending upwardly at an angle towards each other from the corresponding ends of said cross bars to be joined at their upper ends at a predetermined distance above the plane defined by said base ring,
a bearing disposed adjacent to the upper ends of each set of said two bars, said opposite bearings to define a substantially horizontal rotating axis, and forming a first set of bearings,
a first hoop rotatably mounted in said oppositely disposed bearings,

a second pair of bearings disposed diametrically opposite each other and 90° apart from said first pair of bearings and secured to said first hoop,

a second hoop supported by said second pair of bearings for rotation within said first hoop about an axis defined by said second pair of bearings,

a third pair of bearings disposed diametrically opposite each other and 90° apart from said second pair of bearings and secured to said second hoop,

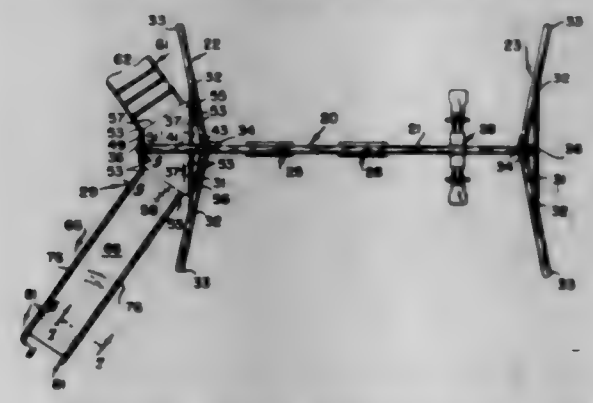
a first cross bar secured to each of said bearings of said third pair of bearings for rotation about an axis defined by said third pair of bearings,

a third hoop comprising two hoop members disposed spaced apart from each other in parallel planes and secured to the ends of said last mentioned cross bars,

two second parallel cross bars secured to and disposed close to each other between said hoop member of said third hoop and having foot supports, adapted to secure safety the feet of a user of said hoop to said third hoop, and

two third parallel cross bars secured to and disposed between said hoop members of said third hoop substantially diametrically opposite said second parallel cross bars, said third parallel cross bars being adapted to be gripped by the hands of a user of said hoop.

3,141,670
ANGULAR PLAYGROUND SLIDE ASSEMBLY
Emanuel S. Smyrnl, Bossier City, Bobbie L. White, Shreveport, and Lawrence T. Jones, Bossier City, La., assignors to Universal Manufacturing Co., Inc., Bossier City, La., a corporation of Louisiana
Filed Feb. 5, 1962, Ser. No. 170,941
13 Claims. (Cl. 272—56.5)



1. In combination with a playground gym composed of a cross bar hanger member supported in spaced relation to a support surface by respective pairs of downwardly diverging support legs having interconnecting brace elements end attached to the respective leg pairs and mounting longitudinally spaced depending swing assemblies and the like between said leg pairs, an outboard end mounted slide assembly comprising:

an extension bar having one end removably secured to one end of said cross bar hanger member with its opposite end extending a substantial distance axially from said one end of said cross bar hanger member;

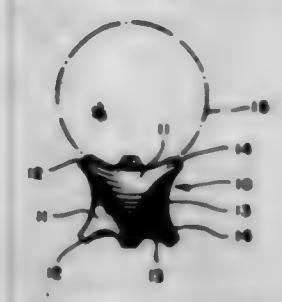
a pair of depending, transversely spaced support bars fixed at their upper extremities to the opposite end of said extension bar;

a platform element having respective edge portions fixedly connected to the interconnecting brace of the leg pair nearest said one end of said cross bar hanger member and to the pair of depending support bars so as to mount said platform in substantially spaced relation above said support surface;

ladder means fixed at its upper end to an edge portion of said platform and having its lower end resting on said support surface to provide access to said platform from said support surface; and

slide means fixed at its upper end to an edge portion of said platform and having its lower end resting on said support surface to permit sliding egress from said platform to said support surface.

3,141,671
SYMMETRICAL GOLF TEE
Bird A. Eyer, 3409 Magnolia Blvd., Seattle, Wash.
Filed Sept. 21, 1962, Ser. No. 225,258
3 Claims. (Cl. 273—33)



1. A golf tee made from yielding material of relatively low resiliency and having the overall configuration of a regular octahedron, each side of which has a concave face with three adjacent apical tips disposed in the pattern of an equilateral triangle so that there is a total of eight concave faces and six apical tips, each of said tips protruding outwardly a sufficient distance from the adjoining faces so that any group of three tips is able to support a golf ball thereon, with the remaining three tips providing ground support for the tee.

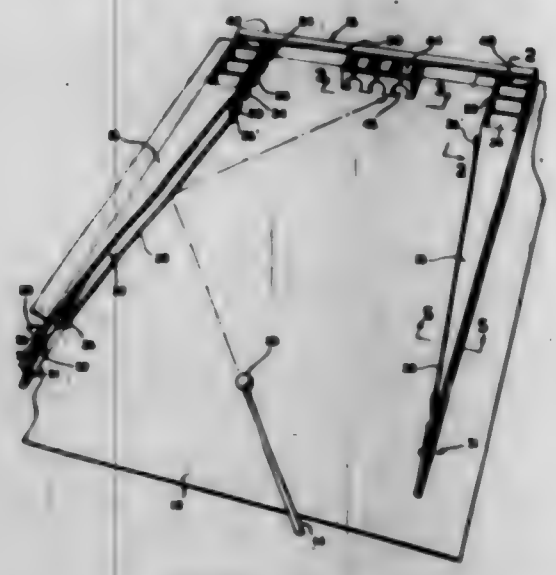
3,141,672
BOWLING PIN
Victor A. Unterbrink, Ottawa, Ohio; Eleanor A. Unterbrink, executrix of said Victor A. Unterbrink, deceased, assignor to Larry Unterbrink, Ottawa, Ohio
Filed Mar. 1, 1955, Ser. No. 491,250
4 Claims. (Cl. 273—82)



1. A bowling pin of standard tenpin size and shape, said pin comprising a wooden base member having a lower body portion which extends upwardly about 8½ inches from the bottom of the base member and a neck portion which extends upwardly from said body portion, and a tough, resilient, hard reinforcing material adhered to a portion of the exterior thereof, said reinforcing material extending from a point nearer the base than the point of impact between a bowling ball and the pin, when standing, extending continuously from such height to the upper portion of the neck of the pin, and having thickened portions extending from about four inches above the base of the pin to about five inches above the base of the pin, and starting at the point of juncture of the neck and the lower body portion of said wooden base member and tapering in thickness to zero at about the upper portion of the neck of said base member of the pin from said second thickened portion, said wooden base member having a generally uniform diameter neck about 1⅝ inches in diameter, and said reinforcing being tightly

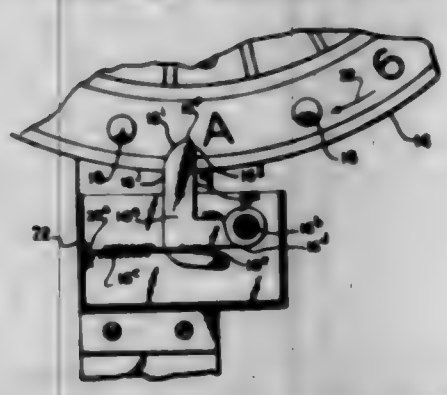
confined about the point of juncture of said neck and the bottom portion of said wooden base member and extending outwardly to the standard contour of a tenpin so as to decrease in thickness above and below said point of juncture to provide a reinforcing collar of a generally V-shaped cross section at said point of juncture.

3,141,673
POCKETED BALL GAME
David C. Scott, P.O. Box 250, Gagnon, Quebec, Canada
Filed Nov. 26, 1962, Ser. No. 239,963
13 Claims. (Cl. 273—123)



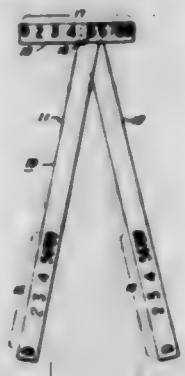
1. A game apparatus for use with a ball, comprising a frame having at least one side member with an inner face upstanding from a playing surface on which the frame is supported and a ball is propelled, a tensioned string extending along said inner face and spaced outwardly therefrom parallel to said playing surface, means on said frame providing a ball-receiving pocket spaced from said tensioned string and having an aperture disposed to admit into said pocket a ball deflected by said tensioned string in play of the game, said side member including a resonant chamber for tuning of said string to a desired pitch.

3,141,674
SPIN WHEEL GAME HAVING INTERCHANGEABLE FACES AND A SPRING-BIASED CLICKER ELEMENT
Louis Hoffman, Jamaica, N.Y. (% Ra-Co Tool & Metal Stamping Co., Inc., 70—32 84th St., Glendale, N.Y.)
Filed July 2, 1962, Ser. No. 206,675
2 Claims. (Cl. 273—142)



1. A spin wheel game of the character described, comprising a supporting frame, a plastic wheel rotatably mounted on said frame, a plurality of circumferentially located pins molded on said wheel, a pawl mounted on said frame for engagement with said pins, and a face element removably mounted on said wheel, said face element being imprinted with the indicia of a game, said frame including a tripod stand, two of the legs of said stand being pivotally mounted relative to the third leg for movement toward said third leg, to render the stand compact for shipping and storing purposes, and away from said leg to support the frame in standing, operative position, said pawl comprising a generally bell-crank-shaped element defining a substantially horizontal foot portion and a substantially vertical upright portion connected to one end of said foot portion, the pivotal axis of the pawl being located at the opposite end of said horizontal foot portion and the pin engaging portion of the pawl being the upper end of said vertical upright portion, said pawl being spring-urged about its said pivotal axis into engagement with said pins, said upper pin-engaging portion of the pawl being provided with a relatively sharp point flanked on one side by a curved portion which is offset but slightly from the vertical and flanked at the opposite side by a curved portion which more closely approaches the horizontal, said face element comprising a generally disc-shaped paper sheet having a plurality of cut out portions adapted to register with and receive the pins on the wheel, the edges of said cut out portions being in frictional engagement with the sides of the pins to hold said face element in place against said wheel.

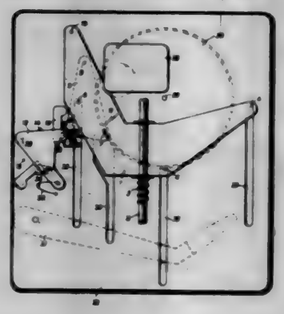
3,141,675
COMBINED GOLF BALL AND GOLFER'S FEET POSITIONING DEVICE
Grover W. Street, P.O. Box 524, Okmulgee, Okla.
Filed Jan. 9, 1961, Ser. No. 81,638
2 Claims. (Cl. 273—187)



1. A golf stance and swing guide including three elongate narrow rectangular members adapted to lie on a substantially flat surface, the first of the members being adapted to be positioned in close proximity to a golf ball and to extend parallel to a desired line of flight of the golf ball, the second and third of said members being of substantially equal length and of greater length than the first member, said first member having a series of indicia extending longitudinally thereof and corresponding to a predetermined number of golf clubs for indicating the preferred placement of the golf ball with respect to each of the clubs, and means pivotally attaching one of the ends of each of the second and third members to each other and to the intermediate portion of said first member whereby the opposite ends of said second and third members are free to pivot toward and away from each other, each of the free end portions of said second and third members having a series of indicia extending longitudinally thereof and corresponding to the predetermined number of golf clubs for indicating the preferred spacing from the ball of the heels of the user of the guide with respect to each of said clubs, said free end portions being adapted to be spaced apart a distance substantially equal to the width of the stance of the user and disposed between the heels of the user with each of said second and third members having the same angular relation to said first member whereby the vertex of the angle between said second and third members is perpendicular to said first member, the pivotal attachment of said members

permitting compact folding of said guide for carrying in a golf bag, said first member being of a relatively short length which is sufficient only to accommodate the positioning of the indicia on said member in accordance with said preferred placement of the golf ball with respect to each of the golf clubs and to function as a guide for the initial backswing and initial follow-through of the head of a golf club.

3,141,676
SEMI-AUTOMATIC REPRODUCTION DEVICE FOR SOUND CARRIERS IN DISC FORM
Horst Zarm, Berlin-Zehlendorf, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1960, Ser. No. 77,968
Claims priority, application Germany Jan. 14, 1960
11 Claims. (Cl. 274—9)



1. A semi-automatic, side-insertion phonograph for records of different diameters having a driving motor and comprising a plurality of feelers for scanning the diameter of the record before it reaches the predetermined position for playing, a spring, a shiftable slide movable against said spring in the direction of insertion of said phonograph record, said feelers coacting with said shiftable slide, means operatively connected to said slide whereby the shifting of said slide controls the permitted depth of insertion of said record and the centering of the inserted record and the switching on of said driving motor, said feelers comprising at least one stud engaging the edge of said record, a feeler lever including a plurality of other studs thereon, a trap for selected studs which traps the selected stud corresponding to a certain diameter record momentarily before the record reaches its position for playing, and coupling members connected to said trap whereby when said trap is closed the further course of the switching operation is controlled.

3,141,677
LOW LEAKAGE MECHANICAL SEAL FOR HIGH PRESSURE PUMPS
John G. Williams, Springfield, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 66,684
8 Claims. (Cl. 277—3)

1. A sealing assembly for sealing a high pressure fluid in a high pressure fluid rotating machine having a shaft journaled in a housing comprising:

(*a*) a chamber means formed in the housing,

(*b*) a cylindrical means having one end thereof connected to the housing and said means to divide the chamber means into a sealing space portion and a piston space portion,

(*c*) a collar means having one end thereof connected to the housing and the other end thereof extending in the direction of the cylindrical means,

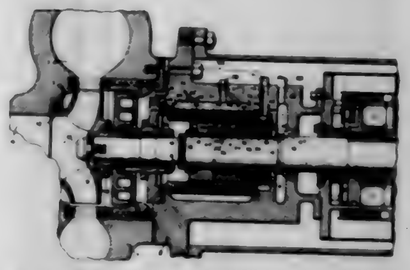
(*d*) a runner member mounted on the shaft,

(*e*) a stator member stationarily mounted in the housing on one side of the runner member to coact with the runner member to form a fluid film therebetween, whereby the high pressure fluid is broken down to a lower pressure fluid which may pass to the piston space portion,

(*f*) the stator member having a neck portion,

(*g*) the end of the cylindrical means remote from the housing connection in operatively sealed engagement with one side of the neck portion of the stator member,

(*h*) the end of the collar means remote from the housing connection in operative sealed engagement with the other side of the neck portion of the stator member,



(*i*) the end of the cylindrical means and the end of the collar means which are each in engagement with the neck portion of the stator member to coact with one another to support the stator member, to permit the stator member to swivel responsive to the run-out of the runner member, and to permit the stator member to be axially displaced responsive the run-out of the runner member and the changes in thickness of the fluid film, while each of said ends maintain the sealed relationship with the neck portion of the stator member,

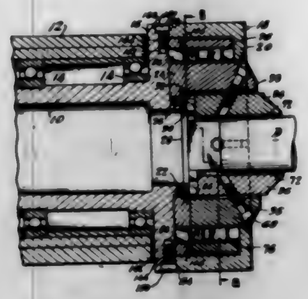
(*j*) piston means formed on one end of the stator member and said means disposed in the piston space portion of the chamber means where the lower pressure fluid therein will act thereon to urge the stator in the direction of the runner member,

(*k*) sleeve means disposed in free floating relationship between the piston means and the housing, in sealed relationship with each, to permit large displacement of the stator member responsive to the movement of the shaft and runner member and to prevent leakage from the sealing space portion to the piston space portion of the chamber means,

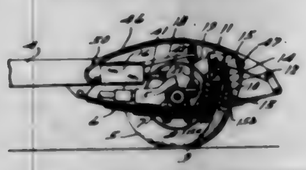
(*l*) control means operatively associated with the housing to regulate the quantity of fluid flowing between the coacting stator member and runner member and to establish the thickness of the fluid film therebetween.

3,141,678
CHUCK CONSTRUCTION
Clifford L. Garrison, Adrian, Mich., assignor to Oliver Instrument Company, Adrian, Mich., a corporation of Michigan
Filed Jan. 11, 1962, Ser. No. 165,508
9 Claims. (Cl. 279—114)

1. A chuck construction of the character disclosed, in combination, an annular housing, a backing plate, a pair of diametrically arranged chuck jaws, guide means for said chuck jaws in said housing, means for adjusting the position of at least one of said guide means relative to the housing, a chuck jaw adjusting plate disposed adjacent the backing plate formed with a pair of scroll-like slots, means carried by the chuck jaws extending into the slots in the adjusting plate, means for effecting rotation of the adjusting plate relative to the backing plate for moving said chuck jaws simultaneously in diametrically opposed directions, and means for adjusting the housing relative to the backing plate.



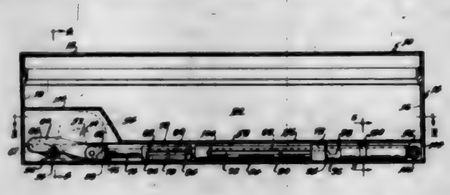
3,141,679
VEHICLE SELF-LEVELING DEVICE
Brooks Walker, 1280 Columbus Ave., San Francisco 11, Calif.
Filed Oct. 26, 1961, Ser. No. 147,890
11 Claims. (Cl. 280—6)



1. In a self-leveling device for a vehicle having a sprung body mounted on unsprung wheels connected by an axle housing, a reservoir supported on said sprung portion of the vehicle, a shaft provided on the reservoir, an operating arm on said shaft, means connecting the arm to the axle housing for operating said shaft when relative movement occurs between the sprung and unsprung portions of the vehicle, an actuating arm secured to said shaft, a cylinder, a piston in said cylinder having a spring thereon for urging the piston in a direction to force a fluid from the cylinder after the piston has been retracted and the spring compressed by said actuating arm during its movement in the opposite direction, an auxiliary suspension spring for the vehicle, a second piston and cylinder connected between the sprung portion of the vehicle and said auxiliary spring, and a conduit connected to said cylinders to have the former supply fluid to the latter for moving the piston outwardly of the second cylinder to load the auxiliary spring and level the body.

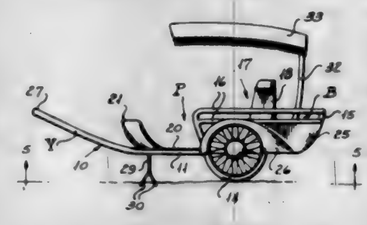
3,141,680
PORTABLE LUGGAGE HAVING RETRACTABLE WHEELS
Goldwin C. McCord, 5127 S. Kedzie Ave., Chicago, Ill., and Martin R. Priban, 228 56th St., Downers Grove, Ill.
Filed May 2, 1962, Ser. No. 191,954
9 Claims. (Cl. 280—38)

1. A piece of luggage comprising a box having a bottom, a first end wall extending from one end of the bottom, a second end wall extending from the other end of the bottom, said bottom having an opening therein adjacent to the first end wall, a first shaft rotatably mounted on the interior side of the bottom adjacent to and parallel with the first end wall, a first lever arm secured to and rotatable with the first shaft, a wheel rotatably mounted on the first lever arm, a second lever arm secured to and rotatable with the first shaft, said second lever arm being disposed at an angle between 90 degrees and 180 degrees with the first lever arm, and means for positioning the second lever arm between a first position wherein the wheel is disposed on one side of the bottom and a second position wherein the wheel is disposed on the other side of the bottom including a first guide block mounted on the inside surface of the bottom,



a second guide block mounted on the inside surface of the bottom, said first and second guide blocks being spaced from each other and having channels extending therethrough disposed on a common axis normal to the shaft, a second shaft slidably disposed within the channels of the first and second guide blocks, a third lever arm pivotably mounted on the end of the second shaft confronting the first shaft and pivotally secured on the end of the second lever arm opposite the first shaft, said second shaft having a channel extending axially therein from the end opposite the third lever arm, a third shaft slidably disposed within the channel of the second shaft, and releasable means for attaching the third shaft on the second shaft for translation in either direction along the axis thereof.

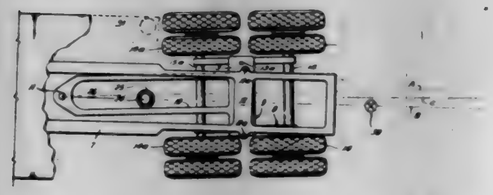
3,141,681
VEHICLE WITH ADJACENT PASSENGER AND BAGGAGE COMPARTMENTS
Clarence Cedarstrand, 5 Heights Road, Ridgewood, N.J.
Filed July 6, 1962, Ser. No. 208,679
4 Claims. (Cl. 280—47.25)



1. A vehicle having a frame provided with a pair of side members formed with connected front and rear sections, respectively, wheel mounting means secured to said frame intermediate said front and rear sections and equipped with wheels for hauling said vehicle over the ground, flooring means extending between and connected to said front and rear sections, a seat disposed over said mounting means between said wheels and having front and rear walls secured to said flooring means, said rear sections formed with rearwardly and upwardly extending side portions spaced rearwardly from said rear wall, respectively, slats connected to and extending between said side portions rearwardly of said flooring means, brace means disposed between and connecting said portions to-

gether in spaced relation, said brace means extending forwardly and downwardly from said portions and connected to said front sections, respectively, said front sections being of a greater length than said rear sections and terminating forwardly beyond said mounting means in an upwardly extending yoke adapted to be grasped by an operator for hauling the vehicle over the ground, a dashboard connected to said flooring means and extending upwardly from said front sections, said dashboard being spaced forwardly from said seat and cooperating with the latter and said floor means to define a passenger compartment between said dashboard and said seat, said rear wall being spaced forwardly from said portions and cooperating with said brace means and said slats to define a baggage compartment having sides and disposed rearwardly of said seat, and shields enclosing said sides of said baggage compartment and secured to said side members and said portions, respectively.

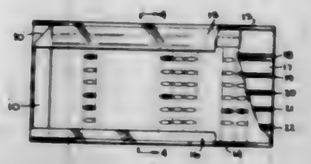
3,141,682
TRAILER ALIGNMENT BOGEY
Eugene F. Shiels, Dallas, Tex., assignor to Dresser Industries, Inc., a corporation of Delaware
Filed Feb. 5, 1962, Ser. No. 170,876
4 Claims. (Cl. 280—81)



1. In a wheeled vehicle for transporting heavy equipment having at least one pair of wheels located adjacent to the rear of the vehicle, an axle carried by the pair of wheels, a supporting unit carried by the axle, and a vehicle frame supported by the supporting unit, that improvement which comprises an upper flat plate on said supporting unit having a transverse section carrying the vehicle frame and a forward projecting extension thereof pivoted to the vehicle frame adjacent the forward end of said extension; means for releasably locking the frame in laterally centered position on the transverse section; means, attached to the frame and supporting unit, for moving the frame pivotally on the transverse section of the flat plate; and means for limiting pivotal movement of the frame, including a stop carried by one of said frame and flat plate disposed in an opening in the other of said vehicle frame and flat plate.

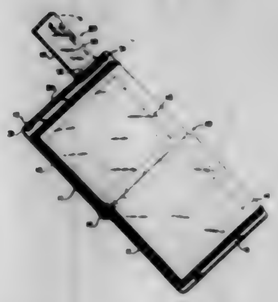
3,141,683
TAB CARD PROTECTIVE CARRIER
Harold Engelstein, 733 Caffrey Ave., Far Rockaway 91, N.Y.
Filed Oct. 14, 1960, Ser. No. 62,568
2 Claims. (Cl. 281—44)

1. A protective carrier for rectangular tabulator cards to prevent mutilation thereof in the course of repeated handling, comprising a rectangular base plate formed of transparent flexible plastic material and having all dimensions slightly larger than said card, first and second flaps, ribs marginally connecting said first and second flaps to opposing longitudinal edges of said base plate, said ribs being interposed between said flaps and said plate and having adhesive layers thereon to effect said connection therebetween, a rectangular deck at least equal in length and width and in a position to underlie the record area of the card, and a plurality of parallel ribs extending longitudinally along said base plate to connect said deck to said plate in the central area defined by said flaps, said parallel ribs being interposed between said plate and



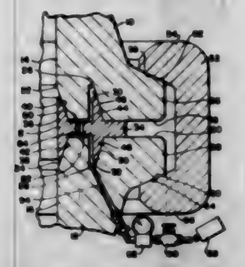
said deck and having adhesive layers thereon to effect said connection therebetween, said parallel ribs elevating said deck and thereby raising the central area of a card insert relative to the edges thereof under said flaps whereby said card edges are tensioned by said flaps.

3,141,684
COMBINED CHECKBOOK AND CASHBOOK
Michael Haber, 105—34 63rd Ave., Forest Hills, N.Y.
Filed Apr. 25, 1962, Ser. No. 190,855
2 Claims. (Cl. 282—9)



2. In combination, a checkbook and a record book comprising: a record book including a longitudinal edge portion along an inside cover surface thereof; a stack of checks; a slide rail including at one extremity thereof an apertured mounting flange adapted for receiving rivet means whereby said rail is cantilever-mounted along the record book's longitudinal edge portion on the inside cover surface thereof, there being a space between the cantilever-mounted rail and said inside cover surface, and clip means coupled with said rail for holding the stack of checks near an edge portion area of said stack of checks, the clip means being adaptable for sliding movement along said cantilevered rail and for rotation about the longitudinal axis of the rail, said cantilevered slide rail comprising two spaced-apart sections, the spaced-apart sections being joined at one end in said mounting flange, one section including splines along the surface thereof, said splines running from the free end of the cantilever to a point near the mounting flange portion, the surface between the flange portion and the splines being smooth-surfaced; and said clip means including splines adaptable for interlocking with the splines on said cantilever section whereby the clip means can be locked in any position along the rail, said clip means being taken out of interlocking relation with said section by manually forcing the rail's spaced-apart sections together.

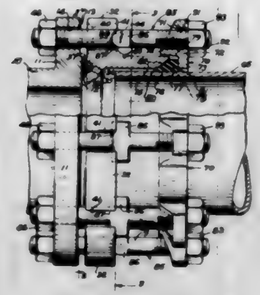
3,141,685
COUPLING WITH LEAK DETECTING MEANS AND SEALING RING THEREFOR
John D. Watts, Houston, Tex., assignor to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Oct. 11, 1960, Ser. No. 61,989
13 Claims. (Cl. 285—93)



1. A sealing coupling comprising first and second annular parts of hard metal or the like having annular end surfaces presented toward one another to be connected together and sealed against a fluid under pressure within said parts, one of said parts having outwardly tapering annular sealing surface means adjacent the end surface of the part extending at an acute angle with respect to the longitudinal axis of the part, the other of said parts having flexible lip means adjacent the end surface thereof, said flexible lip means having sealing surface means arranged to engage and be deflected by and to seal with the sealing surface means of said one part when the end surfaces of said parts are drawn toward one another, said sealing surface means interengaging each other at spaced annular positions when the end surfaces of said parts are drawn toward one another, said parts between said positions defining an annular fluid tight chamber, means for communicating said chamber exteriorly of said parts, the end surfaces of said parts having abutting portions engageable with each other in response to the movement of the end surfaces of said parts toward one another to limit the degree of such movement, and means for drawing the end surfaces of said parts toward one another to such limit to effect the seal; a pressure gauge, means communicating said gauge with said chamber through said exterior communicating means and means for communicating a fluid pressure to said chamber through said exterior communicating means.

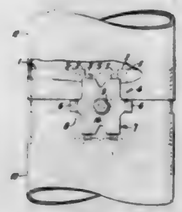
3,141,686
PIPE COUPLING
Telford L. Smith, South San Francisco, and Thomas A. Graham, San Mateo, Calif., assignors to Smith-Blair, Inc., San Francisco, Calif., a corporation of California
Filed Nov. 24, 1958, Ser. No. 776,025
2 Claims. (Cl. 285—174)

1. A flexible flange coupling adapter for connecting an unflanged cylindrical pipe end section to a pipe fitting having at its end an integral annular flange with a machined face, a radially outer annular portion having bolt openings therethrough, and a bearing face on the opposite side of said flange from said machined face, said flange adapter comprising a tubular metal casting having a sleeve portion with an inner periphery greater than the outer periphery of said cylindrical pipe end section to freely receive same and a radially extending annular flange portion at one end of said sleeve portion, said last mentioned flange portion having an end face opposing said machined face, with an annular O-ring-receiving groove therein and a radially outer portion with a series of peripherally open radially inwardly extending bolt-receiving slots with a series of axial recesses in between said slots, each slot being adapted for alignment with said bolt opening, and a rear face with an annular axial recess therein; a series of bolts, one at each slot, each having a transverse bar seated in said recess and locked thereby against rotation, said bolts being adapted to extend through the openings in said fitting; an elastomeric O-ring in said groove for engaging said flange face; a nut for each said bolt for compressing said O-ring between said machined face and said end face and thereby sealing said flange adapter to said flange; and means for connecting said sleeve to a said unflanged pipe, said means including an annular elastomeric ring compressed between



the outer periphery of said pipe and the inner periphery of said sleeve; a follower facing the end of said sleeve opposite said flange, said follower having bolt openings therethrough aligned with said slots, said annular elastomeric ring comprising a gasket between said follower and said sleeve end, shank extension portions of said bolts extending from said bar and through the bolt openings of said follower; and nuts on said extension portions bearing against said follower and urging it against said sleeve to compress said gasket, for coupling said sleeve to cylindrical pipe.

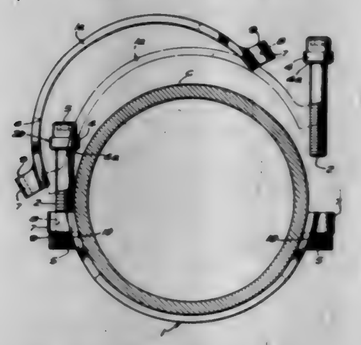
3,141,687
DUCT COUPLING FOR JOINING DUCTS
Georg Broberg, Solna, and Bror Johansson and Sven Wallin, Jonkoping, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Nov. 7, 1960, Ser. No. 67,738
3 Claims. (Cl. 285—397)



1. A device for joining duct ends together comprising in combination with two adjacent duct ends to be joined, an axially split circumferential splicing strap disposed inside the duct ends to be joined, reaction spreader elements provided on said strap and spaced from said split ends, a first curved joint plate engaging one side of said strap adjacent the ends, a bowed deformable second joint plate engaging the other side of said strap adjacent the ends, said bowed plate member having spreader elements engaging said reaction spreader elements on said strap, means radially engaging said plates to urge them together and reduce the bend in said bowed plate to force the band

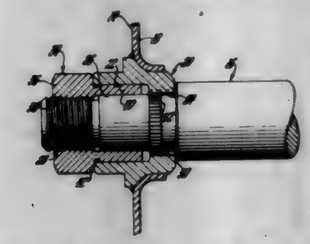
ends apart and tighten the band in the duct ends, and stop means between said first plate and said strap for limiting the circumferential spreading movement of said strap.

3,141,688
STOP COLLAR
Raymond G. Taylor, Jr., Santa Monica, and Newton H. Lee, Jr., Newport Beach, Calif., assignors, by mesne assignments, to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,421
4 Claims. (Cl. 287—52.03)



1. A stop collar comprising: a pair of arcuate body parts disposable about a longitudinally extended member with the respective ends of the body parts in opposed relation, said body parts each being provided at its opposite ends with a projection, one of said body parts having internally threaded means at each of its end projections for the reception of a threaded fastener, said fastener having radially enlarged abutment means at one end, the other of said body parts having circumferentially extended radial slots at its opposite ends adjacent its end projections and of a width greater than the abutment means on said threaded fastener, the latter end projections each also having an opening to accommodate said threaded fastener, said opening being alignable with said internally threaded means at the ends of said one of said body parts and being unobstructed inwardly to allow the lateral movement of said latter end projection onto said fastener intermediate its ends.

3,141,689
MOUNTING MEANS
Robert P. Rohde, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 102,611, Apr. 12, 1961. This application Dec. 17, 1962, Ser. No. 246,302
4 Claims. (Cl. 287—53)



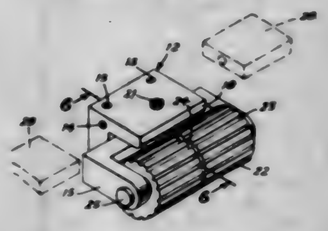
1. Means for mounting a pulley comprising a shaft having a threaded end and an annular integral shoulder spaced from said end, a hub having an axial stepped bore formed therethrough received on said shaft, the diameter of the smaller portion of said bore being substantially the same as the diameter of said shaft and the diameter of the larger portion of said bore being greater than the diameter of said shaft, a nut member threadedly received on the end of said shaft and having a tubular sleeve extending therefrom and between said shaft and said hub member and inwardly of said threaded end of said shaft, said nut member having a shoulder formed thereon engaging said hub and clamping said hub between said last named shoulder and said shoulder on said shaft, and means disposed between said shaft and said hub to prevent relative rotation therebetween.

3,141,690
TAPPING DEVICE FOR BARRELS, KEGS OR THE LIKE
Anthony F. Greenfield, 2905 Frederick Ave., Baltimore 23, Md., assignor of one-half to Herman M. Gittleman, Baltimore, Md.
Filed Nov. 13, 1962, Ser. No. 236,791
1 Claim. (Cl. 287—58)



In a beer barrel tapping device of the type that includes an elongated rod, a fitting having a centrally disposed opening therein for the projection therethrough of said rod, said fitting being provided with a pair of upstanding diametrically opposed lugs, one of said lugs having a slot therein, a locking device including a plate having a circular opening therein, a flexible base piece having an end portion affixed to said plate, and said base piece having a recess in its other end and said recess providing clearance for the said one lug that has the slot therein, said base piece having a circular opening smaller than the opening in the plate therein which is arranged in registry with the circular opening in the plate, and said registering openings having the rod extended therethrough.

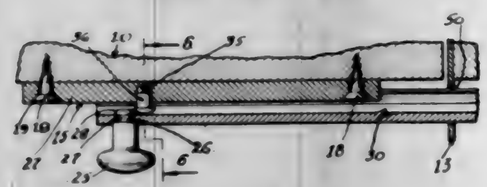
3,141,691
AUTOMATIC WINDOW STOP
George S. Gunard, 61 Pine Hill Ave., Glenbrook, Conn.
Filed Jan. 22, 1962, Ser. No. 167,574
4 Claims. (Cl. 292—75)



3. In a window stop for holding window sash at any desired elevation comprising in combination, a base adapted to be fastened to a supporting structure; a member having arm means extending in one direction and a stem extending in an opposite direction, said stem being adapted to pass through a hole in said base and to reciprocate

therein; spring-pressed ball means in said base adapted to cooperate with said member for providing free reciprocable movement of said member; a spring between said base and member, normally urging said member away from said base; means for limiting the extent of movement of said member away from said base; and roller means journaled on said arm means, whereby when said base is attached to a sash such that said roller means is in contact with a surface that is parallel with the path of sash movement, and with the spring between said base and member partly compressed, said sash is forced into frictional contact with its track to thereby hold said sash at any desired elevation without inhibiting the raising and lowering of said sash.

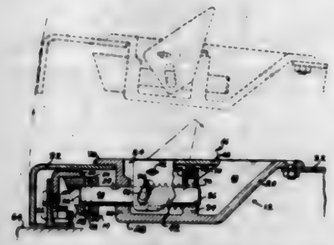
3,141,692
BOLT LATCH
Charles A. Behrens, Sterling, Ill., assignor to National Manufacturing Co., Sterling, Ill., a corporation of Illinois
Filed Jan. 22, 1962, Ser. No. 167,495
4 Claims. (Cl. 292—147)



1. A bolt latch comprising
an elongated base having a longitudinally extending track on one side thereof,
said base having a plurality of mounting holes extending in a transverse direction from said one side to the opposite side, said holes being countersunk on said one side of said base,
an elongated bolt mounted on said base for sliding movement along said track over said mounting holes,
said bolt having therein a rectilinear groove facing toward said base and extending parallel to said track,
said bolt having near one end thereof an aperture opening into said groove,
a knob assembly having a portion extending through said aperture and protruding a substantial distance into said groove,
a stop extending from said bolt into said groove at a location spaced from said knob portion,
and resilient means carried by said base and extending into said groove between said knob portion and said stop for limiting movement of said bolt along said track and for preventing spurious movement between said bolt and said base.

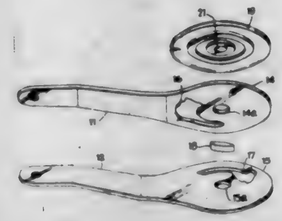
3,141,693
DOOR LATCH
Guy S. Fugit, Levittown, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Dec. 20, 1962, Ser. No. 246,223
9 Claims. (Cl. 292—173)

1. In a latch assembly, the combination comprising,
a housing having walls defining a recess,
a latch bolt including an elongated shank portion,
guide means in the housing arranged to engage said shank portion for longitudinal movement within said housing recess,
actuating means operatively connected to said shank portion to effect said longitudinal movement,
portions of said actuating means being designed to be co-planar with surfaces of said housing when the latch assembly is in its normal closed position, and



adjustable stop means seated in said housing arranged to contact said actuating means to effect said co-planar relationship.

3,141,694
SELF LOCKING STAY MECHANISMS
Douglas William Birmingham, Ickenham, England, assignor to United-Carr Incorporated, a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,690
Claims priority, application Great Britain Jan. 17, 1962
7 Claims. (Cl. 292—263)



1. A locking stay comprising a first member and a second member connected together by connecting means which permits, between the members, a defined relative movement in a forward and a reverse direction, each member being formed with a surface overlying a surface of the other member and slidable thereover during said relative movement of the members, and each surface being formed with a slot partially overlying and in register with the slot of the other surface, there being provided, yieldingly constrained to maintain its instantaneous position but otherwise floating, a double-ended pawl having its thickness accommodated partly in one slot and partly in the other slot, the slots being formed with bounding walls so shaped that on successive relative movements of the members alternately in the forward direction and in the reverse direction the pawl is cammed by the walls successively into progressively rotated positions, the pawl being engaged by the walls of the two slots, in a first and a third of said rotated positions, to prevent further relative movement of the members in the forward direction and, in the second of said rotated positions, to prevent further relative movement in the reverse direction, and the pawl, in the fourth of its said rotated positions, being generally aligned with the permitted direction of relative movement and with an extension in that direction of at least one of the slots, said extension permitting movement of the extended slot and the associated member, relative to the aligned pawl and the other member, in the reverse direction to a relative position of the members which is substantially displaced, in the reverse direction of relative movement, from their relative position as lim-

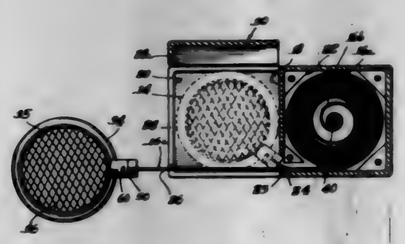
ited, in that direction, by the pawl in its said second rotated position.

3,141,695
LIFTING DEVICE
William A. Furber, Caroline St., Lakefield, Ontario, Canada
Filed June 26, 1961, Ser. No. 119,418
7 Claims. (Cl. 294—16)



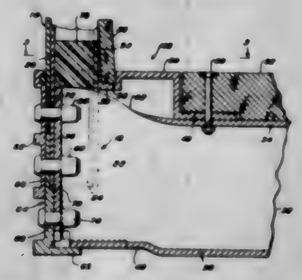
1. A lifting device comprising: paired unitary rod-like members disposed in parallel side-by-side relation over a portion of their length when said device is in closed position, each of said members comprising a lifting section and a handle-section, said sections being oppositely disposed in generally parallel spaced-apart horizontal planes and being united by a shaft section disposed in a plane that intersects said horizontal planes approximately at right angles thereto; parts of said handle-sections being divergently disposed when said device is closed; other parts of said handle-sections being held in constant pivotal relationship by and within a securing member both when said device is closed and when it is open, springs in said handle-sections normally urging the device to the closed position, said handle-sections being free-ended, said securing member being a bracket with angularly-disposed, apertured end-portions formed integral therewith, portions of said handle-sections extending through said apertures, the free end of said handle-sections being releasably secured to said bracket.

3,141,696
GOLF BALL RETRIEVER
Charles J. Nau, 8531 Elmwood Road, Munster, Ind.
Filed Apr. 23, 1962, Ser. No. 189,393
3 Claims. (Cl. 294—19)



1. A golf ball retriever comprising, in combination: a hollow casing sized to comfortably fit a golfer's hand and defining a containment chamber and a storage compartment in communication with said chamber; a coiled tape unwindably mounted within said containment chamber and withdrawable therefrom through said storage compartment; said tape being concavo-convex in lateral cross section to afford longitudinal stiffness when said tape is extended from said casing; a cup-shaped, ball-retrieving head having a golf ball receiving opening therein; connector means for securing said retrieving head to one end of said tape, said connector means being shiftable into a first position to orient said concavo-convex cross section of said tape substantially normal to the path of travel of said head when retrieving a golf ball, said connector means being shiftable into a second position to facilitate storage of said head in said casing, said retrieving head including a collapsible wall portion of a depth in its distended condition greater than the width of said receiving opening for retaining securely a retrieved ball in said head, said collapsible wall portion in its collapsed condition being compactable into said receiving opening, said retrieving head then being containable in and substantially filling said storage compartment.

3,141,697
SMOOTH SKIN TRAILER
Paul Tenenbaum, Glenside, Charles L. Bohlen, Doylestown, and Semond Levitt, Huntingdon Valley, Pa., assignors to Strick Trailers, Philadelphia, Pa., a Division of Fruehauf Trailer Co., a corporation of Michigan
Filed Sept. 17, 1962, Ser. No. 224,143
10 Claims. (Cl. 296—28)



1. A vehicle body comprising vertical posts spaced along both sides thereof, side skins secured to the outer faces of said posts, cross sills extending transversely between opposing pairs of posts, each cross sill having an upper horizontal flange adapted to support floor boards and end vertical flanges adjacent to said posts, side rails each having a portion longitudinally adjacent to each skin and means securing together said side rail, said skin, said post and said cross sill through said end vertical flanges thereof, each side rail including a first vertical member secured to the outer face of said side skin and a second member having a vertical flange secured to said end vertical flanges of said cross sills, a portion of said side skin and of said posts extending side by side below said upper flanges of said cross sill and adjacent said first and second side rail members, said securing means including elongated headed members extending through said first side rail member, said portions of said side skin and said posts and said end flanges of said cross sills.

3,141,698
REMOVABLE SIDE CONSTRUCTION FOR FLAT BED TRAILERS
Louis A. Kandle, Philadelphia, Pa., assignor to Strick Trailers, Philadelphia, Pa., a Division of Fruehauf Trailer Co., a corporation of Michigan
Filed Mar. 13, 1962, Ser. No. 179,368
6 Claims. (Cl. 296—36)



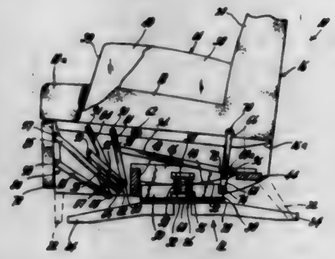
1. In a flat bed trailer, a removable side construction comprising vertical posts, means removably retaining said posts in longitudially spaced relation along the sides of the trailer, vertically extending panels spanning the spaces between said posts, said posts including means accessible from the exterior of the trailer removably receiving the vertical edges of said panels, and means releasably locking each panel in place, wherein said means accessible from the exterior of the trailer receiving the vertical edges of said panels includes a substantially L-shaped member along one vertical side of each post opening exteriorly of said trailer and a channel member along the other vertical side of and opening sidewise of said post, one vertical edge of each panel being received in the channel member of one post and the other vertical edge of the panel being received in the L-shaped member of an adjacent post.

3,141,699
LINKING AND NESTING UNITS
John Neville Stafford, London, England, assignor to Stafford Patents and Holdings Limited, London, England, a British company
Filed Nov. 21, 1961, Ser. No. 153,821
Claims priority, application Great Britain Nov. 23, 1960
2 Claims. (Cl. 297—239)



1. A piece of furniture adapted to be nested vertically and linked in side-by-side relationship with similar pieces of furniture comprising, in combination, an underframe including side pairs of mutually spaced-apart front and rear legs, longitudinal members extending between and rigidly connecting the upper ends of the legs of each side pair to one another and being contained in vertical planes disposed a substantial distance laterally-inwardly from the vertical planes containing said side pairs of legs, a generally rectangular panel affixed to and supported on said longitudinal members, the side edges of said panel being disposed in vertical planes intermediate the vertical planes containing said side pairs of legs and said longitudinal members, the legs of the side pairs thereof being devoid of any other connection extending therebetween, whereby one piece of furniture may be closely nested vertically upon a similar piece of furniture with its side legs offset forwardly from the corresponding side legs of the furniture piece upon which it is nested, said longitudinal members also connecting the legs of the side pairs together in such manner that the legs of one side pair are more widely spaced than the legs of the other side pair by an amount such that the correspondingly less widely spaced side pair of legs of a similar, sidewardly related adjacent piece of furniture may be closely accommodated between the more widely spaced legs of said one side pair thereof on said one piece of furniture, and lug means each comprising a pair of parallel lugs together defining a vertical leg-receiving channel affixed to each of said more widely spaced legs of said one side pair thereof and positioned intermediate the length thereof and projecting substantially horizontally inwardly into the space between said legs by an amount preventing the less widely spaced legs of the side pair thereof of the adjacent piece of furniture from entering and being accommodated in said space as an incident to relative straight horizontal movement of the adjacent piece of furniture toward said one piece of furniture, but the construction and arrangement of said lugs being such as to permit accommodation of said less widely spaced pairs of legs of the adjacent piece of furniture in said space responsive to said adjacent piece of furniture being first raised to a position such that its less widely spaced pair of legs are disposed above said lug means and then lowered into said space through the channels provided by said lug means, said lug means being operative upon such lowering movement to link the more widely spaced side pair of legs of said one piece of furniture to the less widely spaced side pair of legs of the adjacent piece of furniture; said lug means on the rearward of the more widely spaced legs of the pair thereof on said one piece of furniture also providing a vertically disposed channel for receiving and guiding the corresponding forwardly offset leg of a next higher similar piece of furniture vertically nested thereon as aforesaid.

3,141,700
SEAT CONTROL MEANS FOR CHAIR OF THE T-CUSHION TYPE
Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz, Ocean Ridge, Boynton Beach, Fla.
Filed Dec. 29, 1960, Ser. No. 79,418
10 Claims. (Cl. 297—271)



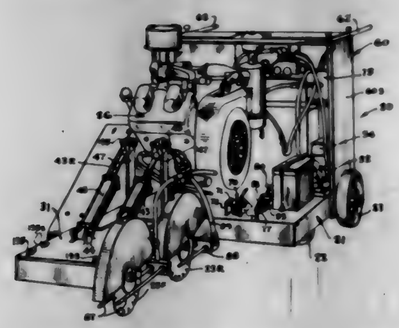
1. A chair comprising a chair frame having arm portions, a body-supporting structure comprising a seat unit and back-rest, said seat unit having a T-cushion construction including a pair of laterally-projecting front extension portions overyling the forward edges of the chair frame arm portions, pivot means mounting the forward portion of the seat unit on the chair frame for tilting movement without rearward displacement from an upright sitting position to a tilted sitting position with the front end of the seat rising relative to the chair frame and the rear of the seat dropping relative to the chair frame, and control means mounting the rear portion of the seat unit on the chair frame and restraining the body-supporting structure from tilting movement about said pivot means in the upright sitting position, said control means including a pair of links connected end-to-end at a knee pivot, one of said links being pivotally mounted on the support frame and other of said links being pivotally connected to the rear portion of the body-supporting structure, the pair of links being substantially in axial alignment in the upright sitting position to support the rear portion of the body-supporting structure, and actuating means independent of said links and seat unit for moving said links out of axial alignment to initiate movement of the body-supporting structure to the tilted sitting position, the pair of links turning relative to each other at their knee pivot to decrease the distance between said pivotal mount and the pivotal connection with the body-supporting structure whereby to permit the rear portion of the latter to drop as the body-supporting structure turns about said pivot means without rearward displacement relative to the chair frame, whereby the seat unit front extension portions move along the forward edges of the arm portions without engaging the latter.

3,141,701
FOOT SUPPORTS
Lloyd H. Wilkins, 1315 Admiral Drive, Alexandria, Va.
Filed June 27, 1961, Ser. No. 157,286
2 Claims. (Cl. 297—439)



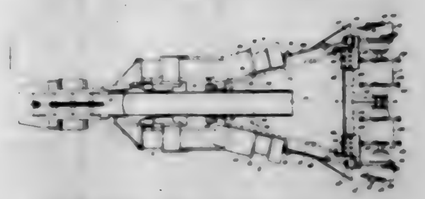
1. A foot support comprising a base, a pedestal member mounted on said base, a generally U-shaped saddle member, means pivotally mounting said saddle member said means pivotally mounting said saddle member on said pedestal member comprisef a tongue on one of the members having an aperture therein, a yoke on the other of said members, each arm of said yoke having an aperture therein in alignment with the aperture in said tongue, and means passing through said apertures for releasably securing said members in different positions of adjustment.

3,141,702
MOBILE SAW FOR PAVEMENT AND THE LIKE
Amos B. Barton, Normal, Ill.
Filed Apr. 30, 1962, Ser. No. 190,892
5 Claims. (Cl. 299—39)



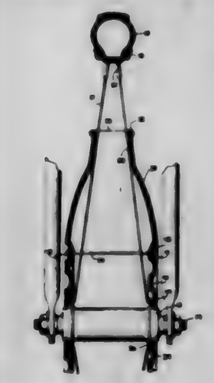
1. In a mobile unit for sawing a kerf in a concrete pavement slab or the like, a main platform having sides and front and rear ends, a driving axle having driving wheels fixed to opposite ends thereof and rotatably associated with said main platform transversely adjacent and parallel to the rear edge of said main platform, a front axle having front wheels at opposite ends thereof, means mounting said front axle parallel to said driving axle and adjacent the front end of the main platform for movement up and down with respect to the main platform to adjust the vertical position of the front end of the main platform, rigid saw supporting means projecting from the front end of said main platform and having one side edge located near the vertical front to rear center plane of the main platform, a saw arbor rotatably supported by said rigid supporting means parallel to said axles and extending at its opposite ends beyond opposite sides of said supporting means, saw mounting means on the extended end of the saw arbor adjacent said center plane for mounting a circular saw blade thereon, a power source on said main platform connected to the other projecting end of the saw arbor for driving the same, means for raising and lowering said front axle to adjust the vertical locations of the saw arbor, and means operated from said power source for actuating said drive wheels.

3,141,703
CONTINUOUS MINING MACHINE OF THE RIPPER TYPE
Joseph Gonski, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed June 12, 1962, Ser. No. 201,990
10 Claims. (Cl. 299—71)



3. In a continuous mining machine,
a main frame,
rotatable oscillatory cutter means supported in advance of said main frame and mounted thereon for rotation about an axis extending transversely of said main frame and for angular movement with respect to said main frame about a parallel axis disposed rearwardly of said axis of rotation,
a motor for rotatably driving said cutter means,
power means for moving said cutter means back and forth along the axis of rotation of said cutter means,
stabilizing cutter means at each end of said oscillatory cutter means,
mounted for rotation about an axis coaxial with the axis of rotation of said oscillatory cutter means and defining the ribs of a working place,
and means holding said stabilizing cutter means from reciprocable movement along their axes of rotation.

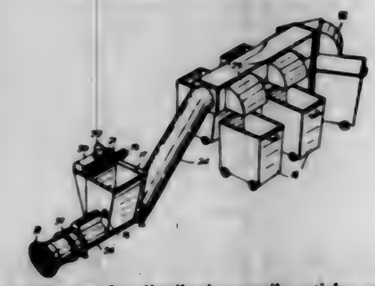
3,141,704
WHEEL COVER
Lawrence C. Guingrich, 3446 Nolen Drive, Indianapolis 24, Ind.
Filed Aug. 6, 1962, Ser. No. 215,026
2 Claims. (Cl. 301—37)



2. In combination,
a generally cylindrical wheel hub having flanges adjacent opposite ends thereof;
a circular rim;
a plurality of spokes extending between said flanges and said rim and connecting said rim and said hub in coaxial relation to form a wheel;
said spokes lying in oppositely facing cones having their apexes at said hubs,

a generally dish-shaped disc mounted on each side of said wheel, said dish-shaped discs each having an inner portion substantially perpendicular to said wheel hub and in engagement with a flange of said wheel hub, said discs each having an outer marginal portion bearing against said spokes, said dish-shaped discs each further having a convex portion between said inner and outer portions which extends outwardly of a plane tangent to said rim and substantially perpendicular to said hub to present a readily visible surface, said convex portions having a reflective material thereon sc that light is reflected from any direction,
each of said discs having an aperture receiving a portion of said hub, and each of said discs being comprised of a pair of identical members, said members being formed with portions of one overlapping and mating with portions of another;
and means passing through said wheel and holding said discs in position adjacent said spokes.

3,141,705
CONVEYOR SYSTEMS
Norman S. Valentine, Lancing, England, assignor to Polymark Limited
Filed May 9, 1961, Ser. No. 108,888
12 Claims. (Cl. 302—28)



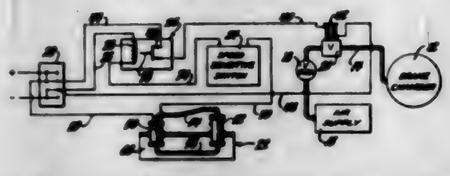
1. A conveyor for distributing textile articles comprising a duct having a cross section sufficient for airborne conveyance of such articles, means to produce a conveying air current in said duct, means to introduce the articles to be conveyed singly into said duct, said latter means including an article feeder and a pivoted door member movable to admit the articles into the air current in said duct and movable in the opposite direction after passage of each article to close said duct from said article feeder, a selectively movable valve member for controlling the path of the air current and the delivery point for each article, and selective control means for said valve member including an operator's keyboard.

3,141,706
AIR FILM TABLE
Frederick B. Curtenius, 1537 Long Road, Kalamazoo, Mich.
Filed Dec. 18, 1961, Ser. No. 159,947
3 Claims. (Cl. 302—29)



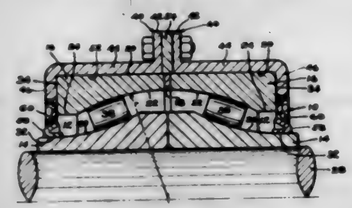
1. An air film table comprising,
a plate having a smooth load supporting surface,
a sectional manifold positioned along one edge of said plate extending to below the bottom surface of the plate,
said plate defining a multiplicity of bores dispersed over its surface with conical counterbores at their upper ends and curved surfaces at their lower ends directed toward said manifold,
a multiplicity of small tubes each having a flared end seated in one of said conical counterbores and being curved along the curved surface and lapped along the bottom of the plate and extending into said manifold,
said tubes being tensioned between said manifold and the flared ends of the tubes,
and means removably closing said manifold.

3,141,707
AUTOMATIC RETARDER CONTROL
Carl L. Nigh, Brownsburg, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 23, 1963, Ser. No. 282,620
5 Claims. (Cl. 303—24)



5. The combination with a vehicle having a fluid-operated braking system, a source of compressed air, a control circuit including first means responsive to the forward speed of the vehicle, second means responsive to the inclination of the vehicle, a valve in said braking system for controlling activation of the latter, said first and second means operatively associated with said valve to move the latter when the vehicle attains a predetermined forward speed at a predetermined inclination so as to activate said braking system and retard forward travel of the vehicle.

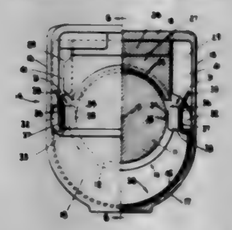
3,141,708
DEMOUNTABLE CLOSURE
Ernest L. Evangelista, Nutley, N.J., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 28, 1961, Ser. No. 134,806
2 Claims. (Cl. 308—36.1)



2. In a closure, a pair of inner and outer annular bearing members having a common center, said members being relatively rotatable and universally tiltable about said common center, said members having an annular lubricant chamber therebetween, a housing receiving the outer bearing member and having an annular end flange abutting an end of said outer member, a sleeve portion on the inner member extending through and radially spaced from the flange, a slinger mounted on the sleeve portion, said outer bearing member having a parti-spherical internal raceway concentric with said common center, a tapering wall on said slinger and having a parti-spherical outer face concentric with said common center and having the same

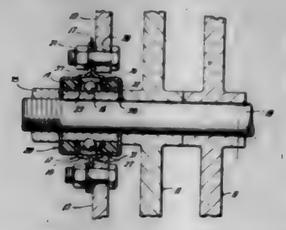
radius as said raceway, said slinger wall having an inner end within the lubricant chamber, radially inwardly extending projections on the flange, said flange having an annular recess adjacent the end of the outer bearing member, a resiliently deformable sealing washer peripherally seated in the flange against the outer bearing member and deformably interfitting within said recess against the outer bearing member and against said inward projections, and an annular resilient sealing washer lip in yieldable wiping engagement with said parti-spherical outer face in spaced relation to the inner end of said slinger wall.

3,141,709
JOURNAL BOX CONSTRUCTION FOR RAILWAY CARS
Edward Payson Smith, Winnetka, Ill., assignor to Illinois Railway Equipment Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 30, 1962, Ser. No. 220,431
8 Claims. (Cl. 308—40)



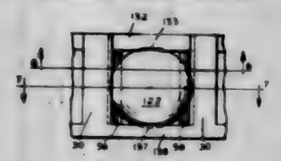
1. In a railway car journal box construction, said journal box having spaced vertical side walls with an axle journal in spaced relation therebetween, top and bottom walls interconnecting said side walls above and below said axle journal, a journal bearing overlying said axle journal, and a wedge interposed between said top wall and said journal bearing; the improvement which comprises: a journal guide interposed between each side wall and the diametrically opposite sides of said axle journal, endwise collapsible spring means supporting each journal guide in operative position in said journal box, means for holding said spring means in collapsed condition below said axle journal with said journal guides along said bottom wall to facilitate application of said journal guides in said journal box, and means for releasing said holding means whereupon said spring means expands along said bottom wall and moves said journal guides therealong to their operative positions.

3,141,710
SHAFT ROLLER BEARING SEAL
Charles L. Lehman, Rte. 3, Box 53, Corpus Christi, Tex.
Filed Sept. 14, 1961, Ser. No. 138,145
2 Claims. (Cl. 308—187.1)



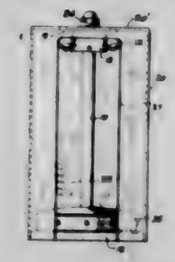
1. In combination with a bearing comprising rollers disposed in a space between an inner race surrounding a shaft for rotation therewith and an outer race carried by a part fixed against rotation with the shaft; a seal comprising a cup having an opening therein receiving the shaft and an annular flange extending inwardly toward the bearing assembly, and a ring of resilient sealing material carried within the cup flange surrounding the inner race and sealing at its inner end against the outer race, the inner edge of the cup flange being spaced from the outer race to permit a certain amount of flexibility between the shaft and part fixed against rotaiton therewith.

3,141,711
BEARING CAGE
Henry J. Biedinger, Syracuse, N.Y., assignor to The Syracuse Stamping Company, Inc., Syracuse, N.Y., a corporation of New York
Filed Dec. 7, 1961, Ser. No. 157,790
6 Claims. (Cl. 308—201)



1. A one piece molded plastic rolling element retainer for an anti-friction bearing comprising first and second annuli integrally connected by rolling element spacing columns to define rolling element receiving windows, the portions of the first annulus between adjacent columns being of reduced radial width, and the portion of the second annulus between adjacent columns comprising radially inner and outer arcuate members spaced radially by an amount at least as great as the radial width of the first annulus portions, and being offset inwardly and outwardly radially of the said first annulus portions.

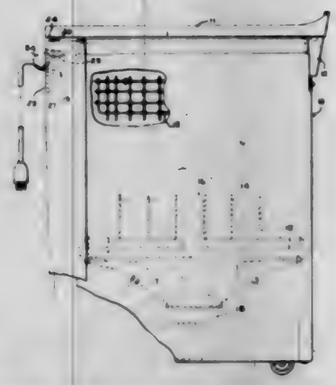
3,141,712
TOOTH BRUSH HOLDER AND PROTECTOR
Orion J. Holmes and Arthur S. Holmes, both of 1721 E. Missouri St., Phoenix, Ariz.
Filed Dec. 26, 1961, Ser. No. 161,991
2 Claims. (Cl. 312—206)



1. A holder and sanitary protective device for a plurality of tooth brushes comprising a flat supporting base member, an upright housing fixedly mounted on said base member; said housing comprising enclosing side walls and an upper end closing wall and formed with a side wall opening extending from the base member to the full height of the housing, an axial rod fixed at its lower end in said supporting base member and extending upwardly coaxially of said housing and fixed at its top end in its upper end closing wall, a tubular standard applied for rotation coaxially about said axial rod and extending between the upper end wall of the housing to a level near the base member, a circular, downwardly cupped bottom plate supported axially of said standard as a turning means therefor; said bottom plate having a segment of its rim portion exposed through the side wall opening of said housing

for its finger turning, a cap fixed on the top end of said standard and equipped with brush suspending means projecting outwardly thereform.

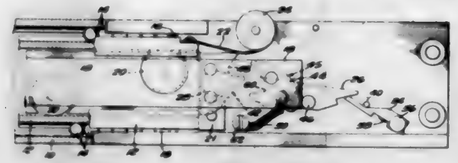
3,141,713
COMBINATION LATCH AND INTERLOCK SYSTEM
Melvin R. Kauffman, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed May 13, 1963, Ser. No. 279,767
1 Claim. (Cl. 312—223)



An interlock system comprising:
(*a*) a cabinet having an access opening,
(*b*) a closure member for said access opening,
(*c*) a hasp carried by said closure member and having an aperture therein,
(*d*) a slot in said cabinet adapted to receive said hasp when said closure member is closed,
(*e*) a first electrical connector member carried by said cabinet and positioned to be in registry with the aperture in said hasp when said closure member is closed,
(*f*) an opening in one wall of said cabinet in registry with said electrical connector member,
(*g*) a second electrical connector member adapted to mate with said first electrical connector member to thereby conduct electrical energy to said cabinet, and
(*h*) guard means movably supported by said cabinet and spring-biased into registry with said opening to prevent insertion of said second connector member,
(*i*) said hasp and said guard means being positioned so that said hasp engages and moves said guard means out of registry with said opening when said closure member is closed.

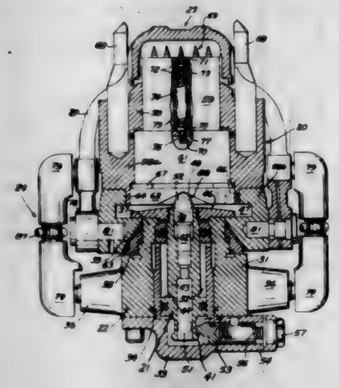
3,141,714
REAR LOCK STOP MECHANISM
William Valiton, Buena Park, Calif., assignor to Jonathan Manufacturing Company, Fullerton, Calif., a corporation of California
Filed June 23, 1961, Ser. No. 119,171
1 Claim. (Cl. 312—348)

A rear stop mechanism for drawers and the like mounted for sliding movement in a stationary structure, said mechanism being of the type having a stationary channeled element secured to said structure and at least one slidable element nested therein for movement parallel thereto and secured to said drawer comprising: a pivotal locking lever mounted upon one of said elements, a lock lug carried upon said lever, a pair of spaced apart cam members rigidly mounted upon the other element, each member having a locking groove therein, the first of said cam elements pivoting said locking lever to a position wherein said lock lug enters the locking groove on the second cam member terminating rearward travel of said slidable element and said drawer in one direction, said locking groove upon said first cam member being positioned in the path of said lock lug upon reversal of the direction of movement of said slide member and said drawer terminating further forward movement thereof, said second cam member further pivoting said locking



lever to move said lock lug out of the path upon again reversing the direction of movement of said drawer and said slide member to a rearward direction, and yieldable means urging said lock lever to its initial position, said yieldable means and said pair of spaced apart cam elements being arranged to keep said lock lug out of the path of said locking grooves upon subsequent forward movement of said slide member and said drawer.

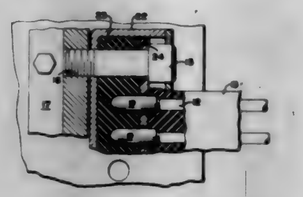
3,141,715
ELECTRICAL CONTACTOR APPARATUS FOR GUIDED MISSILES
Ralph F. Hereth, Port Orchard, Wash., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 27, 1962, Ser. No. 183,697
10 Claims. (Cl. 339—35)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An electrical contactor apparatus for applying warm-up power to a guided missile, comprising a contactor block having a front face portion, a swingably-mounted cover protectively enclosing said face, contact pins carried by said face and adapted to engage said missile for applying electrical warm-up power, a piston operatively contacting the block, a stationary piston housing, means for reciprocating said piston to move said block into and out of missile-engaging position, and linkage means said linkage means including a first link arm secured at one end to said cover and pivotally-mounted at its other end portion on said reciprocable contactor block, and a second link arm having one of its end portions engaging said first link arm and its other end portion pivotally mounted on said stationary housing, said second link arm restraining and converting straight-line reciprocal movement

of the first link arm into a cover opening and closing swinging movement.

3,141,716
MULTI-CONTACT CONNECTOR FOR PRINTED CIRCUIT BOARDS
John H. Armstrong, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 28, 1962, Ser. No. 227,680
2 Claims. (Cl. 339—61)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An electrical connector for establishing electrical contact with a plurality of surface terminals on a circuit board comprising:

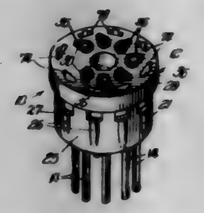
a connector housing adapted to be secured to said circuit board in overlying relationship to said surface terminals,

a plurality of butt-type contacts in said connector housing,

a body of resilient material encasing said butt-type contacts and holding them forcibly against said surface terminals, and

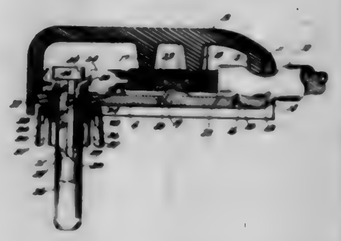
means for adjusting the force with which said butt-type contacts bear on said surface terminals, said force adjusting means comprising a rigid plate disposed in said connector housing against said resilient means and means for variably pressing said rigid plate against said resilient means.

3,141,717
ELECTRICAL SOCKET
Billy Erik Olsson, Chicago, and Paul A. Maximoff, Barrington, Ill., assignors to Malco Manufacturing Company, Chicago, Ill., a partnership
Original application Aug. 3, 1959, Ser. No. 831,146. Divided and this application Nov. 1, 1962, Ser. No. 234,693
3 Claims. (Cl. 339—66)



3. The combination of an electrical socket body provided with a plurality of spatially arranged, axially extending slots, each of said slots including a stop means and an offset portion defining an abutment, said body also including guiding means in alignment and communication with the upper ends of said slots, each of said guiding means having a generally downwardly converging configuration that terminates smoothly in the upper end of said slot for guiding a terminal randomly dispensed into said guide means into said slot, and generally planar electrically conductive terminals located in said openings and secured to said body, each of said terminals including a pair of spaced apart yieldable contact legs extending in the plane of the terminal for accommodating a prong of an electrical device, a stop extending in the plane of the terminal to coact with said stop means, and a resilient finger adjacent to and spaced laterally of said contact legs extending transversely of the plane of the terminal located in said offset portion for coacting with said abutment, the terminals each including a leg extending downwardly from said contact legs adapted to be connected to another electrical device, said terminals being adapted to be snapped into said slots by moving the terminals downwardly into said slots.

3,141,718
SOLDERLESS RIGHT ANGLE PLUG CONNECTOR
Walter L. Schott, Beverly Hills, and Kenneth F. Smith, San Jose, Calif., assignors, by mesne assignments, to TE Industries, Inc., Providence, R.I., a corporation of Delaware
Filed Jan. 3, 1962, Ser. No. 174,331
3 Claims. (Cl. 339—103)



1. An electrical connector of the character described comprising an elongated metallic base plate having an opening provided in one end portion thereof, a hollow metallic plug mounted on said plate in said opening in insulated relation thereto and extending at right angles from said plate for entry in a jack, an elongated hollow shell of insulation material enclosing said plate on the opposite side from said plug and having a notch provided in one end thereof remote from the opening in said plate receiving an elongated end portion of a cable extending into said shell lengthwise of said plate, said cable having an elongated bare wire extending from its inner end at right angles into said plug for electrical connection therewith, a pin having a drive fit in the hollow metallic plug and compressing said bare wire between it and the inside of said plug for electrical connection therewith, projections on said plate and in said shell in transverse relation to and engaging the cable from opposite sides to secure the same between said plate and shell against endwise movement when the latter are secured together, and means for securing said plate and shell together.

3,141,719
LIGHT FIXTURE
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 3, 1961, Ser. No. 129,044
2 Claims. (Cl. 339—112)

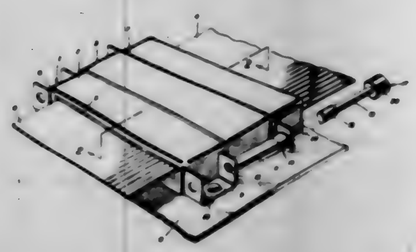
1. A light fixture, comprising a case having spaced-apart sockets, each socket including a tubular heat conducting portion extending inwardly from a side wall of the case and surrounding a terminal, a lamp having an enlarged central filament portion intermediate flattened portions at each sealed end electrically mounted between

the terminals of said sockets, and a sleeve fitting closely about each flattened sealed end portion of the lamp and the tubular portion of the socket surrounding the terminal to which the sealed end portion is electrically mounted for conducting a portion of the heat directly from said flattened end portion of the lamp to said heat conducting



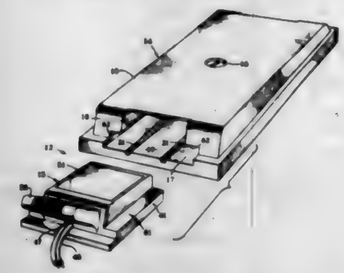
tubular portion of said socket, each said sleeve comprising longitudinally separated parts hingedly connected to one another for swinging between an open position to pass over said flattened sealed end portion of the lamp and the tubular portion of said socket and said position fitting closely thereabout.

3,141,720
CONNECTOR FOR PRINTED OR ETCHED FLAT CONDUCTOR CABLES
James G. Johnson, Santa Clara, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 22, 1961, Ser. No. 140,150
3 Claims. (Cl. 339—176)



2. In an electrical connector having two complementary sections, each section having a protective housing open at its mating end and having an opening in the conductor receiving end, and having no permanent or semipermanent connections to the conductor, the improvement which comprises a sealing means in the conductor receiving end comprising two adjacent soft, resilient members substantially filling the end, the two members having an interface aligned with the opening and providing a seal for the opening, whereby a cable may be inserted in the opening while maintaining the seal, and means in the mating end of each section to removably support an electrical cable, whereby conductive contact with a cable in the other section is maintained when the sections are mated, each supporting means being adjacent the sealing means and comprising a rigid insulating means having two portions, the interface between which is aligned with the interface in the sealing means, one of the portions being elongated and extending toward the mating end, and further including means to removably secure to the elongated portion a conductor passing through the opening in the conductor receiving end between the two aligned interfaces and around the elongated portion.

3,141,721
ELECTRICAL OUTLET DEVICE
William E. Horn, 4901 Marconi Ave., Carmichael, Calif.
Filed Apr. 9, 1962, Ser. No. 186,159
1 Claim. (Cl. 339—176)



An electrical outlet comprising:

(*a*) a non-conductive socket housing of generally rectangular parallelopiped configuration, said housing including a recess open at one end and being defined by a planar floor provided with a pair of parallel recessed tracks extending inwardly away from said one end, said recess being further characterized by a pair of channels on opposite lateral sides of said recess, said channels extending inwardly away from said one end;

(*b*) a pair of metallic contact plates adjacent the inner ends of said tracks, said plates being exposed by said tracks;

(*c*) a non-conductive plug conforming substantially to the shape of said recess and including a pair of lateral shoulders conforming closely to the cross-section of said channels and being snugly engageable with the walls of said channels as said plug is inserted in said recess; and,

(*d*) a spaced pair of metallic contacts projecting from said plug and shaped to slide in said tracks, said contacts being located on said plug in such location and having a length sufficient to engage said plates in inserted position of said plug.

3,141,722
PRESSURE WIRE TERMINAL CLAMP WITH SELF-RETAINED WIRE CLAMP
Erik J. Nielsen, Mequon, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed May 7, 1962, Ser. No. 192,751
2 Claims. (Cl. 339—246)



1. A screw and captive clamp assembly for clamping conductors to a terminal and comprising a screw having a head at one end with an underside facing toward the other end, a threaded portion extending from the other end toward the head and terminating part way toward the head from said other end, and a smooth shank between the underside of the head and the adjacent end of the thread, a rigid clamp having an oblong opening therethrough, said shank being accommodated in the opening, a raised annular bead on the screw in spaced relation to the underside of the head for retaining the clamp on the shank with limited axial movement relative to the shank, said bead having a greater diameter than the width of the

opening and less diameter than the length of the opening so that the circumferential portion of the bead facing the end of the opening can enter the opening upon tilting of the clamp relative to the screw, about an axis extending transversely of the opening, said clamp having clamping portions at opposite sides of said axis, respectively, said portions having upper surfaces, respectively, which slope upwardly toward the undersurface of the head of the screw inwardly, endwise of the opening, toward the screw axis and thereby provide a ridge which is interrupted by the opening and extends in a direction generally transversely of the opening, and which is engageable by the underside of the head, whereby the clamp can rock about said ridge as a fulcrum as the clamp is moved by the screw head to clamping position, and said clamping portions having undersurfaces, respectively, for engaging conductors to be clamped.

3,141,723
ELECTRIC COUPLINGS
François Robert Bonhomme, Courbevoie, France, assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Jan. 19, 1961, Ser. No. 83,659
Claims priority, application France Jan. 20, 1960
6 Claims. (Cl. 339—252)



6. An electrical connector of the plug-in type having co-acting socket and plug contacts, the socket contact comprising a tube having an elongated slot extending generally along and at an angle to the tube's longitudinal axis, a spring-like member arranged to be mounted on said tube and formed by a pair of spaced resilient clasps that are interconnected by a pre-formed resilient contact strip extending along a line corresponding to the slot angle, said member being carried by the tube so that said contact strip fits within said slot and a preformed central portion thereof extends through the slot and tube wall for spring engagement with the plug contact, said clasps being adapted for circumferential clamping engagement with the corresponding end parts of the tube wall for holding said member in position, and said tube having restraining means forming abutments at said clasps for preventing longitudinal movement of said member in either direction.

3,141,724
TERMINAL CONNECTOR
Eugene B. Raymond, 4041 W. Grove, Skokie, Ill.
Filed Mar. 19, 1962, Ser. No. 180,753
2 Claims. (Cl. 339—256)



1. A terminal connector for an electrode of a sparkplug comprising

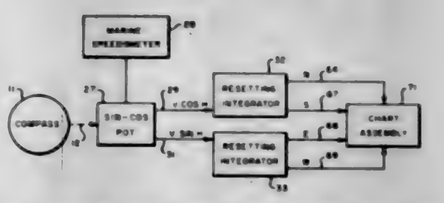
(*a*) a substantially semi-rigid elongated sleeve split longitudinally on one side thereof to provide opposite long edge portions, said sleeve adapted to embrace and have physical contact with an end portion of said electrode,

(*b*) a projection integrally formed on one of said long edge portions and extending circumferentially with respect to said sleeve in overlapping relation with respect to the outer surface of the other long edge portion,

(*c*) said projection provided with an elongated slot,

(*d*) and an elongated latch finger integrally formed on said other long edge portion and bent outwardly of the sleeve and substantially at right angles with respect to said other long edge portion, to project laterally from said sleeve into and through said slot when said projection is disposed in said overlapping relation with respect to said outer surface of the other long edge portion to latch the long edge portions of the sleeve together, said slot being of a width greater than the thickness of said finger and so positioned as to allow circumferential expansion of said sleeve when the latter is pressed to embrace said portion of said electrode.

3,141,725
COURSE PLOTTER
John W. Gray, Pleasantville, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed June 11, 1962, Ser. No. 201,640
5 Claims. (Cl. 346—8)



1. A course plotter carried by a marine vessel comprising,

a compass including means having a signal output representing heading of said marine vessel,

a marine speedometer including means having a signal output representing the speed of said marine vessel,

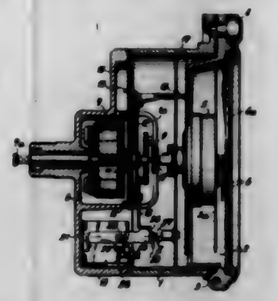
means resolving said speedometer output signal into two signals representing the orthogonal components thereof,

a pair of resetting integrators each having a respective one of said two signals applied thereto, each of said resetting integrators emitting a number of pulses representing the integral of the signal input of the integrator,

and display means including a marine chart, said display means having said integrator pulse train outputs applied thereto for visual indication thereon of the course of said marine vessel.

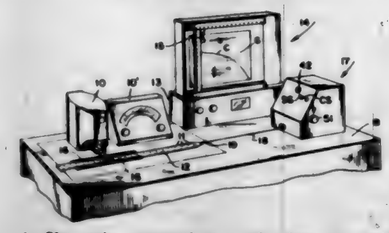
3,141,726
TACHOGRAPH HAVING MEANS FOR MAKING A REFERENCE LINE
Karl Vögtlin, Villingen, Black Forest, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Jan. 25, 1962, Ser. No. 168,724
Claims priority, application Germany Jan. 31, 1961
10 Claims. (Cl. 346—23)

1. In a recording tachograph, in combination a support; means mounted on said support for rotating a record carrier at a uniform speed about an axis; a recording member mounted on said support for movement in a substantially radial direction relative to said axis and adapted to record a graph on said record carrier; tachometric means mounted on said support and operatively connected to said recording member and exerting on the same a force corresponding to the speed measured by said tachographic means for moving said recording member between a first end position corresponding to standstill, and a second end position corresponding to the maximum speed of a vehicle controlling said tachometric means so that during operation of the vehicle a velocity-time graph is recorded on the record carrier; retaining means mounted on said support; a force-connected coupling means connecting said retaining means with said recording mem-



ber in said first end position of said recording member so that said retaining member retains said recording member until the force exerted by said tachometric means on said recording member at a selected speed of said tachometric means is sufficient to overcome the coupling force of said force-connected coupling means and to disengage the same so that said recording member moves at a speed corresponding at least to the maximal acceleration of the vehicle to a position corresponding to said selected speed whereby a reference line representing a true polar axis for a velocity-time graph is recorded on the record carrier so that circular arcs at right angles to said reference line and extending between points of said graph accurately represent time intervals.

3,141,727
FILM-STRIP DENSITY CURVE PLOTTING DEVICE
Harry L. Devereaux, Jr., China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 14, 1962, Ser. No. 244,841
11 Claims. (Cl. 346—29)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A film-strip processing mechanism comprising in combination:

a support base;

a film-strip guide means disposed on said support base;

a film-strip densitometer mounted adjacent said guide means and arranged for having a film-strip drawn therethrough;

a film-strip drive means arranged adjacent said guide means for drawing a film-strip through said densitometer and along said guide means;

a plotting device having a voltage controlled plotting pen disposed therein;

means connected with said film-strip drive means for providing a control voltage to control the driving of said pen in one direction in accordance with the drawing of said film-strip along said guide means through said densitometer by said film-strip drive means; and

means responsive to said densitometer for driving said pen laterally of said one direction.

CHEMICAL

3,141,728
PROCESS FOR THE IMPROVEMENT OF THE FASTNESS TO WASHING OF DIRECT DYEINGS ON CELLULOSE-CONTAINING MATERIALS
Klaus Böckmann, Cologne-Stammheim, and Carl Taube, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Dec. 20, 1960, Ser. No. 77,026
Claims priority, application Germany Dec. 23, 1959
3 Claims. (Cl. 8—74)

1. Process for improving the fastness to washing of direct dyeings an cellulose-containing materials which comprises treating the direct dyeings on cellulose-containing materials with a quaternary polyalkylene-polyamine and a resinous intermediate product simultaneously and subsequently hardening the resinous intermediate product.

3,141,729
GELS AND METHOD OF MAKING
Richard G. Clarke, Hartford, Richard H. Groth, South Windham, and Edward J. Duzak, Hartford, Conn., assignors to United Aircraft Corporation, Hartford, Conn., a corporation of Delaware
No Drawing. Filed July 11, 1960, Ser. No. 41,881
8 Claims. (Cl. 23—4)

1. A regenerable adsorbent for carbon dioxide gas having the property of being able to readily absorb and desorb carbon dioxide which comprises a cogel of metal oxides of a first metal selected from the group consisting of lithium and the divalent metals zinc, iron, nickel, copper, cobalt, manganese, magnesium, calcium, barium, and cadmium, including mixtures of the foregoing, and a second metal selected from the group consisting of the tervalent metals aluminum, iron, chromium, including mixtures of the foregoing, the mole percent ratio of one of said metals to the other metal being in the range of from about 10 to 70 and 90 to 30 percent, respectively, and which has been prepared by co-precipitation from a solution comprising a carbonate which is a member selected from the group consisting of alkali metal carbonate and ammonium carbonate, followed by drying.

3,141,730
PRODUCTION OF POTASSIUM BICARBONATE
Ira Milton Le Baron, Evanston, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Nov. 17, 1960, Ser. No. 69,841
3 Claims. (Cl. 23—64)

1. A process for the production of potassium bicarbonate which comprises treating an aqueous solution of potassium carbonate with carbon dioxide at conditions

effective to form solid potassium bicarbonate in the presence of a substantially polar amine having from 4 to 20 carbon atoms.

3,141,731
METHOD OF TREATING SILVER NITRATE SOLUTIONS

Herbert J. Dietz, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 15, 1962, Ser. No. 202,695
4 Claims. (Cl. 23—102)

1. A process which comprises

(1) treating an aqueous silver nitrate solution containing, by weight, from about 55% to 65% of silver nitrate and which contains small amounts of metal impurities with silver oxide in an amount sufficient to provide a solution having a pH of from about 5.8 to 6.3 and whereby a precipitate is formed,

(2) separating the silver nitrate solution and the precipitate,

(3) heating the thus separated silver nitrate solution to a temperature of from about 75° C. to 95° C.

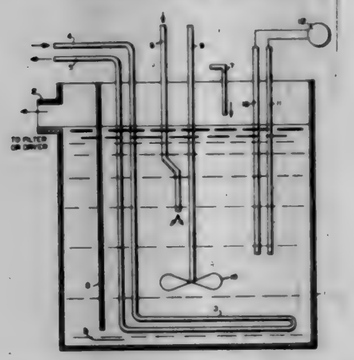
(4) treating the heated solution with iron in an amount equal to from about 100 parts to 1000 parts by weight for each one million parts by weight of silver nitrate and silver oxide in an amount sufficient to maintain the pH of the solution at from about 5.8 to 6.3 and whereby a precipitate is formed, and

(5) separating the silver nitrate solution and the precipitate.

3,141,732
PROCESS FOR PREPARING METAL AMMONIUM PHOSPHATES

John F. McCullough, Ellicott City, and Murrell L. Salutsky, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Dec. 12, 1961, Ser. No. 158,785
1 Claim. (Cl. 23—105)

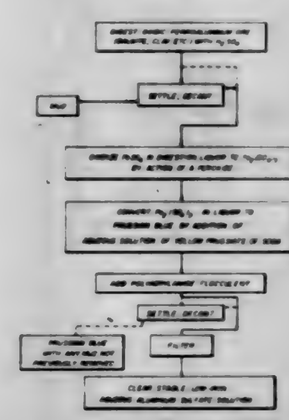


In the process of continuously preparing metal ammonium phosphates comprising continuously introducing into a reaction zone open to the atmosphere an aqueous solution of orthophosphoric acid and about a stoichiometrical equivalent quantity of a water soluble salt of a divalent metal selected from the group consisting of magnesium, nickel, cobalt, and zinc, while separately and continuously introducing ammonia into said zone and mixing the contents of said zone to provide a substantially constant pH throughout the reaction mass and continuously withdrawing the metal ammonium phosphate-containing slurry thereby produced and recovering the metal ammonium phosphate from said slurry, the improvement comprising using in combination the addition of said ammonia at such rate as to provide a pH of about 7.5 in said zone while carrying out the reaction at ambient pressure and while maintaining the temperature in said zone at about 75–85° C., and continuously withdrawing said slurry at such rate as to provide an average residence time in said zone of about 6–9 minutes, and recovering the metal ammonium phosphate from said slurry, thereby obtaining grainy crystals.

3,141,733
REMOVAL OF IRON FROM AQUEOUS ALUMINUM SULFATE SOLUTION

Raymond Broisman, Linden, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine.

Filed July 27, 1961, Ser. No. 127,354
6 Claims. (Cl. 23—123)



1. Process for decreasing the iron content of the crude aqueous aluminum sulfate solution prepared by digestion of a ferroaluminum ore, which comprises oxidizing substantially all of the ferrous sulfate in said solution to ferric sulfate by the action of a peroxide, adding yellow prussiate of soda as an aqueous solution and thereby converting at least part of the ferric sulfate in said solution to Prussian blue particles of substantially non-filterable dimensions, adding a polyacrylamide flocculent whereby substantially all of said Prussian blue is aggregated to flocs of filterable dimensions, and filtering said flocculated Prussian blue from said alum solution.

3,141,734
METHOD OF CLARIFYING ACIDIC PHOSPHATIC SOLUTIONS

Rudolf Ittlinger, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Oct. 25, 1960, Ser. No. 64,719
6 Claims. (Cl. 23—165)

1. The method for reducing the quantity of solids post-precipitated from an aqueous acidic inorganic phosphatic solution, said solution being characterized by a CaO to P_2O_5 mole ratio in the range 0–1 to 1–1, which solution normally post-precipitates salts of iron and aluminum comprising adding to said solution a silicofluoride clarification agent capable of providing silicofluoride ions, said agent being more soluble in said solution than sodium silicofluoride and more soluble in said solution than potassium silicofluoride and being added in a minor amount sufficient to precipitate in substantial quantities an impurity containing ions of the group consisting of sodium and potassium ions from said solution, and thereafter separating said precipitated impurity from said solution.

3,141,735
PROCESS FOR PURIFYING LIQUID SULFUR DIOXIDE WITH BAUXITE

David George Young, Houston, Tex., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

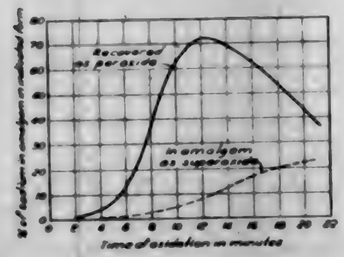
No Drawing. Filed May 21, 1962, Ser. No. 196,482
2 Claims. (Cl. 23—178)

1. A process for removing sulfuric acid present as an impurity in liquid sulfur dioxide, said process comprising contacting the sulfur dioxide with granular, calcined bauxite.

3,141,736
PROCESS FOR THE PREPARATION OF SODIUM PEROXIDE BY THE OXIDATION OF A SODIUM AMALGAM

Dale L. Schechter, Charles K. Bon, and James J. Leddy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 7, 1962, Ser. No. 192,684
3 Claims. (Cl. 23—184)



1. A process for the preparation of sodium peroxide by the oxidation of a sodium amalgam, which comprises contacting the sodium amalgam in a liquefied state said amalgam containing from about 0.4 to 1.5 mole percent of sodium with an oxygen containing gas stream at a temperature below 40° C. for a period of time in the range of from 0.1 to 2 minutes to oxidize the sodium in the amalgam to sodium peroxide and superoxide to the extent that not more than 10 percent of the sodium in the amalgam is oxidized to superoxide, subsequently intermixing the oxidized amalgam with an aqueous medium at a temperature in the range of from 0° C. to 50° C. to decompose the sodium superoxide to sodium peroxide and to leach the sodium peroxide from the oxidized amalgam, separating from the resulting solution mercury oxide dispersed in the solution from the oxidized amalgam during the previous step, said intermixing of oxidized amalgam with the aqueous medium and separation of the dispersed mercury and mercury oxide from the solution being carried out in from 5 seconds to 1 minute, and recovering said sodium peroxide from the resulting solution.

3,141,737
METHOD FOR THE PREPARATION OF ALUMINUM NITRIDE REFRACTORY MATERIAL

Howard J. Bartlett, Niagara Falls, Ontario, and David T. Lapp and George Robert Watson, Chippewa, Ontario, Canada, assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed June 4, 1962, Ser. No. 199,609
7 Claims. (Cl. 23—192)

1. A method for the production of aluminum nitride which comprises forming a mixture of aluminum metal with a cyanamide compound, said cyanamide compound being present in an amount sufficient to supply at least about 1/10 mole of nitrogen for each mole of aluminum in the mix, heating the mixture at a temperature above 1100° C. in an atmosphere of nitrogen, continuing the heating for a time effective to convert the aluminum to aluminum nitride, and cooling the product in a nitrogen atmosphere.

3,141,738
METHOD OF PRODUCING BLACK-COLOURED MAGNETIC IRON OXIDE

Takeo Kagitani, 244 Aoki-Nakahama-cho, Honjo-cho, Higashi-Nada-ku, Kobe-shi, Japan

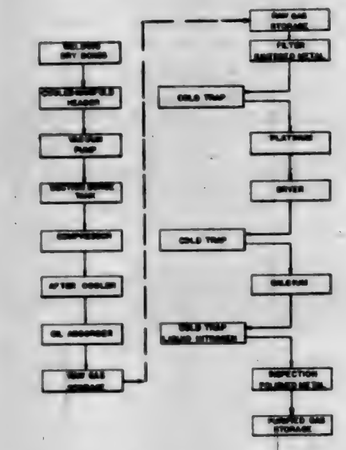
No Drawing. Filed Sept. 5, 1961, Ser. No. 135,756
11 Claims. (Cl. 23—200)

1. The method of producing black-coloured magnetic iron oxide, which is magnetite, which consists in dissolving a ferrous compound which is a member of the group consisting of ferrous sulfate and ferrous chloride in substantially theoretical amount in an aqueous solution of an alkali metal salt of a lower monocarboxylic acid which is a member of the group consisting of sodium acetate and sodium formate, and heating the solution with aeration to substantially 70–100° C., the amount of the water constituting the aqueous solution being more than ten times by weight the amount of the alkali salt.

3,141,739
GAS PURIFICATION

Harold A. Ohlgren and John G. Lewis, Ann Arbor, Mich., assignors, by mesne assignments, to Nuclear Technical Services Corporation, Ann Arbor, Mich., a corporation of Michigan

Filed May 14, 1959, Ser. No. 813,228
2 Claims. (Cl. 23—209)



1. The process of purifying a noble gas, said process comprising compressing and cooling said gas; removing solid, liquid, and hydrocarbon constituents from said gas; contacting the gas with a catalyst for the purpose of effecting combination of hydrogen and oxygen impurities to form water and effecting combination of carbon monoxide and oxygen impurities to form carbon dioxide; drying and absorbing carbon dioxide from said gas; contacting said gas with manganese at about 400–500° F.; contacting said gas with chromium at about 500°–700° F.; contacting said gas with titanium at about 1200° F.; contacting said gas with calcium at about 800° F.; contacting said gas with calcium at about 1200° F.; contacting said gas with calcium at about 800° F.; and cooling said gas, at a plurality of points in said process, to a temperature sufficient to condense water and carbon dioxide in said gas.

3,141,740
METHOD FOR DETERMINING THE CONCEPTION-FREE PERIOD IN A WOMAN
Werner Wild, Segantinistrasse 70, Zurich, Switzerland
Filed July 13, 1959, Ser. No. 826,617
Claims priority, application Switzerland Oct. 27, 1954
4 Claims. (Cl. 23—230)



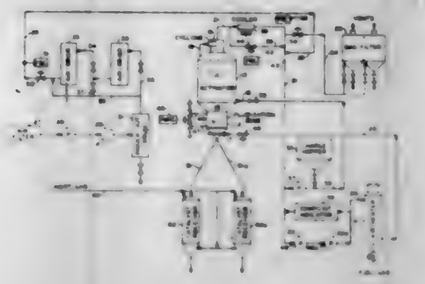
1. Method of determining the conception-free period in women by examining corpus luteum activity, comprising determining progesterone metabolites contained in the urine of the woman to be tested, inhibiting the sensibility of the determination up to a threshold value of at least 0.0015 mg. of physiologically equivalent progesterone per cc. of blood which corresponds to at least 2.5 mg. of equivalent pregnanediol glucuronide per day in the urine.

3,141,741
BURNER FOR ANALYTICAL PROCEDURES
Dean C. Hoel, Verona, and Benjamin M. Wedner, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 26, 1961, Ser. No. 140,818
5 Claims. (Cl. 23—253)



1. A gas burner comprising a coaxially mounted, nested series of separable tubular ducts of graduated diameter including at least a primary oxidant gas duct, a secondary oxidant gas duct, a sample duct positioned between the primary and secondary oxidant gas ducts and a fuel gas duct, each having a discharge end and a base end, said ducts being spaced apart at their discharge ends and forming a graduated series of concentric, annular discharge orifices lying in substantially the same plane about a centrally positioned discharge orifice, each of said ducts being provided with an inlet orifice at its base end for introduction of one of said primary oxidant gas, said secondary oxidant gas, said sample, and said fuel gas, each of said ducts other than the central positioned duct of said series being removably mounted at its base end upon the base of the next smaller duct in the series, said ducts being formed from impact-resistant material that is resistant to corrosion under service conditions of the burner.

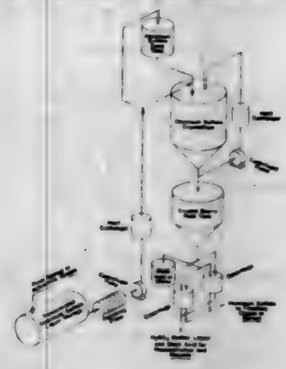
3,141,742
APPARATUS FOR THE ACTIVATION OF CATALYST
Robert F. Dye and Graham A. Renberg, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Original application Aug. 20, 1956, Ser. No. 604,958, now Patent No. 2,985,597, dated May 23, 1961. Divided and this application Jan. 3, 1961, Ser. No. 80,360
4 Claims. (Cl. 23—284)



1. In an apparatus suitable for activating particulate metallic oxide catalyst, in combination, an elongated activation chamber comprising a lower fluidizing section, an upper disengaging section having a cross-sectional area substantially greater than the cross-sectional area of said fluidizing section, a section connecting said upper and lower sections with sides having a greater slope than the angle of repose of said catalyst, a grid horizontally disposed across the bottom of said lower section, an inlet for supplying said catalyst above said grid, an inlet for admitting a stream of gas through said grid into said lower section and upper section, an outlet for said stream of gas at the top of said upper section, a blower, a first conduit connecting said chamber outlet and the intake of said blower, a second conduit connecting the exhaust of said blower and said inlet for admitting a stream of gas through said grid, a heater in said second conduit, a purge conduit communicating with said first conduit, valve means to control gas purged through said purge conduit, a separate make-up or fresh gas inlet supply line communicating with said first conduit at a point downstream of said purge conduit, and means in said make-up or fresh gas supply line for filtering and drying gas.

3,141,743
CRYSTALLIZATION PROCESS
Adam Marsh, Niagara Falls, N.Y., assignor, by mesne assignments, to The North American Coal Corporation, a corporation of Ohio
Filed June 27, 1961, Ser. No. 119,859
17 Claims. (Cl. 23—301)

12. Process for the crystallization of aluminum sulfate from a pregnant sulfuric acid solution of the same that comprises, treating a minor fraction comprising from 5–20 percent by volume of said solution by aging the same for a period within the range of from 4–20 hours under conditions of constant agitation and at a temperature within the range of from 7–43° C. to effect the production of an inoculum slurry of aluminum sulfate crystals possessing desirable filtration characteristics, passing the remaining 80–95 percent by volume of said pregnant solution at a controlled rate and at a temperature above approximately 54° C. onto said innoculum crystals under conditions of constant agitation and cooling to a temperature within the range of from 7–43° C. to effect crystallization of the aluminum sulfate therefrom, and separating and recovering the resulting crystals from the residual mother liquor.



3,141,744
WEAR-RESISTANT NICKEL-ALUMINUM COATINGS
Dwight E. Couch, Boulder City, Nev., and Harold Shapiro, Silver Spring, and Abner Brenner, Chevy Chase, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Division of application Ser. No. 829,156, July 23, 1959, now Patent No. 3,046,285, dated July 24, 1962. Continuation of application Ser. No. 665,616, June 13, 1957. This application June 19, 1961, Ser. No. 118,197
5 Claims. (Cl. 29—194)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A composite metal article containing a hard coating which increases wear resistance of sliding or reciprocating parts comprising in combination a base metal, a layer consisting of unalloyed nickel bonded to and covering said base metal and a surface layer consisting of nickel aluminide bonded to and covering said nickel layer, said surface layer being free of contamination from the base metal and free of unalloyed aluminum.

3,141,745
DEHAZING POLYMER-CONTAINING HYDROCARBON OILS
Louis N. Calvino, Plainfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 17, 1961, Ser. No. 124,389
12 Claims. (Cl. 44—62)

1. A liquid hydrocarbon oil boiling between 75 and 900° F. containing a small amount sufficient to stabilize said oil of an oil soluble, ashless polymeric additive having a molecular weight of from 1,000 to 100,000 which upon contact with water promotes the formation of a persistent aqueous haze condition and to which has been added a minor amount sufficient to reduce the haze condition of an alkyl pyrrolidone wherein said alkyl radical contains from 1 to 4 carbon atoms.

3,141,746
DIAMOND COMPACT ABRASIVE
Anthony J. De Lai, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1960, Ser. No. 60,845
4 Claims. (Cl. 51—307)

1. A tough, coherent high strength diamond compact abrasive consisting essentially of a plurality of diamond crystals and a bonding medium therefor, said bonding medium being constituted of at least one metal from the group consisting of iron, cobalt, nickel, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, manganese, titanium and tantalum, said diamond crystals being present in a quantity forming at least 50% by

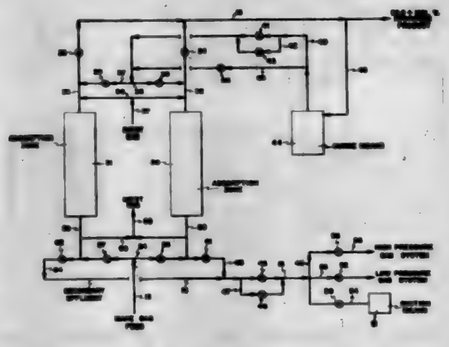


volume of the compact and being oriented so that portions of some diamond crystals project into adjacent diamond crystals providing interlocking diamond-to-diamond interfaces and said bonding medium being present in an effective amount for surrounding said interfaces with metallic bonding film.

3,141,747
ALUMINA ABRASIVE
Douglas W. Marshall, Niagara Falls, Ontario, Canada, assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
No Drawing. Filed Aug. 24, 1961, Ser. No. 133,569
2 Claims. (Cl. 51—309)

1. An aluminous abrasive consisting essentially of a major proportion of fused alpha-alumina and a minor proportion of zeta-alumina, combined lithium being present in said abrasive in an amount of from 1.8 to 9.0% by weight, calculated as zeta-alumina.

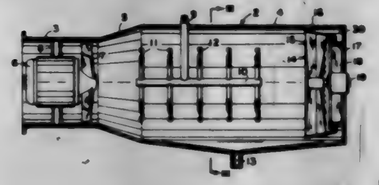
3,141,748
HYDROGEN PURIFICATION PROCESS
Ronald C. Hoke, Berkeley Heights, William D. Marsh, Netcong, Jerome Bernstein, Berkeley Heights, and Francis S. Pramuk, Fanwood, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 20, 1961, Ser. No. 153,632
12 Claims. (Cl. 55—25)



1. A process for obtaining substantially pure hydrogen from a vapor feed stream comprising hydrogen and a mixture of hydrocarbon compounds having from 1 to 10 carbon atoms, the process utilizing two adsorption zones packed with adsorbent selected from the group consisting of activated charcoal and activated alumina selective for hydrocarbon compounds at the adsorption temperature, the two zones being alternately on the adsorption portion of the cycle and alternately on the desorption portion of the cycle to yield a continuous process wherein the capacity of the adsorbent declines due to the accumu-

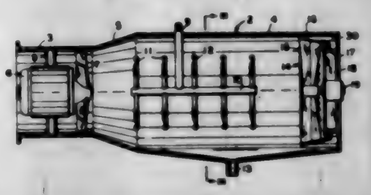
lation of the more difficultly desorbable hydrocarbon compounds thereon, the process comprising the steps of flowing the feed stream into the first zone in a positive flow direction at a relatively high adsorption pressure, withdrawing a substantially pure hydrogen stream therefrom, adsorbing hydrocarbon compounds in said first zone, changing the flow of the feed stream into the second zone at said relatively high adsorption pressure at least upon the breakthrough of hydrocarbon compounds into the substantially pure hydrogen stream withdrawn from the first zone, thereby putting the second zone on the adsorption portion of the cycle, desorbing a portion of the hydrocarbon compounds from the adsorbent in the first zone by depressuring said first zone to a relatively low desorption pressure and purging said first zone with said substantially pure hydrogen at said relatively low desorption pressure in a flow direction opposite to that of said feed stream with a volume of purge of from 0.5 to 1.5 times the volume of feed passed into said first zone during the adsorption portion of the cycle, repressuring said first zone to substantially said relatively high adsorption pressure with said substantially pure hydrogen, continuing the process in a cyclic manner to obtain a continuous flow of said substantially pure hydrogen product even with a gradual loss in capacity of said adsorbent by employing a variable cycle length wherein the feed rate increases inversely to overcome hydrogen recovery decrease and the cycle length gradually decreases until it reaches the minimum time necessary for desorption, regenerating the adsorbent in said zones at least when capacity of the adsorbent declines to the extent that hydrocarbon compounds break through into the substantially pure hydrogen stream withdrawn from the zone on the adsorption portion of the cycle before the desorption portion of the cycle can be completed on the other zone by flowing an inert gas through the zones to heat the adsorbent to a temperature of at least 600° F., cooling the adsorption zones to substantially the adsorption temperature and continuing the process by flowing the feed stream into one of the adsorption zones.

3,141,749
APPARATUS FOR TREATING AIR
Ernest C. Hungate, Liverpool, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Apr. 2, 1956, Ser. No. 575,560, now Patent No. 2,932,360, dated Apr. 12, 1960. Divided and this application Jan. 28, 1960, Ser. No. 5,183
4 Claims. (Cl. 55—407)



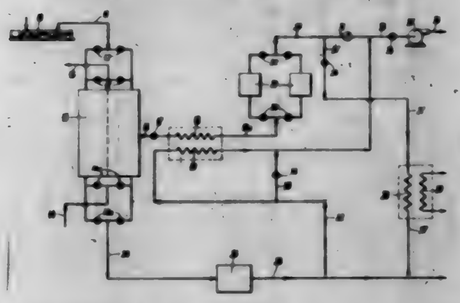
1. In a rotary eliminator for removing droplets of water from an air stream, a hub rotatably mounted on a substantially horizontal axis, a plurality of blades extending radially therefrom, and means secured to said blades for at least partially enclosing the periphery of said blades, each of said blades comprising a first planar member having a desired surface area adapted to be exposed to an air stream and a second planar member having a surface substantially similar to the surface area of the first member adapted to be exposed to the air stream, said members being angularly disposed and intersecting in lines drawn substantially radially of the axis of rotation of said eliminator, and a portion defining a channel associated with the edge of said second planar member, adjacent blades overlapping one another to define a plurality of axial paths, each having at least one change in direction.

3,141,750
APPARATUS FOR TREATING AIR
Ernest C. Hungate, Liverpool, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Apr. 2, 1956, Ser. No. 575,560, now Patent No. 2,932,360, dated Apr. 12, 1960. Divided and this application Jan. 28, 1960, Ser. No. 5,285
4 Claims. (Cl. 55—407)



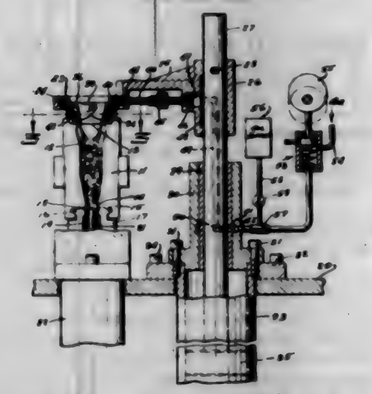
1. In an eliminator for removing droplets of water from an air stream, a rotatably mounted hub, a plurality of blades extending therefrom, each of said blades having a first portion extending substantially from the axis of rotation and having a desired surface area exposed to the air stream and a second portion extending substantially from the axis of rotation and having a surface area substantially similar to the surface area of the first portion exposed to the air stream, said portions being joined by a curved surface, said blades being closely spaced and adjacent blades overlapping one another to define a plurality of axial paths, each path having at least one change in direction, and annular means engaging and at least partially enclosing the periphery of said blades.

3,141,751
PROCESS AND APPARATUS FOR PURIFYING AND SEPARATING COMPRESSED GAS MIXTURES
Ladislas C. Matsch and Edward F. Yendall, Kenmore, Wilbur H. Lauer, Snyder, and Helmut Kocha, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Original application Aug. 12, 1957, Ser. No. 677,606, now Patent No. 2,984,079, dated May 16, 1961. Divided and this application May 23, 1960, Ser. No. 75,646
14 Claims. (Cl. 62—14)



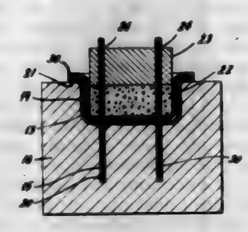
1. A process for the separation of water and carbon dioxide impurities from a compressed gas mixture prior to low-temperature rectification of the gas into its components including the steps of providing a gas mixture stream at an inlet pressure below 150 p.s.i., passing such stream to a reversible heat exchange zone, partially cooling the stream in such zone to a temperature at least as cold as —80° C. and removing the water impurity by deposition in the heat exchange zone, dividing the partially cooled gas mixture stream into major and minor portions, withdrawing the minor portion from said reversible heat exchange zone and further cooling such portion by heat exchange with a colder fluid to a temperature slightly warmer than the deposition point of carbon dioxide at said inlet pressure by passing the minor portion through one passage of a heat exchanger while said colder fluid is passed through an adjacent passage of said heat exchanger, removing the dissolved carbon dioxide impurity from the further cooled minor portion of said gas mixture stream by adsorption at said temperature, removing at least most of the carbon dioxide impurity from the partially cooled major portion of said gas mixture stream by further cooling and deposition thereof in said reversible heat exchange zone, passing at least part of the further cooled major portion to a rectification zone for separation into gas mixture components, and removing the water and carbon dioxide impurities deposited in said reversible heat exchange zone by passing at least part of the separated gas mixture components through the zone and evaporating such impurities therein for discharge from such zone.

3,141,752
LUBRICATION OF GLASS MOLDS
Robert H. Keller, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed May 3, 1960, Ser. No. 26,452
2 Claims. (Cl. 65—25)



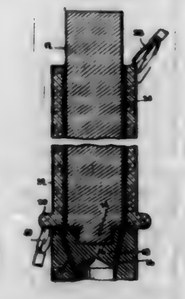
1. The method of forming charges of molten glass into articles in a mold, comprising the steps of:
(1) bringing the mold to loading position and thereby providing a forming cavity for the article, said cavity having an upper opening for loading a charge of glass,
(2) placing a loading funnel in registry over said opening of the mold for glass loading communication with said cavity,
(3) introducing a lubricant in a pressurized medium,
(4) discharging said lubricant and medium into the mold cavity in the form of an atomized mist of the lubricant from a plurality of annularly spaced nozzles at the registered bottom end of the funnel, the nozzles being directed to circumferentially impinge the lubricant on a definite vertical area of the mold wall, and said lubricant discharge creating an atmosphere of said lubricant mist in the mold cavity,
(5) delivering a charge of molten glass to and through the funnel substantially simultaneously with the discharging of said lubricant while the funnel is in registry with the mold,
(6) removing the funnel,
(7) closing the upper end opening of the mold, and
(8) forming the glass charge to article shape in the lubricated mold.

3,141,753
PROCESS OF MAKING GLASS-TO-METAL SEALS
Anthony J. Certa, Norristown, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 29, 1961, Ser. No. 99,090
1 Claim. (Cl. 65—43)



In the hermetic sealing of glass to a metalic element consisting of an alloy selected from the group consisting of iron-nickel-cobalt and iron-nickel, the process which comprises:
(*a*) immersing surface portions of said element in a solution consisting essentially of sodium hydroxide and sodium nitrate to produce on said surface portions a ferrosoferric oxide coating;
(*b*) placing glass in contact with surface portions of said oxide coating; and
(*c*) heating said glass to a temperature sufficient to effect hermetic juncture between said glass and said oxide coating.

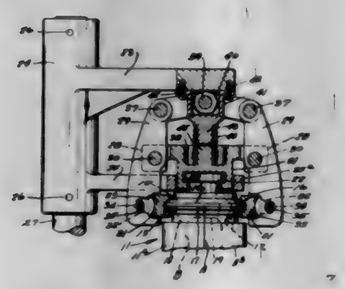
3,141,754
MEANS FOR SHRINKING FLANGED VITREOUS SYRINGE BARRELS
Seymour N. Blackman, Teaneck, N.J., assignor, by mesne assignments, to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey
Continuation of application Ser. No. 613,541, Oct. 2, 1956. This application Jan. 3, 1961, Ser. No. 92,432
1 Claim. (Cl. 65—277)



Apparatus for vacuum shrinking the outer bore at an end of a preformed glass open-ended tube in the manufacture of a glass hypodermic syringe barrel from said tube comprising a solid cylindrical elongated mandrel assembly provided with smooth continuous outer side sur-

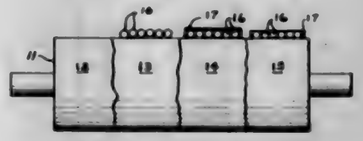
faces dimensioned for presenting, after shrinking of the preformed, open-ended tube, a close fit to the inside cylindrical wall of the tube into which said mandrel has been inserted, said mandrel having a shoulder portion extending outwardly at the lower end thereof in a direction perpendicular to the axis of the mandrel, said shoulder supporting the lower end of said preform after said lower end is sealed, said shoulder being provided with a plurality of uniformly distributed circumferentially placed passageways, each of said openings being in longitudinal alignment with the body of said mandrel and being in air communication with the interior space of the tubular preform, being thereby adapted for evacuation of the space between the unshrunk tubular preform and the lower portion of the lower end of said preform, vacuum pump means connected to said openings, sealing means to seal the top of said tubular preform, heating means located exteriorly of the preform mounted on said mandrel for imparting heat in a direction away from said shoulder and directly to the upper end of said preform, this heat being sufficient to uniformly soften the outer circumference of the glass of the preform above the shoulder of said mandrel for a predetermined longitudinal area corresponding to the height dimension of the shrunken barrel whereby after sealing both ends of said preform the pressure differential caused by the application of vacuum through said openings causes the mandrel-conformed shrinkage at the lower wall areas of the preform located above the shoulder of said mandrel.

3,141,755
SELF-CLAMPING BAFFLE MECHANISM
Ralph H. Olson, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Apr. 11, 1960, Ser. No. 21,549
10 Claims. (Cl. 65—360)



1. In a blank mold assembly of a gass forming mechanism, including a blank mold defining a cavity having an open end, the combination of a baffle for closing said open end of the mold after a mold charge of molten glass is deposited in the mold, toggle mechanism comprising toggle links and a pair of toggle arms, means for pivotally connecting said toggle arms with the baffle and on opposite sides of the latter, a carriage including a lateral baffle arm, pivot connections between one end of the toggle links and the baffle arm and the other end of the toggle links and the toggle arms, clamps connected on the toggle arms for clamping the baffle and the mold together, and a reversible drive means connected to the carriage for moving it in one direction to successively bring the baffle to close said open end of the mold and actuate the toggle mechanism to clamp the baffle and the mold tightly together, and for moving the carriage in the opposite direction to successively unclamp the baffle and the mold and thereafter move the baffle away from the mold, thereby uncovering its said open end.

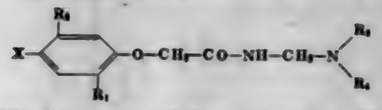
3,141,756
GLASS FORMING ELEMENT AND METHOD OF MANUFACTURE
James W. Giffen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 16, 1962, Ser. No. 166,625
4 Claims. (Cl. 65—372)



3. An improved method of imparting a substantially permanent layer of heat refractory insulating material to the molten glass contacting surface of a glass forming element which comprises, fuse-bonding a plurality of metal particles in closely spaced orientation to such surface so as to form a multitude of re-entrant interconnected voids intermediate such metal particles, applying a molten metal oxide about the metal particles and into such voids to form a continuous layer thereof extending from the surface of the glass forming element to above the metal particles, and solidifying such metal oxide to form a substantially permanent protective heat refractory insulating layer overlying the metal particles.

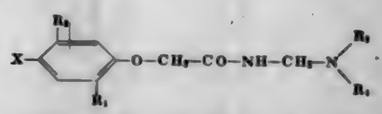
3,141,757
HERBICIDAL PHENOXYACETAMIDES
Jean Metivier, Arpajon, and Hubert Galvier, Lyon, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate
No Drawing. Filed July 28, 1960, Ser. No. 44,023
Claims priority, application France July 28, 1959
8 Claims. (Cl. 71—2.5)

1. Compounds selected from the class which consists of (*a*) N-substituted phenoxyacetamides of the formula:



in which X represents a halogen atom, R_1 and R_3 are selected from the class consisting of hydrogen and halogen atoms and formyl, lower alkyl, hydroxy lower alkyl and lower alkoxymethyl groups, and NR_3R_4 is selected from the class consisting of di-lower alkylamino, piperidino, pyrolidino and morpholino groups, and (*b*) quaternary ammonium derivatives of these N-substituted phenoxyacetamides wherein the acid moiety of the quaternary ammonium group is selected from the class which consists of lower alkyl halides and sulphates.

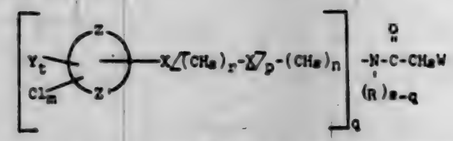
6. A method for controlling weeds which comprises applying to the affected area a herbicidally effective amount of a compound selected from the class consisting of (*a*) N-substituted phenoxyacetamides of the formula:



in which X represents a halogen atom, R_1 and R_3 are selected from the class consisting of hydrogen and halogen atoms and formyl, lower alkyl, hydroxy lower alkyl and lower alkoxymethyl groups, and NR_3R_4 is selected from the class consisting of di-lower alkylamine, piperidino, pyrrolidino and morpholino groups, and (*b*) quaternary ammonium derivatives of these N-substituted phenoxyacetamides wherein the acid moiety of the quaternary ammonium group is selected from the class which consists of lower alkyl halides and sulphates.

3,141,758
METHOD OF INHIBITING THE GERMINATION OF GRASS SEEDS
Philip C. Hamm, Webster Groves, and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed July 7, 1961, Ser. No. 122,427
6 Claims. (Cl. 71—2.6)

1. The method of selectively inhibiting the germination of grass seeds in contact with soil and the pre-emergent growth thereof, which comprises treating the said soil with a herbicidal amount of a compound of the structural formula



wherein Z—Z' is acyclic radial of the class consisting of phenyl and cyclohexyl; wherein Y is an alkyl radical of up to four carbon atoms and *t* is an integar from zero to three; wherein *m* is an integer from zero to three; wherein X is a chalkogen of the class consisting of oxygen and sulfur; wherein *r* is an integer from one to three; wherein *p* is an integer from zero to one; wherein *q* is an integer from one to two; wherein the sum of *m* and *t* does not exceed five; wherein *n* is an integer from one to four, provided that when *q* is two, then *n* is at least three; wherein W is a halogen selected from the class consisting of chlorine and bromine; and wherein R is selected from the class consisting of hydrogen, allyl and alkyl having up to three carbon atoms.

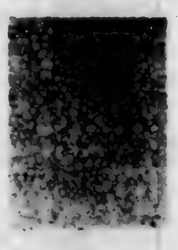
3,141,759
PROCESS FOR THE PRODUCTION OF FERTILIZERS FROM TOWN REFUSE AND BLACK LIQUOR
Jean Usse, Villemomble, and Henri Spindler, Grandchamp, France, assignors to Compagnie Electro-Chimique du Centre, Paris, France, a company
No Drawing. Filed Apr. 19, 1960, Ser. No. 23,141
Claims priority, application France Apr. 20, 1959
7 Claims. (Cl. 71—9)

1. In a method of producing a granular fertilizer from town refuse containing substantial moisture and including fermentable organic waste material, the steps of mixing a mass of said town refuse including a major proportion of said fermentable organic material with a proportion of black liquor from the alkaline digestion of cellulosic material sufficient to chemically condition said resulting mixture prior to fermentation thereof; then subjecting the thus-formed mixture to fermentation, said proportion of said black liquor in said mixture being so chosen as to at least substantially neutralize the increase in acidity caused by said fermentation; and recovering said granular fertilizer.

3,141,760
PROCESS OF SULFUR ADDITION AND DOUBLE ROLLING TREATMENT TO OBTAIN PREDETERMINED PARTICLE SIZE DISTRIBUTION
Guenter B. Finke and Friedrich W. Ackermann, Cherry Hill, N.J., assignors to Magnetic Metals Company, Camden, N.J.
Filed June 5, 1962, Ser. No. 200,149
6 Claims. (Cl. 75—.5)

1. A process for producing powdered Permalloy comprising the steps of:

(*a*) adding to a melt of the metal containing a minimum amount of calcium, manganese, or magnesium sufficient sulphur uncombined with calcium, manganese or magnesium to comprise substantially .005% to .20% of the total by weight,
(*b*) forming an ingot of said metal melt,
(*c*) hot-rolling the metal at a temperature in excess of 1800° F. which permits recrystallization without accumulation of sulphides on the grain boundaries,
(*d*) cooling said hot-rolled metal,



(*e*) hot-rolling said metal again for the final time employing a greater degree of reduction to produce smaller particle sizes and a lower degree of reduction to produce larger particle sizes,
(*f*) quenching said metal at a quick quenching rate to produce smaller particle sizes and at a slower quenching rate for larger particle sizes,
(*g*) said cooling step reducing the temperature of said metal to a value at least in excess of that at which the grain boundaries are substantially fully covered by sulphides but being sufficiently low so that said final hot-rolling and quenching ensure that said grain boundaries upon quenching are substantially fully covered by sulphides,
(*h*) and grinding the cooled metal to produce said powdered Permalloy.

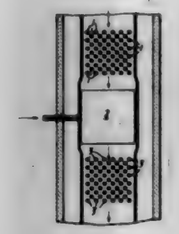
3,141,761
PULVERIZED SILVER ALLOYS FOR USE IN PRODUCING DENTAL AMALGAMS
Fritz Röhm, Stuttgart-Kaltental, Germany, assignor to Firma Dr. Walter u. Schmitt G.m.b.H., Schwabisch Gmund, Germany
No Drawing. Filed Feb. 20, 1963, Ser. No. 260,065
Claims priority, application Germany Feb. 23, 1962
5 Claims. (Cl. 75—.5)

1. A method of producing a dental amalgam which comprises triturating a silver alloy powder in which the diameter of the individual alloy particles is less than 0.2 mm. consisting essentially of an alloy of 80–99.5% silver and the remainder 0.01–6% of at least one metal selected from the group consisting of copper, zinc, cadmium, indium, mercury and tin and 0.001 to 19.9% of at least one noble metal selected from the group consisting of gold, palladium and platinum, with mercury in a proportion of about 5 parts by weight of the silver alloy powder to 6–8 parts by weight of mercury.

3,141,762
PROCESS FOR TRANSMITTING HEAT FROM HOT FINE-GRAINED MATERIAL TO COLD FINE-GRAINED MATERIAL
Klaus Serck-Hanssen, Oslo, Norway, assignor, by mesne assignments, to Elektrokemisk A/S, Radhusgaten, Norway, a corporation of Norway
Filed Dec. 29, 1961, Ser. No. 163,098
Claims priority, application Norway Jan. 7, 1961
5 Claims. (Cl. 75—33)

1. Process for transmitting heat from hot fine-grained solids to colder fine-grained solids which comprises pass-

ing said colder fine-grained solids through the spaces between and in direct contact with the surfaces of the first of at least two sets of a plurality of spaced hollow heating elements, the heating elements of each of said two sets communicating both with each other and with the heating elements of the other set to form a closed system of circulation, heating said colder fine-grained solids after passage through said first set of heating



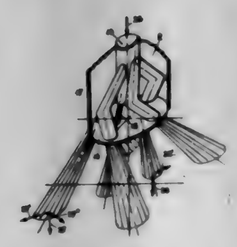
elements in a space which is unoccupied by the heating elements of either of said two sets, passing the thus heated hot fine-grained solids through the spaces between and in direct contact with the surfaces of said second set of plurality of spaced hollow heating elements, and circulating a liquid heat transfer medium through the closed system formed by all of said hollow heating elements to transfer the sensible heat of said hot fine-grained solids to said colder fine-grained solids.

3,141,763

PROCESS AND DEVICE FOR THE INTENSIVE USE OF OXYGEN IN OPEN-HEARTH FURNACES FOR PRODUCING STEEL

Mario Foresi, Genoa-Pegli, and Salvatore Ungaro, Genoa, Italy, assignors to Italsider Societa per Azioni, Genoa, Italy

Filed Aug. 29, 1961, Ser. No. 134,666
9 Claims. (Cl. 75—60)



1. An improved method for refining steel comprising, applying a plurality of concentrically arranged, angularly spaced, separate streams of gaseous fluid comprising oxygen on separate, angularly spaced, concentric impact areas arranged in a circle on an impact surface of a melt of steel, and applying said streams inclined relative to said impact surface for applying tangential forces to said melt of steel having components of force jointly and additively effective to cause rotation of material of said melt underlying said impact surface to which said streams are applied and effective to apply tangential forces having a component of force effective to effect translation of material underlying said impact surface radially outwardly from said circle in which said impact areas are arranged.

3,141,764

TREATMENT OF IRON ORES CONTAINING NICKEL AND CHROMIUM

Kiyoto Matsuzuka, Junjiro Momosaki, and Yoshinori Shirane, Kumamoto, Japan, assignors to Yawata Iron and Steel Co., Ltd., Tokyo, Japan

No Drawing. Filed Dec. 28, 1960, Ser. No. 78,817
Claims priority, application Japan Feb. 15, 1960
2 Claims. (Cl. 75—82)

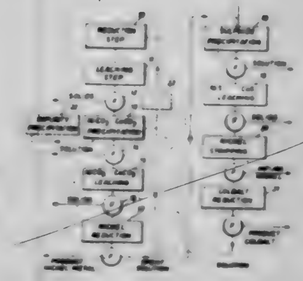
1. A process for treating a laterite iron ore, in finely divided form, containing nickel and chromium which comprises subjecting said ore to a reducing roast, leaching the roasted ore with dilute sulfurous acid containing about 0.5 to 3% by weight of SO_2, whereby nickel as well as cobalt, when the latter is present in the ore, and 5–10% of the iron contained in said ore are leached out, the leached iron being in the form of ferrous sulfite in the resultant leach liquor, while the chromium remains in the ore, agitating said liquor whereby ferrous sulfite is converted to ferric sulfite, immediately blowing air into said leach liquor while heating the latter to a temperature of 80 to 100° C. thereby decomposing said ferric sulfite to ferric sulfate and SO_2, and separating the precipitated ferric sulfate from the remaining liquor.

3,141,765

PROCESS FOR THE PRODUCTION OF NICKEL AND COBALT FROM NICKEL AND COBALT BEARING MATERIAL

Eldon L. Brown, Mardon Farm, Uptergrove, Ontario, and Vladimir Nicolaus Mackiw, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Ontario

Filed Nov. 12, 1959, Ser. No. 852,438
4 Claims. (Cl. 75—103)



1. In a process for the production of a metal selected from the group consisting of nickel and cobalt from oxidized, lateritic and garnieritic nickel and cobalt ores in which the ore is roasted in a reducing atmosphere to reduce nickel and cobalt values to crude metallic state and finely divided particles of reduced ore are leached with an ammoniacal ammonium carbonate solution in the presence of a free oxygen containing gas, the improvement which comprises the steps of:

(*a*) continuing said leaching step to obtain substantially complete extraction of nickel and cobalt values therefrom and their dissolution in the leach solution as metal carbonates;

(*b*) separating undissolved residue from the leach solution;

(*c*) heating said solution to a temperature above its boiling temperature;

(*d*) continuing said heating step to effect substantially complete precipitation from said solution of dissolved nickel and cobalt values as metal carbonates;

(*e*) separating precipitated nickel and cobalt carbonates from the leach solution;

(*f*) re-leaching said nickel and cobalt carbonates with an aqueous solution whch contains a member selected from the group consisting of ammonia, ammonium carbonate, ammonium sulphate, alkali metal hydroxides and inorganic acids in amount in excess of that required to dissolve said precipitated nickel and cobalt carbonates;

(*g*) continuing said leaching step to obtain optimum dissolution of said precipitated nickel and cobalt carbonates;

(*h*) separating undissolved residue from the last-mentioned leach solution;

(*i*) reacting said last-mentioned leach solution with a sulphur-free reducing gas at a temperature of from about 150° F. to about 450° F. under a partial pressure of a sulphur-free reducing gas of from about 20 to about 1000 pounds per square inch;

(*j*) providing in said solution an acid neutralizing agent in amount sufficient to maintain the pH of said solution of from about 2 to about 10 during the reducing reaction;

(*k*) continuing said reducing reaction to precipitate nickel from said solution as product nickel metal particles substantially free from impurities; and

(*l*) separating precipitated nickel metal particles from the last mentioned solution.

3,141,766

TREATMENT OF PYROCHLORE

Alfred Richard Burkin, Sheffield, and Hugh David Sawyer, Wembley, England, assignors to National Research Development Corporation, London, England, a British corporation

No Drawing. Filed Oct. 13, 1961, Ser. No. 144,844
Claims priority, application Great Britain Oct. 17, 1960
8 Claims. (Cl. 75—114)

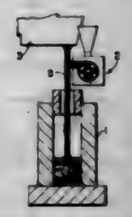
1. A process for extracting niobium in pyrochlore which comprises roasting pyrochlore in admixture with an alkali selected from the group consisting of sodium hydroxide and potassium hydroxide at a temperature of at least 350° C., the quantity of alkali employed being sufficient to react with all niobium in the pyrochlore but not in excess of that which the pyrochlore can absorb during the roasting operation and such roasting operation only being terminated when substantially no separate molten alkali phase is present, treating the roasted mass with hydrochloric acid of a strength of at least 5 N to produce a solution of niobium values and separating the solution of niobium values from the undissolved residue.

3,141,767

STEEL CASTING PROCESS AND APPARATUS

Charles R. Funk, Westtown, Pa., assignor to Lukens Steel Company, Coatesville, Pa., a corporation of Pennsylvania

Filed Sept. 29, 1960, Ser. No. 59,427
4 Claims. (Cl. 75—129)



1. The process for producing leaded steel which comprises injecting a controlled stream of solid lead particles varying in size from 0.03 to 0.09 inch in diameter at a velocity of at least 4000 feet per minute through the surface of molten steel and into the body of steel, whereby melting and oxidation of the lead on contact with the steel are avoided and the lead is dispersed throughout the steel.

3,141,768

ABRASIVE GRINDING BALLS AND METHOD OF MANUFACTURING SAME

Albert L. Bard, Independence, Mo., and Arthur M. Johnson, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

No Drawing. Original application Jan. 13, 1958, Ser. No. 708,357, now Patent No. 3,061,209, dated Oct. 30, 1962. Divided and this application June 6, 1962, Ser. No. 200,386
8 Claims. (Cl. 75—204)

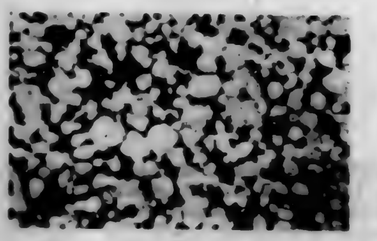
1. The method of manufacturing a steel grinding element for use in ball mills and the like, comprising the steps of mixing powdered steel and less than 30% abrasive particles, compacting the mixed materials into a mass and sintering the compacted mass at a temperature below the melting point of the powdered metal in a carburizing atmosphere, forging the heated mass into final shape and heat treating the forged element to harden the matrix to at least R_c 58.

3,141,769

METHOD OF PRODUCING POROUS TUNGSTEN IONIZERS FOR ION ROCKET ENGINES

Neal T. Saunders, Olmsted Falls, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 18, 1962. Ser. No. 203,409
5 Claims. (Cl. 75—222)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method comprising mixing tungsten powder having an average particle size within the range of from about 0.01 micron to about one micron, with from 2 percent to about 10 percent based on a total weight of the mixture of a long chain fatty acid, pressing the resulting mixture at a pressure between 10,000 pounds per square inch and 50,000 pounds per square inch and sintering the resulting compact for at least 12 hours at a temperature within the range of from about 2700° F. to about 3500° F. in a substantially non-oxidizing atmosphere.

3,141,770

ELECTROPHOTOGRAPHIC LAYERS AND SENSITIZERS FOR SAME

Dale R. Davis, Cornelia C. Natale, and Charles J. Fox, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 29, 1961, Ser. No. 163,017
12 Claims. (Cl. 96—1)

1. A photoconductive composition consisting essentially of (*a*) an aryl amine selected from the group consisting of diaryl amines and triaryl amines and a sensitizing

amount of (*b*) a member selected from the group consisting of pyrylium, thiapyrylium and selenapyrylium salts.

3,141,771
ALDEHYDE SCAVENGERS FOR PHOTOGRAPHIC SILVER HALIDE DEVELOPERS

Charleton C. Bard and Deane S. Thomas, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 1, 1961, Ser. No. 86,288
13 Claims. (Cl. 96—22)

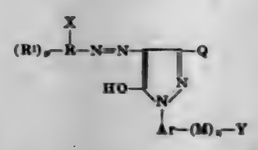
1. A photographic developer for producing a color image comprising an aqueous alkaline solution of a p-phenylene-diamine photographic developing agent, a p-N-aralkylaminophenol, and a compound selected from the class consisting of (A) a primary amine selected from the class consisting of hydroxylamine, semicarbazide, hydrazine, carbohydrazide, biuret, aminoguanidine, methylsemicarbazide and water-soluble salts of said compounds, and (B) Girard's reagent.

3,141,772
PHOTOGRAPHIC PRODUCTS, PROCESSES AND COMPOSITIONS EMPLOYING AZO DYE DEVELOPERS

Milton Green, Newton Center, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Aug. 9, 1963, Ser. No. 301,181
18 Claims. (Cl. 96—29)

1. A process for forming a photographic image in color comprising developing an exposed silver halide emulsion by contacting said exposed silver halide emulsion with an aqueous alkaline solution comprising a dye developer of the formula:



wherein R^1 is selected from the group consisting of lower alkoxy, halogen, lower alkyl, trifluoromethyl and sulfonamido radicals, *p* is an integer from 0 to 4, inclusive, X is selected from the group consisting or hydrogen, lower alkoxy, halogen, lower alkyl, trifluoromethyl, and sulfonamido radicals, said X being located ortho to said —H=N—radical, R is selected from the group consisting of phenyl and naphthyl radicals, Ar is a phenylene radical, M is a lower alkylene radical, *n* is an integer from 0 to 1, inclusive, Y is selected from the group consisting of ortho- and para-dihydroxyphenyl radicals and alkyl and halogen derivatives thereof, Q is selected from the group consisting of



radicals wherein Z is a lower alkyl radical and R^2 and R^3 each are selected from the group consisting of hydrogen and alkyl radicals and R^2 and R^3 taken together is a divalent aliphatic radical, to thereby provide a predetermined imagewise distribution of unoxidized dye developer, and transferring at least a part of said imagewise distribution of unoxidized dye developer by imbibition to an image-receiving layer in superposed relationship with said silver halide emulsion to impart a dye image to said image-receiving layer.

3,141,773
PROCESS AND PHOTOGRAPHIC MATERIAL FOR THE PRODUCTION OF PHOTOGRAPHIC RECORDS AND COPIES WHICH ARE CORRECTED FOR TONE VALUE

Ehrhard Hellmig, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Feb. 5, 1958, Ser. No. 713,360
Claims priority, application Germany Feb. 12, 1957
7 Claims. (Cl. 96—68)



1. A photographic material comprising, in combination, a support, a continuous-tone silver halide photographic emulsion, and a second less sensitive silver halide photographic emulsion of greater gamma value deposited thereon, both of said emulsions being sensitive to substantially the same spectral region but differing in speed within said spectral region, the second emulsion having a speed of about .1–.01 of the speed of said continuous-tone emulsion, the maximum and minimum ratio of average speeds of the two emulsions, when averaged over each partial zone of the spectrum extending over one-third of said spectral region, differing by a factor of 1.5–25.

3,141,774
ANIMAL FATTY TISSUE DEFATTING PROCESS

Thomas H. Little, Devon, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania

Filed Feb. 2, 1962, Ser. No. 170,588
8 Claims. (Cl. 99—18)

1. In the defatting of animal tissue to produce a relatively moist partially defatted tissure product the process which includes the steps of: striking the tissure violently and repeatedly with rotary blows of an elongate element in a confined comminuting zone in the presence of steam injected from an external source until the tissure is reduced to a selected particle size, applying heat to the tissure to raise the temperature of the particle mass to between about 140° F. and 170° F.; and then separating the tissure from the fat melted during the striking and heating step.

3,141,775
EMULSIFIABLE CONCENTRATE

John M. Sargent, Richmond Heights, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 23, 1961, Ser. No. 111,918
4 Claims. (Cl. 99—9)

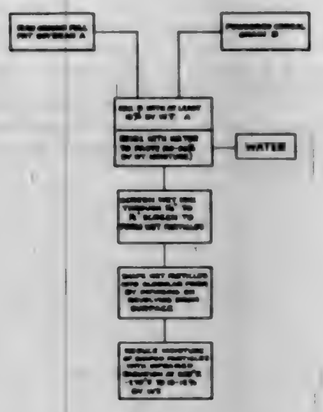
1. An emulsifiable concentrate comprising a 2,2,4-trimethyl-1,2-dihydroquinoline and water in a weight ratio of approximately 1 to 4:1 and for each 10 parts by weight of water 0.5 to 5 parts by weight of water-soluble nonionic surfactant which is the condensation of one mol of a mono-higher fatty acid ester of hexitol anhydride with 10 to 30 mols of alkylene oxide and approximately 0.5 to 5 parts by weight of mono-higher fatty acid ester of glycerol.

3,141,776
PREPARATION OF A CEREAL-FULL FAT SOYBEAN FOOD PRODUCT

Henry H. Kaufmann and James F. Lawrence, Minneapolis, Minn., assignors to Cargill, Incorporated, Wilmington, Del., a corporation of Delaware

Filed Oct. 25, 1961, Ser. No. 147,511
4 Claims. (Cl. 99—80)

1. The method of making an improved particulate food product which method comprises the steps of mixing together ground cereal grain and a binder of full fat soybeans in an amount of at least about 5 percent by weight of said cereal grain, moistening said mixture to provide a workable pasty mass, forming discrete particles from said mass, shaping said particles under non-pelletizing conditions without substantially reducing the water absorbing characteristics thereof, heat treating said particles with infra-red radiation at a temperature below about 270° F. for a period of time generally equivalent to heat treating at about 270° F. for about 4 minutes to substantially destroy the toxic and inhibitory factors in said soybeans, and terminating said heat treating before the moisture concentration of said particles falls below about 7 percent by weight, whereby an improved full fat soybean containing food product is obtained which has a toasted nut-like flavor and high protein dispersibility.



3,141,777
TREATMENT OF SOYBEANS

Elio J. Guidarelli, Minneapolis, Russell A. Eversole, Excelsior, and James F. Lawrence, Minneapolis, Minn., assignors to Cargill Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 11, 1961, Ser. No. 144,503
3 Claims. (Cl. 99—98)

1. A method of improving the edibility and palatability of soybeans, which method comprises the steps of subjecting soybeans having a moisture content of between about 8 and about 30 percent by weight, to a heat treatment with infra-red radiation at a temperature of about 200° F. to about 270° F. for about 15 minutes to about 4 minutes, terminating said heat treatment before the moisture concentration of said soybeans falls below about 7 percent by weight, and thereafter cooling said soybeans, whereby soybeans having improved edibility and palatability, including a toasted nut-like flavor, are provided.

3,141,778
CELLULOSE ESTER FOOD COATING COMPOSITION AND FOOD ARTICLES COATED THEREWITH

Mortimer S. Thompson, North Woodbury, Conn., and Alvan R. Ross, Plainfield, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 17, 1961, Ser. No. 103,258
17 Claims. (Cl. 99—166)

2. A readily strippable coated article of food comprising an article of food and a thin layer consisting essentially of a cellulose organic acid ester, said ester groups being derived from organic acids having 2 to 4 carbon atoms, about 1 to 10% of a non-toxic glycol selected from the group consisting of lower aliphatic diols, ethers of said lower aliphatic diols, polymers of said lower aliphatic diols, and polymers of said ethers, and a non-toxic plasticizer other than said glycol for said ester coated upon the surface of said article.

3,141,779
STACKED SLICED FOOD PRODUCT AND METHOD OF PREPARING SAME

Everett V. Podebradsky and Floyd C. Olson, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 24, 1961, Ser. No. 112,189
13 Claims. (Cl. 99—166)

1. In a food product formed from stacked product slices arranged in face-to-face relation, the provision of a coating of gelatinous alginate on at least one of the contacting faces of the product slices providing for ready separation of said product slices.

3,141,780
COPPER COATING COMPOSITIONS

John G. Simon, St. Paul, and John G. Songas, Circle Pine, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Mar. 30, 1962, Ser. No. 183,755
6 Claims. (Cl. 106—1)

3. A copper coating applying bath, each gallon of which is capable of applying a strongly anchored copper coating to about 40 square feet of ferrous metal surface, said bath consisting essentially of an aqueous solution of about 1 to 5% of a strong inorganic acid containing an ionizable copper salt capable of plating copper out of solution onto a ferrous metal, and containing for each two parts by weight elemental copper, from ⅛ to 1 part water-soluble polyethylene glycol having a molecular weight of about 20,000, and from about .8 to 1.2 parts condensation product of formaldehyde and o-toluidine.

3,141,781
PRODUCTION OF LIGHT WEIGHT HIGH TEMPERATURE REFRACTORY PRODUCTS

Lewis J. Dreyling, East Brunswick, and Alfred P. Dreyling, South River, N.J., assignors to Quigley Company, Inc., a corporation of New York

Filed May 6, 1960, Ser. No. 27,366
2 Claims. (Cl. 106—41)

1. A process for the production of light weight refractory products, comprising the steps of mixing a refractory material with water and an organic air cell forming and sustaining compound to produce an aqueous slurry, agitating said slurry for a sufficient period of time to create a multitude of separate and discrete air cells uniformly distributed throughout the mixture for a desired increase in volume, said organic air cell forming and sustaining compound including a wetting agent mixed with water which controls the formation and distribution of the multitude of separate and discrete air cells and an absorption-control agent which prevents the penetration of the water and the wetting agent therein into the refractory material, and then converting the mixture by forming and firing into end products free of contamination by driving off the organic air cell forming and sustaining compound during firing, characterized in that the organic air cell forming and sustaining compound is mixed with alkaline refractory materials and consists of 40% by weight of alkylolamine salt of long chain alcohol sulfate and 20% by weight of lauric diethanolamine mixed with 40% by weight of water.

3,141,782
PROCESSES FOR THE PRODUCTION OF CERAMIC BODIES
David Thomas Livey, Harwell, and Peter Murray, Reginald Scott, and Jack Williams, Abingdon, England, assignors to The United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed Mar. 14, 1958, Ser. No. 721,369
Claims priority, application Great Britain Mar. 14, 1957
5 Claims. (Cl. 106—55)

1. A method of producing a compact of a refractory metal oxide comprising providing a powder from the group consisting of stoichiometric refractcory metal oxide powders having an average crystallite diameter of less than about 0.1 micron and non-stoichiometric refractory metal oxide powders wherein the excess of oxygen in the oxide is not so great as to alter the crystalline form of the corresponding stoichiometric compound and having an average crystallite diameter of less than about 0.1–0.25 micron, and hot pressing the powder at a temperature of about 600–1000° C. and at a pressure of at least 5 tons per square inch.

3,141,783
REFRACTORY LINING
Ernest Paul Weaver, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 27, 1962, Ser. No. 191,403
9 Claims. (Cl. 106—58)

1. In unconsolidated basic refractory ramming mixes bonded with selected carbonaceous bond materials, which mixes consist essentially of about 100 parts of basic refractory and up to about 8 parts, by weight, of the bond material, the improvement consisting essentially of said bond material including a compatible hydrogenated long chain hydrocarbon ester in a quantity sufficient to maintain fluidity and workability in the mixes at ambient temperature conditions.

3,141,784
HIGH TEMPERATURE REFRACTORY
Donald F. King and Ben Davies, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 21, 1963, Ser. No. 266,796
20 Claims. (Cl. 106—58)

1. A batch for making refractories exposed to very high temperatures consisting essentially of, by weight, at least 96 percent MgO and CaO, on the basis of an oxide analysis, the MgO ranging from about 95 to 50 percent, the CaO ranging from about 5 to 50 percent, said MgO and CaO being in the form of hydration-resistant, coburned refractory grain, CaO being uniformly distributed through the batch, and refractories made therefrom, as available lime in a form capable of contributing to the satisfaction of the lime hunger of high temperature oxygen converter slags by reaction therewith substantially without slag penetration, the remainder of the batch consisting essentially of SiO_2, Al_2O_3 and Fe_2O_3 on the basis of an oxide analysis, and about 4 to 8 percent based on the foregoing composition, of material of the group consisting of tar and pitch.

3,141,785
REFRACTORY SHAPES AND METHOD OF MAKING SAME
Ben Davies, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed May 10, 1961, Ser. No. 108,989
6 Claims. (Cl. 106—59)

1. That method of preparing refractory shapes for use in contact with basic materials at very high temperatures, comprising forming a mixture of MgO, CaO, and Cr_2O_3, the mixture consisting essentially of sufficient of a chromium compound being selected from the group consisting of soluble chromium compounds and −100 mesh technical grade chromic oxide to yield chromic oxide in an amount equal to about 1 to 5%, by weight, of the total batch, MgO in the range 5–94% and CaO in the range 5–50%, the total batch having a solids analysis of at least about 96 weight percent of CaO plus MgO plus Cr_2O_3, the MgO and CaO components of said mixture selected from the group consisting of high purity calcined lime, high purity calcined dolomite, and caustic calcined magnesia, said mixture being coburned to a temperature of at least about 2900° F. to produce a dead burned product of high density, the remainder of the mixture consisting of material of the group which analyzes, on an oxide basis, SiO_2, Al_2O_3, and Fe_2O_3, crushing and sizing the dead burned product, mixing said burned product with liquified pitch, and forming shapes from the bath of pitch and burned product.

5. An unburned refractory brick consisting essentially of, by weight, at least about 96% MgO plus CaO plus Cr_2O_3, on the basis of an oxide analysis, the MgO ranging from about 94 to about 50%, the CaO from about 5 to about 50%, and the Cr_2O_3 ranging from about 1 to about 5%, the remainder of the brick consisting essentially of SiO_2, Al_2O_3, and Fe_2O_3, on the basis of an oxide analysis, the CaO capable of reacting with constituents of early slag of an oxygen converter process to form dicalcium silicate, the Cr_2O_3 being capable of suppressing reaction of brick with iron oxide present in late slag of an oxygen converter process, said brick having been produced by the method of claim 1.

3,141,786
FIBROUS BOEHMITE ALUMINA MOLDING POWDER AND PROCESSES FOR MOLDING THEM INTO DENSE, ALPHA ALUMINA ARTICLES
John Bugosh, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 15, 1961, Ser. No. 117,216
6 Claims. (Cl. 106—62)

1. A molding powder consisting essentially of an intimate mixture of pulverulent fibrous alumina monohydrate having the boehmite crystal lattice and made up of alumina fibrils having a surface area of 200 to 400 square meters per gram and an average length of 25 to 1500 millimicrons, said alumina being substantially free of nonvolatile impurities, and about from 0.5 to 5% by weight, based on the alumina as Al_2O_3, of a grain growth inhibitor selected from the group consisting of nickel oxide, magnesium oxide, chromium oxide, cobalt oxide, magnesium fluoride, and compounds thermally decomposable in air to said oxides.

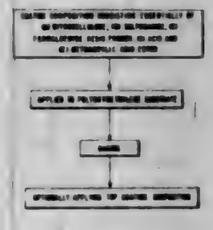
3,141,787
THIXOTROPIC AGENTS AND PREPARATION THEREOF
Wolfgang Goetze, Berlin-Reinickendorf, and Eugen Griebsch, Berlin-Britz, Germany, assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed July 25, 1960, Ser. No. 44,860
Claims priority, application Germany July 29, 1959
18 Claims. (Cl. 106—252)

1. A process for preparing a modified easily soluble polyamide for use as a thixotropic additive which process comprises condensing an alkylene polyamine with an stoichiometric excess of an acid selected from the group consisting of polycarboxylic acids having more than 6 carbon atoms and mixtures thereof wtih monocarboxylic fatty acids having more than 6 carbon atoms, the alkyl esters thereof and subsequently esterifying the product with a monoalcohol until the acid value is less than 10.

3,141,788
TITANIUM DIOXIDE PIGMENTS
Walter R. Whately, Lynchburg, Va., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Oct. 5, 1962, Ser. No. 228,593
17 Claims. (Cl. 106—300)

1. Titanium dioxide pigment of improved chalk resistance resulting from the presence of a small amount within the range of about 0.1% to 5% by weight of an insoluble hydrous zirconium phosphate on the particles thereof.

3,141,789
COATING COMPOSITION, COATED POLYOXYMETHYLENE, AND PROCESS FOR COATING POLYOXYMETHYLENE
William Joseph McConeghey, Springfield Township, Delaware County, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 14, 1961, Ser. No. 102,953
7 Claims. (Cl. 117—73)



1. A coating composition which comprises (A) nitrocellulose and, for each part thereof, (B) about from 0.2 to 5 parts by weight of sulfonamide, (C) about from 0.05 to 1 part by weight of a compound of the group consisting of phenols, ureas, amino triazines and diazines, (D) about from 0.02 to 0.2 milliequivalent of strong, nonvolatile acid having a dissociation constant in water of greater than about 1×10^{-3} and having a boiling range about the baking temperature of said composition and (E) up to about 4 parts by weight of at least one ester of methacrylic acid and a 2 to 22 carbon atom alcohol.

3. A process for improving the adhesion of coating compositions to a substrate of polyoxymethylene which comprises applying to said substrate a prime coat of the composition of claim 1, baking said prime coat and applying thereover a top coating composition containing a synthetic resin.

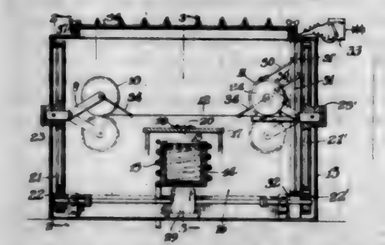
3,141,790
BURNED BASIC REFRACTORY SHAPES
Ben Davies, Ernest Paul Weaver, and Peter Harry Havranek, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 25, 1963, Ser. No. 254,013
9 Claims. (Cl. 117—123)

1. Tar impregnated, ceramically bonded basic refractory shapes suitable for use in metallurgical vessels, said shapes, by weight and on the basis of an oxide analysis, consisting essentially of from about 96 to 97% MgO, there being CaO and SiO_2 in a weight ratio between 3 to 1 and about 4 to 1, and materials of the group Cr_2O_3, Al_2O_3, and Fe_2O_3, in an amount not exceeding 1%, said shapes microscopically characterized by periclase to periclase crystal attachment and with the CaO and SiO_2 content largely present in spaced disconnected pockets between the periclase crystals and being mineralogically characterized largely as tricalcium silicate.





3,141,791
ELEMENTS AND METHOD OF MAKING
Leon Podolsky, Pittsfield, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Apr. 21, 1961, Ser. No. 104,667
4 Claims. (Cl. 117—212)

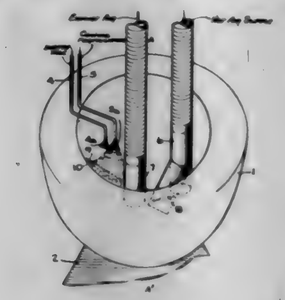


1. A method of forming a spiral magnetic thin film on the surface of a non-magnetic electrically conductive central core which comprises vaporizing a magnetic material in a vacuum, passing a portion of the vaporized material through a defining aperture adjacent the source of vaporization, forming a beam of vaporized material with said aperture, continuously transporting a non-magnetic electrically conductive wire in a given direction through said beam of the vaporized material depositing a pattern of the vaporized material on the wire, rotating said continuously transported wire on its axis during said movement, and controllably forming a spiral band of said magnetic material on said central core with said deposited pattern from said beam.

3,141,792
AUTOMATIC TABLET COATING APPARATUS
Leon Lachman, Summit, and Seymour Weinstein, Orange, N.J., assignors to Cilag Corporation, New York, N.Y., a corporation of Delaware
Filed June 8, 1962, Ser. No. 203,685
4 Claims. (Cl. 118—6)

1. An apparatus for coating materials selected from the group consisting of tablets, capsules and particles,

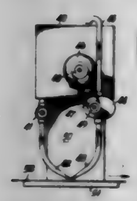
which comprises a baffled coating pan equipped with 3 to 4 gradually tapered baffles, equidistant from each other, sloped in the direction of the motion of said coating pan and extending so that (1) the ratio of the pan diameter to the distance from the bottom end of the baffle to the bottom center of the pan and (2) the ratio of the pan diameter to the distance from the top end of the baffle to the outer edge of the pan are each from about 4.2 to about 8.4, means for rotating said coating pan, means for spraying coating formulation, means for spraying dusting powder, means for providing compressed hot air and means for hot air withdrawal, all of said means operating within said coating pan, means for reading and transmitting coded signals, covering a plurality of at least about ten cycles, on interchangeable tapes to a series of five independently activated relays, one of said relays being connected to a coating pan positioned on an inclined axis to activate means for initiating rotation of said coating pan, a second of said relays connected to a spray means to activate said means for regulating coating formulation flow, a third of said relays connected to a spray means to activate said means for regulating dusting powder suspension flow, a fourth of said relays connected to compressed air means to activate said means for providing compressed hot air and a fifth of said relays connected to cut-off means to activate said means for terminating the coating cycle.



3,141,793
APPARATUS FOR COATING SURFACES

Keith Meredith Oliphant, Westbourne Park, South Australia, Australia, assignor to Research Laboratories of Australia Limited, South Australia, Australia

Filed Sept. 6, 1960, Ser. No. 54,188
Claims priority, application Australia Sept. 9, 1959
10 Claims. (Cl. 118—300)

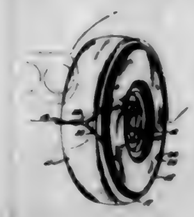


1. Means for coating surfaces comprising a delivery nozzle for the coating material, a suction nozzle to remove excess coating material, and means to maintain the said nozzles in a spaced relationship and at an obtuse angle relative to each other to cause the coating material to follow a curved path between the delivery nozzle and the suction nozzle into the plane of the object being coated that is approximately tangential to the surface of the object being coated.

3,141,794
PAINTER'S MASK FOR PNEUMATIC TIRES

Earl V. Horner, 57 Hopkins St., Newport News, Va.

Filed Mar. 24, 1961, Ser. No. 98,083
4 Claims. (Cl. 118—505)

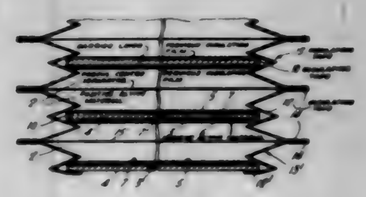


1. A painter's mask for pneumatic tires mounted on rims comprising a substantially flat thin masking ring of a size to cover the portion of the tire to be masked, said ring having an inner edge curved to provide a stiffening effect and snugly to engage the tire and to fit close to the rim on which the tire is mounted, the outer edge of said ring likewise being of a configuration to provide a stiffening effect, the ring being of such flexibility that pressure on opposite portions will cause it to flex into more intimate engagement with the tire to which it is applied, means for fastening said ring to the tire comprising multiple elastic members each having spaced ends and an intermediate portion, means for anchoring the spaced ends of one elastic member on said masking ring in opposition to the spaced ends of another of said elastic members likewise anchored to said masking ring, and a hook connected to the intermediate portion of each elastic member and engageable with the tire in a manner that the elastic member retains tension upon the masking ring.

3,141,795
STORAGE BATTERIES

Paul Ehler, 57 Exeter Road, London NW. 2, England

Filed May 11, 1960, Ser. No. 28,414
15 Claims. (Cl. 136—6)

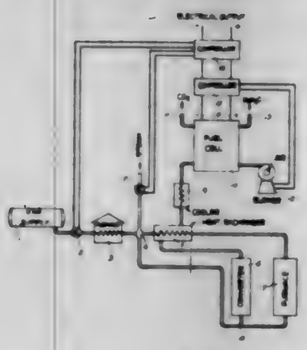


1. In a secondary battery having a plurality of individual units to be activated by an electrolyte and connected electrically in series, the combination of a plurality of closely spaced generally parallel aligned multilayer intermediate sheets each layer being less than 0.030 inch thick, electrolyte resistant electrical insulating material separating said sheets from one another round their peripheries and hermetically sealing said sheets at least over the whole of those edge portions which are to be below the level of the electrolyte, thereby forming a plurality of closely spaced generally parallel aligned electrolyte chambers separated by said sheets, each said sheet comprising two outer layers of active material of opposite polarity bounding the respective chambers on either side of the sheet and at least one barrier layer between them, said barrier layer being of a material which is electrically conductive through its thickness and yet remaining impervious to the electrolyte through many cycles of charge and discharge under the potentials due to the active layers in contact with it, both outer layers extending over substantially the whole area of the sheet, covering means pervious to the flow of electrolyte and resistant to chemical reaction with the electrolyte disposed closely about the outer layers for holding the outer layers each as a coherent mass in good electrical contact with the barrier layer so that when the chambers are filled with electrolyte the current flow through the whole series of cells is substantially normal to the surface and through the thickness of all of the sheets and is distributed over substantially their whole area, assembled in end to end relation with adjacent extreme conducting layers of similar polarity, a pair of conducting bands each led concertina-fashion adjacent extreme conducting layers of all units of one polarity respectively, the band connected to conducting layers of one polarity being led along one side of said units and the other band along the other side of said units, the bands making contact with the conducting layers over substantially the entire area thereof, and retainer means embracing the units and exerting endwise pressure.

3,141,796
ENERGY CONVERSION PROCESS

Philip S. Fay, Cleveland, and Robert A. Rightmire, Twinsburg, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 30, 1960, Ser. No. 79,901
1 Claim. (Cl. 136—86)



The method for chemically converting a water gas reaction susceptible gaseous material including carbon monoxide into a mixture of an oxidizable fuel, carbon dioxide, and residual gases and said fuel into electrical energy by its selective reaction with a reducible antifuel in a fuel cell including an external circuit comprising:

(*a*) reacting said carbon monoxide containing gaseous material with water in a water gas reaction to produce a mixture of gases including carbon dioxide and hydrogen;

(*b*) supplying the mixture in a confined space for contacting the exposed surface of a rotatable electron conductor partially submerged in an aqueous acidic ion-containing and conducting medium;

(*c*) rotating said electron conducting surface through said aqueous medium to selectively desorb hydrogen ions from said surface to provide an increased hydrogen ion concentration in said medium;

(*d*) supplying a free oxygen-containing gaseous antifuel to a separate confined space to the exposed surface of a second rotatable electron conductor partially submerged in an aqueous basic ion-containing and conducting medium;

(*e*) rotating said electron conducting surface through said basic medium to selectively desorb hydroxyl ions from said second surface to provide an increased hydroxyl ion concentration in said basic medium;

(*f*) chemically isolating and electronically coupling the ions in the acidic medium with the ions in the basic medium by introducing a physical barrier between the mediums and by bridging said barrier with an electron conductor having surfaces exposed respectively to the ions in the acidic and basic mediums;

(*g*) discharging said hydrogen ions in said acidic medium at the exposed electron conducting surface in said acidic medium to yield gaseous hydrogen;

(*h*) collecting said gaseous hydrogen in a third separate confined space and exposing it to the electron conducting surface in said basic medium for adsorption thereon;

(*i*) electronically transferring the charge through the electron conducting bridge;

(*j*) and electrochemically reacting said adsorbed hydrogen with said hydroxyl ions in said basic medium to produce electrical energy in said external circuit, and

(*k*) exhausting carbon dioxide containing gases from the confined space to which the mixture including carbon dioxide and hydrogen was initially supplied.

3,141,797
PHOSPHATING PROCESS

Howard Pekar and Leo Donald Barrett, Cleveland, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 7, 1961, Ser. No. 136,448
5 Claims. (Cl. 148—6.15)

1. A method of preparing an improved phosphated metal surface which comprises:

(A) treating a ferrous metal surface with an aqueous solution having a pH greater than 8 and consisting essentially of water, an alkalizer, and a metal permanganate at a temperature within the range from about 68° F. to 210° F. for a period of from about 30 seconds to 60 minutes, the combined concentration of said metal permanganate and said alkalizer in said aqueous solution being within the range of from about 0.1 to 25% by weight and the relative proportions by weight of said metal permanganate to said alkalizer being within the range from about 1:0.5 to 1:4; and thereafter;

(B) phosphating said treated ferrous metal surface of A with an aqueous phosphating solution at a temperature within the range from about 68° F. to about 210° F., said aqueous phosphating solution containing as essential ingredients from about 0.05 to about 1.0% by weight of zinc ion, from about 0.25 to about 2.0% by weight of phosphate ion, from about 0.25 to about 6.0% by weight of nitrate ion, and from about 0.1 to about 3.0% by weight of a cation selected from the group consisting of lithium, beryllium, magnesium, calcium, cadmium, strontium, and barium.

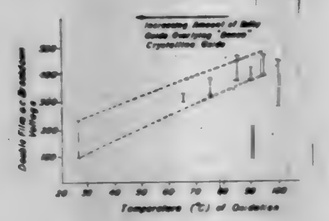
3,141,798
ANODIZATION OF ALUMINUM IN A SOLUTION OF CALCIUM HYDROXIDE

John R. Rairden III, Latham, N.Y., assignor to General Electric Company, a corporation of New York

Filed Nov. 28, 1961, Ser. No. 155,374
1 Claim. (Cl. 148—6.27)

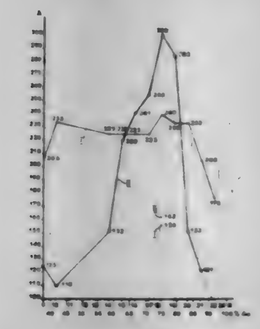
A method for forming a tightly-adherent oxide film on an exposed surface of a metal body of a matrix metal selected from the group consisting of aluminum and aluminum alloys containing not less than about 90 percent aluminum comprising, contacting the exposed surface

with a saturated aqueous solution of calcium hydroxide containing not less than about one gram of dissolved aluminum per liter, the solution being heated to a temperature of not less than about 85° C., maintaining the pH of the hydroxide solution to within the range of from



about 10 to 10.2 and continuing the contact between the exposed surface of the metal body and the hydroxide solution for sufficient time to form an oxide coating consisting of an oxide of the metal of the hydroxide solution, aluminum oxide, and water of hydration.

3,141,799
HEAT TREATMENT OF GOLD ALLOYS
Edmond Brellier, 67 Boulevard de Picpus, Paris 12, France, and Aram Haroutounian, 94 Rue du Temple, Paris 3, France
Filed Aug. 27, 1958, Ser. No. 757,593
6 Claims. (Cl. 148—11.5)



1. A method of producing a gold alloy having a selected hardness, comprising the steps of providing an alloying composition of 65% to 90% (by weight) copper, 4% to 25% (by weight) nickel and 3% to 10% (by weight) zinc; melting said alloying composition with an amount of gold comprised between about 37.5% and 92% relative to the total weight of said gold alloy, until a homogeneous gold alloy is obtained; cooling said alloy to ambient temperature; working said alloy by submitting it to plastic deformation; and submitting said alloy to a heat treatment comprising the steps of heating the alloy to an elevated temperature lower than the melting point of the alloy; rapidly quenching the alloy at ambient temperature; reheating the alloy to a temperature substantially lower than said elevated temperature; and cooling the alloy naturally to ambient temperature, said alloy having a Brinell hardness which increases from about 110 degrees to about 300 degrees as the gold content of the alloy increases from about 10 carat to about 18 carat, while said Brinell hardness decreases from about 300 degrees to about 121 degrees as said gold content increases from about 18 carat to about 21 carat.

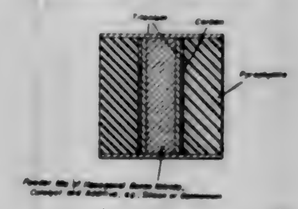
3,141,800
DIMENSIONALLY STABLE STAINLESS STEEL PRESS PLATES AND METHOD OF FORMING SAME
Albert T. Reichenbach, Washington Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
No Drawing. Filed Jan. 3, 1962, Ser. No. 164,181
2 Claims. (Cl. 148—12.3)

1. A method of producing dimensionally stable press plates of ferritic stainless steel comprising the steps of:
(*a*) shearing plate blanks from a sheet,
(*b*) hot rolling the blanks to a thickness greater than the final desired thickness,
(*c*) box annealing the blanks at a temperature above the recrystallization temperature and below the lower critical temperature of the steel,
(*d*) pickling the blanks,
(*e*) cold reducing the blanks to final press plate thickness,
(*f*) continuously annealing the plates above the recrystallization temperature and below the lower critical temperature of the steel,
(*g*) pickling the plates,
(*h*) flattening the plate,
(*i*) stress relieving the plates between 300° F. and 800° F.

3,141,801
METHOD OF HARDENING A CASE HARDENED STEEL
Daniel Howard Prutton, 5305 W. 130th St., Cleveland 30, Ohio
No Drawing. Filed June 27, 1961, Ser. No. 119,781
2 Claims. (Cl. 148—15.5)

1. The process of hardening a high chromium, high carbon die steel capable of being hardened and nitrided, comprising the steps of nitriding the steel by heating in a nitrogen atmosphere at about 900° to 1000° F. for approximately 40–90 hours to obtain a nitrided hardened case .015 to .020 inch deep with a surface hardness of about 68–70 Rockwell C and a relatively soft core, subsequently raising the temperature to about 300° to 350° F. above the upper critical temperature for one hour per inch of material thickness, quenching the steel to harden the core thereof, and tempering the steel by heating to a temperature less than 600° F. for one hour per inch of material thickness to obtain a surface hardness of about 64–65 Rockwell C and a core hardness of about 60–61 Rockwell C.

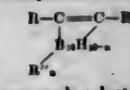
3,141,802
SEMICONDUCTING CUBIC BORON NITRIDE AND METHODS FOR PREPARING THE SAME
Robert H. Wentorf, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 19, 1961, Ser. No. 111,279
9 Claims. (Cl. 148—171)



1. The process for making electrically conducting cubic boron nitride having a specific electrical resistance of below 10^{10} ohm-centimeters which comprises heating at elevated temperatures of at least 1200° C. and pressures of at least 42,000 atmospheres a mixture of ingredients comprising (1) at least one catalyst metal selected from the class consisting of alkali metals, alkaline earth metals, lead, antimony, tin and nitrides of the foregoing metals, (2) a source of boron selected from the class consisting of elemental boron, hexagonal boron nitride and compounds of boron decomposable to elemental boron at the above elevated temperatures and pressures, (3) a source of nitrogen selected from the class consisting of hexagonal boron nitride and nitrogen-containing compounds of the aforesaid catalyst materials which provide a source of nitrogen under the temperatures and pressures used for effecting formation of the cubic crystal structure boron nitride, and (4) a positive amount up to 10 percent, by weight, based on the total weight of (2) and (3) of an additive selected from the class consisting of silicon and germanium, the catalytic pressure and temperature conditions being those required to form the electrically conducting cubic boron nitride.

3,141,803
SOLID PROPELLANT AND PROCESS USING VINYL DECABORANE COMPOUNDS
Joseph Green, Dover, and George J. Donovan, Boonton, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed May 5, 1961, Ser. No. 108,193
4 Claims. (Cl. 149—19)

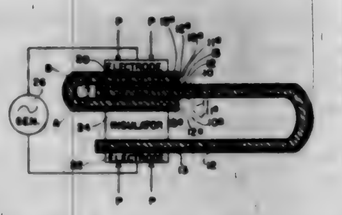
1. A liquid composition curable to form a tough elastomer useful as the fuel-binder component of a composite solid propellant, said liquid composition consisting essentially of 20 to 80 parts by weight of a liquid polymer selected from the class consisting of diisocyanate terminated polyesters, diisocyanate terminated polyesteramides, diisocyanate terminated polyetherglycols and carboxy group terminated hydrocarbons, 1 to 50 parts by weight of a curing agent, and 80 to 20 parts by weight of an organoboron compound of the class



wherein R and R′ are each selected from the class consisting of hydrogen, alkyl radicals and alkenyl radicals, R″ is a lower alkyl radical, and *n* varies from 0 to 4.

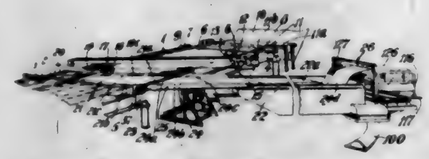
3. A method for preparing a composite solid propellant grain which comprises heating at a temperature within the range from about 25° to 120° C. for from about 4 hours to 7 days an admixture consisting essentially of from about 60 to 95 parts by weight of a solid inorganic oxidizer and from about 5 to 40 parts by weight of a composition of claim 1.

3,141,804
DIELECTRIC HEAT SEALING
Don R. Kuffield, Lexington, Ky., assignor to Folis Packaging Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed July 18, 1961, Ser. No. 124,848
2 Claims. (Cl. 156—257)



1. The method of making a dielectric-heat-sealed container part from a single foil-clad paperboard blank including the following steps: cutting a series of parallel narrow slits through the foil between portions of the blank to be sealed together; coating the surfaces of the blank with heat-sealable plastic; bringing together the said portions of the blank; applying pressure thereacross; and coupling radio frequency to the foils located on opposite sides of said series of slits to establish an electric field therebetween to fuse together the plastic on abutting surfaces within said field.

3,141,805
APPARATUS FOR CONVEYING AND JOINING LENGTHS OF RUBBERIZED FABRIC
Bernard Alfred Gough, Stechford, Birmingham, and Arthur Frank Baldwin, Great Barr, Birmingham, England, assignors, by mesne assignments, to Dunlop Tire and Rubber Corporation, Buffalo, N.Y., a corporation of New York
Filed Aug. 10, 1959, Ser. No. 832,704
Claims priority, application Great Britain Aug. 13, 1958
21 Claims. (Cl. 156—353)

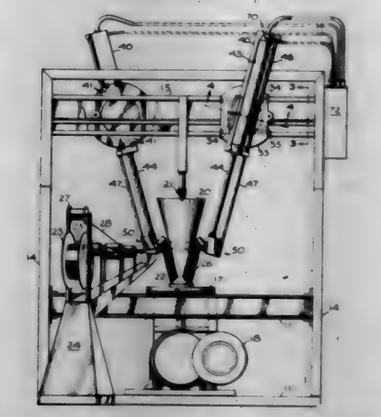


1. Apparatus for conveying and joining lengths of rubberized fabric comprising an endless belt conveyor to convey said fabric at successive intermittent intervals for severing into successive lengths, means for bias-cutting rubberized fabric mounted on the endless belt conveyor into a length at each interval, means controlled by the leading edge of the fabric beyond said cutting means to arrest the movement of said fabric prior to cutting while a severed length is moved to position for joining to a previously severed length, means controlled by the leading edge of each successive severed length of fabric beyond said position of cutting to stop said conveyor in position for joining to a previously severed length, a clamping member located in the joining position and disposed so as to clamp onto a marginal portion of a length of fabric mounted on the endless belt conveyor to join it to the marginal portion of a second length of fabric disposed beneath the clamping member, means for alternatively raising and lowering the clamping member to move it clear of and to clamp it upon the said marginal portions, and means for intermittently withdrawing, sideways relative to the direction of the endless belt conveyor, joined lengths of fabric so that an unjoined marginal portion remains in the joining position.

3,141,806
APPARATUS FOR FORMING A WOUND HOLLOW STRUCTURE OF FIBER REINFORCED TAPE
Albert A. Reinman, Redondo Beach, Calif., assignor to H. I. Thompson Fiber Glass Company, Los Angeles, Calif.
Filed Apr. 14, 1960, Ser. No. 22,188
15 Claims. (Cl. 156—425)

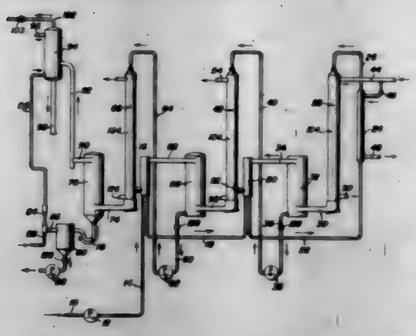
1. Apparatus for building up a solid body which has a hollow center and consists of ring laminations of tape material, the directions of the laminations being at a selected angle other than parallel with the length of the body, the appa..atus including in combination a rotatable central mandrel lying along and rotatable about a given axis, the mandrel having the configuration desired for the approximate inner form of the solid body and including a base portion which is substantially parallel to the direction desired for the laminations, whereby the tape material is positionable as a helical winding about the

mandrel beginning with the base portion, at least one pressure roller movably mounted adjacent the periphery of the mandrel adjacent the path of the tape material as it is being laid down, the pressure roller extending across the width of the tape material and being divided into separate independently rotatable segments across the width of the tape material, the peripheral surfaces of the segmented portions of the pressure roller being of a ma-



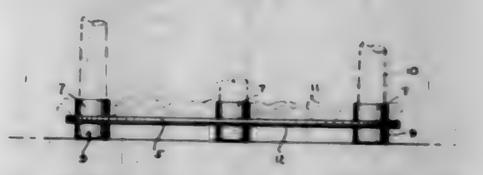
terial having a low coefficient of friction, and means including at least one support arm coupled to the pressure roller and supporting the pressure roller against the tape material as it is being laid down, said means being positioned to maintain a relatively uniform pressure by the pressure roller upon the tape material in a direction normal to the width of the material throughout the tape winding procedure.

3,141,807
VACUUM EVAPORATOR
Ralph W. Cook, 311 Main St., Dunedin, Fla.
Filed Nov. 30, 1960, Ser. No. 72,709
3 Claims. (Cl. 159—17)



1. In a multistage system for concentrating feed liquid, the combination of means supplying high temperature feed liquid under presure, evaporator means operatively connected to said liquid supplying means for receiving liquid therefrom at a high velocity and partially evaporating the liquid into a liquid and vapor mixture under suction pressure, vapor heating means operatively connected to said evaporator means for effecting said partial evaporation, separator means operatively connected to the evaporator means for receiving the liquid and vapor mixture therefrom and separating the mixture into concentrated liquid and vapor, preheater means connected to the separator means for receiving the vapor therefrom for elevating said feed liquid to said high temperature, said evaporator means comprising vertically disposed chamber means, a plurality of spaced heat transfer tubes mounted within said chamber means and extending beyond lower and upper ends of the chamber means, expansion inlet means mounted in insulated relation above the upper end of the chamber means in communication with upper ends of the tubes, insulated liquid-vapor mixture outlet means mounted below the chamber means in communication with lower end of the tubes, and nozzle means connected to said inlet means for delivering liquid thereto at said high velocity.

3,141,895
WREATH CONSTRUCTION
Albert E. Wellens, 7138 NW. 3rd Ave., Miami, Fla.
Filed Oct. 18, 1961, Ser. No. 145,823
1 Claim. (Cl. 161—31)

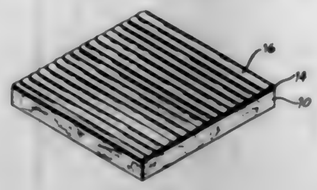


A cylindrical base structure for forming an advent wreath that comprises an open relatively thin flat ring having upper and lower faces, the ring being provided with a plurality of equidistantly spaced cylindrical openings, candle holding sockets fixedly engaged in the openings to project above and below the ring an equal distance, the sockets being open at their tops and closed at their bottoms and with the lower projections of the sockets constituting legs whereby to space the ring above a supporting surface, the upper face of the ring adapted to receive decorative material over its entire surface and with the material adapted to be stapled to the ring and with the staples being clinched upon the lower face of the ring, a cover ring identically proportioned with respect to the first named ring and with the cover ring being provided with a plurality of equidistantly spaced cylindrical openings corresponding in number and size to the openings of the first named ring and whereby to have snug fitting engagement over the lower extensions of the sockets, the said cover ring being relatively thin as compared to the first named ring and with the cover ring overlying the clinched ends of the staples, the said rings and the sockets being formed of cardboard and with the sockets being cemented into the first named openings, the cover ring being frictionally engaged with the downward extension of the sockets.

3,141,909
MINERAL FIBER LAMINATE AND METHOD OF MAKING SAME
Vincent Di Maio and Norman T. Miller, Toledo, Ohio, assignors, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware
Filed June 26, 1957, Ser. No. 668,871
10 Claims. (Cl. 161—73)

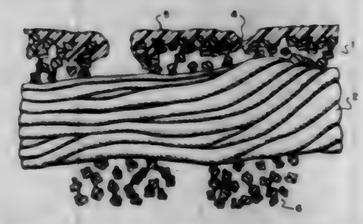
1. A fibrous laminate comprising a first resilient layer of individual glass fibers arranged generally in parallel relation bonded one to another by a cured thermosetting resin and having voids therebetween, and an adjacent layer of greater density and rigidity integrally joined therewith formed of individual discontinuous glass fibers bonded one to another at their intersections and having

voids therebetween, the density of said first layer being between about one-half and about four pounds per cubic foot and the density of said second layer being between about six and about sixteen pounds per cubic foot.



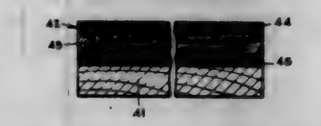
4. A fibrous laminate as defined in claim 1 wherein said higher density layer has an embossed surface.

3,141,810
NOVEL FABRIC AND PROCESS
Hans H. Kuhn and Manuel A. Thomas, both of Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed May 31, 1961, Ser. No. 113,946
17 Claims. (Cl. 161—91)



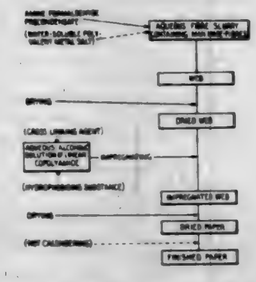
1. A flexible, porous, abrasion resistant fabric having a face composed of yarns composed of fibers, at least the uppermost of said fibers at the face being evenly coated and held tightly together by a polymeric composition, a substantial proportion of said yarns being further characterized by an ability to move freely along their entire lengths relative to all adjacent yarns whereby the fabric remains porous flexible and more capable of resisting deterioration from abrasive forces.

3,141,811
FIBROUS LAMINATE AND METHOD OF PRODUCING THE SAME
Herbert A. Fox, Perrysburg, and George J. Hannes, Maumee, Ohio, assignors, by mesne assignments, to Johns-Manville Fiber Glass Inc., Cleveland, Ohio, a corporation of Delaware
Filed Apr. 1, 1958, Ser. No. 725,714
14 Claims. (Cl. 161—93)



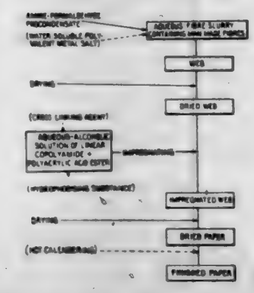
1. An article of manufacture having impact absorbing properties comprising the combination of a first and second mass of glass fibers, the fibers in each mass being haphazardly arranged and interbonded with a heat-cured resin, said first mass being relatively resilient and completely enclosed within said second mass, said first mass being under compression and functioning as a spring member, said second mass being less resilient and of substantially greater density than said first mass.

3,141,812
PROCESS OF IMPREGNATING PAPER CONTAINING SYNTHETIC FIBERS AND AN AMINE FORMALDEHYDE PRECONDENSATE WITH A FILM FORMING LINEAR COPOLYAMIDE
Bruno Stefan Vladimir Marek and Josef Gneisz, both of Emmenbruecke, near Lucerne, Switzerland, assignors to Societe de La Viscose Suisse, Emmenbrucke, Switzerland, a Swiss body corporate
Filed Aug. 23, 1961, Ser. No. 133,304
Claims priority, application Great Britain Sept. 1, 1960
13 Claims. (Cl. 162—135)



1. In a process for the production of paper which contains a proportion of synthetic fibres and in which an aqueous suspension of the fibre containing an amine-formaldehyde precondensate is formed into a web and dried, the improvement which consists in impregnating the dried web with an aqueous-alcoholic solution containing 8–12% by weight of said solution of a film-forming linear copolyamide and drying the impregnated sheet.

3,141,813
PROCESS OF IMPREGNATING PAPER CONTAINING SYNTHETIC FIBERS AND AN AMINE-FORMALDEHYDE RESIN WITH COPOLYAMIDE AND POLYACRYLIC ACID ESTER
Bruno Stefan Vladimir Marek and Josef Gneisz, both of Emmenbruecke, near Lucerne, Switzerland, assignors to Societe de La Viscose Suisse, Emmenbrucke, Switzerland, a Swiss body corporate
Filed Aug. 23, 1961, Ser. No. 133,305
Claims priority, application Great Britain Sept. 1, 1960
13 Claims. (Cl. 162—135)



2. In a process for the production of paper which contains a proportion of synthetic fibers and in which an aqueous suspension of the fiber containing an amine-formaldehyde precondensate and a water-soluble salt of a polyvalent metal is formed into a web and dried and the dried web is thereafter impregnated with an aqueous al-

coholic solution of a linear copolyamide as film-forming constituent and drying the impregnated sheet, the improvement which consists in including in the said aqueous-alcoholic solution a further film-forming constituent consisting of a polyacrylic ester, the concentration of copolyamide being about 8.75% by weight and the concentration of polyacrylic ester being about 1.25% by weight.

3,141,814
CLUTCH PLATE FACING
Harold W. Schultz, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed June 22, 1961, Ser. No. 118,758
3 Claims. (Cl. 162—155)

1. A clutch plate facing material for use in wet clutches and the like comprising a paper-like sheet adapted to be bonded coextensively to a metal supporting plate and having as its basic components, fibrous material taken from the class consisting of vegetable fibers, synthetic fibers and mineral fibers, together with a heat resistant phenolic binder and a friction fortifying addition consisting of calcined diatomaceous silica in combination with a rubbery latex.

3,141,815
PROCESS OF IMPROVING INORGANIC FILLER RETENTION IN PAPER BY ADDITION OF ETHYLENE OXIDE HOMOPOLYMER
John A. Manley, Neenah, Wis., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 27, 1960, Ser. No. 45,522
5 Claims. (Cl. 162—164)

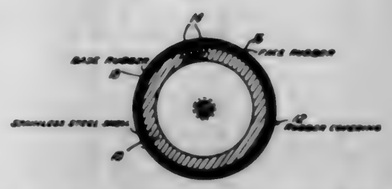
1. A process for improving inorganic filler and fiber fines retention in the manufacture of paper which comprises adding to an inorganic filled paper stock at least 0.04 pound per ton of air dried fiber of a water soluble ethylene oxide homopolymer which has an average molecular weight of at least 50,000.

3,141,816
METHOD OF IMPROVING OPERATIONAL EFFICIENCY OF WHITE WATER RECOVERY SYSTEMS
John A. Manley, Neenah, Wis., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 27, 1960, Ser. No. 45,521
4 Claims. (Cl. 162—190)

1. The method of improving the operational efficiency of flotation and vacuum type white water recovery systems whereby an increased amount of fibers and other solid materials are collected and removed from the white water, which comprises adding to the white water which has suspended therein said solid materials at least 0.01 p.p.m. of a water soluble ethylene oxide polymer which has an average molecular weight of at least 50,000, flowing said white water into a recovery system of said type and removing the thus treated suspended materials by means of said recovery system.

3,141,817
SUCTION PRESS ROLL
Benjamin T. Collins, Crawfordsville, Ind., and Charles P. McHugh, Ridgewood, N.J., assignors to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey
Filed Aug. 22, 1962, Ser. No. 218,712
8 Claims. (Cl. 162—372)

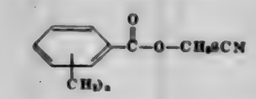
1. A press roll comprising a stainless steel shell and a rubber covering bonded thereto, the bond between the shell and the covering comprising rubber having incorporated therein a sacrificial anodic metal powder selected



from the class of metals above stainless steel in the E.M.F. series and consisting of aluminum powder, chromium powder and ferrochrome powder.

3,141,818
BIOLOGICAL TOXICANT
John A. Stephens and Erhard J. Prill, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Original application Jan. 29, 1959, Ser. No. 789,799. Divided and this application Oct. 24, 1962, Ser. No. 232,862
2 Claims. (Cl. 167—30)

1. The method of inhibiting the growth of undesired microorganisms which comprises exposing said microorganisms to at least an amount sufficient to inhibit their growth of a compound of the formula



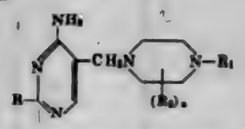
where n is an integer of from 0 to 2 inclusive.

3,141,819
DIELDRIN-PMDS COMPOSITIONS FOR PROTECTION OF WOOL
Saikichi Hirashima, Osaka, Japan, assignor to Takeda Chemical Industries, Ltd., Osaka, Japan
No Drawing. Filed July 30, 1962, Ser. No. 213,886
7 Claims. (Cl. 167—38.6)

1. A concentrate which is dilutable with water to produce a composition for the protection of wool from damage caused by insects and microorganisms, which concentrate concomitantly comprises phenyl mercuric dioctyl sulfosuccinate and 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a - octahydro - 1,4,5,8-dimethanonaphthalene in solution in organic solvent in the proportion of 5 to 15 parts by weight of the former for every 10 to 20 parts by weight of the latter.

3,141,820
COCCIDIOSIS CONTROL COMPOSITION
Robert L. Clark, Woodbridge, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application Oct. 31, 1960, Ser. No. 65,924, now Patent No. 3,060,183, dated Oct. 23, 1962. Divided and this application Jan. 16, 1962, Ser. No. 166,702
8 Claims. (Cl. 167—53.1)

1. A poultry feed having dispersed therein a compound of the formula



wherein R and R_2 are lower alkyl groups, R_1 is selected

from the class consisting of hydrogen, lower alkyl and lower alkenyl and n has a value of 0–2 inclusive, and acid addition salts thereof.

3,141,821
SYNERGISTIC COMBINATION OF ALKYL SULFONATES, ALKYLARYL SULFONATES AND TOPICAL ANTIBACTERIAL AGENTS FOR LOCAL ANTISEPSIS
Gerald M. Compeau, Roselle Park, N.J., assignor to Lehn & Fink Products Corporation, Bloomfield, N.J., a corporation of Delaware
No Drawing. Filed Mar. 17, 1959, Ser. No. 799,843
10 Claims. (Cl. 167—58)

1. A non-toxic composition comprising a stable anionic surface active sulphonate selected from the group consisting of alkyl sulphonates in which the alkyl group contains approximately 8–22 carbon atoms and alkyl aryl sulphonates in which the alkyl group contains approximately 1–22 carbon atoms and in which the aryl nucleus is selected from the group consisting of benzene and naphthalene, and a non-toxic skin substantive bacteriostatic compound, at a pH of about 2 to 4.

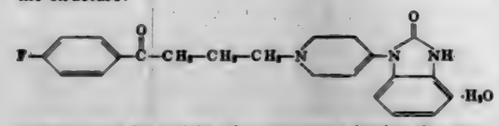
3. The composition of claim 1 wherein the bacteriostatic compound is selected from the group consisting of hexachlorophene, tetramethylthiuramdisulfide, bithionol, trichlorocarbanilide, 2,2' thiobis (4 chlorophenol), and 2,2' thiobis (4 chloro, 6 methylphenol).

3,141,822
STABLE COMPOSITIONS OF ALKALI METAL SALTS OF SYNTHETIC PENICILLINS AND POLYACETIC ACIDS
Martin Goldberg, New Brunswick, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,265
2 Claims. (Cl. 167—65)

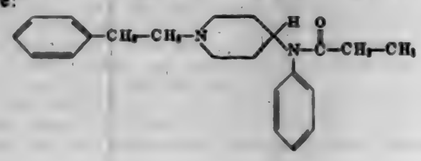
1. A stable pharmaceutical composition comprising an intimate blend of an alkali metal salt of a synthetic penicillin and a polyacetic acid selected from the group consisting of ethylenediaminetetraacetic acids, diethylenetriaminopentacetic acids, N-hydroxyethylenediaminopentacetic acids, nitrilotriacetic acids, and 1,2-diaminocyclohexanetetraacetic acids, said polyacetic acid being present in an amount of from about 1% to about 30% by weight of the said synthetic penicillin.

3,141,823
METHOD FOR PRODUCING ANALGESIA
Paul Adriaan Jan Janssen, Vosselaar, near Turnhout, Belgium, and Joseph Francis Gardocki, Doylestown, Pa., assignors to Research Laboratorium Dr. C. Janssen N.V., a corporation of Belgium
No Drawing. Filed Sept. 4, 1962, Ser. No. 221,936
5 Claims. (Cl. 167—65)

1. A new composition containing from about five to about one hundred parts by weight of a compound having the structure:



and one part by weight of a compound having the structure:



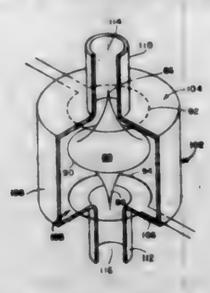
3,141,824
PERTUSSIS ANTIGEN
Robert V. Dahlstrom, Manitowoc, Wis., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed May 19, 1961, Ser. No. 111,163
4 Claims. (Cl. 167—78)

1. An improved method for preparing *Bordetella pertussis* antigen which comprises growing *Bordetella pertussis* upon the surface of a solid nutrient medium, washing the cells therefrom with physiological saline solution, separating the cells from the resulting suspension, subjecting the cells to contact for a period in excess of one hour with an extractant solution having a saline content between about 0.5 and about 1.5 molar at a temperature between about 2 and about 10° C., and a pH above 8.5 and below 10.5, and separating the resulting antigen extract from the exhausted cells.

3,141,825
COLD WAVE LOTION PACKAGE
Robert L. Goldemberg, Haworth, N.J., and Harold Akrongold, Laurelton, N.Y., assignors to Shulton, Inc., Clifton, N.J., a corporation of New Jersey
No Drawing. Filed May 17, 1962, Ser. No. 195,427
2 Claims. (Cl. 167—87.1)

1. A hair waving lotion package consisting of a polyethylene squeeze bottle having a cured epoxy resin coating consisting essentially of (1) an epoxy resin composition containing by weight from about 90% to about 10% of the reaction product of epichlorhydrin, p,p'-dihydroxydiphenyldimethyl methane and epihydric alcohol, and from about 10% to about 90% of the reaction product of epichlorhydrin and dimethyl, p-hydroxyphenyl, p-hydroxy-o-(p-hydroxybenzyl) phenyl methane; (2) the reaction product of epichlorhydrin and p,p'-dihydroxy-diphenyldimethylmethane; said (1) and (2) being admixed in a ratio of between about 5:1 and 45:1, and a hardener, on at least one surface thereof completely covering said surface, said bottle containing a hair wave lotion consisting essentially of from 4% to 7% by weight of thioglycolic acid, from 1% to 6.5% monoethanolamine, from 0.1% to 2.6% ammonium hydroxide, and the rest being substantially entirely water, said mixture containing not more than one mol of ammonium hydroxide per mol of thioglycolic acid and having a pH within the range of 9 to 9.4.

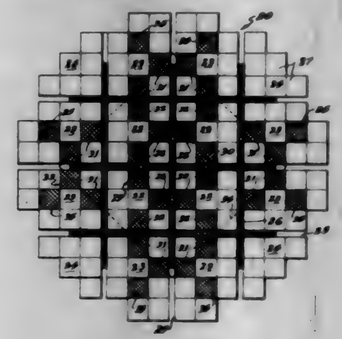
3,141,826
APPARATUS AND METHOD FOR CONFINING A PLASMA
Kurt O. Friedrichs and Harold Grad, New Rochelle, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 2, 1958, Ser. No. 746,309
4 Claims. (Cl. 176—7)



1. In a plasma device having a container, a gas of low atomic weight, and means for heating and ionizing said gas to form a substantially perfectly conducting

plasma within the container, the improvement comprising first and second current conducting coils displaced from each other along the length of the device in parallel planes at opposite ends of the plasma, means for energizing said coils with oppositely directed equal currents for forming a convex plasma-field interface in which magnetic lines of force intersect to form a bi-conical monocusp having opposite point cusps connected to an annular line cusp midway therebetween, said current being sufficiently large such that the ratio of plasma pressure to magnetic field pressure is equal to one, and means for rapidly increasing said current for adiabatically compressing said plasma.

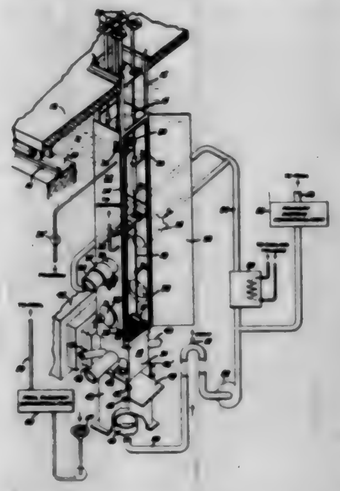
3,141,827
BREEDER REACTOR CORE WITH ALTERNATE ZONES OF DEPLETED AND ENRICHED FUEL
Haig P. Iskenderian, Elmhurst, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 12, 1962, Ser. No. 230,302
7 Claims. (Cl. 176—17)



3. A nuclear reactor core comprising a central zone of slightly enriched fuel, a plurality of alternate concentric zones of depleted fuel and zones of slightly enriched fuel surrounding said central zone, and movable control rods disposed in the core in a regular pattern wherein said central zone is square in cross section, said depleted zones are generally square in cross section, and the fuel elements forming the depleted zones are quadrangular in cross section and are surrounded on at least three sides by fuel elements from the slightly enriched zones.

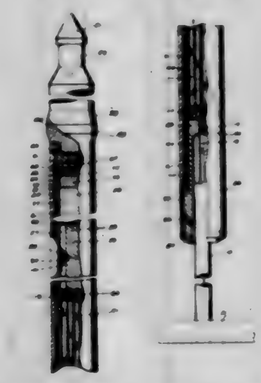
3,141,828
NUCLEAR REACTOR EQUIPMENT
Leopold A. Steinert, San Jose, Robert H. Dempsey, Los Altos, and Philip M. Clark, San Jose, Calif., assignors to General Electric Company, a corporation of New York
Filed Nov. 26, 1958, Ser. No. 776,632
5 Claims. (Cl. 176—62)

1. A nuclear reactor apparatus which comprises a biological shield structure closed at the sides and bottom providing therein a pool chamber having an upper end, a pool of water disposed in and substantially filling said pool chamber and having an upper surface exposed to the atmosphere, a controlled nuclear chain reacting core assembly immersed in said pool, hollow tubular means open at the upper end and partially enclosing said core assembly and extending upwardly through said pool to a point adjacent the upper surface of said pool, said tubular means being provided with a sealable opening extending along said hollow tubular means substantially throughout the entire length between the upper end of said core assembly and the surface of said pool, door means adapted to close said sealable opening, baffle means disposed within and extending across said hollow tubular means at a point above the upper end of said core assembly and below the surface of said pool, and means connecting a coolant circulating system to said hollow tubular means, said reactor apparatus providing a coolant flow through said



chain reacting core assembly and through at least part of said hollow tubular means, said flow being upwardly by natural convection with said door means open and downwardly under forced circulation with said door means closed.

3,141,829
FUEL ELEMENT
Peter Fortescue, San Diego, Lloyd R. Zumwalt, Rancho Santa Fe, and David C. Morse, San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 19, 1960, Ser. No. 23,341
9 Claims. (Cl. 176—68)



1. A fuel element for a neutronic reactor, said fuel element comprising an outer container fabricated of neutron moderating material having a low permeability to fission products and containing a gas porous inlet and a gas outlet, said container gas outlet being disposed at the bottom end of said container, a fuel can fabricated of neutron moderating material having a low permeability to fission products disposed wholly within said outer container, the adjacent surfaces of said can and container being arranged to provide a plurality of purge channels between said can and said container, said channels communicating with said porous gas inlet of said container and said bottom gas outlet of said container, at least one of said adjacent surfaces of said fuel can and said outer container having a plurality of circumferential grooves providing passageways interconnecting said channels, said can having a gas inlet and a gas outlet, said can gas outlet being positioned at the bottom end of said can and communicating with said container gas outlet, at least one fuel compact disposed within said can in a manner to provide a space between said compacts and said can which space communicates with said can gas inlet, and a fission product trap disposed within said can below said compacts.

3,141,830
NUCLEAR FUEL ELEMENTS AND MANUFACTURING METHOD
Harold H. Klepfer and Millard E. Snyder, Pleasanton, Calif., assignors to General Electric Company, a corporation of New York
Filed May 9, 1960, Ser. No. 27,774
10 Claims. (Cl. 176—68)



1. A nuclear reactor fuel element which comprises an elongated container having an internal opening, a body of nuclear fuel material disposed in said opening, an end closure integrally secured and sealed at each end of said container, said container and end closures of said fuel element being fabricated from a metal having as a major constitutent a metal selected from the class consisting of zirconium, niobium (columbium) and yttrium, at least one of said end closures being hollow and having a cavity which communicates with said internal opening of said container, and a resilient, porous, fluid-permeable metallic compact contained in said cavity, said compact being fabricated from a metal having as a major constitutent a metal selected from the class consisting of zirconium, niobium (columbium), titanium, yttrium, and hafnium, said compact having a bulk density of between about 50% and about 85% of the theoretical density of the metal from which it is made.

3,141,831
PROCESS FOR PRODUCING L-GLUTAMIC ACID
Masami O'hara, Setagaya-ku, Tokyo, Takuji Tsuchiya, Sugimami-ku, Tokyo, Akio Kawamoto and Tsuyoshi Shiio, Kawasaki-shi, Kanagawa-ken, Shinichi Motozaki, Setagaya-ku, Tokyo, Toshinao Tsunoda, Zushi-shi, Kanagawa-ken, and Kazumoto Kinoshita, Meguro-ku, Tokyo, Japan, assignors to Ajinomoto Kabushiki Kaisha and Sanraku Shuzo Kabushiki Kaisha, Takara-cho, Chuo-ku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 4, 1962, Ser. No. 164,388
Claims priority, application Japan Jan. 24, 1961
16 Claims. (Cl. 195—47)

1. A process for producing L-glutamic acid which comprises cultivating a microorganism of a genus selected from the group consisting of Brevibacterium, Bacillus, Escherichia, Corynebacterium, Microbacterium, Micrococcus, and Pseudomonas and strongly capable of producing L-glutamic acid from saccharide materials, nitrogenous substances, inorganic salts essential to the nutrition of said microorganisms and plant growth hormones in an amount effective to promote microorganism growth and control fermentation rate, said hormones being selected from the group consisting of β-indoleacetic acid, β-indoleacetaldehyde, β-indolepropionic acid, β-indolebutyric acid, β-indolevaleric acid, indene-3-acetic acid, phenylacetic acid, phenoxyacetic acid, p-chlorophenoxyacetic acid, p-bromophenoxyacetic acid, 2,4-dichlorophenoxyacetic acid, 2,4-dichlorophenoxyacetamide, 2,4,5-trichlorophenoxyacetic acid, 2,4,5-trichlorophenoxyacetaldehyde, 3,4-di-methylphenoxyacetic acid, α-(2,4-dichlorophenoxy)-propionic acid, 2,4,5-trichlorophenoxypropionic acid, 2,4-dichlorophenoxycaproic acid, α-naphthylaceticacid, β-naphthylacetic acid, β-naphthoxyacetic acid, β-naphthoxypropionic acid, anthracene-acetic acid, 2,3,6-trichlorobenzoic acid, 2,3,5-triiodobenzoic acid, phenacetylleucine, and maleic hydrazide.

3,141,832
METHOD OF CULTIVATING PAPAYA PLANTS AND FOR RECOVERING PROTEOLYTIC ENZYMES FROM PAPAYA PLANTS
Everette M. Burdick, 4821 Ronda St., Coral Gables, Fla.
Filed Jan. 7, 1960, Ser. No. 1,050
22 Claims. (Cl. 195—66)

3. A method of treating papaya plants to recover proteolytic enzymes comprising the steps of, treating the plants with an extraction solution, pressing the treated plants to obtain a liquid from the plants, adjusting the pH of the liquid to 4.0–4.5, heating the liquid to between 40°–55° C. and digesting the heated liquid until a coagulate is formed therein, separating the liquid from the coagulate, and treating the liquid to separate the proteolytic enzymes therefrom.

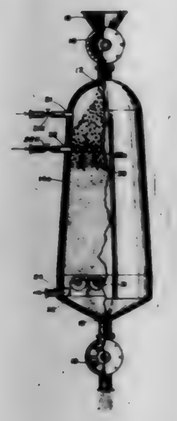
3,141,833
MALTING OF BARLEY AND OTHER CEREALS
Thomas Robert Dixon, deceased, late of Thriplow Place, near Royston, England, by Lloyds Bank Limited, executor, London, England, assignor to The Dixon Malt Company Limited and The Enzymic Malt Company Limited, both of London, England
No Drawing. Filed Aug. 20, 1962, Ser. No. 218,170
5 Claims. (Cl. 195—70)

1. A method of malting cereal, which comprises steeping the grain at not less than approximately 27° C., draining away the steep water, and inhibiting the respiration of the grain, and so reducing malting loss, by regulation of the atmosphere present in a container containing the grain, by introducing an inert, non-toxic gas from the group containing carbon dioxide and nitrogen prior to kilning.

3,141,834
PROCESS FOR CONTINUOUS DESTRUCTIVE DISTILLATION AND CARBONIZATION OF COAL
Victor Dean Allred, Littleton, Colo., assignor to The Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed Jan. 25, 1961, Ser. No. 84,809
14 Claims. (Cl. 202—7)

1. In a process for the destructive distillation of coal wherein coal is introduced into one end of a retort, coke is formed and removed from the other end of the retort, and a combustion zone is maintained intermediate the retort charge of introduced coal and formed coke, the steps of introducing coal and an oxygen-containing gas into a retort in cocurrent relationship at a rate adapted to maintain a combustion zone of limited vertical extent, regulating the rate of coal and gas introduction into the com-

bustion zone to maintain said zone intermediate the ends of the charge, burning a minor portion of the coal and all oxygen in said combustion zone, maintaining the temperature of the coal substantially at coking temperatures without igniting the coal after its movement beyond the combustion zone, and withdrawing coke and combustion gas cocurrently and separately from the discharge end of the retort.

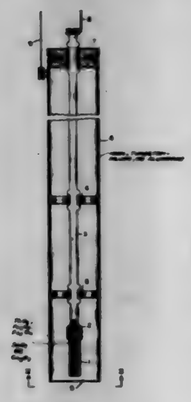


3,141,835

METHOD AND APPARATUS FOR DETERMINING OXYGEN IN A MOLTEN HALOGENATED BATH

Maurice Rolin, Calaire, Rhone, and Jean-Jacques Gallay, Scionzier, Haute-Savoie, France, assignors to Société d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

Filed Feb. 2, 1961, Ser. No. 86,677
Claims priority, application France Feb. 5, 1960
10 Claims. (Cl. 204—1)



1. A measuring system for use in determining oxygen ion concentration in a bath constituted by molten halogenated salts in which oxygenated products are dissolved, which comprises a reference electrode whose electric potential is independent of oxygen ion concentration in the bath, said bath and an indicating electrode whose electric potential is dependent on the oxygen ion concentration in the bath and is thermally stable and practically insoluble in the bath, said indicating electrode consisting of a metallic oxide, said reference and said indicating electrodes being spaced apart and being dipped into said bath, said system measuring electric potential between said electrodes which potential has a magnitude dependent upon oxygen ion concentration in said bath and which is measured to determine oxygen ion concentration in said bath.

3,141,836

ELECTRODEPOSITION OF BRIGHT TIN-NICKEL

Edgar J. Seyb, Jr., Oak Park, and Augustine J. Wallace, Jr., East Detroit, Mich., assignors, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 17, 1960, Ser. No. 36,750
22 Claims. (Cl. 204—43)

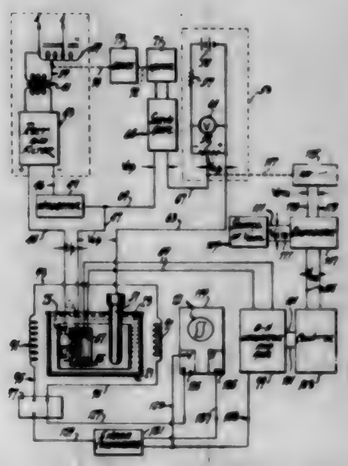
1. An acidic aqueous electrolyte for bright tin-nickel plating containing Sn^{++} ions, Ni^{++} ions and an effective amount of at least one brightener selected from the class consisting of phenylpropiolic acid, phenylpropiolic amide, triaminotriphenyl methane, 1-(p-aminophenyl)-3-methylpyrazole, stearamidopropyldimethyl-(β-hydroxyethyl)ammonium dihydrogen phosphate, 1,5-diphenylcarbohydrazide and phosphoric acid, to cause the tin-nickel electrodeposit to be lustrous and bright.

3,141,837

METHOD FOR ELECTRODEPOSITING NICKEL-IRON ALLOYS

Frank H. Edelman, Yardley, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 28, 1961, Ser. No. 155,301
9 Claims. (Cl. 204—43)



1. A method for electrodepositing a nickel-iron alloy which comprises immersing a cathode in an aqueous electrolyte comprising soluble salts of nickel and iron, immersing an anode in said electrolyte, immersing a reference electrode in said electrolyte, passing a direct current through said electrolyte between said anode and said cathode to deposit said alloy upon said cathode, sensing the magnetic hysteresis of said deposited alloy, converting the sensed magnetic property to an electrical signal and applying said electrical signal to adjust the voltage between said anode and said reference electrode to provide a preselected distribution of magnetic property in said deposited alloy.

3,141,838

RESINOUS COMPOSITIONS AND METHOD OF PREPARING THE SAME

William H. Snavely, Jr., and Peter J. Manno, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Mar. 31, 1960, Ser. No. 18,909
4 Claims. (Cl. 204—158)

1. A method of forming a resinous composition which comprises subjecting to gamma radiation within the range of 1×10^4 to 1×10^7 REPS per hour in intensity a mixture consisting of an alcohol selected from the group consisting of secondary aliphatic alcohols and aromatic alcohols and an organic chloride selected from the group consisting of α-chlorinated aromatics and alkyl chlorides so that when the alcohol is aliphatic the chloride is aromatic, and vice versa, and then recovering the resinous composition from the reaction mixture.

3,141,839

PRODUCTION OF KETOXIME HYDROCHLORIDES

Horst Metzger and Dieter Weiser, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 22, 1962, Ser. No. 167,916
Claims priority, application Germany Jan. 25, 1961
7 Claims. (Cl. 204—162)

1. In a process for the production of hydrochlorides of ketoximes selected from the group consisting of aliphatic, cycloaliphatic and araliphatic ketoximes by reaction of hydrocarbons selected from the group consisting of alkanes, cycloalkanes and arylalkanes in the liquid phase with nitrosating agents in a reaction zone in the presence of active light at a temperature of −30° to +40° C., the improvement which comprises maintaining an uninterrupted coherent layer in the boundary zone of the reaction mixture on a light transmitting surface in contact with the reaction mixture through which the light is transmitted, the said layer consisting of a solid, light permeable and substantially colorless substance selected from the group consisting of said hydrocarbon reactant, benzene naphthalene, anthracene, and halogenated hydrocarbons having 2 to 6 carbon atoms, said substance also being present in the liquid phase and being soluble in said reaction mixture.

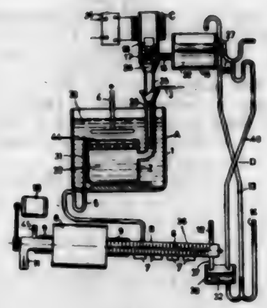
3,141,840

DEVICE FOR PRODUCING FERROMAGNETIC PARTICLES

Jan Leendert Meijst, Petrus Booyens, and Ewoud Adriaan Boonzajer Flaes, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 31, 1961, Ser. No. 99,933
Claims priority, application Netherlands Apr. 6, 1960
3 Claims. (Cl. 204—220)

1. In a device for continuously manufacturing small elongated particles of ferromagnetic material, an electrolytic apparatus for producing a supply of particle-containing mercury comprising, a cup-shaped container adapted to be filled to the rim with a solution of ions of the ferromagnetic material, an anode, and a cathode spaced from said anode and including a cup-shaped member adapted to be filled to its rim with mercury, said member being arranged within said container with its rim below the rim of said container and with its wall spaced from the container to form a passageway therewith, means to intermittently supply mercury to said cup-shaped member at a point below the rim thereof to thereby cause particle-containing surface portions of the mercury to intermittently flow over the rim of the member and precipitate through said passageway, and means to withdraw the precipitated particle-containing mercury from the container.

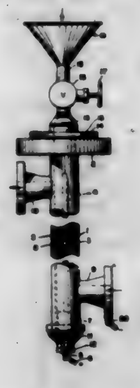


3,141,841

CELL FOR CARRYING OUT ELECTROCHEMICAL REACTIONS

David G. Braithwaite, Chicago, Joseph S. D'Amico, Westchester, Peter L. Gross, Riverside, and William Hanzel, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed July 13, 1960, Ser. No. 42,661
8 Claims. (Cl. 204—263)

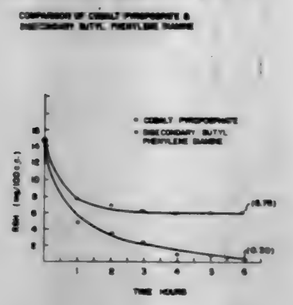


1. A cell for making organo metallic compounds by electrochemical reaction comprising a container adapted to hold a body of liquid, a body of particulate metallic solids in said container constituting a reactant for carrying out said electrochemical reaction, said container having an electrically conducting inner surface generally corresponding in shape to the boundary surface of said body of particulate solids, a liquid permeable electrically non-conducting partition, in contact with said first mentioned surface and with the outer boundaries of said body of particulate solids, said partition being a foraminous material having openings therein which are sufficiently large to be permeable to said liquid but which are sufficiently small to prevent said particulate solids from contacting said first mentioned surface, said surface being substantially co-extensive with one side of said partition, means to cause said liquid to flow through said body of particulate solids and through said partition along the interface between said partition and said first mentioned surface, and means for maintaining different electrical potentials on said particulate solids and said surface.

3,141,842
SWEETENING OF SOUR HYDROCARBONS WITH TRANSITION METAL COMPOUNDS

Thomas J. Wallace, Elizabeth, and Alan Schriesheim, Berkeley Heights, N.J., and Hans B. Jonassen, New Orleans, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 21, 1961, Ser. No. 90,754
15 Claims. (Cl. 208—206)



1. The process of sweetening sour petroleum hydrocarbons containing sulfur compounds comprising contacting said hydrocarbons in the liquid phase and in the presence of an oxidizing agent, to convert the sulfur compounds to disulfides, with an aqueous caustic solution containing an inorganic transition metal compound wherein the cation of said compound is selected from the group consisting of vanadium, cobalt, nickel and iron and the anion of said compound is selected from the group consisting of molybdates, tungstates, thionates, pyrophosphates and thiosulfates.

3,141,843
FINES REMOVAL FROM SOLIDS CIRCULATING SYSTEM

Robert M. Shirk, Wilmington, Del., assignor to Air Products and Chemicals, Inc., a corporation of Delaware

Filed May 23, 1961, Ser. No. 112,105
6 Claims. (Cl. 209—37)

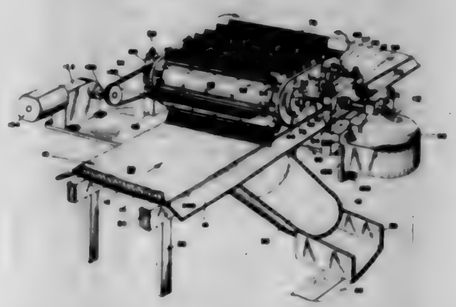


1. In a chemical processing system including a pneumatic lift for maintaining a continuous circulation of granular solids through a treating section, apparatus for disengaging the elevated solids from the lift gas and removing fines from the disengaged solids which comprises: a disengager vessel at the top of the pneumatic lift adapted to receive an upward discharge of solids and lift gas at a low level therein, the vertical and horizontal dimensions of said vessel being sufficient to effect complete gravitational deceleration of the solids and free-fall thereof outside the path of the rapidly rising solids discharging from the lift; a sloping tray joined to the inside wall of said vessel at an intermediate level above the discharge end of said lift and forming with said wall a basin to contain an accumulated mass of intercepted falling solids; a drain pipe extending through said tray from an intermediate level within said basin to a level within the bottom region of said vessel below said discharge level; a side drain pipe for withdrawing solids from the bottom of said basin; an external screening mechanism connected to said side drain pipe and adapted to remove fines from the withdrawn solids; a return pipe at the discharge end of said screening mechanism for conveying larger-size screened solids into the bottom region of said vessel; and a shield having its vertical edges joined to the inner walls of said vessel at either side of the discharge end of said return pipe, said shield forming with said walls a hollow space extending from a level above the discharge end of said drain pipe to a level below the discharge end of said return pipe; and a lift gas outlet at the side of said vessel directly beneath said tray.

3,141,844
METHOD AND APPARATUS FOR DRY SIZING

Herbert C. Branchia, P.O. Box 349, Fremont, Ohio, and Paul P. Rumlasky, Amherst, Ohio; said Rumlasky assignor to said Branchia

Filed Sept. 14, 1962, Ser. No. 223,626
8 Claims. (Cl. 209—247)

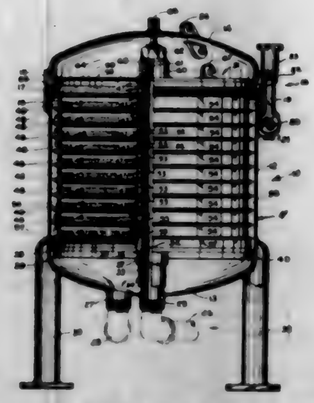


1. A method for sizing matter comprising:
(*a*) horizontally advancing matter to be sized upon a conveyor;
(*b*) positioning a plurality of revolving radially extending combs having individually spaced teeth above and adjacent to said conveyor so that at all times a plurality of comb teeth tips are closer to said conveyor than said teeth are to each other;
(*c*) repetitively, longitudinally combing said matter throughout a sustained portion of said advancing with said combs, so that at all times a plurality of said radially extending combs are perpendicularly presented with respect to said conveyor;
(*d*) transversely reciprocating said combs to vibrate said combs at a high frequency during said combing so as to enhance combing action and clearing of said combs;
(*e*) removing greater sized matter incapable of being advanced beyond said combing; and
(*f*) sequentially of said combing, removing smaller sized matter advancing through said combing.

3,141,845
FILTER ELEMENT ASSEMBLY

Russell J. Nadberny, Evanston, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 546,601, Nov. 14, 1955. This application Dec. 6, 1962, Ser. No. 243,216
3 Claims. (Cl. 210—237)



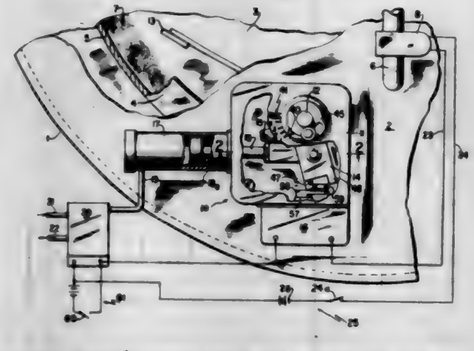
1. In an assembly of filter elements for a pressure filter device, the combination of a series of cup-shaped sheet metal filter plates superposed in inverted positions and including a substantially horizontal wall surrounded by a substantially vertical wall with a substantially horizontal flange means surrounding said vertical wall, said plates being arranged so that a filter space confined within each filter plate opens downwardly toward the top horizontal wall of the next lower filter plate; a ring member extending around each of said filter plates, in contact with the vertical wall thereof and having an upper edge flanged means at an elevation slightly greater than the top of the horizontal wall of said filter plates for supporting the next higher filter plate; a sheet of filtering material extending across the bottom of each filter space and secured, at its periphery, between the flanged means of the related filter plate and the flanged edge means of the ring member supporting the latter; a separator screen means below each sheet of filtering material and resting on the top surface of the next lower filter plate to hold the related sheet of filtering material spaced from said top surface of the next lower filter plate; and means for introducing above each sheet of filtering material a liquid to be filtered under pressure into the central portion of the filter space confined within each of the filter plates, the solids filtered from said liquid being deposited on said filtering material and progressively forming a filter cake thereon, said means for introducing a liquid being adjacent the lower surface of the next higher filter plate to introduce said liquid above said solids and said filter cake, said ring members having apertures therein opening inwardly below the related sheet of filtering material and above the top surface of the next lower filter plate so that the filtrate passing through said sheet of filtering material exits from the assembly through said apertures.

3,141,846
LOAD CONTROL UNIT FOR CYCLICAL CENTRIFUGAL INSTALLATION

Thomas R. Laven, Jr., Hamilton, Ohio, assignor to The Western States Machine Company, Hamilton, Ohio, a corporation of Utah

Filed Apr. 5, 1962, Ser. No. 185,409
7 Claims. (Cl. 233—19)

1. In a centrifugal installation including a centrifugal basket and a loading valve controlling the delivery of charge material into the basket, a loading control unit for controlling the thickness of charges of said material formed in the basket, comprising:
a charge feeler movable within the basket between a rest position away from the location of a charge therein and a working position where the feeler will be engaged and returned toward rest position by a charge wall forming in the basket,
an angularly movable support carrying said feeler,
actuating means for said loading valve,
an actuating element carried by said support and operative, at a fixed location in space, in response to return movement from working position of the assembly of said feeler, said support and said actuating element, to cause said actuating means to close the loading valve,
operating means for turning said assembly from rest position to working position,



means operative upon every such turning of said assembly to stop the assembly at a working position wherein said actuating element is at a fixed location in space lying at a fixed angular distance beyond the first mentioned fixed location so that in every loading operation a movement of the assembly by the charge wall through a return arc of definite length will move said actuating means to effect closing of the loading valve,
means rendered operative upon the last-mentioned movement of said actuating means to move said assembly to rest position through a further return arc,
means releasably and resettably interconnecting said support and said actuating element for adjustment of the angular position of said support and said feeler relative to said actuating element whereby the distance of the feeler from the basket wall at said working position, and thereby the charge thickness at which the loading valve will be closed, is variable at will,
a stop member carried by said support,
and an abutment fixed in the path of said stop member at a desired limit of the return movement of said assembly, whereby the feeler and the support are confined to the same rest position upon every return movement thereof irrespective of the position of adjustment thereof relative to said actuating element.

3,141,847
N-TYPE ELECTRICALLY CONDUCTING CUBIC BORON NITRIDE AND PROCESS FOR PREPARING SAME

Robert H. Wentorf, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 31, 1960, Ser. No. 53,225
12 Claims. (Cl. 252—62.3)

1. N-type electrically conducting cubic boron nitride

having a zinc-blende cubic structure prepared by heating at elevated temperatures in excess of 1200° C. and pressures in excess of 40,000 atmospheres a mixture comprising hexagonal boron nitride and a catalyst for the conversion thereof of cubic boron nitride in the presence of from 1 to 40 percent, by weight, based on the weight of the hexagonal boron nitride, of a carbon-nitrogen compound different from the aforesaid catalyst and which is substantially free of oxygen and contains carbon attached directly to nitrogen.

3,141,848
PROCESS FOR THE DOPING OF SILICON
Eduard Enk, Julius Nickl, and Heinz Silbernagl, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie GmbH, Munich, Germany
Filed June 26, 1961, Ser. No. 119,547
Claims priority, application Germany June 24, 1960
1 Claim. (Cl. 252—62.3)

A process for the controlled doping of silicon during zone melting thereof which comprises causing at least one molten zone to travel axially through an elongated vertically arranged body of silicon and supplying a silicon rod, which contains the doping material laterally to said travelling molten zone at a predetermined controlled rate.

3,141,849
PROCESS FOR DOPING MATERIALS
Eduard Enk, Julius Nickl, and Heinz Silbernagl, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie GmbH, Munich, Germany
No Drawing. Filed June 29, 1961, Ser. No. 120,513
Claims priority, application Germany July 4, 1960
1 Claim. (Cl. 252—62.3)

A process for doping silicon rods in a crucibleless zone melting process which comprises associating a silicon rod containing a doping substance selected from the group consisting of boron and phosphorus with a silicon rod to be doped of a larger cross-section parallel to the longitudinal axis thereof and in close contact therewith and zone melting the associated silicon rods with the travelling molten zinc encompassing the entire cross-section of both rods in a protective gaseous atmosphere.

3,141,850
INSULATING COMPOSITION CONTAINING POLYVINYL CHLORIDE, TRIALLYL CYANURATE, A FILLER, AND A FLAME RETARDANT
Alvin H. Lybeck, Mansfield Center, Conn., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed Feb. 28, 1961, Ser. No. 92,176
3 Claims. (Cl. 252—63.5)

2. An electrical insulating material formed from about 65% by weight of polyvinyl chloride, about 22% by weight of triallyl cyanurate, a mineral filler, and a flame retardant.

3,141,851
PROCESS FOR IMPROVING THE STABILITY OF SILVER SALT SOLUTIONS TO REDUCING AGENTS
Ulrich Schwenk and Erich Schneck, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a company of Germany
No Drawing. Filed June 21, 1960, Ser. No. 37,551
Claims priority, application Germany June 26, 1959
6 Claims. (Cl. 252—184)

2. A process for maintaining silver in ionic form in a solution containing a silver salt selected from the group consisting of silver nitrate, silver fluoborate, and silver fluosilicate in a solvent selected from the group consisting of water, glycol, acetonitrile, and benzonitrile, said solution being in contact with a reducing agent for silver ion, which process comprises adding hydrogen peroxide to said solution, whereby metallic silver formed by the action of said reducing agent is oxidized, and maintaining a slight excess of hydrogen peroxide by adding further quantities thereof as said hydrogen peroxide is consumed by reaction.

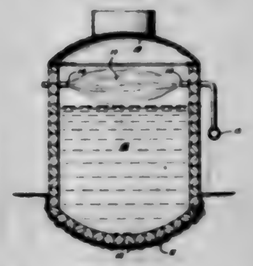
4. In a process for absorbing olefins from gas mixtures containing the same together with reducing gases by passing said gas mixtures through a solution of a silver salt, the improvement of passing said gas mixtures through a solution of a silver salt selected from the group consisting of silver nitrate, silver fluoborate, and silver fluosilicate and hydrogen peroxide in a solvent selected from the group consisting of water, glycol, acetonitrile, and benzonitrile.

3,141,852
NUCLEAR FUELS
Jacques Henri Dressler, Courbevoie, and Stephane Joseph Dufaure de Lajarte, Paris, France, assignors to Compagnie de Saint-Gobain, Paris, France
Filed Nov. 17, 1958, Ser. No. 774,533
Claims priority, application France Nov. 18, 1957
12 Claims. (Cl. 252—301.1)

1. Atomic fuel comprising glass beads of vitreous exterior and diameters between a few microns and a hundred microns, containing at least one component selected from the group consisting of fissionable and fertile elements and compounds.

7. A method of making glass covered atomic fuel adapted to use, inter alia, in nuclear reactors of homogenous type, that comprises vitrifying glass making materials containing a metal oxide of at least one of the class of fissionable and fertile elements, and substantially free of isotopes presenting a large section of capture to neutrons, finely dividing the vitrified product to diameters between a few microns and a hundred microns rounding the particles and providing them with a vitreous exterior by subjecting them in motion to softening temperature and time, and cooling the rounded particles.

3,141,853
METHOD OF REGENERATING A SPENT ACRYLONITRILE SYNTHESIS COPPER CATALYST
Charles G. Hard, Houston, Tex., assignor to Lowe Chemical Company, a corporation of Texas
Filed June 18, 1959, Ser. No. 821,233
2 Claims. (Cl. 252—416)



1. A process for regenerating a spent acrylonitrile synthesis aqueous catalyst solution containing copper chlorides and solubilizing agents for the copper chlorides selected from the group consisting of alkali metal chlorides, together with volatile and tarry impurities which comprises, heating the solution in an oxidizing atmosphere to a minimum of approximately 450 degrees F. with at least some heat applied by direct open fires above the surface of the melt to drive off the volatile and oxidizable impurities, and separating the resulting gases and slag from the melt.

3,141,854
PREPARATION OF CATALYSTS FOR THE POLYMERIZATION OF EPOXIDES
Frederick E. Bailey, Jr., Charleston, and Haywood G. France, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 29, 1960, Ser. No. 39,465
11 Claims. (Cl. 252—428)

1. A process which comprises reacting alkaline earth metal hexammoniate with from about 0.3 to 1.0 mol of olefin oxide and from about 0.2 to 0.8 mol of dialkyl sulfoxide, based on 1.0 mol of said alkaline earth metal hexammoniate, said dialkyl sulfoxide containing from two to six hydrogen atoms monovalently bonded to the carbon atoms which are alpha to the sulfinyl group, said olefin oxide being free from ethylenic and acetylenic unsaturation and being composed of carbon, hydrogen, and a single oxirane group, said reaction being conducted in an excess liquid ammonia medium, and subsequently evaporating from the resulting product mixture the excess liquid ammonia.

3,141,855
METHOD FOR AND PRODUCT PRODUCED BY THE INTRODUCTION OF BORON ATOMS INTO THE SURFACE OF DIAMOND CRYSTALS
Robert H. Wentorf, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1961, Ser. No. 135,272
6 Claims. (Cl. 252—502)

1. A method for diffusing boron atoms into a diamond crystal comprising the steps of:

(*a*) subjecting a diamond crystal to a pressure of at least 8500 atmospheres and a temperature of at least 1300° C. in the presence of an activator material,

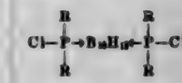
(1) said activator material being a substance from which under the operating pressure and temperature boron atoms are removed from said substance and are ultimately diffused into the lattice of said diamond crystal,

(2) said activator material being present in an amount by weight in the range of from about 0.1 percent to about 50 percent of the weight of diamond, and

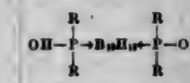
(*b*) removing the boron-impregnated crystal.

3,141,856
LINEAR CONDENSATION POLYMERS OF BIS-(PHOSPHINE) DECABORANES
Joseph R. Reiner, Northford, and Hansjuergen A. Schroeder, New Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed June 28, 1962, Ser. No. 205,862
8 Claims. (Cl. 260—2)

1. The linear polymeric condensation products of the condensation of substantially equimolar proportions of a compound of the formula:

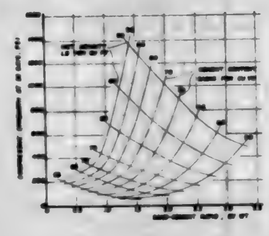


wherein R is an aryl radical selected from the group consisting of phenyl, tolyl, xylyl, naphthyl and biphenylyl, with a material of the formula:



wherein R has the same meaning as previously defined.

3,141,857
FOAMING AGENT FOR MAKING CELLULAR CONCRETE, AND METHOD OF MAKING SAME
Alois Sommer, Hamburg-Wilhelmsburg, Germany (% Dr. Ing. H. Negendank, Neuer Wall 41, Hamburg 36, Germany)
Filed Jan. 27, 1960, Ser. No. 4,934
7 Claims. (Cl. 260—2.5)



1. A method of making cellular concrete for construction purposes, comprising the steps of forming a mixture of Portland cement, water in the amount of about 25–50% by weight of the cement, and a small but effective amount not less than about 0.3% by weight of the cement of a foaming agent containing about 20–25% by weight of the foaming agent of powdered polyvinyl chloride, about 40–45% by weight of the foaming agent of a water-soluble alkylnaphthylene sulphonate in which the alkyl groups contain 4–10 carbon atoms, about 13–17% by weight of the foaming agent of a member of the class consisting of lower alkyl esters of polyacrylic acid in aqueous emulsion and water-soluble alginates, balance of the foaming agent essentially water, forming a foam by violently agitating the mixture, and adding to the foam finely divided mineral filler of which at least about 20% by weight has a particle size less than 0.2 mm. and of which the maximum particle size is not more than substantially 7 mm.

3,141,858
FIRE RESISTANT VAPOR BARRIER FOR ROOF DECKS AND THE LIKE
George Arthur Fasold, Mount Healthy, and John Glen Blough, Cincinnati, Ohio, assignors to The Philip Carey Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed May 3, 1960, Ser. No. 26,400
6 Claims. (Cl. 260—23)

1. A fire resistance sheet material having low vapor permeance, for use as a vapor barrier for roof decks and the like, formed from a compound consisting of from about 40% to about 50% by weight of polyvinyl chloride, from about 20% to about 27% by weight of cresyl diphenyl phosphate, from about 15% to about 30% by weight of micronized mica, and a total of about 5% by weight of lead silicate, stearic acid and a mineral pigment not affected by the other ingredients in the compound.

3,141,859
SOLUTIONS OF POLYESTERS
Howard E. Sheffer, Burnt Hills, and Manuel A. Jordan, Schenectady, N.Y., assignors to Schenectady Chemicals, Inc., a corporation of New York
No Drawing. Filed Sept. 26, 1960, Ser. No. 58,198
14 Claims. (Cl. 260—33.4)

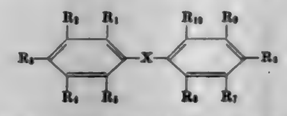
1. A composition of matter consisting essentially of a solution of polyethylene terephthalate in a solvent consisting essentially of monochlorophenol and a member selected from the group consisting of a cresol and mixtures of a cresol with phenol, said monochlorophenol being 30 to 50% of the weight of the total solvent.

3,141,860
FLAME-RESISTANT POLYOLEFINE COMPOSITION

Hermann Sauer, Alfred Schmidt, and Kurt Kopetz, all of Marl, Kreis Recklinghausen, Germany, assignors to Chemische Werke Hüls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1960, Ser. No. 77,017
Claims priority, application Germany July 25, 1960
6 Claims. (Cl. 260—33.8)

1. Flame-resistant composition consisting essentially of an α-mono-olefinic homopolymer, antimony trioxide and a bromine-containing compound of the general formula



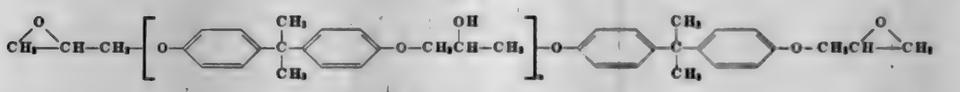
in which R_1 to R_{10} each stands for a member of the group consisting of hydrogen, bromine, chlorine, chlorine and bromine substituted and unsubstituted alkyl groups containing from 1 to 2 carbon atoms and unsubstituted and chlorine, bromine and methyl substituted benzyl groups and X stands for a member of the group consisting of divalent unsubstituted and bromine and chlorine substituted aliphatic groups containing from 1 to 3 carbon atoms, said bromine-containing compound containing at least 3 bromine atoms per molecule each attached to an aromatic nucleus and containing from 50 to 85% by weight of bromine and from 0 to 30% by weight of chlorine, said composition containing from 3 to 10% by weight of said antimony trioxide and from 5 to 20% by weight of said bromine-containing compound based upon the polymer content of said composition.

3,141,861
EPOXIDE RESIN COMPOSITIONS

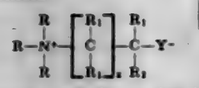
Keith Beadsmore Smith and Morice William Thompson, both of Maidenhead, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 26, 1960, Ser. No. 58,211
Claims priority, application Great Britain Sept. 28, 1959
9 Claims. (Cl. 260—45.5)

1. A can-stable composition which may be cured by heating comprising an epoxide resin obtained by condensation of epichlorohydrin and diphenylolpropane which has the formula



in which n is an integer with about 0.1 to 10% by weight, based on the weight of the epoxide resins of betaine which has the formula



in which x represents a whole number between 0 and 9 inclusive, Y represents a member of the group consisting of carboxylic, sulfonic and phosphoric acid groups, R represents a member of the group consisting of alkyl, aryl and heterocyclic groups, R_1 represents a member of the group consisting of hydrogen, alkyl, aryl and heterocyclic groups and R_2 represents a member of the group consisting of hydrogen, alkyl, aryl heterocyclic and groups corresponding to Y, and the salts thereof.

4. A coating composition as claimed in claim 1 containing also an acrylic resin as a film former.

3,141,862
GRAFT COPOLYMERIZATION USING BORON ALKYLS IN THE PRESENCE OF OXYGEN AS CATALYSTS

Isidor Kirshenbaum, Westfield, Stanley B. Mirviss, Roselle, and Gabriel Karoly, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 1, 1961, Ser. No. 92,478
14 Claims. (Cl. 260—45.5)

1. A process of preparing a graft copolymer which comprises contacting a solid, hydrocarbon polymer, in the presence of an inert organic diluent with a boron alkyl and an oxygen-containing gas at a temperature in the range of 20 to 150° C. and then contacting the thus treated polymer with a polar monomer at a temperature in the range of 20 to 150° C.

3,141,863
RESIN COMPOSITION AND PROCESS

Roy T. Holm, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 21, 1960, Ser. No. 16,171
10 Claims. (Cl. 260—47)

1. The process of preparing a highly polymeric linear polycarbonate which comprises reacting a di-vic-epoxide with phosgene at a di-vic-epoxide-to-phosgene molar ratio of from about 0.9:1 to about 1.1:1, said reaction being carried out in the presence of from 0.01 to 0.5% by weight, based on the total reaction mixture, of a tertiary amine catalyst.

3,141,864
PROCESS FOR THE PRODUCTION OF POLYMERIZATES OR MIXED POLYMERIZATES OF ACROLEIN AND METHACROLEIN

Karl Heinz Rink, Hanau (Main), Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed June 3, 1960, Ser. No. 33,650
Claims priority, application Germany June 5, 1959
3 Claims. (Cl. 260—67)

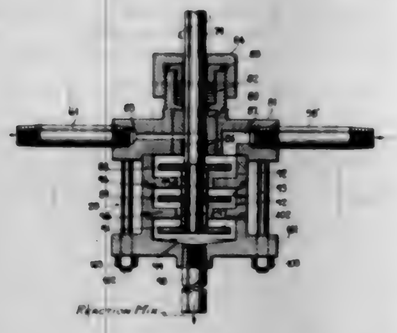
1. In a process for the production of homopolymerization products from an acrolein compound selected from the group consisting of acrolein and methacrolein in the presence of a redox polymerization catalyst system, the step comprising conducting the polymerization in a liquid medium in the presence of 10 to 100 mol percent of hydrogen peroxide based upon said acrolein compound to produce a polymerization product in which about 10 to 100% of the aldehyde groups supplied by the acrolein compound have been oxidized to carboxyl groups.

3,141,865
MIXING PROCESS FOR PRODUCING POLYURETHANE PLASTICS

Richard T. McEvoy, Lake View, N.Y., assignor to Allied Chemical Corporation, a corporation of New York

Filed June 13, 1957, Ser. No. 665,398
5 Claims. (Cl. 260—75)

1. The process of producing a reaction mix for the production of a polyurethane plastic in a generally cylindrical mixing zone having therein rotor discs cooperating with stationary discs, which process comprises, continuously feeding to the axial region at the upper portion of said mixing zone a stream of polyisocyanate formulation mixture and flowing said stream from said axial region toward the periphery of said mixing zone; continuously feeding a stream of polyol formulation mixture initially to the periphery of the upper portion of said mixing zone into admixture with the polyisocyanate formulation mixture flowing therethrough; flowing the resultant mixture through a sinusoidal path defined by said rotor discs and said stationary discs, said path having alternate components extending from the periphery to the axial region of said mixing zone and the other components extending from the axial region to the periphery of said mixing zone, said mixture while flowing through said components which extend from the axial region to the periphery



being subjected to gradually increasing planar shearing forces produced by the rotation of said rotor discs cooperating with said stationary discs and the said mixture while flowing through said components which extend from the periphery to the axial region of said mixing zone being subjected to planar shearing forces of gradually decreasing intensity produced by the rotation of said rotor discs cooperating with said stationary discs, to produce a reaction mixture in which the constituents are uniformly and intimately mixed; and continuously discharging the reaction mix from the lower portion of said mixing zone.

3,141,866
COPOLYMERS OF VINYL ALKYL ETHERS AND VINYL ESTERS

Frank A. Stuart, Orinda, and Warren Lowe, San Francisco, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Aug. 10, 1959, Ser. No. 832,440
3 Claims. (Cl. 260—80.5)

1. The copolymer of monomers consisting essentially of (A) vinyl alkyl ether having from 4 to 6 carbon atoms in the alkyl group and (B) a member of the class consisting of mixed alkyl acrylates and mixed alkyl methacrylates having from 4 to 12 carbon atoms in the alkyl groups and the total of the number of carbon atoms in the alkyl group of (A) and the average number of carbon atoms in the mixed alkyl groups of (B) being from about 8 to about 12, said alkyl groups consisting entirely of carbon and hydrogen, the mole ratio of (A) to (B) being approximately 1:1 and the molecular weight of the copolymer being at least about 50,000.

3,141,867
CROSS-LINKING POLYMERIC MATERIALS

Chester E. Smith, Jr., Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 30, 1960, Ser. No. 39,820
7 Claims. (Cl. 260—85.1)

1. A method of curing a solid organic polymeric material selected from the group consisting of natural rubber, neoprene, synthetic homopolymers and copolymers of monomers consisting of monoolefins of 2–4 carbon atoms, homopolymers of diolefins of 4–6 carbon atoms, copolymers of said diolefins with monounsaturated monomers having up to 8 carbon atoms, and copolymers of olefinic hydrocarbons of 2–4 carbon atoms with ethylenically polyunsaturated copolymerizable monomeric compounds other than said diolefins which comprises heating said polymeric material with α-phenylazoisobutyronitrile at a temperature in the range of about 300° F.–500° F.

3,141,868
PROCESS FOR CONTINUOUS MASS POLYMERIZATION OF VINYL DERIVATIVES

Ernest Paul Fivel, Saint-Rambert-Plle-Barbe, France, assignor to Resines et Vernis Artificiels, Paris, France, a corporation of France

Filed May 11, 1959, Ser. No. 812,391
Claims priority, application France May 16, 1958
2 Claims. (Cl. 260—85.5)

1. A method for the copolymerization of styrene and acrylonitrile, said styrene and acrylonitrile constituting the two reactants of an exothermic reaction, said method comprising the steps of:

(*a*) forming a mixture consisting of said reactants in monomeric form in proportions, respectively, of from 95–65 and 5–35 percentage parts by weight;

(*b*) shaping a portion of said mixture into a continuous sheet configuration having a thickness in the range from 0.2 to 3.2 centimeters;

(*c*) continuously feeding said mixture into one end of said sheet configuration while withdrawing material from the other end thereof;

(*d*) continuously contacting both faces of said sheet configuration throughout their entire areas to transfer heat away therefrom;

(*e*) adjusting the rate of heat transfer away from said sheet configuration to maintain the temperature of all of said mixture within said configuration including copolymerized portions thereof at a predetermined constant value within the range from 130° C. to 180° C.;

(*f*) adjusting the rate of said feeding to cause passage of any specific portion of said mixture from said one end of said configuration to the other end thereof in a period of from about fifteen minutes to three hours whereby about 80% of said specific portion is reacted to produce a polymer having a molecular weight the *k* value of which measured in Fikentscher units is within the range from 50 to 80; and

(*g*) recovering the unreacted reactants from said material withdrawn from said other end of said sheet.

3,141,869
PROCESS FOR THE PRODUCTION OF ACRYLONITRILE POLYMERS

Ingofrok Demstedt, Cologne-Bechforst, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 19, 1960, Ser. No. 56,675
Claims priority, application Germany Sept. 23, 1959
1 Claim. (Cl. 260—85.5)

In the process of producing acrylonitrile polymers having an acrylonitrile content of at least 95% at a pH value of below 7 in an aqueous medium containing a redox catalyst system and in the presence of from about 0.1 to about 3% of a complex former for heavy metals selected from the group consisting of an alkali metal fluoride, an alkali metal pyrophosphate, an alkali metal hexametaphosphate, imidotriglycolic acid and ethylene diamine tetraacetic acid, the improvement which comprises adding to the polymerization medium from about 1–3%, calculated on the monomer content, of potassium aluminum sulfate.

3,141,870
HETEROGENEOUS COPOLYMERS OF ETHYLENE-ACRYLIC ESTERS
Oliver de S. Deer, Dayton, Ohio, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 3, 1961, Ser. No. 79,976
4 Claims. (Cl. 260—86.7)

1. The method of preparing heterogeneous copolymers of ethylene which comprises continuously polymerizing a mixture consisting of ethylene and a vinyl ester selected from the group consisting of methyl acrylate and methyl methacrylate in a tubular reactor with a free radical catalyst at a temperature of 150 to 250° C. under a pressure of 20,000 to 40,000 p.s.i., the said vinyl ester calculated as methyl methacrylate, constituting 6% to 20% by weight of the total monomer feed, for a time sufficient to convert at least 20% by weight of the monomer mixture to polymer, the resulting heterogeneous copolymer being characterized by being substantially crystalline and having a sharp melting point above 110° C. and a brittle temperature no higher than —20° C., and the said vinyl ester content, calculated as methyl methacrylate, of the copolymer being in the range of 6 to 25% by weight.

3,141,871
PROCESS FOR THE POLYMERIZATION OF PERHALOGENATED OLEFINES BY USE OF PROMOTERS BASED ON INORGANIC PEROXIDES
Mario Ragazzini and Franco Gozzo, Milan, Italy, assignors, by mesne assignments, to Edison, Milan, Italy, a corporation of Italy
No Drawing. Filed Apr. 16, 1962, Ser. No. 187,912
Claims priority, application Italy Apr. 27, 1961
7 Claims. (Cl. 260—92.1)

1. A process for the homopolymerization of monochlorotrifluoroethylene monomer which comprises homopolymerizing the monomer at a temperature between 0° and 40° C. in the presence of a promoter of the type X_2O_2, where X is selected from the group consisting of hydrogen, alkali metals and alkaline earth metals, and in a completely aqueous reaction medium having a pH, at the time of starting the homopolymerization, greater than 7, the promoter being added to the reaction medium in the presence of the monomer which is to be homopolymerized.

3,141,872
POLYMERIZATION CATALYST AND STEREOSPECIFIC POLYMERIZATION OF PROPYLENE THEREWITH
Giulio Natta, Milan, Piero Pino, Pisa, and Giorgio Mazzanti, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed Apr. 14, 1960, Ser. No. 22,134
Claims priority, application Italy Dec. 3, 1954
6 Claims. (Cl. 260—93.7)

1. A polymerization catalyst consisting essentially of the product formed by mixing (1) a solid, violet crystalline material comprising violet crystalline titanium trichloride with (2) a dialkyl aluminum monohalide in which the alkyl groups contain from 2 to 4 carbon atoms, the mixing being carried out at a temperature up to 90° C. in a liquid diluent substantially inert to said monohalide, to obtain a catalyst in which none of the titanium is reduced below the trivalent state.

3,141,873
PREPARATION OF LIGNOSULFONATE RESINS
Worth C. Goss, Kirkland, Wash., assignor, by mesne assignments, to Gossol, Inc., Seattle, Wash., a corporation of Washington
No Drawing. Filed June 22, 1959, Ser. No. 821,673
6 Claims. (Cl. 260—124)

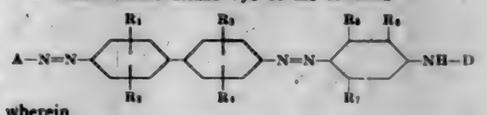
2. In a method of treating waste sulfite liquor, the steps comprising heating the liquor in liquid form at a temperature of approximately 350° to 360° Fahrenheit for a period of 1.5 hours, dehydrating the liquor to a relatively dry product, extracting the dry product with anhydrous ammonia, then refluxing the undissolved residue with a mateiral selected from the group consisting of acetone, formaldehyde, crotonaldehyde and furfural to form a thermosetting resin.

3. A method as defined in claim 2, including the further step of reacting the thermosetting resin with an acid acceptor reagent selected from the group consisting of urea, dicyandiamide, methylamine, ethylamine, aniline, N-alkyl urea, propyl urea, melamine, guanidine and biuret.

4. A method as defined in claim 2 including the further step of reacting the thermosetting with a reagent consisting of a mixture of urea and dicyandiamide.

3,141,874
WATER-SOLUBLE DISAZO DYES
Hans Ischer, Basel, and Carl Ryffel, Dornach, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,725
Claims priority, application Switzerland Oct. 28, 1960
7 Claims. (Cl. 260—161)

1. Water-soluble disazo dye of the formula



wherein

A is a radical selected from the group consisting of 1-chloro - (sulfo) - phenyl - 3 - methyl-5-hydroxy-4-pyrazolyl, 1-(sulfo)-phenyl-3-methyl-5-amino-4-pyrazolyl, and substituted naphthyl coupled in ortho-position to a member selected from the group consisting of —OH and —NH_2, the substituents of the substituted naphthyl being selected from the group consisting of hydroxy, amino, chloro, sulfo, acetylamino, cinnamoylamino, trimethylphenylamino, lower alkyl urethane, crotonylamino, acrylamino, propionylamino and benzoylamino,

R_1 and R_2 each is a member selected from the group consisting of hydrogen, chloro, methyl and sulfo,

R_3 and R_4 each is a member selected from the group consisting of hydrogen, methyl and sulfo,

R_5 is a member selected from the group consisting of hydrogen, methyl, methoxy, acetylamino, propionylamino and butyrylamino,

R_6 is a member selected from the group consisting of hydrogen, lower alkyl and methoxy,

R_7 is a member selected from the group consisting of hydrogen, methyl and methoxy, each of R_6 and R_7 being hydrogen when R_5 is a member selected from the group consisting of acetylamino, propionylamino and butyrylamino, and

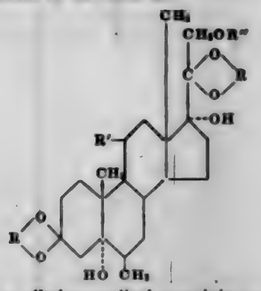
D is a member selected from the group consisting of —CO—X and —CO—O—V, X being an aliphatic hydrocarbon radical with from 6 to 18 carbon atoms, and V being an aliphatic hydrocarbon radical with from 7 to 18 carbon atoms.

3,141,875
CRYSTALLITE AGGREGATES DISINTEGRATED IN ACID MEDIUM
Orlando A. Battista, Drexel Hill, and Patricia A. Smith, Parkside, Pa., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
No Drawing. Filed Mar. 15, 1961, Ser. No. 95,816
10 Claims. (Cl. 260—212)

1. A method of forming small disintegrated aggregates of level-off D.P. cellulose crystallites which comprises subjecting aggregates of level-off D.P. cellulose to mechanical disintegration in an aqueous acidic medium to form small disintegrated aggregates of cellulose crystallites, at least about 1% of the disintegrated aggregates having a particle size not exceeding one micron.

3,141,876
3-KETO-6-METHYL - 4 - PREGNENE - 3,20 - DIONES AND A METHOD FOR THE PRODUCTION THEREOF
George B. Spero, Kalamazoo Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Aug. 2, 1956, Ser. No. 601,601
15 Claims. (Cl. 260—239.55)

1. A compound of the formula:

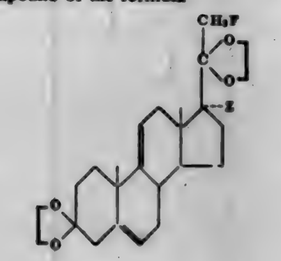


wherein R is an alkylene radical containing not more than eight carbon atoms, inclusive, and the attaching oxygen to carbon bonds are separated by a chain of at least two and not more than three carbon atoms, R′ is selected from the group consisting of 11β-hydroxy and 11-keto, and wherein R″ is selected from the group consisting of hydroxy and acyloxy, in which the acyl group is of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive.

15. A process for the preparation of a 6-methyl-Δ^4-3,20-dione steroid compound, which comprises epoxidizing at the 5,6-double bond a 3,20-bisalkylenedioxy-Δ^5 steroid compound to produce the corresponding 3,20-bisalkylenedioxy-5,6-oxido steroid, reacting said 3,20-bis-alkylenedioxy-5,6-oxido steroid with a methyl magnesium halide to produce the corresponding 3,20-bisalkylenedioxy-5-hydroxy-6-methyl steroid, hydrolyzing said 3,20-bisalkylenedioxy-5-hydroxy-6-methyl steroid to produce the corresponding 5-hydroxy-6-methyl-3,20-dione, and dehydrating said 5-hydroxy-6-methyl-3,20-dione to produce a 6-methyl-Δ^4-3,20-dione steroid.

3,141,877
9α-HYDROXYPREGNANES AND PROCESS FOR PRODUCTION THEREOF
Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 16, 1961, Ser. No. 153,262
5 Claims. (Cl. 260—239.55)

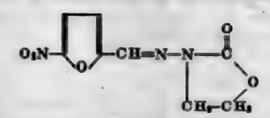
3. A compound of the formula



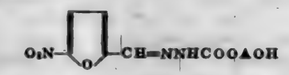
wherein Z represents a member of the group consisting of hydrogen and α-hydroxy.

3,141,878
PROCESS FOR THE PREPARATION OF N-(5-NITRO - 2 - FURFURYLIDENE) - 3 - AMINO-2- OXAZOLIDONES
Pieter H. Hellinghuizer, Amsterdam, Netherlands, assignor to Organon N.V. (Naamloze Vennootschap), Amsterdam, Netherlands, a corporation of the Netherlands
No Drawing. Filed June 13, 1960, Ser. No. 35,394
Claims priority, application Netherlands June 16, 1959
1 Claim. (Cl. 260—240)

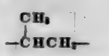
The process for preparing a N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidone of the formula:



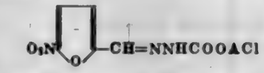
wherein R represents a member of the group consisting of hydrogen and methyl which comprises the steps: (1) reacting a 2-hydroxyalkyl 5-nitrofurfurylidene carbazate of the formula:



wherein A represents a member of the group consisting of —CH_2CH_2— and



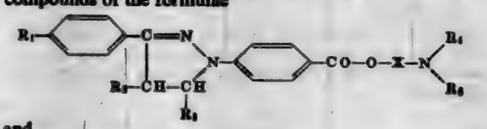
with thionyl chloride at a temperature of about 80° C. to form a 2-chloroalkyl 5-nitrofurfurylidene carbazate of the formula:



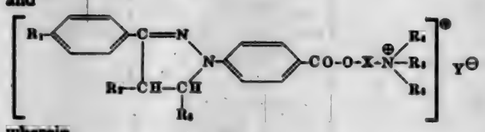
wherein A has the aforesaid significance and (2) subjecting said 2-chloroalkyl 5-nitrofurfurylidene carbazate to the action of an agent selected from the group consisting of sodium methoxide, alkali metal hydroxides and alkali metal carbonates in the presence of methanol and under the influence of heat.

3,141,879
PHENYL PYRAZOLINE CARBOXYLIC ACID ESTERS
Heinrich Hünermann, Riehen, near Basel, and Hans Ulrich Meyer, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland
No Drawing. Filed Nov. 29, 1961, Ser. No. 155,792
Claims priority, application Switzerland Nov. 30, 1960
6 Claims. (Cl. 260—247.2)

1. A member selected from the group consisting of compounds of the formulae



and

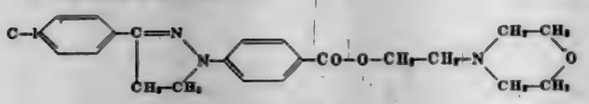


wherein

R_1 is a member selected from the group consisting of

hydrogen, methyl, methoxy, chlorine and fluorine,
R_3 is a member selected from the group consisting of hydrogen and methyl,
R_3 is a member selected from the group consisting of hydrogen, methyl and ethyl,
X is a member selected from the group consisting of $-CH_2-CH_2-$ and $-CH_2-CH_2-CH_2-$,
R_4 is alkyl of from 1 to 4 carbon atoms,
R_5 is alkyl of from 1 to 4 carbon atoms, and
R_4 and R_5 together with the corresponding nitrogen atom is a member selected from the group consisting of pyrrolidino, piperidino, morpholino, N-methylpiperazino and N-ethylpiperazino,
R_6 is a member selected from the group consisting of methyl, ethyl, benzyl, methylbenzyl and chlorobenzyl, and
Y is an anion.

5. The ester of the formula

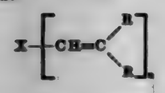


3,141,836
PREPARATION OF TERTIARYAMINO UNSATURATED KETONES

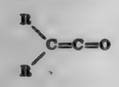
James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 26, 1961, Ser. No. 126,876
6 Claims. (Cl. 260—247.7)

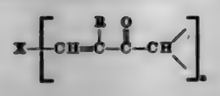
1. The process which comprises reacting an enamine having the formula:



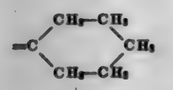
with a ketene having the formula:

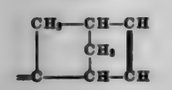


at a temperature in the range of 10° C. to 200° C. and forming an unsaturated, open-chain tertiary amino ketone having the formula:

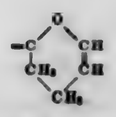


wherein the substituents, R, of the enamine, taken singly, are each selected from the group consisting of:
(*a*) hydrogen,
(*b*) alkyl of 1 to 5 carbon atoms,
(*c*) phenyl, and
(*d*) thienyl
and wherein the substituents, R, of the enamine taken collectively with the carbon atom to which they are attached, represent a member selected from the group consisting of:

(*a*) 

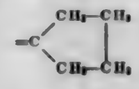
(*b*) 

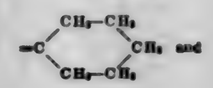
and

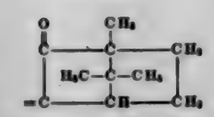
(*c*) 

wherein the substituents, R, of the ketene taken singly, are each selected from the group consisting of:
(*a*) hydrogen,
(*b*) alkyl of 1 to 18 carbon atoms,
(*c*) phenyl,
(*d*) lower alkyl substituted phenyl,
(*e*) benzyl,
(*f*) allyl and
(*g*) carbalkoxy
wherein the alkyl moiety is lower alkyl and wherein the substituents, R, of the ketene, taken collectively with

the carbon atom to which they are attached, represent a member selected from the group consisting of:

(*a*) 

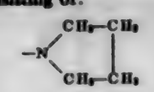
(*b*)  and

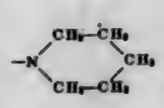
(*c*) 

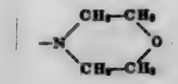
wherein *n* is an integer from 1 to 2 and X, when *n* is 1, is a tertiaryamino radical of the formula:



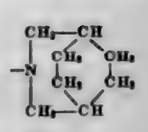
wherein the substituents, R^1 and R^2, of the tertiaryamino radical, taken singly, are each selected from the group consisting of:
(*a*) lower alkyl,
(*b*) benzyl and
(*c*) cyanoethylene,
and wherein the substituents, R^1 and R^2, of the tertiaryamino radical, taken collectively with the nitrogen atom to which they are attached, represent a member selected from the group consisting of:

(*a*) 

(*b*) 

(*c*) 

and

(*d*) 

and X, when *n* is 2, the divalent 1,4-piperazine; wherein at least 1 of said substituents R is hydrogen.

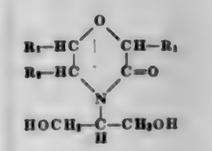
6. The process which comprises reacting ketene with N-isobutenylmorpholine at a temperature in the range of 10° C. to 100° C. and sufficiently high to form 4-methyl-1-morpholino-1-penten-3-one.

3,141,851
N-(1,3-DIHYDROXY-2-PROPYL)-MORPHOLONES

Leon Katz, Springfield, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1962, Ser. No. 226,747
4 Claims. (Cl. 260—247.7)

1. A compound having the following formula:



wherein R_1 and R_2 represent a member selected from the class consisting of hydrogen and methyl.

3,141,882
PROCESS FOR PREPARING FREE FLOWING FINELY DIVIDED CYANURIC CHLORIDE

Tilo Franz, Schwalbach, Taunus, Robert Richter, Hochkirchen, near Cologne, and Gerhard Bach, Wesseling, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt, Frankfurt am Main, Germany

No Drawing. Filed Aug. 29, 1961, Ser. No. 134,571
Claims priority, application Germany Aug. 31, 1960
1 Claim. (Cl. 260—248)

A method of producing a solid finely divided free flowing non-caking cyanuric chloride containing 0.3 to 3% of a finely divided inorganic substance selected from the group consisting of finely divided silicon dioxide, aluminum oxide, titanium oxide, silicic acid, calcium silicate and aluminum silicate intimately admixed therewith which comprises injecting the finely divided substance with the aid of an inert gas into a gas containing cyanuric chloride vapor distributed therein and condensing the cyanuric chloride vapor in contact with said injected finely divided substance to recover a solid free flowing non-caking cyanuric chloride containing 0.3 to 3% of the finely divided inorganic substance.

3,141,883
PROCESS FOR PREPARING DICHLOROCYANURIC ACID SODIUM SALT

Pierre Chassaing and Georges Clerc, Saint-Auban, France, assignors to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed July 6, 1962, Ser. No. 208,113
Claims priority, application France July 10, 1961
8 Claims. (Cl. 260—248)

1. A process for the preparation of sodium dichlorocyanurate comprising the steps of combining dry dichlorocyanuric acid with a hydrated sodium carbonate in dry powder form, said sodium carbonate and dichlorocyanuric acid being present in a theoretical amount substantially corresponding to the reaction

$$2C_3N_3O_3Cl_2H + CO_3Na_2{\cdot}10H_2O \longrightarrow 2C_3N_3O_3Cl_2Na + 11H_2O + CO_2\uparrow$$

whereby heat of neutralization of the dichlorocyanuric acid is absorbed by the hydrated sodium carbonate to minimize rise in temperature during the reaction.

3,141,884
PROCESS FOR THE PRODUCTION OF MELAMINE USING THE SPECIFIC RESISTANCE HEAT OF UREA

Karl Schmitt, Herne, Westphalia, and Josef Dinkelorf and Hans-Jurgen Haage, Wanne-Eickel, Germany, assignors to Hibernia-Chemie G.m.b.H., Wanne-Eickel, Germany, a German corporation

Filed May 7, 1962, Ser. No. 193,020
Claims priority, application Germany May 9, 1961
8 Claims. (Cl. 260—249.7)

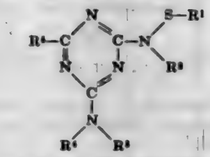
1. Process for the production of melamine by heating urea under pressure, which comprises carrying out the heating of urea under pressure by passing an electric current through the urea to generate heat therein as a function of the specific resistance thereof to the current being passed therethrough for forming melamine.

3,141,885
2-ALKYLMERCAPTOAMINO-4-ALKYLAMINO-1,3,5-TRIAZINES

Frank Ross, Villa Park, and Sidney B. Richter, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 26, 1962, Ser. No. 169,134
8 Claims. (Cl. 260—249.8)

1. A compound of the formula



wherein R^1 is an alkyl radical of 1 to 4 carbon atoms; R^2 and R^3 are independently selected from the group consisting of hydrogen and alkyl radicals of 1 to 6 carbon atoms; R^4 is an alkyl radical of 1 to 6 carbon atoms; and R^5 is selected from the group consisting of chlorine, bromine, methoxy, methylmercapto and



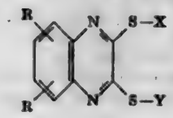
wherein R^2 and R^3 are as defined above.

3,141,886
2,3-DIMERCAPTOQUINOXALINE DERIVATIVES

Klaus Sasse, Cologne-Stammheim, Richard Wegler, Leverkusen, and Günter Unterstenhöfer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original application June 30, 1959, Ser. No. 823,825, now Patent No. 3,091,613, dated May 28, 1963. Divided and this application Dec. 12, 1962, Ser. No. 244,026
11 Claims. (Cl. 260—250)

1. A compound of the formula



wherein R and R' each stand for a member selected from the group consisting of hydrogen, lower alkyl, halogen, nitro, lower alkoxy, aminocarbonyl, aminosulfonyl and carboxyl; X stands for a member selected from the group consisting of hydrogen, lower alkoxycarbonyl, phenyloxycarbonyl, lower alkoxy-thiocarbonyl, aminocarbonyl, aminothiocarbonyl, phenylcarbonyl and trichloromethylsulfenyl; Y is a member selected from the group consisting of lower alkoxycarbonyl, phenyloxycarbonyl, lower alkoxy-thiocarbonyl, aminocarbonyl, aminothiocarbonyl, phenylcarbonyl and trichloromethylsulfenyl.

3,141,887

PROCESS FOR THE PREPARATION OF LYSERGIC ACID AMIDES

Bianca Patelli and Luigi Bernardi, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed Oct. 16, 1962, Ser. No. 231,015
Claims priority, application Italy Oct. 18, 1961
6 Claims. (Cl. 260—285.5)

6. A process of preparing lysergic acid amides, which comprises suspending anhydrous lysergic acid in a suitable diluent selected from the group consisting of dimethylformamide and acetonitrile, reacting the suspended lysergic acid with a phosgene-dimethylformamide complex at a temperature below 0° C., and reacting the resulting reaction mixture with a nitrogen-containing base having at least one hydrogen atom attached to the nitrogen atom, said base selected from the group consisting of ammonia, hydrazine, ethylamine, ethanolamine, glycine, aminopropanol, aniline, benzylamine, diethylamine, diphenylamine, methylaniline and ephedrine.

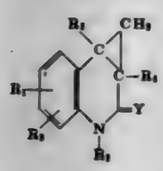
3,141,888

1a,7b-DIHYDRO-1H-CYCLOPROPA[c]-QUINOLINES

Bernard Loev, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,151
7 Claims. (Cl. 260—289)

1. A compound having the formula:



in which:

Y is a member of the group consisting of oxygen and sulfur;

R_1 is a member of the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl, lower alkoxy, hydroxy, nitro, amino, mono-lower alkylamino, di-lower alkylamino, lower alkanoylamino, lower alkoxycarbonyl, carboxy, carbamoyl and sulfamoyl;

R_2 is a member of the group consisting of hydrogen, halogen, hydroxy, lower alkoxy and, together with R_1, methylenedioxy;

R_3 is a member of the group consisting of hydrogen, lower alkyl, di-lower alkylamino-lower alkylene, hydroxy and lower alkoxy; and

R_4 and R_5 are members selected from the group consisting of hydrogen and lower alkyl.

3,141,889

1-(2-OXO-3-OXAZOLIDINYL)-2-THIOUREA

Frank Frederick Ebetino, Norwich, N.Y., assignor to The Norwich Pharmacal Company, Norwich, N.Y., a corporation of New York

No Drawing. Original application Mar. 7, 1961, Ser. No. 93,883. Divided and this application July 29, 1963, Ser. No. 298,478
1 Claim. (Cl. 260—307)

The compound 1-(2-oxo - 3 - oxazolidinyl)-2-thiourea represented by the formula:

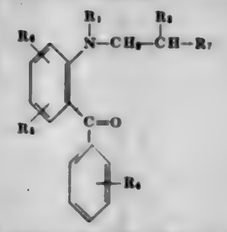
3,141,890

BENZOPHENONES

Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 21, 1962, Ser. No. 204,062
11 Claims. (Cl. 260—326)

1. A compound of the formula



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and tosyl; R_2 is selected from the group consisting of hydrogen and lower alkyl; R_4, R_5 and R_6 are selected from the group consisting of hydrogen, halogen, trifluoromethyl, nitro, amino, lower alkanoylamino, lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl, lower alkoxy, hydroxy, lower alkyl, carboxy, cyano, carbo-lower alkoxy, carbamyl and di-lower alkylamino and R_7 is selected from the group consisting of benzoylamino, phthaloylimino and amino.

5. N-[2-(4-chloro-2-benzoylanilino)ethyl]phthalimide.

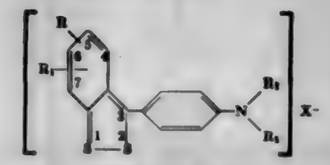
3,141,891

BENZO-1,3-DITHIOLIUM COMPOUNDS

Erwin Klingsberg, Mountainside, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 20, 1962, Ser. No. 203,724
3 Claims. (Cl. 260—327)

1. A compound of the formula:



wherein R and R_1 are selected from the group consisting of hydrogen, chloro, bromo, fluoro, nitro, lower alkyl, lower alkoxy, and together benzo; R_2 and R_3 are individually selected from the group consisting of lower alkyl, β-hydroxyethyl, phenyl, naphthyl, phenyl lower alkyl and β-cyanoethyl; said phenyl, naphthyl and benzo moieties containing up to three substituents selected from the group consisting of lower alkyl, halo, nitro and lower alkoxy; and X is an anion of an acid of pKa not above 4.

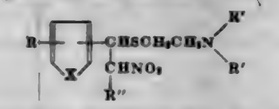
3,141,892

2-[α-(NITROALKYL)HETEROCYCLIC-METHYLTHIO]ETHYLAMINES

Robert C. Tweit, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 16, 1962, Ser. No. 180,334
8 Claims. (Cl. 260—329)

1. A compound of the formula



wherein R represents a member of the class consisting of hydrogen, chlorine, and a lower alkyl group; R' and R'' each represent a member of the class consisting of hydrogen and a lower alkyl group; and X represents a member of the class consisting of oxygen and sulfur.

2. 2-(α-nitromethyl-3-thenylthio)ethylamine.

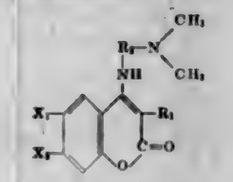
3,141,893

4-AMINO-COUMARINS

Rudolf Pfister and Alfred R. Sallmann, both of Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 14, 1961, Ser. No. 152,178
Claims priority, application Switzerland Nov. 15, 1960
5 Claims. (Cl. 260—343.2)

1. Compound of the formula



wherein

R_1 is a member selected from the group consisting of phenyl, benzyl and butyl,

R_2 is a member selected from the group consisting of $-CH_2-CH_2-$ and $-CH_2-CH_2-CH_2-$,

X_1 is a member selected from the group consisting of hydrogen and chlorine,

X_2 is a member selected from the group consisting of hydrogen and chlorine, and

when one of X_1 and X_2 is chlorine the other is hydrogen.

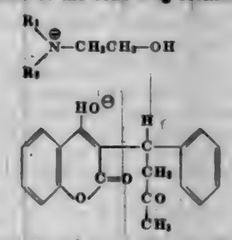
3,141,894

DERIVATIVES OF SUBSTITUTED COUMARIN

Ernest Eugène Gérard Billen, 373 Chaussee d'Alsemberg, Uccle, Brussels, Belgium, and Georges Louis Henri Mattens, 17 Place van Gehuchten, Jette, Brussels IX, Belgium

Filed Mar. 27, 1962, Ser. No. 182,744
Claims priority, application Belgium Sept. 19, 1961
2 Claims. (Cl. 260—343.2)

1. A dialkylaminoethanol salt of 3α-acetonylbenzyl-4-hydroxycoumarin of the following formula:



in which R_1 and R_2 are unsubstituted alkyl radicals containing 1 to 4 carbon atoms inclusive.

3,141,895

PROCESS FOR PRODUCING γ-HYDROXYBUTYRONITRILE AND γ-BUTYROLACTONE

Takashi Komatsu, Ryoji Iwanaga, and Jiro Kato, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed July 23, 1962, Ser. No. 211,893
Claims priority, application Japan July 25, 1961
7 Claims. (Cl. 260—343.6)

3. A process for producing gamma-butyrolactone, in which comprises:

(*a*) reacting beta-cyanopropionaldehyde with hydrogen in the pressure of a hydrogenation catalyst selected from the group consisting of palladium on charcoal, platinum, copper-chromium, and nickel on diatomaceous earth, at a temperature below 100° C. and in the absence of alkali until gamma-hydroxybutyronitrile is formed, the pressure of said hydrogen being between about 20 and 300 kilograms per square centimeters;

(*b*) hydrolyzing the gamma-hydroxybutyronitrile formed in the presence of water and alkali; and

(*c*) acidifying the aqueous hydrolyzate.

3,141,896

PROCESS FOR THE PERCARBOXYLIC ACID EPOXIDATION OF OLEFINS IN THE PRESENCE OF AN ALUMINUM OXIDE CATALYST

Werner Stein, Dusseldorf-Holthausen, and Rolf Brockmann, Haan, Rhineland, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a German corporation

No Drawing. Filed Mar. 2, 1960, Ser. No. 12,244
Claims priority, application Germany May 31, 1958
13 Claims. (Cl. 260—348.5)

1. In a process for preparing epoxidized products by reacting ethylenic compounds selected from the group consisting of monoethylenically and polyethlenically unsaturated aliphatic, cycloaliphatic, and aromatic hydrocarbons and monoethylenically and polyethylenically unsaturated alcohols, ethers, acids, esters, and ether-alcohols with an organic percarboxylic acid in the presence of a catalyst, the improvement which comprises reacting such an ethylenically unsaturated compound with an organic percarboxylic acid at a temperature of about 20–100° C. in the presence of at least 5% by weight of a member selected from the group consisting of $Al_2O_3.2H_2O$, $Al_2O_3.1H_2O$, γ-Al_2O_3 and mixtures thereof as catalyst until at least 1 mol of organic per acid per mol of ethylenic unsaturation to the epoxidized is consumed.

3,141,897

REACTION PRODUCT OF MALEIC ANHYDRIDE UNSATURATED FATTY ACID ADDUCT AND POLYETHYLENE GLYCOL

Samuel B. Crecelius and Thomas E. Brunelle, St. Paul, and Larry M. Rue, South St. Paul, Minn., assignors to Economics Laboratory, Inc., St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 9, 1961, Ser. No. 143,566
13 Claims. (Cl. 260—404.8)

1. As a composition of matter, a monoester of substantially equimolar proportions of a maleic anhydride unsaturated organic at least 10 carbon atom containing fatty acid adduct and a polyethylene glycol having a molecular weight from about 300 to about 800, the said monoester being formed by opening of the anhydride functional group of the said adduct and reaction of the polyethylene glycol therewith to form simultaneously the monoester and a free carboxyl group.

3,141,898
2,2-DIMETHYL-2-SILAALKANE-SULFONIC ACIDS AND THEIR SALTS

George Van Dyke Tiers, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 3, 1961, Ser. No. 79,962
6 Claims. (Cl. 260—448.2)

1. A compound of the group consisting of sulfonic acids represented by the formula

$$(CH_3)_3—Si—R—SO_3H$$

wherein R is a divalent linking alkylene radical having from 1 to 12 carbon atoms, ammonium and metal salts of said acids, and hydrates of said acids and salts.

3,141,899
PREPARATION OF ORGANO-HALOGENO-SILANES

Harold Garton Emblem, Grappenhall, and Richard Charles Le Fleming, Huyton, near Liverpool, England, assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 29, 1961, Ser. No. 113,131
Claims priority, application Great Britain June 2, 1960
7 Claims. (Cl. 260—448.2)

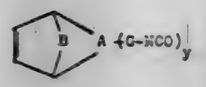
1. A process which comprises:
(*a*) placing a ferrosilicon alloy in a finely divided state in a reaction zone,
(*b*) said ferrosilicon alloy containing more than 50 percent by weight of iron,
(*c*) treating said finely divided ferrosilicon alloy with an aqueous solution of a water-soluble cupric salt,
(*d*) permitting said ferrosilicon alloy and said cupric salt to react together in said reaction zone long enough for the cupric salt to replace part of the iron present in the alloy by copper,
(*e*) recovering a contact mass comprising a ferrosilicon alloy and metallic copper,
(*f*) contacting said contact mass with an alkyl halide to produce alkyl halogenosilanes.

3,141,900
NOVEL UNSATURATED ISOCYANATES AND PROCESS FOR PREPARATION

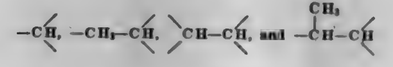
John W. Lynn, Charleston, and Thomas K. Brotherton, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 10, 1961, Ser. No. 88,279
17 Claims. (Cl. 260—453)

1. Unsaturated isocyanates represented by the following formula:



wherein B represents a divalent radical which is a member selected from the group consisting of methylene and ethylene groups; A represents a polyvalent radical which is a member selected from the group consisting of:



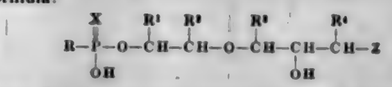
groups; G represents a divalent hydrocarbyl radical containing from 1 to 10 carbon atoms, and *y* is a whole positive integer of from 1 to 2, with the proviso that when *y* is 2 not more than one G represents an alkylene group.

3,141,901
5-HYDROXY-6-HALO-3-OXAHEXYL HYDROCARBONTHIOPHOSPHONATE AND MANUFACTURE

James M. Petersen, Fishkill, David D. Reed, Glenham, N.Y., and Herman D. Kluge, deceased, late of Fishkill, N.Y., by Hazel E. Kluge, administratrix, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

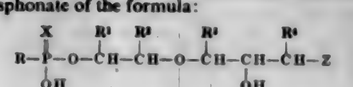
No Drawing. Filed Oct. 18, 1962, Ser. No. 232,654
6 Claims. (Cl. 260—461)

1. Halo-oxahexyl hydrocarbonthiophosphonate of the formula:

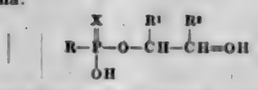


where R is hydrocarbyl derived from an aliphatic polyolefin having an average molecular weight between 250 and 50,000, R^1, R^2, R^3 and R^4 are radicals selected from the group consisting of hydrogen and alkyl from 1 to 6 carbons, X is chalcogen selected from the group consisting of sulfur and a mixture consisting of a major portion of sulfur and a minor portion of oxygen and Z is halogen.

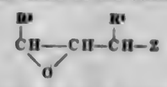
4. A method of preparing halo-oxahexyl hydrocarbonthiophosphonate of the formula:



where R is hydrocarbyl derived from an aliphatic polyolefin having an average molecular weight between 250 and 50,000, R^1, R^2, R^3 and R^4 are selected from the group consisting of hydrogen and alkyl from 1 to 6 carbons, X is selected from the group consisting of sulfur and a mixture consisting of a major portion of sulfur and a minor portion of oxygen, and Z is a halogen, comprising contacting a hydroxyalkyl hydrocarbonthiophosphonate of the formula:



with a haloalkylene oxide of the formula:



where R, R^1, R^2, R^3 and R^4, X and Z are as heretofore defined in the presence of acid catalyst selected from the group consisting of $BF_3 \cdot C_2H_5OC_2H_5$, BF_3, HF, $AlCl_3$, $SnCl_4$, $TiCl_4$, $ZnCl_2$, H_2SO_4, H_3PO_4, and CCl_3CO_2H at a temperature between about 25 and 175° C., in a mole ratio of hydroxyalkyl hydrocarbonthiophosphonate to oxide to catalyst of between about 1:1:0.001 and 1:2:0.10.

3,141,902
PROCESS FOR PREPARATION OF ACRYLONITRILE

Earl B. Huntley, Gibbstown, and Jurgen M. Kruse and John W. Way, Pitman, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 17, 1961, Ser. No. 96,350
5 Claims. (Cl. 260—465.3)

1. In a process for the preparation of acrylonitrile by the reaction of nitric oxide with propylene at a temperature within the range of 400° to 700° C., the improvement which comprises effecting said reaction in the presence of a catalyst consisting essentially of 1% to 100% by weight of at least one lead salt selected from the group consisting of lead titanate, lead stannate, and lead zirconate, and the remainder at least one oxide selected from the group consisting of lead oxide, titanium dioxide, zirconium dioxide, and stannic oxide.

3,141,903
ETHYLENICALLY UNSATURATED PHENYL SALICYLATE DERIVATIVES

Joseph Fertig and Martin Skoulichi, New York, N.Y., and Albert I. Goldberg, Berkeley Heights, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1961, Ser. No. 150,154
3 Claims. (Cl. 260—473)

1. An ethylenically unsaturated phenyl salicylate derivative selected from the group consisting of:

Phenyl 2-hydroxy-5-acrylyloxymethyl benzoate, and
Phenyl 2-hydroxy-5-methacrylyloxymethyl benzoate.

3,141,904
PRODUCTION OF CRYSTALLINE POTASSIUM SORBATE FROM SORBIC ACID AND POTASSIUM CARBONATE

Everett R. Lashley, Charleston, and Richard C. Myerly, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 29, 1961, Ser. No. 134,583
1 Claim. (Cl. 260—526)

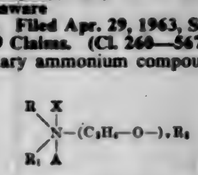
A process for the production of crystalline potassium sorbate which comprises contacting, in a reaction zone, sorbic acid with potassium carbonate in a reaction medium consisting essentially of heptane and 5 to 10 volume percent water, digesting the resulting product mixture at from 80° C. to 100° C., and removing substantially all of the water from said reaction zone by azeotropic distillation over a period of from about 2 to 4 hours.

3,141,905
CATION-ACTIVE SURFACE ACTIVE QUATERNARY AMMONIUM COMPOUNDS

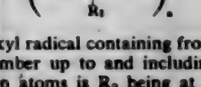
Kermit Loegley, Park Forest, Ill., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,203
9 Claims. (Cl. 260—567.6)

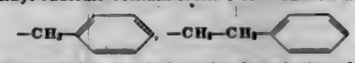
1. A quaternary ammonium compound corresponding to the formula



where R and R_1 are the same or dissimilar alkyl radicals each containing from 1 to 3 carbon atoms, R_2 is

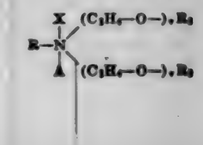


where R_3 is an alkyl radical containing from 1 to 4 carbon atoms, *n* is a number up to and including 60, the total number of carbon atoms is R_2 being at least 18, *v* is a number at least 1 with the proviso that the weight ratio of $(C_2H_4—O—)_v$ to R_2 is not greater than 1 to 4, X is a member selected from the group consisting of (1) alkyl and alkenyl radicals containing from 1 to 4 carbon atoms, and (2) benzene; lower alkyl benzenes in which the lower alkyl radicals contain from 1 to 4 carbon atoms,

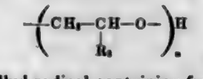


and their methyl and ethyl nuclearly substituted derivatives; and the mono-halo, mono-nitro and mono-sulfonic nuclearly substituted derivatives of the foregoing; and A is an anion.

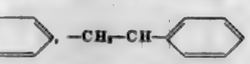
3. A quaternary ammonium compound corresponding to the formula



where R is an alkyl radical containing from 1 to 3 carbon atoms, R_2 is



where R_3 is an alkyl radical containing from 1 to 4 carbon atoms, *n* is a number up to and including 60, the total number of carbon atoms in R_2 being at least 18, *v* is a number at least 1 with the proviso that the weight ratio of $(C_2H_4—O—)_v$ to R_2 is not greater than 1 to 4, X is a member selected from the group consisting of (1) alkyl and alkenyl radicals containing from 1 to 4 carbon atoms, and benzene; lower alkyl benzenes in which the lower alkyl radicals contain from 1 to 4 carbon atoms,



and their methyl and ethyl nuclearly substituted derivatives; and the mono-halo, mono-nitro and mono-sulfonic nuclearly substituted derivatives of the foregoing; and A is an anion.

3,141,906
PROCESS FOR PREPARING TETRAKIS (DIMETHYLAMINO) ETHYLENE

William J. Chambers, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 13, 1963, Ser. No. 258,170
14 Claims. (Cl. 260—583)

1. The process of preparing tetrakis(dimethylamino)-ethylene which comprises pyrolyzing, at a temperature in the range of about 80–300° C., a bis(dimethylamino)-hydrocarbyloxymethane of the formula

$$[(CH_3)_2N]_2CHOR$$

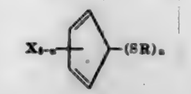
wherein R is a monovalent hydrocarbyl radical of up to 12 carbons free of aliphatic unsaturation, in the presence of a Lewis acid.

3,141,907
METHOD OF PREPARING BIOLOGICAL ACTIVE SULFIDES

Victor Mark, Olivette, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 19, 1961, Ser. No. 146,356
7 Claims. (Cl. 260—609)

1. The method of preparing a compound of the structure



wherein X is a halogen atom; wherein R is a hydrocarbon radical of up to 20 carbon atoms; and wherein *n* is an integer from one to two; which comprises heating hexahalocyclopentadiene and the mercaptan HSR at a temperature between 100° C. and 200° C. until the evolution of HCl has subsided.

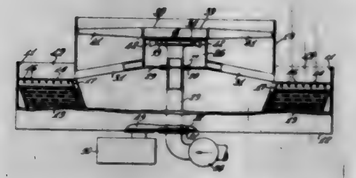
3,141,908
ETHYLENE/VINYLOXYETHANOL INTERPOLYMERS

John D. Calfee, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 28, 1959, Ser. No. 862,089
2 Claims. (Cl. 260—615)

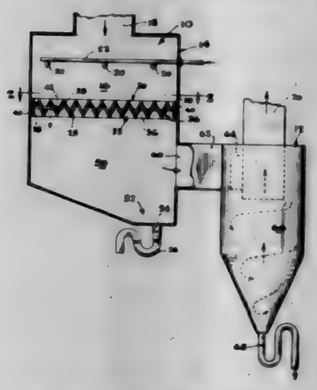
1. Ethylene/vinyloxyethanol copolymer oils, liquid at room temperature and having molecular weights in the range of about 200 to 1500.

3,141,909
TURBINE DRIVE FOR COOLING TOWER FAN
Howard A. Mayo, Jr., York, Pa., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 12, 1962, Ser. No. 172,529
1 Claim. (Cl. 261—25)



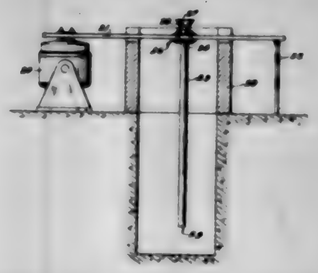
A water cooling system comprising: a supporting structure; an intake pipe connected to said supporting structure; a fluid pump connected with said intake pipe in fluid delivering relation thereto; a turbine-type fluid motor connected in fluid receiving relation with said intake pipe on a vertical axis and presenting a stationary inner nozzle structure, a rotary member overlying said nozzle structure, and an annular series of reaction impulse blades depending from said rotary member in encircling cooperative relation to said nozzle structure; a stationary fluid collecting chamber surrounding said reaction impulse blades of said fluid motor in fluid receiving relation thereto; a fan structure connected with said rotary member for rotation in unison therewith; and a cooling deck structure connected to said supporting structure and communicating in fluid receiving relation with said collecting chamber and in air cooled relation with said fan structure, said fluid motor containing water lubricatable bearing means supporting said rotary member on said intake pipe for rotation relative thereto on said vertical axis, and said bearing means presenting concentric, relatively rotatable guide surfaces extending axially of, and in communication with said intake pipe, relatively rotatable axial thrust transmitting surfaces concentric with said guide surfaces, and passage means for conveying fluid from said intake pipe to said thrust transmitting and guide surfaces for fluid lubrication thereof.

3,141,910
SCRUBBER FOR DUST AND GAS
Thomas John Pearce, Bartow, Fla., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 28, 1961, Ser. No. 98,836
4 Claims. (Cl. 261—108)



1. A gas scrubbing apparatus comprising: a scrubber body having a gas inlet and outlet; a single impingement gridwork within said body positioned between said inlet and outlet, said gridwork comprising a first and second row of spaced and parallel bar members having triangular-shaped cross sections, the first row being positioned in said body with apexes of the triangular bars thereof pointed substantially toward said inlet, the second row being positioned parallel to said first row and spaced therefrom a distance less than the dimension of the bases of the triangular bars of the first row with the bases of the triangular bars of said second row facing said inlet and positioned directly in line with the spaces appearing between the bars of the first row, and the dimension of the bases of said second row of bars being at least as great as the dimension of said spaces between said first row of bars; means for discharging scrubbing liquid towards said gridwork; and means for collecting and removing spent scrubbing liquid from said body.

3,141,911
PROCESS FOR THE FABRICATION OF NUCLEAR FUEL ELEMENTS
Joseph J. Hauth, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 20, 1963, Ser. No. 266,766
7 Claims. (Cl. 264—69)



1. A process of fabricating metal-jacketed powder elements of great density, comprising providing a closed-end metal tube; introducing powder through the upper open end of said tube, until said tube is approximately filled; attaching a means of vibration to said upper open end of said tube; simultaneously applying vibrations of varying frequencies to said upper open end of said tube, whereby said vibrations travel down said tube, said frequencies ranging from below-resonant, resonant to above-resonant numbers of vibration; and adding more powder again to fill the tube as the previously introduced powder becomes compacted and recedes from the upper end of the tube.

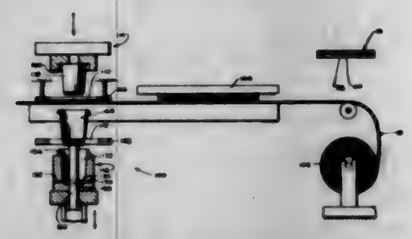
3,141,912
PROCESS OF TREATING POLYMERIC FILM
Max Goldman, Tonawanda, and Miklos Wallenfels, Buffalo, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,629
7 Claims. (Cl. 264—95)

1. A process which compriaes the steps, in sequence, of extruding thermoplastic polymeric material in the form of a tubular sheet in its formative state; advancing the tubular sheet at a predetermined initial rate; quenching the tubular sheet to a temperature below its formative state; maintaining sufficient pressure within the tubular sheet to prevent collapse and to provide, when the tubular sheet is heated to a temperature within its orientation temperature range, an expansion to a diameter of at least 2 times the original diameter of the sheet; heating the tubular sheet to a temperature between 70% of the lowest temperature of the orientation temperature range in degrees centigrade and just below the orientation temperature range of the polymeric material; thereafter, heating the tubular sheet internally from an internally disposed radiant heat source to a temperature within the orientation temperature range to expand the tubular sheet to a diameter at least 2 times its original diameter, said



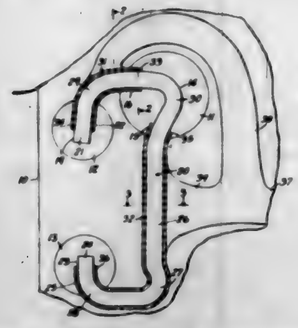
expansion being carried out while said tubular sheet is exposed to said heat source; advancing, while expanding, the heated tubular sheet at a rate at least 2 times the initial rate of advancement; and cooling the tubular sheet while maintaining the sheet substantially at its expanded diameter.

3,141,913
METHOD OF MAKING A CONTAINER
Bryant Edwards, Oak Park, Ill., assignor to Illinois Tool Works Inc., a corporation of Delaware
Filed Dec. 10, 1959, Ser. No. 858,792
10 Claims. (Cl. 264—210)



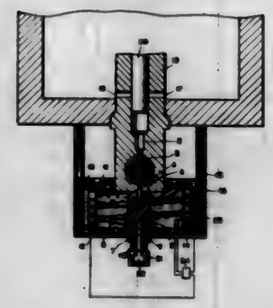
1. The method of making containers from an extruded web of plastic material comprising feeding a web of heated sheet thermoplastic material of a first thickness to a forming roll in a manner to localize pressure at spaced points on said web to continuously mold a plurality of interconnected thin projections on one side only of said web to create a greater apparent thickness therein without decrease in width or length of the material, feeding the modified material to a molding machine, reheating the modified material, clamping the material, stretching the clamped material mechanically with a male plug and moving the stretched material into a female mold, creating a positive pressure on the plug side of the material and a resilient back pressure in at least a part of the mold to form a container in the molding machine, said stretching and forming in the molding machine causing only a proportionate decrement in the increased apparent thickness of the material without destruction of the plurality of interconnected thin projections.

3,141,914
METHOD OF MAKING FILM COATED WIRE TRAVELERS
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1961, Ser. No. 141,898
1 Claim. (Cl. 264—275)



The herein described method of forming travelers comprising a rod member having rounded ring engaging ends, a shank, and thread engaging portion between said shank and one ring engaging end, which consists in supporting said rod member at both ends and said thread engaging portion in injection molding dies, so that at said points of support the dies make peripheral contact with said rod member, providing a space between the other parts of said rod member and the inner walls of said dies to receive suitable plastic coating material, and injecting plastic coating material into said dies to coat said rod member except at the ends thereof and at said thread engaging portion.

3,141,915
METHOD AND DEVICE FOR MAKING WAX PATTERNS
Caspurus Antonius Nieuwenhuis and Diederich Gerhard Vogtschmidt, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 10, 1959, Ser. No. 852,123
Claims priority, application Netherlands Dec. 4, 1958
3 Claims. (Cl. 264—330)



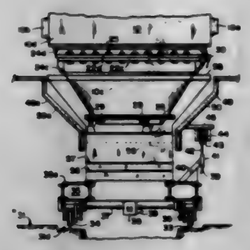
2. Apparatus for supplying wax in a plastic state to a mold comprising a container for storing molten wax, means to withdraw the molten wax from the container and supplying wax in a plastic state to the mold including a helical tube connected at both ends to a manifold, one end of said manifold being connected to an outlet of said container and the other end of said manifold being connected to a nozzle for supplying plastic wax to the

mold, a supply of a liquid cooling medium surrounding said conduit, means to withdraw heat from said cooling medium, means to heat said cooling medium to a predetermined temperature below that of the molten wax to thereby cool the same into a plastic state, and means responsive to the temperature of the cooling medium to maintain the temperature thereof at said predetermined temperature.

3,141,916
PLANT INSTALLATION FOR SERVICING FURNACE VESSEL

Harry L. McFeaters, New Castle, and Ira W. Lakin, Volant, Pa., assignors to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania

Filed July 5, 1960, Ser. No. 40,695
5 Claims. (Cl. 266—13)



1. Servicing apparatus for a tiltable refractory-lined melting furnace vessel in the nature of a converter having a pair of trunnions projecting from opposite sides thereof and having an open mouth portion that faces substantially upwardly when the vessel is in a metal refining position and that faces substantially downwardly when the vessel is in a molten metal pouring position, wherein the vessel is constructed of transverse sections having means releasably-securing them together with respect to each other, wherein stands are positioned on a floor beneath the vessel in a transversely-spaced relation on opposite sides of said vessel and carry the trunnions to tiltably position the vessel in a spaced relation above the floor, and wherein track rails are positioned on the floor and extend along the spacing between the stands at substantially right angles to the trunnions of the vessel which comprises, a truck having wheels mounted along its opposite side portions to engage the track rails for movement therealong between the stands into a cooperating working position beneath the vessel and between the vessel and a servicing station, said truck having an upwardly-projecting frame thereon provided with a top seat, a working unit adapted to be removably-positioned on said top seat and carried by said truck between the servicing station and the cooperative working position beneath the vessel, said working unit having an upwardly-projecting support frame provided with an upper support portion to receive a section to be removed from the vessel for transportation between the vessel and the servicing station, said support frame having upper and lower side-positioned walkways to enable workmen to release the means releasably-securing a section of the vessel that is to be removed therefrom for servicing; said upper support portion of said frame being constructed to position means for holding the section to be removed in position with respect to the vessel while workmen release the releasable-securing means for removing the section, and to thereafter removably-receive and support the removed section thereon; and means carried by said working unit to engage the removed section of the vessel and securely hold it in position on said upper support portion of said frame while the section is being transported from and to the vessel by said truck.

3,141,917
OXYGEN CONVERTER LININGS

Lorne Robert Duncan, Lachute, Quebec, Canada, assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 27, 1962, Ser. No. 226,719
2 Claims. (Cl. 266—43)

1. In an oxygen converter furnace lining, tar bonded basic refractories made from a tar bonded batch of size graded refractory material comprising mixtures of commercial dead burned dolomite, dead burned magnesite and lime, said mixtures having between about 0.5 to 10% SiO_2, by weight, on an oxide basis, said batch including a +65 and a −65 mesh fraction, the improvement which comprises said −65 mesh fraction of the batch having a CaO to SiO_2 weight ratio, on the basis of an oxide analysis, which exceeds about 2 to 1, and the CaO content thereof being no more than 5%, by weight, said −65 mesh fraction being capable of reacting with the early slag of an oxygen converter furnace to form a thin layer of dicalcium silicate over exposed surfaces.

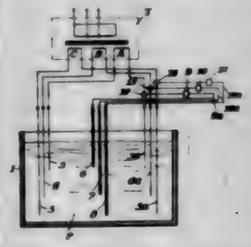
ELECTRICAL

3,141,918
ZONE TEMPERATURE CONTROLLED BATH FURNACE

Yukio Tanaka, Tokyo-to, Japan, assignor to Kokusai Denki Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Apr. 20, 1961, Ser. No. 104,454
Claims priority, application Japan Apr. 21, 1960
1 Claim. (Cl. 13—24)

Apparatus for automatically controlling the temperature of a salt or carbon electrolyte bath furnace comprising, in combination, a plurality of sets of electrodes in said bath furnaces, the electrodes of one set being paired in operation with corresponding electrodes in another of said sets, the sets of electrodes being disposed in spaced apart areas of said bath, each electrode of each of said sets being disposed at a depth in the bath of the furnace different from the depth of the remaining electrodes of a respective set, the electrodes of each pair of the sets being disposed substantially at a common depth and spaced relative to each other, a source of electrical potential, connections for applying electrical potential to each pair of electrodes to cause said bath to be heated uniformly, temperature-responsive devices disposed in said bath intermediate said sets of electrodes sensing the temperature of the bath at respective zones substantially corresponding to the different depths heated by respective pairs of said electrodes, said temperature-responsive means comprising thermocouples, for generating current

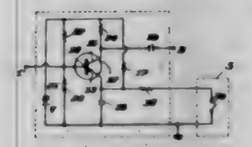


of variable intensity in dependence upon the temperature intensity of the zones of said bath and thereby representative of the temperature intensities of the respective zones being sensed by the individual thermocouples, current-responsive relays having operating coils connected directly to respective ones of said temperature-responsive means, and electromagnetic switches having coils the energization of which is controlled by said current-responsive relays to open and close said connections to said supply source to automatically de-energize and energize respective pairs of said electrodes in said sets when the temperature in a given zone exceeds or is less than a predetermined temperature value and said relays being connected to energize said coils of said switches to open said switches when said relay coils are energized.

3,141,919
SYSTEM FOR GENERATING RHYTHM TONES

Shigeaki Mabuchi, Hamamatsu-shi, Japan, assignor to Nihon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan

Filed Sept. 26, 1960, Ser. No. 58,226
Claims priority, application Japan Oct. 23, 1959
1 Claim. (Cl. 84—1.26)



In an electrical musical instrument, an arrangement for generating percussive sounds in a loudspeaker having a wave form wherein the sound rises abruptly at the instant of percussion and is exponentially attenuated, the vibrations at the natural frequency being intensified during attenuation, the noise-like components of the sound almost disappearing, said arrangement comprising in combination;

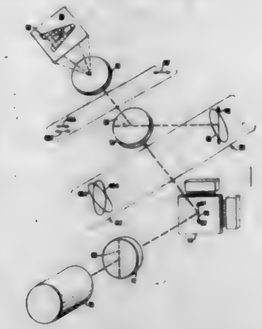
a first stage driving circuit and switch including a D.C. power source and first and second lead lines therefrom; a PNP transistor including an emitter joined to said first lead line at a first junction point, a collector joined to said second lead line at a second junction point, a base with a base input line; a charging and discharging capacitor in series between said first junction point and said emitter; a third junction point between said capacitor and said emitter, a third lead line from said third junction point to said first lead line, a first resistor for charging and a switch in series in said third lead line; a second resistor acting as a collector load between said second junction point and said collector; a third resistor acting as a discharge resistor between said second and third junction points, the value of said first resistor for charging being substantially higher than said third resistor; fourth and fifth resistors acting as bias resistors between said first and second lines respectively to said base input line; a fourth junction point between said second resistor and said collector a four lead line from said fourth junction point acting as the output lead and a coupling capacitor in said output lead;

a second stage resonance circuit including a coupling line to said coupling capacitor sixth and seventh coupling resistors in series, connected to said coupling line, and a capacitor and coil in parallel, between said sixth and seventh resistors and, a third stage amplifying circuit including a second D.-C. source, fifth and sixth lead lines from said second D.-C. source; a second transistor including an emitter joined to said fifth lead line across an eighth bias resistor, a collector joined to said sixth lead line across a ninth load resistor; a by-pass capacitor in parallel with said eighth bias resistor; a D.-C. blocking capacitor in series with frequency elimination means connected between said collector and said fifth lead line; a base to said second transistor connected in series to said sixth and seventh coupling resistors of said second stage, tenth and eleventh bias resistors between said base and said fifth and sixth lead lines; a twelfth bias resistor between said base and said frequency elimination means, and, an output line to the loudspeaker connected to the junction of said collector and said D.-C. blocking capacitor.

3,141,920
THIN FILM COLOR DISPLAY DEVICE

Herbert B. Bebb, Hurley, and Herbert E. Heath, Woodstock, N.Y., Reginald B. Hilborn, Jr., State College, Pa., and Fred S. Maddocks, Hurley, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,701
6 Claims. (Cl. 88—1)



6. In a display device adapted to provide an image, a source of collimated polychromatic light, first and second plane polarizing filters, and chromatic rotary dispersing means between the two filters, said dispersing means comprising metallic Kerr magneto-optic reflector means and additional color dependent phase change means for coaction with said Kerr magneto-optic means to provide for alteration of the polarization of color components of the light passed to said second filter, said alteration being in a manner which is dependent upon and alterable with reversal of the Kerr component generated by said magneto-optic means, and means for establishing a mosaic pattern in the magnetic state of said reflector means and including control means providing a switching flux for selectively varying said mosaic pattern, whereby the light passing said second filter is differentiated to provide a polychromatic image in accordance with said mosaic pattern.

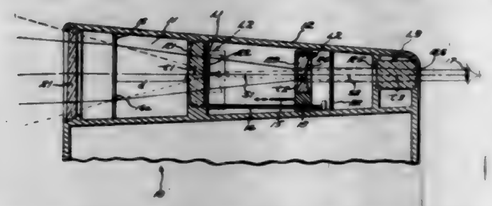
3,141,921
ZOOM VIEWFINDER WITH FRONT DIAPHRAGM MASK

Walter R. Linke, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Dec. 14, 1959, Ser. No. 859,379
6 Claims. (Cl. 88—1.5)

1. In a zoom viewfinder, a fixed front component of one sign, a fixed rear component of the same sign as that of the front component, an intermediate zooming component of the sign opposite to that of the front and rear components and movable along the optical axis to vary

magnification, and a front diaphragm spaced an axial distance *d* from the front surface of the front component,

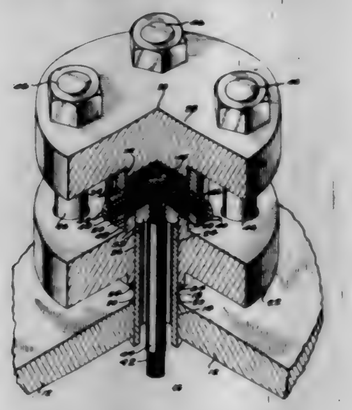


the viewfinder being constructed substantially in compliance with the following formula:

$$d=\frac{T-rW}{r-1}$$

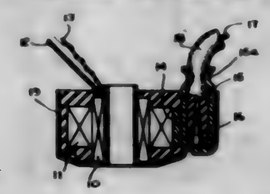
where T is the distance of the entrance pupil from the front surface of the front component for the extreme telephoto position of the zooming component, W is the distance of the entrance pupil from the front surface of the front component for the extreme wide angle position of the zooming component and *r* is the range of magification expressed as the quotient of the telephoto magification divided by the wide angle magnification.

3,141,922
MULTICONDUCTOR PRESSURE FITTING
Anthony C. Dirienzo, Millington, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed June 21, 1962, Ser. No. 204,109
8 Claims. (Cl. 174—18)



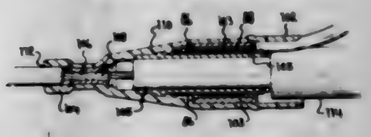
1. A multiconductor pressure fitting for a pressurized vessel having an opening in a wall thereof through which a plurality of conductors extend comprising a backing flange member, a complementary second flange member having an opening therein for the passage of said conductors, said second flange member being affixed to said vessel wall with the opening therein in communication with the vessel opening, means to clamp said flange members firmly together, a sleeve element independent of but disposed between said flange members having a plurality of radial openings therein, a plurality of conductors extending through said vessel and flange openings and in groups radially through said sleeve element openings, a sealing block of a castable, hardenable material capable of withstanding compression forces cast within said sleeve element around said plurality of conductors, means centering said sleeve element and sealing block such that the latter covers and seals said opening in said second flange member.

3,141,923
CONNECTOR FOR COIL OR THE LIKE
William O. Henschke, Longmeadow, and John C. Van Amsterdam, Springfield, Mass., assignors to R. E. Phelon Company, Inc., a corporation of Massachusetts
Filed Sept. 18, 1962, Ser. No. 224,319
3 Claims. (Cl. 174—59)



1. In a device of the character described, coil means, a tubular member comprised of insulating material connected to said coil means, an electrical lead in said tubular member, a pointed piercing contact making member extending into said tubular member and making contact with said electric lead, said tubular member being deformed around said electrical lead in order to secure said lead in said tubular member.

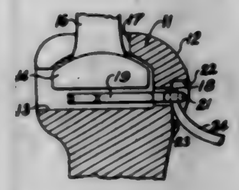
3,141,924
COAXIAL CABLE SHIELD BRAID TERMINATORS
Edgar W. Forney, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 16, 1962, Ser. No. 180,236
5 Claims. (Cl. 174—75)



1. A device for terminating the shielding of a co-axial conductor including in combination a transparent outer insulation sleeve having a tapered portion at one end and a nontapered portion at the other end, a first metal ferrule fitted within the insulation sleeve in a nontapered portion thereof, a second metal ferrule fitted within the insulation sleeve in the tapered portion thereof and radially disposed with respect to said first ferrule, the second ferrule having a smaller cross sectional diameter than the first ferrule to form a space therebetween adapted to receive shielding, the second ferrule having one end longitudinally disposed from the same relative end of the first ferrule, and the sleeve having a relieved inner diameter in the tapered portion extending from the same relative end of the first ferrule toward the said one end of the second ferrule to form a cavity capable of receiving the end of the shielding and permitting its observation through the transparent sleeve.

3,141,925
ELECTRICAL SOCKET CONNECTOR FOR INSULATORS AND THE LIKE
Malcolm Bethea, Jr., P.O. Box 1407, Birmingham 1, Ala.
Filed July 11, 1963, Ser. No. 294,314
2 Claims. (Cl. 174—161)

1. In an electrical socket connector having a socket portion adjacent one end thereof with the outer surface of one side of said socket portion being curved and another side of said socket portion being provided with an outwardly opening socket for receiving an enlarged portion of a connector member and a retaining member extending through an opening in said curved outer surface into said socket portion in position to hold said connector

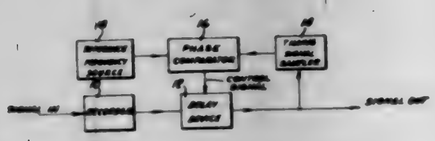


member against separation from said socket portion, the improvement which comprises:

(*a*) there being a recess adjacent said opening in the socket portion of a size to receive the entire outer portion of said retaining member whereby said outer portion lies wholly within the confines of said curved outer surface, and

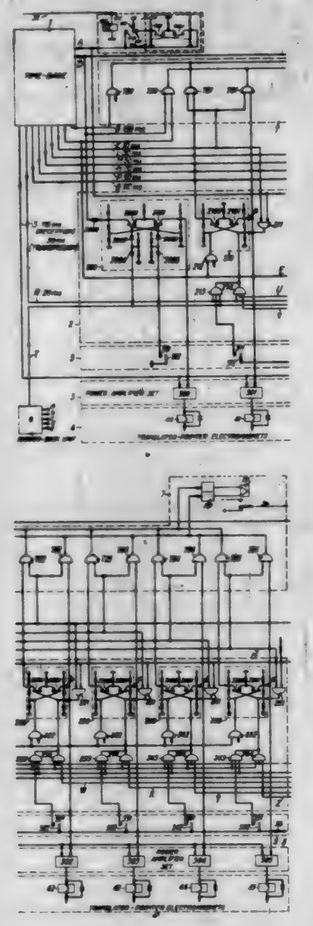
(*b*) there being at least one laterally extending recess in said socket portion in communication with the first mentioned recess and extending generally perpendicular to said opening in position to expose a side of the outer portion of said retaining member to facilitate removal of said retaining member.

3,141,926
COLOR RECORDING COMPENSATION UTILIZING TRAVELING WAVE TUBE DELAY
Chester W. Newell, Sunnyvale, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 12, 1960, Ser. No. 28,699
2 Claims. (Cl. 178—5.4)



1. A recording system comprising means for supplying a composite signal to be recorded, which signal includes a timing signal, means coupled to said supplying means for recording said composite signal, means for reproducing said composite signal, a single delay device for imposing a controllable time delay on said reproduced composite signal, said delay device including means for providing a beam of carriers, means for intensity modulating said beam, means for controlling the transit time of said beam of carriers, and means for converting said beam back into a signal, means for coupling said reproducing means to said modulating means whereby the beam is intensity modulated by said reproduced composite signal, means for providing a reference signal which is related to said timing signal, means for deriving a control signal from said timing signal and said reproduced signal which control signal is related to the difference between said reproduced timing signal and said reference signal, means for coupling said control signal to said controlling means to thereby maintain said reproduced composite signal in a predetermined relationship with said composite signal.

3,141,927
TAPE-READER ASSOCIATED WITH AN ELECTRONIC TELEPRINTER
Roger P. Sourgens, 4 Ave. du Marechal Joffre, Bourg-la-Reine, France, and Raymond A. Chollet, 5 Rue Besson, Arcueil, Seine, France
Filed Oct. 27, 1961, Ser. No. 167,988
2 Claims. (Cl. 178—23)



1. In a teleprinter set adapted for manual transmission and automatic data transmission, the combination of a tape-reader with an electronic teleprinter comprising a reception device, a single memory device, an answer-back unit, a time-base, a keyboard transmitter, a tape-reader, means controlled by said keyboard transmitter and said tape-reader for initiating said time-base, first means for transferring into said memory device code elements received by the reception device, second means for transferring into said memory device code elements generated by the answer-back unit, third means for transferring into said memory device code elements generated by the keyboard transmitter, fourth means for transferring into said memory device code elements generated by the tape-reader, said four transferring means being controlled by the time-base, means controlled by said first and second transferring means for inhibiting said fourth transferring means when the reception device and

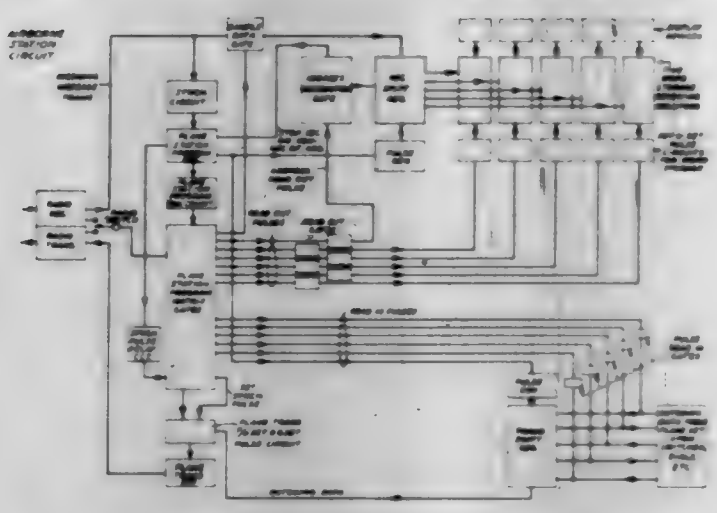
the answer-back unit are operative and means controlled by said fourth transferring means for inhibiting said third transferring means when the tape-reader is operative.

3,141,928

DISCRETE ADDRESS TIME DIVISION MULTIPLEX DATA TRANSMISSION SYSTEM

James R. Davey, Franklin Township, Somerset County, and Doren Mitchell, Martinsville, N.J., Bernard Ostendorf, Jr., Stamford, Conn., and Wilton T. Rea, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 28, 1955, Ser. No. 549,402
31 Claims. (Cl. 178—50)



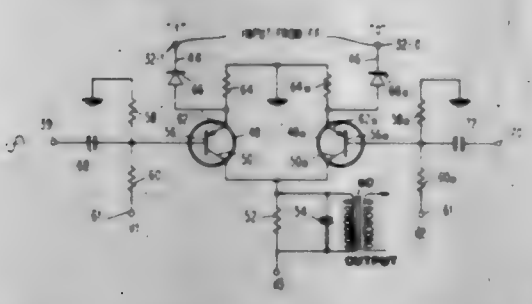
2. In a synchronized radio telegraph receiving station, means comprising an oscillator, synchronizing means for controlling said oscillator, and a binary counter, responsive to said oscillator, for receiving a telegraph multi element, two condition, permutation signal code combination, and diode gate means for comparing said received combination with an address combination assigned to said station.

3,141,929

DATA TRANSMISSION SIGNAL GATING APPARATUS

Margaret A. George, Washington, D.C., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Jan. 2, 1962, Ser. No. 163,736
5 Claims. (Cl. 178—66)



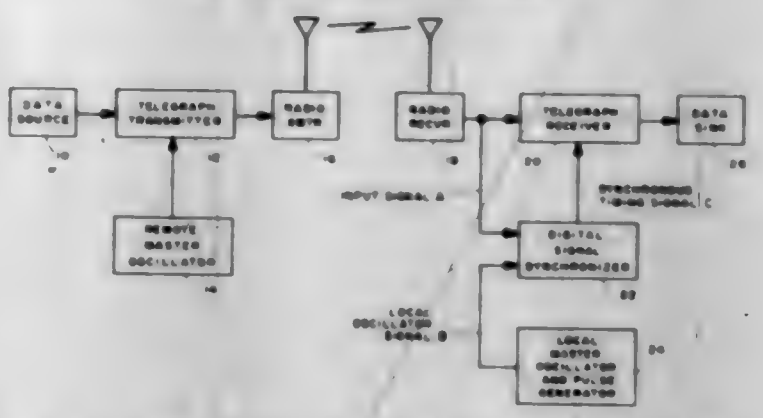
1. In a data transmission apparatus, in combination, a source of periodic waves, data responsive means operative to produce at respective terminals complementary level signals the binary status of which is data-significant, and balanced double gate means comprising a pair of transistors of the same conductivity type, each said transistor having an emitter, a base and a collector, said collectors being connected to load impedance means presenting the same resistance to current from each of said collectors, means connecting said source of periodic waves to one of said bases, matched Class A bias supplies connected to said bases, and selective cut-off means comprising a circuit connection between each of said emitters and a respective one of said terminals of said data responsive means adapted to cut one of said transistors off and render the other conductive in its active region in accordance with the status of said data responsive means, said gate means being symmetrical and operative in response to said bias supplies to yield the same D.C. output component to said load impedance irrespective of which of said transistors is conductive.

3,141,930

DIGITAL SIGNAL SYNCHRONIZER SYSTEM

Bert F. Krauss, Stamford, Conn., assignor to Stelma, Incorporated, Stamford, Conn., a corporation of Connecticut

Filed May 15, 1961, Ser. No. 109,943
19 Claims. (Cl. 178—69.5)



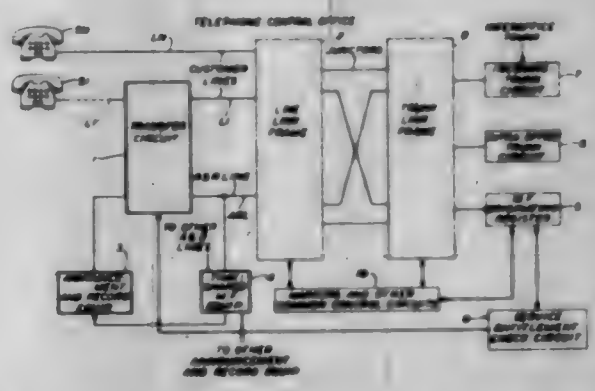
1. A digital signal synchronizing system comprising: means to receive data pulse signals having a data bit frequency (f): means for locally generating a master timing pulse signal train having a multiple frequency equal to N times (f); means for comparing the time phase relationship between each data signal pulse and each successive Nth timing pulse to obtain a measure of time phase deviation of each data pulse from the corresponding Nth local timing pulse; means for algebraically adding such time phase deviations over a limited time interval to measure an average deviation or error for that interval; and means responsive to such measured average deviation for modifying the action of the master timing generating means to generate a phase-modified timing train signal so the Nth one of such phase modified timing signals will be shifted closer to the incoming data signal to provide an output timing signal synchronous with the incoming data signal.

3,141,931

TELEPHONE ANSWERING EQUIPMENT

Alfred Zarouni, Brooklyn, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 19, 1962, Ser. No. 167,310
25 Claims. (Cl. 179—6)



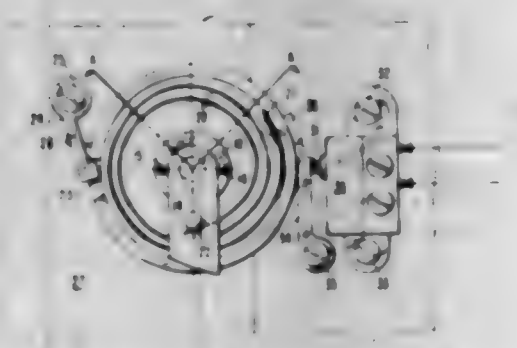
10. A telephone system comprising a switching office, a plurality of telephone lines connected to said office, means responsive to answering service signals received from a calling one of said lines for assuring that the call-

ing line is entitled to the service, answering equipment at said office, means actuated by said assuring means for conditioning said equipment to serve an entitled calling line, said answering equipment including means activated by control signals from said entitled line for detecting subsequent incoming calls to said entitled line, means controlled by said detecting means for supplying a recorded announcement to said entitled line to answer said calls, means operative each time after said announcement is supplied to said line for recording messages received from other lines, and means responsive to coded signals from any of said lines for supplying the recorded messages to said last-mentioned lines.

3,141,932
SWITCHING MECHANISM WITH ENERGY STORAGE MEANS

William A. Leavy, Hyattsville, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 18, 1961, Ser. No. 139,012
7 Claims. (Cl. 200—39)
(Granted under Title 35, U.S. Code (1952), sec. 266)

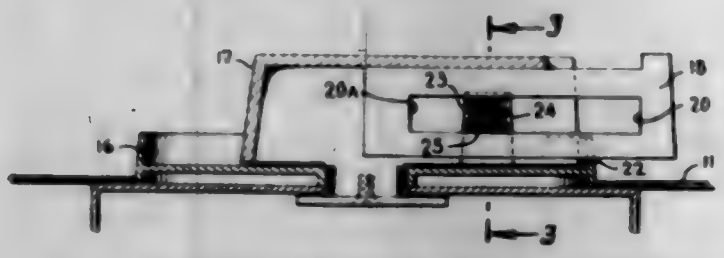


1. A switch actuation mechanism, comprising in combination, switching means, a driven shaft, disc means mounted for rotation on said shaft and connected thereto by spring means, means mounted on said disc for actuating said switching means as said disc rotates on said shaft, restraining means adjacent said disc for maintaining said disc in a fixed position so that the rotation of said driven shaft will store energy in said spring means and trigger means carried by said driven shaft for releasing said restraining means at a predetermined angular position of said driven shaft.

3,141,933
HANDLE FOR ENCLOSED ELECTRIC SWITCH INCLUDING A LOCKING SLIDE FRICTIONALLY POSITIONED

George E. Gauthier, Plainville, Conn., assignor to General Electric Company, a corporation of New York

Filed Sept. 15, 1961, Ser. No. 138,490
5 Claims. (Cl. 200—44)

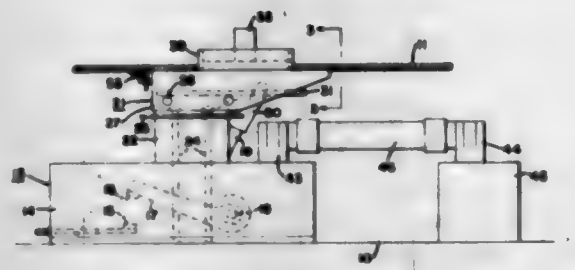


1. An electric control device including a manually operable handle, said handle having an elongated slot cut lengthwise therein from one end, a locking slide member slidably retained in said slot, resilient spring means biasing said slide member against a wall of said slot, and means retaining said resilient spring means in position, said retaining means also acting as a stop means to limit outward motion of said locking slide.

3,141,934
ENCLOSED ELECTRIC SWITCH WITH ROTARY TYPE OPERATING HANDLE AND INTERLOCKING MECHANISM

Norman R. Beaudoin, Southington, and Louis T. Stegmaier, Plainville, Conn., assignors to General Electric Company, a corporation of New York

Filed Sept. 15, 1961, Ser. No. 138,364
4 Claims. (Cl. 200—50)

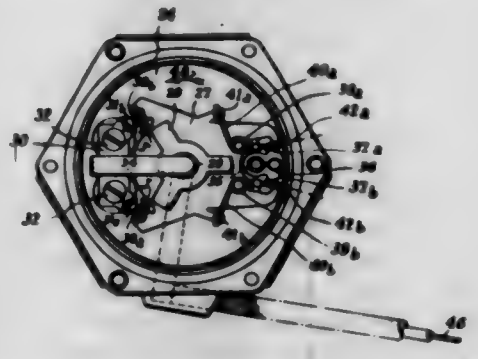


4. An electric switch comprising a generally planar support, a manually operable handle rotatably mounted on said support and movable between "on" and "off" positions, a cover overlying said support when in closed position and having an opening therein permitting said manually operable handle to project therethrough, a cover interlock lever pivotally mounted on said support and including a portion extending into interlocking relation with said cover when said cover interlock lever is in interlocking position, means biasing said cover interlocking lever toward interlocking position, a handle interlock lever pivotally mounted on said support, and including a portion projecting into interlocking relation with said manually operable handle when said handle interlock lever is in interlocking position, biasing means biasing said handle interlock lever toward said interlocking position, means operated by said manually operable handle for engaging said cover interlock lever and moving said cover interlock lever away from said interlocking position when said handle is moved to said "off" position, means carried by said cover for engaging said handle interlock lever to move said handle interlock lever away from said interlocking position when said cover is in said closed position, said biasing means biasing said cover interlock lever and said handle interlock lever toward interlocking positions respectively comprising a single tension spring connected between said cover interlock lever and said handle interlock lever.

3,141,935
DOUBLE-ACTION INERTIA SWITCH

Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France

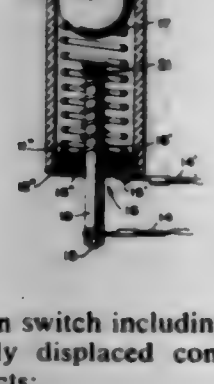
Filed July 5, 1961, Ser. No. 123,372
Claims priority, application France July 5, 1960
2 Claims. (Cl. 200—61.46)



1. An inertia switch responsive to deceleration and acceleration of a revolving element comprising a support structure mounted on the revolving element for rotation with the latter, a flywheel turnable on said support struc-

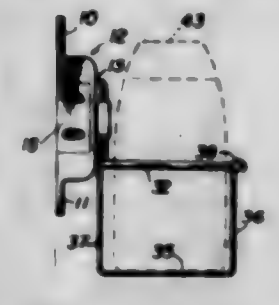
ture, first and second springs carried by said support structure and having spaced apart portions capable of flexing in opposite directions that are approximately peripheral with respect to the axis of rotation of the support structure, a drive member extending between said spaced apart portions of the springs and engageable with the latter, means adjustably mounting said drive member on said flywheel for adjusting movement relative to the latter between said portions of the springs in directions that are substantially circumferential with respect to the axis of the flywheel so that said drive member and springs cooperate to form a rotatable coupling between said flywheel and support structure which permits relative turning thereof by selective flexing of said springs and also by adjustment of said drive member relative to said flywheel, switch contact means on said flywheel, a first contact on said support structure which is normally spaced from said switch contact means in one direction of relative turning of said flywheel and support structure and engageable with the switch contact means only upon predetermined flexing of said first spring in response to said deceleration, and a second contact on said support structure which is normally spaced from said switch contact means in the opposite direction of said relative turning and engageable with said switch contact means only upon predetermined flexing of said second spring in response to said acceleration, relative turning of said flywheel and support by adjustment of said drive member serving to vary the normal spacing between said switch contact means and said first and second contacts.

3,141,936
CONDUCTIVE SPRINGS AND BALL ACCELERATION SWITCH
John M. Boyle and Earl J. Donaldson, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 17, 1962, Ser. No. 231,385
8 Claims. (Cl. 200—61.53)
(Granted under Title 35, U.S. Code (1952), sec. 266)



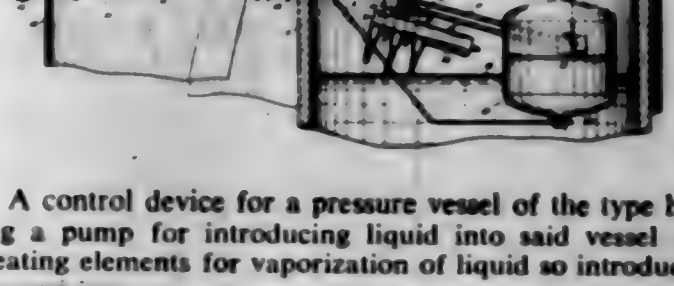
2. An acceleration switch including:
a pair of radially displaced concentrically arranged electrical contacts;
a pair of elongated, concentrically aligned and radially displaced coil spring conductors, each being separately supported at a first end thereof by a given contact of said pair of contacts;
a displaceable solid mass of electrical conducting material seated on the second end of one of said springs and biased thereby to assume a displaced relationship with respect to the second end of the other spring of said pair of coil springs to thus establish an air-gap between the mass and the other spring; and
an electrical circuit lead connected with each contact of said pair of contacts, whereby an electrical circuit may be completed between said leads by causing said mass to act against and compress said one of said springs sufficiently for eliminating said air-gap.

3,141,937
APPLIANCE SWITCH STAND
Robert M. Edward, Jr., Fort Worth, Tex.
(1405 W. Tucker Blvd., Arlington, Tex.)
Filed Dec. 9, 1960, Ser. No. 74,957
1 Claim. (Cl. 200—61.58)



An appliance stand comprising: a chassis, an electrical socket connected to said chassis and adapated to receive the plug of an electrical appliance, an electrical cord extending exteriorly of said chassis and including a plug electrically connected through said cord to said socket, appliance supporting means on said chassis, a normally closed button type switch positioned within said chassis and wired in series with said cord and having its actuating button projecting exteriorly of said chassis at a position responsive to the support of an appliance by said appliance supporting means, a ductile frame demountably attached to said chassis and adapted to receive an appliance therethrough with a portion of said frame substantially laterally adjacent an appliance when the same is supported by said appliance supporting means, and a shelf positioned beneath and attached to and supported by said ductile frame.

3,141,938
CONTROL DEVICE FOR EVAPORATION VESSEL HAVING A DEFORMABLE FLOAT
Hendrik F. Bok, 1 Acushnet Road, Mattapoisett, Mass., and Edward Bok, Burgemeester Amerfoortlaan 82, Badhoevedorp, Netherlands
Filed Nov. 8, 1961, Ser. No. 150,971
1 Claim. (Cl. 200—84)



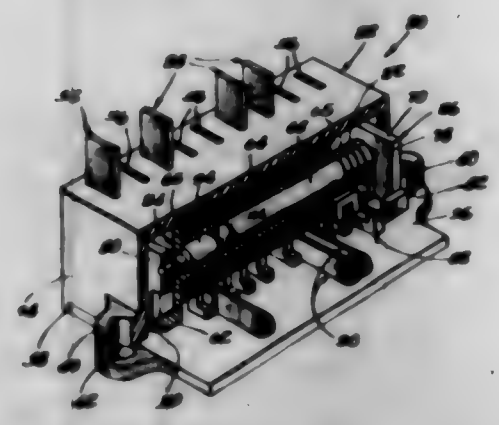
A control device for a pressure vessel of the type having a pump for introducing liquid into said vessel and heating elements for vaporization of liquid so introduced, comprising:
(*a*) a bellows mounted within said vessel and above the liquid so introduced;
(*b*) a float mounted in said vessel in contact with said liquid and being deformable at a pre-selected danger vapor pressure, so as to lose its buoyancy and fall to a bracket mounted in said liquid;
(*c*) electric switch means pivoted within said vessel and adjacent one end of said bellows, said electric switch means adapted to be connected to said pump and said heating elements;
(*d*) spring urged means interconnecting said bellows and said electric switch for pivoting said switch upon reciprocation of said bellows by vapor pressure, thereby adapted to switch on and off said heating element; and

(*e*) lever arm means interconnecting said float and said mercury switch for pivoting said switch upon vertical actuation of said float and adapted to actuate said pump as liquid level falls in said float.

3,141,939
PLURAL CONTACT RELAY WITH SOLENOID ACTUATOR

Donald H. Mink, Elgin, Ill., assignor to Norcon Electronics, Inc., Elgin, Ill., a corporation of Illinois

Filed Apr. 9, 1962, Ser. No. 186,111
12 Claims. (Cl. 200—104)



1. A relay device comprising:

(*a*) housing means defining a channel having spaced longitudinally extending walls and a connecting web and having contact-mounting means disposed laterally of said channel;

(*b*) solenoid means fixed in said channel separated from at least one end thereof to define operating space, said solenoid means fitting between said walls for lateral positioning and said web having stop means interfitting with said solenoid means for longitudinal positioning thereof, said solenoid means including a coil;

(*c*) actuator means mounted in said channel to be slidable relative to said solenoid means, including a control element of magnetic material disposed coaxially with respect to said coil and having an end portion reciprocable in said operating space;

(*d*) means biasing said actuator means against the attraction of said coil;

(*e*) fixed contact means in said contact-mounting means, at least some of said fixed contact means having portions exposed through said housing means for connection to circuit means;

(*f*) movable contact means on said actuator means confronting said fixed contact means to be selectively engageable therewith on movement of said actuator means; and

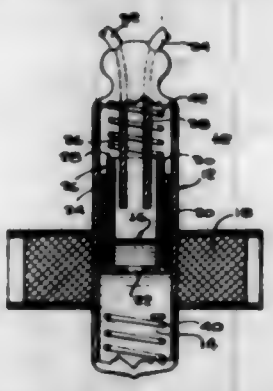
(*g*) terminal means connecting said coil externally of said housing means for energization thereof.

3,141,940
DELAY MERCURY RELAY

Victor Horowitz, Oceanside, N.Y., assignor to Ebert Electronics Corporation, Queens Village, N.Y., a corporation of New York

Filed Oct. 31, 1961, Ser. No. 149,825
7 Claims. (Cl. 200—112)

1. A mercury relay of the displacer type to produce a delayed make and immediate break of electrical contact, comprising a pool of mercury, a container for said pool of mercury, an orificed non-magnetic element buoyant in said pool of mercury, a buoyant unmetered magnetic armature element resting on but unattached to said orificed element, an electromagnetic energizing coil surrounding a portion of said container and energizable to urge said armature element downwardly into said pool of mercury and in downwardly actuating relation to said orificed element, and a pair of spaced electrodes located in said con-

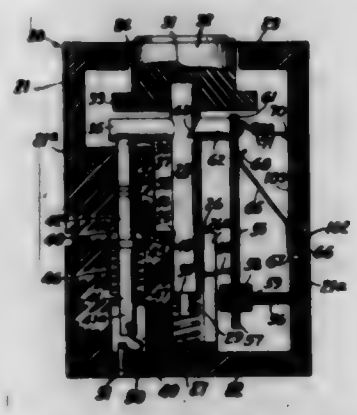


tainer between which electrical contact occurs when said pool of mercury is displaced by said elements and breaks when said magnetic armature element alone rises.

3,141,941
CURRENT RESPONSIVE CIRCUIT BREAKER

Roy J. Dew, 287 Compton Ridge Drive, Cincinnati 15, Ohio

Filed Nov. 6, 1961, Ser. No. 150,470
11 Claims. (Cl. 200—116)



1. A mechanism for a circuit breaker mounted in a housing having terminals comprising in combination,

a vertically disposed reciprocable conducting breaker bar having substantially its entire length capable of conducting current,

a pair of electrical contacts one of which is electrically connected to reciprocate with said bar and the other being substantially fixed and connected to a terminal on the housing,

said contacts in registry in the make position of the breaker mechanism,

a bimetallic element one end of which is insulatedly secured in said housing,

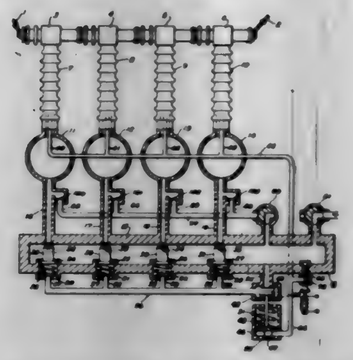
non-conducting means mounted on the other end of said bimetallic element, said non-conducting means capable of locking said bar in one position whereby said electrical contacts register with each other,

a first conducting means connecting said conducting breaker bar to a point along the length of said element for controlling the effective length thereof, and a second conducting means connecting said other end of said element to the other terminal in said housing, whereby current is capable of flowing through said mechanism between its terminals, and means urging said breaker bar and the one contact reciprocable therewith to open position upon deflection of said bimetallic element and non-conducting means from said bar upon a predetermined current flowing through said element, the deflection of said non-conducting means unlocking said bar for reciprocation from its one position, thereby disengaging said contacts and interrupting flow of current through said mechanism.

3,141,942
CONTROL MEANS FOR AIR BLAST CIRCUIT BREAKERS

Haakon Forwald, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Aug. 1, 1960, Ser. No. 46,659
Claims priority, application Sweden May 7, 1960
6 Claims. (Cl. 200—148)

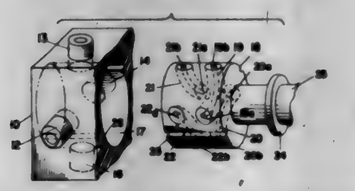


1. An air pressure control system for an air blast circuit breaker; said air pressure control system including a source of compressed air, a pillar insulator, said air blast circuit breaker including a circuit interrupting chamber carried on said pillar insulator, a pair of co-operating contacts enclosed in said chamber, said co-operating contacts being operable between a circuit closed and a circuit opened position, and said chamber being filled with compressed air in the closed as well as the opened position of said contacts, means pneumatically connecting said interrupting chamber to said pillar insulator, means including an orifice pneumatically connecting said pillar insulator to said source of compressed air; a blocking means for said orifice movable between a blocking and an unblocking position, means normally holding said blocking means in said blocking position; a control means for said blocking means; means operatively connecting said control means to said co-operating contacts for operating said contacts between said circuit closed and said circuit opened position, said control means moving said blocking means to said unblocking position when said contacts are operated to said circuit opened position, and thereafter returning said blocking means to said blocking position, whereby said interrupting chamber is momentarily connected through said pillar insulator to said source of compressed air.

3,141,943
CO-AXIAL SWITCH

Donald H. Lanctot, Malibu, Calif., assignor to Don-Lan Electronics, Inc., a corporation of California

Filed July 17, 1961, Ser. No. 124,670
6 Claims. (Cl. 200—153)

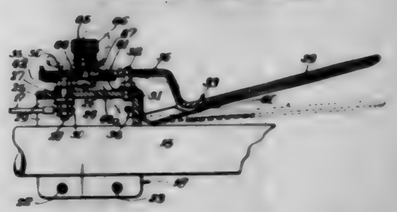


1. A co-axial switch comprising, in combination: a block having a central opening; first, second, third, and fourth co-axial terminals extending inwardly from the sides of said bolck in directions normal to the axis of said central opening to intercept the inner sidewalls of said central opening; a switching member in said central opening movable along said axis between first and second positions, said switching member including a first pair of internal passages opening out on the surface of said member in positions to connect said first and second co-axial terminals together and said third and fourth co-axial terminals together when said member is in said first position, and including a second pair of internal passages opening out on the surface of said member in positions to connect said second and third co-axial terminals together and said first and fourth co-axial terminals together when said member is in said second position.

3,141,944
SAFETY CONTROL SWITCH FOR POWER TOOLS

Paul R. De Voe, Naperville, Ill., assignor to Thor Power Tool Company, Aurora, Ill., a corporation of Delaware

Filed Aug. 18, 1961, Ser. No. 132,443
10 Claims. (Cl. 200—157)

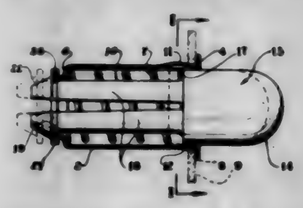


10. An engine control comprising a support, a lever pivotally mounted on said support, an insulator member slidably carried on said lever, an electrical contact member mounted on said support, said insulator member in one position thereof permitting engagement of said electrical contact member with said lever and in another position thereof preventing engagement of said electrical contact member with said lever, and means coacting between said support and said lever for effecting a shifting of said insulator member in response to pivotal movement of said lever.

3,141,945
PLUNGER OPERATED ELECTRICAL SWITCHES

Cyril Ernest Jugginz, Sandringham, Victoria, Australia, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 28, 1961, Ser. No. 106,248
5 Claims. (Cl. 200—159)

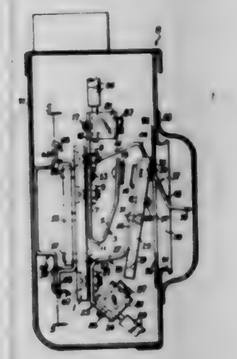


1. An improved electrical switch of the kind indicated comprising a tubular body member composed of metal and having means for retaining it in an apertured metal support, a plunger composed of nylon or other electrically non-conductive material axially movable within said body member, a helical spring located within said body member between opposed shoulders on said body member and the plunger respectively, the inner end portion of said plunger being compressible and provided with one or more lateral projections adapted to permit the inner end portion of the plunger to pass through said body member and spring when the inner end portion of said plunger is compressed but to overhang the adjacent inner end portion of said body member when the plunger, spring and body member are assembled, the inner end portion of said plunger being bifurcated lengthwise so as to form opposed resilient sections forming a tail portion which is of relatively smaller diameter than the remaining or head portion of said plunger so as to form one of said shoulders, a substantially circumferential groove being formed in the opposed sections of said tail portion and spaced inwardly from the free end thereof so as to form inner and outer shoulders, the outer shoulder being of larger diameter than the inner shoulder so as to normally overhang the adjacent inner end of said body member, the free end of said tail portion being tapered lengthwise and inwardly from said outer shoulder so as to be capable of passing through an apertured detachable electrical contact carried by the inner end portion of said plunger and which normally engages the inner end portion of said body member under the influence of said spring, said retaining means including a series of circumferentially spaced lobes formed in the wall of said body member which is slit lengthwise and provided at its outer end with a laterally projecting locating flange and one or more earthing tabs expressed outwardly from the wall of said body member in such a manner that the free end of each tab is located in closely spaced relationship with said locating flange.

3,141,946
ELECTRICAL SWITCH HAVING QUICK BREAK WIPING CONTACTS

Leroy B. Rouk, Nokomis, Ill., assignor to System Analyzer Corp., Nokomis, Ill., a corporation of Wisconsin

Filed Apr. 4, 1962, Ser. No. 185,097
5 Claims. (Cl. 200—164)

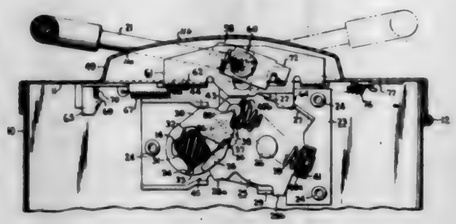


1. An electrical switch comprising an insulating base, a first spaced pair of U-shaped resilient switch blades, one leg of each of which is attached to the base and the other leg of each of which is resiliently movable and carries a contact, the legs of each blade being connected by a loop forming an approximate center about which its respective contact is movable, a second spaced pair of resilient S-shaped switch blades each connected at one end to the base adjacent one of said loops and having its other end overlying a U-shaped blade, said second pair of blades carrying a second pair of contacts, the connections of the second blades with the base forming approximate centers about which their contacts are movable respectively, an insulating plate connecting the second pair of switch blades, an L-shaped operating lever having one leg pivoted to the base for rotation in a plane between the first pair of switch blades, the other leg of the operating lever forming operating cam and catch parts and a latch part on the insulating plate between the second pair of blades adapted to be engaged by said cam and catch parts on the lever for closing the contacts and tensioning the blades upon rotation of said lever.

3,141,947
FRONT-OPERATED SWITCH WITH BAIL TYPE HANDLE

Daniel F. Daly, Hartford, and Robert S. Tillson, Bristol, Conn., assignors to General Electric Company, a corporation of New York

Filed Dec. 4, 1959, Ser. No. 857,396
5 Claims. (Cl. 200—172)



1. An enclosed electric switch comprising a generally rectangular box-like body having a back wall and upstanding side and end walls and an open top wall, an electric switch unit mounted in said box body on said back wall and including an operating member movable between "on" and "off" positions, an openable cover mounted on said box body and closing said top wall, said cover having a generally planar peripheral portion and a generally central outwardly deformed enlargement or bump providing a chamber on said communicating with the interior of said box body, a manually operable handle member comprising a generally U-shaped member having its ends pivotally supported on said cover on an axis extending parallel to the plane of said peripheral portions, said handle including a manually engageable bight portion parallel to said axis, said manually engageable portion being entriely within the space defined by the planes of said side walls extended, an intermediate operating member slidably supported on the inner surface of said peripheral planar portion of said cover and including a portion projecting into said cover chamber, an elongated aperture in said portion of said intermediate member, means connected to one end of said handle and extending into said aperture for causing reciprocating sliding motion of said intermediate operating member upon pivotal movement of said handle member about said axis, said intermediate operating member also including an extension projecting into said box body chamber and having a releasable engagement with said operating member of said switch unit.

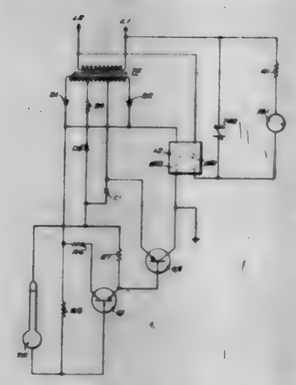
3,141,948
ELECTRICAL TEMPERATURE CONTROL APPARATUS

Bruce B. Young, 303 W. Matsonford Road, Radnor, Pa.

Filed Apr. 18, 1962, Ser. No. 188,484
13 Claims. (Cl. 219—494)

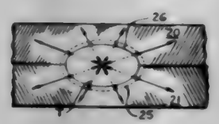
1. A system for regulating the temperature of a given body comprising: first means including a first rapid heating element and a first coarse temperature-responsive switch for principally heating up said body rapidly to a predetermined temperature value short of a predetermined

temperature, said switch being constructed and arranged to substantially de-energize said first heating element when said predetermined value is attained, and second means including an auxiliary heating element and a fine



temperature-responsive switch which operate to provide auxiliary heat for said body to accurately maintain and to continuously correct minor variations of the temperature of said body from said predetermined temperature.

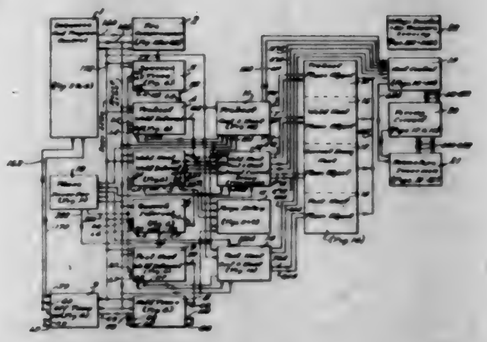
3,141,949
HIGH FATIGUE LIFE BRAZE-WELDED JOINT
Donald T. Lovell, Bellevue, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Nov. 9, 1962, Ser. No. 237,444
9 Claims. (Cl. 219—85)



4. A method of fastening two metal shapes together comprising overlapping their edge portions, holding brazing metal having a melting temperature greater than 800° F. between such edge portions, passing welding current through all the metals to establish fusion weld areas immediately surrounded by brazed areas.

3,141,950
WELDING MACHINE CONTROL EQUIPMENT
Wilbert A. Chiasson, Walled Lake, Mich., assignor to Weltronic Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 28, 1958, Ser. No. 711,738
91 Claims. (Cl. 219—89)

1. In a control equipment for a welder having a welding transformer controllably energizable from a source of alternating voltage, the combination of a plurality of individually adjustable and sequentially effective means for controlling the magnitude of the current supplied to the welding transformer during their individually effective periods, a single pulse producing means common to said sequentially effective means for producing a series of electrical pulses, and control means individual to each of said sequentially effective means and each including an individual counting means connected to said single pulse producing means for counting said electrical pulses and each responsive to the receipt of individually select-

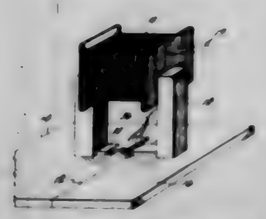


able numbers of said electrical pulses for controlling the operation of the individual ones of said sequentially effective means.

3,141,951
METHOD OF SPOT WELDING LIGHT METAL
Seiichi Tsukada, Kinzo Kimura, and Makoto Ozumi, Nagoya, and Hiromitsu Yamamoto, Prefecture of Aichi, Japan, assignors to Shin-Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 23, 1962, Ser. No. 168,267
Claims priority, application Japan Jan. 30, 1961
3 Claims. (Cl. 219—91)

1. A method of spot welding a light metal having a strong oxide film thereon, consisting essentially of the steps of abutting the surfaces of the two parts to be spot welded, applying force to the two parts sufficient only for cracking the oxide film substantially uniformly to form a plurality of fine cracks in the oxide film in the area to be welded without removing the oxide film, and then passing a welding current through the two parts and the cracked oxide film.

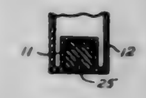
3,141,952
ELECTRONIC SEAM FOLLOWER
Richard J. Preston, Springfield, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 1, 1961, Ser. No. 86,442
5 Claims. (Cl. 219—125)



1. Apparatus comprising a core having at least two pole pieces with major vertical axis, means energized by a source of alternating voltage for generating an alternating magnetic flux between the ends of said pole pieces, means for positioning the ends of said pole pieces adjacent the surface of a metallic workpiece to thereby direct said magnetic flux through a portion of said workpiece, and a single pickup coil electrically insulated from said core and positioned adjacent said workpiece substantially between said pole pieces in a plane passing through the major axes of both pole pieces for sensing flux inten-

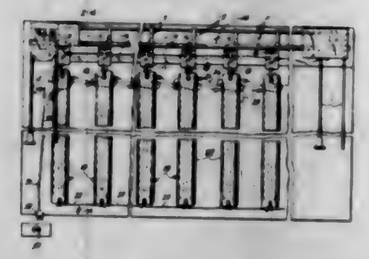
sity variations occurring in the flux field pattern adjacent said workpiece due to discontinuities in said workpiece.

3,141,953
ELECTRIC ARC TORCHES
James A. Browning, Hanover, N.H., assignor to Thermal Dynamics Corporation, a corporation of New Hampshire
Filed Mar. 5, 1962, Ser. No. 177,639
6 Claims. (Cl. 219—145)



1. An electrode assembly for an electric arc torch comprising:
(*a*) an electrode holder in the form of a hollow, tubular, electrically conductive element sealed at one end by a cap member having a thin-walled re-entrant cavity extending back into said element to thus form a cooling jacket surrounding the re-entrant cavity, and
(*b*) an electrically conductive refractory material fitted into and substantially filling said re-entrant cavity and having a flat outer electrode surface, the coefficient of thermal conductivity of the electrode holder being substantially greater than that of the refractory material.

3,141,954
HEAT-RADIATING CURTAIN
Lester S. Simon, 5 Hall Ave., Larchmont, N.Y.
Filed Feb. 26, 1962, Ser. No. 175,741
3 Claims. (Cl. 219—201)



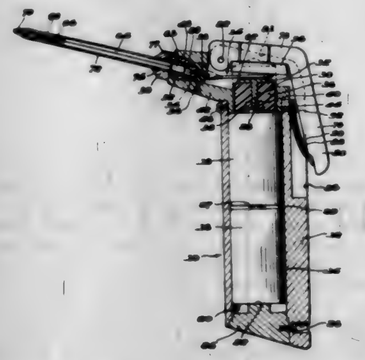
1. A Venetian-blind-like heating curtain comprising a plurality of parallel slats, means for moving said slats toward each other and away from each other in order to vary effective area of the curtain, additional means for simultaneously pivoting said slats about their respective longitudinal axes while retaining them in parallel relation to vary the angularity of the slats with respect to the plane of the curtain as a whole, each of said slats including a base element, a first layer of insulation on one face thereof, a layer of heat-generating resistance material overlying said insulation, and a second layer of insulation overlying said resistance material, flexible electrical conductors extending from said resistance material and provided with means for separably connecting them to similar conductors extending from other slats, said conductors being of sufficient length and flexibility to permit said slats to move toward and away from each other to the full extent of such movements and to permit said slats to pivot freely, and means for connecting said interconnected slats to a source of electric power.

3,141,955
DEVICE FOR EFFECTING WATER-FLOW FROM A ROOF OR THE LIKE
Abner A. Culpepper, 4027 Harvey Ave., Western Springs, Ill.
Filed Apr. 12, 1962, Ser. No. 187,080
2 Claims. (Cl. 219—213)



1. A device for forming a tunnel beneath a pack of snow or an ice dam on a roof to provide an outlet for water resulting from the melting of the snow or ice, comprising
(*a*) an elongated heat-transfer member positioned upon said roof and having one end portion extending across a gutter thereof to a point spaced from the outer side wall of the gutter, said member being flexible to afford bending of said member to conform to the surface of the roof,
(*b*) a heater coil connected to said end portion of said member and having a power source,
(*c*) means for conducting heat from said heater coil to and longitudinally of said member to form said tunnel,
(*d*) and a drain plate supported from the outer side wall of said gutter and located beneath said end portion of said member extending beyond said outer side wall of the gutter and cooperating with the latter to direct the melted snow or ice away from said gutter.

3,141,956
BATTERY POWERED ELECTRIC SOLDERING IRON
Alexander Schoenwald, Grove City, Pa., assignor to P. Wall Manufacturing Company, Grove City, Pa., a corporation of Pennsylvania
Filed Sept. 15, 1961, Ser. No. 138,427
3 Claims. (Cl. 219—233)



1. A soldering iron comprising a hollow handle, battery means carried within said handle and having positive

and negative terminals at the top and bottom of said handle, a generally hollow head member of electrical conducting material secured to the top of said handle and electrically connected to the battery terminal at the bottom of the handle, a hollow soldering tip of electrical conducting material projecting outwardly from one side of said head and electrically connected thereto, said soldering tip being closed at its forward end remote from its other end which is connected to said hollow head member, an electrical heating coil disposed within said tip, an electrical connection between one end of said coil and the forward end of said tip, means electrically insulating the remainder of the heating coil from said tip, an electrical insulating member carried within said hollow head member adjacent said other end of the soldering tip, a cantilever resilient switch arm mounted on said insulating member and projecting backwardly from said other end of the soldering tip and into the interior of said hollow head member, an electrical connection between said switch arm and the other end of said heating coil, an electrical contact member electrically connected to the terminal of said battery means at the top of said handle and positioned beneath said cantilever switch arm, and a trigger pivotally supported on said hollow head member and operable through a non-conductive portion thereof to effect displacement of said resilient switch arm into engagement with said contact member to thereby effect a complete electrical circuit between said battery means and said coil to produce heating of said tip for a soldering operation.

3,141,957

CONNECTING ELECTRICAL UNITS

Everett F. Kelm, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 18, 1962, Ser. No. 195,784
7 Claims. (Cl. 219—351)



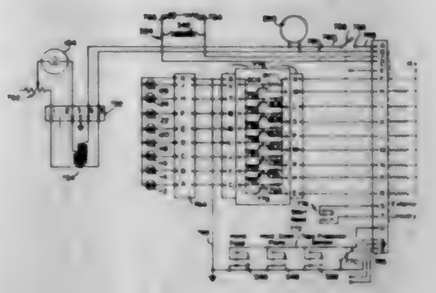
4. An electrically operated unit having a substantially rectangular base and including an operating component, said unit having at each of at least two rectangular corners thereof a set of at least two electrical terminals, said sets of terminals being located respectively along lines forming angles of 45° with the sides of said rectangular base in the plane of said base, a first terminal of a first of said sets being electrically connected with said operating component and with a first terminal of a second of said sets and a second terminal of said second set being electrically connected with said operating component and with a second terminal of said first set.

3,141,958

RECORD READER

Herbert P. Stickel, Orinda, Lewis Samuels, Berkeley, James R. Lorch, Pinole, John Efstathiou, Pleasant Hill, and Harry R. Kattelmann, Oakland, Calif., assignors to SCM Corporation, a corporation of New York

Filed June 20, 1961, Ser. No. 118,284
13 Claims. (Cl. 235—61.11)



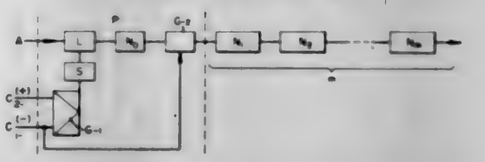
1. In a record reader having a record sensing station comprising means to support a record and means to sense the indicia borne thereon, said sensing means producing an electrical manifestation of the unit of data recorded upon the portion of said record in said station for delivery to an external utilization device, and a feed mechanism for advancing said record step by step through said station, selectively settable means for alternatively rendering said feed mechanism operative by manual actuation or power actuation responsive to an electrical impulse, means operative when said selective means is set for power actuation to advance the record only a single step in response to each electrical impulse, and means operative when said selective means is set for manual operation to render said feed mechaniam non-responsive to said electrical impulses and to permit single and multi-step manual advance of said records.

3,141,959

COUNTING APPARATUS

Toru Motooka, 410 1-chome Tozuka, Shinjuku-ku, Tokyo, Japan

Filed July 8, 1960, Ser. No. 41,659
2 Claims. (Cl. 235—92)



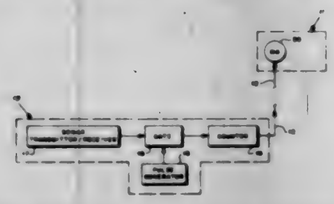
1. An improved electronic counting device having a source of negative pulsating electrical energy with a preselected reference pulse frequency for adding and subtracting digital inputs representative of positive and negative numbers according to their operating signs and indicating the resultant total in an analogue output, said counting device comprising: an input side comprising a first "or" gate, a monostable multi-vibrator, an "and" gate, a flip-flop frequency divider circuit and a second "or" gate connected in series in the stated order, circuit means for supplying from said source of negative pulsating electrical energy said reference pulse frequency continuous to said "and" gate; circuit means supplying from said source reference pulse frequency a number of respective negative pulses representative of respective numbers and their operating signs to be algebraically added, said pulses being representative of numbers having minus operating signs and plus operating signs, means for applying said negative pulses for both negative and positive numbers respectively comprising leads for applying to said first "or" gate through separate leads and said pulses representing negative numbers to said second "or" gate to decrease said continuous reference frequency for every negative pulse corresponding to a positive number pulse and increase said reference frequency for every pulse representative of a negative number, and an output side comprising flip-flop circuit frequency divider means comprising a plurality of frequency divider stages for modulating the preselected reference pulse frequency by half in each of said cascaded plurality of frequency divider stages and for similarly modulating the frequency of the combined number pulses and said reference frequency pulses in the same number of frequency divider stages; means for comparing and measuring the difference in phase lag and lead between said frequency divided reference pulses and combined reference and number pulses, and said difference being the algebraic sum of said positive and negative numbers.

3,141,960

DECADE COUNTER WITH ANALOG DISPLAY FOR USE WITH AIRBORNE VEHICLE NAVIGATION MEANS

David Bloor, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 3, 1961, Ser. No. 150,104
1 Claim. (Cl. 235—92)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A ranging device for navigation of an airborne vehicle, comprising, in combination:
a milliammeter positioned in said airborne vehicle,
a bottom contour following body submerged in the sea and suspended from said airborne vehicle,
a pair of responders at known locations within the sea, adapted to return a constant frequency signal,
a constant frequency signal source and receiver contained within said submerged body adapted to send to and receive back from said pair of responders a constant frequency signal,
and a counter contained in said submerged body to detect the number of pulses between sending and receiving said signal and adapted to send to said milliammeter a current proportional to said number of pulses, said counter comprising:
a source of D.C. voltage connected to one side of the milliammeter.

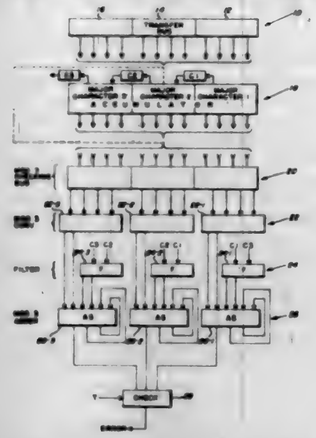
3,141,961

INFORMATION HANDLING APPARATUS

Roy W. Reach, Jr., Sudbury, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Sept. 21, 1960, Ser. No. 57,496
9 Claims. (Cl. 235—153)

1. Apparatus for checking the operation of a data processing system having a parallel-serial-parallel adder adapted to manipulate a multi-bit word of information in terms of a plurality of multi-bit major characters comprising a plurality of separate multi-bit major character adders each of which is simultaneously operating modulo *n*, where *n* is less than the number of bits in each major



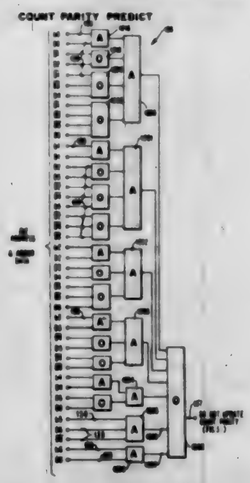
character, gating means connecting each input operand applied to the parallel-serial-parallel adder to said plurality of major character adders, and means connecting the output of said parallel-serial-parallel adder to said plurality of major character adders.

3,141,962

PARITY PREDICTING CIRCUIT

Fred E. Sakalay, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application Aug. 7, 1961, Ser. No. 129,687. Divided and this application July 25, 1962, Ser. No. 212,199
4 Claims. (Cl. 235—153)



1. A data processing system in which data is manifested as representations of the binary values ONE and ZERO in a group, and in which the data manifestations are arranged in a sequence of bit positions, the sequence of manifestations exhibiting one or the other of two parity

conditions, and odd parity condition if the total number of ONES therein is an odd number and otherwise an even parity condition, the sequence having a parity manifestation associated therewith in such a manner that the parity manifestation indicates whether or not said sequence exhibits a first one of said parity conditions, comprising:

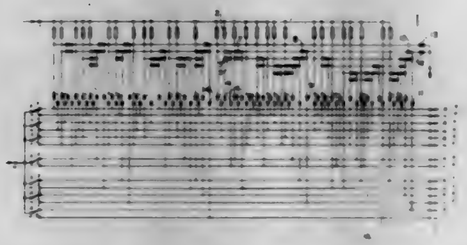
address means for designating a selected one of the manifestations in said group;

parity predicting means responsive to the manifestations in said group and to said address means for generating a signal in response to a given condition, said given condition obtaining when a set of manifestations in the selected position in said group designated by said address means and in positions subsequent and adjacent to said selected position comprise a successive group of ONES exhibiting said first parity condition;

parity changing means for changing the associated parity manifestation from a ONE to a ZERO, or from a ZERO to a ONE, alternatively;

and means responsive to said parity predicting means for selectively blocking said parity changing means, whereby said parity manifestation will remain unchanged.

3,141,963
CIRCUITS AND CONTROL FOR MANTISSA DEVICES IN BINARY COMPUTING MACHINES
Werner Zühlsdorf, Berlin, Germany, assignor to VEB Wissenschaftlich-Technisches Büro für Gerätebau, Berlin, Germany
Filed July 6, 1959, Ser. No. 825,249
1 Claim. (Cl. 235—164)



For use in an electrical binary computing machine, a mantissa calculating device for calculating the mantissa of a number wherein the decimal point of said number is shifted so that the characteristic of the logarithm of said shifted binary number to the base 2 is equal to a predetermined value, comprising:

M output terminals wherein M is equal to the number of digit positions in the mantissa to be calculated,

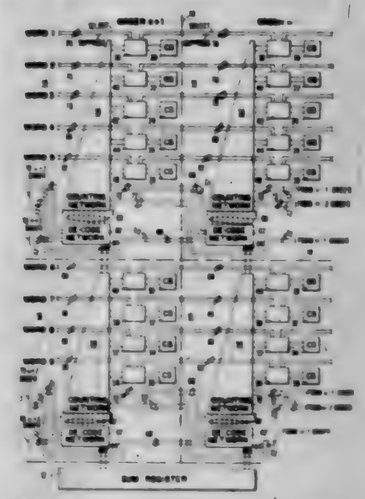
first terminal means at a fixed potential,

second terminal means at a fixed potential,

M logical circuits consisting of a plurality of resistors and uni-directional conductive elements, each of said logical circuits being connected to said first terminal means, and each including a plurality of control terminals and one of said output terminals,

and switch means connected between said second terminal means and each of said logical circuits to selectively apply said second potential to said control terminals according to the binary value of said shifted number, the unidirectional conductive elements in each of said logical circuit being connected to gate the potential at said first terminal means to the output of that logical circuit depending upon the binary representation coupled to said control terminals, whereby the voltages appearing on said M output terminals provide a binary representation of the mantissa of the logarithm to the base of 2 of said shifted binary number.

3,141,964
CALCULATING MEMORY
Harold Fleisher, Poughkeepsie, and Robert L. Roth, Briarcliff Manor, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,823
14 Claims. (Cl. 235—164)



7. A calculating memory system alternatively operable for addition or multiplication comprising binary digit storage cells arranged in rows to store numerical words and with corresponding cells arranged in columns corresponding to digital orders, selective writing means including separate write bus circuits for each digit of a word to be written into memory, said writing means being operable to simultaneously write a new word into the digit storage cells of each row of a selected group of rows, said selected group of rows comprising at least one row, add-multiply circuits connected to control said write bus circuits and operable when in the add mode to cause said word to be written into said selected group of rows in an unshifted position, and said add-multiply circuits being operable when in the multiply mode to control said write bus circuits to cause the writing of said word in successively left-shifted positions in each successive row of said selected group of rows after the first, each row of said selected group of rows corresponding to a possible multiplier digit when said system is operated in the multiplication mode, the first row having no shift corresponding to the lowest order multiplier digit and the last row having the greatest shift corresponding to the highest order multiplier digit, means associated with each storage cell for reading out each digit, a separate adding circuit for each digital order connected to receive a read-out from all of said read-out means for that order, a separate select-suppress means associated with each digit storage cell and operative when in a select mode to cause either a zero or a one to be counted in the associated adding circuit according to the information stored in the associated cell for each digit within a selected digit group, and said select-suppress means being operative when in a suppress mode to cause a zero to be counted in the associated adding circuit for each digit not included within said selected digit group, said selected digit group comprising the digits

stored in at least one row when said system is operated in the addition mode, and said selected digit group comprising the digits stored in each row of said selected group of rows written into for which there is a multiplier one bit when said system is operated in the multiplication mode, each adding circuit including carry output circuits connected to read carry signals to higher order adding circuits, separate column adding circuits for receiving carries above the highest order of digit storage, and a sum register connected to all of said adding circuits, said adding circuits each being operative to sum all digits of said selected group read thereto and all carries read thereto from lower digital orders to generate a digit sum for storage in said sum register and to generate carries for summation in said higher order adding circuits.

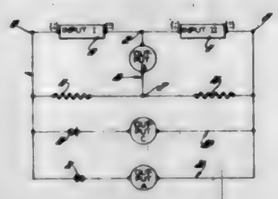
3,141,965
SERIAL ADDER USING ALGEBRAIC QUINARY NOTATION
Louis Etienne Costa, 12 Rue du Pere Mazurie, Chevilly, Seine, France
Filed Aug. 25, 1959, Ser. No. 836,819
Claims priority, application France Sept. 5, 1958
4 Claims. (Cl. 235—176)



2. In a digital computer, a pair of storage means each comprising four parallel binary registers having respective outputs and means for presenting in synchronism at the outputs of the registers of each storage means successive sets of four two-valued signals representing in binary code the signs and algebraic values 0, 1, 2, 3, 4 and 5 of serial digits of related multidigit operand numbers; a pair of sign-selector circuits having inputs connected with the respective register outputs of said respective storage means and each having a set of positive and a set of negative outputs; means in each sign selector for passing a three-digit binary number representing the absolute value of a digit in the related storage to said positive or said negative set of outputs depending on the sign associated with said digit; a pair of adder circuits each having two sets of inputs, the two sets of inputs of one adder being connected with the sets of positive outputs from the respective sign selectors, and the two sets of inputs of the other adder being connected with the sets of negative outputs from the respective sign selectors; means in each adder for serially adding the absolute-value numbers of corresponding digits of similar sign as passed thereto from both said selectors; and a transcriber circuit having two sets of inputs respectively connected with the sets of outputs of the adders and having a set of four outputs, and including logical circuit means for serially passing to said outputs two-valued signals representing the sign and absolute value of the algebraic sum of said operand digits, including means for effecting carries from one digit to the next, whereby carry propagation over any but the lowermost digital orders is eliminated.

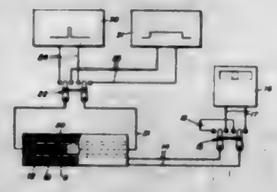
3,141,966
BINARY COUNTER CIRCUIT
Harold Willis Milnes, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 2, 1961, Ser. No. 92,877
5 Claims. (Cl. 235—179)

5. Condition responsive means including a first voltage source of a given magnitude and having reversible polarity; a second voltage source of said given magnitude and having reverible polarity, said voltage sources being connected in series between a first and a second input terminal, first and second resistors of equal magnitude connected in series between said first and second input terminals, a first current responsive device connected between the juncture of said first and second resistors and the juncture of said first and second voltage sources,



a second current responsive device connected between said first and second input terminals and responsive to current flow in one direction, and a third current responsive device connected between said first and second input terminals and responsive to current flow in the opposite direction.

3,141,967
INFORMATION STORAGE APPARATUS
William H. Meiklejohn, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 19, 1961, Ser. No. 111,277
8 Claims. (Cl. 235—183)



1. An integrating apparatus comprising, a superconductor having a multiply-connected surface, magnet means positioned to subject said superconductor to a magnetic field of predetermined strength, electric pulsing means operable for preselected times to change incrementally the trapped flux by rendering said superconductor electrically resistive to the preselected times, and means electrically connected to said magnet means to measure the amount of trapped flux remaining in said superconductor when a pulse of duration sufficient to destroy essentially all of the remaining flux is applied to said pulsing means after termination of incremental pulsing.

3,141,968
ANALOG COMPUTER
Gilbert S. Stubbs, Levittown, Pa., and George P. Wachtell, Haddontowne, Haddonfield, N.J., assignors, by mesne assignments, to Atomic Power Development Associates, Inc., Detroit, Mich., a corporation of New York
Filed Dec. 18, 1958, Ser. No. 781,259
8 Claims. (Cl. 235—185)

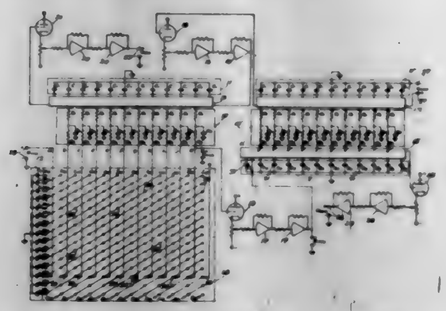
1. An analog computer component for simulating relative motion, such as flow conditions and the effects thereof upon a variable comprising

a potential input for introducing a voltage which represents a measured variable at a point where its magnitude is known,

a first array of elements including capacitive elements simulating successive parts of the structure relative to which motion takes place,

a second array of elements including capacitive elements simulating adjacent volume elements within a moving medium,

a component for rendering the elements of one array selectively connectable with elements of the other array and for simulating the effect of the variable upon the successive elements of moving medium and successive structural parts, including



a group of first contacts comprised of a matrix of columns and rows of contacts, the contacts in any given row being connected to different elements of one array and to other contacts in other rows,

a group of second contacts fixed relative to one another and connected to elements of the other array from the one to which the first contacts are fixed, and also having one of its contacts connected to the potential input,

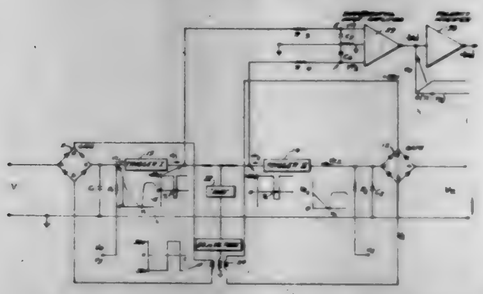
and means for driving one set of contacts relative to the other at a rate to simulate a desired motion.

3,141,969

METHOD OF AND APPARATUS FOR PERFORMING COMPUTATIONS

Thomas A. Brendle, Mahwah, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed May 3, 1960, Ser. No. 26,474
2 Claims. (Cl. 235—193)



1. A closed loop null-balance computing circuit for generating an output voltage V*o* as a function of input voltages V1, V2, V3, V4, at least one of the latter voltages being ±V*o*, said computing circuit comprising:

(*a*) two like input circuits, one receiving V1 and V3 as input voltages and delivering output voltages VT1, the other receiving V2 and V4 as input voltages and delivering output voltage VT2, the following organization of the first input circuit also applying to the second input circuit with V2 substituted for V1, V4 for V3, and VT2 for VT1, said first input circuit including:

(*a*1) a gate receiving at its input V1,

(*a*2) means for applying spaced gating pulses to said gate for gating V1 through,

(*a*3) a time constant network receiving as energizing potential V3 and the through-gated V1, and producing output potential which is substantially V1 while a gating pulse is applied to said gate, and which relaxes from V1 towards V3 upon closure of the gate,

(*a*4) a trigger receiving the latter output signal as trigger input signal, for generating VT1 in form of a two-level trigger output voltage pulse train, the trigger output voltage transferring from the first level to the second level when the trigger input voltage attains a predetermined value while relaxing towards V3, and retransferring to said first level as the trigger input voltage recovers to substantially V1,

said computing circuit further comprising:

(*b*) pulse generating means responsive to coincidence of second levels of VT1 and VT2 for generating said gating pulses and delivering them via the mentioned pulse applying means to the input circuit gates,

(*c*) differential integrating means receiving VT1 and VT2 as input voltages and building up V*o* as the time integral of their difference, and

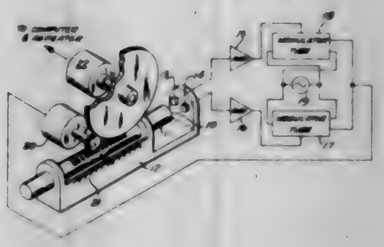
(*d*) means for applying ±V*o* to at least one of said input circuits to constitute it at least one of the four voltages V1, V2, V3, V4, whereby to force the first level durations of VT1 and VT2 substantially to coincidence, whence V*o* assumes a value corresponding to the computed result.

3,141,970

DEVICE FOR MEASURING GAS PRESSURE BY MEANS OF ALPHA PARTICLES

Robert Nash Brown, Caldwell, David Balber, Madison, and Gregory Vladimir Rybky, Farmingdale, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed May 15, 1961, Ser. No. 109,971
4 Claims. (Cl. 250—43.5)



1. A gas density measuring device, comprising in combination; alpha particle source emitting particles in the gas whose density is to be measured;

longitudinal moving means on which said source is mounted; two detectors sensitive to alpha particles, one of said detectors being set closer to said source than the other, said detectors being separated a distance of the order of about ten millimeters;

switch means associated with each detector, one switch being always in the enabling position unless the detector is sensing alpha particles, the other switch always being out unless the detector senses alpha particles;

A.-C. excitation means supplying an output across each switch means when enabling, equal in amplitude but opposed in phase to that of the other detector;

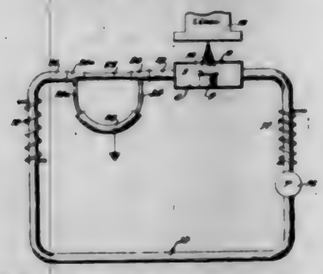
servo means fed by the output from said switch means driving said longitudinal moving means in the forward direction towards the detectors or rearward away from said detectors in response to the output from the one or the other of said switch means.

3,141,971

METHOD OF PREVENTING FILM DEPOSITS FROM ORGANIC COOLANT IN THE PRESENCE OF ELECTRON IRRADIATION

Harry W. Parker, Bartlesville, Okla., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 10, 1962, Ser. No. 186,564
3 Claims. (Cl. 250—49.5)



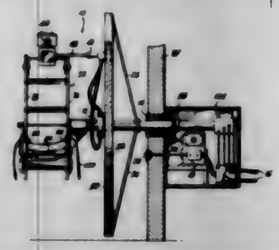
1. A method of reducing the deposition of ferrous material from iron-contaminated polyphenyl coolants on surfaces being cooled by said coolants while undergoing irradiation by electrons comprising electrically insulating the surface undergoing irradiation and providing an electrically grounded metal electrode in the path of flow of the coolant.

3,141,972

RADIOLOGICAL APPARATUS WHEREIN THE PATIENT SUPPORT AND X-RAY SOURCES ARE SUPPORTED ON A ROTATABLE HORIZONTAL SHAFT

José L. Garcia Oller, 3401 Nashville Ave., New Orleans 25, La.

Filed Oct. 25, 1961, Ser. No. 147,650
6 Claims. (Cl. 250—55)



1. A radiological apparatus comprising a rotatable horizontal shaft, means for supporting and means for rotating said shaft, a patient support secured only to one end of said shaft for rotation with said shaft, at least one X-ray energy source, an electrical connection for said X-ray energy source consisting of a slip ring connection means on said shaft, means secured to said shaft for supporting said X-ray energy source including a support member consisting of an enclosed circular wheel disposed concentric to said shaft, strut means secured to said shaft maintaining said support member spaced from said shaft and longitudinally extending stands for supporting said X-ray energy source and stand supporting means secured to said circular wheel for slidably receiving said stands.

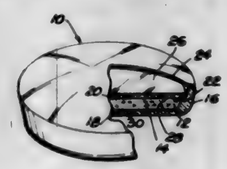
4. A radiological apparatus comprising a support base member, a rotatable substantially horizontally disposed shaft mounted on said support base member, means for rotating said shaft, patient support means mounted adjacent one end of said shaft for rotation with said shaft, a support member mounted on said shaft and lying in a plane substantially normal to the axis of said shaft, a pair of movable stands mounted on said support member each being independently adjustable along a line of travel normal to the lengths thereof in the plane of said support member, first and second X-ray energy sources, a first mounting member mounted on a stand adjustable along the length thereof, said first mounting member having a holding member disposed substantially normal to the plane of said support member for mounting said first X-ray energy source, a second mounting member being adjustably mounted along the length of the other of said stands and said second X-ray energy source being mounted on said second mounting member.

3,141,973

THERMOLUMINESCENT DOSIMETER

Harold Heins, Marblehead, Cornelius J. Buckley, Salem, and Richard J. Broderick, Beverly, Mass., assignors to Metcom, Inc., Salem, Mass., a corporation of Delaware

Filed Sept. 11, 1962, Ser. No. 222,974
17 Claims. (Cl. 250—71)



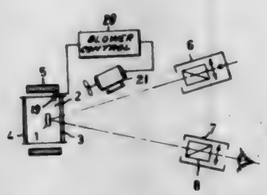
1. An improved radiation dosimeter comprising a quantity of thermoluminescent phosphor powder and a container having a transparent wall, the phosphor powder being compressed and sealed within the container in an inert environment, whereby the phosphor powder is restrained from all internal motion relative to the container walls, therewith eliminating triboluminescence of the phosphor.

3,141,974

INFRARED RADIATION DETECTION DEVICE

Michel Aupham, Neuilly-sur-Seine, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

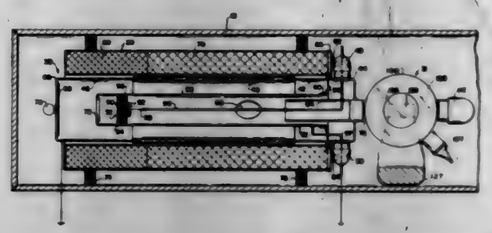
Filed Sept. 20, 1960, Ser. No. 57,346
Claims priority, application France Sept. 30, 1959
11 Claims. (Cl. 250—83.3)



2. An infrared radiation detection device comprising an element of ferromagnetic material exhibiting the magneto-optical Kerr effect, said element being positioned to intercept the infrared radiation to be detected, means for magnetizing said element, means for maintaining the temperature of said element at a point slightly below the Curie-point of the material of said element, means for

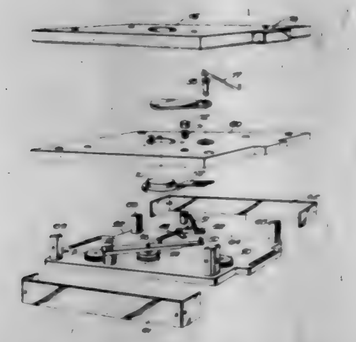
illuminating said element with a beam of polarized visible light, and means for detecting changes in the direction of polarization of the visible light illuminating said element.

3,141,975
PULSED NEUTRON GENERATOR WITH HIGH VACUUM AND CONTROL GRID BETWEEN ION SOURCE AND TARGET
Barney J. Carr, Colorado Springs, Colo., assignor to Kaman Aircraft Corporation, a corporation of Connecticut
Filed Jan. 12, 1960, Ser. No. 1,979
20 Claims. (Cl. 250—84.5)



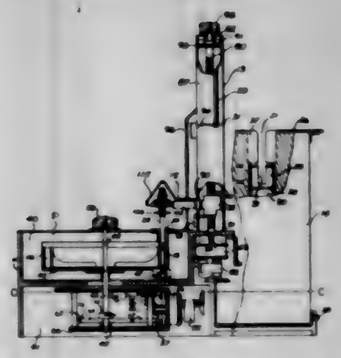
1. A generator of radioactive radiation comprising an ion source, a target spaced from said source and including a substance adapted to react with impinging ions to produce radioactive radiation, means for projecting ions from said source to said target, means for confining ion travel between said source and target to optimum linear paths, means for enclosing said source, target, and ion path confining means in a container, and means for continuously evacuating and maintaining said container under a high degree of vacuum.

3,141,976
RADIOACTIVE SOURCE HOUSING WITH REMOTELY OPERATED SHUTTER
John S. Macintyre, Lynnfield, Mass., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Apr. 18, 1961, Ser. No. 103,846
4 Claims. (Cl. 250—105)



1. A radioactive source housing comprising, a frame member; first and second pulley elements attached to said frame member, each of said pulley elements being adapted for free rotation about its own axis; a shutter member pivotally attached near one end thereof to said frame member; a third pulley element adapted for free rotation about its own axis and disposed intermediate said first and second pulley elements, said third pulley element being adapted for translational motion with respect to said frame member; guide means adapted to limit the translational motion of said third pulley to a predetermined path; means connecting said shutter member to said third pulley such that when said third pulley is in a first position along said predetermined path, said shutter member is in one position and when said third pulley is in a second position along said predetermined path, said shutter member is in a second position; a cable member threaded around said first, second, and third pulleys such that when said cable is taut, said third pulley is placed in said first position along said predetermined path; means constraining said third pulley to remain in said second position along said predetermined path when said cable is not taut; actuating means separate from said frame member and adapted to tauten and loosen said cable; a radioactive source emitting a beam of penetrating radiation, said source being disposed relative to said shutter member such that said shutter member absorbs substantially all of said beam of penetrating radiation only when said shutter is in said one position corresponding to said first position of said third pulley.

3,141,977
APPARATUS FOR MEASURING THE RADIOACTIVITY OF LIQUID SAMPLES
Joseph Fratantuno, Waltham, Mass., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed July 29, 1959, Ser. No. 830,381
13 Claims. (Cl. 250—106)

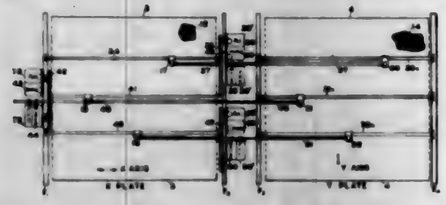


1. Radioactive sample processing apparatus comprising, storage means for delivering each of a plurality of radioactive samples arranged therein in a predetermined fixed order in sequence to an access point; detector means adapted to measure the disintegration rate of radioactive samples, said detector being disposed above and in horizontally displaced relationship with respect to said storage means; transport means adapted to individually withdraw one of said samples from said fixed order and to transport said withdrawn sample both vertically and horizontally from said access point to said detector means and to return said sample to said fixed order at said access point prior to transporting the next sequential sample.

3,141,978
SATELLITE TRACKING MEANS
Anwar K. Chitayat, Plainview, N.Y., assignor to Optomechanisms, Inc., Mineola, N.Y.
Filed May 4, 1961, Ser. No. 107,778
3 Claims. (Cl. 250—203)

1. Satellite tracking and measuring means comprising first optical means to track a star, second optical means to track a satellite, first coarse measuring means connected to said first and second tracking means to measure

the angle between said star and said satellite, and second fine optical measuring means connected to said first and



second optical means to measure the angle between said star and said satellite including an optical grating.

3,141,979
CRYOTRON ARRANGEMENT AND CRYOTRONS SUITABLE FOR USE IN SUCH ARRANGEMENTS
Herre Rinia and Jacob Fredrik Klinkhamer, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 31, 1959, Ser. No. 803,283
Claims priority, application Netherlands Mar. 31, 1958
16 Claims. (Cl. 307—88.5)



15. A cryotron comprising a current conductor constituted of super-conductive material and possessing a stable normal-conductive first state and a stable superconductive second state, means for cooling the environment of said current conductor to a given ambient temperature, said given ambient temperature being not greater than the effective transition temperature of said current conductor, means thermally insulating said current conductor from said environment, means for passing current through said current conductor, and means for selectively switching said current conductor from one of said first and second stable conductive states to the other of said stable conductive states, said means for switching comprising first means for temporarily decreasing said current passing through said current conductor to switch said current conductor from said first stable conductive state to said second stable conductive state and second means for temporarily increasing said current passing through said current conductor to switch said current conductor from said second stable state to said first stable state, said current passing through said current conductor when said current conductor is switched to said normal-conductive state being sufficient to provide a resultant heat dissipation to maintain said current conductor at a temperature above said given ambient temperature to maintain said normal-conductive state.

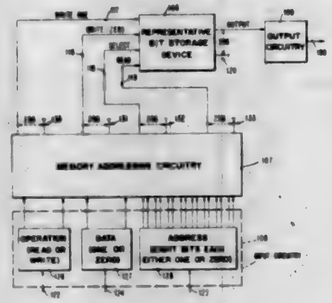
3,141,980
MEMORY SYSTEM
Nathaniel Rochester, Mount Kisco, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 21, 1961, Ser. No. 132,895
8 Claims. (Cl. 307—88.5)

3. In a cryogenic selector switch having a plurality of pairs of input lines including a pair of reset lines and a plurality of pairs of output lines, the two lines in each pair of lines forming parallel paths between a current source and a current sink,

said input lines being deposited on the first side of a substrate and said output lines being deposited on the second side of said substrate in orthogonal relationship with said input lines,

first reset means for introducing resistance into the second line in each pair of input lines to cause the current in each pair of input lines to flow in the first line of each pair of input lines, said current remaining in said first line after said resistance is removed due to the persistent current phenomena,

input means for introducing resistance into the first line of selected pairs of input lines to cause the current in each selected pair of input lines to flow in the second line of the respective pair of input lines,



a cryotron gating element connected in series with each line of each pair of output lines,

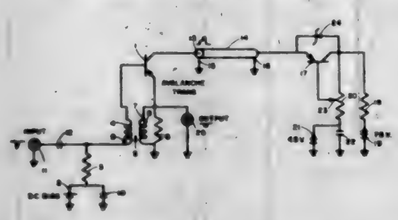
a first plurality of loop circuits on the second side of said substrate juxtaposed to the cryotron gating elements in the first line of each pair of output lines, said loop circuits being selectively coupled by induction to the second line of select pairs of input lines through holes in said substrate,

a second plurality of loop circuits on the second side of said substrate juxtaposed to the cryotron gating elements in the second line of said output circuits,

said second plurality of loop circuits being selectively coupled by induction to the second line of said pair of reset lines,

each cryotron gating element being made resistent by current in the control loops juxtaposed therewith.

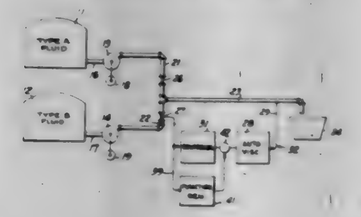
3,141,981
PULSE GENERATING CIRCUIT HAVING A HIGH REPETITION RATE UTILIZING AVALANCHE TRANSISTOR-COAXIAL LINE COMBINATION
William Michael Henebry, Monticello, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 3, 1962, Ser. No. 207,444
10 Claims. (Cl. 307—88.5)



1. A pluse generating circuit comprising, in combination, a transistor having a base and first and second electrodes, said transistor being capable of experiencing an

avalanche breakdown when predetermined bias conditions exist at said base and said first and second electrodes, a coaxial line, means for coupling one side of said coaxial line to said second electrode, means for connecting the other side of said coaxial line to a source of charging voltage, an output circuit connected between one of said electrodes and a reference potential, means for applying a blocking bias to said base to maintain said transistor near the avalanche breakdown point when said coaxial line is fully charged, and means for periodically coupling trigger pulses to said base for overcoming said blocking bias and driving said transistor into an avalanche breakdown, said coaxial line discharging through said transistor during avalanche, whereby output pulses are generated across said output circuit, and means for coupling inverted output pulses back to the base of said transistor to shorten the effective length of each trigger pulse.

3,141,982
CONTROL SYSTEM FOR USE IN CONTROL OF LOOPS WITH DEAD TIME
Otto J. M. Smith, 612 Euclid Ave., Berkeley, Calif.
Filed Jan. 6, 1960, Ser. No. 2,091
18 Claims. (Cl. 307—149)



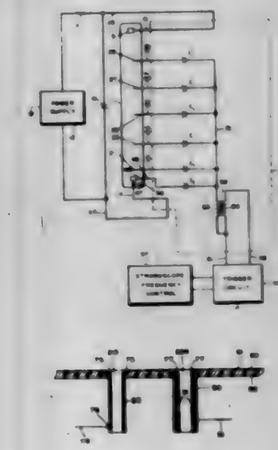
4. In a control system of the type which follows an input, a control loop having a transfer function which includes dead time, the control loop including operating means which continuously performs an operation on a medium, the operation being subject to control whereby a detectable characteristic of the medium is thereby varied in accordance with the input, means responsive to variations in the said characteristic of the medium to provide a controlling response, there being a dead time between said response and the operational control effecting the same, a controller for controlling said operation in accordance with said controlling response whereby the system tends to maintain said characteristic substantially constant relative to the input, and an additional control loop, the additional control loop including a function generator, said function generator being responsive to the output of the controller, the output of the function generator providing an additional controlling response which is combined with the input to the controller, said additional controlling response being substantially equal to the difference between a prediction of the value of the controlling response with the dead time removed and a prediction of the value of the controlling response with the dead time retained.

3,141,983
FLASHTUBE SOCKET ASSEMBLY
William A. Ward, Norwood, Mass., assignor to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed Nov. 2, 1961, Ser. No. 149,739
3 Claims. (Cl. 307—157)

1. A socket assembly, for use with a flashtube having a plurality of contact prongs, a pair of which must be connected to the terminals of an electrical circuit and the remainder of which must be capacitively coupled to a common connection, said socket assembly comprising, in combination:

a body of electrically insulating material having
- a face and a surface on the side thereof opposite the face, and
- a plurality of passageways extending therethrough parallel to and spaced about a common axis normal to the face;

a pair of electrically conductvie sleeves
- permanently mounted one each in each of two of said passageways, and having a prong engaging portion confronting the face and a portion extending outwardly from the surface thereof, for engaging the said pair of contact prongs of said flashtube;



a plurality of further electrically conductive sleeves
- permanently mounted one each in each passageway of the remaining passageways,
- each having a prong engaging portion confronting the face and a portion extending outwardly from the surface thereof, and
- having its inner surface coated with dielectric, insulating material, such that, when one of said remaining prongs of said flashtube is caused to engage said coated sleeve, a capacitance exists between said prong and said sleeve;

a pulse transformer
- mounted on the surface of said body, and disposed within the outwardly extending portions of said sleeves,
- said pulse transformer having a primary winding with two terminals and a secondary winding with two terminals, with one terminal of its secondary winding connected internally to one terminal of its primary winding;

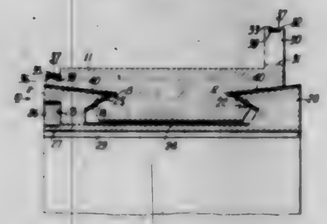
means connecting electrically
- the other terminal of said secondary winding of said pulse transformer in common with said plurality of further electrically conductvie sleeves;

four insulated conductors connected one
- to each of the terminals of said primary winding of said pulse transformer and
- to each of said pair of electrically conductive sleeves for connecting the same to said terminals of said electrical circuit; and

a mass of electrically insulating material
- extending from the surface of said body and said pulse transformer, and

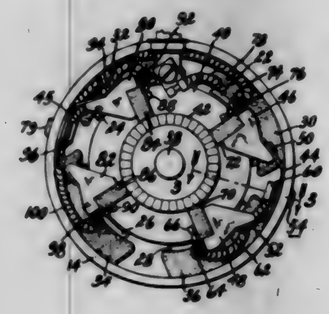
incapsulating said outwardly extending portions of said electrically conductive sleeves, and said connecting means, with said four insulated conductors extending through said mass of insulating material to the exterior thereof.

3,141,984
HIGH SPEED COMMUTATOR
Oscar Rubio-Medina, Cincinnati, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 17, 1962, Ser. No. 188,034
7 Claims. (Cl. 310—236)



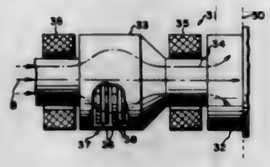
1. A commutator for a dynamoelectric machine comprising: a hub adapted to be mounted on a shaft, a plurality of individually connecting bars arcuately spaced around the periphery of said hub, said bars having notches at each end that combine to form an annular groove at each end, clamping means having projections positioned in said grooves for mounting said bars on said hub, the outer surface of said bars extending radially outward beyond said hub and said clamping means, a shallow recess formed in the outer surface of said bars near the ends of said bars, and a retaining band mounted in said recesses for preventing radial outward movement of said bars.

3,141,985
BRUSH RIGGING
Ronald A. Martin, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 4, 1961, Ser. No. 107,812
3 Claims. (Cl. 310—239)



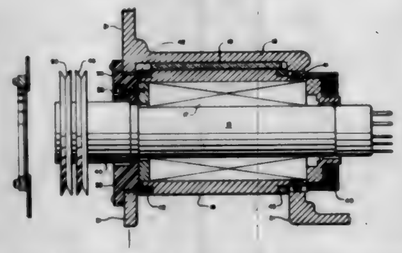
1. In combination, a dynamoelectric machine having a frame, a generally U-shaped spring metal member, a polygonal opening in said spring metal member, a complementary polygonal opening in said frame, a rivet having an outer configuration which is complementary to the openings in said spring metal member and frame passing through said openings and securing said spring metal member directly to said frame, said rivet also securing a first terminal in metal to metal contact with said spring metal member, brush holders formed of insulating material secured to opposite ends of said spring metal member, brushes carried by said brush holders and engageable with a rotatable current conducting means of said dynamoelectric machine, at least one of said brushes being secured to one of said brush holders by fastening means that also secures a second terminal in place, and a conductor connecting said first and second terminals, said spring metal member forming a support means for said brush holders and also forming a biasing means for urging said brush holders toward said current conducting means.

3,141,986
HIGH VACUUM SPUTTER-ION GETTERING APPARATUS
William A. Lloyd, Sunnyvale, and Sherman L. Rutherford, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Sept. 18, 1961, Ser. No. 138,675
19 Claims. (Cl. 313—7)



1. A sputter-ion apparatus comprising a vacuum envelope, and anode electrode, a cathode electrode, said anode and cathode electrodes providing a plurality of gas discharge paths within said vacuum envelope, and wherein at least two of said gas discharge paths are nonparallel.

3,141,987
CAMERA AND TEMPERATURE-CONTROLLING JACKET
Morris Altman, Putnam Valley, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed June 1, 1961, Ser. No. 114,122
2 Claims. (Cl. 313—17)



1. A combination television camera and temperature controlling jacket comprising,
- a television camera including a pickup tube,
- deflection coils surrounding the neck of said pickup tube,
- a case enclosing said television camera, said case being cut away to expose said pickup tube in the region of said deflection coils,
- a heat conducting metallic block in intimate contact with said deflection coils,
- a double wall U-shaped jacket having inner and outer walls, said outer wall being provided with fins on its exterior surface, said inner wall being constructed to form a close fit with three of four outer surfaces of said metallic block,

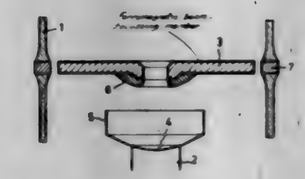
a heat insulating pad interposed between the fourth outer surface of said metallic block and the remainder of the camera case,

a plurality of metallic blocks mechanically connecting the inner and outer walls of said U-shaped jacket, said blocks being joined to both walls by junctions having low thermal but high electrical resistance,

said blocks consisting of a material capable of generating a temperature difference by the Peltier effect, and

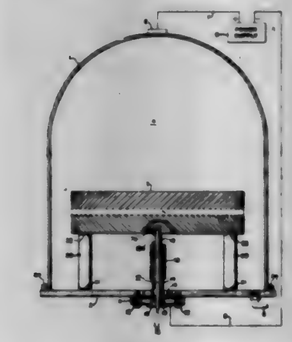
means for applying an electrical current to said blocks to lower the temperature of said metallic block.

3,141,988
ELECTRON-GUN USING COMBINED MAGNETIC AND ELECTROSTATIC FOCUSSING
Bernard Thomas Murphy, Youngwood, Pa., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 19, 1960, Ser. No. 56,924
Claims priority, application Great Britain Sept. 23, 1959
6 Claims. (Cl. 313—84)



1. An electron-gun assembly for an electron discharge tube comprising a source of electrons, a circular disc-shaped ferromagnetic member spaced from said source of electrons and provided with a central aperture through which passes a beam of electrons derived from said source, and a metal layer on a portion of a surface of said ferromagnetic member adjacent the electron beam surrounding said aperture and facing said electron source serving as a beam-focusing electrode.

3,141,989
WORKPIECE SUPPORT FOR GLOW DISCHARGE APPARATUS
Claude K. Jones, Marblehead, and Stuart W. Martin, Salem, Mass., assignors to General Electric Company, a corporation of New York
Filed Nov. 26, 1962, Ser. No. 240,000
5 Claims. (Cl. 313—210)



1. In a glow discharge apparatus having a housing including a base member to be maintained at a first electrical potential and adapted to contain a heavy work piece to be maintained therein at a second electrical potential, so as to be subjected to a glow discharge, the combination of:

at least one conductive support column disposed entirely within said housing and extending from said base to said work piece,

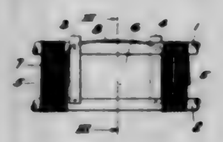
first and second load-bearing insulating members disposed above and below said column and spacing it from the work piece and base respectively to define first and second protective gaps surrounding the insulating members, the gaps being of a size to prevent the glow from penetrating to the insulating members.

3,141,990
FLUORESCENT LAMP HAVING A TiO_2 COATING ON THE INNER SURFACE OF THE BULB
John G. Ray, Topsfield, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application Apr. 6, 1960, Ser. No. 20,487, now Patent No. 3,067,356, dated Dec. 4, 1962. Divided and this application May 15, 1962, Ser. No. 194,939
4 Claims. (Cl. 313—221)



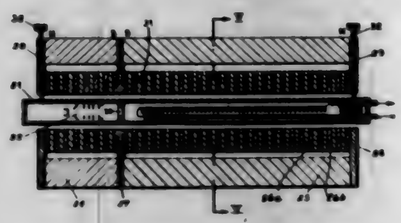
1. A fluorescent lamp comprising: a glass envelope, mercury vapor and means to produce an electric discharge in said envelope; a transparent barrier layer of substantially alkali-free TiO_2 disposed upon and adhering to the inner surface of said glass envelope; a phosphor coating in said lamp extending part way only around the inner surface thereof, so as to leave a clear slot through which light may emerge.

3,141,991
GRID ELECTRODE
Hendrikus Johannes Marie Van Tol and Ernst Sigmund Den Dulk, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Original application May 29, 1957, Ser. No. 662,378, now Patent No. 3,054,430, dated Sept. 18, 1962. Divided and this application Aug. 12, 1960, Ser. No. 54,559
Claims priority, application Netherlands June 13, 1956
5 Claims. (Cl. 313—350)



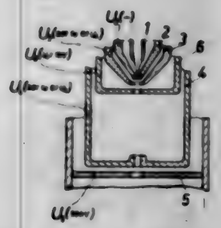
1. A grid electrode for an electron discharge tube comprising a pair of spaced stay-rods, a pair of cross-bar members placed cross-wise in spaced relationship over the stay rods, one end of each cross-bar member protruding from a stay-rod thereby forming a notch with the stay-rod, a grid wire helically wound over the stay-rods between the cross-bar members, the end of said grid-wire passing between the cross-bar members and the stay-rods in the notch therebetween and being secured to the stay-rod outside the effective length of the grid electrode.

3,141,992
FOCUSING SYSTEM FOR O-TYPE TRAVELLING WAVE TUBES
Pierre Delphin, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Oct. 9, 1961, Ser. No. 143,706
Claims priority, application France Oct. 14, 1960
9 Claims. (Cl. 315—3.5)



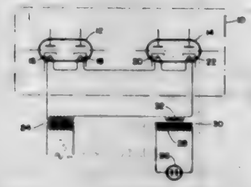
5. An "O-type" travelling wave tube including a vacuum-tight, elongated, cylindrical envelope, an electron gun located in a first, shorter portion of said envelope, a delay line located in a second, longer portion of said envelope, said two portions being spaced apart by a short interval, two cylindrical permanent magnets disposed with opposite polarities around said two portions of the tube envelope, respectively, the respective materials of said two magnets being chosen to produce a magnetic field of a higher intensity in said first portion than in said second portion, an intermediate pole piece of soft iron interposed between said two magnets in contact with one extremity of each of said two magnets, two terminal pole pieces of soft iron in contact with the other extremities of said magnets, respectively, and a cylindrical field straightener disposed between said envelope and said two magnets.

3,141,993
VERY FINE BEAM ELECTRON GUN
Eberhard Hahn, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Germany
Filed Jan. 7, 1960, Ser. No. 2,095
7 Claims. (Cl. 315—31)



1. An electron gun for corpuscular-ray apparatus, particularly electron microscopes, fine-focus X-ray tubes and television tubes, comprising an incandescent cathode, an anode and a system of intermediate electrodes between said cathode and said anode, the first of said intermediate electrodes being funnel-shaped and surrounding said incandescent cathode and having means for applying an adjustable voltage negative with respect to said cathode, the second of said intermediate electrodes being funnel-shaped and surrounding said first intermediate electrode, and means for applying a positive potential with respect to said cathode so as to act together with said cathode as a diverging lens, the third of said intermediate electrodes being tubular and surrounding that portion of said second intermediate electrode which is remote from said cathode, said third intermediate electrode having an apertured diaphragm facing said anode with a small spacing, means for applying with respect to said cathode a positive potential to said anode and another positive potential to said third intermediate electrode which is in the order of $\frac{1}{100}$ to $\frac{1}{10}$ of the anode potential, said spacing being as small as admissible by the high potential difference between said anode and said third intermediate electrode, the aperture diameter of said diaphragm being approximately equal to said spacing, said third intermediate electrode and said anode acting together as a strongly convergent immersion lens.

3,141,994
SERIES FILAMENT CIRCUIT FAILURE INDICATOR
Anthony J. Hornfeck, South Euclid, and John R. Louis, Cleveland, Ohio, assignors to Bailey Meter Company, a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,040
1 Claim. (Cl. 315—96)

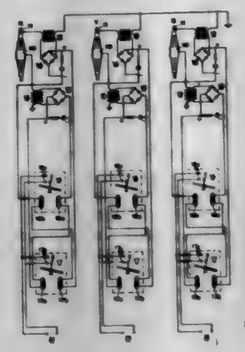


Apparatus for indicating the condition of a vacuum tube circuit having filaments in series comprising, a source of current for said filaments, having a voltage not substantially greater than the sum of the required filament voltages, a transformer having a primary winding of very low operating impedance under load connected in series in said circuit and a secondary winding having a high secondary to primary turns ratio with said primary winding, said transformer being constructed to produce under no load saturation conditions a high peak voltage across the secondary winding and a substantially lower voltage when a load is applied to said secondary winding and a neon lamp connected across said secondary winding and having an initial energization voltage rating not greater than the peak saturation voltage across said secondary winding during normal operating condition of the circuit and a lower operating voltage not greater than the load voltage across said secondary winding during normal operation of the circuit.

3,141,995
SYSTEM FOR PROTECTING CAPACITOR TYPE BUSHINGS IN HIGH TENSION EQUIPMENT
John Walter Freeman Smith, Stafford, England, assignor to The English Electric Company, London, England, a British company
Filed May 26, 1961, Ser. No. 112,928
Claims priority, application Great Britain June 18, 1960
13 Claims. (Cl. 317—12)

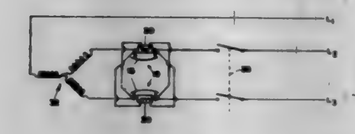
1. A system for detecting breakdown of capacitor type bushing of high tension electrical equipment by detecting a change in one sense in phase capacitance currents not due solely to changes in phase potential, having a current sensitive device associated with each phase, each device comprising an electro-magnetic relay, a first energising coil in each relay, said first energising coil communicating with the associated phase to receive a current proportional to the potential of said associated phase, a second energising coil in each relay, said second energising coil communicating with the associated phase through said bushing to receive a current proportional to the phase capacitance current through said bushing,

and control-operating switch contacts in said relay operable upon a change in the ratio of the currents in said



first and second coils in response to said change in the phase capacitance currents.

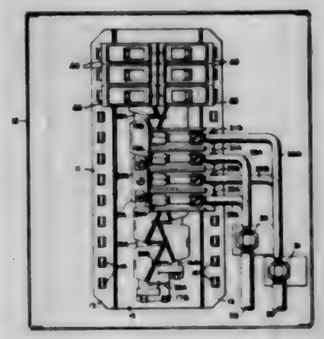
3,141,996
THERMAL PROTECTOR
William L. McGrath, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,619
3 Claims. (Cl. 317—13)



1. A thermal protective circuit for a polyphase motor comprising the combination of control means for opening and closing the circuit; a thermal protective device placed in at least each of two conductors of said circuit; each of said devices including a snap-acting thermostat, said thermostat being heated by the passing of an excessive amount of current through the line in which it is located and a heating means in each of said devices positioned proximate each of said thermostats; and circuit means for causing each of said thermostats to shunt the heating means of the other device whereby the passing of excessive current through a line will cause said thermostat to open to in turn cause said heating means shunted thereby to heat and thus open the other of said thermostats.

3,141,997
ELECTRIC PANEL ASSEMBLY
Lewis W. Jacobs, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed Mar. 19, 1962, Ser. No. 180,540
4 Claims. (Cl. 317—99)

1. An electric panel assembly comprising:
(*a*) a support,
(*b*) a first pair of electric power bus bars mounted in insulated relation on said support, each of said first bus bars having a plug-in type power input terminal portion and a plurality of plug-in type power output terminal portions,
(*c*) a second pair of electric power bus bars mounted in insulated relation on said support, each of said second bus bars having a plug-in type input terminal portion and a plurality of plug-in type power output terminal portions,
(*d*) said plug-in type power output terminal portions of each of said pairs of bus bars being disposed in aligned interleaved relation with each other,
(*e*) a plug-in type power connector on each of said plug-in type power input terminal portions,
(*f*) first and second main power connectors,



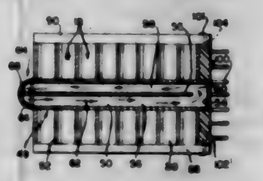
(*g*) means connecting said first main power connector to a plug-in type power connector of one bus bar of each of said first and second pairs of bus bars,
(*h*) means connecting said second main connector to a plug-in type power connector of each of the other bus bars of each of said first and second pairs, and
(*i*) said power input terminal portions also being disposed in aligned interleaved relation with each other.

3,141,998
COOLED MODULAR ELECTRONIC PACKAGE
Harry G. Silkman, Akron, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 24, 1960, Ser. No. 10,822
7 Claims. (Cl. 317—100)



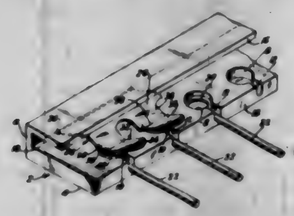
7. A cooled modular electronic package for printed circuits comprising a heat conductive layer, a printed circuit board layer coextensive and in contact with said heat conductive layer, a plurality of clearance holes extending through said heat conductive layer to said printed circuit board layer, a plurality of electrical components physically secured to said heat conductive layer in heat conductive relation thereto and electrically connected to said printed circuit board layer through said clearance holes, and at least one cooling conduit in heat conducting contact with said heat conductive layer for removing heat from said heat conductive layer.

3,141,999
COOLING OF MODULAR ELECTRICAL NETWORK ASSEMBLIES
Stanley Schneider, Newtown Square, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 8, 1959, Ser. No. 818,648
10 Claims. (Cl. 317—100)



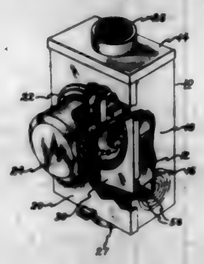
3. A miniature electronic network assembly comprising, a heat exchanger comprising an elongated member having a plurality of outwardly extending fins, a plurality of circuit sub-assemblies each hermetically sealed in a thin wafer-like casing having two substantially flat major surfaces, all of said sub-assemblies being nested around said elongated member with their major surfaces in intimate heat transfer relation with said fins, whereby the heat generated by said sub-assemblies when energized is transferred across the minimum dimension of said casings to said fins which conduct the heat to said elongated member, and means interconnecting said circuit sub-assemblies in a system network.

3,142,000
MATRIX FOR HOLDING AND MAKING ELECTRICAL CONNECTION WITH A PLURALITY OF ELECTRICAL UNITS
Bernard Bernstein, Brooklyn, N.Y., assignor to Radio Receptor Company, Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 15, 1961, Ser. No. 89,529
13 Claims. (Cl. 317—101)



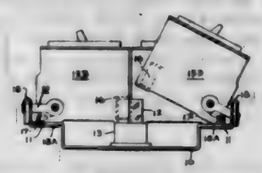
1. An electrical assembly comprising a housing having a plurality of recesses exposed at their tops and having passages extending therefrom to a side wall of said housing, electrical connection elements in said recesses and having leads extending through said passages and beyond said side wall, individual electrical units in said recesses, said units having a pair of terminals one of which operatively engages and makes electrical connection respectively with its corresponding connection element, a conductive strip comprising a body mounted on said housing externally of said recesses and having portions overlying said recesses and engaging and making electrical contact with said other terminals of said units respectively, and means for making external electrical connection with said strip.

3,142,001
RINGLESS METER SOCKET HAVING COMBINED POSITIONER AND RAINSHIELD
John H. Spencer, Gonic, N.H., and Dankmar Hallbauer, Berwick, Maine, assignors to General Electric Company, a corporation of New York
Filed Mar. 6, 1961, Ser. No. 93,808
5 Claims. (Cl. 317—105)



1. A combination rainshield and meter positioner for a ringless meter socket, comprising a metallic plate of a size to fit within a meter socket, said metallic plate being formed with two straight sides, first mounting means formed in the top portion and second mounting means formed in the bottom portion of said straight sides for mounting said plate within the open front of a meter socket, an annular groove formed in said metallic plate, said annular groove adapted to receive a portion of a meter to be mounted in a meter socket to position such meter within such socket, and a trough-like spout in the lower part of said annular groove, whereby rain water entering said annular groove will be directed around said groove, and out from said spout.

3,142,002
CIRCUIT BREAKER PANEL ASSEMBLY WITH DISCRIMINATING MEANS
Herman J. Hammerly, Plainville, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 24, 1962, Ser. No. 219,176
2 Claims. (Cl. 317—119)



1. An electric circuit breaker panelboard comprising:
(*a*) a generally planar supporting portion,
(*b*) at least one row of retaining hooks on said supporting portion,
(*c*) an elongated upstanding generally U-shaped barrier strip carried by said supporting portion adjacent said row of hooks, said barrier strip having a pair of closely spaced wall portions, said wall portions having a plurality of aligned holes therein,
(*d*) a keying strip removably carried by said barrier strip and receivable between said closely spaced wall portions, said keying strip including a plurality of fingers each extending between a pair of said aligned holes in said wall portions of said barrier member when said keying strip is in place,
(*e*) a plurality of electric circuit breakers each comprising a generally rectangular insulating casing having a bottom wall and a generally perpendicular end wall, and a retaining lug adjacent the corner of said end wall and bottom wall,

(*f*) at least some of said circuit breakers having a blocking member rigidly attached to the casing thereof and projecting beyond said end wall in a direction generally parallel to said bottom wall,

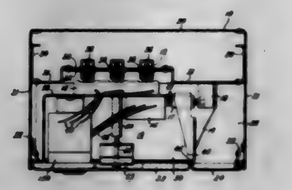
(*g*) said fingers of said keying strip being readily removable from said strip when said strip is out of said barrier member whereby to leave a corresponding pair of said aligned holes unobstructed to permit the mounting of a circuit breaker at the corresponding mounting location.

3,142,803

ELECTRICAL CONTROL PANEL STRUCTURE

William F. Olashaw, New Britain, Conn., assignor to General Electric Company, a corporation of New York

Filed Sept. 13, 1961, Ser. No. 137,967
19 Claims. (Cl. 317—120)



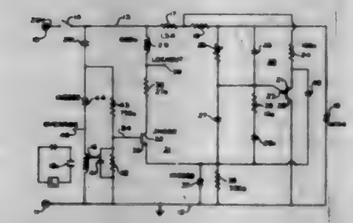
1. An electrical structure comprising, a housing having a front opening, a busway including a plurality of bus bars in the housing, each bus bar having a plug-in opening, a unit to be inserted and withdrawn through the front opening into and out of the housing and including stab contacts for plug-in connection to and disconnection from the plug-in openings of said bus bars, said busway having an aligning slot, support means in the housing for mounting said unit when inserted, guide means on said unit and in said housing for cooperation when the unit is inserted to guide the unit into connected relation with said bus bars, said guide means including an elongated guide bar mounted on said support means and a guide slot formed in said unit to receive the guide bar, said guide bar and guide slot being arranged to prevent substantial movement of the unit relative to the support means in all directions perpendicular to the path of guidance during insertion and withdrawal of the unit, and means on the guide bar extending through said aligning slot in the busway for aligning the guide bar relative to said bus bars to assure positive connection of said unit to said bus bars when the unit is inserted.

3,142,804

TRANSISTOR TIMING DEVICE

George T. Culbertson, Gardena, Calif., assignor to Theodore W. Hallerberg, Los Angeles, Calif.

Filed Aug. 24, 1960, Ser. No. 51,642
8 Claims. (Cl. 317—142)



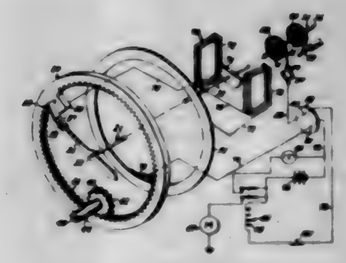
8. A timing circuit comprising a source of supply voltage, a double-base diode having an emitter, base one, and base two electrode, selective switching means connecting said source of supply voltage across said base one and base two electrodes, a first resistor and a capacitor in a charging circuit across said source of supply voltage, means connecting said capacitor in a discharge circuit including a second resistor and the emitter and base one electrode of said double-base diode, said second resistor also being included in the charging circuit, semiconductor means poled to serve as a low impedance bypassing said second resistor during charging of said capacitor and a high impedance paralleling said second resistor during discharge of said capacitor, and output transistor means triggered by the voltage generated across said second resistor when said double-base diode is rendered conducting.

3,142,805

LOCKING RELAY FOR GAUGES AND THE LIKE

Joseph P. McAtee, 11611 Sepulveda, San Fernando, Calif.

Filed Jan. 26, 1961, Ser. No. 85,146
7 Claims. (Cl. 317—154)



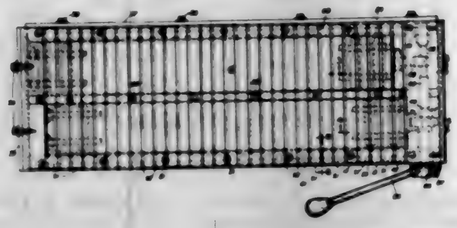
1. An electric device for indicating and controlling a pressure condition in a pressurized system, and the like, comprising: pressure responsive means adapted to be connected to the pressurized system for actuation of said pressure responsive means in response to changes of the pressure condition in the pressurized system, a member operatively connected to the pressure responsive means so as to be rotated in response to actuation thereof; a pointer shaft of electrical conductive material mounted for rotation about its longitudinal axis, a pointer secured to said pointer shaft for rotation therewith and defining a first contact; means connecting said shaft to said rotatable member for rotation therewith and in electrically insulating relationship thereto; second electrical contact means adjustably mounted for circumferential movement around the axis of said shaft and engageable by said pointer in response to predetermined rotation of said shaft, holding means holding said second electrical contact means stationary when it is contacting said first contact, and adjusting means for overcoming said holding means and rotating said second electrical contact means about said shaft to a predetermined set position, locking relay means for biasing said contacts together when closed, said locking relay means including armature means fixed to said shaft so as to be rotatable therewith, and coil means secured to said second movable contact means so as to be rotatable therewith, said coil means being electrically connected in series with said first and second contacts and energized in response to closing of said first and second contacts so as to create a magnetic flux effective to rotate said armature in a direction to bias said pointer into engagement with said second contact means regardless of the angular position of said second contact means relative to said shaft.

3,142,806

PERMANENT MAGNETIC CHUCK

Clifford Stead, North Smithfield, R.I., assignor to The Taft-Peirce Manufacturing Company, Woonsocket, R.I., a corporation of Rhode Island

Filed Oct. 7, 1960, Ser. No. 61,291
15 Claims. (Cl. 317—159)



1. In a permanent magnetic chuck, a body member having vertical side walls and upper bars extending transversely between the side walls and integral therewith, said bars being spaced laterally from each other forming transverse channels open at each end, and an inserted transverse bar mounted in each of said channels between said integral bars and separated therefrom and supported in each case by solid cast non-magnetic material, said integral and inserted bars each comprising a pole piece and each having an upper surface located in a common plane and forming the top surface of a work plate.

3,142,807

MAGNETIC HOLDER

Donald H. Munro and William H. Munro, both of 2422 Fairview Ave., Burlington, Ontario, Canada

Filed Dec. 4, 1961, Ser. No. 156,602
2 Claims. (Cl. 317—159)



1. A device for holding and releasing a game piece of magnetic material above a game playing surface comprising a support member positioned above said surface, a hollow non-magnetic member open at the top, means for suspending said hollow member from said support member to provide a clearance between the rim of said hollow member and the underside of said support, a controller member of magnetic material dimensioned to be positioned within said hollow member and having arms bearing on the rim of said hollow member to provide support, means magnetically linking said controller member with said game piece, whereby the latter is held to the underside of said hollow member, said magnetic linkage being of an intensity whereby pressure on one of said arms to alter the upward position of said controller member in said hollow member is sufficient to release said game piece onto said game playing surface.

3,142,808

TEMPERATURE COMPENSATION ELEMENT FOR A TRAVELING WAVE TUBE PERIODIC ARRAY

Hitoshi Kajihara, Coytesville, N.J., assignor to General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Original application Mar. 18, 1960, Ser. No. 16,104, now Patent No. 3,061,754, dated Oct. 30, 1962. Divided and this application May 1, 1962, Ser. No. 194,212
1 Claim. (Cl. 317—200)



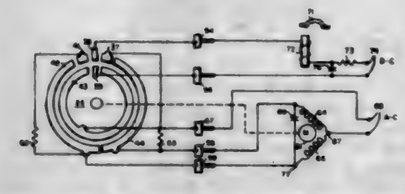
A stack having a magnetic field around the inner cylindrical axis thereof of a fairly uniform field strength over a wide temperature range comprising in combination, a plurality of ring-shaped magnets of the same size and magnetic characteristics, cylindrically aligned; disk-shaped pole pieces interposed between each of said magnets having a ring-like apertured hub substantially the size of the magnet ring aperture; and, compensators made of a nickel-iron alloy having between 28.5% to about 33.5% nickel and the balance substantially iron, said compensators each being a disk-shaped ring comprising a flange portion disposed over the inner hub of the pole piece adapted to go below the pole piece in the stack and a ring portion adapted to surround the cylindrical axial aperture of the stack and lie between pole pieces.

3,142,809

ANGLE CONTROL MECHANISM

Warren D. Novak, Chappaqua, N.Y., assignor to General Precision, Inc., a corporation of Delaware

Filed Aug. 8, 1962, Ser. No. 215,624
5 Claims. (Cl. 318—28)



1. A mechanism for angularly positioning a rotatable member comprising,

a pair of circular concentric commutators secured to said rotatable member,

a plurality of brushes concentrically disposed about said pair of commutators, each brush having a normal position separated from the commutators and an operated position bridging the pair of commutators,

actuating means for selecting and operating any selected one of said brushes,

an electric motor for rotating said rotatable member,

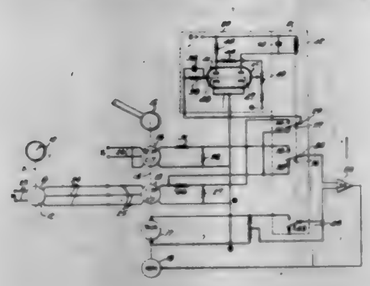
an electric power source for said motor,

and means connecting said commutators to said motor and to said electric power source whereby the rotatable member is positioned in accordance with the selection of the operated brush.

ERRATUM

For Class 318—28 see:
Patent No. 3,142,018

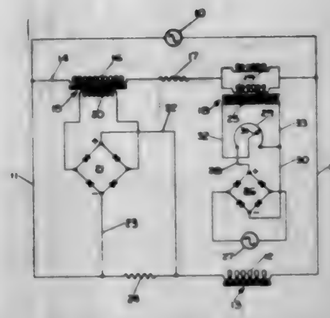
3,142,010
STEP SWITCH SERVO DRIVE SYSTEM
Irving L. Marin, De Witt, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 3, 1962, Ser. No. 214,773
10 Claims. (Cl. 318—30)



1. A device for converting any angular indication into the nearest corresponding one of a number "N" of equally spaced discrete angular positions which comprises a load shaft, a position transmitter displaced at some angular position, receiving means for said transmitter, electrical connections between said receiver and said transmitter, a position device having a speed "N" times that of said receiving means and electrically connected to produce an output voltage dependent on its angular displacement from a reference position, operative connection between said position device, said receiving means and said load shaft, motive means for driving said load shaft in response to an error voltage in a direction to minimize said error voltage, selector means for applying the error voltage generated by said receiving means according to the angular difference between the position of said load shaft and said some angular position to said motive means when said difference is just in excess of 360 degrees/2*N* and for applying the output error voltage generated by said position device thereto for smaller differences whereby when said reference position corresponds to zero angular displacement of said load shaft and said shaft is turned by said motive means in the direction of said some angular position, said receiving means error voltage will decrease until it corresponds to approximately less than 360 degrees/2*N* whereupon said position device will supply to said motive means an output voltage to rotate said shaft to the nearest of said 360 degrees/*N* discrete angular positions corresponding to said some angular position.

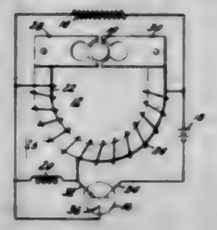
3,142,011
D.C. BIASED VIBRATOR AND CONTROL CIRCUIT
Ming K. Shieh, Columbus, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Apr. 16, 1962, Ser. No. 187,470
6 Claims. (Cl. 318—133)

1. A circuit for controlling the input of current to a vibrator coil comprising, a source of alternating current connected to said vibrator coil for producing a pulsating magnetic field, direct current producing means connected to said coil to impose a direct current on the alternating current input to the coil for controlling the current input to the coil, alternating current means connected to and supplying current to the direct current producing means, a saturable core reactor connected to said alternating current means and controlling the magnitude of the current supply to the direct current producing means to



thereby control the magnitude of the output of said direct current producing means to control said pulsating magnetic field.

3,142,012
BATTERY POWERED SYNCHRONOUS MOTOR
Christie Petrides, Medway, Mass., assignor to General Electric Company, a corporation of New York
Filed July 30, 1962, Ser. No. 213,342
8 Claims. (Cl. 318—138)

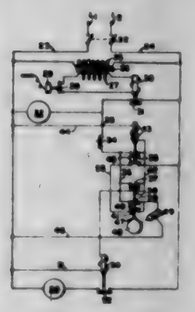


1. A rotatable synchronous motor and oscillating power supply therefor comprising a permanent magnet rotor, stator means positioned in flux inducing relation with the rotor, a continuous winding wound on the stator having a main coil portion and a minor coil portion, a source of electrical energy, electrical translating means having its output serially connected to said source and the main coil portion and having its input serially connected to the minor coil portion, a pickup coil connected to the input of said electrical translating means to shunt said minor coil portion, and a mechanical oscillator having a natural frequency of oscillation positioned in flux inducing relation with said pickup coil, said mechanical oscillator being arranged to supply a signal to said electrical translating means to synchronize said motor in accordance with the frequency of said mechanical oscillator.

3,142,013
MOTOR PROTECTIVE SYSTEM FOR AIR CONDITIONING UNIT
William L. McGrath, Syracuse, and Robert F. Randolph, Manlius, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Mar. 4, 1960, Ser. No. 12,782. Divided and this application Mar. 5, 1962, Ser. No. 177,637
2 Claims. (Cl. 318—471)

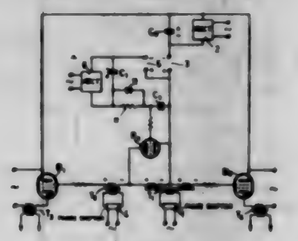
2. A control circuit for a refrigerant compressor comprising an electric motor for actuating the compressor; a supply circuit for energizing the electric motor, a motor controller having a first normally open switch connecting said supply circuit to said motor, said controller having an energizing winding and second and third normally open

contacts; control means including a normally closed switch; thermal timer means including a first normally closed contact, a second normally closed contact, a third normally open contact and a bimetal constructed and arranged to actuate the contacts; a holding relay including an energizing winding and a normally open contact; a first electrical circuit connecting the controller winding, control means, and second controller contact in series with the supply circuit; a second electrical circuit connecting the third controller contact and electric motor in



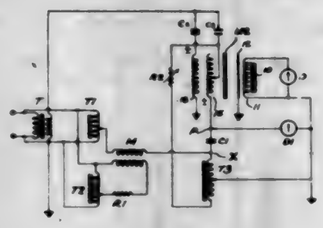
series with the supply circuit; a third electrical circuit connecting the first controller contact, holding relay contact, and holding relay winding in series with the supply circuit, said first timer means contact connected across the holding relay contact, said second timer means contact connected in series with the bimetal across the holding relay winding, said third timer means contact connected to the first electrical circuit between the control means and the second controller contact and to the third controller circuit between the holding relay contact and holding relay winding.

3,142,014
CONTROL-DEVICE FOR USE IN RESISTANCE WELDING SYSTEMS
Johannes Zuijdendorp, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1960, Ser. No. 77,575
Claims priority, application Netherlands Jan. 27, 1960
4 Claims. (Cl. 323—25)



4. Electrical apparatus for use in a resistance welding system, comprising first and second gaseous discharge tubes alternately actuated to produce respectively first and second signals for initiating the operation of said system, input means for a first control signal at D.C. potential having a duration equal to the desired welding interval, input means for an alternating current of given frequency, means for applying the alternating current to said first and second tubes in phase opposition thereby to alternately energize the same, a first pulse network and a phase shifter for producing subsequent to the start of said first control signal first pulse signals recurring at said given frequency during the duration of said first control signal, a second pulse network and a second phase shifter for producing second pulse signals recurring at said given frequency at an instant subsequent to the occurrence of said first pulse signal and during the duration of the first control signal, an electron tube connected to said first pulse network for attenuating the initial first pulse occurring during a given welding interval, input means for a second control signal at D.C. potential and initiated at the start of said first control signal, means for delaying the second control signal, means for applying the delayed second control signal to said electron tube thereby to actuate the same in synchronism with the occurrence of said first control signal and during the initial portion thereof, and means for applying said first control signal and said recurring first and second pulses to at least one of said gaseous discharge tubes thereby to recurrently actuate said welding system in synchronism with the occurrence of the initial said second pulse signal and subsequently occurring said first pulse signals applied to said one of the said gaseous discharge tubes during the occurrence of said first control signal.

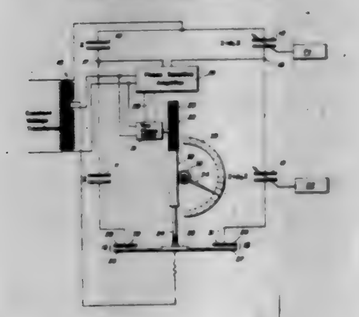
3,142,015
HIGH VOLTAGE ALTERNATING CURRENT CAPACITIVE MEASURING APPARATUS USING MAGNETIC CORES
Norbert Leo Kusters and Oskars Petersons, Ottawa, Ontario, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed Apr. 2, 1962, Ser. No. 184,244
15 Claims. (Cl. 324—60)



1. Capacitive measuring apparatus comprising
(*a*) two capacitors,
(*b*) a current comparator device comprising
(i) a magnetic core closed on itself to form a magnetic circuit,
(ii) a detection winding around said core,
(iii) and primary and secondary windings around said core,
(*c*) means connecting one of said capacitors in series with one of said primary and secondary windings to form a first series circuit,
(*d*) means connecting the other of said capacitors in series with the other of said primary and secondary windings to form a second series circuit,
(*e*) means connected to the detection winding for detecting zero output therefrom,
(*f*) means connecting a first end of the first series circuit to a first alternating potential predetermined in relation to a reference potential,
(*g*) means connecting a first end of the second series circuit to a second alternating potential of the same frequency as said first alternating potential and also predetermined in relation to said reference potential,
(*h*) means connecting the second end of the first series circuit to said reference potential to cause a current to flow in the winding of the comparator device in said first series circuit,

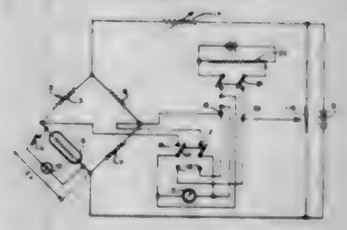
(*i*) an impedance element having an impedance small compared to the impedance of the capacitor in the second series circuit,
(*j*) a source of voltage,
(*k*) means connecting a first end of the impedance element to the second end of the second series circuit,
(*l*) means connecting the second end of the impedance element to a first side of the voltage source,
(*m*) means connecting the second side of the voltage source to said reference potential to cause a current to flow in the winding of the comparator device in said second series circuit,
(*n*) the connections being such that said currents flow in opposition to each other to generate only a difference flux in the core,
(*o*) means for modifying the output of the voltage source in magnitude and phase to bring the junction between the second series circuit and the impedance element to said reference potential,
(*p*) means sensitive to the voltage across the impedance element for generating from such voltage a control potential relative to the reference potential, the magnitude and phase of which control potential is related to the current in the second series circuit,
(*q*) and means for generating a correction current from said control potential and for applying said correction current to said comparator device to generate a flux in the core equal and opposite to the difference flux whereby to bring the output of the detection winding to zero.

3,142,016
RATIO-MEASURING APPARATUS UTILIZING A CAPACITANCE BRIDGE CIRCUIT
Clarke C. Minter, 3136 Dumbarton Ave. NW., Washington 7, D.C.
Filed Dec. 18, 1961, Ser. No. 160,044
2 Claims. (Cl. 324—61)



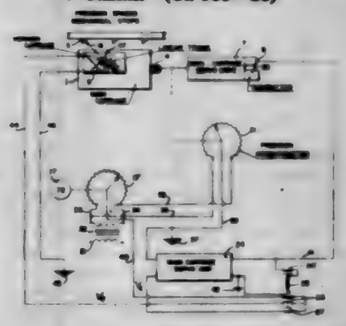
1. Improved ratio-measuring circuit for measuring the ratio of the magnitudes of two independently variable forces comprising two similar parallel combinations of air capacitors having negligible dielectric loss, one combination consisting of two series-connected similar fixed area reference air capacitors in series with a constant-area variable-distance parallel-plate air capacitor, the other combination consisting of two series-connected similar variable-area air capacitors which can be reduced in area in proportion to the magnitudes of the independently variable external forces from a maximum equal to that of the fixed area reference air capacitors, in series with a constant-area variable-distance parallel-plate air capacitor, automatic bridge-balancing means connected to a point between the fixed area air capacitors and to a point between the variable-area air capacitors for simultaneously moving a pointer over a scale calibrated in terms of the ratio of said independently variable external forces while varying the distance between the plates of said distance-variable parallel-plate air capacitors in order to reduce to zero any difference in phase or potential caused to exist at the terminals of said bridge-balancing means by unequal changes in capacitance produced in said variable-area air capacitors by the independently variable external forces, and a suitable power supply for energizing the bridge circuit.

3,142,017
PRECISION DIRECT CURRENT SUBSTITUTION BRIDGE FOR MEASURING R.F. VALUES
Bruno O. Weinschel, Bethesda, Md., assignor to Weinschel Engineering Co., Inc., Kensington, Md., a corporation of Delaware
Filed July 1, 1960, Ser. No. 40,348
6 Claims. (Cl. 324—106)



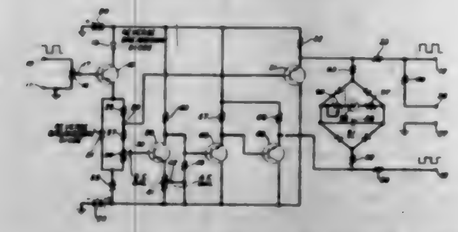
1. Apparatus for measuring R.-F. power comprising a bridge circuit, one arm of which includes a bolometric resistor having a substantial temperature coefficient of resistivity; means for supplying D.-C. bias power to said bridge from a D.-C. source; means for adjusting the bias power from said source applied to said bridge until the bridge is in balance; a potentiometer having an adjustable output tap; means for opposing the output of said potentiometer to the voltage drop across one arm of said bridge and for adjusting said tap until the potentiometer output equals said voltage drop; means for supplying R.-F. power to be measured to said bolometric resistor and thereby unbalancing the bridge; said means for adjusting the bias power applied from said variable D.-C. source being further adjustable, without changing the output of the potentiometer, until the bridge is rebalanced; and means for accurately measuring the difference in potential across said arm of the bridge and said potentiometer.

3,142,018
FINE AND COARSE POSITIONAL SERVO SYSTEM
Robert H. Ebengrein, Skaneateles, N.Y., assignor to Seneca Falls Machine Company, Seneca Falls, N.Y.
Filed Jan. 24, 1961, Ser. No. 84,665
9 Claims. (Cl. 318—28)



1. A system for controlling the position of a carriage movable through a predetermined path comprising, a position-defining stop adjacent said path, drive means for moving said carriage through said path, a coarse control for said drive means including means generating a first signal corresponding to the position of said carriage along said path, means independent of said stop generating a reference signal corresponding to the position defined by said stop, and means comparing said first signal and said reference signal and generating a coarse output control signal corresponding to the displacement of said carriage from said stop-defined position, a fine control for said drive means including a stylus carried by said carriage for movement therewith through said path into engagement with said stop, said stylus being movable by said stop relative to said carriage into a predetermined reference position corresponding to the position defined by said stop, and means generating a fine output control signal corresponding to the displacement of said stylus from said reference position, output signal responsive control means for said carriage drive means, and means automatically operable to switch said carriage drive control means for said coarse control to said fine control upon arrival of said carriage at said stop-defined position as determined by said coarse control.

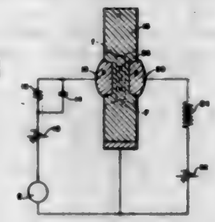
3,142,019
UNBALANCED-TO-BALANCED AMPLIFIER
David L. Favin, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a Corporation of New York
Filed Oct. 11, 1961, Ser. No. 144,464
9 Claims. (Cl. 330—14)



6. An amplifier comprising means receiving unbalanced electric signals and reproducing those signals at two output connections at different direct potential levels, said receiving means including a signal bypass connected to said output connections so that each of said connections operates at essentially the same signal level as the other, two amplifier output terminals, means coupling the reproduced electric signals at each of said receiving means output connections to a different one of said amplifier output terminals, said coupling means including means adjusting the relative amplitudes of signal variations at said output terminals, and said receiving means including means adjusting the direct potential difference between said direct potential levels for adjusting the relative magnitude of the direct potentials at said output terminals.

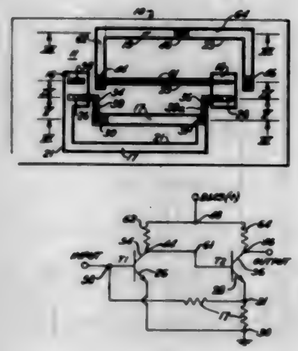
3,142,020
SEMICONDUCTOR ARRANGEMENT HAVING LATTICE FAULTS IN ITS BREAKDOWN REGION
Joachim Thuy, Ulm-Sedlingen, Germany, assignor to Telefunken Aktiengesellschaft, Berlin, Germany
Filed Sept. 12, 1960, Ser. No. 55,439
Claims priority, application Germany Sept. 15, 1959
9 Claims. (Cl. 330—39)

1. A semiconductor device for controlling electrical currents comprising a semiconductor body having at least two pn-junctions, said body having a preferred breakdown region having lattice faults comprising carrier generation centers, and said region being spaced within the body from said junctions and located in a zone of the body in



which the electric fields of said junctions overlap in mutual opposition when the junctions are reverse-biased.

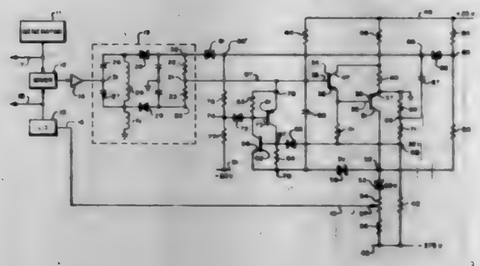
3,142,021
MONOLITHIC SEMICONDUCTOR AMPLIFIER PROVIDING TWO AMPLIFIER STAGES
John P. Steinak, Greensburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1961, Ser. No. 91,841
4 Claims. (Cl. 330—39)



3. A monolithic, two stage, common emitter semiconductor amplifier comprising a block, having opposed major surfaces, of a first conductivity type monocrystalline semiconductor material having a layer thereof of opposite conductivity type extending from one major surface of said block inwardly thereby defining an interface at which conductivity type changes, a first emitter electrode comprising a conductivity determining concentration of first conductivity type impurities in a zone in the surface of said layer, a second emitter electrode comprising a second zone containing a conductivity determining concentration of first conductivity type impurities in said layer and spaced from said first zone, a first mesa and an associated land in said layer defined by a scribe line that extends from the surface of said layer through the interface, said first mesa including said first emitter electrode in it and said first land extending toward said second emitter electrode and then back toward and terminating adjacent the first mesa at a terminal point, a second mesa and a land integral therewith defined by a scribe line extending from said surface through said interface, said second mesa including said second emitter electrode in it, said scribe lines thereby defining collector junctions in said block at said interface within said mesa zones, said second land extending towards said first mesa and then back toward and terminating beyond the second mesa at a

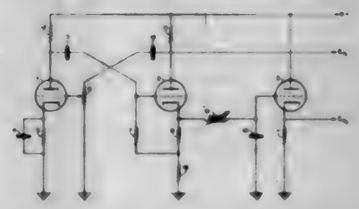
terminal point, an ohmic contact on said terminal point of the first land, a second ohmic contact on the first land adjacent the second mesa, a low resistance path in non-rectifying contact with the surface of said first emitter electrode and said first ohmic contact and a second low resistance path in non-rectifying contact with the surface of the second emitter electrode and said second ohmic contact on the first land whereby the emitter electrodes are joined to one another through a first significant resistance comprising that portion of the first land between the ohmic contacts thereon, cavities in said block of said semiconductor material from the other major surface thereof, the cavities opposing said mesa zones and terminating within said block part of the distance towards the interface, low resistance contact areas comprising collector electrodes in the cavities, an ohmic contact on the first mesa adjacent the first emitter electrode thereon, an ohmic contact on the second land adjacent the first mesa, an ohmic contact on said terminal point of the second land adjacent the second mesa, a low resistance path through the body of semiconductor material from the ohmic contact on the second land adjacent the first mesa to the collector electrode in the cavity opposite the first mesa, a low resistance path through the body of semiconductor material from the ohmic contact on the terminal point of the second land to the collector contact in the cavity opposite the second mesa, an additional ohmic contact on the second land intermediate the other two contacts thereon whereby a single source of biasing voltage is supplied to the collector electrodes of the resulting device through significant resistances, the significant resistances comprising the portions of the second land extending from the biasing voltage contact to the collector electrode ohmic contacts on the second land, and a low resistance path extending between said second mesa and the ohmic contact on the second land adjacent the first mesa.

3,142,022
AUTOMATIC FREQUENCY CONTROL AND SWEEP CIRCUIT
John W. Gray, Pleasantville, and Joseph Reed, New Rochelle, N.Y., assignors to General Precision, Inc., a corporation of Delaware
Filed June 7, 1961, Ser. No. 115,356
7 Claims. (Cl. 331—4)



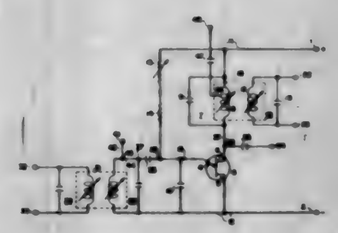
1. An automatic frequency control and sweep circuit comprising, a high frequency signal generator, a local oscillator, mixer means having the outputs of said signal generator and said local oscillator impressed thereon and producing an intermediate frequency signal therefrom, discriminator means having said intermediate frequency signal impressed thereon and producing an output potential having a sense and magnitude dependent within limits on the direction and amount of departure of said intermediate frequency signal from a selected value, an amplifier having a capacitor connected between its input and output, means for supplying a charging potential to said capacitor whereby said amplifier in conjunction therewith acts as an integrator and produces a substantially linearly varying output, switch means connected to the output of said amplifier and across said capacitor for discharging said capacitor when the output of said amplifier reaches a preselected value and for initiating a new integration cycle, means for controlling the frequency of said local oscillator by the output of said amplifier, and means interconnecting the output of said discriminator means and the input of said amplifier whereby the output of said discriminator means overrides said charging potential and terminates said integrator action.

3,142,023
QUADRATURE OSCILLATOR
Reuel Q. Tillman, 6445 Livingston Road, Washington, D.C.
Filed Aug. 6, 1962, Ser. No. 215,251
6 Claims. (Cl. 331—45)
(Granted under Title 35, U.S. Code (1952), sec. 266)



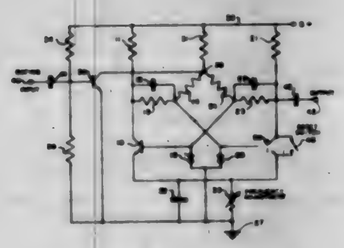
1. A signal generating means having output and input terminals, a first output signal produced at the output terminals of said generating means, a negative feedback means connected between said output and input terminals, an inductance-capacitance series resonant circuit shunting said negative feedback means, therefore the said negative feedback means is frequency sensitive, a means connected between the inductance-capacitance series resonant circuit whereby the second output signal is produced, said first and second output signals being in a selected phase relation.

3,142,024
DUAL FREQUENCY UNIJUNCTION TRANSISTOR OSCILLATOR
George Mordwinkin, Norwalk, Conn., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Feb. 28, 1962, Ser. No. 174,509
10 Claims. (Cl. 331—60)



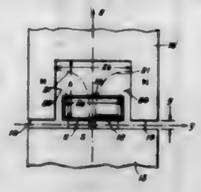
6. An oscillator circuit comprising
a unijunction transistor having an emitter and a first base and second base,
a positive direct current line and a return line relatively negative thereto,
a tank circuit in series with said bases between said positive and return lines and tuned for a desired frequency, means coupled to said tank circuit for providing an output frequency at said desired frequency.
and a resistance-capacitance circuit including a capacitor coupled between said emitter and first base,
and a resistance coupling said capacitor to said positive direct current line for varying the conductivity of the transistor to provide periodic pulsations in said series base circuit at said desired frequency,
another tank circuit coupled to said emitter-first base circuit and tuned to another frequency which is a harmonic of said desired frequency and means coupled to said another tank circuit for providing a second output frequency at said harmonic of said desired frequency.

3,142,025
ASTABLE TO BISTABLE MULTIVIBRATOR CONTROL CIRCUIT
Henry Roberts, Fair Lawn, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 1, 1961, Ser. No. 92,722
2 Claims. (Cl. 331—113)



1. A counting circuit comprising; a first, a second, and a third transistor, each having emitter, collector, and base electrodes; a first resistor having one end connected to the collector electrode of said first transistor; a second resistor having one end connected to the collector electrode of said second transistor; a first condenser connected in parallel with said first resistor; a second condenser connected in parallel with said second resistor; the other end of said first resistor connected to the base electrode of said second transistor; the other end of said second resistor connected to the base electrode of said first transistor; a third and a fourth resistor connected in series between the other ends of said first and second resistors; a fifth resistor connecting the collector electrode of said first transistor to a source of voltage; a sixth resistor connecting the collector electrode of said second transistor to said source of voltage; a seventh resistor connecting the junction of said third and fourth resistors to said source of voltage; an eighth resistor connecting the emitter electrodes of both transistors to ground; a ninth and a tenth resistor connected in series between said source of voltage and ground; the collector electrode of said third transistor connected to the junction of said third and fourth resistors; the base electrode of said third transistor connected to the junction of said ninth and tenth resistors; the emitter electrode of said third transistor connected to ground; a first diode having its cathode connected to the base electrode of the said first transistor and its anode connected to ground; a second diode having its cathode connected to the base electrode of the second transistor and its anode connected to ground; a third condenser connected in parallel with said eighth resistor; and a source of gating input signals for said counting interval connected to the base electrode of said third transistor.

3,142,026
BROADBAND RESONANCE GYROMAGNETIC ABSORPTION ISOLATOR WITH MAGNETIC FIELD OF INCREASED STRENGTH TOWARD NARROW WALL
Fang-Shang Chen, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 5, 1961, Ser. No. 121,997
4 Claims. (Cl. 333—24.2)



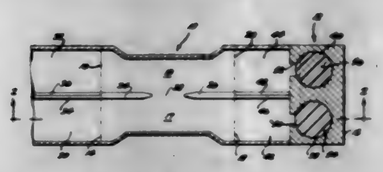
1. A nonreciprocal device for electromagnetic wave energy comprising a section of waveguide having opposed pairs of wide and narrow walls, a longitudinally extending element of gyromagnetic material of narrow resonance linewidth located within said guide and extending for a substantial transverse extent on one side of the longitudinal center line of said guide, means for applying a magnetic field to said element that increases in strength toward the narrow walls of said guide according to a parabolic function, said means comprising a member of magnetic material having a pair of pole pieces both of a first polarity that extend on either side of said guide adjacent to said narrow walls and a member of magnetic material of a polarity opposite to said first polarity extending adjacent to a wide wall of said guide and opposing said pole pieces.

3,142,027
ELECTROMECHANICAL WAVE FILTER HAVING RESONANT BARS COUPLED TO EACH OTHER BY TORSION WIRES WHICH ALSO SUPPORT BARS
Hans Altenseiler and Werner Poschenrieder, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Feb. 17, 1961, Ser. No. 90,141
Claims priority, application Germany Feb. 26, 1960
9 Claims. (Cl. 333—72)



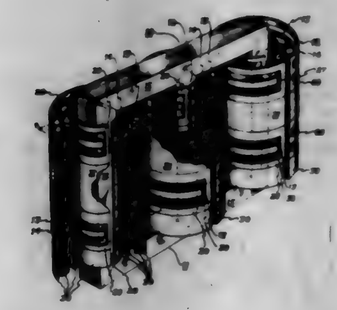
1. A filter for electric waves, comprising a plurality of mechanical resonators made in the form of bending oscillators, coupling members arranged between said resonators in the range of the oscillation nodes thereof and interconnecting said resonators to form a self-sustaining unit, the material of said coupling members being small as compared with one quarter wave length and being effective to transmit torsional forces, said coupling members each being formed by a wire element which is common to said resonators, said element lying upon and being rigidly connected with each of said resonators, and having their free ends, at least at one end of the filter, extending therefrom to form non-loading supporting means therefor.

3,142,828
WAVEGUIDE STOP-BAND FILTER UTILIZING HYBRID CIRCUIT WITH LOSSY RESONANT CAVITIES IN BRANCH ARMS
Robert D. Wanselow, Woodland Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 31, 1962, Ser. No. 198,870
5 Claims. (Cl. 333—73)



1. A waveguide filter for providing a stop-band of preselected width for electromagnetic energy in the vicinity of a preselected frequency comprising in combination: a waveguide hybrid device for propagating electromagnetic energy between an input port and an output port, means defining at least one cavity coupled to said hybrid device, said cavity being resonant at said preselected frequency, and loss means disposed in said cavity for attenuating electromagnetic energy in the vicinity of said preselected frequency, said loss means comprising a mixture of dielectric and lossy materials in a preselected proportion to provide a preselected cavity Q and a corresponding preselected stop-band width.

3,142,829
SHIELDING OF FOIL WOUND ELECTRICAL APPARATUS
William A. Keen, Jr., Cheshire, and Anthony J. Damasco and Leonard Rabins, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Aug. 22, 1960, Ser. No. 51,222
5 Claims. (Cl. 336—84)



1. In combination, an electric foil winding and an electric shield for reducing current concentrations at an edge of said winding, said shield comprising a substantially rectangular sheet of electrical conducting material formed into a substantially cylindrical shape for encompassing said winding, there being a narrow gap separating the ends of said shield, said shield comprising a first edge portion, a second edge portion, and end portions connecting said first and second edge portions so as to define a closed outer peripheral loop portion, an intermediate portion integral at one end with an end portion, and said intermediate portion extending into said loop portion.

3,142,830
COIL CONSTRUCTION TO FACILITATE TAPPING
Warren S. Lenox, Oak Park, and Joseph T. Gurnik, Berwyn, Ill., assignors to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 16, 1958, Ser. No. 772,948
6 Claims. (Cl. 336—207)



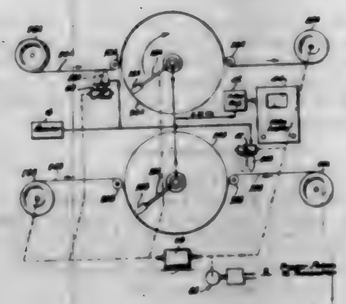
1. In a coil construction, the combination comprising a plurality of turns, said turns being arranged in layers having insulating means disposed between said layers, spacer means interposed between a portion of the outermost layer of turns and an underlying layer of turns for spacing a portion of said outermost layer from said underlying layer whereby the spaced portion of turns in said outermost layer may be accessible both from directions interiorly and exteriorly of said coil, wrapper means surrounding said outermost layer of turns and means secured to the portion of said wrapper means which is disposed over the outermost coil layer portion spaced from said underlying layer for enabling such portion of said wrapper means disposed over said outermost layer portion spaced from the underlying layer to be readily detached from the remainder thereof.

3,142,831
RESISTANCE ELEMENT FOR INCANDESCENT LAMPS
Frank J. Rosenblatt, 1945 Vyse Ave., Bronx 60, N.Y.
Filed July 30, 1963, Ser. No. 298,767
9 Claims. (Cl. 338—219)



1. A resistance attachment for an incandescent light bulb for operating same at a reduced voltage comprising a body formed of non-conductive material, a socket-engaging contact centrally located at the bottom of said body for engagement with the center contact of a lamp socket, a lamp-engaging contact centrally located at the top of said body, a resistance element secured within said body and interconnected between said contacts for producing a voltage drop between said contacts when current is passed through said resistance, a lamp base-receiving seat shaped to engage the lower annular edge of the base of a standard incandescent light bulb, resilient interconnecting means between said seat and said body, and a pressure sensitive, non-drying adhesive on said seat for releasably adhering said attachment to an incandescent light bulb for positioning said attachment between said incandescent light bulb and the center contact of a lamp socket and placing said resistance in series between said socket contact and the central contact of a standard incandescent light bulb.

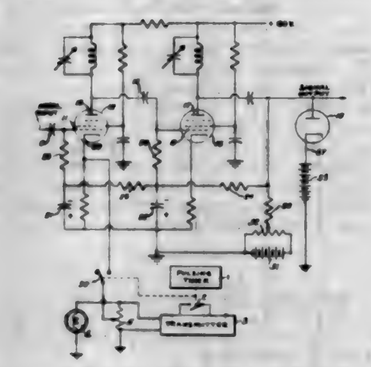
3,142,832
INTERLACED VIDEO DISPLAY OF SEA BOTTOM USING SONIC ENERGY
Charles Howard Jones, Murrysville, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 7, 1962, Ser. No. 178,216
6 Claims. (Cl. 340—3)



3. A recording apparatus for use in obtaining an interlaced video image from sonic echoes returned at a particular periodicity from successive transverse parallel thin approximately rectangular segments of an elongated strip area of approximately constant width and wherein each of the echoes is returned with range resolution relative to one side of said elongated area as a function of time comprising first and second tape transports, a tape support and guide means for each of the tape transports, defining a tape path having a straight portion and a semicircular loop portion, the two semicircular loop portions of the respective tape paths being of equal length, means for driving said tape transports at equal and constant speed, a recording head for each tape transport, means for reciprocating each recording head alongside the straight portions of the respective tape paths for recording alternately along their respective tape paths, tape readout means for each of the semicircular loop portions of the respective tape paths, means for driving the readout means so that they transverse their respective semicircular portions of the tape paths alternately and at a speed such that both readout means complete one traverse each of their respective semicircular tape path portions in the same length of time that each of said recording heads completes a recording traverse of the straight portion of the respective tape path.

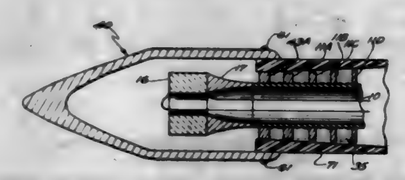
3,142,833
REVERBERATION CONTROLLED GAIN AMPLIFIER
John W. Flowers, Gainesville, Fla., and Elmer J. Wade, Scotia, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 4, 1950, Ser. No. 188,462
1 Claim. (Cl. 340—3)

In a receiver for use in an underwater echo-ranging target-detection system which repetitively generates and projects acoustic energy pulses, wherein said pulses give rise to receiver input signals comprising substantially continuous and initially intense reverberation in each listening interval between pulse generation times, in combination: a signal amplifier to which said input signals are applied, said amplifier including an amplifying device and providing signal gain dependent upon the magnitude of bias voltage applied to a control element of said device; circuit means including a serially connected capacitor for applying, to said control element, a bias voltage variable in accordance with the variable charge condition of said capacitor; means for charging said capacitor, at the times of pulse generation, to provide an initial bias voltage which reduces the magnitude of amplified revereberation at the beginning of each listening interval to substantially a predetermined level; a capacitor discharge circuit comprising first and second resistors and a adjustable first voltage source serially connected across said capacitor; and a diode circuit to which amplified reverberation is coupled from said amplifier, the diode circuit including in



serial connection said second resistor and a second voltage source, and providing across said second resistor a charge-modifying voltage which is of polarity tending to augment charge of said capacitor, and which varies in accordance with magnitude of said amplified reverberation relative to said predetermined level; said capacitor discharge circuit tending to reduce said initial bias voltage during each said listening interval in accordance with a predetermined exponential decay characteristic; and said charge-modifying voltage affecting the charge condition of said capacitor and correspondingly the bias voltage, during each said listening interval, to provide regulation of said amplifier gain to values which susbtantially maintain the magnitude of amplified reverberation at said predetermined level.

3,142,834
ELASTIC WAVE RADIATOR AND DETECTOR
Miguel C. Junger, Cambridge, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 10, 1959, Ser. No. 792,330
5 Claims. (Cl. 340—8)



1. Apparatus for use in elastic wave radiation and receiving systems comprising, in combination,
a cylindrical element made of a material capable of sustaining the propagation of elastic waves therethrough;
means coupled to one end of said element for introducing periodic elastic waves therein when excited;

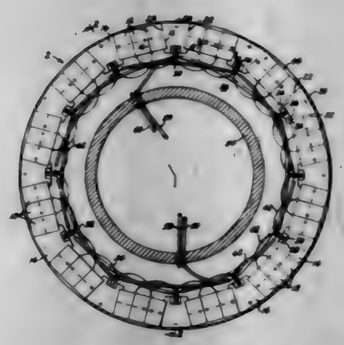
a series of annular fins projecting from the outer wall surface of said cylindrical element and equally spaced therealong with the separation between adjacent fins being less than one quarter wave length of said periodic elastic waves as measured in the medium surrounding said cylindrical element,

each pair of adjacent fins coupling a portion of the elastic waves introduced into said cylindrical element into said surrounding medium whereby the amplitude of said introduced elastic waves progressively diminishes as said waves propagate toward the opposite end of said cylindrical element,

successive fins of said series extending progressively greater distances outwardly from said outer wall surface with the fin immediately adjacent said one end extending the shortest distance therefrom whereby each pair of adjacent fins couples equal amounts of the elastic waves into said surrounding medium,

successive fins of said series also having progressively decreasing thickness with the fin immediately adjacent said one end having the greatest thickness whereby the phase velocity of said elastic waves is maintained constant as said elastic waves propagate towards said opposite end of said cylindrical element.

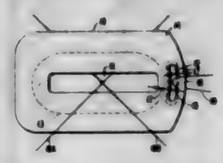
3,142,835
RING-SHAPED TRANSDUCER
Wilbur T. Harris, Woodbury, Conn., assignor to The Harris Transducer Corporation, Woodbury, Conn., a corporation of Connecticut
Filed Feb. 4, 1960, Ser. No. 6,722
14 Claims. (Cl. 340—10)



13. A transducer comprising a plurality of strips of transducing material and a plurality of spacing strips of conductive material, said strips collectively defining a substantially ring-shaped structure, a plurality of said transducing strips being arranged circumferentially between each pair of spacing strips and electrically connected in parallel between said pairs of spacing strips.

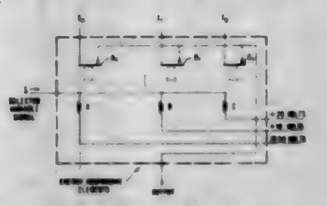
3,142,836
MULTI-APERTURE MAGNETIC CORE STORAGE DEVICE
James M. Brownlow, Fishkill, Munro K. Haynes, Poughkeepsie, and Warren A. Hunt, Chappaqua, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 9, 1958, Ser. No. 740,778
6 Claims. (Cl. 340—174)

1. A storage device magnetic core having material capable of assuming either of two stable states and defining first and second apertures, said apertures being arranged to provide a substantially longer flux path around said first aperture than the flux path encompassing said second aperture, said material defining said second aperture exhibiting a substantially rectangular hysteresis curve, said material adjacent said first aperture exhibiting



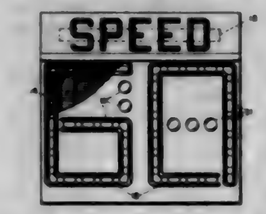
a hysteresis curve having a substantially demagnetized remanent state, the coercive force of the material adjacent said first aperture being greater than that of the material surrounding the second aperture, and means for applying a drive M.M.F. to the core to switch the material from one state of magnetization to another.

3,142,837
MULTIVALUED LOGIC ELEMENT
Midhat J. Gazale, Champroussy par Dravell, France, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 22, 1959, Ser. No. 841,527
6 Claims. (Cl. 340—172)



1. A device capable of establishing in a single logical comparison a logical relationship between a plurality of input channels and an output channel comprising a plurality of energy responsive elements, one associated with each of said input channels, means making said elements uniquely responsive to an applied gating signal having one of a plurality of possible magnitudes equal in number to said input channels, means controlled by said elements for coupling the associated said input channels to said output channel, and means for selectively impressing said gating signal simultaneously on all said energy responsive elements whereby said output channel is coupled with a said input channel in accordance with the magnitude of said gating.

3,142,838
HIGHWAY SIGN
Arthur J. Jackson, Jr., Rochester, N.Y., assignor to General Signal Corporation
Filed Oct. 29, 1962, Ser. No. 233,898
8 Claims. (Cl. 340—84)



1. An electrical display comprising, a housing, a plurality of incandescent lamps mounted on said housing

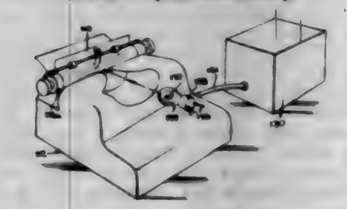
arranged to form a specified character, and a second illuminating means made from transparent material arranged to form the outline of a specified character superimposed over said array.

3,142,839
REAL TIME READER FOR HAND-WRITTEN ALPHA NUMERIC CHARACTERS
Edwin A. Irland, Hanover, and Charles G. Morrison, Livingston, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 30, 1958, Ser. No. 731,937
18 Claims. (Cl. 340—146.3)



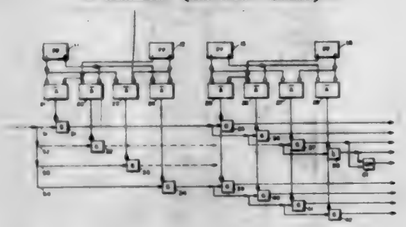
3. A real time reader for handwritten alpha-numeric characters comprising in combination means defining a writing area for the describing thereon of both alphabetical letters and Arabic numerals, means defining a pair of guide indicia in said writing area with respect to which both said letters and said numerals are hand described, means defining a plurality of criterion areas in said writing area, a stylus for the manual describing of said letters and said numerals on said writing area, first means for detecting the particular ones of said criterion areas contacted by said stylus as said letters and said numerals are described on said writing area, second means for determining the sequences in which particular ones of said criterion areas are contacted by said stylus as said letters and said numerals are described on said writing area, third means for determining the number of times particular ones of said criterion areas are contacted by said stylus as said letters and said numerals are described on said writing area, and means controlled by said first means, said second means and said third means for identifying said letters and said numerals described on said writing area.

3,142,840
INFORMATION READING AND TRANSMITTING SYSTEM
David Zeheb, 259 Ell Road, Hillsdale, N.J.
Filed Jan. 31, 1961, Ser. No. 86,114
1 Claim. (Cl. 340—146.3)



Information recognition system comprising a set of indicia each in the form of a distinct character adapted to be impressed upon the front of light-transmitting insulating material so as to record selected information thereon, and recognition means for said indicia, said recognition means comprising a sensing member, said sensing member comprising a rear conducting plate and a selected number of photo-conductive areas of dot-like nature disposed upon the front face of said plate in selected pattern, said plate being adapted to be positioned behind said light-transmitting material in registration with a respective character, a light source in front of said light-transmitting material positioned and adapted to emit light for passage through said light-transmitting material and upon said sensing member, the array and number of said photo-conductive areas and the shape of the characters of said set being such that each character is adapted to block light from a unique pattern of said photo-conductive areas, an electric circuit corresponding to each of the characters of said set, said electric circuit comprising an "AND" gate having as many inputs as there are photo-conductive areas, a flip-flop relay corresponding to each "AND" gate input having a 0 output terminal and a 1 output terminal and having an input coupled to a respective photo-conductive area, and also adapted to receive a sampling pulse, said flip-flop relay being adapted upon reception of a sampling pulse to produce a high output at its 0 output terminal and low output at its 1 output terminal when its corresponding photo-conductive area is unblocked by a character and a reversal of output when its corresponding photo-conductive area is blocked by a character, respective output of each flip-flop relay being connected to a respective input of said "AND" gate in such a way that said "AND" gate produces an output only when the character corresponding thereto is receiving light, an "OR" gate having inputs each connected to the output of a respective "AND" gate, each said flip-flop relay having a further input for reception of a reset pulse and being thereby adapted to be restored to its initial condition, means coupled to the output of said "OR" gate for supplying said reset pulse to said reset input of said flip-flop relay, and means including time delay means coupling the output of said "OR" gate and said sampling pulse input of said flip-flop relay for supplying said sampling pulse thereto after said reset pulse is supplied thereto.

3,143,041
CONTROL APPARATUS FOR DIGITAL COMPUTER
Peter J. Mancuso, Jr., New Paltz, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 25, 1959, Ser. No. 822,796
5 Claims. (Cl. 340—172.5)



1. In an electronic digital computer operative in accordance with a stored program of binary coded instructions,

command generating apparatus for channeling a serially generated group of timing pulses as commands in accordance with signals representative of said binary coded instructions including

first and second storage registers for storing first and second portions respectively of a set of instruction signals,

first and second logical means connected to said first and second registers respectively,

each said logical means providing a single output signal level indicative of the decoded value of the instruction portion stored in the connected storage register,

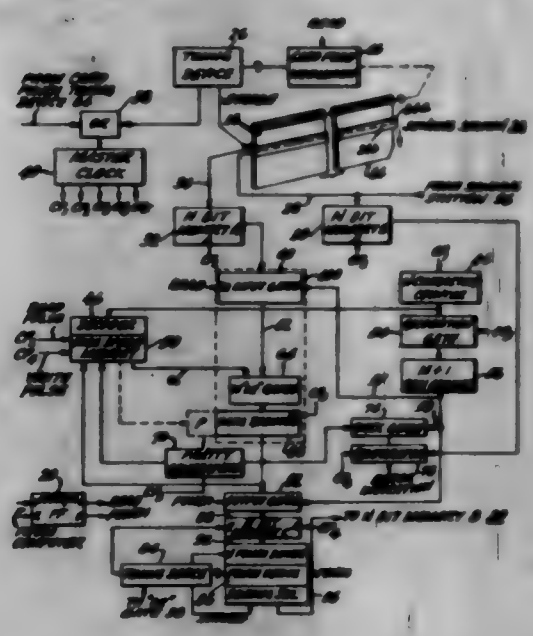
a first set of gates connected to said first logical means,
a second set of gates connected to said second logical means,
said second set of gates being arranged in a plurality of groups equal in number to the number of gates in said first set,
each said gate having a conditioning signal input terminal,
a sampling signal input terminal and an output terminal,
each different output signal level from said first logical means being applied to the conditioning input terminal of a different gate in said first set,
each different output signal level from said second logical means being applied to the conditioning input terminal of a different gate in any one group in said second set,
means to apply a timing pulse simultaneously to the sampling input terminals of all the gates in said first set so that the gate in that set having a signal level applied to its conditioning input terminal from said first logical means will produce an output pulse at its output terminal,
and means to apply said output pulse simultaneously to the sampling input terminals of all the gates in one group in said second set so that the gate in that group having a signal level applied to its conditioning input terminal from said second logical means will produce a command pulse at its output terminal to control the computer in accordance with the instruction signals stored in said first and second storage registers.

3,142,842

APPARATUS FOR TRANSFERRING DATA FROM PUNCHED CARDS TO A MEMORY DEVICE

Andrew To-an Ling, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 3, 1960, Ser. No. 26,563
12 Claims. (Cl. 340—172.5)



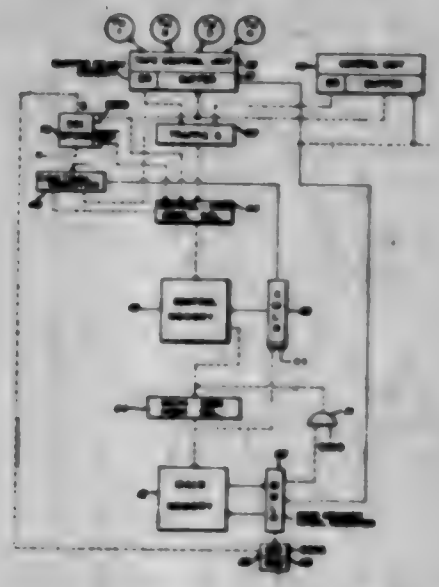
1. In a system for transferring data from a storage medium having M row and N column storage positions, the combination comprising: a data register having M stages each for storing a binary digit; means for sensing a row of data in the storage medium and for transferring the sensed data one row position at a time to a selected stage of said data registers; a memory having at least M row and N column storage positions corresponding to the storage positions of the storage medium; means for reading out the data stored in the M row and N column storage positions of said memory a column at a time to corresponding stages of the data register, all of the M row and N column storage positions of said memory being read out to said data register once for each row sensing of the storage medium; and means for recording the data stored in said data register in a column of said memory after each column readout from said memory.

3,142,843

INFORMATION HANDLING APPARATUS FOR DISTRIBUTING DATA IN A STORAGE APPARATUS

Henry W. Schrimpf, Waltham, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed July 28, 1960, Ser. No. 45,995
11 Claims. (Cl. 340—172.5)



9. In a data processing apparatus, the combination comprising a main memory, said memory being adapted to store data words at separately addressable storage locations, a main memory address selector for selecting the address for each data word in said main memory, a control memory having a plurality of addressable storage locations, said control memory being adapted to store control data for said main memory, a control memory address selector, a data transfer circuit, indicating means connected to said last-named circuit to indicate said transfer circuit is conditioned to transfer a data word, means including said indicating means setting a first address in said control memory address selector, control memory activating means connected to said control memory to read control data therefrom into said main memory address selector, means including said main memory address selector effecting a transfer of data between said transfer circuit and said main memory, means connected to said control memory to modify the control data read into said main memory address selector, selective data sensing means connected to said data transfer circuit, means connecting said data sensing means to said control memory address selector to set a second address therein, and means including said data sensing means effecting a change of the data in said control memory at said first address.

3,142,844

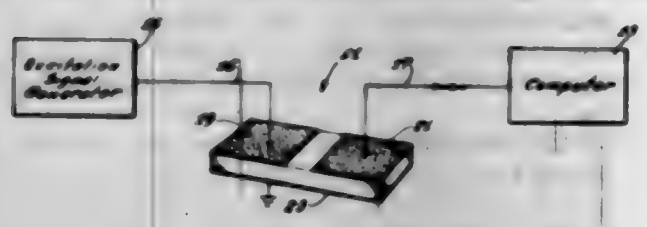
CERAMIC MEMORY ELEMENT

Alvin B. Kaufman, Woodland Hills, and Leon H. Steinman, Thousand Oaks, Calif., assignors to Litton Systems, Inc., Beverly Hills, Calif.

Filed May 17, 1961, Ser. No. 110,749
9 Claims. (Cl. 340—173.2)

1. In a non-destructive memory for storing bivalued bits of information, said combination comprising: a memo-

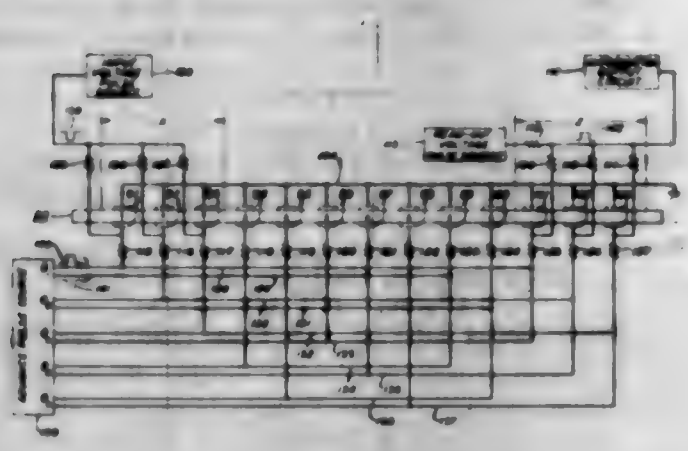
morphic ferroelectric element having first and second states of polarization, a first portion of said monomorphic ferroelectric element being permanently polarized in said first state; first means for selectively applying an electric field across the first portion of said ferroelectric element to physically deform said ferroelectric element; and a conductor positioned adjacent said ferroelectric element, said ferroelectric element being responsive to the application of the bivalued bits of information to said conductor to polarize the non-permanently polarized portion of said ferroelectric element to said first or second state, said ferroelectric element being responsive to said physical deformation to produce an output signal at said conductor representative of the state of polarization of the non-permanently polarized portion of said ferroelectric element.



3,142,845
ELECTRICAL INFORMATION HANDLING CIRCUIT

Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application Aug. 4, 1958, Ser. No. 752,985, now Patent No. 3,090,946, dated May 21, 1963. Divided and this application Nov. 28, 1962, Ser. No. 240,617
7 Claims. (Cl. 340—173.2)

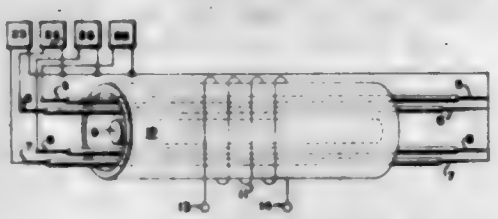


1. A shift register circuit comprising a slab of ferroelectric material having substantially rectangular charge-voltage characteristics, segments of said slab being electrostatically unstable when polarized in lengths less than a minimum dimension as determined by the electrostatic interactions of the remainder of said slab and said segments, a plurality of pairs of electrodes on opposite sides of said slab, said electrode pairs determining a plurality of capacitor segments each being less than said minimum dimension and having said ferroelectric material as a dielectric, a plurality of information address groups each comprising a predetermined number of adjacent said capacitor segments each being normally polarized in one direction, each of said address groups being greater than said minimum dimension, and means for introducing a binary information value into a first address group comprising means for switching the polarization of each of the capacitor segments of said first group to a polarization in the other direction.

3,142,846
ELECTRO-MAGNETIC SIGNAL RESPONSIVE DEVICE

Robert S. Bartel, Kingston, and David W. Bright, Saugerties, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 14, 1959, Ser. No. 839,906
2 Claims. (Cl. 340—174)

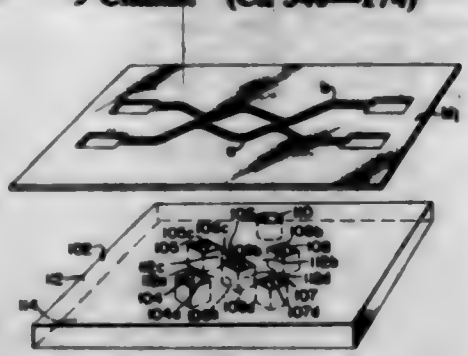


2. A current signal adding device comprising a plurality of electrically-conducting elements, an axially elongate cylindrical wrap of magnetic material about said elements, said wrap having a substantially rectangular hysteresis loop characteristic and having a residual field oriented parallel to its longitudinal axis, a rod of magnetic material oriented longitudinally within said wrap having a residual magnetic polarity which is the same as that of said wrap to oppose axial return flux through said wrap, simultaneously operative plural input source means connected to send current pulses through respective ones of said elements so as to create an annular magnetic field in quadrature to said residual field of said wrap so as to momentarily change said residual magnetic field of said wrap in accordance with the instantaneous algebraic sum of said pulses, and an output winding about said wrap for sensing the scaler value of the momentary changes of said residual field due to the simultaneous algebraic sum of the annular magnetizing forces during the rise and fall times of said current pulses.

3,142,847
MEMORY PLANE

George R. Henderson, Byfield, Mass., assignor to Columbia Broadcasting Systems, Inc., Newburyport, Mass., a corporation of New York

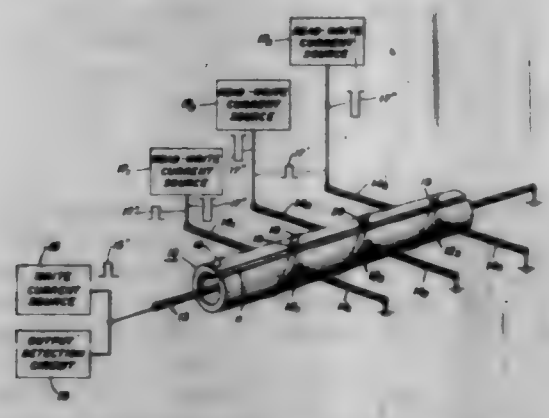
Filed Dec. 14, 1960, Ser. No. 75,846
9 Claims. (Cl. 340—174)



3. A memory plane comprising a substrate sheet formed with a plurality of through apertures extending between opposite faces thereof, and being so arranged and spaced from each other that the portions of said substrate sheet between respective neighboring side walls thereof form an array of mounting members each having opposite ends joined to the remainder of said substrate sheet and a circumferential girth defined by said opposite substrate sheet faces and said neighboring aperture side walls, electrically conductive means traversing said mounting members in a manner to define current paths extending from one of said opposite ends thereof to the other, and a magnetic coating surrounding the assemblies of said mounting members and said conducting means and extending along said opposite substrate sheet faces and said neighboring aperture side walls

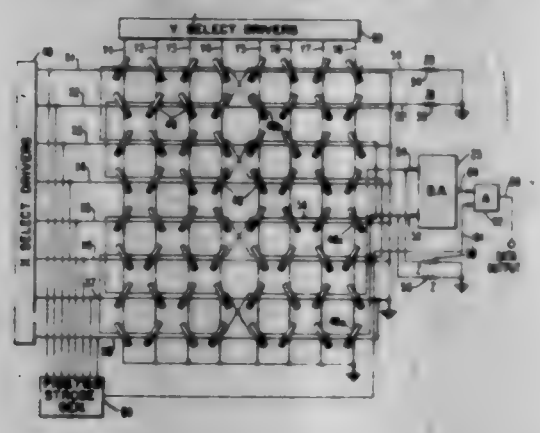
about the girth of individual mounting members for electromagnetic linking with said current paths.

3,142,043
MAGNETIC MEMORY CIRCUIT
James L. Smith, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 16, 1960, Ser. No. 76,469
10 Claims. (Cl. 340—174)



9. A memory device comprising a helical first magnetic element having substantially rectangular hysteresis characteristics, a first access wire axially coincident with said first magnetic element, a second access wire arranged orthogonally transverse to said first access wire, said access wires defining an information address on said first magnetic element at their intersection, means for applying coincident current pulses to said access wires for inducing a remanent flux in said first magnetic element at said information address representative of a binary information bit and a second magnetic element having a high magnetic permeability disposed at said intersection of said access wires and so inductively coupled to said first magnetic element as to provide a low reluctance closure path for said remanent flux.

3,142,049
MEMORY ARRAY SENSING
David J. Crawford, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 25, 1961, Ser. No. 133,875
5 Claims. (Cl. 340—174)



5. In a magnetic core storage device in which a plurality of magnetic cores are arranged in groups, each core being switchable between a data-designating state and a non-data-designating state, each group being threaded by a common sense winding, each sense winding together with the cores threaded thereby having exhibiting the characteristics of a transmission line including a determinable characteristic impedance with respect to an environmental point of reference, such as ground; the improved sensing system, comprising:

a plurality of magnetic cores arranged in groups, each core in a group corresponding to a similar core in each other group, the corresponding similar cores in different groups forming sets;

a plurality of sense windings, one for each of said groups;

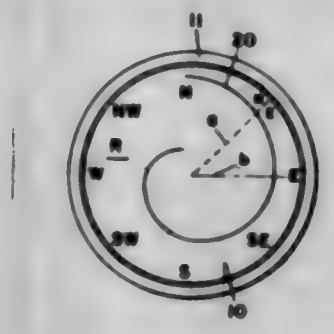
a plurality of switching means, one for each of said sets, each operable to switch all of the cores in a corresponding set from said data designating state to said non-data designating state, each of said cores, in changing from said data designating state to said non-data designating state, manifesting a signal in the respectively corresponding one of said sense windings;

a plurality of differential amplifiers, each corresponding to a pair of said sense windings, each having a pair of input terminals, one end of each sense winding in a pair being connected to a respectively corresponding one of the input terminals of the corresponding differential amplifiers, each terminal of said amplifiers responding to signals manifested by corresponding cores at different times, said different times being proportional to line length of the related sense winding between each core and the respective amplifier, each core in a set being substantially the same line length distance from the amplifier corresponding thereto;

a plurality of impedances, one for each of said sense windings, each equal to the characteristic impedance of the respectively corresponding winding and cores, each of said impedances connecting a second end of the corresponding sense winding to said environmental point of reference;

and gating means for said differential amplifiers, said gating means being operative to gate signals from each of said sense windings through the respectively corresponding one of said differential amplifiers, said gating means being differentially responsive to different ones of said driving means so as to gate said differential amplifiers at corresponding different times.

3,141,858
PHOTOELECTRIC SCANNING COMPASS MONITORING SYSTEM FOR REMOTELY INDICATING DIRECTION
Robert O. Donovan, 3700 Wendy Lane, Silver Spring, Md.
Filed Apr. 22, 1963, Ser. No. 274,879
3 Claims. (Cl. 340—212)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for indicating the bearing of a ship in an area remote from the location of the ship's compass which comprises

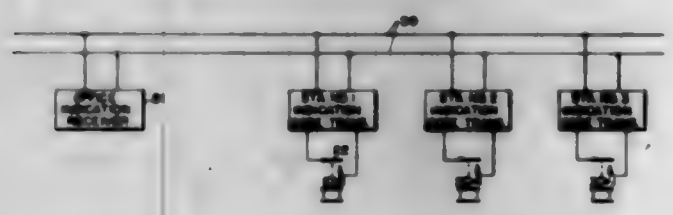
(*a*) a movable compass card for the ship's compass having a spiral stripe on its upper face and in contrast with said upper face,

(*b*) said spiral stripe extending about the geometric center of the card and encompassing 360 degrees,

(*c*) linear scanning means for repetitively sweeping a light beam across the face of said compass card in a radial path defined by the geometric center and an edge of the compass card,

(*d*) photoelectric pickup means to detect any change in light reflected from the face of said card and to produce a signal at an output in response to said change,
(*e*) said linear scanning means being positioned at an angle to the face of said compass card,
(*f*) said photoelectric pickup means being positioned in opposed relation to said linear scanning means and at the same angle to the face of said compass card,
(*g*) a visual display device including a display surface, a circular scanning means for repetitively defining a circular path on said display surface, and illuminating means responsive to a signal for illuminating a portion of said defined path,
(*h*) means connecting the output of said photoelectric pickup means to said display device illuminating means,
(*i*) and means connected to said linear and to said circular scanning means for operating both said scanning means in synchronism.

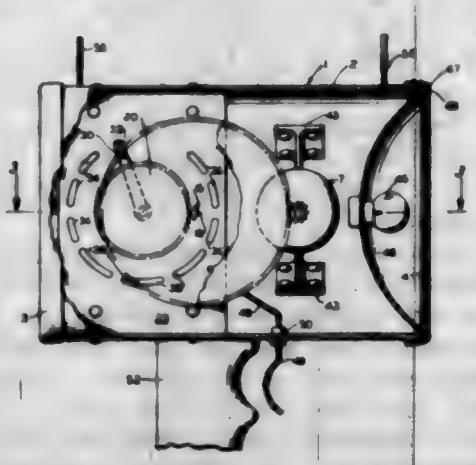
3,142,051
AUTOMATIC START FOR NORMALLY INACTIVE CODE COMMUNICATION SYSTEM
Willis R. Smith, Rochester, N.Y., assignor to General Signal Corporation
Filed July 19, 1962, Ser. No. 210,963
12 Claims. (Cl. 340—213)



1. A normally inactive code communication system for communicating codes indicative of digital readings over a communication channel from at least one field station to a remotely spaced office comprising:
(*a*) digital input means at the field station variable step by step in accordance with a digital increase or decrease of several digits in a digital reading for selectively energizing control channels for the several digits, one channel at a time,
(*b*) storage means rendered effective when said code communication system is active to register a reading corresponding to the control channel that is then energized and to store such registration until said code communicating system is again rendered active, and
(*c*) initiating means controlled by said control channels and said storage means for rendering said communicating system active to transmit a reading to the office in response to a change of a predetermined number of several digits from any reading that may be stored by said storage means.

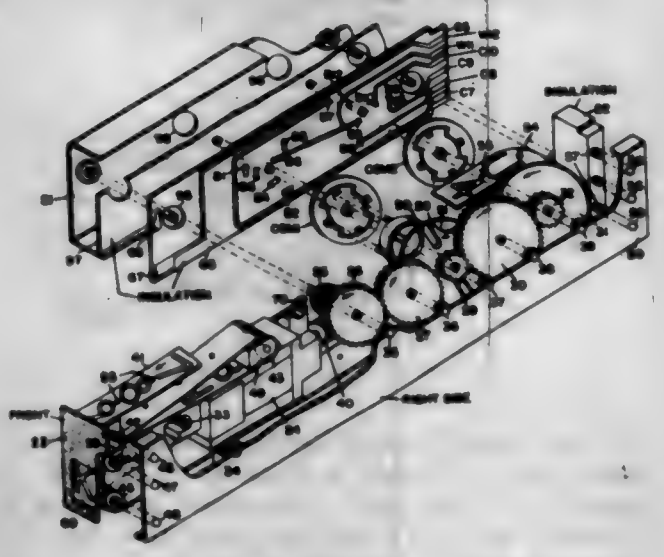
3,142,052
EMERGENCY SIGNALLING DEVICE
Norman E. Tambert, Danville, Calif.
(8530 Hayden Way, Fair Oak, Calif.)
Filed Apr. 30, 1962, Ser. No. 191,153
1 Claim. (Cl. 340—321)

A signalling device comprising:
a watertight housing provided with a transparent side and with a handle extending outwardly from another side thereof and adapted to be held and manipulated in one hand of a user,
an electric generator and a spring wound motor contained in said housing with said motor connected with said generator for driving the same,
a light source adjacent said transparent side and an electrical circuit in said housing,
said electrical circuit including said light source and said generator with said generator energizing said light source,
a rotatable contact member in said circuit,
drive means connecting said motor and said member for driving the latter,



a plurality of spaced contacts in said circuit adapted to be successively engaged by said contact member for opening and closing said circuit and energizing and deenergizing said light source to emit the intermittent light beams of a distress signal, and
a trigger alongside said handle and adapted to be engaged by a finger of the hand of the user,
said trigger being operatively connected with said motor for starting and stopping the latter.

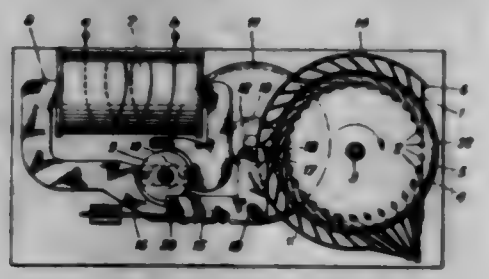
3,142,055
DATA POSTING INDICATOR HAVING PLURAL CONCENTRIC DISC COMMUTATOR CONTROL
Wheeler D. Maynard, Meadon, N.Y., assignor to General Signal Corporation
Filed Sept. 26, 1958, Ser. No. 763,569
1 Claim. (Cl. 340—324)



A posting indicator comprising:
(*a*) a longitudinal housing,
(*b*) a tape having indicia formed thereon extending in the form of a belt longitudinally throughout substantially the entire length of the housing, said tape having a longitudinal row of perforations formed therein,
(*c*) a sprocket gear supporting said belt at one end of the housing having sprocket teeth on its periphery engaging the perforations in said tape,
(*d*) a motor at the other end of said housing within said belt having a rotor shaft extending longitudinally relative to said longitudinal housing,

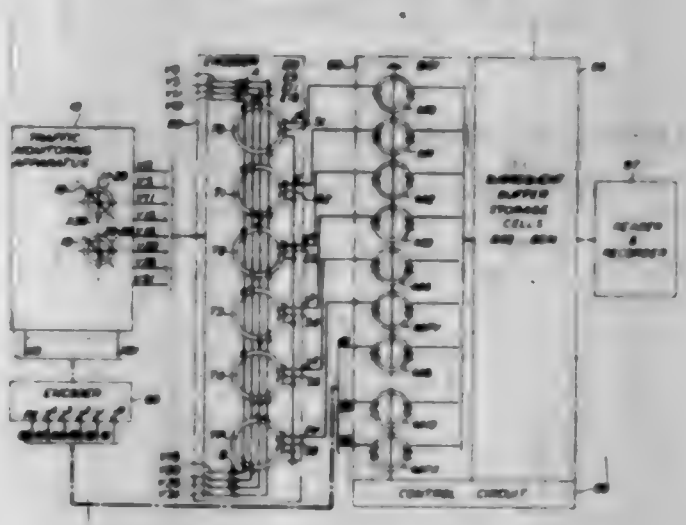
(*e*) a train of gears for driving said sprocket gear, each gear having its axis normal to said motor shaft,
(*f*) worm gearing means for driving said train of gears by said rotor shaft,
(*g*) said train of gears including a Geneva mechanism having a laterally disposed operating pin on one gear which engages several radial slots successively in a Geneva gear, whereby said Geneva gear and said sprocket gear are both operated intermittently while the motor is driven at constant speed,
(*h*) a printed circuit board extending longitudinally along one side of said housing carrying circuits and connections for governing the operation of said motor, said printed circuit board having secured therein a plurality of laterally projecting contact brushes, and
(*i*) commutating means including at least one commutator disc engaged with one side of said Geneva gear and at least one commutator disc engaged with one side of said sprocket gear, said commutator discs being movable axially relative to their associated gears and said commutating means including compression springs disposed between the discs and their associated gears for biasing the discs respectively against certain of said brushes respectively on said printed circuit board for controlling the energization of the motor, said commutator means having a plurality of said commutator discs associated with at least one of the gears, said plurality of discs being concentric and movable laterally relative to each other and relative to the associated gear and each of the concentric discs having its own associated compression spring for urging it against associated brushes on said printed circuit board.

3,142,854
ROTATABLE SYMBOL CARRIER HAVING PLURAL SYNCHRONIZING POSITIONS
Walter Burri, Langendorf, Switzerland, assignor to Autophon A.G., Solothurn, Switzerland
Filed Mar. 26, 1962, Ser. No. 182,463
Claims priority, application Switzerland Apr. 7, 1961
4 Claims. (Cl. 340—325)



1. An optical symbol indicator comprising a rotatable symbol carrier having a plurality of symbols mounted thereon to be displayed at respective indicating positions of the carrier, said indicating positions being at different successive steps of rotation of the carrier, a step motor of a type adapted to be step-driven responsive to alternately poled pulses applied thereto, means gearingly coupling said motor to the carrier and having a driving ratio such that the step of movement of the motor drives the carrier through one indicating step, for every indicating step only a stepping pulse of a determined polarity being able to drive the symbol carrier to the next indicating step, releasable stop means holding the carrier against movement at two different synchronizing positions, said synchronizing positions displaced from each other by approximately one half a revolution of the carrier and means to release said stop means responsive to a release criteria signal permitting the signal carrier to pass over a synchronizing position when a stepping pulse with the proper polarity to drive said motor is applied to same concurrently with said release criteria, said two carrier synchronizing positions being such that the polarity of said stepping pulse delivered concurrently with a release criteria being able to drive the motor to pass over one of said synchronizing positions is different from the polarity of said stepping pulse delivered concurrently with a release criteria being able to drive the motor to pass over the other synchronizing position.

3,142,855
TRANSLATOR CIRCUIT
Melvin I. Gasper, Champaign, Ill., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 11, 1962, Ser. No. 194,923
9 Claims. (Cl. 340—347)

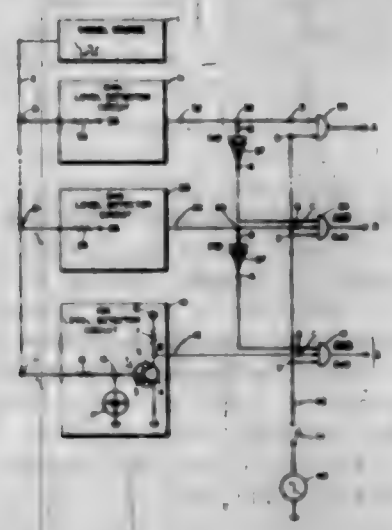


1. An encoder comprising a plurality of transformer cores each having a winding thereon, a conductor inductively linked in one direction with a particular combination of said cores and inductively linked in the opposite direction with the remainder of said cores, first means for applying a signal to said conductor to induce voltages of a predetermined polarity in the windings individual to said particular combination of said cores, second means to applying a signal to said conductor to induce voltages of said predetermined polarity in the windings individual to said remainder of said cores, and means connected to each of said windings and responsive to voltages of said predetermined polarity.

3,142,856
ANALOG-TO-DIGITAL QUANTIZER
Joseph F. Martin, Webster, and Jack Shirman, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Aug. 31, 1962, Ser. No. 220,694
4 Claims. (Cl. 340—347)

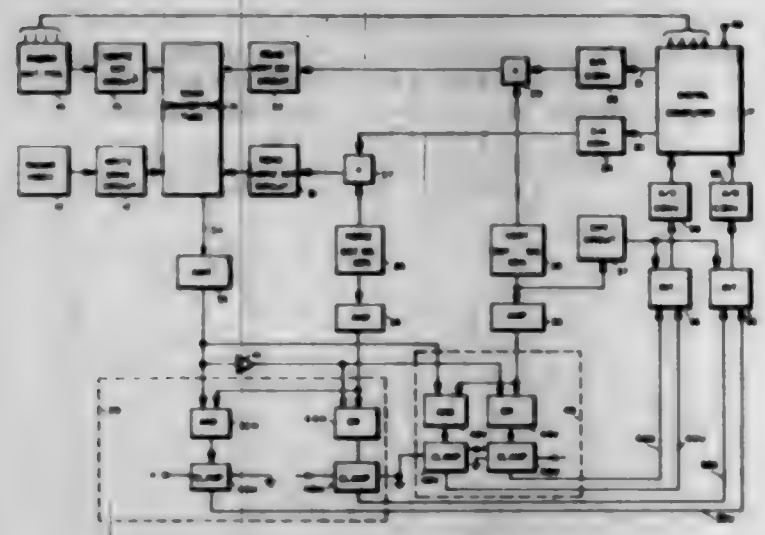
1. Apparatus comprising a transistor having a base, an emitter and a collector, said emitter being connected to a point of reference potential, a first resistance connecting said collector to a point of fixed operating potential with respect to said point of reference potential, a tunnel diode having one end thereof connected directly to said base and the other end thereof connected directly to said emitter, a source of fluctuating signal potential, and a second resistance of predetermined value having one end thereof connected to said base and the other end thereof connected to said source for applying said signal potential to said base, said transistor being switched from a non-conducting to a conducting state in response to said base assuming a first predetermined potential differ-

ence with respect to said emitter and said tunnel diode being switched from a low to a high impedance in response to the potential difference thereacross reaching a second predetermined potential difference which is less



than said first predetermined potential difference, whereby an output signal is produced at said collector in response to the value of said fluctuating signal potential exceeding a precise particular value which is determined by the predetermined value of said second resistance.

3,142,057
COORDINATE ERROR SIGNAL GENERATOR
Hubert B. Deri, Rye, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Dec. 4, 1962, Ser. No. 242,237
14 Claims. (Cl. 343—7)



1. A coordinate error signal generator for use in a radar target tracking system comprising,

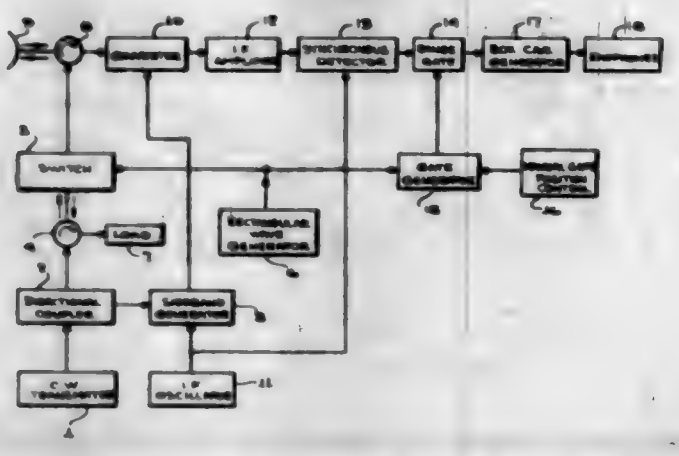
a scan converter tube including, a read current output circuit, and write and read circuits,

first means for connecting search radar return signals to said write circuit to write the radar picture on the tube,

second means connected to said read circuit for providing scanning signals to said circuit for symmetrically scanning a small area of the tube about the predicted coordinates of a radar target,

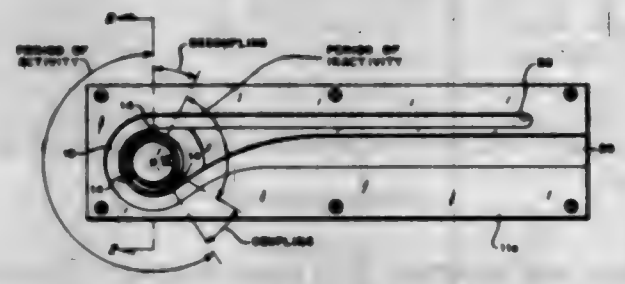
and means responsive to the tube read output circuit and the second means for detecting any deviation of the location of the actual radar target received from the predicted location and for providing two error signals corresponding to the errors in the (x) and (y) predicted coordinates.

3,142,058
AURAL INDICATING DOPPLER RADAR
Donald R. Rhodes, Winter Park, Fla., assignor to Radiation, Incorporated, Melbourne, Fla., a corporation of Florida
Filed June 12, 1961, Ser. No. 116,570
15 Claims. (Cl. 343—13)



9. In a method for determining the position of a moving target with an aural indicator, comprising periodically transmitting a pulse modulated constant frequency carrier wave, receiving said wave as reflected from said target, wherein the carrier frequency of the received wave differs from the carrier frequency of the Doppler effect frequency of the target, detecting the difference in carrier frequency between the transmitted and received waves to derive a series of detected pulses the envelope of which is amplitude modulated at the Doppler effect frequency, gating said detected pulses to the aural indicator, and adjusting the time at which gating occurs to coincide with an intensity transition deriving from the aural indicator.

3,142,059
DOPPLER SIMULATOR
Robert L. Williston, Amherst, N.H., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 28, 1961, Ser. No. 155,516
7 Claims. (Cl. 343—17.7)

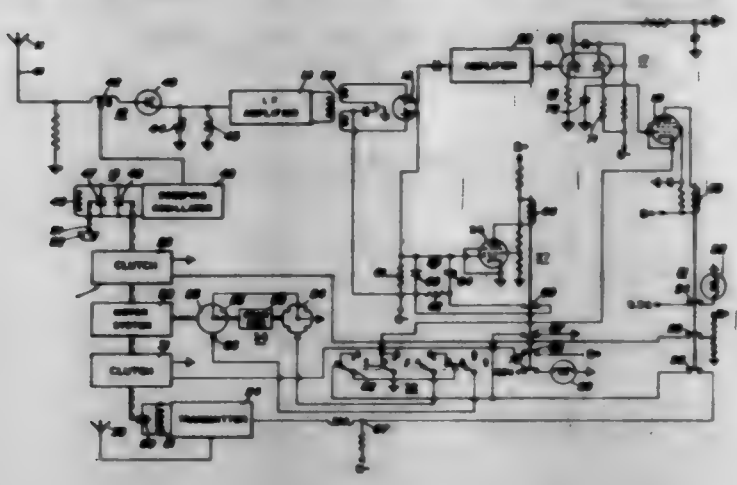


1. A doppler simulator, comprising in combination: a rotor, microwave reflector means forming a plurality of protuberances mounted on the periphery of said rotor, a rectangular wave guide encircling two-thirds of the periphery of said rotor, slot means in the broad face of said waveguide adjacent said rotor for receiving said protuberances, whereby one of said protuberances enters said waveguide simultaneously and at the same rate as another leaves said waveguide.

3,142,060
AUTOMATIC JAMMING SYSTEM
Peter C. Goldmark, New York, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 3, 1955, Ser. No. 513,170
9 Claims. (Cl. 343—18)

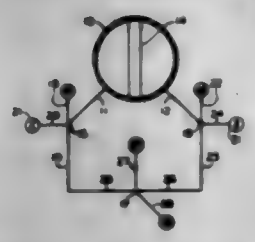
9. A system for automatically jamming a radiated signal comprising: receiver means for receiving radiated signals, transmitter means for transmitting a jamming

signal, intermediate frequency means coupled to said receiver means, means coupled to said intermediate frequency means and to said receiver means for locking



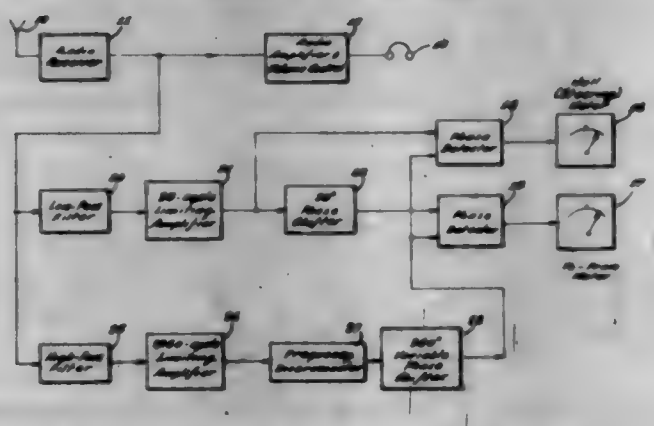
said receiver means on a radiated signal, means connected to said receiver means to be energized thereby for locking said transmitter on said radiated signal, and means for periodically interrupting the transmitter operation.

3,142,861
MICROWAVE POLARIZATION RESOLVER
Philip J. Allen, 8000 Marion St., North Forestville, Md.
Filed Feb. 14, 1961, Ser. No. 89,328
8 Claims. (Cl. 343—100)
(Granted under Title 35, U.S. Code (1952), sec. 266)



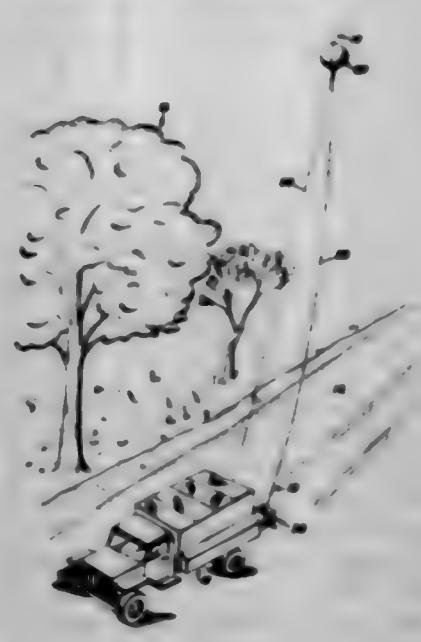
1. An electromagnetic wave operative device comprising, a dual mode circularly polarized transducer having two orthogonally related coupling ports, means for coupling the transducer to an electromagnetic wave propagational medium, first and second selective power coupling devices connected to the first and second coupling ports, respectively, and a third selective power coupling device connected to said first and second selective power coupling devices.

3,142,862
SIGNAL RECEIVING AND PROCESSING UNIT FOR AERIAL NAVIGATION SYSTEM
Sidney P. Held, Manhattan Beach, Calif., assignor to Nova-Tech, Inc., a corporation of California
Filed June 30, 1961, Ser. No. 121,164
3 Claims. (Cl. 343—106)



1. A signal receiving and processing unit for an omnidirectional aerial navigation system of the type in which a carrier transmitted from a transmitter at a fixed location on the ground has a variable phase signal and a sub-carrier amplitude-modulated thereon, said variable phase signal being of fixed frequency, said sub-carrier having a nominally fixed frequency much greater than that of said variable phase signal but having a reference signal frequency-modulated thereon, said reference signal being of identically the same fixed frequency as said variable phase signal and varying in phase relative thereto as a function of the position of the receiver relative to the transmitter location, said signal receiving and processing unit comprising, in combination: detector means for detecting said variable phase signal and said sub-carrier from said carrier; frequency divider means, coupled to said detector means, having a first output for producing said variable phase signal and a second output for producing said sub-carrier; a first limiting amplifier coupled to said first output of said frequency divider means and amplifying said variable phase signal so as to produce a first square wave signal of predetermined magnitude; a second limiting amplifier coupled to said second output of said frequency divider means and amplifying said sub-carrier so as to produce a second square wave signal of predetermined magnitude; a frequency detection circuit coupled to the output of said second limiting amplifier and responsive to said second square wave for reproducing said reference signal in sinusoidal form at a substantially fixed amplitude level; a phase detector having a first input coupled to the output of said first limiting amplifier and a second input coupled to the output of said frequency detection means; and an indicating meter coupled to the output of said phase detector, the circuit operation being such that the deflection of said indicating meter is a function of the phase difference between said first square wave signal and said reproduced reference signal at the point of application to said phase detector.

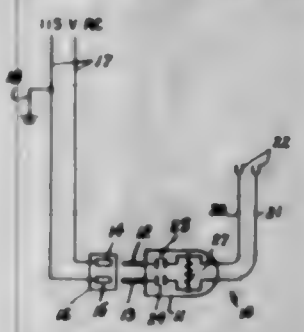
3,142,863
BALLOON MOUNTED ANTENNA WITH REELING AND STORAGE CONTAINER
William M. Goetzmann, Jr., 2502 9th St., Lake Charles, La.
Filed Mar. 28, 1961, Ser. No. 98,827
8 Claims. (Cl. 343—706)



1. A mobile radio antenna assembly for a vehicle having a radio, comprising, storage enclosure means, winding means rotatably mounted within the storage means, conductor means operatively connected to the winding means for extension and withdrawal of the conductor means with respect to the storage means, said radio being connected to the conductor means, inflatable carrier means operatively connected to the conductor

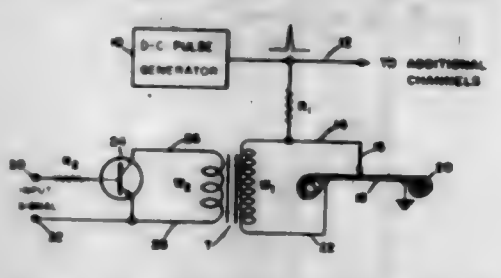
means and foldable for reception within said storage means, and antenna means connected to the conductor means and carried by the inflatable carrier means projecting thereabove when in an inflated condition, said antenna means including a non-conductive base cemented to the inflatable carrier means and a projecting rod connected thereto, said conductor means being electrically connected to the rod adjacent to the base.

3,142,064
PIN PLUG ADAPTER FOR COUPLING TO RADIO SIGNAL IN POWER WIRING
James Willis Hughes, P.O. Box 1713, Jackson, Miss., and Nathan J. Stowell, Jackson, Miss.; said Stowell assignor to said Hughes
Filed Nov. 15, 1960, Ser. No. 69,396
5 Claims. (Cl. 343—728)



1. A balanced television antenna device for use in conjunction with an electrical circuit of a building having an outlet receptacle, said device consisting solely of an attachment plug separably connected to said receptacle, said plug having a pair of prongs in electrical engagement with said circuit, an antenna transmission line extending from said plug to a television receiver and including a pair of parallel spaced, insulated conductors, said antenna transmission line having an impedance value matching the input impedance value of the television receiver to which it extends; and a pair of fixed and substantially equal value capacitors contained within said plug and connected in series with the respective conductors of said antenna transmission line to the respective prongs of the plug, and a fixed value resistor contained within said plug and connected across said conductors to said capacitors, said fixed resistor having an impedance value matching the television receiver input impedance.

3,142,065
TRANSISTOR SWITCHING CIRCUITS
Jack W. Streator, Lyndhurst, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Nov. 22, 1960, Ser. No. 71,054
19 Claims. (Cl. 346—74)



2. An electric writing system comprising, in combination: at least two writing stylus electrodes; means for generating and supplying to said stylus electrodes a pulsating D.-C. potential; a transistor for each of said stylus electrodes each having a respective input and output circuit; transformer means for each of said stylus electrodes each having a first winding connected across the respective output circuit of one of said transistors and a second winding, of higher inductance than, and inductively coupled to, the first winding, connected to said pulse generating means in parallel with a respective one of said stylus electrodes; an additional transistor preceding, in cascade, a first of said other transistors; means for applying in parallel with the output of said additional transistor and the input of said first transistor a potential normally effective to render said one first transistor conductive when said additional transistor is non-conductive; and means connecting the respective inputs of said additional transistor and a second of said other transistors in parallel.

DESIGNS

JULY 21, 1964

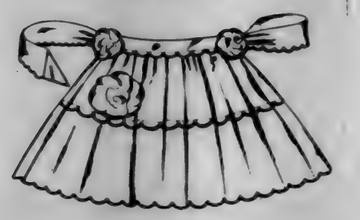
198,663
ILLUMINABLE DISPLAY SIGN OR SIMILAR ARTICLE
Conrad J. Escalante, Los Alamitos, Calif. (1251 W. Gaylord St., Long Beach 13, Calif.)
Filed Nov. 19, 1963, Ser. No. 77,503
Term of patent 14 years
(Cl. D1—12)



198,664
NECKTIE
Gerhard Haussmann, Im Dol 58, Berlin-Dahlem, Germany
Filed Feb. 28, 1963, Ser. No. 73,714
Claims priority, application Germany Aug. 30, 1962
Term of patent 14 years
(Cl. D3—16)



198,665
APRON
Amanda E. Liddell, 901 Jefferson Ave., Brooklyn 21, N.Y.
Filed May 8, 1963, Ser. No. 74,803
Term of patent 7 years
(Cl. D3—26)



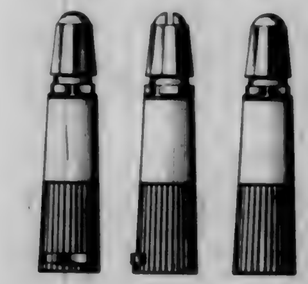
198,666
COMBINED DENTIFRICE DISPENSER AND TOOTHBRUSH HOLDER
Robert S. Hamilton, 5639 N. Millbrook, Fresno, Calif.
Filed June 18, 1963, Ser. No. 75,295
Term of patent 14 years
(Cl. D4—3)



198,667
SHOWER VALET
Roger Mark Singer, New York, N.Y., assignor to Snyder Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 1, 1963, Ser. No. 77,239
Term of patent 7 years
(Cl. D4—3)



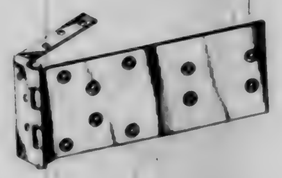
198,668
MOTOR DRIVEN HANDLE FOR A TOOTHBRUSH
Ulysses S. Mozseck, Trumbull, Conn., assignor, by mesne assignments, to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed July 31, 1963, Ser. No. 76,057
Term of patent 14 years
(Cl. D9—2)



198,669
DOOR HANDLE
Donald S. Bugni, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed July 9, 1963, Ser. No. 75,718
Term of patent 14 years
(Cl. D10—8)



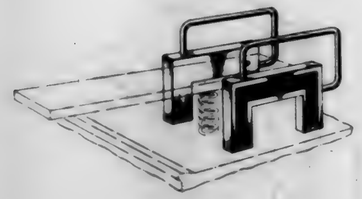
198,670
HINGE
Lloyd Robert Anderson, 6804 Millwood Road, Bethesda 14, Md.
Filed Mar. 2, 1962, Ser. No. 69,801
Term of patent 14 years
(Cl. D10—9)



198,671
CABANA
Resta S. Gregoire, Billsburg, Pa., assignor to Gregoire Engineering and Development Company, Adelphi, Md., a corporation of Maryland
Filed Aug. 6, 1962, Ser. No. 71,194
Term of patent 14 years
(Cl. D13—1)



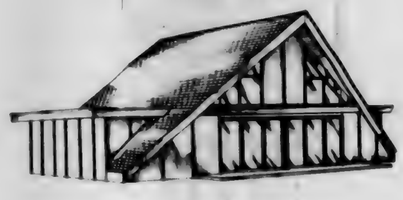
198,672
DIVING BOARD
Myron P. Anthony, Newport Beach, Calif., assignor to Anthony Pools, Inc., South Gate, Calif., a corporation of Delaware
Filed May 28, 1963, Ser. No. 74,950
Term of patent 14 years
(Cl. D13—1)



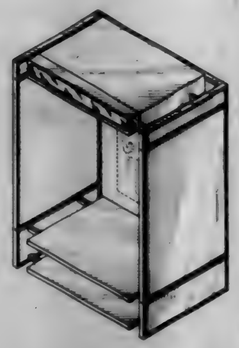
198,673
BUILDING
William Strogilis, 30 Victoria Lane, Stoneham, Mass.
Filed Dec. 31, 1963, Ser. No. 77,988
Term of patent 14 years
(Cl. D13—1)



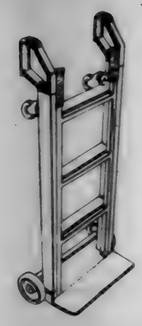
198,674
BUILDING
Malcolm N. Bricklin, Winter Park, Fla., assignor to Handyman, Inc., Orlando, Fla., a corporation of Florida
Filed Jan. 21, 1964, Ser. No. 78,301
Term of patent 3½ years
(Cl. D13—1)



198,675
TELEPHONE BOOTH OR THE LIKE
E. Burton Benjamin, Highland Park, Ill., assignor to Burgess-Manning Company, Libertyville, Ill., a corporation of Illinois
Filed Feb. 12, 1964, Ser. No. 78,606
Term of patent 14 years
(Cl. D13—1)



198,676
COMBINED TRUCK, DOLLY AND LADDER
Phil K. Tarran, 6709 Elmwood Road, San Bernardino, Calif.
Filed Oct. 14, 1963, Ser. No. 76,953
Term of patent 14 years
(Cl. D14—3)



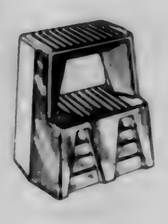
198,677
SERVICE CART
Glen A. Johnson, % Stant Manufacturing Co., Inc., Connersville, Ind.
Filed Dec. 18, 1963, Ser. No. 77,858
Term of patent 14 years
(Cl. D14—3)



198,678
STOOL
James B. Bushyhead, Webster Groves, Mo., assignor to Moog Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed Apr. 10, 1963, Ser. No. 74,377
Term of patent 7 years
(Cl. D15—8)



198,679
STEP STOOL
Don W. Carter, Kansas City, Mo., assignor to Regal Plastic Company, Kansas City, Mo., a corporation of Missouri
Filed July 29, 1963, Ser. No. 76,018
Term of patent 3½ years
(Cl. D15—8)



198,680
TABLET COUNTING TRAY
Robert J. Waller, 455 N. Hill St., Pasadena, Calif.
Filed Jan. 17, 1964, Ser. No. 78,244
Term of patent 14 years
(Cl. D16—1)



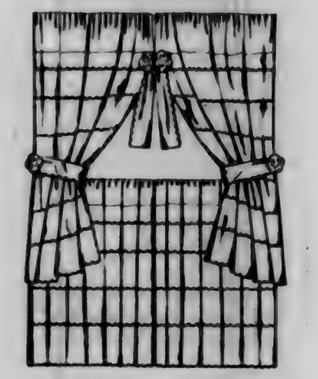
198,681
COMBINED ROOM AIR FRESHENER AND DEODORIZER
Morris Friedman, New York, N.Y., and Andrey V. Mackey, Ambler, Pa., assignors to Minerware, Inc., New York, N.Y., a corporation of New York, and H.M.S. Associates Co., Willow Grove, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1963, Ser. No. 74,480
Term of patent 3½ years
(Cl. D16—3)



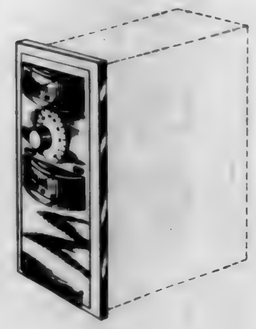
198,682
GRIP FOR SANITARY NAPKINS OR THE LIKE
Murgatroyd H. Jenkins, St. Clair, Mo., assignor to Beltz Corporation, St. Louis, Mo., a corporation of Missouri
Filed Mar. 16, 1964, Ser. No. 79,033
Term of patent 14 years
(Cl. D17—9)

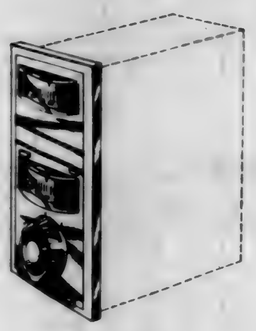


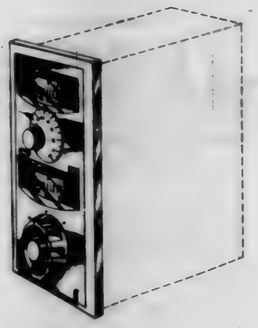
198,683
CURTAIN ENSEMBLE
Amanda E. Liddell, 901 Jefferson Ave., Brooklyn 21, N.Y.
Filed May 8, 1963, Ser. No. 74,804
Term of patent 7 years
(Cl. D21—6)



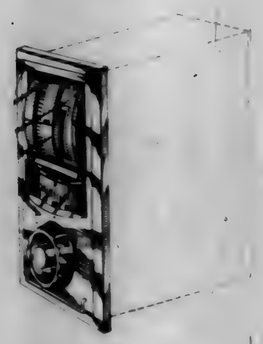
198,684
CONTROL STATION FOR PROCESS CONTROLLER
Roger B. Kerr, Topsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 28, 1963, Ser. No. 75,443
Term of patent 14 years
(Cl. D26—1)



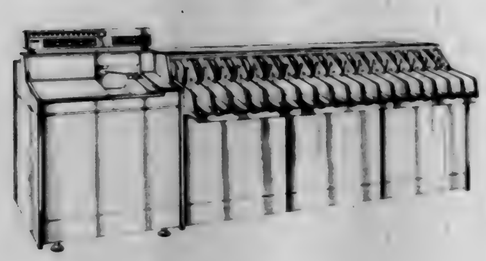




198,685
PROCESS CONTROLLER
Roger B. Kerr, Topsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 20, 1963, Ser. No. 75,445
Term of patent 14 years
(Cl. D26—1)



198,686
DOCUMENT SORTER CABINET
Charles P. Breed and Edward H. McCauley, Dallas, Tex., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 73,965
Term of patent 14 years
(Cl. D26—5)



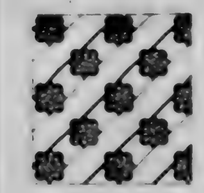
198,687
SWITCH HOUSING
Kenneth Reiner, Los Angeles, Calif., assignor to Reiner Industries, Inc., Pico Rivera, Calif., a corporation of California
Filed Mar. 9, 1961, Ser. No. 64,203
Term of patent 14 years
(Cl. D26—13)



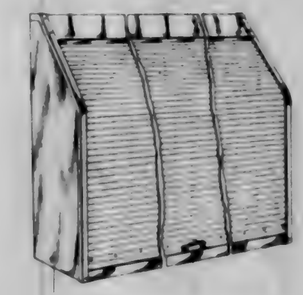
198,688
TERMINAL BOX FACE PLATE ASSEMBLY
Kenneth Reiner, Los Angeles, Calif., assignor to Reiner Industries, Inc., Pico Rivera, Calif., a corporation of California
Filed Apr. 3, 1961, Ser. No. 64,584
Term of patent 14 years
(Cl. D26—13)



198,689
DECORATIVE GRILLE PANEL FOR A SPEAKER CABINET OR THE LIKE
Gordon L. Duern, Waterloo, Ontario, Canada, assignor to Dominion Electrohome Industries Limited, Kitchener, Ontario, Canada
Filed Sept. 12, 1962, Ser. No. 71,707
Term of patent 14 years
(Cl. D26—14)



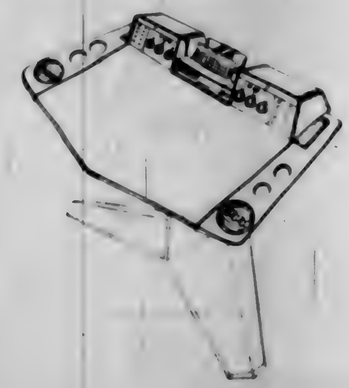
198,690
CABINET FOR TRASH RECEPTACLES
James L. Bevan, Princess Anne Hills, Virginia Beach, Va., assignor to The J. G. Wilson Corporation, Norfolk, Va., a corporation of Delaware
Filed Feb. 26, 1962, Ser. No. 68,965
Term of patent 14 years
(Cl. D33—19)



198,691
CUE RACK OR THE LIKE
George E. Schaefer, Muskegon, Mich., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 68,130
Term of patent 14 years
(Cl. D34—3)



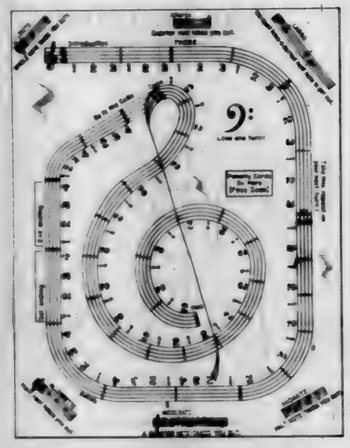
198,692
BOWLING SCORER TABLE TOP
William H. Harkins, Lexington, Mass., assignor to Connecticut Technical Corporation, Hartford, Conn., a corporation of Connecticut
Filed June 27, 1962, Ser. No. 70,712
Term of patent 14 years
(Cl. D34—5)



198,693
GOLF CLUB COVER
Monroe H. Rosenow, Brookfield, Wis., assignor to ABC Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed May 24, 1963, Ser. No. 75,046
Term of patent 14 years
(Cl. D34—5)



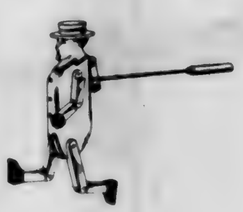
198,694
GAME BOARD
Olivia Stickley, 9 Leisurely Lane, Bellport, N.Y.
Filed Oct. 8, 1963, Ser. No. 76,907
Term of patent 14 years
(Cl. D34—5)



198,695
SKI POLE GRIP
William Cameron, 3969 Cowan Road, Lafayette, Calif., and Laurence G. Powers, 715 B St., Hayward, Calif.
Filed Dec. 16, 1963, Ser. No. 77,818
Term of patent 14 years
(Cl. D34—14)



198,696
TAPPING DOLL
Berl Field, 122 N. Washington, Dimondale, Mich.
Filed Sept. 24, 1962, Ser. No. 71,818
Term of patent 14 years
(Cl. D34—15)



198,697
HANDLE FOR LAUNCHING AN AERIAL TOY OR THE LIKE
Helmut Karl Bross, Weichselgartenstr., Altenberg uber Nurnberg 40, Germany, assignor of fifty percent to Frank T. Johnsmann, Berkeley Heights, N.J.
Original design application Apr. 30, 1963, Ser. No. 74,673. Divided and this application Sept. 11, 1963, Ser. No. 76,555
Term of patent 14 years
(Cl. D34—15)



198,698
FLOWER POT SUPPORT OR THE LIKE
Ralph Cucullo, 118 Mount Joy Place, New Rochelle, N.Y.
Filed Jan. 28, 1964, Ser. No. 78,393
Term of patent 14 years
(Cl. D35—3)



198,699
RAKE HEAD
Wendell L. Hill, R.F.D., Cherokee, Iowa, and Bert R. Gustafson, R.F.D., Aurelia, Iowa
Filed Dec. 27, 1962, Ser. No. 72,971
Term of patent 3½ years
(Cl. D39—1)



198,700
COMBINED DIAL AND HANDS FOR A TIMEPIECE
Frederick J. Wachter, 915 Lois Lane, Glenview, Ill.
Filed Dec. 3, 1962, Ser. No. 72,687
Term of patent 14 years
(Cl. D42—1)



198,701
DRIPLESS SAUCER
John A. Roehrig, 311 Field Club Ridge Road, Pittsburgh, Pa.
Filed Feb. 1, 1962, Ser. No. 68,611
Term of patent 14 years
(Cl. D44—9)



198,702
CARAFE
David Douglas, Manitowoc, Wis., assignor to East Wisconsin Trustee Company of Manitowoc, Manitowoc, Wis., a corporation of Wisconsin
Filed Nov. 18, 1963, Ser. No. 77,470
Term of patent 14 years
(Cl. D44—31)



198,703
COFFEE MAKER
David Douglas, Manitowoc, Wis., assignor to East Wisconsin Trustee Company of Manitowoc, Manitowoc, Wis., a corporation of Wisconsin
Filed Nov. 18, 1963, Ser. No. 77,481
Term of patent 14 years
(Cl. D44—26)



198,704
HANDLE FOR DISPOSABLE DRINKING CUPS OR THE LIKE
Frederick Lawrence Meagher, Blairstown, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 23, 1963, Ser. No. 75,931
Term of patent 14 years
(Cl. D44—29)



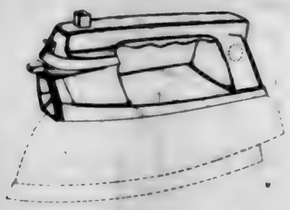
198,705
LAUNDRY LIFTER
Anthony Willats, 239 Bell St., Milton, Ontario, Canada
Filed Jan. 24, 1963, Ser. No. 73,293
Term of patent 14 years
(Cl. D49—1)



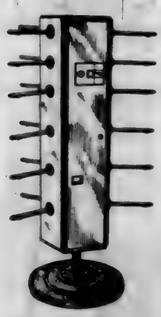
198,706
GARMENT DRYER
Charles E. Jennings, Jr., 4020 Simon Road, Youngstown, Ohio
Filed Sept. 25, 1963, Ser. No. 76,726
Term of patent 14 years
(Cl. D49—1)



198,707
STEAM IRON HANDLE
John E. Reed, Glen Ellyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 4, 1963, Ser. No. 75,211
Term of patent 14 years
(Cl. D49—6)



198,708
COMBINED DISPLAY AND DISPENSING STAND
Le Roy D. Gore, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 19, 1962, Ser. No. 72,531
Term of patent 7 years
(Cl. D52—3)



198,709
VENDING MACHINE STAND
William Falk, 776 Norman Drive, North Bellmore, N.Y., and Manuel Greenberg, 817 Empire Ave., Far Rockaway, N.Y.
Filed Nov. 4, 1963, Ser. No. 77,280
Term of patent 3½ years
(Cl. D52—3)



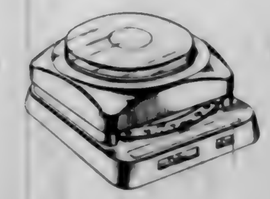
198,710
MICROMETRIC GAUGE WITH ILLUMINABLE SCALE
Paul Himmelsbach and Albert Bank, Bad Kreuznach, Germany, assignors to Jos. Schneider & Co. Optische Werke, Bad Kreuznach, Germany, a corporation of Germany
Filed Apr. 12, 1963, Ser. No. 74,409
Claims priority, application Germany Jan. 24, 1963
Term of patent 14 years
(Cl. D52—6)



198,711
THERMOSTATIC CONTROL FOR ELECTRIC HEATERS
Frank Reingruber, Albany Ave., Bartlett, N.H.
Filed June 18, 1963, Ser. No. 75,404
Term of patent 14 years
(Cl. D52—7)



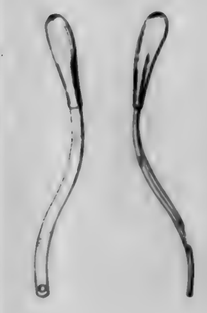
198,712
ROOM THERMOSTAT OR SIMILAR ARTICLE
Albert E. Bank, 640 Ocampo Drive, Pacific Palisades, Calif.
Filed Aug. 9, 1963, Ser. No. 76,161
Term of patent 14 years
(Cl. D52—7)



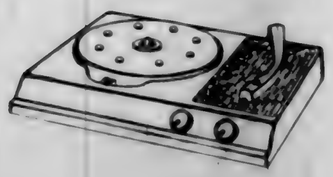
198,713
LOCK NUT FOR CONDUITS AND ELECTRIC FITTINGS
Lawrence M. Curtin, Mountainside, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed Aug. 31, 1961, Ser. No. 66,578
Term of patent 14 years
(Cl. D54—9)



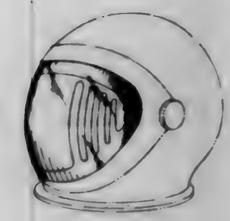
198,714
CONTROL ARM FOR A TREMOLO UNIT FOR A GUITAR
James Ormston Burns, Buckhurst Hill, Essex, England, assignor to Ormston Burns Limited, London, England, a British company
Filed Dec. 12, 1963, Ser. No. 72,831
Claims priority, application Great Britain July 28, 1963
Term of patent 14 years
(Cl. D56—1)



198,715
RECORD PLAYER OR SIMILAR ARTICLE
Charles F. Pohlmann, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 30, 1962, Ser. No. 69,890
Term of patent 14 years
(Cl. D56—4)



198,716
FACE MASK FOR A HELMET
Russell S. Colley, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 12, 1962, Ser. No. 72,825
Term of patent 14 years
(Cl. D57—1)



198,717
FACE MASK FOR A HELMET
Russell S. Colley, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original design application Dec. 12, 1962, Ser. No. 72,825. Divided and this application Sept. 27, 1963, Ser. No. 76,779
Term of patent 14 years
(Cl. D57—1)



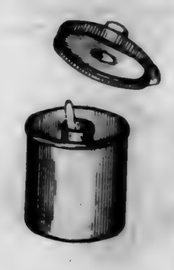
198,718
FACE MASK FOR A HELMET
Russell S. Colley, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original design application Dec. 12, 1962, Ser. No. 72,825. Divided and this application Sept. 27, 1963, Ser. No. 76,780
Term of patent 14 years
(Cl. D57—1)



198,719
PAIR OF SPECTACLES
Donald J. McCulloch, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 77,886
Term of patent 14 years
(Cl. D57—1)



198,720
COMBINED CONTAINER AND HOLDER FOR ADHESIVE AND APPLICATOR
Charles W. Lofgren, Oak Park, Ill., assignor, by mesne assignments, to Sanford Research Company, a corporation of Illinois
Filed May 2, 1962, Ser. No. 69,931
Term of patent 14 years
(Cl. D58—17)



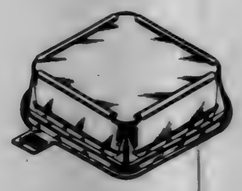
198,721
CONTAINER FOR DAIRY PRODUCTS OR THE LIKE
Clara Virginia Eicholtz, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation of design application Ser. No. 68,208, Jan. 8, 1962. This application July 18, 1963, Ser. No. 75,863
Term of patent 14 years
(Cl. D58—17)



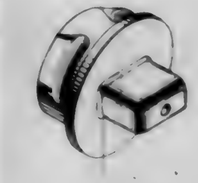
198,722
WASTE BASKET
Frank W. Cooper, Pittsburgh, Pa., assignor to Federal Enameling & Stamping Company, Pittsburgh, Pa., a corporation of Michigan
Filed July 24, 1963, Ser. No. 75,950
Term of patent 14 years
(Cl. D58—17)



198,723
PACKAGE COVER
James Hampton Groves, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 22, 1963, Ser. No. 74,551
Term of patent 14 years
(Cl. D58—26)



198,724
CLOSURE CAP
Lawrence M. Curtin, Mountainside, N.J., assignor to The Thomas & Betts Co., Incorporated, Elizabeth, N.J., a corporation of New Jersey
Filed Nov. 26, 1963, Ser. No. 77,574
Term of patent 14 years
(Cl. D58—26)



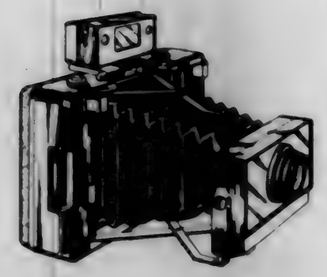
198,725
SAFETY PAPER
Herbert W. Hoffarberth, 1236 Epworth Ave., Dayton, Ohio
Filed May 1, 1962, Ser. No. 69,921
Term of patent 14 years
(Cl. D59—6)



198,726
PHOTOGRAPHIC FLASH GUN OR SIMILAR ARTICLE
James M. Conner, Glendale, Calif., Allan C. Curtin, Cambridge, Mass., and Henry Dreyfuss, South Pasadena, Calif., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Oct. 2, 1963, Ser. No. 76,825
Term of patent 14 years
(C. D61—1)



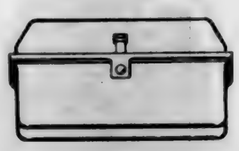
198,727
PHOTOGRAPHIC CAMERA OR SIMILAR ARTICLE
James M. Conner, Glendale, Calif., Milton S. Dietz, Lexington, Mass., Henry Dreyfuss, South Pasadena, Calif., and Richard R. Wareham, Marblehead, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Oct. 2, 1963, Ser. No. 76,835
Term of patent 14 years
(Cl. D61—1)



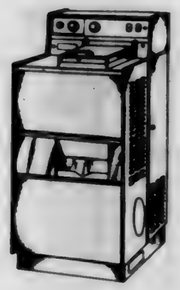
198,728
AUTOMATIC PLATE WETTING MACHINE
Harold Cunha, Smithtown, and Hank C. H. Hsieh, Patchogue, N.Y., assignors to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Dec. 5, 1963, Ser. No. 77,678
Term of patent 14 years
(Cl. D61—1)



198,729
CAMERA CARRYING CASE
Vincent F. Lang, Rochester, and Edward Emison, Ontario, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 17, 1964, Ser. No. 78,671
Term of patent 14 years
(Cl. D61—1)



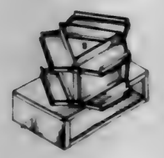
198,730
PHOTOGRAPHIC COPYING MACHINE OR THE LIKE
Donald D. Sloss, Weston, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Mar. 20, 1964, Ser. No. 79,107
Term of patent 14 years
(Cl. D61—1)



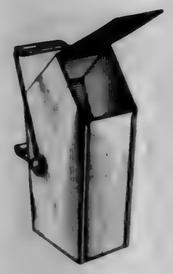
198,731
AIRCRAFT OR SIMILAR ARTICLE
Gerard J. Soucy, 8125 NW. 35th Ave., Miami, Fla.
Filed Sept. 26, 1963, Ser. No. 76,742
Term of patent 14 years
(Cl. D71—1)



198,732
ROTATABLE DISPLAY STAND OR SIMILAR ARTICLE
Ernest L. Shapiro, Morton Grove, Ill., assignor to Alberto-Culver Company, Melrose Park, Ill., a corporation of Delaware
Filed Dec. 20, 1963, Ser. No. 77,877
Term of patent 14 years
(Cl. D80—9)



198,733
PORTABLE CHARCOAL STARTER
Anthony G. Arena, 9807 Cottage Grove Ave., Chicago, Ill.
Filed Nov. 19, 1963, Ser. No. 77,494
Term of patent 14 years
(Cl. D81—10)



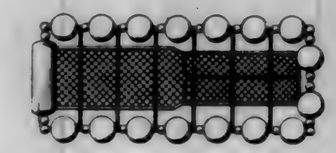
198,734
DISPOSABLE CATHETER ADAPTER PACKAGE OR THE LIKE
Robert L. McWayne, Burlingame, Calif. (725 2nd Ave., San Francisco 7, Calif.)
Filed July 23, 1962, Ser. No. 71,003
Term of patent 14 years
(Cl. D83—1)



198,735
DISPOSABLE CATHETER PLUG PACKAGE OR THE LIKE
Robert L. McWayne, Burlingame, Calif. (725 2nd St., San Francisco 7, Calif.)
Filed July 23, 1962, Ser. No. 71,013
Term of patent 14 years
(Cl. D83—1)



198,736
FLOAT FOR HYDRO-THERAPEUTIC USE
Charles S. Benson, 11600 Montana Ave., West Los Angeles, Calif.
Filed Oct. 7, 1963, Ser. No. 76,889
Term of patent 3½ years
(Cl. D83—1)



198,737
TIRE
Richard F. Ward, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 2, 1963, Ser. No. 73,029
Term of patent 7 years
(Cl. D90—20)



198,738
TIRE
Edward A. Pryce, Royal Oak, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 2, 1963, Ser. No. 73,030
Term of patent 7 years
(Cl. D90—20)



198,739
TIRE
Otto J. Wolfer, Park Ridge, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed May 7, 1963, Ser. No. 74,785
Term of patent 14 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allen, Philip H.: *See*—
Chromy, Benjamin J., and Allen. Re. 25,621.

Chromy, Benjamin J., and P. H. Allen. Registers. Re. 25,621, 7-21-64, Cl. 235—173.

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Bricklin, Malcolm N., to Handyman, Inc. Building. 198,674, 7-21-64, Cl. D13—1.

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Hausmann, Gerhard. Necktie. 198,664, 7–21–64, Cl. D3—16.
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Kerr, Roger B., to General Electric Co. Process controller. 198,685, 7–21–64, Cl. D26—1.
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LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JULY, 1964

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Bartlett, Howard J., D. T. Lapp, and G. R. Watson, to Norton Co. Method for the preparation of aluminum nitride refractory material. 3,141,737, 7–21–64, Cl. 23—192.
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Baxter, Benjamin. Externally operated gate valve for irrigation conduits. 3,141,649, 7–21–64, Cl. 251—176.

Beadle, John C. W., and J. Gregory, deceased (by R. W. Lock and B. M. Gregory, representatives), to G. Q. Parachute Co. Ltd. Load-extraction from aircraft. 3,141,841, 7–21–64, Cl. 244—139.

Beardsley, Lewis D., to Montcalm Inc. Absorption refrigeration apparatus. 3,141,307, 7–21–64, Cl. 62—141.

Beaudoin, Norman R., and L. T. Stegmaier, to General Electric Co. Enclosed electric switch with rotary type operating handle and interlocking mechanism. 3,141,934, 7–21–64, Cl. 200—50.

Bebb, Herbert B., H. E. Heath, R. B. Hilborn, Jr., and F. S. Maddocks, to International Business Machines Corp. Thin film color display device. 3,141,920, 7–21–64, Cl. 88—1.

Beckman Instruments, Inc. : *See*—
Oates, William M. 3,141,336.

Becton, Dickinson and Co. : *See*—
Blackman, Seymour N. 3,141,784.
Tsochatzopoulos, Photios P. 3,141,460.

Beech, Oren R., to T.O. Plastics, Inc. Tray locking apparatus. 3,141,280, 7–21–64, Cl. 53—300.

Beban, Louis R. Steering, throttle and gear shift control. 3,141,351, 7–21–64, Cl. 74—484.

Behrens, Charles A., to National Mfg. Co. Bolt latch. 3,141,-692, 7–21–64, Cl. 292—147.

Beispel, Robert : *See*—
Anderson, Thomas P., and Beispel. 3,141,275.
Anderson, Thomas P., and Beispel. 3,141,276.

Bell, Alan, to Foster Wheeler Corp. Vapor generator with integral superheater. 3,141,445, 7–21–64, Cl. 122—34.

Bell & Howell Co. : *See*—
Linke, Walter R. 3,141,921.

Bell Telephone Laboratories, Inc. : *See*—
Bobeck, Andrew H. 3,142,045.
Chen, Pang-Shang. 3,142,026.
Davey, James R., Mitchell, Ostendorf, and Bea. 3,141,928.
Favin, David L. 3,142,019.
Gasper, Melvin I. 3,142,055.
Irland, Edwin A., and Morrison. 3,142,039.
Smith, James L. 3,142,048.
Zarouni, Alfred. 3,141,931.

Below, Robert F., and H. E. Reusser, to Republic Steel Corp. Load bearing door frames. 3,141,533, 7–21–64, Cl. 189—46.

Bemis Bro. Bag Co. : *See*—
Ayres, Richard H., and Fox. 3,141,601.

Bender, Bob G., and L. Bernstein, to Hughes Aircraft Co. Semiconductor electrode attachment. 3,141,226, 7–21–64, Cl. 29—25.3.

Bendix Corp., The : *See*—
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Benedetto, Frank J., to Creative Ideas Inc. Molding apparatus. 3,141,192, 7–21–64, Cl. 18—5.

Benjamin, Frank E., and J. Earnshaw, to Wrightway Engineering Co. Aerating device. 3,141,619, 7–21–64, Cl. 239—424.

Benk, Claus, to Vereinigte Glanzstoff-Fabriken AG. Machine for making rope. 3,141,285, 7–21–64, Cl. 57—18.

Benk, Claus, to Vereinigte Glanzstoff-Fabriken Aktiengesellschaft. Nonkinking ropes. 3,141,372, 7–21–64, Cl. 57—6.

Bennett, John L., and A. C. Stanley, to The Black and Decker Mfg. Co. Accessory holder for tool or appliance. 3,141,350, 7–21–64, Cl. 77—7.

Bent, John H., to Standard Pneumatic Motor Co. Rotary tool with power feed. 3,141,509, 7–21–64, Cl. 173—10.

Berger, Gérard G. J. : *See*—
Guinard, Paul A., and Berger. 3,141,475.

Berger, Stanley, to Auricord Corp. Tape lifter for tape recorder. 3,141,594, 7–21–64, Cl. 226—199.

Bergerson, Harold L., and D. S. Potter; said Potter assor. to said Bergerson. Vehicle with boom. 3,141,654, 7–21–64, Cl. 254—139.1.

Berglund, Arthur, to Sperry Rand Corp. Coil winding machine. 3,141,623, 7–21–64, Cl. 242—4.

Bernard, George G., and O. C. Holbrook, to The Pure Oil Co. Control of permeability during waterflooding. 3,141,501, 7–21–64, Cl. 166—9.

Bernardi, Dominic J., B. V. Burachinsky, and E. S. Cseropski, to Interchemical Corp. High speed printing with super-fast inks. 3,141,408, 7–21–64, Cl. 101—426.

Bernardi, Luigi : *See*—
Patelli, Blanca, and Bernardi. 3,141,837.

Bernstein, Bernard, to Radio Receptor Co., Inc. Matrix for holding and making electrical connection with a plurality of electrical units. 3,142,000, 7–21–64, Cl. 317—101.

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Bender, Bob G., and Bernstein. 3,141,226.

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Bailey, Ralph C., Lomenso, and Salsman. 3,141,292.

Berry, Catherine M. Audio viewer equipment. 3,141,374, 7–21–64, Cl. 88—28.

Berry, Robert W., Jr. : *See*—
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Bessiere, Pierre R., to Societe Anonyme pour l'Exploitation des Procedes Chimiques et Physiques. Self-regulating reciprocating piston pumps. 3,141,414, 7–21–64, Cl. 103—41.

Bethea, Malcolm, Jr. Electrical socket connector for insulators and the like. 3,141,925, 7–21–64, Cl. 174—161.

Bevacqua, Louis A., and F. C. Brewster, to Motorla, Inc. Control system. 3,141,380, 7–21–64, Cl. 74—472.

Bey, Ahmet K., to Power Brake Parts Mfg. Co. Magnetic pull-apart key holder. 3,141,214, 7–21–64, Cl. 24—201.

Biedinger, Henry J., to The Syracuse Stamping Co., Inc. Bearing cage. 3,141,711, 7–21–64, Cl. 308—201.

Billen, Ernest E. G., and G. L. H. Matteos. Derivatives of substituted coumarin. 3,141,894, 7–21–64, Cl. 260—343.2.

Birmingham, Douglas W., to United-Carr Inc. Self locking stay mechanisms. 3,141,694, 7–21–64, Cl. 292—263.

Biser, David, to United States of America, Navy. Decade counter with analog display for use with airborne vehicle navigation means. 3,141,900, 7–21–64, Cl. 290—92.

Bissell, F. C. : *See*—
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Blackman, Seymour N., to Becton, Dickinson and Co. Means for shrinking flanged vitreous syringe barrels. 3,141,784, 7–21–64, Cl. 65—277.

Blake, John T., to Scovill Mfg. Co. Ornamental button. 3,141,211, 7–21–64, Cl. 24—90.

Bliss, Gerald W. H. : *See*—
Gentle, Alexander H., and Bliss. 3,141,624.

Block, Aleck, to Merit Products, Inc. Abrading article. 3,141,-269, 7–21–64, Cl. 51—193.6.

Block, M. Sabel, J. J. Lubus, M. D. Sidbury, and C. O. Jensen, to P. Lorillard Co. Processing tobacco. 3,141,462, 7–21–64, Cl. 131—140.

Blough, John G. : *See*—
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Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Electrical information handling circuit. 3,142,045, 7–21–64, Cl. 340—173.2.

Böckmann, Klaus, and C. Taube, to Farbenfabriken Bayer Aktiengesellschaft. Process for the improvement of the fastness to washing of direct dyeings on cellulose-containing materials. 3,141,728, 7–21–64, Cl. 8—74.

Boeckmann, Hugo : *See*—
Nigrelli, Biagio J., Standley, Wittmann, and Boeckmann. 3,141,274.

Boehm, Josef, to United States of America, National Aeronautics and Space Administration. Gravity device. 3,141,340, 7–21–64, Cl. 73—517.

Boeing Co., The : *See*—
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Bohlen, Charles L. : *See*—
Tenenbaum, Paul, Bohlen, and Levitt. 3,141,697.

Bohner und Kohle Maschinenfabrik : *See*—
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Bolse, David B., and A. J. Freedman, to Nalco Chemical Co. Cooling water test unit. 3,141,324, 7–21–64, Cl. 73—53.

Bok, Cornelis, to Novivlas, N.V. Method and apparatus for hackling bast fibre stalks. 3,141,198, 7–21–64, Cl. 19—13.

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Bok, Hendrik F. and E. 3,141,938.

Bok, Hendrik F. and E. Control device for evaporation vessel having a deformable float. 3,141,938, 7–21–64, Cl. 200—84.

Bolan, Peter, and R. L. Montgomery, to United Aircraft Corp. Motor for pumping liquid metals. 3,141,416, 7–21–64, Cl. 103—87.

Bolkow-Entwicklungen Kommanditgesellschaft : *See*—
Korff, Max. 3,141,339.

Bolton, Norman A., to General Signal Corp. Bi-directional multiple lane vehicle registering system. 3,141,612, 7–21–64, Cl. 235—99.

Bon, Charles K. : *See*—
Schechter, Dale L., Don, and Leddy. 3,141,736.

Bonhomme, Francois R., to Curtiss-Wright Corp. Electric couplings. 3,214,723, 7–21–64, Cl. 339—252.

Bonner, Charles W., Jr., and C. T. Houck, to The Cardwell Machine Co. Tobacco shredder. 3,141,488, 7–21–64, Cl. 146—117.

Booth, Corwin : *See*—
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Boris, Andre, to United States of America, Navy. Separable simulated round of ammunition. 3,141,246, 7–21–64, Cl. 35—25.

Borneo Sumatra Trading Co., Inc. : *See*—
Segawa, Kunijiro. 3,141,317.

Boron, Frank J., to American Brake Shoe Co. Furnace retorts. 3,141,658, 7–21–64, Cl. 263—47.

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Bosca, Mario E. : *See*—
Bosca, Orsino H. and M. E. 3,141,486.

Bosca, Orsino H. and M. E., to Hugo Bosca Co., Inc. Toilet case. 3,141,486, 7–21–64, Cl. 150—34.

Bosch, Walter, to Bohner und Kohle Maschinenfabrik. Spinning lathe. 3,141,433, 7–21–64, Cl. 113—63.

Bottum, Edward W. Adjustable muffler. 3,141,519, 7–21–64, Cl. 181—57.

Boulis, Richard E. : *See*—
Funke, John L., and Boulis. 3,141,555.

Bourgeas, Pierre. Stop motion for belt-driven rotary spindles. 3,141,287, 7–21–64, Cl. 57—81.

Boyd, Thomas E., to Illinois Tool Works Inc. Rotary fastener. 3,141,457, 7–21–64, Cl. 151—13.

Boyle, John M., and E. J. Donaldson, to United States of America, Navy. Conductive springs and ball acceleration switch. 3,141,936, 7–21–64, Cl. 200—61.53.

Braithwaite, David G., J. S. D'Amico, F. L. Gross, and W. Hansel, to Nalco Chemical Co. Cell for carrying out electrochemical reactions. 3,141,841, 7–21–64, Cl. 204—263.

Brandstadter, Jack M., to Cadillac Gage Co. Linear actuator. 3,141,388, 7–21–64, Cl. 92—51.

Brasco Mfg. Co. : *See*—
Wheeler, James D. 3,141,204.

Brauchla, Herbert C., and P. P. Ruminsky; said Ruminsky assor. to said Brauchla. Method and apparatus for dry sizing. 3,141,844, 7–21–64, Cl. 200—247.

Brellier, Edmond, and A. Haroutounian. Heat treatment of gold alloys. 3,141,799, 7–21–64, Cl. 148—11.5.

Brendle, Thomas A., to Curtiss-Wright Corp. Method of and apparatus for performing computations. 3,141,969, 7–21–64, Cl. 235—193.

Brenner, Abner : *See*—
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Breton, Denis, and J. C. Carre. Mechanical oscillator. 3,141,-342, 7–21–64, Cl. 74—40.

Brett, Elizabeth, now by change of name E. H. Haskell. Magnetic fastening means. 3,141,216, 7–21–64, Cl. 24—201.

Brewer, Nathaniel, to Wilson Products, Inc. Apparatus for blending materials. 3,141,575, 7–21–64, Cl. 222—132.

Brewster, Franklin C. : *See*—
Bevacqua, Louis A., and Brewster. 3,141,350.

Brickett, Sherman P., and H. N. Hoffman, to General Electric Co. Torque-limiting shaft coupling assembly. 3,141,-313, 7–21–64, Cl. 64—27.

Brickson, William L. : *See*—
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Broberg, Georg, B. Johansson, and S. Wallin, to Aktiebolaget Svenska Flaktfabriken. Duct coupling for joining ducts. 3,141,687, 7–21–64, Cl. 285—397.

Brockmann, Rolf : *See*—
Stein, Werner, and Brockman. 3,141,896.

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Brolsman, Raymond, to American Cyanamid Co. Removal of iron from aqueous aluminum sulfate solution. 3,141,-733, 7–21–64, Cl. 23—123.

Brotherton, Thomas K. : *See*—
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Brown, Eldon L., and V. N. Mackiw, to Sherritt Gordon Mines Ltd. Process for the production of nickel and cobalt from nickel and cobalt bearing material. 3,141,765, 7–21–64, Cl. 75—103.

Brown, James F., Jr. : *See*—
Chapman, Robert L., Brown, Carpenter, and Wyman. 3,141,243.

Brown, Robert J., D. B. Derr, and F. C. Gut, to International Business Machines Corp. Selective printing apparatus. 3,141,403, 7–21–64, Cl. 101—99.

Brown, Robert M., D. Balber, and G. V. Rylsky, to General Precision Inc. Device for measuring gas pressure by means of alpha particles. 3,141,970, 7–21–64, Cl. 250—43.5.

Browning, James A., to Thermal Dynamics Corp. Electric arc torches. 3,141,953, 7–21–64, Cl. 219—145.

Brownlow, James M., M. K. Haynes, and W. A. Hunt, to International Business Machines Corp. Multi-aperture magnetic core storage device. 3,142,036, 7–21–64, Cl. 340—174.

Brueder, Antoine, to Andre Citroen Societe Anonyme. Double-action inertia switch. 3,141,935, 7–21–64, Cl. 200—61.46.

Brunelle, Thomas E. : *See*—
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Bryant, William J. Cover holddown device. 3,141,210, 7–21–64, Cl. 24—73.

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Kimball, Oliver P., Herbold, and Buck. 3,141,396.

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Bugosh, John, to E. I. du Pont de Nemours and Co. Fibrous boehmite alumina molding powder and processes for molding them into dense, alpha alumina articles. 3,141,786, 7–21–64, Cl. 106—62.

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Bunten, Paul H., to Repco Products Corp. Baseboard radiator with connector units. 3,141,499, 7–21–64, Cl. 165—55.

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Burbank, Robert C., to Jantzen Inc. Men's swim suit construction with embedded suspensory. 3,141,458, 7–21–64, Cl. 128—150.

Burdick, Everette M. Method of cultivating papaya plants and for recovering proteolytic enzymes from papaya plants. 3,141,832, 7–21–64, Cl. 195—66.

Burke, James D. J., Jr., and C. O. Hawkins, to E. I. du Pont de Nemours and Co. Method for forming spinning orifices in spinneret plate structures. 3,141,358, 7–21–64, Cl. 76—107.

Burkhardt, Gisbert, to Telefunken Patentverwertungs-G.m.b.H. Shift register control for article handling device. 3,141,-540, 7–21–64, Cl. 198—38.

Burkin, Alfred R., and H. D. Sawyer, to National Research Development Corp. Treatment of pyrochlore. 3,141,766, 7–21–64, Cl. 75—114.

Burri, Walter, to Autophon A.G. Rotatable symbol carrier having plural synchronising positions. 3,142,054, 7–21–64, Cl. 340—325.

Burroughs Corp. : *See*—
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Burton, Edwin D. Spinning toys. 3,141,262, 7–21–64, Cl. 46—47.

Bush, Vannevar, P. A. Scherer, and R. X. Meyer, to P. A. Scherer. Constant lift system for craft. 3,141,437, 7–21–64, Cl. 114—66.54.

Butterworth, Robert, to United States of America, Navy. Round-to barrel sealing mechanism. 3,141,377, 7–21–64, Cl. 89—17.

Byron Jackson Inc. : *See*—
Taylor, Raymond G., Jr., and Lee. 3,141,688.

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Cain, Francis E. Car top boat loader. 3,141,565, 7–21–64, Cl. 214—450.

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California Research Corp. : *See*—
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Campbell, Earl L. Adjustable bed for truckers. 3,141,178, 7–21–64, Cl. 5—118.

Campbell, Richard L., and T. E. Noakes, to American Radiator & Standard Sanitary Corp. Fluid flow control means. 3,141,477, 7–21–64, Cl. 138—45.

Candellse, Alfred, to General Motors Corp. Pressurized fluid distribution and timing system. 3,141,446, 7–21–64, Cl. 123—26.

Canning, Robert V., to E. I. du Pont de Nemours and Co. Surface defect monitor for filaments. 3,141,329, 7–21–64, Cl. 73—160.

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Carr, Barney J., to Kaman Aircraft Corp. Pulsed neutron generator with high vacuum and control grid between ion source and target. 3,141,975, 7–21–64, Cl. 250—84.5.

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Catania, Salvatore J. Hair curler. 3,141,464, 7–21–64, Cl. 132—41.

Cathers, Lincoln D., and J. Bader. Hydrofoil assisted air cushion boat. 3,141,436, 7–21–64, Cl. 114—66.5.

Catling, Harold : *See*—
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Cauchetier, Jacques, to Societe Nouvelle de Metallisation. Metal sprayers. 3,141,616, 7–21–64, Cl. 239—81.

Cedar, Raymond J. Water vehicle. 3,141,181, 7–21–64, Cl. 9—347.

Cedarstrand, Clarence. Vehicle with adjacent passenger and baggage compartments. 3,141,681, 7–21–64, Cl. 280—47.25.

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Certa, Anthony J., to Philco Corp. Process of making glass-to-metal seals. 3,141,753, 7–21–64, Cl. 65—43.

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Charlton, James P. Optical grinding and polishing machine. 3,141,265, 7–21–64, Cl. 51—26.

Chassaing, Pierre, and G. Clerc, to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques. Process for preparing dichiorocyanuric acid sodium salt. 3,141,883, 7–21–64, Cl. 260—248.

Chemetron Corp. : *See*—
Williamson, Hilding V. 3,141,471.

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Chen, Pang-Shang, to Bell Telephone Laboratories, Inc. Broadband resonance gyromagnetic absorption isolator with magnetic field of increased strength toward narrow wall. 3,142,026, 7–21–64, Cl. 333—24.2.

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Chiasson, Wilbert A., to Weltronic Co. Welding machine control equipment. 3,141,950, 7–21–64, Cl. 219—89.
Chinn, George M. Flame-out eliminator. 3,141,376, 7–21–64, Cl. 89—14.
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Chui, Yun. Hoop device. 3,141,669, 7–21–64, Cl. 272—33.
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Chute, Richard, to Continental Motors Corp. Pneumatic fuel pump. 3,141,415, 7–21–64, Cl. 103—51.
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Clarke, Richard G., R. H. Groth, and E. J. Dusak, to United Aircraft Corp. Gels and method of making. 3,141,729, 7–21–64, Cl. 23—4.
Clayborne, Norman F., W. E. Hamlin, and M. E. Kerns, to Pullman Inc. Method and apparatus for determining track and road surfaces and the like. 3,141,418, 7–21–64, Cl. 104—7.
Clayborne, Norman F., W. E. Hamlin, and M. E. Kerns, to Pullman Inc. Surfacing apparatus. 3,141,419, 7–21–64, Cl. 104—7.
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Davis, George T., to Jersey Production Research Co. Chemical method of injecting water shut-off agent in air drilling. 3,141,513, 7–21–64, Cl. 175—72.
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Emblem, Harold G., and R. C. Le Fleming, to Philadelphia Quarts Co. Preparation of organo-halogeno-silanes. 3,141,899, 7–21–64, Cl. 260—448.2.
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Engleson, Per T., to B. Engleson. Feeding device for small units, in particular a dispensing device for medicines, sweetening agents and the like. 3,141,570, 7–21–64, Cl. 221—104.
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Enk, Eduard J. Nick, and H. Silbernagl, to Wacker-Chemie G.m.b.H. Process for doping materials. 3,141,849, 7–21–64, Cl. 252—62.3.
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Hoke, Ronald C., Marsh, Bernstein, and Pramuk. 3,141,746.
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Heilinghuiser, Pieter H., to Organell N. V. (Naamloze Vennootschap). Process for the preparation of N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidones. 3,141,878, 7-21-64, Cl. 260—240.
Heilmig, Ehrhard, to Agfa Aktiengesellschaft. Process and photographic material for the production of photographic records and copies which are corrected for tone value. 3,141,773, 7-21-64, Cl. 96—68.
Henderson, George R., to Columbia Broadcasting Systems, Inc. Memory plane. 3,142,047, 7-21-64, Cl. 340—174.
Henderson, Henry B., to Automotive Products Co. Ltd. Spot-type disc brakes. 3,141,527, 7-21-64, Cl. 188—73.
Henderson, Henry B., to Automotive Products Co. Ltd. Disc brakes. 3,141,528, 7-21-64, Cl. 188—73.
Heneghy, William M., to United States of America, Navy. Pulse generating circuit having a high repetition rate utilising avalanche transistor-coaxial line combination. 3,141,981, 7-21-64, Cl. 307—88.5.
Henkel & Cie. G.m.b.H.: *See*—
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Henry, Albert G., and W. E. Johnson. Curb trimming machine. 3,141,507, 7-21-64, Cl. 172—15.
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Herbkersman, Earle C., to The Pipe Machinery Co. Indexing mechanism. 3,141,356, 7-21-64, Cl. 74—822.
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Smith, Chester E., Jr. 3,141,867.
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Hilt, Eugene W., and E. G. Whalen, Jr., to Pepperell Mfg. Co. Apparatus for use in mixing and blending fibers. 3,141,199, 7-21-64, Cl. 19—145.5.
Himelsbaugh, Rudolph, to Mechanical Industries Production Co. Automatic calibration apparatus for thermal controls. 3,141,322, 7-21-64, Cl. 73—1.
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Holmes, Orion J. and A. S. Tooth brush holder and protector. 3,141,712, 7-21-64, Cl. 312—206.
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George, Margaret A. 3,141,929.
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Jones, Charles H., to United States of America, Navy. Interlaced video display of sea bottom using sonic energy. 3,142,032, 7–21–64, Cl. 340—3.
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Keller, Robert H., to Owens-Illinois Glass Co. Lubrication of glass molds. 3,141,752, 7–21–64, Cl. 65—25.
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Leavy, William A., to United States of America, National Aeronautics and Space Administration. Switching mechanism with energy storage means. 3,141,932, 7–21–64, Cl. 200—39.
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Murphy, James K., to Waldorf Paper Products Co. Dispensing containers. 3,141,596 7-21-64, Cl. 229—17.
Murray, James R., F. H. Guth, J. D. Powell, and W. V. Peterson, to Thompson Ramo Wooldridge Inc. Precipitation sensing system. 3,141,330, 7-21-64, Cl. 73—170.
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Namenyi-Kats, Laszlo, to Elliott Bros. (London) Ltd. Magnetic tape recorder. 3,141,625, 7-21-64, Cl. 242—55.12.
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Nelson, Robert C., to Accurate Screw Products, Inc. Toolholder. 3,141,220, 7-21-64, Cl. 29—98.
Neumann, Vera, to Scarves by Vera, Inc. Combination headgear and scarf. 3,141,176, 7-21-64, Cl. 2—207.
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Newby, Chester A. Microscope slide structure. 3,141,548, 7-21-64, Cl. 206—1.
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Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Novel imaging process. 3,141,404, 7-21-64, Cl. 101—149.5.
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Enk, Eduard, Nick, and Silbernagl. 3,141,849.
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Notes, Robert J. Attachment for mixers or the like. 3,141,184, 7-21-64, Cl. 15—97.
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Ohlgren, Harold A., and J. G. Lewis, to Nuclear Technical Services Corp. Gas purification. 3,141,739, 7-21-64, Cl. 23—209.

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Oldfield, Thomas A., and R. E. Carr, to The Plessey Co. Ltd. Self-locking pneumatic actuators. 3,141,382, 7-21-64, Cl. 91—44.

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Olsen, Howard E.: *See*—
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Olson, Henry L., and P. E. William, to McGraw-Edison Co. Adjustable cord support. 3,141,251, 7-21-64, Cl. 38—90.

Olson, Ralph H., to Owens-Illinois Glass Co. Self-clamping baffle mechanism. 3,141,755, 7-21-64, Cl. 65—360.

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Patch, Robert S., and H. F. Swenson, to Sweden Freezer Mfg. Co. Dispensing freezer with flavor selection. 3,141,573, 7-21-64, Cl. 222—129.1.

Patelli, Bianca, and L. Bernardi, to Societa' Farmaceutici Italia. Process for the preparation of lysergic acid amides. 3,141,887, 7-21-64, Cl. 260—285.5.

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Perazone, Hugh L. Valve with remote control actuator. 3,141,647, 7-21-64, Cl. 251—31.

Perisse, Pierre. Heel with interchangeable heel-lift. 3,141,249, 7-21-64, Cl. 36—42.

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Peterson, James M., D. D. Reed, H. D. Kluge, deceased (by H. E. Kluge, administratrix), to Texaco Inc. 5-hydroxy-6-halo-3-oxahexyl hydrocarbonthiophosphonate and manufacture. 3,141,901, 7-21-64, Cl. 260—461.

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Petrides, Christie, to General Electric Co. Battery powered synchronous motor. 3,142,012, 7-21-64, Cl. 318—138.

Petrie, James A., and T. Steel, to Rolls-Royce Ltd. Gas turbine engines. 3,141,299, 7-21-64, Cl. 60—35.6.

Petropoulos, Thomas S., ¼ to Nelson Pattern Co. Mechanical toothbrush. 3,141,465, 7-21-64, Cl. 132—84.

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Platt, Fletcher N. Impact recording instrument. 3,141,440, 7-21-64, Cl. 116—114.

Platt, Fletcher N. Energy absorbing device. 3,141,685, 7-21-64, Cl. 256—1.

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Podebradsky, Everett V., and F. C. Olson, to Oscar Mayer & Co., Inc. Stacked sliced food product and method of preparing same. 3,141,779, 7-21-64, Cl. 99—166.

Podolsky, Leon, to Sprague Electric Co. Elements and method of making. 3,141,791, 7-21-64, Cl. 117—212.

Pohler, Heinz, and W. Schmude, to Eisenwerk Rothe Erde G.m.b.H. Process for manufacturing bearing races. 3,141,230, 7-21-64, Cl. 29—148.4.

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Poll, Albert A., Jr.: *See*—
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Clayborne, Norman F., Hamlin, and Kerns. 3,141,419.

Pure Oil Co., The: *See*—
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Quinn, James D. Soap dispenser. 3,141,578, 7-21-64, Cl. 222—175.

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Radio Receptor Co., Inc.: *See*—
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Ragazzini, Mario, and F. Gozzo, to Edison. Process for the polymerization of perhalogenated olefins by use of promoters based on inorganic peroxides. 3,141,871, 7-21-64, Cl. 260—92.1.

Rairden, John R., III, to General Electric Co. Anodization of aluminum in a solution of calcium hydroxide. 3,141,798, 7-21-64, Cl. 148—6.27.

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Ralphs, George T., to Ralphs Engineering Co. Ltd. Machines for lasting footwear. 3,141,183, 7-21-64, Cl. 12—3.3.

Ralston, Harry R., to Armco Steel Corp. Reinforced pipe. 3,141,480, 7-21-64, Cl. 138—172.

Randall, Albert T. Fish lure. 3,141,255, 7-21-64, Cl. 43—42.11.

Randall, Bert M., to United States of America, Navy, Missile handling and mating system. 3,141,575, 7-21-64, Cl. 89—1.

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Raputa, George M., to Illinois Tool Works Inc. Screw grommet. 3,141,480, 7-21-64, Cl. 151—41.75.

Rashin, Walter, to Dean Products, Inc. Heat exchanger coils of the panel type. 3,141,500, 7-21-64, Cl. 165—170.

Rasmussen, Walter H., and R. V. Johnson, to Waldorf Paper Products Co. Easy opening container. 3,141,598, 7-21-64, Cl. 229—51.

Ray, John G., to Sylvania Electric Products Inc. Fluorescent lamp having a TiO_2 coating on the inner surface of the bulb. 3,141,990, 7-21-64, Cl. 313—221.

Raybestos-Manhattan, Inc.: *See*—
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Read, John A., and M. A. Chadbourne, to Joy Mfg. Co. Mining apparatus. 3,141,521, 7-21-64, Cl. 182—12.

Reeber, Rudolf, and E. Albrecht, to G. M. Pfaff A.G. Wheel-feed mechanism for sewing machines. 3,141,428, 7-21-64, Cl. 112—211.

Reeber, Rudolf, H. Wenz, and K. Hedegaard, to G. M. Pfaff AG. Thread trimming mechanism for sewing machines. 3,141,432, 7-21-64, Cl. 112—252.

Reed, David D.: *See*—
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Reed, Joseph: *See*—
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Reeder, Earl, and L. H. Sternbach, to Hoffmann-La Roche Inc. Benzophenones. 3,141,890, 7-21-64, Cl. 260—326.

Reese, Cole L. Safety device for hydraulic brake system. 3,141,302, 7-21-64, Cl. 60—54.5.

Reich, A. & Sons, Inc.: *See*—
Reich, Walter A. 3,141,564.

Reich, Walter A., to A. Reich & Sons, Inc. Hand truck. 3,141,564, 7-21-64, Cl. 214—379.

Reichenbach, Albert T., to United States Steel Corp. Dimensionally stable stainless steel sprue plates and method of forming same. 3,141,800, 7-21-64, Cl. 148—12.3.

Reiner, Joseph E., and H. A. Schroeder, to Olin Mathieson Chemical Corp. Linear condensation polymers of bis(phosphine) dioxboranes. 3,141,856, 7-21-64, Cl. 260—2.

Reinman, Albert A., to H. I. Thompson Fiber Glass Co. Apparatus for forming a wound hollow structure of fiber reinforced tape. 3,141,804, 7-21-64, Cl. 156—425.

Reiss, Edmund P., to The Stanley Works. Separable hinge assembly with spacer. 3,141,190, 7-21-64, Cl. 16—171.

Reliable Electric Co.: *See*—
Shrewsbury, George R. 3,141,642.

Romberg, Graham A.: *See*—
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Rupco Products Corp.: *See*—
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Republic National Bank of Dallas: *See*—
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Republic Steel Corp.: *See*—
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Research Laboratories of Australia Ltd.: *See*—
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Research Laboratorium Dr. C. Janssen N.V.: *See*—
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Reynolds, Boyd F. Windrow moving device. 3,141,284, 7-21-64, Cl. 56—364.

Rhoades, Rex V., and F. Stevens, to Northrop Corp. Drone control system. 3,141,634, 7-21-64, Cl. 244—14.

Rhodes, Donald R., to Radiation, Inc. Aural indicating doppler radar. 3,142,068, 7-21-64, Cl. 343—13.

Richter, Henry: *See*—
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Richter, Robert: *See*—
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Richter, Robert F., to North American Aviation, Inc. Self-regulating tension means. 3,141,352, 7-21-64, Cl. 74—501.5.

Richter, Sidney B.: *See*—
Ross, Frank, and Richter. 3,141,885.

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Riedel, Gordon W.: *See*—
Fuhrmeister, William F., Gentile, and Riedel. 3,141,636.

Rightmire, Robert A.: *See*—
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Rinaldi, Nicholas, to Scovill Mfg. Co. Pass case binder. 3,141,213, 7-21-64, Cl. 24—153.

Rinaldi, Nicholas, to Scovill Mfg. Co. Key retaining member. 3,141,321, 7-21-64, Cl. 70—458.

Rinia, Herre, and J. F. Klinkhamer, to North American Philips Co. Inc. Cryotron arrangement and cryotrons suitable for use in such arrangements. 3,141,979, 7-21-64, Cl. 307—88.5.

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Rolin, Maurice, and J.-J. Gally, to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Method and apparatus for determining oxygen in a molten halogenated bath. 3,141,835, 7-21-64, Cl. 204—1.

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Williamson, Hilding V., to Chemetron Corp. Proportioning assembly. 3,141,471, 7–21–64, Cl. 137—114.

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295—	61:	3,141,610		71:	3,141,973		249.7:	3,141,684	276—	9:	3,141,676
	61.11:	3,141,958		89.5:	3,141,974		249.6:	3,141,685	277—	3:	3,141,677
	91:	3,141,611		94.5:	3,141,975		250:	3,141,686	279—	114:	3,141,678
	99:	3,141,959		103:	3,141,976		266.5:	3,141,687	280—	8:	3,141,679
		3,141,960		106:	3,141,977		269:	3,141,688		38:	3,141,680
	99:	3,141,612		209:	3,141,978		307:	3,141,689		47.55:	3,141,681
	153:	3,141,961	251—	31:	3,141,647		326:	3,141,690		91:	3,141,682
		3,141,962		163:	3,141,648		327:	3,141,691	281—	44:	3,141,683
	164:	3,141,963		176:	3,141,649		329:	3,141,692	283—	8:	3,141,684
		3,141,964	259—	82.5:	3,141,847		343.2:	3,141,693	285—	60:	3,141,685
	173:	Re.25,631			3,141,648			3,141,694		176:	3,141,686
	176:	3,141,965			3,141,849		343.6:	3,141,695		207:	3,141,687
	179:	3,141,966		63.5:	3,141,850		344.5:	3,141,696	287—[illegible]	05:	3,141,688
	183:	3,141,967		184:	3,141,851		404.6:	3,141,697		53:	3,141,689
	185:	3,141,968		201.1:	3,141,852		448.2:	3,141,698		89:	3,141,690
	199:	3,141,969		416:	3,141,853			3,141,699	289—	73:	3,141,691
296—	65:	3,141,613		420:	3,141,854		453:	3,141,700		147:	3,141,692
298—	8:	3,141,614		502:	3,141,855		461:	3,141,701		173:	3,141,693
299—	8:	3,141,615	252—	2:	3,141,630		468.2:	3,141,702		263:	3,141,694
	81:	3,141,616		20:	3,141,631		472:	3,141,703	294—	16:	3,141,695
	245:	3,141,618	254—	108:	3,141,662		526:	3,141,704		19:	3,141,696
	284:	3,141,617		189:	3,141,663		567.6:	3,141,705	296—	28:	3,141,697
	424:	3,141,619		193.1:	3,141,654		583:	3,141,706		38:	3,141,698
240—	3:	3,141,620	255—	1:	3,141,655		609:	3,141,707	297—	230:	3,141,699
	51.11:	3,141,621	259—	95:	3,141,656		615:	3,141,708		271:	3,141,700
261—	46:	3,141,622	260—	2:	3,141,656	281—	25:	3,141,709		439:	3,141,701
263—	4:	3,141,623		2.5:	3,141,657		108:	3,141,910	298—	39:	3,141,702
	15:	3,141,624		23:	3,141,658	283—	33:	3,141,657		71:	3,141,703
	55.12:	3,141,625		33.4:	3,141,659		47:	3,141,685	301—	37:	3,141,704
		3,141,626		33.5:	3,141,660	284—	69:	3,141,911	303—	38:	3,141,705
	75.47:	3,141,627		45.5:	3,141,661		95:	3,141,912		39:	3,141,706
	84.21:	3,141,629			3,141,662		210:	3,141,913	308—	26:	3,141,707
	84.5:	3,141,628		47:	3,141,663		276:	3,143,914	307—	88.5:	3,141,979

307—	88.6:	3,141,980	333—	24.2:	3,142,026						
		3,141,981		72:	3,142,027						
	149:	3,141,982		73:	3,142,028						
	157:	3,141,983	336—	56:	3,142,029						
308—	88.1:	3,141,708		207:	3,142,030						
	40:	3,141,709	338—	319:	3,142,031						
	187.1:	3,141,710	339—	85:	3,141,715						
	201:	3,141,711		61:	3,141,716						
310—	238:	3,141,984		88:	3,141,717						
	239:	3,141,985		108:	3,141,718						
312—	208:	3,141,712		112:	3,141,719						
	223:	3,141,713		176:	3,141,720						
	243:	3,141,714			3,141,721						
313—	7:	3,141,986		266:	3,141,722						
	17:	3,141,987		282:	3,141,723						
	84:	3,141,988		283:	3,141,724						
	210:	3,141,989	340—	8:	3,142,032						
	221:	3,141,990			3,142,033						
	240:	3,141,991		8:	3,142,034						
315—	3.5:	3,141,992		10:	3,142,035						
	21:	3,141,993		84:	3,142,036						
	98:	3,141,994		146.5:	3,142,039						
317—	12:	3,141,995			3,142,040						
	13:	3,141,996		172:	3,142,037						
	69:	3,141,997		173.1:	3,142,041						
	160:	3,141,998			3,142,042						
		3,141,999			3,142,043						
	161:	3,142,000		173.3:	3,142,044						
	166:	3,142,001			3,142,045						
	119:	3,142,002		176:	3,142,038						
	120:	3,142,003			3,142,046						
	142:	3,142,004			3,142,047						
	164:	3,142,005			3,142,048						
	189:	3,142,006			3,142,049						
		3,142,007		312:	3,142,050						
	209:	3,142,008		313:	3,142,051						
318—	28:	3,142,009		331:	3,142,052						
		3,142,010		336:	3,142,053						
	82:	3,142,010		338:	3,142,054						
	122:	3,142,011		347:	3,142,055						
	126:	3,142,012			3,142,056						
	471:	3,142,013	343—	7:	3,142,057						
320—	35:	3,142,014		13:	3,142,058						
324—	69:	3,142,015		17.7:	3,142,059						
	81:	3,142,016		18:	3,142,060						
	108:	3,142,017		109:	3,142,061						
325—	14:	3,142,018		105:	3,142,062						
	39:	3,142,020		705:	3,142,063						
		3,142,021		720:	3,142,064						
321—	4:	3,142,022	345—	8:	3,141,726						
	46:	3,142,023		23:	3,141,726						
	60:	3,142,024		59:	3,141,727						
	113:	3,142,025		76:	3,142,065						

Classification of Designs

D 1—	12:	198,663	D14—	3:	198,676	D26—	14:	198,689	D44—	21:	198,709
D 3—	16:	198,664			198,677	D33—	19:	198,690		26:	198,708
	28:	198,665	D15—	8:	198,678	D34—	2:	198,691		29:	198,704
D 4—	3:	198,666			198,679		5:	198,692	D49—	1:	198,705
		198,667	D16—	1:	198,680			198,693			198,706
D 9—	2:	198,668		2:	198,681			198,694		6:	198,707
D10—	5:	198,669	D17—	9:	198,682		14:	198,695	D53—	2:	198,708
	9:	198,670	D21—	6:	198,683		15:	198,696			198,709
D13—	1:	198,671	D20—	1:	198,684			198,697		6:	198,710
		198,672			198,685	D35—	3:	198,698		7:	198,711
		198,673		5:	198,686	D36—	1:	198,699			198,712
		198,674		13:	198,687	D43—	1:	198,700	D54—	9:	198,713
		198,675			198,688	D44—	9:	198,701	D56—	1:	198,714

D58—	4:	198,715	D61—	1:	198,728						
D67—	1:	198,716			198,729						
		198,717			198,730						
		198,718	D71—	1:	198,731						
		198,719	D83—	9:	198,732						
D85—	17:	198,720	D81—	10:	198,733						
		198,721	D68—	1:	198,734						
		198,722			198,735						
		198,723		172:	198,736						
	25:	198,728		173.5:	198,737						
		198,724	D90—	29:	198,737						
D89—	6:	198,725			198,738						
D61—	1:	198,726			198,739						
		198,727									

Classification of Plants

P.—	51:	2,427			

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 21, 1964 Volume 804 Number 3

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel the registration identified below having been filed, and the notice of such proceedings sent by registered mail to registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrant listed herein, his assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Mustang Trailer Company, Dallas, Tex., Reg. No. 442,082, Canc. No. 8248.

HORACE B. FAY, JR.,
Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,244
Date of oldest new application	Oct. 7, 1963
Date of oldest amended application	Sept. 3, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	11-26-63	11-12-63
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	10-7-63	9-3-63
Renewals (All Classes)	5-5-64	5-20-64
Sec. 12 (c) Publications (All Classes)	5-4-64	

Applications filed during the month of May 1964—2,192

Registrations Issued	494—No. 773,398 to No. 773,891
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 179,362. The Salmon Stiles Corporation, El Monte, Calif. Filed Oct. 18, 1963.



No claim is made to the exclusive right to use "Marine" and "Equipped," but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Packaged Marine Products—Namely, Synthetic Fiberglass Resins Including Polyester and Epoxy Resins.
First use Oct. 3, 1961.

SN 180,028. Shell Oil Company, New York, N.Y. Filed Oct. 29, 1963.

ALDOREZ

Owner of Reg. No. 725,481.
For Synthetic Resins.
First use Oct. 2, 1963.

SN 181,382. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 18, 1963.

CUCLAD

Owner of Reg. No. 687,733.
For Metal Coated Sheet Material for General Use in the Industrial Arts.
First use Sept. 27, 1963.

Class 2—Receptacles

SN 134,305. W. R. Brimacombe, d.b.a. Southwest Carton Co., and Southwest Tag Mfg. Co., Kansas City, Mo. Filed Dec. 19, 1961.



For Egg Cartons and Egg Cases.
First use June 1, 1954.

SN 182,423. The Greif Bros. Cooperage Corporation, Lindenhurst, N.Y. Filed Dec. 5, 1963.

BLO-LINED

For Fibre Drums.
First use on or about May 20, 1963.

SN 182,683. Tucker Manufacturing Corp., Leominster, Mass. Filed Dec. 9, 1963.

SILVER CREST

For Plastic Housewares—Namely, Tissue Dispensers, Hampers, Baby Baths, Pails, Decanters, Laundry Baskets, Waste Baskets, Waste Containers, and Picnic Sets.
First use Apr. 23, 1959.

SN 182,802. Kay Jewelry Stores, Inc., d.b.a. Fairfax Industries, Washington, D.C. Filed Dec. 11, 1963.

TOS-A-FILT

For Vacuum Cleaner Bags.
First use December 1963.

SN 182,809. St. Regis Paper Company, New York, N.Y. Filed Dec. 12, 1963.

STRYCOTE

For Containers Formed of Paperboard Coated With Resinous Material.
First use on or about Feb. 16, 1961.

SN 182,927. Calwis Company, Green Bay, Wis. Filed Dec. 13, 1963.

FILM-FYTER

Owner of Reg. No. 622,739.
For Windshield Service Cabinet.
First use at least as early as June 1, 1948.

SN 183,744. The Dow Chemical Company, Midland, Mich. Filed Dec. 30, 1963.

COLORETTE

Owner of Reg. No. 369,783.
For Containers—Namely, Plastic Bags.
First use Oct. 18, 1963; on or about Jan. 3, 1939, as to "Colorettes."

SN 183,761. International Paper Company, New York, N.Y. Filed Dec. 30, 1963.

DOUGHBOY

For Paper Bags.
First use Nov. 7, 1963.

SN 183,853. National Steel Container Corporation, Chicago, Ill. Filed Dec. 31, 1963.



For Shipping Containers Made of Fiber.
First use Nov. 1, 1963.

Class 4—Abrasives and Polishing Materials

SN 186,083. The Kiwi Polish Company Proprietary Limited, Richmond, near Melbourne, Victoria, Australia. Filed Feb. 5, 1964.



Owner of U.S. Reg. Nos. 757,932 and 757,984.
For Boot Creme.
First use Sept. 1, 1962; in commerce Sept. 1, 1962.

SN 186,112. Peninsular Distributing Company, Detroit, Mich. Filed Feb. 5, 1964.



No claim is made to the words "Let Jay Do It" apart from the rest of the mark, all common law rights being retained.
For Stainless Steel Cleaner and Polish for Institutional, Industrial and Commercial Use.
First use on or about Apr. 1, 1962.

Class 5—Adhesives

SN 144,019. Texas Tire Products Company, Inc., Lockhart, Tex. Filed May 7, 1962.



The drawing is lined for the color green.
For Adhesives Used in Tire Building, Re-Building and Repair—Namely, Solvent Cement and Boot and Reliner Cement.
First use Aug. 15, 1959.

SN 183,028. Broadview Chemical Corporation, Broadview, Ill. Filed Dec. 16, 1963.

STA-LOK

For Sealant Composition Having Adhesive Characteristics for Use as an Adhesive Sealant.
First use Sept. 18, 1963.

SN 186,430. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Feb. 11, 1964.

CHEM-REZ

For Synthetic Resins for Foundry Core Binders.
First use March 1960.

SN 186,431. Arno Adhesive Tapes, Inc., Michigan City, Ind. Filed Feb. 11, 1964.



For Adhesive Coated Tapes Including Paper Masking Tape, Plastic Tape, Strapping Tape, Double-Faced Tape, Sealing Tape, Cloth Tape, Coated Cloth Tape, Pipe-Wrap Tape, and Adhesive Compounds of Elastomer-Based Dry Materials of the Character Commonly Referred to as Caulking Compound.
First use May 1957.

SN 186,434. Raymond L. Barker, Chicago, Ill. Filed Feb. 11, 1964.

HURRICANE

For Glass Reinforcing Tapes.
First use Feb. 1, 1964.

SN 186,690. Bonded Brake Corporation, Indianapolis, Ind. Filed Feb. 14, 1964.

"PROTECTO • SEAL"

For Protective Adhesive Tape for Re-Lined Automotive Brake Shoes.
First use Nov. 28, 1962.

SN 187,517. Poly-Chemical Corporation, Chicago, Ill. Filed Feb. 26, 1964.



For Glues, Cements and Other Adhesives Such as Cold Solders in Paste Form for Use With Metals, Woods, Plastics, Glass, and Rubber.
First use Apr. 9, 1963.

Class 6—Chemicals and Chemical Compositions

SN 136,771. Iowa Paint Manufacturing Company, Inc., Des Moines, Iowa. Filed Jan. 29, 1962.

IONITE

For Chemical Additive for Curing Epoxy Resin and Other Like Materials.
First use on or about Dec. 1, 1961.

SN 148,858. Standard Chemical Products, Inc., Hoboken, N.J. Filed July 11, 1963.

COTTOSINT

For Chemical Compositions for Use on Textiles and Fabrics—Namely, Wetting Agents, Sizing Agents, Softening Agents, Anti-Shrinkage Agents, Fiber Lubricants, and Anti-Static Agents.
First use Mar. 21, 1962.

SN 171,100. Diamond Alkali Company, Cleveland, Ohio. Filed June 17, 1963.

NEOCHROME

For Leather Tanning Chemicals.
First use June 1945.

SN 174,944. Dover Chemical Corporation, Dover, Ohio. Filed Aug. 13, 1963.

TCBA

For Chlorinated Diphenols.
First use May 1, 1963.

SN 177,333. CAH Industries, Inc., Franklin Park, Ill. Filed Sept. 19, 1963.



For Liquid Coating for Fabrics, Rugs, Draperies, Tents, Boat Sails, Clothing and the Like, To Preserve Their Life and To Render Them Water Repellent and Mothproof.
First use Aug. 15, 1963.

SN 182,538. Prairie States Corporation, Danville, Ill. Filed Dec. 6, 1963.

PROTECTO

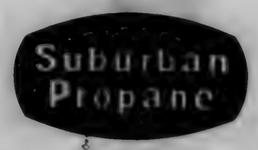
For Radiator Anti-Freeze, Gas Line Anti-Freeze, and Hydraulic Brake Fluid.
First use Sept. 25, 1940, on anti-freeze.

SN 182,585. Clay-Adams, Inc., New York, N.Y. Filed Dec. 9, 1963.

CYTOSPRAY

For Aerosol Spray Fixative for Cytological Smears Carried on a Slide.
First use May 8, 1962.

SN 182,903. Suburban Propane Gas Corporation, Whippany, N.J. Filed Dec. 12, 1963.



Applicant disclaims the term "Propane" apart from the mark as shown. Owner of Reg. Nos. 596,156, 716,823, and others.
For Liquefied Petroleum Gas.
First use at least as early as January 1963; at least as early as 1945 as to "Suburban."

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 160,443. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.



For Cigarette Lighters (Non-Electric).
First use March 1962.

Class 10—Fertilizers

SN 187,677. Miller Chemical and Fertilizer Corporation, Baltimore, Md. Filed Feb. 28, 1964.

ENCORE

For Fertilizers.
First use Jan. 29, 1964.

SN 188,165. Virginia Cattle Feeding Corporation, Branchville, Va. Filed Mar. 6, 1964.

VER-DUNG

For Dehydrated Manure.
First use July 28, 1963.

SN 188,166. Virginia Cattle Feeding Corporation, Branchville, Va. Filed Mar. 6, 1964.

MOO-NURE

For Dehydrated Manure.
First use Sept. 6, 1963.

Class 12—Construction Materials

SN 136,773. Iowa Paint Manufacturing Company, Inc., Des Moines, Iowa. Filed Jan. 29, 1962.

IONITE GROUT

The term "Grout" is disclaimed apart from the mark as shown.
For Kit Comprising an Epoxy Resin Base Patching Compound With a Hardener and an Aggregate, for Concrete, Wood, and Metal.
First use on or about May 20, 1960.

SN 156,017. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed Oct. 26, 1962.

SONOBOARD

Owner of Reg. Nos. 580,998, 614,167, and 664,606.
For Acoustical Tile and Sound Absorbing Baffles in the Form of Boards of Bonded Fibers.
First use Aug. 14, 1961.

SN 156,018. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed Oct. 26, 1962.

SONOFLEX

Owner of Reg. Nos. 580,998, 614,167, and 664,606.
For Film Faced Acoustical Tile and Sound Absorbing Baffles in the Form of Boards of Bonded Fibers.
First use June 1, 1962.

SN 157,186. Shully's Industries Limited, Toronto, Ontario, Canada. Filed June 14, 1963.

ALUMASTONE

Owner of Canadian Reg. No. 127,421, dated July 27, 1962.
For Artificial Stone.

SN 163,439. Western Concrete, Inc., Phoenix, Ariz. Filed Feb. 25, 1963.



For Planks, Precast Columns, Precast Beams, Precast Rigid Frames, Precast and Pretensioned and Post-Tensioned Building Construction Units—Namely, Concrete T's, Planks, Columns, Beams, Frames, Slabs, Wall Panels, Anchorages, and Tendons.
First use Mar. 1, 1962.

SN 169,813. Adco Aluminum Company, Dallas, Tex. Filed May 28, 1963.



For Aluminum Extrusions—Namely, Door Sills, Weather-Stripping, Thresholds, and Window Wall Units.
First use Oct. 29, 1962.

SN 173,202. Usonian Corporation, Akron, Ohio. Filed July 17, 1963.



For Sculptured Concrete Blocks or Other Textural Surfaces.
First use Oct. 1, 1962.

SN 174,049. Deco Plastics Corporation, Marlton, N.J. Filed Aug. 8, 1963.

"DEPLON"

For Multi-Purpose Plastic Railing.
First use Nov. 20, 1962.

SN 180,968. Temple Industries, Inc., Diboll, Tex. by change of name from Southern Pine Lumber Company, Diboll, Tex. Filed Nov. 12, 1963.

TEMPLE DIXIELAND

Owner of Reg. No. 608,470.
For Lumber.
First use at least as early as July 20, 1963.

SN 181,110. Bradley Washfountain Co., Milwaukee, Wis. Filed Nov. 14, 1963.

MODESTY MODULE

The term "Module" is disclaimed apart from the mark shown, but applicant waives none of its common law rights in the mark shown in the drawing or any feature thereof.
For Prefabricated Shower With Dressing Rooms.
First use June 11, 1963.

SN 182,290. R-O-W Window Sales Company, Ferndale, Mich. Filed Dec. 3, 1963.

REMOVABLE R·O·W BALANCED INSUL-SASH

The words "Removable" and "Balanced" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 561,787, 595,411, and others.
For Double Hung Windows With Insulated Glass.
First use on or about Oct. 10, 1963.

SN 184,853. Tiffany Tile Corporation, Tampa, Fla. Filed Jan. 17, 1964.

ALLSTATE

For Ceramic Tile.
First use January 1960.

SN 185,066. The National Portland Cement Company, Philadelphia, Pa. Filed Jan. 21, 1964.

STRONG HOLD

For Mortar Cement.
First use Dec. 16, 1963.

SN 185,155. Penn-Valley Plywood, Inc., Philadelphia, Pa. Filed Jan. 22, 1964.

FLORPLY

For Plywood.
First use Oct. 1, 1963.

SN 187,517. Poly-Chemical Corporation, Chicago, Ill. Filed Feb. 26, 1964.



For Caulking, Spackling, Putty and Filler Compounds for Filling in Cracks and Dents, Sealing and Covering Surfaces Prior to Painting and Decorating and for Use with Metals, Woods, Plastics, and Glass.
First use Oct. 22, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 164,940. T & S Brass & Bronze Works, Inc., Westbury, N.Y. Filed Mar. 19, 1962.

LAB-FLO

For Mechanical, Electrical, and Plumbing Fixtures for Use in Scientific Laboratories.
First use in or about October 1958.

SN 170,245. United-Carr Fastener Corporation, Boston, Mass. Filed June 3, 1963.

V-snap

For Fasteners, Connectors, and Attaching Devices of Various Types Used in the Industrial Arts for Mounting and Connecting Various Parts, Whether of Plastic, Wood, Metal, Fabric or Fibreboard—Namely, Separable Snap Fasteners and Component Parts Thereof.
First use May 20, 1963.

SN 170,246. United-Carr Fastener Corporation, Boston, Mass. Filed June 3, 1963.

V-snap

For Fasteners, Connectors, and Attaching Devices of Various Types Used in the Industrial Arts for Mounting and Connecting Various Parts, Whether of Plastic, Wood, Metal, Fabric or Fibreboard—Namely, Separable Snap Fasteners and Component Parts Thereof.
First use May 20, 1963.

SN 170,714. Harry C. Weiskittel Co., Incorporated, Baltimore, Md. Filed June 10, 1963.



For Metallic Soil Pipes and Fittings for Same.
First use 1923; 1884 in a different form.

SN 175,015. Conoflow Corporation, Philadelphia, Pa. Filed Aug. 14, 1963.

FOREMOST IN FINAL CONTROL ELEMENTS

For Pressure and Vacuum Regulators and Filters, Control Valves for Compositions and Compounds Which Flow Through Pipe, and Pneumatic Actuators for Remote or Automatic Control.
First use Jan. 13, 1960.

SN 178,951. Murray Corporation, Towson, Md. Filed Oct. 14, 1963.

GOLD SEAL

For Hose Clamps for Use on Automobile Radiators.
First use November 1958.

SN 179,785. Flexigrip, Inc., New York, N.Y. Filed Oct. 25, 1963.

TINY TITE

For Slide Fasteners.
First use May 15, 1963.

SN 180,395. Hoke Incorporated, Cresskill, N.J. Filed Nov. 4, 1963.

HOKE

For Valves, Pipe Couplings, Connectors, Fittings and Accessory Equipment.
First use during June 1925.

SN 184,476. Josam Manufacturing Co., Michigan City, Ind. Filed Jan. 13, 1964.

ABSORBOTRON

For Water Hammer Arresters.
First use Nov. 22, 1963.

SN 184,755. Rudy Manufacturing Company, Dowagiac, Mich. Filed Jan. 16, 1964.

RUDY DRAWELD

For Metal Tubing.
First use Dec. 10, 1963.

SN 184,877. Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio. Filed Jan. 20, 1964.

TRU-CUP 1

For Hose Couplings.
First use Dec. 13, 1963.

SN 185,377. Flat Metal Manufacturing Co., Inc., Plainview, N.Y. Filed Jan. 27, 1964.

MOLDED STONE

For Prefabricated Shower Receptors.
First use Sept. 12, 1962.

SN 185,409. Golden State Steel Corporation, San Francisco, Calif. Filed Jan. 27, 1964.

STUDDED CHANNEL 227

For Fence Post.
First use Dec. 9, 1963.

SN 185,800. Mayer Manufacturing Corporation, Chicago, Ill. Filed Jan. 31, 1964.

MAYCO

For Key Chains.
First use in July 1950.

SN 186,477. Rochester Wire Spring Co., Inc., Rochester, N.Y. Filed Feb. 11, 1964.



For Springs, Wire Forms and Stampings.
First use Oct. 18, 1963.

SN 186,701. The Dow Chemical Company, Midland, Mich. Filed Feb. 14, 1964.

DOW

Owner of Reg. Nos. 140,588, 758,697, and others.
For Pipe and Piping Products.
First use since 1917; prior to 1895 as to "Dow."

SN 191,142. Dixon Valve & Coupling Company, Philadelphia, Pa. Filed Apr. 15, 1964.

BOSS

For Hose Couplings, Hose Clamps, Hose Menders, and Fluid Valves.
First use March 1916.

Class 14—Metals and Metal Castings and Forgings

SN 183,429. Magnetic Metals Company, Camden, N.J. Filed Dec. 23, 1963.

SHIELDMU

Owner of Reg. Nos. 682,225 and 728,462.
For High Permeability Magnetic Metals in Sheet, Tape, and Foil Form.
First use Nov. 21, 1963.

Class 15—Oils and Greases

SN 177,378. Solar-Peabody, Inc., River Rouge, Mich. Filed Sept. 19, 1963.



For Rolling Mill Oils and Protective Coating Oils.
First use July 29, 1958.

SN 184,554. Winslow Engineering and Manufacturing Company, Redwood City, Calif. Filed Jan. 13, 1964.

CP

For Oil and Fuel Additives—Namely, Oil Conditioners, Fuel Conditioners, Carburetor Cleaners, Transmission Sealers and Conditioners.
First use at least as early as May 23, 1960.

Class 16—Protective and Decorative Coatings

SN 166,626. David A. Cunningham, Jr., d.b.a. Cunningham Art Products, Decatur, Ga. Filed Apr. 12, 1963.

FIX-IT

For Clear Plastic Protective Coating, of Spray Variety, for Art Work, Photographs, Documents, Bottles, Ceramics and the Like.
First use Mar. 18, 1963.

SN 171,378. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed June 19, 1963.

BPS
"Best Paint Sold"

Applicant hereby disclaims the phrase "Best Paint Sold" separate and apart from the trademark as shown. Owner of Reg. Nos. 27,640, 579,167, and others.
For Interior and Exterior Paints, Paint and Varnish Liquid Driers, Paint Enamels, Wood Stains, Varnish Stains, Prepared Lacs, Paste Fillers for Hardwood, Varnishes, Top Dressings of a Paint Nature, Prepared Shellacs, Automobile Enamels, Baking Enamels, Engine Enamels, Clear Lacquer, Enamel Undercoat, Primer Surfacer, All Purpose Tinting Colors, Paint Thinner, and Paint and Varnish Remover.
First use 1891.

SN 171,727. Triram Corporation, Framingham, Mass. Filed June 24, 1963.

SAVE-A-PAVE

For Coal Tar Pitch Emulsion for Use as a Protective Coating for Blacktop Driveway and Roadway Surfaces.
First use Mar. 26, 1963.

SN 174,753. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Aug. 9, 1963.



Owner of Reg. No. 37,016.
For Primers, Silica Graphite Coatings for All Exposed Metal and Wood Surfaces, Aluminum Exterior Protective Coatings, Gloss and Semi-Gloss Maintenance Coatings for Indoor and Outdoor Use, Flat and Semi-Gloss Interior Coatings, Heat Resistant Coatings, Vinyl Tank Coatings, and Chemical Resistant Coatings for Metal, Wood, Concrete and Masonry Surfaces.
First use March 1941.

SN 188,577. Purity Paint Products Corp., Brooklyn, N.Y. Filed Mar. 12, 1964.

PURITY

For Ready Mixed Paints, Paint Enamels, Paint Pastes, Waterproofing Paints, Colors in Oil and Varnishes.
First use in or about April 1930.

Class 17—Tobacco Products

SN 182,589. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

GARS

For Cigars.
First use Nov. 19, 1963.

SN 182,590. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

ASTRA LEAF

For Cigars.
First use Nov. 19, 1963.

SN 182,596. Consolidated Cigar Corporation, New York, N.Y. Filed Dec. 9, 1963.

OPERETTA

For Cigars.
First use Nov. 19, 1963.

Class 18—Medicines and Pharmaceutical Preparations

SN 173,435. Dari-Fresh Vitamin Company, St. Louis, Mo. Filed July 22, 1963.

DARI-FRESH

For Vitamins To Be Taken Internally.
First use Mar. 1, 1963.

SN 173,723. W. F. Young, Incorporated, Springfield, Mass. Filed July 24, 1963.



ABSORBINE

Owner of Reg. No. 49,322.
For Veterinary Liniments and Embrocations.
First use June 15, 1891.

SN 177,870. The Dow Chemical Company, Midland, Mich. Filed Sept. 27, 1963.

FERRO-B

Owner of Reg. No. 537,405.
For Liquid Preparation for Use in Treatment of Anemia.
First use May 9, 1938.

SN 177,871. The Dow Chemical Company, Midland, Mich. Filed Sept. 27, 1963.

LEPTOGEN

For Bacterial Vaccines for Immunization of Cattle and Swine Against Leptospira Pomona.
First use about October 1958.

SN 180,018. Masti-Kure Products Co., Norwich, Conn. Filed Oct. 29, 1963.

QUIK-O-LEASE

For Ointment Infusion Composition Used as a Base Material Incorporated in a Veterinary Preparation.
First use as early as September 1962.

SN 181,504. The Wellcome Foundation, Ltd., London, England. Filed Nov. 19, 1963.

ESBATAL

Owner of British Reg. No. 837,449, dated July 27, 1962.
For Pharmaceutical Preparations.

SN 182,924. H. C. Burns Company, Inc., Oakland, Calif. Filed Dec. 13, 1963.

SELETOC

For Pharmaceutical Preparation Used in the Treatment, Prevention and Control of Selenium Tocopheryl Deficiencies (White Muscle Disease).
First use Aug. 8, 1963.

SN 184,192. Harvey Wolfson, d.b.a. Columbia Medical Co., New York, N.Y. Filed Jan. 7, 1964.

ORAL-AID

For Jel for Use in Relieving Teething Pains, Toothache and Denture Irritation.
First use May 8, 1962.

SN 184,193. Harvey Wolfson, d.b.a. Columbia Medical Co., New York, N.Y. Filed Jan. 7, 1964.

Blistaid

For Cream for Relief of Chapped Lips, Cold Sores, and Fever Blisters.
First use June 1, 1962.

SN 184,434. Bristol-Myers Company, New York, N.Y. Filed Jan. 13, 1964.

RESOLVE

For Effervescent Analgesic Alkalising Tablet.
First use Oct. 4, 1963.

SN 184,475. Mead Johnson & Company, Evansville, Ind. Filed Jan. 13, 1964.

COGESIC

For Analgesic Preparation.
First use on or prior to Sept. 15, 1961.

SN 184,535. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

TRITICOLL

For Diuretic Preparation.
First use May 1940.

SN 184,536. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

VIROMONE

For Hormone Preparation.
First use December 1961.

SN 185,320. William H. Rorer, Inc., Fort Washington, Pa. Filed Jan. 24, 1964.

EXTRANASE

For Proteolytic Enzyme Tablets.
First use Nov. 19, 1963.

SN 186,224. Barnes-Hind Laboratories, Sunnyvale, Calif. Filed Feb. 7, 1964.

CALPAKE

For Disposable Units Containing Calcium Hydroxide and Barium Sulfate for Use in Dental Pulp Treatment.
First use Nov. 27, 1963.

SN 186,260. McNeil Laboratories, Incorporated, Fort Washington, Pa. Filed Feb. 7, 1964.

BUTIBEL-ZYME

Owner of Reg. No. 616,107.
For Enzyme Preparation—Namely, a Digestive Aid.
First use Oct. 11, 1963.

SN 186,340. Drugmaster, Inc., St. Louis, Mo. Filed Feb. 10, 1964.

SMOKE-CHEK

For Tablet Preparation Taken Orally To Help Smokers Break the Smoking Habit.
First use Nov. 4, 1963.

SN 188,393. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 10, 1964.

ENVACAR

For Anti-Hypertensive Compound.
First use Feb. 17, 1964.

Class 19—Vehicles

SN 175,305. Montclair Mobile Homes, Inc., Montclair, Calif. Filed Aug. 19, 1963.

GOLD CREST

For Mobile Residences.
First use on approximately May 28, 1963.

SN 179,977. Winnebago Industries, Inc., Forest City, Iowa. Filed Oct. 28, 1963.

KD KAP

For Weatherproof Covers for Pick-Up Truck Beds.
First use Aug. 6, 1963.

SN 185,957. Union Tank Car Company, Chicago, Ill. Filed Feb. 3, 1964.

PRESSURE FLOW

For Railroad Cars.
First use January 1964.

SN 185,980. Braincon Corporation, Marion, Mass. Filed Feb. 4, 1964.

P.O.E.

For Mooring Buoy.
First use during October 1963.

SN 186,144. Borg-Warner Corporation, Chicago, Ill. Filed Feb. 6, 1964.

PARK-A-BELT

For Vehicle Seat Belt Retractors.
First use on or prior to Nov. 7, 1963.

SN 186,651. Technibilt Corporation, Glendale, Calif. Filed Feb. 13, 1964.

TECHNIBILT

For Hand Trucks and Carts.
First use in or about November 1949.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 120,748. Electro-Seal Corporation, Des Plaines, Ill. Filed Aug. 28, 1961.

ELECTRO-PAC

For Regulated Power Supplies, Including Standby Power Systems, Electrical Inverters and Electrical Converters.
First use Aug. 4, 1961.

SN 160,443. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.

Stiff

For Radios, Telephone Amplifiers, Electric Lamps.
First use March 1962.

SN 174,017. Al Davis Radio, Inc., Los Angeles, Calif. Filed July 30, 1963.

VIBRA-FI

For Reverberation Units Used With Automobile Radios and Automobile Magnetic Tape Players.
First use June 26, 1963.

SN 174,846. Curran Industries Incorporated, Wayland, Mass. Filed Aug. 5, 1963.

CI

For Electrical and Electronic Goods, Particularly Printed Circuitry and Related Components Such as Capacitors, Resistors, Heating Elements, Etc.
First use Mar. 30, 1962.

SN 174,759. General Electric Company, Schenectady, N.Y. Filed Aug. 9, 1963.

POLYCYCLE

For Mechanically Adjustable Variable Frequency Motor Generators.
First use Jan. 29, 1962.

SN 177,660. Relay Division Motors & Armatures, Inc., Long Island City, N.Y. Filed Sept. 24, 1963.

MARS

For Resistors, Motor Starting Relays, Capacitors, Heating and Drying Controls, Electrical Components for Refrigeration, Air-Conditioning and Heating, and Electric Motor.
First use Sept. 28, 1962.

SN 179,088. United States Rubber Company, New York, N.Y. Filed Oct. 15, 1963.

POWER GUARD

For Battery Separators.
First use Sept. 5, 1963.

SN 181,472. Golden Shield Corporation, Batavia, N.Y. Filed Nov. 19, 1963.

ASTROTONE

For Radio Receiving Sets.
First use Oct. 30, 1963.

SN 181,514. The Belcor Corp., Newark, N.J. Filed Nov. 20, 1963.

BELCOR

For Radio.
First use Oct. 31, 1963.

SN 184,851. The Bunker Hill Company, Seattle, Wash. Filed Jan. 10, 1964.

SEA GUARD

For Corrosion Preventive Devices for Cathodic Protection of Submerged Metals on Boats—Namely, Anode Metal Strips, Engine Shaft Contact Devices and Parts Thereof, Sold in Kit Form With Printed Instructions Therein.
First use Oct. 18, 1963.

SN 184,479. Gerald L. Lachapelle and Leo J. Wallace, Lewiston, Maine. Filed Jan. 13, 1964.

STROMBOLI

For Speaker Systems (High Fidelity).
First use Mar. 20, 1962.

SN 184,520. Sierra Electric Corporation, Gardena, Calif. Filed Jan. 13, 1964.

TENNA-GRIP

For TV Plug.
First use Nov. 4, 1963.

SN 184,725. The Kerite Company, New York, N.Y. Filed Jan. 16, 1964.

SNUGRITE

For Insulated Wire and Cable.
First use Nov. 8, 1963.

SN 184,830. Motorola, Inc., Franklin Park, Ill. Filed Jan. 17, 1964.

ACOUSTINATOR

For Control Circuit in a Receiver of Radio Frequency Signals.
First use in December 1954.

SN 185,141. Jac. Jacobsen A/S, Oslo, Norway. Filed Jan. 22, 1964.

LUXO

Owner of U.S. Reg. No. 605,706.
For Portable Electric Lamps of the Type Wherein a Light-Emitting Unit and a Shade Thereon are Movably Supported by an Adjustable Stand From a Fixed or Movable Bracket or From a Weighted Base Resting Upon a Surface.
First use in or about 1938; in commerce 1939.

SN 185,295. Jac. Jacobsen A/S, Oslo, Norway. Filed Jan. 24, 1964.

Luxo

Owner of U.S. Reg. No. 605,706.
For Portable Electric Lamps of the Type Wherein a Light-Emitting Unit and a Shade Thereon are Movably Supported by an Adjustable Stand From a Fixed or Movable Bracket or From a Weighted Base Resting Upon a Surface.
First use on or about Jan. 4, 1962; in commerce June 14, 1962; 1939 as to "Luxo."

SN 185,736. Waters Manufacturing, Inc., Wayland, Mass. Filed Jan. 30, 1964.

CHANNELATOR

For Radio Frequency Oscillators.
First use Dec. 27, 1963.

Class 22 — Games, Toys, and Sporting Goods

SN 126,692. Margarete Steiff GmbH, Giengen (Brenz), Wurttemberg, Germany. Filed Aug. 25, 1961.

Steiff

Priority is claimed under Sec. 44(d) on German application filed Mar. 2, 1961; Reg. No. 749,918, dated June 14, 1961. Owner of U.S. Reg. No. 759,547.
For Balloons for Children, Balloons for Advertising and Decorative Purposes, Model Aircraft for Playing, Advertising, and Technical Purposes, and Toys.

SN 126,694. Margarete Steiff GmbH, Giengen (Brenz), Wurttemberg, Germany. Filed Aug. 25, 1961.

Steiff

Priority is claimed under Sec. 44(d) on German application filed Mar. 2, 1961; Reg. No. 749,917, dated June 14, 1961. Owner of U.S. Reg. No. 759,547.
For Balloons for Children, Balloons for Advertising and Decorative Purposes, Model Aircraft for Playing, Advertising, and Technical Purposes, and Toys.

SN 160,448. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.

Stiff

For Baseball Gloves, Badminton and Table Tennis Sets and Parts.
First use March 1962.

SN 182,028. American Publishing Corporation, Waltham, Mass. Filed Nov. 29, 1963.

BANKGAMMON

For Equipment Sold as a Unit for Playing a Board Game.
First use Oct. 15, 1963.

SN 182,199. Natural Doll Company, Inc., New York, N.Y. Filed Dec. 2, 1963.

AMERICA'S LITTLE DARLING

For Dolls.
First use Oct. 1, 1961.

SN 182,337. John G. MacPherson, d.b.a. Luckicup Co., Castro Valley, Calif. Filed Dec. 4, 1963.

LUCKICUP

For Dice Throwing Cups.
First use Sept. 12, 1963.

SN 182,673. Sorensen-Christian Industries, Inc., Raleigh, N.C. Filed Dec. 9, 1963.

REBOUNDER

For Mechanical Training Device for Developing the Skill of Basketball Players: a Mechanical Device Which Places Balls in a Position To Be Recovered by a Jumping Player To Improve His Skill in Recovering "Rebounds" During Basketball Games.
First use Apr. 21, 1961.

SN 186,121. Rosenel International Corporation, New York, N.Y. Filed Feb. 5, 1964.

RIC

For Pet Supplies—Namely, Rubber Dog Toys.
First use Oct. 10, 1962.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 154,148. Oliver Corporation, Chicago, Ill. Filed Sept. 28, 1962.

HYDRA-POWER DRIVE

No claim is made to the word "Drive" apart from the mark as shown.
For Power Shift Underdrive Which Is Used as a Component of Farm and Industrial Tractors.
First use Feb. 22, 1962.

SN 157,475. Dedbrator Aktiebolag, Stockholm, Sweden. Filed Feb. 17, 1964.

PREX

Owner of Swedish Reg. No. 105,285, dated Feb. 15, 1963.
For Machines and Apparatus for the Production and Refining of Pulp, and Parts Thereof.

SN 158,372. Pitman Manufacturing Company, Grandview, Mo. Filed Dec. 3, 1962.

PITMAN POLE CLAW

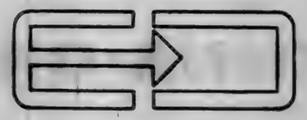
Owner of Reg. No. 717,843.
For Vehicle Mounted Pole Handling and Pole Holding Apparatus.
First use Feb. 23, 1962.

SN 163,950. Johnson Farm Machinery Co., Woodland, Calif., assignee of Roy W. Johnson, d.b.a. Johnson Farm Machinery Company, Davis, Calif. Filed Mar. 5, 1963.

PLANTIVATOR

For Mechanical Agricultural Cultivator and Planter.
First use Feb. 1, 1961.

SN 165,317. The East Dayton Tool and Die Company, Dayton, Ohio. Filed Mar. 22, 1963.



For Plastic Molds, Machine Tools, Cutting Tools, Dies, Jigs and Fixtures, and Parts Thereof.
First use Feb. 28, 1963.

SN 168,353. Pro Hardware, Inc., Larchmont, N.Y. Filed May 7, 1963.

PROVEN

For Saws, Drills, Sanders, Edgers, Trimmers, Caulking Gun, Hand Mower, Compressed Air Sprayer, Intermittent Sprayer, Wheelbarrows, Lawn Carts, Spreaders, Paint Sprayer, and Mixer.
First use Apr. 4, 1960, on compressed air sprayer.

SN 168,988. Andre Jean Barbier, Paris, France. Filed May 13, 1963.

SOLAVIT

For Apparatus for the Catalytic Treatment of Fluids.
First use Mar. 1, 1963; in commerce Mar. 1, 1963.

SN 169,358. Elgin Sweeper Company, Elgin, Ill. Filed May 21, 1963.

FLEET WING

For Street Sweeping Machines and Parts Thereof.
First use Apr. 3, 1962.

SN 170,235. Studebaker Corporation, South Bend, Ind. Filed June 3, 1963.

CLEAN-CUT

For Lawn Mowers.
First use 1939.

SN 171,473. Mosley Machinery Co. Inc., d.b.a. Mosley Machinery Company, Waco, Tex. Filed June 20, 1963.

MOSLEY

For Scrap Metal Balers and Scrap Metal Shears and Hoists.
First use December 1941 on scrap metal balers.

SN 174,100. The Huffman Manufacturing Company, Dayton, Ohio. Filed July 31, 1963.

RANCHERO

For Riding Type Power Operated Lawn Mowers, and Parts Therefor.
First use Aug. 9, 1961.

SN 174,433. Pacific Coast Engineering Company, Alameda, Calif. Filed Aug. 5, 1963.

TRANSTAINER

For Mobile Gantry Cranes.
First use June 15, 1960.

SN 174,572. Camillus Cutlery Company, Camillus, N.Y. Filed Aug. 7, 1963.

AMERICAN HERITAGE

The word "American," apart from the mark, is disclaimed.
For Pocket Knives, Hunting Knives, Kitchen Knives, and Steak Knives.
First use July 12, 1963.

SN 175,524. United Conveyor Corporation, Chicago, Ill. Filed Aug. 21, 1963.

DENSLURY

For Apparatus for Blending Dry Pulverulent Material With Liquid To Form a Flowable Mixture.
First use August 1962.

SN 175,776. Millers Falls Company, Greenfield, Mass. Filed Aug. 26, 1963.

MILLERS FALLS
MF
QUALITY TOOLS

The words "Quality Tools" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 159,422, 642,593, and others.
For Hand, Precision, Electric, Pneumatic, Hydraulic and Engine Driven Tools, Metal-Cutting Blades, Centrifugal Pumps and Portable Compressors.
First use July 2, 1963.

SN 175,777. Millers Falls Company, Greenfield, Mass. Filed Aug. 26, 1963.

MF

For Hand, Precision, Electric, Pneumatic, Hydraulic and Engine Driven Tools, Metal-Cutting Blades, Centrifugal Pumps and Portable Compressors.
First use July 2, 1963.

SN 176,827. Simplicity Manufacturing Company, Port Washington, Wis. Filed Oct. 11, 1963.



For Rotary Snow Throwers; Garden Cultivators; Tractors; Riding Mowers; Riding Sulkies, Garden Tractors and Attachments Therefor Including Plows, Cultivators, Harrows, Seeders, Sickle Bars, Lawn Mowers, Rotary Mowers, Tillers, Brush and Log Saws, Rotary Weed Cutters, Fertilizers Spreaders, Dozer Blades, Grader Blades, Hilling Blades, Weeding Knives, Lawn Rollers, Counterweights for Garden Tractor Wheels, Carts, Carryall Boxes and Winter and Summer Cabs.
First use Aug. 9, 1963.

SN 180,156. The Ashe-Houston Co. Inc., South Norwalk, Conn. Filed Sept. 25, 1963.

RESIST-O-WOOD

For Cutlery Handles and Cutlery.
First use Sept. 1, 1963.

SN 180,723. Fluid Equipment, Inc., Cleveland, Ohio. Filed Nov. 6, 1963.

FLUID EQUIPMENT, Inc.

For Pumps and Mixers.
First use Aug. 15, 1963.

SN 182,396. Automotive Associates, Inc., New York, N.Y. Filed Dec. 5, 1963.

JET POWER

For Internal Combustion Engines Sold as a Part of Power Mowers of the Garden Type.
First use Sept. 1, 1963.

SN 182,928. Calwis Company, Green Bay, Wis. Filed Dec. 13, 1963.

FILM-FYTER

Owner of Reg. No. 622,739.
For Sprayer for Windshield Cleaner.
First use at least as early as Sept. 10, 1941.

SN 183,846. Lambert Incorporated, Dayton, Ohio. Filed Dec. 31, 1963.

LAMBERT

For Lawn Sweepers, Floor Sweepers, Lawn Mowers, Snow Throwers, Tractors and Tillers.
First use in or about March 1952.

SN 184,283. Corning Glass Works, Corning, N.Y. Filed Jan. 9, 1964.

CERCOR

For Mufflers.
First use on or about Feb. 7, 1962.

SN 184,594. AMP Incorporated, Harrisburg, Pa. Filed Jan. 15, 1964.

TERMI-POINT

For Portable Tools To Apply Electrical Connectors.
First use Jan. 6, 1964.

SN 184,665. Stowe-Woodward, Inc., Newton Upper Falls, Mass. Filed Jan. 15, 1964.

SIZE WISE

For Rubber Covers for Rolls and Rubber Covered Rolls for Machinery, Particularly, for Use in Size Press Position and in Applying Size and Other Coatings.
First use Oct. 11, 1963.

SN 184,848. Stero Chemical Mfg. Co., San Francisco, Calif. Filed Jan. 17, 1964.

CORK AWAY

For Pressurized Device for Uncorking Bottles.
First use June 28, 1963.

SN 184,923. Honeybee Company, Everly, Iowa. Filed Jan. 20, 1964.

HONEYBEE

For Tractors—Namely, Tractor-Loaders.
First use July 1, 1961.

SN 184,924. Barry Hyman Company, Inc., Boston, Mass. Filed Jan. 20, 1964.

HY-CLIP

For Overhead Paper Handling Conveyor Apparatus and Components Thereof.
First use Jan. 28, 1959.

SN 185,132. Gusse Bros. Motor Sales, North Fond du Lac, Wis. Filed Jan. 22, 1964.

Ultra-Spray

For Automatic Car Washing Equipment.
First use Nov. 15, 1963.

SN 185,172. Van Brode Milling Co., Inc., Clinton, Mass. Filed Jan. 22, 1964.

JUMBO

For Molded Articles of Plastic Composition—Namely, Knives, Forks, and Spoons.
First use Oct. 22, 1963.

SN 185,600. Mayer Manufacturing Corporation, Chicago, Ill. Filed Jan. 31, 1964.

MAYCO

For Scrapers.
First use in July 1950.

SN 186,318. Baker Oil Tools, Inc., Commerce, Calif. Filed Feb. 10, 1964.

THERMOSEAL

For Oil, Gas, Water, and Sulphur Well Tools and Equipment—Namely, Subsurface Well Packer Apparatus and Accessories Therefor.
First use Apr. 24, 1961.

SN 186,349. Gauer Metal Products, Inc., Kenilworth, N.J. Filed Feb. 10, 1964.

GAUER
SAFETY
EDGER

For Deburring Machines.
First use Aug. 5, 1963.

SN 186,486. The White Motor Company, Cleveland, Ohio. Filed Feb. 11, 1964.

SUPERIOR

For Internal Combustion Engines, Compressors for Air or Other Gases, Engine/Compressor Sets, and Parts and Accessories for Such Engines, Compressors and Sets.
First use 1859.

SN 186,597. Carver-Aid Corp., Brooklyn, N.Y. Filed Feb. 13, 1964.

GUIDE-A-KNIFE

For Adjustable Food Slicer.
First use July 30, 1963.

SN 186,622. Houdaille Industries, Inc., Buffalo, N.Y. Filed Feb. 13, 1964.

FABRAMATIC

For Tape Controlled Presses.
First use July 19, 1963.

SN 186,628. W. Mannhardt & Son, Inc., Chicago, Ill. Filed Feb. 13, 1964.

SAN-I-ICE

For Automatic Ice Dispensing Apparatus.
First use June 10, 1963.

SN 186,647. Rockwell Manufacturing Company, Pittsburgh, Pa. Filed Feb. 14, 1964.

BUCKEYE

Owner of Reg. No. 404,732.
For Portable Power Operated Tools.
First use Feb. 12, 1943.

SN 187,316. Onsrud Machine Works, Inc., Niles, Ill. Filed Feb. 24, 1964.

ROUTER-MATIC

Owner of Reg. Nos. 270,922, 511,649, and 696,883.
For Automatic Routing Machines.
First use Nov. 2, 1962.

SN 187,490. John H. Graham & Co., Inc., New York, N.Y. Filed Feb. 26, 1964.

8-ENDER

For Hand Tool Wrench.
First use Dec. 4, 1963.

SN 187,492. Harvey Machine, Inc., Grand Haven, Mich. Filed Feb. 26, 1964.

HYDRAPUL

For Well Point Puller.
First use Jan. 22, 1964.

SN 187,801. Royal McBee Corporation, New York, N.Y. Filed Mar. 2, 1964.

PENNANT

For Typewriters and Parts Thereof.
First use Feb. 6, 1964.

SN 187,816. Thoro-Speed Corporation, Yellow Springs, Ohio. Filed Mar. 2, 1964.

THORO-SPEED

For Mill and Elevator Equipment—Namely, Hammer Mills, Crushers for Corn, Feed Mixers, Rolling Screen Corn Cleaners, Elevator Boots for Bucket Elevators; Elevator Heads; Chain Drags for Dump Conveying; Quick Action Truck Hoist and Parts Thereof; Fan Blowers for Grain Loading; Exhaust Fan Blowers; and Conveyor Troughs.
First use Oct. 20, 1946, on hammer mills.

SN 188,773. Little Giant Crane & Shovel, Inc., Des Moines, Iowa. Filed Mar. 16, 1964.

COMBO

For Cranes, Trenchers and Attachments Therefor.
First use about Dec. 19, 1961.

SN 189,073. Harris-Intertype Corporation, Cleveland, Ohio. Filed Mar. 19, 1964.

AIR SWORD

For Sheet Feeders for Printing Presses and Other Sheet Handling Machines.
First use May 17, 1961.

SN 189,088. Marcoloy, Inc., Springdale, Conn. Filed Mar. 19, 1964.

HELI-BIT

For Cutters for Metal and Woodworking Machines.
First use Apr. 15, 1958.

SN 189,098. Pemar Engineering Inc., Hialeah, Fla. Filed Mar. 19, 1964.

HERCULES

For Rubber-Roll for Rice Huller.
First use Apr. 3, 1963.

SN 189,132. Aircraft Armaments, Inc., Cockeysville, Md. Filed Mar. 20, 1964.

LARIAT

For Hoist Guides for Rope or Cable.
First use Feb. 14, 1964.

SN 189,281. Electrix, Inc., Port Chester, N.Y. Filed Mar. 23, 1964.

ELECTRIX *Gourmet*

For Electric Carving Knives.
First use Nov. 29, 1963.

Class 24—Laundry Appliances and Machines

SN 183,401. General Motors Corporation, Detroit, Mich. Filed Dec. 23, 1963.

ACTION ZONE

For Laundry Washing Machines.
First use Oct. 17, 1963.

SN 183,402. General Motors Corporation, Detroit, Mich. Filed Dec. 23, 1963.

DEEP WASH

For Laundry Washing Machines.
First use Oct. 17, 1963.

Class 26—Measuring and Scientific Appliances

SN 176,589. The Viking Corporation, Hastings, Mich. Filed Sept. 9, 1963.

VIKING

Owner of Reg. No. 190,589.
For Measuring and Scientific Appliances—Namely, Equipment for the Detection of Gases of Selected Chemical Characteristics and Selected Types of Radiation Used as Part of Sprinkler Systems for the Prevention and Control of Fires.
First use in or about the year of 1954.

SN 183,195. Leo P. Kutrubes, d.b.a. National Laboratories, Lexington, Mass. Filed Dec. 17, 1963.

BACTI-PAK

For Plastic Bag Which Contains Pasteurized Filter Paper and Treated So That It May Retain and Keep Alive Bacteria That Is Placed on It for a Long Period of Time.
First use Mar. 7, 1961.

SN 185,800. Mayer Manufacturing Corporation, Chicago, Ill. Filed Jan. 31, 1964.

MAYCO

For Thermometers and Rain Gauges.
First use in June 1930.

Class 27 — Horological Instruments

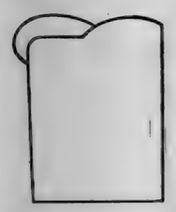
SN 160,443. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.



For Electric Clocks.
First use March 1962.

Class 28 — Jewelry and Precious-Metal Ware

SN 191,912. Creative Monograms Incorporated, New York, N.Y. Filed Apr. 24, 1964.



For Monogram Jewelry.
First use 1949.

SN 192,050. Maisel's Indian Trading Post, Albuquerque, N. Mex. Filed Apr. 27, 1964.



For Sterling Silver Jewelry.
First use in the year of 1956.

SN 192,578. Emmons Jewelers, Inc., Newark, N.Y. Filed May 4, 1964.



Owner of Reg. Nos. 662,556 and 681,891.
For Costume Jewelry.
First use Mar. 25, 1949.

SN 192,580. Findings, Inc., Keene, N.H. Filed May 4, 1964.

FI

For Jewelry for Personal Wear.
First use on or about Apr. 8, 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 160,443. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.



For Battery-Operated Tooth Brushes.
First use March 1962.

Class 30 — Crockery, Earthenware, and Porcelain

SN 160,443. Sea-Wide Industries, Inc., Philadelphia, Pa. Filed Jan. 9, 1963.



For Dishes, Cups, Saucers, and Bowls Made of China and Porcelain.
First use March 1962.

Class 32 — Furniture and Upholstery

SN 172,826. Leo Katz, New York, N.Y. Filed July 11, 1963.

KLIP-LOCK

For Prefabricated Metal or Plastic Storage Cabinets and Parts.
First use July 10, 1943.

SN 174,865. Hickory Hill Furniture, Inc., Hickory, N.C. Filed Aug. 12, 1963.

HICKORY HOUSE COLLECTION

The word "Collection" is disclaimed apart from the mark as shown.
For Furniture and Upholstery—Namely, Sofas, Chairs, Tables and Cabinets.
First use Apr. 16, 1963.

SN 184,008. Evergreen Sales Co., Chicago, Ill. Filed Dec. 31, 1963.

BRUSHUT

For Display Rack for Brushes for All Purposes, Combs, Sponges, and Similar Articles.
First use Sept. 15, 1963; on or about Apr. 20, 1961, as to "Brush Hut."

SN 185,259. Wood Conversion Company, St. Paul, Minn. Filed Jan. 23, 1964.

COMFORBOND

For Spring Cushion Structures—Namely, Mattresses and Seats for Sofas and Chairs.
First use May 22, 1963.

Class 33 — Glassware

SN 149,354. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed July 19, 1962.

PAD-PAK

For Table Glassware Temporarily Mounted on Special Display Bases.
First use on or about June 9, 1962.

SN 180,058. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 30, 1963.

ANCHOR HOCKING

Owner of Reg. Nos. 419,329, 756,056, and others.
For Glassware—Namely, Bottles, Jars, and Tumblers.
First use on or about June 1, 1962.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 176,590. The Viking Corporation, Hastings, Mich. Filed Sept. 9, 1963.

VIKING

Owner of Reg. No. 190,589.
For Heating Equipment Used To Prevent Freezing of Sprinkling Systems of the Type Used for the Prevention and Control of Fires.
First use in or about January 1925.

SN 185,333. Whirlpool Corporation, St. Joseph, Mich. Filed Jan. 24, 1964.

TECTROL

For Apparatus for Controlling a Plant Stimulation Environment as to the Make Up of the Atmosphere, Temperature and Humidity—Namely, Gaseous Generators, Atmosphere Generators, Combustion Equipment, Atmosphere Conditioners, Elevated and Subterranean Ducting, and Parts Thereof.
First use Sept. 11, 1963.

SN 186,711. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Feb. 14, 1964.

TIG-STIX

For Inert Gas Arc Welding Electrodes.
First use Jan. 27, 1964.

SN 186,788. Turbo Products, Inc., Mount Vernon, N.Y. Filed Feb. 14, 1964.

TURBO-CONE

For Turbulator for Gun Type Oil Burners.
First use June 12, 1962.

SN 186,796. The Welsbach Corporation, Philadelphia, Pa. Filed Feb. 14, 1964.



For Gas Lamps, Lamp Globes, Lamp Domes, Lamp Chimneys, Lamp Posts, and Gas Mantles.
First use Dec. 2, 1963, on gas lamps.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 144,019. Texas Tire Products Company, Inc., Lockhart, Tex. Filed May 7, 1962.



The drawing is lined for the color green.
For Pneumatic Tires and Related Goods—Namely, Inner Tubes, Repair Patches and Repair Sections, Tire Building, Re-Building and Repair Materials; Tubeless Tire Repair Kits and Tube Repair Kits Comprising Patching Material, Tube Cement and Buffers; Rubber Seals and Gaskets, Air Transfer Hose and Rubber Hose, and Air Bags for Tire Repair and Retreading.
First use Aug. 15, 1959.

SN 175,723. Carlisle Corporation, Carlisle, Pa. Filed Aug. 26, 1963.

MOLD-BLOK

Owner of Reg. Nos. 413,490 and 413,633.
For Brake Linings.
First use Jan. 1, 1944.

SN 176,591. The Viking Corporation, Hastings, Mich. Filed Sept. 9, 1963.

VIKING

Owner of Reg. No. 190,589.
For Hose Used in and as a Part of Sprinkling Systems for Prevention and Control of Fires.
First use on or about the year of 1925.

SN 186,246. Garlock Inc., Palmyra, N.Y. Filed Feb. 7, 1964.

PAPERPAK

For Braided Packing.
First use Jan. 22, 1964.

SN 186,285. Standard-Thomson Corporation, Waltham, Mass. Filed Feb. 7, 1964.

MICRO-SEAL

For Sealing Member for Thermostatic Valve Devices.
First use June 1963.

SN 186,322. Binks Manufacturing Company, Chicago, Ill. Filed Feb. 10, 1964.

RE-TRAK

For Self Storing Hose.
First use January 1964.

SN 186,363. The Johnson Wire Works Limited, Montreal Quebec, Canada. Filed Feb. 10, 1964.

DRYTEX

Owner of Canadian Reg. No. 134,150, dated Jan. 10, 1964.
For Foraminous Sheet or Web Forming Belts Used in Paper Making Machinery.

Class 36 — Musical Instruments and Supplies

SN 165,286. Ariola-Eurodisc Ltd. Liability Co., Gutersloh, Germany, by change of name from Ariola-Sonopress G.m.b.H., Gutersloh, Germany. Filed Mar. 25, 1963.

EURODISC

For Recorded Sound Carrying Mediae—Namely, Phonograph Records, Postcard-Like Mail-Out Pieces Having Sound Recorded on One Side Thereof, Phonograph Record-Like Devices Made of a Relatively Less Expensive and Less Durable Material Upon Which Sound Is Recorded and Which Are Commonly Referred to as Phonograph Foils, and Sound Recording Tapes for Use With Tape Recorders.
First use Oct. 15, 1962; in commerce Jan. 21, 1963.

SN 182,835. Royal Velvet, Inc., Staten Island, N.Y. Filed Dec. 11, 1963.

ROYAL VELVET INC.

For Phonograph Records.
First use Oct. 31, 1963.

SN 182,908. United Artists Records, Inc., New York, N.Y. Filed Dec. 12, 1963.

Peter Penguin

For Phonograph Records.
First use Oct. 17, 1963.

SN 182,909. United Artists Records, Inc., New York, N.Y. Filed Dec. 12, 1963.

TALE SPINNERS

For Phonograph Records.
First use July 5, 1962.

SN 183,077. G. Leblanc Corporation, Kenosha, Wis. Filed Dec. 16, 1963.

SYMPHONIE

For Musical Wind Instruments.
First use Jan. 15, 1950.

Class 37 — Paper and Stationery

SN 134,305. W. R. Brimacombe, d.b.a. Southwest Carton Co., and Southwest Tag Mfg. Co., Kansas City, Mo. Filed Dec. 19, 1961.

SOUTHWEST

For Tags.
First use at least as early as 1959.

SN 184,582. Modern Pen Manufacturing Co., Inc., New York, N.Y. Filed Jan. 14, 1964.

GYRO-POINT

For Ball Point Pens.
First use Jan. 10, 1964.

SN 184,762. Roy J. Tillotson, d.b.a. Old Town Stamp Shop, Batavia, N.Y. Filed Jan. 16, 1964.

Blue ☆ Star

For Album Pages To Permit Fixation Thereto of Philatelic Stamps, Packages for Philatelic Stamps and Jurisdictions.
First use Jan. 1, 1964.

SN 184,801. Fort Howard Paper Company, Green Bay, Wis. Filed Jan. 17, 1964.

LATINAP

For Paper Napkins.
First use Dec. 27, 1963.

SN 185,311. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 24, 1964.

ACTION

Owner of Reg. No. 220,536.
For Pressure Responsive Self-Marking Paper.
First use Aug. 15, 1962.

SN 185,800. Mayer Manufacturing Corporation, Chicago, Ill. Filed Jan. 31, 1964.

MAYCO

For Advertising Specialties Comprising Desk Top and Pocket Accessories—Namely, Calendars, Pads, Trays and Clip Boards.
First use July 20, 1923.

Class 39 — Clothing

SN 130,275. Famous Name Shoes, Inc., Grand Rapids, Mich. Filed Oct. 19, 1961.

BRITISH BROGUE

For Men's Shoes.
First use Aug. 15, 1961.

SN 131,682. P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Nov. 9, 1961.

POP'S

For Men's and Boys' Underwear.
First use Aug. 28, 1961.

SN 154,245. P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Oct. 1, 1962.

JANIE HANES

The particular mark "Janie Hanes" is not intended to identify a particular living individual, but rather is intended to be an arbitrary and fanciful mark.
For Underwear, Sleepers, Shirts and Socks for Infants, Girls and Women.
First use Aug. 30, 1962.

SN 154,543. M. K. Weil Shoe Company, St. Louis, Mo. Filed Oct. 4, 1962.

COMPLIMENTS

For Women's Shoes.
First use Aug. 29, 1961.

SN 154,549. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed Oct. 5, 1962.

pair knit

Priority claimed under Sec. 44(d) on Japanese application filed June 22, 1962; Reg. No. 638,295, dated Mar. 9, 1964.
For Suits, Overcoats, Raincoats, Sweaters, Waistcoats, Blouses, Shirts, Underwears, Pajamas, Negligés, Hats, Gloves, Socks, Stockings, Neckties, Mufflers, Scarves and Handkerchiefs, All for Men, Women, Children and Babies.

SN 154,686. Saks & Company, New York, N.Y. Filed Oct. 5, 1962.

THE SHEATH

Owner of Reg. Nos. 613,607 and 680,501.
For Women's and Misses' Shoes.
First use Sept. 25, 1962.

SN 155,610. Joseph W. Henschel, d.b.a. Henschel Manufacturing Company, St. Louis, Mo. Filed Oct. 22, 1962.

"HATQUARTERS, U. S. A."

For Men's and Boys' Hats and Caps.
First use Oct. 5, 1962.

SN 159,147. Baumwollindustrie Erlangen-Bamberg A.G., Erlangen, Germany. Filed Mar. 5, 1963.

COTTONOVA

Owner of German Reg. No. 758,417, dated Feb. 17, 1962.
For Ladies', Misses' and Girls' Dresses, Shirtwaists, Skirts and Blouses, Aprons, Skirts, Jeans, Slacks, Collars, Underwear, Sleepwear, Robes, Playsuits, Coats, Jackets, Vests, Shorts, and Handkerchiefs; Men's and Boys' Coats, Trousers, Shirts, Vests, Slacks, Sleepwear, Underwear, Robes and Handkerchiefs.

SN 160,616. Duracraft Corporation, Salt Lake City, Utah. Filed Jan. 14, 1963.

Econo KRINKLE Series

Applicant disclaims the word "Krinkle" apart from the mark as shown. The drawing is lined for red and blue.
For Latex Rubber Gloves.
First use Apr. 4, 1962.

SN 168,601. Bond Stores, Inc., New York, N.Y. Filed Feb. 28, 1963.

The Harridge

Owner of Reg. No. 737,207.
For Men's and Boys' All Weather Wash and Wear Water Repellent Coats.
First use Feb. 4, 1963.

SN 169,515. Chestnut Hill Industries, Inc., Hollywood, Fla. Filed May 23, 1963.

PINCHPENNY

For Female Wearing Apparel—Namely, Slacks, Skirts, Blouses, Sweaters and Shorts.
First use at least as early as Apr. 4, 1963, on slacks.

SN 170,560. Scarves by Vera, Inc., New York, N.Y. Filed June 7, 1963.

VERASHEER

For Scarves.
First use Dec. 10, 1962.

SN 170,561. Scarves by Vera, Inc., New York, N.Y. Filed June 7, 1963.

VERACREPE

For Scarves.
First use Dec. 10, 1962.

SN 171,841. Associated Dry Goods Corporation, New York, N.Y. Filed June 26, 1963.

FEMINA

Owner of Reg. Nos. 197,018, 206,685, and 224,286.
For Hair Nets.
First use May 24, 1963.

SN 172,729. Country Set, Inc., St. Louis, Mo. Filed July 10, 1963.

TOWN SET

Owner of Reg. No. 661,404.
For Ladies' Dresses.
First use July 5, 1963.

SN 173,737. Chicopee Mills, Inc., New York, N.Y. Filed July 25, 1963.

AIRE-SEAM

For Waterproof Panties.
First use Apr. 11, 1963.

SN 174,003. Atlas General Industries, Inc., New York, N.Y. Filed July 30, 1963.

Wee Tees

For Juvenile Polo Shirts.
First use Apr. 26, 1963.

SN 175,440. Societe Rhovyl, Paris, France. Filed Aug. 20, 1963.

FLOCOVYL

Priority claimed under Sec. 44(d) on French Reg. No. 512,944, dated Apr. 25, 1963 (Paris); Natl. Inst. No. 206,716.
For Wearing Apparel for Men, Women, and Children—Namely, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie and Undergarments, Pullovers and Cardigans, Blouses, Dresses, Housecoats, Pajamas, Jackets, Layette Articles, and Buntings.

SN 176,312. E. R. Moore Company, Chicago, Ill. Filed Sept. 4, 1963.

SIGNA CAP

The word "Cap" is disclaimed apart from the mark as shown.
For Graduation Caps.
First use Aug. 26, 1963.

SN 177,806. Palm Beach Company, Portland, Maine. Filed Sept. 26, 1963.

PAR-MASTER

For Men's and Boys' Suits, Sportcoats, Golf Slacks, and Casual Slacks.
First use Aug. 6, 1963.

SN 178,722. Pendleton Woolen Mills, Portland, Oreg. Filed Oct. 10, 1963.

WARRANTED TO BE A "PENDLETON"
PENDLETON WOOLEN MILLS
PORTLAND, OREGON

No registration rights are claimed for the wording "Warrented To Be" and "Portland, Oregon" apart from the mark as shown. The drawing is lined for the color gold. Owner of Reg. Nos. 663,601, 663,602 and 664,870.
For Women's Wear—Namely, Coats, Jackets, Skirts, Shorts, Pedal Pushers, Slacks, Lounging Robes, Dresses, Blouses, Sweaters, Weskits, and Collars.
First use 1926 on jackets.

SN 179,802. Lily Lynn, Inc., New York, N.Y. Filed Oct. 28, 1963.

MISSY LYNN

Owner of Reg. No. 676,373.
For Ladies' Dresses.
First use Oct. 1, 1963.

SN 180,216. Levin & Hecht Inc., New York, N.Y. Filed Oct. 31, 1963.

LAS VEGAS

Owner of Reg. No. 418,519.
For Men's Outer Shirts.
First use Jan. 1, 1946.

SN 180,856. Damon Creations, Inc., New York, N.Y. Filed Nov. 12, 1963.

GIAMBELLI

The word "Giambelli" is a fictitious name and is not the name of any person of whom they have any knowledge.
For Sport Shirts and Neckwear and Sweaters.
First use January 1961.

SN 181,349. Flexnit Company, Inc., New York, N.Y. Filed Nov. 18, 1963.

Shur-Set

For Girdles.
First use Jan. 1, 1950.

SN 181,409. Princess Peggy, Inc., Peoria, Ill. Filed Nov. 18, 1963.

A KITCHEN FORMAL

The descriptive word "Formal" is hereby disclaimed apart from the mark as shown.
For Women's and Misses' Wearing Apparel—Namely, Dresses, Smocks, Dress Uniforms, Housecoats, and Aprons.
First use on or about Oct. 1, 1941.

SN 182,099. J. Graham Michael, d.b.a. Brown Wholesale Co., Bala-Cynwyd, Pa. Filed Nov. 29, 1963.

"THE SHIRT OFF MY BACK"

Applicant hereby disclaims the generic word "Shirt" apart from the mark as shown.
For Shirts.
First use Nov. 19, 1963.

SN 182,608. Flexnit Company, Inc., New York, N.Y. Filed Dec. 9, 1963.

CUSTOM FIGURE

Owner of Reg. No. 746,693.
For Girdles.
First use Nov. 20, 1963.

SN 182,682. Tip-Top Hosiery Mills, Inc., Asheboro, N.C. Filed Dec. 9, 1963.

THERMAL-KING

For Men's, Women's, and Children's Hosiery.
First use Oct. 22, 1963.

SN 183,174. Powerhouse, Inc. (Formerly Interwoven Stocking Company), New Brunswick, N.J. Filed Dec. 17, 1963.

Nu-V-Top

Owner of Reg. Nos. 402,887 and 641,069.
For Hosiery.
First use June 2, 1942.

SN 183,186. Oxford Manufacturing Co., Inc., d.b.a. Maxon Shirt Company Division, Greenville, S.C. Filed Dec. 17, 1963.

MAXIMATIC

For Boys' Shirts.
First use Sept. 15, 1963.

SN 184,186. Tri-Star Hosiery Co., New York, N.Y. Filed Jan. 7, 1964.

tri-star

Owner of Reg. No. 405,467.
For Hosiery.
First use on or about Feb. 11, 1957.

SN 184,431. Bloch Freres Incorporated, New York, N.Y. Filed Jan. 13, 1964.

The drawing is lined for blue and red.
For Handkerchiefs.
First use April 1938.

SN 184,471. Huntingdon Mills, Inc., Philadelphia, Pa. Filed Jan. 13, 1964.

AKLOH

For Men's, Women's, Boys' and Girls' Wearing Apparel—Namely, Shirts and Knitted Sweaters, Swim Wear and Shirts.
First use Oct. 2, 1963.

SN 184,584. Oxford Manufacturing Co., Inc., d.b.a. Maxon Shirt Company Division, Greenville, S.C. Filed Jan. 14, 1964.

most likely

For Girls' Blouses.
First use Jan. 3, 1964.

SN 184,624. P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Jan. 15, 1964.

MR. SOFT TOP

For Underwear and Hosiery.
First use Jan. 2, 1964.

SN 184,625. P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Jan. 15, 1964.

HANESPORT

For Jackets, Shorts, Shirts, Sox for Men, Women, and Children.
First use Dec. 11, 1963.

SN 184,780. American Optical Company, Southbridge, Mass. Filed Jan. 17, 1964.

DURA-GLO

For Protective Clothing—Namely, Vests, Caps, Gloves, Raincoats, and Traffic Belts.
First use Feb. 9, 1961.

SN 184,839. Rombro Brothers, Inc., Baltimore, Md. Filed Jan. 17, 1964.

PAL

Owner of Reg. No. 177,903.
For Pants.
First use October 1954.

SN 185,068. Northeast Shoe Company, Inc., Boston, Mass. Filed Jan. 21, 1964.

PRONTOS

For Handsewn Moccasins.
First use Dec. 18, 1963.

SN 185,130. Louis Goldsmith, Inc., Philadelphia, Pa. Filed Jan. 22, 1964.

THE YOUNG-IN-BUILD

Owner of Reg. No. 664,871.
For Coats, Vests, and Trousers.
First use Nov. 30, 1956.

SN 185,257. Washington Manufacturing Company, Nashville, Tenn. Filed Jan. 23, 1964.

HAPPY JILL

Owner of Reg. No. 533,536.
For Ladies' and Girls' Sportswear—Namely, Short Shorts, Jamaica Shorts, Bermuda Shorts, Pedal Pushers, Slacks, Skirts, Culottes, Dresses, Blouses, Jackets, and Dungarees.
First use June 21, 1949.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 153,398. The General Tire & Rubber Company, Akron, Ohio. Filed Sept. 18, 1962.

PAXTON

For Sponge Rubber Carpet Cushion.
First use Feb. 8, 1962.

SN 159,147. Baumwollindustrie Erlangen-Bamberg A.G., Erlangen, Germany. Filed Mar. 5, 1963.

COTTONOVA

Owner of German Reg. No. 756,417, dated Feb. 17, 1962.
For Textile Fabrics in the Piece Made of Cotton, and of Cotton Mixed With Wool or Synthetic Materials.

SN 167,991. Penimore Fabrics, Inc., Cobleskill, N.Y. Filed May 2, 1963.

FENORA

For Textile Fabric Piece Goods for Making Coats, Suits, Dresses, and the Like, and for Decorative Goods.
First use April 1959.

SN 168,389. Carolina Mills, Inc., Malden, N.C. Filed May 8, 1963.

CAROLINA MADE

For Canton Flannel Fabric.
First use on or about Mar. 15, 1947.

SN 172,074. Arch F. Jordan, North Muskegon, Mich. Filed June 28, 1963.

Baa Dee CLOTH

The word "Cloth" is disclaimed apart from the trademark as shown.
For Facial or Body Washcloth.
First use Apr. 19, 1963.

SN 172,078. Manrep Industries, Inc., New York, N.Y. Filed June 28, 1963.

ARABIAN-NITES

For Fabrics of Rayon, Polyester, and Metallic Yarns.
First use Jan. 10, 1963.

SN 174,011. Buckley & Mann, Inc., Norfolk, Mass. Filed July 30, 1963.

PILE-O-HEET

For Linings for Men's and Boys' Winter Jackets.
First use on or about Feb. 15, 1961.

SN 175,974. Chatham Manufacturing Company, Elkin, N.C. Filed Aug. 29, 1963.

AGILE

For Stretch Fabric Composed of Wool and Nylon.
First use Aug. 8, 1963.

SN 178,413. Cannon Mills Company, Kannapolis, N.C. Filed Oct. 7, 1963.

LOCK-NAP

Owner of Reg. No. 194,315.
For Blankets.
First use Sept. 10, 1963.

SN 178,723. Pendleton Woolen Mills, Portland, Oreg. Filed Oct. 10, 1963.

WARRANTED TO BE A "PENDLETON" PENDLETON WOOLEN MILLS PORTLAND, OREGON

No registration rights are claimed for the wording "Warranted To Be" and "Portland, Oregon" apart from the mark as shown. The drawing is lined for the color gold. Owner of Reg. Nos. 663,601, 664,870, and others.
For Woolen Blankets, Motor Robes, and Bed Throws.
First use June 7, 1943, on woolen blankets.

SN 180,192. Fair-Tex Mills, Inc., New York, N.Y. Filed Oct. 31, 1963.

SILFONETTA

For Knitted Fabrics for the Making of Dresses and Sportswear.
First use Oct. 4, 1963.

SN 183,273. Multi-Stitch Corp., New York, N.Y. Filed Dec. 19, 1963.

WUNDAFIL

For Padding Sold as Piece Goods.
First use Dec. 11, 1963.

SN 183,391. Leslie Fay, Inc., New York, N.Y. Filed Dec. 23, 1963.

ESEMBE

For Fabrics Used in Making Ladies' Suits and Dresses.
First use Nov. 20, 1963.

SN 183,392. Leslie Fay, Inc., New York, N.Y. Filed Dec. 23, 1963.

DEAUVICETTE

For Fabrics Used in Making Ladies' Suits and Dresses.
First use Nov. 22, 1963.

SN 183,496. Burlington Industries, Inc., d.b.a. Galey & Lord, New York, N.Y. Filed Dec. 24, 1963.

GIVEAWAY

For Stretch Fabrics Suitable for Use in Men's, Women's, and Children's Apparel Consisting of Shirts, Dresses, Slacks, Gloves, Shorts, Robes, and Sport Jackets.
First use July 9, 1962.

SN 183,783. Oreco Industries, Inc., Los Angeles, Calif. Filed Dec. 30, 1963.

RUB-R-FAB

For Rug and Carpet Cushions.
First use on or about Oct. 1, 1962.

SN 184,135. Cannon Mills Company, Kannapolis, N.C. Filed Jan. 7, 1964.

FIESTA

For Washcloths and Towels.
First use Nov. 28, 1963.

SN 184,155. James G. Hardy & Co., Inc., New York, N.Y. Filed Jan. 7, 1964.

HARDYLINE

Owner of Reg. Nos. 405,887, 608,776, and others.
For Towels, Bath Mats and Bath Rugs.
First use Aug. 15, 1962.

Class 43 — Thread and Yarn

SN 168,389. Carolina Mills, Inc., Maiden, N.C. Filed May 8, 1963.



For Yarns for Industrial Use.
First use on or about Dec. 14, 1939.

SN 175,442. Societe Rhovyl, Paris, France. Filed Aug. 20, 1963.

FLOCOVYL

Priority claimed under Sec. 44(d) on French Reg. No. 512,944, dated Apr. 25, 1963 (Paris); Natl. Inst. No. 206,716.
For Threads and Yarns of Synthetic Fibers.

SN 177,393. Wm. Whitaker & Sons, Inc., Philadelphia, Pa. Filed Sept. 19, 1963.

FLAX-LON

For Yarns Comprised in Whole or in Part of Flax or Linen Fibers and Synthetic Fibers.
First use May 10, 1963.

SN 181,314. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Nov. 18, 1963.

MATCHMAKER

For Packages of Matching Hand Knitting Yarns and Fabrics.
First use Oct. 14, 1963.

SN 183,620. Pyramid Mills Co., Inc., Bessemer City, N.C. Filed Dec. 26, 1963.

MO-GLEAM

Owner of Reg. No. 576,982.
For Yarn.
First use Dec. 6, 1963.

Class 44 — Dental, Medical, and Surgical Appliances

SN 175,335. Swissedent International, Los Angeles, Calif. Filed Aug. 19, 1963.



For Artificial Teeth and Dentures.
First use May 1, 1963.

SN 186,886. Loma Linda University, Loma Linda, Calif. Filed Feb. 17, 1964.

DIVESTMENT

For Materials for Fabricating Molds for Producing Dental Castings by the Lost Wax Process.
First use Jan. 22, 1964.

SN 187,001. Becton Dickinson and Company, East Rutherford, N.J. Filed Feb. 19, 1964.

SEDIRAK

For Sedimentation Test Tube Racks.
First use in or about January 1963.

SN 187,273. Fuller Pharmaceutical Company, Minneapolis, Minn. Filed Feb. 24, 1964.

A·R·D

For Absorbent Dressings.
First use Jan. 9, 1964.

SN 187,274. Fuller Pharmaceutical Company, Minneapolis, Minn. Filed Feb. 24, 1964.

SCOPETTES

For Absorbent Swabs.
First use Nov. 31, 1962.

Class 45 — Soft Drinks and Carbonated Waters

SN 177,755. James H. Botz Jr., Franklin Lakes, N.J. Filed Sept. 26, 1963.

TRANSFUSION

For Soft Drink Consisting of Grape Juice and Carbonated Ginger Ale.
First use Sept. 19, 1963.

Class 46 — Foods and Ingredients of Foods

SN 157,585. Byron Willcuts Food Products Inc., d.b.a. Byron Willcuts, Topeka, Kans. Filed Nov. 19, 1962.

Byron Willcuts
QUAD-X

"Byron Willcuts" is not the name of a particular living individual. The word "Quality" is disclaimed apart from the mark.
For Prepared Horse Radish.
First use July 30, 1962.

SN 163,603. El Capitan Products, Inc., Lancaster, Pa. Filed Feb. 28, 1963.

WILD BIRD BANQUET
Strictly for the Birds

No claim is made to the words "Wild Bird" apart from the mark as shown.
For Wild Bird Seed.
First use Nov. 20, 1958.

SN 163,763. Prince Macaroni Manufacturing Company, Lowell, Mass. Filed Mar. 1, 1963.

Prince

The drawing is lined for the colors green, red, and gold, but no claim is made to color. Owner of Reg. Nos. 137,680, 691,367, and others.
For Paste, and Allied Food Products of the Prepared Food, Heat and Serve Type Sold in Glass Jars or Cans—Namely, Meatballs in Sauce, Sausage in Sauce, Ravioli With Meat, Ravioli With Cheese, Minestrone Soup, Spaghetti and Meat Balls, Spaghetti and Sausages, Egg Noodles and Mushroom, Paste e Fagioli, Veal Scallopine With Cherry Wine, Spaghetti With Italian Sauce, Rigatoni With Mushroom Sauce, Baked Lasagna, Chicken Cacciatore With Red Sauce, Chicken Cacciatore With White Sauce, Chick Peas, White Kidney Beans, Roman Kidney Beans, Shell Macaroni in Sauce; Spaghetti Sauces Sold in Jars, or Cans—Namely, Italian Sauce, Marinara Sauce, Meat Sauce, Mushroom Sauce, Clam Sauce; Pizza Sauce Sold in Jars or Cans; Imported Italian Cheese Sold in Jars—Namely, Romano Grated and Parmesan Grated; Pizza Pie Mix Sold in Cartons; Italian Olive Oil Sold in Cans; Imported Olives, Onions, Pickles, Pimientos and Gherkins Sold in Jars.
First use June 30, 1957; Dec. 12, 1912, as to "Prince" on alimentary paste products; May 1, 1922, as to "Prince" on sauces.

SN 167,849. C. J. Van Houten & Zoon N.V., Weesp, Holland. Filed Apr. 30, 1963.

BLUF

Owner of Dutch Reg. No. 145,795, dated Sept. 27, 1962.
For Cocoa, Cocoa-Butter, Chocolate, Confectionery, Biscuits, Wafers, Coffee, Tea, Puddings, Custard, Baking Powder, Bread, Spreads, Edible Food Oils, Sugar, Cinnamon, Vanilla, Jams, Marmalades, Jelly, Candied Fruits and Yeast.

SN 170,034. Consolidated Foods Corporation, Chicago, Ill. Filed May 31, 1963.

MONARCH

Owner of Reg. Nos. 180,558, 652,493, and others.
For Frozen Fruits and Vegetables, Frozen Meat, Poultry, Fish and Fruit Pies, Frozen Orange Juice and Grape Juice, Frozen Fish and Frozen Waffles.
First use Aug. 1, 1955.

SN 179,842. Suzanna's Kitchen, Incorporated, Atlanta, Ga. Filed Oct. 24, 1963.

SUNSHINE

For Cooked Meat Products—Namely, Corn Dogs; Uncooked Meat Products—Namely, Cubed Beef Steaks, Beef Grilled Steaks, Hamburger Patties, Beef Patties, Veal Dinner Steaks, Breaded Veal Steaks, and Breaded Chuck Wagon Steaks.
First use June 30, 1962.

SN 179,843. Suzanna's Kitchen, Incorporated, Atlanta, Ga. Filed Oct. 24, 1963.

REBEL

For Cooked Meat Products—Namely, Roasted Pork in Barbecue Sauce, Corn Dogs; Uncooked Meat Products—Namely, Cubed Beef Steaks, Beef Grilled Steaks, Hamburger Patties, Beef Patties, Veal Dinner Steaks, Breaded Veal Steaks, and Breaded Chuck Wagon Steaks.
First use June 30, 1962.

SN 180,001. Dyna, S.A., Fribourg, Switzerland. Filed Oct. 29, 1963.

LE PARFAIT

The French words "Le Parfait" mean "the perfect."
Owner of Swiss Reg. No. 133,361, dated Apr. 22, 1950.
For Canned Pates, Sandwich Spreads, Mousses and Purees, Made From Meat or Vegetables.

SN 180,198. Giffen, Inc., Huron, Calif. Filed Oct. 31, 1963.

Miss Giffen

For Fresh Melons.
First use July 1951.

SN 180,876. Geigy Chemical Corporation, Ardsley, N.Y. Filed Nov. 12, 1963.

SOFOREN

For Nutritional Poultry Feed Additive.
First use Aug. 20, 1963.

SN 182,770. California & Washington Co., San Francisco, Calif. Filed Dec. 11, 1963.

C & W

The drawing is lined for the color red. Owner of Reg. Nos. 551,914 and 652,169.
For Frozen Fresh Fruits and Berries, Frozen Fresh and Cooked Vegetables, Meats and Fish, Frozen Concentrated Fruit Juices, and Frozen Hors d'Oeuvres—Namely, Cheese and Beef Canapes, Cheeseburgers, Shrimps With Wine, Cheese Canapes, and Baked Puff Pastry With Viennese Sausage.
First use on or about Apr. 29, 1955; May 20, 1949, as to "C & W."

SN 185,665. General Baking Company, New York, N.Y. Filed Jan. 30, 1964.

DAIRYFOOD FARMS

For Bread.
First use Dec. 1, 1961.

SN 186,020. Original Crispy Pizza Crust Co. of Philadelphia, Inc., d.b.a. Chianti Cheese Co., Philadelphia, Pa. Filed Feb. 4, 1964.

CHIANTI

For Cheese.
First use Dec. 23, 1963.

SN 186,118. E. A. Radke Sales, Inc., Emmett, Idaho. Filed Feb. 5, 1964.

ROYAL BANQUET

For Fresh Fruit.
First use Aug. 27, 1963.

SN 186,233. Cal-Dri Fruits, Inc., Colfax, Calif. Filed Feb. 7, 1964.

CAL-DRI

For Dried Fruits.
First use Dec. 1, 1963.

SN 187,720. E. J. Brach & Sons, Chicago, Ill. Filed Mar. 2, 1964.

PAIL-O-WEEN

For Candy.
First use Oct. 1, 1963.

SN 187,829. Valley Feed and Seed Co., Phoenix, Ariz. Filed Mar. 2, 1964.

VALLEY



For Certified Gahi-1 Pearl Millet.
First use Nov. 18, 1963.

SN 187,839. World's Finest Chocolate, Inc., Chicago, Ill. Filed Mar. 2, 1964.

THE FINE FOLKS

For Candy.
First use on or about Aug. 8, 1963.

SN 188,091. General Foods Corporation, White Plains, N.Y. Filed Mar. 6, 1964.

FLAVOR-BURST

For Frozen Fruits and Vegetables; and Fruit Juice Concentrates.
First use Nov. 29, 1963.

SN 188,152. Sternco Industries, Inc., Allendale, N.J. Filed Mar. 6, 1964.

RADIANCE

For Fish Food.
First use Mar. 1, 1959.

Class 47 — Wines

SN 178,164. Louis Bert & Cie, Barsac, Gironde, France. Filed S.R. Oct. 2, 1963; Am. P.R. May 18, 1964.

VICTOR DUMAS

"Victor Dumas" does not represent any living individual. Owner of French Reg. No. 49,421, dated Dec. 9, 1949 (Bordeaux); Natl. Inst. No. 465,477.
For Wines.

Class 48 — Malt Beverages and Liquors

SN 174,225. O'Keefe Brewing Company Limited, Toronto, Ontario, Canada. Filed Aug. 1, 1963.



The right to the exclusive use of all the reading matter except the word "O'Keefe" is disclaimed apart from the trademark. Priority claimed under Sec. 44(d) on Canadian application filed Apr. 11, 1963; Reg. No. 133,891, dated Dec. 20, 1963. Owner of U.S. Reg. Nos. 314,354, 721,114, and others.
For Ale.

SN 178,169. Brouwerij (Brasserie) Martinas, Voorheen (Anciennement) Brouwerij (Brasserie) J. Van Ginderachter N.V., Merchtem, Belgium. Filed Oct. 2, 1963.

GINDER

Priority claimed under Sec. 44(d) on Belgium Reg. No. 98,890, dated Apr. 4, 1963. The word "Ginder," in Flemish, means "over there."
For Beer.

Class 49 — Distilled Alcoholic Liquors

SN 179,102. Austin, Nichols & Co. Incorporated, Maspeth, N.Y. Filed Oct. 16, 1963.

Austin, Nichols
F & R

Owner of Reg. Nos. 397,093, 517,641, and 517,642.
For Canadian Whisky.
First use Sept. 10, 1963.

SN 179,103. Austin, Nichols & Co. Incorporated, Maspeth, N.Y. Filed Oct. 16, 1963.

Austin, Nichols
FINE & ROYAL

Exclusive use to the words "Fine & Royal" are disclaimed apart from the mark, as shown. Owner of Reg. Nos. 397,093, 517,641, and 517,642.
For Canadian Whisky.
First use Sept. 10, 1963.

SN 182,630. Long John Distilleries Ltd., Glasgow, Scotland. Filed Dec. 9, 1963.

HIGHLAND CASTLE

Owner of British Reg. No. 830,182, dated Jan. 29, 1962.
For Scotch Whisky.

SN 183,335. Ronrico Corporation, San Juan, Puerto Rico. Filed Dec. 20, 1963.

RICOLA

For Alcoholic Cocktails.
First use Dec. 1, 1963.

Class 50 — Merchandise Not Otherwise Classified

SN 160,124. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 3, 1963.

R

For Photo Offset Plates.
First use Mar. 13, 1962.

SN 180,484. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Nov. 5, 1963.

R.S.

For Closure Caps.
First use on or about Nov. 7, 1962.

SN 180,866. Field Enterprises Educational Corporation, Chicago, Ill. Filed Nov. 12, 1963.

CYCLO-TEACHER

For Learning Aid in the Form of a Changeable Exhibitor for Question and Answer Inserts and Materials for Use Therewith—Namely, Study Units, Answer Sheets, Achievement Records, and the Like Distributed With Said Learning Aid or Separately Therefrom.
First use on or about Dec. 11, 1961.

SN 186,121. Rosenel International Corporation, New York, N.Y. Filed Feb. 5, 1964.

RIC

For Aquarium Filters and Polyethylene Decorative Aquarium Plants.
First use Oct. 10, 1962.

SN 190,346. Demcor, Incorporated, Cleveland, Ohio. Filed Apr. 6, 1964.

PERMA-MARK

For Cemetery Lot Markers.
First use during or about September 1963.

Class 51 — Cosmetics and Toilet Preparations

SN 142,377. Texize Chemicals, Inc., Greenville, S.C. Filed Apr. 16, 1962.

BLAST OFF

For Bubble Bath.
First use Apr. 2, 1962.

SN 182,520. Oldon T. Wilson, d.b.a. Glamour Cosmetics, Lexington, N.C. Filed Dec. 6, 1963.

TOP-BEAUTY

For Skin and Hair Cream.
First use Nov. 11, 1963.

Class 52 — Detergents and Soaps

SN 127,859. Jerry Kanwischer, d.b.a. Fleckweg Distributors, Berkeley, Calif. Filed Sept. 14, 1961.

FLECKWEG

The German term "Fleckweg" is translated as "spotaway" or "spot-gone."
For Stain Remover for Removing Stain From All Materials, Including Textile Fabrics, Paper, and Skin.
First use Apr. 1, 1957.

SN 170,706. Time Chemical Inc., Chicago, Ill. Filed June 10, 1963.

TIME SAVER

Owner of Reg. No. 559,164.
For Household and Industrial Cleansers, Detergents, Disinfectant Cleaners, and Degreasers.
First use on or about July 26, 1949.

SN 180,002. The Electric Storage Battery Company, Philadelphia, Pa. Filed Oct. 29, 1963.

GERMI-SOL

For Solution for Cleaning and Sanitizing Gas Masks, Respirators, Goggles, Spectacles, Welding Helmets, Shoes, Boots and Other Washable Safety Apparel or Equipment—Also Useful as a Spray, for Mopping and Cleaning and for Cafeteria and Kitchen Disinfection.
First use Sept. 24, 1963.

SN 182,929. Calwis Company, Green Bay, Wis. Filed Dec. 13, 1963.

FILM-FYTER

Owner of Reg. No. 622,730.
For Hand Cleaner.
First use at least as early as Feb. 15, 1960.

SN 183,598. S. C. Johnson & Son, Inc., Racine, Wis. Filed Dec. 26, 1963.

BIG BITE

For Industrial Cleaners.
First use on or about Feb. 15, 1963.

SN 184,107. Quaker Chemical Corporation, Conshohocken, Pa. Filed Jan. 6, 1964.

QUAKER FORMULA

The word "Formula" is disclaimed apart from the mark as shown.
For Compositions Containing Agents in Aqueous Vehicle for Removing Dirt, Grease, Paint and Scale From the Surface of Metals and Passivating the Cleaned Metal Surface.
First use Jan. 31, 1931.

SN 186,080. Peninsular Distributing Company, Detroit, Mich. Filed Feb. 5, 1964.



No claim is made to the words "Let Jay Do It" apart from the mark; all common law rights being retained.
For Detergent—Namely, an All-Purpose Cleaner Concentrate, for Industrial, Institutional, and Commercial Use.
First use on or about Apr. 1, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 162,854. National Advertising Agency Network, d.b.a. Public Relations Network International, Sarasota, Fla. Filed Feb. 15, 1963.

PRNI
PUBLIC RELATIONS
NETWORK INTERNATIONAL

Owner of Reg. No. 724,329.
For Trade Association Services—Namely, the Coordinating and Distribution of Public Relations Work Among Its Various Members as Needed by an Individual Member.
First use June 26, 1961.

Class 101 — Advertising and Business

SN 169,384. Moore-Handley, Incorporated, d.b.a. Applied Management Controls Co., Birmingham, Ala. Filed May 21, 1963.



For Industrial Engineering Consulting Services—Namely, Recommendations for Establishing Control Procedures for Production, Warehousing, Maintenance, and Clerical Operations.
First use on or about June 1, 1962.

SN 176,658. Roy H. Hopkins, d.b.a. "Aunty Quated," Ironwood, Mich. Filed Sept. 10, 1963.

Aunty Quated

For Advertising Services—Namely, Design and Formulation of Advertising Material To Be Used in Behalf of Electrical Contractors and Electricians.
First use Apr. 6, 1963.

Class 102 — Insurance and Financial

SN 153,409. Insure-A-Matic Corporation of America, Philadelphia, Pa. Filed Sept. 18, 1962.

INSURE-A-MATIC

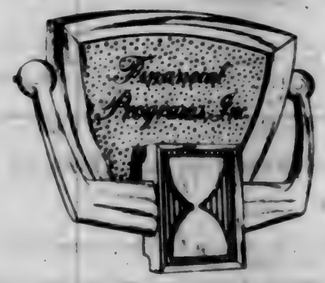
For Insurance Brokerage Services.
First use on or about Oct. 15, 1961.
Subj. to Intf. with SN 159,894.

SN 165,296. Budget Payment Corporation, Rhinebeck, N.Y. Filed Mar. 25, 1963.

FINGER-TIP FINANCING

Applicant disclaims the word "Financing" apart from the mark as used.
For Service of Making Loans Through Insurance Agents and Brokers to Their Clients for the Purchase of Insurance.
First use Mar. 1, 1959.

SN 180,868. Financial Programs, Inc., Denver, Colo. Filed Nov. 12, 1963.



For Investing Funds for Others in a Financial Program Which Emphasizes, Among Other Things, Both Life Insurance and Security Investments.
First use on or about July 1, 1962.

SN 181,295. American Mutual Liability Insurance Company, Wakefield, Mass. Filed Nov. 18, 1963.

AM

For Insurance Services.
First use March 1958.

Class 103 — Construction and Repair

SN 181,505. Western Fire Protection, Inc., d.b.a. Firemaster Service System, Los Angeles, Calif. Filed Nov. 19, 1963.

FIREMASTER

Owner of Reg. No. 442,103.
For Inspecting, Servicing, and Repairing Fire-Extinguishing Equipment.
First use at least as early as 1947.

Class 105 — Transportation and Storage

SN 169,673. Wings and Wheels Express, Inc., Flushing, N.Y. Filed May 23, 1963.

WINGS & WHEELS INC.

For Air Freight Forwarder Service.
First use Jan. 19, 1947.

Class 106 — Material Treatment

SN 183,249. Mail Enterprises, Incorporated, d.b.a. Picture-Pal, Richmond, Va. Filed Mar. 9, 1964.

Picture-Pal

For Photo Finishing Services, Including the Supplying of Photographic Film to Customers.
First use May 1, 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

773,398. STURDY ROOT. Hill Top Orchards and Nurseries, Inc., assignee of Hill Top Orchards and Nurseries. SN 159,584. Pub. 5–5–64. Filed 12–21–62.

773,399. PENTANOX. Heyden Newport Chemical Corporation, by assignment and change of name from Heyden Newport Chemical Corporation. SN 167,141. Pub. 5–5–64. Filed 4–19–63.

773,400. RENAISSANCE ETC. AND DESIGN. Flagg Tanning Corp. SN 174,360. Pub. 5–5–64. Filed 8–5–63.

773,401. ASTRACET. Dynamit Nobel Aktiengesellschaft. SN 175,481. Pub. 5–5–64. Filed 8–21–63.

773,402. TRA. National Plastic Products Company, Inc. SN 175,860. Pub. 5–5–64. Filed 8–27–63.

773,403. VECT. National Plastic Products Company, Inc. SN 175,861. Pub. 5–5–64. Filed 8–27–63.

773,404. VEC. National Plastic Products Company, Inc. SN 175,862. Pub. 5–5–64. Filed 8–27–63.

773,405. ASHFLEX OAK. Swift & Company, d.b.a. A.C. Lawrence Leather Co. SN 176,125. Pub. 5–5–64. Filed 8–30–63.

773,406. LUREX. The Dow Chemical Company. SN 177,015. Pub. 5–5–64. Filed 9–16–63.

773,407. NOPCOFOAM CUSHIONING AND DESIGN. Nopco Chemical Company. SN 181,489. Pub. 5–5–64. Filed 11–19–63.

Class 2—Receptacles

773,408. JUXTAPOSED TWIN LENSES. American Can Company. SN 133,119. Pub. 5–5–64. Filed 12–1–61.

773,409. PULLTOP. Cantop, Incorporated, assignee of A. Ralph D'Andrea. SN 135,118. Pub. 5–5–64. Filed 1–3–62.

773,410. SIP-O-CUP. Astro Enterprises Inc. SN 135,482. Pub. 5–5–64. Filed 1–10–62.

773,411. HI-VAC. Stewarts Private Blend Coffee Company. SN 154,779. Pub. 5–5–64. Filed 10–8–62.

773,412. P AND DESIGN. Zappia-Paradise, S.A. SN 159,794. Pub. 5–5–64. Filed 12–26–62.

773,413. I-P AND DESIGN. International Paper Company. SN 164,248. Pub. 5–5–64. Filed 3–8–63.

773,414. TOLL-BANK. Joseph M. Chaban, d.b.a. Chaban Enterprises. SN 166,065. Pub. 5–5–64. Filed 4–4–63.

773,415. FIBREBOARD AND DESIGN. Fibreboard Paper Products Corporation. SN 166,276. Pub. 10–22–63. Filed 4–9–63.

773,416. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,032. Pub. 5–5–64. Filed 6–27–63.

773,417. TRIFLEX. The B. F. Goodrich Company. SN 178,914. Pub. 5–5–64. Filed 11–20–63.

773,418. HAND-L-IT. C-Thru Products, Inc. SN 180,366. Pub. 5–5–64. Filed 11–4–63.

773,419. 'SPLAY-PAK. Brooks & Porter, Inc. SN 180,645. Pub. 5–5–64. Filed 11–7–63.

773,420. FOUNTAIN. Bayuk Cigars Incorporated. SN 181,305. Pub. 5–5–64. Filed 11–18–63.

773,421. AL. Albimi Laboratories, Inc. SN 181,509. Pub. 5–5–64. Filed 11–20–63.

773,422. MONARCH COMPANION. Wilbert W. Haase Co. SN 181,547. Pub. 5–5–64. Filed 11–20–63.

773,423. PLASBIN. Imperial Chemical Industries Limited. SN 183,594. Pub. 5–5–64. Filed 12–26–63.

773,424. KIGU. Kigu Limited. SN 183,945. Pub. 5–5–64. Filed 12–6–63.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

773,425. TRIUMPH. American Luggage Works, Inc. SN 180,633. Pub. 5–5–64. Filed 11–7–63.

773,426. ROYAL TRAVELLER. Shwayder Brothers, Inc. SN 181,280. Pub. 5–5–64. Filed 11–15–63.

773,427. EN ROUTE. Mignon Matthews, d.b.a. Mignon's. SN 181,378. Pub. 5–5–64. Filed 11–18–63.

773,428. THE "IT" BAG. Itali Handbags, Inc. SN 182,067. Pub. 5–5–64. Filed 11–29–63.

Class 4—Abrasives and Polishing Materials

773,429. RONSON. Ronson Corporation. SN 171,045. Pub. 5–5–64. Filed 6–14–63.

773,430. SHOPWELL AND DESIGN. Daitch Crystal Dairies, Inc. SN 175,396. Pub. 5–5–64. Filed 8–20–63.

773,431. COLUMBIA ETC. AND DESIGN. United States Borax & Chemical Corporation. SN 177,110. Pub. 5–5–64. Filed 9–16–63.

773,432. A.I.T. AND DESIGN. A.I.T. Industries, Inc. SN 180,547. Pub. 5–5–64. Filed 11–6–63.

773,433. POWER CHARGED AND DESIGN. A.I.T. Industries, Inc. SN 180,548. Pub. 5–5–64. Filed 11–6–63.

Class 5—Adhesives

773,434. MELURAC. American Cyanamid Company. SN 166,354. Pub. 5–5–64. Filed 4–9–63.

773,435. SIMSEAL. The Goodyear Tire & Rubber Company. SN 167,725. Pub. 5–5–64. Filed 4–29–63.

Class 6—Chemicals and Chemical Compositions

773,436. ASPON. Stauffer Chemical Company. SN 165,636. Pub. 5–5–64. Filed 3–28–63.

773,437. TPS-PG. Stauffer Chemical Company. SN 165,641. Pub. 5–5–64. Filed 3–28–63.

773,438. MIST-O-MATIC. Gustafson Manufacturing Company, Inc. SN 166,869. Pub. 5–5–64. Filed 4–15–63.

773,439. LACIDEM. American Cyanamid Company. SN 167,190. Pub. 5–5–64. Filed 4–22–63.

773,440. FOAMATRON. Champion Chemicals, Inc. SN 167,209. Pub. 5–5–64. Filed 4–22–63.

773,441. SCORTRON. Champion Chemicals, Inc. SN 167,211. Pub. 5–5–64. Filed 4–23–63.

773,442. DERMOPLAST. Diamond Alkali Company. SN 171,103. Pub. 5–5–64. Filed 6–17–63.

773,443. DRUID. Alcolac Chemical Corporation. SN 172,551. Pub. 5–5–64. Filed 7–8–63.

773,444. SIPENOX. Alcolac Chemical Corporation. SN 172,792. Pub. 5–5–64. Filed 7–11–63.

773,445. SHOPWELL AND DESIGN. Daitch Crystal Dairies, Inc. SN 175,395. Pub. 5–5–64. Filed 8–20–63.

773,446. 20 MULE TEAM. United States Borax & Chemical Corporation. SN 176,045. Pub. 5–5–64. Filed 8–29–63.

773,447. U.S. BORAX. United States Borax & Chemical Corporation. SN 176,049. Pub. 5–5–64. Filed 8–29–63.

773,448. ESPESOL ETC. AND DESIGN. Signal Oil and Gas Company. SN 176,242. Pub. 5–5–64. Filed 9–3–63.

773,449. DISTERDAP. Carlisle Chemical Works, Inc. SN 176,778. Pub. 5–5–64. Filed 9–12–63.

773,450. COLUMBIA ETC. AND DESIGN. United States Borax & Chemical Corporation. SN 177,111. Pub. 5–5–64. Filed 9–16–63.

773,451. 20 MULE TEAM (DESIGN). United States Borax & Chemical Corporation. SN 177,115. Pub. 5–5–64. Filed 9–16–63.

773,452. 813. Xerox Corporation. SN 177,830. Pub. 5–5–64. Filed 9–26–63.

773,453. SBG. Mallinckrodt Chemical Works. SN 178,292. Pub. 5–5–64. Filed 10–3–63.

773,454. WESTERN AND DESIGN. Western Oil and Fuel Company. SN 178,314. Pub. 5–5–64. Filed 10–3–63.

Class 8—Smokers' Articles, Not Including Tobacco Products

773,455. MARUMAN. Maruman Co., Ltd. SN 177,070. Pub. 5–5–64. Filed 9–16–63.

Class 9—Explosives, Firearms, Equipments, and Projectiles

773,456. T-WAD. The B & K Plastic Industries Co. SN 172,238. Pub. 5–5–64. Filed 7–1–63.

Class 10—Fertilizers

773,457. WOODGROW. Wood Chemical Co., Inc. SN 181,085. Pub. 5–5–64. Filed 11–13–63.

773,458. KRENITE. E. I. du Pont de Nemours and Company. SN 181,763. Pub. 5–5–64. Filed 11–22–63.

Class 11—Inks and Inking Materials

773,459. HEYCO. D. C. Hey Company, Inc. SN 128,897. Pub. 5–5–64. Filed 9–29–61.

773,460. AQUAFAST. Eaton Chemical Corporation. SN 142,290. Pub. 5–5–64. Filed 4–16–62.

773,461. B BUCKEYE. The Buckeye Ribbon & Carbon Co. SN 160,407. Pub. 5–5–64. Filed 1–9–63.

Class 12—Construction Materials

773,462. AIR-VENT. Air-Vent Aluminum Awning Manufacturing Co. SN 87,959. Pub. 4–28–63. Filed 12–24–59.

773,463. SAIVO ETC. AND DESIGN. S.A.I.V.O. S.p.A. Societa Anonima Italiana del Vetro di Ottica. SN 136,594. Pub. 4–28–64. Filed 1–25–62.

773,464. PHIL-LASTIC. West Chester Chemical Company, Inc. SN 160,146. Pub. 5–5–64. Filed 1–3–63.

773,465. PF-15. United States Plywood Corporation. SN 160,813. Pub. 5–5–64. Filed 1–16–63.

773,466. PLICOFLEX. Plicoflex, Inc. SN 161,091. Pub. 5–5–64. Filed 1–21–63.

773,467. STORM-MASTER. James L. May. SN 164,986. Pub. 5–5–64. Filed 3–19–63.

773,468. DRI-TOX. Washington Timber Products, Inc. SN 165,872. Pub. 5–5–64. Filed 4–1–63.

773,469. CALTEX. California Texas Oil Corporation. SN 169,007. Pub. 5–5–64. Filed 5–16–63.

773,470. RESI CRETE. Resi Crete, Inc. SN 172,416. Pub. 5–5–64. Filed 7–3–63.

773,471. ALUMALUX. Rowe Manufacturing Co. SN 174,710. Pub. 5–5–64. Filed 8–8–63.

773,472. BRICKPLATE. Wilhelm Gail'sche Tonwerke KG.a.A. SN 175,003. Pub. 5–5–64. Filed 8–13–63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

773,473. TWIN. J. A. Henckels Zwillingswerk Aktiengesellschaft, assignee, by mesne assignments, of J. A. Henckels Zwillingswerk Aktiengesellschaft. SN 11,004. Pub. 5–5–64. Filed 6–26–56.

773,474. TWIN WORKS. J. A. Henckels Zwillingswerk Aktiengesellschaft, assignee, by mesne assignments, of J. A. Henckels Zwillingswerk Aktiengesellschaft. SN 11,007. Pub. 5–5–64. Filed 6–26–56.

773,475. STAZTITE. Igelstroem-Oberlin, Inc. SN 150,783. Pub. 5–5–64. Filed 8–8–62.

773,476. SIMIX. Stuart Sales Engineering Co., Division of Jerren Affiliated Companies Limited. SN 156,445. Pub. 5–5–64. Filed 11–1–62.

773,477. E-Z-GLIDE. Duro Metal Manufacturing Company, Inc. SN 163,825. Pub. 5–5–64. Filed 3–4–63.

773,478. CHARM HOUSE. Arkwright Merchandising Corporation. SN 165,105. Pub. 5–5–64. Filed 3–21–63.

773,479. SILENT STEEL. Automatic Devices Company. SN 165,666. Pub. 5–5–64. Filed 3–29–63.

773,480. BESTEEL. Automatic Devices Company. SN 165,669. Pub. 5–5–64. Filed 3–29–63.

773,481. GARRETT NUBBINS. Garrett Enumclaw Co. SN 174,181. Pub. 5–5–64. Filed 8–1–63.

773,482. M AND DESIGN. Molly Corporation. SN 174,416. Pub. 5–5–64. Filed 8–5–63.

773,483. CRANE CHEF AND DESIGN. Crane Co. SN 174,752. Pub. 5–5–64. Filed 8–9–63.

773,484. CCC AND DESIGN. Carton Closing Corporation. SN 178,256. Pub. 5–5–64. Filed 10–3–63.

773,485. GENOVA. Genova Products. SN 178,276. Pub. 5–5–64. Filed 10–3–63.

773,486. UNI-RIM. R. D. Werner Co., Inc. SN 178,312. Pub. 5–5–64. Filed 10–3–63.

773,487. FERRUL-FIX. Parker-Hannifin Corporation. SN 178,475. Pub. 5–5–64. Filed 10–7–63.

773,488. THE GREENWICH LINE. Washington Forge, Incorporated. SN 179,174. Pub. 5–5–64. Filed 10–16–63.

773,489. PAEMA. Orbis International Corporation. SN 179,758. Pub. 5–5–64. Filed 10–24–63.

773,490. YK. Mullins Manufacturing Corporation. SN 180,596. Pub. 5–5–64. Filed 11–6–63.

Class 14—Metals and Metal Castings and Forgings

773,491. TWIN WORKS. J. A. Henckels Zwillingswerk Aktiengesellschaft, assignee, by mesne assignments, of J. A. Henckels Zwillingswerk Aktiengesellschaft. SN 11,008. Pub. 5–5–64. Filed 6–26–56.

773,492. AC (DESIGN). Atlantic Casting & Engineering Corp. SN 142,997. Pub. 3–5–63. Filed 4–25–62.

773,493. HYPERTRAN. Magnetic Metals Company. SN 171,517. Pub. 5–5–64. Filed 6–20–63.

773,494. M–250. Bethlehem Steel Company. SN 172,041. Pub. 5–5–64. Filed 6–28–63.

773,495. HOTSPOT. The Tool Steel Gear and Pinion Co. SN 174,457. Pub. 5–5–64. Filed 8–5–63.

773,496. FRF. Fall River Foundry Company, Inc. SN 177,242. Pub. 5–5–64. Filed 9–18–63.

773,497. COLUMBIA. Columbia Steel Casting Co., Inc. SN 178,882. Pub. 5–5–64. Filed 10–14–63.

773,498. DIAMITE. Weatherly Foundry and Manufacturing Company. SN 179,491. Pub. 5–5–64. Filed 10–21–63.

773,499. L50. Laclede Steel Company. SN 179,642. Pub. 5–5–64. Filed 10–23–63.

773,500. PRESTO. The Carpenter Steel Company. SN 179,771. Pub. 5–5–64. Filed 10–25–63.

Class 15—Oils and Greases

773,501. NO-LOK. Gojer, Inc. SN 154,348. Pub. 5–5–64. Filed 10–2–62.

773,502. FIL-SAT. American Grease Stick Company. SN 168,053. Pub. 5–5–64. Filed 5–3–63.

773,503. WYNOIL AND DESIGN. Wynn Oil Company. SN 174,472. Pub. 5–5–64. Filed 8–5–63.

773,504. WEAR-GARD. The Standard Oil Company. SN 180,037. Pub. 5–5–64. Filed 10–29–63.

Class 16—Protective and Decorative Coatings

773,505. CERAM. National Chemical & Manufacturing Company. SN 160,437. Pub. 5–5–64. Filed 1–9–63.

773,506. SUPER FLATLUX. H. K. Porter Company, Inc. SN 164,171. Pub. 5–5–64. Filed 3–7–63.

773,507. BRITE AND DESIGN. Preservative Paint Company. SN 164,464. Pub. 5–5–64. Filed 3–12–63.

773,508. SHIELD CRETE. Penn Crete Products Company, Inc. SN 173,690. Pub. 5–5–64. Filed 7–24–63.

773,509. DEC-R-TINT. Dunn-Edwards Corporation. SN 181,022. Pub. 5–5–64. Filed 11–13–63.

Class 17—Tobacco Products

773,510. CARAVELLE. M & N Cigar Manufacturers, Inc. SN 178,461. Pub. 5–5–64. Filed 10–7–63.

773,511. DON MODESTO. Casa Cuba Cigar Co., Inc. SN 179,195. Pub. 5–5–64. Filed 10–17–63.

773,512. FLORITE. Larus & Brother Company. SN 181,903. Pub. 5–5–64. Filed 11–26–63.

Class 18—Medicines and Pharmaceutical Preparations

773,513. 8V ETC. AND DESIGN. Commercial Solvents Corporation. SN 139,596. Pub. 5–5–64. Filed 3–12–62.

773,514. WEX. The Purdue Frederick Company. SN 164,678. Pub. 5–5–64. Filed 3–4–63.

773,515. AL-COAT. Xttrium Laboratories, Inc. SN 168,974. Pub. 5–5–64. Filed 5–15–63.

773,516. SUNSHINE. Xttrium Laboratories, Inc. SN 168,976. Pub. 5–5–64. Filed 5–15–63.

773,517. SANKYO AND DESIGN. Sankyo Company Limited. SN 170,949. Pub. 5–5–64. Filed 6–13–63.

773,518. HYPO ZYME. Dr. Le Gear, Inc. SN 171,109. Pub. 5–5–64. Filed 6–17–63.

773,519. ASBRON. The Wander Company. SN 179,084. Pub. 5–5–64. Filed 10–15–63.

773,520. RAUPROTE. The Vale Chemical Company, Inc. SN 179,748. Pub. 5–5–64. Filed 10–24–63.

773,521. DENDRID. Alcon Laboratories, Inc. SN 179,985. Pub. 5–5–64. Filed 10–29–63.

773,522. LUBRI-PAK. C. R. Bard, Inc. SN 181,303. Pub. 5–5–64. Filed 11–18–63.

773,523. MOMENTIN. American Home Products Corporation. SN 182,146. Pub. 5–5–64. Filed 12–2–63.

773,524. BETICASE. Merck & Co., Inc. SN 182,250. Pub. 5–5–64. Filed 12–4–63.

773,525. CAMOLAR. Parke, Davis & Company. SN 182,438. Pub. 5–5–64. Filed 12–5–63.

773,526. QUINIDEX EXTENTABS. A. H. Robins Company, Inc. SN 182,504. Pub. 5–5–64. Filed 12–6–63.

773,527. ORANGESCORB. B. F. Ascher & Company, Inc. SN 182,566. Pub. 5–5–64. Filed 12–9–63.

773,528. MAXIBOLIN. Organon Inc. SN 182,963. Pub. 5–5–64. Filed 12–13–63.

773,529. PERVELINE. U.S. Vitamin & Pharmaceutical Corporation. SN 182,983. Pub. 5–5–64. Filed 12–13–63.

773,530. IPHYLLIN. Dumas-Wilson & Co. SN 183,043. Pub. 5–5–64. Filed 12–16–63.

773,531. MIN-EVAC. A. Allen Horton, d.b.a. Acid-Ese Company. SN 183,063. Pub. 5–5–64. Filed 12–16–63.

773,532. NORCINE. Norden Laboratories, Inc. SN 183,098. Pub. 5–5–64. Filed 12–16–63.

773,533. VETISTAT. Norden Laboratories, Inc. SN 183,099. Pub. 5–5–64. Filed 12–16–63.

773,534. ARISTOSTAT. American Cyanamid Company. SN 183,544. Pub. 5–5–64. Filed 12–26–63.

Class 19—Vehicles

773,535. CAPITAL AND DESIGN. Capital Coach Company. SN 150,014. Pub. 5–5–64. Filed 7–30–62.

773,536. FLEXI-VAN. Fruehauf Corporation. SN 176,790. Pub. 5–5–64. Filed 9–12–63.

773,537. VANTAGE. Pretty Products, Inc. SN 178,033. Pub. 5–5–64. Filed 9–30–63.

773,538. DANDEE AND DESIGN. Standard-Thomson Corporation. SN 178,374. Pub. 5–5–64. Filed 10–4–63.

773,539. WALKER EXECUTIVE AND DESIGN. Jato Manufacturing, Inc. SN 180,088. Pub. 5–5–64. Filed 10–30–63.

773,540. MALIBU. General Motors Corporation. SN 180,195. Pub. 5–5–64. Filed 10–31–63.

773,541. CHEVELLE. General Motors Corporation. SN 180,196. Pub. 5–5–64. Filed 10–31–63.

Class 20—Linoleum and Oiled Cloth

773,542. AMTICO TOWPATH. Americas Biltrit Rubber Co., Inc. SN 178,097. Pub. 5–5–64. Filed 10–1–63.

773,543. ROMANAIRE. Congoleum-Nairn Inc. SN 178,106. Pub. 5–5–64. Filed 10–1–63.

Class 21—Electrical Apparatus, Machines, and Supplies

773,544. ECHOLITE. Panel Engineering Corp. SN 156,760. Pub. 5–5–64. Filed 11–6–62.

773,545. HI-POL. Elox Corporation of Michigan. SN 161,169. Pub. 5–5–64. Filed 1–22–63.

773,546. WONDER SHAFT. Columbia Products Company. SN 169,349. Pub. 5–5–64. Filed 5–21–63.

773,547. KLIPSELECTOR. International Rectifier Corporation. SN 169,935. Pub. 5–5–64. Filed 5–29–63.

773,548. ELSCO LITES ETC. AND DESIGN. Electric Lighting, Inc. SN 170,050. Pub. 5–5–64. Filed 5–31–63.

773,549. LCC AND DESIGN. L.C.C.-Steafix. SN 170,461. Pub. 5–5–64. Filed 6–6–63.

773,550. SUPER PAR. Super Par Oil Company, Inc. SN 170,777. Pub. 5–5–64. Filed 6–11–63.

773,551. INST ALARM AND DESIGN. Fidelity Alarm Systems, Inc. SN 173,444. Pub. 5–5–64. Filed 7–22–63.

773,552. ZEROPEST AND DESIGN. Zeropest Products Limited. SN 174,474. Pub. 5–5–64. Filed 8–5–63.

773,553. CHARCO SNAP COVER. Charleston Rubber Company. SN 175,247. Pub. 5–5–64. Filed 8–19–63.

773,554. EMI. Electra Megadyne, Inc. SN 176,264. Pub. 5–5–64. Filed 8–30–63.

773,555. TOAST-LECTRIC. Heisberg's Diamond Shops, Inc. SN 178,920. Pub. 5–5–64. Filed 10–14–63.

773,556. "WEDGELITES." McPhilben Manufacturing Co., Inc. SN 179,148. Pub. 5–5–64. Filed 10–16–63.

773,557. DATATWIN. Dialight Corporation. SN 179,622. Pub. 5–5–64. Filed 10–23–63

773,558. ENSOLON/ESN. Essex Wire Corporation. SN 179,626. Pub. 5–5–64. Filed 10–23–63.

773,559. CADRE AND DESIGN. Cadre Industries Corp. SN 180,286. Pub. 5–5–64. Filed 11–1–63.

773,560. YK. Mullins Manufacturing Corporation. SN 180,597. Pub. 5–5–64. Filed 11–6–63.

773,561. GLOBE. Globe-Union Inc. SN 180,878. Pub. 5–5–64. Filed 11–12–63.

773,562. UTILI-TENSHUN. AMP Incorporated. SN 180,988. Pub. 5–5–64. Filed 11–13–63.

773,563. THERMAFLO. Fieldcrest Mills, Inc. SN 181,029. Pub. 5–5–64. Filed 11–13–63.

Class 22—Games, Toys, and Sporting Goods

773,564. 4-ALARM. Milton Bradley Company. SN 155,368. Pub. 5–5–64. Filed 10–18–62.

773,565. MUSINGO. Mattel, Inc. SN 162,469. Pub. 5–5–64. Filed 2–11–63.

773,566. HAPPY HOP-SCOTCH HEEL. Walter Winer, d.b.a. Walter Winer Enterprises. SN 163,014. Pub. 5–5–64. Filed 2–18–63.

773,567. HIDDEN POWER. Al Liebers Golf Equipment, Inc. SN 166,817. Pub. 5–5–64. Filed 4–16–63.

773,568. FLAIR. Hannes Marker. SN 168,409. Pub. 5–5–64. Filed 5–8–63.

773,569. WONDER SHAFT. Columbia Products Company. SN 169,350. Pub. 5–5–64. Filed 5–21–63.

773,570. AMT AND DESIGN. AMT Corporation. SN 171,522. Pub. 5–5–64. Filed 6–21–63.

773,571. THE VELVET LINK. TVL Products Company, Inc. SN 171,931. Pub. 5–5–64. Filed 6–26–63.

773,572. TIGER JOE. De Luxe Reading Corporation. SN 172,161. Pub. 5–5–64. Filed 7–1–63.

773,573. HAPPI-REAL BONE. Reliance International Mfg. Ltd. SN 172,775. Pub. 5–5–64. Filed 7–10–63.

773,574. PRIMSTYLE. F. W. Woolworth Co. SN 174,631. Pub. 5–5–64. Filed 8–7–63.

773,575. YUMMIE. Harts Mountain Products Corp. SN 176,906. Pub. 5–5–64. Filed 9–13–63.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

773,576. CER AND DESIGN. Carl Emil Ruf. SN 148,080. Pub. 5–5–64. Filed 6–20–62.

773,577. HEESEMANN. Karl Heesemann. SN 150,414. Pub. 5–5–64. Filed 8–3–62.

773,578. ELECTROSHAPE. The Cincinnati Shaper Co. SN 152,978. Pub. 5–5–64. Filed 9–12–62.

773,579. IN FAB CO. AND DESIGN. Industrial Fabricators, Inc. SN 161,711. Pub. 5–5–64. Filed 1–30–63.

773,580. S AND DESIGN. Schloemann Aktiengesellschaft. SN 164,179. Pub. 2–11–64. Filed 3–21–63.

773,581. BRAND-O-MATIC. The Everhot Manufacturing Company. SN 164,231. Pub. 5–5–64. Filed 3–8–63.

773,582. WONDER SHAFT. Columbia Products Company. SN 169,352. Pub. 5–5–64. Filed 5–21–63.

773,583. LESTOP. Ashworth Bros., Inc. SN 172,361. Pub. 5–5–64. Filed 7–3–63.

773,584. EZEE. North Central Plastics, Incorporated. SN 172,677. Pub. 5–5–64. Filed 7–9–63.

773,585. DYNA-LIFE. International Harvester Company. SN 172,910. Pub. 5–5–64. Filed 7–12–63.

773,586. SLICK HITCH. Neirad Industries, Inc. SN 173,275. Pub. 5–5–64. Filed 7–18–63.

773,587. GARRETT SLIDERS. Garrett Enumclaw Co. SN 174,182. Pub. 5–5–64. Filed 8–1–63.

773,588. TILT'R. BB & W Machine Products Co. SN 175,376. Pub. 5–5–64. Filed 8–20–63.

773,589. SOCIETY HILL. Heritage House Products, Inc. SN 178,000. Pub. 5–5–64. Filed 9–30–63.

773,590. KUTZ-KWIK. Kutz Kwik, Inc. SN 178,010. Pub. 5–5–64. Filed 9–30–63.

773,591. BEND-A-GRAPH. Huth Mfgr., Inc. SN 178,080. Pub. 5–5–64. Filed 9–24–63.

773,592. ENTECH. Entech Corporation. SN 178,268. Pub. 5–5–64. Filed 10–3–63.

773,593. ENTECH AND DESIGN. Entech Corporation. SN 178,269. Pub. 5–5–64. Filed 10–3–63.

773,594. WINSMITH W AND DESIGN. Universal Match Corporation. SN 178,309. Pub. 5–5–64. Filed 10–3–63.

773,595. TRW. Thompson Ramo Wooldridge Inc. SN 178,379. Pub. 5–5–64. Filed 10–4–63.

773,596. PERMA LIFE. Sterneo Industries, Inc. SN 178,649. Pub. 5–5–64. Filed 10–9–63.

773,597. SPINMASTER. The Pettibone Mulliken Corporation. SN 178,756. Pub. 5–5–64. Filed 10–10–63.

773,598. FLUORO-MATIC. General Kinetics, Inc. of West Palm Beach. SN 178,799. Pub. 5–5–64. Filed 10–11–63.

773,599. BROADMOOR. Simplicity Manufacturing Company. SN 178,826. Pub. 5–5–64. Filed 10–11–63.

773,600. LANDLORD. Simplicity Manufacturing Company. SN 178,828. Pub. 5–5–64. Filed 10–11–63.

773,601. KOMPAC-3. Longwood Equipment Company Limited. SN 178,934. Pub. 5–5–64. Filed 10–14–63.

773,602. UNI-MASTER. The Osborn Manufacturing Company. SN 178,963. Pub. 5–5–64. Filed 10–14–63.

773,603. SPARTUS. Regent-Sheffield, Ltd., assignee of Regent-Sheffield. SN 179,159. Pub. 5–5–64. Filed 10–16–63.

773,604. HERCULES. Harold O. Bates, d.b.a. The Acromark Company. SN 179,691. Pub. 5–5–64. Filed 10–24–63.

773,605. VALU-FLOW. Lear Siegler, Inc. SN 180,214. Pub. 5–5–64. Filed 10–31–63.

773,606. 400. The H. C. Cook Company. SN 181,015. Pub. 5–5–64. Filed 11–13–63.

773,607. MICROFORM. The Sheffield Corporation. SN 181,071. Pub. 5–5–64. Filed 11–13–63.

773,608. DIAMALLOY. Diamond Tool and Horseshoe Co. SN 181,298. Pub. 5–5–64. Filed 10–14–63.

773,609. SPAR-KUT. Spartan Saw Works, Inc. SN 182,369. Pub. 5–5–64. Filed 12–4–63.

773,610. TY-TOOL. Tyler Pipe and Foundry Company. SN 182,448. Pub. 5–5–64. Filed 12–5–63.

773,611. XL-IDENT. The Hoggson & Pettis Mfg. Company. SN 182,727. Pub. 5–5–64. Filed 12–10–63.

773,612. EA AND DESIGN. Edward Andrews Tools & Machinery Company. SN 182,758. Pub. 5–5–64. Filed 12–11–63.

Class 24—Laundry Appliances and Machines

773,613. FOUNTAIN FILTER. General Electric Company. SN 171,645. Pub. 5–5–64. Filed 6–24–63.

773,614. ROLLER-MATIC. General Motors Corporation. SN 178,694. Pub. 5–5–64. Filed 10–10–63.

Class 26—Measuring and Scientific Appliances

773,615. TEL-A-STOP. Tel-A-Stop Electronics, Inc., assignee of John G. Fontaine. SN 125,592. Pub. 5-5-64. Filed 8-8-61.

773,616. VISTA LENS AND DESIGN. Vista Lens Corporation. SN 133,109. Pub. 5-5-64. Filed 11-30-61.

773,617. INSPECTRON. Pierce-West, Inc. SN 140,286. Pub. 5-5-64. Filed 3-20-62.

773,618. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,957. Pub. 5-5-64. Filed 8-27-62.

773,619. M MORISAWA. Kabushiki Kaisha Morisawa Shashin Shokujiki Seisakusho. SN 163,095. Pub. 5-5-64. Filed 2-14-63.

773,620. IMMERSCOPE. The Budd Company, assignee of Curtiss-Wright Corporation. SN 169,910. Pub. 12-17-63. Filed 5-29-63.

773,621. PENN-CHEM PORTABLE SYSTEMS AND DESIGN. Penn-Chem Corporation. SN 169,969. Pub. 5-5-64. Filed 5-29-63.

773,622. TESTIP. Leeds and Northrup Company. SN 174,967. Pub. 5-5-64. Filed 8-13-63.

773,623. MULTI-PED. Irving P. Filderman. SN 176,148. Pub. 5-5-64. Filed 8-9-63.

773,624. SAF-T-TRIP. Robertshaw Controls Company. SN 175,513. Pub. 5-5-64. Filed 8-21-63.

773,625. ROOMTROL. Robertshaw Controls Company. SN 175,796. Pub. 5-5-64. Filed 8-26-63.

773,626. SALEM CLOCKS AND DESIGN. Raymond J. Costigan, d.b.a. Salem Clock Company. MULTIPLE CLASS (Classes 26 and 27). SN 176,057. Pub. 5-5-64. Filed 7-23-63.

773,627. UIC AND DESIGN. Union Instrument Corporation. SN 176,464. Pub. 5-5-64. Filed 9-6-63.

773,628. CAM. Cam Corporation. SN 176,884. Pub. 5-5-64. Filed 9-13-63.

773,629. BEEM. Better Equipment for Electron Microscopy, Inc. SN 177,604. Pub. 5-5-64. Filed 9-24-63.

773,630. 813. Xerox Corporation. SN 177,831. Pub. 5-5-64. Filed 9-26-63.

773,631. LUCIMAT. Agfa Aktiengesellschaft. SN 178,085. Pub. 5-5-64. Filed 10-1-63.

773,632. DINOSEIS. Sinclair Research, Inc. SN 178,571. Pub. 5-5-64. Filed 10-8-63.

773,633. CLEO. Universal Optical Company, Inc. SN 179,002. Pub. 5-5-64. Filed 10-14-63.

773,634. DIGITOHM. Electro-Mechanical Research, Inc., d.b.a. Solartron, Inc. SN 179,329. Pub. 5-5-64. Filed 10-18-63.

773,635. ECONOLITE. Federal Pacific Electric Company. SN 179,885. Pub. 5-5-64. Filed 10-28-63.

773,636. PRINCE. Pelouze Manufacturing Company. SN 179,922. Pub. 5-5-64. Filed 10-28-63.

Class 27—Horological Instruments

773,626. (See Class 26 for this trademark.)

Class 28—Jewelry and Precious-Metal Ware

773,637. NORSKOLOR AND DESIGN. Norwegian Silver Corporation. SN 149,197. Pub. 5-5-64. Filed 7-17-62.

773,638. NORSKOLOR AND DESIGN. Norwegian Silver Corporation. SN 150,272. Pub. 5-5-64. Filed 8-1-62.

773,639. INFINITY SIGN IN HEXAGON. Regina Manufacturing Co., Inc. SN 158,099. Pub. 5-5-64. Filed 11-28-62.

773,640. THWFA. William E. Slaughter. SN 174,448. Pub. 5-5-64. Filed 8-5-63.

773,641. GCJ. Goldcraft Jewelers Inc. SN 175,852. Pub. 5-5-64. Filed 8-27-63.

773,642. MARUMAN. Maruman Co., Ltd. SN 177,071. Pub. 5-5-64. Filed 9-16-63.

773,643. SER. Samuel E. Remenik. SN 181,410. Pub. 5-5-64. Filed 11-18-63.

Class 29—Brooms, Brushes, and Dusters

773,644. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,026. Pub. 5-5-64. Filed 6-27-63.

773,645. R. Rubberset Company. SN 175,514. Pub. 5-5-64. Filed 8-21-63.

773,646. RUBBERSET. Rubberset Company. SN 175,689. Pub. 5-5-64. Filed 8-23-63.

773,647. RUBBERSET. Rubberset Company. SN 175,690. Pub. 5-5-64. Filed 8-23-63.

773,648. TOUCH-EE. Hyde Manufacturing Company. SN 179,228. Pub. 5-5-64. Filed 10-17-63.

773,649. BRIDGE-IT. Pittsburgh Plate Glass Company. SN 179,239. Pub. 5-5-64. Filed 10-17-63.

773,650. SOUP-PLATE. R. O. Kent Corp. SN 179,541. Pub. 5-5-64. Filed 10-22-63.

773,651. SAFETY-SAUCER. R. O. Kent Corp. SN 179,542. Pub. 5-5-64. Filed 10-22-63.

773,652. SAFE-GARD. R. O. Kent Corp. SN 179,544. Pub. 5-5-64. Filed 10-22-63.

Class 31—Filters and Refrigerators

773,653. ROYALTY AND CROWN DESIGN. Water Refining Company, Inc. SN 163,512. Pub. 5-5-64. Filed 2-11-63.

Class 32—Furniture and Upholstery

773,654. SATELLITE. Oldberg Manufacturing Company, assignee of Hockethorn Manufacturing & Supply Co., d.b.a. Mitchell Division. SN 170,190. Pub. 5-5-64. Filed 6-3-63.

773,655. YK. Mullins Manufacturing Corporation. SN 180,598. Pub. 5-5-64. Filed 11-6-63.

773,656. NOPCOFOAM CUSHIONING AND DESIGN. Nopco Chemical Company. SN 181,490. Pub. 5-5-64. Filed 11-19-63.

Class 34—Heating, Lighting, and Ventilating Apparatus

773,657. ARCOSARC. Arcos Corporation. SN 181,512. Pub. 5-5-64. Filed 11-20-63.

773,658. INDESCO AND DESIGN. Indesco Corporation. SN 181,641. Pub. 5-5-64. Filed 11-21-63.

773,659. HYDROBIN. The Allen-Sherman-Hoff Company. SN 181,735. Pub. 5-5-64. Filed 11-22-63.

773,660. HYDROVACUUM. The Allen-Sherman-Hoff Company. SN 181,736. Pub. 5-5-64. Filed 11-22-63.

773,661. ECONO-ASH. The Allen-Sherman-Hoff Company. SN 181,737. Pub. 5-5-64. Filed 11-22-63.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

773,662. BECORIT PLASTIK D 670. Becorit-Gesellschaft Wilhelm Beckmann & Co., G.m.b.H. SN 135,937. Pub. 5-5-64. Filed 1-16-62.

773,663. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,966. Pub. 5-5-64. Filed 8-27-62.

773,664. SUPER PAR. Super Par Oil Company, Inc. SN 170,778. Pub. 5-5-64. Filed 6-11-63.

773,665. WINDSOR. The B. F. Goodrich Company. SN 180,087. Pub. 5-5-64. Filed 10-30-63.

773,666. MULTIWARP. The B. F. Goodrich Company. SN 180,394. Pub. 5-5-64. Filed 11-4-63.

773,667. SUPERCON. Greengate & Irwell Rubber Company Limited. SN 180,504. Pub. 5-5-64. Filed 11-5-63.

Class 36—Musical Instruments and Supplies

773,668. MUSIC GUILD. Westminster Recording Co., Inc., assignee of The Music Guild, Inc. SN 120,738. Pub. 1-28-62. Filed 5-24-61.

773,669. INDEX AND DESIGN. Allison J. Theriot, Jr. SN 172,620. Pub. 5-5-64. Filed 7-8-63.

Class 37—Paper and Stationery

773,670. LITHOBLADE. Blandin Paper Company. SN 150,150. Pub. 5-5-64. Filed 7-31-62.

773,671. ALEXANDRITE. Alexander Paper Co. SN 155,290. Pub. 5-5-64. Filed 10-17-62.

773,672. DRI-LINE. A. W. Faber-Castell Pencil Co., Inc. SN 158,148. Pub. 5-5-64. Filed 11-29-62.

773,673. THERMO-SEAL. Textile Marking Machine Co., Inc. SN 159,026. Pub. 5-5-64. Filed 12-21-62.

773,674. EASTPAC. Eastpac Paper Converting Company. SN 164,119. Pub. 5-5-64. Filed 3-7-63.

773,675. AMERICAN GREETINGS. American Greetings Corporation. SN 168,268. Pub. 5-5-64. Filed 5-7-63.

773,676. SORG AND DESIGN. The Sorg Paper Company, assignee of Sorg Products Co. SN 170,497. Pub. 5-5-64. Filed 6-5-63.

773,677. BLUE DIAMOND. DeJur-Amsco Corporation. SN 174,496. Pub. 5-5-64. Filed 8-6-63.

773,678. UNIMAT AND DESIGN. Unimat Coin Wrapping Paper Corp. SN 176,253. Pub. 5-5-64. Filed 9-3-63.

773,679. GRAF-TAK. George B. Graf Company. SN 180,010. Pub. 5-5-64. Filed 10-29-63.

773,680. SAIL CLUB. Paper Service Company, Incorporated. SN 180,676. Pub. 5-5-64. Filed 11-7-63.

773,681. VYRIN. Joshua Meier Co., Inc. SN 181,910. Pub. 5-5-64. Filed 11-26-63.

773,682. PERFLEX. Union Carbide Corporation. SN 182,010. Pub. 5-5-64. Filed 11-27-63.

773,683. CURPOLENE. Curwood, Inc. SN 182,407. Pub. 5-5-64. Filed 12-5-63.

Class 38—Prints and Publications

773,684. PEDIATRICS DIGEST. Pediatrics Digest Inc., assignee of Medical Digest Inc. SN 150,581. Pub. 5-5-64. Filed 8-6-62.

773,685. MEDIA-MARKET PLANNING GUIDE. Advertising Publications, Inc. SN 150,838. Pub. 5-5-64. Filed 8-9-62.

773,686. THE TRAINER'S NOTEBOOK. Scientific Associates, Inc. SN 159,762. Pub. 5-5-64. Filed 12-26-62.

773,687. FACTS OF OUR FAITH. The Los Angeles Church of God, Seventh Day. SN 164,857. Pub. 5-5-64. Filed 3-18-63.

773,688. HENDROGRAPH. The Hendry Corporation. SN 165,055. Pub. 5-5-64. Filed 3-20-63.

773,689. THE ATLANTIC LOG. The Atlantic Lumber Company. SN 166,201. Pub. 5-5-64. Filed 3-22-63.

773,690. A THIS WEEK MAKE-A-BOOK FEATURE. United Newspapers Magazine Corporation. SN 169,796. Pub. 5-5-64. Filed 5-27-63.

773,691. UPJOHN INTERCOM. The Upjohn Company. SN 172,020. Pub. 5-5-64. Filed 6-27-63.

773,692. CEG ETC. AND DESIGN. Harold F. Garland, d.b.a. Chord Symbol Co. SN 173,724. Pub. 5-5-64. Filed 7-16-63.

773,693. IRD AND DESIGN. Printing Views, Inc. SN 174,793. Pub. 5-5-64. Filed 8-6-63.

773,694. CENTURY AND DESIGN. Creative Card Company. SN 176,353. Pub. 5-5-64. Filed 9-5-63.

773,695. HORIZON CARAVEL. American Heritage Publishing Co., Inc. SN 176,769. Pub. 5-5-64. Filed 9-12-63.

773,696. THE TOWN CRIER. Corning Leader, Inc. SN 177,866. Pub. 5-5-64. Filed 9-27-63.

773,697. LUSTRE GLOW AND DESIGN. Hallmark Cards, Incorporated. SN 177,990. Pub. 5-5-64. Filed 9-30-63.

773,698. POPULAR BOATING. Ziff-Davis Publishing Company. SN 178,076. Pub. 5-5-64. Filed 9-30-63.

Class 39—Clothing

773,699. ROYTEX. Red Raven Rubber Company. SN 99,240. Pub. 8-27-63. Filed 6-17-60.

773,700. THE SHOE THAT GROWS. Pedi-Bares, Inc. SN 118,804. Pub. 5-5-64. Filed 4-27-61.

773,701. TINY-MITE. Youthcraft Creations, Inc. SN 141,284. Pub. 5-5-64. Filed 3-30-62.

773,702. ROUND-UP. Glamorise Foundations, Inc. SN 151,486. Pub. 5-5-64. Filed 8-20-62.

773,703. FIRST IMPRESSIONS. Federated Department Stores, Inc. SN 154,229. Pub. 5-5-64. Filed 10-1-62.

773,704. BOB LEE. Stephen Putney Shoe Company. SN 161,213. Pub. 5-5-64. Filed 1-22-63.

773,705. FANTESSA. Foreign Footwear Corp. SN 161,251. Pub. 5-5-64. Filed 1-23-63.

773,706. SLUMBACRAFT. I. Schneierson & Sons, Inc. SN 163,585. Pub. 5-5-64. Filed 2-27-63.

773,707. BACK MAGIC. Lady Lynne Lingerie, Inc. SN 164,053. Pub. 5-5-64. Filed 3-6-63.

773,708. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,027. Pub. 5-5-64. Filed 6-27-63.

773,709. SKI LIFT AND DESIGN. The Puritan Sportswear Corp. SN 172,516. Pub. 5-5-64. Filed 7-5-63.

773,710. CANTON. Canton Cotton Mills. SN 172,726. Pub. 5-5-64. Filed 7-10-63.

773,711. NEIMETTE. Neiman-Marcus Company. SN 174,423. Pub. 5-5-64. Filed 8-5-63.

773,712. REVERSATILE. Canterbury Belts, Ltd. SN 174,827. Pub. 5-5-64. Filed 8-12-63.

773,713. —'RELAXOR-CLOG' BY WILNER AND DESIGN. Wilner Wood Products Co. SN 174,923. Pub. 5-5-64. Filed 8-12-63.

773,714. CHIPPEWA. Chippewa Shoe Co. SN 175,012. Pub. 5-5-64. Filed 8-14-63.

773,715. CAROLINA MOON. G. C. Murphy Company. SN 176,357. Pub. 5-5-64. Filed 9-5-63.

773,716. ANDALUSIA AND DESIGN. Phil Rose of California, Inc. SN 176,681. Pub. 5-5-64. Filed 9-12-63.

773,717. FORMWEAR. Genesco Inc. SN 176,899. Pub. 5-5-64. Filed 9-13-63.

773,718. LAUREL WREATH ETC. (DESIGN). Laurel Uniform Shoppe. SN 177,063. Pub. 5-5-64. Filed 9-16-63.

773,719. STYMIE. Thorlo, Inc. SN 177,384. Pub. 5-5-64. Filed 9-19-63.

773,720. ANNIVERSARY. Colonial Stores Incorporated. SN 177,400. Pub. 5-5-64. Filed 9-20-63.

773,721. GOLDEN GLOVES. Plasticsmith, Inc. SN 177,441. Pub. 5-5-64. Filed 9-20-63.

773,722. SURF-MATE. Glensder Corporation. SN 177,787. Pub. 5-5-64. Filed 9-26-63.

773,723. LEE POLY PLUS. The H. D. Lee Company, Incorporated. SN 178,011. Pub. 5-5-64. Filed 9-30-63.

773,724. WEMBLEY AND DESIGN. Wembley, Inc. SN 178,311. Pub. 5-5-64. Filed 10-3-63.

773,725. KINGSFORD AND DESIGN. Maro Industries, Inc. SN 179,436. Pub. 5-5-64. Filed 10-21-63.

773,726. ONDINE. Peter Paul Maymar, d.b.a. Fleetwood Company. SN 179,645. Pub. 5-5-64. Filed 10-23-63.

Class 40—Fancy Goods, Furnishings, and Notions

773,727. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,025. Pub. 5-5-64. Filed 6-27-63.

773,728. MUR-WEB. Murdock Webbing Company, Inc. SN 174,699. Pub. 5-5-64. Filed 8-8-63.

773,729. ROMA. Metalart Buckle Company. SN 181,911. Pub. 5-5-64. Filed 11-26-63.

773,730. RULER. Amerace Corporation. SN 181,945. Pub. 5-5-64. Filed 11-27-63.

773,731. TINA-TRESSES. Dorothy Eigen, Inc. SN 182,060. Pub. 5-5-64. Filed 11-29-63.

773,732. MAGIC MESH. Solo Products Corporation. SN 182,126. Pub. 5-5-64. Filed 11-29-63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

773,733. FABRICLAND. R. Lowenbaum Manufacturing Company. SN 163,249. Pub. 5-5-64. Filed 2-21-63.

773,734. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,028. Pub. 5-5-64. Filed 6-27-63.

773,735. DURALIN AND DESIGN. International Duralin Corporation. SN 173,002. Pub. 5-5-64. Filed 7-15-63.

773,736. MR. ACTION. Deering Milliken, Inc. SN 176,356. Pub. 5-5-64. Filed 9-5-63.

773,737. BRUTE. Graniteville Company. SN 176,793. Pub. 5-5-64. Filed 9-12-63.

773,738. INTER-FUSE. Fusible Textile Corporation. SN 177,349. Pub. 5-5-64. Filed 9-19-63.

773,739. SCREENTEX. Motraco Corp. SN 177,907. Pub. 5-5-64. Filed 9-27-63.

773,740. HONESTUFF. Callaway Mills Company. SN 178,170. Pub. 5-5-64. Filed 10-2-63.

Class 43—Thread and Yarn

773,741. CHROMEFLEX GLOW. High Vacuum Metals, Inc. SN 158,537. Pub. 5-5-64. Filed 12-5-62.

773,742. JAEGER. The Jaeger Company Limited. SN 163,556. Pub. 5-5-64. Filed 2-27-63.

773,743. REVERIE. Columbia Minerva Corporation. SN 176,496. Pub. 5-5-64. Filed 9-9-63.

773,744. LUREX. The Dow Chemical Company. SN 177,016. Pub. 5-5-64. Filed 9-16-63.

Class 44—Dental, Medical, and Surgical Appliances

773,745. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,030. Pub. 5-5-64. Filed 6-27-63.

773,746. HYDRADJUST. Ritter Company, Inc. SN 178,358. Pub. 5-5-64. Filed 10-4-63.

773,747. IMICO ETC. AND DESIGN. American Optical Company. SN 180,634. Pub. 5-5-64. Filed 11-7-63.

773,748. IMICO. American Optical Company. SN 180,635. Pub. 5-5-64. Filed 11-7-63.

773,749. BURRON. Burron Medical Products, Inc. SN 180,647. Pub. 5-5-64. Filed 11-7-63.

773,750. VENTRICOR. Cordis Corporation. SN 181,017. Pub. 5-5-64. Filed 11-12-63.

773,751. SYNCHROCOR. Cordis Corporation. SN 181,018. Pub. 5-5-64. Filed 11-13-63.

773,752. BARDIC. C. R. Bard, Inc. SN 181,802. Pub. 5-5-64. Filed 11-18-63.

Class 45—Soft Drinks and Carbonated Waters

773,753. PURE-FLO. Edward C. Gruenwald, d.b.a. Pure-Flo Water Co. SN 132,672. Pub. 5-5-64. Filed 11-24-61.

773,754. NUTRI-COLA. Pat Scarlato, d.b.a. Blair & Co. SN 145,483. Pub. 5-5-64. Filed 5-25-62.

Class 46—Foods and Ingredients of Foods

773,755. VIM AND DESIGN. P & C Food Markets, Inc. SN 119,411. Pub. 5-5-64. Filed 5-5-61.

773,756. MARUKAN. Marukan Vinegar Co., Ltd., by change of name from Sasada Shoten Co., Ltd. SN 124,590. Pub. 5-5-64. Filed 7-24-61.

773,757. HI-ENERGEE. Pay Way Feed Mills, Inc. SN 147,617. Pub. 5-5-64. Filed 6-25-62.

773,758. PAGE & SHAW. New England Confectionery Company, d.b.a. Page & Shaw. SN 148,410. Pub. 5-5-64. Filed 7-5-62.

773,759. SCUPPADINE. John Wagner & Sons, Inc. SN 151,450. Pub. 5-5-64. Filed 8-17-62.

773,760. SOUR SUPREEME. Gaymont Laboratories, Inc. SN 156,400. Pub. 5-5-64. Filed 11-1-62.

773,761. DESIGN OF A MIXING BOWL AND SPOON. United Biscuit Company of America. SN 158,403. Pub. 5-5-64. Filed 12-3-62.

773,762. BRAE BURN. H. P. Hood & Sons, Inc. SN 159,586. Pub. 5-5-64. Filed 12-21-62.

773,763. WOLVERINE. Kermit O. Pike, d.b.a. Martin Elevator Company. SN 164,352. Pub. 5-5-64. Filed 3-11-63.

773,764. MERTASTE. Merck & Co., Inc. SN 166,649. Pub. 5-5-64. Filed 4-12-63.

773,765. FAMILY. Jenkins Brothers, Inc. SN 166,806. Pub. 5-5-64. Filed 4-16-63.

773,766. MARIQUITAS. National Food Industries, Inc. SN 168,839. Pub. 5-5-64. Filed 5-14-63.

773,767. RAZ-MOR. Joseph A. Grant, d.b.a. Raz-Mor Products Co. SN 171,012. Pub. 5-5-64. Filed 6-14-63.

773,768. DOROTHY DUNCAN. Safeway Stores, Incorporated, d.b.a. Svenska Products Company. SN 171,575. Pub. 5-5-64. Filed 6-21-63.

773,769. DRI-TEX. The Capital City Products Company. SN 172,567. Pub. 1-14-64. Filed 7-8-63.

773,770. WHAMBURGER. Standard Market Company. SN 174,450. Pub. 5-5-64. Filed 8-5-63.

773,771. KELLER'S DELICIOUS—IT'S THE FLAVOR AND DESIGN. William Keller, d.b.a. William Keller Company. SN 174,874. Pub. 5-5-64. Filed 8-12-63.

773,772. HUSHBURGER. William E. Burrows, d.b.a. W. E. Burrows. SN 175,076. Pub. 5-5-64. Filed 8-13-63.

773,773. POPCAKE. American Home Products Corporation. SN 176,869. Pub. 5-5-64. Filed 9-13-63.

773,774. BETSY BURRY. The Quaker Oats Company. SN 177,810. Pub. 5-5-64. Filed 9-26-63.

773,775. SOCIETY HILL. Heritage House Products, Inc. SN 178,001. Pub. 5-5-64. Filed 9-30-63.

773,776. RIVER QUEEN IS THE NUTS! John W. Leavitt Company. SN 178,062. Pub. 5-5-64. Filed 9-27-63.

773,777. NOON HOUR. Noon Hour Food Products, Inc. SN 178,559. Pub. 5-5-64. Filed 10-8-63.

773,778. CHECKERBOARD FARMS. Ralston Purina Company. SN 178,735. Pub. 5-5-64. Filed 10-10-63.

773,779. GAY PANTRY. Stroehmann Brothers Company. SN 178,745. Pub. 5-5-64. Filed 10-10-63.

773,780. US AND DESIGN. United Suppliers, Inc. SN 181,935. Pub. 5-5-64. Filed 11-26-63.

773,781. CANDY CANE. Beech-Nut Life Savers, Inc., d.b.a. Beech-Nut. SN 181,953. Pub. 5-5-64. Filed 11-27-63.

773,782. GUM-FETTI. Beech Nut Life Savers, Inc., d.b.a. Beech-Nut. SN 181,954. Pub. 5-5-64. Filed 11-27-63.

773,783. BELLINGRATH. Colonial Seafood, Inc. SN 181,960. Pub. 5-5-64. Filed 11-27-63.

773,784. DEXTROSWEET. Corn Products Company. SN 181,962. Pub. 5-5-64. Filed 11-27-63.

773,785. WOODLAWN AND GROTESQUE FIGURE. Dolly Madison Foods, Inc., d.b.a. Woodlawn Farm Dairy Co. SN 181,969. Pub. 5-5-64. Filed 11-27-63.

773,786. YAK AND DESIGN. Roche Fruit Co., Inc., d.b.a. W. E. Roche Fruit Co. SN 182,116. Pub. 5-5-64. Filed 11-29-63.

773,787. HERITAGE HOUSE. Heritage House Products, Inc. SN 182,178. Pub. 5-5-64. Filed 12-2-63.

773,788. HERITAGE HOUSE AND DESIGN. Heritage House Products, Inc. SN 182,179. Pub. 5-5-64. Filed 12-2-63.

773,789. JELL-O. General Foods Corporation. SN 182,324. Pub. 5-5-64. Filed 12-4-63.

773,790. STATE PRIDE AND DESIGN. State Poultry Company, Inc. SN 182,512. Pub. 5-5-64. Filed 12-6-63.

773,791. CECIL'S AND DESIGN. Cecil Foods, Inc. SN 182,706. Pub. 5-5-64. Filed 12-10-63.

Class 47—Wines

773,792. CHATEAU PRIEURE-LICHINE. S.A. de Château Prieuré Lichine. SN 169,576. Pub. 5-5-64. Filed 5-23-63.

773,793. PAUL MASSON AND DESIGN. Paul Masson, Inc., d.b.a. Paul Masson, and Paul Masson Vineyards. SN 170,085. Pub. 5-5-64. Filed 5-31-63.

773,794. HURRICANE. E. & J. Gallo Winery. SN 177,509. Pub. 5-5-64. Filed 9-23-63.

Class 48—Malt Beverages and Liquors

773,795. BERGHOFF 1887 AND DESIGN. Glaser's Wholesale Drug Company, Inc. SN 178,189. Pub. 5-5-64. Filed 10-2-63.

Class 49—Distilled Alcoholic Liquors

773,796. HARROGATE. Schenley Distillers, Inc. SN 178,046. Pub. 5-5-64. Filed 9-30-63.

773,797. SAXON. Schenley Distillers, Inc. SN 178,048. Pub. 5-5-64. Filed 9-30-63.

773,798. THREADNEEDLE. Schenley Distillers, Inc. SN 178,050. Pub. 5-5-64. Filed 9-30-63.

773,799. HIGH STREET. Schenley Distillers, Inc. SN 178,051. Pub. 5-5-64. Filed 9-30-63.

Class 50—Merchandise Not Otherwise Classified

773,800. D-C-FIX. Konrad Hornschuch Aktiengesellschaft Werk Weissbach. SN 158,851. Pub. 5-5-64. Filed 12-3-62.

773,801. ALFCO. Artistic Latex Form Co., Inc. SN 166,562. Pub. 5-5-64. Filed 5-10-63.

773,802. PATA-CAKE ETC. AND DESIGN. F. W. Woolworth Co. SN 172,024. Pub. 5-5-64. Filed 6-27-63.

773,803. RANCH LADDER AND DESIGN. R. D. Werner Co., Inc. SN 173,306. Pub. 5-5-64. Filed 7-18-63.

773,804. GROOMETTE. The Kiwi Polish Company Proprietary Limited. SN 176,005. Pub. 5-5-64. Filed 8-29-63.

773,805. HOLMES AND DESIGN. The Randolph-Holmes Corporation. SN 178,817. Pub. 5-5-64. Filed 10-11-63.

773,806. CENTRE-LOK. Container Corporation of America. SN 179,320. Pub. 5-5-64. Filed 10-18-63.

773,807. PERMALIFE. Sterneo Industries, Inc. SN 179,823. Pub. 5-5-64. Filed 10-25-63.

773,808. FRIGI-SEAL. Owens-Illinois Glass Company. SN 181,269. Pub. 5-5-64. Filed 11-15-63.

773,809. ALUMA-PLANK. R. D. Werner Co., Inc. SN 181,286. Pub. 5-5-64. Filed 11-15-63.

773,810. SHOE BLOTTER. American Mat Corporation (Ohio corporation), assignee of American Mat Corporation (Delaware corporation). SN 181,831. Pub. 5-5-64. Filed 11-26-63.

773,811. DURASEAL. Smith-Lee Co., Inc. SN 182,124. Pub. 5-5-64. Filed 11-29-63.

Class 51—Cosmetics and Toilet Preparations

773,812. COIFFURE NET AND DESIGN. Jack M. Scott, d.b.a. National Beauty Products Company. SN 150,001. Pub. 5-5-64. Filed 12-12-62.

773,813. AUDREY. Feinseifenwerk Walter Rau & Company. SN 168,130. Pub. 5-5-64. Filed 8-26-63.

773,814. HERMES. Hermes S.A. SN 171,545. Pub. 5-5-64. Filed 6-21-63.

773,815. BUCCANEER. The House for Men, Inc., d.b.a. Treasure Island Company. SN 174,867. Pub. 5-5-64. Filed 8-12-63.

773,816. ROYAL CROWN. J. Strickland & Co. SN 177,567. Pub. 4-28-64. Filed 9-23-63.

773,817. REGENAL. The Wella Corporation. SN 177,829. Pub. 5-5-64. Filed 9-26-63.

773,818. MONDAY'S CHILD. Hazel Bishop Inc. SN 177,955. Pub. 5-5-64. Filed 9-30-63.

773,819. ENDURA. Hazel Bishop Inc. SN 177,956. Pub. 5-5-64. Filed 9-30-63.

773,820. SURF. John H. Breck, Inc. SN 178,097. Pub. 5-5-64. Filed 10-1-63.

Class 52—Detergents and Soaps

773,821. SEA MIST INSIDE 'N' OUTSIDE. Trager Manufacturing Company. SN 140,778. Pub. 5-5-64. Filed 3-26-62.

773,822. BRITE-SO. The Tri-State Laundry Supply Company. SN 167,062. Pub. 5-5-64. Filed 4-18-63.

773,823. ULTIMATE AND DESIGN. The W. C. Bonner Co., Inc. SN 167,862. Pub. 5-5-64. Filed 5-1-63.

773,824. AUDREY. Feinseifenwerk Walter Rau & Company. SN 168,129. Pub. 5-5-64. Filed 8-26-63.

773,825. KEEVER AND DESIGN. The Keever Starch Company, d.b.a. The Keever Company. SN 171,258. Pub. 5-5-64. Filed 6-18-63.

773,826. TM-3. L. W. Ferdinand & Company, Inc., assignee of Winfield Brooks Company, Inc. SN 173,587. Pub. 5-5-64. Filed 7-22-63.

773,827. HY STRIP. L. W. Ferdinand & Company, Inc., assignee of Winfield Brooks Company, Inc. SN 173,588. Pub. 5-5-64. Filed 7-22-63.

773,828. MR. PAUL. Borun Bros. SN 174,161. Pub. 5-5-64. Filed 8-1-63.

773,829. CLOUT. Economics Laboratory, Inc. SN 175,179. Pub. 5-5-64. Filed 8-16-63.

773,830. WINDO-MAID. Speco, Inc. SN 177,557. Pub. 5-5-64. Filed 9-23-63.

Service Marks

Class 100 — Miscellaneous

773,831. DINA-GRADE. Macklin Company. SN 134,139. Pub. 5-5-64. Filed 12-15-61.

773,832. PRINTING INDUSTRY OF WASHINGTON 1914 AND DESIGN. Printing Industry of Washington, D.C. Inc. SN 150,099. Pub. 5-5-64. Filed 7-30-62.

773,833. NATIONAL MOTOR CLUB NMC AND DESIGN. National Motor Club, Inc. SN 162,182. Pub. 5-5-64. Filed 2-6-63.

773,834. F AND DESIGN. Flockhart Foundry Company. SN 164,615. Pub. 5-5-64. Filed 3-14-63.

Class 101 — Advertising and Business

773,835. KG AND DESIGN. Kelly Girl Service, Inc. SN 165,335. Pub. 5-5-64. Filed 3-25-63.

773,836. ARROW AND CIRCLE (DESIGN). Henry Lavin Associates, Inc. SN 166,293. Pub. 5-5-64. Filed 4-8-63.

773,837. AMERICAN GIRL. American Girl Service, Inc. SN 170,876. Pub. 5-5-64. Filed 6-13-63.

773,838. SHAMROCK. O. O. Seagrave. SN 171,046. Pub. 5-5-64. Filed 6-14-63.

773,839. H & R BLOCK. H & R Block, Inc. SN 172,148. Pub. 5-5-64. Filed 7-1-63.

773,840. DATE-MATE. Promotional Sales, Inc. SN 174,708. Pub. 5-5-64. Filed 8-8-63.

Class 102 — Insurance and Financial

773,841. LAURENTIDE FINANCE AND DESIGN. Laurentide Finance Corporation of America, assignee of Laurentide Finance Corporation of California. SN 141,083. Pub. 5-5-64. Filed 3-29-62.

Class 103 — Construction and Repair

773,842. SPARKLE HOUSE AND DESIGN. May Way Sales Company. SN 151,771. Pub. 5-5-64. Filed 8-23-62.

773,843. ROUND TH' CLOK AND DESIGN. Cleanamation, Inc. SN 163,812. Pub. 5-5-64. Filed 3-4-63.

773,844. OTIS. Otis Elevator Company. SN 163,860. Pub. 5-5-64. Filed 3-4-63.

773,845. NADCO. North American Drilling Company. SN 173,034. Pub. 5-5-64. Filed 7-15-63.

Class 105 — Transportation and Storage

773,846. GASTOWN. Gastown, Inc. of Delaware, assignee of Gastown, Inc. SN 30,158. Pub. 5-5-64. Filed 5-16-57.

Class 106 — Material Treatment

773,847. CARBITRON. Carbitron Development Ltd. SN 150,392. Pub. 5-5-64. Filed 6-3-62.

Class 107 — Education and Entertainment

773,848. GAC. General Artists Corporation. SN 165,917. Pub. 5-5-64. Filed 4-2-63.

Certification Marks

Class A — Goods

773,849. HCN AND DESIGN. The H. C. Nutting Company. SN 171,908. Pub. 5-5-64. Filed 6-26-63.

773,850. DIAMOND VALUE. Renault, Inc. SN 171,918. Pub. 5-5-64. Filed 6-26-63.

773,851. A DIAMOND VALUE USED CAR. Renault, Inc. SN 171,919. Pub. 5-5-64. Filed 6-26-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 4 — Abrasives and Polishing Materials

773,852. Metal Blast, Inc., Cleveland, Ohio. SN 137,927. Filed P.R. 2-14-62; Am. S.R. 6-14-64.

METALBLAST

For Metal Pellets Used for Shot Blasting.
First use Jan. 5, 1962.

Class 6 — Chemicals and Chemical Compositions

773,853. Addressograph-Multigraph Corporation, Cleveland, Ohio. SN 150,201. Filed P.R. 8-2-62; Am. S.R. 6-12-64.



The mark consists of the configuration of a container in which the goods are sold.
For Chemicals for Use in Planographic Printing or Duplicating.
First use July 2, 1962.

Class 11 — Inks and Inking Materials

773,854. Eaton Allen Corp., Brooklyn, N.Y. SN 167,236. Filed P.R. 4-22-63; Am. S.R. 3-20-64.



For Stamp Pads.
First use Mar. 11, 1963.

Class 12 — Construction Materials

773,855. Brixite Manufacturing Company, Inc., South Kearney, N.J. SN 164,110. Filed P.R. 3-7-63; Am. S.R. 2-10-64.

TU-TONE

For Siding Panels Having an Aluminum Base Coated With Paint for Use in Construction of Residential Houses.
First use Apr. 27, 1953.

773,856. Griffin Pipe Products Co., Wheaton, Ill. SN 175,185. Filed P.R. 8-16-63; Am. S.R. 5-20-64.

GRIFFIN

For Clay Pipe and Clay Wall Coping.
First use Apr. 23, 1962.

Class 18 — Medicines and Pharmaceutical Preparations

773,857. Anderson, Clayton & Co., Houston, Tex. SN 148,250. Filed P.R. 7-6-62; Am. S.R. 5-22-64.

CATTLE-PAC

For Livestock Feed Supplement Containing Vitamins, Minerals and Antibiotics.
First use May 7, 1962.

Class 19 — Vehicles

773,858. American Steel Foundries Incorporated, Chicago, Ill. SN 176,340. Filed 9-9-63.

SLACK-FREE

For Fifth Wheel Coupling Units for Tractor-Trailers.
First use June 15, 1962.

Class 22 — Games, Toys, and Sporting Goods

773,859. R. F. MacDonald Stamp Company, Dayton, Ohio. SN 148,807. Filed P.R. 7-18-62; Am. S.R. 5-18-64.



For Dolls.
First use Dec. 20, 1961.

773,860. Milton Bradley Company, Springfield, Mass. SN 171,848. Filed P.R. 6-26-63; Am. S.R. 5-27-64.

THE HAPPY LITTLE TRAIN GAME

For Equipment Sold as a Unit for Playing a Board Game.
First use Jan. 30, 1960.

Class 26 — Measuring and Scientific Appliances

773,861. Wilkens Instrument & Research, Inc., Walnut Creek, Calif. SN 165,477. Filed P.R. 5-26-63; Am. S.R. 5-12-64.

WILKENS

For Measuring Instruments, and More Particularly, Measuring Instruments in the Gas Chromatography Field.
First use on or about Mar. 16, 1963.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

773,862. The Mansfield Tire & Rubber Company, Mansfield, Ohio. SN 165,797. Filed 1-31-64.

Ranch & Farm

For Passenger, Truck, and Farm Implement Tires.
First use April 1962.

Class 37 — Paper and Stationery

773,863. Ideal Stencil Machine Company, Belleville, Ill. SN 155,605. Filed P.R. 10-24-62; Am. S.R. 5-27-64.

ROLL-EZE

For Stencil Applicator of the Roller Type Containing a Reservoir for Holding Ink.
First use January 1962.

Class 38—Prints and Publications

773,864. Herman F. Hinz, Jr., d.b.a. Hinz Publishing Company, Mount Prospect, Ill. SN 164,644. Filed P.R. 3-18-63; Am. S.R. 5-4-64.



For Greeting Cards.
First use Feb. 5, 1963.

773,865. United Newspapers Magazine Corporation, New York, N.Y. SN 169,797. Filed P.R. 5-27-63; Am. S.R. 5-19-64.

CHARLIE RICE'S PUNCHBOWL

The name "Charlie Rice" is that of a living individual whose consent is of record.
For Syndicated Column or Feature of a Newspaper Magazine Section.
First use June 3, 1962.

773,866. Do-It-Yourself Playhouse-Theatre, New York, N.Y. SN 177,690. Filed P.R. 9-25-63; Am. S.R. 5-6-64.

DO-IT-YOURSELF PLAY SERIES

For Simplified Stage Play Scripts and Instructions for Children.
First use Jan. 15, 1963.

773,867. New York Herald Tribune Inc., New York, N.Y. SN 179,057. Filed P.R. 10-15-63; Am. S.R. 5-15-64.

BOOK WEEK

For Syndicated Newspaper Supplement.
First use Sept. 15, 1963.

Class 39—Clothing

773,868. Sue Brett, Inc., New York, N.Y. SN 157,598. Filed P.R. 11-20-62; Am. S.R. 4-15-64.

MISS TRACY

For Women's and Misses' Dresses.
First use Aug. 1, 1961.

773,869. Tropical Garment Manufacturing Company, Tampa, Fla. SN 166,762. Filed P.R. 4-15-63; Am. S.R. 5-18-64.

SHAKESPEARE

For Men's and Boys' Trousers, Walking Shorts, and Slacks.
First use Apr. 4, 1963.

Class 46—Foods and Ingredients of Foods

773,870. Lauritsen and Company, Inc., Chicago, Ill. SN 122,329. Filed P.R. 6-19-61; Am. S.R. 2-10-64.

PROVEN IN PRODUCTION

For Powdered Milk Fortified With Added Proteins, Minerals, and Enzymes; and Dried Egg With Added Anti-Oxidants, Which Goods Have Been Sold Only to the Baking Industry.
First use Feb. 16, 1961.

773,871. Associated Products, Inc., Chicago, Ill. SN 149,211. Filed P.R. 7-17-62; Am. S.R. 12-16-63.

MEDIUM RARE

For Dog Food.
First use April 1961.

773,872. The Wall-Rogalsky Milling Company, McPherson, Kans. SN 150,986. Filed P.R. 8-10-62; Am. S.R. 5-19-64.



The drawing is lined for the color blue, but no claim is made to color.
For Special Leavening Ingredients Incorporated in Self-Rising Flour.
First use Apr. 1, 1962.

773,873. Clifford Horncastle, Hamilton, Ontario, Canada. SN 155,813. Filed P.R. 10-22-62; Am. S.R. 5-13-64.

SANTA

Owner of Canadian Reg. No. 122,829, dated July 14, 1961.
For Children's Hard Candies for Sucking, Specifically Candies for Sucking and Mounted Upon Sticks.

773,874. Sioux Honey Association, Cooperative, Sioux City, Iowa. SN 166,236. Filed P.R. 3-21-63; Am. S.R. 5-5-64.

FLORIDA MAID

For Honey.
First use Mar. 13, 1963.

773,875. Hartz Mountain Products Corp., New York, N.Y. SN 176,910. Filed P.R. 9-13-63; Am. S.R. 2-14-64.

CHEW-BAR

For Dog Food.
First use Nov. 6, 1961.

773,876. Hartz Mountain Products Corp., New York, N.Y. SN 176,911. Filed P.R. 9-13-63; Am. S.R. 2-14-64.

KEET-KAKE

For Mineral Food Blocks for Birds.
First use Feb. 8, 1954.

773,877. Milani Foods, Inc., Los Angeles, Calif. SN 179,052. Filed 10-15-63.



The mark consists of an hourglass-shaped bottle with the cap attached thereto and with spaces (shown in outline) for two labels to be affixed to the bottle. One space is for a neck-band label and the other for an hourglass-shaped label.
For Salad Dressings.
First use August 1960.

773,878. J. S. Ramos, d.b.a. Ramos Shrimp Company, Bayou La Batre, Ala. SN 163,166. Filed P.R. 12-17-63; Am. S.R. 4-9-64.

ALABAMA BRAND

For Raw Frozen Shrimp.
First use Jan. 11, 1962.

Class 47—Wines

773,879. Societe St. Raphael, Paris, France. SN 159,615. Filed P.R. 12-21-62; Am. S.R. 5-8-64.



The mark consists of the conformation of a bottle used as the container for applicant's product. Owner of French Reg. No. 497,081, dated June 15, 1961 (Paris); Natl. Inst. No. 166,521.
For Wines.
First use January 1961; in commerce Aug. 1, 1962.

Class 49—Distilled Alcoholic Liquors

773,880. J. & F. Martell, Inc., New York, N.Y. SN 162,282. Filed 12-3-63.



For Brandy.
First use September 1962.

Class 50—Merchandise Not Otherwise Classified

773,881. Shell Arts Co., Hollywood, Calif. SN 131,868. Filed P.R. 11-13-61; Am. S.R. 6-1-64.

SHELL-CRAFT *Products*

Applicant makes no claim to the word "Products" alone.
For Decorative Shell Products Formed in Whole or in Part of the Genuine Sea Shells.
First use 1952.

773,882. Adler Enterprises, Inc., Glencoe, Ill. SN 155,122. Filed P.R. 10-15-62; Am. S.R. 5-27-64.

TRU-TREE-TRUNK

For Molded Plastic Support Structure for Making Artificial Foliage Displays and Sold as Such.
First use on or about Oct. 3, 1962.

Class 51—Cosmetics and Toilet Preparations

773,883. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 143,546. Filed P.R. 5-1-62; Am. S.R. 5-25-64.

PINK PONG

No claim is made to the word "Pink" as a cosmetic color designation, or apart from the specific association shown.
For Lipstick.
First use Mar. 19, 1962.

773,884. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,712. Filed P.R. 5-29-62; Am. S.R. 5-25-64.

HONEY DEW

For Cosmetics—Namely, Eye Shadow.
First use May 11, 1962.

773,885. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,713. Filed P.R. 5-29-62; Am. S.R. 5-25-64.

SLAPPING PINK

No claim is made to the word "Pink" as a cosmetic color designation, or apart from the specific association shown.
For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

773,886. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,714. Filed P.R. 5-29-62; Am. S.R. 5-25-64.

WILLOW BLUE

No claim is made to the word "Blue" as a cosmetic color designation, or apart from the specific association shown.
For Cosmetics—Namely, Eye Shadow.
First use May 11, 1962.

773,887. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,716. Filed P.R. 5-29-62; Am. S.R. 5-25-64.

TAINT RED

No claim is made to the word "Red" as a cosmetic color designation, or apart from the specific association shown.
For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

773,888. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Hollywood, Calif. SN 147,610. Filed P.R. 6-25-62; Am. S.R. 5-25-64.

TWIX

For Cosmetics—Namely, Eye Shadow.
First use June 8, 1962.

773,889. The Noxzema Chemical Company, Baltimore, Md. SN 160,204. Filed P.R. 1-4-63; Am. S.R. 4-13-64.

FOCUS-ON PEACH

For Lipsticks.
First use Dec. 18, 1962.

Class 52 — Detergents and Soaps

773,890. Maud Brink, d.b.a. Paul F. Brink and Brink's Drug Store, Kansas City, Mo. SN 140,628. Filed P.R. 3-26-62; Am. S.R. 1-24-64.

WATCH CLEAN

For Solution for Cleaning Components of Time Keeping Equipment.
First use 1946.

Service Mark

Class 100 — Miscellaneous

773,891. McDonald's Corporation, Chicago, Ill. SN 143,739. Filed P.R. 3-1-63; Am. S.R. 5-6-64.



The drawing is lined for yellow, red and green. Applicant claims exclusive right to "Hamburgers" and "Over 700 Million Served" as a part of its service mark, but not otherwise.
For Restaurant Services.
First use on or about Sept. 25, 1962.

TRADEMARK REGISTRATIONS RENEWED

180,584. ITEM. Cl. 37. 3-4-24.
183,763. SEQUOIA. Cl. 46. 5-6-24.
184,082. VIVANTE. Cl. 51. 5-20-24.
184,149. DUROBAR. Cl. 13. 5-20-24.
184,171. ARMORCLAD. Cl. 37. 5-20-24.
184,174. HAWTHORN. Cl. 1. 5-20-24.
184,192. AZTEC. Cl. 8. 5-20-24.
184,330. PARA. Cl. 6. 5-20-24.
185,271. SEAL OF QUALITY AND DESIGN. Cl. 46. 6-10-24.
186,025. LEUKANOL. Cl. 6. 7-1-24.
186,911. VALENTINE'S. Cl. 46. 7-22-24.
188,066. CORT AND DESIGN. Cl. 39. 8-19-24.
188,089. NESTLE. Cl. 46. 8-19-24.
188,113. REPRESENTATION OF A LOOM PICKER. Cl. 23. 8-19-24.
188,495. POLAR. Cl. 46. 8-26-24.
188,703. GOLD BRICK. Cl. 46. 9-2-24.
189,084. SOUTH LAKE. Cl. 46. 9-9-24.
190,012. SUNRISE EDITION AND DESIGN. Cl. 38. 9-30-24.
190,187. CENTURY. Cl. 26. 10-7-24.
190,300. ALCOLO. Cl. 6. 10-14-24.
190,701. GOOD HUMOR. Cl. 46. 10-21-24.
190,853. "TUFSTA." Cl. 50. 10-28-24.
190,860. IMPERIAL CHROME ORE. Cl. 12. 10-28-24.
190,872. USP AND DESIGN. Cl. 46. 10-28-24.
190,940. CARBOVAR. Cl. 16. 10-28-24.
191,251. REPRESENTATION OF A HERALD. Cl. 37. 11-4-24.
191,425. PAPEREX. Cl. 37. 11-11-24.
191,820. ROBINSON CRUSOE. Cl. 46. 11-18-24.
406,606. VERSINE. Cl. 51. 4-11-44.
406,680. DRENE. Cl. 52. 4-18-44.
406,910. COLORGRAPH. Cl. 37. 5-9-44.
406,930. CALADIUM. Cl. 16. 5-9-44.
407,005. DEEP SEA AND DESIGN. Cl. 46. 5-16-44.
407,155. LIGHTNIN AND DESIGN. Cl. 23. 5-23-44.
407,167. COBBLETS. Cl. 39. 5-23-44.
407,180. CARPENTER NO. 158. Cl. 14. 5-23-44.
407,183. HAVILAND AND DESIGN. Cl. 46. 5-23-44.
407,209. RESISTOL SELF-CONFORMING. Cl. 39. 5-23-44.
407,210. RESISTOL SELF-CONFORMING THE MOST COMFORTABLE HAT MADE. Cl. 39. 5-23-44.
407,242. WANALYN. Cl. 39. 5-23-44.

407,250. WELGROOM. Cl. 40. 5-23-44.
407,331. APW AND DESIGN. Cl. 14. 5-30-44.
407,337. PARTEMP. Cl. 12. 5-30-44.
407,655. CARRIER. Cl. 37. 6-20-44.
408,691. DESIGN OF A CROSS. Cl. 39. 9-26-44.
409,164. DESIGN OF PILGRIMS HEAD. Cl. 26. 9-19-44.
409,169. BEAU MONDE. Cl. 46. 9-19-44.
409,392. ENKA. Cl. 43. 10-3-44.
409,488. R & H AND DESIGN. Cl. 16. 10-10-44.
409,520. WEAR PLUS AND DESIGN. Cl. 39. 10-10-44.
409,656. ETERNALITE. Cl. 2. 10-17-44.
409,678. R & H AND DESIGN. Cl. 1. 10-17-44.
409,686. SUNDURE. Cl. 16. 10-17-44.
409,717. BLONKITA. Cl. 42. 10-17-44.
409,719. THRILLER. Cl. 42. 10-17-44.
409,848. DITHANE. Cl. 6. 10-24-44.
409,859. SAPOLIN AND DESIGN. Cl. 16. 10-24-44.
410,081. PLASTIX. Cl. 37. 11-7-44.
410,187. TEXFOAM. Cl. 1. 11-14-44.
410,198. R & H AND DESIGN. Cl. 5. 11-14-44.

TRADEMARK REGISTRATIONS CANCELED

Section 8

282,239. FOOT JOY AND DESIGN. Cl. 39. 4-14-31.
288,411. FLORASINTH ETC. AND DESIGN. Cl. 46. 8-25-31.
351,948. SINCERELY YOURS SANDY NEVIN AND DESIGN. Cl. 39. 11-16-37.
353,583. THE MARKET DATA BOOK. Cl. 36. 1-11-38.
370,008. HEPLEX. Cl. 23. 8-15-39.
388,837. TOP TO BOTTOM INSUL-MASTIC AND DESIGN. Cl. 12. 8-26-41.
436,210. FLASH PATCH. Cl. 12. 4-13-48.
444,711. AJAX 88. Cl. 12. 8-5-52.

The following registrations issued June 8, 1938

662,388. POLYFILM AND REPRESENTATION OF A PARROT. Cl. 1.
662,391. CRISTOFORO COLOMBO AND DESIGN. Cl. 1.
662,392. CINDERELLA'S MUSICAL FLOWERS. Cl. 1.
662,396. GALEX PELLETS AND DESIGN. Cl. 1.
662,398. SKYE. Cl. 1.
662,404. STRUM-A-GUITAR. Cl. 2.
662,405. SS AND DESIGN. Cl. 3.
662,418. MAYFLOWER. Cl. 7.
662,419. ROPEMATES. Cl. 7.
662,421. PREMIER. Cl. 9.
662,429. PLACE ENGINEERED AND DESIGN. Cl. 12.
662,433. TRAK-SCREEN. Cl. 12.
662,434. SEAL-O-PANE. Cl. 12.
662,435. SOILCRETE. Cl. 12.
662,436. JOANIT. Cl. 12.
662,445. JEWELTONE. Cl. 13.
662,449. SANITOL. Cl. 13.
662,457. CARILUB. Cl. 15.
662,458. CONOCO AND DESIGN. Cl. 15.
662,472. NEMBU-HARMONYL. Cl. 18.
662,475. MUROCOLL. Cl. 18.
662,476. ACTIV 6 AND DESIGN. Cl. 18.
662,491. PC. Cl. 19.
662,497. POLYMARINE. Cl. 19.
662,500. DESIGN OF DIAMOND AND WINGS. Cl. 21.
662,502. POWER BUFF. Cl. 21.
662,508. LANGEVIN. Cl. 21.
662,514. CADDY-CANE. Cl. 22.
662,515. DILLY DOLL. Cl. 22.
662,516. MYSTIC. Cl. 22.
662,517. TROPANA AND DESIGN. Cl. 23.
662,521. HORTON CHUCK AND DESIGN. Cl. 23.
662,522. GIANT GRIP. Cl. 23.
662,524. SHAMROCK. Cl. 23.
662,527. WILLCO VETOR AND DESIGN. Cl. 23.
662,529. PEERLESS FUTURE-MATIC AND DESIGN. Cl. 25.
662,530. MO-HO. Cl. 23.
662,531. COLE-VAC. Cl. 23.
662,534. TRACTO RIPPER. Cl. 23.
662,536. SQUEE-TEE. Cl. 23.
662,537. HOWRY-BERG. Cl. 23.
662,547. DIRECTOR. Cl. 26.
662,557. STAR OF FREYUNG. Cl. 28.
662,565. BEN HUR ETC. Cl. 31.
662,567. SAFETY GRILLE. Cl. 31.
662,569. MATTSON MODERN OAKMASTERS AND DESIGN. Cl. 32.
662,570. E-Z-S. Cl. 32.
662,577. FLAIRCHAIR. Cl. 33.
662,583. OIL-O-MATIC ETC. AND DESIGN. Cl. 34.
662,593. FLECO. Cl. 37.
662,603. MIND YOUR MONEY. Cl. 38.
662,604. PARENTS' CORNER. Cl. 38.
662,606. MONGOLITO. Cl. 39.
662,614. MORCHROME. Cl. 39.
662,616. SWING OVER COTTONS. Cl. 39.
662,622. COVENTRY AND DESIGN. Cl. 39.
662,625. GOLD RIBBON. Cl. 39.
662,629. GOLFER BY DARON. Cl. 39.
662,635. FONTA LIFETIME. Cl. 40.
662,640. MOBILITY. Cl. 42.
662,642. PRIDE OF THE SPINDLE. Cl. 42.
662,643. CDS. Cl. 42.
662,644. NYCOOL. Cl. 42.
662,646. SPRINGHILL. Cl. 42.
662,652. CWS DELUXE SEAMLESS AND DESIGN. Cl. 44.
662,672. BULL'S EYE. Cl. 46.
662,673. UNION. Cl. 46.
662,674. P & R'S. Cl. 46.
662,676. CHARMAINE. Cl. 46.
662,680. VITAPON. Cl. 46.
662,681. VITABICHUELA. Cl. 46.
662,695. JEWELSEAL. Cl. 51.
662,699. COLESE. Cl. 51.
662,700. SUMMER-SETT. Cl. 51.
662,703. FEDERAL LEASING CORP. AND DESIGN. Cl. 100.
662,705. BRAKE HOSPITAL AND DESIGN. Cl. 108.
662,708. TRI CITY TOWN HALL. Cl. 107.
662,711. MAGNECOATED. Cl. 4.
662,713. NOMAR. Cl. 14.
662,714. MAECKER AND DESIGN. Cl. 21.
662,716. BUTT'N-OUT. Cl. 32.
662,719. BLACK PLUME. Cl. 37.
662,721. SUN-TESTED. Cl. 37.
662,723. TIE-LOCK. Cl. 39.
662,725. LA FEMME LINGERIE. Cl. 39.
662,728. KENDALL. Cl. 42.

Section 18

205,765. PLAZA. Cl. 46. 11-17-25.
408,874. ELMWOOD FARM. Cl. 46. 6-29-44.
441,218. "FEMME." Cl. 39. 11-2-48.
544,966. METAL-WORKING. Cl. 38. 7-10-51.
594,969. ELEGANTE. Cl. 39. 9-7-54.
632,719. METAL-WORKING. Cl. 38. 8-14-56.
662,066. MO-LEK. Cl. 15. 7-21-59.
726,705. TORQUOMETER. Cl. 26. 1-23-62.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

595,764. STANPAK QUALITY AND DESIGN. Cl. 2. 9–28–54. Standard Packaging Corporation, Chicago, Ill. Amended: In the statement, column 2, line 3, after "cartons" *except folding paper boxes and cartons* is inserted.

598,922. STANPAC AND DESIGN. Cl. 2. 12–7–54. Standard Packaging Corporation, Chicago, Ill. Amended: In the statement, column 2, line 1, after "cartons" *except folding paper boxes and cartons* is inserted.

621,986. PRAIRIE PRIDE. Cl. 7. 2–28–56. N.V. Verenigde Touwfabrieken, Rotterdam, Netherlands. Amended: In the statement, column 2, line 3 is deleted, and the drawing is amended to appear:

PRAIRIE PRIDE

639,224. LOCKE HOUSETIME GUARANTEED. Cl. 13. 1–1–57. Locke Manufacturing Company, Lodi, Ohio. Amended to appear:

Locke
HOUSETIME
GUARANTEED

658,860. INSTANT HILLS BROS. AND DESIGN. Cl. 46. 2–25–58. Hills Bros. Coffee, Inc., San Francisco, Calif. Amended to appear:

Hills
BROS

714,535. AMERICAN MACHINIST AND DESIGN. Cl. 38. 4–25–61. McGraw-Hill Publishing Company, Inc. McGraw-Hill, Inc., New York, N.Y. Amended to appear:

AMerican
Machinist

760,028. HELIOTEXTIL. Cl. 38. 11–12–63. G. Reis & Bro. Inc., New York, N.Y. Corrected: In the statement, column 2, line 1, after "woven" *and printed* should be inserted.

INDEX OF REGISTRANTS

JULY 21, 1964

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A.I.T. Industries, Inc., Skokie, Ill. 773,482–3, pub. 5–5–64. Cl. 4.
AMP Inc., Harrisburg, Pa. 773,562, pub. 5–5–64. Cl. 21.
AMT Corp., Troy, Mich. 773,570, pub. 5–5–64. Cl. 22.
Abbott Laboratories: *See*—
Milliken, John T., & Co.
Abbott Laboratories, North Chicago, Ill. 662,472, canc. Cl. 18.
Abrasive Co. of America, Omaha, Nebr. 662,711, canc. Cl. 4.
Acid-eze Co.: *See*—
Horton, A. Allen.
Acromark Co., The: *See*—
Bates, Harold O.
Addressograph-Multigraph Corp., Cleveland, Ohio. 773,853. Cl. 6.
Adler Enterprises, Inc., Glencoe, Ill. 773,882. Cl. 50.
Advertising Publications, Inc., Chicago, Ill., and New York, N.Y. 353,533, canc. Cl. 38.
Advertising Publications, Inc., Chicago, Ill. 773,685, pub. 5–5–64. Cl. 38.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 773,631, pub. 5–5–64. Cl. 26.
Air-Vent Aluminum Awning Mfg. Co., Los Angeles, Calif. 773,462, pub. 4–28–64. Cl. 12.
Ajax Floor Products Corp., New York, N.Y. 438,210, canc. Cl. 13.
Ajax Floor Products Corp., New York, N.Y. 444,711, canc. Cl. 13.
Albimi Laboratories, Inc., Flushing, N.Y. 773,421, pub. 5–5–64. Cl. 2.
Alcolac Chemical Corp., Baltimore, Md. 773,443–4, pub. 5–5–64. Cl. 6.
Alcon Laboratories, Inc., Fort Worth, Tex. 773,521, pub. 5–5–64. Cl. 18.
Alexander Paper Co., Philadelphia, Pa. 773,671, pub. 5–5–64. Cl. 37.
Allen-Sherman-Hoff Co., The, Wyunnewood, Pa. 773,659–61, pub. 5–5–64. Cl. 34.
American Biltrite Rubber Co., Inc., Trenton, N.J. 773,542, pub. 5–5–64. Cl. 20.
American Can Co., New York, N.Y. 773,408, pub. 5–5–64. Cl. 2.
Amerace Corp., New York, N.Y. 773,730, pub. 5–5–64. Cl. 40.
American Cyanamid Co., Wayne, N.J. 773,439, pub. 5–5–64. Cl. 6.
American Cyanamid Co., Wayne, N.J. 773,534, pub. 5–5–64. Cl. 18.
American Cyanamid Co., Wayne, N.J. 773,434, pub. 5–5–64. Cl. 5.
American Enka Corp., Enka, N.C. 409,392, ren. 7–21–64. Cl. 43.
American Foam Rubber Corp., Burlington, N.J. 662,716, canc. Cl. 22.
American Girl Service, Inc., Wilmington, Del. 773,837, pub. 5–5–64. Cl. 101.
American Grease Stick Co., Muskegon Heights, Mich. 773,502, pub. 5–5–64. Cl. 15.
American Home Products Corp., New York, N.Y. 773,523, pub. 5–5–64. Cl. 18.
American Greetings Corp., Cleveland, Ohio. 773,675, pub. 5–5–64. Cl. 37.
American Heritage Publishing Co., Inc., New York, N.Y. 773,695, pub. 5–5–64. Cl. 38.
American Home Products Corp., New York, N.Y. 773,775, pub. 5–5–64. Cl. 46.
American Luggage Works, Inc., Warren, R.I. 773,435, pub. 5–5–64. Cl. 3.
American Mat Corp., from American Mat Corp., Toledo, Ohio. 773,810, pub. 5–5–64. Cl. 50.
American Optical Co., Southbridge, Mass. 773,747–8, pub. 5–5–64. Cl. 44.
American Platinum Works, The, to Engelhard Industries, Inc., Newark, N.J. 407,331, ren. 7–21–64. Cl. 14.
American Steel Foundries Inc., Chicago, Ill. 773,858. Cl. 19.
American Writing Paper Co., Holyoke, Mass., to Brown Co., Berlin, N.H. 191,251, ren. 7–21–64. Cl. 37.
Anderson, Clayton & Co., Houston, Tex. 773,857. Cl. 18.
Andersson, John O., Ektorp, near Stockholm, Sweden. 662,436, canc. Cl. 13.
Andrews, Edward, Tools & Machinery Co., Hazel Park, Mich. 773,612, pub. 5–5–64. Cl. 23.
Arcos Corp., Philadelphia, Pa. 773,637, pub. 5–5–64. Cl. 34.
Arkwright Merchandising Corp., New York, N.Y. 773,476, pub. 5–5–64. Cl. 13.
Armour and Co., Chicago, Ill. 662,614, canc. Cl. 39.
Armour and Co., Chicago, Ill. 662,396, canc. Cl. 1.
Arnold's and Chas. Arnold & Sons: *See*—
Arnold, Charles.
Arnold, Charles, d.b.a. Arnold's and Chas. Arnold & Sons, to L. Arnold, Peru, Ind. 188,705, ren. 7–21–64. Cl. 46.
Arnold, Louis: *See*—
Arnold, Charles.
Artistic Latex Form Co., Inc., New York, N.Y. 773,801, pub. 5–5–64. Cl. 50.
Ascher, B. F., & Co., Inc., Kansas City, Mo. 773,527, pub. 5–5–64. Cl. 18.
Ashworth Bros., Inc., Fall River, Mass. 773,563, pub. 5–5–64. Cl. 23.
Associated Products, Inc., Chicago, Ill. 773,871. Cl. 46.
Astro Enterprises Inc., New York, N.Y. 773,410, pub. 5–5–64. Cl. 2.
Atlantic Casting & Engineering Corp., Clifton, N.J. 773,492, pub. 5–5–64. Cl. 14.
Atlantic Lumber Co., The, Boston, Mass. 773,689, pub. 5–5–64. Cl. 38.
Atlas Automotive Products, Inc., Brooklyn, N.Y. 662,705, canc. Cl. 103.
Automatic Devices Co., Allentown, Pa. 773,479–80, pub. 5–5–64. Cl. 13.
Astec Clay Moistener Co., Inc.: *See*—
Leventhal, Myer.
B & W Machine Products Co., Pendleton, Oreg. 773,588, pub. 5–5–64. Cl. 23.
Bard, C. R., Inc., Murray Hill, N.J. 773,522, pub. 5–5–64. Cl. 18.
Bard, C. R., Inc., Murray Hill, N.J. 773,752, pub. 5–5–64. Cl. 44.
Bates, Harold O., d.b.a. The Acromark Co., Elizabeth, N.J. 773,604, pub. 5–5–64. Cl. 23.
Bayuk Cigars Inc., Philadelphia, Pa. 773,420, pub. 5–5–64. Cl. 2.
Becorit-Gesellschaft Wilhelm Beckmann & Co., G.m.b.H., Recklinghausen, Germany. 773,662, pub. 5–5–64. Cl. 35.
Beech-Nut: *See*—
Beech-Nut Life Savers, Inc.
Beech-Nut Life Savers, Inc., d.b.a. Beech-Nut, Canajoharie, N.Y. 773,781–2, pub. 5–5–64. Cl. 46.
Ben-Hur Mfg. Co., Milwaukee, Wis. 662,565, canc. Cl. 31.
Bethlehem Steel Co., Bethlehem, Pa. 773,494, pub. 5–5–64. Cl. 14.
Better Equipment for Electron Microscopy, Inc., Bronx, N.Y. 773,629, pub. 5–5–64. Cl. 26.
Bishop-Conklin Co., The, Los Angeles, Calif., to Devoe & Raynolds Co., Inc., New York, N.Y. 406,930, ren. 7–21–64. Cl. 16.
Bishop, Hasel, Inc., Union, N.J. 773,618–19, pub. 5–5–64. Cl. 51.
Blair & Co.: *See*—
Scariato, Pat.
Blaisdell Pencil Co., Bethayres, Pa. 410,081, ren. 7–21–64. Cl. 37.
Blandin Paper Co., Grand Rapids, Minn. 773,670, pub. 5–5–64. Cl. 37.
Block, H & R, Inc., Kansas City, Mo. 773,839, pub. 5–5–64. Cl. 101.
Bond, Charles, Co., Philadelphia, Pa. 188,113, ren. 7–21–64. Cl. 23.
Bonner, W. C., Co., Inc., The, Watertown, Mass. 773,623, pub. 5–5–64. Cl. 52.
Borun Bros., Los Angeles, Calif. 773,828, pub. 5–5–64. Cl. 52.
Bradley, Milton, Co., Springfield, Mass. 773,564, pub. 5–5–64. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 773,860. Cl. 22.
Breck, John H., Inc., Springfield, Mass. 773,820, pub. 5–5–64. Cl. 51.
Brett, Sue, Inc., New York, N.Y. 773,868. Cl. 39.
Brink, Maud, d.b.a. Paul F. Brink and 'Brink's Drug Store, Kansas City, Mo. 773,890. Cl. 52.
Brink, Paul F.: *See*—
Brink, Maud.
Brink's Drug Store: *See*—
Brink, Maud.
Brixite Mfg. Co., Inc., South Kearney, N.J. 773,855. Cl. 12.
Brooks & Porter, Inc., New York, N.Y. 773,419, pub. 5–5–64. Cl. 2.
Brooks, Winfield, Co., Inc.: *See*—
Ferdinand, L. W., & Co., Inc.
Brown Co.: *See*—
American Writing Paper Co.
Buckeye Ribbon & Carbon Co., The, Cleveland, Ohio. 773,461, pub. 5–5–64. Cl. 11.
Budd Co., The, Philadelphia, Pa., from Curtiss-Wright Corp., Wood-Ridge, N.J. 773,620, pub. 12–17–63. Cl. 26.
Burron Medical Products, Inc., Bethlehem, Pa. 773,749, pub. 5–5–64. Cl. 44.
Burroughs Corp., Detroit, Mich. 662,547, canc. Cl. 26.
Burrows, William E., d.b.a. W. E. Burrows, Billings, Mont. 773,772, pub. 5–5–64. Cl. 46.
Burrows, W. E.: *See*—
Burrows, William E.
Burt, Harry R., Youngstown, Ohio, to Good Humor Corp., Englewood Cliffs, N.J. 190,701, ren. 7–21–64. Cl. 46.
Byer-Rolnick Corp.: *See*—
Byer-Rolnick Co.
Byer-Rolnick Co., to Byer-Rolnick Corp., Garland, Tex. 407,209–10, ren. 7–21–64. Cl. 39.
Cabot Corp.: *See*—
Cabot, Godfrey L., Inc.
Cabin Crafts, Inc., Dalton, Ga. 662,640, canc. Cl. 42.

Cabot, Godfrey L., Inc., to Cabot Corp., Boston, Mass. 190,940, ren. 7–21–64. Cl. 16.
Cadre Industries Corp., Endicott, N.Y. 773,559, pub. 5–5–64. Cl. 21.
California Arms Co., Los Angeles, Calif. 662,421, canc. Cl. 9.
California Texas Oil Corp., New York, N.Y. 773,469, pub. 5–5–64. Cl. 12.
Callaway Mills Co., La Grange, Ga. 773,740, pub. 5–5–64. Cl. 42.
Cam Corp., Greensboro, N.C. 773,628, pub. 5–5–64. Cl. 26.
Canterbury Belts, Ltd., New York, N.Y. 773,712, pub. 5–5–64. Cl. 39.
Canton Cotton Mills, Canton, Ga. 773,710, pub. 5–5–64. Cl. 39.
Cantop, Inc., Bala-Cynwyd, from A. Ralph D'Andrea, Philadelphia, Pa. 773,409, pub. 5–5–64. Cl. 2.
Capital City Products Co., The, Columbus, Ohio. 773,769, pub. 1–14–64. Cl. 46.
Capital Coach Co., Avis, Pa. 773,535, pub. 5–5–64. Cl. 19.
Carbitron Development Ltd., Vancouver, British Columbia, Canada. 773,847, pub. 5–5–64. Cl. 106.
Carlisle Chemical Works, Inc., Reading, Ohio. 773,449, pub. 5–5–64. Cl. 6.
Carpenter Steel Co., The, Reading, Pa. 407,180, ren. 7–21–64. Cl. 14.
Carpenter Steel Co., The, Reading, Pa. 773,500, pub. 5–5–64. Cl. 14.
Carton Closing Corp., Pittsburgh, Pa. 773,484, pub. 5–5–64. Cl. 13.
Casa Cuba Cigar Co., Inc., Tampa, Fla. 773,511, pub. 5–5–64. Cl. 17.
Casey, Patrick M., Carbondale, Pa. 662,392, canc. Cl. I.
Cecil Foods, Inc., Milford, Ind. 773,791, pub. 5–5–64. Cl. 46.
Chaban Enterprises: *See*—
Chaban, Joseph M.
Chaban, Joseph M., d.b.a. Chaban Enterprises, Bensenville, Ill. 773,414, pub. 5–5–64. Cl. 2.
Chain Belt Co., to Rex Chainbelt Inc., Milwaukee, Wis. 184,149, ren. 7–21–64. Cl. 13.
Champion Chemicals, Inc., Odessa, Tex. 773,440–1, pub. 5–5–64. Cl. 6.
Chandon Co., The: *See*—
Lournay, Inc.
Charleston Rubber Co., Charleston, S.C. 773,553, pub. 5–5–64. Cl. 21.
Chemical Paper Mfg. Co., Holyoke, Mass., to Standard Packaging Corp., New York, N.Y. 180,584, ren. 7–21–64. Cl. 37.
Chesapeake Pharmacal Corp., Baltimore, Md. 662,476, canc. Cl. 18.
Chicago Commerical & Specialty Co.: *See*—
Leventhal, Myer.
Chippewa Shoe Co., Chippewa Falls, Wis. 773,714, pub. 5–5–64. Cl. 39.
Chord Symbol Co.: *See*—
Garland, Harold F.
Cincinnati Shaper Co., The, Cincinnati, Ohio. 773,578, pub. 5–5–64. Cl. 23.
Cleanamation, Inc., Anderson, Ind. 773,843, pub. 5–5–64. Cl. 103.
Cobblers, Inc., Los Angeles, Calif., to The United States Shoe Corp., Cincinnati, Ohio. 407,167, ren. 7–21–64. Cl. 39.
Coggin, Thayer, Inc., High Point, N.C. 662,577, canc. Cl. 32.
Coleman Engineering Co., Inc., Los Angeles, Calif. 662,531, canc. Cl. 23.
Colese, Inc., Decatur, Ga. 662,699, canc. Cl. 51.
Colgate-Palmolive Co.: *See*—
Lournay, Inc.
Colonial Seafood, Inc., Pass Christian, Miss. 773,783, pub. 5–5–64. Cl. 46.
Colonial Stores Inc., Norfolk, Va. 773,720, pub. 5–5–64. Cl. 39.
Columbia Mills, Inc., The, Syracuse, N.Y. 662,433, canc. Cl. 12.
Columbia Products Co., Columbia, S.C. 773,546, pub. 5–5–64. Cl. 21.
Columbia Products Co., Columbia, S.C. 773,569, pub. 5–5–64. Cl. 22.
Columbia Products Co., Columbia, S.C. 773,582, pub. 5–5–64. Cl. 23.
Columbia Steel Casting Co., Inc., Portland, Oreg. 773,497, pub. 5–5–64. Cl. 14.
Columbia Minerva Corp., New York, N.Y. 773,743, pub. 5–5–64. Cl. 43.
Commercial Solvents Corp., New York, N.Y. 773,513, pub. 5–5–64. Cl. 18.
Congoleum-Nairn Inc., Kearny, N.J. 773,543, pub. 5–5–64. Cl. 20.
Container Corp. of America, Chicago, Ill. 773,806, pub. 5–5–64. Cl. 50.
Continental Oil Co., Ponca City, Okla. 662,459, canc. Cl. 15.
Cook, H. C., Co., The, Ansonia, Conn. 773,606, pub. 5–5–64. Cl. 23.
Cordis Corp., Miami, Fla. 773,750–1, pub. 5–5–64. Cl. 44.
Corn Products Co., New York, N.Y. 773,784, pub. 5–5–64. Cl. 46.
Corning Leader, Inc., Corning, N.Y. 773,696, pub. 5–5–64. Cl. 38.
Congenic Labs: *See*—
Nethercutt Laboratories.
Costigan, Raymond J., d.b.a. Salem Clock Co., Hartford, Conn. 773,626, pub. 5–5–64. Multiple Class (Classes 26 and 27).
Coventry Knitting Co., Inc., New York, N.Y. 662,622, canc. Cl. 39.
Crane & Breed Casket Co., The, Cincinnati, Ohio. 409,655, ren. 7–21–64. Cl. 2.
Crane Co., Johnstown, Pa. 773,485, pub. 5–5–64. Cl. 13.
Creative Card Co., Chicago, Ill. 773,694, pub. 5–5–64. Cl. 38.
Crompton Co., New York, N.Y. 662,643, canc. Cl. 42.
C-Taru Products, Inc., Brooklyn, N.Y. 773,418, pub. 5–5–64. Cl. 2.
Curtis Companies Inc., Clinton, Iowa. 662,445, canc. Cl. 13.
Curtiss Candy Co., Chicago, Ill., to Hollywood Brands, Inc., Centralia, Ill. 188,495, ren. 7–21–64. Cl. 46.
Curtiss-Wright Corp.: *See*—
Budd Co., The.
Curwood, Inc., New London, Wis. 773,693, pub. 5–5–64. Cl. 37.
Daitch Crystal Dairies, Inc., New York, N.Y. 773,445, pub. 5–5–64. Cl. 6.
Daitch Crystal Dairies, Inc., New York, N.Y. 773,430, pub. 5–5–64. Cl. 4.
Damato, James A., Hanston, Pa. 662,570, canc. Cl. 32.
D'Andrea, A. Ralph: *See*—
Cantop, Inc.
Daron Underwear Corp., New York, N.Y. 662,629, canc. Cl. 39.
Deering Millikan, Inc., New York, N.Y. 773,736, pub. 5–5–64. Cl. 42.
De-Jur-Amsco Corp., Long Island City, N.Y. 773,677, pub. 5–5–64. Cl. 37.
De Luxe Reading Corp., Elizabeth, N.J. 773,572, pub. 5–5–64. Cl. 22.
Deluxe Window Co.: *See*—
Woodard, Roy S.
Devoe & Raynolds Co., Inc.: *See*—
Bishop-Conklin Co., The.
De Walt, Inc., Lancaster, Pa. 662,522, canc. Cl. 23.
Dialight Corp., Brooklyn, N.Y. 773,557, pub. 5–5–64. Cl. 21.
Diamond Tool and Horseshoe Co., Duluth, Minn. 773,608, pub. 5–5–64. Cl. 23.
Diamond Alkali Co., Cleveland, Ohio. 773,442, pub. 5–5–64. Cl. 6.
Diamond Electrical Products, Chicago, Ill. 662,500, canc. Cl. 21.
Diplomat Tie Co., Baltimore, Md. 662,723, canc. Cl. 39.
Division of Jerren Affiliated Companies Ltd.: *See*—
Stuart Sales Engineering Co.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 191,425, ren. 7–21–64. Cl. 37.
Do-It-Yourself Playhouse-Theatre, New York, N.Y. 773,866. Cl. 38.
Dow Chemical Co., The, Midland, Mich. 773,744, pub. 5–5–64. Cl. 43.
Dow Chemical Co., The, Midland, Mich. 773,408, pub. 5–5–64. Cl. 1.
Dumas-Wilson & Co., St. Louis, Mo. 773,530, pub. 5–5–64. Cl. 18.
Dunn-Edwards Corp., Los Angeles, Calif. 773,509, pub. 5–5–64. Cl. 16.
Duro Metal Mfg. Co., Inc., Dallas, Tex. 773,477, pub. 5–5–64. Cl. 13.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 773,458, pub. 5–5–64. Cl. 10.
Dynamit Nobel Aktiengesellschaft, Cologne, Germany. 773,401, pub. 5–5–64. Cl. 1.
East Coast Food Merchants Co., New York, N.Y. 662,680–1, canc. Cl. 46.
Eastpac Paper Converting Co., San Francisco, Calif. 773,674, pub. 5–5–64. Cl. 37.
Eaton Allen Corp., Brooklyn, N.Y. 773,854. Cl. 11.
Eaton Chemical Corp., Detroit, Mich. 773,460, pub. 5–5–64. Cl. 11.
Economics Laboratory, Inc., St. Paul, Minn. 773,839, pub. 5–5–64. Cl. 52.
Eigen, Dorothy, Inc., Chicago, Ill. 773,731, pub. 5–5–64. Cl. 40.
Eisenstadt Mfg. Co., St. Louis, Mo. 409,164, ren. 7–21–64. Cl. 28.
Electra Megadyne, Inc., Los Angeles, Calif. 773,554, pub. 5–5–64. Cl. 21.
Electric Lighting, Inc., Stockton, Calif. 773,548, pub. 5–5–64. Cl. 21.
Electro-Mechanical Research, Inc., d.b.a. Solartron, Inc., Anaheim, Calif. 773,634 pub. 5–5–64. Cl. 26.
Elox Corp., of Michigan, Troy, Mich. 773,545, pub. 5–5–64. Cl. 21.
Engelhard Industries, Inc: *See*—
American Platinum Works, The.
Entech Corp., Des Plaines, Ill. 773,592–3, pub. 5–5–64. Cl. 23.
Essex Wire Corp., Fort Wayne, Ind. 773,858, pub. 5–5–64. Cl. 21.
Everhot Mfg. Co., The, Maywood, Ill. 773,581, pub. 5–5–64. Cl. 23.
Extruders, Inc., Hawthorne, Calif. 662,388, canc. Cl. 1.
Faber-Castell, A. W., Pencil Co., Inc., Newark, N.J. 773,672, pub. 5–5–64. Cl. 37.
Fall River Foundry Co., Inc., Brown Deer, Wis. 773,496, pub. 5–5–64. Cl. 14.
Federal Leasing Corp., Los Angeles, Calif. 662,703, canc. Cl. 100.
Federal Pacific Electric Co., Newark, N.J. 773,635, pub. 5–5–64. Cl. 26.
Federated Department Stores, Inc., New York, N.Y. 773,703, pub. 5–5–64. Cl. 39.
Feinseifenwerk Walter Rau & Co., Stuttgart-Mohringen, Germany. 773,813, pub. 5–5–64. Cl. 51.
Ferdinand, L. W., & Co., Inc., Simsbury, Conn., from Winfield Brooks Co., Inc., Woburn, Mass. 773,826–7, pub. 5–5–64. Cl. 52.
Fesler, Geo. C. V., Co.: *See*—
Fesler, Mary E.
Fesler, Mary E., d.b.a. Geo. C. V. Fesler Co., Montgomery, to Versine Co., Selma, Ala. 406,605, ren. 7–21–64. Cl. 51.

Fibreboard Paper Products Corp., San Francisco, Calif. 773,415, pub. 10–22–63. Cl. 2.
Fidelity Alarm Systems, Inc., Athens, Tenn. 773,551, pub. 5–5–64. Cl. 21.
Fiebelkorn, Hans, d.b.a. Trophy Rasier-Klingenfabrikation Hans Fiebelkorn, Koln-Ostheim, Germany. 662,517, canc. Cl. 23.
Field & Flint Co., Brockton, Mass. 282,239, canc. Cl. 39.
Fieldcrest Mills, Inc., Spray, N.C. 773,563, pub. 5–5–64. Cl. 21.
Filderman, Irving P., Memphis, Tenn. 773,623, pub. 5–5–64. Cl. 26.
Firestone Tire & Rubber Co., The, Akron, Ohio. 407,337, ren. 7–21–64. Cl. 12.
Flagg Tanning Corp., Milwaukee, Wis. 773,400, pub. 5–5–64. Cl. 1.
Fleetwood Co.: *See*—
Maymar, Peter P.
Fletcher Paper Co., Alpena, Mich. 662,593, canc. Cl. 37.
Flockhart Foundry Co., Newark, N.J. 773,834, pub. 5–5–64. Cl. 100.
Flo-Ball Pen Corp., Holland, Mich. 662,719, canc. Cl. 37.
Florasynth Laboratories, Inc., New York, N.Y. 266,411, canc. Cl. 46.
Fontaine, John G.: *See*—
Tel-A-Stop Electronics, Inc.
Foreign Footwear Corp., New York, N.Y. 773,705, pub. 5–5–64. Cl. 39.
Foster Grant Co. Inc., to Foster Grant Co., Inc., Leominster, Mass. 407,250, ren. 7–21–64. Cl. 40.
Foster Grant Co., Inc., to Foster Grant Co., Inc., Leominster, Mass. 662,638 canc. Cl. 40.
Fruehauf Corp., Fairless Hills, Pa. 773,536, pub. 5–5–64. Cl. 12.
Fusible Textile Corp., Brooklyn, N.Y. 773,738, pub. 5–5–64. Cl. 42.
G and A Laboratories, Inc., Savannah, Ga. 662,398, canc. Cl. 1.
Gallo, E. & J., Winery, Modesto, Calif. 773,794, pub. 5–5–64. Cl. 47.
Garland, Harold F. d.b.a. Chord Symbol Co., Santa Ana, Calif. 773,692, pub. 5–5–64. Cl. 38.
Garrett Enumclaw Co., Enumclaw, Wash. 773,587, pub. 5–5–64. Cl. 23.
Garrett Enumclaw Co., Enumclaw, Wash. 773,461, pub. 5–5–64. Cl. 13.
Gastown, Inc.: *See*—
Gastown, Inc. of Delaware.
Gastown, Inc. of Delaware, from Gastown, Inc., Cleveland, Ohio. 773,846, pub. 5–5–64. Cl. 105.
Gaymont Laboratories, Inc., Chicago, Ill. 773,760, pub. 5–5–64. Cl. 46.
General Artists Corp., New York, N.Y. 773,848, pub. 5–5–64. Cl. 107.
General Features Corp., New York, N.Y. 662,603–4, canc. Cl. 38.
General Foods Corp., White Plains, N.Y. 773,789, pub. 5–5–64. Cl. 46.
General Motors Corp., Detroit, Mich. 773,540–1, pub. 5–5–64. Cl. 19.
General Tire & Rubber Co., The: *See*—
Respro Inc.
Genesco Inc., Nashville, Tenn. 773,717, pub. 5–5–64. Cl. 39.
General Kinetics, Inc. of West Palm Beach, West Palm Beach, Fla. 773,598, pub. 5–5–64. Cl. 23.
General Electric Co., Schenectady, N.Y. 773,618, pub. 5–5–64. Cl. 24.
General Motors Corp., Detroit, Mich. 773,614, pub. 5–5–64. Cl. 24.
Genova Products, Flint, Mich. 773,485, pub. 5–5–64. Cl. 13.
Glamorise Foundations, Inc., New York, N.Y. 773,702, pub. 5–5–64. Cl. 39.
Glaser's Wholesale Drug Co., Inc., Dallas, Tex. 773,795, pub. 5–5–64. Cl. 48.
Glenader Corp., New York, N.Y. 773,722, pub. 5–5–64. Cl. 39.
Globe-Union Inc., Milwaukee, Wis. 773,561, pub. 5–5–64. Cl. 21.
Gojer, Inc., Akron, Ohio. 773,501, pub. 5–5–64. Cl. 15.
Goldcraft Jewelers Inc., New York, N.Y. 773,641, pub. 5–5–64. Cl. 28.
Good Humor Corp.: *See*—
Burt, Harry B.
Goodrich, B. F., Co., The: *See*—
Sponge Rubber Products Co., The.
Goodrich, B. F., Co., The, Akron, Ohio. 773,417, pub. 5–5–64. Cl. 2.
Goodrich, B. F., Co., The, Akron, Ohio. 773,665–6, pub. 5–5–64. Cl. 25.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 773,435, pub. 5–5–64. Cl. 5.
Gourock Ropework Co. Ltd., The, Port Glasgow, Scotland. 662,418, canc. Cl. 7.
Graf, George B., Co., Cambridge, Mass. 773,679, pub. 5–5–64. Cl. 37.
Grand Rapids Bookcase & Chair Co., Hastings, Mich. 662,568, canc. Cl. 32.
Graniteville Co., Graniteville, S.C. 773,737, pub. 5–5–64. Cl. 42.
Grant, Joseph A., d.b.a. Ras-Mor Products Co., Newport Beach, Calif. 773,767, pub. 5–5–64. Cl. 46.
Greenfield Tap and Die Corp., to United-Greenfield Corp., Greenfield, Mass. 662,521, canc. Cl. 23.
Greengate & Irwell Rubber Co. Ltd., Salford, Lancaster, England. 773,677, pub. 5–5–64. Cl. 35.
Griffin Pipe Products Co., Wheaton, Ill. 773,856. Cl. 12.
Gruenwald, Edward C., d.b.a. Pure-Flo Water Co., Joliet, Ill. 773,783, pub. 5–5–64. Cl. 45.
Gustafson Mfg. Co., Inc., Minneapolis, Minn. 773,488, pub. 5–5–64. Cl. 6.
Haase, Wilbert W., Co., Forest Park, Ill. 773,422, pub. 5–5–64. Cl. 2.
Habley, Inc., New York, N.Y. 662,608, canc. Cl. 39.
Hallmark Cards, Inc., Kansas City, Mo. 773,697, pub. 5–5–64. Cl. 38.
Hannes Marker, Garmisch-Partenkirchen, Germany. 773,568, pub. 5–5–64. Cl. 22.
Harts Mountain Products Corp., New York, N.Y. 773,875–6. Cl. 46.
Harts Mountain Products Corp., New York, N.Y. 773,575, pub. 5–5–64. Cl. 22.
Heckethorn Mfg. & Supply Co.: *See*—
Oldberg Mfg. Co.
Heesemann, Karl, Bad Oeynhausen, Germany. 773,577, pub. 5–5–64. Cl. 22.
Heisberg's Diamond Shops, Inc., Kansas City, Mo. 773,555, pub. 5–5–64. Cl. 21.
Henckels, J. A., Zwillingswerk Aktiengesellschaft, from J. A. Henckels Zwillingswerk Aktiengesellschaft, Solingen, Germany. 773,491, pub. 5–5–64. Cl. 14.
Henckels, J. A., Zwillingswerk Aktiengesellschaft, from J. A. Henckels Zwillingswerk Aktiengesellschaft, Solingen, Germany. 773,473–4, pub. 5–5–64. Cl. 13.
Hendry Corp., The, New York, N.Y. 773,688, pub. 5–5–64. Cl. 38.
Hepworth & Grandage Ltd., Bradford, England. 370,058, canc. Cl. 23.
Heritage House Products, Inc., Pittsburgh, Pa. 773,775, pub. 5–5–64. Cl. 46.
Heritage House Products, Inc., Pittsburgh, Pa. 773,589, pub. 5–5–64. Cl. 23.
Heritage House Products, Inc., Pittsburgh, Pa. 773,787–8, pub. 5–5–64. Cl. 46.
Hermes S.A., Paris, France. 773,814, pub. 5–5–64. Cl. 51.
Hey, D. C., Co., Inc., Minneapolis, Minn. 773,459, pub. 5–5–64. Cl. 11.
Heyden Newport Chemical Corp., from Heyden Newport Chemical Corp., New York, N.Y. 773,399, pub. 5–5–64. Cl. 1.
High Vacuum Metals, Inc., Passaic, N.J. 773,741, pub. 5–5–64. Cl. 43.
Hill Top Orchards and Nurseries, Inc., Hartford, from Hill Top Orchards and Nurseries, Lawrence, Mich. 773,398, pub. 5–5–64. Cl. 1.
Hills Bros. Coffee, Inc., San Francisco, Calif. 658,860. Am. 7(d). Cl. 46.
Hill Top Orchards and Nurseries: *See*—
Hill Top Orchards and Nurseries, Inc.
Hinz Publishing Co.: *See*—
Hinz, Herman P., Jr.
Hinz, Herman P., Jr., d.b.a. Hinz Publishing Co., Mount Prospect, Ill. 773,864. Cl. 38.
Hoggson & Pettis Mfg. Co., The, Orange, Conn. 773,611, pub. 5–5–64. Cl. 23.
Hollywood Brands, Inc.: *See*—
Curtiss Candy Co.
Hood, H. P., & Sons, Inc., Boston, Mass. 773,762, pub. 5–5–64. Cl. 46.
Hooker Chemical Corp.: *See*—
Niagara Alkali Co.
Horncastle, Clifford, Hamilton, Ontario, Canada. 773,873. Cl. 46.
Hornschuch, Konrad, Aktiengesellschaft Werk Weissbach, Weissbach, Wurttemberg, Germany. 773,800, pub. 5–5–64. Cl. 50.
Horton, A. Allen, d.b.a. Acid-ese Co., Trion, Ga. 773,581, pub 5–5–64. Cl. 18.
House for Men Inc., The, d.b.a. Treasure Island Co., Chicago, Ill. 773,815, pub. 5–5–64. Cl. 51.
Howry-Berg Steel & Iron Works, Inc., Englewood, Colo. 662,537, canc. Cl. 23.
Hudson, J. L., Co., The, Detroit, Mich. 188,066, ren. 7–21–64. Cl. 39.
Huth Mfgr., Inc., Burbank, Calif. 773,591, pub. 5–5–64. Cl. 23.
Hyde Mfg. Co., Southbridge, Mass. 773,648, pub. 5–5–64. Cl. 29.
Ideal Stencil Machine Co., Belleville, Ill. 773,863. Cl. 37.
Imperial Chemical Industries Ltd., London, England. 773,425, pub. 5–5–64. Cl. 2.
Indesco Corp., Morton Grove, Ill. 773,658, pub. 5–5–64. Cl. 34.
Industrial Fabricators, Inc., Doraville, Ga. 773,579, pub. 5–5–64. Cl. 23.
Industrial Theatricals, Inc., New York, N.Y. 662,515, canc. Cl. 22.
Igelstroem-Oberlin, Inc., Massillon, Ohio. 773,475, pub. 5–5–64. Cl. 13.
International Duralin Corp., Chicago, Ill. 773,735, pub. 5–5–64. Cl. 42.
International Harvester Co., Chicago, Ill. 773,585, pub. 5–5–64. Cl. 23.
International Paper Co., New York, N.Y. 773,413, pub. 5–5–64. Cl. 2.
International Rectifier Corp., El Segundo, Calif. 773,547, pub. 5–5–64. Cl. 21.
Itali Handbags, Inc., New York, N.Y. 773,426, pub. 5–5–64. Cl. 3.
Jaeger Co. Ltd., The, London, England. 773,742, pub. 5–5–64. Cl. 43.
Jato Mfg., Inc., Salina, Kans. 773,539, pub. 5–5–64. Cl. 19.
Jenkins Brothers, Inc., Frederick, Md. 773,765, pub. 5–5–64. Cl. 46.
Johnson, Fredric H., d.b.a. Spice Islands Co., to Spice Islands Co., San Francisco, Calif. 409,180, ren. 7–21–64. Cl. 46.
Journal Co., The, Milwaukee, Wis. 190,012, ren. 8–21–64. Cl. 38.
Juliana Lingerie, Inc., New York, N.Y. 662,725, canc. Cl. 39.
Kabushiki Kaisha Morisawa Shashin Shokujiki Seisakusho, Naniwa-ku, Osaka, Japan. 773,619, pub. 5–5–64. Cl. 26.

Keever Starch Co., The, Columbus, Ohio. 773,825, pub. 5–5–64. Cl. 52.
Keller, William, d.b.a. William Keller Co., San Francisco, Calif. 773,771, pub. 5–5–64. Cl. 46.
Keller, William, Co.: *See*—
Keller, William.
Kelly Girl Service, Inc., Detroit, Mich. 773,835, pub. 5–5–64. Cl. 101.
Kendall Co., The, Boston, Mass. 662,728, canc. Cl. 42.
Kent, R. O., Corp., New York, N.Y. 773,650–2, pub. 5–5–64. Cl. 29.
Kigu Ltd., London, England. 773,424, pub. 5–5–64. Cl. 2.
Kiwi Polish Co., Proprietary Ltd., The, near Melbourne, Australia. 773,804, pub. 5–5–64. Cl. 50.
Kramer, Irving, Hartford, Conn. 662,536, canc. Cl. 23.
Kutz Kwik, Inc., Maywood, Ill. 773,590, pub. 5–5–64. Cl. 23.
L.C.C.-Steafix, Paris, France. 773,549, pub. 5–5–64. Cl. 21.
Laclede Steel Co., St. Louis, Mo. 773,499, pub. 5–5–64. Cl. 14.
Lady Lynne Lingerie, Inc., New York, N.Y. 773,707, pub. 5–5–64. Cl. 39.
Larus & Brother Co., Richmond, Va. 773,512, pub. 5–5–64. Cl. 17.
Laurel Uniform Shoppe, Denver, Colo. 773,718, pub. 5–5–64. Cl. 39.
Laurentide Finance Corp. of America, from Laurentide Finance Corp. of California, San Francisco, Calif. 773,841, pub. 5–5–64. Cl. 102.
Laurentide Finance Corp. of California: *See*—
Laurentide Finance Corp. of America.
Lauritzen and Co., Inc., Chicago, Ill. 773,870 Cl. 46.
Lavino, R. P., and Co., Philadelphia, Pa. 190,860, ren. 7–21–64. Cl. 12.
Lavin, Henry, Associates, Inc., Meriden, Conn. 773,836, pub. 5–5–64. Cl. 101.
Lawrence Leather Co.: *See*—
Swift & Co.
Le Gear, Dr., Inc., St. Louis, Mo. 773,518, pub. 5–5–64. Cl. 18.
Locke Mfg. Co., Lodi, Ohio. 639,224. Am. 7(d). Cl. 13.
Lowenbaum, R., Mfg. Co., St. Louis, Mo. 773,733, pub. 5–5–64. Cl. 42.
Lear Siegler, Inc., Cleveland, Ohio. 773,605, pub. 5–5–64. Cl. 23.
Leavitt, John W., Co., Everett, Mass. 773,776, pub. 5–5–64. Cl. 46.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 773,723, pub. 5–5–64. Cl. 39.
Leeds and Northrup Co., Philadelphia, Pa. 773,622, pub. 5–5–64. Cl. 26.
Leventhal, Myer, d.b.a. Chicago Commercial & Specialty Co., to Aztec Clay Moistener Co., Inc., New York, N.Y. 184,192, ren. 7–21–64. Cl. 8.
Library Bureau, Cambridge, Mass., to Sperry Rand Corp., New York, N.Y. 184,171, ren. 7–21–64. Cl. 37.
Liebers, Al, Golf Equipment, Inc., New York, N.Y. 773,567, pub. 5–5–64. Cl. 22.
Linsk of Philadelphia, Inc., Philadelphia, Pa. 662,616, canc. Cl. 39.
Longwood Equipment Co. Ltd., Toronto, Ontario, Canada. 773,601, pub. 5–5–64. Cl. 23.
Los Angeles Church of God, Seventh Day, The, Los Angeles, Calif. 773,687, pub. 5–5–64. Cl. 88.
Lournay, Inc., to The Chandon Co., to Colgate-Palmolive Co., New York, N.Y. 184,082, ren. 7–21–64. Cl. 51.
M & N Cigar Manufacturers, Inc., Tampa, Fla. 773,510, pub. 5–5–64. Cl. 17.
MacDonald, E. F., Stamp Co., Dayton, Ohio. 773,859. Cl. 22.
Macklin Co., Jackson, Mich. 773,831, pub. 5–5–64. Cl. 100.
Madison, Dolly, Foods, Inc., d.b.a. Woodlawn Farm Dairy Co., Scranton, Pa. 773,785, pub. 5–5–64. Cl. 46.
Maecker, Kurt, Dusseldorf, Germany. 662,714, canc. Cl. 21.
Magnetic Metals Co., Camden, N.J. 773,493, pub. 5–5–64. Cl. 14.
Mallinckrodt Chemical Works, St. Louis, Mo. 773,453, pub. 5–5–64. Cl. 6.
Mangel Stores Corp., New York, N.Y. 773,663, pub. 5–5–64. Cl. 35.
Mangel Stores Corp., New York, N.Y. 773,618, pub. 5–5–64. Cl. 26.
Mansfield Tire & Rubber Co., The, Mansfield, Ohio. 773,862. Cl. 35.
Margien, Juliette, Inc., to Juliette Margien, Inc., Ridgefield, N.J. 662,695, canc. Cl. 51.
Maro Industries, Inc., New York, N.Y. 773,725, pub. 5–5–64. Cl. 39.
Martell, J. & F., Inc., New York, N.Y. 773,880. Cl. 49.
Martin Elevator Co.: *See*—
Pike, Kermit O.
Marukan Vinegar Co., Ltd., from Sasada Shoten Co., Ltd., Higashi Nada-ku, Kobe-shi, Japan. 773,756, pub. 5–5–64. Cl. 46.
Maruman Co., Ltd., Chiyoda-ku, Tokyo, Japan. 773,455, pub. 5–5–64. Cl. 8.
Maruman Co., Ltd., Chiyoda-ku, Tokyo, Japan. 773,642, pub. 5–5–64. Cl. 28.
Massachusetts Mineral and Mfg. Co., Inc., Peabody, Mass. 662,435, canc. Cl. 12.
Masson, Paul, Vineyards: *See*—
Masson, Paul, Inc.
Masson, Paul: *See*—
Masson, Paul, Inc.
Masson, Paul, Inc., d.b.a. Paul Masson, and Paul Masson Vineyards, San Francisco, Calif. 773,793, pub. 5–5–64. Cl. 47.
Matthews, Mignon, d.b.a. Mignon's, Bay City, Tex. 773,427, pub. 5–5–64. Cl. 3.
Mattel, Inc., Hawthorne, Calif. 773,565, pub. 5–5–64. Cl. 22.
Maxson Instruments Corp., Long Island City, N.Y., to The W. L. Maxson Corp., New York, N.Y. 662,508, canc. Cl. 21.
Maxson, W. L., Corp., The: *See*—
Maxson Instruments Corp.
May, James L., First National Bank Bldg., Mobile, Ala. 773,467, pub. 5–5–64. Cl. 12.
Maymar, Peter P., d.b.a. Fleetwood Co., San Francisco, Calif. 773,726, pub. 5–5–64. Cl. 39.
May Way Sales Co., Kansas City, Mo. 773,842, pub. 5–5–64. Cl. 103.
McDonald's Corp., Chicago, Ill. 773,891. Cl. 100.
McDonough Power Equipment, Inc., McDonough, Ga. 662,530, canc. Cl. 23.
McGraw Colorgraph Co.: *See*—
McGraw, Max.
McGraw-Hill, Inc.: *See*—
McGraw-Hill Publishing Co., Inc.
McGraw-Hill Publishing Co., Inc. McGraw-Hill, Inc., New York, N.Y. 714,535. Am. 7(d). Cl. 38.
McGraw, Max, d.b.a. S. McGraw Colorgraph Co., Chicago, Ill., to McGraw Colorgraph Co., Los Angeles, Calif. 406,910, ren. 7–21–64. Cl. 37.
McGraw, S., Colorgraph Co.: *See*—
McGraw, Max.
McGrew Paint & Asphalt Co., Chicago, Ill. 389,857, canc. Cl. 12.
McPhilben Mfg. Co., Inc., Brooklyn, N.Y. 773,556, pub. 5–5–64. Cl. 21.
Meat Industry Suppliers, Inc., Chicago, Ill. 662,672, canc. Cl. 46.
Medical Digest Inc.: *See*—
Pediatrics Digest Inc.
Meier, Joshua, Co., Inc., New York, N.Y. 773,681, pub. 5–5–64. Cl. 37.
Merck & Co., Inc., Rahway, N.J. 773,764, pub. 5–5–64. Cl. 46.
Merck & Co., Inc., Rahway, N.J. 773,524, pub. 5–5–64. Cl. 18.
Metal Blast, Inc., Cleveland, Ohio. 773,852. Cl. 4.
Metalart Buckle Co., Providence, R.I. 773,729, pub. 5–5–64. Cl. 40.
Mignon's: *See*—
Matthews, Mignon.
Milani Foods, Inc., Los Angeles, Calif. 773,877. Cl. 46.
Miller & Hollis Corp.: *See*—
Miller & Hollis, Inc.
Miller & Hollis, Inc., to Miller & Hollis Corp., Boston, Mass. 407,183, ren. 7–21–64. Cl. 46.
Miller-Smith Hosiery Mills, Chattanooga, Tenn. 409,520, ren. 7–21–64. Cl. 39.
Milliken, John T., & Co., St. Louis, Mo., Abbott Laboratories, North Chicago, Ill. 190,300, ren. 7–21–64. Cl. 6.
Mitchell Division: *See*—
Oldberg Mfg. Co.
Mixing Equipment Co., Inc., Rochester, N.Y. 407,155, ren. 7–21–64. Cl. 23.
Modern Mfg. Inc., Worcester, Mass. 662,514, canc. Cl. 22.
Molly Corp., Temple, Pa. 773,482, pub. 5–5–64. Cl. 13.
Monarch Rug Mills, Inc., Dalton, Ga. 662,640, canc. Cl. 42.
Moreland Corp., The, Willow Grove, Pa. 662,524, canc. Cl. 23.
Motrace Corp., New York, N.Y. 773,739, pub. 5–5–64. Cl. 42.
Mitchell Division: *See*—
Oldberg Mfg. Co.
Mullins Mfg. Corp., Salem, Ohio. 773,655, pub. 5–5–64. Cl. 32.
Mullins Mfg. Corp., Salem, Ohio. 773,560, pub. 5–5–64. Cl. 21.
Mullins Mfg. Corp., Salem, Ohio. 773,490, pub. 5–5–64. Cl. 13.
Murdock Webbing Co., Inc., Central Falls, R.I. 773,728, pub. 5–5–64. Cl. 40.
Muro Pharmacal Laboratories Inc., Boston, Mass. 662,475, canc. Cl. 18.
Murphy, G. C., Co., McKeesport, Pa. 773,715, pub. 5–5–64. Cl. 39.
Music Guild, Inc., The: *See*—
Westminster Recording Co., Inc.
N.V. Vereenigde Touwfabrieken, Rotterdam, Netherlands. 621,986. Am. 7(d). Cl. 7.
National Beauty Products Co.: *See*—
Scott, Jack M.
National Chemical & Mfg. Co., Chicago, Ill. 773,505, pub. 5–5–64. Cl. 16.
National Food Industries, Inc., Miami, Fla. 773,766, pub. 5–5–64. Cl. 46.
National Motor Club, Inc., Dallas, Tex. 773,833, pub. 5–5–64. Cl. 100.
National Peanut Corp., Wilkes-Barre, Pa. 662,678, canc. Cl. 46.
National Plastic Products Co., Inc., Odenton, Md. 773,402–4, pub. 5–5–64. Cl. 1.
Neiman-Marcus Co., Dallas, Tex. 773,711, pub. 5–5–64. Cl. 39.
Neirad Industries, Inc., Saugatuck, Conn. 773,586, pub. 5–5–64. Cl. 23.
Nestle & Anglo-Swiss Condensed Milk Co., Cham and Vevey, Switzerland, to The Nestle Co., Inc., White Plains, N.Y. 188,089, ren. 7–21–64. Cl. 46.
Nethercutt Laboratories, Los Angeles, Calif. 773,883–8. Cl. 51.
Nestlé Co., Inc., The: *See*—
Nestlé & Anglo-Swiss Condensed Milk Co.
New England Confectionery Co., Cambridge, Mass. 773,758, pub. 5–5–64. Cl. 46.

New England Fish Co., Seattle, Wash. 185,271, ren. 7–21–64. Cl. 46.
New York Herald Tribune Inc., New York, N.Y. 773,867. Cl. 38.
Niagara Alkali Co., to Hooker Chemical Corp., Niagara Falls, N.Y. 184,330, ren. 7–21–64. Cl. 6.
Noon Hour Food Products, Inc., Chicago, Ill. 773,777, pub. 5–5–64. Cl. 46.
Nopco Chemical Co., Newark, N.J. 773,407, pub. 5–5–64. Cl. 1.
Nopco Chemical Co., Newark, N.J. 773,656, pub. 5–5–64. Cl. 32.
Norden Laboratories, Inc., Lincoln, Nebr. 773,582–3, pub. 5–5–64. Cl. 18.
North American Drilling Co., Mount Pleasant, Mich. 773,845, pub. 5–5–64. Cl. 103.
North Central Plastics, Inc., Ellendale, Minn. 773,584, pub. 5–5–64. Cl. 23.
Norwegian Silver Corp., New York, N.Y. 773,637–8, pub. 5–5–64. Cl. 28.
Noxzema Chemical Co., The, Baltimore, Md. 773,889. Cl. 51.
Nutting, H. C., Co., The, Cincinnati, Ohio. 773,640, pub. 5–5–64. Cl. A.
Oldberg Mfg. Co., Grand Haven, Mich., from Heckethorn Mfg. & Supply Co., d.b.a. Mitchell Division, Dyersburg, Tenn. 773,654, pub. 5–5–64. Cl. 32.
Olen Co. Inc., The, Mobile, Ala. 662,625, canc. Cl. 39.
Orbis International Corp., New York, N.Y. 773,489, pub. 5–5–64. Cl. 13.
Organon Inc., West Orange, N.J. 773,528, pub. 5–5–64. Cl. 18.
Osborn Mfg. Co., The, Cleveland, Ohio. 773,602, pub. 5–5–64. Cl. 23.
Otis Elevator Co., New York, N.Y. 773,944, pub. 5–5–64. Cl. 103.
Owens-Illinois Glass Co., Toledo, Ohio. 773,808, pub. 5–5–64. Cl. 50.
P & C Food Markets, Inc., Syracuse, N.Y. 773,755, pub. 5–5–64. Cl. 46.
Pacific Car and Foundry Co., Renton, Wash. 662,401, canc. Cl. 19.
Panel Engineering Corp., Chicago, Ill. 773,544, pub. 5–5–64. Cl. 21.
Paper Service Co., Inc., Quivira Lake, Kansas City, Kans. 773,680, pub. 5–5–64. Cl. 37.
Parke, Davis Co., Detroit, Mich. 773,525, pub. 5–5–64. Cl. 18.
Parker-Hannifin Corp., Cleveland, Ohio. 773,487, pub. 5–5–64. Cl. 13.
Patroon Broadcasting Co., Inc., Albany, N.Y. 662,708, canc. Cl. 107.
Pay Way Feed Mills, Inc., Kansas City, Mo. 773,757, pub. 5–5–64. Cl. 46.
Peabody Coal Co., St. Louis, Mo. 184,174, ren. 7–21–64. Cl. 1.
Pediatrics Digest Inc., from Medical Digest Inc., Northfield, Ill. 773,684, pub. 5–5–64. Cl. 38.
Pedi-Bares, Inc., San Francisco, Calif. 773,700, pub. 5–5–64. Cl. 39.
Peerless Elevator Service, Inc., New York, N.Y. 662,529, canc. Cl. 23.
Pelouze Mfg. Co., Evanston, Ill. 773,636, pub. 5–5–64. Cl. 26.
Penn Crete Products Co., Inc., Philadelphia, Pa. 773,508, pub. 5–5–64. Cl. 16.
Penn-Chem Corp., Lancaster, Pa. 773,621, pub. 5–5–64. Cl. 20.
Pettibone Mulliken Corp., The, Chicago, Ill. 773,597, pub. 5–5–64. Cl. 23.
Pierce-West, Inc., Fort Lauderdale, Fla. 773,617, pub. 5–5–64. Cl. 26.
Pike, Kermit O., d.b.a. Martin Elevator Co., Martin, Mich. 773,763, pub. 5–5–64. Cl. 46.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 662,567, canc. Cl. 31.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 773,649, pub. 5–5–64. Cl. 39.
Place Homes, Inc., South Bend, Ind. 662,429, canc. Cl. 12.
Planters Nut & Chocolate Co., Wilkes-Barre, Pa. 662,674, canc. Cl. 46.
Plastiesmith, Inc., Pittsburg, Calif. 773,721, pub. 5–5–64. Cl. 39.
Plicoflex, Inc., Houston, Tex. 773,486, pub. 5–5–64. Cl. 12.
Polymer Engineering Corp., Houston, Tex. 662,497, canc. Cl. 19.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 773,506, pub. 5–5–64. Cl. 16.
Power Products Corp., Kansas City, Mo. 662,502, canc. Cl. 21.
Preservative Paint Co., Seattle, Wash. 773,507, pub. 5–5–64. Cl. 16.
Pretty Products, Inc., Coshocton, Ohio. 773,537, pub. 5–5–64. Cl. 19.
Printing Industry of Washington, D.C. Inc., Washington, D.C. 773,832, pub. 5–5–64. Cl. 100.
Printing Views, Inc., Chicago, Ill. 773,693, pub. 5–5–64. Cl. 38.
Procter & Gamble Co., The, Cincinnati, Ohio. 406,680, ren. 7–21–64. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 662,700, canc. Cl. 51.
Promotional Sales, Inc., New Orleans, La. 773,840, pub. 5–5–64. Cl. 101.
Purdue Frederick Co., The, New York, N.Y. 773,514, pub. 5–5–64. Cl. 18.
Pure-Flo Water Co.: *See*—
Gruenwald, Edward C.
Puritan Sportswear Corp., The, Altoona, Pa. 773,709, pub. 5–5–64. Cl. 39.
Putney, Stephen, Shoe Co., Richmond, Va. 773,704, pub. 5–5–64. Cl. 39.
Quaker Oats Co., The, Chicago, Ill. 773,774, pub. 5–5–64. Cl. 46.
R & K Plastic Industries Co., The, Cleveland, Ohio. 773,456, pub. 5–5–64. Cl. 9.
Radiant Color Co., Oakland, Calif. 662,721, canc. Cl. 37.
Ralston Purina Co., St. Louis, Mo. 773,778, pub. 5–5–64. Cl. 46.
Ramos, J. S., d.b.a. Ramos Shrimp Co., Bayou La Batre, Ala. 773,878. Cl. 46.
Ramos Shrimp Co.: *See*—
Ramos, J. S.
Randolph-Holmes Corp., The, Chicopee, Mass. 773,805, pub. 5–5–64. Cl. 50.
Rau, Feinseifenwerk Walter, & Co., Stuttgart-Mohringen, Germany. 773,824, pub. 5–5–64. Cl. 52.
Ras-Mor Products Co.: *See*—
Grant, Joseph A.
Red Raven Rubber Co., Newark, N.J. 773,699, pub. 5–27–63. Cl. 39.
Red Salmon Canning Co., San Francisco, Calif., to Wards Cove Packing Co., Inc., Seattle, Wash. 407,005, ren. 7–21–64. Cl. 46.
Regent-Sheffield: *See*—
Regent-Sheffield, Ltd.
Regent-Sheffield, Ltd. from Regent-Sheffield, Whitestone, N.Y. 773,603, pub. 5–5–64. Cl. 25.
Regina Mfg. Co., Inc., Pawtucket, R.I. 773,639, pub. 5–5–64. Cl. 28.
Reis, G., & Bros., Inc., New York, N.Y. 760,026, cor. Cl. 38.
Reliance Chemicals Corp., Houston, Tex. 662,457, canc. Cl. 15.
Reliance International Mfg. Ltd., Hempstead, N.Y. 773,573, pub. 5–5–64. Cl. 22.
Remenik, Samuel E., Chicago, Ill. 773,643, pub. 5–5–64. Cl. 28.
Renault, Inc., New York, N.Y. 773,850–1, pub. 5–5–64. Cl. A.
Resi Crete, Inc., Longmont, Colo. 773,470, pub. 5–5–64. Cl. 12.
Respro Inc., Providence, R.I., to The General Tire & Rubber Co., Akron, Ohio. 190,853, ren. 7–21–64. Cl. 50.
Rex Chainbelt Inc.: *See*—
Chain Belt Co.
Ritter Co., Inc., Cincinnati, Ohio. 773,746, pub. 5–5–64. Cl. 44.
Robertshaw Controls Co., Richmond, Va. 773,624–5, pub. 5–5–64. Cl. 26.
Robins, A. H., Co., Inc., Richmond, Va. 773,526, pub. 5–5–64. Cl. 18.
Robinson, H. A., Co., Inc., Lynchburg, Va. 191,820, ren. 7–21–64. Cl. 46.
Roche Fruit Co., Inc., d.b.a. W. E. Roche Fruit Co., Yakima, Wash. 773,786, pub. 5–5–64. Cl. 46.
Roche, W. E., Fruit Co.: *See*—
Roche Fruit Co., Inc.
Rohm & Haas Co.: *See*—
Rohm & Haas Co., Inc.
Rohm & Haas Co., Inc., to Rohm & Haas Co., Philadelphia, Pa. 186,025, ren. 7–21–64. Cl. 6.
Rohm & Haas Co., Philadelphia, Pa. 409,488, ren. 7–21–64. Cl. 16.
Rohm & Haas Co., Philadelphia, Pa. 409,676, ren. 7–21–64. Cl. 1.
Rohm & Haas Co., to Rohm & Haas Co., Philadelphia, Pa. 409,848, ren. 7–21–64. Cl. 6.
Rohm & Haas Co., Philadelphia, Pa. 410,198, ren. 7–21–64. Cl. 5.
Ronson Corp., Woodbridge, N.J. 773,429, pub. 5–5–64. Cl. 4.
Ruse, Phil, of Calif., Inc., Los Angeles, Calif. 773,716, pub. 5–5–64. Cl. 39.
Rowe Mfg. Co., Galesburg, Ill. 773,471, pub. 5–5–64. Cl. 12.
Rubberset Co., East Newark, N.J. 773,645–7, pub. 5–5–64. Cl. 29.
Ruf, Carl E., Pforzheim, Germany. 773,576, pub. 5–5–64. Cl. 23.
S.A., de Chateau Prieure Lichine, Cantenac, Gironde, France. 773,792, pub. 5–5–64. Cl. 47.
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Shell Arts Co., Hollywood, Calif. 773,681. Cl. 50.
Shirley Fabrics Corp., New York, N.Y. 409,717-18, ren. 7-21-64. Cl. 42.
Shwayder Brothers, Inc., Denver, Colo. 773,428, pub. 5-5-64. Cl. 3.
Signal Oil and Gas Co., Houston, Tex. 773,448, pub. 5-5-64. Cl. 6.
Simplicity Mfg. Co., Port Washington, Wis. 773,599-600, pub. 5-5-64. Cl. 23.
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South Lake Apopka Citrus Growers Association, Oakland, Fla. 189,084, ren. 7-21-64. Cl. 46.
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Standard-Thomson Corp., Waltham, Mass. 773,538, pub. 5-5-64. Cl. 19.
Stanley & Stanley, Inc., New York, N.Y. 662,405, canc. Cl. 3.
Starke Design, Inc., Brooklyn, N.Y. 662,404, canc. Cl. 2.
State Poultry Co., Inc., Jackson, Miss. 773,790, pub. 5-5-64. Cl. 46.
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Stewarts Private Blend Coffee Co., Chicago, Ill. 773,411, pub. 5-5-64. Cl. 2.
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Textile Marking Machine Co., Inc., Syracuse, N.Y. 773,673, pub. 5-5-64. Cl. 37.
Theriot, Allison J., Jr., Opelousas, La. 773,669, pub. 5-5-64. Cl. 36.
Thompson Ramo Wooldridge Inc., Cleveland, Ohio. 773,595, pub. 5-5-64. Cl. 23.
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Tyler Pipe and Foundry Co., Tyler, Tex. 773,610, pub. 5-5-64. Cl. 23.
U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 773,529, pub. 5-5-64. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 773,691, pub. 5-5-64. Cl. 83.
Unimat Coin Wrapping Paper Corp., Dallas, Tex. 773,678, pub. 5-5-64. Cl. 37.
Union Carbide Corp., New York, N.Y. 773,682, pub. 5-5-64. Cl. 37.
Union Instrument Corp., Plainfield, N.J. 773,627, pub. 5-5-64. Cl. 26.
United Biscuit Co. of America, Melrose Park, Ill. 773,761, pub. 5-5-64. Cl. 46.
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United States Borax & Chemical Corp., Los Angeles, Calif. 773,446-7, pub. 5-5-64. Cl. 6.
United States Borax & Chemical Corp., Los Angeles, Calif. 773,450-1, pub. 5-5-64. Cl. 6.
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United States Products Corp., Ltd.: *See*—
United States Products Corp.
United States Products Corp., San Francisco, Calif., to United States Products Corp., Ltd., San Jose, Calif. 190,872, ren. 7-21-64. Cl. 46.
United States Shoe Corp., The: *See*—
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United States Shoe Corp., The, Cincinnati, Ohio. 406,691, ren. 7-21-64. Cl. 39.
Universal Match Corp., Ferguson, Mo. 773,594, pub. 5-5-64. Cl. 23.
Universal Optical Co., Inc., Providence, R.I. 773,633, pub. 5-5-64. Cl. 26.
Vale Chemical Co., Inc., The, Allentown, Pa. 773,520, pub. 5-5-64. Cl. 18.
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Vista Lens Corp., Clales, Puerto Rico. 773,616, pub. 5-5-64. Cl. 26.
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Water Refining Co., Inc., Middletown, Ohio. 773,653, pub. 5-5-64. Cl. 31.
Weatherly Foundry and Mfg. Co., Weatherly, Pa. 773,498, pub. 5-5-64. Cl. 14.
Wells Corp., The, Englewood, N.J. 773,817, pub. 5-5-64. Cl. 51.
Wembley, Inc., New Orleans, La. 773,724, pub. 5-5-64. Cl. 39.
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Werner, R. D., Co., Inc., Greenville, Pa. 773,803, pub. 5-5-64. Cl. 50.
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West Chester Chemical Co., Inc., West Chester, Pa. 773,464, pub. 5-5-64. Cl. 12.
Western Oil and Fuel Co., Minneapolis, Minn. 773,454, pub. 5-5-64. Cl. 6.
Westminster Recording Co., Inc., from The Music Guild, Inc., New York, N.Y. 773,668, pub. 1-23-62. Cl. 36.
Whitlock Cordage Co., New York, N.Y. 662,419, canc. Cl. 7.
Whitman, George L., d.b.a. Whitman & Robinson, Weedsport, N.Y. 662,713, canc. Cl. 14.
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Wilkens Instrument & Research, Inc., Walnut Creek, Calif. 773,861. Cl. 26.
Willco Sales Co.: *See*—
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Williams, Eureka, Corp., Bloomington, Ill. 662,583, canc. Cl. 34.

Williams, Marion R., d.b.a. Willco Sales Co., Kansas City, Mo. 662,527, canc. Cl. 23.
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Wood Chemical Co., Inc., Lubbock, Tex. 773,457, pub. 5–5–64. Cl. 10.
Woodard, Roy S., d.b.a. Deluxe Window Co., St. Louis, Mo. 662,434, canc. Cl. 12.
Woodlawn Farm Dairy Co.: *See*— Madison, Dolly, Foods, Inc.
Woolworth, F. W., Co., New York, N.Y. 773,416, pub. 5–5–64. Cl. 2.
Woolworth, F. W., Co., New York, N.Y. 773,574, pub. 5–5–64. Cl. 22.
Woolworth, F. W., Co., New York, N.Y. 773,644, pub. 5–5–64. Cl. 29.
Woolworth, F. W., Co., New York, N.Y. 773,708, pub. 5–5–64. Cl. 39.
Woolworth, F. W., Co., New York, N.Y. 773,727, pub. 5–5–64. Cl. 40.
Woolworth, F. W., Co., New York, N.Y. 773,734, pub. 5–5–64. Cl. 42.
Woolworth, F. W., Co., New York, N.Y. 773,745, pub. 5–5–64. Cl. 44.
Woolworth, F. W., Co., New York, N.Y. 773,802, pub. 5–5–64. Cl. 50.
Wynn Oil Co., Azusa, Calif. 773,503, pub. 5–5–64. Cl. 15.
Xerox Corp., Rochester, N.Y. 773,452, pub. 5–5–64. Cl. 6.
Xerox Corp., Rochester, N.Y. 773,630, pub. 5–5–64. Cl. 26.
Xttrium Laboratories, Inc., Chicago, Ill. 773,515–16, pub. 5–5–64. Cl. 18.
Youthcraft Creations, Inc., New York, N.Y. 773,701, pub. 5–5–64. Cl. 39.
Zappia-Paradiso, S.A., Lugano, Switzerland. 773,412, pub. 5–5–64. Cl. 2.
Zeropest Products Ltd., Burnaby, Vancouver, British Columbia, Canada. 773,552, pub. 5–5–64. Cl. 21.
Ziff-Davis Publishing Co., New York, N.Y. 773,696, pub. 5–5–64. Cl. 38.
Zussman, H., & Son Co., The, Cincinnati, Ohio. 662,642. canc. Cl. 42.

U.S. Department of Commerce

LUTHER H. HODGES, *Secretary*

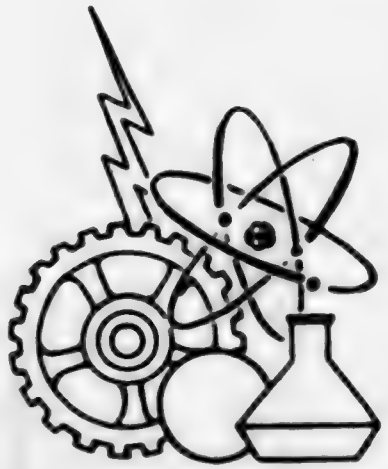
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EDWARD J. BRENNER, *Commissioner*

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

July 28, 1964 • Volume 804 • Number 4



PUBLISHED WEEKLY BY AUTHORITY OF CONGRESS

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 28, 1964 Volume 804 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1964

Examiner affirmed	290
Examiner affirmed in part	61
Examiner reversed	87
Total	438

Interference—Declaration

Effective July 1, 1964, no interference will be declared between pending applications, if there is a difference of more than three (3) months in the effective filing dates of the applications in the case of inventions of a simple character, or a difference of more than six (6) months in other cases, except in exceptional situations, as determined and approved by the Commissioner.

EDWARD J. BRENNER,
Commissioner.

June 26, 1964.

Rule 345—Advertising

CLASSIFIED TELEPHONE DIRECTORIES

In *Miller* v. *Watson*, 1961 C.D. 122, 773 O.G. 4, the United States District Court for the District of Columbia held that multi-city common form listings in telephone directories constituted advertising within the prohibition of Rule 345 of the Rules of Practice in the United States Patent Office. It is not considered, however, that this prohibition applies to cases in which separate telephone directories have been issued for each of two or more communities which were formerly included in a single directory, nor to listing in each of the several directories of a single metropolitan area. Accordingly, such listings will not be considered as being in violation of Rule 345.

EDWARD J. BRENNER,
Commissioner.

June 29, 1964.

Publication of Portions of Applications

The Patent Office has decided to resume the publication of portions of applications under the following conditions:

(1) Upon the written request of the owner of a pending application for patent which is not under final rejection, that a portion of the disclosure of the application be published in the OFFICIAL GAZETTE and that the application simultaneously be made available to the public, such request also indicating that he intends to abandon the application, such disclosure together with the serial number and date of filing, a representative claim and figure of the drawing which may be designated by the owner, will be published in the OFFICIAL GAZETTE. The Office reserves the right to refuse or refrain from publication of any particular application.

(2) Upon publication, the entire application will be available to the public for inspection and obtaining of copies, and the publication will so state.

(3) The publications will be used as references against other applications in which they may be applicable.

EDWARD J. BRENNER,
Commissioner of Patents.

July 14, 1964.

Foreign Patents Received in the Scientific Library as of June 30, 1964

Source	Date received	Highest number
Australia:		
(*Abstracts*)	June 24, 1964	42,496
(*Patents*)	June 24, 1964	248,904
Austria	May 25, 1964	233,300
Belgium	Oct. 16, 1962	573,100
Canada	June 25, 1964	689,457
Czechoslovakia	Feb. 27, 1963	103,500
Denmark	June 5, 1964	97,640
East Germany	June 3, 1964	28,948
Egypt	Jan. 30, 1964	4,326
Finland	June 18, 1964	33,502
France:		
(*Patents*)	June 1, 1964	1,352,100
(*Additions*)	June 4, 1964	82,400
(*Medicamenta*)	June 4, 1964	1,900 M
(*Additions*)	May 4, 1964	23 CAM
Germany:		
(*Auslegeschriften*)	June 30, 1964	1,167,280
(*Patents*)	June 30, 1964	1,155,027
Great Britain	June 22, 1964	959,842
India	Feb. 12, 1964	85,044
Ireland	Mar. 5, 1964	23,892
Italy	Apr. 25, 1963	616,900
Japan	June 29, 1964	8,250/64
Netherlands	June 18, 1964	108,495
Norway	June 15, 1964	103,528
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	456
Poland	June 18, 1964	48,218
Rumania	May 8, 1964	42,502
Sweden	June 15, 1964	189,194
Switzerland	June 22, 1964	376,868
U.S.S.R.	June 23, 1964	162,028

Australia: First 2,000 incomplete
Belgium: First printed 493,070/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: Missing 1–10 000
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

New Applications Received During May 1964

Patents	7,158
Designs	446
Plant Patents	6
Reissues	10
Total	7,620

Issue—July 28, 1964

Patents	775—No.	3,142,066 to No.	3,142,840, incl.
Designs	36—No.	198,740 to No.	198,775, incl.
Plant Patents	3—No.	2,428 to No.	2,430, incl.
Reissues	5—No.	25,622 to No.	25,626, incl.
Total	819		

Adjudicated Patents

(C.A. Calif.) Schustack Patent No. 2,713,352 (133—93), for pipe coupling, *Held* not infringed. *H. H. Baker & Co.* v. *Smith-Blair, Inc.*, 331 F.2d 506; 141 USPQ 369.

(D.C. Mo.) Graves Patent No. 2,842,072 (107—14), for food processing machine. Claims 1 to 5 *Held* valid and infringed. *Graves, doing business as Michiana Mills* v. *Keil-Dot Industries, Inc., et al.*, 229 F. Supp. 148; 141 USPQ 632.

Department of Commerce
Patent Office

[37 CFR Parts 1, 3]

FORMS AND RULES OF PRACTICE

Notice of Proposed Rule Making

Notice is hereby given that the United States Patent Office proposes to amend several of its rules, to add a new § 1.68 and to provide additional forms relating to patents. The amendments are proposed pursuant to the authority contained in Title 35, U.S.C., section 6.

Section 1.65 of Title 37, Code of Federal Regulations, requires an oath by the inventor when filing application for a patent. Provision is also made §§ 1.42, 1.43, and 1.47 for filing such an oath by a representative of the inventor in cases where the inventor is unable or unwilling to join in the application. Similarly, an oath is required by § 1.67 when presenting a claim for matter not originally claimed, by § 1.173 when applying for a reissue patent, by § 1.151 when applying for a patent for designs, and by § 1.161 when applying for a patent for plants.

Public Law 88–292, of March 26, 1964, authorized the Commissioner to prescribe instances where documents required to be filed in the Patent Office under oath might be accepted if, in lieu of the required document under oath, the applicant were to provide a written declaration setting forth required information. Such a declaration may not be used unless it includes a warning statement that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001).

The proposed amendment to § 1.65 announces the acceptability of such an alternate procedure in connection with the filing of the original application for a patent. The new § 1.68 would set forth the form of the declaration and announce its acceptability in connection with the filing of documents required by §§ 1.67, 1.151, 1.161, and 1.172.

An alternative form (3.11(a)) is provided to the present oath form (3.11) reflecting the required form of a written declaration.

Other sections of rules and forms which will be conformed to the acceptable alternative procedure of the written declaration are listed. These items will merely be changed to make clear that the written declaration in proper form is an acceptable alternative to the oath.

Two important points must be remembered in connection with these changes: (1) The use of the declaration is an alternative to the use of the oath. Either in proper form is acceptable. (2) The declaration may only be used in lieu of the oath in those instances where the Commissioner has provided that it will be an acceptable alternative.

All persons who desire to submit written data, views, arguments or suggestions for consideration in connection with the proposed amendments, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., within 60 days of publication in the Federal Register. An oral hearing will not be scheduled.

The heading preceding § 1.65 and the text of that section as proposed to be amended are as follows:

STATEMENT; OATH OR DECLARATION

§ 1.65 *Statement of applicant.*

(a)(1) The applicant, if the inventor, must state that he verily believes himself to be the original and first inventor or discoverer of the process, machine, manufacture, composition of matter, or improvement thereof, for which he solicits a patent; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, and shall state of what country he is a citizen and where he resides, and whether he is a sole or joint inventor of the invention claimed in his application. In every original application the applicant must distinctly state that to the best of his knowledge and belief the invention has not been in public use or on sale in the United States more than one year prior to his application, or patented or described in any printed publication in any country before his invention or more than one year prior to his application, or patented in any foreign country prior to the date of his application on an application filed by himself or his legal representatives or assigns more than twelve months prior to his application in this country. He shall state whether or not any application for patent on the same invention has been filed in any foreign country, either by the applicant or by his legal representatives or assigns. If any such application has been filed, the applicant shall name the country in which the earliest such application was filed, and shall give the day, month, and year of its filing; he shall also identify by country and by day, month, and year of filing, every such foreign application filed more than twelve months before the filing of the application in this country. (2) This statement (i) must be subscribed to by the applicant, and (ii) must either (a) be sworn to (or affirmed) as provided in §1.66, or (b) include the personal declaration of the applicant as prescribed in § 1.68. See § 1.153 for design cases and § 1.163 for plant cases.

(b) If the application is made as provided in § 1.42, 1.43, or 1.47, the applicant shall state his relationship to the inventor and, upon information and belief, the facts which the inventor is required by this section to state.

(c) An additional statement may be required if the application has not been filed in the Patent Office within a reasonable time after execution of the original statement.

The text of the new proposed § 1.68 follows:

§ 1.68 *Declaration in lieu of application oath.*

(a) The applicant may, in lieu of making an oath or affirmation in the manner provided by § 1.66, set forth in the body of the statement required from him by § 1.65 his written declaration that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true, if, and only if, the applicant is, on the same paper, warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

(b) A written declaration by the applicant, satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (section 1.67), when applying for a reissue patent (section 1.172), when applying for a patent for designs (section 1.151), and when applying for a patent for plants (section 1.161).

Sections 1.41, 1.42, 1.43, 1.45, 1.47, 1.51, 1.52, 1.57, 1.61, 1.67, 1.76, 1.153, 1.162, 1.172, and 1.175 will be modified to reflect the acceptance of a written declaration in proper form as directed by § 1.68.

The text of form 3.11(a), an alternative to form 3.11, *Oath to accompany application for patent* follows:

3.11(a) *Declaration to accompany application for patent.*

(Sections 1.65 and 1.68 provide for a declaration in lieu or in place of an oath in certain instances. The petition and specification precede the declaration).

(1) ....., the above named petitioner ... declare ... that ..... citizen ... of the United States (2) and resident ... of (3) ..... that ..... verily believe ... (4) ..... to be the original, first, and (5) ..... inventor ... of the improvement in (6) ..... described and claimed in the annexed specification; that (7) ..... do ... not know and do ... not believe that the same was ever known or used before (8) ..... invention thereof, or patented or described in any printed publication in any country before (8) ..... invention thereof, or more than one year prior to this application, or in public use or on sale in the United States more than one year prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by (9) ..... or (8) ..... legal representatives or assigns more than twelve month prior to this application; and that no application for patent on said invention has been filed by (9) ..... or (8) ..... representatives or assigns in any country foreign to the United States, except as follows: (10) .....

The undersigned petitioner ---------- declare -- further that all statements made herein of (8) ---------- own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon. Inventor's full name or names (11) ----------.

(Signature)

Date ----------

NOTES: See §§ 1.65 and 1.68.

(1) Name of inventor; if the invention is joint, the names of all the joint inventors.

(2) If the applicant be an alien, state of what foreign country he is a citizen or subject.

(3) Give city and state, or if a foreign resident, city and country, of residence. If more than one inventor gives residences of each inventor if different. Street address need not be given here as it appears elsewhere.

(4) "Himself" in the case of a sole inventor; "themselves" in the case of joint inventors.

(5) "Sole" in the case of a sole inventor; "joint" in the case of joint inventors.

(6) Title of the invention.

(7) "He" in the case of a sole inventor; "they" in the case of joint inventors.

(8) "His" in the case of a sole inventor; "their" in the case of joint inventors.

(9) "Him" in the case of a sole inventor; "them" in the case of joint inventors.

(10) If no application has been filed in a foreign country strike out the words "except as follows:". If one or more applications have been filed in foreign countries, the first application and each application more than twelve months old (six months in design cases) must be recited. The country and date of filing the foreign application must be given and the number of the application or other identifying data may also be stated. The claim for priority under 35 U.S.C. 119 (see § 1.55) may be made here. The following examples illustrate various situations.

(a) Only one prior foreign application filed: that "in (country) on (date)." If the right of priority is also claimed add "the right of priority of which application is claimed."

(b) More than one prior foreign application: state "in (country) on (date) and in other countries on subsequent dates." The country and date do not need to be recited except for the first filed application and each application more than twelve months old (six months in design cases).

(11) All petitioners are to sign (see section 1.41).

Alternates to forms 3.12, 3.13, 3.14, 3.16, 3.21, 3.23, 3.25, 3.26, 3.29, 3.31, and 3.32 will be provided as in the case of 3.11(a) to reflect the allowable procedure of a written declaration in lieu of an oath in these instances.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; P.L. 88-292, 78 Stat. 171)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: June 17, 1964.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-6268; Filed, June 23, 1964; 8:49 a.m.]

Published in 29 F.R. 8911, June 24, 1964

PATENT EXAMINING CORPS

H. R. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7- 8-62	7- 3-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	10-29-62	11- 8-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1- 4-63	1- 2-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.	7- 3-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-26-62	10-19-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	8-19-62	7-11-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	8-29-62	7-13-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11- 5-62	11- 6-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	9-18-62	9- 5-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-26-62	11-19-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	11- 8-62	10- 1-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	1- 2-63	8- 9-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	9-13-62	9-11-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9- 5-63	9- 4-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	12- 5-62	12- 3-62

CONDITION OF PATENT APPLICATIONS AS OF MAY 31, 1964

Total number of pending applications (excluding Designs)	210, 122
Total number of Design applications pending	6, 073
Total number of applications awaiting action (excluding Designs)	125, 460
Total number of Design applications awaiting action	2, 002
Date of oldest new application awaiting action	May 2, 1962
Date of oldest amended application awaiting action	May 9, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 3,128,078 to 3,426,957, inclusive
Plant Patents	Numbers 760 to 758, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner... Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	5- 6-63	5- 7-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner..... Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	1- 9-63	1-11-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner..... Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10- 3-62	9-19-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner. Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-18-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner..... Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12- 5-62	10- 3-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner..... Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	12-31-62	2-15-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GARRAU, Supervisory Examiner..... Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	2- 5-63	1-23-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner ..... Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	2-25-63	3- 5-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner..... Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	4-30-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner..... Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	2-15-63	1-29-63
PHYSICS, GROUP 450—R. L. EVANS, Supervisory Examiner..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11- 1-62	11-20-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner..... Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-11-63	4-10-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner..... Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-25-63	2-18-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner..... Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-28-63	3-25-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner..... Printing; Typewriters; Stationery; Material Treatment.	11-16-62	12-12-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner..... Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	3- 4-63	3- 4-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner..... Industrial Arts; Household, Personal and Fine Arts.	12-16-63	12-19-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

GENERAL CABLE CORP. v. REPUBLIC WIRE AND CABLE CORP.

No. 7099. Decided February 20, 1964

[51 CCPA —; 327 F.2d 1019; 140 USPQ 487]

1. TRADEMARK—CONFUSING SIMILARITY.

On the issue of confusing similarity between appellee's mark, "SUPER-FLEX," for traveling and lighting cable for elevators, and appellant's marks, "SUPER-SERVICE," "SUPERLITE," "SUPER G-T," "SUPER-THERMAX," "SUPERSHEATH," "SUPERTUF," "SUPERTEL," and "SUPER-LINE," for electrical wires and cable, *Held* that "We find no evidence of record or reasonable inference to be deduced therefrom that appellant has or will be damaged by appellee's use of the mark 'SUPER-FLEX' for the specific goods to which it appertains"; and that "The extensive scope, variety and special applications of appellant's goods, the distinction in price and nature of the many goods sold by appellant negates any categorization of sameness in all of the goods of both parties by classifying them as 'wire and cable.'"

2. SAME—SAME—DISCRIMINATING PURCHASERS.

"A weighty consideration here is the specialized nature of the goods and the market for the goods for which appellee seeks to register its mark. The goods are ordered by those with technical knowledge or subject to technical advice. The goods require explicit specifications. They are adaptable to a limited and specific purpose with prices varying according to technical specifications and, to a large extent, to individual situations. Safety aspects must meet governmental inspection and approval. These circumstances would tend to lend assurance against mistake as to product or source. Potential purchasers in addition to being discriminating persons are limited in number to five or six hundred. It would not seem logical or realistic to conclude under these circumstances that these purchasers of appellee's goods identified under the 'SUPER-FLEX' mark would be misled into the belief that they were buying the products of appellant."

3. SAME—SAME—FAMILY OF MARKS.

"Appellant argues that it has established a family of marks using the prefix 'SUPER' which would preclude the registration of the term 'SUPER-FLEX' by appellee. To so conclude we would have to surmise that purchasers of any one of the many 'wire and cable' products were aware of the remainder of the products and the respective marks associated therewith. * * *, the record fails to show not only that the term 'SUPER' identifies appellant to purchasers in the specific field of elevator traveling and lighting cable but also is equally devoid of proof of a public awareness of the individual marks and their identity as to source as to constitute a family of marks."

4. SAME—SAME—SAME—NUMEROUS REGISTRATIONS BY OTHERS.

"Numerous registrations of 'SUPER' marks by others, as shown by the record, would seem to preclude the exclusivity of a family of such marks residing in appellant."

APPEAL from the Patent Office. Opposition No. 40,242.

AFFIRMED.

Emery, Whittemore, Sandoe & Graham (*George J. Schottler* of counsel) for appellant.

Robert H. Fraser and *I. J. Crickenberger* for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

General Cable Corporation appeals from the decision of the Trademark Trial and Appeal Board dismissing appellant's opposition [1] to

[1] No. 40,242 filed Aug. 1, 1960.

registration by appellee, Republic Wire and Cable Corporation, of "SUPER-FLEX" as a trademark for "Electrical Control Cable, Namely Traveling and Lighting Cable for Elevators."

The opposed application [1] claims first use on May 1, 1957. Appellant has pleaded a number of its prior trademark registrations. In lieu of taking testimony, the parties entered into a stipulation of facts.

The stipulation on behalf of appellee recites, in material substance, that:

Its principal business is the sale and distribution of traveling and lighting cables for elevators; that the mark is not used directly or indirectly on any of its other products; that in excess of $20,000 has been spent since May 1957 in advertising the goods [2] under the mark; that advertising, in the main, has been by direct mail distributions to known potential customers; that it directs no advertisement to the general public or to electrical wholesalers with respect to its goods sold under the mark; that its customers use the mark in placing orders and in specifying types of the goods; that neither in response to advertisements nor in any other way, have any requests for goods been received bearing any other mark; that it has not encountered any confusion of the mark with any other mark; that the goods are used to provide electrical connection between electric power and signal sources in a building and a moving elevator, serving to connect points which may be several hundred feet distant from each other; that the goods vary in size and when sold in high quantity (1000 ft. or more) the price varies from approximately $100.00 per 1000 ft. to approximately $1,200.00 per 1000 ft. according to the number of internal conductors which may run from two to thirty or more; that the goods must have abrasion resistant surfaces and be insulated against the effects of oils, greases, water, fumes and ozone; that they must meet local, State and Federal requirements; that the potential market for the goods sold under the mark consists of five to six hundred independent elevator maintenance or elevator installation contractors, largely members of the National Association of Elevator Contractors; that replacements are sold to elevator maintenance companies and new installations and modernizations to elevator contractors; that the goods are sold throughout the United States to at least 125 different customers and that the representatives of purchasers who control the placement of orders are the owners themselves, their purchasing agents or installation engineers.

The stipulation on behalf of appellant recites, in material substance, that:

It has adopted and uses throughout the United States a series of marks which include the syllable "SUPER" and that such use has been substantially continuous since original adoption.

The marks listed are:

"SUPER-SERVICE"; [4] "SUPERLITE"; [5] "SUPER 6-T"; [6] "SUPER THERMAX"; [7] "SUPERSHEATH"; [8] "SUPER-TUF"; [9] "SUPERTEL"

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[1] Serial No. 77,142 filed July 6, 1959.

[2] "Goods" hereinafter refers only to "traveling and lighting cables for elevators."

[4] Reg. No. 525,910, issued June 6, 1950, for insulated electric cables and cords.

[5] Reg. No. 352,147, issued Nov. 23, 1937, for bare and insulated electrical wires and cables, renewed.

[6] Reg. No. 370,086, issued Aug. 15, 1939, for insulated electrical wires and cables, renewed.

[7] Reg. No. 381,783, issued Nov. 1, 1938, for insulated electrical wires and cables, renewed.

[8] Reg. No. 402,803, issued Aug. 10, 1943, for insulated electrical wires and cables.

[9] Reg. No. 636,124, issued May 1, 1956, for jacketed electrical conductors.

asserted prior use for electrical wires and cables, and "SUPER-LINE." [10]

The stipulation further recites that:

The products sold under the various marks include a complete line of rubber and thermoplastic insulated power, lighting and control cables for all standard types of service and many special constructions; that the cables are supplied with coverings and sheaths of various types designed for uses as control cables, ornamental pole and bracket cables, power cables, street lighting cables, telephone cables and numerous other uses; that among the various assortments of cables are elevator traveling cables employed for connection of control or lighting circuits of an elevator to the fixed source of supply; that these traveling cables are designed and used to perform functions similar to those of appellee's goods; that appellant has manufactured and sold them continuously for more than thirty years and that its customers for same include elevator contractors, and elevator installation and maintenance contractors; that sales of elevator traveling cables during the period from January 1, 1957, to December 31, 1960, were in excess of $850,000; that advertisement of these cables is confined to descriptions and listings in appellant's catalogues; that appellant owns and operates manufacturing plants and facilities in twenty-two locations and maintains sales offices in sixty-six cities throughout the United States and that its customers include public utility companies, railroads, building and construction companies, mining companies, oil companies, manufacturing companies and agencies of Federal, State and municipal governments.

The record shows that appellant is the prior user with respect to each of its marks.

The issue here is, as stated by the Board, whether or not appellee's mark, "SUPER-FLEX," so resembles any or all of appellant's marks as to be likely to cause confusion or to cause mistake or to deceive.

The Board in a brief opinion held that:

It is apparent that the marks of the parties are similar only in that each embodies the term "SUPER," which possesses an inherent connotation of excellence or superior quality, and which, as further shown by the record herein, forms a component of marks registered by others for electrical wires, cables and or related goods. Giving due consideration to the nature of the term "SUPER," and considering the differences between applicant's mark and each of opposer's marks in their entireties, it is concluded that there is no reasonable likelihood of purchaser confusion, mistake or deception.

[1] We find no evidence of record or reasonable inference to be deduced therefrom that appellant has or will be damaged by appellee's use of the mark "SUPER-FLEX" for the specific goods to which it appertains. The extensive scope, variety and special applications of appellant's goods, the distinction in price and nature of the many goods sold by appellant negates any categorization of sameness in all of the goods of both parties by classifying them as "wire and cable."

Appellant's series of marks with their dissimilar suffixes are presumptively used by appellant to distinguish the marks from each other as well as the goods to which they apply.

[2] A weighty consideration here is the specialized nature of the goods and the market for the goods for which appellee seeks to register its mark. The goods are ordered by those with technical knowledge or subject to technical advice. The goods require explicit specifications. They are adaptable to a limited and specific purpose

[10] Reg. No. 342,704, issued Jan. 26, 1937, for bare and insulated electrical wires and cables.

with prices varying according to technical specifications and, to a large extent, to individual situations. Safety aspects must meet governmental inspection and approval. These circumstances would tend to lend assurance against mistake as to product or source. Potential purchasers in addition to being discriminating persons are limited in number to five or six hundred. It would not seem logical or realistic to conclude under these circumstances that these purchasers of appellee's goods identified under the "SUPER-FLEX" mark would be misled into the belief that they were buying the products of appellant. Especially would this be true where this line of goods has not been associated with a "SUPER" prefix employed by appellant.

We are not persuaded that the record supports appellant's contention relating to a showing of some "secondary meaning" of public reliance on appellant's marks or that the public by virtue of appellant's long usage of the term "SUPER" "naturally accepts" that term as the "dominant feature which identifies appellant's electric wire and cable products as a whole."

[3] Appellant argues that it has established a family of marks using the prefix "SUPER" which would preclude the registration of the term "SUPER-FLEX" by appellee. To so conclude we would have to surmise that purchasers of any one of the many "wire and cable" products were aware of the remainder of the products and the respective marks associated therewith. As we have pointed out, the record fails to show not only that the term "SUPER" identifies appellant to purchasers in the specific field of elevator traveling and lighting cable but also is equally devoid of proof of a public awareness of the individual marks and their identity as to source as to constitute a family of marks. *Motorola, Inc.* v. *Griffith Electronics, Inc.*, 50 CCPA 1518, 317 F.2d 397, 137 USPQ 551, cited by appellant, is factually distinguishable from the case at bar. In *Motorola* the marks were extensively used, displayed and advertised together. Such is not the case here. There is no proof upon which to predicate a conclusion of public acceptance of the pattern for which appellant contends.

[4] Numerous registrations of "SUPER" marks by others, as shown by the record, would seem to preclude the exclusivity of a family of such marks residing in appellant. Of particular significance is the registration of "SUPER CORONOL." [11]

We agree with the Board that *Libby-Owens-Ford Glass Co.* v. *General Aluminum Window Co., Inc.*, 47 CCPA 833, 275 F.2d 947, 125 USPQ 229, cited by appellant, is readily distinguishable from the instant case. The marks there not only contained identical prefixes ("THERMO") but also the court found that their terminal portions "PANE" and "LITE" had the same connotation to the general public. The court further found that both parties advertised extensively, directing same to the same class of purchasers and were interested in identifying their products in the mind of the general public by their respective trademarks. Such is not the case here.

Upon thorough consideration of the cases cited and the argument of counsel, we are not convinced of reversible error in the decision of the Board that, viewing the marks under consideration in their entireties, there is no reasonable likelihood of purchaser confusion,

[11] Reg. No. 675,523, registered March 17, 1959, for electrical wires, cables, and conductors and electrical insulating and/or jacketing materials.

mistake or deception. We therefore affirm the decision of the Board of Appeals.

AFFIRMED.

RICH, *J.*, dissents.

SMITH, *J.* (concurring):

The majority opinion supports its affirmance of the Trademark Trial and Appeal Board for a number of stated reasons. I am satisfied, in reaching the same result, to do so simply by a comparison of the marks in issue. This comparison indicates that the only common feature is the use of the prefix "Super." The record discloses many marks having the identical prefix and further reveals that it is not used alone as a trademark. These factors establish that the "Super" portion of the mark per se performs no trademark function. The suffixes of the marks in issue differ from each other and when combined with the common prefix "Super" become the marks which must be considered as the entities upon which the decision must be predicated. I see no necessity for going beyond the precise language of the Trademark Trial and Appeal Board:

> • • • Giving due consideration to the nature of the term "SUPER," and considering the difference between applicant's mark and each of opposer's mark's [sic] in their entireties, it is concluded that there is no reasonable likelihood of purchaser confusion, mistake or deception.

U.S. Court of Customs and Patent Appeals

IN RE CARL DALTON LUNSFORD

No. 7105. Decided February 13, 1964

[51 CCPA —; 327 F.2d 526; 140 USPQ 425]

1. PATENTABILITY—COMPOUND—OBVIOUSNESS—PROPERTIES OF CLAIMED AND PRIOR ART COMPOUNDS CANNOT BE IGNORED.

   "As this court said in *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43, there is no basis in law for ignoring any property in making a comparison of the claimed and prior art compounds."

2. SAME—PARTICULAR SUBJECT MATTER—"BASIC ESTERS OF 3-ARYL-3-PYRROLIDINOLS."

   The decision of the Board of Appeals, refusing certain claims in an application entitled "Basic Esters of 3-Aryl-3-Pyrrolidinols," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 799,441.

REVERSED.

Gordon W. Hueschen for appellant.

Clarence W. Moore (*J. E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1, 2, 5, 10, 11, 22 and 23 in application Serial No. 799,441, filed March 16, 1959, for Basic Esters of 3-Aryl-3-Pyrrolidinols. Three claims were allowed by the Examiner.

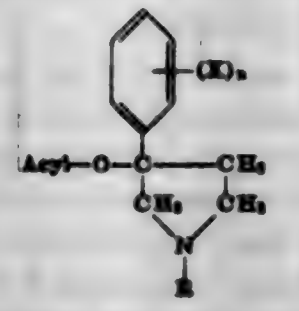
Appellant's application is directed to certain acyloxy derivatives of 3-aryl-3-pyrrolidinols. The specification states that representative compounds of appellant's invention "exhibit a predominant utility and activity as anodyne type antitussive agents [1] or expectorants in ani-

[1] Appellant has defined "antitussives" as "inhibitors of the cough reflex."

mals." It is further stated that the compounds of the invention exhibit a low order of analgesic effect.[2]

Claim 1, which is representative of appellant's acyloxy derivatives and of the appealed claims, reads:

1. A compound selected from the group consisting of 3-phenyl-3-pyrrolidyl basic esters of the following formula:



wherein R is selected from the group consisting of hydrogen, lower alkyl, cycloalkyl, phen-lower-alkyl and phenoxy-lower-alkyl; wherein acyl is a radical selected from the group consisting of acetyl, propionyl, phenoxyacetyl and phenoxypropionyl; and wherein X is selected from the group consisting of hydrogen, halogen, hydroxy, lower alkyl and lower alkoxy and n is a whole number less than 3; and nontoxic acid addition and quaternary ammonium salts thereof, in which quaternary ammonium salts the organic radical is selected from the group consisting of lower-alkyl and aralkyl containing a maximum of eight carbon atoms.

The references relied on are:

Schmidle et al., 2,784,192, March 5, 1957.
Martin et al., 2,987,517, June 6, 1961.
Swedish patent, 159,630, July 16, 1957.
Bloxam (British), 483,258, April 14, 1938.
Roche Products Ltd. (British), 629,196, September 14, 1949.
Richter's Organic Chemistry, vol. 3, pages 3 and 4 (1923).

The Schmidle et al. and British Patent 629,196 disclose 4-piperidinol esters, the Schmidle et al. patent teaching that the esters are "unusually potent analgesics" while the esters in the British patent are said to possess "valuable spasmolytic [3] and analgesic properties."

The Martin et al. patent which is the counterpart of the Swedish patent as stipulated, discloses that certain esters of α-phenyl-α-alkylacetic acid esters of 4-piperidinols and of 3-pyrrolidinols have spasmolytic and excellent analgesic properties. The British Patent 483,258 discloses the equivalence of 4-piperidinols and 3-pyrrolidinols in antispasmodic esters of polyarylacetic acid. Richter's Organic Chemistry lists pyrrolidine and piperidine together under a "Homologous series" of rings.

Claims 1, 2, 5, 10, 11, 22 and 23 were rejected by the Examiner as unpatentable over Schmidle et al. or British Patent 629,196 in view of British Patent 483,258, the Swedish patent and Richter's Organic Chemistry, it being his position that, since the primary references disclose the corresponding 4-piperidinol esters and the secondary references disclose the equivalence of 3-pyrrolidinols and 4-piperidinols in pharmaceutical compounds as well as the homology of pyrrolodine and piperidine, the claimed compounds would be obvious to one skilled in the art. He stated that since the corresponding piperidine compounds were disclosed by the prior art as analgesics and antispasmodics, it would follow that appellant's corresponding pyrrolidinol compounds "would be clearly suggested for testing to one of ordinary skill in the art as analgesics and antispasmodics."

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[2] Dorland, The American Illustrated Medical Dictionary, 80 (22nd ed. 1951), defines "analgesic" as "A remedy for pain."
[3] Dorland, The American Illustrated Medical Dictionary, 1393 (22nd ed. 1951), defines spasmolytic as "Checking spasms."

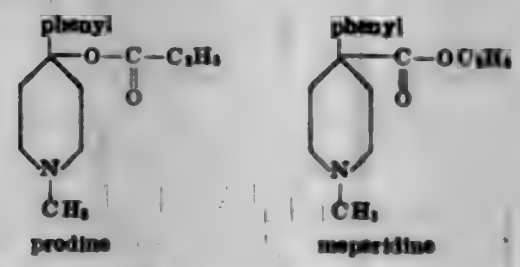
The Board, in affirming the Examiner, stated:

We have carefully considered the utility of appellant's compounds as compared with the prior art. These compounds are within the area shown by the prior art as having both analgesic and antispasmodic effects. To determine that compounds which are obvious in all other respects to one with ordinary skill in this art that would be expected to have properties as analgesics and antispasmodics, have one property to the exclusion of the other is not in itself so surprising as to make the compounds unobvious.

Appellant urges that he has provided new compounds which are nonanalgesics and antitussives. It is contended that antitussive and analgesic activities are separate activities between which there is no parallelism, that this is art-recognized as disclosed in appellant's specification and that neither the Examiner nor the Board "have taken exception to this point." Appellant argues that the prior art compounds most closely related to the claimed compounds by formula or structure have a different pharmacological activity, being highly active analgesics, and that they are in fact addictive. Appellant contends that although some of the closest prior art compounds are known to have antispasmodic activity, none of such compounds are taught to be antitussives and that although antitussive activity could be considered an antispasmodic activity, if it is to be so considered, "it is a *very specific* type of antispasmodic activity." Appellant contends that he has presented affidavit evidence that his claimed antitussive compounds are devoid or substantially devoid of analgesic activity and that the affidavit was considered by the Examiner to establish unobvious properties for the claimed compounds.

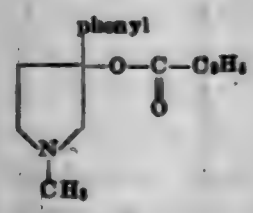
The issue facing this court is whether the subject matter sought to be patented is obvious under 35 U.S.C. 103.

At the time appellant made his invention, one skilled in this art knew that prodine, a substituted piperidine disclosed in the Schmidle et al. patent and the British Patent 629,126, and that the substituted piperidine, meperidine, existed. The formulae of prodine and meperidine are reproduced below:



The are of record taught that prodine is an antispasmodic as well as an analgesic. In an affidavit made of record, it was shown that meperidine exerted a significant analgesic effect and a literature reference was made to prodine wherein it was reported that prodine is even a more potent analgesic than meperidine.

Appellant's compound which is closest to the prior art has the formula:



In the above affidavit, on the basis of comparative tests with that compound of appellant and six other substituted pyrrolidines as against meperidine, it was reported that the substituted pyrrolidine compounds exhibited no appreciable analgesic activity.

We think appellant's showing supports and is in conformity with the statement in his specification that an object of his invention is "to provide a series of compounds having a relatively low order of analgesic activity." Moreover, the unobvious property inherent in the claimed compounds has not been denied by the Patent Office, the Examiner having stated that "The affidavit * * * is considered to establish unobvious properties for the claimed compounds." [1] As this court said in *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43, there is no basis in law for ignoring any property in making a comparison of the claimed and prior art compounds.

We think the record before us is sufficient to rebut the obviousness of the claimed compounds over the prior art.

[2] For the reasons set forth above, the decision of the Board is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE THOMAS LAMB

No. 7100. Decided February 20, 1964

[51 CCPA —; 327 F.2d 679; 140 USPQ 400]

1. PATENTABILITY—REFERENCE—DESIGN PATENT.

In connection with the reliance by the Board of Appeals on a design patent to one Pleasants, *Held* that "We agree with the Board relative to the functional aspects of the helices disclosed by Pleasants irrespective of the nature of the patent grant."

2. SAME—SAME—SAME.

"Appellant argues that the Pleasants' patent may be assigned to the category of 'worse than useless,' attributing this depreciation to the fact that Pleasants was concerned with ornamental design rather than functional utility. Except by way of argumentative assertion, there is no indication of record that appellant's article is more useful than the pen of the Pleasants' disclosure."

3. SAME—PARTICULAR SUBJECT MATTER—"HANDLES OR HOLDERS FOR WRITING INSTRUMENTS."

The refusal of certain claims in an application entitled "Handles or Holders for Writing Instruments," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 808,369.

AFFIRMED.

Emery, Whittemore, Sandoe & Graham (*Nichol M. Sandoe* of counsel) for appellant.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the Examiner's rejection on prior art of appellant's claims 13, 14 and 15, the only claims remaining in the case.

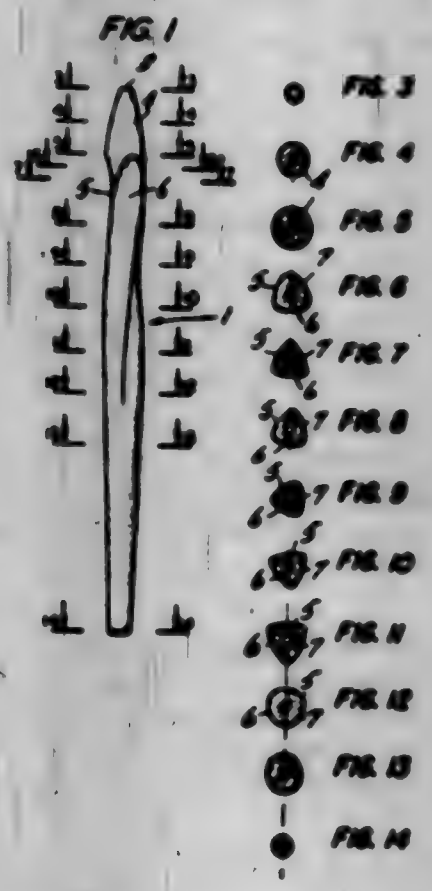
The application [1] is for "Handles or Holders for Writing Instruments."

Claim 15 is typical and, stated with reference to the drawing immediately following, adequately describes the claimed invention:

15. A handle for a writing instrument comprising an elongated body (1) having an end portion (4) which tapers inwardly toward the axis of the body

[1] Serial No. 808,369, filed April 23, 1959.

at the writing end (3) thereof, and having three symmetrical angularly disposed gripping surfaces (5, 6 and 7) adapted to be engaged by the thumb, forefinger and middle finger of the hand, said gripping surfaces terminating at and merging into the surfaces of said end portion at a common cross sectional plane [FIG. 5] perpendicular to the axis of the body and extending away from said end portion longitudinally of the body and helically around the axis of the body so that in successive cross-sections [FIGS. 6–12] taken through the body and through said gripping surfaces the angle between each of said gripping surfaces and a given longitudinal axial plane of reference increases continuously throughout the length of said gripping surfaces, and in which, as said gripping surfaces extend away from said end portion longitudinally of the body, they first curve downwardly toward the axis, then upwardly away from said axis.



The specification recites the objects of the invention as follows:

It is an object of the invention to provide a handle or holder for such writing instruments having gripping surfaces which are so formed as to fit naturally, easily and comfortably the surfaces of the thumb, forefinger and middle finger of the hand when said fingers and thumb are held in proper position for writing. Being so formed, they aid children whose writing habits are unformed, to quickly and easily form correct writing habits. Moreover, said gripping surfaces are so formed as to cause the thumb and fingers to assume proper writing position, and thereby aid older children and adults who have formed incorrect writing habits, to quickly and easily correct such habits and to improve their penmanship. Because the contours of said gripping surfaces tend to cause the writer to hold the writing instrument correctly, and permit the writer to hold the writing instrument securely with less finger pressure, hand and finger tension is reduced and the writer may write for long periods without experiencing writing fatigue.

The references relied on are:

Gordon, 904,059, November 17, 1908.
Foss, 1,953,706, April 3, 1934.
Pleasants, D. 136,595, November 2, 1943.
Lehmann (Swiss), 11,546, January 23, 1896.
Karpoff (French), 1,191,434, April 13, 1959.

Pleasants shows a handle or holder comprising a tapered bar of triangular cross-section rounded at the ends and twisted near the

middle into a helix. FIG. 1 of the Pleasants design patent is as follows:

Fig. 1.



Gordon shows a tapered penholder of triangular cross-section with grooves or channels of concave cross-section at the larger end for resting the index finger and thumb respectively while the forefinger rests on a flat area.

Lehmann shows a tapered holder with raised portions adjacent frontally, said portions with three recesses especially shaped to accommodate when in use the index finger, middle finger and thumb.

Karpoff shows a tapered penholder having a raised portion with three recesses especially shaped to accommodate the thumb, index finger, and middle finger.

Foss shows a penholder of rectangular cross-section with a recess in a longitudinal corner shaped for resting the thumb therein while the forefinger and middle finger rest against flat sections.

The Examiner rejected claim 15 as unpatentable over Pleasants with resort to support from Foss or Karpoff if deemed necessary. The Examiner pointed out that Pleasants shows three symmetrical angularly disposed gripping surfaces which meet the recitation of helical extension "around the axis of the body" and that the angle of any helically extending gripping surface between each of the surfaces and a given longitudinal axial plane would increase "continuously throughout the length of the gripping surfaces" and hence the recitation would not patentably define over Pleasants. He further noted that the recitation that the gripping surface "first curves downwardly toward said axis then upwardly away from the axis" is not only structurally defined by Pleasants but is an obvious expedient common to the art as shown by Foss or Karpoff.

The Examiner rejected claim 14 as unpatentable over Pleasants for reasons applied to claim 15, with attention directed to Gordon, holding that the recitation of the "gripping surfaces being slightly convex in transverse cross section" was not deemed patentably significant; that Gordon discloses flat and concave gripping surfaces; that it is common to the art to have various shapes when viewed in cross-section, reflecting only a matter of choice relating to personal inclination and comfort and varying from person to person without aiding the writing process.

The Examiner rejected claim 13 as unpatentable over Pleasants with attention directed to Lehmann and Karpoff, holding that the precise configuration of the helix was simply another variation to the various curvatures shown by Pleasants, Karpoff and Lehmann. The Examiner concluded that such variation in increase of angle was not an unobvious expedient but involved only "design and/or mechanical skill." The Examiner further noted that Karpoff appeared to show a helical formation within the claimed range and hence such modification was not deemed inventive.

The Board found no error in the Examiner's holding, adding, however, with reference to claims 13 and 14 relating to "slightly convex" gripping surfaces, that:

> • • • a common penholder, which is not provided with finger-gripping grooves therein, has an external convex surface for finger-gripping purposes. Accordingly, it is not unobvious to make the gripping surfaces of the Pleasants penholder slightly convex in cross section.

Appellant relies on three aspects of the gripping surfaces to distinguish the invention from the prior art. First is the helical conformation of the gripping surfaces. Second is the curvature of each surface first downwardly toward the axis of the holder and then upwardly away from the axis. In other words, each surface curves inwardly to a maximum depth approximately where the FIG. 9 cross-section is taken. Third is the slightly convex curvature of the cross-section of the gripping surfaces.

We have carefully compared appellant's drawings with those of Pleasants. The striking similarity of these drawings is inescapable. As pointed out by the Examiner in sufficient detail, it seems clear to us that the description of appellant's claimed invention reads on and is met in large measure by the Pleasants' disclosure. The helical conformation is clearly shown. One need only examine the surfaces to which the gripping surfaces conform, to wit: the fingers, to find a suggestion to curve the gripping surfaces first inwardly then outwardly. As to the minor variations, it would be obvious to make slight modifications of Pleasants as suggested by the teachings of the secondary references. To recite them in more detail would not, in material substance, amount to more than the analysis and comparison made by the Examiner and expressly affirmed by the Board.

The Board took note of appellant's contention that because the Pleasants' patent is for a design, "the helices shown therein are for ornamental purposes only and have no mechanical utility whatsoever." The Board stated further:

> • • • The design shown therein is for a penholder or similar article and it is inescapable that the three helices disclosed have functional aspects, namely to provide finger-gripping surfaces for the thumb, forefinger and middle finger of the hand. The propriety of the use of a design patent as anticipatory for a mechanical claim is well established. *In re Hargraves*, 10 CCPA 784; 11 USPQ 240; 53 F.2d 900; 416 OG 285; 1932 CD 113 and the authorities cited therein.

Appellant states that he does not make the contention attributed by the Board but does contend that Pleasants' helix has no mechanical utility. [1] We agree with the Board relative to the functional aspects of the helices disclosed by Pleasants irrespective of the nature of the patent grant.

[2] Appellant argues that the Pleasants' patent may be assigned to the category of "worse than useless," attributing this depreciation to the fact that Pleasants was concerned with ornamental design rather than functional utility. Except by way of argumentative assertion,

there is no indication of record that appellant's article is more useful than the pen of the Pleasants' disclosure.

[3] Finding no reversible error in the decision of the Board, that decision, for the reasons stated, is accordingly affirmed.

AFFIRMED.

SMITH, *J.*, dissenting.

The majority opinion finds the claimed invention to be obvious and hence unpatentable. Some of the elements of appellant's claimed combination are, in a broad sense, old. But I do not think we should accept this as the criterion for determining the obviousness of the subject matter. Judge Learned Hand, in *Reiner* v. *I. Leon Co.*, 285 F.2d 501, 503, 128 USPQ 25 (2d Cir. 1960), expressed a point of view which I find relevant here when he stated:

> * * * It is idle to say that combinations of old elements cannot be inventions; substantially every invention is for such a "combination": that is to say, it consists of former elements in a new assemblage. * * *
>
> The test laid down is indeed misty enough. It directs us to surmise what was the range of ingenuity of a person "having ordinary skill" in the "art" with which we are totally unfamiliar; and we do not see how such a standard can be applied at all except by recourse to the earlier work in the art, and to the general means available at the time. To judge on our own that this or that new assemblage of old factors was, or was not, "obvious" is to substitute our ignorance for the acquaintance with the subject of those who were familiar with it. There are indeed some sign posts: e.g. how long did the need exist; how many tried to find the way; how long did the surrounding and accessory arts disclose the means * * *?

In order that knowledge of the claimed invention not be presumed a part of the relevant prior art, the mandate of 35 U.S.C. 103 is that the question of obviousness must be determined as of the time the invention was made. My disagreement with the conclusion of the majority opinion arises at this point. It seems to me that the analysis of the prior art, as set forth in the majority opinion, discloses significant differences from the claimed invention. Thus, the Pleasants reference discloses a penholder having three similar, symmetrically arranged gripping surfaces each of which terminates at its lower end in a notched-out recess having a curved wall which meets the gripping surface at substantially a right angle. From this curved wall the gripping surfaces extend straight upwardly, terminating at a point where they are twisted sharply to form a short, steeply inclined helix. The effect of sandwiching the steeply twisted helical surfaces between the two sections of flat, straight surfaces is to force the user to grasp the holder in an incorrect writing position. That is, the short, flat, straight surfaces at the lower end of the holder are the only ones which provide useful gripping surfaces. These surfaces, being short, require the user to grip the holder with the thumb opposite the fingers, thereby forcing a crooking of the fingers in an incorrect writing position. If the user of the Pleasants penholder attempts to use the correct writing position with the fingers extended, the thumb is required to engage the steeply twisted helical portion in an uncomfortable position.

As the Examiner has observed, the actual gripping surfaces of the Pleasants penholder are flat. They do not first curve downwardly toward the axis and then curve upwardly away from the axis, as required by appellant's claims. Thus Pleasants does not disclose the compound curvatures which is characteristic of appellant's gripping surfaces. Each of appealed claims 13, 14 and 15 calls for three sym-

metrical angularly disposed gripping surfaces for engagement by the thumb, forefinger and middle finger of the hand. Each of the gripping surfaces is defined as extending away from a tapered end portion longitudinally of the body and helically around the axis of the body so that in successive cross-sections taken through the body and through the gripping surfaces, the angle between each of said gripping surfaces and a given longitudinal axial plane of reference increases continuously throughout the length of the gripping surfaces.

While the majority opinion does not expressly repeat what seems to me to be an erroneous analysis of Pleasants initially made by the Examiner and concurred in by the Board, it seems to have accepted it. In the majority opinion the differences referred to above are said to be what the majority terms "minor variations," with respect to which the opinion states:

> * * * it would be obvious to make slight modifications of Pleasants as suggested by the teachings of the secondary references. To recite them in more detail would not, in material substance, amount to more than the analysis and comparison made by the Examiner and expressly affirmed by the Board.

The Examiner's position which was accepted by the Board was stated in the action of January 10, 1961 as follows:

> * * * The portion of the gripping surfaces in Pleasants which receives the tip of the fingers defines structure which first curves downwardly toward the axis then upwardly away from the axis as recited. * * *

This statement of the Examiner, concurred in by the Board, seems to me to be unsupported by anything which may reasonably be derived from the Pleasants drawings. On the contrary, the drawings indicate a curved, notched-out configuration at the end of each gripping surface, which is designed to receive the tips of the fingers. This clearly indicates to me that the gripping surfaces are straight and flat and lack the curvature specified in the appealed claims.

The secondary references were relied upon to meet those limitations of the appealed claims not found in Pleasants. In describing the references, the Examiner used the language of appellant's claims, despite the fact that such language seems inappropriate, and is misdescriptive as applied to the actual disclosures of Lehmann and Karpoff, as well as Pleasants. It is difficult to suppose that anyone would use this precise language at the time appellant's invention was made in attempting at that time to describe the Pleasants holder. Thus, absent appellant's disclosure, I fail to find any suggestion that the art could or should be combined in the manner employed by the Examiner. With respect to Lehmann and Karpoff, the Examiner's statement that these references show gripping surfaces which extend "helically around the axis of the body" seems misdescriptive. In these patents the surfaces referred to are recesses with raised edges (Lehmann) or cup-like depressions (Karpoff), and while they are angled across the longitudinal axis in some cases, they do not curve around the axis in the manner of a helix. Cf. *In re Philip A. Shaffer, Jr.*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326.

The question of obviousness as presented by this case requires that appellant's invention be appraised not only against the background of the prior art, but also against the practical reality that to be acceptable it must not only perform a useful function, it must be simple, it must require little or no instruction to the user, it must be universal in the sense that it can be used to advantage by hands of many sizes and shapes, and it must be inexpensive to manufacture. Within

these requirements and limitations appellant created a holder which, it is asserted, has been found to produce a significant improvement in writing habits and a corresponding improvement in penmanship. This appellant attributes to reduction in writing fatigue due to the claimed construction of the holder, which encourages the fingers of the writer to assume a correct writing position.

Appellant has contributed a new penholder which possesses significant differences over the prior art. And it seems to me that, except as one reads the elements of appellant's invention into Pleasants and the secondary references, those differences are such that appellant's invention would not have been obvious at the time it was made. I would, therefore, reverse the decision below.

REISSUES

JULY 28, 1964

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,622
STABLE SILANE TRIOL COMPOSITION AND METHOD OF TREATING GLASS THEREWITH

Clinton W. MacMullen, Hamden, Conn., and Alfred Marzocchi, Pawtucket, R.I., assignors to Cowles Chemical Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Original No. 2,723,211, dated Nov. 8, 1955, Ser. No. 348,552, Apr. 13, 1953. Application for reissue June 30, 1958, Ser. No. 755,818

8 Claims. (Cl. 117—126)

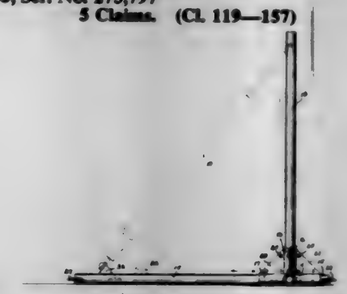
1. The method of treating a glass surface to produce a coating of insoluble organosilicon compounds thereon which comprises preparing an aqueous alkaline solution of the hydrolysis products of a [hydrocarbon substituted] *vinyl* trihalosilane, rapidly reducing the pH of said solution to a value between 2 and 6 to produce a stable acidic solution of said hydrolyais products, applying said acidic solution to said glass surface to cause a coating of insoluble organosilicon compounds to be deposited on said surface, and curing said coating at an elevated temperature below the softening point of said glass to complete polymerization of said compounds.

25,623
ASSEMBLABLE SUPPORT FOR ANIMAL OILERS

Samuel M. Bristle, Woodward, Iowa

Original No. 3,045,647, dated July 24, 1962, Ser. No. 791,126, Feb. 4, 1959. Application for reissue Apr. 22, 1963, Ser. No. 275,797

5 Claims. (Cl. 119—157)



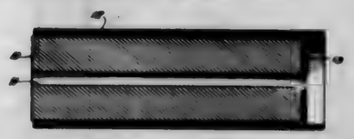
5. In combination, a plurality of horizontal pipes each angularly disposed with respect to each other, a vertical pipe perpendicularly disposed with respect to said horizontal pipes, each of said horizontal pipes extending outwardly from the center longitudinal axis of said vertical pipe, said vertical pipe extending only upwardly from said horizontal pipes, a plurality of clamping shells, each of said clamping shells including two horizontal one-half cylinder portions extending in radial directions and capable of receiving a portion of the surface of two of said horizontal pipes, a horizontal web element interconnecting the bottom portions of said horizontal one-half cylinder portions, said clamping shells also including a single vertical one-fourth cylinder portion secured to the inner ends of said horizontal one-half cylinder portions, said vertical one-fourth cylinder portion being adapted to receive a portion of the outer lower end surface of said vertical pipe, vertical web portions connecting said vertical one-fourth cylinder portion with each of said horizontal one-half cylinder portions, said clamping shells being positioned on opposite sides of each of said horizontal pipes at a point adjacent said vertical pipe, the clamping shells on opposite sides of each horizontal pipe being secured together only by bolt means which interconnect the vertical web portions of said clamping shells.

25,624
METHOD OF FORMING PLASTIC CONTAINERS

William F. Stahl, 423 Abbotsford Road, Kenilworth, Ill.

Original No. 2,989,785, dated June 27, 1961, Ser. No. 822,936, June 25, 1959. Application for reissue Feb. 26, 1962, Ser. No. 176,499

12 Claims. (Cl. 264—230)



1. In a method of forming a plastic container of predetermined dimensions, the steps of placing a plastic tube upon a mandrel of selected diameter smaller than the tube's internal diameter, said tube being formed from an oriented plastic material capable of shrinking into circumferential contact with said mandrel upon the application of heat to form a tube of smaller predetermined size, positioning said tube so that one end thereof extends beyond the free end of said mandrel, inserting into said one end of said tube a dimensionally stable disc having a diameter greater than the external diameter of the mandrel, and thereafter heating said tube to shrink the same about said mandrel and said disc and thereby lock said disc against axial movement with reference to said tube.

25,625
STRUCTURAL ADHESIVE COMPOSITIONS

Jerome L. Bean, Rutherford, and Martin M. Grover, Upper Montclair, N.J., assignors, by mesne assignments, to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original No. 2,920,998, dated Jan. 12, 1960, Ser. No. 434,088, June 2, 1954. Application for reissue Nov. 29, 1960, Ser. No. 73,943

12 Claims. (Cl. 161—186)

1. An adhesive composition containing as a major ingredient a potentially *interreactive* [inter-reactive] mixture comprising a polyepoxide resin having reactive epoxy and hydroxyl groups, a fusible, thermosetting [phenolaldehyde] *phenol-aldehyde* resin, and a member of the group consisting of polyvinyl acetals having 2 to 25 percent residual hydroxyl content and butadiene-acrylonitrile copolymers containing 15 to 45 percent acrylonitrile.

6. A laminate comprising a layer of metal bonded to an electrically insulating material with a bonding layer containing as a major ingredient the heat-hardened *interreacted* [inter-reacted] product of a mixture of polyepoxide resin having epoxy and hydroxyl groups, a fusible, *thermosetting phenol-aldehyde* [thermo-setting phenol-aldehyde] resin, and a member of the group consisting of polyvinyl acetals having 2 to 25 percent residual hydroxyl content and butadiene-acrylonitrile copolymers containing 15 to 45 percent acrylonitrile.

25,626
AIR-HEATING GAS BURNER

Robert H. Yeo and Donald E. Wald, Muncie, Ind., assignors to Maxon Premix Burner Company, Inc., Muncie, Ind., a corporation of Indiana

Original No. 3,051,464, dated Aug. 28, 1962, Ser. No. 768,261, Oct. 20, 1958. Application for reissue May 22, 1963, Ser. No. 284,774

17 Claims. (Cl. 263—19)



16. A gas burner system, comprising a high turndown gas burner and means for generating a low pressure air stream having a substantially constant velocity within the range of up to approximately 4000 feet per minute for flowing forwardly past the burner, said burner including an elongated burner body, gas port means at a series of points along the burner body, shielding walls extending forwardly from adjacent the sides of the body in spaced relation along opposite sides of said gas port means defining a low-flame zone in front of and immediately adjacent said gas port means and independent of said air stream, means including said gas port means for causing a combustible mixture to exist in said low-flame zone, mixing plate walls supported on said shielding walls and extending forward and outward therefrom in gradually divergent relation, said walls defining a forwardly widening trough-shaped mixing space forwardly of said gas port means, said mixing space being forwardly wide open for free and open discharge communication with the passing air stream, said mixing plate walls projecting laterally of said burner body with their back faces positioned to lie exposed to the air stream flowing past the burner, a plurality of apertures in said mixing plate walls spaced at different distances from said burner body, said burner body and divergent walls being shaped to divide and outwardly deflect the air stream flowing past the burner to cause such flow to create reduced pressure in said mixing space, and said apertures being positioned and arranged to admit and direct air from such passing air stream into the mixing space in distinct jets flowing obliquely forward and inward in said mixing space in front of said low-flame zone, said gas port means being operable to discharge variable amounts of gas fuel from said burner body to said low-flame zone and mixing space.

PLANT PATENTS

GRANTED JULY 28, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,428
CHRYSANTHEMUM PLANT

William E. Duffett, Barberton, Ohio, assignor, by mesne assignments, to George J. Ball, Inc., West Chicago, Ill.

Filed Mar. 13, 1963, Ser. No. 264,991

1 Claim. (Cl. Plt.—82)

A new and distinct variety of chrysanthemum plant substantially as herein disclosed, characterized as to novelty by the strong reddish-orange color of its blooms, the very double arrangement of its petals, vigorous and compact habit of growth, abundant, large size of foliage and blooms, and very early, continuous and long blooming period.

2,429
STRAWBERRY PLANT

Bertha Rose Zaun Brunsen, Rte. 1, Clearwater, Minn.

Filed Nov. 15, 1962, Ser. No. 238,048

1 Claim. (Cl. Plt.—49)

A new and distinct variety of everbearing strawberry plant substantially as herein shown and described, characterized by the fruit of said plant being usually rounded heart shape, tapering to a blunt point, having a longitudinal axis somewhat greater than the maximum diameter and having a base indented at the point of connection with the berry stem to complete the heart shape, the flesh of the fruit being characterized by a firmness throughout and exhibiting when longitudinally or stem-cut, a relatively narrow outline simulating in configuration that of a spinning top with the flesh within said outline being for the most part of a similar color and depth to that of the flesh between said outline and the periphery, said plant being further characterized by production of hardy runner plants, many of which bear fully matured fruit the first season, the external aspects of the fruit being glossy and of an intense, medium dark red color within the range described herein, and taste of the prime berries being rather intense and rich but without noticeable acidity.

2,430
ROSE PLANT

Pedro Dot, Barcelona, Spain, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1963, Ser. No. 311,931

1 Claim. (Cl. Plt.—11)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a generally compact and moderately tall habit of growth, a good and continuous flowering habit, with the flowers generally being borne in clusters of several to a stem, good flower petalage, a Deep Lilac general color tonality of the flowers which is maintained from the opening stage to maturity with only slight fading, and a moderate centifolia flower fragrance.

PATENTS

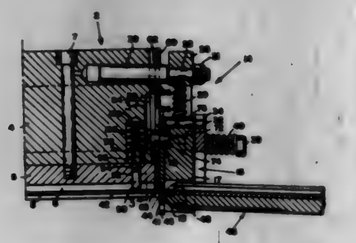
GRANTED JULY 28, 1964

GENERAL AND MECHANICAL

3,142,866
SWINGING KNIFE DIE FOR A STAYING MACHINE

George B. Speidel, Cheltenham, Pa., assignor to Metal Edge Industries, Barrington, N.J., a corporation of New Jersey

Filed Dec. 18, 1961, Ser. No. 159,936
2 Claims. (Cl. 1—117)



1. In combination with a swinging knife die for a staying machine having a V-shaped groove in the body portion thereof to embed a stay in a corner structure and having a swinging knife at one end thereof with a cutter portion to cut off a stay and a V-shaped portion which is aligned with the V-shaped groove of the body by swinging the knife after the stay is cut off, the improvement comprising:

a plunger mounted in said die in a recess opening into the apex of said groove at a point adjacent the end of the die adjacent the swinging knife,

resilient means biasing the plunger outwardly to continuously engage a stay in the die,

said plunger being movable entirely into said recess responsive to the relative upward movement of the stay into said apex on the securing of the stay to a corner structure by the die,

whereby the plunger maintains the stay in a predetermined position during the cutting off of the stay and the securing of the stay to a corner structure.

3,142,867
SYNTHETIC VASCULAR IMPLANTS

William J. Liebig, Martha Road, Harrington Park, N.J.

Original application Nov. 21, 1958, Ser. No. 775,522, now Patent No. 3,096,560, dated July 9, 1963. Divided and this application Feb. 16, 1961, Ser. No. 89,862
3 Claims. (Cl. 3—1)



1. A vascular prosthetic implant comprising a tubular fabric body circumferentially integrally fashioned of sterilizable tissue-compatible synthetic multi-filament yarns having a fineness of the order of 70 denier and being compactly disposed in the fabric of the tubular body for according thereto a predetermined limited but tissue-growth-promoting porosity value in the range of about 16 to 30 in terms of cubic feet of air a minute per square foot of fabric at a pressure of 1.26 in. of water,

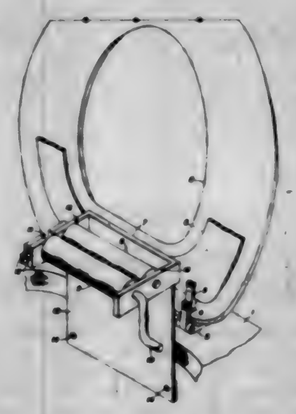
said tubular implant body having a normally open lumen within a uniform-diametered cylindrical interior wall defined by axially contiguous and effectively continuous smooth fabric rings spanning between the inner bases of and held open by external circumferential micro-crimps of outward extent substantially less than the lumen radius and disposed in axially compacted randomly contiguous array for structurally affording to the implant in the absence of additive fabric stiffening treatment the capacity of self-maintenance in open lumen status under subjection to expectable use flexure and of self-restoration to such open status on release of temporarily constricting external pressure,

said tubular implant in said normal open form possessing high lateral flexibility and resilience and being elastically extensible and contractible axially.

3,142,868
DIAPER RINSING DEVICE

Harold A. Levesthal, 435 W. 23rd St., New York, N.Y.

Filed Dec. 10, 1962, Ser. No. 243,667
6 Claims. (Cl. 4—1)



1. As a toilet accessory, the combination comprising,

wringer means comprising two parallel rollers in close proximity;

wringer-mounting arms supporting said rollers so that said rollers may rotate about their respective axes;

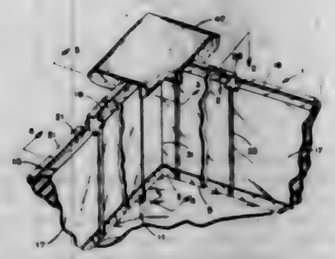
a plate having said wringer-mounting arms integrally attached thereto; and

a pair of brackets attached at and extending from the lower edge of said plate, said brackets being spaced from each other and adapted for attachment beneath one end of each of the hinges to which the seat of said toilet is attached, and said plate, arms and wringer means being entirely covered by said seat when so attached and said seat is lowered.

3,142,869
CONSTRUCTION MEMBERS FOR SWIMMING POOLS

Daniel J. O'Connell, Waterford, and Phillip J. Beckman and Robert Q. Stockholm, Troy, N.Y., assignors to Trojan Pools, Inc., Albany, N.Y., a corporation of New York

Filed Dec. 4, 1962, Ser. No. 242,283
9 Claims. (Cl. 4—172)

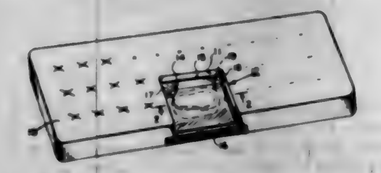


1. Construction members for the construction and erection of the walls of the swimming pool comprising bottom corner channels, bottom channels, corner panels, panels, longitudinal panel joiners, corner copings and top copings; said bottom corner channels and bottom channels having integral channel plates for securing same together, said channels having main webs and upstanding flanges to receive said corner panels and panels, respectively, forming thereby the walls of said swimming pool; said panels having outside sheets sandwiching therebetween polystyrene type of plastic bead boards, each outside sheet of each of said panels having an inturned flange at the top and bottom portion thereof with the lateral portions of each outside sheet formed as flanges with inwardly flared lip portions; in assembly of said panels to form the walls of the swimming pool the lateral portions of adjacently disposed sheets having their flanges in abutting relationship; said longitudinal panel joiners having inturned lip portions for disposition internally of adjacent sheets and securing together of same by engagement of the inturned lip portions of said panel joiners with the inwardly flared lip portions of said outside sheet; said corner copings and top copings having main webs and depending leg flanges for emplacement on the panels and in abutting relationship with the inturned flanges at the top of said sheets, said copings having integral plates for securing same together.

3,142,870
HOSPITAL AND INVALID MATTRESSES

Rosie J. Henry, 1332 67th St., Berkeley 2, Calif.

Filed Apr. 4, 1963, Ser. No. 270,689
2 Claims. (Cl. 5—91)



1. The combination with a mattress having a centrally disposed opening extending entirely through said mattress, the mattress surrounding the entire wall of the opening and the opening being large enough to receive a bed pan; of

(*a*) a flexible moisture-proof lining having a bottom and an integral flexible flange extending around the entire edge of the bottom and having a depth substantially equal to one-half the height of said mattress; and

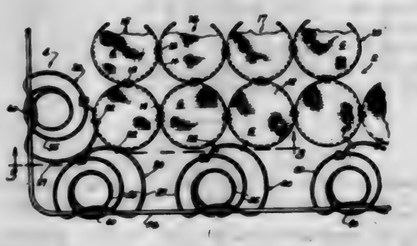
(*b*) means attaching said flexible flange to the wall of said mattress opening at approximately the intermediate height of said opening so that the lining bottom will substantially lie in the plane of the mattress bottom;

(*c*) said flexible lining being adapted to invert itself and turn inside out when the mattress is turned upside down so that the lining bottom will again lie substantially in a plane that lies flush with the bottom of the mattress.

3,143,071
SPRING ASSEMBLY FOR BEDDING AND FURNITURE

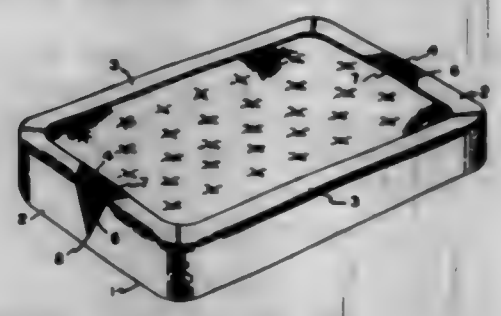
Fred A. Nachman, Jr., Chicago, and Arthur E. Rose, Des Plaines, Ill., assignors to Nachman Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 22, 1960, Ser. No. 71,886
6 Claims. (Cl. 5—248)



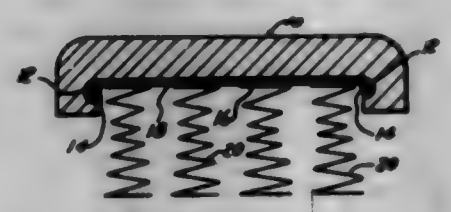
1. A multiple coil spring assembly comprising a plurality of coil springs arranged in rows to form an internal spring portion and an external spring portion bordering the perimeter thereof and means interconnecting said spring portions, said internal spring portion comprising a plurality of coil springs, a cell for each coil spring formed of textile material and dimensioned to have a diameter corresponding generally to the diameter of the coil springs and a length less than the normal length of the coil springs, said coil springs being confined within said cells in a compressed state to form prefabricated units which are separate and apart from each other, and means interconnecting said spring-containing cells aligned in rows to effect an assembled relation, and said external spring portion comprising a plurality of coil springs of saddle-shape which have a normal length greater than the length of the textile cells, a top border frame member and a corresponding bottom border frame member arranged about the coil springs adjacent the top and bottom terminal coils respectively thereof and positioned to extend as chord members across the terminal coils to subdivide said coils into inwardly extending portions and outwardly extending portions, the latter of which are wrapped about the border frame to effect an interconnection therebetween, to compress the external spring coils to a length which corresponds to the length of the textile cell, and to position the border frame members in substantial vertical alignment with the outer edges of the intermediate coils of least diameter in the coil springs of saddle-shape thereby to locate the border frame members in substantial vertical alignment with the major axial forces capable of being developed by the engaged coil springs when said springs are in loaded condition and to provide a coil spring assembly characterized by level internal and external spring portions.

3,142,872
FITTED BED COVER
Louis A. Goodson, Jr., Danville, Va., assignor to Dan River Mills, Incorporated
Filed June 7, 1962, Ser. No. 200,760
1 Claim. (Cl. 5—334)



In a fitted mattress cover having a top panel of cloth, a pair of side panels and a pair of end panels, both pairs extending from said top panel and forming a free edge, said end panels, in each instance, having opposed edges secured to adjacent edges of said side panels, the improvement which comprises at least one of said panels having a triangular cut-out intermediate said opposed edges and extending from said free edge thereof and a resiliently extensible triangular insert being extensible only in a direction parallel to said free edge and disposed within said cut-out and secured to said panel.

3,142,873
SNAP ON PAD AND INSULATOR
Lewis J. Stern, Adrian, Mich., assignor to Stabultz Greene Corporation, Adrian, Mich., a corporation of Michigan
Original application June 11, 1957, Ser. No. 664,947, now Patent No. 2,985,230, dated May 23, 1961. Divided and this application Jan. 23, 1961, Ser. No. 84,366
1 Claim. (Cl. 5—354)



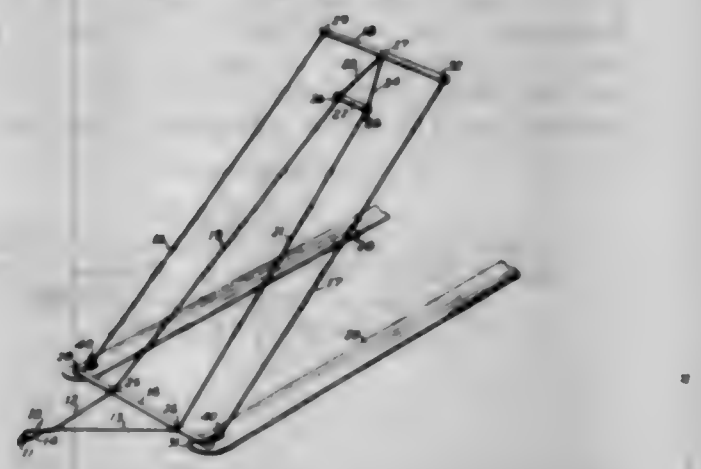
A molded pad of resilient urethane foam for use on a spring structure having an upper border frame, said pad having a top portion for disposal upon the top of the spring structure, an integral peripheral flange portion on the underside of said top portion and depending normal therefrom in an unstressed state to dispose the same along the sides of the spring structure, said flange on the inside thereof being formed with an undercut wall portion to provide an area of maximum clearance directly adjacent the underside of said top portion, an insulator extending along said underside of said top portion with its edges disposed on the inside of said flange and extending into said area of maximum clearance so as to reinforce said wall portion, the inside dimensions of said flange below said area being less than the inside dimensions of said area and the inside dimensions of said area being less than the peripheral outside dimensions of the border frame with said flange unstressed whereby said flange may be snapped on the border frame and the top portion retained in position on the spring structure with the border frame located in said area of maximum clearance with said insulator being located between the border frame and said wall portion, the resiliency of said top portion and flange constituting the retaining means for holding the pad upon the spring structure.

3,142,874
BAG CONTENTS REMOVER
Werner Reich, 666 W. 188th St., New York 40, N.Y.
Filed Sept. 27, 1961, Ser. No. 141,195
2 Claims. (Cl. 7—6)



1. A bag contents remover of the character described comprising a pair of jaw members, means pivotally interconnecting said jaw members in face to face scissor-like relation at a midportion thereof, each jaw member having finger grip means on one end and a blade formed along the opposite end thereof, each blade having an exterior cutting edge opposing the other, a first of said blades being formed with a longitudinal slot extending substantially the length thereof, means associated with at least one of said jaw members for abutting the other jaw member to position said blades in an aligned parallel fully closed overlying relation, said longitudinal slot being positioned with respect to the second of said blades and said pivotal interconnecting means for partial restriction by said cutting edge of the second of said blades when the blades are in said fully closed position for contacting and compressing opposite side walls of a sheet material bag positioned in said slot to dispense contents thereof by drawing the remover across the length thereof from a closed bag end to an opposite open end.

3,142,875
WATER SKI TOWING DEVICE
Thomas Gardner Hill, 9 Southland Drive, Glen Cove, N.Y.
Filed June 27, 1961, Ser. No. 119,997
6 Claims. (Cl. 9—310)



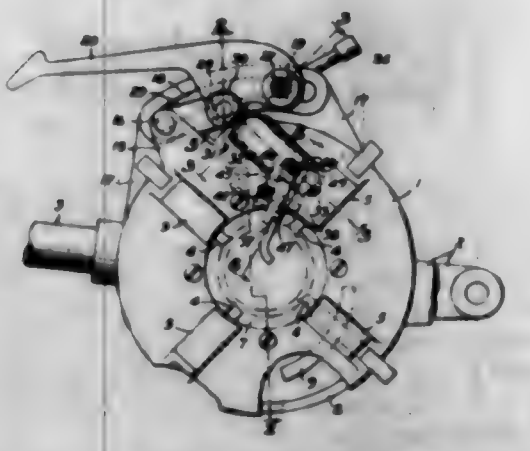
1. In a water ski towing device of the type for towing a person on skis from an initial pull-out position to a planing position, a tow line assembly including a tow line adapted to be secured to a prime mover for providing an essentially horizontal pull to said tow line, a tow bar connected by its central portion to said tow line, a pair of harness straps connected to the ends of said tow bar, portions of said straps being releasably engageable with hitches on said skis, and a release line secured to said tow bar between said harness straps for simultaneously urging upwardly said portions of said straps for disengaging said portions from said hitches.

3,142,876

COLLAPSING DIE HEAD WITH TRIP MEANS SELECTIVELY POSITIONED TO PERMIT MANUAL COLLAPSE

Ove Brandt, South Euclid, Ohio, assignor to The Plymouth Corporation, Wickliffe, Ohio, a corporation of Ohio

Filed May 16, 1962, Ser. No. 195,120
5 Claims. (Cl. 10—96)



1. In a thread cutting die head having an opening through which a workpiece to be threaded may be fed, a radially movable thread cutting chaser, means for moving said chaser into and out of thread cutting position and manually operable means for actuating said chaser moving means, retractable means engageable with said moving means for automatically actuating said chaser moving means independently of said manually operable means to move the chaser out of thread cutting position after a predetermined length of thread has been cut comprising a spring operated member for actuating said chaser moving means to move said chaser out of cutting position, releasable means for holding said member in a retracted position where it does not interfere with the manual operation of said moving means comprising, a trip arm movably mounted on said head for adjustment to a tripping position in the path of a workpiece being fed through said head or to a non-tripping position clear of said path, locking means engageable with said spring operated member to hold the same in retracted position, said locking means being connected to said trip arm for movement into locking position upon movement of the trip arm to tripping position and to releasing position upon movement of the trip arm by the work piece and a second locking means connected to said trip arm for movement into locking engagement with said spring operated member for holding it in retracted position when said trip arm is moved out of the path of the work and for retaining said trip arm in non-tripping position.

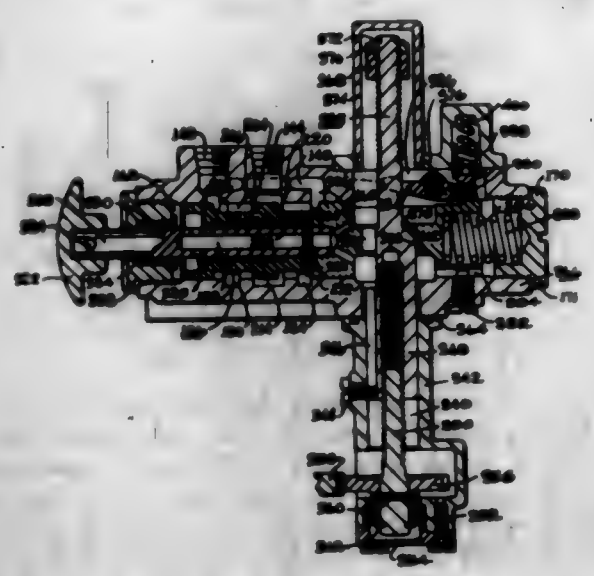
3,142,877

SCREW THREADING APPARATUS WITH MECHANICALLY ACTUATED VALVE FOR CONTROLLING REVERSIBLE FLUID MOTOR

Claude H. Nickell, 17809 Oakwood Ave., Dearborn, Mich., assignor of fifty percent to Alfred E. Wilson, Dearborn, Mich.

Filed Feb. 18, 1959, Ser. No. 794,124
5 Claims. (Cl. 10—129)

1. An automatic lead and thread forming device comprising a tap having a non-circular shank, a driving sleeve adapted to drivingly receive the shank of the tap for axial movement therein, a work support, a threaded lead bushing adapted to threadingly receive the tap for axial movement therein, gear means to drive the driving sleeve, a reversible fluid pressure operated motor to drive the gear means, a source of fluid pressure, valve means interposed between the source of fluid pressure and the fluid motor and having a movable plunger operable in one extreme position to drive the motor in one direction and operative in the other extreme position to drive the motor in the reverse direction and operative in an intermediate position to interrupt the drive of the fluid motor, yielding means urging the plunger toward one extreme position, an interlock pawl operative upon movement of the plunger to the extreme position against the resistance of the yielding means to hold the plunger in said position, adjustable threaded stop means con-



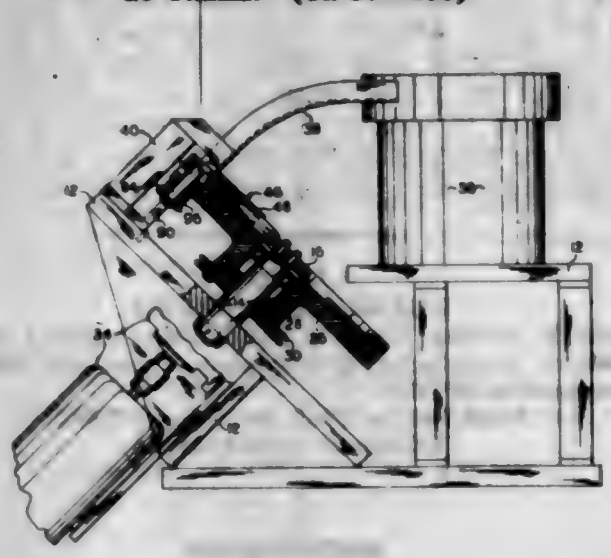
trolling the release of the interlock pawl to vary the length of stroke of the tap, telescoping threaded means driven by said gear means to move said stop means in one direction to release the interlock pawl to reverse the direction of rotation of the fluid motor, and cam means carried by the telescoping threaded means and operative during movement of said stop means in the reverse direction to move the plunger to the intermediate position to interrupt the drive of the fluid motor.

3,142,878

FASTENER AND WASHER ASSEMBLY MACHINE

George R. Pipes, South Euclid, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

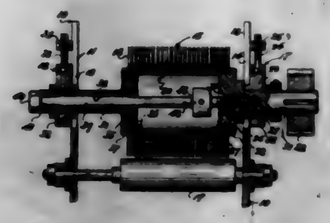
Filed Jan. 23, 1961, Ser. No. 84,055
20 Claims. (Cl. 10—155)



1. Apparatus for assembling fasteners with washers comprising a rotatable table, said table having means thereon for carrying fasteners in fixed radially inwardly projected position for assembly, washer carrying means disposed on said table radially spaced from and in radial alignment with said fastener carrying means, means cooperable with said washer carrying means operable to impart radial outward movement thereto assembling said

washer with said fastener and means operable to effect rotation of said rotatable table.

3,142,079
QUICK-CHANGE EXPENDABLE BRUSH FOR DULLING MACHINES
Edward F. Haracz, 161 Pershing Ave., Clifton, N.J.
Filed Aug. 14, 1962, Ser. No. 216,837
7 Claims. (Cl. 15—77)



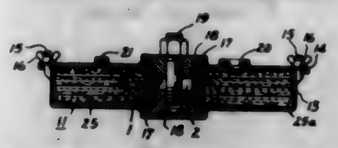
1. In a dulling machine, the combination of: a housing having laterally spaced apart side walls; and a demountable brush assembly including a headstock subassembly mounted on one side wall of the housing and provided with a first bearing, a first arbor journaled in said first bearing in non-axially movable relation thereto, and driving means for said first arbor; a tailstock subassembly including a second bearing mounted on the opposite wall of the housing in axial alignment with said first bearing, and a second arbor journaled in said second bearing in axial alignment with said first arbor; the inner ends of said first and second arbors being relatively spaced axially; an expendable dulling brush, removable from said dulling machine in a direction normal to the axis of said bearings, said brush including a tubular core; said second arbor being axially slidable in said second bearing; radially enlarged heads provided on the inner ends of the respective first and second arbors and having axially inwardly facing opposed seats for coupling engagement with the corresponding ends of the brush core; and releasable means to draw said second arbor inwardly through the second bearing toward said first arbor to clamp the dulling brush in operative assembled position therebetween, the retraction of said releaseable means effecting disconnection thereof from coupled relation to said first arbor, whereby to permit released retraction of said second arbor from normally engaged relation with the core of the dulling brush, and thus to disengage the latter subject to removal from coupled relation to and between the first and second arbors, without necessity for dismounting the said bearing members from the housing.

3,142,080
DOUBLE END BRUSH
Brooks E. Nelson, Chagrin Falls, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 6, 1962, Ser. No. 171,398
12 Claims. (Cl. 15—106)



10. A double end brush comprising a central retaining member, brush filaments projecting axially of said central retaining member, and means projecting inwardly from said retaining member with an hourglass profile opening extending axially through said inwardly projecting means and said brush.

3,142,081
POLYURETHANE REINFORCED BRUSH
Walter A. Hartz and Michael Kalbaer, Cuyahoga Falls, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 21, 1962, Ser. No. 239,135
7 Claims. (Cl. 15—179)



1. In a wire brush comprising a fastening portion and a plurality of wire bristles extending therefrom, a solid rubbery material substantially completely surrounding and reinforcing the sides of said wire bristles and joining portions spaced from said fastening portion together, said material being a solid linear polyurethane formed by reacting a linear polyol having terminal hydroxyl groups and a molecular weight of at least 500 with an organic diisocyanate.

3,142,082
PAINT DESIGN TRANSFER TOOL
Robert Bennett Harwood, 285 E. 79th St., Chicago, Ill.
Filed Sept. 19, 1961, Ser. No. 139,133
4 Claims. (Cl. 15—210.5)

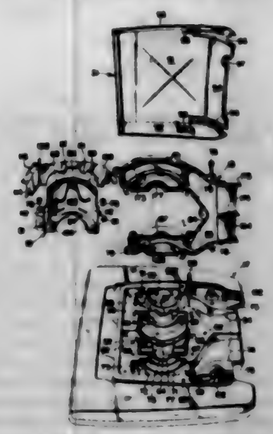


1. In a design paint transfer tool, a holder comprising a main panel and an auxiliary panel substantially right angularly disposed on one end of the main panel, a manipulating handle on the holder within the angle defined by said panels, said main panel having longitudinal marginal flanges on the opposite face thereof from said handle and such marginal flanges defining opposed longitudinal channels opening at the auxiliary panel end of the main panel, and an applicator panel having one flat face and an opposite face provided with applicator projections, said applicator panel having margins engaged by longitudinally sliding the same into said channels from said auxiliary panel end, an auxiliary applicator panel on said first mentioned applicator panel and engageable against the auxiliary panel of the holder, and means on the auxiliary panel of the holder for retaining said auxiliary applicator panel and thereby retaining the first mentioned applicator panel against unintentional withdrawal from said channels.

3,142,083
VACUUM CLEANER
Paul O. Hanson, Bloomfield, and William T. Fleming, Boonton, N.J., assignors to The Singer Company, Elizabeth, N.J., a corporation of New Jersey
Filed Aug. 8, 1963, Ser. No. 300,737
7 Claims. (Cl. 15—324)

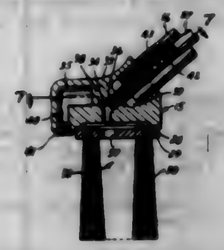
1. A vacuum cleaner comprising in combination, a chassis formed with a downwardly open beater-brush receiving channel, a downwardly open dust-conveying channel extending rearwardly from said beater-brush receiving channel, a plurality of upwardly open cavities including, a dust-moving fan receiving cavity, a dust-exit passageway in communication with the said dust-moving fan receiving cavity, a cavity having a semicircular groove adapted to accommodate a motor stator, and means for supporting carbon-brush holders; an upper

blower cover having a downwardly open dust-moving fan receiving cavity, and a downwardly open dust-exit passageway extending rearwardly from said downwardly open dust-moving fan receiving cavity; a motor hood



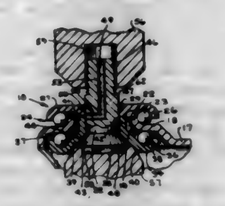
having a surface adapted to engage the top of a motor stator, and means adapted to press said carbon-brush holders against the said means for supporting said carbon-brush holders; a top cover secured to said chassis; and an access plate secured to the lower surface of said chassis.

3,142,084
SIGN WASHER
Thomas J. McMullen, 810 Cromwell Ave., St. Paul 14, Minn.
Filed Dec. 3, 1962, Ser. No. 241,599
4 Claims. (Cl. 15—524)



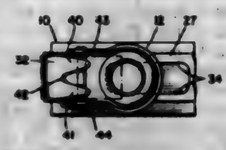
1. A sign washer comprising,
(*a*) a washer head and a scrubbing brush secured to said washer head, said brush comprising a mounting plate and a plurality of bristles extending outwardly therefrom,
(*b*) an elongated rigid tubular handle extending outwardly from said head,
(*c*) a conduit extending from said head within said rigid handle and subtantially co-extensive in length with said handle,
(*d*) a manifold secured to the outer end of said handle and connected to the adjacent end of said conduit,
(*e*) a pair of valves associated with said manifold and operatively communicating with respective ones of said tubular handle and conduit,
(*f*) said valves adapted to be connected respectively to sources of liquid detergent and rinsing liquid under pressure,
(*g*) said head defining spaced independent passages communicating with respective ones of said tubular handle and said conduit,
(*h*) one of said passages opening through said head laterally outwardly of said brush,
(*i*) said mounting plate having a discharge opening therethrough between some of said bristles and communicating with the other of said passages.

3,142,085
SWIVEL MECHANISM FOR A CASTER
John W. Black, Prairieville, Mich., assignor to Pemco Wheel Company, Kalamazoo, Mich., a corporation of Michigan
Filed Feb. 13, 1963, Ser. No. 258,287
16 Claims. (Cl. 16—21)



1. A king pin and bearing construction for a swivel caster having a swivel plate with a central opening therethrough, comprising:
first and second annular bearing ball retainers disposed upon opposite sides of and spaced from the swivel plate, said retainers having annular and coaxial flange means adjacent their inner edges, said flange means extending toward each other and firmly limiting movement of said retainers toward each other, one of said flange means having a substantially cylindrical portion and both of said flange means having portions defining openings having walls diverging away from the swivel plate;
a plurality of bearing balls disposed between said retainers on opposite sides of said swivel plate for snug rolling engagement with said retainers and said swivel plate;
means on said swivel plate and said retainers for holding said bearing balls in annular paths substantially concentric with said flange means;
a king pin having a central portion snugly disposed within said flange means and said cylindrical portion, said king pin having a pair of spaced, annular flange portions near the opposite ends of said central portion, said flange portions having outer surfaces converging toward each other and of substantially the same shape as and snugly received into the openings in said flange means, whereby relative axial movement of said first and second retainers is positively opposed.

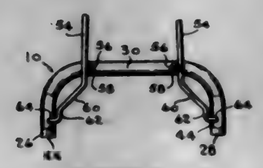
3,142,086
CASTER LOCK MECHANISM
William M. Thomas, 654 S. Westlake Ave., Los Angeles 54, Calif.
Filed Oct. 17, 1961, Ser. No. 145,684
4 Claims. (Cl. 16—35)



1. In a typewriter stand including a pair of horizontal frame members in spaced parallel relationship, a cross

member having its ends connected to mid-portions of said frame members to define a general H-shape, four casters mounted to the under side of the end portions of said frame members, and a vertical stand member extending upwardly from the mid-portion of said cross member for supporting a typewriter table, a caster lock mechanism for locking said casters against swiveling movements beyond a given degree comprising, in combination: a sleeve member extending upwardly from said cross member in adjacent parallel relationship to said stand member; an actuating tube extending through said sleeve and having its lower end protrude from the under side of said cross member, the upper end of said actuating tube terminating in handle means for rotating said tube within said sleeve; a cross bar running beneath said cross member and terminating in ends adjacent the mid-portions of said frame members; an actuating lever having one end secured to said lower end of said actuating tube and its other end coupled to said cross bar such that rotation of said lever by said actuating tube moves said cross bar laterally from a first position in which its ends are closer to two of said casters at similar ends of said frame members to a second position in which its ends are closer to the other two casters at the opposite ends of said frame members; a pair of slide bars parallel to said frame members and having their mid-portions respectively coupled to said ends of said cross bar for movement along the under sides of said frame members between first and second positions upon movement of said cross bar, said slide bars having elongated guide slots in their ends through which said casters are mounted to hold said ends adjacent to said frame members and permit sliding movement thereof; and caster engaging means secured adjacent to the ends of said slide bars and positioned to engage said casters to lock the same against swiveling movement when said slide bars and cross bar are in said first positions and to be free of said casters when said slide bars and cross bar are moved to said second positions.

3,142,887
HANDLE FOR GOLF CLUB CARRIER
Henry P. Yokers, Menomonee Falls, Wis., assignor to Sit 'N Rest Golf Bag Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 17, 1961, Ser. No. 145,609
7 Claims. (Cl. 16—112)



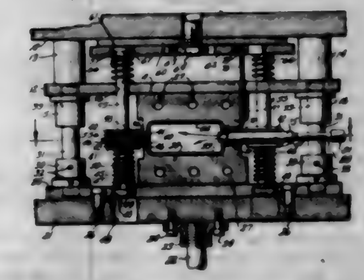
4. In a golf club carrier having a frame including a pair of spaced apart hollow frame members each provided with an aperture, the combination with said frame members of a handle having a pair of elongated members the ends of which each include a first portion extending along a portion of respective ones of said frame members and a second portion diverging from said first portion into one of said apertures and terminating in spaced relation from the inner wall of said frame members so that the ends of said elongated members engage the outer walls of said frame members to hold the ends of said second portions in spaced relation from the inner walls of said frame members, and means for maintaining engagement of said ends of said elongated members with the outer walls of said frame members.

3,142,888
THERMOPLASTIC FASTENING DEVICE
Dale Cravath, 714 5th Ave. SE., Rochester, Minn.
Filed Apr. 27, 1961, Ser. No. 105,949
1 Claim. (Cl. 16—121)



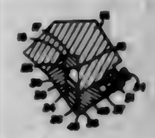
In combination, a material having an aperture defined therein, a gripping element having a body portion disposed adjacent one side of said material, said body portion of said gripping element being larger than said aperture of said material, said gripping element also defining an elongated tine portion secured at its one end to said body portion of said gripping element, said tine portion of said gripping element being formed of a thermoplastic substance, said tine portion being received within said aperture of said material and extending therethrough whereby the other end of said tine portion of said gripping element projects beyond the other side of said material, and an anchor element having a generally centrally defined aperture therein, said anchor element being received on the projecting other end of said tine portion of said gripping element so as to dispose said anchor element with one of its sides adjacent said other side of said material, said aperture defined by said anchor element being enlarged adjacent said one side thereof so as to define outwardly diverging side surfaces of said aperture, said aperture defined by said anchoring element also being enlarged adjacent the other side of said anchor element so as to define a generally arcuate socket, said other end of said tine portion being deformed by the application of heat thereto and thereby expanded within the socket portion of said aperture defined by said anchor element so as to secure said tine portion to said anchor element and also secure said gripping element to said material, said tine portion being secured within said socket portion of said anchor element so as to permit pivotal movement of said gripping element with respect to said anchor element.

3,142,889
METHOD AND APPARATUS FOR FINISHING BLOW MOLDED ARTICLES
Joseph M. Wilkalis, West Hartford, and Donald R. Seifel, Wethersfield, Conn., assignors, by mesne assignments, to Monsanto Chemical Company, a corporation of Delaware
Filed Apr. 12, 1961, Ser. No. 102,585
11 Claims. (Cl. 18—5)



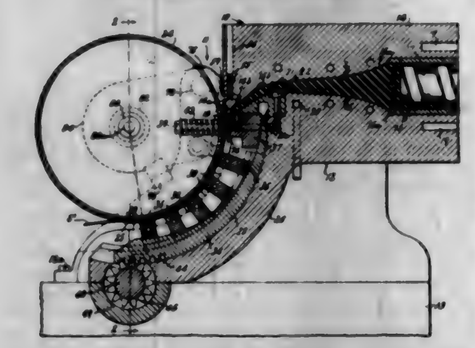
1. In a molding press, a plurality of film mold elements forming in juxtaposition a mold cavity, at least two of said elements being juxtaposable adjacent a parting plane of said cavity and having pinching lands of limited width in said plane outside the cavity, a pair of stripping members positionable on either side of said plane proximate to but spaced from the mold lands, means for forcing at least one of the stripping members toward the other, and drive means operable during operation of the first recited means to cause parallel relative displacement of the stripping members and the pinching lands by movement transverse to said plane to part external film portions from film portions engaged between the pinching lands.

3,142,890
EXTRUDERS
Robert E. Hoffman and Lloyd B. Spessagle, Akron, and Arthur D. Stevens, Cuyahoga Falls, Ohio, assignors to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed July 26, 1961, Ser. No. 126,994
5 Claims. (Cl. 18—12)



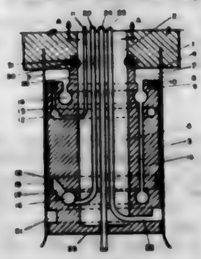
1. A flat film extrusion die comprising a one piece body having means defining a plastic inlet passageway and a longitudinally extending recess communicating with said passageway, a fixed die member, a wedge bar between said fixed die member and said die body securing said fixed die member in sealing relation in said recess, means in said fixed die member defining a manifold cavity formed in one side thereof positioned adjacent a cooperating surface portion of said body to form a plastic manifold defined wholly between said fixed die member and said body, said fixed die member extending from said manifold and terminating at a lip externally of said body and defining with said body an elongated extrusion passageway leading from said manifold to said lip, a movable die member, means mounting said movable die member on said body, said movable die member having a die lip portion cooperating with the said lip of said fixed die member defining an elongated extrusion orifice communicating with said extrusion passageway.

3,142,891
APPARATUS FOR MAKING ELASTOMERIC SHEET STOCK
Donald N. Curtis, Franklin Lakes, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed May 28, 1962, Ser. No. 198,898
9 Claims. (Cl. 18—12)



1. Apparatus for producing dimensionally stable sheeting of uncured elastomeric stock, comprising an extrusion head having a movable portion defining a die opening of adjustable cross-sectional height, a drum journaled for rotation about its axis and mounted with its outer peripheral face adjacent to said die opening, a curved shield positioned adjacent and spaced uniformly from said drum and extending over a portion of the periphery of the latter, said drum and shield defining therebetween a shaping cavity of uniform cross-sectional height greater than the cross-sectional width of said die opening, the inlet end of said cavity being in communication with said die opening, extruder means for forcing said stock through said die opening into said shaping cavity, said die opening being oriented at an angle between about 30° and about 70° to the direction of movement of the extrudate as it enters said shaping cavity, means for jointly adjusting the position of said shield relative to said drum and the position of said movable portion of said extrusion head defining said die opening, thereby to adjust said cross-sectional heights of said die opening and said shaping cavity so as to maintain a constant relationship therebetween, and braking means operatively connected with said drum for controlling the rotation thereof so as to ensure that said drum exerts a retarding force on the extrudate moving through said shaping cavity and thereby effects a reorientation of the extrudate to eliminate residual internal stresses therefrom.

3,142,892
APPARATUS FOR SIMULTANEOUSLY EXTRUDING AND COOLING TUBULAR FILM
Robert H. Ralston, Kennett Square, Pa., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 28, 1961, Ser. No. 106,230
5 Claims. (Cl. 18—14)

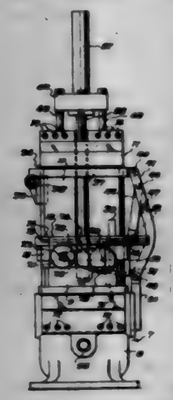


2. Apparatus comprising an extruder adapted to extrude molten thermoplastic polymer in the form of a tubular film downwardly through an annular orifice; a substantially cylindrical mandrel affixed to said extruder coaxial with and approximately the same diameter as said annular orifice, said mandrel having a recess extending circumferentially around its upper extremity; means for continuously delivering a cooling liquid to said recess; means for drawing the film downwardly over said mandrel whereby the film contacts the cooling liquid and is thereby cooled and solidified; a second recess extending circumferentially around the periphery of the mandrel at a point beneath the first-named recess; separate means for applying vacuum to said second recess for removing cooling liquid by aspiration from between the film and mandrel; a third recess extending circumferentially around the periphery of said mandrel at a point beneath the second recess; and means for applying vacuum to said third recess to create a gas-tight seal between the film and the mandrel.

3,142,893
MOLDING PRESS WITH PRESS PLATES MOVABLE OUT OF THE PRESS
Murray C. Tribbett, Piqua, Ohio, assignor to The French Oil Mill Machinery Company, Piqua, Ohio
Filed July 12, 1962, Ser. No. 209,432
14 Claims. (Cl. 18—16)

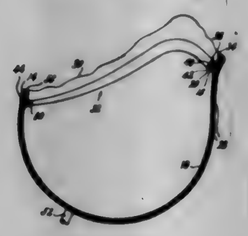
3. In a press of the type having a platen movable toward and from a press head, that improvement which

includes a frame having spaced side members, said head disposed between and connected to said side members at one end of said frame, a ram at the other end of said frame on which said platen is mounted, a pair of press plates in said frame between said platen and said press head, the lower of said press plates being horizontally



slidable into and out of the press on said platen, gearing means on said platen and having a part extending into contact with a part on said frame for actuating said gearing in one direction to move said press plate out of the press when said platen is moving downwardly and for movement of said press plate into the press when said platen moves in the opposite direction.

3,142,894
MOLD FOR OPEN HOLLOW OBJECTS
James R. Larkin, Pawtucket, and Richard J. Van Twisk, Barrington, R.I., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 18, 1962, Ser. No. 167,102
2 Claims. (Cl. 18—39)



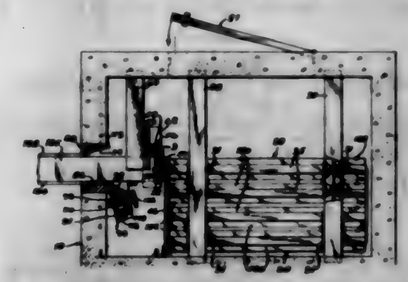
1. A one-piece bathing cap mold comprising a head-shaped body member having an opening therin, the edge of said opening corresponding to the edge of the desired bathing cap, a tongue member attached to the edge of the opening and extending into the interior of the mold in spaced relation to the interior surface of the mold and forming a slot-like cavity for molding the edge area of the cap, said tongue having a radially inwardly extending portion defining a molding surface for a web member of a sealing band of the cap, said tongue having a portion extending transversely of said web-forming portion and defining a molding surface for a flange member of said sealing band, the terminal edge of said flange-forming portion being a knife-like edge which forms a trim line of the mold.

3,142,895
DOOR CONSTRUCTION AND CLOSURE MEANS THEREFOR
William D. Sawyer, West Monroe, La., assignor to Triad Plastics Products, Inc., West Monroe, La., a corporation of Louisiana
Filed Nov. 15, 1961, Ser. No. 152,594
8 Claims. (Cl. 20—16)



1. A prefabricated door unit of the impact type comprising a unitary frame member adapted to be installed in a wall opening, said frame member including a vertical portion and a horizontal portion, a rod pivotally mounted in the vertical portion of the frame member, a door panel secured to the rod, a collar detachably secured to each end of said rod, each collar being press-fit within bearing means carried by the frame, whereby a displacement of the door panel due to impact or vibration may be compensated; a mounting plate, said mounting plate having slots formed therein, bolt means extending through said slots for adjustably securing the mounting plate to the horizontal portion of the frame member, an idler wheel rotatably mounted on the mounting plate, a drive wheel secured to the rod, drive means interconnecting the idler wheel and drive wheel, and spring means carried by the mounting plate and connected to the drive means between the idler wheel and drive wheel, whereby when the door is opened the spring is compressed.

3,142,896
ACOUSTICAL SLIDING PARTITION AND SLIDING TRACKS FOR THE SAME
Heyno Von Meuchhausen, 290 Riverside Drive, New York 25, N.Y.
Filed July 25, 1962, Ser. No. 212,394
7 Claims. (Cl. 20—19)



1. In a sliding partition of the character described consisting of a plurality of individual panel sections, each panel section having spaced rollable supporting wheels mounted in its base, each panel section having a hanger clip extending upwardly from its top edge, a vertically aligned main floor trackway and an overhead guide channel in a room to be partitioned, a separate storage chamber having a floor trackway aligned with one end of said main floor trackway, said floor trackways each having a supporting section capable of being raised and lowered, means for separately raising and lowering said supporting trackway sections, said storage room having spaced supporting rails extending transversely of said storage room floor trackway, a series of movable stacking rails suspended below said supporting rails and out of alignment with said storage room trackway, means for moving said stacking rails successively into and out of alignment with said storage room trackway whereby when a panel section is in its raised position its hanger clip will slidably

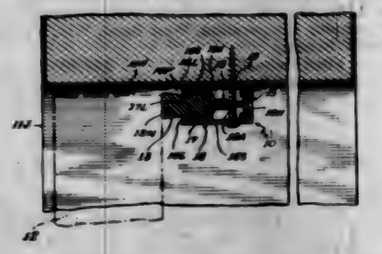
engage said aligned stacking rail, means for lowering said storage room floor trackway to suspend said panel section on said stacking rail whereupon it can be moved transversely of said floor trackway.

3,142,897
ADJUSTABLE SEAL STRIP
Robert G. Ostmig, 8059 S. Winchester, Chicago, Ill.
Filed Jan. 17, 1962, Ser. No. 166,899
3 Claims. (Cl. 20—69)



1. An adjustable seal strip for a door and comprising an elongated one-piece thin-walled extrusion comprising a base portion integrally connected to inner and outer wall portions each having a planar interior face to define a generally U-shaped cross-sectional configuration, the interior faces of said wall portions being convergent in the direction of their upper extremities to develop a pinching action on the door, one of said wall portions having vertically elongated anchor slots to receive a fastener in adjustable relation for attachment of the strip to the door at various vertical locations, said base portion having an underface inclined from the horizontal in a direction crosswise of the strip, said outer wall portion having an integrally connected coping projecting generally outwardly and downwardly to provide a splash shield.

3,142,898
ADJUSTABLE DOOR STOP AND WEATHERSTRIP
Robert G. Ostmig, 8059 S. Winchester, Chicago, Ill.
Filed Apr. 24, 1963, Ser. No. 275,320
6 Claims. (Cl. 20—69)



1. An adjustable unit adapted to be mounted at a fixed location along doorway framing structure to cooperate with a marginal face region of a swingable door mounted to said framing structure to function as a seal strip and door stop, said unit being adapted for use in installations subject to variation in the spacing between such location and the door, and comprising a rigid elongated casing determinative of a lengthwise direction for said unit and being of hollow transverse cross-sectional configuration providing an elongated mounting pocket having an open end face and an elongated open side face, said casing having a correspondingly elongated lengthwise base wall on a side thereof opposite to said open side face of said pocket, said base wall having openings therethrough at locations in predetermined lengthwise spaced relation therealong, said casing having internal rib structure defining cooperatively with said base wall a correspondingly elongated lengthwise guideway having an open end face corresponding to that of said pocket and having an elongated open side face opening into said pocket, and correspondingly elongated lengthwise seal strip structure having an elongated seal element on one lengthwise side that faces said elongated open side face of said mounting pocket and a plurality of extensible fastener mechanisms rigidly mounted along an opposite lengthwise side that faces said base wall to project sidewise thereof at locations in said predetermined lengthwise spaced relation to register in one-to-one correspondence with said base wall openings, each of said fastener mechanisms including an actuator element having an enlarged head enterable endwise into said guideway during entry of said seal strip structure endwise into freely slideable relation within said mounting pocket, with each enlarged head being engaged in sidewise retained relation between said rib structure and said base wall to dispose said seal element in stable selectively adjustable projecting relation through the elongated open side face of said mounting pocket.

3,142,899
METAL CASTING IN A PROTECTIVE ATMOSPHERE
Charles J. Burch, Chappaqua, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 27, 1961, Ser. No. 119,782
8 Claims. (Cl. 22—214)

1. A metal casting method which comprises the steps of: providing a casting mold having a cavity therein defining the contour of the object to be cast, providing said cavity with a frangible walled gas container holding a supply of a non-reactive purge gas, the walls of said container being expanded into contact with the mold cavity walls, and thereafter introducing a stream of the molten metal into said mold cavity to pierce the container wall and permit the molten metal to fill the cavity in non-reactive atmosphere.

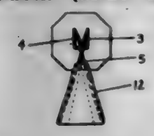
3,142,100
PREFABRICATED HOLDER WITH ORCHID CLIP
John A. Shoemaker, Shively, Ky.
(4117 Eden Lane, Louisville 16, Ky.)
Filed Apr. 12, 1962, Ser. No. 187,049
1 Claim. (Cl. 24—5)



An orchid holder adapted to be readily incorporated in a prefabricated orchid corsage frame comprising: a strand of florist's wire embodying an elongated shank portion adapted to permit the user to pin or otherwise attach the same to a garment, an upper end portion of said wire constituting an impaling pin capable of axially piercing and mounting the stem portion of the orchid thereon, and a one-piece sheet material manually bendable malleable clip embodying a normally flat T-shaped portion including a leg having a T-head at its top and a depending split sleeve at its bottom, said sleeve being in a plane laterally offset relative to the plane of said leg and surrounding and being attached to a median portion of said wire, the end portions of said T-head providing a pair of cooperative bendable tabs, said tabs being alike, oriented and capable of being bent forwardly toward said impaling pin whereby to permit the free terminal ends to be aligned and overlapped in a manner to embrace and securely retain

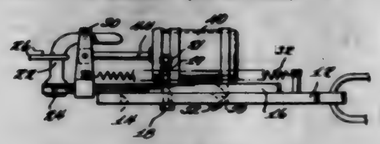
the stem of said orchid in its given anchored position on said impaling pin.

3,142,101
PIN FASTENING DEVICE
Dana Peterson, P.O. Box 2141, San Diego, Calif.
Filed Sept. 26, 1962, Ser. No. 226,255
2 Claims. (Cl. 24—158)



1. In combination:
a decorative pin member having a front surface and a rear surface spaced therefrom;
a fastening means including a pair of resilient leg members diverging outwardly to pointed extremities and joined at a center section, said center section being secured to said rear surface, said legs being spaced from said rear surface and one leg being offset from the other whereby said legs may overlap when the pointed extremities are moved towards each other; and
a cover member for said leg members including a sheet material body member having inturned side flanges extending parallel to the body member and enclosing said leg members, the end of each flange adjacent said pointed extremities having a pocket for the reception of said pointed extremities whereby said cover is removably secured to said leg members.

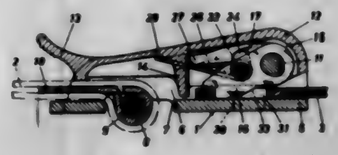
3,142,102
AUTOMATIC RELEASE DEVICE FOR SEAT BELTS
Willard J. Saunders, Star Rte., De Ruyter, N.Y.
Filed Jan. 3, 1962, Ser. No. 164,845
8 Claims. (Cl. 24—230)



1. A delayed release mechanism for releasably securing a safety belt comprising: an anchor plate; at least one slot formed in said anchor plate; a base plate engaging said anchor plate; bolt means mounted on said base plate adapted to be received within said slot to allow sliding movement between said base plate and said anchor plate; normally closed latch means releasably securing said belt to said base plate; slide means mounted on said base plate holding said latch means in the normally closed position; resilient means connecting said slide means to said anchor means urging said slide means out of engagement with said latch means upon an impact and a timing mechanism fixed on said base plate and connected to said slide means counteracting movement of same.

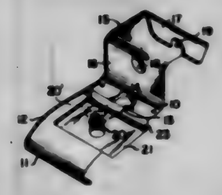
3,142,103
SAFETY BELT BUCKLES
Stig Martin Lindblad, Vargarda, Sweden
Filed Mar. 5, 1962, Ser. No. 177,426
Claims priority, application Sweden Mar. 6, 1961
2 Claims. (Cl. 24—230)

1. A safety belt buckle comprising a substantially plate-shaped fastening member and a channel-shaped fastening member each for being attached to a separate section of the belt, said channel-shaped member being adapted to receive said plate-shaped member, a shaft carried by and between the channel walls of said channel-shaped member, a handle member providing a cover for the open side of said channel-shaped member and pivotally mounted on said shaft, a plurality of pawls pivotally mounted on said shaft, said plate-shaped fastening member having apertures for receiving said pawls when said plate-shaped fastening member is received by said channel-shaped fastening member, a pin extending parallel to said shaft and interconnecting said pawls, said handle member having slots therethrough with said pin slideably mounted therein, a plate-shaped member positioned between said pawls having a circular opening with said shaft extending therethrough, a



slot with said pin extending therethrough, and a shoulder, means interconnecting said plate-shaped member to said channel-shaped fastening member for preventing the pivoting of said plate-shaped member about said shaft, a wire spring having two coaxial, helically wound portions provided around said pin with said helical portions situated one on each side of said plate-shaped member, a loop-shaped portion of said spring interconnecting said helical portions and bearing against said plate-shaped member shoulder, said spring having substantially straight, elongated end portions and said handle member having openings with said spring ends therein tending to retain said handle member within said channel-shaped fastening member.

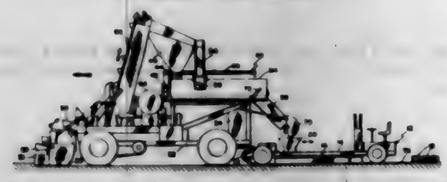
3,142,104
MOUNTING FOR CAR TOP CARRIERS
Chester I. Nielsen, Jr., West Bend, Wis., assignor to Wesbar Stamping Corporation, West Bend, Wis., a corporation of Wisconsin
Filed Oct. 2, 1962, Ser. No. 227,739
1 Claim. (Cl. 24—263)



A mounting device for securing an end of a car top carrier to one of the rain gutters of a car, comprising an elongated hook member having one end portion provided with means for attachment to a portion of a car top carrier and having a gutter lip at its opposite end shaped to embrace the exterior of the rain gutter on a car, said hook member having a slotted opening intermediate its length, a plurality of longitudinally-spaced downwardly-projecting protrusions from the undersurface of said hook member alongside of said slot, a clamping plate having one end flanged upwardly to provide an edge and having its other end adapted to engage the gutter in a position to clamp the gutter between said gutter lip and plate, and means including a bolt extending through the slot of the hook member for effecting said clamping action, the edge of the flanged end of the plate being positioned to engage

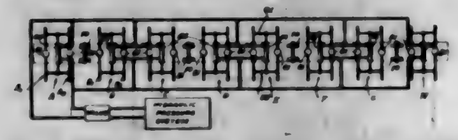
selected protrusions whereby longitudinal movement of the plate relative to the hook member is positively prevented.

3,142,105
MACHINE FOR MAKING ADOBE BLOCKS
John E. Weir, Rte. 1, Box 33, and Lawrence W. Weir, 1536 S. Escondido Ave., both of Escondido, Calif.
Filed Oct. 30, 1961, Ser. No. 148,532
1 Claim. (Cl. 25—2)



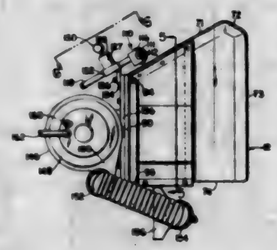
Apparatus for making adobe blocks, comprising:
a self-propelled mixing machine having soil pick-up means at the forward end thereof including vertically adjustable scoop, and a first conveyor receiving the soil from said scoop;
a hopper;
means in said hopper to separate and eject lumps and foreign matter from the soil;
lifting means to convey the soil from said pick-up means to said hopper comprising a second conveyor from said first conveyor to said hopper;
a pug mill mounted below said hopper;
variable speed metering means in said hopper to control the flow of soil into said pug mill;
water injecting spray bars in said pug mill below said metering means to moisten the soil entering the pug mill;
stabilizer injecting spray bars in said pug mill rearwardly of said metering means;
a block molding machine coupled to said mixing machine and having a mold for forming a plurality of blocks;
means for unrolling flexible material for deposit and drying of said blocks thereon; and
delivery means extending from said pug mill to said mold.

3,142,106
STRIPPING MEANS FOR CONCRETE SLAB CASTING FORMS
Mark J. Wise and Warner B. Smith, Dayton, Ohio, assignors to The Flexicore Co., Inc., Dayton, Ohio, a corporation of New York
Filed Apr. 15, 1963, Ser. No. 273,111
11 Claims. (Cl. 25—120)



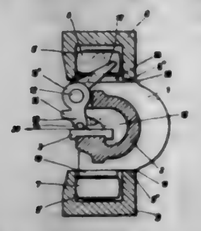
1. Means for stripping steel casting forms, each casting form having a generally U-shaped cross section with a length great in comparison to the transverse dimensions thereof, each casting form during stripping being in a horizontal position with the sides of the casting form extending upwardly and the casting form resting on its bottom, the stripping requiring that the sides of the casting form be forced outwardly away from each other and the bottom of the casting form arched upwardly, said stripping means comprising a plurality of separate individual stripping units disposed longitudinally of a casting form, each stripping unit having a length which is substantially smaller than the length of a casting form being operated upon, said stripping units being similar and each unit including the following: hold-down members on opposite sides of a casting form in stripping position, means for mounting said hold-down members to be movable from a normally inoperative position to an operative position where said members can cooperate with the sides of said casting form, means normally inoperative disposed below the bottom of said casting form and movable upwardly first to engage the casting form bottom then elevate the same above a normal supported position and finally to provide a force to arch the casting form bottom during stripping, means normally inoperative for moving said hold-down members downwardly from their operative positions first to engage the casting form sides and then hold the same down against the upward arching force exerted against the form bottom, means powered by hydraulic pressure for moving said two normally inoperative means in opposite directions for stripping a casting form; said stripping assembly including conduit means connecting all separate hydraulic power means of the various stripping units making up a stripping assembly to a common source of hydraulic pressure and providing unrestricted fluid flow between the individual hydraulic pressure powered means, means for supporting a casting form in normal horizontal position, and means for mounting said various stripping units independently of each other whereby a casting form during stripping is operated upon by a plurality of physically separate stripping units, the separate hydraulic power means being subject to similar hydraulic pressure and the separate units being short enough so that the amount of force exerted upon a unit length of casting form during a stripping operation is generally independent of the length of the casting form and stripping of various lengths of casting form will be accurately and consistently accomplished without danger of overstressing.

3,142,107
SELVAGE UNCURLER ATTACHMENTS
John E. Wittig, 190 Walnut St., Northvale, N.J.
Filed July 2, 1962, Ser. No. 206,997
9 Claims. (Cl. 26—54)



1. An attachment of the class described comprising:
(*a*) a base plate and a top plate spaced vertically a distance sufficient to permit a moving strip of fabric to pass therebetween,
(*b*) said plates extending in parallel planes and being closed only along their inner sides,
(*c*) an intake port extending through said closed sides in open communication with the space between said plates,
(*d*) a suction source and an air blast source,
(*e*) means for connecting the intake port with said suction source,
(*f*) means for connecting said air blast source with a discharge nozzle,
(*g*) and means for starting and stopping said sources.

3,142,108
TENTER CHAIN MECHANISM
Fritz Gageur, Lindau, Germany, assignor to Lindauer Dornier Gesellschaft m.b.H., Lindau, Germany, a firm of Germany
Filed Nov. 5, 1962, Ser. No. 235,212
Claims priority, application Germany Nov. 16, 1961
5 Claims. (Cl. 26—61)



1. A traveling clip chain and chain guide arrangement for tenters, comprising:
a plurality of clips,
each clip having a bow-shaped body member having two vertically spaced horizontal portions,
a horizontal plane surface forming a continuation of and at the outside of each of said horizontal portions, said plane surfaces having substantially equal configuration and being superposed,
a pair of vertical upper pins projecting from the upper one of said horizontal portions,
a pair of vertical lower pins projecting from the lower one of said horizontal portions,
said pins being substantially in a common vertical plane placed in the travel direction of the clip,
the distance between the longitudinal center lines of the upper pins being equal to the distance between the longitudinal center lines of the lower pins,
said upper pins and said lower pins being pairwise coaxial,
a roller rotatable on each of said pins,
a plurality of upper chain links, each link being swingable on one of the upper pins of one clip and on one of the upper pins of a second clip,
a plurality of lower chain links, each lower link being swingable on one of the lower pins of one clip and on one of the lower pins of a second clip,
an upper rail having a vertical running surface engaged by the upper rollers of said clips,
a lower rail having a vertical running surface engaged by the lower rollers of said clips,
said vertical running surfaces being in a common vertical plane, and
clamping means connected to said horizontal portions and having a clamping nip placed substantially in said last mentioned vertical plane,
each of said rails having a horizontal surface, said horizontal surfaces of said rails being individually adjacent and slidably engageable with said plane surfaces at the outside of said horizontal portions of said body member.

3,142,109
FABRICS
Reiner G. Stoll and Roland A. Frate, Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 855,797
17 Claims. (Cl. 28—75)

13. The method of forming a textile fabric, comprising the steps of intermeshing first yarns at least in part comprising a thermoplastic fiber material capable of being plasticized by a plasticizer with second yarns, all the material making up said second yarns being substantially inert to said plasticizer, and applying said plasticizer to said second yarns prior to the intermeshing thereof with said first yarns, whereby following intermeshing said first



and second yarns are bonded to one another at their crossover points by the action of said plasticizer on said first yarns.

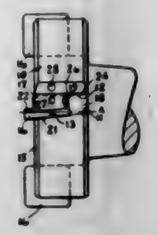
3,142,110
CUTTING TOOL FOR LATHES AND SIMILAR MACHINES
Karl Hertel, Oedenbergerstrasse 29, Nurnberg, Germany
Filed Dec. 18, 1959, Ser. No. 858,795
Claims priority, application Germany Apr. 30, 1959
15 Claims. (Cl. 29—96)



10. In a tool, in combination, a tool holder formed with a recess including a substantially flat seating surface and a rectilinear edge surface substantially normal to said substantially flat surface; a cutting element of a hard cutting material, having a plurality of positive cutting edges which can be brought successively into cutting position by turning said cutting element step by step about an axis thereof; said cutting element being in the form of a pair of generally frusto-pyramidal-like symmetrical and identical portions arranged in opposition with their heads in abutment, the bases of said two portions being plane and square and extending parallel to each other; all lateral edges of both bases of the cutting element constituting said cutting edges, and the lateral surfaces of said two portions constituting chip-guiding surfaces; said element being formed with a bore extending along its axis and perpendicular to its bases, said recess having a bore substantially coaxial with the bore in said element when a base of said element is in engagement with the flat surface of said recess and an edge of said element is in engagement with said rectilinear edge surface of said recess; and clamping means extending through both bores and effective to draw said cutting element against said holder.

3,142,111
ROTARY CUTTING TOOLS
William Turner, Woodseats, England, assignor to The Sheffield Twist Drill & Steel Company Limited, Sheffield, England, a company of Great Britain and Northern Ireland
Filed Jan. 22, 1963, Ser. No. 253,121
Claims priority, application Great Britain Jan. 29, 1962
10 Claims. (Cl. 29—105)

1. In a rotary cutting tool, a circular body having at circumferentially spaced intervals therein cutter bit-accommodating slots extending across an operative face of the body and tapering in width from one end to the other; a series of serrations extending across a side wall of each slot in a direction parallel to said operative face of the body; an insert fixedly secured in and closing the narrow end of each slot to provide a cutter bit locating face therein disposed at a predetermined angle to a basal wall of the slot; a cutter bit disposed in the wide end of each slot and abutting against a side wall of said slot opposite



its serrated wall, against its basal wall and against the cutter bit locating face therein; and a wedge also disposed in the wide end of each slot, said wedge having a serrated face for engagement with the serrations of the slot and an opposite plane face for abutment against a plane face of the cutter bit disposed in said slot.

3,142,112
METHOD OF MAKING AN ELECTRICAL INTERCONNECTION GRID
Jack W. Burkig, Santa Monica, and John E. Richardson, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Original application Mar. 30, 1960, Ser. No. 18,759. Divided and this application May 1, 1961, Ser. No. 106,706
1 Claim. (Cl. 29—155.5)



A method of manufacturing an electrical interconnection grid on a substrate comprising the steps of depositing a first plurality of electrical conductors electrically insulated from each other on the substrate, depositing an insulating layer over the conductors and substrate, forming a plurality of holes in said insulating layer, each hole being disposed to expose a portion of one of said first plurality of conductors, depositing a second plurality of electrical conductors electrically insulated from each other over said insulating layer, said second plurality of conductors crossing over said first plurality of conductors and being insulated therefrom by said insulating layer, simultaneously depositing a plurality of tab portions electrically connected with and extending laterally of said second plurality of conductors, each of said tab portions being deposited over a portion of said first conductors exposed by one of the holes and making electrical contact with an associated one of said first plurality of conductors, and removing a portion of a selected one of said tab portions while leaving the associated conductors of said first and second plurality of conductors unsevered to interrupt the electrical continuity between a selected one of said first plurality of conductors and a selected one of said second plurality of conductors.

3,142,113
COMBINATION BUSHING PULLER AND MOUNTING DEVICE
Porter Cloud, 12841 S. Harris Ave., Compton, Calif.
Filed Mar. 5, 1962, Ser. No. 177,339
3 Claims. (Cl. 29—263)

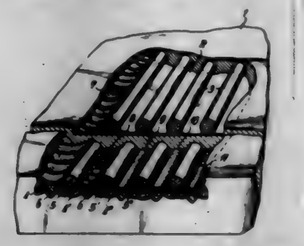


1. A device for use in removing a bushing of a type including concentric inner and outer straight-walled cylindrical shells joined by an inner web of a resilient material from an opening in a solid body in which said bushing is press-fit, comprising:
(*a*) a rod having a collar that is intermediately disposed between the ends thereof to divide said rod into first and second portions, said second portion having threads formed on at least that part thereof adjacent the end thereof, with said second portion being adapted to extend through said inner shell;
(*b*) a rigid cup having a first open end that bears against said body, and a second end in which an aperture is formed through which said first portion of said rod projects;
(*c*) a first rigid ring having an interior circumferentially extending body shoulder at the junction of a bore and counterbore, which bores extend longitudinally through said ring, with said collar being slidably disposed in said bore in said first ring and in abutting contact with said shoulder, which first ring has an inwardly tapering first end surface that is partially insertable between first ends of said inner and outer shells;
(*d*) a second rigid ring mounted on said second rod portion, which second ring has an inwardly tapering second end surface that is partially insertable between second ends of said inner and outer shells;
(*e*) a nut that engages said threads on said second portion of said rod, which second nut when rotated in a direction to move it towards said collar forces said second ring towards said shells to center said inner shell relative to said outer shell, with the transverse cross section of said second nut and second ring being of such dimensions as to permit the same to be moved through said opening; and
(*f*) means for moving said first portion of said rod relative to said cup to force said first end thereof against said body and move said second portion of said rod, bushing, second ring and nut through the opening in said body to separate said bushing therefrom.

3,142,114
METHOD OF FILLING FUSED OR BURNT PORTIONS AND CRACKS IN MOLDS, ESPECIALLY INGOT MOLDS, CONSISTING OF CAST IRON OR HEMATITE IRON
Erhard Zieger, Wuppertal, Germany, assignor to Gabelin & Co., Duesseldorf, Germany, a firm
Filed Aug. 13, 1962, Ser. No. 216,641
11 Claims. (Cl. 29—402)

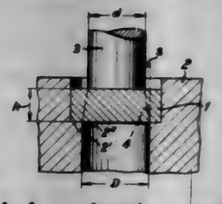
1. A method of filling fused or burnt portions and cracks in molds, especially ingot molds, consisting of cast iron or hematite iron, which comprises the steps of removing the damaged or burnt material thereby producing a recess, coating the floor and sides of the recess without preheating the base material by using a thick gage cast iron weld rod which is flashed off in the electric arc

of a steel electrode, filling by build-up welding the recess thus provided with a bonding layer in consecutive rows by welding with a thick gage cast iron rod serving as an electrode, the welding process being temporarily delib-



erately interrupted after a first layer has been built up, in order to generate thermotechnical stress relief gaps which, controlled by the magnitude of the current, extend at equidistant intervals in parallel through the whole of the layer perpendicularly to the built-up weld beads.

3,142,115
METHOD AND APPARATUS FOR MANUFACTURING ANNULAR WORKPIECES OF METAL, PARTICULARLY STEEL, TO BE SUBSEQUENTLY SHAPED BY COLD FORGING
Guillaume Schaming, Le Perreux, Seine, France, assignor to Caltexa Trust, Vaduz, Liechtenstein
Filed July 7, 1961, Ser. No. 122,555
Claims priority, application Germany July 15, 1960
8 Claims. (Cl. 29—416)

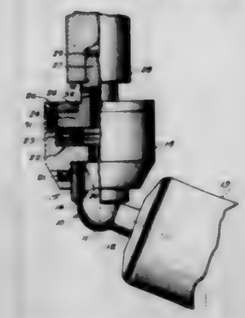


5. A method of manufacturing assemblies of annular workpieces of metal disposed one in the other, which comprises punching a concentric inner part from a solid blank by means of a punch and die having a radius dimension cutting edge clearance which is approximately one-eighth of the thickness of said blank so that a cut having an inclination of about 7° is obtained between the cutting edges of the punch and die, to divide said blank into a solid inner member and an annular member, repeating said operation on said solid inner member serving as a blank, cold-forging the annular members thus obtained, and assembling said annular members one in the other.

3,142,116
METHOD OF WELDING SILICON STEEL
Sadayoshi Morita and Teiji Ito, Yawata, and Arisobu Yamada, Tobata, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Apr. 9, 1962, Ser. No. 185,870
Claims priority, application Japan Apr. 14, 1961
2 Claims. (Cl. 29—480)

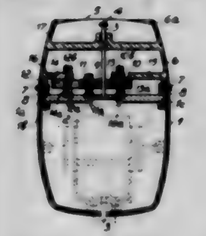
1. A method of welding silicon steel plate comprising the steps of welding silicon steel plates by using a mild steel welding rod containing below 0.2% C and below 0.03% Si, leveling off and trimming the surplus thickness and then subjecting the welded portion and its adjoining region to roll press while heating it at a temperature in excess of the A3 transformation point but below the solidus point.

3,142,117
APPARATUS FOR MACHINING A SPHERICAL SURFACE
Stephen A. Dier, Warren, Mich., assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 23, 1962, Ser. No. 219,854
6 Claims. (Cl. 29—566)



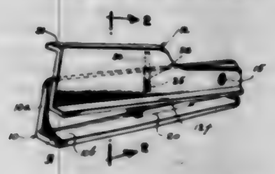
3. In an apparatus for the machining of a spherical surface such as that of a ball stud, a cutting tool having a circular cutting edge on an end thereof and leading radially inward into a concave spherical burnishing land axially inset in said tool end and of a radius corresponding to that of the cut ultimate spherical surface, and relatively rotatable holders for the ball joint stud and said cutting tool and at least one of said holders being movable in the direction of its axis and at an angle to the axis of the other holder to engage the spherical surface successively with said cutting edge and said land in the successive cutting and burnishing of the spherical surface.

3,142,118
DRY SHAVER WITH OSCILLATING COMB HEAD AND A ROTATING INNER CUTTER
Luciano Marescalchi, % Dr. Guido Modiano, Via Meravigli 16, Milan, Italy
Filed Oct. 9, 1961, Ser. No. 143,612
Claims priority, application Italy Oct. 12, 1960
1 Claim. (Cl. 30—43)



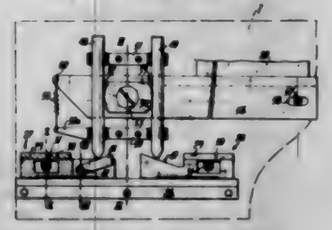
A dry shaver comprising a casing, a head disposed on said casing and including a comb having a skin contacting shaving surface and inner cutting means disposed in said comb, said head being oscillatable about an axis extending in the longitudinal direction of said casing at right angle to the skin contacting shaving surface of said comb, driving means operating said cutting means including a driving shaft extending in said longitudinal direction of said casing and having an axis coinciding wth said longitudinal axis, a first and a second driven shaft parallel to and driven by said driving shaft, a first circular sector secured to said first driven shaft and a second circular sector secured to said second driven shaft, a first rim integral with and projecting from said head towards said first sector, to be frictionally engaged thereby and a second rim integral with and projecting from said head towards said second sector to be frictionally engaged thereby, said first sector and said second sector having an angular amplitude of tendentially 180 degrees.

3,142,119
LETTER OPENER
Patrick R. O'Brien, 921 15th, Santa Monica, Calif.
Filed Feb. 19, 1962, Ser. No. 174,084
1 Claim. (Cl. 30—278)



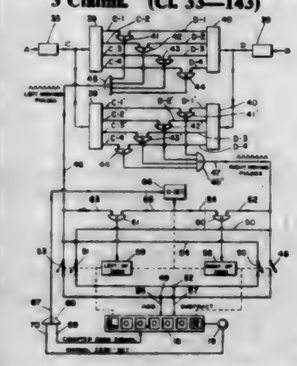
An envelope opening device comprising a base member and a blade mounting member; said base member comprising a side wall and an integral bottom plate coextensive with the side wall and at a right angle thereto and formed with a blade end receiving slot located parallel to and closely adjacent the inside face of said side wall; said blade mounting member comprising a bottom plate with a coextensive side wall integrally formed with the bottom plate at a right angle thereto, and formed on its back surface with a shallow blade seating recess that opens at one end through the bottom edge of said side wall, a blade set in said recess with one end of its sharpened edge projecting beyond the bottom edge of the recessed side wall and into said blade receiving slot of the bottom plate of the base member; said blade mounting member being nested in the angle of the base member with their bottom plates slightly spaced to define a guideway between them to receive the edge of an envelope to be opened, a pivot bolt applied through corresponding end portions of the side walls of said members and joining them with their base plates slightly spaced for opening and closing action against an envelope when disposed between them for its opening as drawn along the guideway and against the cutting edge of said blade projecting into said slot of the base plate and a spring means mounted in the back wall of said base member and acting against the blade mounting member to urge the members to their open relationship when released for opening.

3,142,120
MEASURING MACHINE OR PRECISION MACHINE TOOL
André H. Metta, Geneva, Switzerland, assignor to Societe Genevoise d'Instruments de Physique, Geneva, Switzerland
Filed Sept. 20, 1962, Ser. No. 224,921
Claims priority, application Switzerland Sept. 30, 1961
14 Claims. (Cl. 33—125)



1. A measuring machine, comprising a movable element, and a device for linear measurement of the positions occupied by said movable element along its path, said device including a linear reference element serving as a standard, at least two temperature detectors to provide information concerning the temperatures of a workpiece and of the standard, a differential device, means to adjust said differential device in accordance with the information provided by said temperature detectors and the coefficients of thermal expansion of the workpiece and said standard, said differential device including a member adapted to be displaced in accordance with said adjustments, the amount of displacement being a function of the temperatures and coefficients of expansion of both the workpiece and standard, and indicating means controlled by displacement of said member of the differential device to indicate the real values of the movements of said movable element, reduced to a reference temperature even when the temperature of the workpiece and of the standard differ therefrom.

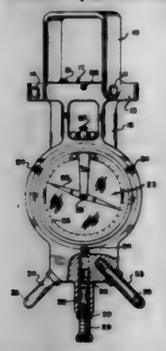
3,142,121
MICROMETER
Boris Stefanov, Glendale, Calif., assignor to Elmic, Incorporated, a corporation of California
Filed Sept. 17, 1959, Ser. No. 840,565
3 Claims. (Cl. 33—143)



1. An electronic micrometer comprising, in combination: a first member having a micrometer surface; a second member having a micrometer surface; means mounting said first and second members for relative movement with respect to each other to bring said surfaces into engagement with a work; means responsive to movement of said first member relative to said second member for generating a series of electrical pulses proportional in number to the change in distance resulting from the relative movement, said means including direction sensing means such that said electrical pulses constitute right moving pulses when said second member moves relatively to said first member in one direction and left moving pulses when said second member moves relatively to said first member in an opposite direction; counter means including an add pulse input and a subtract pulse input; a zero set circuit; a right of zero switching means; at left of zero switching means; a right of zero enabling means electrically connected to said right of zero switching means; and a left of zero enabling means electrically connected to said left of zero switching means, said zero set circuit being electrically connected to said counter means and responsive to a zero reading on said counter means to establish an enabling condition in said right of zero and left of zero enabling means such that said right of zero switching means connects said right moving pulses to said add pulse input and said left moving pulses to said subtract pulse input in response to a right moving pulse received by said right of zero switching means through said right of zero enabling means immediately after said zero set condition, and said left of zero switching means connects said right moving pulses to said subtract pulse input and said left moving pulses to said add pulse input in response to a

left moving pulse received by left of zero switching means through said left of zero enabling means immediately after said zero set condition, whereby the reading displayed by said counter represents a given distance moved either to the right or left of an initially established reference distance at which said counter means reads zero.

3,142,122
MAGNETIC INSTRUMENT
Otto Hartwig Boepple, Carmel, N.Y., assignor to Kenyon Instrument Co. Inc., Brewster, N.Y., a corporation of New York
Filed Jan. 26, 1962, Ser. No. 168,898
1 Claim. (Cl. 33—222)



A portable magnetic instrument for obtaining information concerning underground materials and the like comprising:

(*a*) a supporting handle of non-magnetizable material adapted to be grasped manually,

(*b*) a free-hanging frame of non-magnetizable material gimballed to said handle to be suspended plumb relative thereto,

(*c*) a magnetic compass attached to said frame adjacent said handle in a horizontal plane when said frame is plumb,

(*d*) a magnetic dip needle assembly mounted on said frame beneath said magnetic compass when the frame is plumb, said assembly including a dip needle pivoted at its center of gravity to swing in a vertical plane isolated from gravitational forces when the frame is plumb,

(*e*) locking means for selectively holding said dip needle in a given position.

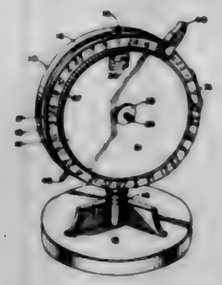
(*f*) a permanent biasing magnet adjustably mounted in said frame along that axis which extends through the dip needle pivot point and is vertical when the frame is plumb,

(*g*) means for locking said magnet in a given position along said axis, and

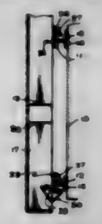
(*h*) means for amplifying the magnetic effect on said dip needle of said underground materials comprising a pair of magnetizable balls fixed relative to said frame with their centers spaced equally on opposite sides of said biasing magnet in the plane of swing of said dip needle and equidistant from the dip needle pivot point.

3,142,123
PERPETUAL CALENDAR
John A. Vierling, St. Paul, Minn., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 16, 1961, Ser. No. 131,815
5 Claims. (Cl. 40—113)

1. A perpetual calendar having a case; an indicator secured at the top thereof and an indicating frame spaced in vertical alignment below said indicator; a day disc mounted forward of the case having a plurality of day indicia thereon and rotatable to bring any one of the day indicia into and out of registery with said indicating frame; a date wheel mounted between the day disc and case having a series of numerical indicia along the periphery thereof, consecutive numerical indicia being positioned thereon in a spaced relation from each other, a selected one of the consecutive numerical indicia positioned at the top of the wheel in registery with said indicator; a counter weight resiliently disposed in a first position on the rear surface of the bottom of said wheel diametrically opposite the selected one of the indicia in registry with said indicator; an arcuate member pivotally disposed within said case for partial movement clockwise and counterclockwise; first lug means disposed at the upper end of said arcuate member for striking the rear surface of said date wheel and rotating the same clockwise a distance equivalent to the space between consecutive numerical indicia and for moving said date wheel counter clockwise to provide free rotation to the same; second lug means disposed at the lower end of said arcuate member to secure said counter weight in stationary position as said first lug means rotates said date wheel clockwise the space between consecutive numerical indicia, whereby said counter weight is moved to a second position diametrically opposite the next consecutive numerical indicia in relation to the selected one of the indicia; and magnetic means at the bottom of the case for attracting the counter weight and stopping the same diametrically opposite the next consecutive numerical indicia on said wheel.

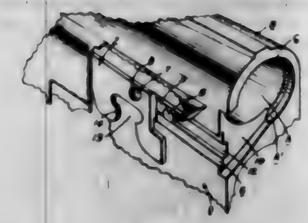


3,142,124
CLIP-ON SIGN CHARACTER
Lloyd C. Ownbey, 1313 Collingwood Place, Los Angeles, Calif.
Filed June 5, 1962, Ser. No. 200,267
5 Claims. (Cl. 40—148)



1. A plastic clip-on sign character assembly adapted for attachment to a rail comprising a sign character, a bracket extending horizontally across the rear face of said character, said bracket having a rearwardly extending overhanging lip adapted to support the character on the upper edge of the rail, and a spring clip attached to the character adjacent the bracket and adapted to releasably engage the lower edge of the same rail, said clip comprising a spring section extending in a generally downwardly convex direction, a substantially rounded strike edge at the rear, a recessed section forwardly of the strike edge adapted to receive said lower edge of the rail and a free end section adapted to shift relative to a rear portion of the bracket when the character is applied to and removed from the rail.

3,142,125
EJECTOR FOR SHOTGUN
Lauren F. Groover, Shenkleyville, Pa., assignor to The Poly-Choke Company, Inc., East Hartford, Conn., a corporation of Connecticut
Filed Dec. 28, 1962, Ser. No. 248,884
11 Claims. (Cl. 42—47)



1. In combination with a breech-loading shotgun having a barrel and a breech with an elongated groove arranged to one side of the barrel and extending to and opening into the breech at the rear end of the barrel,

an ejector assembly including a forward member and a rear extractor member, both of said members being slidable in said groove and being removable therefrom,

means interconnecting said forward member and said rear member so that the assembly will move as a unit, and

means for actuating the ejector assembly when the gun parts are moved to position to open or close the gun at the breech.

3,142,126
TRIGGER GUARD FOR REVOLVER
Günter Horst Röhm, Mühlstrasse 9, Southeim (Brenz), Germany
Filed Nov. 23, 1962, Ser. No. 239,578
Claims priority, application Germany Dec. 14, 1961
4 Claims. (Cl. 42—69)



1. In a revolver having a main frame with a recess therein, a grip frame secured to said main frame, a trigger guard having an upward projection near one end thereof fitting into said recess, said projection having a conical recess extending in the longitudinal direction of said trigger guard, a setscrew for securing said trigger guard to said main frame inserted into said main frame and having a conical end engaging into said conical recess, and a noselike projection on the other end of said trigger guard extending over the inner edge of the wall of said grip frame.

3,142,127
APPARATUS FOR CASTING FISHING BAIT
William Reid Mason, 291 Starr St., Fond du Lac, Wis.
Filed May 11, 1962, Ser. No. 193,971
6 Claims. (Cl. 43—19)



1. In casting apparatus including an elongated resilient fishing rod having a butt and a tip with a tip eyelet, a reel mounted on the rod near its butt, a fish line wound on the reel and threaded through said tip eyelet and a casting weight near the end of the line and beyond said tip eyelet,

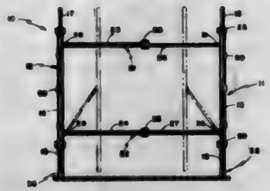
(*a*) line coupling means on the rod near its butt for releasably securing the line near its end,

(*b*) said reel comprising means for reeling in on the line and imposing sufficient tension on the line to resiliently bow the rod into an arc,

(*c*) said line coupling comprising a latch, the release of which will free the line from the coupling and permit the bowed rod to cast the weight,

(*d*) and a trigger for said latch by which a fisherman controls release of the latch.

3,142,128
REFERENCE COPY HOLDER
Albert J. Cicco, 5 Pleasant St., Chelmsford, Mass.
Filed June 3, 1963, Ser. No. 285,105
9 Claims. (Cl. 45—61)



1. A reference copy holder comprising:

(*a*) first and second tubular assemblies including a central tube with concentric telescoping means inserted in the ends of said central tube;

(*b*) telescoping lateral linkages joined to said central tubes for maintaining said tubular assemblies in an adjustable spaced relationship;

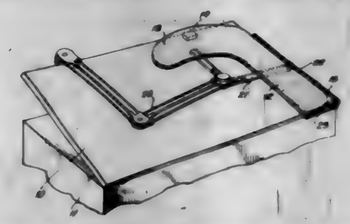
(*c*) support means connectable to a fixed member connected to said central tubes for maintaining said tubular assemblies above the fixed member; and

(*d*) means adapted for securing the reference copy means to said central tubes.

3,142,129
DRAFTING BOARDS
John H. Stroop, 61 Horatio St., New York, N.Y.
Filed Mar. 11, 1963, Ser. No. 264,140
2 Claims. (Cl. 45—131)

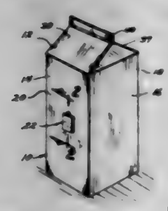
1. The combination of a drafting board with an instrument palette comprising a tray having an outer surface of friction material spaced a short distance above

and extending over the drawing board near one end, and means for fastening the palette to the board without inter-



fering with the free normal movement of a drafting machine or long T-square on the board.

3,142,130
COMBINATION CONTAINER AND SOUND PRODUCING DEVICE
Rex W. Weltzell, 1528 17th St., West Des Moines, Iowa
Filed Sept. 14, 1962, Ser. No. 223,669
5 Claims. (Cl. 46—11)



1. In combination,
a normally closed container having a top, a bottom, and vertical side walls,
a sound producing element secured to the outer surface of the side walls of said container,
said sound producing element including a sound means responsive ot the passage of air,
registering openings in said container and said sound producing element whereby the respective interiors thereof can be in communication with each other,
said side walls being resilient whereby when they are depressed inwardly, air will be forced from the interior of said container, thence into communication with said sound means whereby a sound will be produced thereby,
the thickness of said sound producing element and the resiliency of said walls being such that the outer vertical surface of said sound producing element can be moved to the normal vertical plane of the wall to which it is attached as said wall is deflected inwardly.

3,142,131
MOTION CONVERSION DEVICE IN A DOLL
Manuel von Rabenau, St. Paul, Minn., assignor to Writing Toys Corporation, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 19, 1961, Ser. No. 104,092
19 Claims. (Cl. 46—119)

1. A device for converting rotary motion to transverse and longitudinal motion in a plane, said device comprising a supporting frame, a base plate supported within said frame, a longitudinal motion carrier mounted for reciprocatory motion on said base plate, a transverse motion carrier mounted on said longitudinal carrier for longitudinal movement with said carrier and simultaneous transverse reciprocatory motion relative thereto, a double track cam disc, said disc comprising a flat circular sheet provided with a pair of non-intersecting endless eccentric operating cam tracks disposed about the center of said disc, one of said tracks governing longitudinal movement and the other of said tracks governing transverse movement, and a pair of circular neutral cam tracks disposed about the center of the disc, said neutral cam tracks being spaced from said eccentric operating cam tracks, each of said neutral cam tracks being in communication with one of said eccentric cam tracks a cam follower disposed in association with each of said sets of operating and neutral cam tracks, a slotted guide member in said base plate for each of said cam followers, one of said slotted guide members being disposed longitudinally and the other of said slotted guide members being disposed at right angles with respect to the first, means connecting the second of said cam followers to said transverse motion carrier to impart transverse motion to said carrier, means connecting the first of said cam followers to said longitudinal motion carrier to impart longitudinal motion simultaneously to said longitudinal and transverse motion carriers, and turntable means for supporting and rotating said cam disc.



8. A device according to claim 1 further characterized in that a rigid carrier arm having a stylus at its outer extremity is mounted for movement with said transverse motion carrier and a rigid stationary flat pad is provided held in the plane of movement of said stylus.

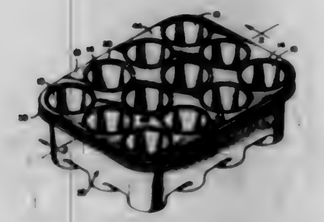
10. A device according to claim 8 further characterized in that the device is housed in the body of a doll, said rigid stationary flat pad is supported at the outer extremity of a rigid stationary arm mounted on said supporting frame and extending through one arm of the doll and terminating at the hand of the doll thereof, said rigid carrier arm extending through the other arm of said doll, the end thereof supporting a stylus terminating at the other hand of the doll.

3,142,132
SOUND ACTUATED TOY
Thomas M. Johnson, 428 Oakridge Road, Decatur, Ga.
Original application Jan. 24, 1955, Ser. No. 483,511, now Patent No. 2,995,866, dated Aug. 15, 1961. Divided and this application Jan. 17, 1961, Ser. No. 83,247
4 Claims. (Cl. 46—244)



1. In a toy having a body, electro-mechanical means of propulsion connected to said body, said electro-mechanical means being capable of selectively actuating said toy in different manners upon supplying current to said electromechanical means, a source of direct current connected to said body, said source of current having a center tap and end terminals, a circuit connected from said center tap to said electro-mechanical means, a switch electrically connected respectively to said terminals on said source, said switch being so constructed and arranged as to contact one of its terminals in one position and the other of its terminals in another position, means urging said switch into contact with one of said terminals, a solenoid constructed and arranged upon being energized to urge said switch out of contact with said last mentioned terminal and into contact with the other of said terminals, a circuit connecting said solenoid to said source of current, and a switch means in said last mentioned circuit for opening and closing said circuit.

3,142,133
PLANTER
Ralph P. Brooks, 4900 Mountain Crest Drive, Knoxville, Tenn.
Filed Jan. 22, 1962, Ser. No. 167,634
5 Claims. (Cl. 47—37)



1. A planter comprising a plurality of individual plant-receiving pots of identical size and truncated conical shape each having at its upper end a radially outwardly directed rim flange of substantially uniform radial extent and all being disposed in upright axially parallel relation with their rim flanges co-planar and with the rim flange of each pot disposed substantially in tangent contact with the rim flanges of adjacent pots at 90 degree spacing, and a web of relatively thin rigid sheet material co-planar with said rim flanges and substantially filling the space between adjacent rim flanges, said web being connected to the rim flanges of the pots at said points of substantially tangent contact by narrow frangible links holding the pots separably together.

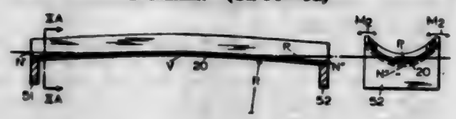
3,142,134
BIOLOGICAL PREPARATION
Sanford M. Siegel, White Plains, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 1, 1961, Ser. No. 106,443
16 Claims. (Cl. 47—58)

1. A process for arresting and substantially counteracting the contamination of vascular plants by atmospheric contaminants which comprises coating at least a surface portion of said plants with an effective amount of a phenolic resin.

3,142,135
PRODUCTION OF CAROTENOIDS BY THE CULTIVATION OF ALGAE
Henry R. Kathrein, Muscatine, Iowa, assignor to Grain Processing Corporation, Muscatine, Iowa, a corporation of Iowa
No Drawing. Filed Feb. 13, 1962, Ser. No. 172,880
10 Claims. (Cl. 47—58)

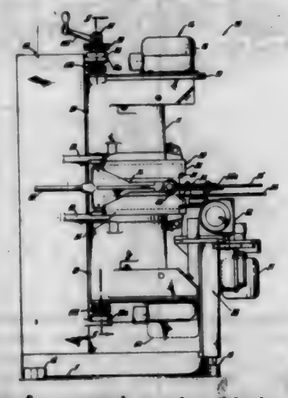
1. A process for the production of carotenoids which comprises cultivating a green alga of the division Chlorophyta in an aqueous organic nutrient medium containing a fermentable carbohydrate, a proteinaceous material and more than about 0.05 percent by weight of an inorganic nitrate whose cation is of the group consisting of metals and ammonium.

3,142,136
HYPERBOLOIDAL SHELL FOR ROOF VAULTS AND THE LIKE
Wilhelm J. Silberkuhl, Uwe Kastl, and Ernst Haverauer, all of Moorenstrasse 26, Essen, Germany
Filed Jan. 25, 1962, Ser. No. 168,700
Claims priority, application Germany Mar. 3, 1958
2 Claims. (Cl. 50—52)



1. A concrete structure adapted to be used in roof construction and the like, comprising an approximately horizontal concrete shell of substantially constant thickness substantially in the shape of a section of a one-sheet hyperboloid of generally rectangular outline with a length ranging substantially between five and ten times its width, said shell being upwardly cambered in longitudinal direction of the rectangle with a radius of curvature so chosen that the elevation of the shell vertex above the lowest points of the shell at the minor sides of the rectangle ranges between substantially 1.5% and 0.5% of the length of said shell, two sets of tensioned elongated prestressing elements extending within said shell substantially along straight-line generatrices of said hyperboloid from respective halves of one minor side of the rectangle to opposite halves of the other minor side, each of said sets including a principal prestressing element passing substantially through the center of said shell and emerging substantially within the middle third of a respective half of each of said minor sides, and piers supporting said shell along said minor sides, the center of the underside of said shell being located substantially at a level which passes through the outermost cross-sections of said shell at said minor sides along the lower half of the altitude of said cross-sections, said altitude ranging between substantially one fifth and one third of the width of said minor sides.

3,142,137
SPRING GRINDER
Herbert J. Fallon, Beloit, Wis., and Sidney M. Napp, Rockton, Ill., assignors to Besly-Welles Corporation, South Beloit, Ill., a corporation of Illinois
Filed June 8, 1962, Ser. No. 201,180
8 Claims. (Cl. 51—111)



1. Structure for supporting and positioning a pair of opposed grinding members, such structure including, in combination,
a pair of elongated, parallel feed screws,
the feed screws being threaded at opposite ends,
a pair of frames,

each frame receiving the feed screws and being slidable therealong, each of the frames carrying an opposed grinding member,

each frame being threadably connected to one of the feed screws and slidably connected to the other feed screw, the frames being threadably connected to different feed screws,

structure restraining longitudinal movement of the feed screws, and

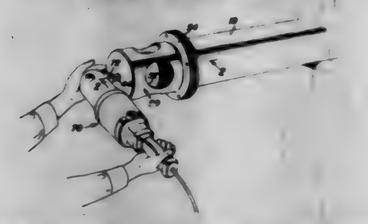
means for rotating each feed screw independently of the other whereby the frames, and the grinding member carried by each frame, may be moved relative to each other to adjust the distance between grinding members.

3,142,138
MOUNTED ABRASIVE STONE AND METHOD OF MAKING SAME
Wallace R. Kean, 177 Crown Terrace, San Francisco, Calif., and Dale L. Timberlake, 1333 W. Camelback Road, Phoenix, Ariz.
Filed May 8, 1963, Ser. No. 278,835
6 Claims. (Cl. 51—206)



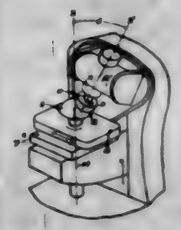
1. An abrasive drill, said drill comprising an abrasive head and a shaft, the abrasive head having a shaft hole, a first bonding agent bonding the abrasive head to the shaft, said shaft being in said shaft hole, a second bonding agent substantially covering the first bonding agent and also bonding the abrasive head to the shaft and said second bonding agent being distributed on said drill in a manner which insures a high degree of rotational balance for said drill.

3,142,139
DRILL COLLAR FACING TOOL
Joe T. Mangum, 709 Zuni Drive, Farmington, N. Mex.
Filed Nov. 16, 1962, Ser. No. 238,136
12 Claims. (Cl. 51—241)



1. A facing tool for working mating annular surfaces of drill collars, tool joints and the like comprising a support body having a shaft bearing therein, mounting means for threadedly attaching said body to a joint section in fixed rigid position thereon, a shaft rotatably journaled in said bearing and freely movable into a joint section to which said body is attached, a cutting head fixedly secured to said shaft for rotation therewith, a cutting element secured to said head and of such size as to cooperatively engage with the annular mating surface of an associated tool joint for dressing said surface, means for rotating said shaft, a stop means cooperating with said cutting element and body and limiting movement of said cutting element toward said annular surface.

3,142,140
PROCESS OF MANUFACTURING A PRECISE NON-SPHERICAL SURFACE
Yasuhiro Ishida, Kashiwa, Chiba Prefecture, Japan, assignor to The Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan
Filed Apr. 18, 1961, Ser. No. 103,928
Claims priority, application Japan Dec. 14, 1960
1 Claim. (Cl. 51—284)



A process of grinding a precise non-spherical surface of a lens blank mounted on a rotating spindle, said lens blank to be ground by a rotating tool, comprising the steps of

mounting a lens blank on a rotating spindle,

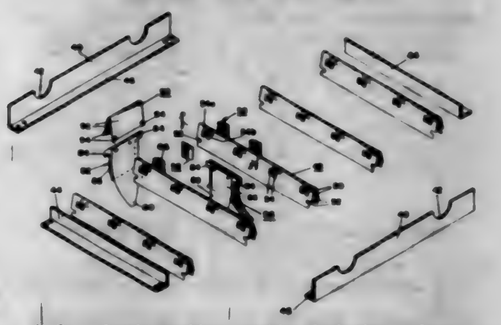
rotating said lens blank about a first axis independently from the rotation of a tool grinding said lens blank,

adjusting said lens blank in three dimensions perpendicular to each other relative to said tool,

tilting the axis of said tool in any direction about a point and adjusting said tool along said tool axis in order to obtain the required eccentricity between the rotating axis of said tool and that of said lens blank, and

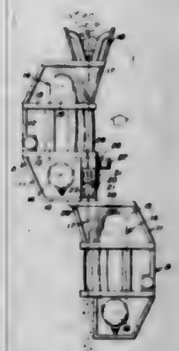
grinding the surface of said lens blank upon engagement with said rotating tool.

3,142,141
GUIDE FINGERS FOR BOTTLE PACKING MACHINE
Joseph H. Walter, Wakely Hill Road, Haddam, Conn.
Filed Mar. 15, 1962, Ser. No. 179,871
6 Claims. (Cl. 53—248)



1. In a bottle packing machine including a frame, a bottle dropping station at one end of said frame including a unit secured to said frame and having longitudinal and transverse partitions dividing the same into bottle receiving holes, each longitudinal partition including spaced vertically extending arms with spaced pairs of apertures provided therein, vertically extending resilient plastic bottle guide fingers, bars having projections extending into said apertures and a plate mounting each guide finger positioned between said spaced arms and having ears bearing on said projections, each bar including a groove in addition to and spaced from said projections, the projection of one of said bars extending through the aperture in one arm and into the groove of another of said bars whose projection extends through the aperture in the other arm and into the groove of said one bar.

3,142,142
COTTON BOLL OPENER
Marvin E. Art, 3007 Bucknell St., Bakersfield, Calif.
Filed July 3, 1961, Ser. No. 121,628
4 Claims. (Cl. 56—41)



1. In a cotton picker machine of the type having fiber-engaging fingers for picking the fibers from the opened bolls attached to the stalks, said machine having means for channelling upright cotton stalks with ripe but unopened pods into a narrow vertical channel, a pod opener device comprising rigid spaced apart beater arms arranged to rotate on a horizontal axis in a vertical plane in the path of said pods while attached to the stalks, said axis being disposed angularly from a position perpendicular to the line of travel of said cotton picker machine; and means for rotating said device.

3,142,143
PICKING SPINDLE FOR COTTON PICKER
Albert J. Scholtes, 714 Ohio Ave., Corpus Christi, Tex.
Filed Jan. 22, 1963, Ser. No. 253,218
17 Claims. (Cl. 56—50)



1. A cotton picking spindle comprising

(*a*) a spindle body having

(*b*) an elongated slot having

(*c*) an open mouth opening transversely through the outer surface of the body and

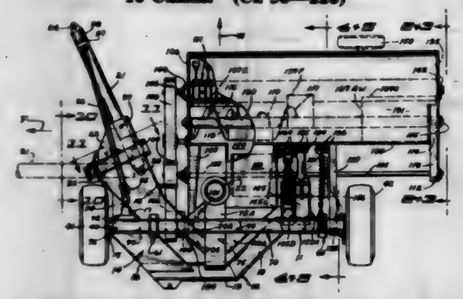
(*d*) at least one open end,

(*e*) barb means slidable transversely in the slot,

(*f*) stop means between the spindle body and the barb means for arresting outward movement of the barb means at a position where the barbs operatively project beyond the spindle body, and

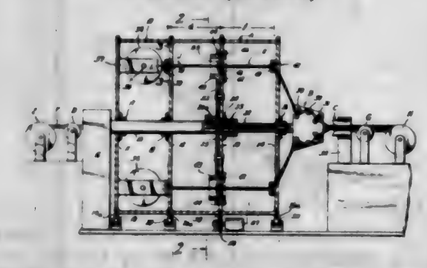
(*g*) elastic means separate from the barb means adapted to be introduced longitudinally through the open end of the slot beneath the barb means for yieldably urging the barb means outwardly to substantially the limit of said stop means.

3,142,144
ROADABLE WIDE WORKING-WIDTH MACHINE
Martin Rooning, Minneapolis, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,768
18 Claims. (Cl. 56—228)



1. For being pulled by a power vehicle, an agricultural implement having a working width of a substantially greater dimension than its overall length comprising a main frame, a first and a second wheel, means for mounting said first wheel on one transverse side of said main frame to roll in a working direction, means for selectively retaining the second wheel on the opposite side of the main frame for rolling movement in a transverse direction and a longitudinal working direction, a tow bar, means connecting one end of the tow bar to the frame adjacent the side on which the first wheel is mounted to alternately extend generally in a working direction and at right angles to the working direction, the last mentioned means including means for forcing the tow bar to move its opposite end in a downward direction relative to the frame to exert a tipping force on the frame when the tow bar is connected to a towing vehicle and retain the tow bar opposite end in a relative downward position, a bogey wheel, and means for removably connecting the bogey wheel to the main frame in longitudinally spaced relation to the second wheel to roll in a transport direction.

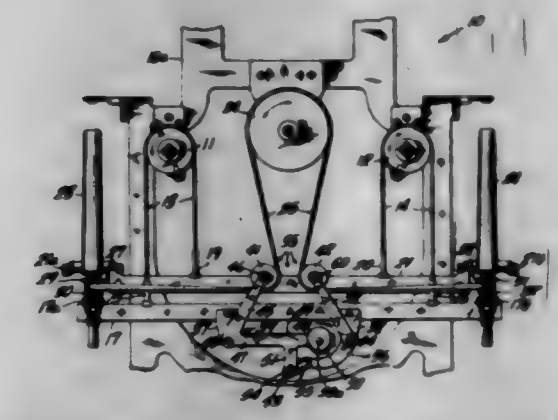
3,142,145
METHOD AND APPARATUS FOR FORMING CABLES
Andre Blanchard, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Jan. 28, 1963, Ser. No. 254,050
7 Claims. (Cl. 57—9)



1. Means for pretwisting non-circular wire preparatory to cabling comprising: case means, first, second and third longitudinally spaced means mounted on said cage means for guiding a non-circular wire therethrough with a given attitude with respect to said cage means, said second spaced means being disposed intermediate of said first and third spaced means, means for rotating said second spaced means about its axis relative to said first and third

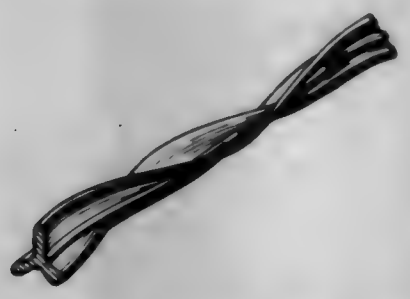
spaced means to twist wire portions to either side of said second spaced means in opposite directions a like number of turns, said second spaced means being spaced at different distances with respect to said first and second spaced means so that twisting of such wire portions provides a permanent turn of twist in a wire for a given length upon emergence of a wire from said third spaced means.

3,142,146
BELT SPINDLE-DRIVING MECHANISM
Zoltan Szaloki, Whitinsville, Mass., assignor to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts
Filed Nov. 30, 1961, Ser. No. 156,096
5 Claims. (Cl. 57—105)



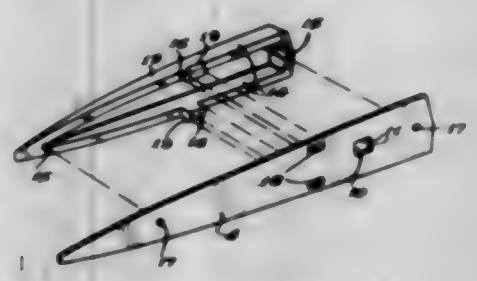
1. A tape-tensioning device comprising a support, first and second lever means pivotally connected to first and second points on said support, respectively, first and second pulley means respectively mounted on said first and second lever means, a tape trained about said first and second pulley means, cam and cam-follower means forming a rotational-force-transmitting connection between said first and second lever means, and biasing means mounted on at least one of said first and second lever means for applying oppositely-directed torques to said first and second lever means, whereby said tape is maintained under tension.

3,142,147
VOLUMINOUS YARN FROM SYNTHETIC CONTINUOUS THERMOPLASTIC FILAMENTS
Theodore D. Retsch, Nutley, N.J., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware
Original application Mar. 9, 1959, Ser. No. 798,163. Divided and this application Dec. 13, 1960, Ser. No. 75,641
2 Claims. (Cl. 57—140)



1. A multi-continuous filament yarn made of a homogeneous thermoplastic polymer, having a stable crimpy fluffy bulky character and a pronounced lateral spacing of the filaments thereof, and being substantially free of filamentary loops, characterized in that the individual filaments thereof have individually and randomly reversed helical twist about their respective axes along their lengths and particularly characterized in that the filaments have a body portion of substantially rounded cross section and a plurality of slender fin-like sections integrally joined to the body portion and radially disposed upon the surface of and extending longitudinally of the body portion, said fin-like sections having rounded tips and being parenthetically curved between the tips and the body portion, the radial length of the fin-like sections being greater than the diameter of the body portion.

3,142,148
INDICATOR
John W. Morgan, Elmhurst, and Charles A. McLeod, Evanston, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 4, 1963, Ser. No. 262,652
3 Claims. (Cl. 58—126)



1. In the combination of a rotary shaft and an indicating pointer carried by one end of the shaft; the improvement of said pointer comprising a bottom member and a top member, releasable means for connecting said members together in superposed relationship, the underside of said top member having a groove formed therein and an aligned aperture formed in the bottom member, said shaft extending through said aperture into said groove, means in said groove for connecting said bottom member to said shaft, and said releasable connecting means being operable by finger pressure on said top member.

3,142,149
DRIVE MECHANISM
Carl V. Hays, Melrose Park, Ill., assignor to General Electric Company, a corporation of New York
Filed May 16, 1962, Ser. No. 195,096
8 Claims. (Cl. 60—23)



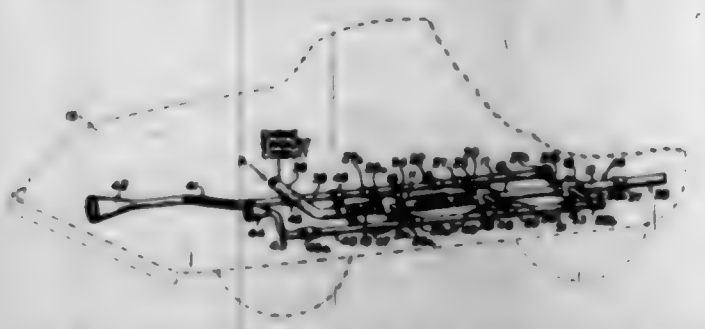
1. A drive mechanism comprising a rotatably mounted ratchet, an elongated arm, support means rigidly mounting said arm at one end so that the arm extends generally perpendicular to the axis of rotation of said ratchet for movement towards and away from said ratchet, a pair of generally parallel elements on the arm adjacent the free end thereof and spaced longitudinally of the arm, said elements having free ends engaging substantially diametrically opposed teeth of the ratchet, the free ends of said elements forming respectively obtuse and acute angles with the main lengths thereof so that the obtuse element rotates the ratchet in one direction as the arm is moved toward the ratchet, and the acute element rotates the ratchet in said one direction as the arm is moved away from the ratchet, a thermally expansible wire connected to the free end of said arm and to said support means to deflect said arm away from said ratchet when cool and unexpanded, and means for periodically passing electric current through said wire.

3,142,150

DEVICES FOR USE IN THE TREATMENT OF EXHAUST GASES OF INTERNAL COMBUSTION ENGINES

Martin B. Pearlman, 78—05 141st St., Flushing 67, N.Y.

Filed Sept. 18, 1961, Ser. No. 138,704
4 Claims. (Cl. 60—30)



1. In a system for use in the treatment of exhaust gases of an internal combustion engine having an exhaust manifold, the combination of an exhaust gas conduit operatively connected to said manifold, a plurality of longitudinally aligned gas treating sections in communication with said conduit, a plurality of casings disposed between adjacent sections, each of said casings having a body portion with a central chamber therein and coupling means at opposite ends of said chamber, each of said coupling means being in operative engagement with the adjacent section, at least one of said casings having an air-inlet portion in its respective body portion in communication with its chamber, each of said casings having a plurality of arms extending from the body portion thereof and having outer terminals with pipe supporting means, and air supply pipes operatively supported by said pipe supporting means, and conduit means connecting said pipes with said air-inlet portion.

3,142,151

HYDROGEN PEROXIDE DECOMPOSITION

Richard M. Roberts, Berkeley, and Geza S. Renay, Oakland, and Frederick M. Fowkes, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Sept. 24, 1959, Ser. No. 843,033
15 Claims. (Cl. 60—35.4)

1. In a method for decomposing hydrogen peroxide by contacting the hydrogen peroxide with a solid metallic silver-containing decomposition catalyst, the improvement which comprises effecting the contact of the peroxide with said catalyst in the presence of a soluble polar compound having a dipole moment equal to at least one Debye unit and containing a halogenated hydrocarbon chain of at least four carbon atoms in which at least 85% of the hydrogen atoms have been replaced by halogen of the group consisting of fluorine and chlorine, the ratio of fluorine to chlorine atoms being at least three which polar compound is present in an amount of about 0.3×10^{-4} to about 4.6×10^{-4} moles per liter of hydrogen peroxide when said halogenated chain contains 8 carbon atoms and the amount is decreased when said chain contains more carbon atoms and increased when it contains fewer carbon atoms.

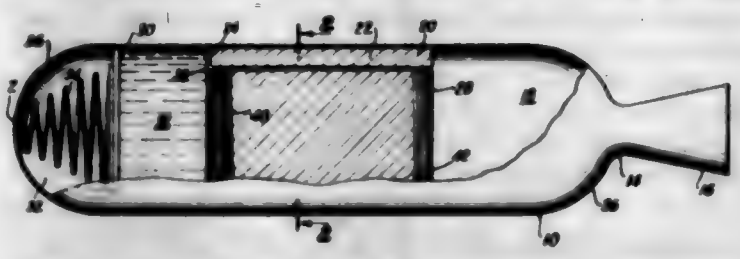
3,142,152

HYBRID ROCKET MOTOR

John W. Sessums, Jr., Redlands, Calif., assignor, by mesne assignments, to Lockheed Aircraft Corporation, Burbank, Calif., a corporation of California

Filed June 22, 1962, Ser. No. 204,589
10 Claims. (Cl. 60—35.6)

1. In a hybrid rocket motor having a first compartment loaded with a solid reactant and a second compartment filled with a liquid reactant, said solid reactant having a burning surface which recedes as combustion progresses, the improvement comprising a tubular conduit embedded in said solid reactant, one end of said conduit being connected into said second compartment and the other end thereof being disposed flush with said burning surface, said conduit being formed so that it



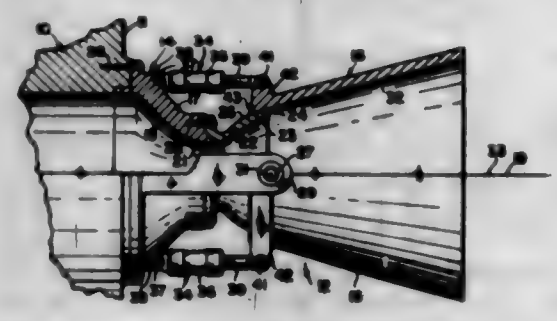
is progressively and uniformly exposed to combustion temperatures as said burning surface recedes, said exposed end being burned away flush with said burning surface, and means for forcing said liquid reactant through said conduit and onto said burning surface.

3,142,153

SOLID PROPELLANT ROCKET THRUST VECTORING SYSTEM

Reece V. Hensley, Potomac, Md., assignor to Pneumo-Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware

Filed June 9, 1961, Ser. No. 116,016
5 Claims. (Cl. 60—35.55)



1. A convergent, divergent rocket nozzle comprising a fixed section having a flow passage including the nozzle throat open at its divergent outer end, a skirt member having a flow passage open to the outer end of the fixed section flow passage and closely overlapping said outer end to form a substantially tight joint, means mounting said skirt for sliding pivotal movement relative to said fixed section between a first position wherein said flow passages are aligned and deflected positions wherein said flow passages are inclined relative to each other, gases flowing through said passages with a velocity greater than Mach one, said fixed section and skirt member cooperating when in said deflected positions to establish a compression wave and an expansion wave each emanating from the joint between said fixed section and skirt member and crossing within said skirt member flow passage whereby said gases flowing through said passages are deflected by passage through said waves to a deflectable angle greater than the angle of deflection of said skirt member.

3,142,154

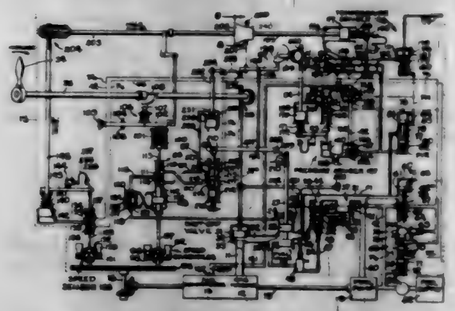
VARIABLE LIMIT FUEL FLOW REGULATOR FOR PRIME MOVERS

Plato J. Leeson, Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois

Filed Dec. 19, 1960, Ser. No. 76,823
8 Claims. (Cl. 60—39.28)

5. For use in regulating the flow of fuel to a prime mover, the combination of, a main fuel valve, a hydraulic actuator including a cylinder and a piston slidable therein to open and close said valve with changes in the pressure in the cylinder, means providing sources of fluid and relatively high and low pressures, a selectively adjustable speed senser having a governor control valve regulating

the flow of fluid to and from said cylinder, a second control valve interposed in series between said pressure sources and said governor valve having an element movable between maximum and minimum limit positions and adapted when in such positions to interrupt the connection between said governor valve and one of said pressure sources, devices for sensing changes in conditions of speed and air temperature and pressure, a system normally adjusted by each of said devices and computing maximum and minimum limits of a permissible range of fuel flow for each prevailing set of conditions, mechanism



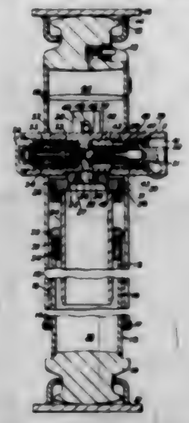
controlled by said system and actuating said control valve element to dispose the same in said maximum limit position when the fuel flow through said main valve reaches the permissible computed limit during periods of acceleration, an auxiliary fluid servo adapted when rendered active to withdraw said speed and temperature sensing devices from the control of said system and leave the latter within the sole control of said pressure sensing device, and a third control valve actuated by said control valve element to activate said auxiliary servo when the flow through said fuel valve decreases substantially to said minimum limit during a period of deceleration.

3,142,155
GAS TURBINE ENGINE COOLING ARRANGEMENT
Robert Lucien Levesque, Winthrop, and Roger Milton Babcock, Wakefield, Mass., assignors to General Electric Company, a corporation of New York
Filed Nov. 29, 1961, Ser. No. 155,743
3 Claims. (Cl. 60—39.66)



1. In a gas turbine engine including a casing and combustion means extending axially of said engine, said combustion means including an axially extending perforated liner spaced radially from said casing to form a space between said liner and said casing, the upstream end of said space being supplied with compressed air and hot combustion products being discharged from the interior of said liner at its downstream end; cooling means comprising a cooling tube projecting into said space adjacent the downstream end of said liner, said tube containing an inlet opening disposed perpendicularly to the direction of flow of compressed air in said space, and a passage within said tube communicating with said inlet opening and with the portions of said casing exposed to said hot combustion products, whereby compressed air is directed through said passage to cool the hot portions of said casing.

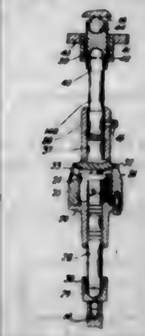
3,142,156
TELESCOPIC HYDRAULIC PROPS
Joseph A. W. Mills, Charlton Kings, Cheltenham, and F. H. B. Edward Hillier, Woodmancote, near Cheltenham, England, assignors to Dowty Mining Equipment Limited, Ashchurch, near Tewkesbury, England, a company of Great Britain
Filed Dec. 20, 1961, Ser. No. 160,800
Claims priority, application Great Britain Dec. 22, 1960
8 Claims. (Cl. 60—52)



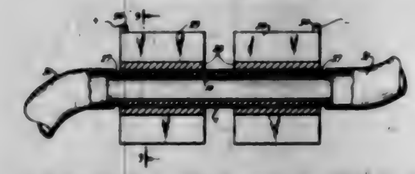
1. A hydraulic prop comprising an outer cylinder closed at its upper end, a hydraulic cylinder closed at its lower end and extending slidably into the outer cylinder, a piston mounted in slidable sealing engagement with the hydraulic cylinder to enclose therewith a pressure chamber, the upper portion of the piston extending above the hydraulic cylinder having a sealing ring mounted therein to engage the bore of the outer cylinder and seal the lower end of a reservoir for liquid in the upper part of the outer cylinder, an apertured valve element in the upper part of the piston including passage means extending through the piston to afford liquid communication between the reservoir and the pressure chamber, a valve seating fixed in the outer cylinder at the lower end of the reservoir in position to enter into co-operative engagement with said apertured valve element whereby to seal the pressure chamber from the reservoir, and a lost-motion connection between said outer cylinder and said piston providing limits of relative axial movement within which said seating and apertured valve element are relatively movable into and out of sealing engagement.

3,142,157
POSITIVE DISPLACEMENT PRESSURE FLUID PUMPS AND MOTORS
Donald Firth and Roger Harvey Yorke Hancock, both of East Kilbride, Glasgow, Scotland, assignors to Council for Scientific and Industrial Research, London, England, a corporation of the United Kingdom
Filed Sept. 18, 1961, Ser. No. 138,749
Claims priority, application Great Britain Sept. 20, 1960
2 Claims. (Cl. 60—53)

1. In combination with a variable-stroke reciprocating piston pressure fluid machine having a pressure circuit, a controller comprising an output element connected to a stroke-control member of said machine, an input element responsive to external control signals, a cylinder carried by one of said elements, a pressure fluid connection to the cylinder from the pressure circuit of the machine, a piston reciprocable in the cylinder and carried by the other of said elements, the piston and cylinder having abutment surfaces which are interengageable to limit relative axial movement of the cylinder and piston in one direction and being relatively movable in the opposite direction by fluid pressure in the cylinder, and a spring between the piston and cylinder urging said abutment surfaces into engagement and yieldable proportionally to fluid pressure in the cylinder above a predetermined minimum value.

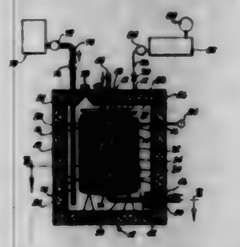


3,142,158
THERMOELECTRIC COOLING DEVICE
Leon Podolsky, 77 Wendell Ave., Pittsfield, Mass.
Filed May 28, 1962, Ser. No. 198,286
14 Claims. (Cl. 62—3)



1. A thermoelectric cooling device comprising a metal wall, a thin film of electrically conductive material coated on said wall, said wall and film being of such materials as to comprise a thermocouple, and means for connecting said wall and film in series with a source of electric current whereby as said current flows through said wall and film their temperature will decrease.

3,142,159
APPARATUS FOR THE SAFE STORAGE AND HANDLING OF NORMALLY EXPLOSIVE MATERIALS
Abraham Leon Berlad, San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed June 5, 1961, Ser. No. 115,025
6 Claims. (Cl. 62—48)



1. Apparatus for the safe storage and handling of a normally explosive material in its liquid state comprising, in combination, a container insulated against heat and shock, a vessel sealable pressure tight and liquid tight for holding said normally explosive material, said vessel being spaced apart from the wall of said container to define therewith a refrigeration compartment, means for supplying and withdrawing the normally explosive material from said vessel, means for refrigerating said compartment thereby to provide a heat sink for the withdrawal of heat from the walls of the vessel to maintain the normally explosive material within the vessel at a temperature below its critical temperature, means for pressurizing said vessel to a pressure sufficient to maintain the normally explosive material therein in a liquid state, said pressurizing means including a conduit carrying an inert gas pressurizing medium which conduit extends through said refrigeration compartment to subject the pressurizing medium to the cooling action of same prior to entry of the medium into said vessel, heat transfer panels disposed in grid fashion within said vessel to extend laterally and longitudinally thereof to conduct heat from within the vessel to its walls, and packing material disposed intermediate said transfer panels to substantially fill said vessel to define for the receipt of said normally explosive material numerous interstices or cells of no larger diameters than the quenching distance of the normally explosive material at the said temperature and said pressure maintained within said vessel, said packing material, said vessel, and said heat transfer panels exposed to said normally explosive material being substantially nonreactive with said normally explosive material and substantially catalytically inactive with regard to decomposition of the normally explosive material at the said temperature and said pressure maintained within said vessel.

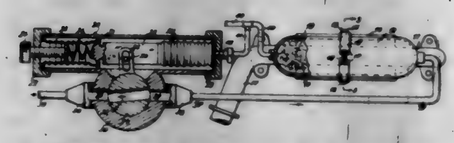
3,142,160
CONTROL DEVICE FOR CAR COOLERS
Junichi Hiyoshi, Meguro-ku, Tokyo-to, and Masashi Sano, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Denki Kabushiki Kaisha, Kawasaki-shi, Japan, a joint-stock company of Japan
Filed Apr. 11, 1962, Ser. No. 186,769
1 Claim. (Cl. 62—202)



In an automobile including a battery, an engine compartment with a refrigerant compressor adapted to be driven by the engine and coupled therewith by an electromagnetic clutch, a passenger compartment having a dashboard and a trunk having a evaporator and a fan for recirculating air between the passenger compartment and the evaporator, said fan having an inlet adjacent said evaporator and a discharge directed into said passenger compartment, the improvement comprising a switch connected between said clutch and said battery for connecting and disconnecting said clutch with the battery, said switch including spaced contact terminals, an expansible bellows having contact means movable upon expansion of said bellows to connect said spaced contact terminals and upon contracting said bellows to disconnect said contact terminals, said switch being located adjacent the inlet of said fan and including an enclosure connected to said bellows which together with said bellows is filled with a thermally expansible substance, said enclosure being disposed in the inlet of said fan for exposure to the air being circulated for influencing the expansible substance for expanding and contracting said bellows in accordance with the temperature of said substance as affected by the circulating air, electrical resistance wire heating means connected to said battery and located in heat exchange relationship with the expansible substance in said enclosure for applying heat thereto, and control means connected to said electrical resistance wire means

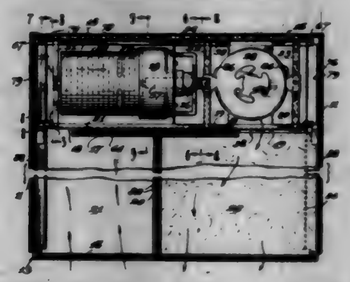
located on the dashboard for varying said electrical resistance wire heating means and the amount of the heat applied thereby to the expansible substance in said enclosure for influencing the actuation of said switch in accordance with expansion and contraction of said bellows by said expansible substance.

3,142,161
AIR CONDITIONER VAPORIZER
Samuel Gresham House, Abilene, Tex., assignor to George W. Owens, Dallas, Tex.
Filed July 26, 1962, Ser. No. 212,661
1 Claim. (Cl. 62—238)



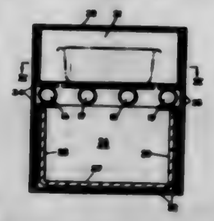
A device of the character described, comprising an engine embodying an exhaust manifold, a generator positioned adjacent to said manifold, a clamp arranged in engagement with said generator, a pressure line and a return line connected to opposite ends of said generator, a pressure control unit embodying a cylinder having closures on its ends, bellows in said cylinder, an adjusting screw extending through one of said closures, a floating member arranged in said cylinder, a main housing having a cut-off valve rotatably arranged therein, said valve having a passageway therein, ports in said housing adapted to have said passageway move into and out of registry therewith, the return line which has one of its ends connected to the generator having its other end communicating with one of said ports, an absorbed liquid line having one of its ends connected with the other port, a branch line having an end connected to said pressure line and its other end connected to said cylinder, an absorption refrigeration mechanism operatively connected to said pressure line and absorbed liquid return line, metallic material arranged in said generator for preventing splashing and sloshing in the generator, and the metallic material being arranged in the form of a unitary mass which is arranged within the generator from one end of the generator to the other end thereof and said material permitting refrigerant to pass through the generator, said branch line being connected to said pressure line at a point between the generator and the absorption refrigeration mechanism.

3,142,162
REFRIGERATION DEVICE
William B. Herndon, Jr., and James P. Laughlin, Jr., Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 22, 1962, Ser. No. 181,521
8 Claims. (Cl. 62—295)



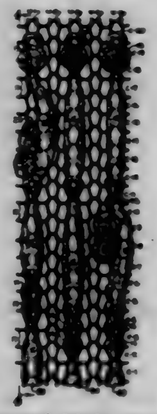
1. A refrigeration device including a cabinet, having a front and a back, means in said cabinet forming a machine compartment adjacent said back, and a refrigeration unit in said compartment, said refrigeration unit comprising: a condenser; an air moving means; a compressor; a supporting framework resiliently mounted within said compartment; and spaced mounting means for resiliently supporting said condenser, said air moving means and said compressor horizontally in line on said framework.

3,142,163
REFRIGERATION EVAPORATORS
John Ross Ferguson, Dundee, Scotland, assignor to Morphy-Richards (Astral) Limited
Filed Feb. 6, 1962, Ser. No. 171,462
8 Claims. (Cl. 62—517)



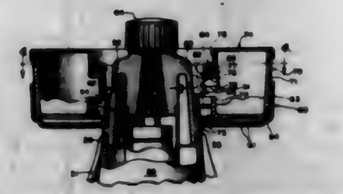
1. In a refrigerator of the type defined including an evaporator comprising a metal tube bent to form a first evaporator section and a second evaporator section, said sections being connected in series for the flow of refrigerant through said first section and then through said second section, said second section including two horizontal parallel limbs embracing said first section: a casing of tubular metal construction supported along its sides on said two limbs to enclose said evaporator, said casing being shaped and dimensioned to form above said first evaporator section a chamber for the reception of goods to be supported on said first section, and to form below said first section an additional chamber for the reception of goods which will be cooled by convection currents of cold air from said first section.

3,142,164
KNIT ORNAMENTED FABRIC
Hugh L. Merritt, Mount Airy, N.C., assignor to Renfro Hosiery Mills, Inc., Mount Airy, N.C., a corporation of North Carolina
Filed Aug. 8, 1960, Ser. No. 48,074
3 Claims. (Cl. 66—201)



1. A knit ornamental fabric comprising a base fabric including wales and courses knit of a body yarn and a design area formed on one face thereof, said design composed entirely of wrap yarns, said wrap yarns extending walewise of the base fabric and being interknit with said body yarn at predetermined spaced apart courses separated from each other by a plurality of courses to form walewise extending floats overlying the walewise stitches in the courses between said predetermined courses, the yarn forming the floats having a diameter at least as great as the width of the walewise stitches positioned therebeneath to thereby hide the stitches from view, and tufts defining the outer extremities of said wrap yarns and design area formed thereby.

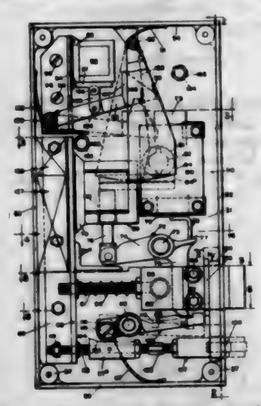
3,142,165
WATER CONDITIONER DISPENSER FOR CLOTHES WASHING MACHINES
Stephen L. McMillan, Wheaton, Ill., assignor to General Electric Company, a corporation of New York
Filed June 27, 1963, Ser. No. 291,006
11 Claims. (Cl. 68—17)



6. In a clothes washing machine having a tub within which clothes are washed and rinsed in a body of water, means for discharging water into said tub from above the water level thereof, an agitator having a central post structure concentric with said tub, means for operating said agitator to effect a washing action in said water and means for subsequently rotating said agitator at high speed, the improvement comprising:
an open-topped bowl adapted to receive a quantity of detergent,
means for carrying said bowl on said agitator post structure at a level to receive water issuing from said discharging means,
a valve mechanism interposed between said discharging means and said bowl to prevent flow of water into said bowl,
and means responsive to centrifugal forces engendered during said high speed rotation of said agitator to operate said valve means to a position in which said bowl may receive water issuing from said discharging means, whereby the detergent content of said bowl will be washed therefrom into said basket.

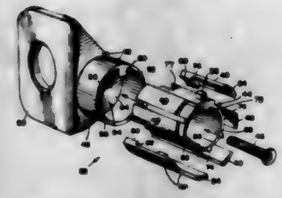
3,142,166
LOCK CONTROLS AND THE LIKE
Folger Adam, John W. Browning, Harry F. Stupay, and Nelson Beck, all of Joliet, Ill.; said Stupay and said Beck assignors to Folger Adam, a co-partnership
Filed Jan. 20, 1960, Ser. No. 3,662
40 Claims. (Cl. 70—279)

1. In a locking device including a housing of physical vibration transmitting material having a first movable locking element adapted to engage a companion element for the locking function, said first movable locking element having a first defined locking position and a second defined non-locking position, first driving means to urge said first movable locking element to move in direction towards said first defined locking position, second driving means to urge said first movable locking element to move in direction towards said second defined non-locking position, activating means to actuate one of said driving means, said activating means including means constituted to cause the driving means corresponding to said activating means to move the movable locking element in direction of urge of said driving means, said activating means including means to control the means which is constituted to cause the said driving means to move the movable locking element in said direction or urge effectively to cause said driving means to move the movable locking element in said direction of urge, said control means also including a physically vibrationable response element in physical engagement with the interior surface



of the housing, said response element having a maximum amplitude of vibration when said vibrationable element is vibrated at its fundamental resonant frequency by vibration transmitted through said housing, and also including means responsive to said maximum amplitude physical vibrations of said vibrationable, element, said last named means comprising a portion of said control means.

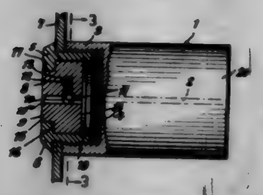
3,142,167
ADJUSTABLE KEY AND ASSEMBLY JIG THEREFOR
Walter S. Christopher, Park Ridge, Ill., assignor to Chicago Lock Company, Chicago, Ill., a corporation of Illinois
Filed July 28, 1961, Ser. No. 127,584
2 Claims. (Cl. 70—411)



1. An adjustable key for a lock of the type that embodies an annular series of interchangeable, split, spring-pressed tumblers, said key comprising a key body having a cylindrical socket formed in the forward end thereof, said socket having a bottom wall provided with a central tapped hole therein, a cup-shaped push pin holder of greater axial extent than the depth of said socket, having its rear end region fitting in said socket and embodying a generally cylindrical side wall and, in addition, a bottom wall with a central opening therein, said side wall being formed with a series of closely spaced, parallel, longitudinally extending external grooves therein, said side wall being provided at its rear end with an external annular recess intersecting said grooves, a push pin disposed in each groove and having its rear end region projecting into said socket and confined between the cylindrical wall of the socket and the side and bottom walls of the groove, said push pins being interchangeable in said

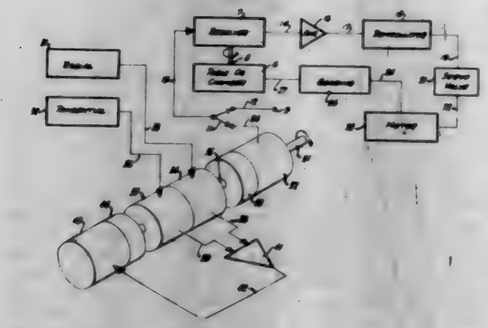
grooves and being of predetermined but different lengths, a locating finger on the rear end of each push pin and projecting into said recess for locking the pin against longitudinal shifting in its respective groove, a guide lug on the key body and a cooperating guide slot in the rear end region of the holder for preventing turning of the key body within the holder, and a fastening screw projecting through said opening and threadedly received in said tapped hole for releasably securing said holder and key body together.

3,142,168
LOCK PROTECTING DEVICES
John F. Wellekens, New York, N.Y., assignor to Hotel Security Systems Corporations, New York, N.Y., a corporation of New York
Filed Mar. 26, 1963, Ser. No. 268,143
4 Claims. (Cl. 70—416)



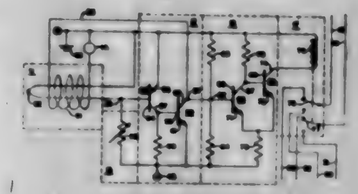
3. A lock protective device comprising, a lock casing containing lock mechanism and including a keyhole, said casing having a forward extension, a cup-shaped member fitted into said extension, said cup-shaped member being open at its forward end, a pair of half-round segments rotatively maintained in the cup-shaped member and spaced apart to define a keyhole-like slot between them in the forward end of the cup-shaped member so that a key may be passed through such slot to reach the keyhole of the lock behind the segments, said segments being rotative within the cup-shaped member when a tool other than a proper key is thrust between them and turned in an effort to reach and break the lock.

3,142,169
VECTOR ALIGNMENT DEVICE
Howard J. Bates, Walnut Creek, Robert A. Spry, Richmond, and Robert E. Murray, Oakland, Calif., assignors to The Rucker Company, a corporation
Filed July 27, 1962, Ser. No. 212,923
6 Claims. (Cl. 73—1)



1. A vector alignment device comprising a centrifuge arm rotatable about a vertical axis, a test chamber on said arm and rotatable about a parallel vertical axis, means for rotating said chamber about said parallel vertical axis, and means for controlling the operation of said rotating means including a first accelerometer on said arm and responsive to radial forces and a second accelerometer on said arm and responsive to tangential forces.

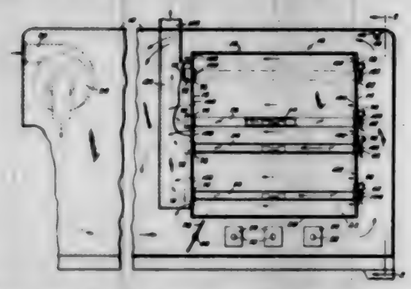
3,142,170
CONTROL APPARATUS
Thomas S. Calhoun, Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 1, 1960, Ser. No. 73,887
1 Claim. (Cl. 73—15)



An environment sensitive indicator comprising, in combination: sensing means which varies in resistance as a function of temperature; an adjustable resistance means; a first transistor; a second transistor; each of said transistors including a base, a collector and an emitter; a power source comprising first and second terminal means; and means connecting a first terminal of said sensing means to said first terminal; means connecting a first terminal of said adjustable resistance means to said second terminal of said power source; means connecting said base of said first transistor to a second terminal of both said adjustable resistance means and of said sensing means; a first fixed resistance means; means connecting said emitter of said first transistor to said first terminal means; means connecting said collector of said first transistor to said base of said second transistor; means connecting said base of said second transistor to said second terminal means through said first fixed resistance means; means connecting said emitter of said second transistor to said second terminal means; a heating element means; an indicating means; means connecting said collector of said second transistor to said first terminal means through said heating element means and said indicating means; means for positioning said sensing means and said heating element means in good thermal relationship, the heating element being held at a substantially constant temperature through a feedback path utilizing this good thermal relationship; and gating means connected to said collector of said second transistor means, said gating means operating when a predetermined ratio of resistance is attained between said sensing means and said adjustable resistance means.

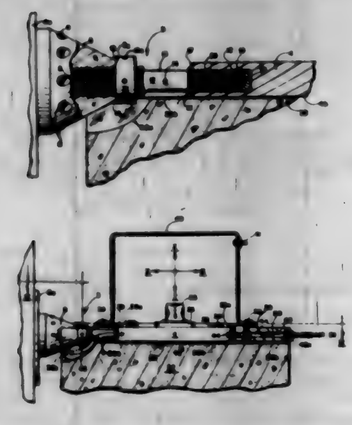
3,143,171
APPARATUS FOR PERFORMING ACCELERATED AGING TESTS ON ELASTOMERS
Markus Royen, Pawtucket, R.I., assignor to Apex Tire & Rubber Company, Providence, R.I., a corporation of Rhode Island
Filed Mar. 13, 1961, Ser. No. 95,345
7 Claims. (Cl. 73—15)

1. Apparatus for performing accelerated aging tests on elastomers, comprising an oven, an elongated tube having entrance and exit ends mounted in said oven, means circulating fresh, heated air through said oven to the entrance end of said tube, means regulating the flow of fresh, heated air through said tube, and means segregating and exhausting from the oven all air which emanates from the exit end of said tube, said regulating means comprising a conical valve extending into the entrance end of said tube, and means mounting said valve for axial movement with respect to said tube, whereby the position of said valve



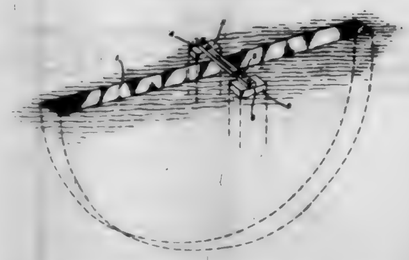
with respect to said tube determines the rate of flow of air through said tube.

3,142,172
VIBRATION TESTING APPARATUS
Frank N. Taccogna, Downey, Calif., assignor to North American Aviation, Inc.
Filed July 28, 1960, Ser. No. 45,895
7 Claims. (Cl. 73—71.6)



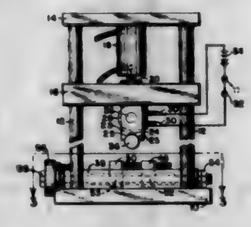
1. A vibration testing apparatus comprising:
drive means for imparting back and forth motion along one axis;
driven means comprising an upper surface having a tested component secured thereto, the weight of said component substantially equally distributed on either side of said axis and whose center of gravity is adapted to be driven by said drive means along said axis;
interconnecting means operatively connecting said drive means and said driven means for automatically aligning and driving the center of gravity of said tested component along said axis, said interconnecting means comprising a conically shaped member having its base end portion connected to said driving means and its apex end portion connected to said driven means, said member providing outer surface portions between said base and apex end portions which form an angle selected from the range of from 30° to 60° with respect to said axis; and environmental control means cooperating with said driven means and further cooperating with the tested component secured thereto for accurately subjecting said driven means and tested component to selectively controlled environments without affecting the operational function of said testing apparatus, said environmental control means comprising a frame member constructed and arranged to overlap peripheral portions of the upper surface of said driven means and a chamber secured to said frame member and enclosing said driven means and tested component.

3,142,173
ELASTIC STRAIN TRANSDUCERS
William G. Pfann, Far Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1960, Ser. No. 33,225
7 Claims. (Cl. 73—88.5)



1. A method for measuring strains in a medium comprising fixing a strain gauge across a cavity formed in said medium, said cavity having a volume at least sufficient to contain an imaginary semicylinder in which the diameter is greater than one-half the height where one dimension of the cavity corresponds to the said height, whereby the predominant factor dictating the strain responsive displacement of the two points where the axis of the said semicylinder intersects the walls of the medium supporting the cavity is by flexing or bowing as opposed to simple linear displacement, the said strain gauge being positioned essentially between the said points on the axis, and measuring the response of the strain gauge to the relative axial displacement of said points.

3,142,174
BEND TEST APPARATUS
Cletus L. Baker, Steubenville, Ohio, assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,534
6 Claims. (Cl. 73—100)



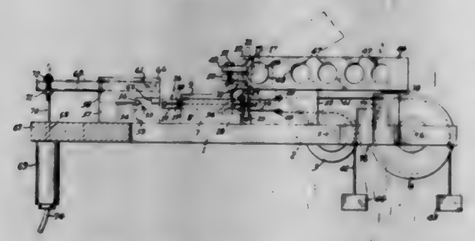
1. Apparatus for bend testing comprising:
(*a*) a base,
(*b*) a pair of die blocks mounted in spaced apart, face to face relationship on said base to form an open slot therebetween,
(*c*) a frame attached to said base supporting a cross member above said die blocks,
(*d*) means for actuating said cross member vertically up and down with respect to said base,

(*e*) a pair of spaced apart aligned plates of magnetic metal fixedly attached to said cross member and depending therefrom, the bottom edges of said plates being notched with the centers of said notches vertically aligned with the center of the slot formed between the said pair of die blocks,

(*f*) means for magnetically energizing said plates to support a cylindrical die of magnetic metal engaging the sidewalls of the said notches in the bottoms thereof, and

(*g*) means for adjusting the spacing between said die blocks while maintaining the center of the slot therebetween vertically aligned with the centers of the said notches in said plates.

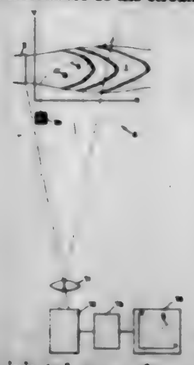
3,142,175
APPARATUS FOR SHEAR TESTING JOINTS
Howard E. Spooner, Lincoln, R.I., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Jan. 5, 1961, Ser. No. 80,892
3 Claims. (Cl. 73—101)



1. Apparatus for shear testing bonded test pieces, comprising a base, means for securing a test piece to said anvil member, an anvil member mounted on the base, guide means mounted on the base laterally of the anvil member, a first elongated movable jaw member contacting the guide means and having one end portion thereof adjacent and laterally movable relative to the anvil, means at said one end portion for gripping a portion of the test piece, a first lever member pivotally mounted on the base laterally of the guide means and engageable with the other end portion of the jaw member, shear tension means mounted on the base and connected to the said other end portion of the jaw for urging the jaw laterally outwardly of the anvil, means mounted on the base and in contact with the first lever for locking the first lever in a locking position and thereby maintaining the said one end portion of the jaw in a predetermined position relative to the anvil in opposition to the tension means, a second lever connected to the locking means for locking and releasing the first lever, whereby the test piece gripped by said jaw is subjected to tension by the said shear tension means when the first lever is released, a second elongated movable jaw superposed over said first jaw in contact with the guide means and said first and second jaws being independently longitudinally movable relative to each other, and both jaws having mated end portions adjacent and laterally movable relative to the anvil.

3,142,176
MEASUREMENT OF THRUST
Adolph Razdow, Montclair, N.J., assignor to Razdow Laboratories, Inc., Newark, N.J., a corporation of New Jersey
Filed July 8, 1960, Ser. No. 41,622
20 Claims. (Cl. 73—116)

9. Apparatus for measuring the thrust characteristics of a rapidly moving stream of high temperature gases comprising solid particle supply means, firing and accelerating means located with respect to the stream for injecting a solid particle of predetermined and known mass into the stream substantially transversely of the stream, the solid particle being substantially greater in mass than the individual molecules of the stream of gases into which



the particle is injected, means for controlling the feeding of the particles from the supply means to the firing and accelerating means, means for measuring the velocity at which said particle enters the stream, and means for measuring the deflection of the particle caused by incremental thrusts exerted on said particle by the gases as the particle traverses the stream.

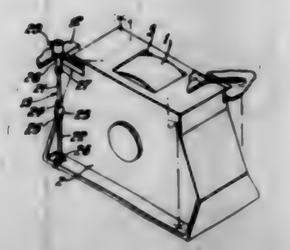
3,142,177
TORQUE SENSING MECHANISM
Henry G. Hasscom and Richard H. Hasscom, both of 338 N. Kenilworth Ave., Elmhurst, Ill.
Filed Feb. 10, 1961, Ser. No. 88,550
10 Claims. (Cl. 73—139)



1. In a torque wrench a work engaging element, a rod rigidly attached to said element and extending radially therefrom, a scale supported on said rod, an indicating arm secured to said element and having a pointer portion movably overlying said scale, a support adjacent said scale and a sensing means adjustably carried by said support, said sensing means comprising a housing and means for movably positioning said housing at a variety of points on said support, a plunger member on said housing, a finger member pivotally carried by said plunger, yielding means positioned between said plunger and said housing to urge said plunger outwardly from said housing, hook means on said finger, a second yielding means positioned to urge said hook means into engagement with said housing when said plunger is in its innermost position in said housing, said pointer being movable into engagement with said finger to release said hook means and to free said plunger for actuation by said first yielding means.

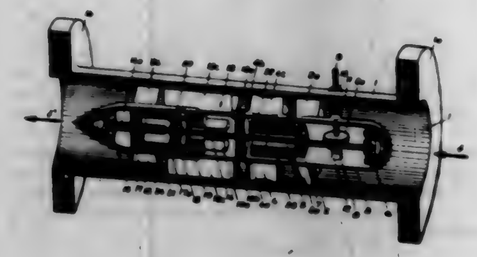
3,143,178
APPARATUS FOR TESTING PNEUMATIC TYRES
Vernon Eric Gough, Sutton Coldfield, and Clifford Ward Barson, Knowle, Solihull, England, assignors to Dunlop Rubber Company Limited, a British company
Filed Aug. 5, 1960, Ser. No. 47,634
Claims priority, application Great Britain Aug. 13, 1959
21 Claims. (Cl. 73—146)

1. Apparatus for selectively measuring the cornering force, the self-aligning torque and both the cornering force and the self-aligning torque set up by a rotating pneumatic tyre which apparatus comprises a frame, a cylindrical drum, means for supporting said drum rotatably in fixed vertical position relative to said frame, strain sustaining and measuring means connected between said frame and said drum supporting means and disposed on lines of action about the area of contact of said tyre and said drum, means for supporting a tyre rotatably with its axis substantially parallel to the axis of said drum,



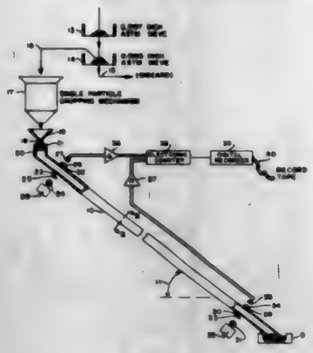
means for moving said tyre supporting means relatively to said drum to bring the periphery of said drum into and out of contact with the periphery of said drum and for loading the tyre, driving means to rotate said tyre and drum in rolling contact, and means connected to and responsive to strains set up in said strain sustaining and measuring means to transform strains set up in said strain sustaining and measuring means by cornering forces and self-aligning torque forces into measurements of at least one of said forces and of stearing pull derived therefrom.

3,142,179
APPARATUS RESPONSIVE TO FLUID FLOW
Daniel Sourlas, Paris, France, assignor to Service National dit: Gaz de France, Paris, France
Filed Mar. 7, 1961, Ser. No. 94,029
Claims priority, application France Mar. 8, 1960
8 Claims. (Cl. 73—231)



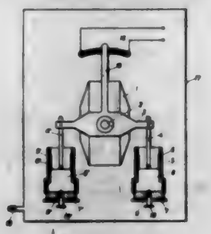
1. Fluid flow-responsive apparatus comprising means defining a fluid flowpath, means in said flowpath for imparting a rotational velocity to the fluid, a turbine positioned in said flowpath beyond said last means and rotated by said fluid whereby the rotational velocity thereof is reduced, output means responsive to rotation of said turbine, sensor means in the flowpath beyond said turbine and sensing any residual velocity component of the fluid, and retarding means operated by said sensor means and coupled to the turbine for applying a variable retarding couple thereto so as to maintain said residual rotational velocity component substantially at zero magnitude.

3,142,180
METHOD AND APPARATUS FOR MAKING GRAIN SHAPE ANALYSES
William H. Gleaves, Hampton Township, Allegheny County, and John C. Ludwick, Jr., Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 10, 1961, Ser. No. 122,706
7 Claims. (Cl. 73—432)



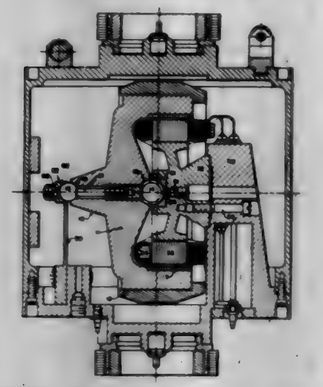
1. Apparatus for classifying a particle with respect to its shape comprising a channel adapted to be traversed by the particle, the interior boundaries of said channel being roughened surfaces, means connected to said channel adapted to insert the particle into one end of said channel, means propelling the particle through said channel by executing a plurality of irregular bounces off the boundaries of said channel, and timing means connected to said channel adapted to measure the time required for the particle to traverse said channel.

3,142,181
DAMPED GYROSCOPE FOR CONTROL PURPOSES
Waldemar Möller, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk Perkin-Elmer & Co., G.m.b.H., Uberlingen (Bodensee), Germany
Filed July 17, 1959, Ser. No. 827,770
Claims priority, application Germany June 16, 1958
1 Claim. (Cl. 74—5)



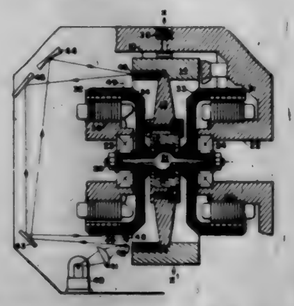
Aircraft gyroscopic control apparatus comprising a rotor having a spin axis adapted to rotate about a precession axis; piston means and cylinder means separated by a compressible gaseous fluid and connected with said rotor as the sole elements simultaneously limiting the degree of rotation of said spin axis about said precession axis and damping said rotation within the limits so established; enclosure means surrounding said rotor, piston, and cylinder means; and conduit means interconnecting said enclosure means and the atmosphere surrounding the aircraft.

3,142,181
GYROSCOPE SPIN AXIS BEARINGS
Ernest Blaney Dane, Jr., Belmont, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 23, 1961, Ser. No. 91,275
3 Claims. (Cl. 74—5)



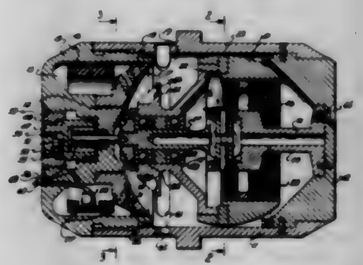
1. A precision gyroscopic instrument assembly comprising a first spherical bearing, a re-entrant rotor, a first spherical journal attached to said rotor at the center of gravity of said rotor, and supported precisely concentrically in said first spherical bearing, a flat spring lying in a plane substantially perpendicular to the spin axis of said rotor and at a distance from said first spherical journal, a second spherical bearing attached to one end of said flat spring, and a second spherical journal attached to said rotor on said spin axis and engaging said second spherical bearing with the center of said second spherical journal lying substantially in the plane of said flat spring, and rigid mounting means interconnecting said flat spring and said first spherical bearing.

3,142,183
FREE GYROSCOPE
Ernest B. Dane, Jr., Belmont, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 7, 1961, Ser. No. 101,589
3 Claims. (Cl. 74—5.7)



1. A precision free gyroscope comprising
(*a*) an instrument case,
(*b*) a spherical journal contained within said case,
(*c*) means for rotating said journal about an axis of said case,
(*d*) means for constraining the rotation of said journal to said axis,
(*e*) a gyroscope wheel having a stable spin axis,
(*f*) a spherical bushing, centrally fixed in said wheel encircling said journal, having a slightly greater radius of curvature than said journal,
(*g*) means for applying a drag torque to said wheel to urge said wheel to lag the rotation of said journal, characterized in that the clearance between said journal and said bushing is sufficient that rolling contact is maintained between said bushing and said journal as said wheel is driven by rotation of said journal at operating speed.

3,142,184
GYROSCOPE
George F. East, Whittier, Paul R. Studer, Jr., Vista, and John H. Wais, San Marino, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Dec. 4, 1961, Ser. No. 156,839
7 Claims. (Cl. 74—5.12)

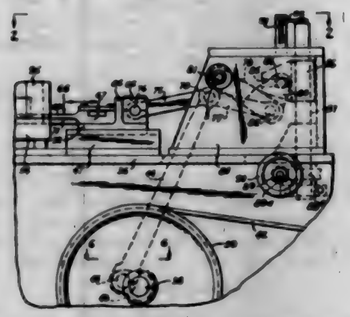


1. A gyroscope device comprising a case having a rotor compartment, a rotor in said compartment, means in said rotor compartment supporting said rotor for spinning about a spin axis and for movement about mutually perpendicular axes, means in said case forming a cylinder, said case having a propellant chamber surrounding said cylinder and a wall intermediate said compartment and said chamber; a plurality of jets spaced around said spin axis and communicating said propellant chamber with said rotor compartment, said jets being adapted to direct streams of fluid propellant against said rotor whereby to spin said rotor, a locking device for locking said supporting means against movement about and said mutually perpendicular axes while permitting said rotor to spin, said locking device comprising a piston in said cylinder; a latch device normally latching said piston in position maintaining said locking device in locking condition, and means communicating said propellant chamber with said piston and said latch device, said latch device being operable by propellant pressure to release said piston, said piston being operable by propellant pressure to maintain said locking device in locking condition, and said propellant pressure being ineffective after a predetermined reduction thereof to maintain said locking device in locking condition.

3,142,185
PISTON STROKE ADJUSTMENT
William L. Knowles, Dallas, Tex., assignor to T-Board Machinery Company, Inc., Dallas, Tex., a corporation of Texas
Original application Feb. 27, 1959, Ser. No. 796,119. Divided and this application June 6, 1962, Ser. No. 200,482
3 Claims. (Cl. 74—25)

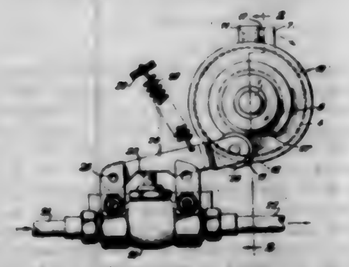
1. A system for driving a block with progressively increasing force repetitively from the same return point to an end point which is selectively variable which comprises:
(*a*) a frame for supporting said block for linear sliding movement away from said return point;

(*b*) a first link having one end pivotally secured to said block;
(*c*) a crankshaft journalled in said frame;
(*d*) a connecting rod having one end journalled in said crankshaft;



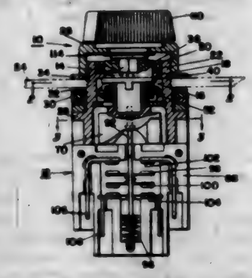
(*e*) a first pivot means coupling the free ends of said first link and said connecting rod;
(*f*) a second pivot means selectively movable along an arc having as its center the same axial location as said first pivot means when said block is at said return point, and;
(*g*) a second link secured at its ends to said first pivot means and said second pivot means, respectively.

3,142,186
CAM OPERATED PULSING DEVICE
James O. Melton, Norman, and Irvin M. Carpenter, Oklahoma City, Okla., assignors to The Geolograph Company, Oklahoma City, Okla., a corporation of Oklahoma
Filed May 22, 1961, Ser. No. 111,778
5 Claims. (Cl. 74—54)



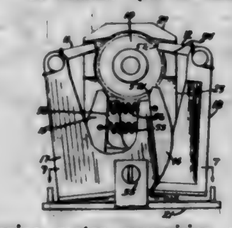
1. An intermittent pulsing device comprising a first rotatable member, a second rotatable member mounted for rotation substantially coaxial with said first rotatable member, an eccentric means mounted on said first rotatable member, actuator means engageable with said eccentric means, means resiliently urging said actuator means into engagement with said eccentric means to prevent rotation of said first rotatable member, a spring biasing means mounted between said first and second rotatable members, means for rotating said second rotatable member relative to said first rotatable member so as to increase the tension in said spring biasing means, a first projecting portion on said second rotatable member, and a second projecting portion on said first rotatable member adapted to be intercepted by the projecting portion on said second rotatable member, said second rotatable member under continuous rotation causing said first projecting portion to contact said second projecting portion so as to move said first rotatable member and its eccentric means relative to the resiliently urged actuator means thereby causing said second rotatable member to pass through a complete revolution under the action of said spring biasing means.

3,142,187
ROTATABLE SWITCH ACTUATORS
Hugh Kane, Normal, and Robert A. Pusch, Le Roy, Ill., assignors to General Electric Company, a corporation of New York
Filed Dec. 22, 1960, Ser. No. 77,580
2 Claims. (Cl. 74—107)



1. A rotatable switch actuator comprising a hollow base, a shaft rotatably mounted in said base and having means for actuating a switch operator, a coil spring wrapped around said shaft, and a pair of rotatable rings surrounding said shaft and having hooks respectively secured to opposite ends of said spring, said hooks being spaced angularly about the axis of said shaft relative to each other when the shaft is in a neutral position, each ring having also a radially extending finger spaced angularly about the shaft axis with respect to its associated hook, said fingers also being spaced angularly about the shaft axis with respect to each other when the shaft is in said neutral position, said base having a rib extending into the space between said fingers to prevent rotation of said rings simultaneously in the same direction, said shaft having axially extending tongues respectively engaging shoulders of said fingers, one of said rings being rotated in one direction by engagement of its finger shoulder with one of said tongues in response to rotation of said shaft in said one direction away from said neutral position to stretch said spring from one end thereof while the other ring is held against rotation by said rib, and said other ring being rotated in the opposite direction by engagement of its finger shoulder with the other tongue in response to rotation of said shaft in the opposite direction away from said neutral position to stretch said spring from its other end while said one ring is held against rotation by said rib.

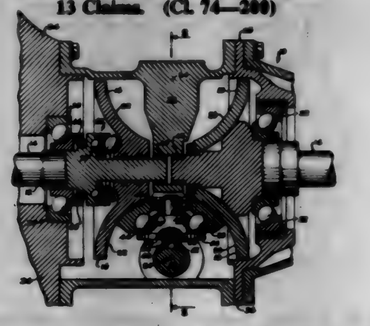
3,142,188
STEPPING DEVICE
Lester Miller, Jr., Danbury, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Apr. 4, 1961, Ser. No. 100,716
13 Claims. (Cl. 74—142)



1. A stepping motor comprising a ratchet wheel mounted for rotation about a first axis, said ratchet wheel having a plurality of evenly spaced major and minor

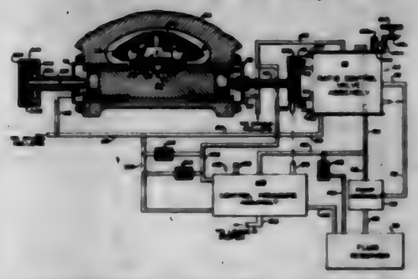
teeth, each of said teeth being parallel to said first axis and having flat side surfaces and an apex, each of the side surfaces of each minor tooth lying in a plane which passes through the apex of the major tooth adjacent the other side surface of said minor tooth; a pivot pin spaced from said ratchet wheel and having an axis parallel to said first axis; first and second levers each rotatably mounted on said pivot pin and extending on opposite sides of said ratchet wheel; first and second electromagnets operatively mounted for rotating said first and second levers in response to energization of said first and second electromagnets respectively; first and second driving pawls each disposed on a different side of said ratchet wheel, said first and second driving pawls being carried by said first and second levers respectively, said first driving pawl being operative, upon actuation of said first lever, to rotate said ratchet wheel in a clockwise direction, said second driving pawl being operative, upon actuation of said second lever, to rotate said ratchet wheel in a counterclockwise direction; first and second detent pawls rotatably mounted on said pivot pin, each of said detent pawls being disposed on a different side of said ratchet wheel and being engageable therewith, said first detent pawl being operative when engaged with said ratchet wheel to prevent rotation of said ratchet wheel in a clockwise direction, said second detent pawl being operative when engaged with said ratchet wheel to prevent rotation of said ratchet wheel in a counterclockwise direction; means biasing said detent pawls toward engagement with said ratchet wheel; means coupling said first lever and said first detent pawl and said second lever and said second detent pawl whereby actuation of each of said levers is effective to disengage the detent pawl coupled therewith from said ratchet wheel to allow the ratchet wheel to be rotated; first and second stop pawls rotatably mounted on said pivot pin and engageable with said ratchet wheel to limit rotation thereof in clockwise and counterclockwise directions respectively, said biasing means being further operative to bias said stop pawls toward engagement with said ratchet wheel; and means coupling said first stop pawl and said first detent pawl and said second stop pawl and said second detent pawl whereby movement of each detent pawl in a direction away from engagement with said ratchet wheel allows said stop pawl coupled therewith to move toward engagement with said ratchet wheel under the bias of said biasing means.

3,142,189
RATIO CONTROL FOR TOROIDAL TRANSMISSION
Michael Davis, Caldwell, and Charles E. Kraus, Franklin Lakes, N.J.; said Davis assignor to Curtiss-Wright Corporation, a corporation of Delaware, and said Kraus assignor to Excelermatic, Inc., a corporation of New York
Filed Feb. 20, 1963, Ser. No. 259,982
13 Claims. (Cl. 74—200)



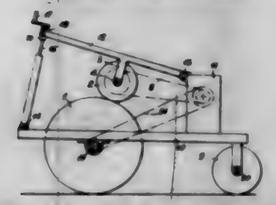
1. A variable speed transmission comprising co-axial input and output members having facing toric surfaces, a plurality of circumferentially-spaced rollers disposed between and in driving contact with said surfaces for transmitting torque from the input member to the output member, support means for each roller including pivot means providing for speed-ratio-changing pivotal movement of said roller across said toric surfaces, each roller support means also including means providing for movement of its roller in a second mode in response to changes in the traction forces between said roller and said toric surfaces such that in response to movement in said second mode said speed-ratio-changing pivotal movement of the roller is initiated, control means including a source of fluid pressure operatively connected to each roller support means for applying a fluid pressure force thereto for controlling movement of each roller in its said second mode thereby determining the speed-ratio position of said rollers, and means operatively connected to said control means for automatically varying said fluid pressure force in response to movement of said rollers in said second mode.

3,142,190
RATIO CONTROL SYSTEM FOR TOROIDAL TRANSMISSION
William E. Kelsey, Glen Ridge, and Werner H. Heller, Lodi, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 20, 1963, Ser. No. 259,983
11 Claims. (Cl. 74—200)



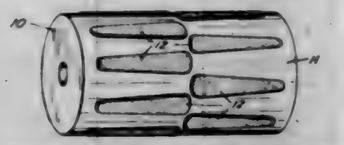
1. A control system for variable speed transmissions having co-axial input and output members with facing toric surfaces and a plurality of circumferentially-spaced rollers disposed between and in driving contact with said surfaces for transmitting torque from the input member to the output member, support means for each roller including a pivot shaft providing for speed-ratio changing pivotal movement of said rollers across said toric surfaces, each said roller pivot shaft being supported for translational movement along its axis for initiating speed-ratio pivotal movement of said rollers, said control system comprising; cam means connected to one of the roller pivot shafts for pivotal and translational movement therewith, means including valve means for applying a fluid pressure force axially against said roller pivot shafts such that changes in the relative magnitude of the fluid pressure force on each roller pivot shaft or the toric surface traction forces on its associated roller causes translational movement of the roller pivot shaft, said valve means operatively engaging said cam means, means operable for rotating said valve means relative to said cam means for producing linear movement of the valve means in one direction or the other depending on the direction of rotation, said valve means being effective in response to linear movement in either direction for changing the fluid pressure force acting against the roller pivot shafts to cause translational movement of each of said shafts thereby inducing speed-ratio-changing movement of the rollers with accompanying pivotal movement of their pivot shafts, and the operative engagement between the cam and valve means being such that said translational movement of said one roller pivot shaft and the resulting pivotal movement of said shaft are both effective through said cam means to linearly move the valve means in the opposite direction from that producing said fluid pressure change.

3,142,191
ROAD TAMPING MACHINE
Costante Domenighetti, Piazza Giulio Cesare 20, Milan, Italy
Filed Sept. 13, 1955, Ser. No. 534,138
Claims priority, application Switzerland Jan. 10, 1955
4 Claims. (Cl. 74—213)



1. In a road tamping machine comprising a rigid main frame having two ends; a vibratory compressor roller adapted to tamp road surface material and having a shaft journaled in and at one end of said main frame; wheel means having shaft means journaled in and at the other end of said main frame; and motor means mounted on said main frame at one side of said roller and drivingly connected to the shaft of the vibratory roller: the combination of at least one elastic tire disposed above and selectively movable against said roller; supporting means for each tire comprising lever means connected with each tire and having one end swingably connected to said motor means and another end; and means for adjustably connecting the other end of said lever means to the main frame at the other side of said roller whereby each tire transmits a part of the weight of said motor means and of said main frame to said roller.

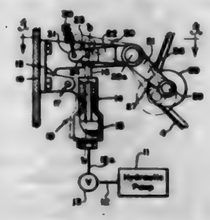
3,142,192
FRICTION FACED PULLEY
Kenneth G. Edberg, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,794
6 Claims. (Cl. 74—230.7)



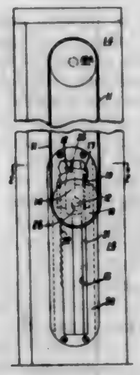
4. For use with a flat belt, a pulley having a normally smooth working face to which a plurality of similar tapered elongate strips of frictional sheet material are affixed, each of said strips being positioned with its narrow end adjacent an edge of the pulley and with its widest portion approximately at the middle of said face, approximately the same number of said strips extending toward each edge of said pulley.

3,142,193
BELT TENSIONING DEVICE
Peter P. Polko, Lyons, and Lauri J. Kivisto, Wheaton, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Nov. 20, 1961, Ser. No. 153,360
3 Claims. (Cl. 74—242.11)

1. A dual force belt tensioning device for a belt entrained about driving and driven parts, and including: a hydraulic unit for applying constant hydraulic operating force in the plane of the unit and secured at a point to supporting means for the unit; a bracket having a projecting fixed arm passing adjacent the operating end of the hydraulic unit; a hydraulically operated bellcrank pivoted to the projecting end of the fixed arm and presenting first and second bellcrank arms; spring means substantially in the plane of the hydraulic unit and connected to bias the bellcrank in a force assisting relation to the force of the hydraulic unit; and a belt tensioning pulley connected to the second bellcrank arm in a position for effecting contact of running engagement with the belt; the hydraulic unit having a point of connection to the first bellcrank arm; said pulley being laterally offset from the bellcrank, there being a diagonal offset in said fixed arm, and a diagonal offset in the first bellcrank arm, all offsets being in the direction of the plane of the unit whereby the contact of running engagement between the belt and pulley, the projecting end of the fixed arm to which the bellcrank is pivoted, and the point of connection to the first bellcrank arm are substantially in the plane of the hydraulic unit.



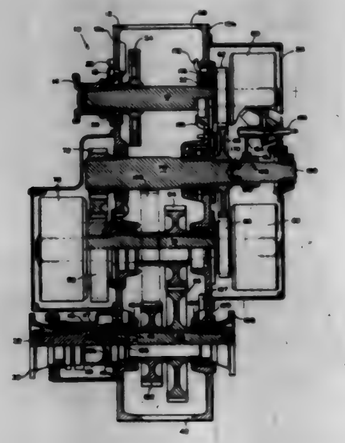
3,142,194
TENSIONING DEVICE FOR A BOARD FOR EDUCATIONAL PURPOSES
William B. Garden, Kilsyth, Scotland, assignor to Wilson & Garden Limited, Kilsyth, Scotland, a corporation of the United Kingdom of Great Britain and Northern Ireland
Filed Oct. 23, 1961, Ser. No. 147,020
3 Claims. (Cl. 74—242.14)



1. In a board for educational purposes having an endless band of flexible material capable of bearing indicia, two vertically spaced rotatable rollers around which said band is entrained, the lower of said rollers being vertically supported by said band, and a frame including two substantially parallel uprights relative to

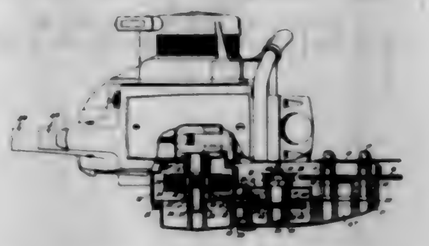
which said rollers are rotatably mounted; a tensioning device comprising at least one latch plate rotatably mounted on the lower one of said rollers, considered with said board in the operative position, said lower rollers being operatively urged away from the upper one of said rollers by the weight of said lower roller, a ratchet fixedly mounted on at least one of said upright members adjacent to said latch plate, and a pawl carried by said latch plate, the center of gravity of said latch plate being on the same side of an imaginary vertical through the position of rotatable mounting of said latch plate as said pawl, considered with said board in the operative position, whereby said pawl is urged by gravity into engagement with said ratchet, said ratchet being so mounted as to prevent movement of said lower roller towards said upper roller when said pawl is in engagement with said ratchet.

3,142,195
TRANSMISSION
Lewis E. Henyon, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Dec. 29, 1960, Ser. No. 79,436
5 Claims. (Cl. 74—359)



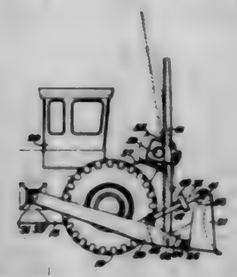
3. In a transmission, forward and rear vertically disposed walls having a plurality of pairs of aligned openings in the said walls, a plurality of rotatable shafts extending through the said pairs of openings in parallel relation to each other, the said shafts being journaled directly on the said walls by means of anti-friction bearings, certain of said shafts having portions thereof extending beyond the said walls, a plurality of clutch supports nonrotatably secured to the outer surfaces of the said walls and having annular portions surrounding the said extending portions of the rotatable shafts in coaxial relation therewith, a plurality of gears rotatably mounted respectively on the said supports, a plurality of multiple disc clutches arranged to selectively connect the said rotatable gears respectively to their coaxial shafts, each clutch including a drum member connected to the said gear and carrying a plurality of discs and additional discs interleaved with the said first discs and connected to the said shaft for rotation therewith and means for compressing the disc assembly of each clutch for providing clutch engagement and additional gears carried by certain of the said rotatable shafts in mesh with certain of the aforesaid gears and arranged to form in cooperation therewith a complete gear train upon the engagement of selected ones of the said multiple disc clutches.

3,142,196
TRANSMISSION FOR A CHAIN SAW
Philip R. Haskell, Fleetmoor, and Robert K. Shaffer, Hazel Crest, Ill., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed May 26, 1961, Ser. No. 112,839
3 Claims. (Cl. 74—414)



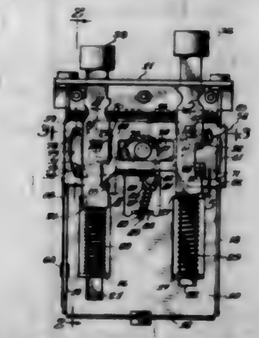
1. In a transmission for a chain saw, a multi-step reduction gear train comprising at least one intermediate shaft supported at its ends by bearings, an enlarged diameter section intermediate the ends of said shaft, a threaded section of said shaft on each side of said enlarged section, a driven gear threadably received on one of said threaded sections in abutment with said enlarged section and a driving gear threadably received on the other of said threaded sections, the hand of said threads being so selected that the forces applied to the driven gear and the forces applied by said shaft to the driving gear tend to produce relative rotation of said gears tending to draw said gears into closure abutment with said enlarged section of the shaft, the enlarged section of said shaft being provided with wrench-engaging surfaces to facilitate disassembly of said gear from said shaft.

3,142,197
CONTROL MECHANISM FOR PIVOTABLE DEVICE
Robert G. LeTourneau, P.O. Box 2307, Longview, Tex.
Filed Oct. 2, 1962, Ser. No. 227,878
10 Claims. (Cl. 74—422)



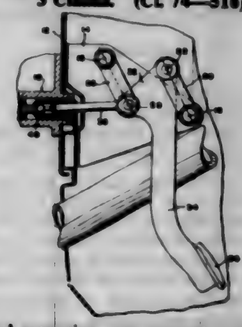
1. In an earthworking machine having a main frame and an earth engaging structure pivotally mounted thereon, a movement control mechanism for said earth engaging structure which comprises: a powered gear reduction fixedly mounted on said frame above said earth engaging structure and having an output pinion; a rack having an arcuate convex back surface and teeth engaging said output pinion, which teeth are so arranged that the pitch lines of the faces thereof lie in a common plane; a single backup roller journally mounted in a fixed position adjacent said pinion for rollable engagement with said back surface; and means for connecting one end of said rack to said earth engaging structure.

3,142,198
PUSH BUTTON MECHANISM
John H. Williams, Barrington, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Aug. 17, 1961, Ser. No. 132,200
4 Claims. (Cl. 74—483)



1. A two button interlock mechanism comprising a base, two push rods mounted on said base in spaced parallel laterally offset relation for longitudinal movement, means for biasing said two rods to a normal OUT position, a treadle bar pivotally secured on said base at a point between said rods, said treadle bar having arm portions extending from the pivot region laterally of said rods, snap action means for biasing said treadle bar to either of two stable positions, said treadle bar being rockable in a plane parallel to the two rods, means coupling said rods to the arm portions of the treadle bar whereby the movement of a rod to an IN position drives its corresponding treadle bar arm, alternate movement of the push rods causing treadle bar operation, a latch bar movable in a straight line transversely to the lines of motion of the rods, means for biasing said latch bar to one position, said latch bar having cam and stop portions for each push rod, said coupling means for a rod and treadle bar arm also cooperating with a cam and stop portion on the latch bar, the cam portion being shaped so that movement of its rod from one position to its other position causes the latch bar to be moved against its bias, the stop portion cooperating with the same rod to retain said rod in its other position, the remaining rod when operating serving to release the lock between the stop portion and rod.

3,142,199
PEDAL MOUNTING ARRANGEMENT
Robert W. Burton, Farmington, Mich., and George N. Drew, Cleveland, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 28, 1963, Ser. No. 254,160
3 Claims. (Cl. 74—516)



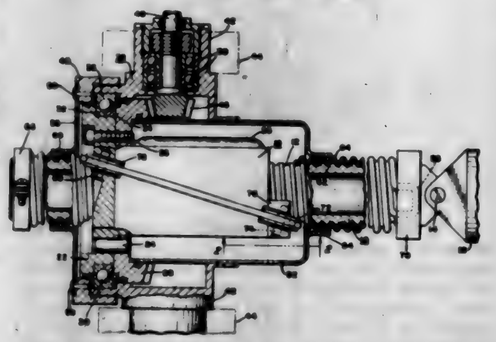
1. A pedal mounting arrangement comprising a toggle linkage having a stationary end pivot and a movable end pivot and a movable center pivot with a first link joining said stationary end pivot and said movable center pivot and a second link joining said movable end pivot and said movable center pivot, a mounting bracket having said stationary end pivot thereon, a pedal attached to said second link, a guide link pivotally attached to said movable end pivot and to said mounting bracket, and an output link secured to said movable end pivot.

3,142,200
HANDLE BAR GRIP
Edward I. Stillman, 2472 Overlook Road, Cleveland Heights, Ohio, and Richard Robert Zachowski, 4415 Pearse Ave., Newburgh Heights, Ohio
Filed June 28, 1961, Ser. No. 122,377
5 Claims. (Cl. 74—551.9)



3. A handle bar grip for children's vehicles, having a first portion simulating the barrel of a pistol and formed to receive and be supported by the end of the vehicle handle bar, a liquid passageway terminating in a nozzle associated with said portion, a second portion integral with the first portion and shaped to simulate a pistol grip, the second portion incorporating a liquid reservoir and pumping means, a line of communication between said pumping means and the passageway, and a trigger mechanism supported by said second portion and operable by the operator without removing his grasp upon the grip to effect actuation of the pumping means whereby a stream of liquid may be ejected from the handle bar grip.

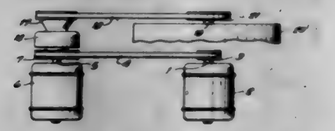
3,142,201
PROTECTIVE COVER FOR ACTUATOR SCREW SHAFT
Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 29, 1962, Ser. No. 220,172
10 Claims. (Cl. 74—606)



2. In a screw and nut type actuator, an elongate helically grooved screw shaft, a nut having threaded engagement with said screw shaft, protective cord cover means for said screw shaft comprising a pair of helically wound cord strands, the inner cord strand engaging the grooves of said screw shaft and the outer cord strand being nested with the coil of the inner cord strand and in engagement with adjacent convolutions thereof, and means guiding

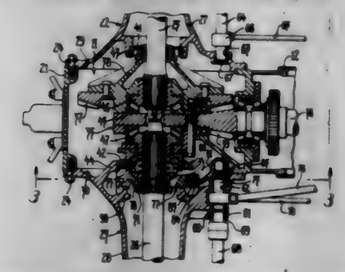
said inner and outer cord strands over said nut in superposed relation whereby relative rotation between said nut and said screw shaft will result in unwinding said cord strands from said screw shaft on one side of said nut and rewinding said cord strands on said screw shaft on the other side of said nut.

3,142,202
TWO MOTOR DRIVE HAVING A CENTRIFUGALLY CONTROLLED CLUTCH
Josef Mühlbeyer, Hohemarkstr. 25, Oberursel, Germany
Filed Dec. 19, 1962, Ser. No. 245,747
Claims priority, application Germany June 29, 1962
14 Claims. (Cl. 74—665)



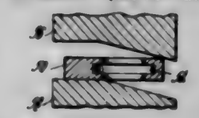
1. A free-wheeling clutch of the centrifugal type, comprising two coaxially rotatable and selectively drivable power input members, a power output member firmly joined coaxially with one of said input members to rotate together therewith, catch means firmly joined coaxially with said other input member, entrainer means movably mounted on said one input member and engageable with said catch means for coupling said two input members together, spring means biasing said entrainer means toward engagement with said catch means, and centrifugal weight means connected with said entrainer means for moving the latter out of engagement when the speed of said one input member exceeds a given limit, whereby the clutch becomes free-wheeling relative to said other input member.

3,142,203
TRACTOR DIFFERENTIAL LOCK
Donald G. Bamford, Detroit, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Filed July 27, 1961, Ser. No. 127,251
3 Claims. (Cl. 74—710.5)



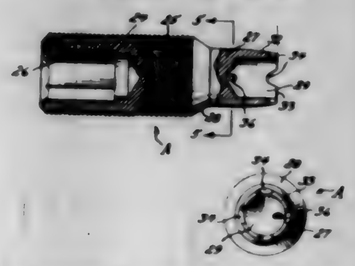
1. A differential gearing assembly comprising, in combination, a differential case, an axle housing secured to and opening into said differential case, an axle journalled in said axle housing, a differential gear in said differential case coupled to said axle and having a member rotatable relative to said axle when differential action occurs, a locking element slidably mounted on said axle for movement into and out of locking engagement with said member, means biasing said element out of locking engagement with said member, said axle housing having a lug supporting a brake shaft bearing, an opening in said axle housing alined with said bearing, a shaft journalled in said opening and piloted in said bearing, a shifter fork coupled to said element and rotatably anchored to said shaft, a cam and follower connection between said fork and said shaft for shifting the element against said bias into locking engagement with said member upon oscillation of said shaft, and a pedal secured to said shaft outside of said axle housing between said opening and said lug for oscillating the shaft.

3,142,204
METHOD OF MAKING BY-PASS DIE
Howard G. Allen, Cranston, R.I., assignor to Bostitch, Inc., East Greenwich, R.I., a corporation of Rhode Island
Filed May 23, 1961, Ser. No. 127,070
6 Claims. (Cl. 76—101)



1. The method of making a by-pass die for use in clinching staples which comprises forming a portion of a die-blank with its face concavely curved and forming at least one staple-guiding channel extending along said face with its end lying in said curved portion, the center line of said channel lying in a single plane, bending the part of said blank containing said curved portion in a direction laterally of said plane to displace the center line in said portion from said plane, and then hardening said blank.

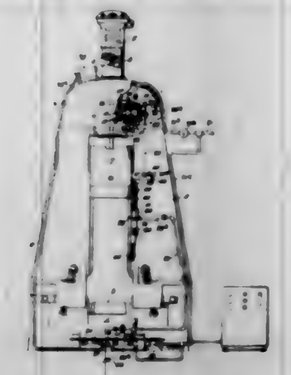
3,142,205
LUBRICATED TAPPING T
William L. Heislander, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 15, 1962, Ser. No. 237,874
3 Claims. (Cl. 77—38)



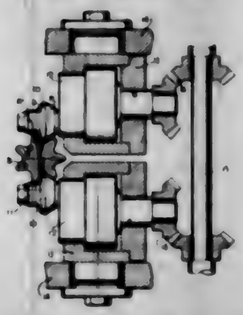
1. In a tapping T, a tool comprising a threaded main body portion defining an axis of rotation and having wrench engaging means on one end and a penetrating end portion of reduced diameter at the other end, said penetrating end portion being tapered, tubular and of a non-circular shape on the exterior of a cross section normal to said axis.

3,142,206
CONTROL SYSTEM FOR IMPACT DEVICE
Wilmer W. Hagee, Fayetteville, and Glenn A. Householder, St. Thomas, Pa., assignors to Chambersburg Engineering Company, Chambersburg, Pa., a corporation of Pennsylvania
Filed May 15, 1962, Ser. No. 196,834
10 Claims. (Cl. 78—13)

1. A stroke programmer control system for an impact device having means permitting selection of strokes of more than one length comprising at least one means for actuating each of the stroke length selector means, counting means for counting strokes of the impact device, sequencing means responsive to the counting means and associated with at least one less than the total number of actuating means to terminate a sequence of strokes of a particular length at a selected count and initiate a sequence of blows of another predetermined length, and means sensing some property of the work and automatically operating said counting means to actuate the sequencing means at different counts depending on that property.



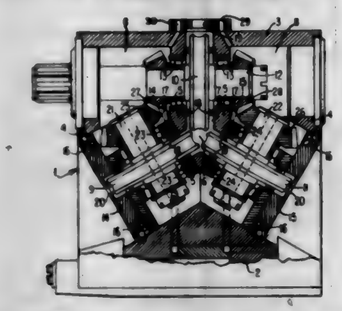
3,142,207
GROOVING METHOD AND APPARATUS
Benjamin Greb, 1626 12th Ave., Grafton, Wis.
Continuation of application Ser. No. 489,597, Feb. 11, 1954. This application Apr. 17, 1962, Ser. No. 188,047
5 Claims. (Cl. 80—16)



1. In an apparatus for forming an odd number of longitudinally extending alternating grooves and ridges in the periphery of the blank, a forming structure comprising a pair of identical rollers with each roller including an annular surface disposed to initially penetrate the periphery of the blank and form a groove therein, the circle generated by the mid-point of the width of the annular surface of one roller being disposed in a common plane with the circle generated by the mid-point of the width of the annular surface of the other roller, and a line extending normal to said mid-point of the annular surface of one roller intersecting a line extending normal to said mid-point of the annular surface of the other roller and the intersection of said lines being offset from said common plane and coinciding with the center of the blank to be formed.

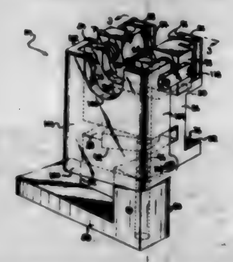
4. A method of forming an odd number of elongated grooves in the periphery of a cylindrical blank which comprises the steps of positioning a cylindrical blank between a pair of opposed identical rollers, repeatedly penetrating the periphery of the cylindrical blank by subjecting the same to a series of opposed penetrating thrusts simultaneously applied along a plane parallel to and offset from the axis of the blank by said rollers cyclicly moved into repeated simultaneous engagement therewith, and moving and rotating the blank along and about the axis thereof in timed relation with the cyclic movements of said elements.

3,142,208
ROLLING MILL FOR CONTINUOUSLY ROLLING METAL BARS AND WIRES
Ilario Properzi, Via Cosimo del Fante 10, Milan, Italy
Filed Apr. 11, 1960, Ser. No. 21,332
Claims priority, application Italy Apr. 11, 1959
5 Claims. (Cl. 80—34)



1. In a rolling mill containing a first fluid path for the rolls and the metal member which is rolled therein and a second fluid path for the means carrying and driving said rolls, the combination of a number of rolls, the transverse planes of which converge towards a common rolling axis, said rolls being adapted to roll between them a metal member along said rolling axis, housing means including a central portion surrounding said rolling axis and into which the peripheries of the rolls project, packings fitted between said projecting portions of the rolls and said housing means and cooperating therewith to form within said housing means a fluid-tight path along the outer peripheries of the rolls and through the central portion of the housing means, driving means for driving the different rolls located outside the central portion of the housing means, said driving means maintained in fluid isolation relationship from the central portion of the housing means by said packings, and means for feeding one cooling and lubricating liquid in continuous circulation through said fluid-tight path and another cooling and lubricating liquid in continuous circulation over the driving means.

3,142,209
TOOL LOCATOR
Henry W. Demler, Lebanon, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 17, 1961, Ser. No. 83,288
3 Claims. (Cl. 81—15)



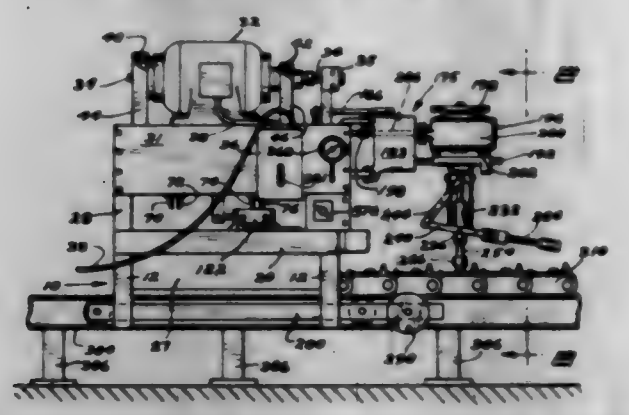
1. A device adapted to be secured to a scissors-type tool having an opening stroke and a closing stroke, said tool being adapted to crimp electrical connectors, said device comprising: a body member, a spring-pressed moving block slidably secured to said body member, cam means

pivotally secured to said body member and operatively connected to said spring-pressed moving block, flexible connector-gripping clip means provided on said body member and on said spring-pressed moving block adapted to frictionally engage an electrical connector, and means connected to said cam means for moving said spring-pressed moving block relative to said body member in one direction by one stroke of the tool, and for moving the spring-pressed moving block relative to the body member in the other direction by the other stroke of the tool, one of said clip means being flexed and slidable along the connector during one stroke of the tool, the other of said clip means being flexed and slidable along the connector during the other stroke of the tool.

3,142,210
POWER OPERATED WRENCH WITH TWO-SPEED DRIVE

James S. Rodgers, Adams Run, S.C., assignor to Rodgers Hydraulic, Incorporated, Minneapolis, Minn., a corporation of Minnesota

Filed June 22, 1962, Ser. No. 204,565
2 Claims. (Cl. 81—57)



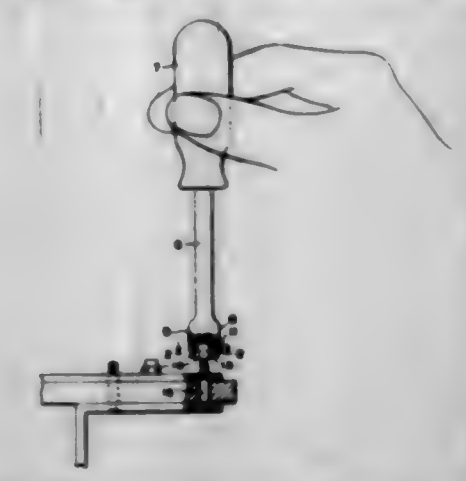
1. A power operated wrench comprising in combination; a supporting framework; a drive motor rigidly mounted upon said supporting framework; a drive head pivotally connected to one end of said framework for movement about a vertical axis with respect to said framework, said drive head extending outwardly from said supporting framework; a vertically disposed wrench output shaft rotatably mounted within said drive head, a horizontally disposed shaft in driving engagement with said wrench output shaft and rotatably mounted within said wrench drive head; drive means rotatably mounted upon said framework and operatively connected to said drive motor for rotation therewith; a flexible coupling means connected between said drive means and said horizontally disposed shaft; a socket supporting member slidably mounted upon the lower end of said wrench output shaft; means coupling said socket supporting member and said wrench output shaft for preventing relative rotational movement therebetween and a control member operatively connected between said drive head and said socket supporting member for sliding said socket supporting member axially of said wrench output shaft.

3,142,211
TOOLS FOR PICKING-UP, POSITIONING AND TURNING NUTS AND THE LIKE

William J. Faso, 2250 NE. 32nd Court, Lighthouse Point, Pompano Beach, Fla.

Filed Mar. 7, 1963, Ser. No. 263,654
1 Claim. (Cl. 81—125)

A tool for picking-up, positioning and turning nuts and the like, comprising an annular member having a socket in one end of a cross-sectional shape corresponding to the cross-sectional shape of a nut including a plurality of angles and connecting straight walls, a circumferential groove in the exterior of the annular member adjacent to the open end of the socket and diametrical opposite portions of the groove being of greater depth and extended through the wall of the annular member at and for the entire length of diametrical opposite straight walls of the socket, and a resilient member mounted in said groove



and provided with opposed straight portions positioned in the groove portions of greater depth and exposed to the interior of the socket to engage the entire length of diametrical opposite straight walls of a nut.

3,142,212
PLIERS

Leonard E. Grape, 11754 Moreno Ave., Lakeside, Calif.

Filed Mar. 12, 1963, Ser. No. 264,616
2 Claims. (Cl. 81—383.5)



1. In a pair of pliers, the combination comprising:
a first element having a fixed jaw and a tapered shank with side walls diverging from said jaw; and
a second element having a pivoted jaw and a slotted portion, said jaw and slotted portion having opposing convex cam surfaces, said tapered shank being slidably received between said cam surfaces for adjusting the gap between said fixed and pivoted jaws and keeping said jaws parallel, said taper inhibiting inadvertent sliding of said second element along said shank in a direction away from said fixed jaw when said jaws are clamped upon a workpiece.

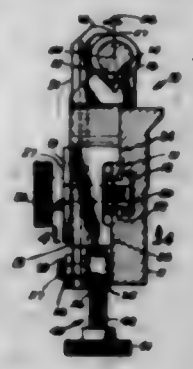
3,142,313
TEMPLATE HOLDER

Paul J. Weaver, Pasadena, Calif., assignor to True-Trace Corporation, El Monte, Calif., a corporation of Connecticut

Filed Feb. 27, 1962, Ser. No. 175,949
5 Claims. (Cl. 82—14)

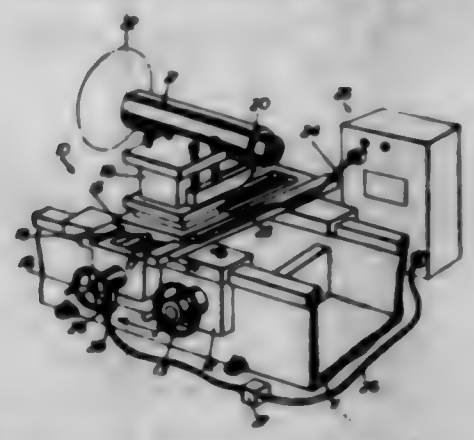
1. Apparatus for mounting a round template in a position where its contour can be traced by a tracer valve, comprising: a template rail having a longitudinal slot; a body having a groove extending parallel to the slot; means for mounting the body to the slot at a plurality of locations along the said slot; a clamp comprising an arm and a finger, the finger being attached to the arm, the

finger being adapted at least in part to overhang the groove; and means for adjustably mounting the arm to



the body, whereby the arm may be drawn toward the groove to clamp the template in the groove.

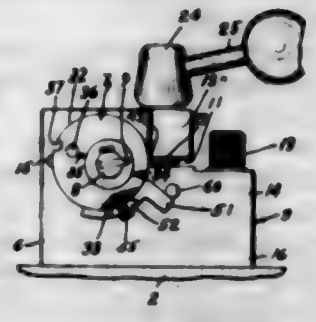
3,142,214
MACHINE TOOL CONTROL APPARATUS
Arthur Frederick Allen, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Jan. 7, 1963, Ser. No. 249,740
Claims priority, application Great Britain Jan. 12, 1962
11 Claims. (Cl. 82—14)



1. Apparatus for controlling a machine tool comprising a holder for holding a workpiece, a holder for holding a cutting tool, a drive transmission to the last-mentioned holder, a roller member forming part of said drive transmission, a wedge member having a concave recess into which the roller member extends, position detector means for detecting the position of the cutting tool with respect to the workpiece, an electronic information store, two solenoids which are respectively arranged to effect movement of the wedge member in opposite directions into two limiting positions, energisation of the solenoids being controlled by the position detector means and by the information store, the wedge member when in a central position permitting free rotation of the roller member in said recess, and the wedge member when in its two limiting positions respectively permitting rotation of the roller member in opposite angular senses only, a friction member which frictionally engages a part of the said drive transmission and which is moved thereby into a selected one of two limiting positions according to the sense in which the said part is moved, and a switch which is moved by the friction member between two positions in which a selected one of the solenoids is respectively put on open circuit.

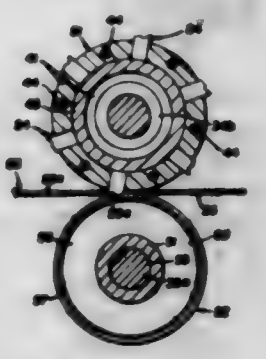
3,142,215
TOOL HOLDER ASSEMBLY
Emanuel Mancuso, 3516 W. Alameda, Burbank, Calif.
Filed Dec. 13, 1960, Ser. No. 75,537
2 Claims. (Cl. 82—36)

1. A tool holder assembly for use in a lathe in which a workpiece is rotated about a work axis and acted on by a cutting tool, the cutting tool being carried by a compound slide block which may be moved in a slide plane which is parallel to the workpiece, the compound slide block formed with a bore, comprising: a collet having a cylindrical body for reception in the bore of the compound slide block, said collet body formed with an eccentric bore for receiving a boring bar carrying a cutting tool, one end of said collet body provided with a circular flange formed with a circumferential groove, an arcuate shoe



carried on the periphery of said circular flange and provided with lugs received in the circumferential groove of the circular flange, the arcuate shoe provided at one end with an offset arm and the compound slide block provided with a pin for contact with the offset shoe arm to rotatively adjust the collet body and cutting tool as to cutting position, and means for locking the arcuate shoe to the collet flange.

3,142,216
SLOT CUTTING MACHINE FOR CONTINUOUSLY ADVANCING STRIP MATERIAL
Carl F. Rupnow, 284 1st Drive NW., Apt. 15, New Philadelphia, Ohio
Filed Feb. 7, 1961, Ser. No. 87,570
2 Claims. (Cl. 83—308)



1. A slot cutting device for use with continuously advancing strip material, comprising:

(A) juxtapositioned punch and back-up members
  (1) each having endless peripheral edges that are arranged for movement around parallel axes and through closed cyclic paths of movement that respectively include increments of movement that are substantially adjacent the opposed surfaces of said strip
    (*a*) whereby said strip may pass between said punch and back-up members in substantial tangency therewith;

(B) a slug receiving cavity opening radially inwardly from the peripheral edge of said back-up member;

(C) at least one punch element
  (1) carried by said punch member for movement therewith and
  (2) projecting beyond the peripheral edge of said punch member to an extent substantially equal to the thickness of said strip and
  (3) being aligned with said slug receiving cavity and
  (4) having a punching portion on its projecting end

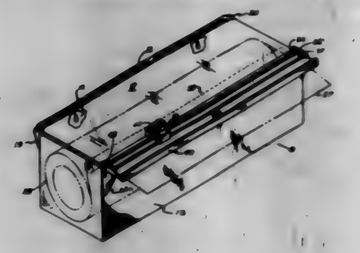
(*a*) said punching portion having a first surface disposed out of perpendicular relationship with the longitudinal extent of said punch element;

(*b*) said punching portion having a second surface disposed out of perpendicular relationship with the longitudinal extent of said body and in angular relationship with said first surface;

(*c*) and further having a chamfered portion interconnecting said first and second surfaces;

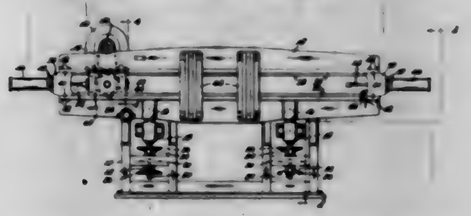
(*d*) said first surface being disposed in substantially parallel relationship to a plane extending normally to the periphery of said back-up member at the point of contact of said punch element and said strip material.

3,142,217
CUTTER FOR DISPENSER OF ALUMINUM FOIL AND LIKE MATERIAL
Clarence E. Busse, 34 Oxford Drive, Lincolnshire, Deerfield, Ill.
Filed May 12, 1961, Ser. No. 109,744
3 Claims. (Cl. 83—375)



1. Dispensing means for aluminum foil wrap in roll form comprising a handle, an arrow-head shaped foil cutter carried thereby, said arrow-head shaped cutter having a pointed arrow-head tip and an arrow-head base longitudinally spaced therefrom along the cutter axis with the handle supporting the foil cutter at the arrow-head base, said arrow-head shaped cutter being of smooth moulded plastic which can retain a foil severing edge without nicking or chipping, said cutter having its surfaces shaped so that every cutter section normal to the arrow-head axis has a symmetrical outline relative to a minor and major axis at right angles to each other, each section outline being free of any concavity, and those portions of each section outline on opposite sides of the major axis approaching each other on their way to meet at the ends of the major axis being shaped so that adjacent each end of the major axis the section outline resembles a knife edge section, the two loci of the ends of the major axes defining two straight cutting edges extending from the cutter tip to the base, the cutting edges being dull compared to a steel knife edge and being incapable of cutting a person's finger, each cutting edge and the arrow-head axis having a 45° angle therebetween so that said two cutting edges are at 90°, the cutter being dimensioned so that the distance along each cutting edge from tip to base is between about ⅛" and about ¾", said cutter thickness being the dimension parallel to said minor axis at a cutter section and increasing smoothly from substantially nothing at the cutter tip and substantially nothing at the cutting edges to a maximum value no greater than the length of the minor axis at any cutter section, said cutter being shaped so that its maximum thickness is reached about ⅛" from the cutting edge, the maximum cutter thickness lying in the range of from about .020" to about .150", slotted means for supporting foil to be severed, said slot determining generally the line of foil severance and being dimensioned to accommodate the cutter and permit the cutter to enter the slot when the cutter is oriented so that its axis is normal to foil being severed and the cutting edges are in a plane which is normal to the foil, and means for supporting the handle and cutter so that the cutter is movable generally axially toward or away from the foil and also is independently movable transversely of its axis in the plane defined by its cutting edges along a line parallel to the line of severance whereby said cutter, when moved toward the foil, permits the cutter tip to pierce the foil resting on said slotted means and enter the slot and be in foil severing position and thereafter, while in foil severing position and on cutter movement parallel to a line of severance, the cutter leading edge engages the foil to sever the foil from a foil region where foil severance has already been effected, said cutter material and cutter shape and dimensions cooperating to provide a smooth foil severing action provided the foil is first pierced by the cutter tip.

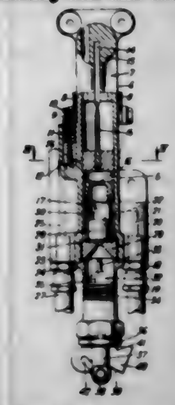
3,142,218
HIGH SPEED ROLLER DIE PRESS
Ashton L. Worrall, Jr., Cuyahoga Falls, and Earl E. Williams, North Canton, Ohio, assignors to The Falls Engineering & Machine Company, Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Oct. 27, 1961, Ser. No. 148,184
5 Claims. (Cl. 83—510)



1. In combination, a carriage, means for driving the carriage with a reciprocating movement, means positioned at each end of the reciprocating movement for absorbing the forces required to stop the carriage and for returning the majority thereof to the carriage upon movement thereof in the opposite direction, and means for stopping the driving means for the carriage only after the means absorbing the forces has substantially stopped the carriage movement.

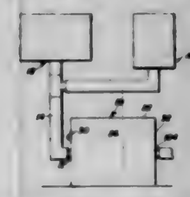
3,142,219
SELECTIVELY OPERABLE LINE CUTTING DEVICE
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England
Filed Feb. 15, 1963, Ser. No. 258,834
Claims priority, application Great Britain May 18, 1962
3 Claims. (Cl. 83—639)

1. A line-cutting device comprising a cutting-head having an open-sided anvil-forming recess to receive a portion of a line to be cut by the device, a knife mounted for guided movement through said recess transversely thereof for severing said line, a cylinder, a piston separating the cylinder into two chambers and being movably mounted in said cylinder for displacement in a line-cutting direction, said piston being operatively connected to said knife, and two selectively operable driving means for displacing the piston in the line-cutting direction, one of said driving means including a pressure fluid inlet in communication with one of said cylinder chambers for admission of pressure fluid thereto to move said piston and said knife in the line-cutting direction, a pressure fluid outlet being located in said cylinder located to be uncovered by the piston during movement thereof in said line-cutting direction so as to place said outlet in communication with said inlet, and the other driving means including a detonatable explosive cartridge mounted in a combustion chamber communicating with said one cylinder chamber



so that gases generated by explosion of the cartridge in said combustion chamber move the piston and knife in said line-cutting direction, and a firing mechanism for detonating the cartridge in said combustion chamber.

3,142,220
MOTORIZED PLAYER PIANO SPILL VALVE
Burke M. Ballard, 2013 42nd, Lubbock, Tex.
Filed Apr. 18, 1963, Ser. No. 273,968
7 Claims. (Cl. 84—42)



1. A motorized player piano spill valve assembly comprising a closed housing adapted to receive a vacuum motor therein and including an inlet and an outlet, said inlet including means adapted to be communicated with the vacuum stack of a player piano and said housing including by-pass means communicating said outlet with said inlet and controlled by means of an adjustable fluid pressure actuated valve operable to communicate said outlet with said inlet in response to a reduction of air pressure in said inlet beyond a given point.

3,142,221
TRUE VIBRATO
Solon O. Boyd, Box 2372, El Cajon, Calif.
Filed Feb. 19, 1962, Ser. No. 174,190
9 Claims. (Cl. 84—313)

1. In tone control device for a string instrument having a tailpiece extended over the face of the instrument and having strings secured to said tailpiece;

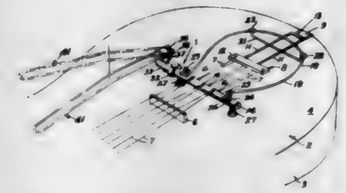
(*a*) a rockable member extended transversely of said strings and spaced from said tailpiece

(*b*) said rockable member having passages therethrough

(*c*) said strings being drawn through said passages respectively and then connected to said tailpiece so as to be tightened and loosened by the rocking of said rockable member in respective opposite directions

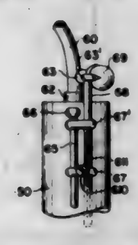
(*d*) a resiliently yieldable element attached to said tailpiece

(*e*) spring means on said yieldable element to connect it to said rockable member so as to bias it into an initial position



(*f*) and handle means on said rockable member overlying said face of said instrument, whereby said rockable member can be rocked in opposite directions respectively for tightening or loosening said strings for tone control.

3,142,222
BASSOON
William C. Polisi, 137—38 45th Ave., Flushing, N.Y.
Filed June 13, 1961, Ser. No. 116,801
4 Claims. (Cl. 84—380)

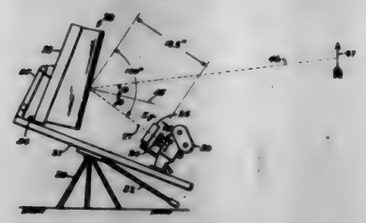


1. In a bassoon, in combination, a bocal; a wing joint; a butt joint; a long joint; and a bell joint, said bocal and said joints being formed with elongated bores and connectable in the above order in such a manner that the bores thereof form a continuous elongated conduit tapering from said bell joint toward said bocal, said bocal while connected with said wing joint being movable in the direction of elongation of the bore of said wing joint, said bocal being formed with a pinhole; a whisper key, including connecting rod means movably mounted on said wing joint, extension rod means movable for adjustment on said connecting rod means in the direction of elongation of the bore of said wing joint, means for fixedly fastening said extension rod means to said connecting rod means in the adjusted position, and stopper means mounted on said extension rod means for movement forward and away from said pin hole when said bocal is connected with said wing joint and said connecting rod means moves on the latter.

3,142,223
PROCESS AND CAMERA SYSTEM FOR SECURING AND DISPLAYING A VERY WIDE-ANGLE IMAGE
Richard H. Vetter, 10966 Strathmore Drive, Apt. 4, Los Angeles, Calif.
Filed May 12, 1960, Ser. No. 28,703
6 Claims. (Cl. 88—16)

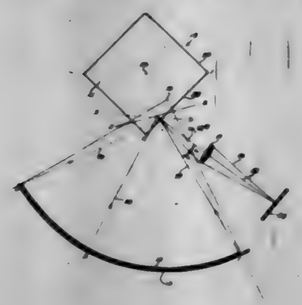
5. A camera system for photographing a very wide angle field, including the central and peripheral portions thereof, comprising a camera having a central axis, and a peripheral field anamorphosing mirror mounted to the camera and spaced therefrom, said mirror being a curved

reflective surface generated by a straight-line generator guided by arcuate directrices and having an increasing radius of curvature from its bottom to its top relative to the frame of the camera, said mirror having a reflective surface, said reflective surface having a plane of symmetry and also having a longitudinal axis, comprising a reflectively coated, uniformly thick, flexible, rectangular sheet of springy material having top, bottom, and side edges, the shape of the mirror being developed by exer-



tion of opposed inward forces on the side edges, no opposed forces being exerted on the top and bottom edges, the opposed forces being greater where the radius of curvature is lesser, whereby the camera frame subtends in a lateral direction equal arcs on the mirror from the top to the bottom of the frame, the central axis of the camera lying in the plane of symmetry and being nonperpendicular to the intersection of the plane of symmetry and reflecting surface and also being non-parallel to said longitudinal axis.

3,142,224
REFLECTIVE SCANNING PROJECTION SYSTEM
Laurence M. Andrews, Silver Spring, Jacob Rabinow, Takoma Park, and William Fischer, Silver Spring, Md., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 10, 1961, Ser. No. 101,929
13 Claims. (Cl. 88—24)



1. An optical projection system for a document carrying a line of data, means constraining said document into a concave curve substantially cylindrical at one portion thereof, a lens, rotary scan means to reflect images of successive portions of the line through the axis of said lens while maintaining the total optical distance between said lens and the line essentially equal for each portion of the line that is scanned, thereby maintaining the rays defining the successive images in focus and on a single optical axis, said rotary scan means having an axis of rotation and a reflective surface spaced from said axis, the center of curvature of said concave curve being spaced from said axis of rotation and located between said axis of rotation and said surface.

3,142,225
CONTROL MEANS FOR UNARMING PROJECTILES
Robert Apothéloz, Wallisellen, Zurich, Switzerland, assignor to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland
Filed June 22, 1961, Ser. No. 118,999
Claims priority, application Switzerland June 30, 1960
15 Claims. (Cl. 89—6.5)



1. A means for controlling the firing of explosive projectiles comprising a magazine in which said projectiles are aligned for feeding to a firing mechanism, each of said projectiles comprising a head fuse set for instantaneous detonation upon impact fitted to the head of said projectile, a bottom fuse set for delayed detonation upon impact fitted to the bottom of said projectile, a striker pin in said head fuse movable longitudinally of said projectile to unarmed position and control means positioned upon said magazine cooperating with said movable striker pin for positioning said striker pin at unarmed position as said projectiles move in said magazine.

3,142,226
LOADING TRAY FOR RECOILING GUN
Arent Gustav Carlsson, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden, a Swedish corporation
Filed Feb. 12, 1963, Ser. No. 257,999
Claims priority, application Sweden Apr. 8, 1959
7 Claims. (Cl. 89—45)



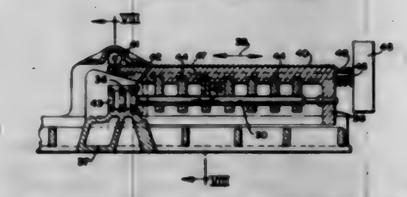
1. In a recoiling gun, a loading tray adapted to carry a round of ammunition, a rammer including a spring carried by said tray, a shaft for movably supporting said rammer, movable means concentrically disposed relative to the axis of said shaft, said spring being connected at one end thereof to said shaft and being connected at another end thereof to said movable means, a plurality of levers movably connected to said tray for supporting said tray, means responsive to the recoil of the gun and connected to said levers for moving said tray and said rammer between spaced apart round loading and round ramming positions, means connected to said movable means and to said levers for loading said spring in the initial movement of said tray to said round ramming position, and means responsive to the position of said tray for releasing said loaded spring to have said rammer accelerate ramming the round in the ramming direction of the gun.

3,142,227
GUARD FOR CONTROL MEMBER
Eugene L. Stringer, % Aero Services, Inc., P.O. Box 11043, Emery Park Station, Tucson, Ariz.
Filed Mar. 15, 1963, Ser. No. 265,488
8 Claims. (Cl. 89—136)



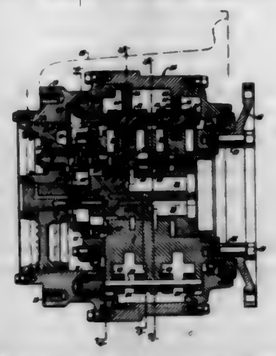
1. The combination of, a hand grip mountable on the upper end of an aircraft control lever and shaped to be grasped in a predetermined manner with the pilot's thumb overlying a portion of said grip, a firing button positioned on said grip beside the normal position of the thumb, said button being movable toward the grip into a firing position and away from the grip into an inactive position, means urging said button yieldably toward said inactive position, a guard including a wall normally overlying said button in said inactive position to prevent unintentional movement thereof and a skirt depending from said wall and partially surrounding said button, said skirt being formed with an opening on the side of the button adjacent said normal thumb position and sized to pass freely over the button, and a hinge between said guard and grip spaced from said button and pivoting the guard on the grip for swinging laterally away from said normal thumb position and the button into an out-of-the way position on the other side of the button, both the normal position of the guard and said out-of-the-way position being within the range of independent mobility of the pilot's thumb.

3,142,228
METHOD AND MACHINE FOR SCALPING METAL ROD STOCK
Hans Lindemann, Bielefeld, Germany, assignor to Th. Calow & Co., Bielefeld, Germany
Filed Oct. 24, 1960, Ser. No. 64,508
Claims priority, application Germany Nov. 2, 1959
6 Claims. (Cl. 90—24)



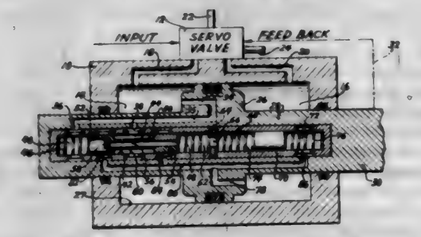
1. A machine for reducing the cross-sectional thickness of rod stock and similar elongated workpieces comprising a frame, at least one cutting die removably secured to said frame, means including a slide carriage for supporting said workpiece and for ramming said workpiece through said cutting die, means for increasing the natural frequency of said workpiece to counteract longitudinal vibrations thereof comprising guide elements mounted in a substantially stationary position on said frame immediately in front of and immediately behind said cutting die, said slide carriage comprising a plurality of means longitudinally spaced from said guide elements for securing said workpiece against buckling, and means for reciprocating said carriage.

3,142,229
HYDRAULIC MOTOR
Elias Orshansky, Jr., 2935 Pacific Ave., San Francisco, Calif., assignor of one-half to Robert E. Hatch, San Francisco, Calif.
Filed Feb. 20, 1962, Ser. No. 174,425
8 Claims. (Cl. 91—188)



1. A fluid operated motor comprising a stationary hub and a housing mounted for rotation on said hub, a plurality of banks of radial cylinders in said hub, pistons in said cylinders, said pistons extending outwardly from said cylinders, each bank of cylinders comprising at least a first and a second piston, bearings operatively connected to the ends of the pistons, said bearings being in contact with one of two annular driving cams mounted within the housing whereby reciprocation of the pistons imparts a rotary motion to the housing, means whereby the cams can be rotated slightly with respect to each other to vary the effective displacement of the motor and valve means for controlling the flow of a hydraulic fluid to said cylinders wherein the valve means comprises a plurality of axial, sliding valves mounted within the stationary hub, said sliding valves being actuated by a valve cam mounted for rotation with the housing wherein the position of the valve cam is automatically adjusted when the driving cams are rotated relative to each other whereby the inlet and outlet points on the valve cam correspond to the net minimum and maximum displacement points of the cylinder banks.

3,142,230
SERVO MOTOR DAMPER
Jerald D. Bidlack, Fraser, Mich., assignor to Cadillac Gage Company, Roseville, Mich.
Filed Apr. 4, 1962, Ser. No. 184,967
19 Claims. (Cl. 91—422)



1. In a fluid servo actuator system including a servo actuator responsive to a command signal and adapted to displace a load, said servo actuator comprising a dou-

ble acting piston reciprocable in a cylinder by a fluid pressure differential between a first and a second motor chambers subjecting the faces of said piston to said fluid pressure differential, a damping mechanism arranged to prevent undesirable oscillations and stresses in said system, said damping mechanism comprising: a fluid flow leakage path between said motor chambers and valving means in said path normally interrupting the flow of fluid through said path, said valving means comprising: a first cylindrical bore with a first port in fluid communication with said first motor chamber, a second port in fluid communication with said second motor chamber, a third port in fluid communication with said first motor chamber and a fourth port in fluid communication with said second motor chamber; a valve spool member slidably disposed in said bore and having a first and a second land portions defining an annular chamber therebetween; means defining in said first cylindrical bore a first fluid chamber on one end of said valve spool member and a second fluid chamber on the other end of said valve spool member; coil springs in both said first and second fluid chambers normally maintaining said valve spool member in a neutral position causing said first land to obturate said second port, said second land to obturate said fourth port, said third port to be open to said annular chamber and said first port to be open to said first fluid chamber; a second cylindrical bore; a spool element slidably disposed in said second bore; means defining in said second bore a third fluid chamber on one end of said spool element and a fourth fluid chamber on the other end of said spool element, said third fluid chamber being at all times in fluid communication with said second fluid chamber and said fourth fluid chamber being at all time in fluid communication with said second motor chamber; coil spring means normally maintaining said spool element in a substantially central position in said second bore; a passageway with a restricted calibrated orifice placing said first and second fluid chambers in fluid communication and causing the variations of fluid pressure in said second fluid chamber to lag in time behind the variations of fluid pressure in said first fluid chamber, whereby a sudden increase of pressure in said first fluid chamber momentarily displaces said valve spool member to a first position away from said neutral position and opens said fourth port to said annular chamber and a sudden decrease of pressure in said first fluid chamber momentarily displaces said valve spool member to a second position away from said neutral position and opens said second port to said annular chamber, and variations of pressure in said fourth fluid chamber cause a displacement of said spool element causing in turn a flow of fluid into and out of said third fluid chamber increasing the difference in pressures between said first and second fluid chambers.

3,142,231
ARRANGEMENT IN MACHINES FOR THE PRODUCTION OF LINED PACKAGES
Ol Wikar Christensson, Vikavagen 5, Bromma, Sweden
Filed Apr. 11, 1961, Ser. No. 102,311
Claims priority, application Sweden May 23, 1960
11 Claims. (Cl. 93—36.6)

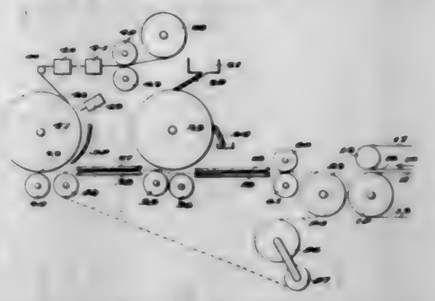
1. In a forming machine for the production of lined packages in which an outer blank is to be conveyed with even spacing over a first path, and the lining is shaped in tubular form and conveyed over a second path to be combined with the blanks after having been cut into pieces for corresponding blanks; the improvement comprising:

means for feeding a web of tubular lining material to the second path and means for cutting the web with longitudinally spaced, single transverse cuts to form individual and contiguous lining pieces;

an endless belt defining the first path and means for moving the belt at a speed equal to the speed of the moving lining pieces;

a plurality of catchers attached to the outer surface of the belt and spaced from each other along the belt at a predetermined distance equal to the length of each of the lining pieces;

means for feeding the blanks individually on to the moving belt at one end thereof;

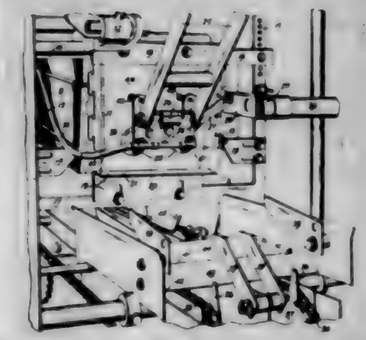


means for grasping the leading edge of each outer blank after the feeding means and accelerating the outer blank at a speed faster than the speed of the belt until the front edge of the blank contacts the back of a catcher next preceding it;

means for transversely aligning the blank on the belt and causing a renewed lag of the blank until the back edge of the blank contacts the front of a catcher next subsequent, the blank being further conveyed along the first path with the aid of the said subsequent catcher; and

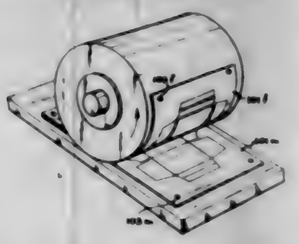
means for joining each blank with a corresponding lining at a converging of the belt and the second path.

3,142,232
DEVICES FOR SQUARING FLAT COLLAPSED TUBULAR FOLDING BOX BLANKS
Chester J. Pierce, Jr., 622 Maybelle Ave., and Frank M. Lafef, 3421 Ramona St., both of Palo Alto, Calif.
Filed July 26, 1962, Ser. No. 212,574
7 Claims. (Cl. 93—53)



1. In a folding box machine comprising a magazine for storing flat collapsed tubular blanks and a compartmented endless conveyor into whose compartments the blanks are placed and in which the blanks are then squared, a blank presquaring device comprising: a blank carrier including suction cup means for grasping a blank; means for moving said carrier on an arc from a first position at the magazine at which the mouth of said cup means is in a first upright plane to a second position at a blank deposit station adjacent said conveyor at which the mouth of said cup means is in a second substantially horizontal plane, said two planes being disposed substantially at a right angle to each other; and an obstacle in the path of the blank carried by said carrier, said obstacle being mounted adjacent said first plane and at a distance from the apex of said right angle less than the distance of said cup from the apex to flex the obstacle engaged blank portion relatively to the cup engaged portion, the arrangement being such that a blank fold line disposed generally transverse to the direction of blank movement lies between the obstacle engaged blank portion and the cup engaged portion.

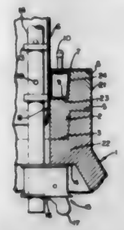
3,142,233
CUTTING AND SCORING DIE
Robert H. Downie, Neenah, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Original application Mar. 20, 1961, Ser. No. 96,872. Divided and this application Aug. 2, 1962, Ser. No. 215,484
16 Claims. (Cl. 93—58)



1. A cutting and scoring die for working a sheet material, said die being adapted to be mounted in a suitable press and comprising a pair of opposed co-acting die members, each member of said pair being all of one homogeneous piece and including in shallow relief on the working surface thereof working elements forming a predetermined pattern in permanent fixed position to co-act with corresponding working elements on the other member of said pair, the working elements on one of said die members including a male scoring element comprising a raised portion corresponding precisely to a crease line to be formed in the sheet material, the working elements on the other of said die members including a female scoring element comprising a spaced pair of raised portions defining a groove precisely positioned to co-act with said male scoring element when mounted in a press, said working elements also including a cutting element comprising a raised portion on one of said die members corresponding to a desired cut line in the sheet material to be worked and having the longitudinal axis thereof slightly displaced to one side of said desired cut line and a corresponding co-acting cutting element comprising a raised portion on the other of said die members having its longitudinal axis slightly displaced to the opposite side of said desired cut line, said cutting elements being precisely aligned and positioned to co-act to cut said sheet material.

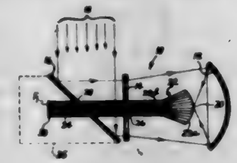
3,142,234
MANHOLE SHIELD
Fred V. Maloon, 3117 Withers Ave., Lafayette, Calif.
Filed Dec. 21, 1959, Ser. No. 861,082
6 Claims. (Cl. 94—38)

1. A shield for use on a horizontally disposed, centrally open manhole frame that defines the outline of a manhole comprising: an open ended vertically disposed rigid tube having an upper portion and a lower portion and a horizontally disposed flange rigid with said tube adapted to extend over and directly engage the upper surface of such frame for supporting said upper portion directly on said frame coaxial with the latter and projecting upwardly thereon and for supporting said lower portion within such frame, an air inflatable tube below said flange and around said lower portion expansible upon inflation with air from a collapsed position out of sealing engagement with said frame when said flange is on and in engagement with the latter whereby said rigid tube may be removed from said frame without injury to



said inflatable tube, to an expanded position in sealing engagement with said flange, lower portion and such frame, and means on said rigid tube adapted to positively but releasably lock said rigid tube rigid with such frame and to hold said flange against the upper side of said frame when said inflatable tube is inflated.

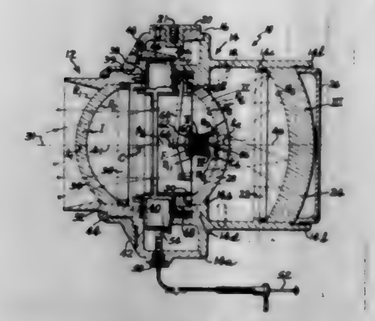
3,142,235
CATADIOPTRIC OPTICAL SYSTEMS FOR CAMERAS AND THE LIKE
Walter P. Siegmund, Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Nov. 21, 1960, Ser. No. 70,479
6 Claims. (Cl. 95—11)



1. A camera or the like having relatively high-speed optical means for forming an image of an object field upon photographic film within said camera, said optical means comprising a pair of catadioptric optical systems each having a concavely curved spherical mirror and an aspheric corrector plate in optical alignment and predetermined spaced relation relative to each other, the corrector plate and spherical mirror of each of said optical systems being arranged to receive light rays from a single object field spaced therefrom and to focus said light rays as a pair of real images having appreciable curvature of field at a pair of curved image planes within said systems, respectively, and optically disposed between the mirrors and the corrector plates thereof, a pair of elongated fiber optical image-transfer bundles having their inner ends of predetermined size and of predetermined convexly curved shape and so disposed within said systems, respectively, as to be in substantial coincidence with said curved image planes of said systems, said elongated fiber optical bundles extending outwardly of said systems and having their outer end surfaces substantially flat and so disposed as to contact opposite sides of a photographic film at a predetermined film exposure position in said camera, and plane mirror means disposed in the path of the light rays of one of said systems so as to intercept said last mentioned light rays and cause a mirror image reversal thereof before reaching the concave mirror associated therewith, whereby the light rays of both systems will form a pair of real images in match-

ing relation upon opposite sides of the photographic film at said exposure position.

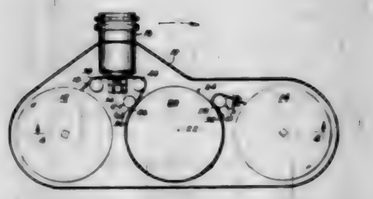
3,142,236
CAMERAS AND HIGH SPEED OPTICAL SYSTEM THEREFOR
Walter P. Siegmund, Woodstock, Conn., and Ralph H. Wight, Flushing, N.Y., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Mar. 8, 1961, Ser. No. 94,332
15 Claims. (Cl. 95—11)



1. A relatively high-speed image-forming catadioptric optical system comprising a concave spherical mirror, optical aberration correcting refractive means in axial alignment with said mirror, said refractive means including a spherically curved refractive meniscus component disposed in predetermined spaced relation relative to a transverse plane extending through the center of curvature of said mirror located between said center of curvature and said mirror, said refractive means being of such predetermined thickness, optical characteristics and radius of curvature as to provide in said system negative spherical aberration of an amount sufficient to substantially compensate for the inherent positive spherical aberration of said mirror, said system providing an image of predetermined concave curvature at a real image plane within the system and axially located intermediate said center of curvature and said mirror, a tapered fiber optical image transfer bundle positioned in said system with its larger end so curved and so disposed as to provide a fiber optical entrance surface in substantial coincidence with said concavely curved image, a transparent spacer of predetermined thickness carried by said refractive meniscus component on the concave side thereof and supporting the larger end of said tapered bundle at said curved image plane, the smaller end of said tapered fiber optical bundle terminating within said system and being so shaped as to accommodate photographic film in surface-contacting relation thereto during exposure of said film, and a relatively small opaque cap fitting over and engaging the smaller end of said bundle so as to retain said film in space-contacting relation with said bundle.

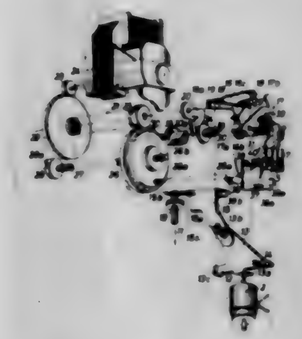
3,142,237
PANORAMIC PHOTOGRAPHY
Raoul Waroux, Paris, France, assignor, by mesne assignments, to Inventions Finance Corporation, a corporation of Delaware
Filed Jan. 7, 1960, Ser. No. 1,105
14 Claims. (Cl. 95—15)

1. In a panoramic camera of the type in which the camera casing is rotated about a fixed axis for progressively photographing a scene throughout a range of angular viewpoints, the improvement which comprises



means operated in response to the camera rotation for progressively altering the exposure level according to a predetermined schedule.

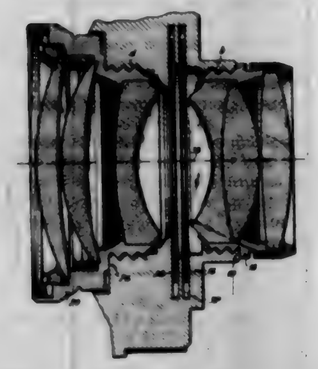
3,142,238
CAMERA OPERATING STRUCTURE
Wilfried Hofmann and Josef Pfeifer, Munich, and Hans Biermeier, Munich-Laim, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Sept. 10, 1962, Ser. No. 222,306
Claims priority, application Germany Sept. 16, 1961
4 Claims. (Cl. 95—31)



4. In a camera assembly, in combination, an electric motor adapted to drive film-advancing structure of the camera; a solenoid adapted to actuate the shutter of the camera, so as to make an exposure, when the solenoid is energized; a solenoid circuit for energizing the solenoid, said solenoid circuit including means for completing part of said solenoid circuit under given conditions; a motor circuit for energizing the electric motor when said motor circuit is closed; alternating switch means electrically connected with both of said circuits for closing part of the solenoid circuit while simultaneously opening the motor circuit and for closing the motor circuit while simultaneously opening the solenoid circuit, said alternating switch means having a rest position closing part of said solenoid circuit and opening said motor circuit; and mechanical transmission means actuated by said solenoid and said motor for moving said alternating switch means from said rest position thereof to said position closing said motor circuit after the solenoid has been energized to make an exposure and to return said switch means to said rest position thereof opening said motor circuit after the film has been advanced, said circuits, said solenoid, said motor, said switch means and said mechanical transmission means forming an operative arrangement, and including a housing containing said arrangement and being adapted to be attached to a camera and part of said mechanical transmission means which is actuated by said solenoid being positioned to actuate the shutter-tripping

structure of the camera and another part of the mechanical transmission means which is actuated by the motor being positioned to actuate the film-advancing structure of the camera.

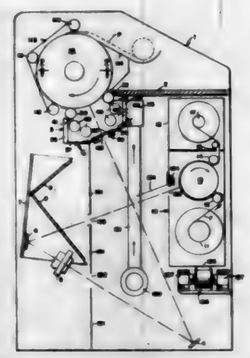
3,142,239
MOUNT FOR PHOTOGRAPHIC OBJECTIVES
Alfred Metzner, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed Oct. 22, 1958, Ser. No. 768,876
4 Claims. (Cl. 95—44)



1. A mount assembly for objectives of photographic cameras comprising, in combination, threadedly interconnected substantially cylindrical male and female members, the threaded portions of said members being of uniform diameter throughout the axial length of the threaded portions; lens means carried by said male member; facing diametrically extending integral plane surfaces on said members interengageable upon tightening of said male member into said female member; the root diameter of the female threads being sufficiently in excess of the apex diameter of the male threads that said two members threadedly interfit loosely with substantial play therebetween except when said plane surfaces are interengaged; the flanks of the male thread facing the diametrically extending plane surface of said male member forming a first angle of not in excess of 45 degrees with the axis of said male member; the flanks of the female thread facing in a direction away from the diametrically extending plane surface of said female member forming a second angle of not in excess of 45 degrees with the axis of said female member and substantially equal to said first angle; the apex angles of both threads being 90 degrees; said flanks of the female thread engaging and sliding along said flanks of the male thread, as said plane surfaces are brought into firm engagement upon tightening of said members, to center said male member in said female member.

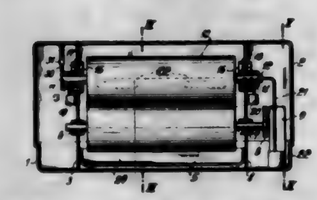
3,142,240
PAPER CONVEYOR
Philip J. Brownscombe, Millington, N.J., assignor to Eugene Dietzgen Co., Chicago, Ill., a corporation of Delaware
Filed Aug. 30, 1961, Ser. No. 134,878
9 Claims. (Cl. 95—76)

6. The combination for moving and exposing for reproduction a copy sheet through an exposure section of a photographic reproduction machine comprising an exposure chamber having an open side, a cylindrical drum rotatably mounted at said open side, said drum having a reflective cylindrical surface with circumferential, shallow



grooves in said surface, lighting means in said chamber, and means for creating a pressure higher than atmospheric in said chamber.

3,142,241
METHOD FOR DEVELOPING FILMS, A DEVICE AND A MATERIAL FOR CARRYING OUT THIS METHOD
Walter Lamberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany
Filed Mar. 6, 1961, Ser. No. 93,699
Claims priority, application Germany Mar. 17, 1960
16 Claims. (Cl. 95—89)

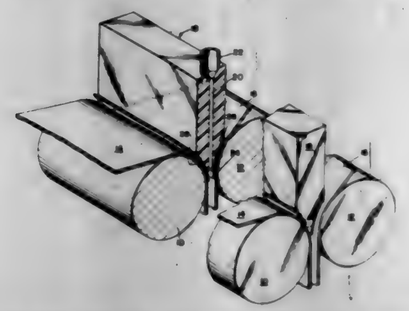


1. In an apparatus for treating photographic emulsion-carrying film, frame means, guide means supported by said frame means and forming a guide path for said film, treatment means supported in said frame means and projecting into said guide path in position to contact said emulsion on the film as said film is moved along said guide path, said treatment means comprising a member made of fusible material having an emulsion treatment chemical in a solid state distributed therein, supply means for supplying a medium to said treatment means to fuse said chemical therein, and control means for controlling actuation of said supply means, whereby said chemical is selectively released for action upon said emulsion.

3,142,243
DISPENSING NOZZLE STRUCTURE FOR PHOTOGRAPHIC PROCESSING APPARATUS
Herman E. Erikson, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 14, 1961, Ser. No. 159,227
16 Claims. (Cl. 95—89)

1. Photographic processing apparatus comprising, in combination:
means providing a passage having walls converging to a gap of predetermined width for guiding a pair of photographic sheets into superposition during movement of said sheets through said passage;
a fluid dispensing nozzle for supplying photographic processing fluid to a convergent space between portions of said sheets in the region thereof at which said sheets converge between said walls;

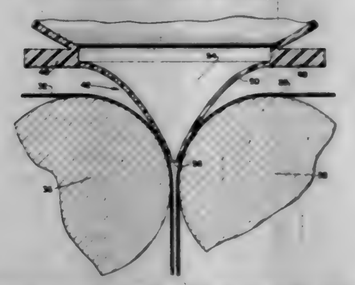
said nozzle including an elongated discharge mouth bounded on opposite sides by a pair of lips including at least end edge portions which are thin and flexible and are separated by a distance not exceeding the distance between said sheets at said gap;



means for positioning said nozzle with said lips extending into said passage within said convergent space between said sheets and with the outer surfaces of said lips in contact with said portions of said sheets; and

means for supplying said processing fluid to said nozzle under pressure sufficient to cause said fluid to flow between said lips through said discharge mouth.

3,142,243
PHOTOGRAPHIC PROCESSING APPARATUS AND PRODUCT USEFUL THEREIN
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 14, 1961, Ser. No. 159,234
11 Claims. (Cl. 95—89)



1. Photographic apparatus for treating successive areas of a photographic image-recording sheet with a fluid composition distributed in contact with said sheet, said apparatus comprising, in combination:

means including a pair of juxtaposed members for guiding said sheet and a second sheet along convergent paths into superposition;

said members cooperating to provide a convergent passage between said members through which said sheets are movable in superposition, at least one of said members including a curved surface subtending an angle at least of the order of 90° and defining one side of said passage;

a fluid dispensing nozzle for dispensing said fluid between and in contact with convergent portions of said sheets in the region of said members;

said nozzle including an end section terminating in opposed flexible lips defining therebetween a narrow elongated discharge mouth substantially equal in length to the width of said areas of said image-recording sheet;

said nozzle being so positioned with respect to said members as to locate the outer surfaces of said lips in face-to-face contact with the inner opposed surfaces of said convergent portions of said sheets;

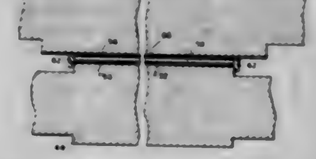
means coupled with said nozzle for supplying said fluid to said nozzle under pressure sufficient to cause said fluid to flow into a cavity defined by said lips and terminating in said discharge mouth;

means mounting at least said one member for movement with respect to said nozzle between a first position at which said members press on said lips through said sheets to close said mouth against the flow of fluid between said lips and a second position in which the pressure on said lips is relieved and said mouth is free to open, said one member being mounted for movement from said first position into said second position in the direction of movement of said sheets through said passage;

means for biasing said one member into said first position; and

means for guiding one of said sheets around and in contact with said curved surface for moving said one member against said bias from said first to said second position in response to movement of said one sheet around said one member against said curved surface thereof.

3,142,244
PHOTOGRAPHIC APPARATUS FOR TREATING SHEETS WITH A LIQUID
Nan Guthrie Budde, Teaneck, N.J., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 26, 1962, Ser. No. 182,482
8 Claims. (Cl. 95—89)



1. In photographic apparatus for distributing a processing liquid in a layer between a pair of sheets of unequal width extending to the lateral edges of the narrower of said sheets, in combination:

first and second juxtaposed members having surfaces providing the walls of a passage for superposing said sheets as said sheets are moved along convergent paths between said members with said narrower sheet in contact with said surface of said first member, said first member having a length at said surface substantially equal to the width of said narrower sheets;

said second member having a length at said surface thereof which exceeds said length of said first member, said second member being positioned with the end portions of said surface thereof extending beyond the ends of said surface of said first member;

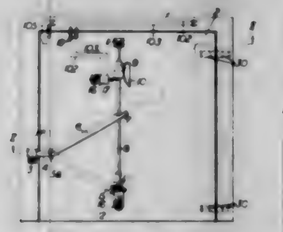
a nozzle including a mouth substantially equal in length to said length of said first member for dispensing said liquid as a layer between and in contact with convergent portions of said sheets within said passage between said members;

said nozzle including a pair of flexible lips at least equal in length to said length of said first member and being so positioned with respect to said members that the outer surfaces of said lips contact the opposed surfaces of said convergent portions of said sheets;

one of said lips being positioned for contacting the wider of said sheets and including members at its ends extending toward said first member for engaging the ends of said first member to position said mouth with the ends thereof in substantial alignment with said ends of said surface of said first member, and engaging the lateral edges of said narrower sheet guiding said narrower sheet relative to and past said mouth with said lateral edges in substantial alignment with said ends of said mouth; and

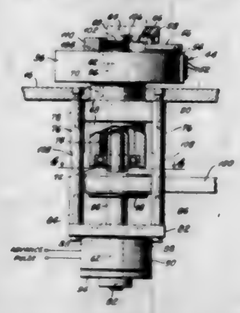
means coupled with said nozzle for supplying said liquid to said nozzle under pressure sufficient to cause said liquid to flow from said nozzle through said mouth.

3,142,245
SAFETY MEANS FOR VENTILATED CLOSED CHAMBERS
Abraham Shoham, Ein-Hachoresh, Israel, assignor to Ein-Hachoresh Kibbutz Hashomer Hazair Lehityashvut Shitufit B.M., Ein-Hachoresh, Israel
Filed Oct. 3, 1961, Ser. No. 142,645
Claims priority, application Israel Oct. 12, 1960
4 Claims. (Cl. 98—43)



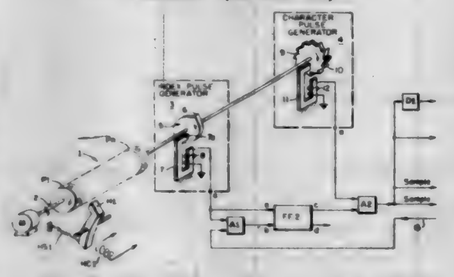
1. In combination: enclosure means having a chamber defined therein and first, second and third openings defined through said enclosure means, said first opening enabling gaseous media outside said enclosure means to pass into said chamber; an exhaust fan, including a rotatable shaft, operable for exhausting gaseous media through the second opening from said chamber; a motor operable for rotating said shaft and operating said exhaust fan; a cover adapted for closing the third opening and thereby preventing access into the chamber; hinge means for swinging said cover about one of its edges to permit or prevent access into the chamber through the third opening; means for biasing said cover to a position so that the third opening is unclosed thereby permitting access into the chamber; a bolt, fixed to a pivot protruding through said cover, adapted for actuation from outside of said enclosure means, said bolt having an arm extending therefrom; an upwardly open angle piece for receiving said bolt when said cover is closing the third opening; a guide member upwardly extending along said cover; a weight, slidable along said guide member, adapted, upon sliding downwardly, to abut said arm when said bolt is received by said angle piece thereby rotatively moving said pivoted bolt out of reception by said angle piece to cause said biassing means to move said cover to the position where the third opening is unclosed; electrically controlled detent means adapted to arrest said weight when said weight is slid upwardly along said guide member to a position clear of said arm, said detent means being operable in response to an electrical signal to release the arrested weight thereby enabling said weight to slide downwardly, by gravity, along said guide member; means for producing an electrical signal to operate said detent means in response to the non-rotation of said shaft of said exhaust fan.

3,142,246
PRINTER AND ADVANCING MEANS
William H. Ross, Dallas, Tex., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,151
11 Claims. (Cl. 101—76)



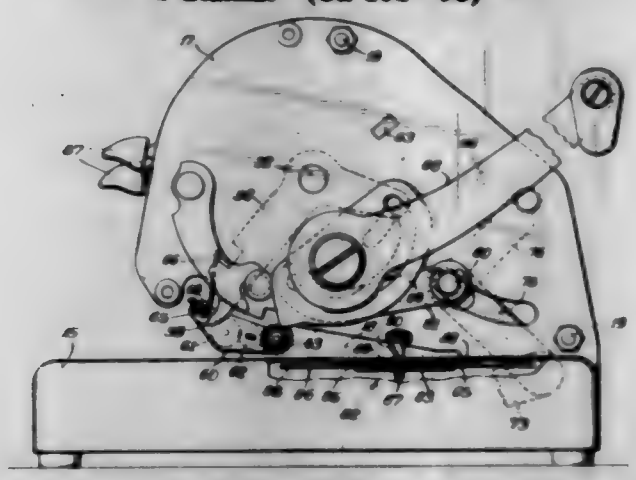
1. Printing means comprising an advanceable print head having a finger coupled thereto for advancing said print head, means to support said print head, a first shaft connected to said means to support for rotating said print head, a second shaft resiliently coupled to said first shaft and driven thereby, means connecting an end of said second shaft to said finger of said print head, and means coupled to the other end of said second shaft for momentarily retarding the speed of said resiliently coupled second shaft to cause relative movement between said shafts to thereby permit said means an advancement of the impression caused by said print head.

3,142,247
CONTROL SYSTEM FOR HIGH SPEED PRINTERS
David F. Sweeney, Wellesley, Mass., assignor to Anelex Corporation, Boston, Mass., a corporation of New Hampshire
Filed Mar. 8, 1962, Ser. No. 178,444
7 Claims. (Cl. 101—93)



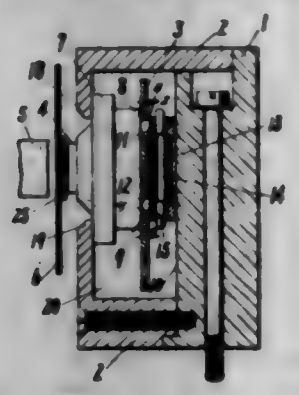
2. In a data printer, a plurality of print hammers, an electromagnetic coil adjacent each hammer and operable when energized to actuate said hammer, a first switching means associated with each coil, a capacitor for each coil connected in series with the coil and the associated switching means, a source of current, second switching means having a first state and a second state and connected in series with said source and each of said capacitors to supply charging current to said capacitors in its first state and to interrupt the current in its second state, print cycle control means for actuating said second switching means first to its second state and then to its first state after a predetermined interval, and means operable during said interval to actuate said first switching means to discharge each capacitor through its associated coil to actuate the print hammers.

3,142,248
LIMITED AMOUNT CHECKWRITER
Ardath A. Gopperton, Niles, Ill., assignor to Theodore B. Hirschberg, Jr., Chicago, Ill.
Filed Apr. 10, 1963, Ser. No. 271,942
6 Claims. (Cl. 101—95)



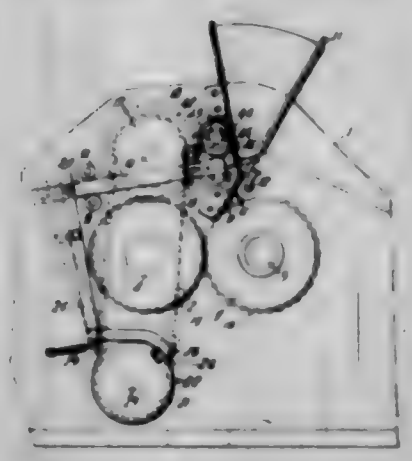
1. In a machine for printing money orders and like instruments, a plurality of individually adjustable printing members including a first member and a second member and a plurality of other members, said first member having a single effective number printing character and being movable to an initial position ineffective for printing and a second position effective for printing, said second and other members each having number printing characters ranging from zero to nine and being independently movable to dispose selectively any one of said characters in effective printing position when said first member is in its said initial position, said second member having an initial position ineffective for printing, a plurality of locking levers respectively disposed adjacent and substantially parallel with said segments, said first and second segments and the lever adjacent said first segment having cooperating means for holding all of said levers in segment releasing position when said first segment is in its said initial position and for moving said second segment to zero printing and said levers to locking position responsive to movement of said first segment to its said second position and thereby locking said first segment in its said second position and said second segment in zero printing position, means carried by said plurality of other segments cooperating with the other of said levers when the latter are in locking position and effective for locking said other segments in zero printing position, and operating means for effecting the printing operation.

3,142,249
TYPE PIECE FIXING DEVICE FOR HIGH SPEED BELT PRINTER
Rentaro Sasaki, Takasaki, Japan, assignor to Oki Electric Industry Company Limited, Tokyo, Japan, a Japanese corporation
Filed July 17, 1962, Ser. No. 210,516
Claims priority, application Japan July 20, 1961
2 Claims. (Cl. 101—111)



1. A type piece holding device for high speed printers including a rotatable endless band having a plurality of pairs of holes therethrough, comprising: a type stand; a guide member fastened to said type stand and having two spaced-apart protrusions extending outwardly from said type stand, each said protrusion having a projection thereon, said projections extending toward each other and defining a gap therebetween, said extending projections, protrusions and type stand defining a channel space in communication with said gap, a strip portion of said endless band being arranged to pass through said channel space; a type holder having a type piece affixed to one side thereof and a pair of spaced apart legs extending from an opposite side thereof, said pairs of legs extending through a pair of holes in an endless band and abutting against said type stand, each said leg having an aperture therethrough; a hollow collar extending between said legs and extending into said apertures; and, a resilient C-shaped pin having its ends inserted into the ends of said hollow collar to retain said type holder on said endless band.

3,142,250
PRINTING APPARATUS
Emmery I. Harta, Enfield, England, assignor to English Numbering Machines Limited, Enfield, Middlesex, Great Britain, a British company
Filed Apr. 9, 1963, Ser. No. 271,752
Claims priority, application Great Britain Apr. 10, 1962
24 Claims. (Cl. 101—243)

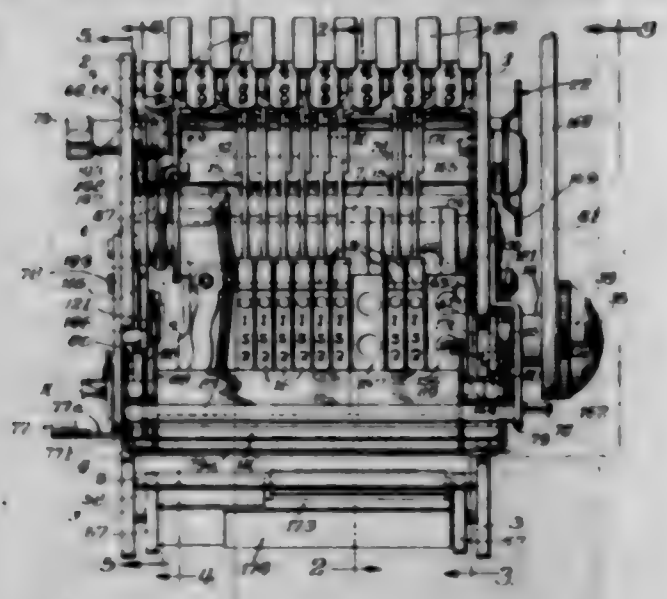


1. A printing apparatus comprising a first printing roller, a second printing roller arranged for cooperating with said first printing roller, means for driving said printing rollers at the same peripheral speed, at least one settable printing wheel on said first printing roller, a plurality of printing formations on said printing wheel, any printing formation to which said printing wheel has been set lying substantially in peripheral register with the said first printing roller, an inking mechanism carried by said second printing roller, an inking means held by said inking mechanism to extend over a peripheral portion of said second roller, said first and second printing rollers being coordinated for bringing said inking means on said peripheral portion into register with the set printing formation once during each revolution of said printing rollers, and means for guiding a sheet to be printed on to the bight between said printing rollers to effect printing of said sheet by pressing the same against said inking means by the set printing formation of said first printing wheel.

3,142,251
SIGNATURE PRINTING CHECK WRITER
Ardath A. Gopperton, Niles, Ill., assignor to Theodore B. Hirschberg, Jr., Chicago, Ill.
Filed Jan. 9, 1963, Ser. No. 250,424
5 Claims. (Cl. 101—336)

1. In a check writer, a printing couple comprising type members positionable on a printing line and a signature plate adjacent said printing line, platens cooperating with and underlying said printing couple normally in spaced

relation thereto and mounted for movement toward and away from said couple, an inking ribbon passing between and normally spaced from said printing couple and platens, a ribbon tensioning and tension release member overlying said ribbon adjacent and in front of said couple and platens, means mounting said member for movement to a normal lower position pressing upon said ribbon effective for maintaining it under tension and to an upper position effective for releasing tension of said ribbon and providing slack therein, a pivoted smudge guard member having a cross plate underlying said ribbon adjacent and in front of said tensioning and tension release member, a printing line indicator pivoted at one side of said check writer clear of said cross plate, means normally holding said indicator and guard member in a lowered position, said check writer having a slot for insertion of a check



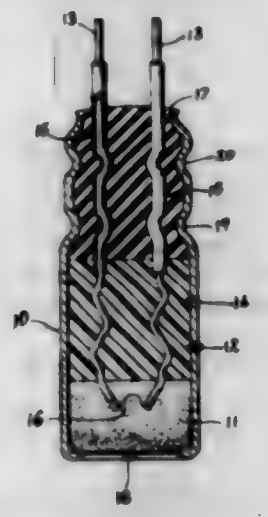
blank to a printing position extending between said printing couple and platens and underlying said ribbon and cross plate with one end portion extending therebeyond and underlying said indicator, operating means for moving said platens upward for effecting a printing operation, and means actuated by said operating means and effective for moving said tensioning and tension release member to its said upper position incident to a printing operation and prior to completion thereof, said last mentioned means being also effective for returning said tensioning and tension release member to its said normal lower position subsequent to completion of a printing operation, said platens being effective for raising the check blank and thereby moving said cross plate to an upper operative position in proximity to the under face of said ribbon and moving said indicator to an upper position, incident to a printing operation.

3,142,252
TONGUE HOLDER AND GRIPPER ASSEMBLY
Otis E. Foster, 2826 Pine St., Abilene, Tex.
Filed June 12, 1961, Ser. No. 116,347
1 Claim. (Cl. 101—408)



A tongue assembly for use with a platen-type printing press for retaining a sheet thereon comprising a support member, a chuck pivotally mounted on said support member for movement solely in a vertical plane, spring means interconnecting the chuck and the support member, said spring means biasing the chuck downwardly toward the platen, said spring means including a biasing spring and means for both varying the direction of the biasing force and varying the degree of the biasing force, an elongated flat resilient tongue, said chuck having a slot-like opening slidably receiving one end of the tongue, said chuck having a transverse opening communicating with the slot-like opening, a cam member rotatably disposed in the transverse opening for releasably locking the tongue in the chuck and enabling easy removal thereof when the lower portion of the cam member is engaged therewith, said cam member including an operating handle disposed exteriorly of the chuck, means limiting the swinging movement of the cam member, and spring means interconnecting the chuck and the operating handle for urging the cam member to tongue clamping position.

3,142,253
IGNITION COMPOSITION AND ELECTRIC SQUIB CONTAINING IT
Frederick R. Seavey, Alton, and Norman J. Wilkaitis, East Alton, Ill., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed May 16, 1962, Ser. No. 195,248
6 Claims. (Cl. 102—28)

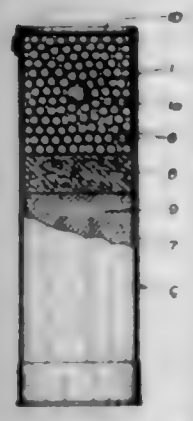


4. An electric squib device comprised of a cylindrical case having a cross scored in the outer base of said case, an ignition composition positioned in the inner base of said case, an ignitor plug comprised of two spaced apart lead wires embedded in a plastic plug, a bridge wire connecting the ends of the two lead wires, the opposite ends of the lead wires being embedded in a rubber plug, said ignitor plug positioned in said case adjacent to said ignition composition, said bridge wire being embedded in said ignition composition and said ignition composition is comprised of an intimate mixture of between about 10 and about 30 percent by weight of boron, between about 80 and about 40 percent by weight of barium chromate, and between about 10 and about 30 percent by weight of potassium perchlorate.

3,142,254
SHOT CARTRIDGE WITH TRACER MEANS
Ernst Grinzenberger, Vienna, Austria, assignor to Alois Charwat, Vienna, Austria
Filed May 29, 1961, Ser. No. 113,454
Claims priority, application Austria May 30, 1960
4 Claims. (Cl. 102—42)

1. A shot cartridge for a firearm, comprising a shot charge, a closed, ball-shaped, hollow body having apertures and being embedded in the center of gravity of said

shot charge, and a substance capable of producing smoke when contacted by air, contained within said hollow body,



and means airtightly sealing said apertures and leaking under the firing pressure.

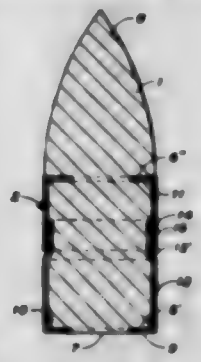
3,142,255
SAFETY FIREWORKS IGNITER
Richard L. Murr, Rte. 1, Cleveland, Mo.
Filed Oct. 23, 1962, Ser. No. 232,460
6 Claims. (Cl. 102—70.2)



1. A safety fireworks igniter comprising:
(*a*) an elongated bar,
(*b*) means for attaching said bar to a rigid support,
(*c*) an electric igniter mounted at one end of said bar and comprising an open ended coil of heater wire adapted to receive the fuse of a fireworks piece longitudinally therein,
(*d*) a blast plate carried fixedly by said bar in spaced relation from the open end of said coil and having a hole for said fuse formed therein in axial alignment with said coil,
(*e*) an operative electrical circuit including said igniter coil, a source of electric power, and a manually open switch, all carried by said bar,
(*f*) a switch operating member carried movably by said bar and operable when moved in one direction to close said switch, and
(*g*) an elongated switch cord connected at one end to said switch operating member and adapted to extend a point remote from said bar, whereby said switch may be closed by pulling on said cord.

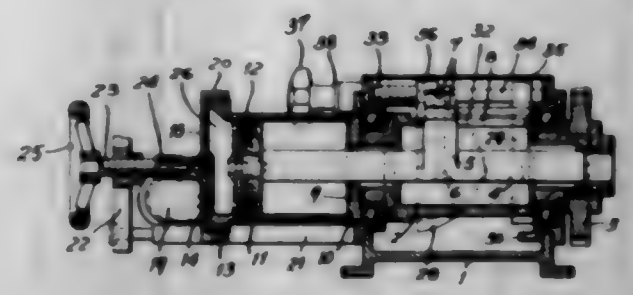
3,142,256
JACKETED-CAST BULLET
Bernhard V. Mack, Kensington, Calif.
(29 Kingston Road, Berkeley 7, Calif.)
Filed Apr. 3, 1959, Ser. No. 803,871
2 Claims. (Cl. 102—92.5)

1. A jacket for a cast bullet adapted to surround the area of maximum diameter of the bullet which comprises:
(A) a first jacket member with a continuous axial passage therethrough and having
(1) an outer cylindrical portion,
(2) an inner cylindrical portion integrally connected to one end of said outer portion and extending away from said outer portion coaxially therewith and having an outside diameter less than the outside diameter of said outer portion, and
(3) a flange on said first jacket member mounted on the end of said outer portion remote from said inner portion and extending radially inwardly from said outer portion, and



(B) a second jacket member with a continuous axial passage therethrough and having an outer cylindrical portion of substantial axial length which
(1) has substantially the same outside diameter as said outer portion of said first jacket member and
(2) is telescopically mounted on said inner portion of said first jacket member,
(C) said jacket being further characterized in that said flange on said first jacket member extends radially inwardly from the outer portion and is inclined axially of said jacket away from said inner portion, and a second flange is integrally connected to said second jacket member and extends radially inwardly therefrom and is inclined parallel to the first flange.

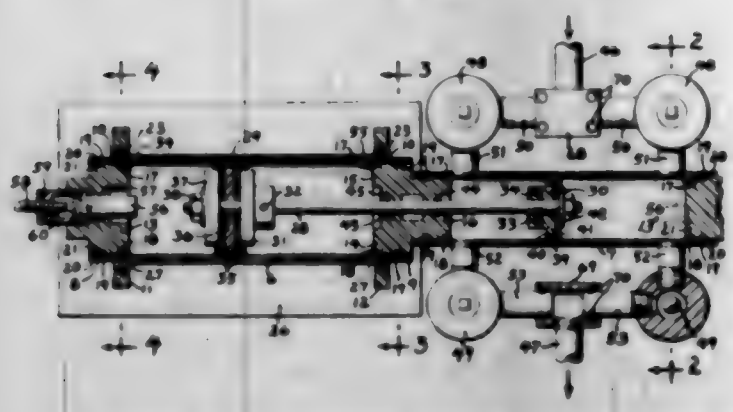
3,142,257
FILLING MACHINE FOR HIGH VISCOSITY MATERIALS
Hans Schudt, Darmstadter Str. 64–66, Sprendlingen, near Frankfurt am Main, Germany
Filed May 21, 1962, Ser. No. 197,180
10 Claims. (Cl. 103—38)



1. A metering pump comprising
a cylinder mounted for rotation on its longitudinal axis, said cylinder having a port at one end for entry and expulsion of material to be measured and pumped,
a piston rotatable in synchronism with said cylinder and reciprocable in suction and discharge strokes in said ported end of the cylinder,
a relatively stationary head enclosing said ported end of the cylinder and having angularly displaced supply and delivery ports sequentially cooperable with said port of the rotatably mounted cylinder,
means for rotating said cylinder to effect successive registration of the port in said cylinder with said supply and delivery ports of the stationary head, and
means for reciprocating said piston in the rotary movement of said cylinder timed to effect registration of the cylinder port with the supply port on the suction stroke of the piston and registration of the cylinder port with the delivery port on the discharge stroke of the piston, said cylinder port being angularly extended to simultaneously momentarily connect the supply port and delivery port in the stationary head

to enable return of excess material to the supply port on completion of the suction stroke of the piston.

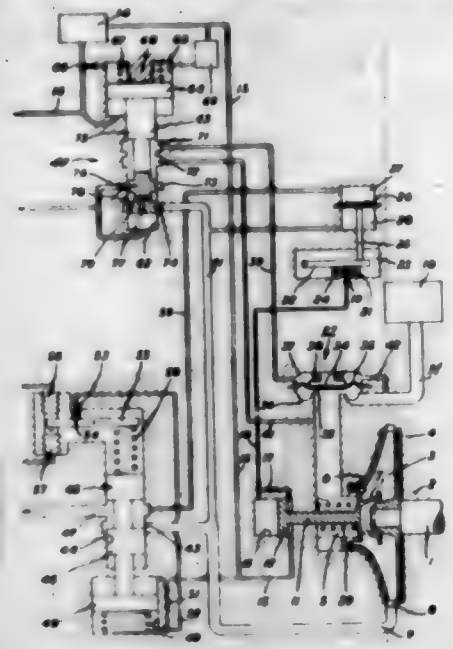
3,142,258
PUMP CONSTRUCTION
Russell G. Rutherford, R.R. 6, Hutchins Park, Rockford, Ill.
Filed Dec. 7, 1961, Ser. No. 157,759
4 Claims. (Cl. 103—48)



1. A device of the character described comprising two coaxially arranged tubular cylinders, cylindrical closure plugs fixed in the remote ends of said cylinders, a single elongated closure plug common to the two cylinders having its opposite ends fixed in the adjoining ends thereof and maintaining their coaxial relationship, said last mentioned plug having an axial bore, a rod reciprocable therein, pistons fixed on opposite ends of said rod having a working fit in the respective cylinders, one of said cylinders being a power cylinder, and inlet and exhaust valve means connected with the opposite ends of said power cylinder to control communication thereto with a source of drive fluid under pressure, whereby the piston in the power cylinder is reciprocated in order to reciprocate the other piston, the other cylinder being a pump cylinder and having ports provided in the opposite ends thereof adapted to be placed in communication with suction and discharge conduits for the pumping of liquid and semi-liquid materials, each of the three closure plugs being adapted to be removed and replaced whereby to facilitate cleaning of the cylinder, plugs, and pistons, each plug for this purpose having an annular groove provided therein intermediate its ends receiving an O-ring of compressible resilient material adapted to be compressed radially between the annular groove and the wall of the cylinder when the plug is inserted therein, and means for quickly detachably securing each plug in said cylinder, the groove and O-ring being spaced from the inner end of the plug in relation to the cylinder, and the last mentioned means being located between said groove and the outer end of the plug and comprising an annular groove provided in the plug and parallel holes provided in the cylinder in diametrically opposed relationship opening intermediate their ends to the interior of the cylinder and adapted to be placed in register with diametrically opposed portions of said annular groove, and elongated pins inserted removably in said holes and having portions intermediate their ends projecting into said annular groove to retain the plug against axial displacement relative to the cylinder.

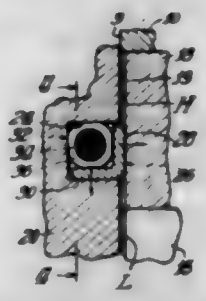
3,142,259
LIQUID PRESSURE SUPPLY SYSTEM
Stanley R. Tyler, Cheltenham, England, assignor to Dowty Fuel Systems Limited, Cheltenham, England
Filed June 13, 1961, Ser. No. 116,824
Claims priority, application Great Britain June 15, 1960
5 Claims. (Cl. 103—97)

1. In combination, a source of liquid, a centrifugal pump having an inlet and an outlet, conduit means defining a first liquid flow passage interconnecting the liquid source with the pump inlet, a second liquid flow passage connected with the pump outlet, and a liquid vent interconnecting the second liquid flow passage with a low pressure zone, a first shut-off valve operative to control the liquid supply through the first flow passage, a second shut-



off valve operative to control the liquid discharge through the vent, and manually-operated control means operative to open and close the first shut-off valve, the second shut-off valve being responsive to the closing of the first shut-off valve to open the vent, and conversely, to close the vent upon the opening of the first shut-off valve.

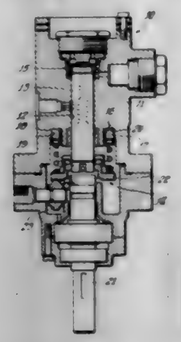
3,142,260
PUMP SEAL
Delbert S. Oliver, Wooster, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 9, 1961, Ser. No. 143,674
4 Claims. (Cl. 103—126)



1. A hydraulic apparatus comprising: a housing having a cavity and a pair of end walls, including an end cover closing off said cavity; rotatable means having sides thereon disposed in said cavity; means defining an inlet and an outlet in said housing leading respectively to and from said rotatable means whereby said rotatable means receives fluid from said inlet and delivers the same out said outlet; axially movable journal bearing means disposed in said cavity rotatably supporting said rotatable means; a thin metallic member of a generally right angular cross-sectional configuration having a first surface in engagement with said journal bearing and having a second surface in engagement with said housing, and a resilient member acting against said first surface to maintain said first surface engagement with said journal bearing and acting against said second surface to maintain said second surface in engagement with said housing such that said thin metallic member forms a seal between said housing and said journal bearing and defines a pressure cavity between said housing and said journal bearing in communication with said outlet whereby fluid in said pressure cavity

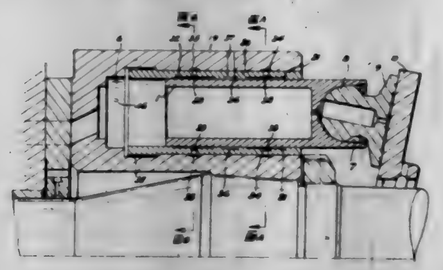
maintains said axially movable journal bearing in engagement with said rotatable means.

3,142,261
FUEL INJECTION PUMP
Charles W. May, Macon, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 3, 1961, Ser. No. 142,676
4 Claims. (Cl. 103—154)



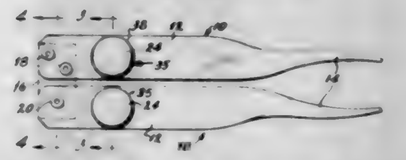
1. In a fuel injection pump having a pump body formed with a longitudinal cylindrical bore therein and a pumping plunger closely disposed within the bore, the combination of means defining an annular groove formed in said body surrounding said bore, and an annular ring in close axial contact with said body and tightly fitted against the outer periphery of said groove and spaced from the pumping plunger, said ring having a co-efficient of thermal expansion greater than that of the pumping plunger.

3,142,262
PRESSURE FLUID PISTONS OR PLUNGERS
Donald Firth and Roger Harvey Yorke Hancock, both of East Kilbride, Glasgow, Scotland, assignors to Council for Scientific and Industrial Research, London, England, a corporation of the United Kingdom
Filed Aug. 24, 1961, Ser. No. 133,703
Claims priority, application Great Britain Aug. 31, 1960
9 Claims. (Cl. 103—162)



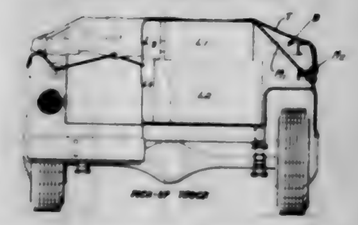
1. A reciprocating piston machine comprising a cylinder block having a plurality of cylinders; a piston reciprocable in each cylinder, a group of shallow pockets arranged circumferentially around each cylinder wall; a gallery in the cylinder block for each cylinder and interconnecting all the pockets of a group; a constriction between the gallery and each pocket; a duct connecting the working space in each cylinder to the gallery of that cylinder; and a bore connecting each gallery to the corresponding gallery of an adjacent cylinder.

3,142,263
SKI TOWROPE GRIP
Walter S. Craft, Fleischmanns, N.Y.
Filed June 18, 1962, Ser. No. 203,150
4 Claims. (Cl. 104—202)



1. A towrope grip comprising a pair of arms each having a flattened surface portion adjacent one end thereof, said arms pivoted at said end for movement toward and away from one another, with said flattened end portion of each arm moving in a plane substantially parallel to that of the other, the other ends of said arms arranged to be grasped in one hand of a user, a post set in each of said arms in said flattened surface portion thereof, in substantially normal relation to said surface, each said post formed with a head on its free end, and a roller mounted on each said post, each said roller including a relatively thick outer sleeve portion formed of a resiliently compressible material, said sleeves being distortable upon movement of said arms toward one another when said sleeves are engaged over a towrope to be compressed against said head and said flattened surface, to thereby brake rotation of said rollers and grip said towrope to move therewith.

3,142,264
PANEL MOUNTED TIE-DOWN TERMINALS
John R. De Boer, Rte. 1, Box 1151, Issaquah, Wash.
Filed Feb. 16, 1962, Ser. No. 173,665
9 Claims. (Cl. 105—369)

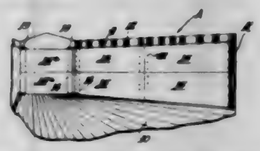


1. A panel-mounted tie-down terminal device, comprising, in combination with a sheet panel having an aperture, an externally threaded tubular housing substantially longer than the panel thickness, extending through said aperture, annular means carried at one end of the housing and abutting one side of the panel adjacent the aperture, annular stop means including an element removably threaded upon the housing, said stop means being abutted to the opposite side of said panel adjacent the aperture thereby to hold the housing in said aperture, and terminal means mounted within said housing and comprising a tie fastener element extending transversely in the housing adjacent the first-mentioned end thereof.

3,142,265
VEHICLE LINER AND METHOD
Michael J. Ford, Hartsdale, N.Y., assignor of one-half each to International Paper Company, New York, N.Y., a corporation of New York, and The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Sept. 23, 1960, Ser. No. 58,118
1 Claim. (Cl. 105—423)

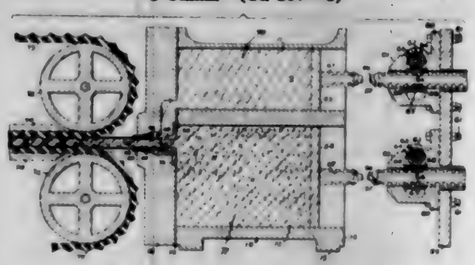
In combination with a freight vehicle having side and end walls providing corners,

(A) a vertical V-shaped member secured within each corner and having wing portions extending along the side and end of the car, and
(B) a liner panel having an end portion extending in overlapping relation to the wing portion of said vertical member,



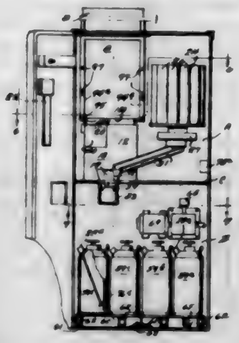
(i) said panel having at least two corrugated cores arranged in face-to-face relation,
(ii) a liner sheet adhesively secured to each core face,
(iii) a plurality of flat imperforate metal straps extending in spaced-apart, parallel relation perpendicularly to the flutes of said cores and positioned interiorly of said panel and in contact with the liner sheet innermost of said vehicle, and nail means extending through said straps securing said panel to said vehicle.

3,142,266
DUPLEX FOOD EXTRUSION
Edward M. Caferro, E. 3017 Euclid Ave., Spokane 26, Wash.
Filed May 8, 1961, Ser. No. 108,517
1 Claim. (Cl. 107—1)



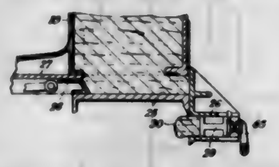
Apparatus for preparing foods wherein a first substance is enveloped by a second substance;
comprising a fixed body having formed therein a pair of spaced tubular bores having parallel longitudinal axes, each of said bores terminating at a plane exterior surface of said body which is perpendicular to the respective axes of said bores;
a cover pivotally mounted on said body adjacent to said plane exterior surface having a plane surface adapted to seal against said plane exterior surface to thereby enclose one end of each of said bores;
an aperture cut through said cover terminating at its plane surface in a location open to the interior of one of said bores when said cover is sealed against said body;
a recess cut in the plane surface of said cover in communication with said aperture and extending to a location open to the interior of the other bore;
die means mounted within said aperture having an enlarged planar end surface formed at one end thereof adapted to be positioned flush with the plane surface of said cover and to abut the plane exterior surface of said body when the cover is sealed against the body;
said die means being further adapted to seal said one bore from said recess when the cover is sealed against said body, said die means including a forming collar having an axial bore and rib means adjacent said one end of said die means adapted to abut the interior of said aperture to thereby space said collar from the interior walls of said aperture, said recess being in communication with said aperture intermediate the ends of said die means.

3,142,267
FOOD DISPENSER
Richard Shofer, 3913 Seven Mile Lane, Baltimore, Md.
Filed Apr. 7, 1961, Ser. No. 127,756
8 Claims. (Cl. 107—1)



7. A food vending machine comprising in combination an ice maker, an ice receptacle receiving ice made by said maker, an ice shaver at the bottom of said receptacle, an ice dispenser depending from said ice shaver for dispensing a portion of ice into a container spaced below said ice dispenser, a syrup dispenser, means to position said syrup dispenser between said ice dispener and said container, said means including further means to remove said syrup dispenser from between said container and said ice dispenser, control means for sequentially activating the ice dispenser, the means to position the syrup dispenser between the ice dispenser and the container and the syrup dispenser to dispense syrup over the portion of ice in the container.

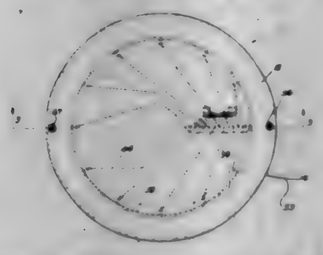
3,142,268
MANUFACTURE OF BREAD DOUGH
David King Baker, Wansford, Peterborough, England, assignor to Baker Perkins Holdings Limited, Peterborough, England, a British company
Filed Oct. 24, 1960, Ser. No. 64,385
Claims priority, application Great Britain Oct. 27, 1959
5 Claims. (Cl. 107—68)



1. A divider panner for use in the manufacture of loaves of bread comprising a top box, a division box located to one side of the top box and movable from a top position in which it is aligned with the top box to a bottom discharge position, said division box having therein at least two thin vertical partitions which divide the division box into pockets situated side by side and each pocket being of uniform rectangular cross section and having a depth considerably exceeding its width, a reciprocating compactor ram, means for actuating said compactor ram to force dough from the top box into the division box to fill the pockets therein when the division

box is in its top position, ejector ram means in said division box arranged to move outwardly as dough is forced into the division box by said compactor ram, a weight regulating bar located outside said division box and affective when contacted by said ejector ram means to terminate outward movement thereof, a cam operated discharge bar located below said weight regulating bar for moving said ejector ram means inwardly when the division box is in its bottom discharge position to discharge lumps of dough horizontally from the pockets in said division box in the direction reverse to the direction of entry of dough into the pockets, means for traversing baking pans in succession beneath said division box, and means for arresting said pans in succession in position to receive the pieces of dough discharged from the pockets of the division box and falling directly therefrom into said pans, said pans being of capacity to receive side by side said discharged pieces of dough.

3,142,269
CHRISTMAS TREE STAND
James W. Keck, Tachikawa, Tokyo, Japan (Southern Air Transport, Box 99, A.P.O. 323, % Postmaster, San Francisco, Calif.)
Filed Feb. 15, 1963, Ser. No. 258,703
6 Claims. (Cl. 108—20)



1. A stand for rotatably supporting a display article and for intermittently energizing the circuits of devices on the article comprising a base, a horizontal terminal plate secured on said base, an article supporting platform, means rotatably supporting said platform on said base over said terminal plate for rotation around a vertical axis, a ring gear mounted on the platform concentric with said axis, motor means on the base, a pinion gear on the shaft of the motor means meshing with said ring gear and drivingly coupling the motor means to said platform to rotate the platform, a plurality of spaced contact elements on said terminal plate, respective depending brush elements on the platform intermittently engageable with said contact elements responsive to rotation of the platform, a plurality of plug receptacles on the platform adapted to be connected to respective devices on an article supported on the platform, a line cord, and means connecting the line cord to the plug receptacles through the respective sets of interengageable contact elements and brush elements.

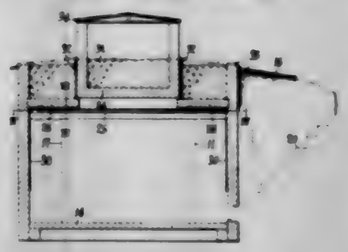
3,142,270
STOOL WITH A CONTROLLABLY UPWARDLY EXTENDABLE AND DOWNWARDLY RETRACTABLE LIFTING HANDLE MEANS
Cash G. Stall and Beth A. Stall, both of 2400 Manhattan Ave., Manhattan Beach, Calif., assignors of one-tenth to Gadget-of-the-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed May 14, 1962, Ser. No. 194,336
10 Claims. (Cl. 108—96)

1. A stool provided with means for facilitating the lifting thereof, comprising: a stool body structure means having a base portion, a top portion, and an interconnecting structural supporting portion; handle means carried by said stool body structure for movement between a lower retracted position relative to said stool body structure means and an extended position projecting upwardly from said stool body structure means into a conveniently manually graspable position to facilitate lifting and carrying said stool body structure means; and controllably engageable operating means positioned for effective coupling engagement with respect to said handle means for controllably extending said handle means into said extended position when said operating means is controllably



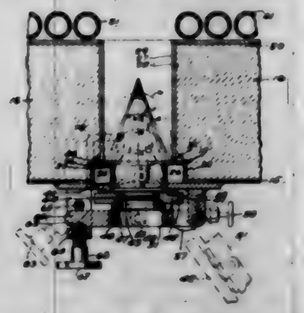
engaged and operated in one manner, and for effectively causing said handle means to return to said retracted position when allowed to operate in a different manner by release of said controllably engageable operating means; said handle means comprising a longitudinal shaft normally positioned vertically and centrally within the stool body structure means in said retracted position and provided with a manually graspable knob at the upper end thereof normally positioned, when in said retracted relationship, substantially at the center of the top portion of said stool body structure means and substantially flush therewith.

3,142,271
FALLOUT SHELTER
Per E. Aden, 252 Ontario St., Buffalo, N.Y.
Filed Feb. 27, 1961, Ser. No. 92,040
2 Claims. (Cl. 109—1)



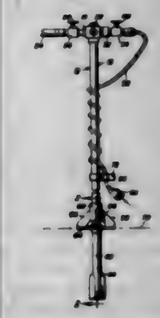
1. A building structure convertible for use as a defense shelter, said structure comprising a generally subterranean dwelling chamber having relatively shock-proof sidewalls, a box-like structure fixed to and supported at opposite ends by the upper portions of the walls of said subterranean chamber, said fixed box-like structure extending across the upper portion of said building structure in one direction but terminating substantially short thereof in the other direction to leave overhead openings along opposite sides of said box-like structure, said box-like structure having bottom and side walls comprising slabs of rigid material and said subterranean chamber side walls likewise comprising slabs of rigid material, track means extending across the upper portion of said subterranean chamber at right angles to said fixed box-like structure and beneath the same, and a pair of slabs of rigid material normally underlying said box-like structure but movable on said track means to close the aforesaid openings along opposite sides of said box-like structure.

3,142,272
SAFETY CLOSURE MEANS FOR PRESSURIZED FURNACES
Henry Phillips, Metuchen, and Bernard E. Paris, Brooklyn, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed July 20, 1960, Ser. No. 44,059
9 Claims. (Cl. 110—179)



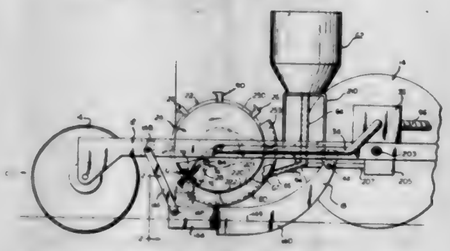
1. In a pressurized furnace having a furnace wall and an access passage in said wall, a safety arrangement including a cover for said passage and means for injecting fluid into said passage under a predetermined pressure and flow to prevent the flow of combustion gases through said passage to the outside of the furnace when said cover is opened, said fluid being injected so as to produce a pressure gradient in said passage from a negative pressure adjacent said cover to a positive pressure in said furnace, the combination with said cover of a safety device comprising a tubular member connected at one end to the access passage to expose said one end to a resultant pressure which is equal to or less than atmospheric pressure, said tubular member extending outside said furnace and having its other end exposed to atmospheric pressure, and means at said other end to show the relationship between said resultant pressure and atmospheric pressure, the showing of a pressure at said other end greater than atmospheric indicating an unsafe condition for opening said passage.

3,142,273
HYDRO-JET SUBSOIL AERATOR
Fred Dilts, 2929 Cascade, Pueblo, Colo.
Filed May 21, 1963, Ser. No. 281,982
8 Claims. (Cl. 111—7.1)



8. A subsoil aerator comprising a tubular standpipe including a water inlet at its upper end portion and a lower terminal end portion adapted to penetrate the ground, the inside cross-sectional area of said lower terminal end portion being appreciably less than the inside cross-sectional area of the standpipe disposed above said terminal end portion whereby a reduced pressure area will be formed in said terminal end portion, said upper end portion also having supplemental inlet means including a small diameter inlet line disposed in said standpipe and opening outwardly of said standpipe at its upper inlet end, said lower terminal end portion defining a widened central zone and a pair of reduced zones on opposite sides of said widened central zone communicating with the latter, the lower outlet end of said inlet line terminating in a portion of said reduced cross-sectional area terminal end portion and being axially aligned with said widened central zone thereby defining two separate areas of reduced pressure on opposite sides of said widened central zone with which the outlet end of said inlet line is axially aligned whereby a flow of water downwardly through said standpipe will effect a partial vacuum in said inlet line enabling the latter to be utilized to inject air or liquid chemicals into said flow of water.

3,142,274
DEVICE FOR HILL DROPPING CORN
Billy B. Winter, Towanda, Ill.
Filed Nov. 20, 1961, Ser. No. 153,564
11 Claims. (Cl. 111—34)

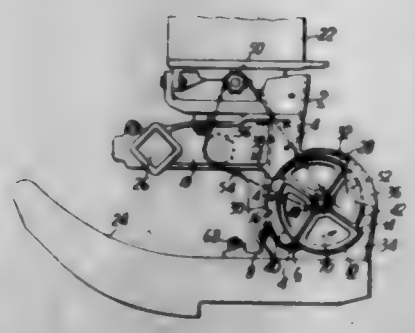


1. A corn seed planting device comprising:
a member mounted for rotation in a predetermined direction about a substantially horizontal axis,
and carrying a plurality of legs projecting outwardly of the axis of rotation thereof,
said legs each being formed with a tapered foot projecting therefrom in the direction of rotation of said member,
each of said legs being formed with a substantially planar surface of restricted size adjacent said foot thereof on their respective sides facing in the direction of movement, with said surfaces being disposed in planes that are at right angles to the plane and direction of rotation of said members,
an orifice formed in each of said surfaces of said legs adjacent to but spaced from said foot,
means for connecting said orifices to a source of vacuum,
and means for momentarily disconnecting said orifices from the source of vacuum when said orifices respectively reach a predetermined position with respect to said axis of rotation.

3,142,275
PLANTER MECHANISM
August G. Buhr, La Crosse, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 25, 1961, Ser. No. 147,563
2 Claims. (Cl. 111—51)

1. A hill-drop mechanism for planters comprising, a vertical ejector wheel; supporting means for said ejector wheel including a boot casing surrounding said wheel and presenting an upper seed inlet opening, a lower seed outlet opening, and an internal wall portion extending downwardly from said inlet opening in confronting relation to the periphery of said ejector wheel and terminating at its lower end on a level below the axis of said ejector wheel and above the peripheral bottom of the latter; said ejector

wheel being radially recessed to present at least one peripheral camlike seed cell surface tapering from a radially outermost point to an inner point defined by a radial abutment, and the maximum diameter of said ejector wheel being substantially equal to the radial spacing of its center from said internal wall portion of said boot casing; a generally J-shaped valve plate of a width substantially equal to the width of said seed cell surface pivoted at its straight end portion on a horizontal axis to said

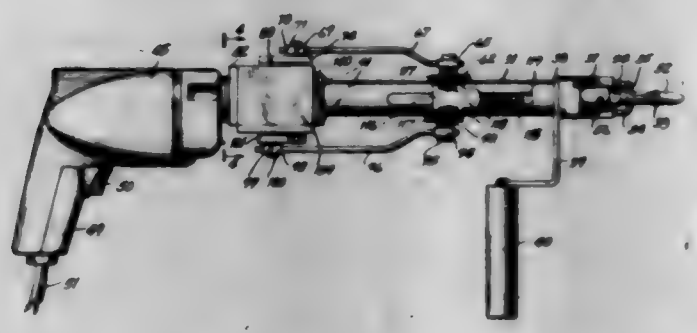


casing at said lower end of said wall portion and positioned so that its curved free end portion extends inwardly with respect to said casing and toward said peripheral bottom of said ejector wheel; and resilient means operative to urge said valve plate inwardly about said pivot axis, whereby rotation of said ejector wheel will cause back and forth rocking of said valve plate about said pivot axis as said free end portion of said valve plate rides on the periphery of said ejector wheel.

3,142,276
DEVICE FOR FORMING CUT PILE FABRICS AND THE LIKE

Alfred Schauer, Elmhurst, N.Y., assignor to Roger H. Mullen Inc., New York, N.Y., a corporation of New York

Filed June 25, 1962, Ser. No. 204,677
9 Claims. (Cl. 112—80)



1. A device for forming cut pile fabrics and the like by projecting a loop of pile yarn through a backing fabric and cutting the loop, comprising

an outer support forming a part of a frame for the device,

a needle carrying member carried by and mounted for reciprocatory movement with respect to said support and provided with a needle having a pointed forward end for piercing a backing fabric, and an eye in said needle rearwardly of said forward end,

an assembly also carried by and arranged for longitudinal sliding movement with respect to said support in a direction substantially parallel to the direction of reciprocatory movement of said needle and including a longitudinally extending member having a forward end portion disposed so as to be projectable through an aperture in the backing fabric formed by the needle once the needle is projected and extends therethrough, said longitudinally extending member having a substantially V-notch forward end and having longitudinally extending guide means, at least one edge portion of said V-notch adjacent to said guide means being sharpened to form a knife edge;

an inner hook member portion which forms a part of said assembly and extends through said guide means and is longitudinally movable with respect thereto, said hook member portion being mounted for solely longitudinal sliding movement with respect to the V-notch forward end of said longitudinally extending member,

said hook member portion having (*a*) a forward position in respect to said V-notch forward end, such that a bight of a pile yarn may be moved past said hook member portion to a position between it and the apex of the V of said V-notch forward end and (*b*) a rear position in which it has moved to the rear of said apex of the V,

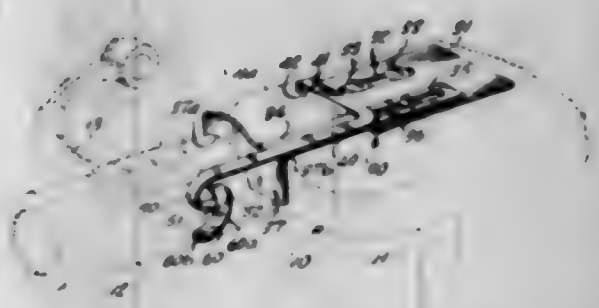
a common actuating means, means driven by said actuating means for reciprocating said needle carrying member with respect to said support and thereby for reciprocating said needle to cause it repeatedly to penetrate said backing fabric, means driven by said actuating means in timed relation with the reciprocation of said needle for reciprocating said assembly to cause said V-notch forward end thereof to move through an aperture in said backing fabric through which said needle extends to project through said backing fabric a bight of pile yarn passing across said V-notch and behind said hook member portion,

and means actuated in a predetermined timed relation to the reciprocations of said needle and said assembly to cause said hook member portion to move from its forward to its rear position, so as to shear said bight of pile yarn at said knife edge.

3,142,277
HEM FOLDER

Joseph A. Jordan, Tuscaloosa, Ala., assignor to U.S. Blind Stitch Machine Corporation, New York, N.Y., a corporation of New York

Filed May 11, 1962, Ser. No. 193,992
5 Claims. (Cl. 112—143)

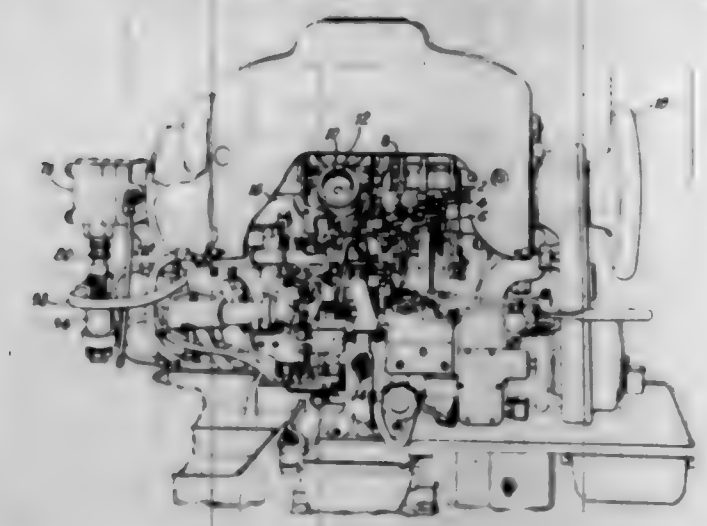


1. Attachment for the laterally extending cylindrical anvil of a blindstitch sewing machine for forming a fold in a tubular band of fabric as said fabric is turned over the anvil before being stitched, said attachment being made in one continuous piece comprising means positioned and operative upon the fabric as it is turned over the anvil to fold said fabric before it is stitched, said means opening on its side to permit lateral separation of said fabric from said means, and a kickout arm fixed in position and fixed to and extending forwardly and laterally outwardly ahead of said means and also away from its side opening and extending laterally across the stitch line of said fabric and terminating outwardly of said means, said arm having a leading edge shaped and inclined to be struck by the beginning of the stitch line and to force said fabric inwardly to separate said fabric from said means.

3,142,278
SEWING MACHINE DRIVING AND STOPPING MECHANISMS

Alton R. Copithorne, Rowley, Raymond A. De Vita, Winchester, Blandford W. Greene, Manchester, George J. Musial, Lynnfield, and Joseph R. Icenmiller and Robert G. Akerley, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed July 10, 1962, Ser. No. 208,847
17 Claims. (Cl. 112—219)

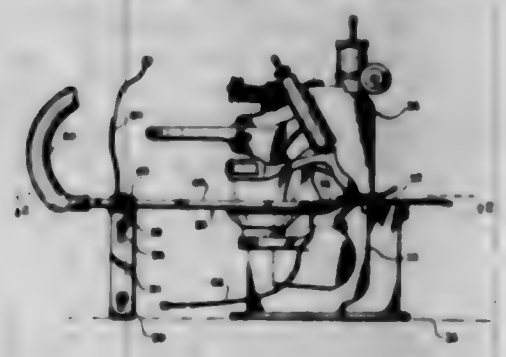


1. A sewing machine having stitch forming devices stopping means including, a main sewing shaft for actuating said devices, a positive mechanical stop to determine a stopping position for the main sewing shaft and a hydraulic displacement unit mechanically connected to the main sewing shaft and provided with inlet and outlet conduits, in which the stopping means also includes a flow restricting circuit connected for selective operation to the outlet conduit for bringing the sewing shaft to rest when rotating at its normal running speed at a position determined by the positive stop and within a single rotation of the sewing shaft.

3,142,279
ELECTRIC RESISTANT THREAD-TRIMMING DEVICE

Julius Rubin, Roslyn, N.Y. (% Tek-Matic Corp., 115 W. 30th St., New York 1, N.Y.)

Filed Oct. 5, 1962, Ser. No. 228,599
2 Claims. (Cl. 112—252)

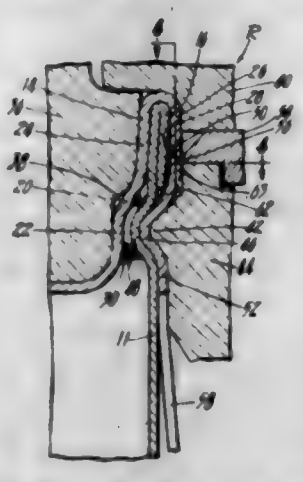


1. A thread-trimming device of the character described, comprising a suction tube having inlet and outlet ends, said outlet end adapted to be connected to suction means, said inlet end having a resistance wire disposed therein, and a low voltage power source connected across said resistance wire to heat it to thread-severing temperature, a notch being provided at said inlet end of the suction tube to channel loose threads into engagement with said resistance wire transversely thereof, said inlet end of the suction tube being beveled at an angle to enable an operator to hold said suction tube comfortably in the hand in order to guide it manually across a piece of fabric having loose thread ends, in order to trim said thread ends from said fabric, the resistance wire in said suction tube being disposed in parallel relation to said beveled end thereof in order to sever the thread as closely as possible to the fabric without damaging said fabric, said suction tube being rectangular in cross-section, the rectangle being relatively shallow in one transverse direction and relatively wide in the other, whereby said suction tube may be guided upon a sewing machine immediately adjacent the needle plate and feed dog in order to be in close contact with the fabric which is being sewn thereon without obstructing the movement of said fabric through the sewing machine.

3,142,280
CONTAINER AND METHOD OF FORMING THE SAME

Carl William Heinle, Short Hills, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 7, 1961, Ser. No. 129,775
3 Claims. (Cl. 113—121)

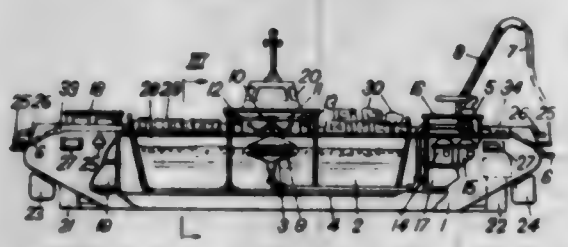


1. The method of forming an easy opening container, comprising the steps of positioning a cover in the open end of a container body, said cover having a peripheral skirt extending over the marginal portion of said body adjacent said container end, rolling interlocking grooves in said cover skirt and said marginal body portion in a seaming operation to secure said cover and said body together, and simultaneously with said seaming operation rolling a circumferential score line in the outer surface of said cover skirt between said interlocking grooves and said container end to create in said cover skirt a removable tearing strip containing the grooved portion of said skirt to facilitate opening of said container.

3,142,281
VESSEL FOR CLEARING FLOATING LIQUIDS AND GARBAGE FROM STRETCHES OF WATER OR SHIPS

Jacques Muller, La Garenne-Colombes, France, assignor to Reliamit Inter S.A.R.L., La Garenne-Colombes, France, a French corporation

Filed July 27, 1962, Ser. No. 212,866
Claims priority, application France Aug. 22, 1961
10 Claims. (Cl. 114—.5)



1. A vessel for collecting and recovering liquid and solid waste matter suspended in or floating upon the surfaces of expanses of water, in the form of a self-propelling barge containing a tank for receiving and decanting water

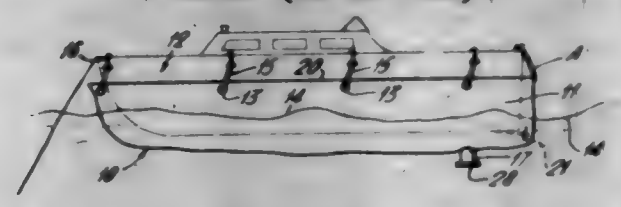
polluted by the waste matter, a pump for drawing in and delivering said polluted water into said tank, a diffuser through which said polluted water is passed from said pump into said tank, and a suction bell immediately above said diffuser through which waste matter floating on the water in said tank is drawn off for separation and recovery of said waste matter.

3,142,282
SAILING VESSEL
John B. Nichols, 97 Euclid Ave., Atherton, Calif.
Filed Aug. 9, 1962, Ser. No. 215,996
5 Claims. (Cl. 114—102)



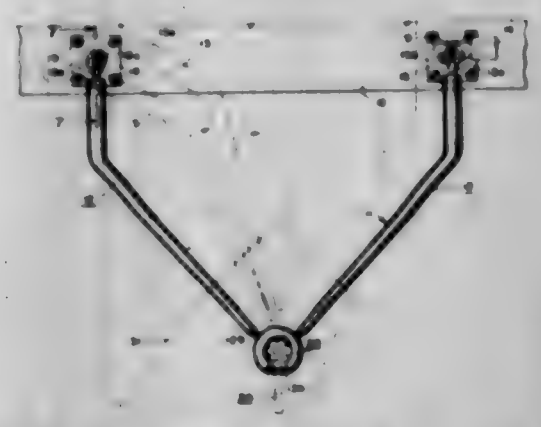
5. In combination with a sailing vessel, a pair of transversely spaced masts carried by said vessel intermediate the ends thereof and converging upwardly to define an inverted generally V-shaped configuration, a main sail carried by each mast and movable about the longitudinal axis of the mast to selected adjusted positions, rigging means for effecting adjustments of said main sails to a plurality of positions, an aerodynamically single triangularly shaped auxiliary jib sail forwardly of said masts having aerodynamically single trailing and leading edges, means anchoring the bottom leading corner of said jib sail to said vessel and the top corner of said jib sail to the masts adjacent the top of their inverted V, and rigging means secured to the bottom trailing corner of said jib sail; the bottom edge of said jib sail being otherwise unanchored to said vessel between the bottom corners thereof whereby the single trailing edge of said jib sail can be quickly orientated by mere flipping of said rear corner to a position adjacent either of said masts while said jib sail remains anchored at the top corner and front bottom corner thereof to enable said jib sail to provide substantially an aerodynamic continuation of a main sail associated with such mast upon adjustment of said rigging means.

3,142,283
UNDERWATER HULL PROTECTOR BAG
Theophil A. Fisher, 413 Davie St., Vancouver, British Columbia, Canada
Filed Feb. 18, 1963, Ser. No. 259,317
Claims priority, application Canada Nov. 21, 1962
1 Claim. (Cl. 114—222)



A flexible one-piece sheath of plastic film for covering the lower portion of a body partially submerged in water, to separate water trapped within said sheath from the surrounding body of water, said trapped water having been treated to protect said body from marine growths and electrolysis, said sheath consisting essentially of: a thin sheet of flexible waterproof plastic adapted to cover the entire submerged portion of said body and to extend above the water line; a plurality of hooks, each of said hooks being secured to said sheath by an elongated elastically extensible member, said hooks and said extensible members being adapted resiliently to secure said sheath to said body to prevent rupturing of said sheath due to turbulence of the surrounding body of water; and a conduit on a lower portion of said sheath provided with valve means adapted to prevent fluid from entering said sheath and to allow liquid to escape from said sheath when said sheath is drawn around said hull and when additional liquid is introduced into said sheath to thereby prevent rupturing of said sheath.

3,142,284
MOORING DEVICE
Andrew G. Kauffman, 212 Heather Road, Upper Darby, Pa.
Filed Dec. 14, 1962, Ser. No. 244,673
13 Claims. (Cl. 114—230)



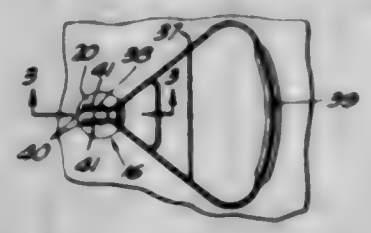
1. A device for securing a first body to a second body comprising:

(*a*) first means including a first rigid member having one end coupled to said second body,

(*b*) second means including a second rigid member which is movable and has one end which is free and may be moved into position for connection to said second body,

(*c*) means coupled to the other ends of said rigid members which is adapted to be securely connected to said first body substantially only when said free end of said second rigid member is moved a predetermined distance from said first rigid member.

3,142,285
WATER PROPELLED BOAT
William J. Sorrentino, North Hollywood, and Walter Moe, Burbank, Calif., assignors to Albin Enterprises Inc., Burbank, Calif., a corporation of California
Filed Sept. 10, 1962, Ser. No. 222,533
3 Claims. (Cl. 115—12)



1. In a boat adapted for occupancy and to be propelled by a supply of pressurized fluid, the combination of: a hull having a bottom surface, a fluid-flow control means including a flanged collar mounted on said bottom surface of the hull, said collar having a frustoconical inner surface with the smaller diameter above the larger diameter and said inner surface being open at the bottom, said control means including a nozzle portion having an internal chamber and means for operatively connecting the supply of pressurized fluid to said internal chamber, said nozzle portion having an external frustoconical sur-

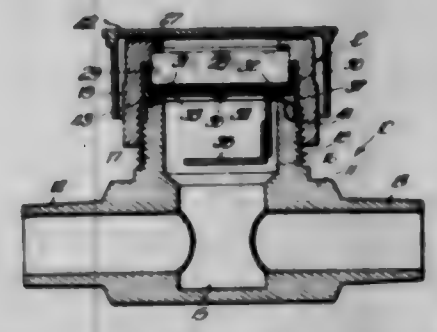
face for mating with said inner surface of the collar in sealing relation, said nozzle portion having a jet opening extending generally horizontally in one direction from said internal chamber through said external frustoconical surface, and means for progressively moving said nozzle portion in and out of said collar and positioning said jet opening above or below, respectively, the lowermost portion of said frustoconical inner surface, the pressurized fluid being discharged from said internal chamber through that portion of said jet opening positioned below the lowermost portion of said frustoconical inner surface for propelling the boat with a corresponding magnitude of force.

3,142,286
REVERSIBLE ROWBOAT SWEEP
Fred A. Ritter, 9117 Meadowbrook, Overland 14, Mo.
Filed Aug. 9, 1962, Ser. No. 215,912
8 Claims. (Cl. 115—30)



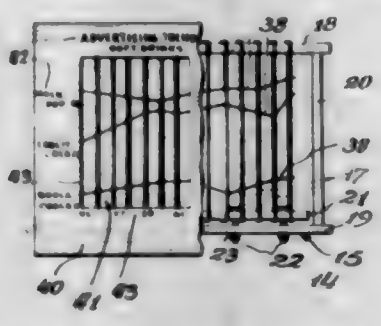
1. A reversible boat sweep comprising a sweep shaft having a handle at one end and a pair of collapsible paddles hingedly mounted about a vertical axis of the shaft at the other end, said paddles being movable through their hinged mounting about the vertical axis of said shaft, said sweep having means for mounting it upon the end of a boat and means for reversing the sweep propulsion comprising front and rear elongated stop members rigidly connected to one another and alternately engageable with the paddle members to determine the direction in which force will be applied to the boat and means for engaging alternately the front and rear stop members in blocking relation with said paddles to limit their movement about said shaft, said means comprising a semi-rigid control wire connected to the stop members at one end and a manually engageable control button at the other end operable by a pushing and pulling action to control the movement of said stop members.

3,142,287
REFRIGERANT MOISTURE-LIQUID INDICATOR ASSEMBLY AND CAP UNIT THEREFOR
Evan Jones, Evanston, Ill., assignor to Henry Valve Company, Melrose Park, Ill., a corporation of Illinois
Filed Dec. 22, 1961, Ser. No. 161,570
9 Claims. (Cl. 116—117)



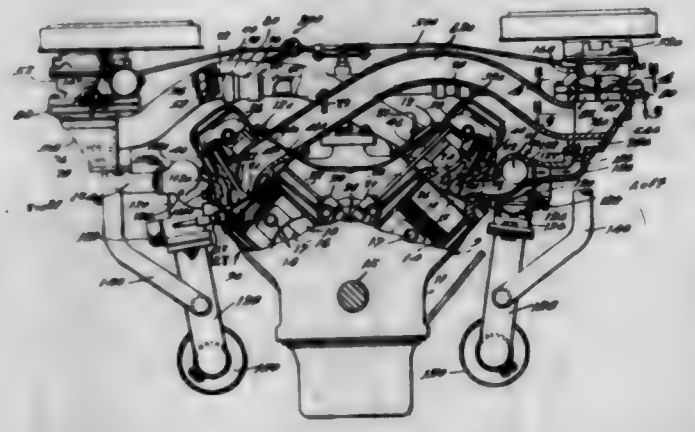
1. A moisture indicator cap unit for removable application to a T section of a refrigerant flow line, said cap unit comprising a tubular shell having received therein a window member of a diameter less than the inner diameter of said shell, an annular packing of generally L-shaped cross section in said shell and including an axially directed portion compressibly fixed between the periphery of said window member and said shell and retaining said window member in said shell, said packing further including a radially inwardly directed portion overlying the marginal area of the inner face of said window member and arranged for outer radial surface sealing engagement with a T section surface upon application of said cap unit, and moisture sensitive means resiliently held between the radially directed portion of said packing and the marginal area of said inner face of said window member for observance through said window member.

3,142,288
GRAPH PREPARATION DEVICE
Paul S. Hirt, Jr., 1104 Butternut Lane, Northbrook, Ill.
Filed July 10, 1961, Ser. No. 122,857
3 Claims. (Cl. 116—130)



1. A graph preparation device comprising: a generally rectangular frame; a stretcher member inside the frame spaced from and generally parallel with a side member of said frame, said members each having a front face and a row of slots, each slot in one member being generally aligned with a slot in the other member, forming a plurality of pairs of slots, each pair of slots defining a plane, said planes passing generally through a common line forwardly of said front faces; a plurality of strips of woven wire cloth received in said slots, said strips having relatively thin front edges defined by the ends of cross wires extending forwardly from a longitudinal wire, for receiving a flexible strand between adjacent cross wire ends; and means attached to said stretcher member and to the adjacent side of said frame for tensioning said strips.

3,142,289
HIGH OUTPUT ENGINES
John B. Platner, Detroit, and Charles D. Moore, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 26, 1960, Ser. No. 31,930
16 Claims. (Cl. 123—55)



1. In an engine having two banks of cylinders arranged angularly about the crankshaft, cylinder head means on each bank providing a combustion chamber and an inlet

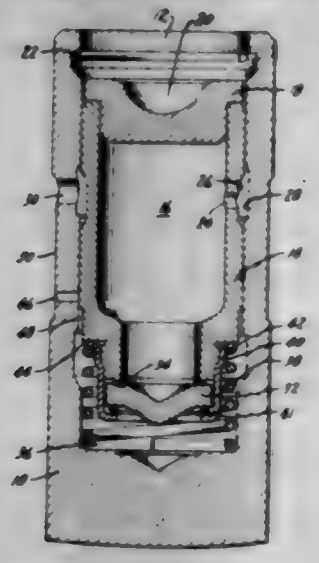
opening and passage for each cylinder; intake manifolding for feeding said cylinders with a combustible charge comprising a pair of distribution chamber means one positioned laterally outwardly beyond each bank and in adjacency thereto and a plurality of elongated transversely extending passage means, one per cylinder, interconnecting the inlet passage of the cylinder which it is to feed and the distribution chamber means of said pair thereof which is in adjacency to the cylinder bank not containing this cylinder.

3,142,290

HYDRAULIC LASH ADJUSTER

Kenneth W. Lesher, Wheaton, Ill., assignor to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey

Filed July 13, 1962, Ser. No. 209,542
9 Claims. (Cl. 123—90)



1. A hydraulic tappet including a hollow cylinder closed at one end, a plunger mounted for reciprocation within said cylinder, an oil chamber in said plunger, an oil passage through said cylinder and plunger opening into said chamber, an oil chamber in said cylinder and yielding means in said cylinder oil chamber biasing said plunger and cylinder in opposite directions, the end of said plunger adjacent said cylinder oil chamber being open and a valve in said opening controlling the flow of oil to said cylinder oil chamber, and passage means, closed by said plunger during a normal range of relative axial displacement between the cylinder and plunger, connecting the cylinder oil chamber with the exterior of said cylinder, movement of said plunger in a direction outwardly of said cylinder, at an excessive range of relative axial displacement between the cylinder and plunger, opening said passage means.

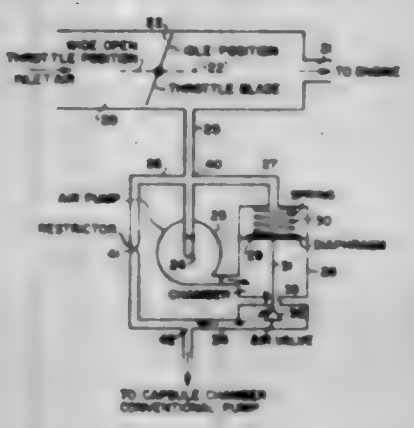
3,142,291

FUEL INJECTION CONTROL APPARATUS

Norvan W. Bostwick, Montrose, N.Y., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York

Filed Nov. 19, 1962, Ser. No. 238,517
6 Claims. (Cl. 123—140)

1. In an apparatus for supplying fuel to an internal combustion engine having an air intake system, a throttle valve in said system and adjustable to regulate air flow through said system, and a variable delivery engine-driven fuel injection pump, provided with a pressure compartment and with a pressure-responsive control device in said compartment and operable to vary the fuel output of said injection pump, a control means for controlling the pressure in the pressure compartment of said pump during engine idling operation, having a first conduit connected with said air intake slightly downstream of the closure point of said throttle valve, said conduit terminating at the inlet of an air pump, second and third conduits branching from said first conduit, said second conduit terminating in a connection with said fuel injection pump, said third conduit terminating in a pressure-responsive device having a chamber, air outlet means extending from said air pump into said chamber, fourth conduit means extending from said chamber to said second conduit and pressure-responsive valving means in said chamber for controlling the pressure of said second conduit and said fuel injection pump.

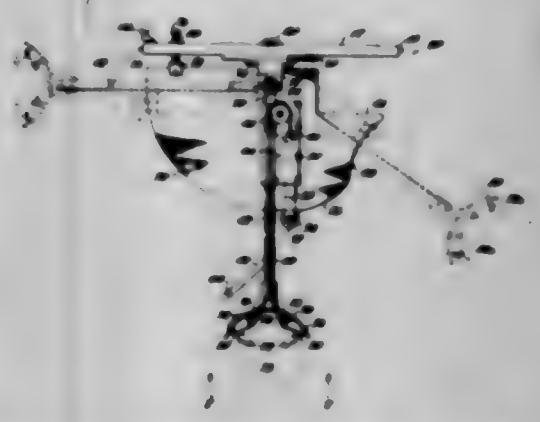


3,142,292

SPRING POWERED BOWLING BALL PROJECTOR WITH ADJUSTABLE CAM CONTROLLED RELEASE

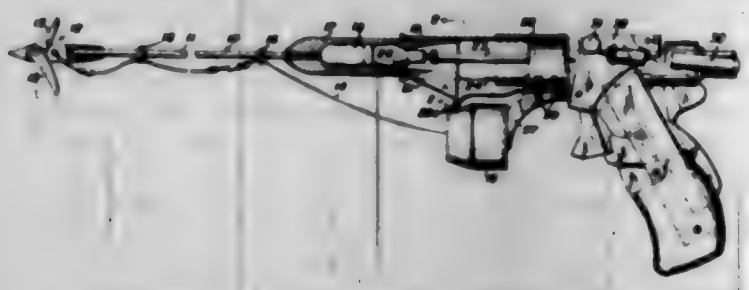
Fred G. Suchland, 3401 SE. Risley, Portland 22, Oreg.

Filed Jan. 11, 1963, Ser. No. 250,869
5 Claims. (Cl. 124—7)



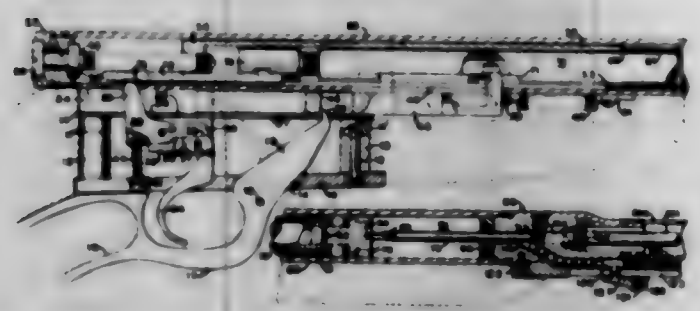
1. Apparatus for mechanically hurling a bowling ball comprising, in combination, a support for straddling a bowling lane in alignment with the foul line thereof, a main plate horizontally slidably supported upon said support for adjustment laterally of the bowling lane, a bearing plate rotatably supported upon said main plate for rotational adjustment about a vertical axis, a horizontal shaft rotatably carried by said bearing plate, an arm pivotally mounted at one end upon said shaft, a set of bowling ball engaging fingers pivotally carried by the opposite end of said arm for pivotal movement relative to each other between a retracted ball engaged position and a spread ball released position, a cam plate with a cam surface carried by said shaft, a follower carried by said arm engaged with said cam surface, mechanical motion transmitting means connected between said fingers and said follower, and said cam surface having a main segment retaining said fingers in said retracted position throughout the initial stage of arcuate movement of said arm from an elevated position, and a terminal segment permitting movement of said follower to effect movement of said fingers to said spread position during the final stage of arcuate movement of said arm.

3,142,293
METHOD OF LAUNCHING A PROJECTILE USING COMPRESSED GAS
James R. R. Harter, 4953 Brandywine St. NW., Washington, D.C.
Filed May 22, 1958, Ser. No. 737,174
2 Claims. (Cl. 124—11)



2. A method for launching a projectile, which is propelled forwards under the jet action of compressed gas expanding rearwardly from a container mounted therein, the container having a pierceable seal in an outlet orifice, which method comprises thrusting a piercing member towards the outlet orifice, piercing the seal therein, continuing thrusting the piercing member along a path sufficiently long to thereby impart a substantial speed to the projectile under the thrusting action, simultaneously maintaining the pierced seal in the outlet orifice substantially plugged by the piercing member and stopping the movement of the piercing member at the end of the path to unplug the outlet orifice.

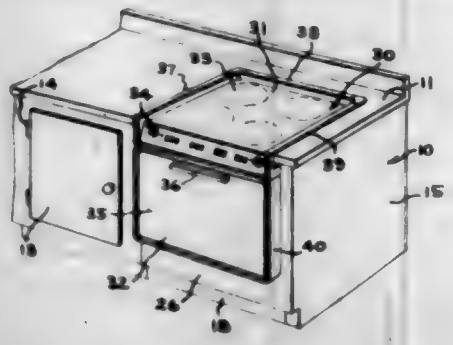
3,142,294
MECHANICAL GUN
Ross O. Baldwin, Jr., 3618 18th Ave., Columbus, Ga.
Filed June 10, 1958, Ser. No. 741,082
6 Claims. (Cl. 124—15)



1. In a mechanical gun, a cylindrical casing, an elongate spring coaxially positioned within said casing, a tube adjustably disposed within said casing in coaxial abutting relation with one end of said spring, means externally of said casing for variably fixing the position of said tube with respect to said casing, a reciprocative plunger coaxially positioned within said spring and said tube for compressing said spring, a sear plate slidably supported within said casing, a sear carried by said casing for engaging and releasably holding said sear plate in a cocked position, and means adjustably securing said sear plate to said plunger, said last mentioned means including a plug connected to said sear plate and having a threaded shaft threadedly engaging the end of said plunger.

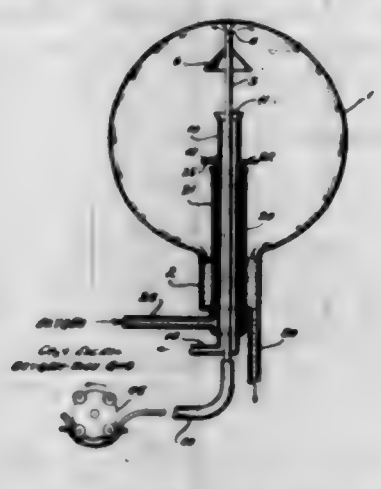
3,142,295
INSTALLATION MEANS FOR BUILT-IN RANGE
Robert W. Bice, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 12, 1963, Ser. No. 272,730
3 Claims. (Cl. 126—37)

1. A one-piece built-in range comprising a combined cooktop and oven wherein the cooktop is provided with a plurality of surface heating units mounted therewith and the oven is disposed directly beneath the cooktop, supporting flanges extending outwardly from the side and rear edges of the range adjacent the top surface of the cooktop, said flanges being adapted to form a supporting means with relation to a kitchen counter in which the range is to be mounted, each frontmost vertical side of the side walls of the range being provided with a wide trim strip to attain a degree of adjustment between the range and counter-front when inserted therein, each of



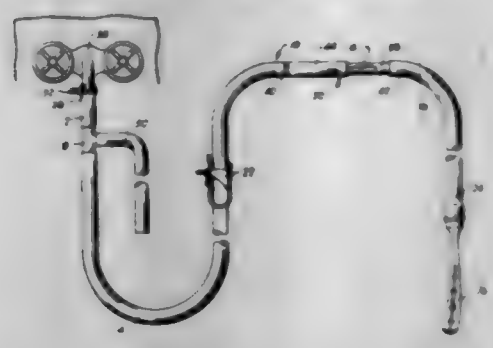
said wide trim strips being generally parallel to the side walls and having a topmost portion that stops short of the related supporting side flanges to present a cut-out to accommodate different sizes and shapes of countertop front edges, there being means including a vertically adjustable closing member assembled within the trim strip, said closing member being capable of being raised and fastened to the underside of the countertop so as to close the cut-out in the trim strip.

3,142,296
BLOOD OXYGENATOR
Jack W. Love, 38 Faculty Lane, University City, Mo.
Filed May 31, 1962, Ser. No. 198,815
6 Claims. (Cl. 128—214)



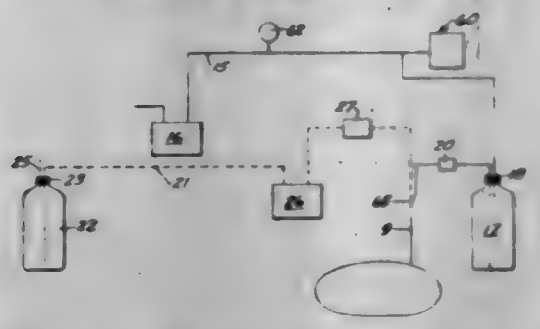
1. Apparatus for oxygenation of blood, comprising a stationary, light permeable container having a dome; venous blood conduit means extending within, and directed upwardly toward the upper inner surface of the dome of said container, and outlet for said conduit opening upwardly at the upper inner surface of the dome of said container and spaced therefrom an amount whereby a flowing stream containing blood at discharge velocity from said outlet can produce a gentle filming on the inner surface of said dome from a central point of the stream substantially circularly over the inner dome surface; an arterialized blood conduit means communicating with a part of said container lower than said dome, in which blood accumulates; an oxygen admitting tube above said part of the container and below the venous blood conduit outlet; a gas outlet, and pump means for forcing blood through said venous blood conduit means and for removing an equal volume of arterialized blood from said container through said arterialized blood conduit means.

3,142,297
SYRINGE DEVICE
Oliver R. Attebery, Community Blvd., Ponca City, Okla.
Filed Nov. 21, 1960, Ser. No. 70,785
5 Claims. (Cl. 128—229)



1. A syringe for dispensing medicated water from a faucet, comprising a first flexible tubular conduit having first and second ends; means secured to said first conduit adjacent its first end for adjustably constricting the bore through said first flexible tubular conduit when said first end is pressed over a faucet; a bypass tube in communication with and branching off said first conduit from a medial portion thereof; pressure responsive control means in said bypass tube adapted to permit the flow of a quantity of water therethrough when the pressure exceeds a predetermined value; a second flexible tubular conduit having first and second ends; a tubular chamber telescoped into said second end of said first tubular conduit and said first end of said second tubular conduit to splice said conduits together, said chamber having a slot in one wall thereof to facilitate the insertion of a medicament in said chamber; a generally cylindrical sleeve around said chamber and axially slidable on said chamber to cover and uncover said slot; a pair of spaced sealing rings around said chamber between said sleeve and said chamber; said sealing rings being adapted to prevent the medicated water from flowing through said slot when said cylindrical sleeve is covering said slot; and a nozzle on said second end of said second tubular conduit.

3,142,298
STOMACH PUMP APPARATUS
William L. Koski, 3905 Halifax Ave. N., Minneapolis, Minn., and Emil S. Swenson, 247 106th Ave. NW., Coon Rapids, Minn.
Filed Jan. 29, 1962, Ser. No. 169,435
1 Claim. (Cl. 128—276)

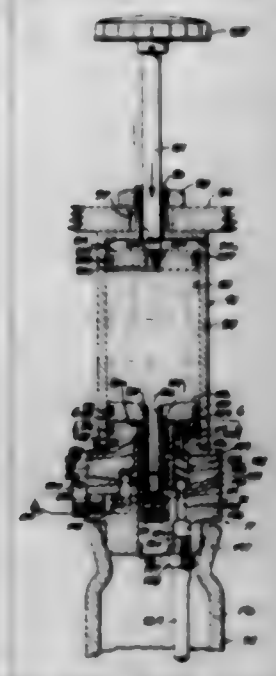


Apparatus for evacuating liquid from and supplying liquid into the stomach of a patient automatically and continuously in alternating cycle of operation, said apparatus comprising an evacuation conduit and an injection conduit, each of said conduits having one end thereof connected in fluid communication to a common flexible conduit which is insertible into the stomach of a patient and defining an unobstructed passage during all cycles of operation of the apparatus, an evacuation pump mechanism connected to the other end of said evacuation conduit, said evacuation pump mechanism being continuously operable to provide a continuous suction when the evacuation pump is energized, a collection receptacle connected to said evacuation conduit and being interposed between said evacuation pump mechanism and said one end of the evacuation conduit, said collection receptacle receiving therein liquid evacuated from the stomach of a patient, a liquid reservoir structure containing a volume of liquid to be injected into the stomach of the patient, said liquid reservoir being connected in fluid communicating relation to the other end of said injection conduit, an injection pump mechanism connected to said injection conduit and being interposed in fluid communication between said reservoir structure and said one end of said injection conduit, said injection pump being continuously operable to provide continuous pressure when energized, said injection pump mechanism being operable to force fluid through said injection conduit into said common conduit and into the stomach of a patient, a first valve unit connected in flow controlling relationship to said evacuation conduit and being interposed between said collection receptacle and said one end of the evacuation conduit, said first valve unit including a shiftable valve element shiftable to a conduit open position from a normally closed conduit closed position, a second valve unit connected in flow controlling relationship to said injection conduit and being interposed between said injection pump mechanism and said one end of the injection conduit, said valve unit including a shiftable valve element shiftable to a conduit open position from a normally closed conduit closed position, a first electrical circuit means connected to a source of electrical energy and being connected to said evacuation pump and said first valve means, a second electrical circuit means connected to a source of electrical energy and being connected to said injection pump mechanism and said second valve means, a control mechanism for automatically energizing each of said circuits and the pump mechanisms associated therewith in interrupted alternating cycles of operation of predetermined duration, said control mechanism including a first timer motor operatively connected with said first circuit means and being operable to control the period of energization thereof, a second timer motor operatively connected with said second circuit means and being operable to control the period of energization thereof, and an adjustable indexing means for controlling operation of said first and second timer motors, said indexing means including a pair of index members which are selectively shiftable to independently preset the periods of duration of operation of the timer motors, said indexing means including a member mounted for pivotal movement for engaging said index members such that said first circuit means is energized while said second circuit means is de-energized so as to cause continuous operation of said evacuation pump mechanism and at the same time causing said first valve means to open while said second valve is closed, and said second circuit means being subsequently energized while said first circuit means is de-energized so as to cause continuous energization and operation of said injection pump mechanism while said second valve means is open and said first valve means is closed, whereby said pump mechanisms are alternatively operated and continuously operated while energized for a selected period of time.

3,142,299
VALVE AND PUMP ASSEMBLY FOR CLOSING AND IRRIGATING FLUID DRAINAGE TUBE
Stanford A. Henderson, Snyder, N.Y., assignor to Gomco Surgical Manufacturing Corp., Buffalo, N.Y., a corporation of New York
Filed July 16, 1962, Ser. No. 210,068
20 Claims. (Cl. 128—276)

1. In suction apparatus including a fluid drainage tube and a suction pump connected with said tube, the combination therewith of a valve and pump assembly for closing

a portion of said tube and irrigating said tube upstream of said tube portion, said assembly comprising hollow pump body means containing irrigating fluid, valve body means associated with said pump body means and receiving said tube portion, hollow valve closure means connecting the interior of said pump body means with the interior of said tube upstream of said tube portion and being mov-



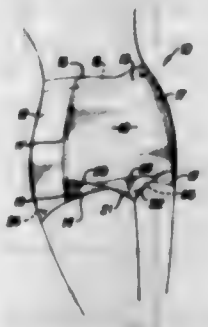
able relative to said valve body means for closing and opening said tube portion, and pump actuating means movable in said pump body means for moving said hollow valve closure means to close said tube portion and for forcing irrigating fluid from said pump body means through said hollow valve closure means into said tube upstream of said tube portion.

3,142,300
ELASTICIZED PANTY GIRDLE
Olga Erteszek, Van Nuys, Calif., assignor to Olga Company, Van Nuys, Calif., a California corporation
Filed Apr. 29, 1963, Ser. No. 276,394
5 Claims. (Cl. 128—524)



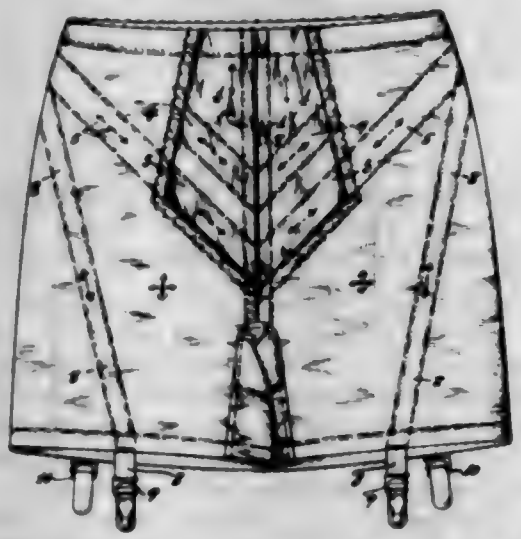
1. An elasticized "brief" undergarment comprising a torso encircling body made of elastic fabric, a wide upper panel of elastic material overlying a substantial portion of the front of said body and having side edges sewn to said body along extents running from the body waist downwardly to locations spaced above the front bottom edge of the body, said panel having lower side edge continuations of said upper edges which extend freely of attachment to the body below said locations, and a crotch portion connected at one end to the bottom of said panel and at the other end to the bottom part of the rear of said body, the panel being progressively narrowed downwardly between said lower edges to meet said crotch portion of the garment, the lower free edges of the panel and the crotch portion together with a bottom edge of the body defining leg openings the edges of which are adapted to elastically fit the wearer, said panel in the worn condition of the garment elastically imposing abdominal flattening force upon the underlying body of the garment, and a flexible crotch piece attached to a front central bottom edge portion of the elastic fabric body extending across and beneath said downwardly narrowed portion of the panel, said crotch piece also being attached to the inside of the narrowed portion of the panel below the crotch piece attachment to the body.

3,142,301
ELASTICIZED PANTY GARMENT
Olga Erteszek, 7915 Haskell Ave., Van Nuys, Calif.
Filed Nov. 20, 1962, Ser. No. 238,854
6 Claims. (Cl. 128—528)



1. An elasticized "brief" undergarment comprising a torso encircling body made of elastic fabric, a wide upper panel of elastic material overlying a substantial portion of the front of said body and having side edges sewn to said body along extents running from the body waist downwardly to locations spaced above the front bottom edge of the body, said panel having lower side edge continuations of said upper edges which extend freely of attachment to the body below said locations, and a crotch portion connected at one end to the bottom of said panel and at the other end to the bottom part of the rear of said body, the panel being progressively narrowed downwardly between said lower edges to meet said crotch portion of the garment, the lower free edges of the panel and the crotch portion together with a bottom edge of the body defining leg openings the edges of which are adapted to elastically fit the wearer, said panel in the worn condition of the garment elastically imposing abdominal flattening force upon the underlying body of the garment.

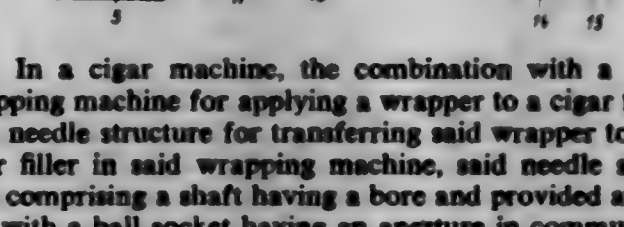
3,142,302
GIRDLE FRONT CONSTRUCTIONS
Bette K. Schoenberg, Scotch Plains, N.J., assignor to Maidenform, Inc., New York, N.Y., a corporation of New York
Filed Mar. 1, 1962, Ser. No. 176,718
1 Claim. (Cl. 128—542)



A girdle having in combination a main body fabric of two way stretch material and having a waist band, a front area and a back area, a central front panel formed

of two sections joined at the longitudinal center of the girdle front area and seamed at its margins to said main body fabric, said central front panel having longitudinal stretch only, a first set of two bands of longitudinal stretch material, each band being seamed to one section of said central front panel and the bands extending diagonally and forming a V-shaped band assembly extending upwardly from their lower ends, which lower ends lie substantially above the lower margin of said central front panel, the upper ends of said bands terminating at the side margins of said central front panel, a second set of two bands of longitudinal stretch material, each seamed to said central front panel along the lower margin of said front panel, said front panel margin having a V-shaped lower line, said second set of bands extending beyond said front panel and extending to the outer side of the girdle front area, and a longitudinally stretchable band seamed to said girdle front area at each outer side thereof and extending diagonally thereof, and inwardly, from approximately the upper end of an appropriate band of said second set of bands to the lower margin of the girdle.

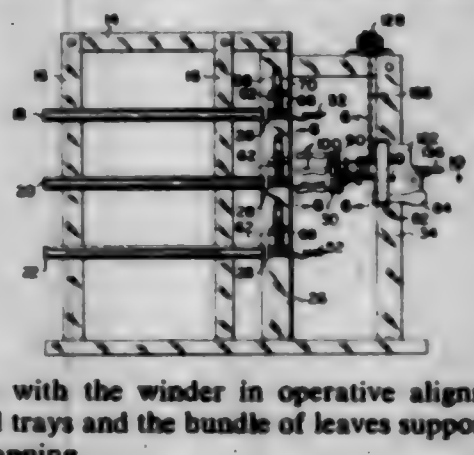
3,142,383
NEEDLE FOR TRANSFERRING A WRAPPER TO A CIGAR FILLER
Willi Thiele, Geesthacht-Tesperhude, Germany, assignor to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Filed Feb. 21, 1961, Ser. No. 90,773
Claims priority, application Germany Mar. 2, 1960
7 Claims. (Cl. 131—36)



3. In a cigar machine, the combination with a cigar wrapping machine for applying a wrapper to a cigar filter, of a needle structure for transferring said wrapper to said cigar filler in said wrapping machine, said needle structure comprising a shaft having a bore and provided at one end with a ball socket having an aperture in communication with said bore, a needle having a pointed end portion and a second end portion with the latter extending through said aperture and into said bore and including a ball-shaped enlargement, said aperture being dimensioned in such a way that said enlargement is prevented from passing therethrough and that said pointed end portion is free to swivel about the axis of said bore, and holding means provided in said bore and yieldably engaging said second end portion to bias said enlargement against said ball socket, said holding means and said enlargement having cooperating portions which tend to urge the needle into axial alignment with said bore from all positions of the needle.

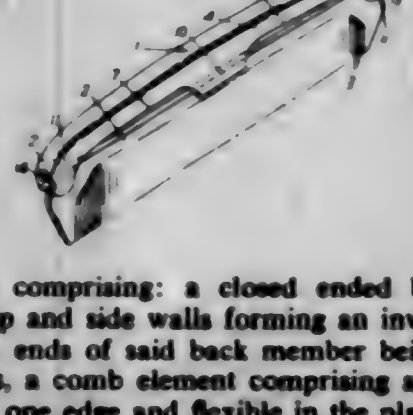
3,142,384
TOBACCO STRIPPER AND BUNDLER
Edward George Hoernemann, 340 Tower Hill Road, Fort Thomas, Ky., assignor of fifty percent to Raymond M. Brown, Fort Thomas, Ky.
Filed Dec. 19, 1962, Ser. No. 245,766
16 Claims. (Cl. 131—149)

1. In a tobacco hand bundler for operating upon leaves detached from tobacco plants, the combination of an upright rigid frame and an upright carriage support post, a plurality of elongate trays arranged in spaced parallelism one above another upon the frame and in which may be deposited tobacco leaves to form a hand, a carriage including a wrapper winder for winding a wrapper about an end of a hand, means for slidably mounting the carriage for movement along the suupport post to selected elevations corresponding to the elevations of the several trays, and means for selectively fixing the carriage at said



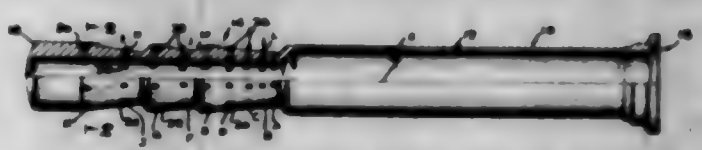
elevations, with the winder in operative alignment with one of said trays and the bundle of leaves supported thereon for wrapping.

3,142,385
FLEXIBLE COMB
Eric Leopold Hugo Cosby, 24 Old Bond St., London W.C. 2, England
Filed Oct. 3, 1961, Ser. No. 142,689
1 Claim. (Cl. 132—155)



A comb comprising: a closed ended back member having a top and side walls forming an inverted channel section, the ends of said back member being formed to define holes, a comb element comprising a strip bearing teeth along one edge and flexible in the plane containing the strip and the teeth, an upwardly and outwardly directed prong at each end of said element engaging with play in the holes of the back member, said strip being provided with a recess adjacent each prong to enhance the resiliency thereof, and a pair of centrally positioned guides extending from the side walls of said back member and embracing the strip to constrain the latter to flex only in said plane, the strip being uncovered and visible throughout the greater part of its length, each prong extending in an upwardly and outwardly curved direction and of circular cross section and the holes in the back member also being circular, and each prong being of concavo-convex configuration as viewed in side elevation.

3,142,386
SPRAY NOZZLE
Victor P. Bohn, Jr., Allen Park, Mich., assignor to Parez Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Jan. 7, 1963, Ser. No. 249,845
6 Claims. (Cl. 134—166)



1. A spray nozzle comprising a tube section, a hollow spray section integrally connected to and in communication with one end of said tube section, and a fitting connected to the other end of said tube section and adapted for connection to a conduit for conveying liquid to said nozzle, said spray section comprising an end cap and a

plurality of successive integral hollow spray members positioned between said end cap and said one end of said tube section, each of said spray members having a plurality of sets of peripherally spaced spray holes therein communicating with the interior of said spray members, each of said sets of holes being spaced along the longitudinal axis of said nozzle from the adjacent set of holes, the holes in each set of peripherally spaced holes of each spray member being inclined at about the same substantial acute angle of less than 90° from said longitudinal axis, the holes in each successive spray member proceeding from the spray member adjacent said tube section to the spray member adjacent said end cap being inclined at a slightly smaller acute angle to said longitudinal axis than the holes in the preceding spray member.

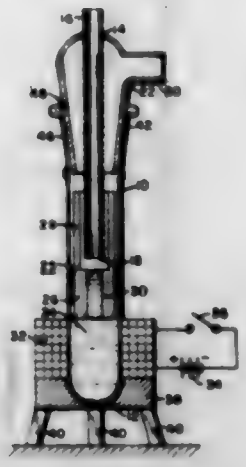
3,142,307
TILTING UMBRELLA ASSEMBLY
Ted T. Danciart, Arcadia, and David Dunder, Glendora, Calif., assignors to Calpatio Co., Monrovia, Calif., a corporation of California
Filed Aug. 9, 1960, Ser. No. 48,478
17 Claims. (Cl. 135—20)



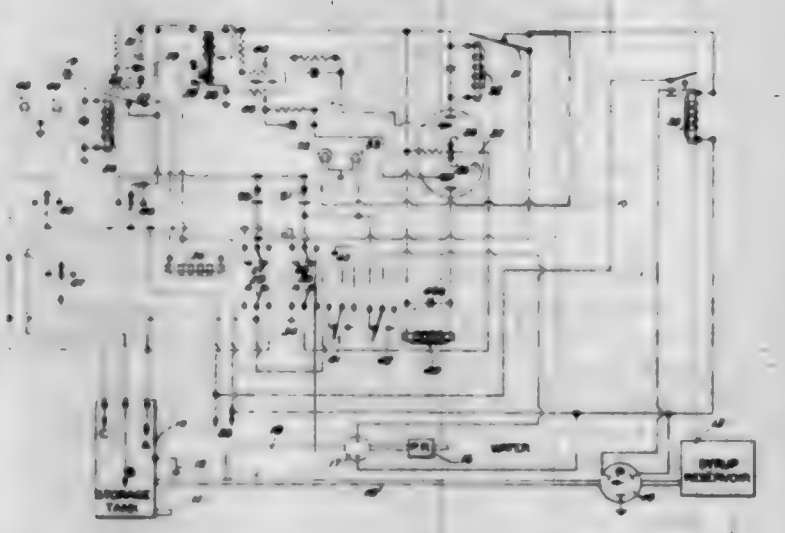
1. A non-hand held type umbrella assembly having a staff formed in upper and lower tubular sections arranged end-to-end and hingedly connected near their adjacent ends, the lower end of the upper staff section having elongated camming means concealed interiorly thereof and extending at an angle to the axis of said upper staff section, elongated rigid means slidably supported within the upper end of the lower staff section with its upper end movable along said camming means and cooperating therewith to control the tilt angle of said upper staff section relative to the lower staff section and manually operable means carried by said lower staff section for controlling movement of said rigid means in either direction axially thereof to control the angle of tilt of said upper section relative to said lower section.

3,142,308
LIQUID SEAL VACUUM VALVE
Loren C. Covington, Henderson, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1960, Ser. No. 75,202
1 Claim. (Cl. 137—253)

A valve comprising; a vertical, hollow glass housing having a permanently closed bottom, said housing comprising a bulbous upper section and a lower section jointed by a tapered ground glass joint, a base supporting the bottom of said housing, an open-bottom connector tube transfixing the top of said housing and intruding downwardly into said housing to a location intermediate the top and bottom thereof, a second connector tube communicating with and projecting outwardly from said housing near the top thereof, a body of mercury contained in the bottom portion of said housing, a float aligned with said open-bottom connector tube at least in part of magnetic metal floating and partially submerged in said body of mercury, and magnetic means external of said housing operable to intermittently further submerge said float, the volume of said body of said mercury and the displacement of said float and the location of the open bottom of said downwardly intruding connector tube being arranged so that when the float is floating in the body of mercury the said connector tube bottom is open to the interior of said housing, and when the said float is further submerged in said body of mercury in response to operation of said external magnetic means the said mercury will rise in said housing and seal the bottom of said connector tube.

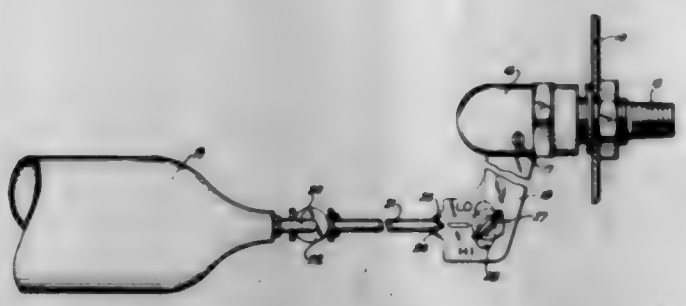


3,142,309
APPARATUS FOR MIXING LIQUIDS
Lee D. Minkler, 5309 Agnes St., Apt. 9, North Hollywood, Calif.
Filed Feb. 3, 1961, Ser. No. 86,967
11 Claims. (Cl. 137—392)



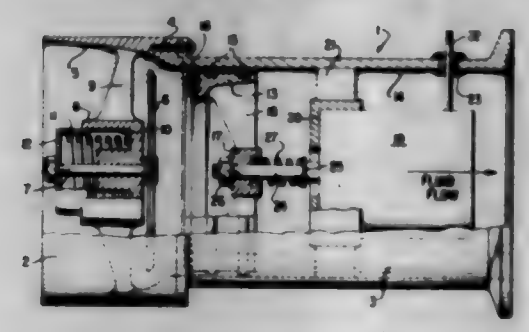
1. An apparatus of the class described comprising a receptacle, means for withdrawing liquid from the receptacle, means for supplying a plurality of liquids to the receptacle, control means for opening and closing the supply of each liquid to the receptacle, timing means for each control means causing each control means to operate for a predetermined length of time only, and means responsive to the descent of liquid level in the receptacle for energizing the timing means to cause their respective control means to cause their respective liquids to be supplied to the receptacle in predetermined quantities.

3,142,310
COUPLING STRUCTURE FOR A FLOAT-VALVE ASSEMBLY
John B. Feldermann, Livingston, N.J., assignor to Walton Laboratories, Inc., Irvington, N.J., a corporation of New Jersey
Filed Aug. 31, 1962, Ser. No. 220,705
3 Claims. (Cl. 137—434)



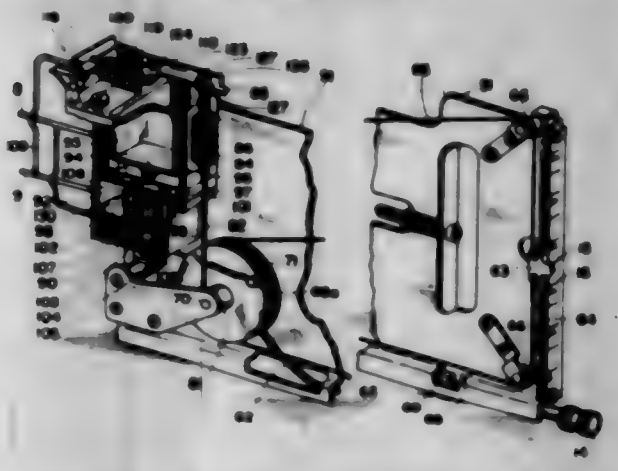
1. In an assembly including a valve, a valve actuator and a float member the provision of a connection between said valve actuator and said float member comprising a flat surface of said valve actuator, an opening formed in said actuator, a rod connected at one end to said float member, a flattened upper surface of said rod adjacent said flat surface, a notch formed in said actuator, a protrusion of said rod within said notch, clamping means extending through said opening and maintaining said flat surface and said flattened upper surface in a position free of relative movement, and said opening being elongated whereby said clamping means can maintain said flat surface and said flattened surface in one of a plurality of positions.

3,142,311
FLUID FLOW CONTROL SHUT-OFF DEVICE
Kurt Lawrence, Groton, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,634
5 Claims. (Cl. 137—517)



1. A flow control valve comprising;
(*a*) a valve housing,
(*b*) said housing including a bore having a bell-shaped portion and a reduced diameter portion,
(*c*) a valve disc in said bell-shaped portion,
(*d*) a valve stem connected to said valve disc and extending upstream therefrom,
(*e*) mounting means for slidably receiving said valve stem,
(*f*) a precalibrated compression spring seated against said mounting means and acting against said valve stem for biasing said valve disc against the fluid pressure in said housing,
(*g*) a seating ring slidably disposed within said reduced diameter portion of said bore,
(*h*) means for maintaining a fluid seal between said ring and said bore,
(*i*) an annular compressible seal located on the upstream face of said seating ring and adapted to cooperate with said valve disc for closing off the fluid flow past said valve disc,
(*j*) an electrically powered linear actuator mounted in said bore and including an axially extending actuator rod,
(*k*) and means for providing a resilient connection between said actuator rod and said seating ring,
(*l*) whereby said seating ring may be advanced to seat against said valve disc regardless of the position thereof with axial shifting of said disc and seating ring being permitted while in the seated relation.

3,142,312
CONTROL INSTRUMENTS
Howard R. Jaquith, Rochester, and Junius Philip Hurdle, Fairport, N.Y., assignors to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York
Original application July 21, 1958, Ser. No. 749,987, now Patent No. 3,025,868, dated Mar. 20, 1962. Divided and this application July 10, 1961, Ser. No. 123,867
3 Claims. (Cl. 137—557)

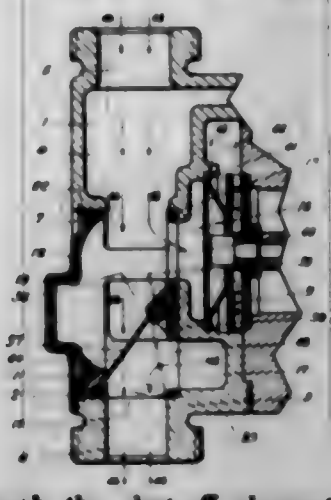


1. A self-indicating pressure transmitter comprising a pressure regulator having an element movable in a given range to change regulator output, an indicating mechanism having a range of indication corresponding in its entirety to a portion only of said given range, actuating means for actuating said indicating mechanism and said element so that the extent of movement of said element is indicated by said indicating mechanism to the extent that the position of said element lies within said range of indication, overrange prevention means coupling said actuating means to said indicating mechanism and adapted to decouple said indicating mechanism from said actuating means when said indicating mechanism indicates a most extreme value of its range of indication, said element being positively coupled to said actuating means at all times, and stop means preventing movement of said element from positions within said given range to positions outside of said given range, whereby the transmitter output is represented by the value of an indication in the said range of indication, and the extent said element has moved in that portion of its said given range of movement that is outside the said range of indication.

3,142,313
BYPASS SHUT-OFF VALVE FOR A PIPELINE
Fernand Plumettaz, Bex, Switzerland, assignor to Plumettaz Societe Anonyme, Bex, Canton of Vaud, Switzerland
Filed June 20, 1961, Ser. No. 118,293
Claims priority, application Switzerland June 28, 1960
4 Claims. (Cl. 137—599.2)

1. A pump provided with a bypass shut-off valve comprising: a first casing having disposed therein the rotor of said pump, said first casing being removably mounted on a second casing having two apertures designed for connection with two elements of a pipeline and terminating in a cavity, said cavity serving as a housing for a rotatably mounted shut-off element and comprising two conduits serving to connect said apertures with the inlet

and the outlet of said pump, means for rotating said shut-off element whereby at one position of said element the pump is in circuit with said pipeline and at another position of said element liquid moving in said pipeline



passes only through the shut-off element, and a valve pivotally mounted in a passage connecting the conduits of said shut-off element, said passage being closed by said valve when said pump is actuated and said passage being automatically opened when said pump is deactuated.

3,142,314
ENERGY CONVERTER
Percy B. Dawson, Orinda, Calif., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania
Filed May 4, 1962, Ser. No. 192,471
20 Claims. (Cl. 137—604)



1. An energy converter for use with a hydraulic jet issuing along an axis comprising a housing adapted to be disposed downstream of a hydraulic jet and to extend coaxially therewith, means forming interior walls of said housing and defining a hydraulic passage rectangular in cross section in a plane normal to said axis, and means on each one of said interior walls and extending into said passage to form baffles, each of said means being triangular in cross section in a plane containing said axis and having one end disposed upstream near an adjacent one of said walls and the other end disposed downstream near a different adjacent one of said walls in said passage.

3,142,315
FOUR-WAY PILOT VALVE
William E. Hennells, Sr., Ann Arbor, Mich., assignor to W. E. Hennells Co., Inc., Belleville, Mich., a corporation of Michigan
Filed July 31, 1961, Ser. No. 128,100
2 Claims. (Cl. 137—625.6)

1. A four way valve, comprising:

a housing having an inlet port, two outlet ports and an exhaust port, said housing having coaxial control chambers at the opposite ends thereof and an intermediate valve opening coaxial with said control chambers;

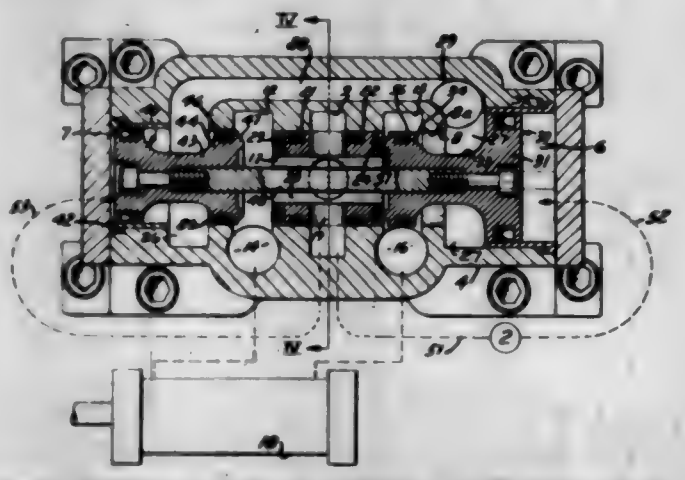
means in said housing defining a pair of compartments between said control chambers and the respective axial ends of said valve opening;

means connecting both of said compartments to said exhaust port;

means defining a centrally located, coaxial, high pressure zone in said valve opening and a pair of oppositely facing stationary valve seats at the opposite axial ends of said high pressure zone;

means connecting said high pressure zone to said inlet port;

means defining a pair of coaxial intermediate zones at the opposite axial ends of and adapted for communication with said high pressure zone and means connecting said intermediate zones to said outlet ports, respectively;



means defining a pair of coaxial passageways at the respective axial ends of said valve opening connecting said compartments with the intermediate zone respectively adjacent thereto;

a valve rod extending axially through said valve opening, through said compartments and into said control chambers;

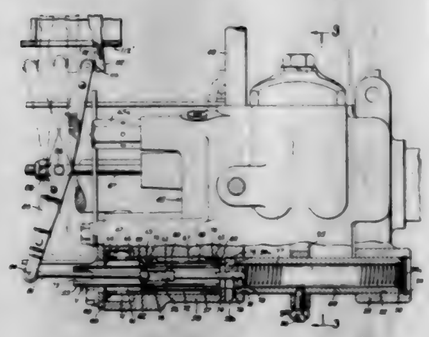
pistons mounted on the opposite ends of said valve rod and slidably received within said control chambers whereby said valve rod can be reciprocated within said housing;

a pair of valve elements mounted on said valve rod for movement within the respective intermediate zones and the passageways adjacent thereto, each valve element including means for alternately sealingly engaging the valve seat adjacent thereto and the passageway adjacent thereto, said valve elements being related to each other such that when one is sealingly engaging its adjacent valve seat the other sealingly engages its adjacent passageway.

3,142,316
VALVE MECHANISM
Ernest V. Bunting, Detroit, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Original application Aug. 20, 1954, Ser. No. 451,276, now Patent No. 2,996,124, dated Aug. 15, 1961. Divided and this application Nov. 9, 1960, Ser. No. 68,184
4 Claims. (Cl. 137—625.18)

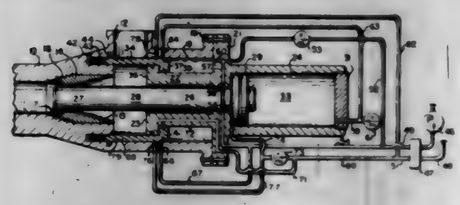
1. A valve comprising a housing having an elongated cylindrical bore divided into two axially aligned chambers, a tubular valve member slidable axially through said bore, said member having slots at opposite ends spaced apart sufficiently to enable the non-slotted portions of the member to close the outer ends of both chambers by effecting a seal with the outer ends of said cylindrical bore when the member is located in a central position, stop means on said valve member coacting with stop means in the valve bore to define the limit positions of the member at either side of said central position, said member in one of its limit positions expo-

ing the slots in one of its ends to one of said chambers to open the outer end of said chamber while maintaining the outer end of the other chamber closed, and said



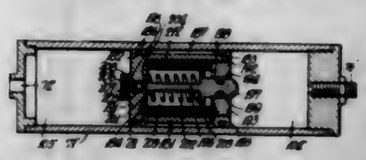
valve member in the other of said limit positions exposing the slots in its other end to both of said chambers to open the outer end of said other chamber and to interconnect both chambers at their inner ends.

3,142,317
TWO-STAGE HOT GAS VALVE
Francis D. McVey, Washington, D.C., assignor, by mesne assignments, to PneumoDynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 21, 1959, Ser. No. 860,956
4 Claims. (Cl. 137—628)



1. A valve comprising
a body having a flow passage therethrough,
said flow passage having a throat,
a plunger movably supported by said body for movement between a first position spaced from the throat of the passage which enables substantially unrestricted flow therethrough to a second position whereat said plunger is disposed within the throat of said passage and effective to reduce flow therethrough,
a valve element movably supported by said body for movement between a first position which enables relatively unrestricted flow through the passage to a second position whereat said valve element restricts flow therethrough, and
a control system for sequentially urging the plunger and the valve element to move between the respective first and second positions thereof,
said system comprising
fluid pressure responsive operating means cooperable with a source of fluid under pressure for moving the plunger and the valve element between the said positions,
said plunger and said body having passage means communicable with said fluid pressure source when said plunger is disposed in the second position to enable movement of the valve element from the first position to the second position thereof.

3,142,318
PISTON ACCUMULATOR
Jean Mercier, 1185 Park Ave., New York, N.Y.
Application Oct. 9, 1957, Ser. No. 689,223, now Patent No. 3,074,437, dated Jan. 22, 1963, which is a division of application Ser. No. 336,054, Feb. 10, 1953, now Patent No. 2,817,361. Divided and this application Dec. 18, 1962, Ser. No. 245,536
4 Claims. (Cl. 138—31)



1. A pressure vessel comprising a cylinder having a gas inlet port and a fluid port, a piston slidably mounted in said cylinder intervening between said ports and defining a gas chamber and a fluid chamber, said piston having a pair of spaced annular grooves in its periphery and a third elongated annular groove interposed between said pair of annular grooves, a resilient deformable annular seal in each of said pair of spaced annular grooves, said seals engaging the inner wall of said cylinder, said piston having a chamber therein with a wall at each end exposed in said gas chamber and said fluid chamber respectively, said piston chamber being in communication with said elongated annular groove, the wall exposed in said fluid chamber having a passageway therethrough providing communication between said fluid chamber and the piston chamber, an axial rod slidably mounted in said piston, said rod having one end exposed in said gas chamber and its other end controlling the flow of fluid from said piston chamber through said passageway into said fluid chamber, the wall of said piston in said gas chamber having an axial bore, said passageway in the wall of said piston in said fluid chamber being axially aligned with said axial bore, said rod being slidably mounted at one end in the bore in said gas chamber wall and exposed to the contents of said gas chamber, resilient means normally urging the other end of said rod away from the passageway in said fluid chamber wall, said passageway being of reduced diameter at its inner end defining a valve seat, a valve member in said passageway and resilient means normally urging said valve member against its seat to seal said passageway.

3,142,319
FLUID TRANSFER APPARATUS
Albert Jack Russo, Roslyn Heights, N.Y., and George Bernard Rooney, Maplewood, and Christopher Hollet Costello, Summit, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Dec. 7, 1960, Ser. No. 74,362
4 Claims. (Cl. 141—113)



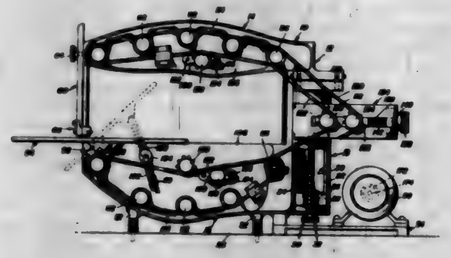
1. Apparatus for the transfer of a fluid charge from a hand-portable pressurized dispenser to a hand-portable receiver maintained at atmospheric pressure which comprises a pressure tight casing having a discharge outlet, a discharge valve closing said outlet, said valve having an inlet duct and an outlet stem, a fluid charge and a compressed pneumatic medium confined under super-atmospheric pressure within said casing, a mounting cup connected to said dispenser, said mounting cup having an annular groove, a spray discharge actuator frictionally mounted over said outlet stem and adapted to produce a spray of fine liquid droplets, said actuator having a sloping skirt on one side and a lip at the base of the sloping skirt, said lip projecting into said annular groove thereby holding said actuator in place on said mounting cup and on said outlet stem, said actuator having a tapering hollow spout adapted to be inserted into a filling opening of a receiver, a receiver maintained at atmospheric pressure, said receiver comprising a cylindrical body shell closed at one end, a wick retainer having longitudinal ribs engaging said body shell, said ribs being arranged to provide air vents from the interior of the receiver to the atmosphere, an absorbent wick frictionally held between the walls of said wick retainer, said body shell having a projection which acts as positioning means for said wick retainer, and a filling opening in said received adapted to mate with said tapering hollow spout in a loose fitting manner, whereby on opening said discharge valve while said spout in said actuator is mated with said filling opening in said receiver, said pneumatic medium causes discharge of sad fluid charge from said pressurized dispenser through said valve into said receiver wherein said discharged fluid charge expels air therefrom through said vents and enters into and is absorbed by said absorbent wick.

3,142,320
DOUBLE TUBE DISPENSING DEVICE
Theodore M. Olson, Rte. 1, Box 306, Excelsior, Minn.
Filed July 30, 1962, Ser. No. 213,373
2 Claims. (Cl. 141—309)



1. A liquid dispensing device for use in controlling the flow of liquid from one receptacle into another, said device comprising
a tube holding member formed of a flexible, slightly compressible plastic material and being insertable into a cylindrically shaped internally threaded cap of the type having both ends open and having an inturned annular flange at the upper end thereof, the cap threadedly engaging the externally threaded discharge spout of the receptacle,
the peripheral edges of said tube holding member being tapered outwardly to permit compression thereof between the annular flange of the cap and peripheral edges of the receptacle spout when said cap is in threaded engagement with the receptacle spout to thereby seal and close such a receptacle from the exterior,
said tube holding member having upper and lower surfaces and having a centrally located dispensing tube recess therein, said dispensing tube recess being formed by a pair of generally circular openings communicating radially throughout their axial extents with each other,
an elongate, flexible, liquid dispensing tube being formed of extruded plastic and including a pair of tubular elements integrally formed together along their lengths by a common wall portion, the inner diameter of each of said tubular elements being substantially uniform throughout the length thereof, one of said tubular elements comprising a liquid dispensing tube and the other of said elements serving as an air passage,
said dispensing tube having one end portion insertable in snug fitting relation within said dispensing tube recess so that the adjacent terminal edges of said tubular elements are disposed substantially coplanar with that portion of the lower surface of said tube holding member circumscribing said aperture whereby liquid will flow through the liquid dispensing passage from the receptacle into a second receptacle until the liquid within the latter rises to a level to close the end of the air conducting tubular element, a pair of relatively short cylindrical elements formed of rigid material and each being insertable into said one end portion of said tubular element to reinforce the one end portion thereof, and a substantially flat closure member having a pair of closure elements projecting therefrom our insertion into one of the respective ends of said tubular elements for closing the same.

3,142,321
BAND SAW
Michael Orescan, Toronto, Ontario, Canada
(R.R. 1, Harriston, Ontario, Canada)
Filed June 29, 1961, Ser. No. 120,576
7 Claims. (Cl. 143—21)



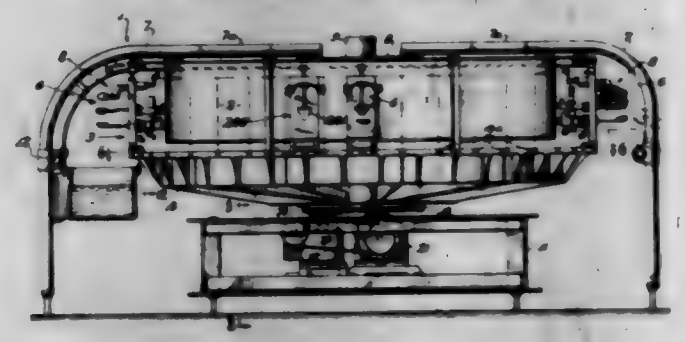
1. A band saw comprising a generally C-shaped frame including a pair of spaced support arms and an elongated connecting means, said arms extending laterally to one side of and from points spaced longitudinally of said elongated connecting means and interconnecting corresponding end portions of said arms, each of said arms including a plurality of aligned anti-friction roller means spaced and curved longitudinally of said arms and defining arcuate paths opening toward each other, an endless band saw blade entrained over said roller means and including a first portion adjacent and generally paralleling said support member and a second portion extending between the free ends of said arms, a first of said arms including means for adjustably positioning said first arm relative to said second arm, motor means mounted stationarily relative to one of said arms, aligned drive wheel means carried by the roller means of each arm remote from the free end of that arm, endless drive member means entrained about said drive wheel means, drive means drivingly connecting said motor means to the drive wheel means of one of said arms, said elongated support means including adjustment means for adjustably positioning said first arm relative to said second arm and comprising two elongated overlapping and relatively extendable members one of which is supported from the first arm and the other of which is supported from the

second arm, means for effecting the relative adjustment of the overlapped members, and tension wheel means journaled from support members supported from said adjustment means for adjustable movement toward and away from said free ends of said arms and in a plane generally paralleling the plane containing said drive wheel means, said endless drive member including at least one reach thereof entrained over said tension wheel means for increasing the tension of said endless drive member upon adjustment of said tension wheel means away from the free ends of said arms.

3,142,322
MACHINE FOR PROCESSING EGGS AND EGG PRODUCTS

Leonard Shelton, 7709 Poppleton Plaza, Omaha, Nebr., Ralph N. Beebee, Omaha, Nebr., and Kenneth G. Jones and Robert G. Bush, Green Bay, Wis.; said Beebee, said Jones, and said Bush assignors to said Shelton

Filed Feb. 23, 1962, Ser. No. 174,966
10 Claims. (Cl. 146—2)



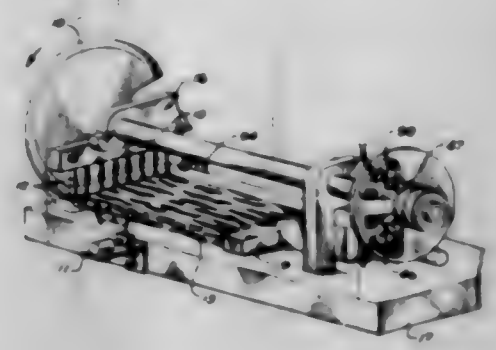
1. A machine for processing eggs and egg products comprising a first support; a second annular support rotatably mounted relative to said first support; a plurality of egg breaking and separating units mounted on said annular support; means for driving the annular support relative to the fixed support; each egg breaking and separating unit comprising an egg holder, means for clamping and cutting an egg disposed in said egg holder, means for splitting the egg to empty the contents thereof, a first cup disposed below said egg holder and being smaller in volume than the contents of the egg whereby it receives and contains the egg yolk and the egg white overflows therefrom, a second cup larger than the first cup and spaced directly below said first cup to receive the overflow from said first cup, means rotatably mounting said first and second cups relative to said unit, means for rotating said cups, and means for selectively positioning said cup rotating means; means on said first support for adjustably positioning said selective positioning means as determined by the condition of the egg contents; and control means on said first support for selectively engaging said cup rotating means to dump the cups into appropriate containers.

3,142,323
METHOD AND APPARATUS FOR CONTROLLING THE SLICING OPERATION

Philip Carl Metzler, Park Forest, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 22, 1961, Ser. No. 133,161
11 Claims. (Cl. 146—241)

6. An improved control system for a slicing machine having a slicing element and a feed for advancing material in a given direction and at a given speed thereto, said control system comprising: sensing means between said feed and said slicing element, said sensing means positioned to detect dimensions of the material and changes therein; first signal means connected to said sensing means, said first signal means being operable to produce a first signal variable in accordance with said dimensions of said material; integrating means connected to said first signal means, said integrating means acting to continuously integrate said first signal produced by said signal means against said speed to develop a second increasing signal changing in direct relation to the volume of material moved past said sensing means; a second signal means associated with the slicing element, said second signal means adapted to momentarily produce a constant signal of a given magnitude once during each complete cycle of said slicing element; detecting means connected to said integrating means and said second signal means, said detecting means adapted to change condition upon the cumulation of said second and said constant signals reaching a specified level; and regulating means connected between said detecting means and the feed means to cause interruption of said feed upon such change in condition of said detecting means.

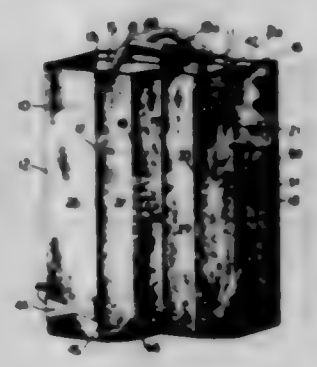


9. An improved method of controlling a slicing operation in accordance with an amount of material fed past a slicing means, said method comprising the steps of: feeding said material at a constant speed toward said slicing means to that all slices severed thereby are of uniform thickness; sensing at least one cross sectional dimension of said material, and changes therein, normal to the path thereof; producing a signal representing the volume of said material having passed a given point on said path; and completely interrupting the feeding of said material for brief periods upon said signal representing a desired volume of said material.

3,142,324
BAG

Leo Fremont, 406 Market St., Brighton, Mass.

Filed Jan. 21, 1963, Ser. No. 252,951
7 Claims. (Cl. 150—1.7)



1. A shopping bag adapted to be folded and secured in a compact package comprising

facing front and rear flexible walls secured together along aligned sides and bottoms forming an open mouthed container,

said facing front and rear walls having a plurality of parallel creases with the creases in each wall aligned to divide said walls into a plurality of parallel elongated panels and with said walls adapted to be folded on said creases whereby all said panels may be aligned one behind the other,

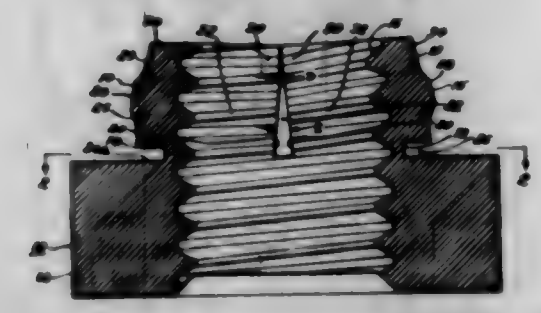
a band,

means securing the opposite ends of said band to one wall with one end of said band secured to one of said creases and the other end secured to the opposite side of one panel in part defined by said one crease and with the intermediate portion of said band spaced from said one wall whereby said panels when aligned behind said one band may be folded transverse to the length of said creases and inserted in the space between said band and said one wall.

3,142,325
NUT HAVING SEGMENTED LOCKING EXTENSION

Klas Arent Swanstrom, Doylestown, Pa., assignor to Penn Engineering & Manufacturing Corporation, Doylestown, Pa., a corporation of Pennsylvania

Filed Feb. 13, 1959, Ser. No. 793,102
9 Claims. (Cl. 151—21)

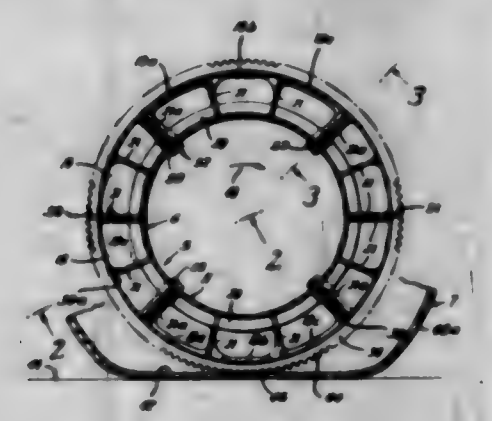


1. A lock nut comprising a body and an integral extension, a threaded bore in said body and extension, said extension including two opposed generally symmetrical segments forming axial and diametrically aligned spaces therebetween, said symmetrical segments together forming a substantially elliptical shape at the end of said extension, said aligned spaces lying along the major axis of said ellipse, and a peripheral recess adjacent the juncture of said body with said extension for facilitating the formation of said segments into a substantially elliptical shape, said recess including enlarged portions intermediate the ends of the major axis of said ellipse for further facilitating said formation, whereby a substantial wall thickness is provided in the areas of said segments adjacent said aligned spaces and a substantially thinner wall thickness in the areas of said segments intermediate said aligned spaces.

3,142,326
WHEEL RIM ATTACHMENT FOR A TUBELESS TIRE

William L. Lindley, P.O. Box 12013, Houston 17, Tex.

Filed Nov. 6, 1961, Ser. No. 150,262
2 Claims. (Cl. 152—158)



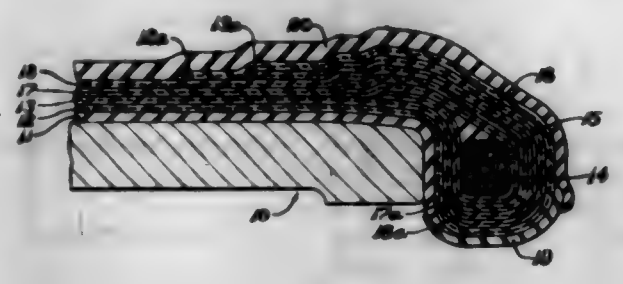
1. A device adapted to be positioned inside a tubeless tire and secured to a wheel rim which supports the tire including,

(*a*) two semicircular portions with each portion having a semicircular member with an inner surface extending circumferentially around the wheel rim which fits on the wheel rim,
(*b*) each of said members having a plurality of load bearing radially and lateraly extending spaced projections extending from the outer surface of each of said members,
(*c*) each of said portions having a second semicircular member surrounding each of said members and connected with the outer end of said projections,
(*d*) said second semicircular members each having a continuous circumferential edge which is wider than said semicircular members,
(*e*) said circumferential edge being thicker at its mid portion than along either edge to form a surface which is arcuate in cross-section,
(*f*) a continuous resilient element bonded on said circumferential edge,
(*g*) said resilient element having a surface thereon formed by spaced grooves extending across the surface to form areas of projections separated by grooves which extend across the surface in said resilient element,
(*h*) said resilient element and second semicircular member upon which it is mounted acting as a safety rim to support the tubeless tire in spaced relation to the rim upon deflation of the tubeless tire, and
(*i*) said areas of projections and said grooves in said resilient element functioning where the deflated tubeless tire engages a surface upon which it is rolling to feed the tubeless tire around and under said resilient element and second semicircular member.

3,142,327
PNEUMATIC TIRE AND METHOD OF MAKING THE SAME

Frank Herzegh, Shaker Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 512,109, May 31, 1955. This application May 2, 1961, Ser. No. 107,625
16 Claims. (Cl. 152—362)



1. An uncured pneumatic tire comprising a carcass of cord-reinforced uncured rubber terminating in spaced bead portions with a partially vulcanized rubber strip extending across the base of each bead portion externally of the reinforcing cords therein, the extent of vulcanization of said strips being such that their tensile strength is not less than one-third nor more than three-fourths that possessed by fully vulcanized strips of the same composition.

3,142,328
TIRE INFLATION TOOL

Alfred N. Ikeyan and Thomas O. Hale, Indianapolis, Ind., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed June 28, 1962, Ser. No. 206,085
9 Claims. (Cl. 152—429)

1. In an apparatus for inflating, with pressurized air, an inner tube having a valve stem, said tube being

mounted in a casing on a rim, the combination comprising:

(*a*) an air chuck provided with means for clamping said chuck to said valve stem in air transfer relationship therewith, said chuck having an axis substantially coinciding with the longitudinal axis of said valve stem;

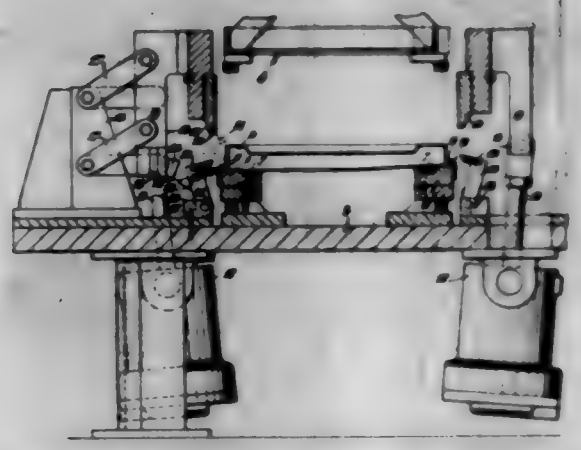


(*b*) valve aligning and positioning means adjacent to said chuck and movable with respect thereto in a direction parallel to said axis; and

(*c*) motor means for causing said valve aligning means to extend axially a predetermined distance beyond said chuck and over said valve stem while pressurized air is being admitted to said valve stem through said chuck;

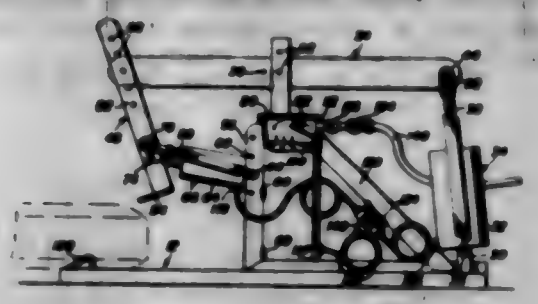
(*d*) whereby said valve stem is held in proper position and alignment with respect to said rim while said tube is being inflated.

3,142,339
CLINCHING TOOLS AND UNITS
Thomas Francis Tribe, Dudley, England, assignor of one-half to British Federal Welder and Machine Company Limited
Filed Aug. 8, 1960, Ser. No. 48,214
Claims priority, application Great Britain Sept. 15, 1959
3 Claims. (Cl. 153—12)



1. A clinching tool for folding over an upstanding flange on a horizontal sheet metal panel, the tool comprising a frame, a fold-over member mounted on said frame for substantially horizontal movement toward and away from the panel and flange, a presser member, parallelogram linkage means supporting said presser member on said frame for movement in an arcuate path having a relatively large vertical component of direction toward and away from the panel and a relatively small horizontal component of direction which is towards the panel and flange during the overall arcuate movement of said presser member toward the panel and flange, power means to actuate said presser member, resilient means tending to urge said fold-over member to an inoperative position away from the panel and flange, and cam means including one element fixed to the presser member and another element fixed to the fold-over member, said elements being arranged to co-act during said arcuate movement of said presser member towards the panel to force said fold-over member toward the panel against the action of said resilient means and fold the flange to an acuate inclination to the panel and thence permit return of said fold-over member by said resilient means to said inoperative position whereby said presser member upon continuing said arcuate movement toward the panel may directly engage and press the inclined flange against the panel.

3,142,330
MACHINE FOR UNSEATING TIRE BEADS
Donald A. Nelson, P.O. Box 340, Ruthven, Iowa
Filed Apr. 25, 1962, Ser. No. 190,806
9 Claims. (Cl. 157—1.17)



1. A machine for unseating a tire bead from a wheel flange against which the bead is seated, said machine comprising a base, a standard supported from said base, a walking beam pivotally secured to the upper end of said standard for rotation about a generally horizontally disposed axis, elongated extensible motor means pivotally secured at opposite ends to said base and one end of said beam for oscillation about axes generally paralleling the axis of rotation of said beam, a depending pressure leg pivotally secured to the other end of said beam for rotation about an axis generally paralleling said axis of rotation of said beam and including a lower end laterally directed foot portion adapted at its free end to be slipped between a tire bead and the wheel flange against which it is seated, said foot portion projecting transversely of said axes, an elongated extensible motor means pivotally supported at opposite ends from said base and the lower free end of said pusher leg for oscillation about axes generally paralleling the axis of rotation of said beam.

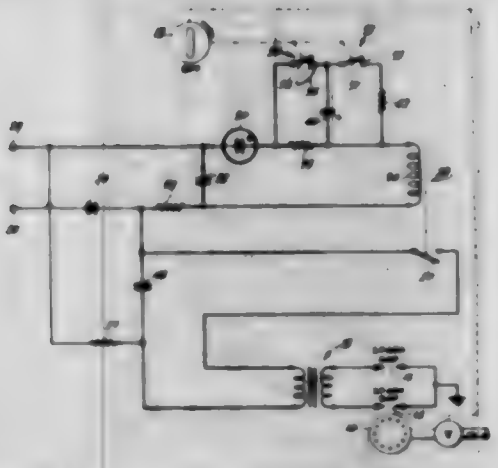
3,142,331
MODULAR RIBBON-TYPE GAS BURNER
Gustave C. Dierks, 101 Secor Lane, Pelham Manor, N.Y.
Filed May 8, 1961, Ser. No. 108,363
13 Claims. (Cl. 158—99)



11. In a gas burner, a longitudinal open-ended housing member having transverse end faces and having a longitudinal wall portion of extra thickness having therein a longitudinal burner slot of substantial depth extending from one said transverse end face to the other and having uninterrupted communication with the interior of said housing member along the length thereof, and also having formed therein a pair of longitudinal coolant conduits accommodated in said wall portion opposite each other relative to said burner slot and also extending from one said transverse end face to the other, each coolant conduit having each end portion thereof prepared with a counter bore, for the reception of a cylindrical sleeve member tightly fitted therein and adapted to be similarly tightly fitted into an adjoining similarly prepared housing member, both ends of said housing member furthermore

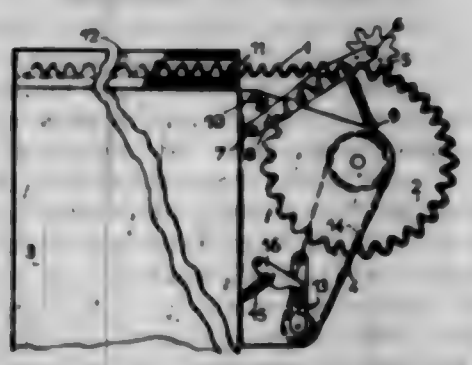
having means adapted for bolt connection with said adjoining housing members, and at least one transverse tightening bolt interconnecting opposite side walls of said housing member.

3,142,332
GAS BURNER IGNITION SYSTEM
Earl J. Weber, Bay Village, and Fred Westberg, North Olmsted, Ohio, assignors to American Gas Association, Inc., New York, N.Y., a corporation of New York
Filed Dec. 14, 1962, Ser. No. 244,787
6 Claims. (Cl. 158—125)



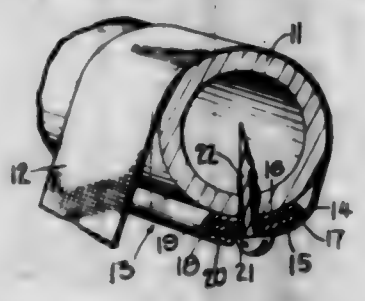
1. Gas ignition apparatus comprising:
gas burner means;
control means for turning on and off the supply of gas to said burner means;
igniter means disposed adjacent said burner means and responsive to the application thereto of voltage to ignite gas emanating from said burner means;
pulse generating means responsive to each turning on of said supply of gas by said control means to initiate the generation of a series of voltage pulses continuing until the next turning-off of said supply of gas, said pulse generating means including apparatus responsive to each turning-on of said supply of gas automatically to reduce the rate of recurrence of said pulses from an initially relatively higher rate to a predetermined relatively lower rate following each said turning-on; and
means for applying said pulses to said igniter means to ignite gas emanating from said burner.

3,142,333
COILING SHUTTER
Henri Kammerman and Georges Jules Marie Proust, Paris, France, assignors to International MacGregor Organization (I.M.G.O.), Saint-Charles, Monte Carlo, Monaco, a corporation of Monaco
Filed Dec. 13, 1961, Ser. No. 158,992
Claims priority, application France Dec. 19, 1960
8 Claims. (Cl. 160—272)



1. A movable closure device for opening and closing an aperture in a wall of stationary and travelling enclosed spaces such as buildings, ship holds and rolling vehicles, comprising a flexible corrugated sheet forming a collable shutter for covering and uncovering said aperture, a reversibly rotatable driving cylindrical drum arranged near one end of said aperture to wind up in turns and to uncoil said shutter, said drum having its peripheral surface provided with corrugations substantially matching that of said sheet and uniformly distributed therearound, substantially cylindrical freely rotatable roller means, the axis of which is substantially parallel to that of said drum, said roller means being adapted to forcibly engage by portions thereof the hollows and bulges forming the corrugations of the outer turn of said sheet close to that generating line of said drum at which said sheet leaves said drum, movable supporting means for pivotally mounting said roller means, resilient pressure exerting means fitted to said supporting means to continuously apply said roller means on the outer turn of said sheet with a pressure sufficient to force the corrugations of said sheet through local elastic deformation thereof to conform in forced meshing relationship to the corrugations of said drum and of the wound turns of said sheet, the diameter of said drum corresponding to a whole number of said corrugations in order to ensure correct super-imposition and forced interfitting engagement of the corrugations of successive turns of sheet, reversible actuating means operatively connected to said drum to cause same to rotate in either direction, and guiding means to guide the uncoiled portion of said sheet during the movements thereof.

3,142,334
MEANS FOR ATTACHING WEB STRIPS TO FURNITURE FRAMES
Robert D. Vandermeiden, Granville, N.Y., assignor to The Telescope Folding Furniture Co., Inc., Granville, N.Y., a corporation of New York
Filed Jan. 15, 1960, Ser. No. 2,732
2 Claims. (Cl. 160—327)



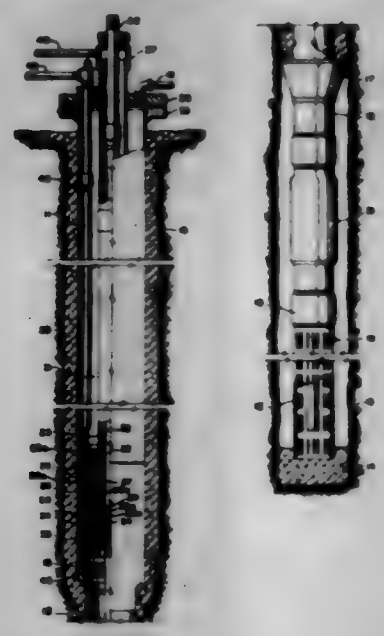
1. In furniture including spaced apart frame parts spanned by a plurality of individual web strips all having substantially uniform tautness, means for attaching such of said strips independently to the spaced apart frame parts and for effecting substantially uniform tautness during such attachment comprising a separate identical attaching clip secured to each end of each of said strip, each clip comprising a piece of sheet metal whose length approximates the width of the web strip to which it is secured, said piece in its width being bent into substantially U-shaped configuration with a shorter and a longer leg between which an end lap of a web strip is interposed, the strip being reversely bent outwardly over the shorter leg and the longer leg having a portion which is bent to overlap a portion of the shorter leg and a portion of the reversely bent strip, each said clip thus serving to embrace and retain an end of the web strip material embraced thereby, screw type nail means driven through the clips and strips embraced thereby without penetrating the portions of the longer legs overlapping the shorter legs of the clips at one of the ends of each of said strips into one of the frame parts, and screw type nail means driven through the clips and strips embraced thereby without penetrating the portions of the longer legs overlapping the shorter legs of the clips at the other ends of each of said strips and into the other of said frame parts, the

separate web strips all being adjusted to substantially uniform tautness between the frame parts.

3,142,335
ACIDIZING OF WELLS
Walter R. Dill and Francis N. Harris, Duncan, Okla., assignors to Halliburton Company, a corporation of Delaware
No Drawing. Filed July 5, 1960, Ser. No. 40,575
13 Claims. (Cl. 166—9)

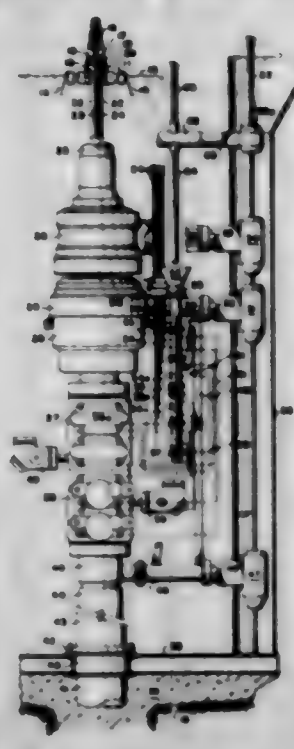
1. A sequestering agent for iron and like substances consisting essentially of a member from the group consisting of citric acid and the salts thereof and a member, other than citric acid and the salts thereof selected from the group consisting of the low molecular weight organic acids and the salts thereof, the relative proportions of said members being sufficient to prevent precipitation of iron and like substances, when a given amount of said sequestering agent is added to a hydrochloric acid acidizing fluid, for a longer period of time than is obtained when such given amount of either of said members alone is added to such acidizing fluid.

3,142,336
METHOD AND APPARATUS FOR INJECTING STEAM INTO SUBSURFACE FORMATIONS
Todd M. Doscher, Bellaire, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 18, 1960, Ser. No. 43,463
6 Claims. (Cl. 166—11)



1. In an oil-bearing formation traversed by an injection well and a producing well in communication with the same formation, and wherein said injection well is equipped with a cemented well casing in open fluid communication with the oil formation and an intermediate concentric pipe string and an inner tubing string within the casing forming inner and outer annular spaces extending substantially to said oil formation with a water line extending down the outer annular space and the tubing string being in open communication with the casing at the level of the oil formation, the method of treating said oil-bearing formations comprising flowing steam down said tubing string, injecting said steam into the oil formation for a time and at a pressure sufficient to reduce the viscosity of said oil and force it to a producing well in communication with the same oil formation, reducing the convection heat loss from said tubing string by creating a partial vacuum on said inner annular space, reducing heat loss from said tubing string by circulating cooling water in and out of said outer annular space to prevent thermal expansion of said casing.

3,142,337
HYDRAULIC SYSTEM FOR UNDERWATER WELLHEADS
Frank Poorman, Jr., Lafayette, La., and Carl W. Lafitte, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,615
9 Claims. (Cl. 166—66.5)



1. A method of establishing from a remote location control of hydraulic units of a wellhead positioned under water with hydraulic pressure fluid conduits extendible from a remote location to at least some of the hydraulic units of said wellhead, said wellhead being provided with a manifold valve fixedly positioned to the wellhead in hydraulic conduit means thereof extending to hydraulic units of said wellhead and capable of closing off the hydraulic conduits, said method comprising

lowering auxiliary conduit means from the surface of the water into alignment with said manifold valve,

connecting said valve to the lower end of said auxiliary conduit means by remote operation and control to place at least one hydraulic unit of a wellhead in communication with said auxiliary conduit means,

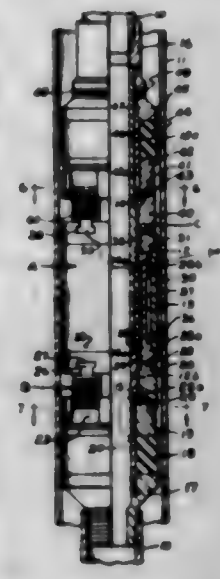
manipulating the valve by means of the auxiliary conduit means to open the valve, and

supplying through said auxiliary conduit means a fluid under pressure to actuate at least one hydraulic unit of the wellhead.

3,142,338
WELL TOOLS
Cicero C. Brown, Box 19236, Houston, Tex.
Filed Nov. 14, 1960, Ser. No. 69,118
16 Claims. (Cl. 166—120)

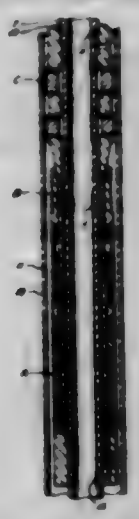
1. A well tool assembly including, a tubular support adapted to be connected in a well pipe string and lowered in a well bore, an upper gripping means mounted on the support and movable into gripping position to lock the assembly against movement in one direction within the well bore, a lower gripping means mounted on the support and movable into gripping position to lock the assembly against movement in the other direction within said well bore, a hydraulically-actuated part mounted on the support and engageable with the upper gripping means to move said gripping means into gripping position when said part is actuated, a second hydraulically-actuated part mounted on the support and engageable with the lower gripping means to move said lower gripping means into gripping position when said part is actuated, the tubular support having means for conducting

pressure fluid from the tubular support to the hydraulically-actuated parts to operate the same and thereby move the upper and lower gripping means into gripping position, and normally inactive means forming part of the tubular support adapted when actuated to engage and



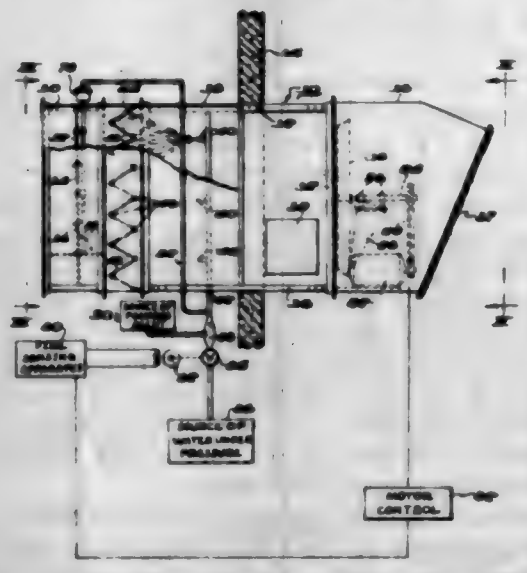
co-act with the upper and lower gripping means for retracting said upper and lower gripping means to permit removal of the complete assembly from the well bore, said normally inactive means being actuated by manipulation and movement of the pipe.

3,142,339
HYDRAULICALLY-ACTUATED WELL PACKERS
Cicero C. Brown and Claudeigh B. Cochran, Houston, Tex., assignors, by direct and mesne assignments, to Brown Oil Tools, Inc., Houston, Tex., a corporation of Texas
Filed June 30, 1958, Ser. No. 745,611
14 Claims. (Cl. 166—122)



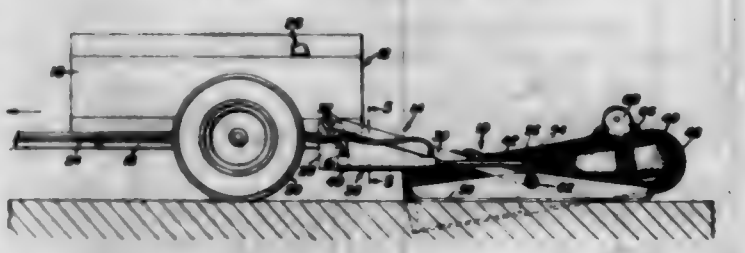
8. A well packer assembly adapted to be lowered on a well tubing string and including, a tubular support connected in said string, an anchoring means including gripping slips and an expander mounted on the support, said slips being movable relative to the expander in a longitudinal direction on the support whereby said slips are moved to a gripping or nongripping position in accordance with their position with respect to the expander, a packing element surrounding the support and having its lower end supported by the tubing string, said packing element being spaced below the gripping slips, a pressure-operated means including a piston and cylinder mounted on the support and interposed between the gripping slips and the packing element, said cylinder and piston being movable longitudinally within limits upon the support, said piston and cylinder being secured one to the gripping slips and the other to the packing element, actuation of said pressure-operated means which moves the piston and cylinder relative to each other first effecting movement of the gripping slips into gripping position and thereafter applying an endwise force to the packing element to distort the same into sealing position, and passage means for conducting a pressure fluid from the tubing string and bore of the support to the pressure-operated means to actuate the same.

3,142,340
FIRE-FIGHTING FOAM GENERATOR
Will B. Jamison, Greensburg, Pa., assignor to Safety Development Corporation, Greensburg, Pa., a corporation of Ohio
Filed June 29, 1962, Ser. No. 206,219
11 Claims. (Cl. 169—15)



1. Apparatus for generating a fire-fighting foam plug comprising a wind tunnel having air-moving means at one end thereof for forcing air axially through the tunnel, a foam-forming net at the other end of the tunnel, nozzle means between said air-moving means and said net for spraying a solution containing a foaming agent onto the net, closure means for the net at said other end of the tunnel for protecting said net from heat before it is sprayed with said solution, conduit means for supplying said solution to the nozzle means, and means operable when pressure builds up in the conduit means as liquid passes through said nozzle means for opening said closure means to permit the foam plug formed at said net to be discharged from said other end of the wind tunnel.

3,142,341
SAND SCREEN EQUIPMENT
Charles P. de Bisschop, 74 Braman Road, Waterford, Conn.
Filed May 24, 1961, Ser. No. 112,360
5 Claims. (Cl. 171—136)



1. Equipment for screening granular material while enabling such material to be maintained substantially in situ, said equipment comprising,

a screening assembly having laterally spaced apart upstanding side members secured to bottom and rear members to define a receptacle having substantially open and unobstructed forward and top portions, said members each being of screen mesh construction, an element extending between the upstanding side

members in engagement with the bottom member of the screening assembly and in subjacent relationship relative to the open forward portion thereof,

said element being tapered toward the open forward portion of the screening assembly to enable granular material to pass into the confines of the receptacle defined by the members of the screening assembly,

reinforcing structure disposed intermediate the open forward portion and the rear member of the screening assembly and disposed thereon adjacent the upstanding sides thereof,

pivot means for pivotally connecting mechanism to the reinforcing structure at locations thereon which are adjacent to the opposed upstanding side members of the screening assembly to enable the screening assembly to be urged from a lowered operative position whereat the screening assembly is in contact with granular material in situ to a raised dumping position whereat the screening assembly may dispose of undesired deposits which have been screened from such granular material,

an elongate rigid member pivotally mounted adjacent one end portion to a mobile frame structure and projecting therefrom and terminating with the other end portion pivotally mounted to the reinforcing structure of the screening assembly,

a hydraulic arrangement having piston-cylinder portions one of which is pivotally connected to the mobile frame structure with the other portion being pivotally connected to the reinforcing structure of the screening assembly,

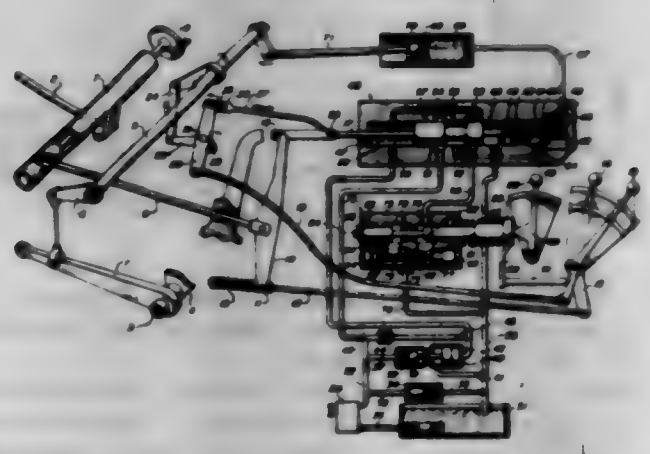
the adjacent pivotal connections of the member and the arrangement of the mechanism to the mobile frame structure as well as the locations on the pivot means of the reinforcing structure of the screening assembly, in each instance, being spaced apart one from the other to enable the open forward portion of the screening assembly to be raised on initial actuation of the hydraulic arrangement prior to movement of the screening assembly from the lowered operating position to the raised dumping position in order to maintain such undesired deposits which may have been screened from such granular material within the confines of the receptacle defined by the members of the screening assembly.

3,142,342

FLOW CONTROL COMPENSATOR

Andrew Brudnak, Jr., Oak Lawn, and Frank Jerry Simak, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Aug. 14, 1961, Ser. No. 131,265
3 Claims. (Cl. 172—9)



2. In an agricultural tractor implement assembly wherein the implement is shiftable upwardly and downwardly as it encounters agricultural working conditions of varying magnitude; wherein the tractor has hydraulic power means adapted to raise and lower the implement into and out of engagement with the ground and adapted to raise and lower the implement while in engagement with the ground so as to counteract shifting thereof resulting from the working conditions encountered, said hydraulic power means including a fluid actuated ram, a source of fluid under pressure, and valve means movable toward one position for directing fluid from said fluid source to said ram and movable toward another position for relieving fluid from said ram; and wherein the tractor has linkage means connectable with said implement and responsive to downward movement of said implement for moving said valve means toward said one position and responsive to upward movement of said implement for moving said valve means toward said other position, said linkage means including manual actuating means for selectively moving said valve means toward either of said positions; the improvement comprising: control means operatively associated with said hydraulic power means for maintaining a constant rate of fluid flow from said ram, said control means including an inlet communicating with said valve means and an outlet communication with said fluid source, passage means communicating said inlet with said outlet, variable flow control means operatively associated with said passage means and said inlet for causing a variable pressure differential therebetween, pressure responsive means operatively associated with said outlet and responsive to said pressure differential for maintaining a constant rate of fluid flow in said outlet, means operatively connecting said manual means with said flow control means for regulating said flow control means upon continued actuation of said manual means after said selective movement of said valve means thereby toward said other position, and additional means engageable with said flow control means for regulating said flow control means independently of said manual means.

3,142,343

METHOD AND APPARATUS FOR DRILLING UNDERWATER WELLS

Lloyd G. Otteman, Houston, and Lyman C. Reese, Austin, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 14, 1960, Ser. No. 75,790
17 Claims. (Cl. 175—7)



1. In a method of drilling a well from a floating vessel at an offshore location and through a wellhead assembly positioned beneath the surface of a body of water, said method comprising positioning a floating drilling base over an underwater wellhead, suspending a string of drilling pipe from said drilling base so that the lower end

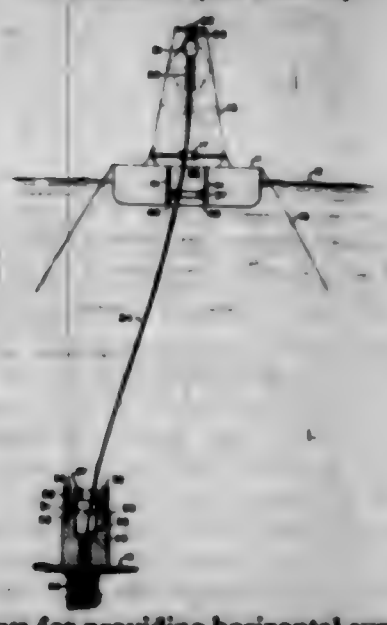
of said drilling pipe string extends through said wellhead during drilling operations, supporting said pipe string against horizontal movement near the upper end thereof at a point adjacent the drilling base and at a point where the pipe string passes through the wellhead, and supporting said pipe string against horizontal movement at least at a third point intermediate the support points on said drilling base and said wellhead, said supporting action taking place against said pipe string to induce bending thereof at said intermediate support point when the axis of the pipe string at a point adjacent said drilling base on the surface of the body of water is displaced from a coaxial position with the axis of said wellhead.

3,142,344

METHOD AND APPARATUS FOR DRILLING UNDERWATER WELLS

Lloyd G. Otteman, Houston, and Lymon C. Reese, Austin, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 21, 1960, Ser. No. 77,374
4 Claims. (Cl. 175—7)



1. Apparatus for providing horizontal support to a nonvertical section of drill pipe extending from a floating drilling base on the surface of a body of water and through a wellhead assembly positioned below the surface of said body of water, said apparatus comprising a wellhead assembly positioned below a body of water, pipe means secured to the bottom of said wellhead assembly and extending downwardly into the floor of said body of water for anchoring said wellhead assembly thereto, a floating drilling base on the surface of the body of water normally positioned and anchored over said wellhead assembly, a marine conductor pipe string suspended by said floating drilling base and extending downwardly through said water to said wellhead assembly, flexible joint means securing the lower end of said marine conductor pipe string to the top of the wellhead assembly, at least one horizontal pipe support ring means arranged within the lower end of said marine conductor pipe string to contact a pipe string passing therethrough at a point above the wellhead assembly and positioning means in said marine conductor pipe near the bottom thereof for limiting the ring means against downward movement.

3,143,345

METHOD AND APPARATUS FOR ROTARY DRILLING WITH COMPRESSIONAL WAVES

Herbert J. Hawthorne, P.O. Box 7366, and Paul P. Carey, Box 63, both of Houston, Tex.

Filed Sept. 15, 1959, Ser. No. 840,068
2 Claims. (Cl. 175—57)

1. A method of drilling earth formations with a rotary cutting bit on the lower end of a continuously rotating drill string which comprises effecting continuous rotary cutting action by said bit while maintaining a steady downward force on the bit to continuously maintain same against the formation, superimposing upon said bit successive percussion blows in a direction to drive the bit into the formation with a force substantially less than



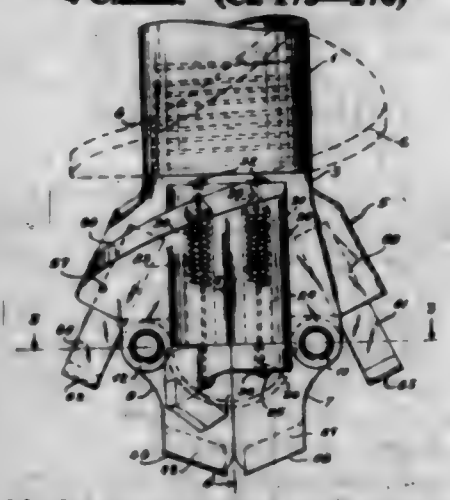
said downward force to thereby prevent the bit from moving upwards between said blows, and completing said last-mentioned step independently of any fluid flow within the hole formed thereby wherein a substantial section of the drill string above the bit is under compression and wherein the percussion blows are applied at the upper end of this section.

3,142,346

HOLLOW ROTARY BIT HEAD WITH END OPENING GATE FOR SAMPLE RECOVERY OPERATIONS

Charles L. Rassieur, University City, Mo., assignor to Central Mine Equipment Company, St. Louis, Mo., a corporation of Missouri

Filed Sept. 10, 1962, Ser. No. 222,375
4 Claims. (Cl. 175—270)



1. In a bit for earth boring equipment used in core recovery, said bit having an internal passage forming a continuation of the passage through a hollow drill string with an external auger flight, the improvement comprising,

(*a*) a hollow shank part with a detachable connection to the lower end of said drill string, and a hollow head part formed on said shank and having an open lower end,

(*b*) a pair of gates together forming a complete closure for the open lower end of said hollow head part,

(*c*) a hinge mounting for each of said gates including connecting ears projecting radially outwardly of said gates and ears on the exterior of said hollow head part and detachable means pivotally connecting an ear projecting on each said gate to separate of said ears on the exterior of said hollow head part,

(*d*) spring means connecting said gates and head part for maintaining said gates closed mounted in sockets in bosses on the exterior of said hollow head part which sockets are closed by said gates when said gates are closed,

(*e*) a plurality of bits on said gates and axially and radially disposed thereon to drill a hole for passing said hollow head part carrying said gates and said hinge mounting for said gates, only, and,

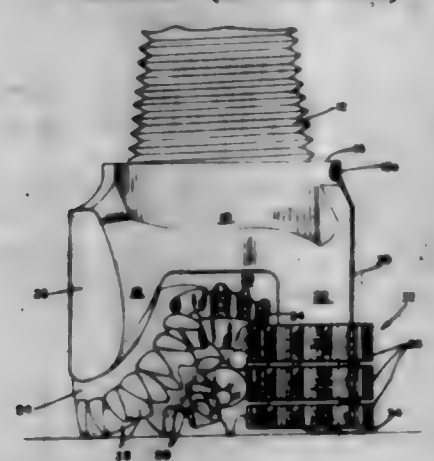
(*f*) a plurality of bits carried by said hollow head part projecting outwardly of said bits on said gates and disposed to clear the hole for passing said auger flight,

said bits on said gates being arranged to permit full opening of said gates to pass a coring tool when said bit is in the hole formed by said plurality of bits carried by said hollow head part.

3,142,347
DRILL BIT

Allie C. Barnes, 943 E. Winkler St., Kermit, Tex., assignor, by direct and mesne assignments, of twelve and one-half percent to Emmett J. Rahm, San Antonio, Tex., thirty-six and one-half percent to Billy G. Preston, two percent to Irene Cramer, thirteen percent to Calvin W. Wench, all of Kermit, Tex., six percent to C. B. McFarlin, six percent to Brinson Development Co., Inc., a corporation of Texas, and six percent to L. H. McElderry and/or Verna Loyce McElderry

Filed Aug. 29, 1960, Ser. No. 52,692
4 Claims. (Cl. 175—349)

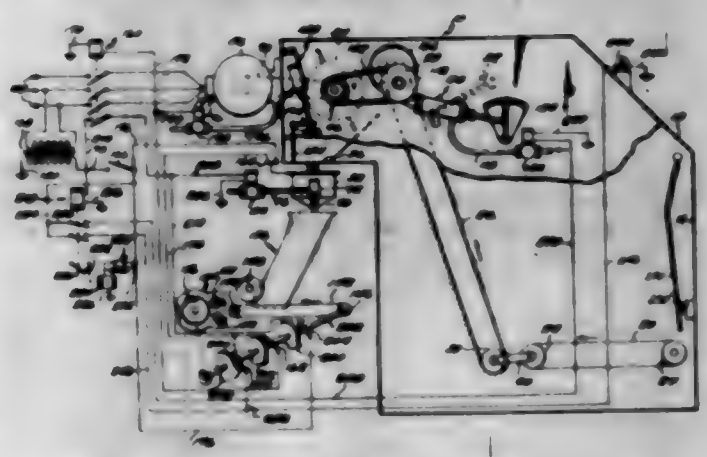


1. An earth boring drill bit for correcting a bore hole which has deviated from a desired substantially vertical drilling reference line comprising: a substantially cylindrical bit body having means on one end for connection with a drill string; a pair of arms depending from the periphery of the other end of said bit body, each having a vertically disposed arcuate outer surface generated by a radius of curvature substantially equal to that of the bore hole to be drilled; a substantially frusto-conical cutter mounted for rotation on each of said arms, each cutter extending inwardly from said arms and having a plurality of teeth thereon, the outermost radial extent of said teeth on each of said frusto-conical cutters being not greater than the outermost radial extent of said arcuate outer surfaces of said pair of arms whereby said teeth will bitingly engage only the bottom of the bore hole; a third arm depending from said bit body adjacent said pair of depending arms; and a straightening cutter mounted for rotation at the base of said third arm having a plurality of teeth thereon which extend generally radially relative to the bit axis, the outermost radial extent of the cutting teeth on said straightening cutter being greater than the outermost radial extent of said third arm and substantially as great as but no greater than the outermost radial extent of said arcuate outer surfaces of said pair of arms and the lower end of said straightening cutter being positioned slightly higher than the lowermost extent of the teeth of said frusto-conical cutters so that the cutting teeth of said straightening cutter will not engage the bore hole bottom and will operatively bitingly engage the side of the deviated bore hole nearest said desired substantially veritcal drilling reference line.

3,142,348
FIBER FEEDING APPARATUS

Kenneth G. Lytton, Gastonia, N.C., assignor to Fiber Controls Corporation, Gastonia, N.C., a corporation of North Carolina

Filed June 14, 1961, Ser. No. 117,126
8 Claims. (Cl. 177—114)



1. Fiber feeding and weighing apparatus comprising: a fiber processing machine having a hopper for fibers, a spike apron extending upwardly out of said hopper for removing fibers therefrom, a doffer for the upper end of said apron, and motor means including speed change means for driving said apron; weighing mechanism including a weigh pan positioned to receive fibers doffed from said apron; control means for said motor means responsive to a predetermined weight of fibers in said pan for stopping the drive of said apron; means associated with said pan for discharging fibers therefrom; cyclic means for actuating said discharge means; and resettable control means for said speed change means associated with said motor control means for automatically changing the drive of said apron from a low to a high speed, and for maintaining said drive at high speed in succeeding cycles in the event that the predetermined weight of fibers is not in said pan at a time when said cyclic means actuates said discharge means.

3,142,349
DYNAMICALLY COMPENSATED WEIGHING SCALES

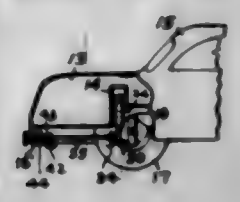
Stewart B. Blodgett, Wayne, Pa., assignor to Blodgett Manufacturing Company, Houston, Tex., a corporation of Texas

Filed June 15, 1962, Ser. No. 202,884
22 Claims. (Cl. 177—164)



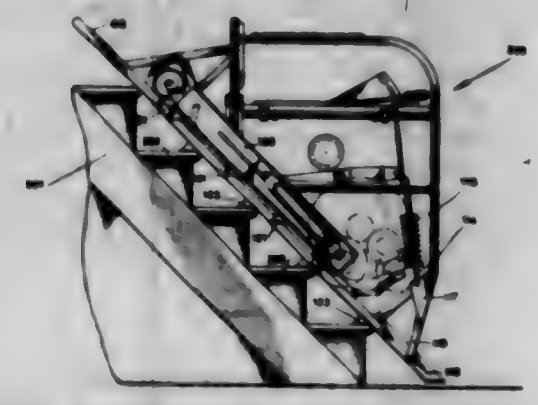
1. A weighing system comprising a weighing pan, means responsive to a load applied to said pan for producing a first signal proportional to the applied load, and means coupled to said first named means for producing a second signal proportional to the rate of change of said first signal.

3,142,350
MOTOR VEHICLE PARKING DEVICE MOUNTED ON REAR AXLE DIFFERENTIAL CASING
Ellis G. Flint, Doland, S. Dak.
Filed Sept. 15, 1959, Ser. No. 840,064
6 Claims. (Cl. 180—1)



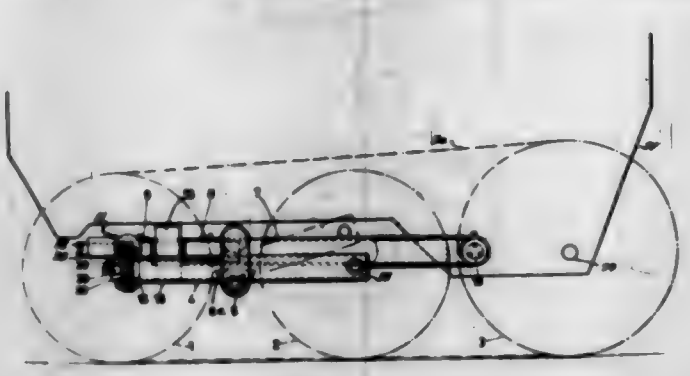
1. A parking device for a motor vehicle which has a rear axle assembly provided with a conventional differential gear housing having a spherically shaped rear end member, comprising a longitudinally extending horizontal bearing member extending from within the differential gear housing through the wall of and rearwardly of said differential gear housing rear end member; at least one rigid plate within and secured to said spherically shaped rear end member of said differential gear housing stabilizing and supporting said bearing member; a wheel sector rotatively supported by said bearing member; and wheel sector driving means carried by a part of the vehicle to the rear of said wheel sector and connected with said wheel sector.

3,142,351
STAIR CLIMBING WHEELCHAIR
Gourley H. Green, Scarboro, Ontario, Canada (% Canadian Research, 1434 Queen St. W., Toronto 3, Ontario, Canada)
Filed Jan. 19, 1962, Ser. No. 167,384
12 Claims. (Cl. 180—8)



1. A stair climbing wheelchair including a framework comprising a plurality of side frames, a seat member extending between said side frames; a back rest also extending between said side frames in a plane substantially perpendicular to said seat member; rear spindles and front axles extending from said side frames; leg members and rear wheels rotatably supported thereby; said leg members being pivotally mounted on said rear spindles; front wheels rotatably mounted on said front axles; a plurality of support beams extending angularly to said side frames; a plurality of walking beams and lifting arms pivotally interconnecting said walking beams with said support beams; said lifting arms converting reciprocation of said walking beam into elliptical travel thereof; means for effecting the reciprocation of said walking beams; first stair gripper means extending from the lower surfaces of said support beams; second stair gripper means extending from the lower surfaces of said walking beams; means for the selective retraction of said rear leg members and rear wheels; rear safety extensions to said support beams; means for extending said rear extensions upon retraction of said rear legs and wheels; front safety extensions to said support beams and means for selectively extending said front extensions.

3,142,352
WHEELED VEHICLE HAVING A PIVOTED BOGIE SHAFT
Gustav Ingemar Johansson, Alfta, Sweden, assignor to Ostbergs Fabriks AB, Alfta, Sweden, a Swedish joint-stock company
Filed Sept. 11, 1961, Ser. No. 137,396
Claims priority, application Sweden Sept. 12, 1960
6 Claims. (Cl. 180—22)

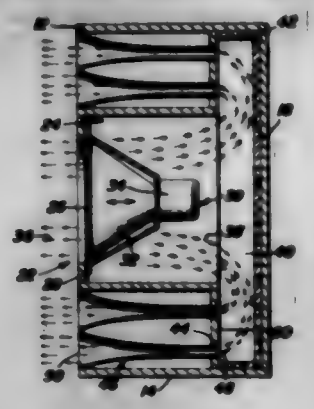


1. A vehicle comprising a rigid frame, a pair of drive wheels mounted on a transverse drive shaft adjacent to the rear end of said frame, an engine mounted on said frame and connected to drive said drive shaft and drive wheels, a second shaft secured to the under side of said frame in front of and parallel to said drive shaft, a pendulum pivoted on each end of said second shaft and extending toward the front end of said frame, each pendulum comprising a tube pivoted to said second shaft and a cylindrical member rotatably and slidably telescoped into said tube and protruding forwardly therefrom, a guide secured to said frame adjacent to the protruding end of said cylindrical member, a slide secured to said cylindrical member and cooperating with said guide to permit vertical movement of the front end of said pendulum with respect to said frame, a third shaft secured to said frame and extending longitudinally thereof adjacent to the middle of the front end thereof, a fourth shaft pivoted on said third shaft and extending transversely of said frame, a tubular extension at the front end of said cylindrical member and extending at a right angle thereto, said tubular extension being pivotally and telescopically connected to one end of said fourth shaft, a jib rigidly supported on said pendulum tube, a fifth shaft rotatably and horizontally supported by said jib, a bogie rod carried by said fifth shaft and pivoted adjacent the center thereof for movement in a normally vertical plane, said bogie rod consisting essentially of a tube member and a cylindrical member telescopically and slidably mounted therein, means preventing relative rotation of said tube member and said cylindrical member of said bogie rod, a sixth shaft extending horizontally and transversely of said frame from the free end of said cylindrical member, a seventh shaft extending horizontally and transversely of said frame from the free end of said tube member and wheels rotatably mounted on said sixth and seventh shafts.

3,142,353
SPEAKER ENCLOSURE
Carmine V. Todisco, 100 Augusta Drive, North Syracuse 12, N.Y.
Filed Oct. 25, 1962, Ser. No. 232,955
4 Claims. (Cl. 181—31)

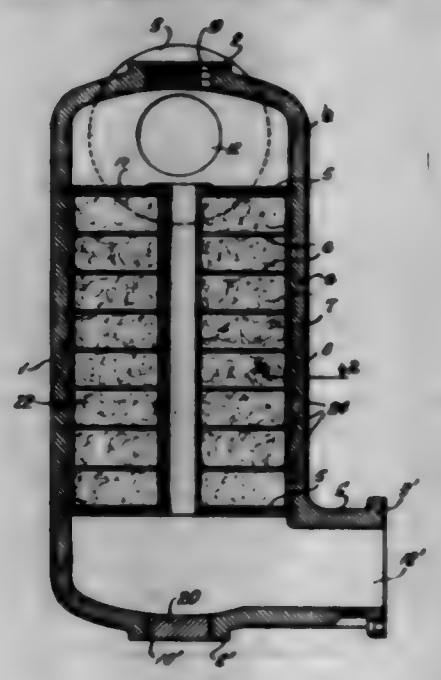
1. A sound reproducing device comprising, power driven means, sound radiating means mounting said power driven means and responsive to energization thereof for effecting direct radiation of sound energy in a forward direction, reflex chamber means mounted rearwardly of said radiating means for conducting rearwardly directed sound energy from said sound radiating means, said chamber means having a volume substantially equal to the volume

occupied by a mass of air that would be displaced by the radiating means for propagation of sound energy through a single equivalent rear loaded exponential horn having a certain length, throat and mouth areas designed for optimum sound reproduction with said reflex chamber means, and a plurality of dimensionally reduced exponen-



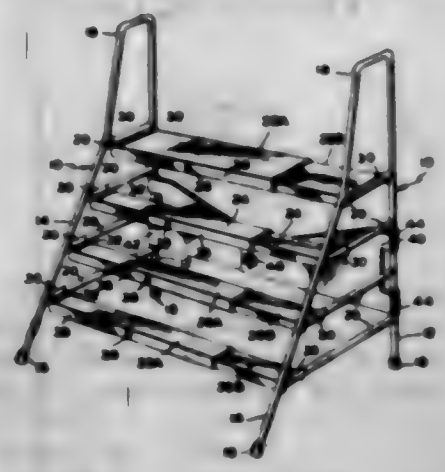
tial horns forming outlet passages from said chamber means forwardly directing said sound energy conducted through said chamber means, said plurality of horns being geometrically similar to said single equivalent horn and having lengths, throat and mouth areas the sums of which respectively equal said certain length, throat and mouth areas of the single equivalent horn.

3,142,354
SOUND ABSORPTION DEVICE AND METHOD OF MANUFACTURE
Helmut Kemmerer and Fritz Kassiber, both of Oberhausen-Sterkrade, Germany, assignors to Gutehoffnungshütte Sterkrade Aktiengesellschaft, Oberhausen, Rhineland, Germany
Filed July 28, 1961, Ser. No. 127,600
Claims priority, application Germany Aug. 9, 1960
2 Claims. (Cl. 181—61)



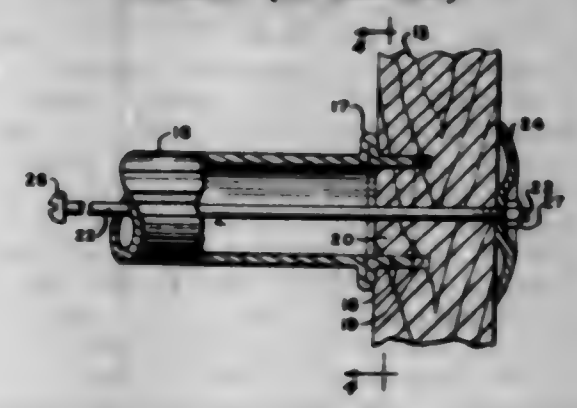
1. A sound absorption device comprising a central assembly including a perforated tubular member for the flow of fluid therethrough, a plurality of plates extending around said tubular member at axially spaced locations along the length thereof, an outer wall member extending between adjacent plates with the peripheries of at least a portion of said plates extending beyond the exterior face of said outer wall member, sound absorbing material disposed between said plates and said tubular member and said outer wall member, and an outer casing cast over said outer wall member with the outer peripheries of said plates extending into said casing casting.

3,142,355
COLLAPSIBLE STEP BENCH
Andrew L. Danielson, 1140 30th St., San Diego, Calif.
Filed June 24, 1963, Ser. No. 289,299
1 Claim. (Cl. 166—42)



A collapsible step bench comprising:
a pair of rigid inverted U-shaped end frames each having forward and rear legs;
a plurality of steps secured between said end frames and each successive step being horizontally forwardly offset from the immediately preceding higher step;
each of said steps being pivotally attached to said end frames at opposite ends of said steps;
each step comprising a pair of interfitting overlapping portions hinged intermediate the ends to fold upwardly, there being horizontal clearance between said steps when folded;
said end frames having integral, upwardly extending hand-hold portions above said steps;
a plate-like brace member pivotally attached to each rear leg and having overlapping portions;
and a manually operable locking element attached to one of said brace members at the overlapping portion thereof and engageable with the other brace member and constituting the sole means for securing the step bench in erected position, said brace members adapted to fold against said end frames when the step bench is folded.

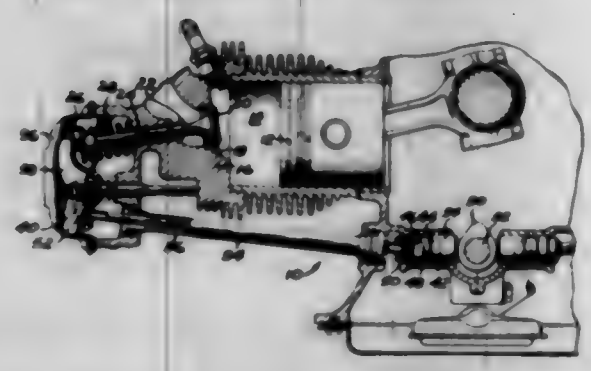
3,142,356
LADDER CONSTRUCTION
Howard B. Rich, Carrollton, Ky., assignor to Howard B. Rich, Inc., Carrollton, Ky., a corporation of Kentucky
Filed Aug. 2, 1963, Ser. No. 299,595
6 Claims. (Cl. 182—194)



1. A ladder which comprises a pair of elongated spaced rails, a plurality of tubular rungs spanning the rails, the rails having annular sockets of substantial depth on their inside faces, each annular socket having a plug in fixed relation to the rail and coaxial with the socket, end portions of the rungs being received in said annular sockets, there being outwardly extending return bent flanges on each rung engaging inner faces of the rails, there being

ribs extending lengthwise of the rungs, the ends of the rungs when received in such sockets being substantially filled by said plugs and means for drawing the rails toward each other to cause the rails to engage the return bent flanges to brace the ladder against rack and limit advance of ends of the rungs into said sockets and frictionally lock the rungs against turning relative to the rails.

3,142,357
ROCKER ARM
Earl A. Thompson, 1300 Hilton Road, Ferndale 20, Mich.
Filed May 11, 1962, Ser. No. 194,862
2 Claims. (Cl. 184—6)



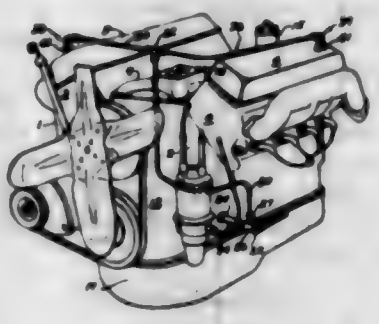
1. In a lubricating system for the valve actuating gear of an internal combustion engine of the type wherein a rocker arm pivoted on a fulcrum is positioned in a generally vertical plane and a valve stem is positioned above the fulcrum and wherein a hollow push rod conducts oil from a source of lubricant to the rocker arm, the improvement which comprises a unitary cast metal rocker arm including a trough-shaped part forming a spherical fulcrum bearing surface intermediate its ends inside the trough-shaped part, a concave push rod bearing surface on the rocker arm adjacent its lower end and outside the trough-shaped part, a convex valve stem bearing surface on the rocker arm adjacent its upper end and outside its trough-shaped part, the rocker arm having a hole through the trough-shaped part on the upper side of the fulcrum bearing surface, and means for positively conducting lubricant upwardly from the push rod bearing surface to the upper end of the rocker arm in the region above the valve stem bearing surface, said conducting means comprising a drilled passage having open ends, one end communicating directly with the push rod bearing surface, the other end opening free to the exterior of the rocker arm at a point above the valve stem bearing surface, and the passage following an angled path generally coincident with the trough-shaped part to circumvent the fulcrum bearing surface whereby the push rod bearing surface is lubricated directly by lubricant from the hollow push rod and the remaining bearing surfaces of the rocker arm are lubricated by the gravitational flow of lubricant delivered from the open end of the passage above the valve stem bearing surface.

3,142,358
KIT FOR AUXILIARY LUBRICATION SYSTEM FOR AN ENGINE
Raymond L. Woerheide, Jr., Bridgeton, Mo., assignor to Champ-Items, Inc., St. Louis, Mo., a corporation of Missouri
Filed Aug. 28, 1962, Ser. No. 218,067
6 Claims. (Cl. 184—6)

1. In an auxiliary oil line kit installation on an overhead valve engine having a valve cover enclosing the valve gear for the overhead valves of the engine and secured to said engine by bolts extending through spaced holes in said cover, and a valve gear including a hollow shaft, supports for said shaft secured to said engine by studs projecting through said supports with the headed ends of said studs at the top of said supports, and an oil passage extending through one of said supports into said hollow shaft from an opening in one support beside one of said studs, the improvement comprising,

(*a*) an auxiliary oil line including a stem of a length extending from within said opening and projecting through a hole in said valve cover,

(*b*) a means embracing and holding a portion of said stem projecting from said opening including a bracket,



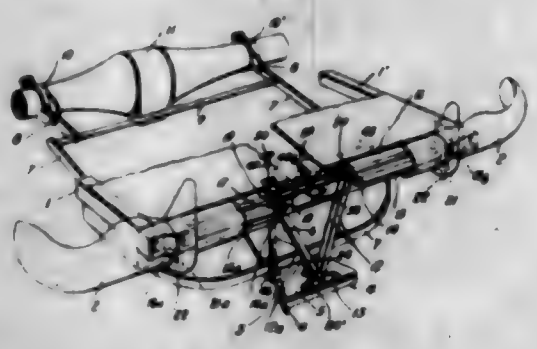
(*c*) an end on said bracket projecting beyond one of said studs provided with an open ended slot offset from said stem and shaped to embrace one of said studs when said bracket is pivoted with said stem as a center,

(*d*) a threaded upper end on said stem,

(*e*) a ferrule slidable onto said threaded end of a size to close the hole around said stem, and

(*f*) a metering nut forming a portion of said auxiliary oil line engaging the threaded upper end of said stem to clamp said ferrule in place on said stem.

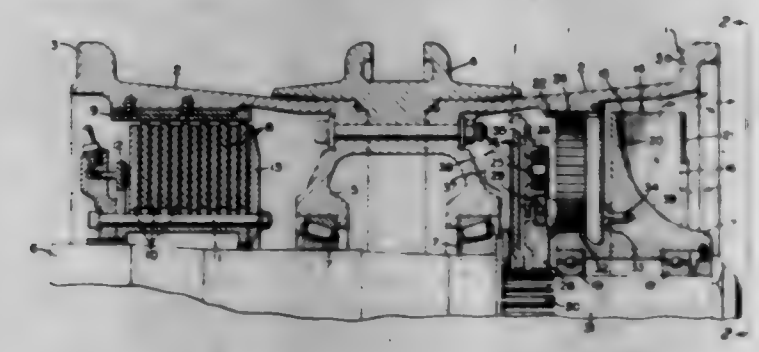
3,142,359
APPARATUS FOR CORRECTING AND PREVENTING SKID IN VEHICLES
Emmanuel Veyret, 164 Ave. de Suffren, Paris, France
Filed Nov. 29, 1962, Ser. No. 242,866
Claims priority, application France Dec. 5, 1961
8 Claims. (Cl. 188—5)



1. Apparatus for limiting skidding of a moving vehicle, for straightening out the vehicle on its intended course in response to a limited skidding of said vehicle, and for acting as an auxiliary brake, said apparatus comprising a support means having a front portion and a rear portion, the front portion being pivotally mounted on the vehicle to rock about an axis perpendicular to the longitudinal median plane of the vehicle and located at a point to the rear of the center of gravity of the vehicle; a friction means carried by said rear portion of said support means; actuating means for rocking said support means to position said friction means selectively in an upper position in which said friction means is clear of the ground surface and in a lower position in which said friction means engages the ground surface, said actuating means comprising a first bar member and a second bar member both disposed in a common plane perpendicular to the vehicle

longitudinal axis and each having upper and lower ends, a pivot fixed with respect to said friction means with its axis substantially parallel to the vehicle longitudinal axis and pivotally mounting the lower ends of said first and second bar members, means disposed symmetrically on opposite sides of said vehicle longitudinal median plane and mounting the repective upper ends of said first and second bar members for guided movements on said vehicle along a common axis perpendicular to the vehicle longitudinal median plane, and resilient means for urging said first and second bar member upper ends relatively toward each other whereby to exert a downwardly directed force on said friction means tending to position the latter in its lower position; locking means effective during normal running of the vehicle for holding said friction means in its upper position against the urge of said resilient means; control means for disabling said locking means to enable said resilient means to move said friction means to its lower position; and restoring means for moving said friction means to its upper position and into locked relation to said locking means.

3,142,360
TURBO-BRAKE
Ladislav Kelemen, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 8, 1962, Ser. No. 164,886
4 Claims. (Cl. 188—90)



1. A turbo-brake for connection between a wheel and an axle on which the wheel is journalled, which turbo-brake comprises

a rotary-type air mover including an impeller having a hub rotatably carried by said axle,

a plurality of generally radially extending vanes on said impeller,

said impeller when rotated drawing air axially inwardly adjacent said axle and forcing air generally radially outwardly adjacent an axial margin of said wheel,

shroud means secured to said wheel and operatively sealing against said axle, said shroud means being positioned at the axially inner end of said air mover to prevent air flow thereby,

ring gear means operatively associated with the inner periphery of said wheel,

planetary gears engaging said ring gear means,

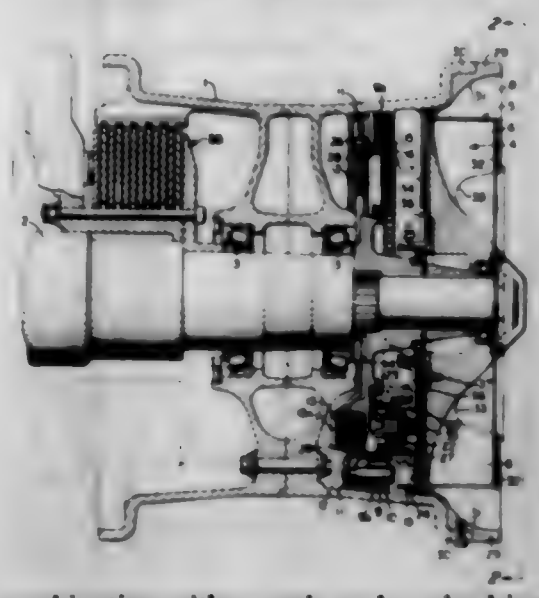
a disc on which said planetary gears are journalled, said disc being journalled on said axle,

second gear means operatively carried by said hub and engaging said planetary gears to be driven thereby,

a brake disc carried by said axle adjacent said disc to retard rotation thereof, and

brake means operatively positioned on said axle to engage said brake disc and move it into engagement with said first-named disc to retard rotation thereof and control the drive speed of said impeller in relation to the speed of said wheel.

3,142,361
TURBO-BRAKE AND DRIVE MEANS THEREFOR
Ladislav Kelemen, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 10, 1962, Ser. No. 193,702
6 Claims. (Cl. 188—90)



1. In combination with an axle and a wheel journalled on said axle,

a turbo-brake including an impeller operatively carried by said axle to draw in air from adjacent said axle and perform work thereon,

compound planetary gear means including pinion shafts operatively connecting said wheel to said impeller for primary drive thereof to drive it at a greater speed than the speed of said wheel,

positioning plate means operatively connecting to said wheel and journalling said planetary gear pinion shafts thereon for secondary drive of said planetary gear means,

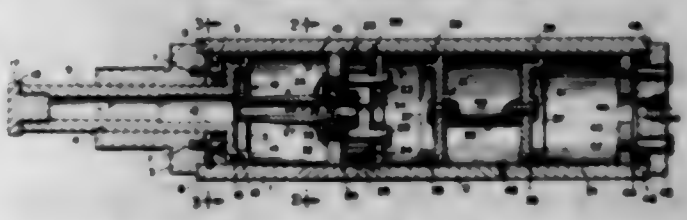
a carrier disc rotatably associated with said axle,

drive pinions journalled on said carrier disc and operatively engaging said wheel and said planetary gear means,

clutch means operatively engaging said carrier disc to control rotation thereof in relation to said wheel, and

reaction vane means operatively associated with the periphery of said impeller to receive air discharged therefrom and effect further braking action by work performed thereon, said reaction vane means being generally radially directed and being formed to direct air radially and axially outwardly of said wheel.

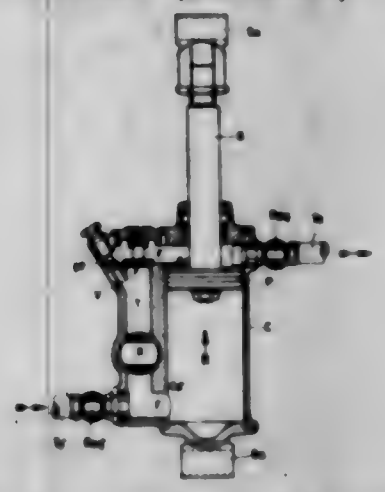
3,142,361
DECELERATING DEVICE
Harold W. Scholin, 7980 W. Belmont Ave., Chicago, Ill.
Filed Aug. 14, 1962, Ser. No. 216,898
10 Claims. (Cl. 188—96)



1. An hydraulic motion control device adapted to decelerate a moving mass comprising an hydraulic chamber, a movable piston in said hydraulic chamber, said piston being a solid piston with a shank with an axial passage therein, said passage also extending through said piston, said shank being slidably mounted in an end wall of said hydraulic chamber, the outer end of said shank being closed, hydraulic fluid sealing means slidably sealing the space between the periphery of said piston and the

inner wall of said hydraulic chamber, a plug in said hydraulic chamber, said plug being coaxial with said axial passage and having an axial passage therethrough, said plug entering the axial passage through said piston and shank when said piston and shank are driven into said hydraulic chamber, the hydraulic fluid in said chamber being driven out of said chamber through the axial passage in said plug, and the plug and the axial passage in said piston and shank having a small clearance through which the hydraulic fluid must flow from said hydraulic chamber to the axial passage of said plug when said plug is in said axial passage.

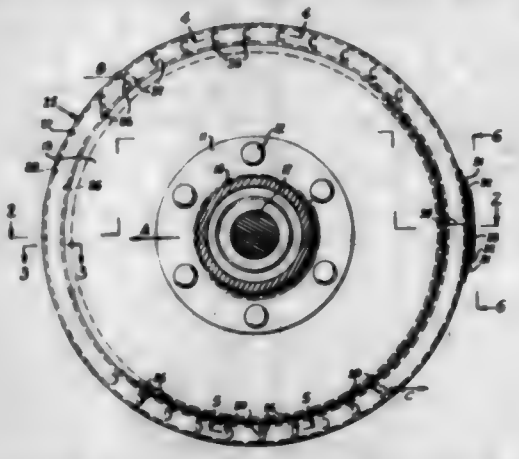
3,142,363
STABILIZING AND SHOCK-ABSORBING DEVICE
Mario Tamini, Via Tranquillo Cremona 5, Milan, Italy
Filed Dec. 5, 1961, Ser. No. 157,180
Claims priority, application Italy Dec. 6, 1960
1 Claim. (Cl. 188—97)



A stabilizing device for a vehicle to maintain the loading platform of the vehicle at a constant level including a hydraulic cylinder with a movable piston therein, a piston rod fixed to said piston, means for connecting said piston rod to the chassis of the vehicle, other means for connecting the cylinder to an axle of the vehicle, passage means in communication with opposite ends of the cylinder and with opposite sides of said piston, valve means disposed in said passage means for cutting off communication with opposite sides of said piston whereby the loading platform of a vehicle is maintained at a constant level when loading it, a check valve disposed in said passage means to permit flow in one direction into one end of said cylinder, and a bleed valve means disposed in said passage means to by-pass liquid around said check valve.

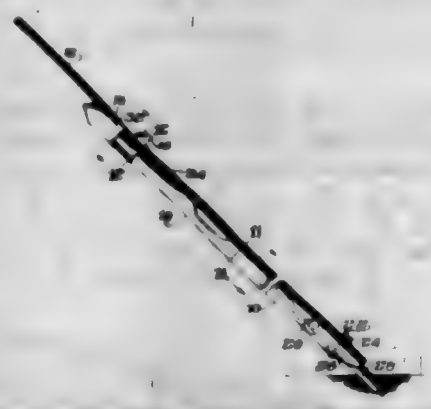
3,142,364
AIR CIRCULATING BRAKE SHIELD
Clarence Melvin Mikkelson, Lisa Court, New Hampton, Iowa
Filed Feb. 18, 1963, Ser. No. 259,318
2 Claims. (Cl. 188—264)

1. In combination with a vehicle having a rotatable axle, a brake drum carried thereby, a stationary axle housing and a carrier plate carried by said axle housing, said brake drum having an annular groove about the periphery and said plate having a flange extending into said groove but spaced from the walls thereof, an air circulating brake shield comprising a ring having a generally U-shaped cross-sectional configuration including an inner wall engaging closely about said flange on said carrier plate, a bight, a relatively short outer wall and an annular flange extending from the outer end of said inner wall inwardly overlying the edge of the flange on said carrier plate, said bight having a first series of louvers thereon comprising an air inlet and a second series of louvers thereon comprising an air outlet, wherein each louver of each series of louvers comprises an outwardly extending projection overlying an opening, each projection extending from a line parallel to the vertical axis of a carrier plate, the first



series of louvers opening forwardly in a normal direction of travel of the vehicle and the second series of louvers opening rearwardly.

3,142,365
GUY WIRE PROTECTOR
George C. Price, Battle Creek Township, Calhoun County, Mich., assignor to Oliver Electrical Manufacturing Company, Battle Creek, Mich., a corporation of Delaware
Filed June 10, 1960, Ser. No. 35,261
8 Claims. (Cl. 189—32)

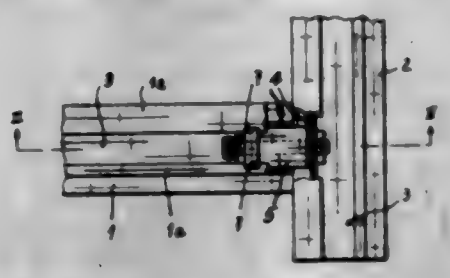


1. An upper fastening means for a guy wire comprising an elongated sleeve having a substantially convex outer surface, a lateral slot extending from a central area of the material which forms the upper portion of said sleeve through an edge of said sleeve to permit said upper portion of the said sleeve to be centrally hooked about said guy wire which passes from within the portion of said sleeve below said slot out over the portion of said sleeve above said slot, longitudinal indented and protruding channels being formed in said sleeve respectively above and below said slot, said channels being disposed substantially in line with each other for smoothly guiding said guy wire through said lateral slot and for confining it therewithin said channels being provided with a depression extending above and below said slot, and said depression encompassing said indented channel and substantially parallel longitudinally indentations disposed along both sides of said protruding channel.

3,142,366
JOINT STRUCTURE FOR FRAME MEMBERS
Jacques Huguenin, 1 Rue du Midi, Le Locle, Switzerland
Filed Apr. 5, 1961, Ser. No. 100,964
Claims priority, application Switzerland Apr. 7, 1960
2 Claims. (Cl. 189—36)

1. In a device for assembling a first member, having portions forming a first longitudinal groove and recesses laterally on opposite sides of the groove, with a second member, having opposed flanges and a wall interconnecting the flanges, forming a second longitudinal groove,

there being an opening through the wall of the second member, the combination which includes a lug having a longitudinal opening and a portion adapted to engage the first of the members in the first longitudinal groove and defining a recess for said recess to be aligned with the recesses in the first member, and extremity of said lug projecting beyond the first member when said recess in said lug is aligned with the recesses in the first member, said extremity entering the second groove of the second of the members and being split longitudinally for engaging elastically the flanges of the second member, a



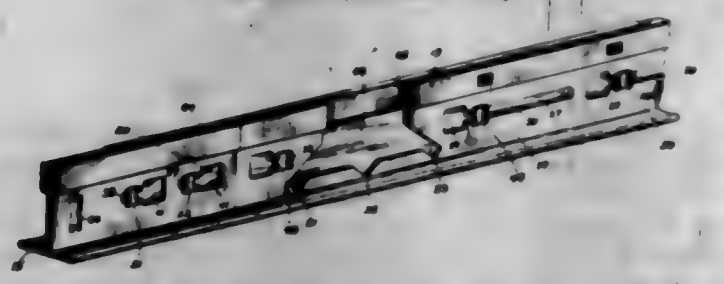
key engaging the first member in the recesses provided in the first member and said lug in said recess in the lug for preventing said lug from moving longitudinally, and a fastening extending through said lug opening and the opening in the wall of the second member and having interengaging threaded fastening portions respectively bearing on said lug and the second member for securing said lug to the second member while said longitudinally split extremity is in the second groove of the second member and elastically engages the flanges of the second member.

3,142,367

CONTROLLED EXPANSION STRUCTURAL BEAM AND GRID STRUCTURE INCLUDING SAME

Donald A. Brown, Westlake, and Lucien R. Downing, Jr., Sheffield Lake, Ohio, assignors to Doma Products Incorporated, Westlake, Ohio, a corporation of Ohio

Filed Feb. 16, 1962, Ser. No. 173,653
6 Claims. (Cl. 189—37)



5. A structural main beam member comprising in combination:

(*a*) a pair of thermally responsive structural beams in end-to-end relation, each having

(*b*) a web portion having spaced parallel marginal edges,

(*c*) a flange disposed along at least one of said marginal edges,

(*d*) the web of at least one of said beams having a cut-out portion intermediate the extremities of said beam and traversing the other of said marginal edges to provide a longitudinal discontinuity in said beam spanned by said flange,

(*e*) a plurality of spaced flange deformation localizing notches formed in said web adjacent said cut-out portion, said notches extending substantially to the plane of said flange, and

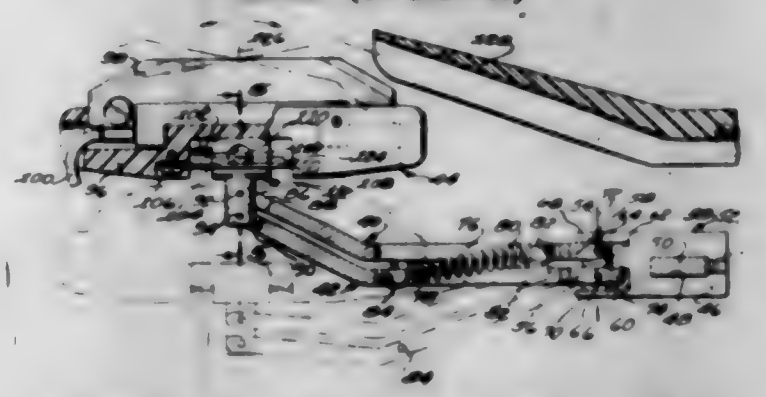
(*f*) means for restraining motion of beam in a plane transverse to the plane of the web adjacent said cut-out portion, including a reinforcing beam having a web facing portion having a plurality of keys disposed in spaced longitudinal relation thereon, the web of each of said pair of beams including key-slot means adapted to receive said keys in interlocking relation for maintaining said beams in end-to-end relation, the web of said one of said beams including said cut-out portion having key-slot means disposed on either side of said cut-out portion, the key-slot means on one side of said cut-out portion including an elongated longitudinally extending slot portion adapted to unidirectionally slidably coact with a key member in response to longitudinal expansion of the beam, and including key-slot means on the other side of said cut-out portion having a restricted portion to restrain said beam against longitudinal relative motion due to said expansion.

3,142,368

ELECTRICAL COLLECTOR ASSEMBLY

John W. Roney, Los Altos, Calif., assignor to Insul-8 Corp., San Carlos, Calif., a corporation of California

Filed Nov. 29, 1962, Ser. No. 240,841
7 Claims. (Cl. 191—45)



1. An electrical collector assembly having a collector head for contacting a conductor bar of an electrification system comprising a mounting base, a collector head, a pair of approximately parallel spaced apart supporting arms extending between the mounting base and collector head, means pivotally connecting opposite ends of the arms to the mounting base and collector head on spaced parallel pivot axes, and a coil spring several times longer than the spacing between said arms contained on the arms at a position between the mounting base and collector head for urging the arms about their pivot axes so that the force the collector head exerts against its conductor bar will remain substantially constant and relatively independent of the separation between the conductor bar and the mounting base of the collector assembly, the arms having accommodating slots formed therein, the coil spring extending from within the confines of the slots and diagonally between the arms, and opposite ends of the coil spring being coupled to opposite arms.

3,142,369

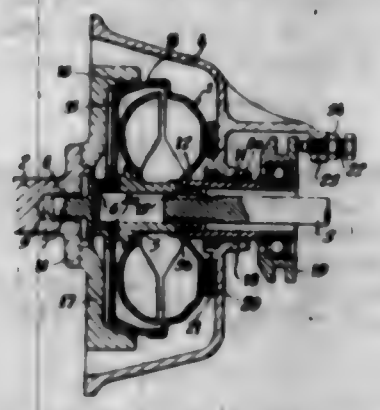
FLUID POWER TRANSMITTERS

Alan J. Atkins, Leamington Spa, England, assignor to Automatic Products Company Limited, Leamington Spa, England

Filed June 27, 1961, Ser. No. 119,956
Claims priority, application Great Britain June 28, 1960
6 Claims. (Cl. 192—3.2)

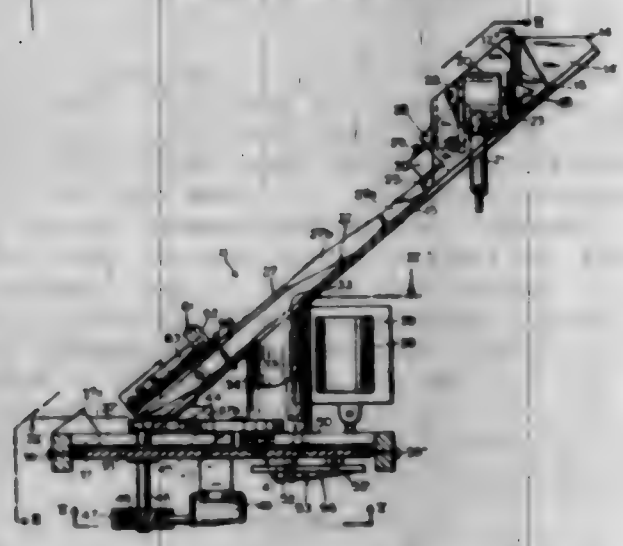
1. In combination, a fluid power transmitter comprising a drive shaft with a flywheel fixed thereto, a driven shaft, a stationary housing with a central opening, a hydraulic fluid coupling casing disposed within said housing, an impeller fixed to said casing having one side provided with a peripheral tapered surface forming a movable element of a cone clutch, said flywheel having a tapered internal surface for cooperation with said movable element, a turbine disposed within said casing for rotation by fluid therein, a sleeve fixed to said turbine for rotation therewith and being fixed to said driven shaft for driving rotation of said driven shaft, a second sleeve fixed to said casing and extending into said central opening, a brake member fixedly secured to the internal surface of said

housing adjacent another side of said casing opposite its said one side, means for moving said casing axially toward said flywheel for engaging said clutch elements at



one time and for axially moving said casing in the opposite direction at another time, to engage said another side of said casing with said brake member.

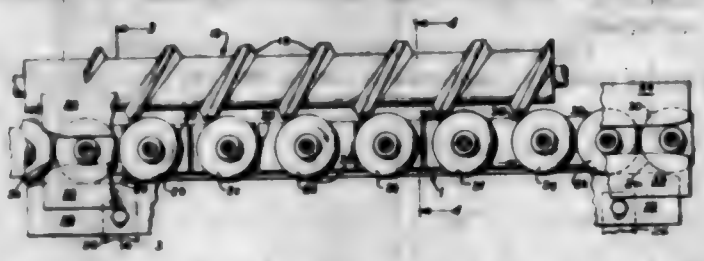
3,142,370
AUTOMATIC COIN COLLECTOR
Fred J. Otten, 86 Jefferson St., Inwood, N.Y.
Filed Apr. 16, 1962, Ser. No. 187,740
6 Claims. (Cl. 194—9)



1. In a coin-collecting device, in combination, a receptacle for coins, guide means forming a path for the removal of coins from said receptacle, said guide means including a substantially vertical tube with a bore adapted to accommodate said coins, a support below said tube tiltable about a substantially horizontal axis offset from said tube, said support having a substantially horizontal receiving surface spaced from the bottom of said tube by a clearance for said coins, said support being further provided with an outlet for said coins offset from said tube, transport means in said clearance having a formation capable of engaging a coin from said tube for sweeping it from said bore across said surface to said outlet, testing means adjacent said transport means for registering the passage of a coin from said bore to said outlet, and release means operable to tilt said support about said axis away from said tube upon a malfunction of said transport means for clearing obstructions from said surface.

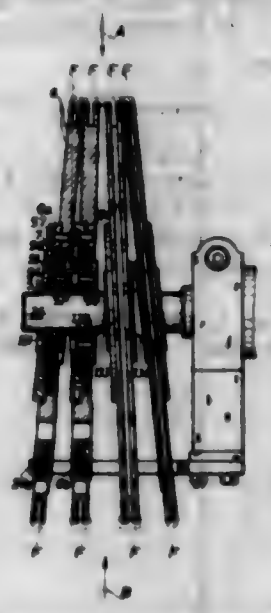
3,142,371
SPOTTING DEVICE FOR BOTTLES AND THE LIKE
Harold B. Rice, Walnut Creek, Calif., and John G. Aguilar, deceased, late of Contra Costa County, Calif., by Clotiel Aguilar, administratrix, Contra Costa County, Calif., assignors to John Burton Machine Corporation, Concord, Calif.
Filed Feb. 19, 1960, Ser. No. 9,734
7 Claims. (Cl. 198—33)

1. In an article spotting device for orienting cylindrical articles disposed with their axes vertical: an elongated horizontally extending feed screw provided with a helix adapted to engage the sidewall of an article for urging the latter in one direction along a path of travel parallel to the longitudinal axes of said feed screw, means for rotating said feed screw for so urging said article in said one direction, means for supporting such articles in a generally vertical position and for holding them in engagement with said screw at all points along said path so that each



of said articles is received within a flight of said helix, said supporting means including an elongated fixed rail parallel to said path of travel and in supporting engagement with the bottoms of said articles at points offset from the centers thereof, said rail constituting the only support of said bottoms during a portion of the travel of said articles to provide a frictional drag on said bottoms whereby said helix urges said articles to rotate in one direction about their axes during said movement along said path.

3,142,372
DEVICE FOR TRANSFERRING ROD-SHAPED ARTICLES, SUCH AS CIGARETTES
Fritz Wiese, Hamburg-Lohbrügge, Germany, assignor to Hauni-Werke Körber & Co. K.G., Hamburg-Bergedorf, Germany
Filed Dec. 19, 1961, Ser. No. 160,576
Claims priority, application Germany Jan. 2, 1961
10 Claims. (Cl. 198—34)



1. A device for transferring groups of axially aligned rod-shaped articles transversely to their length and for simultaneously displacing the articles of such groups axially relative to each other, said device comprising

(*a*) a plurality of axially spaced transfer discs, one for each article of a group to be transferred,

(*b*) means for rotatably supporting said transfer discs so that the discs are free to rotate about a fixed axis in planes which form such angles with said fixed axis that, after rotating with said discs through a predetermined angle, the articles to be transferred are axially displaced by a desired distance,

(*c*) means for adjusting the inclination of said discs with respect to each other, said adjusting means including a bearing collar for each transfer discs and said discs being adjustably mounted on the respective bearing collars so that each thereof may rotate in a selected plane,

(*d*) supporting means for maintaining said bearing collars in axial alignment, and

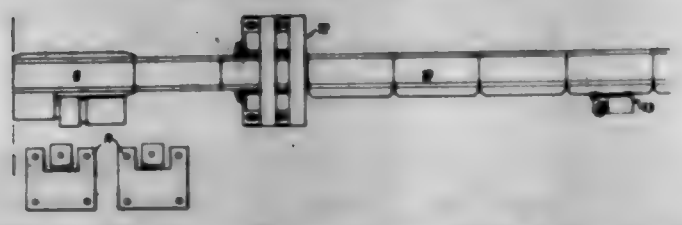
(*e*) means for rotating said discs at identical speeds.

3,142,373

BODILY ADJUSTABLE CONVEYOR

Thomas Pollard, Chorley, England, assignor to Gullick Limited, Wigan, Lancashire, England, a British company

Filed Nov. 19, 1962, Ser. No. 238,588
Claims priority, application Great Britain Nov. 30, 1961
3 Claims. (Cl. 198—126)



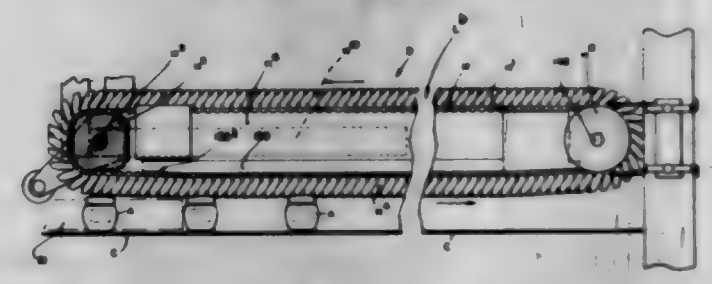
1. In combination, a conveyor having two bracket means projecting laterally from it and spaced apart respectively along the length of the conveyor, pressure-fluid-operated ram means for moving the conveyor in a direction at right-angles to its length so as to advance it towards a coal face, two abutment devices having releasable pressure-fluid operated prop means for securing them between floor and roof, one adjacent one of said bracket means on the conveyor and one adjacent the other of said bracket means on the conveyor, and means on said abutment devices engaging their adjacent bracket means on the conveyor to hold the conveyor against down-seam movement when on an inclined seam, one of said bracket-engaging means comprising pressure-fluid-operated ram means having a ram operative to act in the direction of length of the conveyor and to move the conveyor in the direction of its length to correct any down-seam movement which takes place when the conveyor is advanced towards the coal face.

3,142,374

ARTICLE HOLD-DOWN FOR LABELING MACHINES

Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin

Filed Dec. 2, 1960, Ser. No. 73,359
9 Claims. (Cl. 198—165)



1. In combination, in a labeling machine which includes a conveyor operative to advance articles along a predetermined path, means operative to arrange articles in accurately spaced relation upon the conveyor, means for driving the conveyor at a predetermined accurate and uniform linear velocity, an endless hold-down belt comprising a resiliently yieldable article-contacting ply, the belt including upper and lower runs and portions connecting the upper and lower runs, the major part of the lower run being parallel to the article path and spaced from the latter a distance such, relatively to the height of the article, that when an article is operatively positioned between the conveyor and said lower run of the belt, the resilient ply of the belt is compressed, and wherein that portion of the belt which is moving downwardly from the upper to the lower run is defined by a rotary belt-positioning device, characterized in that said belt-positioning device is so constructed and arranged that, as it rotates, it first provides a substantially horizontal portion of the belt above each successive article and then moves each such substantially horizontal portion of the belt directly down into contact with the top of the article which is directly below it.

3,142,375

RETRACTABLE FINGER ASSEMBLY

Albert R. J. Lake, Toronto, Ontario, Canada, assignor to Massey-Ferguson Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed Apr. 11, 1961, Ser. No. 102,242
4 Claims. (Cl. 198—211)



1. In a crop feeding conveyor including a rotatable drum enclosing a stationary eccentrically disposed crank shaft, a retractable finger construction comprising, in combination, an elongated finger slidably fitted through an aperture in said drum, said finger being secured to a first generally semicylindrical bearing segment fitted against said shaft, a second generally semicylindrical bearing segment fitted against said shaft opposite said first bearing segment so as to define therewith a cylindrical bearing surrounding said shaft and rotatably mounting said finger on said shaft, and a pair of resiliently compressible clamps snugly surrounding said bearing segments on either side of said finger so as to releasably secure said finger to said shaft.

3,142,376

DRAWING BENCH

Carl Hölzer, Solingen, Germany, assignor to T. H. Kieserling & Albrecht, Solingen, Germany

Filed Dec. 12, 1958, Ser. No. 780,978
5 Claims. (Cl. 205—3)



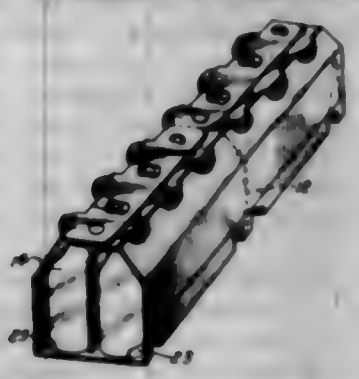
1. A drawing apparatus comprising, in combination, an elongated support having two parallel adjacent elongated rigid guideway means; a die member having a die opening and located at one end of said elongated support; a housing at the other end of said support; a carriage means mounted on said support for reciprocating movement between a first terminal position closer to said die member and a second terminal position closer to said housing and adapted for drawing a wire through said die opening only during movement from said first to said second terminal position; flexible chain means having two ends, one of said ends being fastened to said carriage means and guided along the length thereof in one of said guideway means and the other end being free and guided along the length thereof in the other of said guideway means, said chain means passing through said housing; reversible drive means in said housing engaging said chain means and

being operable to move said chain means in opposite directions for reciprocating said carriage means between said terminal positions, said chain means having such a length that said other end is spaced a short distance from said drive means when said carriage is in said first terminal position whereby the drawing force tensions the portion of said chain means between said one end thereof and said drive means during movement of said carriage means from said first to said second terminal position while the workpiece exerts no force on said portion of said chain means during movement of said carriage means from said second to said first terminal position and buckling of said portion of said chain means during return movement of said carriage means from the second to the first terminal position is prevented by said guideway means.

3,142,377
PRESSURE SENSITIVE VINYL TAPE
Jack D. Lulla, Port Chester, and Harvey Wacks, Bronx, N.Y., and Mayer Berliner, Newark, N.J., assignors to Technical Tape Corporation, New Rochelle, N.Y., a corporation of New York
No Drawing. Filed Jan. 30, 1962, Ser. No. 169,958
8 Claims. (Cl. 206—59)

2. A roll of pressure sensitive tape comprising a sheet wound upon itself in roll form, said sheet being coated on a side thereof with a rubber resin type pressure sensitive adhesive and said sheet being comprised of (*a*) a major proportion of a polymer predominantly consisting of polymerized vinyl chloride and (*b*) a non-viscous monomeric liquid plasticizer, said plasticizer being the esterification reaction product of dipentaerythritol and a C_5–C_9 monobasic fatty acid.

3,142,378
SEPARABLE CARTON
Byron H. Longfield, Jr., P.O. Box 854, Devon, Pa.
Filed Jan. 14, 1963, Ser. No. 251,375
4 Claims. (Cl. 206—65)



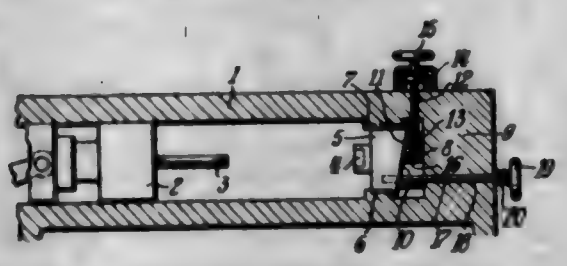
1. A separable carton in combination with a plurality of articles arranged side by side in at least one row comprising a sleeve of sheet material having bottom, side and top walls foldably joined together at angles to each other and encircling the row of articles, article retaining means at the ends of the sleeve engaging end articles in the row to hold the articles in the sleeve, the walls being formed with a weakened separation line between two adjacent articles in the row at which the sleeve can be separated into two parts, and article retaining means on opposite sides of the separation line to retain the articles in each of the parts when they are separated, each of the last named article retaining means comprising a pair of generally triangular web members foldably connected to adjacent walls and foldably connected to each other by a fold line coincident with the fold line between said adjacent walls when the web members are in the planes of the respective walls, one of the web members being joined to one of the walls by a fold line spaced from and generally parallel to said separation line and the other web member being joined to the other wall by a fold line at an acute angle to the separation line, said last two named fold lines meeting at the fold line between the adjacent walls, the last named web member being folded over against the wall to which it is joined and holding the first named web member in an extended position in engagement with the adjacent article.

3,142,379
HOSIERY PACKAGE
James E. Garrou, Valdese, N.C., assignor to Alba-Waldensian, Inc., a corporation of Delaware
Filed July 30, 1959, Ser. No. 830,643
11 Claims. (Cl. 206—78)



1. A sock display package comprising a pair of substantially identical elongated insert panels, said panels being positioned in mating overlying relationship to each other, a sock having a foot portion and a leg portion, the foot portion of said sock sandwiched between said insert panels, and the leg portion of said sock enveloping said insert panels.

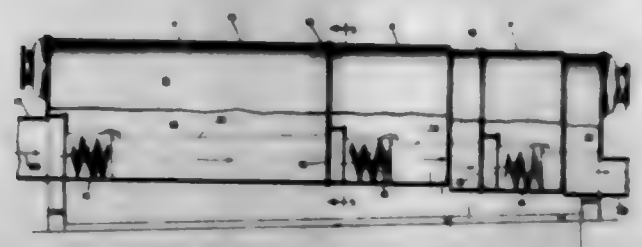
3,142,380
FLOW DEFORMATION PRESS
Karl Grieshaber, Jebenhausen, Wurttemberg, Germany, assignor to L. Schuler AG, Goppingen, Wurttemberg, Germany
Filed Apr. 28, 1961, Ser. No. 106,390
Claims priority, application Germany May 4, 1960
3 Claims. (Cl. 207—6)



1. In a toggle press, the combination comprising reciprocable ram means, a press frame including stationary back rest means, press table means between said ram means and said back rest means, substantially perpendicular to and adjustable in the direction of reciprocation of said ram means, adjusting means including a wedge member interposed between said back rest means and said press table means, guide means for said press table means along at least part of its path of adjustment, said guide means including at least one portion of said press frame in the region of said press table means, substantially parallel with said direction of reciprocation and having a keyway therein, said press table means having at least one peripheral portion in mating engagement with said keyway, a rod member rigid at one of its ends with said press table means and protruding through said back rest means substantially parallel to said direction of reciprocation, and resilient means including a spring surrounding said rod

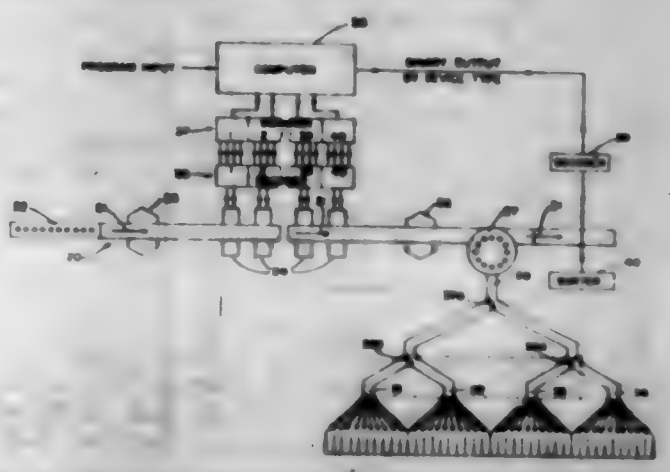
member for urging the other end thereof away from said back rest means and thus said press table means toward said back rest means in continuous engagement with said wedge member, whereby stepless regulation of the dead center position of the press is insured both toward and away from said ram means.

3,142,381
EVAPORATOR CONSTRUCTION
Kenneth B. Ris, Massillon, Ohio, and Stewart F. Mulford, Falls Church, Va., assignors, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 10, 1961, Ser. No. 101,772
3 Claims. (Cl. 202—173)



1. In flash evaporator construction for distilling sea water and the like in multi-stage, generally horizontally disposed, tandem-arranged evaporator chambers of a type in which feedwater flows between successive high to low temperature stages, in which equal temperature differentials and corresponding unequal pressure differentials exist between adjacent stages, and in which the pressure differentials between adjacent low temperature stages are insufficient to maintain feedwater flow from one stage to the adjacent stage; an elongated tubular shell; support means; means mounting the shell on the support means in a generally horizontally disposed position; transverse partition means intermediate the ends of the tubular shell dividing the shell into elongated, tandem-arranged adjacent evaporator chambers each having tubular wall portions formed by successive longitudinally adjacent tubular portions of the shell; means dividing each chamber into a feedwater receiving portion and a communicating condensing portion for condensing vapors produced by vaporization of part of the feedwater in the chamber receiving portion; the evaporator chamber receiving portions each being provided with inlet and outlet means including a passageway formed in each partition means serving as the feedwater outlet means for one chamber and the feedwater inlet means for the next lower temperature stage chamber; feedwater distribution box means in each chamber receiving portion communicating with the inlet means for such chamber; the feedwater distribution box means in any chamber being so constructed, arranged, and related to the outlet means for such chamber as to distribute a body of feedwater elongated lengthwise of the shell in said chamber with a surface elevation level above the outlet means for such chamber, thereby separating the internal pressures in the successive chamber stages above the levels of the elongated feedwater bodies therein so as to maintain pressure differentials between adjacent chambers; and the mounting means for the shell on the support means being constructed to locate the shell with a predetermined slope continuously downwardly lengthwise from higher to lower temperature stage chambers in said shell; whereby the respective levels of the elongated bodies of feedwater in the successive chambers in the shell are successively lower from higher to lower temperature stage chambers, thereby forming a feedwater pressure head between each chamber and its next adjacent chamber in said shell; and whereby the internal pressure differentials between adjacent chambers augmented by the feedwater pressure head in any chamber in said shell resulting from the shell slope maintains a flow of feedwater from chamber to chamber through said shell.

3,142,382
COMPREHENSIVE TESTING SYSTEM
Carl Harry Knowles, Phoenix, and Carl G. Tinsley and Robert W. Helda, Scottsdale, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 12, 1962, Ser. No. 179,112
12 Claims. (Cl. 209—75)



1. An electrical system for making a series of different electrical tests on electronic devices which are supplied automatically to a plurality of test stations in a serial order, and for ultimately sorting the devices on the basis of their electrical parameters as measured at said test stations, said electrical system including in combination:

(*a*) a plurality of testing circuit means, one for each of said test stations, for performing a series of different voltage-current tests on each of said electronic devices on the basis of one test at each said test station so that a plurality of test output signals representing measured values of the parameters of each said device are supplied sequentially from said testing circuit means,

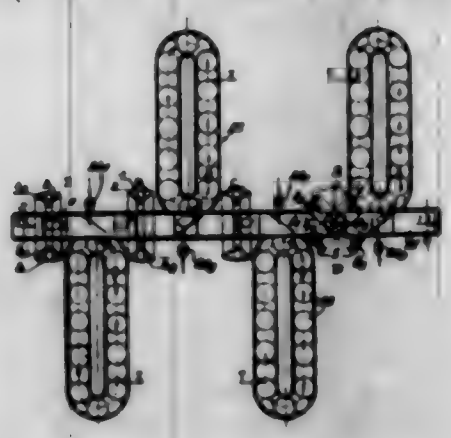
(*b*) means for evaluating said test output signals from said testing circuit means including a computer for storing the individual test output signals for a given device until the series of tests for that device is completed by said testing circuit means, and for then comparing the measured parameter values represented by said test output signals on a priority basis against parameter limits for a plurality of electrical categories so as to classify such device into the highest priority category that is satisfied by the parameters of said device as measured by said testing circuit means,

(*c*) and means controlled electrically by said computer for receiving said devices from said test stations and for automatically sorting said devices into a plurality of groups corresponding to the electrical categories into which said devices have been classified by said computer.

3,142,383
MACHINE FOR SORTING
Jean Jacques Boyer, 196 Rue de Rivoli, Paris 1, France
Filed Jan. 6, 1961, Ser. No. 81,025
Claims priority, application France Jan. 7, 1960
7 Claims. (Cl. 209—82)

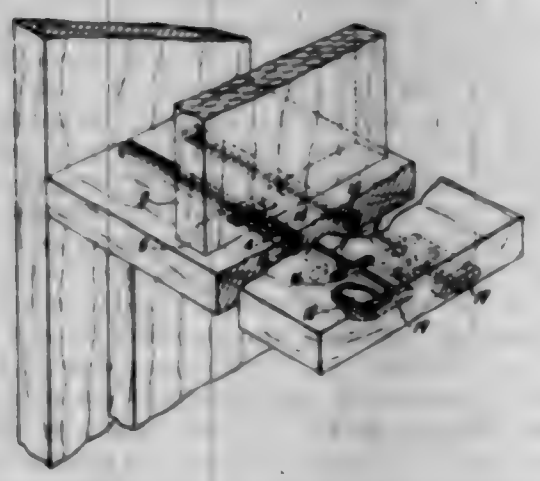
1. An apparatus for sorting articles comprising means forming a transport path for said articles; and at least one sorting station disposed along said path, said station including a first concave mirror having a focus; a source of light located at the focus of said mirror emitting part of its rays towards said mirror for reflection thereof into a substantially parallel light beam extending across said path; first shield means at said first mirror forwardly of said focus in the direction of said path for arresting the other rays emitted by said source; a second concave mirror disposed opposite said first mirror across said path concentrating the rays of said light beam at another focus; second shield means at said second mirror rearwardly of said other focus; photoelectric detector means adja-

cent said second mirror and located beyond said other focus in the direction of said first mirror for receiving rays reflected by said second mirror; circuit means controlled by said detector means for providing an output current in response to the interruption of said beam by an article of predetermined size displaced along said path; and de-



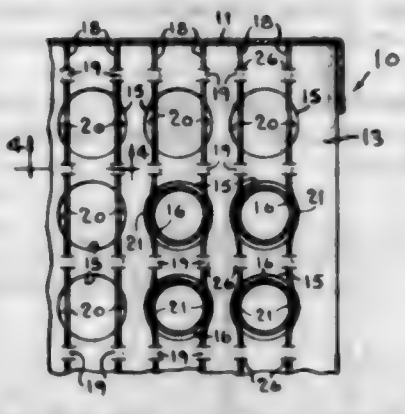
flecting means controlled by said output current for diverting said article from said path at least one of said shield means having a central, inner shield axially aligned with the respective mirror and an annular outer shield coaxial with said inner shield for defining an annular light beam impinging upon said second mirror.

3,142,384
ADJUSTABLE BOOK SHELVES AND BOOK ENDS
Annette E. Fridolph, 2100 W. Front St., Statesville, N.C.
Filed Dec. 29, 1961, Ser. No. 163,333
7 Claims. (Cl. 211—43)



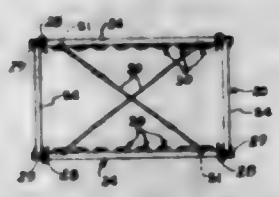
1. A support for a plurality of articles comprising:
a member having a longitudinal slot therein, said slot having a narrow portion opening through one surface of said member and a wider portion spaced behind said surface,
an elongated slider longer than the wider portion of said slot and wider than said narrower portion of said slot engageable in and slidable along said slot,
a connecting member extending from said slider and slidable in said narrower portion of said slot,
a second slot extending transversely of and communicating with said longitudinal slot to allow passage of said slider through said transverse slot,
an enlarged cavity in said support behind said transverse slot and in alignment with said longitudinal slot to permit turning of said slider into endwise alignment with said slot and introduction of said slider into said longitudinal slot and a partition mounted on said connecting member substantially perpendicular to said slider.

3,142,385
CULTURE TUBE HOLDER
James F. Kahlenberg, P.O. Box 3636, Sarasota, Fla.
Filed Sept. 7, 1961, Ser. No. 136,620
3 Claims. (Cl. 211—74)



1. Means for securing test tubes within a rack comprising a member having a row of tube receiving openings therein, two resilient wires retained on said member and located in parallel relationship on each side of said row so as to partially overlie each opening of said row, said resilient wires being retained on said member by virtue of eyelet means and said wires freely extending through said eyelet means.

3,142,386
PALLET RACK
Leroy F. Skubic, Beverly Shores, Ind., assignor to The Palter Corporation, Michigan City, Ind., a corporation of Illinois
Filed Apr. 15, 1960, Ser. No. 22,425
2 Claims. (Cl. 211—148)

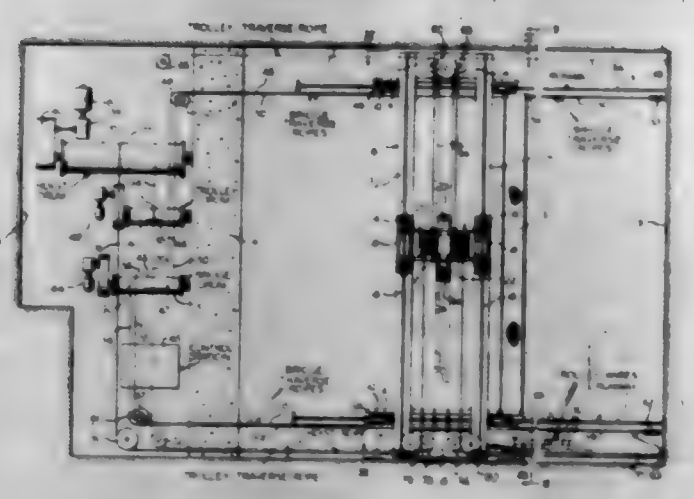


1. A metal storage rack comprising a plurality of pairs of spaced end units each including a pair of spaced vertical posts, a pair of spaced horizontal shelf beams mounted between corresponding posts of said units, said beams having a vertical member and an upper horizontal member extending from the upper edge of said vertical member, a plurality of corbels pressed outwardly from said vertical surface in a direction opposite from said horizontal member, each said corbel having a vertical portion parallel to but spaced from said vertical member and joined at each end to said vertical member by sloping portions, said corbel defining an open vertical slot, the upper surface of said corbel being spaced below said horizontal beam member, the portion of the beam from which each corbel is pressed defining an aperture affording access to the corbel through the beam, tie rods extending diagonally of said rack between opposite ends of said spaced beams, and a tightening member on each end of the tie rods adjustably securing said tie rods to opposed sloping portions of corbels adjacent the respective ends of said beams, said members being accessible for adjustment through said access apertures in the beams.

3,142,387
FLYING ROPE CRANE
John E. Minty, North Muskegon, Mich., assignor to Manning, Maxwell & Moore, Incorporated, Muskegon, Mich., a corporation of New Jersey
Filed Feb. 28, 1962, Ser. No. 174,548
3 Claims. (Cl. 212—18)

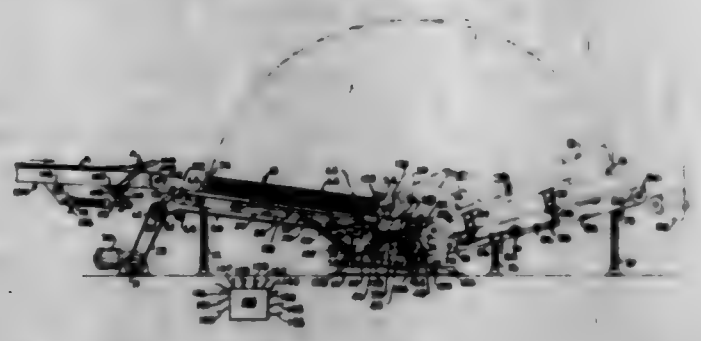
3. In a flying rope crane installation,
means defining an area in which the crane is to operate,

a travelling bridge spanning said area,
a trolley to traverse said bridge,
sheaves at each end of said bridge and each side of said trolley,
a pair of separate ropes each having an end anchored at the far side of said area and trained over said sheaves one on one side of said trolley and one on the other side,
a single drive drum outside said area to which both said ropes are connected and lapped therearound in opposite directions,



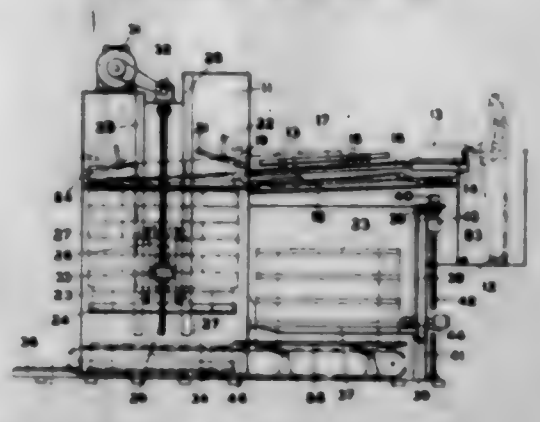
a pair of bridge ropes associated with each end of said bridge,
one of the ropes of each pair of bridge ropes being anchored to the adjacent side of said bridge and the other rope of each pair passing over a sheave at the far side of said area and anchored to the opposite side of said bridge, and
another single drive drum outside said area to which one pair of bridge ropes is connected at each end thereof and lapped therearound in opposite directions.

3,142,388
SHEET CONVEYING APPARATUS
Robert W. Cole, Menasha, Wis., assignor to Menasha Wooden Ware Corporation, Menasha, Wis., a corporation of Wisconsin
Filed Dec. 18, 1961, Ser. No. 159,998
4 Claims. (Cl. 214—6)



1. Apparatus for conveying stacks of paperboard sheets comprising a first conveyor, first means associated with said conveyor and mounted for pivotal movement about a point adjacent one end thereof, second means for inducing such pivotal movement in a vertical plane from an initial position substantially coincident with said conveyor through a substantial arc to invert a stack of sheets on said conveyor and to place such stack in inverted position, a second conveyor positioned adjacent said one end of the first conveyor to receive such stack of sheets from said first means, stop fingers moveably mounted on said first means for selectively stopping the movement of sheets carried by said first conveyor, stacking fingers moveably mounted on said first conveyor for aligning into a uniform stack a succession of sheets positioned on said first conveyor, and offsetting means associated with said conveyors to selectively offset stacks of sheets.

3,142,389
PALLET LOADING MECHANISMS
William Noel Bolt, Holly House Farm, Great Sankey, Warrington, Lancashire, England
Filed Feb. 21, 1962, Ser. No. 174,907
4 Claims. (Cl. 214—6)



1. In a pallet loading mechanism of the kind described, the combination of an article-feeding conveyor, a loading platform arranged transversely of the direction of movement of the articles on the article feeding conveyor and downwardly inclined away therefrom, a movable end stop arranged at the forward end of the platform and being responsive to a controlling means operable at will by an operator, a pallet carriage arranged forwardly of the loading platform with respect to the direction of movement of the articles on the platform for receiving a layer of articles from the platform, said carriage being movable vertically to deposit a loaded pallet on to a delivery conveyor, a pallet-feeding conveyor for transporting an empty pallet into position above the pallet carriage when the carriage is in its lowermost position, the movement of the pallet-feeding conveyor being responsive to a conveyor control member operable by the carriage as it reaches its lowermost position, a pallet magazine having a vertically movable base arranged above the pallet-feeding conveyor and adapted to support a stack of pallets, a clamping device arranged, prior to the operation of the conveyor control member by the carriage, to move into clamping engagement with the pallet next to the bottom one of the stack so as to support all but the bottom pallet, and means for operating the movable base, while the stack is so supported by the clamping device, firstly to lower the bottom pallet on to the pallet-feeding conveyor and then, after the pallet has been moved by the pallet-feeding conveyor, to raise the base into engagement with the lowermost pallet in the stack, the clamping device then being released to leave the stack supported on the base.

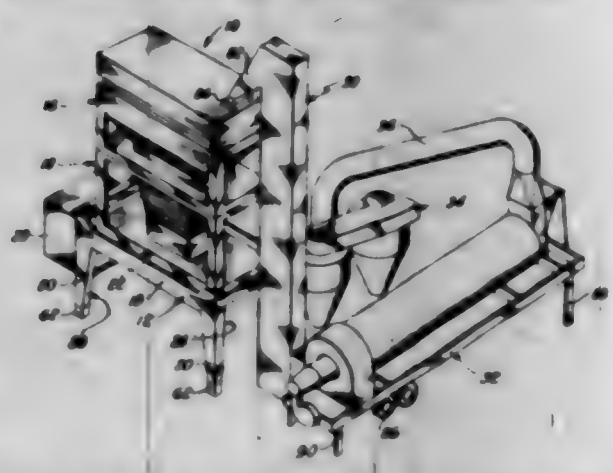
3,142,390
SELF-ERECTING PLANT
Marvin B. Freeman, Los Angeles, Calif., assignor to Standard Steel Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 818,697, June 8, 1959. This application Feb. 9, 1962, Ser. No. 174,347
1 Claim. (Cl. 214—17)

In a self-erecting plant of the character described, the combination of:

(*a*) a base section comprising an open, horizontal, rectangular frame having legs at its corners to provide intersecting, horizontal, longitudinal and lateral passageways and a vertical shaft intersecting said longitudinal and lateral passageways;

(*b*) an upper section movable vertically through said vertical shaft between upper and lower positions and through an intermediate position;

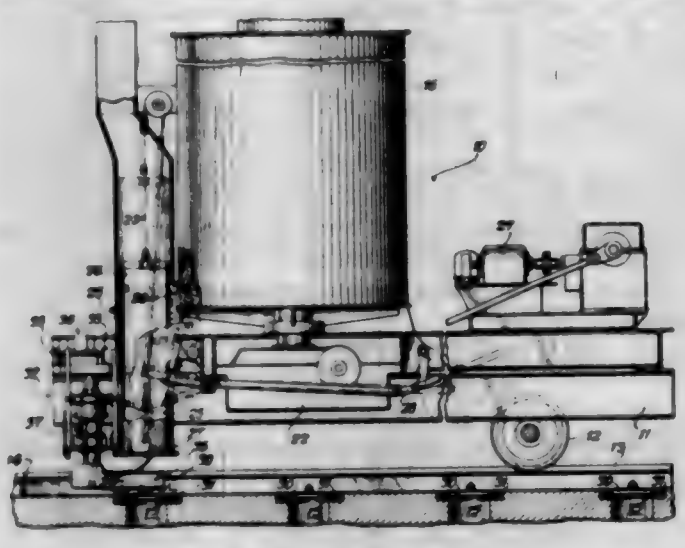
(*c*) elevating means on said base section and connectible to said upper section for moving said upper section vertically in said vertical shaft between said intermediate and lower positions;
(*d*) means for connecting said base section to said upper section with said upper section in said lower position and with said base section mounted on said upper section for transport purposes;
(*e*) wheeled transport means connectible to said upper section for transporting said upper section with said upper section in said lower position and with said base section mounted on said upper section;
(*f*) an intermediate section movable through said longitudinal passageway into alignment with said vertical shaft after said upper section has been elevated relative to said base section into said intermediate position adapted to have said upper section stacked thereon;
(*g*) another wheeled transport means connectible to said intermediate section for transporting said intermediate section through said longitudinal passageway into alignment with said vertical shaft;



(*h*) said intermediate section being movable upwardly in said vertical shaft into an elevated position;
(*i*) means, including said elevating means and including means for connecting said elevating means to said intermediate section, for moving said intermediate section upwardly in said vertical shaft into said elevated position with said upper section stacked on said intermediate section;
(*j*) whereby to move said upper section upwardly into said upper position;
(*k*) an elevator adapted to extend from adjacent ground level to said upper section;
(*l*) another wheeled transport means connectible to said elevator with said elevator horizontal for transporting said elevator into a position adjacent said base section;
(*m*) means for pivotally anchoring the lower end of said elevator adjacent said base section; and
(*n*) block and tackle means connectible to said upper section and said elevator, after said upper section has been moved upwardly into said upper position, for swinging said elevator upwardly from a generally horizontal position into an upright position.

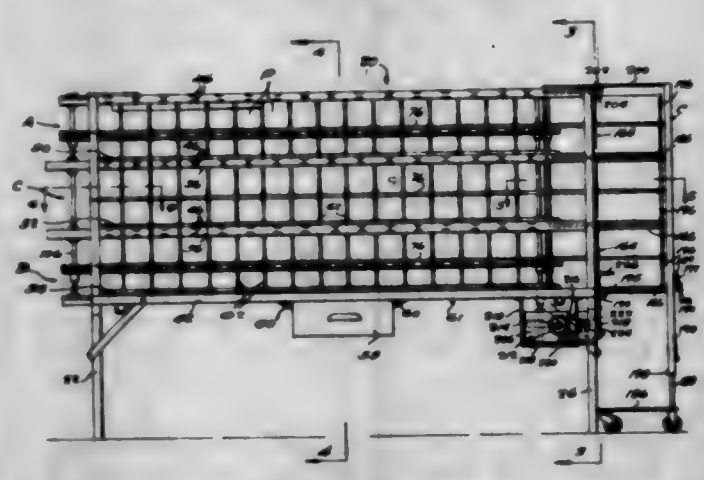
3,142,391
COKE OVEN CHARGING MACHINE HAVING MECHANISM FOR REMOVING AND REPLACING CHARGING HOLE COVERS
Olav M. Twelt, Sarasota, Fla., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed July 17, 1961, Ser. No. 124,497
30 Claims. (Cl. 214—18)

1. In combination with a coke oven charging apparatus including a larry movable along the top of an oven battery, and hoppers on said larry adapted to contain charges for discharge into the charging holes of a coking chamber of the battery and each having a discharge chute with a normally retracted sleeve which is extended downwardly to engage the mouth of a charging hole during discharge of the charge through the latter; a means for removing and replacing the covers of the charging holes before and after, respectively, the discharge of said charges into said coking chamber, said means comprising an arm assembly associated with each hopper, means mounting said arm assembly on said larry for vertical movement between raised and lowered position and for horizontal swinging movement under the discharge chute between rest and charging positions remote from said chute and an intermediate position where said arm assembly projects between said chute and a



charging hole with which the latter is registered, control means operative to swing said arm assembly in said raised position from said rest position to said charging position and from said charging position back to said rest position with periods of dwell at said intermediate position during which said arm assembly is moved downwardly to said lowered position and returned to said raised position, and rotatable gripping means carried by said arm assembly and operated by said control means to grip and rotate a charging hole cover when said arm assembly is in said lowered position during the period of dwell in the swinging movement from said rest position to said charging position, and to rotate and then release the charging hole cover when said arm assembly is again in said lowered position during the period of dwell in the swinging movement thereof back to said rest position.

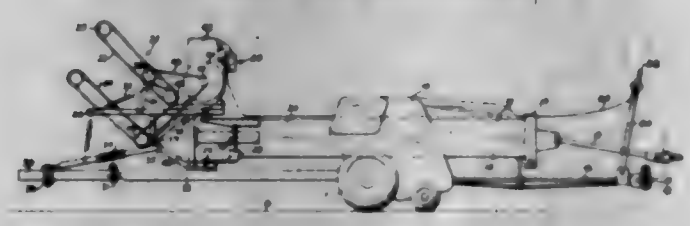
3,142,392
ELECTRIC MAIL SORTING MACHINE
Cletus J. Vallad, Rte. 1, Pinconning, Mich.
Filed Jan. 18, 1963, Ser. No. 252,362
11 Claims. (Cl. 214—41)



9. A mail sorting machine comprising a support, vertically spaced shelves on the support, said shelves having

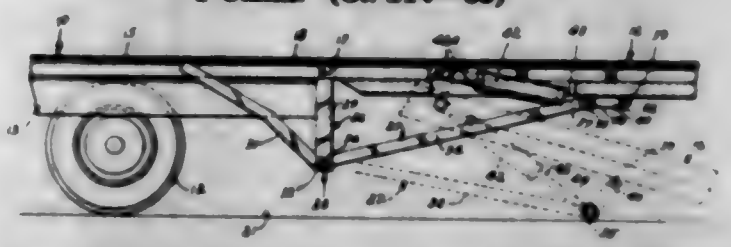
forward and rear edges, a back-stop rod spaced above each shelf and mounted to the support, adjacent to said rear edges, upper and lower horizontal endless chains journaled on the support behind the shelves and having front flights disposed above the shelves and adjacent to the rear edges thereof, and rear flights behind the front flights, a row of longitudinal separator plates spaced along and pivoted to the chains, said separator plates having forward and rear edges, said separator plates being vertically elongated and having slots opening to their forward edges receiving the shelves, with the upper edges of these slots bearing slidably upon the shelves, said shelves, adjacent separator plates and the back-stop rods defining mail-receiving compartments, and means for rotating the chains, said shelves having horizontal tube means opening to an end thereof, and mail clamping assemblies having rod means removably engaged in the tube means, fixed pendant plates on the ends of the rod means remote from the shelves, and clamping plates slidably and securably engaged on the rod means for movement toward and away from the fixed plates, a mobile cart, means for separably connecting the cart to the delivery end of the support, said cart having shelves aligned with the support shelves, containers removably engaged on the cart shelves and adapted to receive clamping assemblies removed from the support shelves.

3,142,393
BALE THROWER
John H. Shepley, Lancaster, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Jan. 18, 1962, Ser. No. 167,867
3 Claims. (Cl. 214—83.36)



1. In combination, a hay baler adapted to travel forwardly and having a bale case in which bales are formed, said bale case having a rearward discharge end from which bales emerge in succession as the baler operates, a pair of bale trajecting members operable to engage and throw each bale distantly from the baler, means mounting said bale trajecting members on said bale case and spaced rearwardly of said discharge end such a distance that each bale is substantially discharged from the bale case before engagement with said trajecting members, means supporting each bale for movement across the space between said bale case discharge end and said trajecting members, an engine connected to said trajecting members and continuously imparting motion to the members, a throttle lever for said engine mounted for movement from a first position wherein the power means operates at a slow speed and a second position wherein the power means operates at a faster speed, means yieldably holding said throttle lever in said first position, a control element located between said bale case discharge end and said trajecting means, means mounting said control element for movement from a normal position projecting across the path of each emerging bale to a position alongside the path responsive to bale engagement, and means connecting said control element to said throttle lever to move the lever from said first and to said second position when the control element is moved from said normal position, said connecting means including a spring to allow further movement of said control element away from said normal position after said throttle has reached said second position, the location of said control element being such that as each bale emerges said engine operates at said slow speed and is speeded up to said faster speed proximate to engagement of the bale with said trajecting members.

3,142,394
TRUCK BED
Norman O. Schwartz, % Central Mfg. and Implement Co., Lester Prairie, Minn.
Filed Nov. 9, 1962, Ser. No. 236,536
1 Claim. (Cl. 214—85)



In a wheel-supported frame-equipped vehicle,

(*a*) a horizontally disposed generally rectangular primary bed section overlying said frame and rigidly supported with respect thereto,

(*b*) a generally rectangular secondary bed section operatively pivotally secured along its front edge to said vehicle frame for pivotal swinging movements from a ramp-forming position wherein its rear end is in engagement with the ground to a load-supporting position wherein it is in horizontal alignment with the primary bed section and forms a continuation thereof,

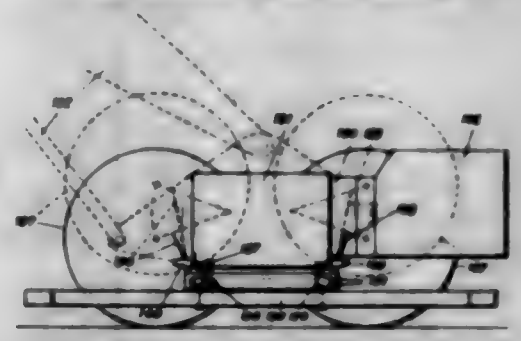
(*c*) depending brace means operatively associated with the rear end portion of said vehicle frame,

(*d*) laterally spaced pairs of toggle links interposed between the lower end portion of said brace means and the rear end portion of said secondary bed section, and each pair including a relatively long forwardly disposed link and a relatively short rearwardly disposed link,

(*e*) a transversely disposed pivot shaft tying together the pivotally connected adjacent ends of said toggle links and positively engaging the underside of said secondary bed section in an over-dead-center relationship when said secondary bed section is in its horizontally disposed load-supporting position, and

(*f*) a fluid-pressure-operated extensible and retractable member having one end pivotally secured to the intermediate portion of said pivot shaft and having its other end pivotally secured to the underside of said secondary bed section intermediate the pivotal connection thereof to said primary bed section and the pivotal connection of said relatively short toggle link thereto, and above the level of said last mentioned pivotal connection.

3,142,395
MACHINES FOR PUBLIC WORKS
Pierre Joseph Pingon, 5 Ave. du Parmelan, Annecy, Haute Savoie, France
Filed Nov. 13, 1961, Ser. No. 152,963
Claims priority, application France Nov. 24, 1960
12 Claims. (Cl. 214—138)

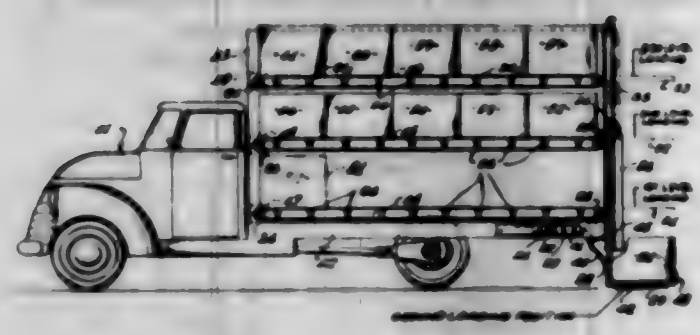


1. A machine for public works mounted on wheels fitted with pneumatic tires comprising a main body, arms

hinged to said main body, the wheels being mounted upon said arms, a platform arranged under the main body, jacks interposed between said arms and main body, a fluid circuit for controlling said jacks so as to cause the machine to rest upon the ground selectively either by said platform or by said wheels, an orientating gear interposed between said main body and said platform, an engine mounted at the rear end of the main body, a working equipment mounted adjacent the front end of the main body, a multipart transverse shaft mounted inside said main body, a primary clutch and a gear box mounted between said transverse shaft and said engine, secondary clutches interposed in said transverse shaft, said secondary clutches being connected to the machine wheels, and a branched connection interposed between said secondary clutches and the orientating gear.

3,142,396
METHOD OF FILLING AND LOADING CONTAINERS

Robert P. Pauley and Otis T. Ralph, both of P.O. Box 845, Phoenix, Ariz.
Filed May 7, 1962, Ser. No. 192,861
8 Claims. (Cl. 214—152)



7. The method of filling and loading containers which comprises: loading a plurality of empty containers on a plurality of levels on a transport truck with one of the levels containing a single empty container; moving the truck and the containers thereon to a filling station and positioning the truck thereat; moving said single empty container to the rear end of the truck; lowering said single empty container to substantially ground level for filling; returning the filled single container to its original level and loading it thereon; moving the end empty container from another level to the rear of the truck; lowering the end empty container to substantially ground level for filling and elevating the filled end container to the level of said single container and loading it in back of the single container; successively moving all but the last container on said other level to the rear of the truck, lowering them substantially to ground level for filling and elevating the filled containers to the level of the single container and loading them thereon; moving the last empty container on said other level to the rear of the truck, lowering it substantially to ground level for filling and elevating the filled last other level container back to its original level and loading it thereon; and supporting said containers upon the transport device throughout the entire operation of moving, filling and loading the containers.

3,142,397
CABLE OPERATED VEHICLE LOADER

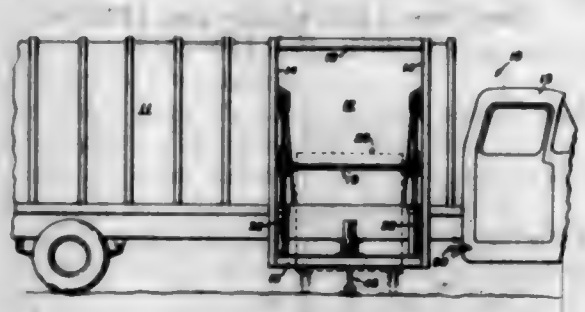
Wallace M. Felts, Fort Worth, Tex., assignor to Fruehauf Trailer Company, Detroit, Mich., a corporation of Michigan
Filed June 13, 1962, Ser. No. 202,223
1 Claim. (Cl. 214—302)

Apparatus for emptying a container into a vehicle body, comprising:

vertical parallel spaced tracks on a side of said body,

a horizontal hinge bar, the ends of which are movably received by said tracks,

means raising and lowering said hinge bar,



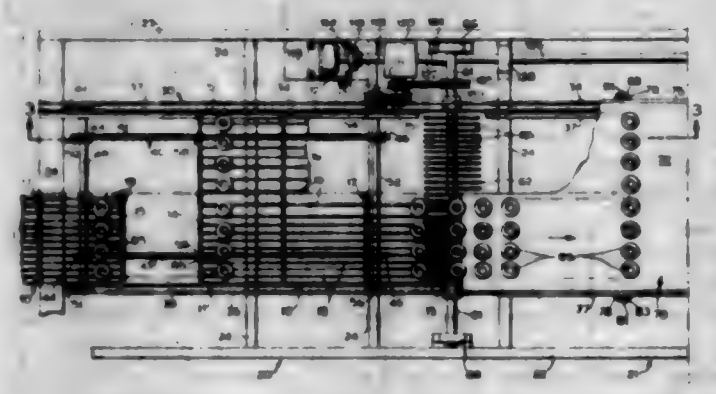
pulley means above said hinge bar and higher than the top of said container,

means carried by said container detachably and hingedly engaging said hinge bar, and

cable means connected with said hinge bar, positioned over said pulley means and connected with said container at a location spaced from said hinge bar.

3,142,398
APPARATUS FOR REMOVING ARTICLES FROM WIRE BAKERY SCREENS

Ernest J. Roth, Reno, Nev., assignor to Joe Lowe Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1962, Ser. No. 231,709
2 Claims. (Cl. 214—310)



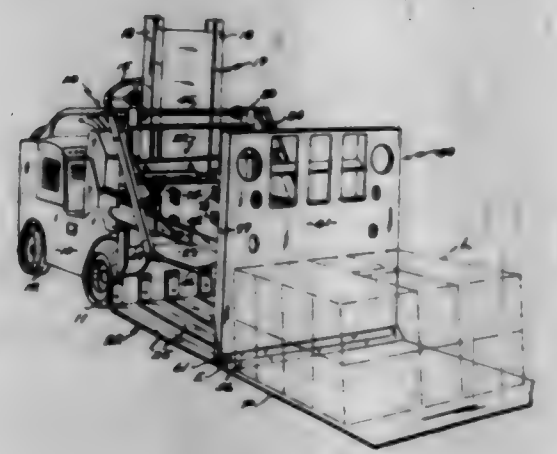
1. Apparatus for removing articles supported on wire bakery screens, said screens each having a series of longitudinally extending transversely spaced wires and a plurality of transversely extending longitudinally spaced rungs, which comprises, in combination, a trackway over which said bakery screens may be moved, a slotted and grooved wheel mounted within said trackway with its peripheral edge projecting thereabove, said wheel having a series of radial slots spaced to correspond to the spacing of the longitudinal wires of said bakery screen, said wheel having a plurality of circumferentially spaced peripheral grooves for receiving the transversely extending rungs of said bakery screen, an indexing conveyor for moving said screens along said trackway in timed sequence with the rotation of said wheel so that the rungs of said bakery screen will enter said peripheral grooves while its longitudinal wires will enter said radial slots, whereupon the articles supported by said screen will ride up and over the peripheral surface of said wheel projecting above said trackway and through said bakery screen and be deposited onto a delivery conveyor, said bakery screen passing through said wheel while remaining on said trackway, a second indexing conveyor for engaging said bakery screen passing through said wheel to remove it therefrom, and means for operating said indexing conveyors and said slotted wheel synchronously.

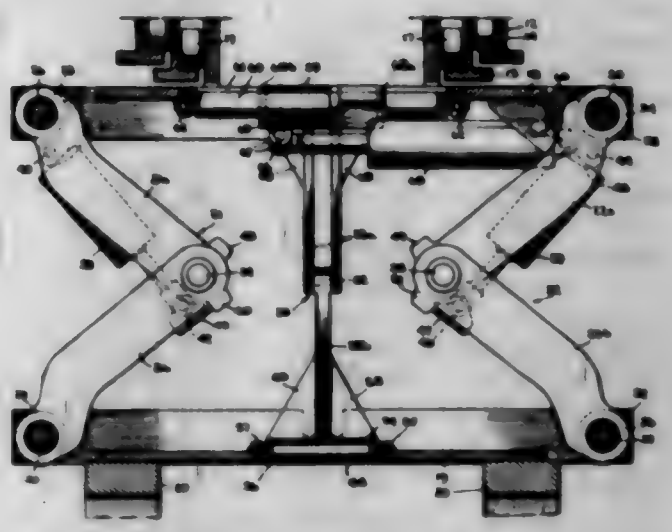
3,142,399

FORK LIFT TRUCK WITH A SELF-CONTAINED GRIPPING AND LATCHING ASSEMBLY

Robert F. Otter, Rocky River, Ohio, assignor to Towmotor Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 14, 1961, Ser. No. 152,296
7 Claims. (Cl. 214—514)





1. In an industrial truck having a supporting chassis and embodying load supporting means actuatable to a plurality of load dislodging positions and load pusher means extendable in a first direction over said supporting means to dislodge a load therefrom; pallet gripping means for gripping a load supporting pallet including a framework extending transversely across the front of said truck being free of said supporting chassis, a blade movably carried in said frame work, a clamping bar attached to said framework and positioned to be operable with said blade to grip a pallet therebetween, means for singularly latching said framework to said load supporting means and said pusher means including bolt means slidably carried in said framework, keeper means carried on said load supporting means and said load pusher means and positioned for latching engagement with said bolt means, said pallet gripping means being extendable in said first direction over said load supporting means with said pusher means, said blade being thereafter actuatable with said clamping bar to grip a load supporting pallet therebetween, said pusher means being retractable in a second direction over said load supporting means whereby said pallet gripping means pulls said pallet and load onto said supporting means, said pallet gripping means being subsequently latched to said load supporting means and operable to retain said pallet thereon as said pusher means is again extended in said first direction to dislodge said load from said pallet.

3,142,400

FORK EXTENDING AND SIDE SHIFTING CONSTRUCTION

Alvin B. Garnich, Eddington, Pa., assignor to Yale and Towne, Inc., New York, N.Y., a company of Ohio

Filed Oct. 9, 1961, Ser. No. 143,728
9 Claims. (Cl. 214—730)

4. In an industrial truck, a base member, a load support, a pair of folding arms, each arm being pivoted at one end to said base member on a substantially vertical pivot spaced laterally from the vertical pivot of said other folding arm, each arm being pivoted at the other end to the load support on a substantially vertical pivot spaced laterally from the vertical pivot of the other folding arm, each of said pair of folding arms being hinged to fold about a vertical pivot intermediate its ends, means for effecting extension and retraction of said load support relatively to said base member through folding of said arms, and means mounted on said base member and operatively connected with said load support for side shifting said load support relatively to said base member through swinging of said arms in the same direction transversely of said base member.

3,142,401

GASKET COMPOSITION

George J. Foss and Donald A. Gloeder, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed Apr. 7, 1960, Ser. No. 20,638
6 Claims. (Cl. 215—40)



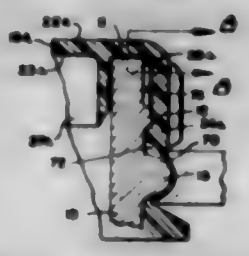
1. A container sealing closure to be applied and removed by rotation of the closure about an axis perpendicular to the plane of the opening of the container, carrying on its inner surface a gasket comprising a thin layer of a sealing composition comprising a plastic matrix of a vinyl polymer and an amount of a plasticizer therefor sufficient to form a plastisol and including a minor proportion of a torque control agent uniformly distributed therein, said torque control agent including at least one long chain aliphatic carboxylic acid amide.

3,142,402

SCREW-TYPE SEALING CAPS

John J. Fox, Vancouver, British Columbia, Canada, assignor to The Tosca Seal Control Co. Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia

Filed Feb. 7, 1962, Ser. No. 171,606
3 Claims. (Cl. 215—41)



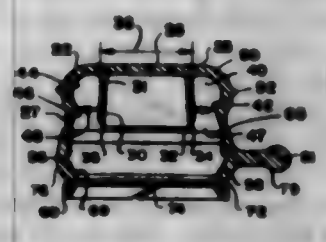
1. The combination of a bottle and a sealing cap,
(*a*) said bottle having a generally cylindrical neck,
(*b*) the upper end of said neck having screw threads,
(*c*) said neck having an annular bead below said threads,
(*d*) the underside of said bead providing a shoulder,
(*e*) said sealing cap comprising a cap section,

(*f*) said cap section including a cover with a depending skirt,
(*g*) a thin inner frusto-conical sleeve hanging from said cover and forming with said skirt an annular pocket to receive the bottle neck,
(*h*) said sleeve flaring downwardly and outwardly,
(*i*) said skirt having screw thread means on its inner surface,
(*j*) said sleeve and cap skirt forming an annular lead to guide the upper bottle end into said pocket,
(*k*) said skirt being elastically yieldable to enable said screw thread means to spring over said neck screw threads when said cap is axially telescoped over said neck,
(*l*) an annular skirt extension depending from said cap skirt,
(*m*) said skirt extension fitting the contour of said bottle bead and engaging said shoulder,
(*n*) said skirt extension including a thin tear strip secured to said cap skirt and an annular gripping ring,
(*o*) said tear strip having an upper edge defined by a weakening line at its junction with said cap skirt,
(*p*) said tear strip having one end defined by a weakening area,
(*q*) a grip tab connected to the end of said tear strip adjacent said weakening area,
(*r*) the lower end of said skirt extension being elastically yieldable to spring around said bottle bead and bear against said shoulder to draw the curved tear strip around said bead and said sleeve completely into the bottle neck,
(*s*) said gripping ring having an annular lead to guide the bottle neck into the cap,
(*t*) said thin sleeve closely fitting the inside surface of said bottle neck over substantially the entire area of the sleeve,
(*u*) said screw thread means being sufficiently rigid to cooperate with the neck threads in normal screw thread fashion after said tear strip is removed.

3,142,403
REUSABLE SEALING CAPS

John J. Fox, Vancouver, British Columbia, Canada, assignor to The Tosco Seal Control Co. Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia

Filed Feb. 7, 1962, Ser. No. 171,607
2 Claims. (Cl. 215—41)

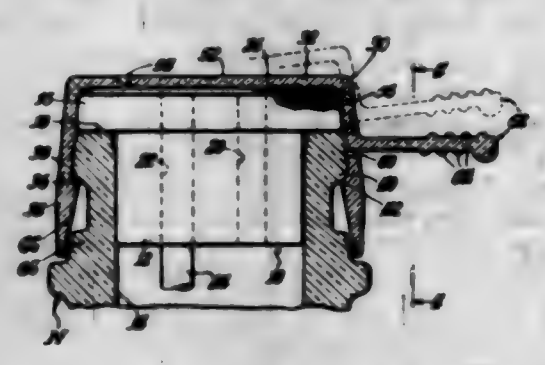


1. The combination of a bottle and a sealing cap,
(*a*) said bottle having a generally cylindrical neck,
(*b*) the upper end of said neck having an annular bead whose underside provides a first shoulder,
(*c*) said neck having a lower annular bead spaced below said first bead and whose underside provides a second shoulder,
(*d*) said second bead having a gentler cross sectional contour than said first bead,
(*e*) said sealing cap comprising a cap section and a skirt extension,
(*f*) said cap section including a cover and a depending outer skirt,
(*g*) an inner sleeve hanging from said cover and forming with said skirt an annular pocket,
(*h*) said skirt having an annular rib projecting into said pocket and engageable under said first shoulder,
(*i*) said skirt extension depending from said cap skirt and comprising a tear strip and a gripping ring,
(*j*) said tear strip being curved in transverse cross section and closely fitting said lower bead,
(*k*) the upper edge of said tear strip being attached to said skirt by a weakening line,
(*l*) the lower edge of said tear strip being attached to said gripping ring by a weakening line,
(*m*) said tear strip having a weakening portion at one end and a pull tab at the other end,
(*n*) said gripping ring having a transverse weakening portion offset from said tear strip weakening portion.

3,142,404
CONTAINER CLOSURE WITH REMOVABLE SECTION

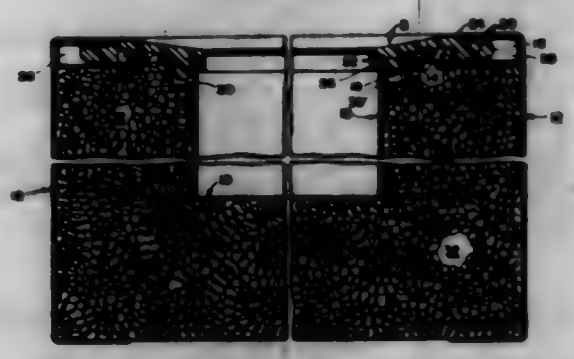
Frank J. Krieps, Elmhurst, and Harley H. Mattheis, Des Plaines, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,138
7 Claims. (Cl. 215—46)



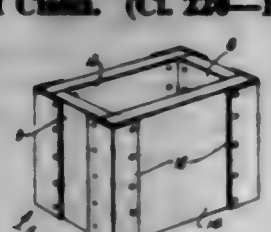
1. A closure arrangement, comprising the combination of:
(*a*) a container neck with a central discharge opening and an outer shoulder presenting an annular abutment surface facing away from the free end of the neck;
(*b*) a resilient stopper having a cylindrical body portion disposed within the discharge opening of the neck and an enlarged, annular, end portion seated on the free end of the neck; and
(*c*) a one-piece cap having a generally flat end wall, and an outwardly flared side wall projecting therefrom and defining therewith a cavity for receiving end portions of the stopper and container neck;
(*d*) said cap side wall having an inner shoulder presenting an annular abutment surface facing the cap end wall and disposed for engagement with the neck abutment surface to retain the cap on the neck;
(*e*) said cap including a unitary, removable section formed in the end and side walls thereof and adapted to be readily separated from the remainder of the cap to provide access to the container;
(*f*) said removable section including:
(i) an end portion formed in the cap end wall by a generally horseshoe shaped V-groove having a pair of ends extending to the edge of the cap end wall;
(ii) a side portion formed in the cap side wall by a pair of generally straight, parallel V-grooves extending longitudinally of the cap from the respective ends of said first mentioned groove, and a slot in the cap side wall extending transversely of the cap side wall between said last mentioned grooves; and
(iii) a handle portion projecting outwardly from said side section adjacent said slot.

3,142,485
INSULATED CHEST CONSTRUCTION
William C. Johnson, St. Paul, Minn., assignor to Studebaker Corporation, South Bend, Ind., a corporation of Michigan
Filed Jan. 21, 1963, Ser. No. 252,688
2 Claims. (Cl. 220—9)



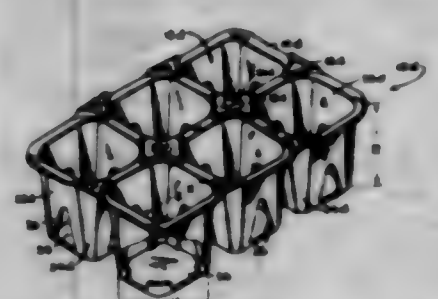
1. In an insulated chest construction, an open-top sheet metal shell, an open-top sheet metal liner within and spaced from said shell for the reception of foamed plastic insulating material in the space between the two, the open terminal ends of said shell and said liner being spaced from each other and thereby defining an open space surrounding the open upper end of said liner within the open upper end of said shell, a breaker strip of heat insulating material spanning said open space, said breaker strip being L-shaped in cross section and having connecting flanges along its inner and outer edges, said shell having a horizontal channel to receive the connecting flange along the outer edge of said breaker strip, said liner having a vertical channel to receive the connecting flange along the inner edge of said breaker strip, said channels having the sides thereof substantially parallel to each other connecting flanges being formed of flexible resilient material and having serrated faces engaging the facing surfaces of said channels.

3,142,486
CASE
Maxwell Kantor, Port Jervis, N.Y., assignor to Skydyne, Inc., Port Jervis, N.Y., a corporation of New York
Original application Sept. 22, 1958, Ser. No. 761,521, now Patent No. 3,024,939, dated Mar. 13, 1962. Divided and this application Jan. 31, 1962, Ser. No. 179,827
1 Claim. (Cl. 220—10)



A case comprising a first sheet of sandwich material having a core material between inner and outer metal faces, one of said faces being folded over the opposite ends of said sheet material to overlie the opposite face to enclose the ends, said opposite ends of said sandwich sheet being bent up at substantially right angles to the sheet along lines spaced apart from each other, said bends occurring in both the inner and outer metal faces and in the core material leaving the metal faces continuous and intact at said bends, said sandwich sheet with said opposite ends constituting essentially two opposite sides and the bottom of a case, a pair of sandwich sheets having core material between inner and outer metallic face sheets substantially the same as said sheet of sandwich material, the outer metallic face sheets of said pair being integrally joined by a common sheet which also spaces the sandwich sheets of said pair by an amount substantially equal to the width of said first sandwich sheet; said pair of sandwich sheets being folded up from said common sheet with said common sheet overlapping said bottom, and said pair of sandwich sheets being dimensioned to fit within the open sides formed by said first sheet of sandwich material with its bent-up ends to form a case, and angle means at at least the upstanding edges of said case for fixedly sealing the joints between said first sheet of sandwich material and said pair of sandwich sheets to form a case.

3,142,487
CARRIER FOR CONTAINERS
Ougljesa Jules Pospitch, Itasca, Ill., assignor to Illinois Tool Works Inc., a corporation of Delaware
Original application Feb. 15, 1960, Ser. No. 8,776, now Patent No. 3,115,266, dated Dec. 24, 1963. Divided and this application Sept. 5, 1963, Ser. No. 306,761
1 Claim. (Cl. 220—23.6)

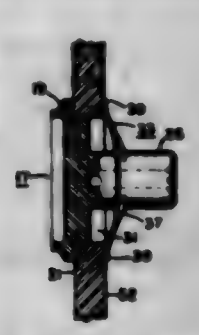


A one piece container, formed from plastic sheet stock comprising a web having a major plane, a plurality of pocket portions integral with said web and depending therefrom so that said web forms a lip portion for said pocket portions, a portion of said lip portions being deflected from said major plane a distance less than said pocket portions to reinforce said lip portion, each of said pocket portions being of generally polygonal quadrative configuration and of progressively diminishing peripheral measurement in a direction away from said major plane, the peripheral measurement adjacent the bottom end of the pocket portions being substantially equal to the peripheral measurement of the object to be contained therewithin, the shortest dimension between opposed portions of the pocket adjacent the lip portion multiplied times pi substantially equalling the peripheral measurement adjacent said bottom end, the bottom end of said pocket portions being parallel with said major plane and comprising at least those portions spaced from said major plane and adjacent the vicinity of each intersection of the walls constituting the polygon to form means for preventing through movement of the objects to be contained therewithin, and each of said pocket portions being formed with triangular shaped apertures in opposed relationship to each other in each of the walls forming the polygon, said triangular shaped apertures having their apexes pointing toward said lip portions and their bases located adjacent to said bottom portions to provide through movement of cleaning fluids and to provide ready outward flexure of said polygon walls to closely grip said object to be contained therein coextensive with a substantial portion of the height of said pocket portions.

3,142,488
ENCLOSURE COVER
Raymond S. Joseph, Syracuse, Peter Kersi, De Witt, and Robert J. Wallis, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 8, 1963, Ser. No. 271,390
1 Claim. (Cl. 220—24)

In a television receiver apparatus: a cabinet for the receiver having a circular aperture predominantly located in the cabinet; a generally mushroom-shaped button having a shield segment, a circular shoulder segment of diam-

eter slightly less than a diameter of the aperture, and a stem segment having a cavity therein; said button positioned on said cabinet for extension of said shoulder in said aperture; and means for securing said button to said cabinet.

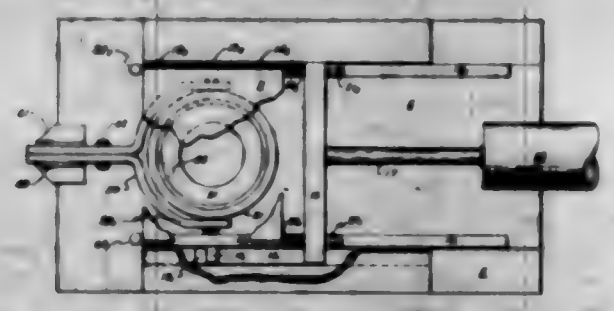


3,142,409
CONTAINER AND COVER
Budd H. Ross, 970 SW. Cedar Hills Blvd., Portland 25, Oreg.
Filed Mar. 15, 1962, Ser. No. 179,918
6 Claims. (Cl. 220—24.5)



1. A reversible snap acting cover for a container comprising a normally downwardly dished circular diaphragm having a central depression therein, said cover being adapted to be snapped over center into an upwardly arched shape of sufficiently increased diameter to bind the cover in the container, said cover being releasable from the container by the application of downward pressure to the center of the cover to return it to its original downwardly dished shape, said cover in said original shape being invertible to form a loosely fitting canister cover, said central depression forming an upstanding knob for the canister cover.

3,142,410
SLIDING CLOSURE AND OPERATING MEANS
Theodore M. Arnold, Punta Gorda, Fla., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 3, 1962, Ser. No. 228,104
2 Claims. (Cl. 220—41)



1. Apparatus for intermittently establishing at will a fluid tight connection to a feeding conduit or nozzle, and a fluid tight closure, comprising a nozzle and apparatus in combination therewith, including

a sleeve assembly and actuating means therefor,

a cover plate structure and actuating means therefor,

a base for supporting the sleeve assembly and cover plate structure,

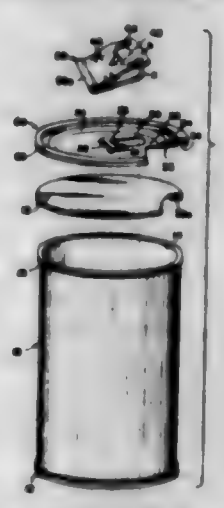
the sleeve assembly including a portion slidably mounted in the nozzle in fluid tight engagement therewith and having a terminal surface capable of making fluid tight engagement with an opposite surface,

the means for actuating the nozzle comprising means for moving the sleeve assembly between a retracted position in the nozzle and an extended position,

the cover plate structure having a surface capable of establishing a fluid tight closure with the terminal surface of the slide assembly,

the means for actuating the cover plate structure comprising means for moving the cover plate between a retracted position permitting movement of the sleeve assembly to its extended position, and a forward position covering the sleeve assembly, and means for pressing the cover plate against the terminal surface of the sleeve assembly, and establishing a fluid tight closure thereby, said means for pressing operating only when the cover plate is in a fixed lateral position relative to the sleeve assembly.

3,142,411
CONTAINER STRUCTURE AND OPENING MEANS THEREFOR
Louis Fried, East Orange, N.J., Angelo Ralph D'Andrea, New York, N.Y., and John Keith Browning, Cincinnati, Ohio, assignors, by direct and mesne assignments, of 82.443% to Angelo R. D'Andrea and 17.557% to Herbert M. Beitel, Chicago, Ill.
Filed Dec. 17, 1958, Ser. No. 781,822
11 Claims. (Cl. 220—48)

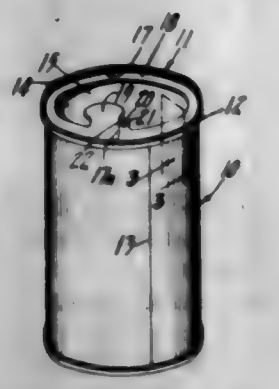


1. A container having a wall thereof provided with a material discharge opening, a lining sheet of frangible material lying against the inner side of said wall and covering said opening, a member positioned within the container between the wall and the frangible sheet and covering said opening and having a portion thereof located outside of the container, and means connected with said portion and having releasable locking engagement in said opening.

3,142,412
OPENING MEANS FOR SEALED CONTAINERS
Harry Nelson Blakeslee, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 12, 1962, Ser. No. 244,976
10 Claims. (Cl. 220—54)

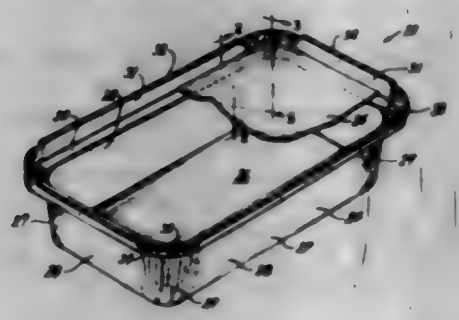
1. A can cover comprising a sealing ring having a peripheral rim portion adapted for securement to a can body and a transversal portion inwardly of said rim portion, said ring having a line of weakness intermediate

said portions defining an integral tear strip in said transversal portion, and a panel underlying and detachably



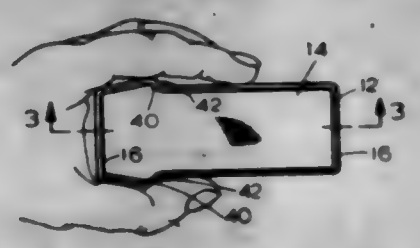
secured to said tear strip inwardly of said line of weakness.

3,142,413
CONTAINER WITH FLAT HEMS AT THE CORNERS THEREOF
Merrill A. Grogel, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 14, 1962, Ser. No. 216,778
29 Claims. (Cl. 220—67)



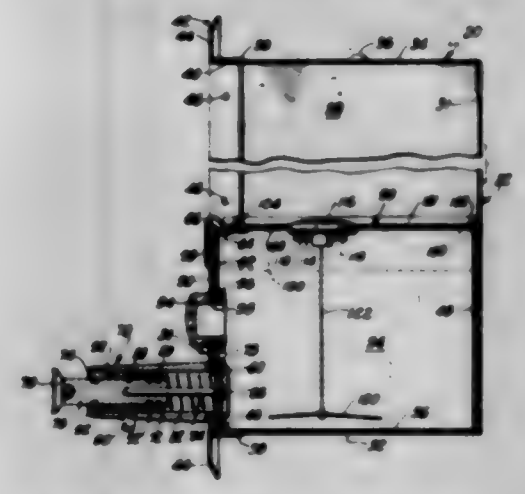
1. In combination, a container body having side wall means defining an open end of an article-receiving compartment, and a cover member disposed over said open end, said side wall means having a plurality of first portions respectively interconnected together by corner portions, said side wall means having a peripheral flange interconnected thereto and disposed against the exterior surface of said cover member to hold said cover member to said container body, said peripheral flange having the free edge thereof curled into beads along said first portions of said side wall means and having the free edge thereof reversely turned at said corner portions of said side wall means to provide flat hem portions.

3,142,414
SOAP BOX HOLDER
Sophie Mandich, 7016 S. 30th St., Omaha, Nebr.
Filed May 11, 1961, Ser. No. 109,398
1 Claim. (Cl. 220—85)



A soap box container of oblong rectangular shape in horizontal cross section having side walls and a bottom wall and being adapted to receive and support a soap box above a surface on which the container is rested, said container having an open upper end through which the upper portion of the soap box can extend whereby the container can be economically manufactured, said container further having means thereon sufficient for the effective maintenance of a hand grip at times when the hands and box are slippery with soap solution, and said container being sufficiently rigid so as to substantially hold its shape when gripped by an operator's hand, said means for facilitating gripping of said box comprising at least one offset portion protruding outwardly from said container, said offset portion not protruding outwardly from the container substantially greater than the minimum necessary for gripping by the extended fingers, said offset portion providing a ledge extending upright with respect to the container against which the fingers can be engaged to firmly hold the box.

3,142,415
DISPENSER
William S. Louchheim, Beverly Hills, Calif., assignor to Bobrick Manufacturing Corporation, Los Angeles, Calif., a corporation of Delaware
Filed July 14, 1961, Ser. No. 124,143
12 Claims. (Cl. 221—96)



1. A liquid soap dispenser comprising: a housing adapted to be received in a recess in a wall; a container located in the lower portion of said housing and forming a reservoir for liquid soap, said container having a removable cover constituting a shelf for supporting articles extending horizontally of said housing when so received, said cover including an opening defined by edge margins extending downwardly and inwardly to form a recessed ledge; a filler plug resting upon said ledge with its upper surface substantially flush with the upper surface of said cover whereby said plug forms a substantial continuation of said shelf, said container including a front wall having a pair of openings; a valve mounted on said container adjacent one of said openings for dispensing liquid soap therefrom; and a transparent sighting element mounted on said container adjacent the other of said pair of openings for determining when said container should be refilled.

3,142,416
PRESSURIZED APPARATUS FOR INJECTING DRYING AGENT INTO A RINSE SPRAY SYSTEM
George J. Federighi, % Stero Chemical Mfg. Co., 70 13th St., San Francisco, Calif.
Filed Apr. 15, 1963, Ser. No. 272,899
3 Claims. (Cl. 222—57)

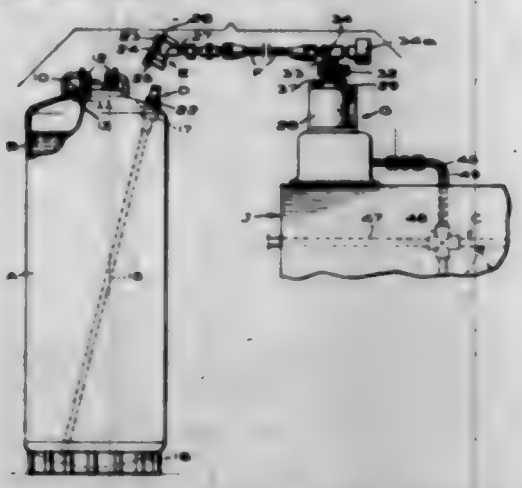
1. In a pressurized apparatus for injecting drying agent into a rinse spray system:

(*a*) a portable pressurized tank containing drying agent therein under pressure, the tank being provided with an outlet coupling member fixed thereto and proejcting therefrom, said member having a self-closing valve in its outlet;

(*b*) an intake coupling member removably connected to the projecting portion of the outlet coupling member of the tank, and having means engageable with the tank valve to open the latter when the coupling

members are connected together, whereby the pressurized drying agent will flow into the intake coupling member, the intake coupling member being freely movable about when disconnected from the outlet coupling member;

(*c*) a conduit having an inlet end communicating with the intake coupling member to receive the pressurized drying agent therefrom;

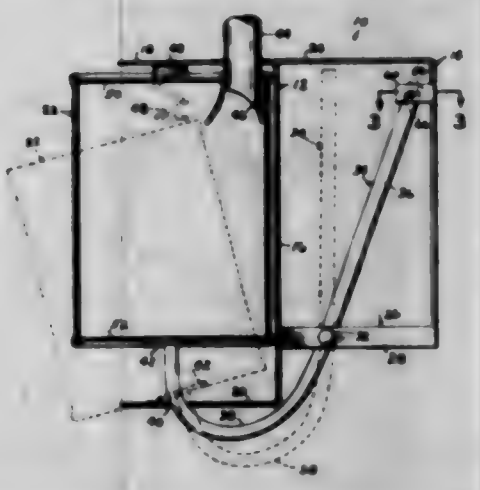


(*d*) an injection unit communicating through detachable coupling means with an outlet end of the conduit so that the pressurized drying agent will flow into the injection unit and the injection unit including a flow control unit;

(*e*) the injection unit being connected to a rinse spray system of a dishwashing machine, the flow control unit being operable by water in said system to effect discharge of the pressurized drying agent into the rinse spray system;

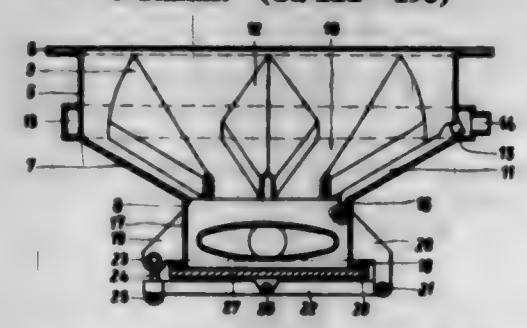
(*f*) and the conduit being flexible and having sufficient length so that the tank may be supported on a floor, or the like, at a distance from the injection unit and independent of the latter, with the outlet and intake coupling members being connected together.

3,142,417
CAN OPENER AND POURING SPOUT
Bill L. Campbell, Star Rte., Canton, Okla.
Filed Nov. 23, 1962, Ser. No. 239,625
3 Claims. (Cl. 222—83.5)



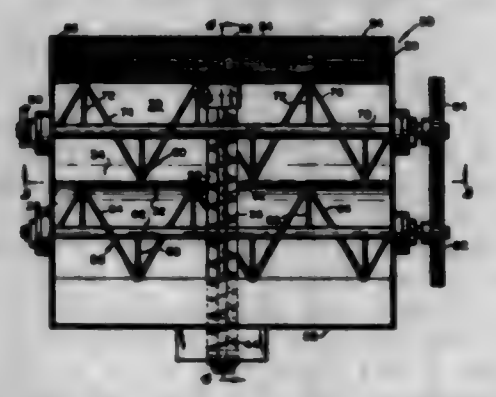
1. A can tap and pouring spout, comprising: a substantially U-shaped frame for receiving a can to be opened, said frame comprising a bight portion and a pair of spaced-apart parallel legs normal with respect to the plane of the bight portion, one leg of said U-shaped frame having an aperture; handle means connected to said U-shaped frame, said handle means including a substantially U-shaped handle member having a bight portion and parallel legs, said U-shaped handle member having the ends of its legs connected to the bight portion of said U-shaped frame on that side opposite the legs of the latter, one of the legs of said handle member comprising a pair of parallel spaced-apart members; a lever pivotally connected intermediate its ends between the pair of parallel spaced-apart members of said handle member leg, said lever projecting beyond said handle means and arcuately curved toward and extending at one end into said U-shaped frame through the aperture in said one leg; a disk axially connected to the end portion of said lever within said frame adapted to engage the adjacent end surface of a can to be opened and force the latter toward the other leg of said U-shaped frame when said lever is moved in one direction; a pouring spout extending through the last mentioned leg of said U-shaped frame, said spout having a sharpened end portion positioned inwardly of its connection with said leg for piercing the end wall of a can to be opened when the latter is forced into contact with said sharpened end portion by movement of said lever; and locking means holding said lever in can opened position.

3,142,418
TANK FOR POWDERY OR GRANULAR MATERIAL
Wilhelm Hermanns, Frankfurter Strasse 6–14, Porz-Urbach, Germany
Filed June 22, 1962, Ser. No. 204,496
4 Claims. (Cl. 222—195)



1. In combination with a transport vessel for powdery, mealy and granular material, a conical bottom having radially disposed downwardly sloping ribs with alternate channels, an air-permeable hose in each channel, a connection connecting each hose to a source of air under pressure, a chute leading downwardly from the bottom, diametrically disposed horizontal pneumatic delivery pipes in the chute, and a removable closure for the bottom of the chute.

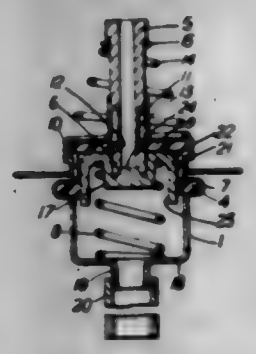
3,142,419
MATERIAL HANDLING AND DISPENSING APPARATUS
Arthur J. Burke, Oakland, N.J., assignor, by mesne assignments, to Richardson Corporation, a corporation of New Jersey
Filed Feb. 23, 1961, Ser. No. 90,986
12 Claims. (Cl. 222—236)



5. A dispensing apparatus for particulate material of such character that relatively slight pressures may cause it to cake or adhere to receptacle walls comprising an upright receptacle having enclosing side walls and an elongated bottom opening extending between two opposed side walls through which material delivered into the

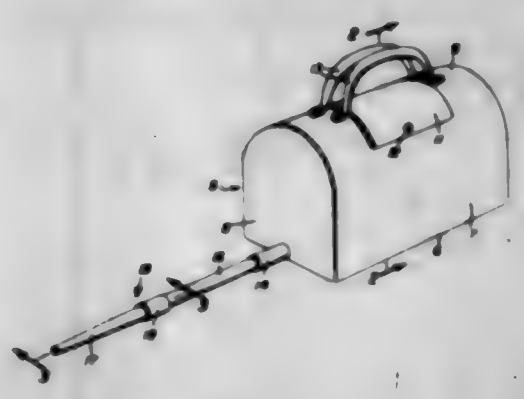
open top of the material is removed, said dispensing apparatus comprising a discharge screw conveyor rotatably mounted on the lower portion of said receptacle extending along said opening and having its upper periphery facing the interior of said receptacle and operable to draw material from said receptacle through said opening and feed it into an outlet at one end of said opening, two collecting screw conveyors rotatably mounted within said receptacle above said discharge screw conveyor and extending between another two opposed side walls, said collecting conveyors being rotatable on parallel axes extending at right angles to the axis of said discharge conveyor and being operable to feed material down into the flights of said discharge screw conveyor, and means for concomitantly driving said discharge screw conveyor and said collecting screw conveyors, said collecting screw conveyors being so relatively rotated and having opposed flights on opposite sides of said opening so arranged relative to one another that particulate material thereabove is directed both longitudinally and laterally thereof away from all said side walls and toward the central portion of said receptacle above said discharge conveyor.

3,142,420
METERING DISPENSER FOR AEROSOL WITH FLUID PRESSURE OPERATED PISTON
Alan Gawthrop, Clitheroe, England, assignor to Neotechnic Engineering Limited, Clitheroe, England
Original application Nov. 9, 1959, Ser. No. 851,677, now Patent No. 3,052,382, dated Sept. 4, 1962. Divided and this application Apr. 26, 1962, Ser. No. 190,426
Claims priority, application Great Britain Nov. 10, 1958
5 Claims. (Cl. 222—335)



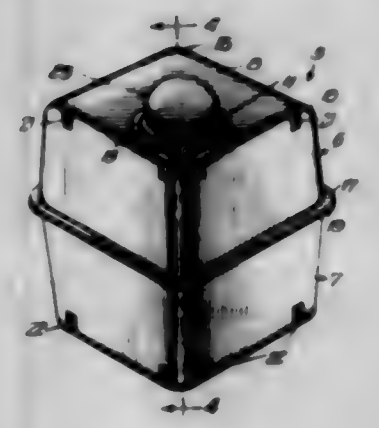
1. A dispensing device for delivering metered quantities of an aerosol composition, which comprises a cylindrical chamber adapted to be sealed into the neck of a container, an elastic sealing washer at the outer end of said chamber closing the chamber with respect to the container, said chamber having an inlet at the inner end thereof for communication with the interior of the container and having a sealing ring disposed circumferentially of the interior surface of the side wall of the chamber at a point intermediate the inner and outer ends of the chamber, a piston member disposed within said chamber so as to be reciprocable therein in sealing engagement around the sides thereof with said sealing ring, a discharge tube mounted in said sealing washer and extending therethrough and engagable with said piston member and adapted to be sealed thereby, said discharge tube being resiliently biassed in an outward direction and being movable axially of the chamber so as, in one direction of movement, to depress the piston member to a position in which the piston member is past the sealing ring and is no longer sealed by said sealing ring, and in the other direction to be separable from the piston member after the piston member has engaged the sealing ring and has been sealed thereby, whereby the metered quantity of liquid in the outer part of the chamber is pumped therethrough to the atmosphere by further outward movement of the piston member under the pressure differential on opposite sides of the piston member.

3,142,421
HAND HELD SOLID MATERIALS DISPENSER
Edwin Sierachi, Rte. 3, Manitowoc, Wis.
Filed July 25, 1962, Ser. No. 212,370
5 Claims. (Cl. 222—466)



1. A portable hand dispenser for solid fluent materials comprising an elongated box-like container having a flat bottom together with side and end walls upstanding from the periphery of said bottom together with a top which is transversely convex, a longitudinally extending handle means secured to and extending above said top and of an inverted U-shaped configuration, a filling opening in said top disposed beneath said handle means, a closure for said opening conforming to the convexity of said top and secured at one end to said top at one side of said opening and extending transversely of said top and across said opening fastening means detachably securing the other end of said closure to said top, a solid fluent material delivery means for said container comprising an elongated tube mounted upon an end wall of said container at said bottom and extending from said container in the same direction as said handle means, said tube having communication with the interior of said container at said bottom.

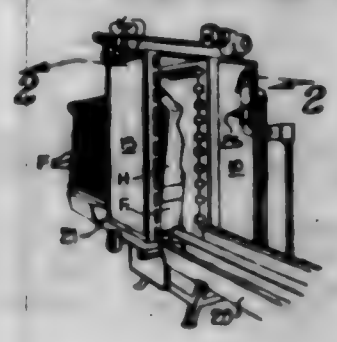
3,142,422
CONTAINER
Albert R. Mojonnier, Chicago, Ill., assignor to Albert Mojonnier, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 10, 1959, Ser. No. 832,803
3 Claims. (Cl. 221—564)



1. A shape retaining disposable plastic container comprising, generally symmetrical upper and lower cup-like halves of approximately equal size and rectangular shape and formed of thin flexible plastic material, each cup-like half having a generally flat end panel and a side wall, each side wall including a plurality of generally rectangular side panels joined to the respective end panel and to each other by smoothly rounded corner portions, said side panels diverging relative to each other in a direction away from the respective end panel sufficient to enable nesting of like halves after the halves are formed and prior to

assembly of the halves, the end panel of the upper container half having an integral filling and pouring spout projecting upwardly therefrom, said spout having an enlarged hollow base portion for rigidifying the end panel at the juncture of the spout therewith and a reduced upstanding neck portion, said enlarged base portion having an internal opening sufficiently larger than outer dimension of the upper end of the neck portion to enable at least partial nesting of the spouts on like upper halves prior to assembly of the container halves, said side panels having an average wall thickness substantially less than the average wall thickness of said end panels and having insufficient strength in the absence of additional reinforcement to resist flexing under lateral pressures applied during normal handling of the container, said upper and lower halves having mating out-turned peripheral flanges on the ends of said side panels remote from the end panels, said flanges being rigidly bonded together in a liquid tight reinforcing flange seam providing a peripheral reinforcement on the container in a zone generally medially between the end panels for stiffening the flexible side panels in the area thereof remote from the end panels.

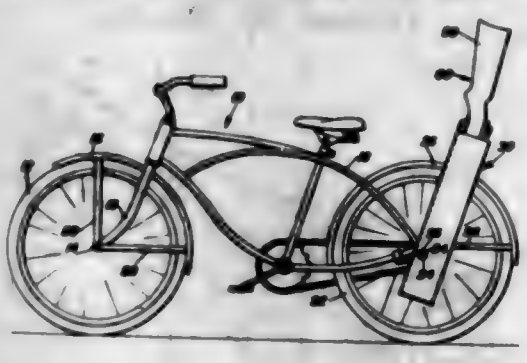
3,142,423
PREBOARDING APPARATUS
Lawrence T. Carter, Burlington, N.C., assignor to Holt Hosiery Mills, Inc., Burlington, N.C., a corporation of North Carolina
Filed Aug. 8, 1961, Ser. No. 130,166
4 Claims. (Cl. 223—76)



1. In an apparatus for preboarding hosiery comprising a retort, a plurality of elongated boarding forms supported within said retort, each of said forms being adapted to receive a hose thereon, and means for introducing water in the form of saturated steam to the interior of said retort to set the shape of the forms in hosiery positioned thereon, the combination therewith of water spray means positioned inside of said retort for directing water in liquid form directly onto selected portions of the form so that only corresponding portions of the hose receive the water spray, and spray control means operable to actuate said spray means during the introduction of saturated steam into said retort.

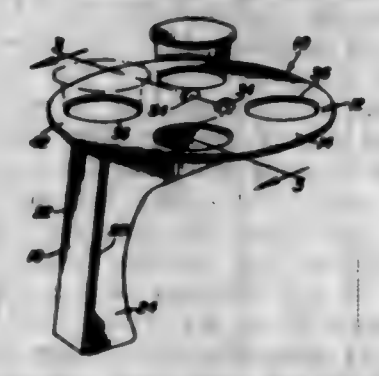
3,142,424
GUN HOLDER FOR BICYCLES
James R. Reed, Jr., 1112 Plaza, El Campo, Tex.
Filed Jan. 30, 1962, Ser. No. 169,236
1 Claim. (Cl. 224—32)

A gun holder for attachment to a bicycle, comprising an integral sheet of material folded in half about its longitudinal axis so as to form an aperture tapered in cross-section from its widest portion adjacent the fold to its narrowest portion adjacent the meeting edges thereof so as to snugly receive a gun, means securing the meeting edges together, second means closing one end of the gun holder, aligned apertures through the sides of the gun holder adjacent the meeting edges near the closed end, and an elongated tying means having extending ends and a center section thereof secured to the sheet of material by insertion through aligned holes in one of the sides of said sheet forming the tapered aperture, said gun holder being positionable on the rear wheel of a bicycle with the axle of the wheel extending through the aligned apertures and the holder orientated so as to project upwardly and



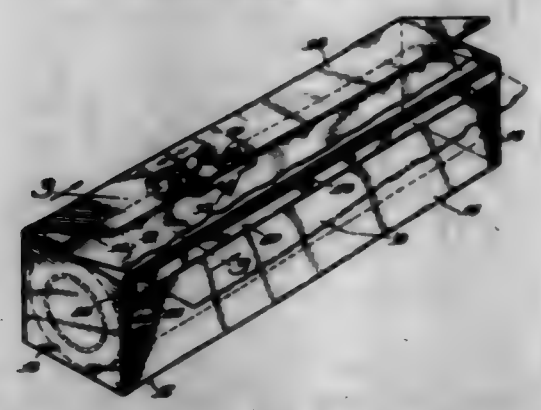
rearwardly therefrom, said holder being of a length so as to position the upper end thereof above the fender of the wheel for ease of access thereto for removal and replacement of a gun by a rider on the bicycle, the center of the tying means being located at approximately the top of the fender.

3,142,425
CONE, BEVERAGE CUP AND SIMILAR ARTICLE HOLDER
Edwin W. Cobb, 167 Medway St., Providence, R.I.
Filed Mar. 28, 1962, Ser. No. 183,874
11 Claims. (Cl. 224—48)



1. A support for supporting articles to be carried, said support comprising a blank having upper and lower surfaces including a supporting table portion and a handle portion, said handle portion comprising an elongated panel hingedly secured at one end to one marginal edge portion of said table portion for swinging movement of the free end of said panel about an axis extending transversely of said one end, at least one elongated longitudinally extending side tab carried by and hingedly secured along one marginal edge portion thereof to one side edge portion of said panel for swinging movement of the free edge of said tab about an axis generally paralleling the longitudinal axis of said panel, the end of said tab adjacent said table portion including a laterally directed end portion extending away from said panel and including one edge remote from said free end of said panel adapted to underlie said table portion and extend at least to the approximate center thereof when the free end of said panel is swung down below the undersurface of said table portion and said tab is under said table portion, the portions of said elongated panel and said side tab intermediate the opposite ends thereof, when said panel and tab are disposed at generally right angles to each other, being of a size adapted to be grasped and encircled by the hand of a person, and said table portion, from the edge portion adjacent said elongated panel to the remote edge portion of said table portion being of a dimension considerably greater than the maximum cross-sectional area of said handle portion defined by said portions of said elongated panel and side tab.

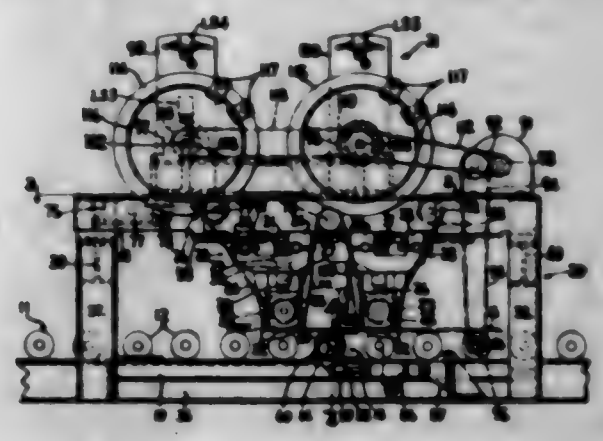
3,142,426
ATTACHMENT MEANS FOR CARTON TO CONVERT SAME TO DISPENSER
Clarence E. Busse, 34 Oxford Drive, Lincolnshire, Deerfield, Ill.
Filed Mar. 4, 1963, Ser. No. 262,687
4 Claims. (Cl. 225—43)



1. An attachment for use on an expendable paperboard carton containing a roll of sheet wrapping material as aluminum foil or plastic, said carton having a cover and cover flap extending longitudinally of the carton with the wrapping material normally being fed from the carton over the top edge of the carton front wall, said flap having a width less than that of the cover so that said flap can be folded against the cover to provide a two-ply thickness of paperboard, said attachment having a bight portion from which extend two opposed jaws, said bight portion being shaped and dimensioned to fit against the two-ply edge with the jaws having portions spaced apart the thickness of the two plies of the carton cover, one of said jaws having a free end portion extending toward the other jaw and shaped so that it can engage the free edge of the flap when folded against the cover, said jaws locking said attachment on said two-ply carton cover portion for sliding motion only along the cover length, said attachment including a severing blade extending from the bight portion thereof in a direction perpendicular to the direction of the jaws, said blade having the shape of an arrow head with two severing edges at 90° to each other in a plane and meeting to provide a piercing tip, said edges always lying in such plane as said attachment is moved for severing action longitudinally of the carton when positioned on the two-ply cover portion, said blade having the blade severing edges substantially at 45° to the line of severing travel, said blade extending close to the front wall and outside the carton when the cover with attachment is closed and in such position the blade tip is past the free edge of the front wall so that wrapping material extending across the free edge of the front wall from the roll can be pierced by the blade during closing the movement of the cover after which the material can be severed by moving said attachment.

3,142,427
GLASS SNAPPING APPARATUS
Jay J. Brand, Whitehall, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Mar. 1, 1960, Ser. No. 12,223
9 Claims. (Cl. 225—104)

1. An apparatus for snapping a moving glass sheet to run a cut along a score line on the sheet parallel to the leading edge of the sheet which comprises a supporting structure, a feeding conveyor means to move a glass sheet in a horizontal path, a receiving conveyor means to continue movement of the sheet in the horizontal path, a snapping roll, mens to support said snapping roll for rotation about a horizontal axis normal to the path of travel of the sheet provided by said feeding and receiving conveyor means, power means to rotate said snapping roll, first and second backup rolls rotatably mounted to said supporting structure above the path of travel of the glass sheet, said first and second backup rolls being in vertical planes on opposite sides of a vertical plane parallel to and through the axis of rotation of said snapping roll, power means to rotate said backup rolls, means connecting one of said backup rolls to said supporting structure for horizontal



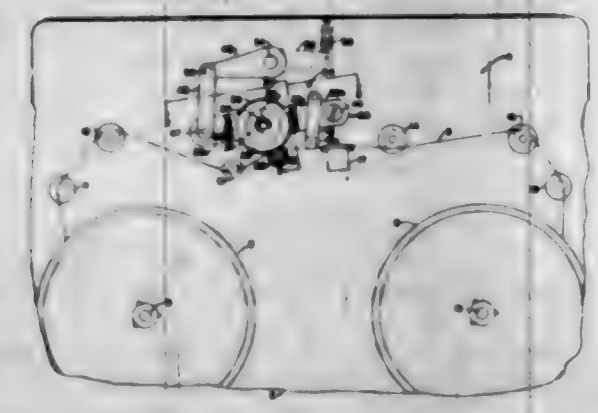
movement of each end of said one backup roll, and power means to move said support means for said snapping roll vertically for movement of said snapping roll between lowered and raised positions whereby a part of said snapping roll in the raised position is in the path of travel of the sheet to force the sheet upwardly while backup rolls abut the top surface of the sheet.

3,142,428
VACUUM ROLL
Harry W. Faeber, Larchmont, N.Y., assignor to Time, Incorporated, New York, N.Y., a corporation of New York
Original application Jan. 18, 1957, Ser. No. 635,005, now Patent No. 3,013,487, dated Dec. 19, 1961. Divided and this application Sept. 8, 1961, Ser. No. 136,935
8 Claims. (Cl. 226—95)



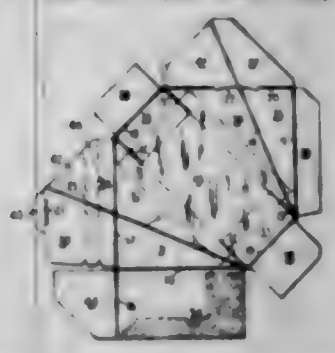
5. A variable speed web feeding device comprising:
(*a*) a hollow, perforated cylindrical shell rotatable about its axis,
(*b*) variable speed drive means for rotating the shell,
(*c*) a stationary housing maintained within the shell formed with walls that approach the inner surface of the shell,
(*d*) overlapping sealing members carried by said walls that are adapted slidingly to engage the inner surface of the shell along one edge of said sealing members adjacent said inner surface to produce an air-tight seal therewith so that the differential pressure may be maintained in said housing,
(*e*) a resilient compressible tube carried by the housing and in contact with at least a portion of the edge of the sealing member remote from the inner surface of the seal so as to press the sealing member against the inner surface,
the perforations in said shell being axially disposed narrow slots arranged in axial rows and the slots in adjacent rows being offset from each other in staggered relationship.

3,142,429
WIDE TAPE DRIVING MECHANISM
Joseph C. Zivny, Riverside, Ill., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,552
8 Claims. (Cl. 226—187)



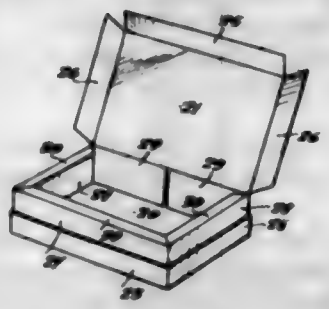
8. In a tape-handling apparatus or the like, driving means adapted to drive a tape comprising a capstan, a resilient pressure roller adapted to press a tape against said capstan to be driven thereby, an axle rotatively supporting said roller, rigid spacer means engageable with and positioned between said axle and said capstan at each end of said pressure roller and when in such engagement defining an operative position of said roller wherein the axis thereof is parallel with the axis of said capstan, and means for placing said pressure roller in said operative position to drive a tape.

3,142,430
CARTON
George L. Meyers, Menasha, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 15, 1963, Ser. No. 265,409
2 Claims. (Cl. 229—22)



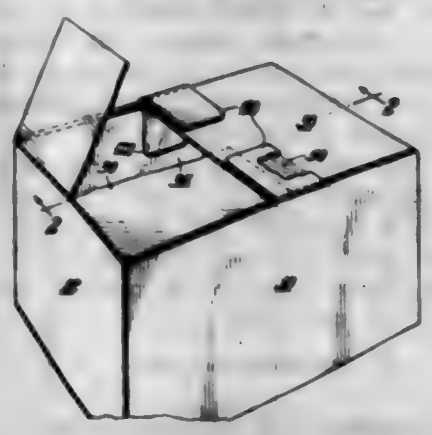
1. A unitary blank comprising a rectangular connecting panel defined by transverse and longitudinal score lines; a pair of opposed triangular main panels each hingedly connected along a first edge by one of said longitudinal score lines to said connecting panel; a side panel hingedly connected to a second edge of one of said main panels; a glue flap hingedly connected to the corresponding second edge of the other of said main panels; a pair of side flaps hingedly connected along associated score lines to the remaining edge of each of said main panels, one of said side flaps having a male locking tab hingedly connected at its outer edge opposite the score line connecting it to the adjacent main panel, the other of said side flaps having an arcuate female locking slit along the score line connecting this side flap to its adjacent main panel, the side flap which has the male locking tab having a tear strip therein defined by a pair of spaced lines of weakness substantially parallel to the score line connecting this side flap to its adjacent main panel; a pair of end flaps hingedly connected along said transverse score lines to said connecting panel; a side tab hingedly connected to said side panel along the edge adjacent the side flap; and a score line in each of said main panels running from the intersection of said longitudinal score line and said second edge at an angle to said longitudinal score line through said main panel and the adjacent side flap.

3,142,431
BOXES MADE OF COATED SHEET MATERIAL
Frank Webley Noble, Saltford, Bristol, England, assignor to E. S. & A. Robinson (Holdings) Limited, Bristol, England, a company of Great Britain and Northern Ireland
Filed July 18, 1961, Ser. No. 124,921
2 Claims. (Cl. 229—23)



1. A box made of coated heat sealable sheet material comprising
(*a*) a combined body and lid having a common side wall panel, said body and lid each having three additional side wall panels which become outer wall panels of the box, the wall panels of said combined body and lid having the heat sealable coated surface facing inwards, and
(*b*) a strip of material forming inner wall panels, said strip having a heat sealable surface facing outwards;
the outer wall panels of the body being heat sealed to the lower part of the said strip which serves to hold the walls of the body in the set up position, the remaining portion of the said strip forming the neck to which the three outer wall panels of the lid are heat sealed after the box has been filled; each of said three outer wall panels of the body abuts the respective outer wall panel of the lid, and together form substantially the entire outer surface of the wall panels of the sealed box.

3,142,432
SHIPPING CONTAINER WITH REUSABLE CLOSURE FLAP
Ralph M. Davis, Fullerton, Calif., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed July 23, 1962, Ser. No. 211,500
5 Claims. (Cl. 229—38)



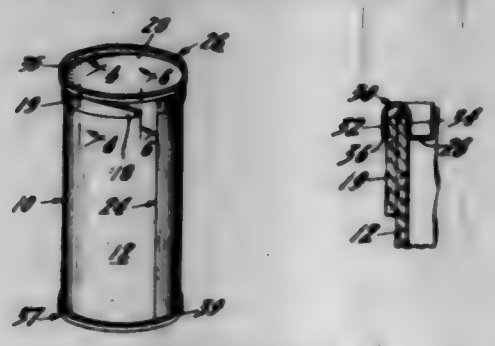
1. A reclosable container formed from a unitary blank of foldable paperboard, comprising:
(*a*) a pair of opposed outer side wall panels;
(*b*) a pair of opposed end wall panels having opposite side edges hinged to respective outer side wall panels to define a tubular structure;

(*c*) bottom closure flaps hinged to lower edges of certain of said wall panels;
(*d*) a pair of opposed top closure flaps hinged to upper edges of said end wall panels and extending horizontally inward to close the top of the container;
(*e*) said top closure flaps having free end portions disposed in overlapped relation;
(*f*) a pair of inner side wall panels operatively connected to upper portions of respective outer side wall panels and extending into the container in substantially parallel relation with respective outer side wall panels;
(*g*) a pair of retaining flaps cut from medial portions of respective inner side wall panels;
(*h*) said retaining flaps extending horizontally inward over the end portion of one of the top closure flaps; and
(*i*) means for rigidly securing said retaining flaps to opposite sides of the end portion of said one top closure flap;
(*j*) the end portion of the other top closure flap being free from connection to said retaining flaps, so that it can be removably inserted under the corresponding end portion of said one top closure flap.

3,142,433
COMPOSITE CONTAINER AND METHOD OF MAKING SAME

Alfred Edward Baiocco, Wheaton, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 8, 1962, Ser. No. 164,846
18 Claims. (Cl. 229—51)



1. A container comprising a hollow body composed of a relatively soft material and a closure composed of a relatively hard material attached to one end of said body, said body having the peripheral margin adjacent said one end formed to provide a hem on the outside of said body, a substantially peripheral line of weakness at most spaced slightly from the juncture of said hem and said body, said closure comprising a central panel surrounded by a peripheral substantially U-shaped channel integral with said panel, said body end and a portion of said hem including said line of weakness being frictionally engaged in said channel, the remaining portion of said hem adjacent its free edge being without said channel and adapted to be grasped and pulled to tear along said line of weakness and to remove the engaged portion of said hem from said channel thereby releasing said frictional engagement and permitting easy removal of said closure from said body.

3,142,434
ADHESIVE COMPOSITIONS

Aurelius Franklin Chapman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

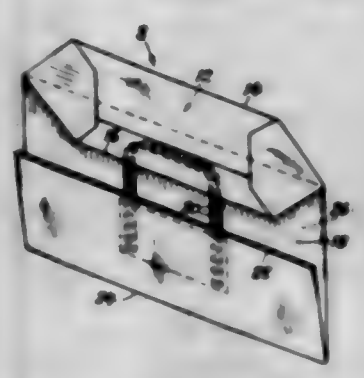
No Drawing. Filed Feb. 11, 1959, Ser. No. 792,465
2 Claims. (Cl. 229—53)

2. An adhesive composition suitable for adhering oriented film of polyethylene terephthalate consisting essentially of (1) 30 parts by weight of a copolyester of ethylene glycol with 33 mol percent of terephthalic acid, 17 mole percent of isophthalic acid, and 50 mol percent of sebacic acid, said polyester having a relative viscosity within the range of 1.3 to 7.0; (2) 4.5 parts of triethyl citrate; (3) 1.5 parts of silica particles having an average dimension of 10 microns; and (4) 0.45 part of lauryl alcohol all uniformly distributed in a volatile organic solvent mixture consisting of 32.9 parts of methyl ethyl ketone, 3.5 parts of methyl isobutyl ketone, and 2.1 parts of xylene.

3,142,435
SHOPPING BAG

Charles W. Stange, 38 Gregory Ave., West Orange, N.J., and Harold R. Smith, 13 Fairchild Place, Whippany, N.J.

Original application Oct. 20, 1961, Ser. No. 146,587. Divided and this application Jan. 9, 1963, Ser. No. 250,327
1 Claim. (Cl. 229—54)



A group of flattened and folded shopping bags for use in a shopping bag dispenser, each of said flattened bags presenting oppositely facing surfaces and a bottom portion which overlies and projects from one of said surfaces of the bag, said bags each having a top portion with flexible handles connected thereto and extending beyond the top of the bag, said bags each having a single fold line transversely thereof intermediate the top and bottom portions thereof, the top portion of the bag being folded along said fold line into a position wherein it overlies said one surface of the bag, said handles being positioned between the projecting bottom portion of the flattened bag and said one surface of the bag, the bags when thus folded each presenting an opposite, smooth unfolded face whereby the bag has a compact form and the handles of the bag are at least partially covered and protected by the projecting bottom portion of the bag, the bags of said group being positioned in engagement with each other with said one surface of each bag from which the bottom portion projects and overlies the handles of the bag facing in the same direction and in contact with the opposite, smooth unfolded face of an adjacent bag in the group.

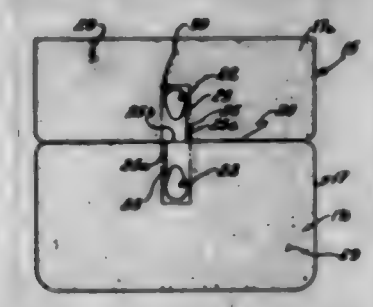
3,142,436
BAG HANGER

Joseph M. Heigl, Glen Ellyn, Ill., assignor to Rotogravure Packaging, Inc., Addison, Ill., a corporation of Illinois

Filed Sept. 12, 1962, Ser. No. 223,025
10 Claims. (Cl. 229—62)

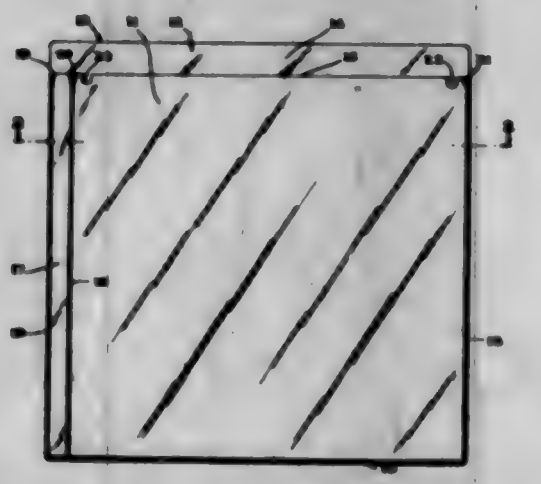
9. A package of prepackaged merchandise including a transparent bag for holding merchandise in a sealed manner and having its open end folded over itself, a hanger for said bag formed of a sheet of foldable material folded along a line intermediate its ends to define a pair of hinged panels receiving a portion of the folded-over open end of said bag therebetween, each of said panels being provided with an opening aligned on a perpendicular with said line and equidistant therefrom to provide axially

aligned openings forming a single passageway through said panels, a slit interconnecting said openings and including parallel spaced sections perpendicular to said line intersecting respective ones of said openings at opposite edges thereof to form hook-shaped portions in said sheet,



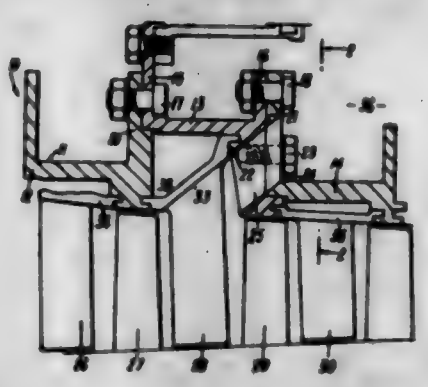
said slit including an additional section interconnecting said spaced sections along said line, and an adhesive coating on the adjacent sides of said panels adhesively securing said hanger to said bag, an area on each of said adjacent sides of said panels generally circumscribing said openings and said slit being free of said coating.

3,142,437
PROTECTIVE COVER OR ENVELOPE
Chester A. Grant and Allen H. Strand, Syracuse, N.Y., assignors to Gaylord Bros., Inc., Syracuse, N.Y., a corporation of New York
Filed Dec. 15, 1961, Ser. No. 159,524
9 Claims. (Cl. 229—68)



1. A protective cover of the class described, comprising a pair of relatively flexible sheet plastic panels of generally rectangular form disposed in overlying relation to each other, certain of the marginal edges of the respective panels being disposed in register and bonded together, with the edges of the panels at one common end of the cover being unattached and defining a mouth to permit insertion of articles into and removal thereof from the cover, said mouth extending generally perpendicular to one terminal end of the bonded edges of the panels, and at least one of the panels having a strain diverging and deploying notch provided in its free edge at the mouth aforesaid adjacent to but laterally spaced from the bonded panel edges, said notch being extended inwardly of the mouth from the free edge of the latter panel and being of such depth as to substantially reduce strains on the terminal end of the bond at the mouth of the cover when the protective cover is in use, the edges of the respective panels being registered along three sides and being bonded along a continuous line of substantially uniform width except at its extreme ends, said bond line terminating at the opposite corners of the fourth side to define an envelope which is open along the latter side, with a corresponding notch being provided in at least one panel adjacent to each terminal end of the bond line, and each terminal end of the bond line being laterally enlarged in the zone of the envelope mouth.

3,142,438
MULTI-STAGE AXIAL COMPRESSOR
Archibald Bathgate McKenzie, Littleover, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Apr. 12, 1962, Ser. No. 186,988
Claims priority, application Great Britain Apr. 21, 1961
6 Claims. (Cl. 230—122)

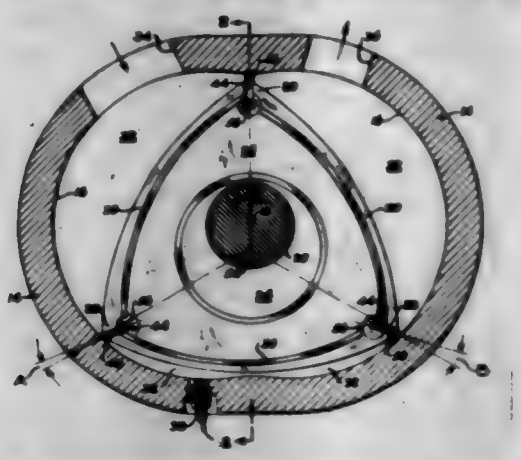


1. In a multi-stage axial compressor suitable for intermittent bleeding of compressed air therefrom and having a longitudinal axis, a main fluid duct, and casing means for said main fluid duct, said casing means comprising first and second axially spaced sections and an intermediate section extending between said first and second sections, each of said sections having an inner surface which forms an outer boundary wall of a respective axial portion of said main fluid duct, the inner surface of said first section having a downstream end, and the inner surface of said second section having an upstream end which is aligned axially of the compressor with the downstream end of the inner surface of said first section, the inner surface of said intermediate section being fluid tight and diverging outwardly relatively to the inner surfaces of the first and second sections from the downstream end of the inner surface of said first section towards and in radially outwardly spaced relationship to the upstream end of said second section, the inner surface of said intermediate section and the upstream end of said second section defining an annular space therebetween, said casing means being provided with duct means in fluid flow communication with said annular space for bleeding compressed air from said main fluid duct, the improvement comprising a plurality of angularly arranged stator blades provided in said intermediate section, each of the stator blades carrying at its radially outer end a platform formed integrally therewith and having a radially inwardly facing surface, the radially inwardly facing surfaces of said platforms of said stator blades together forming said fluid tight inner surface of said intermediate section.

3,142,439
SEALING MEANS FOR ROTARY ENGINE
Walter Froede, Neckarsulm, Wurttemberg, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany, both corporations
Filed Apr. 26, 1962, Ser. No. 190,295
Claims priority, application Germany May 10, 1961
5 Claims. (Cl. 230—145)

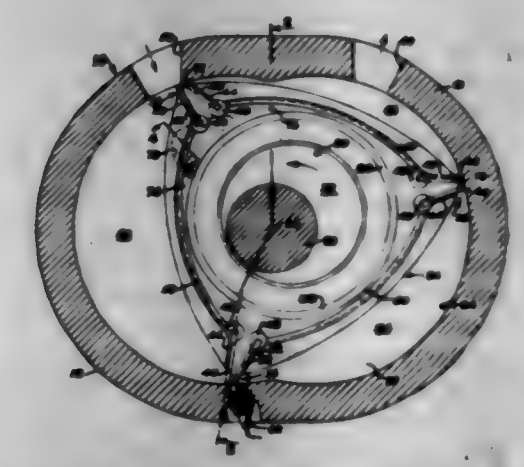
1. A rotary mechanism comprising an outer body having spaced end walls and a peripheral wall forming a cavity therebetween, with the inner surface of said outer-body peripheral wall having a multilobed profile; said outer body having an axis along which said end walls are spaced; an inner body disposed within said outer body for eccentric rotation relative to said outer body; said inner body having a plurality of circumferentially-spaced apex portions about its outer periphery, with each apex portion having an outwardly-facing groove running from one end face to the other of the inner body; an apex seal means received within each apex groove and

being outwardly movable; each said apex seal means having an outer edge in contact with the inner surface of said peripheral wall for sealing co-operation therewith; the plural apex seal means forming a plurality of



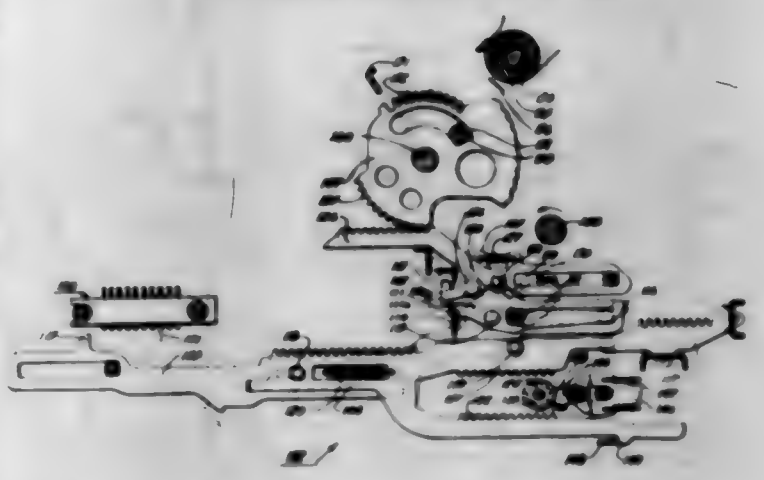
working chambers between said bodies which vary in volume upon relative rotation of said bodies; each apex seal means differing from any other apex seal means in the mass of the apex seal means.

3,142,440
MULTI-PART APEX SEAL
Otto Schlaz, Lindau-Enzisweiler (Bodensee), Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany
Filed May 9, 1962, Ser. No. 193,476
Claims priority, application Germany June 9, 1961
5 Claims. (Cl. 230—145)



1. A rotary mechanism comprising an outer body having axially-spaced end walls and an interposed peripheral wall forming a cavity therebetween, the inner surface of said peripheral wall having a multi-lobed profile which is basically epitrochoidal and having an axis along which said end walls are spaced; an inner body disposed within said outer body and rotatable relatively thereto about an axis displaced from but parallel to said outer body axis, said inner body having a plurality of circumferentially-spaced apex portions for sealing cooperation with said peripheral wall inner surface to form a plurality of working chambers therebetween which vary in volume upon relative rotation of said bodies; each said apex portion having a pair of spaced but closely adjacent outwardly-facing grooves disposed one on each side of said apex and running from one rotor end face to the other; a cooperating pair of seal strip members for each of said groove pairs, there being one member of each of said seal strip pairs disposed in each groove of said groove pairs, each of said seal strip pairs forming an acute angle therebetween with the radially outermost edges of said strip members of each pair converging and in close juxtaposition, said edges being in sealing engagement with said peripheral wall inner surface; a plurality of end face seal strip members carried by each end face of said inner body and projecting axially therefrom into sealing engagement with the adjacent end walls of said outer body, there being one end face seal strip member extending between each pair of adjacent apex portions of said inner body and generally parallel to the outer periphery of said inner body; and a plurality of axially movable intermediate seal elements positioned one at each end of each apex groove in sealing cooperation with the associated apex seal strip and the adjacent end of an end face seal; each of said pairs of outwardly converging apex seal strips defining an enclosure therebetween having passage means for venting said enclosure.

3,142,441
LISTING MACHINES
Richard A. Edwards, Walnut Creek, Calif., assignor to SCM Corporation, a corporation of New York
Filed Apr. 17, 1961, Ser. No. 103,346
10 Claims. (Cl. 235—60)

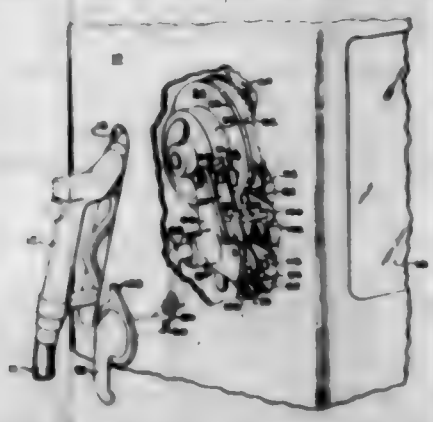


1. In a listing machine having a value entry mechanism, a plurality of ordinally arranged printing means, digital actuators operable under the control of said value entry mechanism to drive the printing means, and cyclically operable means for driving said actuators; a print control mechanism comprising: a normally enabled connection between each actuator and a respective ordinal printing means to cause the actuators to drive the printing means concurrently with movement of the actuators under the control of said value entry mechanism, means operable under control of the cyclically operable means to disconnect the printing means from the digital actuators, and said cyclically operable means being thereafter operable to cause further movement of the actuators independently of the printing means.

3,142,442
RESETTING MECHANISM FOR COUNTERS
Otto Wild, Jr., West Hartford, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Oct. 4, 1961, Ser. No. 142,905
21 Claims. (Cl. 235—144)

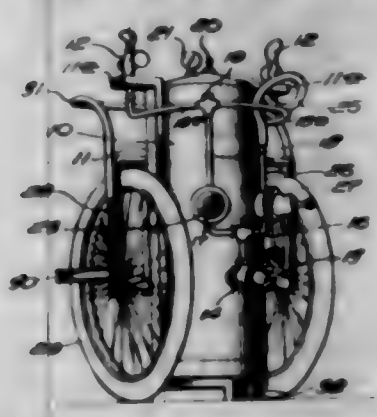
1. A resetting mechanism for resettable counters comprising a rotary control unit adapted to be drivingly connected to the resetting means of a counter, a rotary drive unit coaxial with the control unit, means for rotating the rotary drive unit, a disengageable clutch between the control unit and drive unit comprising a pawl pivotally mounted on the control unit, means biasing the pawl into engagement with the drive unit, a control lever movable into position in the path of the pawl and engageable with the pawl in a predetermined rotated position of the control unit to pivot the pawl out of engagement with the drive unit, said control lever being movable to a retracted position releasing the pawl to initiate a re-

setting operation, and means on the pawl for engagement with the control lever to prevent return movement of the



control lever from retracted position into stopping position.

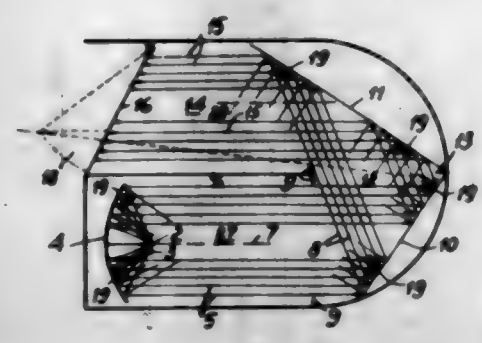
3,142,443
MOBILE FIELD FOUNTAIN
Carlton B. Morgan, High St., Holliston, Mass.
Filed Jan. 14, 1963, Ser. No. 251,329
4 Claims. (Cl. 239—24)



4. A mobile drinking fountain comprising a frame: a tank mounted on said frame, a pair of matched large-diameter pneumatic-tired wheels such as bicycle wheels rotatively mounted on said frame at opposite sides of said tank, said wheels extending below said tank and having a common horizontal axis of rotation located substantially upwardly from the bottom of said tank, said axis being offset but slightly aft of the vertical center line of said tank; a handle secured to said frame also aft of said center line; and a rigid foot secured to the underside of said tank at a location forwardly of said center line, said foot extending below said tank to a point level with the ground-engaging portions of said wheels when the tank is erect on a horizontal surface; an inlet for supplying water into the tank to a point adjacent the bottom; an inlet and valve means for charging air under above-atmospheric pressure into the tank above the water supplied to it; and water dispensing outlet means externally carried on the tank and having a connection between the tank interior adjacent the lowermost level of the water supply, said connection including fluid pressure control means to maintain at the outlet means a substantially constant outflow-presure from the tank whereby dispensing flow is maintained uniformly despite decrease in the water level within the tank and in the presence of said erect positioning of the tank.

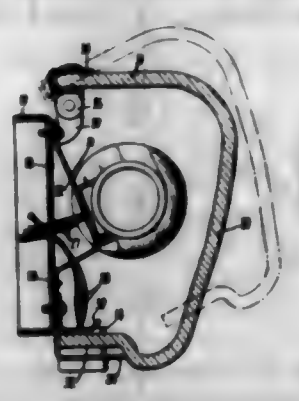
3,142,444
VEHICLE FOG LIGHT
Romano Nacimbene, % Hotel Dorigoni, Via Garibaldi, Feltre, Italy
Filed Aug. 2, 1962, Ser. No. 214,325
Claims priority, application Italy Aug. 7, 1961
3 Claims. (Cl. 240—41.1)

1. A fog-light for motor cars, comprising a casing, a first tubular optical chamber in said casing and having an optical axis and a first tubular elongated light absorbing wall defining said first tubular optical chamber, said tubular optical chamber having a first closed end and a second closed end axially distant from said first closed end, a first reflecting plane surface at said first closed end of said first tubular optical chamber and inclined with respect to and intersecting said optical axis, a second tubular optical chamber within said casing near said first tubular optical chamber and having an optical axis parallel to the optical axis of said first tubular optical chamber and a second tubular elongated light absorbing wall defining said second tubular optical chamber, said second optical chamber having one closed end in juxtaposition with respect to said first closed end and an open end axially distant from said one closed end a second reflecting plane surface in said second tubular optical chamber near said one closed end of said second tubular optical cham-



ber and intersecting the optical axis of said second tubular optical chamber and substantially perpendicular to said first reflecting plane surface, a reflecting parabolic concave surface in said first optical chamber near said second closed end thereof, the concavity of said reflecting parabolic concave surface being directed towards said first reflecting plane surface at said first closed end of said first optical chamber and the optical axis of said reflective parabolic concave surface coinciding with the optical axis of said first optical chamber, a light source in the focus of said reflecting parabolic concave surface, and an aperture through said first and said second tubular elongated light absorbing walls near said first and said one closed ends said aperture defining a passage from said first reflecting plane surface towards said second reflecting plane surface, a protective pane at said open end of said second optical chamber.

3,142,445
PIVOTALLY MOUNTED DIFFUSER GLOBE FOR LIGHT FIXTURE
Preston A. Jones, San Rafael, Calif. (2229 4th St., Berkeley, Calif.), assignor of one-half to Wallace D. Runewick, Berkeley, Calif.
Filed Aug. 14, 1961, Ser. No. 131,228
3 Claims. (Cl. 240—73)



1. A light fixture comprising a base member, socket means mounted upon said base member for receiving at least one light bulb, bracket means projecting from said base member having an upwardly turned ear, an electric

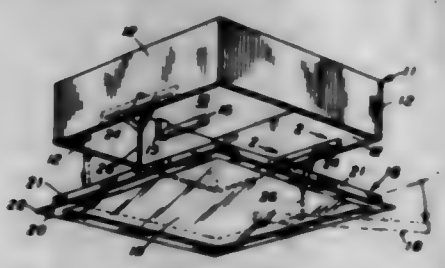
outlet receptacle carried upon said bracket means and extending through said ear, a translucent diffuser globe having a portion overlying said base member with marginal side walls depending therefrom and encompassing said base member, said globe side walls having a recessed section extending behind said ear with a notch engaging said receptacle, and pivot means securing the opposite side wall of said globe from said recessed section to said base member.

3,142,446
COLLAPSIBLE LAMP SHADE
Yukio Okamoto, 330 Oak Grove, Apt. 117, Minneapolis 3, Minn.
Filed July 25, 1961, Ser. No. 126,571
1 Claim. (Cl. 240—108)



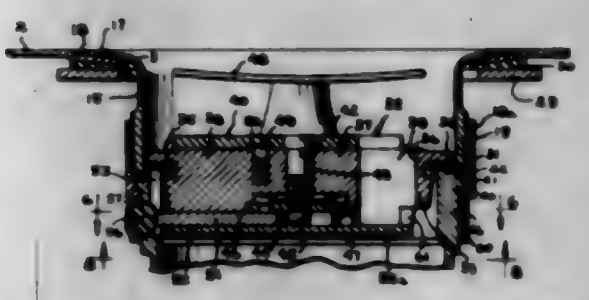
A collapsible lamp shade comprising a cylindrical body portion formed from relatively rigid self-sustaining sheet material, a flexible resilient reenforcing ring secured to each of the upper and lower marginal edge portions of said body, said rings and body being split and in abutting relationship in a direction axially of said body, means connecting the split ends of the rings to retain the body portion in cylindrical form, said rings being under collapsing tension to tend to cause overlapping of the opposed edges of said body into a spiral or scroll like form, when the ends of the rings are separated from the connecting means, and having a substantially smaller maximum diameter than that of said body when said edges are in abutting relationship, a pair of intersecting arms normal to each other secured to the upper edge of the body portion and formed with registering bent loop portions positioned one above the other for mounting on a lamp base.

3,142,447
DIFFUSER HOLDER FOR CEILING LIGHT FIXTURES
Marcus Bodian, Los Angeles, Calif., assignor to Sunbeam Lighting Company, Los Angeles, Calif., a limited partnership
Filed July 6, 1962, Ser. No. 208,865
3 Claims. (Cl. 240—147)



1. In a ceiling light fixture, a lamp housing member; a light diffusing member displaceably attached thereto; and means to limit the extent of displacement of said light diffusing member from said housing member for servicing, said means comprising at least two bracket means mounted on one of said members and having a hinging link attached to said other member, each of said bracket means consisting of a bracket base having a pair of slots slidingly engaging the outer ends of a pair of rigid toggle bars, pivot means connecting the inner ends of said toggle bars and said hinging link, and tension spring means connecting the outer ends of said toggle bars, whereby the said two members may be displaced apart or brought into close juxtaposition by the down or up overthrow position of said toggle bars.

3,142,448
COMBINED STOPPER AND CONTROL MEANS FOR WASTE DISPOSAL APPARATUS
Marcus P. Hogue, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Jan. 30, 1961, Ser. No. 85,660
11 Claims. (Cl. 241—32.5)

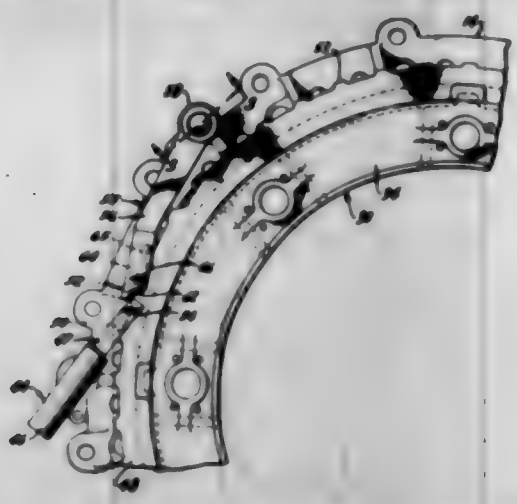


1. A waste disposal apparatus for use with a sink and the like structure adapted to have water supplied thereto and having a drain opening comprising, a housing enclosing a comminuting chamber having an inlet opening for connection with said drain opening for the ingress of waste material and water from the sink, power operated comminuting means in said chamber, closure means for said inlet opening having a fixed seat member which has a passage therethrough, a closure member removably seatable on said seat member having passage means therethrough for the flow of water from the sink opening into said housing, a closure plate on said closure member movable relative to said closure member to a sealing position to close said passage means to seal said inlet opening and to another position to open said passage means to permit water to flow into said housing for the comminution operation, locking means yieldingly to hold said closure member on said seat member and operably connected to said plate so that the locking means effects its yielding locking function when said plate is moved to said position to open said passage means and is rendered ineffective so as to unlock said closure member when said plate is moved to said sealing position, control means for said power operated comminuting means for rendering said comminuting means operative and inoperative, and means operably connecting said control means with said locking means to effect the operation of said comminuting means when said plate is moved to said open position and to stop said comminuting means when said plate is moved to said sealing position.

3,142,449
LOCK STRUCTURE FOR CRUSHER ADJUSTMENT
Hansjörg Bolmer, Milwaukee, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 27, 1962, Ser. No. 212,984
10 Claims. (Cl. 241—286)

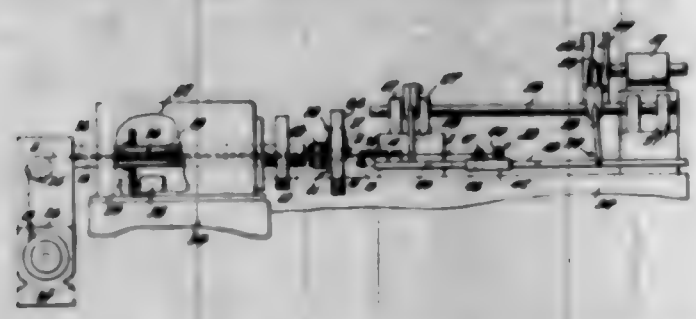
1. In a system of bowl adjustment for a crusher or the like, a main frame, a bowl mounted on the frame for rotary adjustment relative thereto, means for rotating the bowl relative to the main frame to effect adjustment thereof, including at least one fluid operated ram adapted to apply a tangential thrust to the bowl to rotate it relative to the main frame, and a lock structure for applying a

positive lock between the bowl and frame, said lock structure being positioned for contact by the ram such



that movement of the ram in applying a tangential thrust to the bowl unlocks said lock structure.

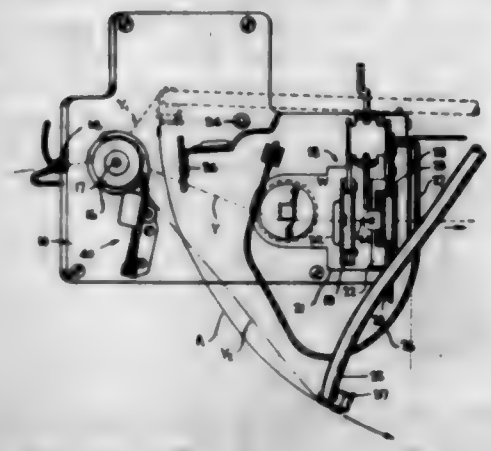
3,142,450
APPARATUS FOR WINDING STRANDS ON ELONGATED MEMBERS
William D. Bohannon, Jr., Burlington, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 22, 1961, Ser. No. 161,737
11 Claims. (Cl. 242—9)



1. In a device for serving strand on a flexible elongated member, means for moving the member in a reciprocatory path along a longitudinal axis, means for applying a constant tension on the moving member, means for supplying strand, guide means for maintaining the strand in a path that is perpendicular to the moving member, and means for rotating the guide means to wind the strand on the moving member while the member is reciprocating.

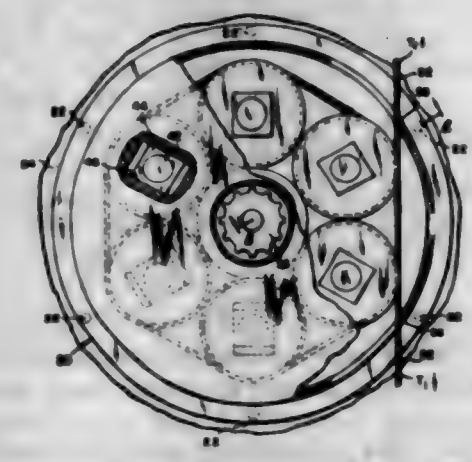
3,142,451
SLUB CATCHERS IN A WINDING MACHINE
Thomas E. Pitts, Cranston, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Continuation of application Ser. No. 119,552, June 26, 1961. This application Oct. 17, 1963, Ser. No. 316,952
16 Claims. (Cl. 242—35.6)

8. In a yarn winding machine, a fixed supporting bracket having longitudinally opposed front and rear ends, yarn guide means adjacent the front end of said bracket for slidably receiving and laterally positioning a yarn strand for movement in a generally predetermined longitudinal path over said bracket, a main slub catcher on said bracket longitudinally rearwardly spaced from said yarn guide means for slidably receiving said yarn and for parting the yarn responsive to a slub, thereby leaving a free end portion of yarn extending longitudinally between said yarn guide means and said main slub catcher, a transfer arm having a free operative end swingable through an advance stroke and a return stroke in an arc extending around said main slub catcher and between said main slub catcher and the yarn guide means for picking up said free yarn end portion and transferring it to a knotter, in combination with an auxiliary slub catcher positioned outside of said arc adjacent said yarn guide means, said auxiliary slub catcher having a yarn metering gap opening toward



the normal path of said yarn movement, for reception of and operative engagement with said yarn incident to the movement imparted to said yarn on the return stroke of the transfer arm toward said knotter.

3,142,452
STRAND HANDLING APPARATUS
Bo N. Hofstrom, Santa Monica, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Aug. 22, 1961, Ser. No. 133,243
3 Claims. (Cl. 242—47.08)

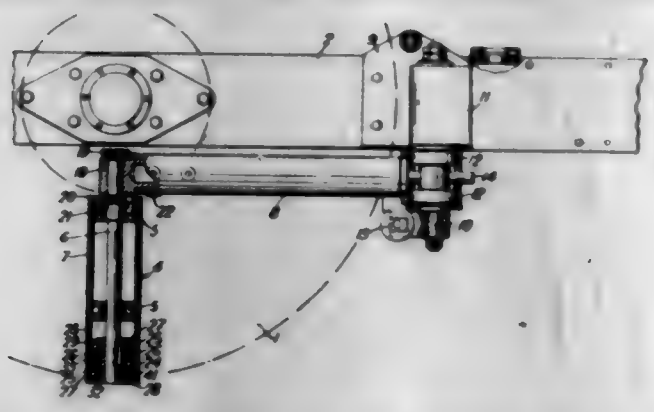


1. A capstan assembly comprising a main rotor, a plurality of rollers equally spaced around the periphery of said main rotor, peripheral portions of each of said rollers being in rolling contact with the periphery of said main rotor, means mounting said rollers for rotation about axes which are shiftable radially of said main rotor, said mounting means preventing movement of the axes of said rollers circumferentially of said main rotor, said rollers having peripheral surfaces for engaging a strand.

3,142,453
APPARATUS FOR CONTROLLING THE TENSION IN TAPES
George Thomas Wilson Grieve and Harold William Ritchie Watson, both of London, England, assignors to British Insulated Callender's Cables Limited, London, England, a British company
Filed Aug. 29, 1961, Ser. No. 134,673
Claims priority, application Great Britain Sept. 2, 1960
11 Claims. (Cl. 242—75.47)

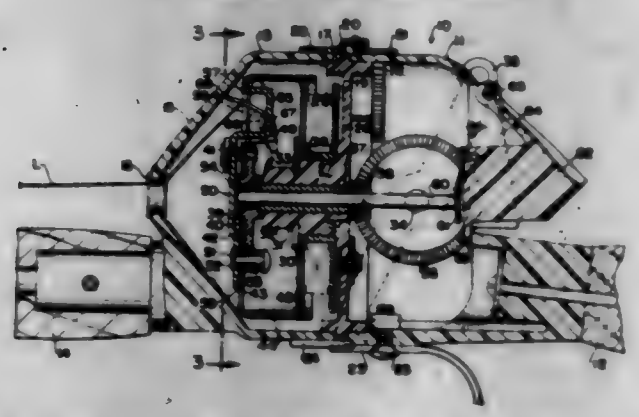
1. For controlling the tension in tape being drawn off from a pad and wound upon a core, a tension control device comprising at least one member which is rotatable about its own axis and is adapted to be rotatably driven by the pad about the said axis at a speed proportional to the linear speed at which tape is drawn off from the pad, and means for applying to the pad through the rotatably driven member a controlled braking torque, said last

means comprising two relatively rotatable members urged towards each other to deform elastically successive portions of a surface of at least one of the members, one of



said members being driven by said rotatably driven member and being retarded by the force required to deform said surface.

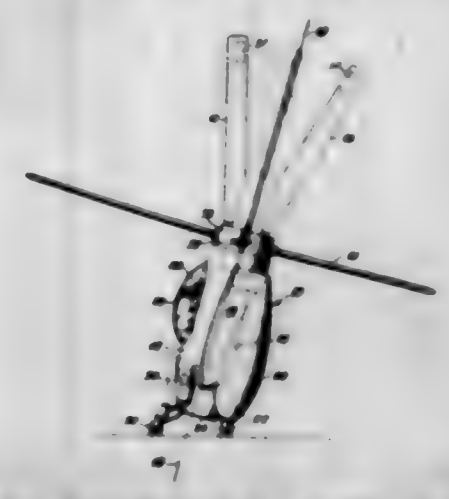
3,142,454
SPINNING REEL WITH LINE BRAKE
R. Dell Hull, 1131 E. Easton St., P.O. Box 270, Tulsa, Okla.
Filed May 4, 1961, Ser. No. 107,816
10 Claims. (Cl. 242—84.2)



10. A closed face spinning reel comprising a reel frame, a rotatable shaft, means supporting said shaft for rotation within said frame, a pick-up head fixed to said shaft for rotation therewith, a reel casing generally surrounding the frame and pick-up head and having a front wall forward of the pick-up head, a substantially rigid brake arm pivotally mounted on the front surface of the pick-up head and having a rigid line braking element, said pick-up head being provided with an opening adjacent said brake arm, a first portion of said brake arm extending rearwardly into said opening and a second portion extending forwardly out of said opening, said second portion comprising said rigid line braking element, and spring means resiliently mounting and normally urging said brake arm to the front face of the pick-up head while accommodating limited pivotal movement of the rigid line braking element of said brake arm away from said pick-up head.

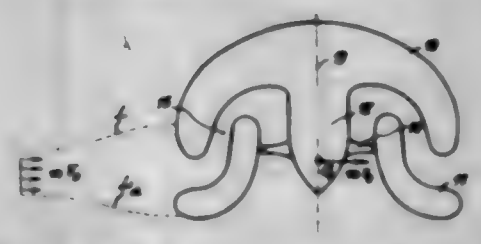
3,142,455
ROTARY VERTICAL TAKE-OFF AND LANDING AIRCRAFT
Edward Burke Wilford, 300 Linden Lane, Merion Station, Pa.
Filed Dec. 17, 1962, Ser. No. 249,966
8 Claims. (Cl. 244—7)

1. An aircraft having a body, fixed wing structure mounted on said body, a jet engine tail pipe mounted within said body adapted to be operatively associated with a jet power plant, a rotor system having a plurality of rotor blades operatively mounted on said body, said rotor blades being pivoted to move about axes transverse to the line of flight, from a laterally extended position for take-off and landing to a trailing position extending rearwardly of said body, pitch control means operatively associated with said rotor system for feathering said rotor blades in said trailing position from said body to there-



by place the aircraft loading on said wings, deflecting surface means operatively associated with said tail pipe and said rotor system to deflect a jet blast from said tail pipe in accordance with the position of said rotor blades with respect to said body.

3,142,456
FLYING PLATFORM FAIRING
Michel Lazareff, Paris, France, assignor to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France
Filed Sept. 19, 1962, Ser. No. 224,763
Claims priority, application France Apr. 28, 1962
9 Claims. (Cl. 244—23)



1. A fairing for self-propelled flying platform, the propulsion system of which draws in air from above and discharges said air substantially vertically downwards so as to create a vertical upward thrust, said fairing having the external shape of a mushroom and comprising: an upper portion, a lower portion spaced apart from said upper portion to form a channel, means for mounting said propulsion system between said upper and lower portions coaxially with said mushroom-shaped fairing, said channel including an air inlet to said propulsion system on the external surface of said fairing and substantially vertically centered with respect to a horizontal plane passing through the center of gravity of the platform when the platform is in an upright equilibrium position whereby, the resultant of the horizontal forces applied by the intake air to said platform, due to relative movement of the air and the platform, passes through the centre of gravity of the platform, irrespective of the direction of said movement.

3,142,457
STALL PATTERN LIFT REGULATOR FOR AIRPLANES
Henry H. W. Quenzler, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed July 16, 1962, Ser. No. 209,971
4 Claims. (Cl. 244—42)

1. In an airplane, a sustaining swept-back wing wherein the wing root panels are disposed largely ahead of the airplane's CG, and the wing tip panels are disposed large-

ly behind the same, means operable during normal flight to effect movement of BLC air over the wing in a manner to produce lift generally balanced as between the wing root panels and the wing tip panels, with the airplane's center of lift in the vicinity of its CG, and means operable,

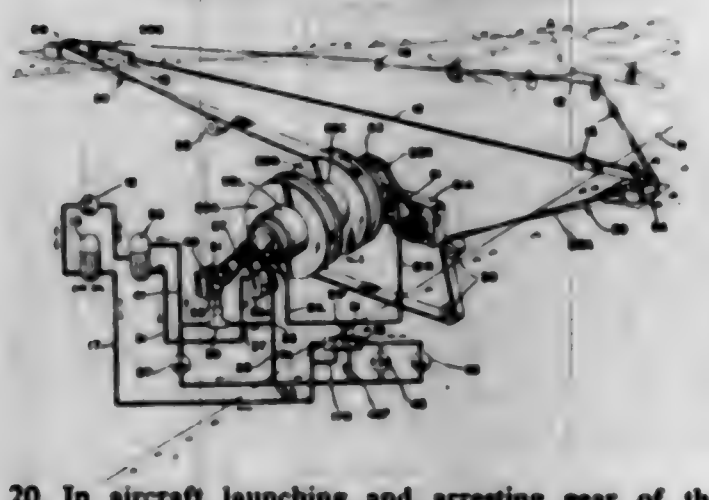


when the airspeed decreases to a value approaching a stall, to adjust the BLC air over the wing root panels and over the wing tip panels relatively, to preclude shift of the center of lift forwardly and thereby to cause the airplane to nose up.

3,142,458
AIRCRAFT LAUNCHING AND ARRESTING DEVICE

John J. Byrne and Robert W. Cruger, both of Philadelphia, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed July 12, 1961, Ser. No. 123,527
31 Claims. (Cl. 244—63)



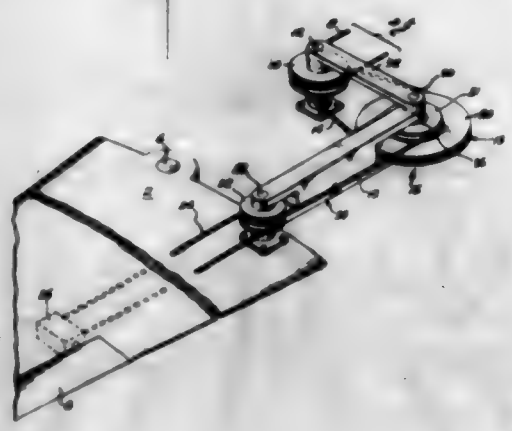
20. In aircraft launching and arresting gear of the class described, the improvement comprising: a runway pendant engageable by an aircraft; reel means; flat, wide band tape means connected to opposite ends of said pendant and windable on said reel means; fluid operable brake means adapted to retard rotation of said reel means; pump means operable by rotation of said reel means to energize said brake means during arresting operations, whereby back tension in said tape means provided by said reel energized pump and brake means is a function of the angular velocity of said reel means; and reel rotating drive means to wind said tape on said reel.

3,142,459
AILERON CONTROL ON VARIABLE SWEEP WING DESIGNS

Russell E. Bourke, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Mar. 7, 1963, Ser. No. 263,632
15 Claims. (Cl. 244—75)

1. In combination, a relatively stationary body, a hinged element thereon, a relatively movable element on the hinged element, and a continuous drive system for the relatively movable element comprising three rotors connected in series with the relatively movable element and arranged on pivots at the vertices of a parallelogram with the hinge of the hinged element, the pivots of the oppositely disposed rotors being fixedly mounted, one on the hinged element and the other on the body, the pivot of the third of the rotors being supported in a floating

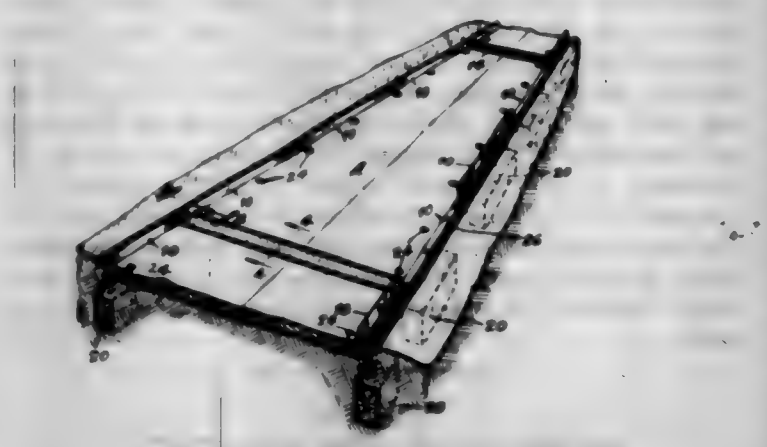


condition at its vertex opposite the hinge so as to be capable of swiveling about said other of the fixed pivots at a radius commensurate with the distance between the vertices occupied by the respective pivots in the parallelogrammic arrangement, and being responsive, moreover, to pivotal movement of the hinged element about its hinge to undergo such swiveling movement at the same angular speed as the hinged element.

3,142,460
APPARATUS FOR FLOODING AND DRAINING OF RUNWAYS USED AS LANDING AID AND SAFETY PRECAUTION FOR AIRCRAFT

Donald C. Langford, Hudson Heights, Quebec, Canada

Filed June 1, 1962, Ser. No. 199,491
8 Claims. (Cl. 244—114)



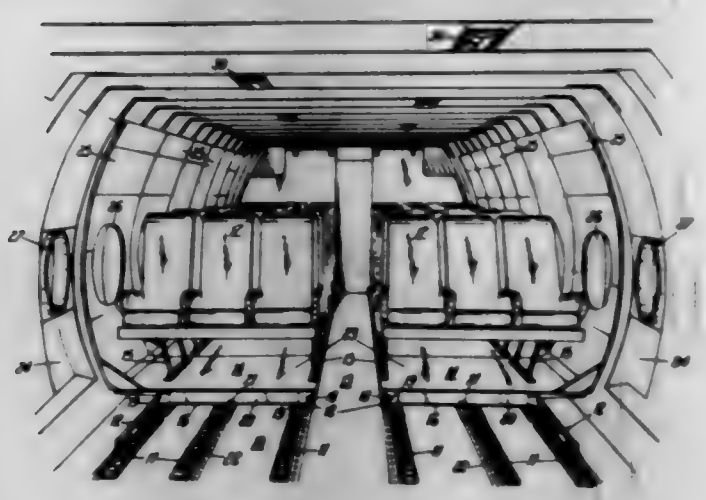
6. An apparatus for the controlled flooding and draining of at least a portion of an aircraft runway as a landing aid, comprising in combination a collapsible barrier wall disposed about at least a portion of said runway to form a substantially continuous water confining barrier with the surface of said runway portion, means for erecting said barrier wall above said runway surface in water confining position and means for collapsing at least a portion of said barrier wall to a position substantially in the plane of said runway surface releasing water confined within said wall, means to deliver water to said runway portion, and means to collect said water when released by said barrier wall collapse.

3,142,461

INTERNAL FITTINGS OF AIRCRAFT

Leonard Tomlinson Nayler, Leamington Spa, England, assignor to A.T.S. Company Limited, London, England, a British company

Filed May 23, 1961, Ser. No. 152,369
Claims priority, application Great Britain May 26, 1960
2 Claims. (Cl. 244—137)



1. In combination, an aircraft cabin with side walls having windows, and having a ceiling and a floor; a plurality of substantially flat-topped pallets with roller-engaging flat undersurfaces to slide into the cabin over the floor; a plurality of roller conveyors secured on the cabin floor and together comprising a plurality of spaced rows of idler rollers parallel to the fore-and-aft center line of the cabin to promote sliding of the pallets along the floor on said idler rollers; pallet guide means secured on the cabin floor and constraining the pallets to slide on said idler rollers only in the direction parallel to the fore-and-aft center line of the cabin, said guide means maintaining each pallet in each row in alignment with the others during said sliding, anchoring means secured on the cabin floor to secure the pallets against bodily shifting with respect to the cabin when the pallets are in position in a row; a number of passenger seats secured down on the top of each pallet so that said seats are disposed side-by-side across the width of the pallet; wall lining panels mounted on the pallets and upstanding from the longitudinal outer edges thereof, each said wall panel conforming with and lying closely adjacent the cabin side wall and extending the full length of the pallet on which it is mounted so that the wall panels on all the pallets in a row will abut to form a substantially continuous wall lining at one side of the cabin; and said wall lining panels being provided with openings therein some at least of which openings lie opposite the windows in the aircraft cabin.

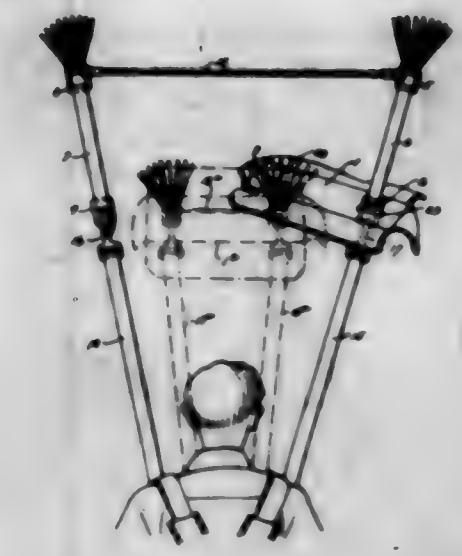
3,142,462

QUICK CONNECTOR PARACHUTE

Gerhard Franz Josef Andreas Sedlmayr, Laubeker Strasse 2, Hamburg-Rahlstedt, Germany, and Gustav Bahr, Woldenweg 3, Hamburg 20, Germany

Filed Mar. 26, 1963, Ser. No. 268,071
10 Claims. (Cl. 244—148)

1. Parachute apparatus comprising a harness having riser lift webs of the type adapted upon deployment of a parachute and its shroud lines to extend upwardly above the head of a wearer, connectors on the free ends of the lift webs, a parachute pack container including a bottom wall, connectors mounted on the bottom wall of the container having detachable connection with the harness lift webs, and means to disconnect a lift web of the harness



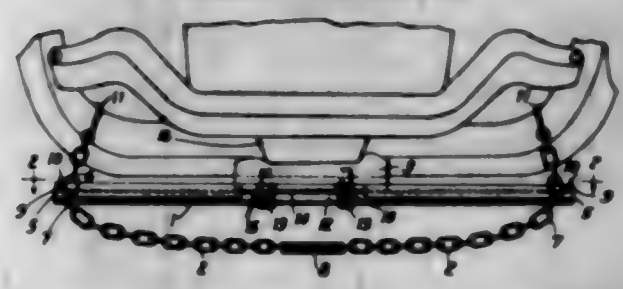
and its connector from the pack container bottom wall by the force incidental to initial deployment of the parachute and lift webs of the harness.

3,142,463

SUSPENSION CRADLE

Guy Dyer, 12 Clark Road, Cincinnati 15, Ohio, assignor of one-half to Garner Dyer, Cincinnati, Ohio

Filed Mar. 28, 1962, Ser. No. 183,299
3 Claims. (Cl. 248—3)



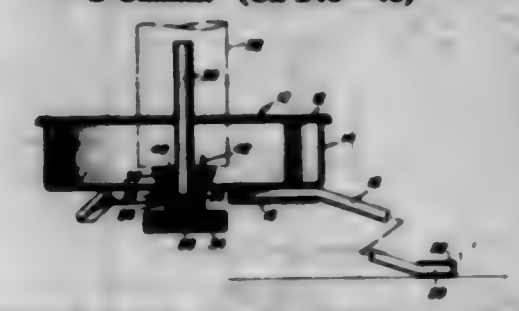
1. A temporary suspension cradle to support unsupported ends of an assembly when certain elements are removed from said assembly and retain said unsupported end in fixed relation to a frame, said cradle comprising link chains adapted to be disconnectably hooked to said frame, a beam having slots in its end to receive links of said chain to support said beam in relation to said frame, a shim supported on said beam and adapted to be interposed between said beam and said unsupported end of said assembly and bolts to actuate said shim between said beam and said unsupported end to maintain said unsupported end in fixed relation to said frame.

3,142,464

TREE MOISTENING TREE HOLDER

Joseph J. Zelenitz, P.O. Box 287, Blaine, Ohio

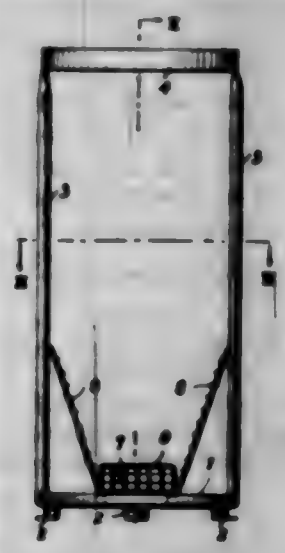
Filed Oct. 26, 1961, Ser. No. 147,805
2 Claims. (Cl. 248—48)



1. A tree moistening tree holder comprising a flanged pan, a plurality of leg receiving sleeves mounted on the bottom of said pan, a leg removably secured in each of said sleeves, an apertured partly spherical boss depending from the center of said pan, a threaded rod extending through the aperture in said boss, a nut having a surface

complementary to said partly spherical boss and of greater area than said aperture therein threaded on the end of said threaded rod, a partly spherical flange mounted on said rod within said pan, said partly spherical flange being complementary to said depending partly spherical apertured boss of said pan, said rod being arranged to telescope within an apertured tree trunk to maintain the tree trunk thereon resting against the top of said flange mounted on said rod, said rod being angularly adjustable within said aperture, whereby said nut cooperating with said threaded rod, said apertured boss, and said rod branch, provides the sole means for adjusting and securing said rod and the tree thereon at the desired angle and also seals said apertured boss.

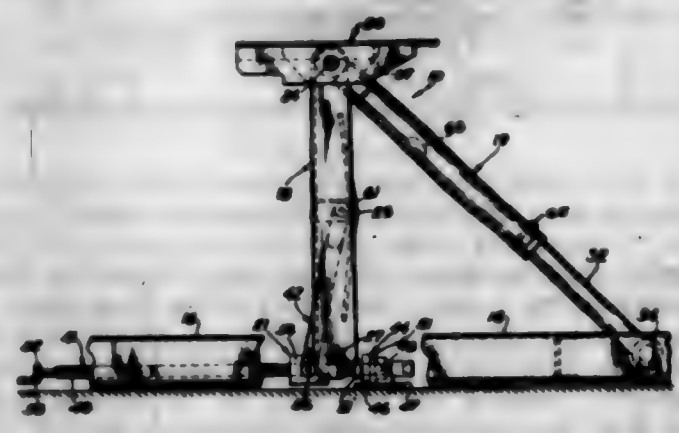
3,142,465
SUPPORTING MEANS FOR BAGS OR SACKS
Karl Gustaf Hellner, Vastgotagatan 9, Alingsas, Sweden
Filed June 11, 1962, Ser. No. 201,569
Claims priority, application Sweden June 19, 1961
3 Claims. (Cl. 248—97)



1. A stand for supporting a sack for rubbish and the like comprising, a bottom ring, a top ring, posts extending between the rings and holding the same in spaced-apart relation, a mesh bottom supported on the bottom ring, said mesh bottom including a pair of upwardly-inclined, upwardly-divergent wings of semi-elliptical shape having their upper ends respectively attached to the posts, the wings defining a wedge-shaped space between them and adapted for congruent engagement with lower portions of a sack placed in the stand and supported at its upper end by the top ring.

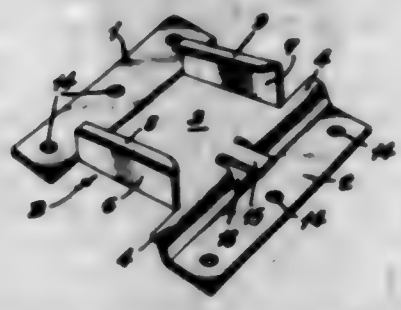
3,142,466
STANCHION OPERATING MECHANISM
Jack E. Gutridge, Dyer, Ind., and Robert M. Sherrie, Lansing, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Nov. 5, 1962, Ser. No. 235,246
5 Claims. (Cl. 248—119)

1. In a railway car having a flat open deck portion to receive semi-wheel-supported trailers thereon for piggyback operation, the provision of a retractable stanchion mounted on said deck portion for operation between a vertically upright trailer end supporting position and a horizontally flat storage position, said stanchion in its upright position comprising vertical strut means attached at the base thereof relative to said deck portion by a fixed pivot means and including a trailer support plate assembly pivotally attached to the top portion thereof, said fixed pivot means and the pivotal attachment of said support plate assembly being in at least substantial vertical alignment, diagonal strut means including longitudinally extensible and retractable means having pivotal end connections and extending between the top portion of said vertical strut means and the deck portion in downwardly and longitudinally outwardly inclined relation to said vertical strut means, and stanchion operating means extending longitudinally of said deck portion and including threadedly longitudinally movable means interconnected through link means with said vertical strut means intermediate the base and the top portion of said vertical strut means, opposite end portions of said link means



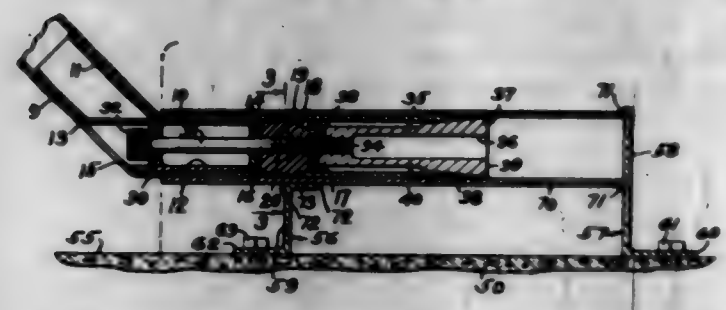
including pivot connections with said longitudinally movable means and said vertical strut means, the pivot connection of said link means with said vertical strut means being located beyond the vertical alignment of said fixed pivot means and the pivotal attachment of said support plate assembly in a direction toward said diagonal strut means in said upright position, the last named pivot connection projecting above the alignment of said fixed pivot means and pivotal attachment of said support plate assembly in the storage position of said stanchion.

3,142,467
FURNITURE LEG MOUNTING
Henry Matchnik and Melvin Matchnik, both of 5804 Glat Ave., Baltimore, Md.
Filed Apr. 5, 1963, Ser. No. 270,879
7 Claims. (Cl. 248—188)



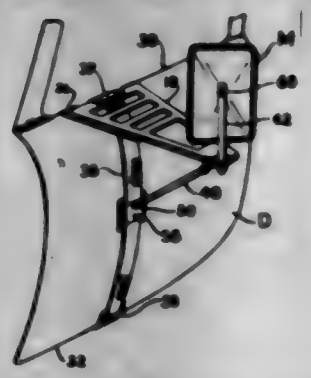
1. A sheet metal bracket adapted to be affixed to the underside of a piece of furniture for connecting a hollow tubular metallic furniture leg thereto, said bracket comprising a portion for fastening the bracket to the piece of furniture and a leg-receiving portion, said last-mentioned portion having a plane surface for receiving the end of the tubular leg in close abutting relation thereto, opposed shoulders extending transversely from said plane surface and displaced from each other a distance slightly in excess of the external diameter of the tubular leg at said plane surface, inwardly directed flanges extending from the free ends of said shoulders and lying in a common plane disposed at a slight convergence to said plane surface, and said end of said leg adapted to have diametrally opposed segmental recesses at a divergent inclination with respect to said end and displaced therefrom a distance corresponding to the spacing of said flanges from said plane surface, said divergence conforming to said angle of convergence to permit said end of said leg to slide along said bracket while such flanges engage within said recesses to retain the end of said leg in close abutting relation with said plane surface.

3,142,468
CANTILEVER COUNTER STOOL
Paul L. Dodds, 1427 E. 6th St., Los Angeles, Calif.
Filed Dec. 4, 1962, Ser. No. 242,176
6 Claims. (Cl. 248—228.5)



1. A cantilever counter stool construction, including: a support tube for a stool, the support tube having a portion for supporting a stool and a base tube portion in right angular relationship to the stool support portion, both portions of the support tube lying in the same plane, a tubular sleeve adapted to be fixedly mounted to a floor and to lie horizontally and level, said tubular sleeve telescopically receiving the base tube of the support tube, said base tube provided with a transverse bore, a deformable block within the base tube, and means within the base tube for compressing the deformable block to expand a portion of said deformable block through the transverse bore of the base tube into engagement with the tubular sleeve to secure the tubular sleeve and base tube against relative telescopic movement.

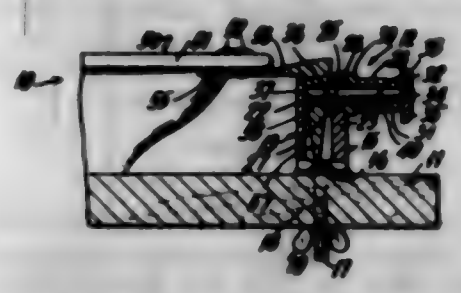
3,142,469
DETACHABLE REAR VIEW MIRROR
Wallace Le Roy Clemmer, St. Helens, Oreg., assignor of one-half to John L. Schwabe, Portland, Oreg., and one-half to John L. Mikesh and Bernice E. Mikesh, Scappoose, Oreg.
Filed Feb. 4, 1963, Ser. No. 255,931
7 Claims. (Cl. 248—226)



1. A detachable rear view mirror device for automobiles comprising an outrigger arm having an inner end adapted to rest on the window ledge of an automobile door, a depending flexible finger on said inner end arranged for insertion in the window slot of the door, a strap having an upper end secured to the inner end of said arm, a hook on a lower end of said strap arranged to engage under the bottom edge of the door, a mirror on the outer end of said arm, and a strut having an upper end connected with the outer end of said arm and a lower end connected with an intermediate portion of said strap.

3,142,470
SUPPORTED DISHES FOR CHILD FEEDING AND THE LIKE DEVICES
Antoedo Inadiorio and Carmela Inadiorio, both of 40 Willow Lane, Lindenhurst, N.Y.
Filed June 14, 1961, Ser. No. 125,618
1 Claim. (Cl. 248—361)

In combination, a vertical rectangular socket of uniform dimension open at its upper end, a dish having a central dished portion and a flat flange extending outwardly from said dished portion, a bracket having a first flat portion contacting the underside of said flange, rivets fixing said first portion of said bracket to said flange, said bracket having a neck extending rearwardly from the middle of said first portion beyond said flange and a tongue extending downwardly from the rear end of said neck, said tongue being formed with a transverse opening extending completely therethrough, and a spring pressed, axially movable horizontal pin latch means on said socket, having means projecting entirely through the opening in



said tongue to latch the dish to said socket, said upper end of said socket being upwardly inclined, said latch being located at the rear of said socket, said tongue decreasingly dropping in thickness towards its lower end, the underside of said dish being in the horizontal plane of the underside of said socket when said bracket is latched to said socket, and means to attach said socket to a horizontal support on which said dish and socket are mounted, the upper surface of said neck of said bracket being inclined rearwardly and upwardly.

3,142,471
SWIVEL CHAIR OR LIKE ARTICLE OF FURNITURE
Bertram S. Silver, 150 Central Park S., New York, N.Y.
Filed Sept. 21 1961, Ser. No. 139,705
2 Claims. (Cl. 248—417)

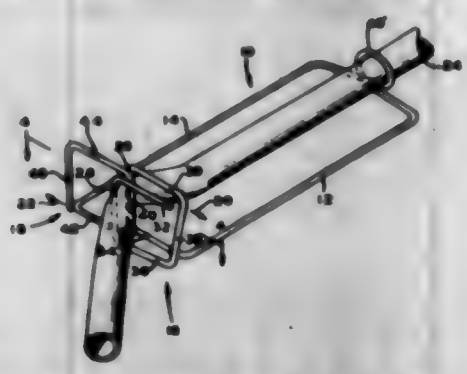


1. A swivel chair comprising a vertical support column, a seat member mounted atop said column and rotatable about the longitudinal axis thereof, a cam affixed to said column and lying in a substantially horizontal plane and having a pair of diametrically opposite depressed sections and raised sections intermediate said depressed sections, a biasing lever pivoted to said seat member for rotation in a horizontal plane, a cam follower mounted on said lever and engaging said cam, and spring means urging said lever and cam follower toward said cam.

3,142,472
SAFETY CLAMP FOR HOSE
Sidney Lipschutz and Edward H. Barnett, Philadelphia, Pa., assignors, by mesne assignments, to Chemicals Sales, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1961, Ser. No. 86,953
4 Claims. (Cl. 251—10)

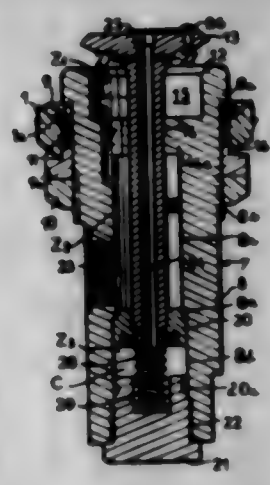
1. A safety clamp for exerting a pinching action on a hose of compressible material to preclude further passage of corrosive fluid flowing therein comprising in com-

bination a confining jaw and a pinching jaw movable relative to each other, means for urging said jaws apart, a lever member operatively associated with each of said jaws for causing relative movement thereof counter to the natural movement of the jaws apart, said confining jaw comprising two substantially parallel bars, pairs of legs in generally parallel relationship to each other extending from said bars, said pinching jaw including a finger disposed in operative position generally parallel to said bars and disposed adjacent each of said leg pairs, two gen-



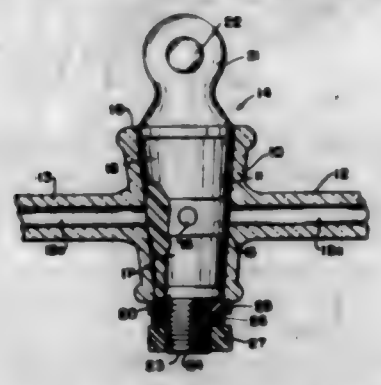
erally parallel arms perpendicular to said finger extending therefrom, said parallel arms being bridged by a cross-arm generally parallel to said finger whereby in operative position said hose is positioned between said leg pairs and is interposed between said bar pair and said finger, said urging means tending to compel said finger to move toward said bars to force said hose against said bars thereby to cause a pinching action to be exerted upon said hose and whereby said cross-arm is adapted to abut against said hose to preclude said finger from being removed from its disposition within each of said leg pairs.

3,142,473
BALANCED VALVE ASSEMBLY FOR THE OIL PORT OF A PRESSURE VESSEL
Jean Mercier, 1185 Park Ave., New York, N.Y.
Filed Jan. 12, 1960, Ser. No. 1,939
Claims priority, application France Feb. 5, 1959
10 Claims. (Cl. 251—282)



1. A closure assembly for controlling the flow of fluid from a pressure vessel, said closure assembly having an inlet comprising a valve seat and an outlet, a main fluid passageway leading from said inlet to said outlet, a valve stem slidably mounted in said closure assembly, a valve head at one end of the valve stem and movable against said seat completely to close the latter, said stem extending axially of said valve head and having an axial bore therethrough, relatively weak resilient means normally urging said valve head to open position, a balancing chamber in said closure assembly associated with the inner end of said valve stem remote from the root end thereof, said inner end extending into said balancing chamber, whereby said axial bore leads into said balancing chamber, a second fluid passageway in communication at one end with said axial bore in said valve stem and having its other end adjacent the root end of said valve stem, located at a region where the kinetic energy will be best carried off, said second fluid passageway and said axial bore defining a normally open channel leading to said balancing chamber, whereby when said valve head is spaced from said valve seat a portion of the fluid flowing past said valve head into said inlet and through said main fluid passageway, will be channeled through said other end of said second passageway into the axial bore and through the latter into said balancing chamber to react against the inner end of said stem in said chamber to provide a force operatively reacting against the valve head to urge the latter to open position.

3,142,474
VALVES FOR USE IN LABORATORY GLASSWARE
La Von Nelson, Vineland, N.J., assignor to Lurex Manufacturing Company, Vineland, N.J., a corporation of New Jersey
Filed Apr. 6, 1962, Ser. No. 185,669
3 Claims. (Cl. 251—309)

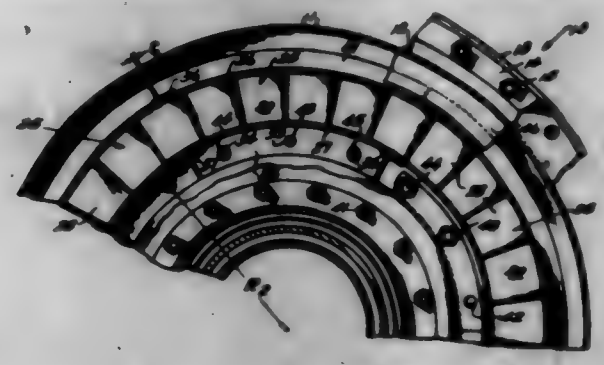


1. In laboratory glassware, a valve which comprises a glass barrel having an internal surface of the shape of a surface of revolution tapering from one end to the other, passageways through the wall of the barrel to the interior thereof, the passageways having openings in the internal surface of the barrel and intersecting a plane through the axis of such surface, a plug of a tough, non-volatile, non-sticking synthetic material rotatably mounted in the barrel and having a circumferential sealing strip between its ends in contact with an area of the internal surface of the barrel concentric with the axis of such surface and containing at least one of the passageway openings, the sealing strip being not substantially wider than the diameter of the opening contained in such area and the plug having circumferential sections on opposite sides of the sealing strip out of contact with the internal surface of the barrel, a passageway through the plug in a plane through the plug axis, the passageway having at least one end opening in the outer surface of the sealing strip between the lateral edges thereof, relatively narrow bearing strips encircling the plug and in contact with the internal surface of the barrel near its ends, and means for yieldingly drawing the plug into the barrel to maintain contact between the sealing and bearing strips and the inner surface of the barrel.

3,142,475
STATOR ASSEMBLY
Melvin Bobo, Topsfield, Jack Reid Martin, Bedford, and Robert John Smuland, Reading, Mass., assignors to General Electric Company, a corporation of New York
Filed Dec. 28, 1962, Ser. No. 248,071
6 Claims. (Cl. 253—78)

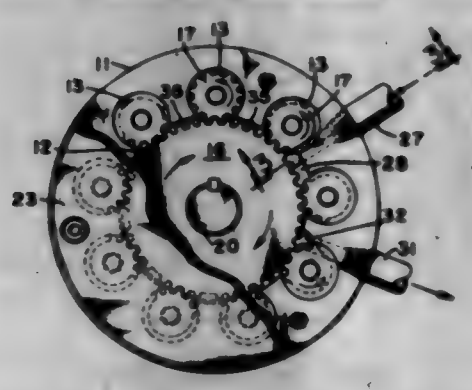
1. For use in a gas turbine engine having a casing and a turbine wheel rotatably mounted about an axis therein, a segmented annular nozzle diaphragm for supplying hot gases to said turbine wheel, said diaphragm comprised of a plurality of arcuate diaphragm segments each having an arcuate inner shroud member, an arcuate outer

shroud member, a plurality of vanes radially positioned between said shroud members and secured thereto, said vanes being equally spaced circumferentially so as to define equal flow areas between adjacent ones of said vanes, a first arcuate mounting flange extending radially inward from said inner shroud member, and a second arcuate mounting flange extending radially outward from said outer shroud member, said inner and outer shroud members extending circumferentially beyond the end vanes of said segments, the circumferential lengths of said extension being such that the flow area between the end vanes of two abutting segments is equal to the flow areas between adjacent vanes of each of said segments at any temperature, first support means engaging said first and second mounting flange of each of said segments to



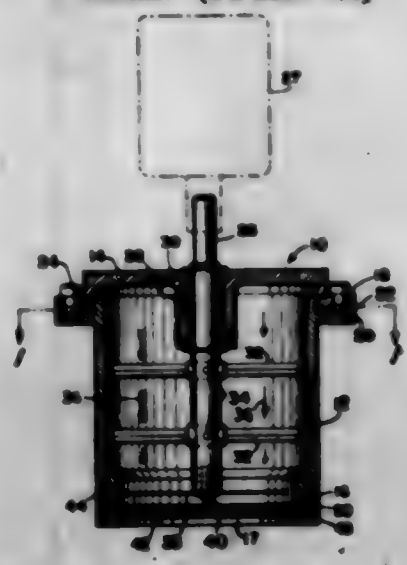
locate said segments axially within said gas turbine engine, and second support means engaging said first mounting flange of each of said segments to locate said segments circumferentially and radially within said gas turbine engine, said second support means locating the circumferential center of each of said segments in a fixed position and permitting the ends of said segments to expand and contract circumferentially relative to said centers in response to changes in the operating temperature of said diaphragm, the circumferential spacing between adjacent segments being such that the ends of said segments expand into abutting relationship at the normal operating temperature, the flow areas between the end vanes of abutting segments thereby being equal to the areas between adjacent vanes of each of said segments at the normal operating temperature.

3,142,476
FLUID MIXING APPARATUS
Chester H. Goodwin, Decatur, Ala., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,761
5 Claims. (Cl. 259—6)



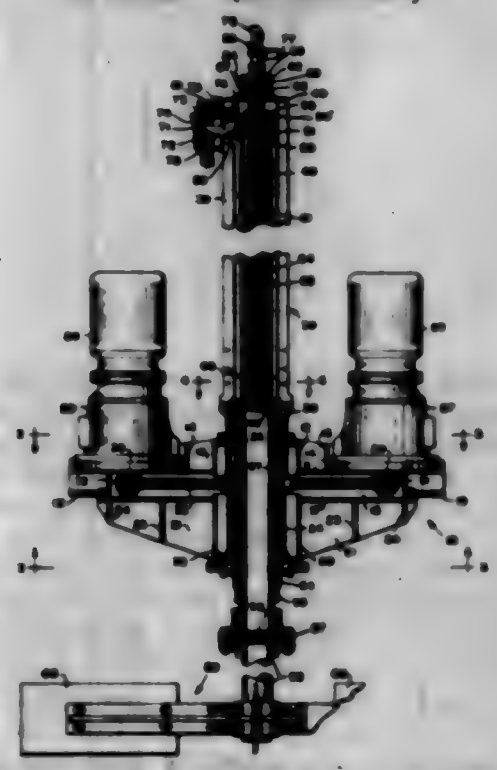
1. A mixing device, comprising a sun gear, a plurality of planetary gears meshed with the sun gear to form a plurality of fluid mixing units extending through an arc from an inlet unit around the sun gear to an outlet unit, and a housing enclosing the gears, said housing being recessed along said arc to provide a space between the periphery of the teeth on the sun gear and said housing to provide passageways between said mixing units so that the fluid can flow around the sun gear in a direction counter to the movement of said teeth, the remainder of said housing being positioned substantially in engagement with said teeth.

3,142,477
PLASTIC FOAM MIXER
Cletus A. Becht, Akron, Robert C. Gordon, Cuyahoga Falls, Nicholas Jourlios, Hudson, and Raymond W. Sheasley, North Canton, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed Feb. 28, 1963, Ser. No. 261,735
7 Claims. (Cl. 259—44)



6. In a plastic foam mixer and dispenser, the combination of a sealed mixing chamber, a rotatable shaft extending through one end of said chamber into said chamber, a plurality of cutting blades and a plurality of mixing blades removably mounted on said portion of the shaft extending inside the chamber, a pressure rupturable diaphragm on the other end of the mixing chamber, drive means fixedly attached to the shaft outside the mixing chamber, and means inside the mixing chamber to separately store the chemical components of the foam mixture.

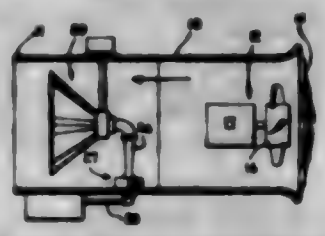
3,142,478
MIXING APPARATUS AND METHOD
Gustave Reinberg, Landing, N.J., assignor to Freeport Sulphur Company, New York, N.Y., a corporation of Delaware
Filed Jan. 30, 1959, Ser. No. 790,221
22 Claims. (Cl. 259—114)



1. In an agitator, a supporting frame; a rotatable member journaled in said frame; driving means mounted on

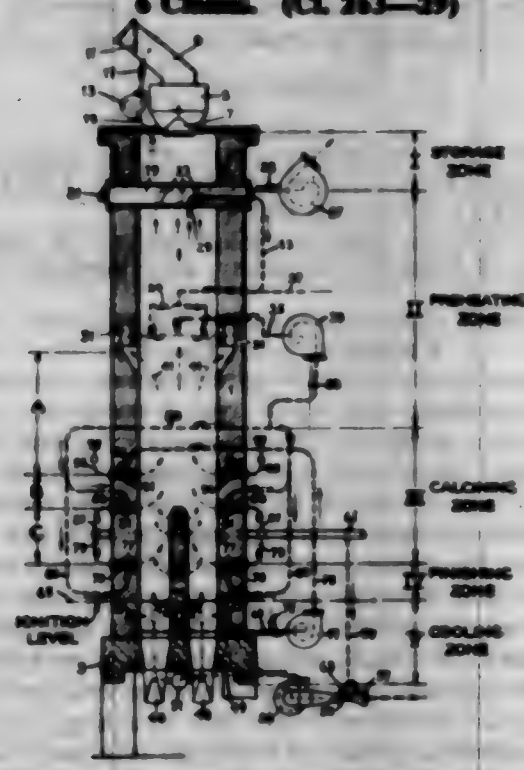
said frame for driving said rotatable member; a torque transmitting tube connected to said rotatable member; cylinder means and piston means mounted within said torque transmitting tube and rotatable therewith, but one of said means being axially movable relatively thereto; an impeller fixed to one of said means; and pressure fluid means independent of, and simultaneously operable with the rotation of said impeller for providing relative axial movement between said means.

3,143,479
CONTROL FOR AN AIR HEATER
Peter G. Bartlett and Richard C. Bartlett, both of Indianapolis, Ind., assignors to Bartlett Laboratories, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Oct. 9, 1961, Ser. No. 143,672
10 Claims. (Cl. 263—19)



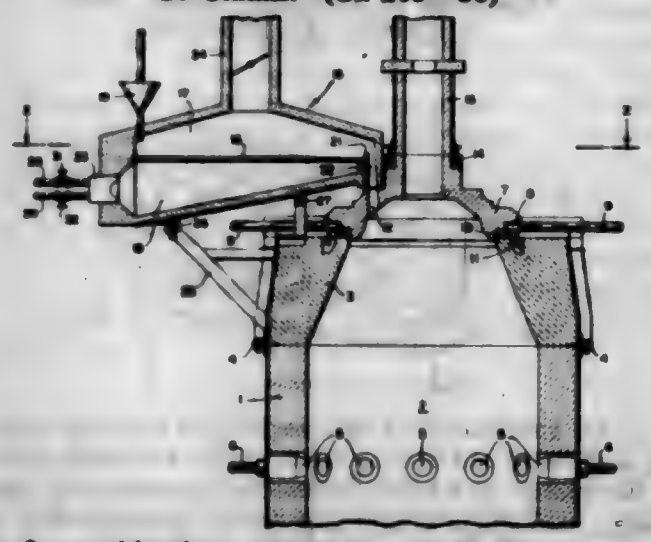
10. A control arrangement comprising a thermocouple having a hot junction and a cold junction, first means operable to produce heat at said hot junction, second means operable independently of said first means for moving a stream of air over and past the other of said junctions, said thermocouple including material connecting said junctions which material is sufficiently thermally conductive that the temperature of one junction is substantially the same as that of the other junction except when said second means is operating but whether or not said first means is operating whereby said thermocouple produces a substantial voltage whenever both of said means are operating but produces relatively little voltage whenever either or both of said means is not operating.

3,143,480
CALCINING APPARATUS
Victor J. Azbe, Webster Groves, Mo., assignor to Azbe Corporation, Clayton, Mo., a corporation of Missouri
Filed June 8, 1961, Ser. No. 115,630
6 Claims. (Cl. 263—29)



1. Calcining apparatus comprising an upright hollow shaft, lime withdrawal means near its lower end, first inlet means near said lower end, means adapted to form and to introduce a lean cool mixture of fuel and air into said first inlet means to cool lime by transferring heat therefrom to warm the mixture without immediate ignition, first outlet port means above said first inlet means, withdrawal means for drawing some of the warm lean mixture from said first outlet port means, the remaining warm lean mixture being adapted to ignite at a first higher temperature in the kiln above said first outlet port means, said first higher temperature being sufficient for lime finishing, second inlet means above said first outlet port means for the introduction of a rich fuel and air mixture adapted to ignite at said first higher temperature to establish a second higher temperature for calcining, a third inlet means above said second inlet means, means connecting said withdrawal means with said third inlet means for introducing some of said warm lean mixture into the shaft and adapted to ignite at said second higher temperature and completing combustion at a third higher temperature for calcining, second outlet port means above the third inlet means for the abstraction of spent gases, and recirculating means connected with said second outlet port means adapted to deliver spent gases to the second inlet means for even distribution of combustion to prevent overheating during calcination.

3,142,481
SHAFT FURNACE
Frederic O. Hess, Skytop, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed June 29, 1962, Ser. No. 206,335
10 Claims. (Cl. 263—36)

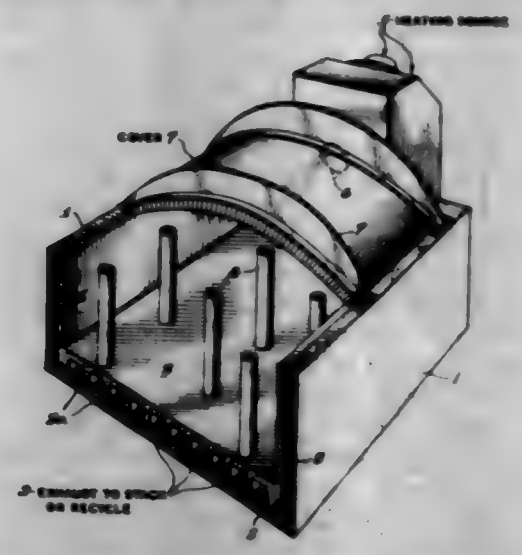


4. In combination, a tower furnace having a vertically extending chamber and a plurality of inlet openings in the top of said chamber arranged around the center thereof, a supply unit for each of said openings, each of said units including an elongated perforated screen forming a path, means to mount said units on said furnace with one end of said path of each unit adjacent to and above an opening, means to supply particles to be treated to the other end of each of said paths, separate means to force hot gases upwardly through each screen and thereby heat particles and move them along said paths, means to direct particles vertically downward from said one end of each path into the opening adjacent thereto to fall freely through the furnace, and means in the walls of said furnace to treat said particles individually with heat from the furnace walls.

3,142,482
CARBON BODY BAKING FURNACE
Wilfred M. Kenan, Lancaster, Calif., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1961, Ser. No. 97,373
9 Claims. (Cl. 263—41)

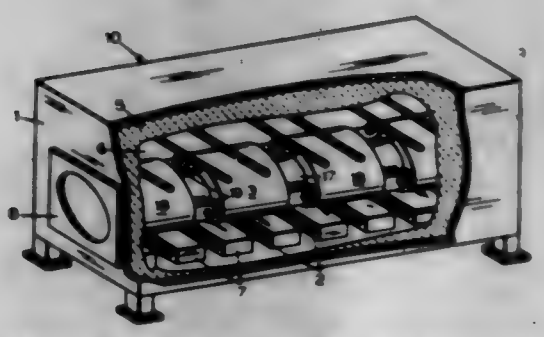
1. In a carbon body baking furnace of the type employed for baking carbon electrodes having a cover and

a bottom and walls therebetween, and a heating means and an exhaust means, the improvement which comprises a metallic flue system within said furnace communicating



between said heating means and said exhaust means, the metal flues of said system having inlet and outlet openings therein only at their ends, and being imperforate therebetween.

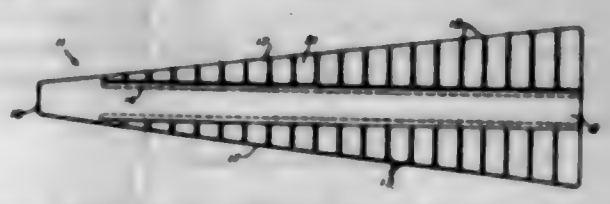
3,142,483
ANNEALING BOX COVER
Rudolf Kiefach, Siebengebirgsallee 165, Cologne, Germany
Filed Aug. 16, 1962, Ser. No. 217,488
4 Claims. (Cl. 263—49)



1. An annealing box for use in heat treating, comprising a heat shield for at least partly enclosing material to be treated and to be exposed to a source of thermal energy, said shield comprising an elongated shell of sheet metal adapted to expand thermally in the longitudinal direction, said shell being formed with a plurality of longitudinally spaced corrugations extending generally transversely to said direction and subdividing said shell into a plurality of longitudinally spaced sections interconnected by said corrugations, and compensating means including a plurality of lost-motion connection means each respectively bridging a single corrugation for limiting the relative longitudinal mobility of adjoining sections to an extent preventing deformation of the respective corrugation beyond its elastic limit.

3,142,484
ASSEMBLY FOR BENDING ELECTRICAL COMPONENT AXIAL LEADS
Richard U. Press, 6333 Balboa Lake Ave., San Diego 19, Calif.
Filed Aug. 9, 1962, Ser. No. 215,984
6 Claims. (Cl. 269—303)

1. A bending assembly for bending electrical component axial leads comprising a triangular shaped block having first and second equal edges linearly converging on one end thereof to an apex and a base edge between the other ends of said equal edges, first and second parallel faces, said faces bordered by said equal edges, first and second grooves of predetermined depth and width in said parallel faces, said grooves being parallel to a line drawn from said apex perpendicular to said base, a plurality of parallel grooves in said faces, said plurality of parallel



grooves being perpendicular to said first and second grooves and of less depth than said first and second grooves, said plurality of parallel grooves extending from said first equal edge to said second equal edge.

3,142,485
SWIMMER TRAINING DEVICE
Allen I. Jacobson, Atlantic Beach, N.Y.
(90 Meadows Lane, Lawrence, Long Island, N.Y.)
Filed Nov. 13, 1962, Ser. No. 236,796
7 Claims. (Cl. 272—57)

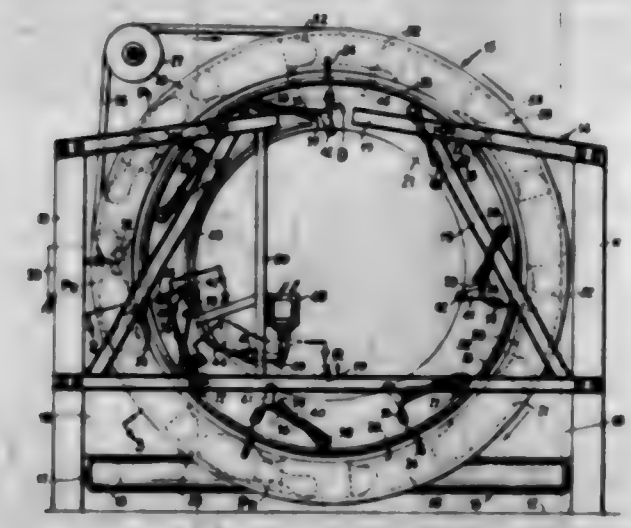


1. A swimmer training device for increasing the resistance of a swimmer's body to his movement through water comprising a flat resistance member, a support member having a groove therein transverse to the long axis of said support member, raised portions on either side of said groove coextensive with said groove, the width of said groove and the coextensive portions being adapted to snugly receive therein a mating edge of said resistance member and to support said resistance member, means to securely hold said resistance member to said support member, and means to secure said support member with said resistance member to the torso of the swimmer's body with the long axis of said support member in coincidence with the long axis of the swimmer's body, the flat surface of said resistance member being disposed transverse to the forward movement of the swimmer to impede the movement of the swimmer through water.

3,142,486
ROTARY TYPE PIN ELEVATOR WITH SELECTIVELY OPERATED GRIPPER CONTROL ADJACENT THE RECEIVING STATION
Arthur B. Vieceas, Shelby, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 11, 1961, Ser. No. 137,359
8 Claims. (Cl. 273—43)

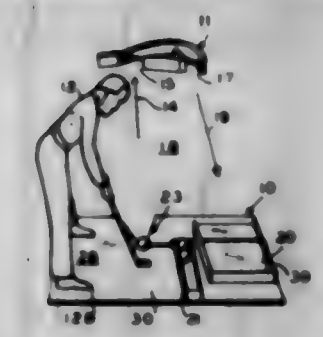
1. In a bowling pin elevating mechanism, the combination of a continuously driven rotary conveyor operable to carry pins along an accurate path of travel from a pin receiving station to a pin discharge station spaced above said pin receiving station, said path including a portion in which pins carried by said conveyor are gravity biased away from said conveyor; retaining means movable between a first position operable to retain pins on said conveyor and a second position wherein the pins can fall from said conveyor; means for moving said retaining means between said positions, the last-mentioned means including cam means to move said retaining means into said first position, means to hold said retaining means in said first position to elevate pins and means to effect movement to said second position on arrival at said discharge station; and control means selectively operable

to render said cam means inoperative to move said retaining means into said first position throughout movement



thereof from said receiving station to said discharge station.

3,142,487
GOLF RETURN GAME
James Gold Porteus, Toledo, Ohio, assignor to Phillip A. Porteus, Dallas, Tex.
Filed Aug. 14, 1961, Ser. No. 131,226
2 Claims. (Cl. 273—179)



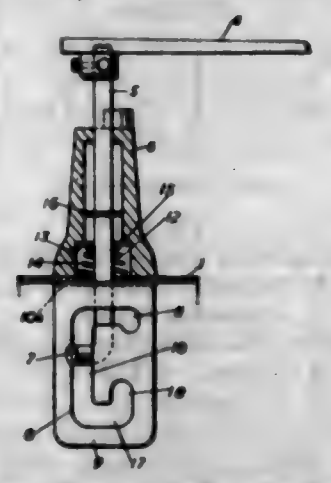
1. A game apparatus comprising the combination of a dispensing sub-assembly and a return sub-assembly, said dispensing sub-assembly consisting essentially of static structures forming a static combination of a golf ball reservoir means, a static golf ball dispensing means, and a static golf ball receptacle means on one pad, said means all being affixed to said pad and the dispenser and receptacle facing in the same direction and said dispenser and said receptacle having an edge of an outlet and an inlet orifice respectively at ground level, said reservoir means opening to said ball dispensing means, the reservoir means having a floor downwardly sloped to an upwardly sloped discharge lip thereof discharging to said dispenser means, said dispenser means comprising a chute on said pad and means for holding a golf ball in teeing position, said chute leading to and connecting to said means for holding, said pad being a substantially flat sheet and comprising an area substantially at ground level for placement of the player's feet, said area being spaced away on said pad from said means for holding in teeing position, said dispensing sub-assembly being spaced away from said return sub-assembly by a substantially flat surface at the ends of which said dispensing sub-assembly and said return sub-assembly are positioned, said return sub-assembly comprising a stopping board with spaced apart inlet and outlet orifices therein opening towards said dispensing sub-assembly, and a curved wall attached at its ends to said board adjacent and lateral of said orifices, the end segment of said wall immediately adjacent the outlet orifice being substantially straight, and tangent to a straight line between the lateral edge of said outlet orifice and the inlet orifice of said receptacle means of said dispensing sub-assembly, whereby balls leaving said return sub-assembly outlet orifice are returned to the receptacle means of said dispensing sub-assembly, the segment intermediate said end segments being smoothly curved, and said wall having a lower edge in the same flat plane as the lower edge of said stopping board, said intermediate segment interior surface being sloped inwardly and downwardly of said wall and said surface being tilted downwardly toward said stopping board, and blocking means slidably attached to said stopping board and movable in front of said inlet orifice and said stopping board extending laterally on both sides of said inlet orifice.

3,142,488
PUTTING MAT WITH GOLF BALL DISPENSING MEANS
James G. Porteus, Toledo, Ohio, assignor to Phillip A. Porteus, Dallas, Tex.
Filed Mar. 23, 1961, Ser. No. 97,887
3 Claims. (Cl. 273—201)



1. A dispenser for balls comprising a base, a rotatable plate thereabove, rotatably attached to said base about a point of rotation with a plurality of holes of greater size than said balls at the same radial distance from said point of rotation, ball retaining means about each of said holes, a recess in said base at said radial distance from said point of rotation, said recess having an entrance thereto on the top of said base and an exit therefrom at the side of said base and a passage therethrough slightly larger than the size of said balls, a sloped passage from the bottom of said recess to a ball retaining means, a stop in said sloped passage, said stop tapered upwardly in the direction of slope of said passage, a downward step at the end of said passage, an upward stop beyond said downward step in the direction of said passage at a distance approximately equal to the diameter of said ball, said step and said last mentioned stop constituting said ball retaining means.

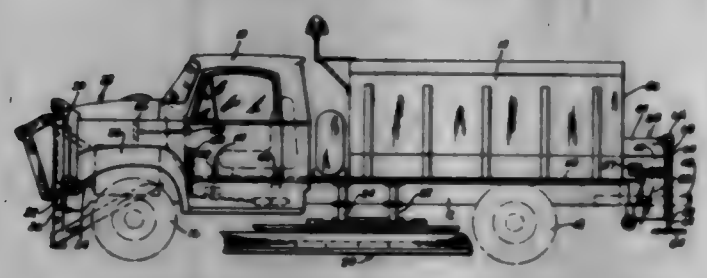
3,142,489
BALANCE ARMS FOR RECORD PLAYERS
Peter Hugh Granby, Rainham, England, assignor to The Magnavox Electronics Company Limited
Filed July 1, 1960, Ser. No. 40,406
Claims priority, application Great Britain July 7, 1959
4 Claims. (Cl. 274—10)



1. In an automatic record changer having a base plate, a balance arm, a vertical spindle supporting said balance arm and mounting means fixed on said base plate, said mounting means mounting said spindle for rotational movement and vertical sliding movement, the improvement which comprises a member fixed to said base plate, wall portions on said member defining a substantially ver-

tical guide slot having upper and lower ends and a lateral recess communicating with said lower end, a lateral projection on said spindle, said projection normally extending into said vertical slot, and spring means mounted to urge said spindle upwardly and hold at least the upper edge of said projection above said recess when said projection is within said slot, but said balance arm and with it said spindle and said projection being manually movable downwards agains the action of said spring means and rotatable to bring said projection into said recess, in which position said spring means biasses said spindle upwardly far enough to bring said projection into a cooperative relationship with the top of said recess which holds it against both horizontal and upward motion and thereby locks said balance arm in a fixed position.

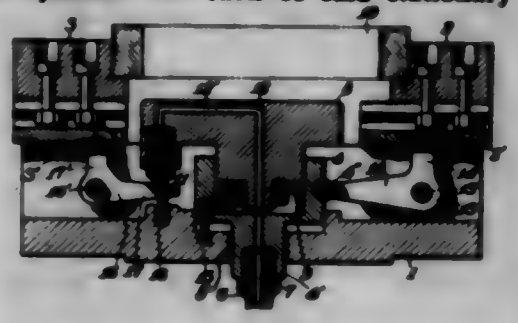
3,142,490
MATERIAL SPREADER AND CONTROL SYSTEM
Lee R. Tift, Hastings, Arthur J. Karpus and William J. Kuchta, Lansing, and Oliver G. Hatch, Cassopolis, Mich., assignors to James M. Hare, Secretary of State, State of Michigan, on behalf of the State of Michigan
Filed June 3, 1963, Ser. No. 284,940
7 Claims. (Cl. 275—2)



1. In a material spreader truck having a body for accommodating pavement treating material, a chute mounted at the rearward portion of said body for receiving said material, a spinner disc mounted on said chute for rotation about a vertical axis, an auger assembly comprising a housing secured to the lower portion of said chute and an auger blade rotatably mounted therein, a guide plate pivotally mounted within said chute for oscillatory movement about a transverse axis, said plate being adapted to assume either of two positions and functioning to direct the material into said auger when it assumes one position and onto said spinner disc when it assumes the other position, mechanical linkage means for adjusting said guide plate from one position to the other, first and second motor means for respectively powering said auger assembly and said spinner disc, a source of power for said motors, control means for selectively distributing power from said source to said motors, and an interlock connection between said control means and said linkage means whereby said motors are selectively activated and deactivated as said plate is adjusted appropriately to accommodate distribution of material over the pavement.

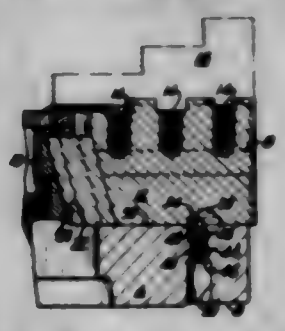
3,142,491
CHUCK FOR A MACHINE TOOL
Kinjiro Ohmiki, 21 Nagara-Nishitori, 2-chome, Oyodo-ku, Osaka, Japan
Filed Dec. 22, 1961, Ser. No. 161,678
3 Claims. (Cl. 279—4)

1. A chuck for a machine tool, comprising a chuck body, a plurality of main jaws slidably mounted on said body for radial sliding toward and away from the central axis of the chuck body, a plurality of auxiliary jaws slidably mounted on said body for radial sliding toward and away from the said central axis, at least one auxiliary jaw between each two adjacent main jaws, a stationary piston, a movable cylinder slidable on said piston and having a single connection opening into said piston and adapted to be connected to a source of pressure fluid, means coupled to said movable cylinder and to said main jaws for operating said main jaws during movement of said cylinder, a plurality of stationary cylinders and movable pistons in each of said cylinders, conduit means including branch fluid conduits extending between said movable cylinder and each of said stationary cylinders



with the branch conduits opening into said stationary cylinders, with the end of the conduit means opening into said movable cylinder through the end of said stationary piston, and means coupled to each of said movable pistons and to said auxiliary jaws for operating said auxiliary jaws during movement of said movable pistons.

3,142,492
CHUCK
Howard C. Muller, West Hartford, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut
Filed Sept. 11, 1962, Ser. No. 222,883
3 Claims. (Cl. 279—123)

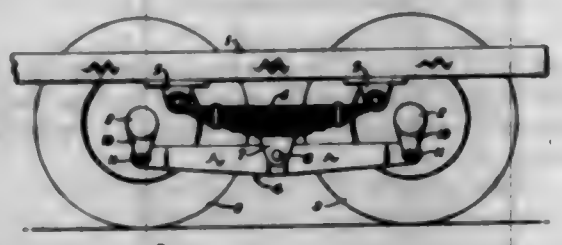


1. In a chuck comprising a body having a plurality of radially extending guideways, a plurality of jaws, respectively, mounted in the guideways for radial slidable movement, an actuator for moving the jaws and located inwardly of the jaws, and connecting means between the actuator and the jaws; a jaw limit means comprising a recess in each of the jaws and providing a stop surface, a plurality of stop screws located entirely within the body and having portions extending into the recesses, respectively, and spaced from the stop surfaces thereof during normal operation of the jaws, said stop portions adapted to engage the stop surfaces to prevent radial escape of the jaws from the chuck body in the event of breakage of said connecting means.

3,142,493
EQUALIZER BEAM FOR TRUCK TRAILERS
Herschell H. Hartzell, Brown Deer, and Harold E. Vickerman, Milwaukee, Wis., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed June 11, 1962, Ser. No. 201,361
1 Claim. (Cl. 280—104.5)

An equalizer beam for a tandem axle vehicle suspension having a plurality of wheels comprising a first channel member having a web and a pair of flanges, a second channel member having a web and a pair of flanges, said first and second channel members being disposed with their flanges in abutting relation to define a box-section member having its top and bottom surfaces defined by said flanges, and having a bushing extending through aligned openings in the side surfaces of said box section

member weld means joining the abutting flanges together, an upper reinforcing plate disposed inside said box-section member and flatwise against the top surface thereof, a lower reinforcing plate disposed inside said box-section member and flatwise against the top surface thereof, said lower reinforcing plate having flange-like extensions inter-



mediate its ends extending perpendicularly from said lower reinforcing plate into contact with the bushing and secured thereto, to provide additional localized reinforcement to the side portions of said box-section member, and second weld means securing said upper and lower reinforcing plates to the respective top and bottom surfaces of said box-section member.

3,142,494
BOAT TRAILER
Donald F. Kelley, 526 W. 23rd St., Connersville, Ind.
Filed May 31, 1962, Ser. No. 198,973
2 Claims. (Cl. 280—414)



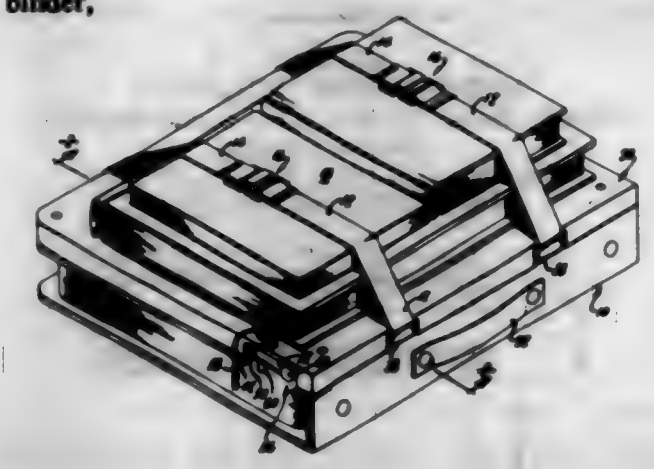
1. A trailer for transporting boats comprising a two-wheeled bed for supporting a boat, a telescoping boom assembly attached to said bed and extending generally along the longitudinal axis thereof, said boom assembly comprising an outer tubular member of substantially the same length as said trailer, an inner member nested within said outer member and movable from a nested to an extended position with respect thereto, locking means defining said nested position and said extended position of said inner member, said inner member having an articulated joint therein adjacent one of its ends and having means for attachment to a prime mover at its opposite end, the pivotal axis of said articulated joint being disposed beyond the end of said outer tubular member when said inner member is in said extended position, and a support caster adjustably mounted on said outer member adjacent said opposite end of said inner member when said inner member is in said nested position, said caster being vertically adjustable to provide a support point for said boom assembly, whereby when said inner member is moved to said extended position its articulated joint is removed from said outer tubular member to permit inclination of said outer member and the trailer bed with respect to said inner member to thereby facilitate launching or recovery of a boat from the trailer.

3,142,495
COMBINATION LOOSE LEAF BINDER AND BOOK CARRIER
Kenneth C. Lu, 134 York Drive, Piedmont, Calif.
Filed Feb. 26, 1963, Ser. No. 261,830
12 Claims. (Cl. 281—29)

1. In combination with a loose leaf binder or the like, a carrier for books and other articles comprising:

at least one pair of strap members secured to a hinged cover panel of said binder,

said strap members being of lengths that enable them to be extended around said binder to embrace an article supported on a hinged cover panel of said binder,

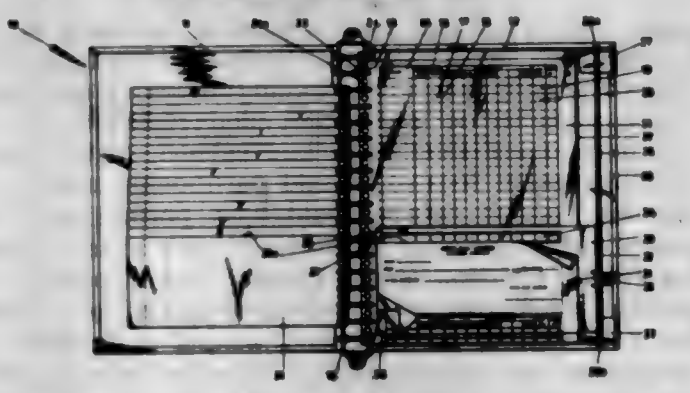


means for securing said strap members together when so extended,

each of said strap members being conditioned to be retracted within the area of a cover panel, and

relatively rigid panels covering said strap members when so retracted.

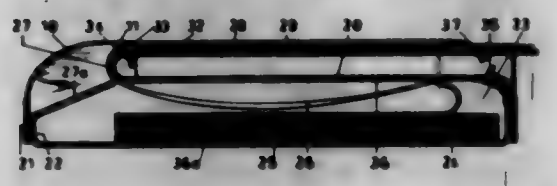
3,142,496
ACCOUNTING SYSTEM
Hardy A. Rideout, 26 Burwood Road, Islington, Ontario, Canada
Filed Apr. 29, 1963, Ser. No. 276,512
4 Claims. (Cl. 282—8)



1. An accounting system including a binder having a front cover, a back cover, a centre spine and a plurality of releasable rings extending upwardly therefrom; a constant information sheet having a plurality of intersecting vertical and horizontal lines thereon to form vertical and horizontal columns; a transparent folder encasing said sheet; the inner vertical edges of said folder being perforated for attachment to said rings; said binder being opened flat in use; said folder normally maintaining said sheet face up on the upper surface of said back cover; a plurality of multi-part cheques shingled face down on the upper surface of said front cover, overlapping a distance equal to the height of one of said horizontal columns; the inner edges of said cheques being perforated for attachment to said rings; a vertical guide bar; means attaching said guide bar to said back cover adjacent the outer vertical edge thereof and spaced upwardly therefrom; a rectangular register backing plate substantially equal in size to one of said cheques; said plate extending transversely across said sheet; an outer vertical edge of said plate retained in close, slidable relation on said guide bar; an inner vertical edge of said plate located in close relation to said rings; said plate having an elongate rectangular slot formed therein adjacent to and parallel with the upper edge thereof, said slot being the size of and registerable with any one of said horizontal columns; said cheques being moveable about said rings to lie on said plate successively; and the upper horizontal edge of each

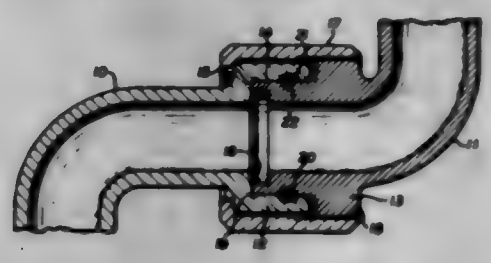
of said cheques registering with the bottom edge of said slot successively upon said slot registering with said horizontal columns successively.

3,142,497
AUTOGRAPHIC REGISTER
John E. Hook, 221 Lucas St., Richmond Hill, Ontario, Canada
Filed Aug. 20, 1962, Ser. No. 217,843
12 Claims. (Cl. 282—13)



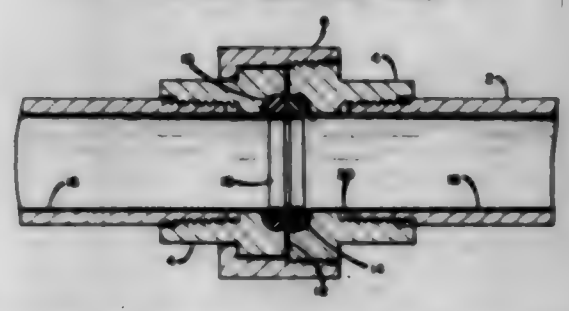
1. An autographic register, including a cabinet having a top and downwardly depending side walls and end walls, a writing opening in said top, said cabinet having an open base, a Z-shaped partitioning member adapted to be pressurably and removably received into said open base of said cabinet, said partitioning member being adapted to be contained substantially entirely within said cabinet, said partitioning member being formed out of one longitudinal sheet of material formed in a double hair pin bend, upper portion of said partitioning member being substantially horizontal and located directly adjacent and beneath said writing opening, said partitioning member having a central horizontal partition joined to said writing table by a first hair pin bend, said partitioning member having a base portion joined to said central portion by a second hair pin bend located at opposite end of said partitioning member in regard to said first hair pin bend, retaining means inside said cabinet adapted to cooperate with retaining means on said partitioning member to pressurably and removably retain said partitioning member in said cabinet, carbon paper retaining means located in said partitioning member, a chamber formed between said base portion and said central portion adapted to receive a pack of sets of endless forms, and stop means located on said partitioning member adapted to locate individual sets of said endless forms in writing position, said writing plate and said central portion forming a storage chamber for used forms, and stop means adapted to permit insertion of forms through open end of said storage chamber for used forms yet prevent said used forms from inadvertently being discharged through said open end.

3,142,498
NON-SEPARABLE SWIVEL JOINT ASSEMBLY WITH CLAMPING AND AUXILIARY SEALING ARRANGEMENT
Irving D. Press, West Orange, N.J., assignor to Resistoflex Corporation, Roseland, N.J., a corporation of New York
Filed May 15, 1959, Ser. No. 813,430
10 Claims. (Cl. 285—12)



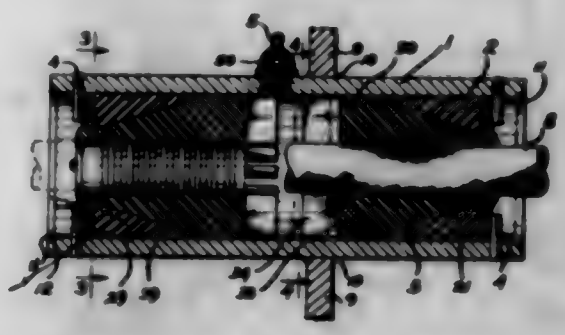
1. A swivel joint for interconnecting sections of a fluid conduit comprising complementary swivel members each with an axial fluid passage therethrough, means joining together said swivel members in end-to-end coaxial alignment for swiveling, said means permitting a limited range of axial separation of said swivel members, fluid sealing means disposed between said swivel members for establishing and maintaining a fluid tight joint therebetween during swiveling and throughout said range of separation, and means for clamping said swivel members together axially for preventing swiveling.

3,142,499
ANCHOR AND FLUID SEAL FOR CONDUIT LINER
Harold M. Lang, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Feb. 5, 1962, Ser. No. 171,217
4 Claims. (Cl. 285—55)



1. A joint for lined pipe sections comprising separate coupling members surrounding adjacent end portions of said sections, means connecting said separate coupling members to said adjacent sections, an annular recess in each of said coupling members defined by opposing radially inwardly and axially outwardly opening coaxial counterbores formed in the opposing end portions of each of said members, means for independently adjusting said coupling members on said sections to thereby vary the axial spacing between said recesses by regulating the distance between said separate coupling members, resilient seal means disposed within each of said counterbores, the combined axial extent of said opposing seal means being greater than the sum of the maximum axial extent of said recesses, a thin-walled, flexible, non-metallic liner in each of said sections, the adjacent end portions of said liner extending beyond the respective ends of said sections to a position radially inwardly opposed to said seal means, a backing ring having a greater external diameter than the normal internal diameter of said seal means disposed within the end portion of said liner at a point radially opposite said seal means and forcing said liner into fluid-tight engagement with said seal means, and means for locking said coupling members in opposed relationship with said seal means in fluid-tight axial abutment.

3,142,500
PRESSURE ACTUATED BULKHEAD CABLE SEAL
William O. Wesseler, Rte. 5, Box 970, Bremerton, Wash.
Filed Apr. 17, 1961, Ser. No. 103,367
1 Claim. (Cl. 285—96)



A seal for a cable or the like of given diameter, where it passes through a hole of larger diameter in a bulkhead, comprising a tube of an outside diameter for securement fluid tightly in such hole and of a bore size enough larger than the cable to leave between them an annular

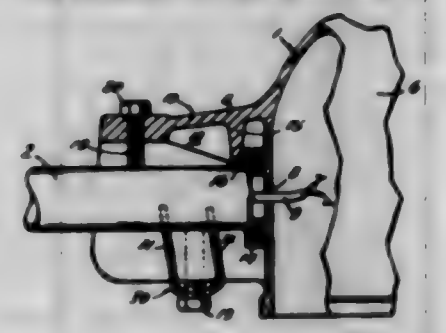
space, a resiliently deformable internally tapered ring disposed in said annular space with its exterior fitting closely the tube's bore and its larger end exposed to the pressure to be sealed against, a resiliently deformable sleeve also disposed in said annular space and externally tapered complemental to and fitting within the taper of said ring, and having a bore of a diameter to fit closely about the cable, a closure for the tube's bore adjacent but spaced from the larger end of said sleeve, to leave an annular chamber therebetween, a restraining means reacting from the tube and engaged with the larger end of the ring, means to supply a fluid pressure agent from externally of said tube within said chamber and thus against the larger end of said sleeve, which by reaction from said closure urges the sleeve axially and more tightly within the tapered ring, to produce radial sealing component forces acting upon the cable and the tube's bore, respectively, said closure for the tube's bore comprising a like complemental ring and sleeve pair similarly and reversely disposed so that the larger ends of the two sleeve ends face each other and the pressure agent acts directly thereon to urge them apart, and sets of vanes spaced circumferentially about and projecting in the axial direction from the larger ends of said sleeves towards one another and disposed approximately tangentially of the sleeves' bores, whereby in use the vanes on one sleeve cross those on the other sleeve to maintain their larger ends spaced apart in the absence of pressure within the annular chamber.

3,142,501

ADJUSTABLE SIDE MOUNT FOR A LIGHT

Philip B. Clark and Donald W. Harling, Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed July 28, 1959, Ser. No. 830,099
13 Claims. (Cl. 285—184)



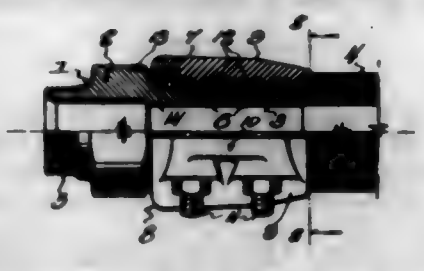
1. An adjustable mounting unit for attaching lighting units on horizontal pipe brackets, which comprises a housing adapted to be secured to the lighting unit and adapted to encircle the pipe bracket, an internal fulcrum wall secured to the top wall of the housing in spaced relation to the lighting unit end of the housing and adapted to engage the periphery of the pipe bracket in the assembled relation, a pre-set and lock means vertically adjustably secured to the top wall of the housing and adapted to engage the pipe bracket in longitudinal spaced relation to said fulcrum wall to establish the angular position of the housing on the pipe bracket, a U-shaped clamp spanning the housing below the pipe bracket intermediate the fulcrum wall and the pre-set and lock means, and said clamp having a base portion and clamping arms projecting into the housing perpendicularly to the pipe bracket, the outermost arm being longer than the innermost arm to maintain engagement with the underside of the pipe bracket for all relative positions of the housing and pipe bracket, said base portion having bolt slots extending between the clamping arms and being arcuately formed adjacent the bolt slots to allow pivoting of the clamp, and bolt means extending through the slots and secured to the housing to adjustably secure the clamp to the housing and to pivot the housing about said fulcrum wall until the pipe bracket engages the pre-set and lock means.

3,142,502

LONGITUDINALLY SPLIT HOSE CLAMP COUPLING HAVING EXTRUSION REDUCING RIBS

Roger R. Luther, Zion, Ill., assignor to Anchor Coupling Co. Inc., Libertyville, Ill., a corporation of Illinois

Filed July 1, 1960, Ser. No. 40,411
2 Claims. (Cl. 285—242)



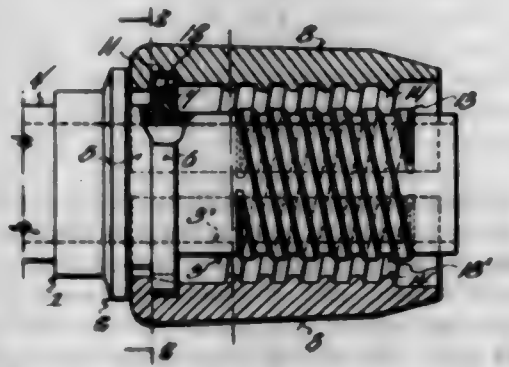
1. A hose coupling of the split-clamp type comprising a coupling body including an attaching head having an extended insert for projection into the end of a rubber or synthetic hose, a pair of complementary semi-cylindrical sectors, means for securing the sectors together upon said coupling body in position to engage the outer surface of the hose to clamp the same on said insert, and bolts for contracting said sectors; inwardly extending circular ribs spaced apart longitudinally on the internal gripping surface of each sector, and radially inwardly projecting, longitudinally disposed auxiliary extrusion reducing ribs extending between said circular ribs adjacent the longitudinal edges of said sectors.

3,142,503

MULTIPLE THREADED LONGITUDINALLY SPLIT HOSE COUPLING

Don F. Stranberg, Waukegan, and Roger R. Luther, Zion, Ill., assignors to Anchor Coupling Co. Inc., Libertyville, Ill., a corporation of Illinois

Filed Sept. 30, 1960, Ser. No. 59,730
5 Claims. (Cl. 285—243)



1. A hose coupling of the split clamp type comprising an insert including an attaching head and stem, an even multiple number of threads formed on said stem, a pair of complementary identical clamp sectors interlocked on said insert against relative longitudinal movement, gripping threads formed on the inner faces of said clamp sectors and conforming to the number and pitch of said stem threads, and means formed on the stem and clamp sectors for circumferentially indexing said clamp sectors on said insert to aline the ribs of the gripping threads of the clamp sectors with the grooves of the stem threads.

3,142,504

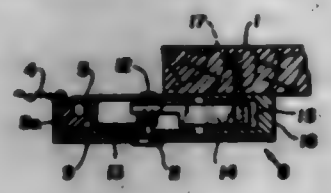
WINDOW SCREEN LATCHING DEVICE

Wendell M. Jordan, Sr., Glenfield, Pa., assignor of one-half to Green Engineering Company, Sewickley, Pa., and one-half to Chamberlin of Pittsburgh, Inc., Pittsburgh, Pa.

Filed Oct. 6, 1961, Ser. No. 143,484
1 Claim. (Cl. 292—220)

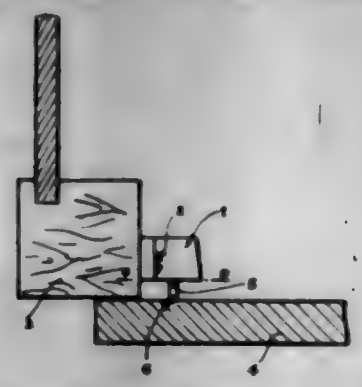
A fool-proof window screen latch for latching, a screen frame including means for securely holding the edge of the screen, said screen frame having an integral, channel

shaped outside portion along its outer periphery, said latch comprising a pivot mounted on the sides of said channel shaped portion, a bolt having one end which turns on said pivot, a spring for biasing said bolt in the latched position, a keeper in the form of a separate U-shaped channel attached to a window frame and slightly spaced from said screen frame and into which said bolt



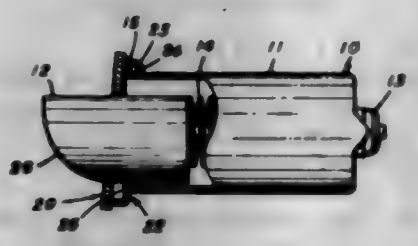
is adapted to project into the latching position, a face plate secured to and covering the outer surface of said screen frame and covering said channel and the space between the channel and frame, said pivot having a recessed head portion of polygonal shape to receive a tool to effect turning of said bolt against the action of said spring to retract the bolt from latching position.

3,142,505
METHOD AND APPARATUS FOR MARKING THE LOCATION OF THE ARMATURE TO BE USED WITH A MAGNETIC LATCH OR THE LIKE
Georges Louis Marie Joseph Lombard, 62 Cours Richard Vitton, Lyon, France
Filed Aug. 18, 1961, Ser. No. 132,476
Claims priority, application France Sept. 7, 1960
5 Claims. (Cl. 292—251.5)



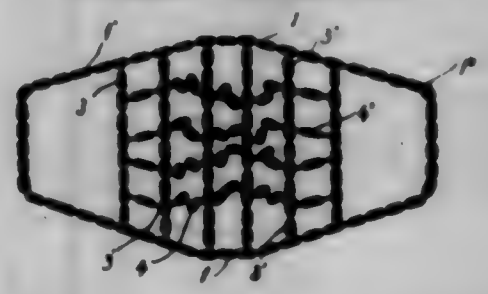
3. For determining the location of an armature with respect to a magnet to permit the armature and magnet to cooperate in a swinging door installation: a cover enclosing said magnet and enabling attachment of said magnet in said installation and a point shape member integral with said cover, but adapted for being broken therefrom, said member projecting beyond said cover for making a mark with said swinging door in closed position to establish the location at which the armature is to be positioned.

3,142,506
ARTICULATING FACEPLATE FOR A DOOR LATCH
Orville C. Maurits, 2935 Three Mile Road NE., and Edwin J. Krook, 1008 S. Ottillia SE., both of Grand Rapids, Mich.
Filed Apr. 30, 1962, Ser. No. 191,663
5 Claims. (Cl. 292—337)



5. A latch, comprising:
a housing;
a bolt retractably mounted in said housing;
a flange adjacent the outer extremity of said housing and disposed in a plane substantially perpendicular to the direction of retracting movement of said bolt, said flange extending exclusively on one side of said housing within a sector not to exceed one hundred eighty degrees;
a faceplate for installation in the edge of a door, and having an opening receiving said bolt;
a back member normally fixed with respect to said faceplate, and having a central opening loosely receiving said housing, said back member having a peripheral flange establishing a central portion in spaced relationship with said faceplate, said flange being loosely received therebetween.

3,142,507
LIFTING DEVICE FOR PIECE MATERIAL
Karl Erik Nilsson, Vrakvagen 29, Lidingo 1, Sweden
Filed Jan. 11, 1962, Ser. No. 165,485
Claims priority, application Sweden Jan. 19, 1961
2 Claims. (Cl. 294—77)

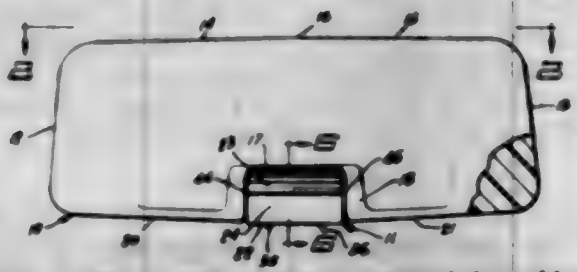


1. A hoist net for forming a bag-like container for handling loose stones and the like comprising a one-piece, elongated chain link member having a central transverse axis and a central longitudinal axis, a continuous marginal element including opposed side portions converging toward each other on each side of the central transverse axis of said hoist net when said net is in a planar condition and is drawn taut by pressure applied at the points of intersection with the transverse axis and at the terminal ends of the opposed side portions on each side of the transverse axis, said marginal element having mutually parallel, transverse loop-forming end elements each formed from a plurality of chain links, one of said end elements extending between said converging side portions on each side of said transverse axis, a plurality of mutually parallel elements each comprising a plurality of chain links for conforming to an irregular surface aong its length, said mutually parallel elements extending transversely between the opposed side portions of said net and terminally secured to said side portions, said mutually parallel elements adjacent said central transverse axis being of greater length than those mutually parallel elements adjacent to and disposed outwardly toward opposite ends of said longitudinal axis, and a plurality of chain-link elements terminally secured intermediately between said adjacent mutually parallel elements and extending generally in the direction of said longitudinal axis and spaced on opposite sides thereof.

3,142,508
PORTABLE SUN-GLARE VISOR
Vincent K. McHugh, 16563 Plainview, Detroit, Mich.
Filed July 13, 1962, Ser. No. 209,668
2 Claims. (Cl. 296—97)

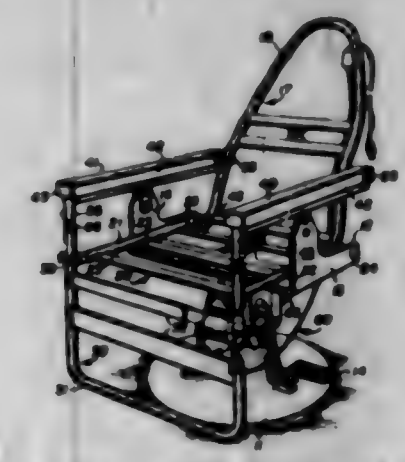
1. A sun visor comprising: a housing; a permanent magnet means mounted in said housing on the lower side thereof for releasably securing the same to a metallic supporting surface; a shield member having an inwardly extended substantially rectangular recess formed on its lower end; said housing being disposed in said recess; a horizontally disposed, integrally formed shaft on said

shield member on each side of said recess and extending into said recess; said shafts being horizontally aligned and rotatably mounted in the upper end of said housing; a horizontally disposed gear member fixedly supported by said shafts and being disposed within the upper end of said housing; said gear member having a plurality of longitudinally extended circumferentially dis-



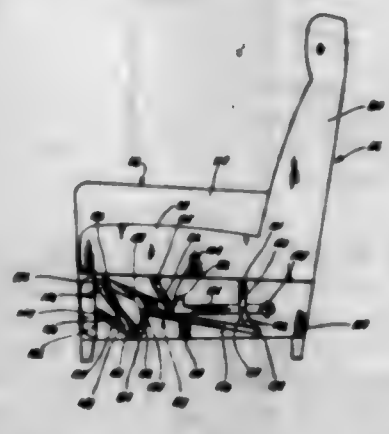
posed gear teeth; a spring plate mounted in said housing and engageable with said gear teeth to retain the shield member in an adjusted position relative to said housing, and said spring plate being flexible to permit the shield member to be rotated to move the gear teeth over the spring plate to move the shield member to adjusted positions relative to said housing.

3,142,509
ADJUSTABLE CHAIR
Robert L. Elarte, Rte. 6, 2510 Scenic Drive, and Floyd E. Knecht, 1611 Ardmore Ave., both of Modesto, Calif.
Filed July 17, 1962, Ser. No. 210,386
5 Claims. (Cl. 297—82)



1. A dentist chair comprising: a base including a hydraulically operable and vertically adjustable base member; a main frame including a pair of spaced side plates mounted upon said base member; aligned pivot pin means carried by said spaced side plates; a seat frame extending between said side plates having one of its end portions pivotally journalled about said pivot pin means; a back rest frame extending between said side plates having one of its end portions pivotally journalled about said pivot pin means; a leg rest frame extending between said side plates pivotally journalled, at a point located a selected distance from one of its end portions, to the other end portion of said seat frame; bearing means carried by each of said spaced side plates in substantial axial alignment with one another; an arm rest member for each side plate, each arm rest member including an elongated bearing channel dimensioned for sliding reception of said bearing means and an elongated slot in one of the sides of said bearing channel dimensioned for reception of said side plate, one end of said arm rest member being pivotally journalled to said back rest frame at a selected distance from said pivot pin means, the other end of said arm rest member including an extension member of selected length extending substantially perpendicular to the direction of extension of said bearing channel, the end of said extension member being pivotally journalled to the end portion of said leg rest frame which is said selected distance from its pivot point with said seat frame; a motor driven threaded spindle pivotally mounted to the underside of and between the other end portion of said leg rest frame and the pivot point of said leg rest frame with said seat frame; and a threaded engagement means for engaging said motor driven spindle, said engagement means being pivotally journalled to said main frame.

3,142,510
LEG-REST ACTUATING MEANS FOR MULTIPLE POSITION RECLINING CHAIR
Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz, Boynton Beach, Fla.
Filed June 13, 1960, Ser. No. 35,688
6 Claims. (Cl. 297—89)

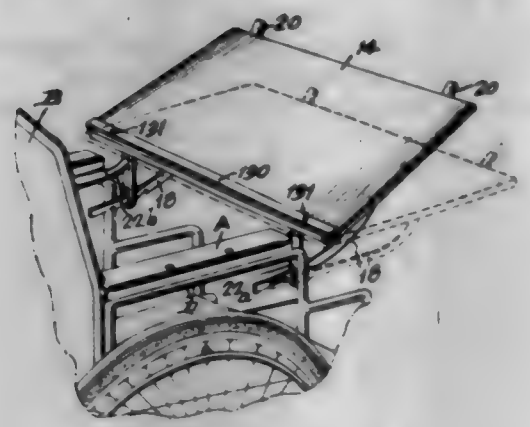


1. In a multiple position reclining chair which includes a support frame, a body-supporting unit including a seat and back-rest rigid with each other, control means mounting the body-supporting unit on the support frame for movement through a first motion phase to an intermediate, tilted sitting position, and through a second motion phase to a fully-tilted position, said control means including a link pivotally connected to the seat and means on the support frame supporting said link at a pivotal mount, said pivotal mount remaining stationary during the first motion phase and said supporting means providing displacement of said pivotal mount during the second motion phase; a leg-rest, and leg-rest actuating means for moving the leg-rest from a retracted position beneath the seat to an extended position forwardly of the seat, said actuating means including an extension of said link projecting beyond the pivotal mount thereof, and link means operatively connecting said extension to the leg-rest, said extension turning about said stationary pivotal mount during the first motion phase and raising the leg-rest to its extended position through said link means, said displacement of said pivotal mount by said supporting means relative to the support frame during the second motion phase raising said extension with the seat without further turning movement of said extension to maintain the leg-rest in its extended position relative to the seat.

3,142,511
ADJUSTABLE TABLE FOR WHEEL CHAIRS
Harold J. Rebel, 10566 Leblanc St., Montreal, Quebec, Canada
Filed Oct. 4, 1962, Ser. No. 228,330
1 Claim. (Cl. 297—149)

As an attachment for a wheel chair, an adjustable table assembly comprising in combination, a pair of tubular mounting brackets adapted for attachment to the arm rests of said chair; and an adjustable table including a flat table top mounted on a pair of spaced apart supporting frame members, adjustable means on at least one of said supporting frame members and said table top adapted to allow movement of said frame relative to said top to vary said frame members spacing, said supporting frame

members each being pivotally attached at one end to one of a pair of tubular table attachment members adapted to slidably fit within said tubular mounting brackets, and an adjustable supporting arm extending between at least one of said table top supporting frames and the corresponding tubular table attachment member, said adjustable supporting arm being pivotally connected intermediate its length to said table top supporting frame with one end of said



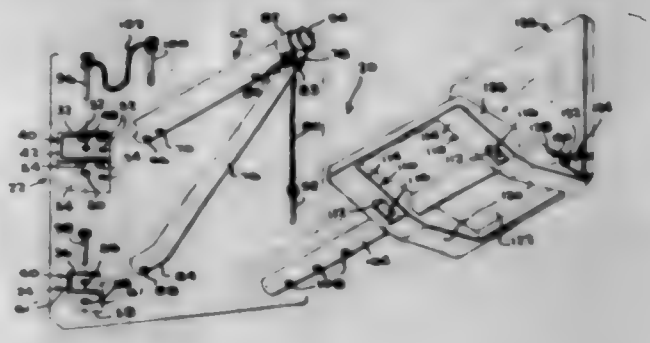
arm provided with ratchet teeth being engaged in a slotted lower portion of said tubular table attachment member and the other free end constituting a controlling lever, and resilient means between said table top supporting frame and adjustable supporting arm urging said ratchet toothed end towards engagement with said tubular table attachment member slotted portion, whereby said table top can be adjusted and retained at several angular positions relative to said tubular attachment members.

3,142,512
INFANT'S CHAIR
Earl F. Hamilton and Ralph B. Lay, Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Feb. 12, 1962, Ser. No. 172,444
7 Claims. (Cl. 297—317)



1. An adjustable infant's chair, comprising
(*a*) a tubular base frame having pairs of front and rear leg members,
(*b*) a pair of laterally disposed, longitudinally extending, horizontal frame stretches, each extending between the front and rear leg members and interconnecting said front and rear leg members along one side of the base and maintaining said leg members in a fixed vertical orientation with respect to each other,
(*c*) a chair seat pivotally interconnected to said frame stretches on a first transverse pivot rod carried in said frame stretches,
(*d*) a chair back hingedly connected to said seat below the plane of said frame stretches and pivotally interconnected to said frame stretches on a second transverse pivot rod carried in said frame stretches in the same general plane as said first pivot rod,
(*e*) said first and second pivot rods constituting the sole means of interconnecting said seat and back to said frame and at least one of said first and second pivot rods being longitudinally adjustable in the plane of said pivot rods and frame stretches, whereby said seat and back are angularly movable with respect to each other between a chair-upright position and a chair-reclining position, and
(*f*) means on said frame stretches intermediate the ends thereof adjustably controlling the relative longitudinal positioning of the pivot rods for said seat and back for controlling the angular positioning of said seat and back relative to each other.

3,142,513
SHOWER STALL FIXTURE
Louis Skokut, P.O. Box 424, Monongahela, Pa.
Filed Oct. 13, 1961, Ser. No. 147,120
5 Claims. (Cl. 297—349)

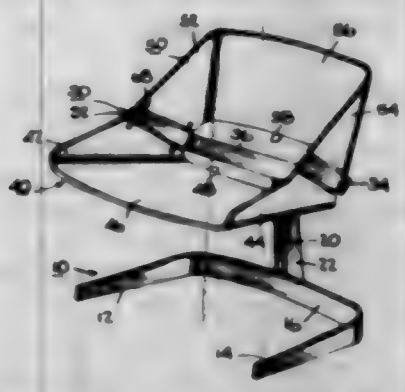


1. A shower stall seat supported on a wall of said stall and comprising, in combination, a first bracket fixedly secured to said wall, said first bracket having a horizontal plate extending laterally therefrom, said plate having a central opening extending transversely therethrough and a plurality of transversely-extending openings spaced radially therefrom, a second bracket fixedly secured to said wall below said first bracket, said second bracket including a horizontal plate extending laterally therefrom and having an opening extending transversely therethrough aligned with said central opening formed in said first plate, an elongated substantially hollow tubular brace, means on one end of said brace insertable into said central opening to detachably and pivotally connect said brace to said first bracket, means on said one end of said brace insertable into said radially-spaced openings to hold said brace at any selected angle relative to said wall, an elongated tubular member telescopically mounted within said brace, means holding said member in fixed axially-adjusted position relative to said brace, a normally horizontal seat, means connecting said seat with said member, a hollow tubular strut having one of its ends connected with said other end of said brace, the other end of said strut extending toward said one end of said brace, the longitudinal axes of said brace and strut forming an acute angle therebetween, and means on said other end of said strut insertable within said opening formed in said second bracket to detachably and pivotally connect said strut thereto.

3,142,514
CHAIR
Jonathan J. Ginat, 449 Antoinette, Detroit 2, Mich.
Filed Mar. 5, 1962, Ser. No. 177,600
8 Claims. (Cl. 297—449)

1. A chair of the character described, comprising: a first U-shaped member horizontally disposed to rest stably on a floor or other horizontal surface; a vertically extending support comprising at least one upright member attached to said first U-shaped member; a second U-shaped member attached to said upright member and sup-

ported thereby above said first U-shaped member; a chair seat supported by said second U-shaped member and

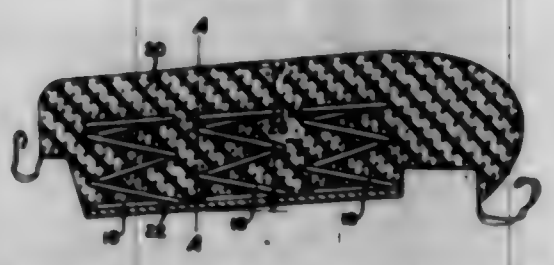


extending therebelow; and a chair back supported by said second U-shaped member and extending thereabove.

3,142,515
UNITARY SEAT CONSTRUCTION

James R. Wall and Edward P. Harris, both of Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Dec. 3, 1959, Ser. No. 856,989, now Patent No. 3,049,730, dated Aug. 21, 1962. Divided and this application Jan. 3, 1962, Ser. No. 164,029
5 Claims. (Cl. 297—452)



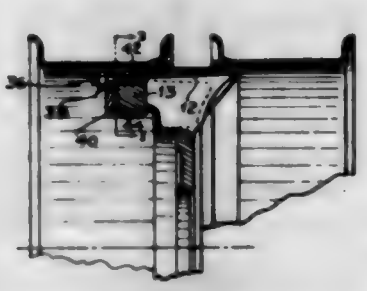
1. A unitary seat pad construction adapted to be positioned directly on a raised portion of a motor vehicle floor pan, comprising, a single polyurethane foam cushion providing a soft smooth upper seat surface and including an integral lower foam-filled portion, and a plurality of coil spring members totally surrounded directly and embedded in said lower foam-filled portion in effect to increase hardness thereof, said spring members each having one end coinciding in substantially co-planar relation with an undersurface of said lower foam-filled portion and both adapted to be positioned directly on the raised portion of a motor vehicle floor pan, said spring members each having an opposite end terminating within said single polyurethane foam cushion, said spring members having load-deflection characteristics specifically wherein loading bears a substantially linear relationship to deflection and said single polyurethane foam cushion having load-deflection characteristics wherein loading bears one non-linear relationship to deflection and wherein unloading bears a differing non-linear relationship to deflection.

3,142,516
DUAL WHEEL ASSEMBLY

Nolan B. Durham, 5287 Ormond Road, Dayton 49, Ohio, assignor of one-half to James Knox, Dayton, Ohio

Filed Feb. 20, 1963, Ser. No. 259,884
3 Claims. (Cl. 301—13)

1. In a wheel assembly, the combination comprising a wheel spider having a peripheral seating surface adapted to receive thereon a rim having a beveled shoulder in the inner periphery thereof, said seating surface terminating with an axial extension having radially spaced axially parallel inner and outer surfaces, and a clamp assembly engaging said axial extension to secure said rim on said spider, said clamp assembly including a member having parallel legs and a base engaging one end of each said leg to support said legs in spaced relation, one of said legs having a bevel in the outer surface thereof located at the end thereof which is distal from said base, said clamp being disposed on said axial extension with said one leg overlying and contacting the outer surface of said extension and the other leg underlying and contacting the inner surface of said extension whereby both legs derive bearing support from said extension, the bevel on

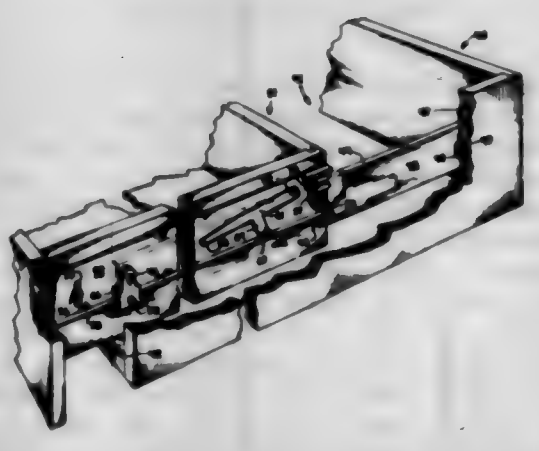


said one leg being adapted to interfit the beveled shoulder on said rim, said base overlying the end of said extension, and fastener means interengaging said clamp member and said extension, said fastener means being adjustable to drive said clamp member inwardly on said extension so as to bias the bevel on said one leg against the beveled shoulder of said rim.

3,142,517
DRAWER SUSPENSION MEANS

Charles D. Ward, 6255 N. Meridian St., Indianapolis, Ind.

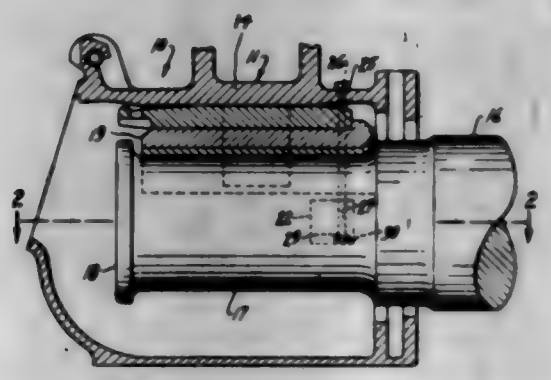
Filed Sept. 28, 1960, Ser. No. 58,992
17 Claims. (Cl. 308—3.6)



1. Drawer suspension means comprising frame means providing a slideway for a drawer, said slideway having an open mouth for entry of a drawer therethrough into said slideway, a pair of guide rails mounted respectively at the lateral sides of said slideway in facing relation, each guide rail providing a flange extending toward the other, a pair of slide rails respectively mounted at opposite lateral sides of a drawer, each slide rail providing a flange extending laterally outwardly, a nylon bearing mounted at each lateral side of said slideway adjacent the mouth thereof, each bearing being formed to provide a slot elongated in the direction of length of said slideway, opening toward the other bearing and constructed and arranged slidably to receive and support the flange of one of said slide rails while the other bearing slot similarly receives and supports the flange of the other of said slide rails, and a further nylon bearing mounted at each lateral side of said drawer adjacent that end of said drawer which is adapted first to enter said slideway mouth, each such further bearing being formed to provide a slot elongated in the direction of sliding movement of said drawer, opening laterally outwardly and constructed and arranged slidably to receive and be supported by the flange of one of said guide rails while the slot of the other of said

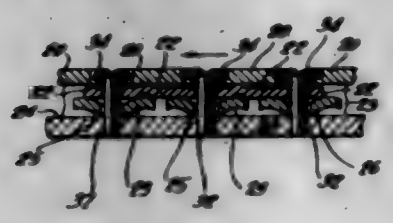
further bearings similarly receives and is supported by the flange of the other of said guide rails, and a stop device mounted to travel with said drawer and engageable with means fixed with respect to said slideway to restrain said drawer against removal from said slideway, said stop device being movable relative to said drawer to pass said fixed means, said stop device comprising a lever having one end pivotally mounted on said drawer adjacent one of said further bearings and extending therefrom toward the other end of said drawer, said lever carrying, intermediate its ends, a finger constructed and arranged normally to rest on said flange of the adjacent slide rail, said finger having a laterally-outwardly turned ear positioned, when said finger rests on said flange, to engage and be stopped by one of said first-named bearings upon substantial withdrawal of said drawer from said slideway.

3,142,518
SUSPENDED JOURNAL STOP
John R. McGrath, 156 S. Hawthorne Ave., Elmhurst, Ill.
Filed Jan. 7, 1963, Ser. No. 249,925
2 Claims. (Cl. 308—40)



1. In a railroad car axle journalling assembly including a journal box having opposite side walls interconnected by a crown portion and rotatably receiving the journal portion of an axle formed with an enlarged terminal collar, the combination comprising, a pair of substantially cubical journal stops located within the journal box with respective ones of the stops adjacent the opposite side walls of the journal box, means suspending each of said journal stops from the crown of the journal box whereby each of said stops is approximately bisected by a horizontal plane extending through the center line of said axle, said stops being dimensioned to provide running clearance for said journal portion of the axle when suspended by said means, and said means permitting the stops to be raised within said journal box to afford clearance for said enlarged terminal collar when said axle and said journal box are axially separated.

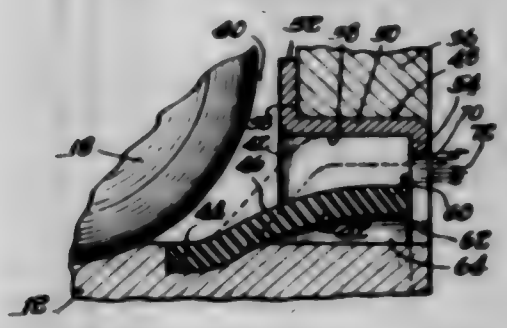
3,142,519
TILTING PAD THRUST BEARING
Stanley Abramovitz, New York, N.Y., assignor to Industrial Tectonics, Inc., Fluid Film Bearing Division, a corporation of New York
Filed Dec. 7, 1962, Ser. No. 243,015
7 Claims. (Cl. 308—160)



1. An improved tilting pad thrust bearing comprising, in combination:

(*a*) an annular housing;
(*b*) a first series of equalizer plates provided with generally cylindrically curved lower surfaces surmounting a planar surface formed upon the annular housing;
(*c*) a second series of equalizer plates surmounting generally cylindrically curved upper surfaces provided upon said first series of equalizer plates;
(*d*) said second series of equalizer plates being provided with spherical elements projecting from their upper surfaces;
(*e*) a series of bearing shoes pivotally supported upon said spherical elements; and
(*f*) an annularly disposed series of removable pins seated within said housing and extending parallel to the axis of said housing and through apertures provided in said first series of equalizer plates, said annularly disposed series of pins also extending through a series of perimetric slots provided in said second series of equalizer plates and in said series of bearing shoes;
(*g*) the exposed ends of said removable pins being provided with means for retaining said first and second series of equalizer plates and said series of bearing shoes within said housing.

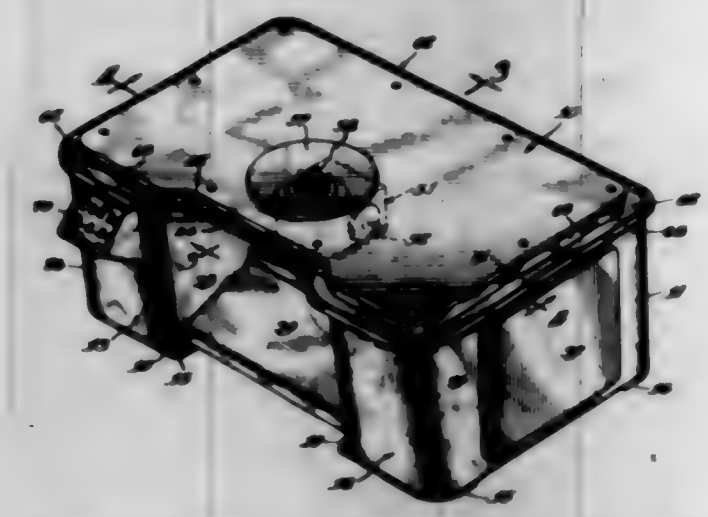
3,142,520
SEALED BEARING
Charles E. Mueller, Palatine, Ill., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed May 4, 1962, Ser. No. 192,447
8 Claims. (Cl. 308—187.2)



2. A sealed antifriction bearing comprising, in combination, an inner race element defining an inner bearing race, an outer race element defining an outer bearing race encircling said inner bearing race, a series of antifriction elements disposed between said races and collectively journalling said race elements with respect to each other, means on said outer race element defining two generally cylindrical seal surfaces disposed on opposite sides of said series of antifriction elements in axially spaced relation to said antifriction elements and facing radially inward toward said inner race element, two initially flat annular seals disposed on opposite sides of said series of antifriction elements, said seals being formed of yieldable polymeric material and having the inner peripheries thereof stretched to fit tightly around said inner race element axially inward of said respective seal surfaces, the outer peripheries of said seals projecting axially outward and extending radially away from said inner race element into slidable sealing engagement with said respective seal surfaces, means on said outer race element defining two annular abutments extending radially inward from the axially outer ends of said respective seal surfaces into radially overlapping relation to the outer peripheries of said respective seals, each of said annular abutments having a spacing from said inner race element which is less than the thickness of the adjacent seal, said first and second race elements including means defining lubricant space adjacent said antifriction elements and

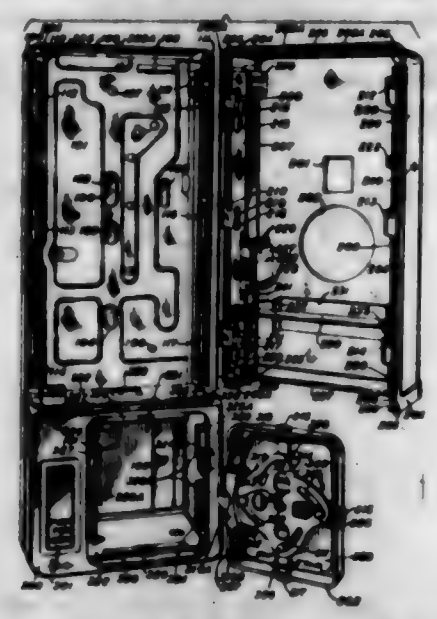
located axially between said seal surfaces, means on one of said race elements for directing lubricant into said lubricant space, and said outer race element and said means thereon including means defining a fluid escape opening from said lubricant space located radially outward of the inner extremities of said annular abutments.

3,142,521
MACHINE ASSEMBLY SUPPORT
Robert J. Petroff, Lombard, Ill. (% R. Petroff Associates, 5101 W. Lake St., Chicago 44, Ill.)
Filed Apr. 30, 1962, Ser. No. 190,923
1 Claim. (Cl. 312—196)



A steel console for supporting metal working units in desired relationship, said console comprising two laterally spaced box-like steel pedestals having side walls and open tops, a generally horizontal steel step plate extending between opposed pedestal sides and rigidly joined thereto near the bottom thereof, a skeleton steel channel frame rigidly secured to the pedestal tops, said frame having the top surfaces thereof finished to define an accurate support plane which is horizontal in the normal position of the console, means defining a drain trough laterally beyond and below the level of the top surfaces of the channel frame, a flat steel table plate large enough to rest upon the channel frame, said table plate being of mild steel and having accurately finished flat, parallel top and bottom surfaces and having the plate edges thereof just above the trough so that waste and liquid on top of said table plate can be readily disposed of by dropping into the trough, said table plate having a minimum thickness of the order of about one inch and the pedestals, channel frame and step plate being heavy enough to provide a rigid support for said table plate with said channel frame providing support for said table plate along spaced regions so that said table plate is strongly supported but has its bottom finished surface largely accessible for mounting metal working units as desired, said table plate steel permitting cutting, drilling or tapping for mounting metal working units on top or bottom surfaces as desired, index means carried by said table plate and including an index plate disposed above the top surface of said table plate at an intermediate part thereof and including a shaft extending through said table plate, an electric motor carried by said step for driving said shaft, said pedestals having side doors giving access to the interiors thereof whereby said console may function as the nucleus for a plurality of metal work units and provide a desired number of work stations about said index table, said table plate surfaces being accurate enough so that metal work units may be positioned thereon with the accuracy required in metal working operations without further finishing operations on said table plate surfaces, the parallelism of said table plate surfaces insuring correct relationship between various metal working units and index means.

3,142,522
COIN TELEPHONE HOUSING
Norris R. Hall and Richard E. Thompson, Jr., Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 18, 1962, Ser. No. 245,567
10 Claims. (Cl. 312—199)

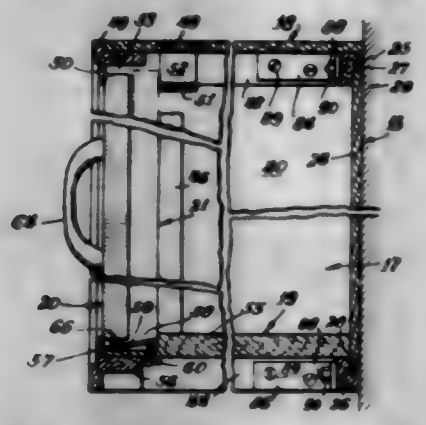


1. A housing assembly for a coin telephone comprising, in combination, a rear housing member, a lower housing member and a front cover, said front cover including a first plurality of exposed edges serving as a first set of tongue members and a second plurality of exposed edges serving as one side of a second set of grooves, dual purpose means limiting the depth of said assembly between the rear portion of said rear housing and the front portion of said front cover and serving as the second side of said second set of grooves, said rear housing including a third plurality of exposed edges serving as a second set of tongue members engageable with said second grooves, a vault, including a vault top, mounted in said lower housing, said vault top including integral lip members extending over the top edges of said lower housing and forming therebetween a first set of grooves accommodating said first set of tongue members, means for locking said front cover to said rear housing member operable after the engagement of said second set of tongue members by said second set of grooves, a vault door member including a continuous protruding lip, a vault doorway aperture in said lower housing, and means integral with said vault forming a continuous groove between said last named means and the periphery of said aperture for accommodating said protruding lip in tongue and groove fashion.

3,142,523
WALL CABINET APPARATUS AND METHOD
Maxwell L. Kerrihard, 1620 Grove Ave., Highland Park, Ill.
Filed May 7, 1962, Ser. No. 192,776
10 Claims. (Cl. 312—245)

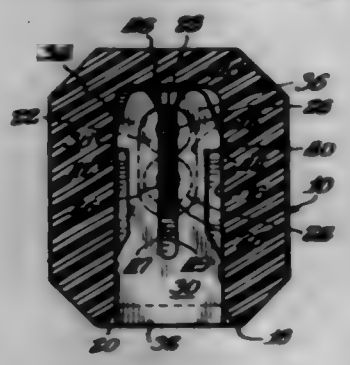
1. A wall cabinet kit for assembly and erection by relatively inexperienced individuals, said cabinet kit including: a back member comprising a back panel, a separate top rail forming a top support and having a groove in the lower rear side to receive the top of the back panel, and a bottom rail forming a bottom support and having a groove in the upper rear side to receive the back panel; a right end and a left end, each end having a top support on the inner side below the top of the side and a bottom support along the inner side adjacent the bottom thereof and parallel to the top support, all of said top and bottom supports being spaced the same vertical distance apart, said supports on the

ends being spaced from the front and back of the ends; top and bottom members, each of the latter members being substantially the same length as the back member, the top member having a front to back distance substantially equal to the front to back distance of the ends, the bottom member having a front to back distance substantially equal to the front to back distance of the ends less the thickness of the back member, said top and bottom members having facings along the front edge thereof; means to interconnect the parts; and door means for the front; whereby said back may be affixed to said wall, by first affixing the bottom rail to the wall,



thereafter the back panel positioned in the groove in, and supported by, the bottom rail, and the top rail fitted over the back panel and affixed to the wall to assemble the back member and affix it to the wall, thereafter said ends butted to each end of the back member and affixed to the back member, said top member positioned on said top supports and affixed to the ends and back member, said bottom member positioned on the bottom supports and affixed to the ends and back member, thereby forming a cabinet shell with an open front, and said door means mounted on the shell closing the open front.

3,142,524
ELECTRICAL CONNECTOR
Cletus G. McDonough, 200 Elm Tree Lane, Elmhurst, Ill.
Filed Jan. 26, 1962, Ser. No. 168,955
1 Claim. (Cl. 339—98)



An improved electrical connector of the type adapted to join a pair of shielded conductors in mutual electrically conductive relation, said shielded conductors each having a conducting core and an insulating cover thereabout, the connector comprising in combination:

an insulating block having a first opening therein extending partially through the block, a second opening intersecting said first opening and extending partially through the block, said first opening adapted to receive a pair of shielded conductors therein; and

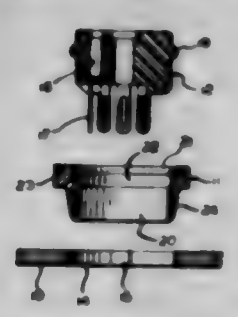
a bifurcated crimping member slidably disposed within said second opening and adapted in one position to displace the insulating cover from each of the shielded conductors and to engage said pair of conductors in mutual electrically conductive relation, said crimping member including a base portion and a pair of resilient spaced prongs integrally joined to said base portion, said spaced prongs normally diverging outwardly from said base portion and each of said prongs having an outwardly facing shoulder extending downwardly and outwardly from the outer free end thereof, each of said shoulders terminating in a downwardly facing sharp ridge portion, the width of said crimping member across said shoulders being greater than the lateral dimension of said second opening, and said prongs being contracted upon insertion into said opening to engage said ridge portions with opposed walls of said opening against the tension of said prongs attempting to return to normal position.

3,142,525
HOT LINE CLAMP
William B. Roesman, 12219 Cheryl Court, St. Louis County, Mo.
Filed Apr. 4, 1962, Ser. No. 185,123
13 Claims. (Cl. 339—109)



1. A clamp device comprising first and second members having opposed elongated surfaces adapted to secure a main conductor therebetween, central body portions with aligned cavities, and a pivotal sliding connection on the sides thereof remote from said elongated surfaces; a bolt received through one of said members and threadedly connected with the other, camming means between said bolt and one member whereby turning movement of the former effects relative pivotal movement between said members to produce opening and closing actuation of said elongated surfaces, and tap connecting means on one of said first and second members.

3,142,526
MOUNTING MEANS FOR A TUBE SOCKET
Frank H. Edwards, Ancaster, Ontario, Canada, assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Sept. 6, 1961, Ser. No. 136,229
2 Claims. (Cl. 339—126)



1. A mounting component for securing a tube socket or the like in an opening provided therefor in a chassis element, said mounting component including a collar having a longitudinally extending passage therethrough, a tube socket of insulating material secured within said passage, said collar and said tube socket having cooperating

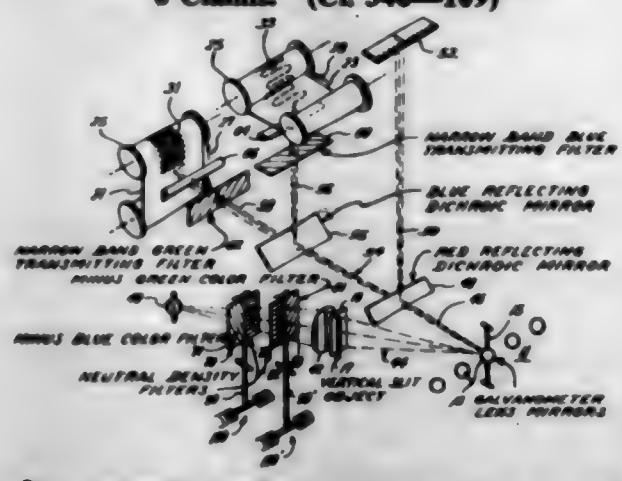
locking elements for securing said parts in pre-assembly, stop structure extending laterally outwardly from said collar adjacent the upper end portion thereof and being displaced toward adjacency with a surface of such chassis upon insertion of said collar into the chassis opening thereof, said collar being provided with an inwardly and downwardly extending taper along the outer surface thereof below said stop structure to facilitate insertion of said collar into such opening and to provide progressively increasing degrees of frictional engagement of said collar with the marginal edges of such opening during such insertion, and the outer surface of said collar below said stop structure being elastically deformable upon forcible engagement thereof with the opening-defining edges of such chassis to anchor said collar within such opening.

3,142,527
PRINTED CIRCUIT TERMINAL
Max E. Eggman, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Mar. 31, 1961, Ser. No. 99,905
3 Claims. (Cl. 339—217)



1. A terminal for installation in an aperture through a printed circuit board and comprising: a strip of resilient, electrically conducting material folded upon itself so as to form two legs in generally divergent relation in the mechanically unloaded state of said terminal, one of said legs having a shoulder therein for abutting a surface of a printed circuit board and the other of said legs having triangular offset portion with an inclined upper edge for engaging an opposite surface of the board upon projecting said legs into the aperture in the board for engaging the board between said shoulder and inclined edge to securely lock said terminal to said board, and means on said one leg for connecting an electrical energy carrying member to said terminal.

3,142,528
GALVANOMETRIC RECORDING SYSTEMS
John A. Stafford and Robert L. St. John, Houston, Tex., assignors to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Oct. 23, 1962, Ser. No. 232,530
6 Claims. (Cl. 346—109)



1. In a recorder having a galvanometer for reflecting at least one object-light beam including at least two distinct color bands, the combination comprising: means positioned in the path of the reflected beam for segregating said color bands into separate light channels, a distinct recording medium for each channel, first movable filter means absorbing one of said color bands, second movable filter means absorbing the other of said color bands, and means for selectively inserting said first and said second filter means in the path of said object beam thereby recording said reflected beam on either or both of said recording media.

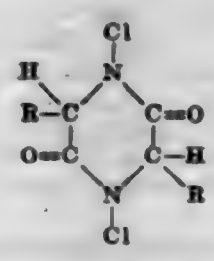
CHEMICAL

3,142,529
PROCESS FOR THE COLORATION OF CELLULOSE TEXTILE FIBERS
Harlan B. Freyermuth, Easton, Pa., and Henry R. Mautner, Leonia, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 19, 1960, Ser. No. 50,593
8 Claims. (Cl. 8—18)

1. A process for the coloration of cellulose textile fibers comprising treating the fibers with an aqueous medium containing a soluble non-fiber reactive dyestuff, a soluble acid-curing aminoplast and a soluble acid-reacting catalyst for the aminoplast, said aminoplast being a soluble condensation product of an aldehyde with a member of the group consisting of aminotriazines and triazones, drying and then heating the treated and dried fibers at a temperature of at least 350° F.

3,142,530
METHOD OF BLEACHING COTTON FABRICS WITH N,N'-DICHLORO-2,5-DIKETOPIPERAZINES
Michael Kokoruda, Southgate, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed May 4, 1961, Ser. No. 107,628
7 Claims. (Cl. 8—108)

1. A method for bleaching cotton fabrics which comprises contacting said fabrics with an aqueous solution of a compound corresponding to the formula:

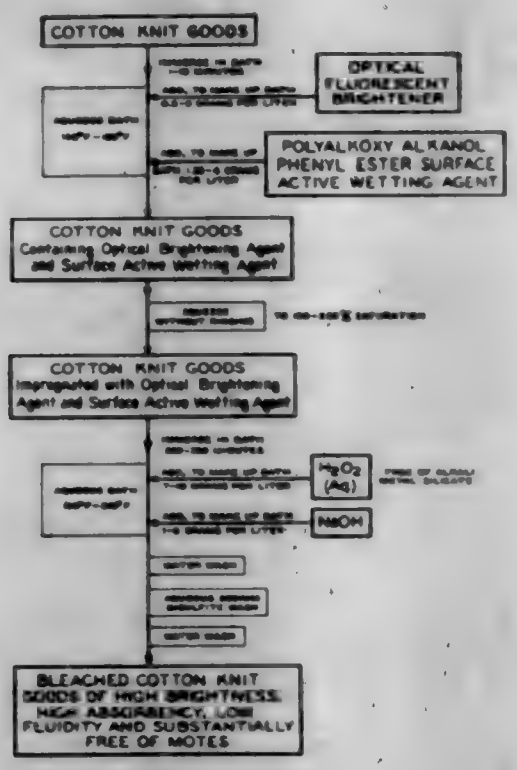


wherein R is a member selected from the group consisting of hydrogen, methyl and ethyl.

3,142,531
BLEACHING OF GRAY COTTON KNIT GOODS
Stuart M. Rogers, Syracuse, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Feb. 8, 1961, Ser. No. 87,761
2 Claims. (Cl. 8—111)

1. A method for bleaching gray cotton knit goods which consists of immersing the gray cotton knit goods in a bath of an aqueous solution consisting of 0.5–5 grams per liter of an optical fluorescent brightening agent and 1.25–4 grams per liter of a polyalkoxy alkanol phenyl

ester surface active wetting agent at a temperature within the range 140° F.–190° F., keeping the goods immersed in said aqueous solution bath for a time of from about 1–10 minutes at temperature within the aforesaid range, then directly squeezing the goods to a 150–225% saturation, then immersing the squeezed goods in an aqueous alkaline hydrogen peroxide bleaching solution consisting of 1–6 grams per liter of sodium hydroxide, about 7–10 grams per liter hydrogen peroxide and from about 0.5–2



grams per liter, keeping the goods immersed in said peroxide bleaching solution at a temperature within the range 160° F.–210° F. for a period of from about 250–350 minutes, removing the goods from the peroxide bleaching solution and water washing, then treating the goods with dilute aqueous sodium bisulfite solution, and washing the thus-treated goods with water to obtain cotton knit goods of high brightness, high absorbency, low fluidity, and substantially free of motes.

3,142,532

METHOD OF MAKING POLYVINYL ALCOHOL FIBERS

Osamu Fukushima and Hirotoshi Kurashige, Kurashiki, Japan, assignors of one-fourth to Air Reduction Company Incorporated, New York, N.Y., a corporation of New York, and three-fourths to Kurashiki Rayon Co., Ltd., Okayama Prefecture, Japan, a corporation of Japan

No Drawing. Filed May 26, 1960, Ser. No. 31,824
Claims priority, application Japan May 26, 1959
4 Claims. (Cl. 8—115.5)

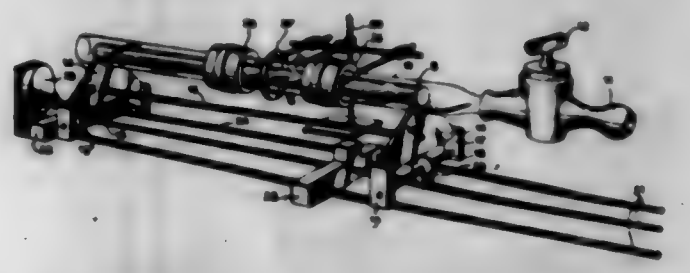
1. A process of producing fibers of polyvinyl alcohol of improved properties which comprises adding to an aqueous solution of polyvinyl alcohol, water-insoluble derivatives of polyvinyl alcohol in finely-divided form, mixing and distributing said derivatives in said solution and spinning said fibers from the resultant spinning solution, said derivatives containing more than 0.2% basic nitrogen and being the products resulting from reaction of polyvinyl alcohol with an aldehyde containing no basic nitrogen and with a member of the group consisting of ethylene-imine, the reaction product of ethylene-imine and melamine, and the reaction product of epichlorhydrin and an alkyl secondary amine, and acetalizing said fibers.

3,142,533

PROCESS FOR PREPARING SHAPED ARTICLES OF URANIUM SILICIDES

André Accary and Jacques Dubuisson, Paris, and Jacques Humbert, Viroflay, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed May 24, 1960, Ser. No. 31,294
Claims priority, application France May 29, 1959
12 Claims. (Cl. 23—14.5)



1. A process for preparing shaped articles of a uranium silicide selected from the group consisting of U_3Si_2, USi, USi_2 and USi_3, which comprises introducing into a mould an intimate mixture of particles of uranium and silicon in substantially stoichiometric proportions corresponding to the uranium silicide selected for manufacture, compacting the mixture, heating the mixture in a first stage under vacuum in the mould to a temperature between 450° C. and 675° C., in order to cause reaction of the silicon and the uranium, and subjecting the coherent porous product so obtained to heating in a second stage under vacuum at a temperature higher than that of the first heating stage and lower than the melting point of the selected uranium silicide in order to complete the reaction between the silicon and the uranium and obtain a coherent non-porous article.

3,142,534

MANUFACTURE OF DEFLUORINATED PHOSPHATES

John D. Nickerson, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Oct. 25, 1960, Ser. No. 64,744
11 Claims. (Cl. 23—108)

1. A process for producing a phosphatic material of reduced fluorine content from a solid fluorine-containing acid treated phosphatic material having a P/F ratio less than 50/1 which comprises heating a solid fluorine-containing acid treated phosphatic material selected from the group consisting of superphosphate, triple superphosphate and mixtures thereof for at least five minutes at a temperature within the range of from about 212° F. to about 446° F. in the presence of an atmosphere of at least 50 volume percent steam and recovering a solid phosphatic material of reduced fluorine content having a P/F ratio greater than 50/1.

3,142,535

PROCESS FOR THE PURIFICATION OF HYDROGEN CHLORIDE GAS CONTAMINATED WITH PHOSGENE

Frank J. Christoph, Jr., North East, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 16, 1962, Ser. No. 217,300
5 Claims. (Cl. 23—154)

1. A process for removing phosgene from a gaseous mixture comprised of hydrogen chloride and phosgene, which comprises intimately contacting at a temperature of from about 0 to 100° C. said gaseous mixture with a liquid alcohol selected from the group consisting of aliphatic primary and secondary alcohols, the amount of alcohol being sufficient to supply at least 1.05 equivalent of hydroxyl groups for each mole of phosgene.

3,142,536
PROCESS FOR THE PRODUCTION OF SULPHUR TRIOXIDE

Hans Guth, Bergisch Neukirchen, Aloys Heitmann and Wilhelm Möller, Leverkusen, and Helmuth Werth, Blecher-Bohn, Bergisch Gladbach, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Sept. 13, 1961, Ser. No. 137,779
Claims priority, application Germany Sept. 17, 1960
9 Claims. (Cl. 23—175)

1. In a process for the production of sulphur trioxide from an SO_2-containing gas by catalytic oxidation in successive oxidation stages with intermediate absorption between two of said successive oxidation stages, the improvement which comprises passing gas from the first of said two oxidation stages in indirect heat exchange relation with the gas from the absorption to heat the gas from the absorption for introduction into the second of said two oxidation stages and to cool the gas from the first of said two oxidation stages for absorption, conducting the absorption in two absorption stages, the gas being contacted with oleum in the first absorption stage and with sulphuric acid in the second absorption stage, and the temperature of the gas from the second absorption stage being substantially in excess of 70° C., the gas from the second absorption stage being passed in said indirect heat exchange relation.

3,142,537
NOVEL COMPOUNDS CONTAINING SULPHUR, FLUORINE, AND OXYGEN

Geoffrey Pass and Hugh Leithead Roberts, Northwich, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 18, 1962, Ser. No. 188,572
Claims priority, application Great Britain May 9, 1961
5 Claims. (Cl. 23—203)

1. A process for making peroxides composed of sulphur, fluorine and oxygen and having the general formula

$$SF_5.(OSF_4)_n.O.O.SF_5$$

in which n is 0, 1 or 2 comprising reacting sulphur tetrafluoride with sulphur pentafluoride hypofluorite, $SF_5.O.F$, in the presence of oxygen under anhydrous conditions in a sealed vessel at a temperature between ambient temperature and 100° C. and under the autogenous pressure generated thereby, separating the liquid reaction products and subjecting them to fractional distillation and thereafter recovering said individual peroxides as substantially pure compounds.

3,142,538
MANUFACTURE OF DIBORANE

Coleman J. Major, Iowa City, Iowa, and Raymond C. Rhees, Henderson, Nev., assignors, by mesne assignments, to AFN, Inc., a corporation of Delaware

Filed Sept. 9, 1960, Ser. No. 55,624
4 Claims. (Cl. 23—204)

1. In a process for producing diborane by reaction of a boron trihalide and a metal borohydride in solution in a borohydride solvent, the improvement consisting in the steps of introducing continuously a stream of boron trihalide vapor and a liquid stream of the metal borohydride solution into the top of a relatively long and narrow vertically disposed and helically shaped reaction zone wherein the streams mix and flow continuously and concurrently through said zone to the lower end thereof while reacting to form diborane and a solution of metal halide, the rate of introduction of the liquid stream being such that only about one-twentieth of the volume of the reaction zone is filled with liquid at any instant and that the liquid flows in a continuous shallow stream over the surface of said zone, and withdrawing diborane and the solution

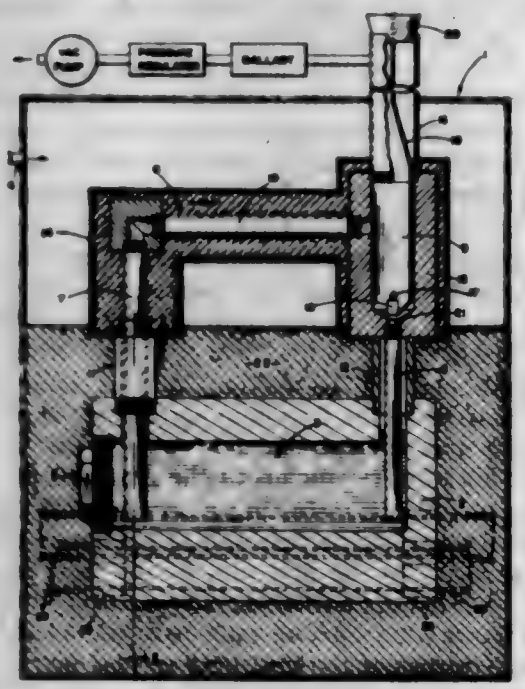


of metal halide continuously from said other end of said reaction zone.

3,142,539
METHOD FOR ARTIFICIAL SYNTHESIS OF DIAMONDS

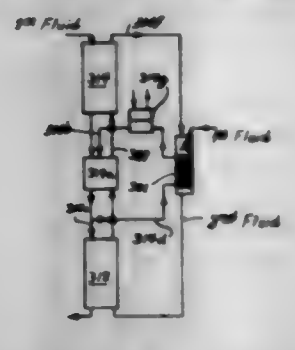
John A. Brinkman, Canoga Park, Charles J. Meechan, Reseda, and Herman M. Dieckamp, Canoga Park, Calif., assignors to North American Aviation, Inc.

Filed July 1, 1960, Ser. No. 41,224
14 Claims. (Cl. 23—209.1)



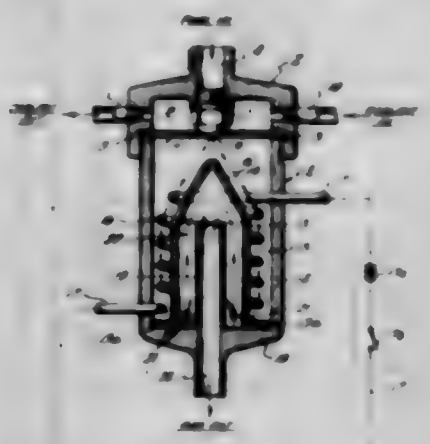
5. A method for the artificial production of diamonds which comprises circulating a solution of carbon in a molten metal selected from the group consisting of lead, copper, aluminum, bismuth, gold, silver, antimony, tin, gallium, indium, and germanium under an inert atmosphere in a reaction zone having a hotter region at a temperature less than about 3000° C. and a cooler region at a temperature higher than about 1000° C., and containing a seed diamond in said cooler region, wherein said molten metal is saturated with carbon with respect to graphite precipitation in said hotter region and supersaturated with carbon with respect to graphite precipitation in said cooler region, and wherein the temperature differential between said hotter region and said cooler region is of a magnitude which provides a supersaturation of carbon with respect to graphite precipitation in said cooler region in an amount sufficient to exceed the solubility limit of diamond, thereby producing growth of said seed diamond.

3,142,540
APPARATUS FOR DUAL TEMPERATURE EXCHANGE
Jerome S. Spevack, 160 W. Pinebrook Drive, New Rochelle, N.Y.
Original application Sept. 29, 1950, Ser. No. 188,925, now Patent No. 2,895,803, dated July 21, 1959. Divided and this application June 25, 1959, Ser. No. 822,972
7 Claims. (Cl. 23—260)



1. Apparatus for producing a fluid containing a first material concentrated therein by exchanging, at two different temperatures, said first material with a second material between chemically different fluids which are physically separable from each other and which are each capable of containing each of said materials, which apparatus comprises (*a*) a series of at least two pairs of exchange units each of which has first fluid and second fluid ingress and egress means for counter-current flow of the two fluids therethrough; (*b*) means in each of said units for mixing said two fluids therein to cause an exchange of the said materials between the two fluids; (*c*) means for maintaining a first unit of each pair at a temperature to cause the first fluid flowing therethrough to become enriched and the second fluid flowing therethrough to become impoverished with respect to said first material; (*d*) means for maintaining the second unit of each pair at a temperature to cause the second fluid flowing therethrough to become enriched and the first fluid flowing therethrough to become impoverished with respect to said first material; (*e*) means connected to the first fluid egress means of the first unit of each pair and to the first fluid ingress means of the second unit of said pair for transferring a first part of the enriched first fluid from the first unit of each pair to the second unit of said pair; (*f*) means connected to the first fluid egress means of the first unit of each pair except the last pair of the series and to the first fluid ingress means of the first unit of the next succeeding pair for transferring a second part of the enriched first fluid from the first unit of each pair except the last of said pairs to the first unit of the next succeeding pair; (*g*) means connected to the second fluid egress means of the second unit of each pair and to the second fluid ingress means of the first unit of said pair for transferring a first part of the enriched second fluid from the second unit of each pair to the first unit of said pair; (*h*) means connected to the second fluid egress means of the second unit of each pair except the last pair of the series and to the second fluid ingress means of the second unit of the next succeeding pair for transferring a second part of said enriched second fluid from the second unit of each pair except the last to the second unit of the next succeeding pair of units; (*i*) means connected to the first fluid egress means of the second unit of each pair except the first pair of the series and to the first fluid ingress means of the second unit of the next preceding pair for transferring impoverished first fluid from the second unit of each pair of units except the first pair to the second unit of the next preceding pair of units; (*j*) means connected to the second fluid egress means of the first unit of each pair except the first pair of the series and to the second fluid ingress means of the first unit of the next preceding pair for transferring impoverished second fluid from the first unit of each pair of units except the first pair to the first unit of the next preceding pair of units; and (*k*) means connected to an enriched fluid egress means of the last pair of units for removing enriched fluid from the last pair of exchange units of said series.

3,142,541
GAS GENERATOR FOR ROCKET PROPELLANTS
Edward W. Preble, Bloomfield, Conn., assignor to Chandler Evans Corporation, West Hartford, Conn., a corporation of Delaware
Filed Aug. 18, 1961, Ser. No. 132,402
4 Claims. (Cl. 23—281)

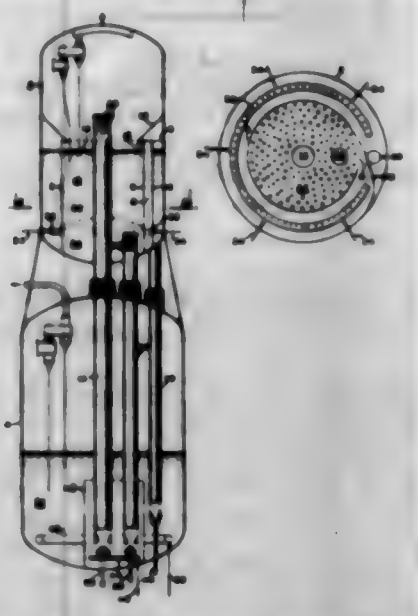


1. A gas generator for converting into gas a vaporizable and thermally decomposable liquid propellant, having a highly exothermic decomposing reaction, comprising: a vaporizing chamber with first means for injecting thereinto such liquid in the form of fine spray; said chamber being connected in flow series with a decomposition chamber; both of said chambers being adapted to exclude atmospheric oxygen; said decomposition chamber comprising a plurality of connected, reversed passageways, so constructed and arranged as to supply to said propellant, in both of said chambers, heat derived solely from the exothermic decomposition of the vaporized liquid spray in said decomposition chamber, sufficient to completely convert all of said liquid into gas before its discharge from said generator; said decomposition chamber including an electric heating element which is energized from a source external to said generator, and manually-operable means for energizing and de-energizing said element, so that said spray is heated by said element only until its vaporized portion is thermally decomposed.

3,142,542
FLUID CONTACT SYSTEM
Eugene F. Schwarzenbek, Short Hills, and Charles E. Slyngstad, Rutherford, N.J., assignors to Pullman Incorporated, a corporation of Delaware
Filed Oct. 14, 1960, Ser. No. 62,707
13 Claims. (Cl. 23—288)

1. An apparatus for the segregated conversion and recovery of hydrocarbons comprising in combination an upper reaction chamber superimposed by a separation chamber, an annular stripping chamber separated from said reaction chamber by a common baffle member open in at least one vertical side thereof to provide a passageway for the tangential flow of contact material from said reaction chamber into said stripping chamber, a standpipe extending downwardly from a segment of said annular stripping chamber which is remote from said passageway in respect to the horizontal path of flow of catalyst through said stripping chamber to the lower portion of a regeneration chamber positioned below said stripping chamber, a withdrawal chamber open at its upper end and of smaller diameter than said regeneration chamber extending upwardly from the bottom of said regeneration chamber, the bottom open end of said standpipe ter-

minating outside of said withdrawal chamber, a perforated grid member positioned across the lower cross section of said reactor chamber to form a distributor chamber therebelow, a first riser conduit extending upwardly from said withdrawal chamber and terminating in an upper portion of said reaction chamber, a second riser conduit extending upwardly from said withdrawal chamber and terminating within said distributor chamber, a vertically movable hollow stem plug valve aligned with



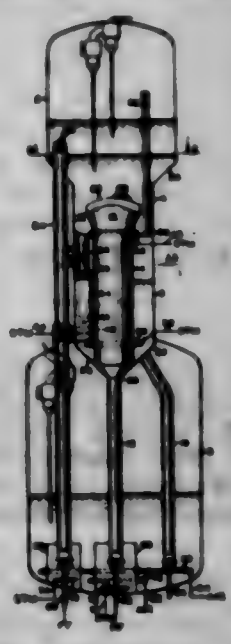
the bottom open end of each of said riser conduits, a vertically movable plug valve aligned with the bottom open end of said standpipe, means for introducing gaseous material to the lower portion of said regeneration chamber and said withdrawal chamber, means for introducing gaseous material to the lower portion of said stripping chamber, means for withdrawing gaseous material from the upper portion of said regeneration chamber and means for withdrawing vaporous material from the upper portion of said separation chamber.

3,142,543

APPARATUS FOR CATALYTICALLY CRACKING HYDROCARBONS

Charles E. Slyngstad, Rutherford, and Roland L. Nagy, Clifton, N.J., assignors to Pullman Incorporated, a corporation of Delaware

Filed Oct. 14, 1960, Ser. No. 62,731
11 Claims. (Cl. 23—288)



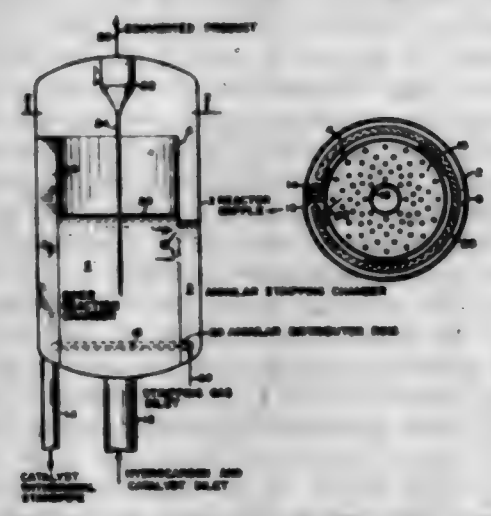
1. An apparatus for catalytically cracking hydrocarbon material comprising in combination, a reactor-separator chamber situated above a regenerator chamber, said reactor-separator chamber being of larger diameter in the upper portion thereof than in the lower portion, a substantially vertical first riser conduit extending upwardly from within the lower portion of said regenerator chamber into and terminating in the lower portion of said reactor-separator chamber to form an annular space therewith, the terminus of said first riser conduit being capped with a perforated baffle member, at least one second riser conduit extending substantially vertically upwardly from within the lower portion of said regenerator chamber into the upper portion of said reactor-separator chamber, an annular stripping chamber positioned between said reactor-separator chamber and said regenerator chamber and having a maximum diameter substantially equal to the diameter of the lower portion of said reactor-separator chamber, a first conduit means provided with a valve means in the lower portion thereof extending downwardly from the lower portion of said annular space into one side of said annular stripping chamber, a second conduit means communicating between the opposite side of said annular stripping chamber from said first conduit means and the lower portion of a regenerator chamber, separate means for introducing gaseous material to the lower portion of said annular space and said annular stripping chamber, means for introducing subdivided contact material withdrawn from said regenerator chamber with a first reactant material into the bottom portion of said first riser conduit, means for introducing subdivided contact material withdrawn from said regenerator chamber with a second reactant material into the bottom portion of said second riser conduit, at least one open end conduit communicating between the upper portion of said annular stripping chamber and the upper portion of said reactor-separator chamber, and means for removing gaseous material from the upper portion of each of said regenerator chamber and said reactor-separator chamber.

3,142,544

APPARATUS FOR STRIPPING CONTAMINATED CATALYTIC MATERIAL

Douglas H. Martin, Harrington Park, and Paul S. Nix, Jr., Woodbury, N.J., assignors to Pullman Incorporated, a corporation of Delaware

Filed Oct. 14, 1960, Ser. No. 62,774
3 Claims. (Cl. 23—288)



1. An apparatus comprising in combination a reaction chamber, a vertical cylindrical baffle member open at its upper end extending upwardly from the bottom of said reactor chamber to the upper portion thereof to form an annular stripping chamber therewith, a substantially vertical transverse baffle member extending upwardly through said annular stripping chamber from the bottom of said reactor chamber, open passageway means in the upper portion of said cylindrical baffle member communicating between said reactor chamber and one end of said annular stripping chamber, means for withdrawing con-

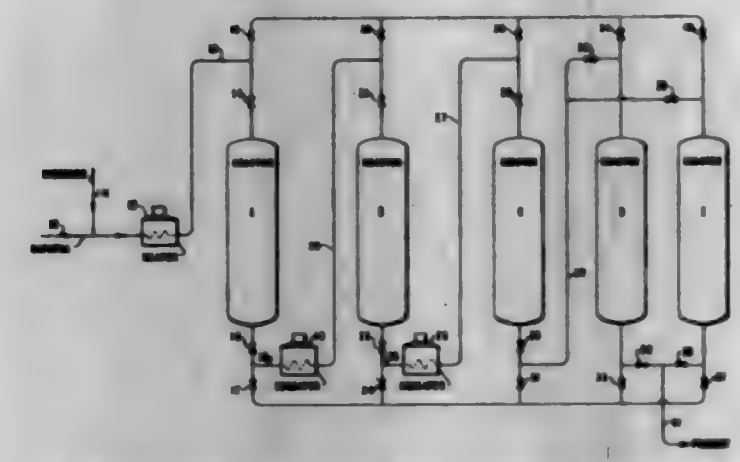
tact material from the opposite end of said annular stripping chamber substantially adjacent to said transverse baffle member, means for introducing gaseous material to the lower portion of said annular stripping chamber, means for introducing reactant material and contact material to the lower portion of said reactor chamber and means for removing gasiform material from the upper portion of said reactor chamber.

3,142,545

SYSTEM FOR HYDROTREATING OF HYDROCARBONS

Walter P. Rasrup, Darien, Conn., and Norman E. Peery, deceased, late of San Francisco, Calif., by Helen J. Peery, administratrix, San Francisco, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 24, 1961, Ser. No. 98,732
1 Claim. (Cl. 23—288)



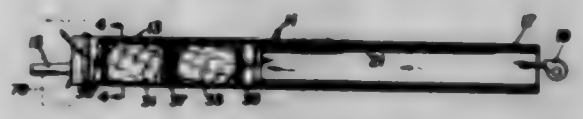
A multi-reactor system for the sequential hydrotreating of oils with a plurality of fixed beds of noble metal catalyst, said system comprising a first, second, third, fourth and fifth case, each charged with a fixed bed of noble metal catalyst, an inlet manifold, inlet branches connecting the inlet manifold to the inlet of each case, an outlet manifold, outlet branches connecting the outlet manifold to the outlet of each case, a charge line connected to the inlet branch of the first case, valve means in the inlet branch of the first case to pass flow selectively from the charge line to the first reactor case and alternately to the inlet manifold, a first interstage heater the inlet of which is connected to the outlet branch of the first case and the outlet of which is connected to the inlet branch of the second case, valve means in the outlet branch of the first case to pass flow selectively to the first interstage heater from the first case and alternately from the outlet manifold, valve means in the inlet branch to the second case to pass flow selectively from the first interstage heater to the second reactor case and alternately to the inlet manifold, a second interstage heater the inlet of which is connected to the outlet branch of the second case and the outlet of which is connected to the inlet branch of the third case, valve means in the outlet branch of the second case to pass flow selectively to the second interstage heater from the second case and alternately from the outlet manifold, valve means in the inlet branch to the third case to pass flow selectively from the second interstage heater to the third case and alternately to the inlet manifold, valve means in the inlet branch to the fourth and fifth case, an inter-connecting line connecting the outlet branch of the third case to the inlet branch of the fourth and fifth cases between the valve means in the fourth and fifth inlet branches and the fourth and fifth cases, respectively, valve means in the outlet branch of the third case to pass flow selectively to the inter-connecting line from the third case and alternately from the outlet manifold, valve means in the inter-connecting line to pass flow selectively from the inter-connecting line to the inlet branch of the fourth case and alternately to the inlet branch of the fifth case, valve means in the outlet branch of the fourth and fifth cases, a product line connected to the outlet branch of the fourth and fifth cases between the valve means in the fourth and fifth outlet branch and the fourth and fifth cases, respectively, and valve means in the product line to pass flow selectively to the product line from the outlet branch of the fourth case and alternately from the outlet branch of the fifth case.

3,142,546

KILN DISINTEGRATOR

John N. Costa, 2010 SW. Wembly Park Drive, Lake Oswego, Oreg.

Filed Jan. 22, 1962, Ser. No. 167,614
8 Claims. (Cl. 34—137)



1. An apparatus for the treatment of pulverant materials to be dried, comprising:

a drum rotatable in a predetermined direction and adapted to have hot air passed therethrough,

a cylindrical cage freely resting within said drum and having a diameter less than the interior of said drum, so that during rotation of said drum, the cage rotates, relative to the drum, in a direction opposite to that of the drum,

said cage including a central elongated mounting member,

a plurality of sets of scraping and drying plates secured to and projecting at least generally radially from said mounting member,

each set being located at a place which is axially displaced from the location of the other sets,

the plates of each set being arranged in equally spaced paddle wheel fashion about said mounting member,

the plates of adjacent sets being staggered relative to one another in a circumferential direction in progressive fashion from one end to the other of said cage so that the plates are disposed in spiral fashion about the mounting member,

said plates being of rectangular form and having inner edges secured to said mounting member and having outer edges which are exposed for progressive contact with the interior of the drum as the drum rotates so that during the movement of the cage relative to the drum, said plates scrape material to be dried from the interior of the drum and carry at least some of such material upwardly and over the mounting member to expose such material to the hot air flowing through said drum, so that such material can be dried and disloged from said plates and progress down said drum.

3,142,547

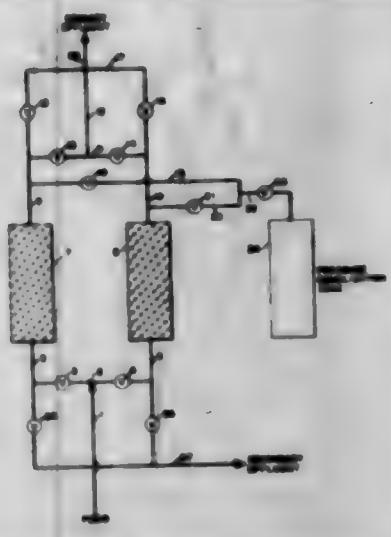
PRESSURE EQUALIZATION DEPRESSURING IN HEATLESS ADSORPTION

William D. Marsh, Netcong, Francis S. Fremuth, Fanwood, Ronald C. Hoke, Berkeley Heights, and Charles W. Skarstrom, Montvale, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 18, 1961, Ser. No. 160,197
10 Claims. (Cl. 55—26)

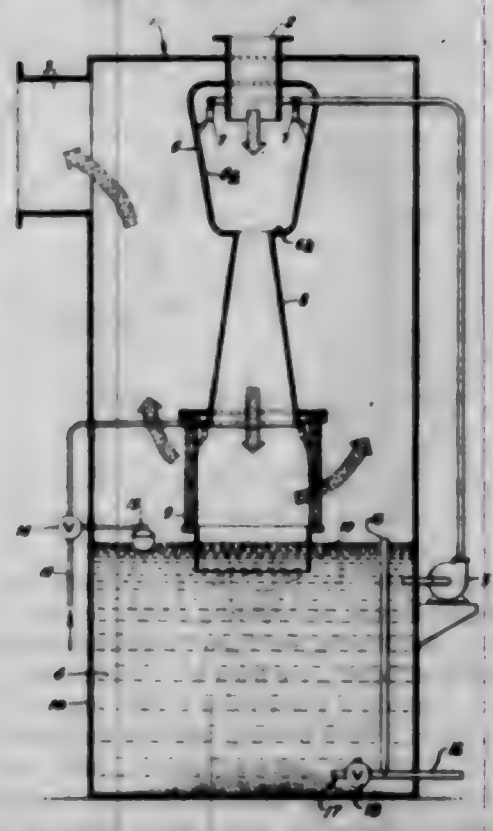
1. In a heatless fractionation process wherein a multicomponent mixture in the vapor phase is continuously separated into two streams of different physical properties by high pressure adsorption and low pressure desorption, an improved method of depressuring the adsorp-

tion zone to the low desorption pressure comprising the steps of expanding the vapor in the adsorption zone by depressuring the zone at the primary effluent end to a



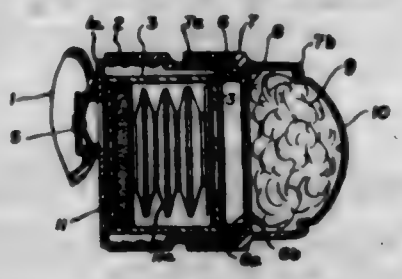
pressure intermediate the high adsorption pressure and the low desorption pressure and flowing the expanded vapor through the zone at the low desorption pressure in a flow direction opposite to that of the feed.

3,142,548
WET-CLEANING OF GASES
Evert Krantz, Stockholm, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Apr. 4, 1961, Ser. No. 102,628
4 Claims. (Cl. 55—89)



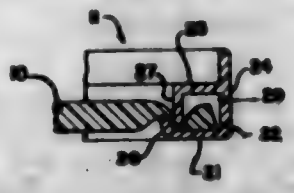
1. A method for wet cleaning dust-laden gases in apparatus having a supply chamber opening downwardly to a primary washing liquid reservoir, including the steps of introducing primary washing liquid from said reservoir, peripherally into said chamber transverse to the direction of gas flow to cause atomization of said liquid in said gas and agglomeration of said dust particles with said atomized liquid, causing the gas to flow downwardly toward the reservoir and then substantially horizontally so as to separate heavier particles from the gas flow, separating the remaining agglomerated dust particles and a major part of the atomized liquid from the gas during said horizontal flow by passing said gas through a filter-mat while causing the agglomerated dust particles to accumulate on one side of said filter-mat, collecting a major portion of the atomized primary washing liquid and the agglomerated dust particles in said reservoir, and utilizing the collected liquid as the source of primary washing liquid; the improvement comprising the steps of intermittently introducing a quantity of separate washing liquid obliquely to said one side of the filter-mat in order to clean said filter-mat and collecting said separate liquid in said reservoir, and controlling said quantity in response to changes in the level of said liquid in the reservoir to make-up the portion of said atomized primary washing liquid not separated from the gas flow to thereby maintain constant the quantity of liquid in the reservoir.

3,142,549
RESPIRATOR AND A DISPOSABLE PRE-FILTER
Paul A. Klusewitz, Reading, and Vernon F. Gongoll, Shillington, Pa., assignors to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Oct. 31, 1961, Ser. No. 149,034
5 Claims. (Cl. 55—316)



1. In combination with a respirator having an inhalation valve, a screw threaded cup attached to said respirator and having a hole in communication with said valve, a main filter cartridge contained within said cup, a cap screw threaded to said cup so as to form an air-tight seal between said cup and cartridge, said cap being opened at the top and having an outer end portion of reduced diameter, a second cap being opened at the top and having a mouth portion detachably fitted to said portion of reduced diameter, a sealing ring between said portions, a filter pad extending across an inner, intermediate portion of said second cap, and a body of loose, fibrous filtering material supported by said filter pad to form a pre-filter and extending to the outer end portion of said second cap, whereby said second cap and the enclosed pre-filter are readily disposable after absorbing vapor mist without affecting said air-tight seal.

3,142,550
PLASTIC FILTER FRAME
Alfred E. Koehne, Garden City, Mich., assignor to Fibercraft Products, Inc., Detroit, Mich.
Filed June 1, 1962, Ser. No. 199,511
1 Claim. (Cl. 55—495)



A filter frame for a soft foam filter pad;
said frame being a one piece unitary frame of flexible molded plastic material comprising a base and a clamping strip;
the base comprising a horizontal base part, an outer vertical base part at the outer edge of the horizontal base part, and an inner vertical base part at the inner edge of the horizontal base part;
the clamping strip being integral with the base and comprising a horizontal strip part whose outer edge is integrally and hingedly connected to an upper portion of the outer vertical base part;

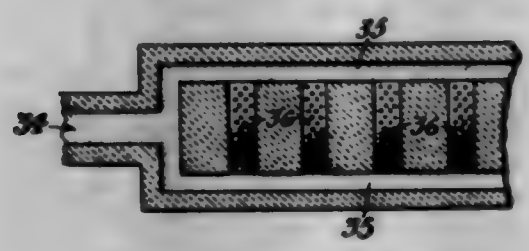
and having a vertical strip part whose upper edge is integrally connected to the inner edge of the horizontal strip part;

with the vertical strip part being between the two vertical base parts and closely adjacent to the inner vertical base part for frictionally gripping to the inner vertical base part if and when the edge of a foam filter pad is inside the frame and rests on the upper edge of the inner vertical base part with the pad edge disposed in the space between the vertical parts of the base;

the inner vertical base part projecting upwardly from the horizontal base part a considerable distance to overlie the vertical strip part a substantial enough distance to insure gripping between the inner vertical base part and the vertical strip part when a soft filter has its edge disposed between the inner vertical base part and the vertical strip part whereby to insure proper clamping action;

there being a score line inside of and at the hinge connection between the horizontal strip part and the outer vertical base part which permits repeated flexing of the strip relative to the base.

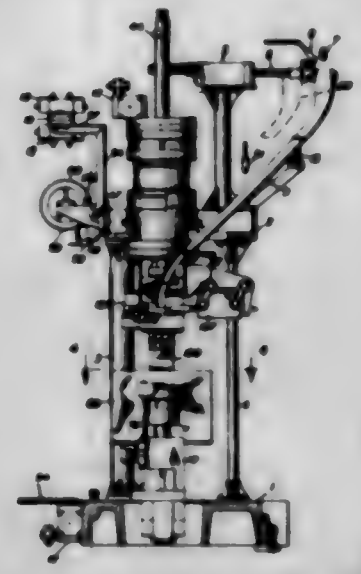
3,142,551
FURNACE FOR MANUFACTURE OF GLASS FIBERS
Guido von Wranau, 247 E. 9th St., Plainfield, N.J.
Filed July 6, 1959, Ser. No. 824,977
3 Claims. (Cl. 65—1)



1. Furnace for the manufacture of glass fibers, comprising a tank for melting raw material for glass and for refining and conveying molten glass, at least a single spinneret chamber, and at least a single spinneret, said tank including a first and second section, said first and second sections communicating with each other, said first section serving primarily said melting purpose, said second section being constituted by at least two forehearths and serving primarily said refining and conveying purposes, said forehearths extending in a spaced relationship away from said first section, said spinneret chamber being disposed between said forehearths, said spinneret being disposed in said chamber for flowing streams of molten glass, said furnace further comprising passageways connecting said spinneret chamber and each of said forehearths.

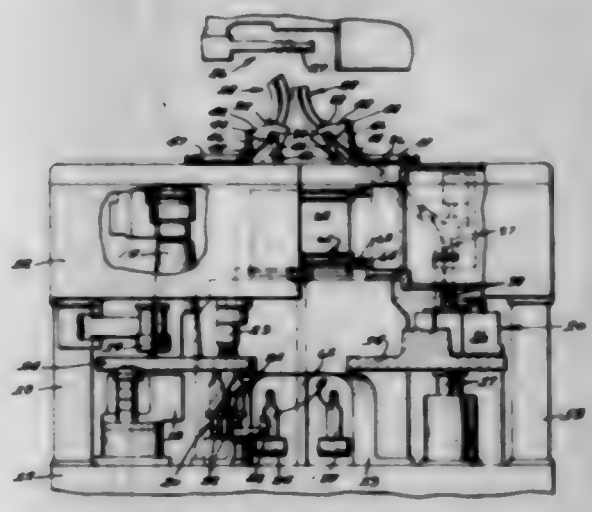
3,142,552
MACHINE FOR FABRICATING SEAMLESS HIGH OPTICAL QUALITY GLASS ARTICLES
John Martin, S. Chocano 301, Col. Anahuac, Monterrey, Nuevo Leon, Mexico
Filed Oct. 30, 1959, Ser. No. 849,928
8 Claims. (Cl. 65—229)

1. A sectional and stationary machine for making seamless glass articles of high optical quality comprising a blank mold, a neck ring mounted rotatably above said blank mold at a fixed position, means for raising said blank mold against the bottom of said neck ring, means for preforming a glass gob in said blank mold, said means raising said blank mold also withdrawing said blank mold leaving said preformed gob suspended from said neck ring, means for rotating said neck ring, a blow mold mounted at a stationary location adjacent said neck ring having sections movable to closed and open position about said preformed gob on said neck ring and means for supplying pressure air to said blow mold to form the



finished article from said gob so that said rotation of said preformed gob and formation to finished article take place at the location where sadi glass gob is preformed.

3,142,553
GOB CHUTE ACTUATING MECHANISM
John E. Cook, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Sept. 6, 1960, Ser. No. 54,841
2 Claims. (Cl. 65—304)



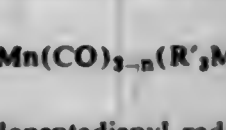
1. Apparatus for feeding mold charges or gobs of molten glass to a pair of forming machines from a single orifice feeder comprising, an upper machine support structure on each machine in abutting relationship, a bracket fixed to and extending above the upper support structure of each machine, a horizontal pivot pin extending through each bracket in parallel opposed relationship with respect to a vertical plane passing through the orifice of the feeder, a rocking head mounted on each pin for pivotal movement about the axis of said pin, a curved gob chute attached to each head with the point of attachment being adjacent the lower end of the chute and the continuous curvature of said chutes being downwardly and outwardly with respect to said plane in all positions of movement, a pair of radially extending arms formed integral with said head and extending at right angles to each other, a roller connected to the extending end of each said arms, motor means connected to each said bracket for contacting the rollers on said arms to alternately position said gob chutes into gob receiving position in relation to said feeder orifice, a timing drum common to both forming machines, a cam carried by said drum, and means responsive to the movement of said cam for actuating said motor means in predetermined sequence.

3,142,554
CONTROLLING VEGETATION WITH ARYL THIOALKYLAMINES

Kenneth L. Godfrey, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 10, 1961, Ser. No. 144,030
20 Claims. (Cl. 71—2.3)

1. The method of controlling vegetation which comprises applying thereto a phytotoxic amount of a composition containing as the essential active ingredient a compound of the structure



where Ar is a member of the group consisting of phenyl, p-alkylphenyl, xylyl, p-nitrophenyl, p-halophenyl, 3,4-dichlorophenyl, o-benzyl p-chlorophenyl, pentachlorophenyl, and p-lower alkoxyphenyl, A is an alkylene group containing less than five carbon atoms but not more than two when Ar is 3,4-dichlorophenyl, R is selected from the group consisting of lower alkyl, lower alkoxy substituted lower alkyl and lower alkenyl and radicals which with R′ and N constitute a heterocyclic radical selected from the group consisting of morpholinyl, piperidinyl and pyrrolidinyl and R′ is selected from the group consisting of lower alkyl, lower alkoxy substituted lower alkyl, allyl, methallyl, hydrogen, phenyl, benzyl, propynyl, 2-chloroallyl, 2-bromoallyl, cyclohexyl and radicals which with R and N constitute a heterocyclic radical as defined.

3,142,555
METHOD FOR COMBATING WEEDS

Gene E. Schroll, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application May 13, 1960, Ser. No. 28,847, now Patent No. 3,054,740, dated Sept. 18, 1962. Divided and this application Nov. 16, 1961, Ser. No. 157,867
7 Claims. (Cl. 71—2.3)

1. The method for combating weeds which comprises treating the locus of the weeds with a herbicidal quantity of a compound represented by the general formula

$$RMn(CO)_{5-n}(R'_3M)_n$$

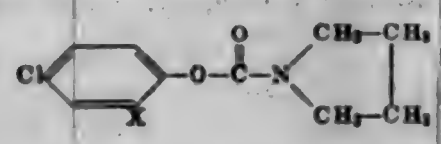
wherein R is a cyclopentadienyl radical containing from about 5 to about 24 carbon atoms, M is an element of Group V–A of the Periodic System having an atomic number from 15 to 51, inclusive, R′ is a radical selected from the group consisting of alkyl, alkoxy, cycloalkyl, cycloalkoxy, aryl, aryloxy, aralkyl, aralkoxy, alkaryl and alkaryloxy radicals, and *n* is an integer from 1 to 2, inclusive.

3,142,556
CONTROLLING VEGETATION WITH PYRROLIDINYLCARBOXYLATES

Anton G. Weiss, Basel, Switzerland, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 18, 1961, Ser. No. 138,569
5 Claims. (Cl. 71—2.5)

1. The method of controlling undesired broadleaf plants and grasses which comprises applying thereto a phytotoxic amount of a compound having the structure

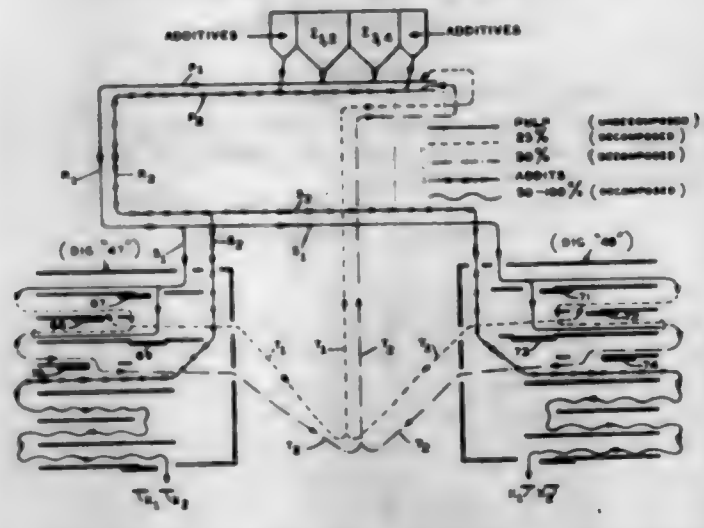


where X is selected from a group consisting of hydrogen and chlorine.

3,142,557
METHOD OF CONVERTING WASTE MATERIAL INTO FERTILIZER

Marshall MacDuffie, New York, and Stephen Varro, Jr., Rego Park, N.Y., assignors to Waste Processes, Inc., New Haven, Conn., a corporation of Delaware

Filed Nov. 24, 1959, Ser. No. 855,223
8 Claims. (Cl. 71—9)



1. The method of converting organic waste material into an organic fertilizer, comprising the steps of receiving said waste material in a receiving area, advancing said waste material from said receiving area to a grinding area at a rate not less than about the rate of receipt of said waste material in said receiving area thereby avoiding substantial agglomeration of said waste material in said receiving area, grinding said waste material delivered to said grinding area to produce a ground pulp, accumulating said ground pulp in a storage zone, withdrawing ground pulp from said storage zone at a rate dependent on the feed requirements of a subsequent decomposition step and independent of said rate of advance of said waste material, delivering said withdrawn ground pulp to a digestion zone formed by a plurality of elongated superposed stationary supporting surfaces, advancing said delivered ground pulp successively along said surfaces in a direction parallel to the length thereof, maintaining air spaces above said ground pulp on each of said surfaces, continually agitating said ground pulp while advancing the same over said surfaces to present all portions of said ground pulp repeatedly to the air above said ground pulp whereby substantially complete decomposition of said ground pulp occurs under the action of aerobic bacteria in said ground pulp, passing air through the spaces above said ground pulp, the volume, temperature and rate of flow of said air being selected to remove substantially all vapor and gaseous matter evolved from said ground pulp and to assure proper decomposition of said ground pulp, adding nitrogenous material to the ground pulp in said digestion zone at a point in the advance thereof over said surfaces at which appreciable but not complete decomposition of said ground pulp has occurred, said point being selected to avoid chemical reaction between said nitrogenous material and substantially undecomposed ground pulp, and withdrawing said ground pulp from said digestion zone when said ground pulp is substantially completely decomposed.

3,142,558
FERTILIZER CONTAINING AMMELIDE-UREA MIXTURE

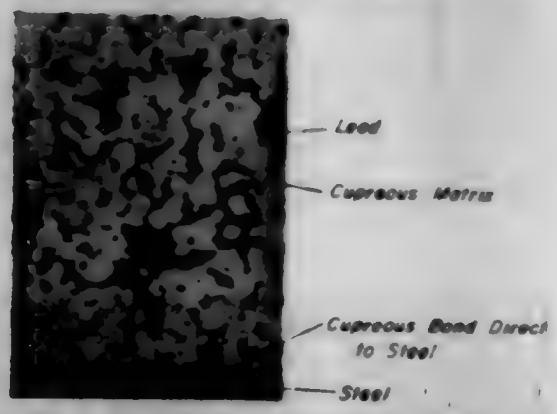
Leland J. Beckham and Fred L. Kelly, Chesterfield County, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 19, 1962, Ser. No. 174,283
2 Claims. (Cl. 71—30)

1. The method of preparing acidic mixed fertilizer comprising mixing potash and superphosphates, ammoniating

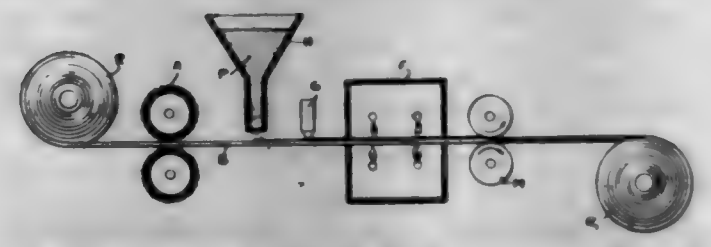
the mixture, and adding a mixture of urea and ammelide product obtained by the pyrolysis of urea at temperatures of 180°–250° C. under pressure of 1 to 10 atmospheres said ammelide product consisting essentially of ammelide and less than 1% cyanuric acid based on the ammelide therein, the urea:ammelide proportions being confined to 20–30 percent urea and 80–70 percent ammelide.

3,142,559
METHOD OF MAKING A BEARING
Ernst H. Ruf and Edward N. Smith, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 8, 1960, Ser. No. 68,045
6 Claims. (Cl. 75—208)



1. A method for forming a bearing having a porous cupreous framework bonded to a strong metal supporting back by means of a cupreous bond and wherein the pores of said matrix are filled with a lead containing material, the steps comprising; distributing upon the surface of a strong metal backing member a cupreous metal-lead powder (wherein the cupreous metal forms at least 57% by weight of each powder particle) in a thin level layer, sintering assembly at a temperature above the melting point of lead and below the melting point of the cupreous metal for a period sufficient to melt the lead containing material and under non-oxidizing conditions wherein carbon dioxide does not exceed .1% and wherein the atmosphere has a dew point of less than +10° F. for causing the cupreous metal-lead powder to sinter together and form cupreous bonds between adjacent particles and to the strong metal supporting back and to cause the lead containing material to exude from the cupreous metal-lead particles and substantially fill the interstices of said matrix.

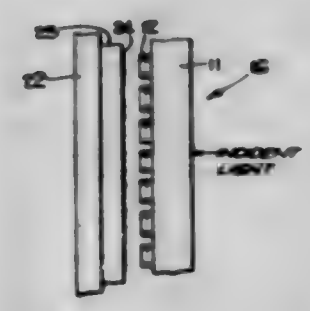
3,142,560
PROCESS FOR STRIP CLADDING BY HOT ROLLING OF PARTICULATE MATERIAL
Samuel Storchheim, New York, N.Y., assignor to De Vitre-Teja Industries Co., Geneva, Switzerland, a partnership
Filed Nov. 17, 1960, Ser. No. 69,922
16 Claims. (Cl. 75—208)



1. The process of cladding at least one surface of a metal base with a cladding metal comprising heating a mass of cladding metal in particulate form to raise the temperature of the particles to a point above the recrystallization temperature thereof but below a temperature at which melting of the outer surfaces of said particles occurs, passing a metal base to and through said mass while confining a layer of heated particles against said surface to cover the same, while maintaining said particles in discrete form, and hot-rolling said covered base while said particles are heated above their recrystallization temperature at a speed sufficient to bond the particles of the layer to one another for the first time and to clad said base.

12. Apparatus for cladding a metal base with metal cladding material comprising receiving means for a supply of particulate metal cladding material, a hopper, means for heating said particulate material above its recrystallization temperature and for transferring such particulate material between said receiving means and said hopper, means for vibrating said hopper to prevent agglomeration of heated particles therewithin, a shaping duct beneath and in free communication with said hopper, a rolling mill immediately subjacent said shaping duct, and means for feeding a strip of metal base material serially through said hopper, shaping duct and roll whereby in such passage a layer of particulate cladding material covers at least one surface of said strip within said feeding duct, and the strip and layer are bonded in said rolling mill to produce a cladded metal base.

3,142,561
PHOTOELECTROMAGNETIC MOSAIC AND METHOD OF USING SAME
Agathe C. Magnus, Pasadena, Calif., assignor to Michael G. Reavlidis
Filed May 12, 1958, Ser. No. 734,652
12 Claims. (Cl. 96—1)



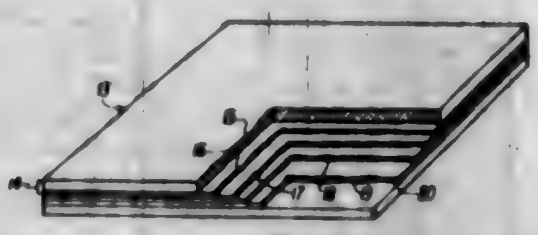
1. A process for reproducing graphic images which comprises exposing to a pattern of electromagnetic radiation a mosaic member comprising a photoelectromagnetic configuration of individual semiconductive crystals and magnetized particles in a mosaic pattern on a transparent backing member in parallel relationship to the printing surface of a member having dispersed thereon particles whereby said particles are caused to be attracted toward said member in accordance with said pattern of electromagnetic radiation so that such particles by moving away from said printing surface leave a corresponding pattern on said printing surface denuded of said particles.

7. A member for the photoelectromagnetic reproduction comprising a transparent member having attached thereon a configuration of individual semiconductive crystals and magnetized particles in a mosaic pattern.

3,142,563
SYSTEM AND METHOD FOR MAKING RECORDS
Frederick L. Blake, Scottsdale, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 3, 1959, Ser. No. 857,159
8 Claims. (Cl. 96—1)

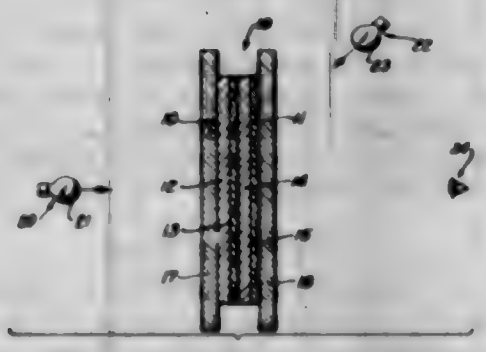
1. A method of making visible records, including the steps of electrolytically applying ions of a metal selected from the group consisting of silver, gold and lead to portions of a recording sheet comprising a compound selected from the group consisting of cuprous thiocyanate, and oxides of titanium, zinc, aluminum, lead, tin, vanadium

and molybdenum dispersed in an organic binder containing a polyhydroxy alcohol and a non-photosensitive nitrate salt which renders said recording sheet electrically conductive, said ions being applied to said sheet by applying direct current electric potential from an external potential source to produce a potential difference between



a conductive electrode which is in contact with said sheet and a solid element containing the selected metal which is distinct from but in contact with said sheet to produce current through said sheet which transfers ions of the metal from said solid element to said sheet by electrolysis, and exposing said sheet and the metal ions thereon to light rich in ultraviolet.

3,142,563
METHOD AND APPARATUS FOR FORMING FULL COLOR VIEWING PHOTOGRAPHIC IMAGE
Harold N. Alexander, 856 Sanborn Ave., Los Angeles 29, Calif.
Filed Dec. 14, 1959, Ser. No. 859,291
4 Claims. (Cl. 96—2)



1. A method of forming a viewable image in color, including the steps of:

(*a*) making a first photographic print in black and white on the emulsion face of a photographic printing paper, said first print corresponding substantially to one made from a black and white color separation negative made of a colored scene through a filter transparent to light of a first wavelength;

(*b*) making a second photographic print in black and white on the emulsion face of a photographic printing paper, said second print corresponding substantially to one made from a black and white color separation negative made of the same scene through a filter transparent to light of a second wavelength, said first and second wavelengths being substantially separated in the visible light spectrum;

(*c*) superimposing said prints in registry and in contact, the faces of said prints facing in the same direction, said first print being behind said second print;

(*d*) transmitting light of one wavelength through said first print and then through said second print, said one wavelength being closer to said first wavelength than to said second wavelength; and

(*e*) simultaneously flooding the face of said second print with light of another wavelength, said other wavelength being closer to said second wavelength than to said first wavelength, to produce a viewable image in color.

3,142,564
PHOTOGRAPHIC PRODUCTS, PROCESSES AND COMPOSITIONS UTILIZING ACYL HYDROQUINONES
Elkan R. Blout, Belmont, and Myron S. Simon, Newton Center, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Jan. 8, 1962, Ser. No. 165,906
13 Claims. (Cl. 96—29)

5. In a photographic process, the steps which comprise developing an exposed silver halide emulsion with an aqueous solution comprising an alkaline material soluble therein, an accelerating silver halide developing agent, a silver halide solvent and a silver halide developing agent of the formula:

$$Y-\overset{\overset{O}{\|}}{C}-R-Ar-X$$

wherein Y is a dihydroxyphenyl silver halide developing group; R is a lower alkylene radical having at least two carbon atoms; Ar is a phenylene radical; and X is an amino group; substantially contemporaneous with said developing, contacting unreduced and undeveloped silver halide therein with said silver halide solvent to form an imagewise distribution of a soluble silver complex; and transferring at least part of said imagewise distribution of soluble silver complex, by imbibition, to a contiguous image-receiving material to form a positive image on said image-receiving material.

3,142,565
PHOTOGRAPHIC PRODUCTS, PROCESSES AND COMPOSITIONS EMPLOYING AZO DYE DEVELOPERS
Elkan R. Blout, Belmont, Milton Green, Newton Center, Howard G. Rogers, Weston, and Myron S. Simon, Newton Center, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Sept. 10, 1962, Ser. No. 222,656
29 Claims. (Cl. 96—29)

14. In a process of forming a photographic image in color, the steps which comprise developing a latent image contained in an exposed silver halide emulsion by contacting said emulsion with an aqueous alkaline solution containing a colorless silver halide auxiliary developing agent and an azo dye developer of the formula:

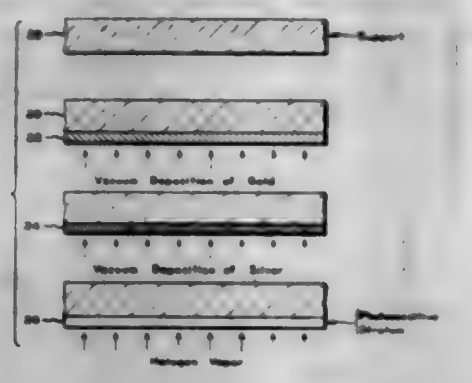
$$\left[Y-\overset{\overset{O}{\|}}{C}-R-Ar-N=N-(X_a-N=N-)_m\right]X_b$$

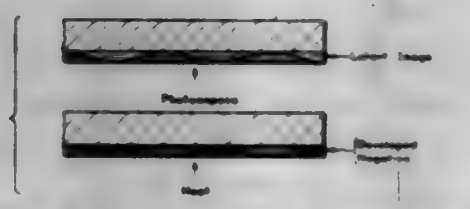
wherein Ar is an aryl nucleus; R is an alkylene group; Y is a dihydroxyphenyl silver halide developing radical; X_a and X_b each represents the radical of an azo dye coupler linked to said —N=N— group and completing said azo dye developer; and *m* is an integer from 0 to 1, inclusive; oxidizing said dye developer in exposed areas to provide in said emulsion a predetermined distribution of unoxidized dye developer and transferring at least part of said distribution of said unoxidized dye developer by imbibition from said emulsion to an image-receiving element in superposed relationship with said emulsion to impart to said image-receiving element a reversed, positive dye image of the developed image.

3,142,566
PHOTOGRAPHIC PROCESS
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Continuation of application Ser. No. 733,754, May 7, 1958. This application Feb. 14, 1962, Ser. No. 176,844
7 Claims. (Cl. 96—61)

1. A process of forming photographic negative images comprising the steps of (*a*) forming a photosensitive, vacuum deposited metallic halide stratum including at least silver halide, by vacuum depositing said metals, in-

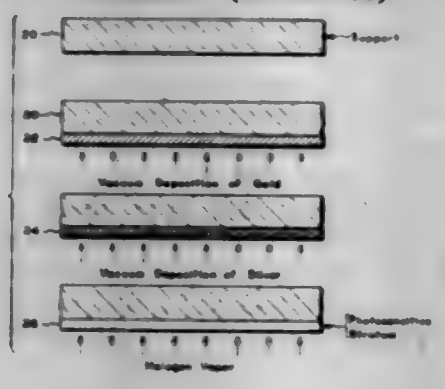
cluding silver, upon a support in a concentration providing a metallic stratum having an optical transmission of from about 0.01% to about 1.0%, halogenating said vacuum deposited metallic stratum by contacting said metallic stratum with halogen vapors provided with a member of the group consisting of elemental chlorine, elemental bromine, elemental iodine, and volatile salts of said elemental halogens for a time sufficient to provide a halogenated

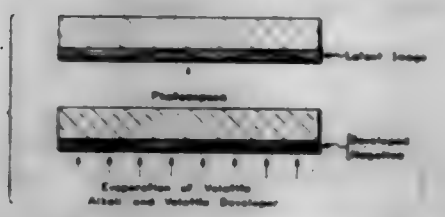




metallic coating having an optical transmission of from about 85% to about 100%, (*b*) photoexposing the thus-prepared photosensitive vacuum deposited metallic halide stratum, and (*c*) developing said exposed photosensitive vacuum deposited metalic halide stratum to a visible negative image by subjecting said stratum to heat above room temperature, said application of heat being the sole means of effecting said development.

3,142,567
PHOTOGRAPHIC PRODUCT AND PROCESS
Meroe M. Morse, Boston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 9, 1962, Ser. No. 182,991
8 Claims. (Cl. 96—66)





1. A process of forming a photosensitive element, said process comprising the steps of vacuum depositing gold and silver on a support to form a metallic coating, said silver being deposited in a concentration which, by itself, would provide an optical transmission of from about 10% to about 30%, said gold being deposited in a concentration which, by itself, would be a metallic coating having an optical transmission of from about 10% to at most 40%, said coating of gold and silver together having a total optical transmission of from about 0.01% to about 1.0%, and halogenating said metallic coating by contacting said metallic coating with halogen vapors provided by a member of the group consisting of elemental chlorine, elemental bromine, elemental iodine, and volatile salts of said elemental halogens for a time sufficient to provide a halogenated metallic coating having an optical transmission of from about 85% to about 100%.

3. The process of developing a photoexposed photosensitive stratum formed by the process of claim 1, said development being effected by contacting said exposed photosensitive stratum with the vapor of a volatile organic silver halide developing agent.

3,142,568
PHOTOGRAPHIC EMULSIONS, ELEMENTS, AND PROCESSES
Robert William Notterf, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 13, 1961, Ser. No. 94,989
20 Claims. (Cl. 96—87)

1. A light-sensitive lithographic silver halide emulsion exhibiting improved halftone dot quality having a binding material which comprises a mixture of gelatin and a polymeric aqueous dispersion of a polymerized vinyl compound and at least one amphoteric dispersing agent of the formula:

$$RNH_p[(CH_2)_nCOOM]_m$$

wherein R is an unsubstituted alkyl group of 12 to 18 carbon atoms, *m* and *n* are numbers of 1 and 2, *p* is a number of 2 minus *m*, and M is a cation selected from the group consisting of sodium, potassium, ammonium and hydrogen, said emulsion containing a polyoxyethylene compound of the formula:

$$RO(CH_2CH_2O)_nR_1$$

wherein R is hydrogen, alkyl of 1 to 18 carbon atoms, aryl of 6 to 12 carbon atoms, alkylaryl of 7 to 18 carbon atoms and arylalkyl of 7 to 18 carbon atoms, R_1 is hydrogen and alkyl of 1 to 3 carbon atoms, and *n* is a number of 6 to 2500.

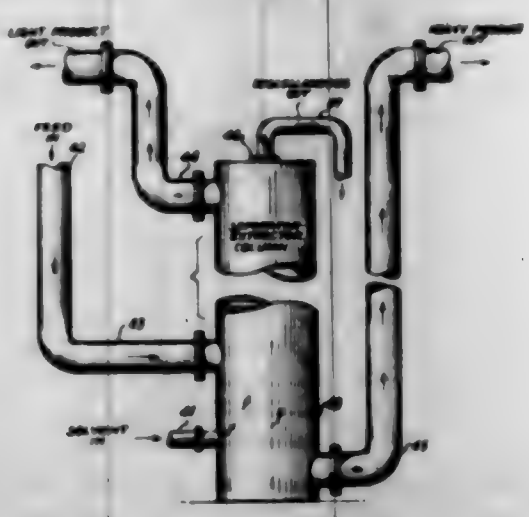
3,142,569
PROCESS FOR PREPARING POWDERED FOODSTUFF CONTAINING FINELY DISPERSED FAT
Jean-Jacques Scheidegger, Geneva, Switzerland, assignor to Koopmans Meelfabrieken N.V., Leeuwarden, Netherlands, a corporation of Dutch law
No Drawing. Filed Oct. 17, 1961, Ser. No. 145,752
Claims priority, application Switzerland Nov. 23, 1960
8 Claims. (Cl. 99—1)

1. A process for the preparation of a powdered foodstuff in which fat is dispersed, characterized in that a mixture of the fat and a powdered foodstuff, said mixture containing from 5 to 25 percent fat, to which 2 to 15% of water is added, is subjected to a grinding action so that the fat is dispersed in the form of fine droplets, after which the mixture is dried in such a way that the moisture content is reduced to less than 5%.

3,142,570
SEPARATION PROCESS
John E. Thompson, P.O. Box 2023, Chicago 9, Ill.
Filed Dec. 31, 1962, Ser. No. 248,810
3 Claims. (Cl. 99—7)

1. A process for the separation of the constituents of dry rendered tankage, which comprises; finely dividing said material, mixing it with an organic fat solvent which

has a density less than that of any constituents of said dry rendered tankage, passing the mixed solvent and solids into a tower near the bottom thereof at such a rate of flow that the rate of settling of the lighter constituent is less than the rate of flow of the solvent through the tower and the rate of settling of the heavy constituent is greater



than the said rate of flow, thereby separating the heavy constituent at the bottom of the tower, and the lighter constituent at the top of the tower, constantly removing the solvent from each of these constituents, separating the fat from the solvent and recirculating the solvent portion.

3,142,571

METHOD FOR PRODUCING A SOYBEAN PROTEIN PRODUCT AND THE RESULTING PRODUCT

John Kitchel McAnelly, Park Forest, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Mar. 7, 1962, Ser. No. 177,966
8 Claims. (Cl. 99—14)

1. A method for producing a bland protein product comprising: forming a dough of defatted soybean flour and water, subjecting said dough to conditions of heat and pressure whereby to cause volatilization of objectionable flavor components of said dough and convert the protein of said product to the denatured form, adding water to said dough during said heat and pressure treatment, releasing said pressure to impart an expanded porous structure to said denatured dough, and leaching said denatured protein product to remove water-soluble flavor materials from the interstices of said product.

7. An elastic resilient vegetable protein product having an expanded cellular structure prepared in accordance with the method of claim 1.

3,142,572

COFFEE PRODUCT

John M. Miller, Mountainside, and Edward J. O'Connell, Elizabeth, N.J., assignors to Tenco, a Division of The Coca-Cola Company, Linden, N.J., a corporation of Delaware

No Drawing. Filed Nov. 9, 1961, Ser. No. 151,203
5 Claims. (Cl. 99—71)

1. An extract of roasted coffee grinder chaff prepared by winnowing chaff from roasted, ground coffee, forming a slurry of said chaff with water at a temperature below boiling and around 200° F., agitating said slurry, separating the chaff extract from the chaff residue, concentrating the chaff extract by evaporation, and drying said concentrated chaff extract.

3,142,573

LAMINATED DOUGH

Arthur B. Erekson, Scarsdale, and Samuel A. Matz, Liverpool, N.Y., assignors to The Borden Company, a corporation of New Jersey

No Drawing. Filed July 20, 1961, Ser. No. 125,389
6 Claims. (Cl. 99—90)

1. A laminated dough for refrigerated storage and subsequent baking, comprising layers of moistened cereal flour dough containing an active alkaline bicarbonate of baking grade and a slowly acting alkali metal phosphate of baking grade, and layers of a solid shortening interleaved between said layers of dough, said shortening containing an edible solid organic acid selected from the group consisting of fumaric acid, adipic acid, citric acid, tartaric acid and glucono-delta-lactone, said acid being substantially insoluble in said shortening and dispersed therein so as to be substantially completely isolated from the moistened dough and said bicarbonate, phosphate and acid being used in amounts sufficient to properly leaven the dough.

3,142,574

METHOD OF MAKING A CRANBERRY RELISH

Edward E. Anderson, Lexington, Mary P. Giggey, Woburn, William F. Hampton, South Duxbury, and Carol P. Shaw, Waltham, Mass., assignors, by direct and mesne assignments, to Ocean Spray Cranberries, Inc., Hanson, Mass., a corporation of Delaware

No Drawing. Filed Sept. 24, 1962, Ser. No. 225,840
4 Claims. (Cl. 99—102)

1. Method for forming a cranberry relish comprising the steps of

(*a*) comminuting whole cranberries to form particles substantially all of which are less than one-half inch in maximum dimension but greater than 0.001 inch whereby there are present in said relish discrete identifiable cranberry particles;

(*b*) cutting orange peel to form cube-like particles ranging in size from about one-eighth to one-half inch;

(*c*) adding the comminuted cranberries to a water solution of sugar and rapidly heating the resulting mixture to a temperature between about 180 and 200° F.;

(*d*) adding the orange peel particles to the heated mixture and rapidly further heating to a temperature between about 200 and 215° F. thereby to form a relish product; and

(*e*) cooling the relish product as rapidly as possible to at least 120° F. to protect color and flavor.

3,142,575

PREPARATION OF MICROBIAL MILK-ACIDULATING CULTURES FOR CHEESE-MAKING

Edward J. Tynan, Gales Ferry, Conn., and Myron W. Hales, Glendale, Wis., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1962, Ser. No. 242,065
4 Claims. (Cl. 99—116)

1. A process for the preparation of an improved cheese starter culture which comprises plating out multi-strain cheese-starter cultures, selecting from the strains separated thereby at least one rapid rate acid-former, at least one moderate rate acid-former, at least one slow rate acid-former and at least one non acid-former, inoculating a nutrient medium with said selected strains, incubating said inoculated medium until a peak state of viability is reached, and drying the medium to isolate said improved culture.

3,142,576
PROCESS FOR PRODUCING PRIME STEAM LARD
John E. Thompson, P.O. Box 2023, Chicago, Ill.
No Drawing. Filed Nov. 27, 1961, Ser. No. 155,193
3 Claims. (Cl. 99—118)

1. A process for recovering fats from fatty tissue of animals, comprising:

(*a*) introducing said fats into a jacketed kettle, to fill said kettle up to approximately half full,

(*b*) applying heat to the walls of said kettle to maintain at least 40° F. temperature differential between the load in said kettle and the saturated water vapor surrounding said kettle, and simultaneously therewith

(*c*) applying a vacuum of about fifteen inches of mercury to said kettle during rendering,

(*d*) introducing live steam into said kettle during the entire cooking cycle,

(*e*) heating until equilibrium between condensation and evaporation is reached at approximately 250° F., and

(*f*) removing the separated fats from the protein tissue.

3,142,577
PROCESS FOR FORMING A JELLIED CRANBERRY SAUCE
Edward E. Anderson, Lexington, William F. Hampton, South Duxbury, and Arthur W. Anti, Kingston, Mass., assignors, by direct and mesne assignments, to Ocean Spray Cranberries, Inc., Hanson, Mass., a corporation of Delaware
No Drawing. Filed Dec. 27, 1960, Ser. No. 78,238
2 Claims. (Cl. 99—129)

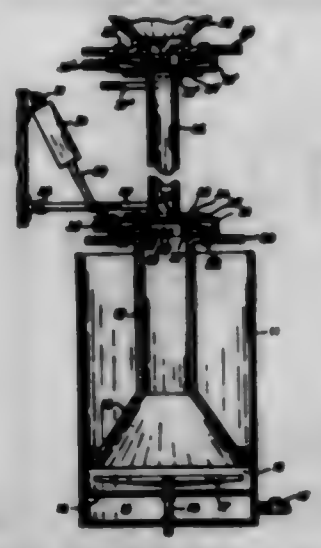
1. Process for forming a jellied cranberry sauce including the steps of reacting the pectin in cranberries with sugar at an elevated temperature and subsequently cooling to form a gel, characterized by the step of comminuting, prior to said reacting step, all of the cranberries to form a puree of finely divided particles substantially all of which have maximum dimensions between 0.006 and 0.027 inch.

3,142,578
ASPHALTIC EMULSION COMPOSITIONS
Gordon E. Hann, Novelty, and Albert Boehler, Cleveland, Ohio, assignors to The Tremco Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 25, 1961, Ser. No. 105,274
10 Claims. (Cl. 106—277)

1. A composition consisting essentially of about 92 to 99½ parts by weight of an asphaltic emulsion, about ¼ to 4 parts by weight of glass fibers in which each fiber has a length of about ⅛ to ¾ of an inch, and about ¼ to 4 parts by weight of organic fibers, each organic fiber having a length of about ⅛ to 1½ inches and having the toughness, flexibility and resiliency of hogs' hairs, each organic fiber selected from a member of the group consisting of hogs' hairs, a mixture of hogs' hairs and 0 to 50% by weight of the mixture of crimped nylon and a mixture of hogs's hairs and 0 to 50% by weight of the mixture of crimped rayon.

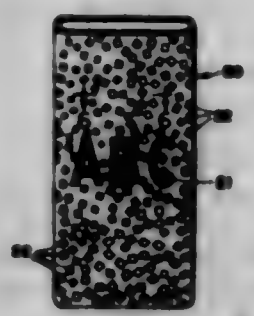
3,142,579
INTERNAL COATING OF FLANGED HOLLOW BODIES
Donald Herbert Brooks, District Vanderbijl Park, Transvaal, Republic of South Africa, assignor, by mesne assignments, to Engelhard-Hanovia, Inc., a corporation of New Jersey
Filed Jan. 24, 1961, Ser. No. 84,627
Claims priority, application Republic of South Africa Feb. 5, 1960
8 Claims. (Cl. 117—18)

1. In a process for internally coating terminally flanged hollow bodies of the type in which the heated hollow body is secured to an aerating vessel from which an aerated thermoplastic powder is transported into the heated body and kept in contact therewith until an adequate thickness of powder has adhered to the hollow body, the improvement which comprises inserting coaxially a ring as a spacer and stencil between the flange to be coated and the coating apparatus, said spacer ring having



an internal diameter corresponding to the internal diameter of the body plus the portion of the flange to be coated, and which improvement further comprises blowing excess powder off the flange of the hollow body being coated by blowing air through at least one aperture provided in the said spacing ring.

3,142,580
PROCESS FOR PRODUCING REGENERATED CELLULOSE PARTICLES WITH ENCAPSULATED OPACIFYING OR COLORED BODIES
George H. Holoubek, Harland Harms, Kenneth E. Glidden, and Theodore Smith, all of Muscatine, Iowa, assignors to Thatcher Glass Manufacturing Company, Inc., New York, N.Y., a corporation of New York
Original application Apr. 4, 1960, Ser. No. 19,923. Divided and this application July 19, 1960, Ser. No. 43,984
10 Claims. (Cl. 117—26)



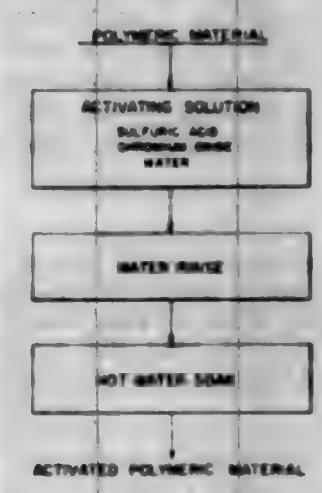
1. A process for producing an attractive gel regenerated cellulose article which comprises applying on a side of a gel regenerated cellulose pellicle finely-divided, opaque particles, covering the area of said pellicle on which said particles are applied with a viscose film and covering said particle with said viscose film, and then regenerating said viscose film covering said particles in an acid bath to thereby encapsulate said particles on said pellicle under the regenerated viscose film.

3,142,581
METHOD OF TREATING POLYESTER POLYMER MATERIALS TO IMPROVE THEIR ADHESION CHARACTERISTICS
Bernard Leland, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 18, 1961, Ser. No. 138,609
3 Claims. (Cl. 117—47)

1. A process for imparting receptivity for metal and

metal ions to at least one surface of a poly (ethylene terephthalate) polymer product by the steps of:

contacting said product with an activating solution maintained at a temperature in the range from 40° C. to 80° C. for a period of at least 5 seconds where said activating solution is formed by reacting from



about 0.32 to 0.57 mol percent sodium dichromate, from about 33.4 to 53.8 mol percent sulfuric acid and the balance water;

rinsing said surface with water; and,

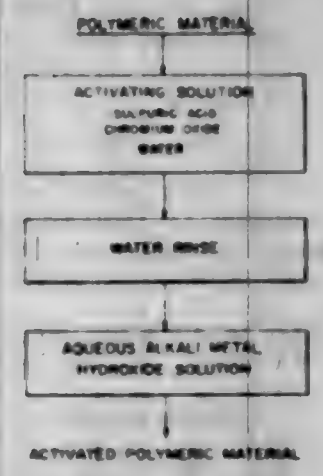
contacting said surface in water maintained at a temperature in the range between 48° C. to 100° C. for a period between 30 to 120 seconds.

3,142,582

METHOD OF TREATING POLYESTER POLYMER MATERIALS TO IMPROVE THEIR ADHESION CHARACTERISTICS

Herman Koretzky and Bernard Leland, both of Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 17, 1961, Ser. No. 153,187
4 Claims. (Cl. 117—47)



1. In a process for imparting receptivity for metal and metal ions to at least one surface of a poly (ethylene terephthalate) product by the steps of:

contacting said surface with an acid solution maintained at a temperature in the range between 70° C. to 95° C., said acid solution being formed by reacting from about 0.31 to 0.57 mol percent sodium dichromate, about 33.4 to 53.8 mol percent sulfuric acid and the balance water;

rinsing said treated surface in water; and,

contacting said rinsed surface with an aqueous metal hydroxide solution maintained at a temperature of at least 80° C. having a hydroxide concentration of at least 2.49 mols per liter.

3,142,583

INORGANIC COATING COMPOSITION

Walter M. McMahon, 796 Avocado Crest Road, La Habre Heights, Calif., and Charles G. Abba, 6914 Pine Ave., Apt. 3, Bell, Calif.

No Drawing. Filed Apr. 5, 1960, Ser. No. 20,027
21 Claims. (Cl. 117—62)

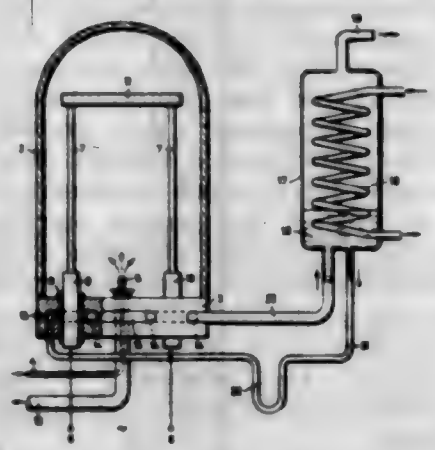
1. An inorganic protective coating composition comprising an aqueous dispersion of micronized mica having a particle size of about 3 to about 10 microns, a finely divided metal protecting pigment, and as a film former for said mica and metal pigment, an alkali-stabilized colloidal silica in the form of dispersed particles having a particle size of 1 to 100 millimicrons and having the alkali substantially all outside the silica particles, there being present about 40% to about 200% of said mica by weight of said silica and about 5 to about 10 parts of said metal protecting pigment for each part of said silica, said metal protecting pigment including finely divided powdered metals and finely divided metal oxides.

3,142,584

METHOD FOR PYROLYTIC PRODUCTION OF HYPERPURE SEMICONDUCTOR MATERIAL

Konrad Reuschel, Pretzfeld, and Norbert Schink, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany

Filed Feb. 17, 1961, Ser. No. 90,102
Claims priority, application Germany Feb. 23, 1960
3 Claims. (Cl. 117—106)



1. The method of producing hyperpure semiconductor material for electronic purposes by pyrolytically precipitating said material, from a gaseous compound thereof mixed with a reducing gas, onto a carrier body of the same material within a closed reaction vessel having a metallic closure supporting said body, which comprises continuously passing electric current through the carrier body to maintain it at a pyrolytic temperature above 900° C., and simultaneously circulating from the outside a coolant with a boiling point of 100 to 750° C. through the interior of said closure at the circulating speed required to cause boiling of said coolant inside said closure to keep said closure substantially at said temperature, and condensing the circulating coolant outside said closure and vessel.

3,142,585

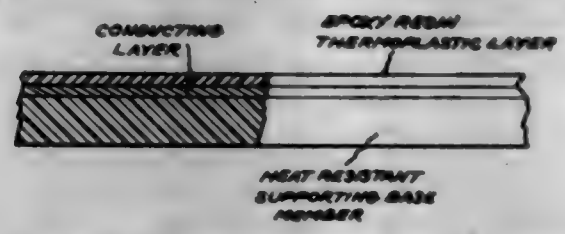
RECORDING MEDIUM HAVING AN IMAGE RECEIVING COATING OF A THERMOPLASTIC EPOXY RESIN

Arthur Katchman, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 30, 1961, Ser. No. 148,464
6 Claims. (Cl. 117—211)

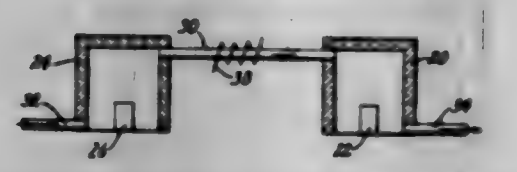
1. An optically clear recording film consisting essentially of (*a*) a flexible, transparent, heat resistant, polymeric base supporting member, (*b*) a thermoplastic layer consisting essentially of a solid complex epoxide resin of average molecular weight between 1500 to 4000 contain-

ing epoxy groups and comprising a polyether derivative of a polyhydric aromatic compound containing at least



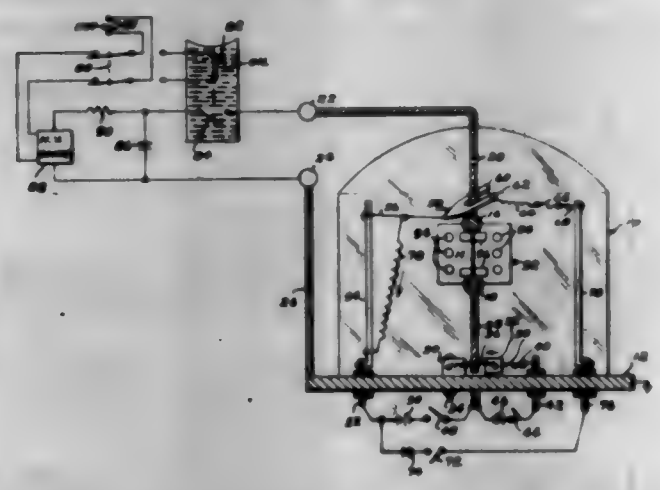
two phenolic hydroxy groups, and (c) an intermediate transparent conducting layer between the base member and the thermoplastic layer.

3,142,586
METHOD FOR THE MANUFACTURE OF PHOTOSENSITIVE ELEMENTS
Robert Colman, New York, N.Y., assignor, by mesne assignments, to Clairex Corporation, New York, N.Y., a corporation of New York
Filed Dec. 11, 1961, Ser. No. 158,334
16 Claims. (Cl. 117—215)



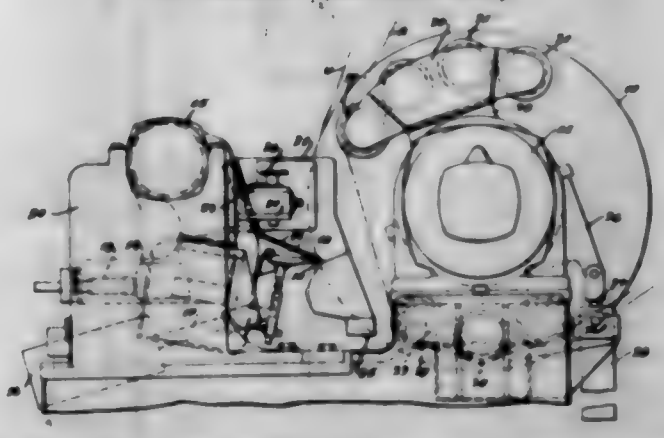
1. A method of forming photosensitive elements from host photoconductive materials, said elements having predetermined peak response wave length and bandwidth which are different from the peak response wave length and bandwidth of the host photoconductive materials, which comprises: depositing a first stratum of a host photoconductive material on a support, heating the deposited stratum in the presence of halogen and cooling the stratum to ambient temperature; repeating the procedure to impose at least one additional stratum of host polycrystalline material on the first stratum, and contacting the deposited photoconductive material with vapors of a substance other than the anion of the host photoconductive material, said substance being selected from the group consisting of selenium, tellurium, sulfur and mixtures thereof.

3,142,587
APPARATUS FOR PRODUCING ELECTRICAL CONDUCTOR FILMS BY EXPLOSIVE EVAPORATION
Erwin G. Weber, Hopkins, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,301
5 Claims. (Cl. 118—49.1)



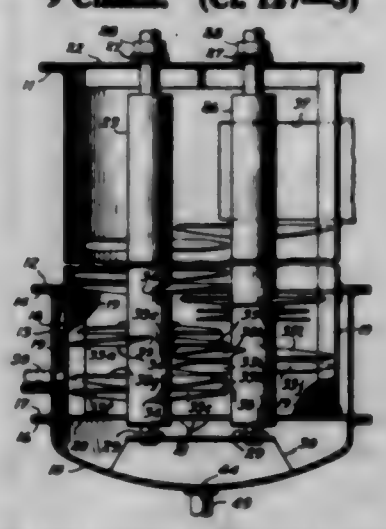
1. Apparatus for producing at least one film from an electrical conductor comprising vacuum means, an integral length of electrical conductor disposed within said vacuum means, means inside said vacuum means for holding said conductor by its respective end portions, a substrate adjacent said conductor when so held, means for resistively heating said conductor, means for applying across the heated conductor a voltage sufficient to explosively evaporate said conductor onto said substrate as said film, and means disposed between said substrate and the conductor end portions, a part of which are exposed between said holding means and cold relative to the central length of said conductor when resistively heated as aforesaid, to prevent splattering of said cold ends under such substrate when said conductor is explosively evaporated.

3,142,588
COATER ROPE THREADING DEVICE
Irvin J. Phillips, South Beloit, Ill., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 22, 1961, Ser. No. 161,671
11 Claims. (Cl. 118—407)



1. In a machine for accommodating a continuous travelling web, the combination comprising a web carrying roll for supporting the travelling web, operating mechanism movable from an operating position to a rest position relative to said roll, a sheave means for supporting carrier ropes to take the lead end of a web over the roll for threading a fresh web, a mount for said sheave means accommodating movement from a first running position to a second running position, said second position located to take the web over said roll, and means for moving said sheave means to said second position for threading the end of the fresh web during a period when said operating mechanism is in rest position.

3,142,589
VERTICAL DIFFUSER
Francis C. Schaffer, 6755 Merrydale Ave., and Robert W. McKenzie, 1836 Edinburgh Ave., both of Baton Rouge, La.
Filed May 16, 1962, Ser. No. 195,176
9 Claims. (Cl. 127—3)



1. Apparatus for moving solid and semi-solid materials in fluid media, comprising at least two vertically extend-

ing parallel shafts journalled for axial rotation, a multiplicity of radially extending flight sectors, each having a leading and trailing edge, mounted on each of said shafts and, upon rotation of said shafts, defining annular flight path zones, said flight path zones of each shaft overlapping and intermeshing with the flight path zones defined by the flight sectors of at least one other shaft and each flight path zone being axially spaced from adjacent flight path zones on the same shaft, each flight path zone being occupied only by the flight sectors of a single shaft, and a vertically extending smooth-walled housing enclosing said shafts and said flight sectors, said housing conforming closely to the outer envelope of all of said flight path zones.

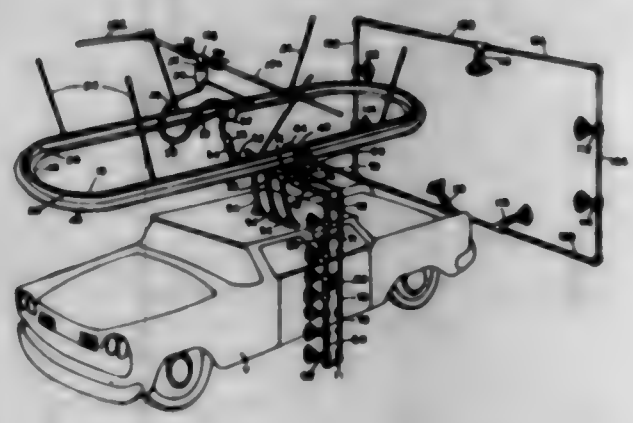
3,142,590

METHOD FOR VEHICLE WASHING

Robert W. Hergenson, Syracuse, N.Y., assignor to The O. M. Edwards Company, Inc., Syracuse, N.Y., a corporation of New York

Original application May 23, 1962, Ser. No. 197,864. Divided and this application Sept. 27, 1962, Ser. No. 226,668

4 Claims. (Cl. 134—7)



1. The method of cleaning a vehicle which comprises dispersing under high pressure in the order of 300 pounds per square inch a detergent stream containing a small percentage of finely divided insoluble plastic material against the sides and a portion of the top of said vehicle while proceeding around the vehicle at least once, and thereafter rinsing the residue of said stream from said vehicle by dispersing water under pressure against the sides and a portion of the top of said vehicle while proceeding around the vehicle at least once, and thereafter spray rinsing under a substantially lower pressure the sides and a portion of the top of said vehicle with water containing a small amount of a surface active agent.

3,142,591

METHOD FOR IMPROVING THE MAGNETIC PROPERTIES OF SILICON STEEL

Jean Auguste Demessemx, Saint-Chely d'Apcher, Lozere, France, assignor to Compagnie des Ateliers & Forges de la Loire (Saint-Chamond, Firminy, Saint-Etienne, Jacob Holtzer), Paris, France

No Drawing. Filed June 11, 1962, Ser. No. 201,253

Claims priority, application France June 16, 1961

5 Claims. (Cl. 148—3)

1. In the production of magnetic silicon steel with a silicon content ranging between 0.5 and 5% by casting the steel in an ingot mold, the improvement comprising slowly cooling the ingot through the temperature range of 1450–1200° C. at a cooling rate not exceeding about 125° C. per hour.

3,142,592

METHOD OF BLACKENING STAINLESS STEELS

Anthony J. Certa, Norristown, and George L. Schnable, Lansdale, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,816

5 Claims. (Cl. 148—6.14)

1. The method of oxidizing surface portions of a metallic body composed of a stainless steel alloy containing iron in excess of about 65% of its total composition, which comprises chemically oxidizing said surface portions through immersion in a composition consisting essentially of an alkaline solution containing mercuric oxide in an amount ranging from trace to saturation levels.

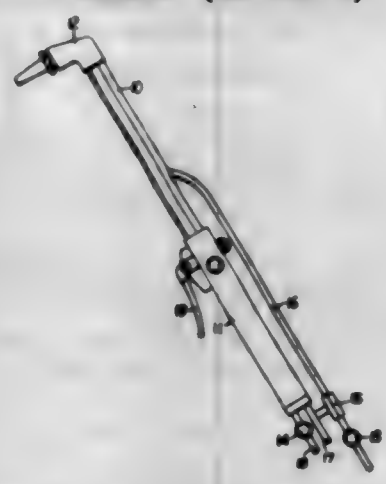
3,142,593

METHOD OF CUTTING MANGANESE STEEL

Lewis J. Wrangell, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Feb. 11, 1963, Ser. No. 257,713

6 Claims. (Cl. 148—9)



1. The method of thermochemically cutting an alloy steel member containing 8 to 12 percent manganese which comprises:

(*a*) projecting a stream of cutting oxygen against the edge of said member to be cut while the edge portion of the member is at the melting temperature, and

(*b*) introducing sulfur dioxide gas into the cutting oxygen stream at a flow rate of about 3.9 to 7.0 liters per minute.

3,142,594

RECTIFYING DEVICES

Lowell W. Bahe, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 25, 1960, Ser. No. 71,598

5 Claims. (Cl. 148—33.4)

1. A rectifying device comprising a first layer of p-type semiconductive nickel oxide, a second layer of n-type semiconductive zinc oxide in spaced relationship to said first layer, and a region of intermixture of said oxides interposed between said first and said second layers and integral therewith.

3,142,595

BULK JUNCTIONS EMPLOYING p-TYPE DIAMOND CRYSTALS AND METHOD OF PREPARATION THEREOF

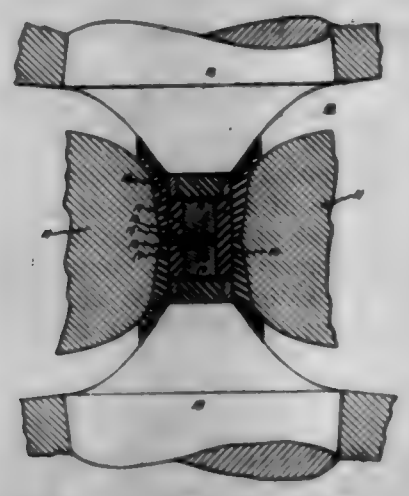
Robert H. Wentorf, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 31, 1961, Ser. No. 135,333

6 Claims. (Cl. 148—171)

1. A bulk electrical junction comprising a p-type diamond and a semiconductive crystal taken from the class consisting of diamond and cubic form of boron nitride crystals, said cubic boron nitride crystals having atoms of an activator material in their crystal structure which modify and increase their electrical properties, said cubic

boron nitride crystals having a specific resistance of less than about 1×10^{10} ohm-centimeters.



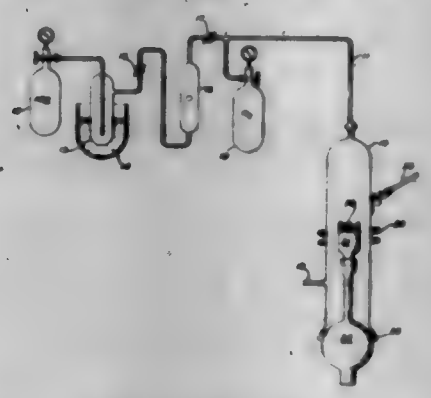
4. The invention as recited in claim 1 wherein said semiconductive crystal from said class is n-type cubic form of boron nitride having a specific resistance of less than about 1×10^{10} ohm-centimeters.

3,142,596

EPITAXIAL DEPOSITION ONTO SEMICONDUCTOR WAFERS THROUGH AN INTERACTION BETWEEN THE WAFERS AND THE SUPPORT MATERIAL

Henry C. Theuerer, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 10, 1960, Ser. No. 61,505
9 Claims. (Cl. 148—175)



1. A process for producing a layer of a semiconductor material on a substrate which comprises mounting said substrate and a transfer body of the semiconductor material desired in said layer essentially in contact with one another in an atmosphere compriting a halogen-containing gas, said substrate and said body being spaced within 10 microns of one another in a manner so as to provide a molecular path to the opposing surfaces of said body and said substrate, and heating the body and the substrate while maintaining the subetrate at a temperature of from 10–100° C. less than the said transfer body whereby the material of said transfer body is transferred to said substrate.

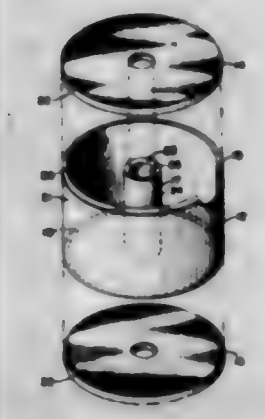
3,142,597

PROCESS FOR MAKING PNEUMATIC TIRES

Malcolm G. Anderson, Hudson, and Joseph S. Hawkes, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed May 29, 1961, Ser. No. 113,331
5 Claims. (Cl. 156—123)

1. A method of making pneumatic tires comprising, forming two circular pieces and one cylindrical piece of rubber, bevelling the ends of said cylindrical piece so that the length thereof at the internal diameter is greater than the length thereof at the external diameter, placing one of said circular pieces concentrically in contact with each beveled end of said cylindrical piece, applying force against said circular pieces in a direction axially of



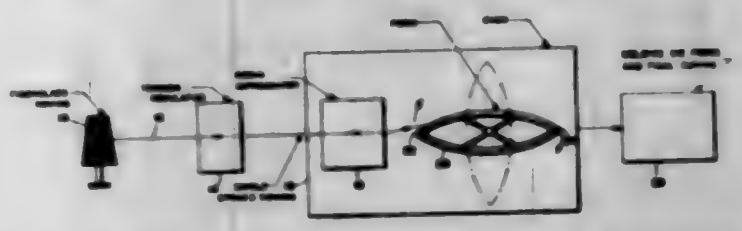
said cylindrical piece to stitch the beveled ends of said cylindrical piece to the circular pieces to form a green tire, and curing said green tire in a mold.

3,142,598

METHOD OF MAKING RESIN-IMPREGNATED GLASS FIBER AUTOMOBILE LEAF SPRINGS

Ben Rosen, 4255 Glenmont Lane, Seattle, Wash., assignor of one-half to Pacific Plastics Company, Inc., Seattle, Wash., a corporation of Washington

Filed Oct. 2, 1961, Ser. No. 142,353
6 Claims. (Cl. 156—162)



1. A process for the production of resin-impregnated glass fiber leaf springs possessing strength and flexibility characteristics adapting the same for automotive use without requiring excessive bulk comprising:

(1) winding multifilament glass strand useful in filament winding processes on a forming mandrel subjected to an elevated temperature atmosphere, said strand being maintained under tension and impregnated in about a 70/30 weight ratio of glass to final resin solids with a mixture of polyepoxide resin and amine curing agent therefor curable to a "B" stage at said elevated temperature, said winding being continued until the windings have a thickness in excess of the final spring thickness which is desired;

(2) maintaining the tension on said strand until said polyepoxide resin has cured to said "B" stage so that said strand is under tension tension in the partially cured product; and

(3) subjecting said partially cured product to an elevated temperature sufficient to complete the cure of said polyepoxide resin under a pressure of at least 50 p.s.i. to complete the cure and reduce the thickness of said partially cured product to the final desired thickness.

3,142,599

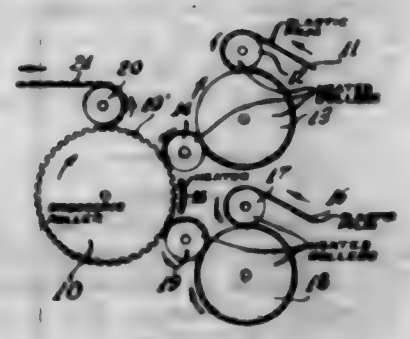
METHOD FOR MAKING LAMINATED CUSHIONING MATERIAL

Marc A. Chavannes, Brooklyn, N.Y., assignor to Sealed Air Corporation, Hawthorne, N.J.

Filed Nov. 27, 1959, Ser. No. 855,712
5 Claims. (Cl. 156—210)

1. The method for continuous fabrication of cushioning material comprising the steps of heating a plastic film having thermoplastic characteristics to an embossing tem-

perature above the softening temperature but below the melting point thereof, feeding said heated film onto a female molding roller having discrete depressions distributed throughout the surface thereof with the peripheral edges of the depressions being spaced one from the others, forming said film into said depressions to produce embossments extending from one surface thereof, heating at least one surface of a second film having



thermoplastic characteristics to a temperature in the vicinity of the melting point thereof, applying the heated surface of the second film to the first film on the molding roller while the exposed surface of said first film is at a temperature in the vicinity of its melting point to fuse the films one to the other and hermetically seal said embossments and then removing the fused films from said molding roller.

3,143,440
METHOD OF MAKING A PLASTIC-COATED BOWLING PIN
Cornelius D. Dosker, Louisville, Ky., assignor to Gamble Brothers, Inc., Louisville, Ky., a corporation of Kentucky
Filed Apr. 13, 1959, Ser. No. 805,791
2 Claims. (Cl. 156—213)



2. A method of making a plastic coated pin comprising:

A. providing a wood bowling pin having head, neck and belly portions of predetermined size and shape;

B. providing an elongate porous elastic tubular fabric cover composed of interlinked fibers and fashioned with neck and upper and lower belly portions with the neck and upper belly portions preformed so that, when they are relaxed, they respectively approximate the shape and diametric sizes of the neck and upper belly portions of said bowling pin, said cover being made on a smaller longitudinal scale of such predetermined proportion that its elasticity renders its aforesaid neck and belly portions longitudinally stretchable and diametrically variable into conformance with the position and size of the corresponding portions of said pin;

C. mounting said cover over said pin;

D. stretching said cover longitudinally to cause its neck, upper and lower belly portions to engage the corresponding portions of said pin snugly;

E. anchoring said cover in longitudinally stretched condition on said pin; and

F. applying a liquid plastic coating to said cover.

3,142,601
METHOD AND APPARATUS FOR FABRICATING A PLASTIC CONTAINER
Edgwin R. Polk, 42 Tracy Drive, and Antonio La Grassa, 33 Tracy Drive, both of Fords, N.J.
Filed Aug. 10, 1962, Ser. No. 216,232
6 Claims. (Cl. 156—273)



4. The method of producing the hollow tray-like component of a luggage-type container comprising a work piece with a peripheral wall and a spanning cross wall composed of thermoplastic sheet material which are matching in horizontal plan, which method comprises:

(*a*) arranging said cross wall in superimposed, marginally abutting contact with the upper edge of said peripheral wall,

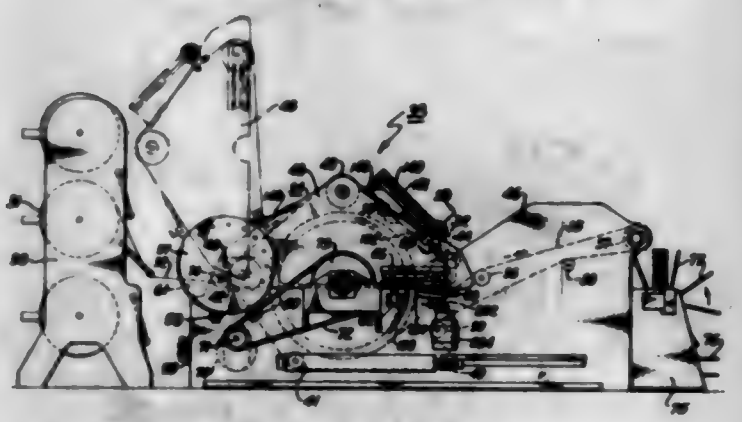
(*b*) supporting the peripheral wall of the work piece adjacent to the upper edge,

(*c*) supporting the spanning cross wall,

(*d*) applying arcuate compressive force to the abutting edges of the peripheral wall of the work piece and spanning cross wall,

(*e*) simultaneously supplying high frequency electric current at the point of arcuate compression for a period of time sufficient to mold and heat seal together the abutting edges of the work piece in a smoothly rounded continuous edge.

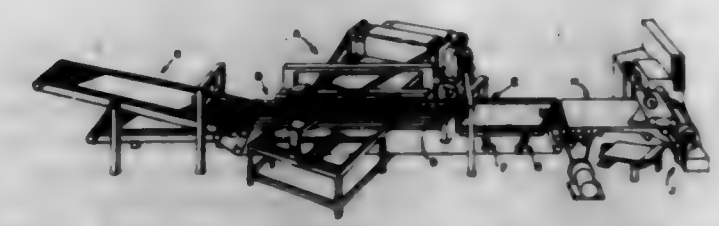
3,142,602
APPARATUS FOR FORMING ARTICLES FROM A WEB
Lyle F. Shubrum, Danville, Calif., assignor to Consolidated Thermoplastic Company, Stamford, Conn., a corporation of Delaware
Filed Nov. 21, 1960, Ser. No. 70,481
15 Claims. (Cl. 156—359)



1. In an apparatus for forming articles from a web, the combination of: first and second concentric members; means for rotating said members in the same direction at different rates of rotation, with said first member moving slower than said second member; means for feeding a web of material to said second member and clamping the web against an outer surface of said second member during a portion of a revolution; a plurality of article-forming dies extending along said outer surface of said second member, with each of said dies driven by said first member from a reference position in the direction of rotation of said members; and means for clamping each of said dies to said second member in engagement with the web during said portion of a revolution, so that a die

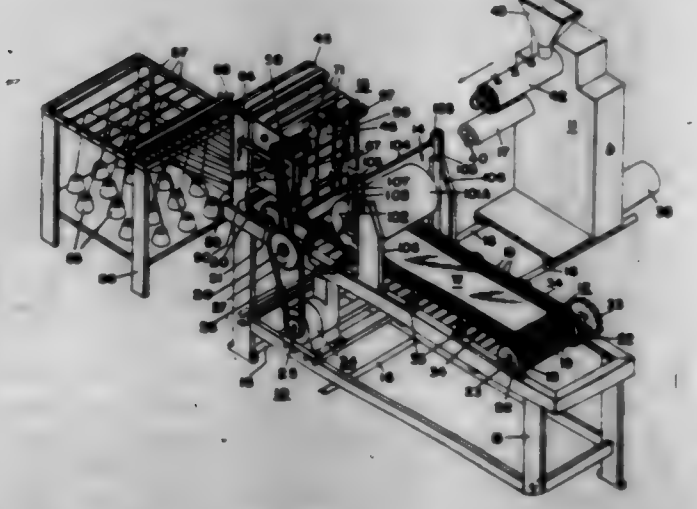
is driven by said first member at its reference position to be clamped against said second member after which the die is carried by said second member at a higher rate until released to lag behind both members returning to its reference position.

3,142,603
TIRE BUILDING APPARATUS
Clarence M. Parshall, Grosse Pointe Woods, Elwood A. Stiegler, Grosse Pointe Park, and Philip A. Phillips and Paul Geyer, Detroit, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 28, 1962, Ser. No. 176,229
18 Claims. (Cl. 156—405)



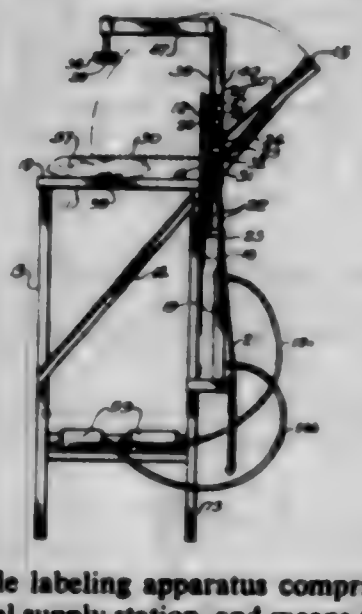
1. In a tire building machine having a tire building drum, a bias-cutter for supplying bias-cut sections of fabric from a web of tire cord fabric, and a conveyor for receiving the cut sections of fabric, means for lifting a first section of fabric from the conveyor so that a second section of fabric may be moved by the conveyor to a position underlying a portion of said first section of fabric, means for splicing together the overlapped portions of said sections of fabric to form strips of spliced fabric, means for cutting plies of proper length from the strips of spliced fabric, means for actuating said lifting means to laterally shift a cut ply to offset its side edges with respect to the side edges of an adjacent ply, and means for delivering successive plies to said building drum.

3,142,604
APPARATUS FOR MAKING NON-WOVEN PILE FABRICS
John Thompson Mills, Elkins Park, and Raymond E. Fleming, Philadelphia, Pa., assignors to Jennings Engineering Company, Philadelphia, Pa.
Filed Mar. 6, 1961, Ser. No. 93,611
1 Claim. (Cl. 156—435)



An apparatus for making non-woven pile fabric comprising a conveyor having a multiplicity of spaced bars, a loop-forming mechanism for pushing strands of thermoplastic pile material into the gaps between said bars to form loops having root portions extending over said bars, extruder means for heating plastic material and discharging it onto the root portions of said pile loops as a thin web of hot plastic whose temperature is above the melting point of said thermoplastic pile material but whose heat content is insufficient to effect fusion of said strands, means adjacent said conveyor between said extruder means and said loop-forming mechanism for preheating the base portions of said thermoplastic pile loops to a temperature for which the heat content of the thin web effects fusion of the root portions of the pile loops to the web, and pressing and chilling means beyond said extruder means for forcing the hot plastic web between and about the root portions of said loop to form mechanical bonds and for chilling the web to set the fusion and mechanical bonds between the web and the pile loops before removal of the fabric formed thereby from said conveyor.

3,142,685
AUTOMATIC LABELING MACHINES
Fred J. Faletti, Decatur, and Clarence Edward Pittman, Atlanta, Ga., assignors to Miller Wrapping & Sealing Machine Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 13, 1959, Ser. No. 852,874
6 Claims. (Cl. 156—493)



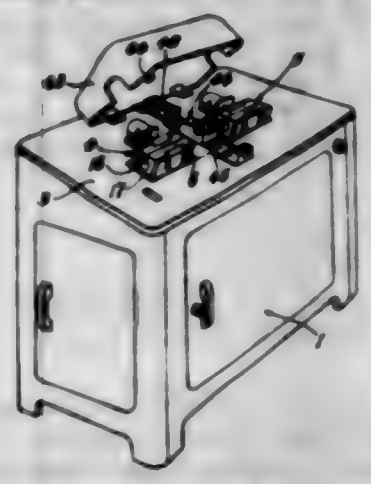
1. An article labeling apparatus comprising, an article support, a label supply station, and means for transporting a label from the station to the article including, a movably mounted arm, a label gripper at one end of said arm for gripping peripheral parts only of said label to leave the central adhesively coated part thereof exposed, and means for holding the gripper open to receive a label at said station and operable to permit gripper closure away from the station.

3. An apparatus as defined in claim 1 including means yieldably urged toward an article after a label is applied to the article to press the label on the article.

3,142,686
APPARATUS FOR JOINING UNVULCANIZED RUBBER TUBES
Alec Dennis Robinson, Birmingham, and John Thomas Stainer, Sewerby, England, assignors to Dunlop Rubber Company Limited, London, England, a British company
Filed Dec. 14, 1961, Ser. No. 159,233
Claims priority, application Great Britain Dec. 23, 1960
17 Claims. (Cl. 156—503)

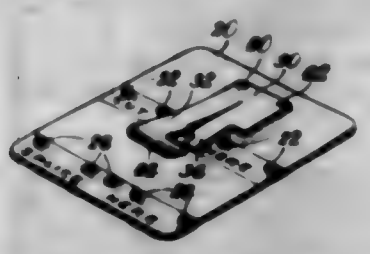
1. Apparatus for joining together a pair of unvulcanized rubber tube ends which comprises a pair of gripping members, one for each end, for gripping a rubber tube end, each member comprising concave portions to engage the outer surface of the tube end and support it in open form during a cutting operation and a joining operation, the gripping members being disposed on a common axis and being movable towards and away from one another along said axis, a support for the tube ends positioned between the gripping members and movable transversely relative to the said axis, and a knife for each

tube end movable transversely with respect to said axis to sever a portion of said tube held in the support from



a portion of said tube held in the associated gripping member.

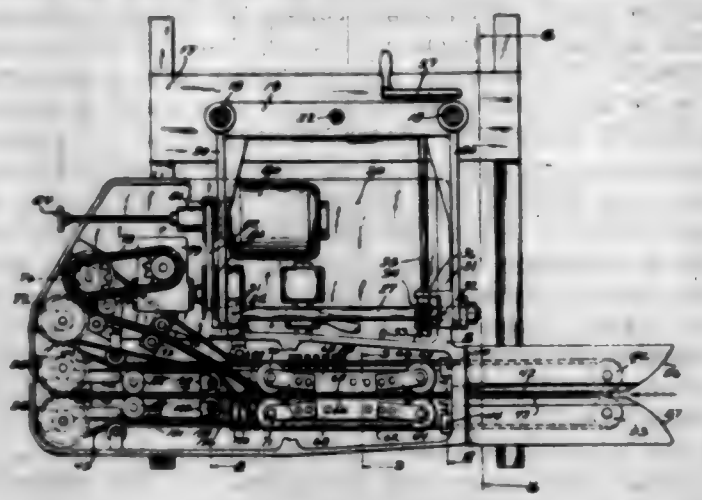
3,142,607
FILM SPLICER
Harold S. Scherer, Lincolnwood, Ill., assignor to Scherer Mfg. Co., Inc., Skokie, Ill., a corporation of Illinois
Filed Dec. 18, 1961, Ser. No. 160,164
3 Claims. (Cl. 156—506)



1. A film splicer comprising, in combination, a substantially flat base plate member, a cutter member comprising a thin flexible metal plate cut longitudinally along a portion of its length to provide a movable cutter portion and a stationary cutter portion which are joined together at the rear end of said cutter member, said cutter member being secured at its rear end to said base plate with said stationary cutter portion disposed so as to lie substantially flat on said base plate and with said movable cutter portion being bent upwardly away from said base plate an amount sufficient to permit insertion of film therebetween, and a plurality of sprocket teeth projecting upwardly from said base member, said teeth being arranged in a row which extends transversely of said cutter members and beneath said movable cutter portion whereby a strip of film to be spliced may be mounted on said sprocket teeth so as to extend transversely over said stationary cutter portion and under said movable cutter portion and may be cut by manually depressing the free end of said movable cutter portion and thereby temporarily bending the latter downwardly against said base plate.

3,142,608
BAG AND WRAPPER SEALING AND CUTOFF MECHANISM
Herbert F. Techtmann and George Y. Higuchi, Milwaukee, Wis., assignors to Techtmann Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 22, 1960, Ser. No. 51,142
15 Claims. (Cl. 156—515)

15. In a machine for closing heat fusible wrapping material of successive workpieces and for severing waste from such material, the combination with a workpiece conveyor having material clamping runs and backing means for supporting said runs for holding the material of the workpiece closed, with waste portions of such material projecting therefrom, a pair of waste clamping conveyor belts having runs parallel to and spaced away from the path of movement of workpieces with the first mentioned conveyor runs and having backing means for holding the waste engaging runs in clamping engagement with the waste of successive workpieces, deflecting guides for the waste engaging runs of the waste conveyor means, about which the waste engaging runs operate divergently from the path of the first mentioned runs after first operating in substantial parallelism therewith, and means for severing waste material from the material of said workpieces during the parallel operation of the respective conveyor means, said severing means comprising a succession of resistance wire loops spaced along the first mentioned runs and aligned along the path of workpiece movement for severing the waste and for subsequently heat sealing remaining margins of the material of said workpieces.

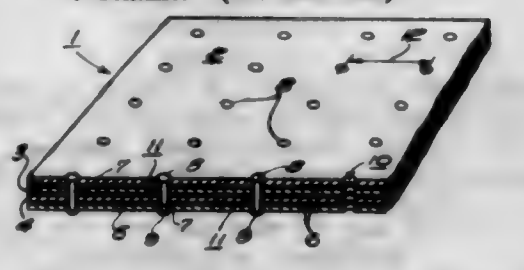


3,142,609
METHOD OF IMPROVING THE ADHESION OF POLYETHYLENE TO PAPER AND THE ARTICLE PRODUCED THEREBY
David R. Deretchin, Liberty, N.Y., and Gordon F. Santee, Easton, Pa., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 30, 1960, Ser. No. 52,861
6 Claims. (Cl. 161—39)



1. An article of manufacture comprising a lamina of a layer of paper having on a surface thereof from 1 to 12 milligrams per 4 in.^{2} of said surface of dried silica sol, and a layer of polyethylene heat sealed to and extending outwardly from the thus coated surface.

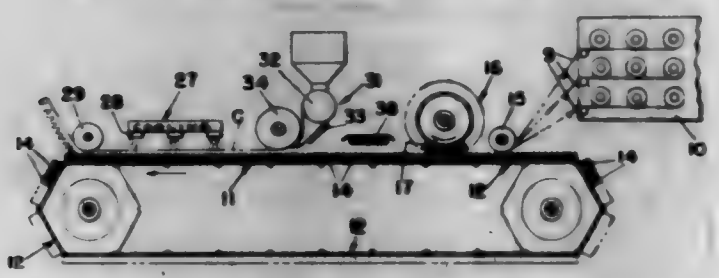
3,142,610
SELF-DAMPED COMPOSITE STRUCTURES
Russell T. Lowe, Granada Hills, Calif., assignor to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Apr. 13, 1960, Ser. No. 22,051
4 Claims. (Cl. 161—54)



1. A self-damped composite structural assembly which is subject to flexural movements responsive to excitation of a vibratory character, comprising at least a pair of load-supporting members having substantially planar sur-

faces in coextensive parallel laminar relationship, each of said members having a thickness imparting a structural stiffness to withstand part of the loads imposed upon said member, damping material interposed in a layer between and adhering to the adjacent planar surfaces of said members, said material being subject to shear and dissipating energy responsive thereto while permitting relative slip between said members in directions parallel with said surfaces upon occurrence of said flexural movements of said assembly, and a plurality of locking means supported by said members at each of a plurality of substantially uniformly spaced positions and distributed across areas of said members required to be of greater structural strength than that of the combined strengths of said members acting individually, each of said locking means including a part extending transversely to said surfaces and mating said members with limited freedom for minute relative slip therebetween in said directions, whereby vibration transmissibility and resonant magnification of said assembly are suppressed by dissipation of energy in said material, and said members are locked together in said directions to develop said greater structural strength upon occurrence of flexures of said assembly beyond small limited amounts.

3,142,611
NON-WOVEN PILE FABRICS AND METHODS OF THEIR MANUFACTURE
John Thompson Mills, Elkins Park, Pa., assignor to Jennings Engineering Company, Philadelphia, Pa.
Filed Dec. 12, 1960, Ser. No. 75,281
22 Claims. (Cl. 161—66)



5. A non-woven fabric comprising thermoplastic textile strands and an imperforate thermoplastic backing layer, said fabric being characterized by the interlocking of a plurality of the strands with said layer by mutual thermal-weld connections between portions of said strands and said backing layer and wherein said portions of the strands are embedded in said layer to a depth less than their thickness to provide mechanical bonding supplementing said welded connections.

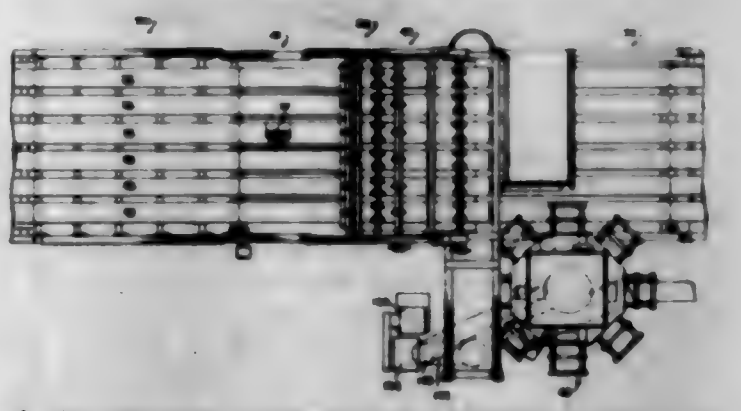
10. The method of producing a non-woven pile fabric composed of a thermoplastic sheet layer and thermoplastic pile strands, comprising the steps of forming said strands into pile projections having upstanding pile legs terminating at one end at a common level, applying said sheet layer while molten hot to said pile legs at said one end to fuse said applied layer and said legs together in the areas of contact, and thereafter cooling the same to form a welded interlock therebetween.

3,142,612
METHOD OF FORMING A FIBER GLASS WATER COALESCING MEDIA AND ARTICLE THEREOF
Peter A. Reiman, Weston, Mass., assignor, by mesne assignments, to Fram Corporation, East Providence, R.I., a corporation of Rhode Island
Filed Aug. 9, 1962, Ser. No. 216,705
3 Claims. (Cl. 162—145)

1. The method of making an improved fiber glass water coalescing media to facilitate the removal of water from a hydrocarbon liquid, which comprises forming a slurry of glass fibers and a smaller quantity of a low melting point short thermoplastic filaments, then introducing one to ten percent of an unplasticized polyvinyl chloride latex and adding to the slurry an astringent in sufficient amount to precipitate the latex into discrete particles that will deposit on the glass fibers without producing a film thereon, forming a sheet from said slurry and drying the sheet with sufficient heat to soften said filaments to bond the fibers together at their crossing points and the discrete particles become attached to the fibers in spaced relation to each other over the length of the fibers to cover only a minor portion thereof and leave a major portion of the surface of the fibers uncoated, whereby water films that form on such fibers will be interrupted by the discrete particles and will coalesce into large clean droplets free of the hydrocarbon liquid.



3,142,613
FINISHING APPARATUS FOR MOLDED PULP PAPER ITEMS
Kenneth L. Crabtree, Fairfield, Maine, and Donald E. Burt, Ipswich, Mass., assignors to Keyes Fibre Company, Inc., Waterville, Maine, a corporation of Maine
Filed Aug. 7, 1962, Ser. No. 215,368
21 Claims. (Cl. 162—415)



4. An automatic continuous flow finishing machine for molded pulp paper articles comprising

a rotatable turret having a plurality of vertically disposed faces,

an inner die mounted on a first one of said turret faces,

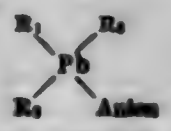
an outer die mounted on said first one of said turret faces,

positioning means to position said paper articles between said inner die and said outer die in such a fashion as to permit said dies to properly engage said paper articles when said dies are closed, and

pressure means connected to said dies including a low pressure means for closing said dies and a high pressure means connectable to said dies when said dies are closed by said low pressure means.

3,142,614
POLYVALENT ORGANO-LEAD FUNGICIDE
Waldo B. Ligett, Pontiac, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 10, 1961, Ser. No. 122,660
14 Claims. (Cl. 167—22)

1. A fungicidal composition comprising as a principal active ingredient an organolead salt having the formula



wherein R_1 and R_2 are selected from the group con-

sisting of alkyl groups containing up to about 8 carbon atoms and aryl groups containing from 6 to about 12 carbon atoms, wherein R_3 is selected from the group consisting of alkyl groups containing up to about 8 carbon atoms, aryl groups containing from 6 to about 12 carbon atoms and Anion, and wherein Anion is a member of the group consisting of chlorophenate anions, arenesulfonamide anions, thiosalicylate anion, acetate anion, haloacetate anions, dihydrogen phosphate anion, and arsanilate anion; and, as a carrier therefor, a substantially inert fungicidal adjuvant comprising a dispersant and surface active agent.

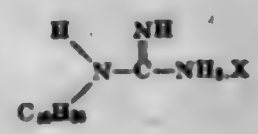
3,142,615

METHOD OF CONTROLLING ALGAE WITH ALKYLGUANIDINE SALTS

Donald Clifford Wehner, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 24, 1961, Ser. No. 154,861
4 Claims. (Cl. 167—22)

1. A method of inhibiting the growth of algae in aqueous media which comprises contacting said algae with a minor but effective amount of an antialgal agent comprising an alkylguanidine salt having the structural formula:



wherein X represents an acid residue of an acid selected from the group consisting of mineral acids, monocarboxylic acids, and dicarboxylic acids.

3,142,616

CONTROLLING MICROORGANISMS EMPLOYING SULFONYLACETONITRILES

Don R. Baker, Placio, and Thomas B. Williamson, Santa Clara, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 8, 1962, Ser. No. 164,976
6 Claims. (Cl. 167—22)

1. A method of effectively controlling microorganisms selected from the class consisting of bacteria and fungi comprising contacting said microorganisms with an effective amount of a compound of the formula, $R—SO_2CCl_2CN$, wherein R is selected from the group consisting of alkyl, phenyl, alkyl substituted phenyl, halo-substituted phenyl benzyl and dichloroacetonitrile.

3,142,617

INJECTABLE SOLUTION

Leon Lachman, Summit, N.J., assignor to Ciba Corporation, a corporation of New Jersey

No Drawing. Filed July 15, 1959, Ser. No. 827,146
18 Claims. (Cl. 167—58)

9. An injectable aqueous solution consisting essentially of an effective amount up to about 10 mg. of a member selected from the group consisting of reserpine, deserpidine and rescinnamine, about 5 to about 30 percent by weight of at least one N-substituted amide, each of said N-substituents being members selected from the group consisting of lower alkyl, hydroxy-lower alkyl, halo-lower alkyl, phenyl, lower alkyl-phenyl and halo-phenyl, about 0.5 to about 2.0 percent by weight of a soluble, non-toxic acid of pK_a about 3 to about 5 and about 5 to about 30 percent by weight of a poly-lower alkylene glycol having a molecular weight about 300 to about 20,000, per milliliter of solution, said N-substituted amide being derived from those selected from the group consisting of urea, thiourea, a saturated lower aliphatic mono-carboxylic acid amide and a saturated lower aliphatic di-carboxylic acid amide.

3,142,618

ANTIFUNGAL ANTIBIOTIC HUMIDIN AND PROCESS OF PREPARATION

Kôiti Nakazawa, Amagasaki, Hiroichi Yamamoto, Kobe, Motoo Shibata, Toyonaka, Toshihiko Kanzaki, Eiji Higashide, and Akira Miyake, Nishinomiya, Hiromu Hitomi, Ibaraki, and Satoshi Horii, Kyoto, Japan, assignors to Takeda Pharmaceutical Industries, Ltd., Higashi-ku, Osaka, Japan

Filed Sept. 24, 1957, Ser. No. 685,880
Claims priority, application Japan Sept. 28, 1956
7 Claims. (Cl. 167—65)

1. A process for producing Humidin, which comprises cultivating *Streptomyces humidus* ATCC–12760 in an aqueous nutrient-containing medium under aerobic conditions until substantial antifungal activity is accumulated in the fermented broth.

3,142,619

AMINO COMPOUNDS

Charles Ferdinand Huebner, Chatham, and Lloyd Benjamin Wilkin, Parsippany, N.J., assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Filed July 24, 1961, Ser. No. 125,974
4 Claims. (Cl. 167—65)

1. A method for the alleviation of pain, which comprises administering to a host requiring relief from pain, an oral composition having analgesic effects, consisting essentially of about 0.01 g. to about 0.05 g. of a member selected from the group consisting of 2-amino-indane and a non-toxic, pharmacologically and therapeutically acceptable acid addition salt thereof, per single dosage unit.

3,142,620

IMMUNIZING COMPOSITION CONTAINING MESOINOSITO-TRI-ALPHA-D-MANNOSIDE

Hubert Bloch, Pittsburgh, Pa., assignor to Ciba Corporation, a corporation of Delaware

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,734
6 Claims. (Cl. 167—79)

1. An immunizing agent consisting essentially of phosphatidyl-mesoinosito-tri-α-D-mannoside and an adjuvant and a pharmaceutical carrier.

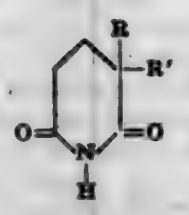
3,142,621

ALGINATE SUSPENSIONS OF ORAL PHARMACEUTICAL COMPOSITIONS WITH IMPROVED TASTE QUALITIES

Jack Lazarus, Jersey City, and Jack Cooper, Summit, N.J., assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Filed Nov. 2, 1961, Ser. No. 149,497
15 Claims. (Cl. 167—82)

1. A pharmaceutical composition of improved taste qualities, in oral suspension form, comprising (1) a compound of the formula:



wherein R is lower alkyl and R′ is a member selected from the group consisting of phenyl and pyridyl, (2) a purified alkali group alginate in an amount of about 0.1 to about 5% and (3) a liquid pharmaceutical carrier.

3,142,622

SOLUBILIZED SHELLAC AEROSOL HAIR SPRAY

Clarence Clapp, Montebello, Calif., assignor to Western Filling Corporation, Los Angeles, Calif., a corporation of California

No Drawing. Filed Oct. 23, 1961, Ser. No. 147,978
6 Claims. (Cl. 167—87)

1. A substantially anhydrous packaged aerosol composition comprising a liquefied normally gaseous propellant, and a mixture of ethyl alcohol and dewaxed shellac reacted with 2-amino-2-methyl-1-propanol in an amount sufficient of maintain non-precipitating compatibility of the shellac with the alcohol and propellant in the packaged state and to render the reacted shellac water soluble after aerosol application in a use state.

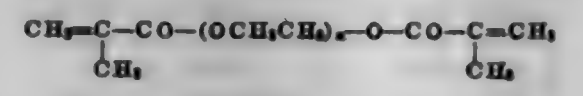
3,142,623

PERMANENT WAVING OF HAIR AND ANALOGOUS PROCESSES

Charles Zviak, Franconville, and Jean Rouet, Le Blanc-Mesnil, France, assignors to Societe Anonyme dite: L'Oreal, Paris, France, a corporation of France

No Drawing. Filed Nov. 22, 1961, Ser. No. 154,334
Claims priority, application France Nov. 15, 1961
10 Claims. (Cl. 167—87.1)

7. A composition for use in the permanent deformation of live hair which comprises a thiol selected from the group consisting of thioglycolic acid, α-mercapto propionic acid, β-mercapto propionic acid and a mercaptoethanol, and a glycol dimethacrylate of the formula:



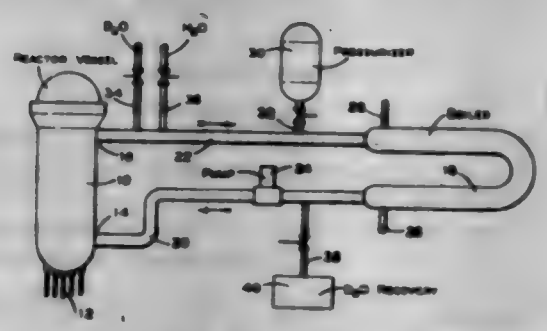
in which n is an integer from 1 to 7 and having a pH of 7 to 9.

3,142,624

NUCLEAR REACTOR AND METHOD OF OPERATING SAME

Milton C. Edlund, Lynchburg, Va., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 14, 1960, Ser. No. 22,145
6 Claims. (Cl. 176—18)



1. A method of operating a converter nuclear reactor whereby the maximum number of neutrons emitted in the fission chain reaction and not required to maintain the chain reaction are available for the conversion of fertile to fissionable material comprising arranging a quantity of fissionable material as a core to provide a critical mass based on a predetermined quantity of moderation, surrounding the core with a blanket of fertile material, placing a combination of moderator materials comprising a mixture of light and heavy water in the reactor, adjusting the mixture of light and heavy water to achieve the predetermined amount of moderation required to provide a critical mass in the core, establishing a fission chain reaction within the reactor, and regulating the reactor during its operation by controllably varying the ratio of light and heavy water within the reactor to vary the quantity of moderation therein, whereby the reactor is maintained critical while permitting the productive absorption of neutrons in the reactor to convert fissionable material.

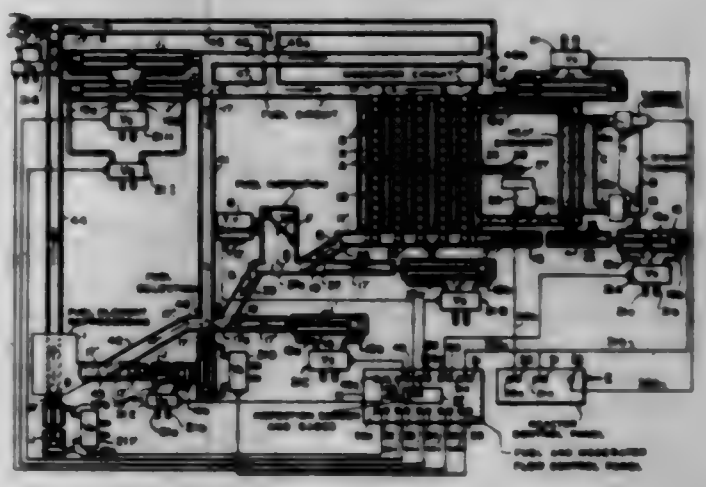
5. A nuclear reactor comprising a quantity of fissionable and fertile material disposed in a number of separate uniformly shaped longitudinally extending fuel elements arranged in a regular lattice to form a core, said fuel elements positioned in a centrally arranged inner fuel concentration zone and at least one outer fuel concentration zone concentrically arranged about said inner zone, each zone having a substantially different uniform fissionable to fertile material weight percent ratio, a quantity of fertile material disposed in a number of separate uniformly shaped longitudinally extending components surrounding the core to form a blanket thereabout, a plurality of individually removable longitudinally extending cruciform shaped control rods disposed in a uniform arrangement within said core, a combined moderator coolant made up of a mixture of heavy water and light water disposed within said core, and regulator means for varying the ratio of heavy water to light water in the moderator to thereby vary the moderation capacity in the reactor to maintain criticality.

3,142,625

NUCLEAR REACTOR PLANT WITH INSPECTION AND REPROCESSING STATIONS

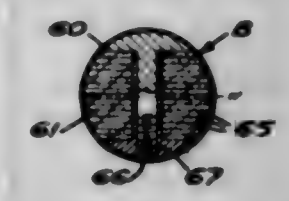
William W. Wellborn, Bloomfield Hills, Mich., assignor to Firth Sterling, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Original application June 15, 1956, Ser. No. 591,726. Divided and this application Dec. 7, 1959, Ser. No. 857,825
2 Claims. (Cl. 176—32)



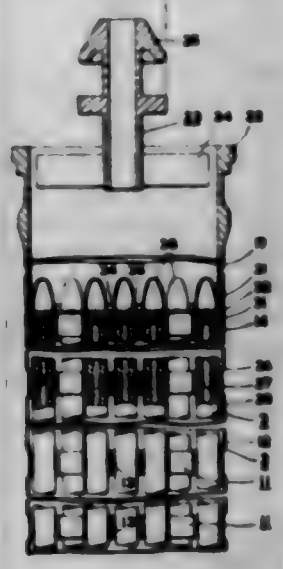
2. A nuclear power system which comprises, a reactor having at least one coolant-jacketed longitudinally extending open-end reactor conduit therein, a plurality of rolling spherical-shaped metal enclosure units containing nuclear fuel material therein, said units being operatively positioned in end-to-end series progression in said reactor conduit, reactor fuel unit inspection and reprocessing station, a conduit system connected to the open ends of said reactor conduit and defining a closed-circuit system of channels connecting said inspection and reprocessing stations in series progression and between the open ends of said reactor conduit, fluid-actuated mechanical pushers operatively positioned for movement within said channels into positive pushing engagement with said enclosure units to push and roll them within the conduit system, a control panel, motor means for advancing said pushers within said channels, and electric controls on said panel connected to operate said motor means to selectively advance said pushers into pushing engagement with said enclosure units and roll said units from one end of said reactor conduit to said inspection station, to said reprocessing station, and back into the other end of said reactor conduit.

3,142,626
NUCLEAR REACTION ELEMENT
William W. Wellborn, Pittsburgh, Pa., assignor to Firth Sterling, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 15, 1956, Ser. No. 591,726
5 Claims. (Cl. 176—67)



1. A nuclear reaction element for individual rolling movement along a closed circuit conduit system into and out of a reaction chamber which comprises, a sealed-off metal outer enclosure of ball shape having a smooth rolling surface fully thereabout, said enclosure comprising hollow segments integrally secured in an edge-to-edge sealing-off relation with each other, reaction material securely positioned within said enclosure as a core thereof, means within said enclosure holding the material in a securely-held compacted relationship therein, and the material being in the form of granules that are enclosed as compacts in a group of packages.

3,142,627
FUEL ELEMENT ASSEMBLIES
David Colin Emerson, Appleton, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 26, 1959, Ser. No. 848,593
1 Claim. (Cl. 176—78)

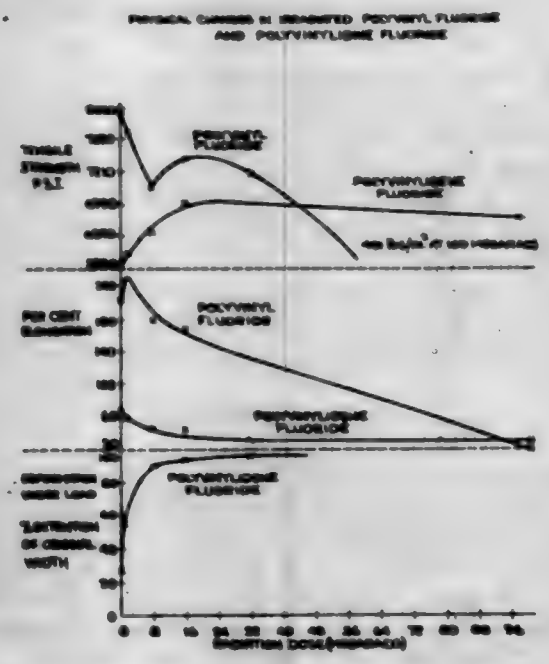


A nuclear reactor fuel assembly for upright disposal in a nuclear reactor and comprising a sleeve, grids of intersecting webs spanning the sleeve and orientated edgewise with respect to vertical coolant flow through said sleeve, the grids being attached at intervals along the length of the inner wall of the sleeve and aligned with one another to define a lattice of aligned apertures, a plurality of support plates resting on the webs of the uppermost one of said grids in said sleeve, each support plate being secured to the upper end only of a group of sheathed nuclear fuel rods extending through a group of said aligned apertures with clearance between rods and grids, the lower ends of said fuel rods being free for individual longitudinal movement, the support plates having dimensions permitting coolant flow through said uppermost grid and around the support plates, and small lateral projections from the intersecting webs of the grids reaching to the sheathed nuclear fuel rods to locate the rods in their apertures.

3,142,628
PROCESS OF REDUCING FOAM IN SUBMERGED AEROBIC FERMENTATIONS
Donald Howard Phillips, North Syracuse, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 16, 1962, Ser. No. 187,961
14 Claims. (Cl. 195—80)

1. In the process of producing an antibiotic by the method of submerged, aerated fermentation of a microorganism, the step of abating and reducing foam therein without simultaneously decreasing significantly the amount of dissolved oxygen in the fermentation broth which comprises adding as defoaming agent a water-soluble condensation product, having a total molecular weight in the range of about 1600 to about 2800, of ethylene oxide with a water-insoluble, hydrophobic polyoxypropylene chain formed by condensing propylene oxide with propylene glycol, said hydrophobic chain having a molecular weight in the range of about 1500 to about 2500 and constituting about ninety percent by weight of said water-soluble condensation product.

3,142,629
CROSS-LINKING OF POLYVINYLIDENE FLUORIDE AND WIRE COATED WITH THE CROSS-LINKED RESIN
Robert Timmerman, North Massapequa, N.Y., assignor to Radiation Dynamics, Inc., Westbury, N.Y., a corporation of New York
Filed Feb. 10, 1961, Ser. No. 88,393
5 Claims. (Cl. 204—154)

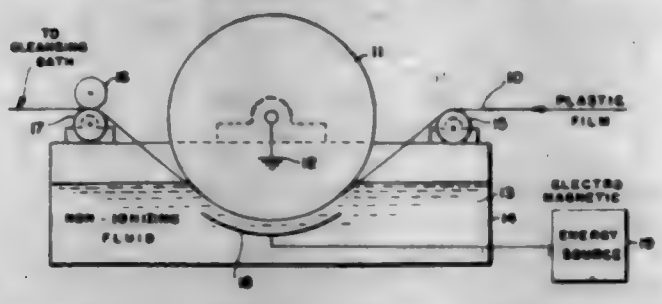


1. A composition comprising a resinous polymer of vinylidene fluoride cross-linked by high-energy ionizing radiation of at least 8 megarads, which composition has improved thermal resistance, and tensile strength as compared with the unirradiated vinylidene fluoride polymers.

3,142,630
SURFACE AND INTERIOR MODIFICATION OF THERMOPLASTIC RESINOUS BODIES
Philip Antokal, Chicago, and Mathew F. Kritchever, Glencoe, Ill., assignors, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 27, 1960, Ser. No. 45,759
2 Claims. (Cl. 204—162)

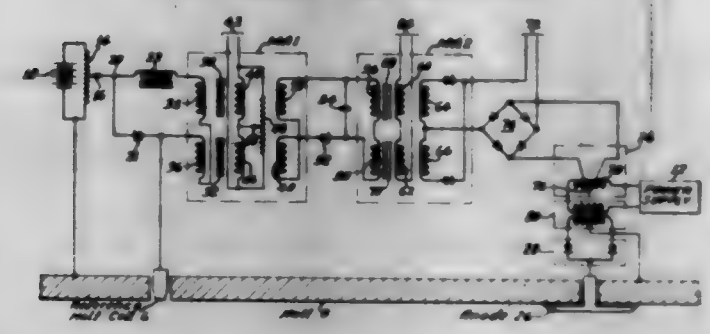
1. In a process for treating a thermoplastic resin body which is substantially non-adherent to polymeric coatings to render it adherent to the same, the steps of directing upon said thermoplastic body photon energy generated at a frequency within the range of from 0.5 to 30 mega-

cycles per second and under a voltage in the range of 3,500 to 50,000 volts whereby to form double bonds in



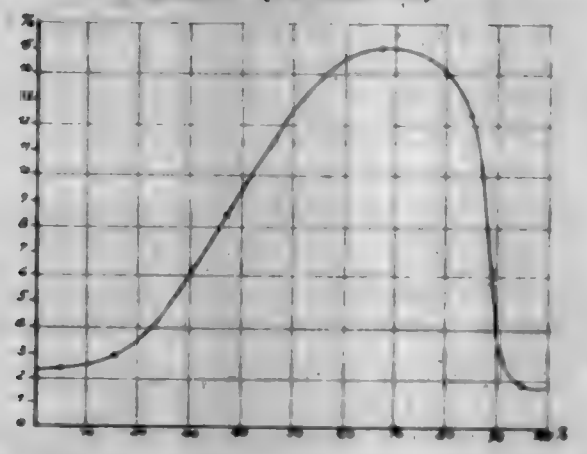
said body for retaining a polymeric coating, said discharge being through a non-ionizing liquid.

3,142,631
CATHODIC PROTECTION CIRCUIT
George V. Woodley, Quincy, Mass., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Mar. 7, 1961, Ser. No. 94,043
11 Claims. (Cl. 204—196)



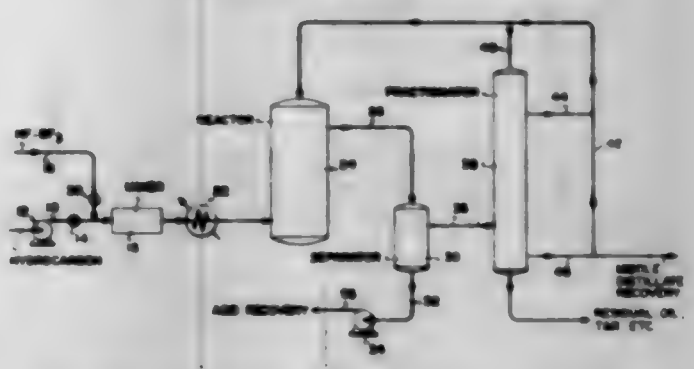
1. In combination, a cathodic protection power supply system with adjustable output for cathodically protecting a metal surface, a reference electrode mounted in spaced relationship with respect to said surface and constituting together with said surface a sensing means for developing a signal representing cathodic protection conditions having a power level of the order of 10^{-9} watts, a second-harmonic magnetic amplifier, means for applying the signal to the amplifier control windings, and means for adjusting the power output as a function of the amplifier output.

3,142,632
METHOD OF MANUFACTURE OF PARAFFINS HAVING A LOW MELTING-POINT AND AN ISO- AND/OR CYCLO-PARAFFINIC STRUCTURE
René Sigwalt, Neuilly, and Alexandre Chmelevsky, Le Havre, France, assignors to Compagnie Francaise de Raffinage, Paris, France, a corporation of France
Filed June 13, 1961, Ser. No. 116,748
Claims priority, application France June 20, 1960
8 Claims. (Cl. 208—32)



1. In a method for the sweating purification of oily fractions of crystalline isoparaffins and cycloparaffins having melting point ranges between about 20° and 48° C. from waxy petroleum distillates including higher melting normal paraffins admixed with lower melting paraffins of iso- or cyclo-structure and non-crystalline oily components, the steps which comprise fractionating said petroleum distillates by successive solvent dewaxing and crystallization steps into a higher melting normal paraffinic crystalline fraction and a lower melting crystalline slack wax fraction including said lower melting isoparaffins and cycloparaffins and a non-crystalline oily fraction, said lower melting slack wax fraction being substantially freed of normal paraffins but still retaining about 10–40% of said oily components, and sweating said lower melting slack wax fraction for removing therefrom of substantially all said oily components to produce said purified crystalline isoparaffins and cycloparaffins.

3,142,633
CONVERSION OF NAPHTHAS TO MIDDLE DISTILLATES
Charles Newton Kimberlin, Jr., Henry George Ellert, and Howard Emerson Merrill, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Aug. 18, 1959, Ser. No. 834,455
6 Claims. (Cl. 208—46)

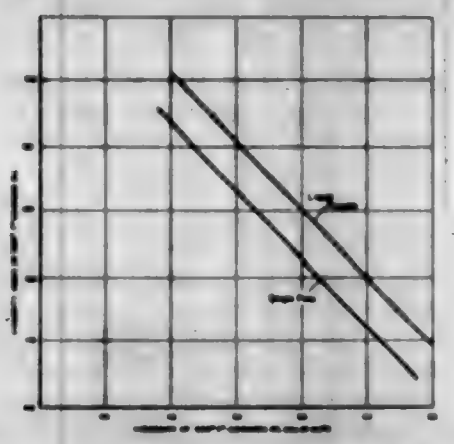


1. An improved process for converting naphthas to hydrocarbons boiling in the middle distillate range of from about 250 to about 650° F. which comprises treating said naphtha in a reaction zone in the liquid phase with anhydrous hydrofluoric acid at a temperature in the range of about 0 to about 350° F., whereby a substantial amount of said naphtha is converted to middle distillates and light hydrocarbons, segregating the product from said reaction zone into light hydrocarbons and middle distillates, and recycling light hydrocarbons, consisting essentially of propane and butanes, and a significant portion of said middle distillates to said reaction zone.

3,142,634
PREPARATION OF MULTI-GRADE LUBRICATING OIL
Henry R. Ireland, West Deptford Township, Gloucester County, and Michael T. Smiliski, Mantua Township, Gloucester County, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Dec. 14, 1961, Ser. No. 159,339
10 Claims. (Cl. 208—95)

2. A method for producing multi-grade lubricating oils by hydrocracking at relatively low pressures which comprises contacting a deasphalted residuum charge stock having a viscosity index from about 60 to about 100 and a viscosity at 210° F. from about 60 to about 250 S.S.U. with a hydrocracked cycle hydrocarbon stock boiling in the range from about 400° F. to about 1700° F. in a volumetric ratio of said cycle stock to said deasphalted residuum charge stock from about 0.1:1, respectively, to about 10:1, respectively, with hydrogen in the presence of a hydrocracking catalyst at a temperature in the range from about 700° F. to about 870° F., at pressures in the range from about 800 to about 2400 p.s.i.g., at a liquid hourly space velocity from about 0.2 to about 2.0 and a hydrogen consumption in excess of about 750 s.c.f. per

barrel of deasphalted residuum charge stock, dewaxing the hydrocracked product boiling above 600° F. to a pour point below about 20° F. and separating compo-



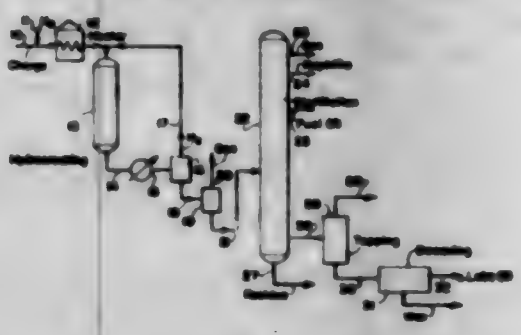
nents of said dewaxed product to obtain a multi-grade lubricating oil having a maximum and minimum viscosity limits of the S.A.E. specifications and a viscosity index in excess of about 115.

3,142,635

PRODUCTION OF LUBRICATING OILS

Harry L. Coonradt, Woodbury, and William E. Garwood, Haddonfield, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 27, 1961, Ser. No. 148,868
8 Claims. (Cl. 208—111)



2. A process for manufacturing high viscosity-index lubricating oils from high boiling hydrocarbon fractions, which comprises: hydrocracking a straight run petroleum fraction which has a fifty percent boiling point greater than 750° F. and a ninety percent boiling point greater than 850° F. over a catalyst selected from the group consisting of: catalysts comprising at least one of the metals having atomic numbers 44, 45, 46, 76, 77 and 78 deposited on a composite of the oxides of at least two of the metals of Groups IIA, IIIB, IVA and IVB of the Periodic Arrangement of the Elements, said composite having an activity index of greater than 25; controlling the hydrocracking conversion of said straight run petroleum fraction to products having boiling points of below 650° F. within the range of about 40 to about 93 volume percent; separating a lubricating oil fraction boiling above 650° F. from the hydrocracked product; removing from about 5 to about 70 volume percent of the lower boiling products of said separated lubricating oil fraction to produce a high boiling lubricating oil fraction and dewaxing the high boiling lubricating oil fraction to produce a superior finished lubricating oil blending stock.

3,142,636

GUANIDINE NAPHTHENATES AND PROCESS FOR MAKING THEM

Allen F. Millikan, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed July 13, 1961, Ser. No. 123,639
13 Claims. (Cl. 208—189)

8. A method of refining a petroleum fraction containing a substantial amount of naphthenic acids which comprises mixing the fraction with a guanidine compound selected from the group consisting of guanidine, alkyl-substituted guanidines, and weak-acid salts thereof in an amount at least stoichiometrically equivalent to the naphthenic acids present at a temperature sufficient to induce reaction and neutralization of said naphthenic acids, and extracting the resulting naphthenate salts from the fraction.

3,142,637

FLOCCULATING AGENT AND PROCESS FOR DIGESTED BAUXITE SLURRIES

George W. Cook, Benton, Ark., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed Jan. 31, 1961, Ser. No. 85,990
8 Claims. (Cl. 210—52)

1. Process for the flocculation of insoluble portions of aluminiferous ores from alkali metal aluminate liquors obtained by the digestion of said ores with caustic alkali solutions, which comprises adding to a slurry of said insoluble ore portions in said aluminate liquors a flocculating and settling agent comprising starch in an amount from about 0.25% to about 1.5% by weight of said insoluble ore portions and from about 40% to about 80% by weight of the starch, of a compound of bivalent lead.

3,142,638

PROCESS FOR SEPARATING SOLIDS FROM SEWAGE

Donald Stapf Blaisdell, 780 Summit Ave., St. Paul, Minn., and Ruth Elizabeth Barry Klaas, 3531 Ridgewood Road, Arden Hills, Minn.

No Drawing. Filed June 29, 1962, Ser. No. 206,184
7 Claims. (Cl. 210—52)

1. A process for separating solids from sewage, in which there are admixed with said sewage iron ore weighting agent having a specific gravity in excess of 1 and having a particle size smaller than 50 mesh (U.S. Standard Screens), and water-dispersible synthetic organic cationic polyelectrolytic flocculating material having a molecular weight in excess of 10,000 and at least one amine group per 10,000 units of molecular weight, said water-dispersible synthetic organic cationic polyelectrolytic flocculating material being employed in an amount, from 1 to 300 parts by weight per million parts of sewage, sufficient to cause flocculation and accelerated sedimentation of solids, and in which, after said flocculation and accelerated sedimentation of solids, there is separated from the sewage composition formed an aqueous portion substantially free of suspended solids.

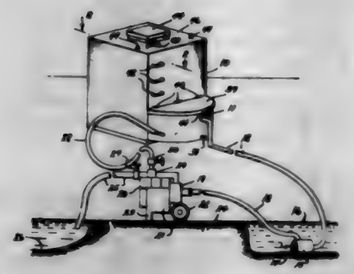
3,142,639

APPARATUS AND PROCESS FOR NEUTRALIZING ACID MINE DRAINAGE WATER

Charles E. Baer, 220 Duff Road, Monroeville, Pa., and Sanford A. Kelsey, Grove City, Pa.; said Kelsey assignor to Otis V. Miller, Trafford, Pa.

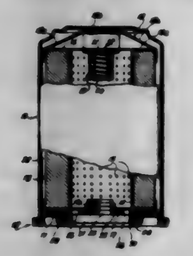
Filed Mar. 10, 1961, Ser. No. 94,941
20 Claims. (Cl. 210—69)

1. An apparatus for neutralizing acid mine drainage water comprising a cabinet, a hopper for receiving hydrated lime pivotally mounted within said cabinet, means for vibrating said hopper, a feeder trough for receiving lime from the hopper, means for vibrating said trough, a mixing tub supported by said cabinet positioned to receive lime from said trough, a strainer adapted to be positioned in the water to be treated, a discharge hose connecting said tub to said strainer, an intake hose having one end connected to said strainer, a pump having its intake side connected to the other end of the intake hose, a delivery hose connected to the delivery side of the pump



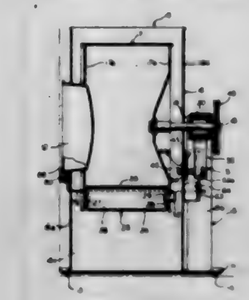
and to the tub, and a discharge hose having one end connected to the delivery side of the pump and its opposite end free.

3,142,640
OIL FILTER
Herbert R. Otto, Jr., 4 Dickson Drive, Westfield, N.J.
Filed Mar. 15, 1961, Ser. No. 95,942
1 Claim. (Cl. 210—136)



An improved oil filter comprising, in combination: a cup-shaped filter housing including an open end and a closed end; an end closure member secured to said open end of said filter housing; a filter cartridge within said housing; a rigid plate surmounting said end closure member and provided with a plurality of inlet apertures for the admission of unfiltered oil to the interior of said housing by means of a passage defined by the interior of said filter housing and the external periphery of said filter cartridge; said end closure including means defining a mouth in communication with said inlet apertures; the said filter cartridge including a filter media disposed between upper and lower end cups; spring means disposed between the closed end of said cup-shaped filter housing and said upper cup; said spring means normally biasing said lower cup into engagement with said rigid plate and obstructing said inlet apertures; said lower cup being selectively movable to a spaced relation with respect to said rigid plate and said inlet apertures by fluid under pressure exerted against said lower cup through said inlet apertures, whereby said unfiltered oil may enter said passage; the lower cup being normally biased into abutment with said rigid plate covering said inlet apertures upon reduction of said fluid pressure below a preselected level preventing drainage of said unfiltered oil out of said housing through said inlet apertures; said rigid plate including an axially disposed inwardly directed tubular flange portion encircling and defining an outlet; the said lower cup including an inwardly directed tubular sleeve slidably carried by said tubular flange of said rigid plate, said lower cup and said filter being movable with respect to said rigid plate and said inlet apertures to control the flow of fluid under pressure through said inlet apertures and out said outlet apertures in accordance with variations in pressure conditions.

3,142,641
ZERO LOCKING SYSTEM FOR CENTRIFUGAL APPARATUS
Remy J. Lachat, Coloma, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,571
7 Claims. (Cl. 210—144)



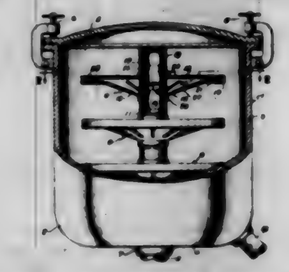
1. Counterbalancing apparatus, comprising a rotatable receptacle,
stationary support means,
a cabinet enclosing said stationary supporting means and said receptacle,
mounting means mounting said receptacle on said stationary supporting means for rotative and vibratory movements relative thereto,
a door in said cabinet controlling access to said receptacle,
a plurality of fluid-receiving pockets mounted on said receptacle for receiving counterbalancing fluid in response to vibratory movements of said receptacle,
means including control means for adding fluid to said pockets to effect the counterbalancing of said receptacle during rotation of unbalanced loads within said receptacle,
indexing means interconnected between said mounting means and said control means for automatically indexing said control means with respect to said pockets to assure addition of said counterbalancing fluid to the proper pockets during the counterbalancing of said receptacle, and
connecting means between said door and said indexing means to preindex the control means whenever the door is actuated.

3,142,642
PLATE FILTER AND METHOD OF MANUFACTURE
Aloysius C. Krachtauer, Conroe, Tex., assignor, by mesne assignments, to C.I.T. Corporation, Houston, Tex., a corporation of New York
Filed Apr. 20, 1962, Ser. No. 189,026
8 Claims. (Cl. 210—232)

1. In a filter unit of the type described, the combination of
an upright tubular support provided with at least one lateral filtrate entrance;
a bottom pan of sheet material having an opening through which said support extends,
said pan having an outer annular flange extending at least generally parallel to the longitudinal axis of said support;
an annular member embracing said flange and secured thereto,
said annular member and said flange cooperating to define an upwardly opening annular groove;

a filter element having an opening through which said support extends,
said filter element extending outwardly to said groove and closing the top of said pan;
and an annular retaining ring removably retained in said groove and operatively associated with said filter element to pack the same in place,
said pan being sealed to said support and said filtrate entrance being disposed between said pan and said filter element.

7. The method for fabricating a filter unit of the type described comprising
providing a tubular support member having at least one lateral filtrate-admitting port;
forming from a single metal sheet a pan having an at least generally frusto-conical body,
a dependent inner cylindrical flange of smaller diameter than the outer diameter of the support member,
and an outer dependent annular flange;



forcing said support member axially through said inner cylindrical flange until said port is disposed above said pan;
forming a metal ring of L-shaped transverse cross section with the base of the L projecting inwardly of the ring;
placing said ring about said outer flange with the free edge afforded by the base of the L engaging the outer face of said annular flange;
securing said ring and outer body flange together;
forming a single perforate metal sheet into a filter element support having a flat main body,
an upwardly projecting inner cylindrical flange and
an outer dependent annular flange;
and positioning said filter element support across the top of said pan with the inner flange of said filter element support embracing said tubular support member above said port and said outer annular flange thereof embracing an exposed upper portion of said outer dependent flange of said pan.

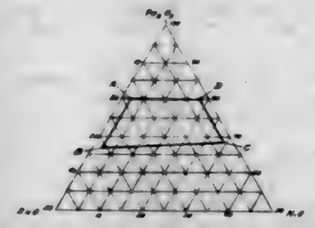
3,142,643
GREASES THICKENED WITH SALTS OF COPOLYMERS OF UNSATURATED DICARBOXYLIC ACID ESTERS AND VINYL ACETATE
Arnold J. Morway, Clark, and Jeffrey H. Bartlett, New Providence, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 20, 1959, Ser. No. 800,632
5 Claims. (Cl. 252—41)

1. A method of forming a complex soap-salt thickened grease which comprises reacting alkali metal base with a mineral oil dispersion of a C_{12} to C_{30} fatty acid and a copolymer of a neutral ester of a C_4 alpha-beta unsaturated dicarboxylic acid and a C_9 to C_{18} alcohol copolymerized with vinyl acetate and heating to a temperature of about 400° to 600° F. for a time sufficient to form said complex.

3,142,644
METHOD OF INCREASING THERMOELECTRIC POWER OF PYROLYZED PYROMELLITONITRILE/ALCOHOL REACTION PRODUCT
John E. Katon, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware
Filed Dec. 22 1960, Ser. No. 77,563
4 Claims. (Cl. 252—62.3)

1. A method for improving the thermoelectric properties of P-type pyrolyzed reaction product, said pyrolyzed reaction product being made by the process comprising: (1) heating at at least reflux temperature a mixture of pyromellitonitrile and a lower alkyl alcohol to form a reaction product having substantially 2 moles of alcohol per mole of pyromellitonitrile, (2) separating the reaction product of step 1 from the reaction mixture, and (3) heating in an inert atmosphere the reaction product separated in step 2 at a temperature in the range of about 200–700° C. for a time sufficient to produce the desired thermoelectric properties, comprising heating said pyrolyzed reaction products prior to use in a thermoelectric device in the presence of free oxygen at sufficiently elevated temperatures in the range of about 50 to about 500° C. for a period of time sufficient to substantially increase the thermoelectric power of said pyrolyzed product.

3,142,645
FERROMAGNETIC, CERAMIC BODY WITH A HIGH QUALITY FACTOR AT HIGH FREQUENCY
Georg Zerbes, Pora-Urbach, Germany, assignor, by direct and mesne assignments, to Steatit-Magnesia Aktiengesellschaft, Lauf, Pegnitz, Germany, a corporation of Germany, and Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana
Filed Aug. 11, 1958, Ser. No. 754,371
1 Claim. (Cl. 252—62.5)

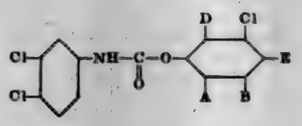


A magnetic core material having a high quality factor at high frequencies and especially useful for antenna cores, comprising a sintered nickel-zinc ferrite consisting essentially of the weight percent composition within the area A–B–C–D of the drawing comprising in addition 1–60% by weight of cobalt oxide based upon the proportion of nickel oxide in said composition, the amount of cobalt oxide being within 0.1 to 3.0% based on the total weight percent of said composition and the amount of ferric oxide in said composition being at least 50 mol percent of the entire composition including the CoO, said product having been sintered at about 1100–1350° C.

3,142,646
ANTISEPTIC DETERGENT FORMULATIONS CONTAINING HALOGENATED CARBANILATES
David J. Beaver, Richmond Heights, and Paul J. Stoffel, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Apr. 11, 1960, Ser. No. 21,115
12 Claims. (Cl. 252—106)

1. An antiseptic cleansing composition comprising a synthetic organic detergent selected from the class consisting of anionic and non-ionic detergents and mixtures thereof, and from 0.5 to 50% by weight, based on said

synthetic organic detergent, of a compound of the structure,



where A, B, D and E are atoms selected from the group consisting of hydrogen and chlorine, provided that at least one of A and D must be hydrogen.

3,142,647

N-HALO ORGANIC COMPOUNDS HAVING IMPROVED WATER-WETTABILITY

George U. Glasgow, New York, N.Y., assignor to Wallace & Tiernan Inc., a corporation of Delaware

No Drawing. Filed May 27, 1960, Ser. No. 32,114
10 Claims. (Cl. 252—187)

1. A method of improving the water-wettability of a normally solid, particle-form N-halo organic compound which comprises filtering an aqueous slurry halogenation reaction mixture containing said particle form N-halo organic compound as a reaction product therein to form a filter cake, directly washing said filter cake with a concentrated aqueous solution of a wetting agent to effect adsorption of said wetting agent on the surfaces of said N-halo compound recovering the resulting washed N-halo compound, now containing said wetting agent adsorbed on the surfaces thereof, and drying the resulting washed N-halo compound.

3,142,648

PROCESS FOR THE PRODUCTION OF SOLID PRODUCTS CONTAINING RADIOACTIVE WASTE MATERIAL AND PRODUCTS OBTAINED BY THIS PROCESS

Guy Lefillatre, Bagnols-sur-Ceze, Jean Rodier, Avignon, and Jean Scheidhauer, Bagnols-sur-Ceze, France, assignors to Commissariat a l'Energie Atomique, Paris, France

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,800
Claims priority, application France Dec. 6, 1961
15 Claims. (Cl. 252—301.1)

1. A process for the production of solid products containing radioactive waste material, which comprises mixing an aqueous radioactive mud with a fluidified bitumen in the presence of a wetting agent for a time sufficient to eliminate a major proportion of the water and so form a bituminous mastic containing the mud solids in a coated form.

3,142,649

NEUTRON RADIATION SHIELDING MATERIAL

Angel Alberto Blanco, Birmingham, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Dec. 28, 1959, Ser. No. 862,071, now Patent No. 3,106,535, dated Oct. 8, 1963. Divided and this application June 29, 1961, Ser. No. 120,525
Claims priority, application Great Britain Aug. 24, 1959
11 Claims. (Cl. 252—478)

1. A method of forming a neutron radiation shield comprising the steps of packing a hollow shape with discrete chips of a solid material, said solid material having finely divided particles of a neutron-absorbing material dispersed therethrough, and filling the air-spaces between said chips with a material which is fluid, at least while being poured into said air-spaces, to form a matrix about said chips, said matrix material containing at least 3% by weight of hydrogen.

3,142,650

POLYURETHANES FROM TRIS-POLYPROPYLENE GLYCOL PHOSPHITES

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 5, 1961, Ser. No. 135,751
20 Claims. (Cl. 260—2.5)

1. A polyurethane comprising the reaction product of a polyhydroxy compound containing alcoholic hydroxyl groups comprising a tris-polypropylene glycol phosphite and an organic polyisocyanate, the majority of the free hydroxyl groups on said phosphite being secondary hydroxyl groups.

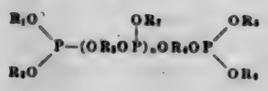
3,142,651

POLYURETHANES FROM POLYPHOSPHORUS PHOSPHITES AND PHOSPHONATES

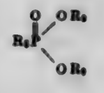
Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 17, 1961, Ser. No. 145,749
30 Claims. (Cl. 260—2.5)

1. A polyurethane comprising the reaction product of an organic polyisocyanate and an ester of the group consisting of (1) esters having the formula



wherein R_1, R_2, R_5, R_6 and R_7 are the residues of a polyalkylene glycol from which one of the hydroxyl groups has been removed, R_3 and R_4 are the residues of a polyalkylene glycol from which the two hydroxyl groups have been removed; n is selected from the group consisting of zero and an integer; (2) phosphite esters of an alkane-ether polyol having 3 to 6 hydroxyl groups, said alkane-ether polyol being the ether of an alkane polyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups and a member of the group consisting of alkylene glycols and polyalkylene glycols, said esters in (2) having at least 6 free hydroxyl groups; (3) a phosphonate having the formula



wherein R_8 is selected from the group consisting of alkyl, alkenyl with 3 to 4 carbon atoms, phenyl, hydroxyalkyl, hydroxyalkoxy alkyl, hydroxypolyalkoxy alkyl, and R_9 is selected from the group consisting of hydroxyalkyl, hydroxyalkoxy alkyl and hydroxypolyalkoxy alkyl; (4) polymers of said phosphonates in (3); and (5) phosphonates which are the isomers of polypropylene glycol polyol phosphites having two less phosphorus atoms than said polyol groups.

3,142,652

POLYMERIC ELASTOMERS PREPARED FROM ISOCYANATE - MODIFIED POLYESTERS, SOLUTIONS THEREOF AND METHODS FOR THEIR PREPARATION

Henry A. Pace, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 3, 1959, Ser. No. 831,856
20 Claims. (Cl. 260—22)

1. A composition of matter which comprises a cured solid elastomer prepared by reacting a mixture of (A) linear polyesters prepared from dihydric alcohols and dicarboxylic acids and containing terminal hydroxyl groups and having molecular weights ranging from about 1700 to about 2100, (B) a trihydric compound in the amount of up to 3% by weight of polyester used, (C) water in the amount of from 2.5 to 4 moles per mole of polyester and (D) diisocyanate selected from the group consisting of 2,4-tolylene diisocyanate and mixtures of 2,4- and 2,6-tolylene diisocyanate in which the 2,6-isomer in said mixture is present to the extent of not more than 10 percent of the total diisocyanate in the mixture, the total diisocyanate being present in an amount of at least 80 mole percent of the equivalent amount required to react with the reactive groups present in the polyester and water, said reaction being carried out in the presence of a catalyst system comprising (*a*) N-methyl morpholine and (*b*) a condensation product of 1 mole of aniline and 4 moles of n-butyraldehyde, each in an amount ranging from about 0.25 to about 3 parts by weight per 100 parts of polyester, the total catalyst employed ranging from about 0.5 to not more than 3.25 parts by weight per 100 parts of polyester, allowing said mixture to foam and destroying the foam before the mixture is converted to a solid elastomer by means of a shearing action exerted upon the foaming mixture and allowing the evolution of carbon dioxide and heating the resulting elastomer to effect a complete cure.

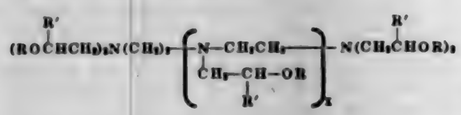
3,142,653

PLASTICIZED UREA-FORMALDEHYDE RESINS

Peter Blackman, Cranston, and John P. Coubere and Edward Mahlon Perry, Barrington, R.I., assignors to I.C.I./Organics/Inc., a corporation of Rhode Island

No Drawing. Filed Sept. 19, 1960, Ser. No. 56,655
11 Claims. (Cl. 260—31.8)

1. A composition comprising a formaldehyde resin selected from the group consisting of urea-formaldehyde and melamine-formaldehyde resins and, as a plasticizer therefor, a compound selected from the group consisting of compounds having the formula:



and compounds having the formula:



wherein R is an aliphatic acyl radical represented by R″CO—, R″ being an alkyl radical which contains from one to three carbon atoms; R′ is hydrogen, y has a value from 2 to 6 and x has a value from 1 to 3.

3,142,654

BUTADIENE-STYRENE-ACRYLATE LATEX TERPOLYMER

William R. Peterson and Donald A. Walker, Baytown, Tex., assignors, by mesne assignments, to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Aug. 30, 1960, Ser. No. 52,791
8 Claims. (Cl. 260—29.7)

1. A freeze-thaw stable, mechanically stable styrene-butadiene-acrylate terpolymer latex particularly adapted for use in water-containing coating compositions comprising about 10–35% by weight acrylate at least about 50% by weight of said acrylate being a member selected from the class consisting of butyl acrylate and 2-ethylhexyl acrylate, the remainder being at least one member selected from the class consisting of butyl acrylate, 2-ethylhexyl acrylate, ethyl acrylate and methyl methacrylate; and about 90–65% by weight styrene plus butadiene, the ratio by weight of styrene to butadiene being about 1.0–1.75:1.

3,142,655

ORGANOPOLYSILOXANE COMPOSITIONS INCORPORATING HEAT-AGE RESISTANT RARE EARTH COMPOUNDS

William J. Bobear, Latham, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 23, 1960, Ser. No. 16,973
7 Claims. (Cl. 260—37)

1. Organopolysiloxane compositions comprising (1) an organopolysiloxane, (2) a filler, and (3) a rare earth material in an amount effective for stabilization of said organopolysiloxane comprising a mixture of compounds selected from the class consisting of octoates, chlorides, acetates, oxalates, fluorides, sulphates, nitrates, naphthenates, and oxides of rare earth metals consisting essentially of cerium, lanthanum, neodymium, praseodymium, samarium, gadolinium, and yttrium, where, each of said rare earth metals has a weight percent in said mixture which is approximately proportional to its weight percent in monazite ore, said organopolysiloxane having a viscosity of at least 100,000 centipoises when measured at 25° C., the organo radicals of said organopolysiloxane being members selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, there being an average of about 1.98 to 2.01 organo radicals per silicon atom.

3,142,656

DIMETHYLOL-CRESOL MODIFIED POLYSULPHIDE POLYMER SEALANT

Austin Thomas Carpenter, Leicester, England, assignor, by mesne assignments, to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 18, 1959, Ser. No. 860,341
Claims priority, application Great Britain Jan. 27, 1959
11 Claims. (Cl. 260—38)

1. A composition reactive to form a heat and petroleum solvent-resistant, rubbery body strongly adherent to surfaces to which it is applied comprising a low molecular weight liquid alkylene polysulphide polymer capable of being cured to form an elastimer, a small amount of a member of the group consisting of ar-alkyl substituted dimethylol phenols in which the alkyl group has from 1 to 8 carbon atoms and alkali metal salts thereof, and lead dioxide as a curing agent for the polysulphide polymer.

3,142,657

ELASTIC REACTION PRODUCT OF A POLYEPOXIDE, A GLYCOL, AND AN ACID ANHYDRIDE

Willy Flech, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed Oct. 18, 1957, Ser. No. 690,913
Claims priority, application Switzerland Aug. 12, 1949
13 Claims. (Cl. 260—45.4)

8. An elastic infusible product, which consists essentially of the reaction product of a compound containing more than one 1,2-epoxide group per mol with, as cross-linking agent, a mixture of a polyalkylene glycol having an average molecular weight of about 200 to about 750 containing two terminal hydroxyl groups, which are separated from one another by a chain of at least 14 members selected from the class consisting of



and of a dicarboxylic acid anhydride, said elastic product containing said chain of at least 14 members intact.

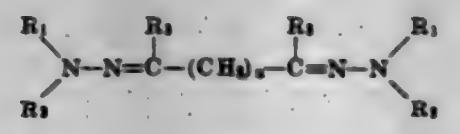
3,142,658

DIOLEFIN POLYMER RUBBER STABILIZED WITH BIS(DIALKYL HYDRAZONES)

Hugh W. Stewart, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

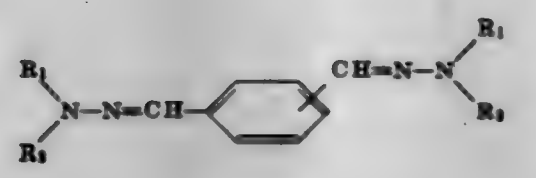
No Drawing. Filed Oct. 26, 1960, Ser. No. 64,982
5 Claims. (Cl. 260—45.9)

1. A composition of matter comprising 100 parts by weight of diolefin polymer rubber and from 0.1 to 0.5 part of a hydrazone selected from the group consisting of,



(I)

and



(II)

where n is an integer from 0 to 8, R_1 to R_3 each representing a radical selected from the group consisting of aralkyl, aryl, straight, branched, and cyclized alkyl, alkenyl, hydroxyalkyl, and alkoxyalkyl radicals containing less than 19 carbon atoms, R_2 additionally representing a hydrogen atom, R_1 and R_3 together additionally representing a radical selected from the group consisting of dimethylene, tetramethylene, pentamethylene, hexamethylene, and oxydiethylene.

3,142,659

HALOGEN CONTAINING VINYL RESINS STABILIZED WITH IRON-POLYOL COMBINATION

Robert A. Buckley, Bedford, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 9, 1961, Ser. No. 116,282
8 Claims. (Cl. 260—45.75)

2. The method of producing a heat stabilized halogen containing vinyl resin composition comprising the steps of intimately admixing (1) about 100 parts by weight total resin of at least one resin of the group consisting of polyvinyl chloride, a copolymer of vinyl chloride and vinyl acetate containing about 3 to 15% vinyl acetate, and a copolymer of vinyl chloride and vinylidene chloride, containing about 90% vinyl chloride, (2) from about 0.001 to about 0.1 part per 100 parts of said resin of iron which is part of an iron salt, said parts of said iron present in an amount above that normally introduced into said composition via resins, plasticizers, and solvents as an impurity, but below that normally present in asbestos fillers and related mineral substances as an impurity, and (3) from about 0.2 to about 5.0 parts per 100 parts of said resin of a compound selected from the class consisting of aliphatic polyhydric alcohols having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., esters of aliphatic polyhydric alcohols, said esters having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., and ethers of aliphatic polyhydric alcohols, said ethers having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., and forming said resin into a predetermined shape.

3,142,660

MODIFICATION AND CROSS-LINKING OF FLUOROCARBON POLYMERS

Robert P. Conger, Park Ridge, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 30, 1961, Ser. No. 156,158
12 Claims. (Cl. 260—47)

1. A method of modifying a fluorocarbon elastomer which is a substantially saturated, linear, rubbery polymer of a fluorinated carbon compound wherein any substituents of said compound other than fluorine are selected from the group consisting of hydrogen, chlorine, bromine and nitroso, comprising mixing 100 parts by weight of said elastomer with from 2 to 10 parts by weight of an alkali metal salt of a phenolic material selected from the group consisting of 2,6-dimethylol-4-(lower alkyl) phenols and 2,2'-methylene-bis(4-chloro-6-methylolphenol), and subjecting the mixture to time-temperature conditions sufficient to produce substantial reaction between said elastomer and phenoxide.

3,142,661

POLYMERIZATION OF ACROLEIN AND METHACROLEIN

Heinrich Brendlein, Hanau am Main Hohe Tanne, Erich Bäder, Hanau am Main, Hermann Leyerzapf, Mainz, and Karl-Heinz Rink, Hanau am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed May 31, 1961, Ser. No. 113,604
Claims priority, application Germany June 2, 1960
4 Claims. (Cl. 260—67)

1. In a process for the catalytic polymerization of an acrolein compound selected from the group consisting of acrolein and methacrolein in the presence of water, the steps which comprise preparing an aqueous solution of such acrolein compound of a concentration between 5% and its saturation point, such solution being devoid of polymerization catalysts, holding such solution for a period of 3 to 100 hours at 20 to 60° C. and only thereafter adding the polymerization catalyst to the thus held solution to effect polymerization.

3,142,662

MODIFIED POLYAMIDES CONTAINING THE BENZENESULFONATE MOIETY

William A. H. Huffman, Decatur, Ala., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 19, 1959, Ser. No. 847,105
13 Claims. (Cl. 260—78)

1. A fiber-forming synthetic linear polycarbonamide of the type having recurring amide groups as an integral part of the main polymer chain, and wherein said groups are separated by at least 2 carbon atoms, which comprises the product obtained by reacting a polyamide-forming composition selected from the group consisting of (A) a polymerizable monoaminomonocarboxylic acid of the general formula R—NH—R'—COOH in which R is a univalent hydrocarbon radical or hydrogen and R' is a divalent hydrocarbon radical having a chain length of at least five carbon atoms, and (B) substantially equimolecular proportions of a dibasic carboxylic acid of the general formula HOOCHRCOOH in which R is a divalent hydrocarbon radical having a chain length of at least two carbon atoms and a diamine of the general formula NH_2CH_2, in which n is an integer of from 2 to 8 with from about 0.25 to 2.5 molar percent based on said polyamide-forming

composition of an aromatic compound of the general formula:



where *n* is an integer of from 1 to 2; X represents an amide-forming radical selected from the group consisting of COOH, RCOOH wherein R is an alkylene radical containing from 1 to 5 carbon atoms, COOR where R is an alkyl radical containing from 1 to 5 carbon atoms, RCOOR' where R is an alkylene radical containing from 1 to 5 carbon atoms and R' is an alkyl radical containing from 1 to 5 carbon atoms, and RNH_2 where R is an alkylene radical containing from 1 to 5 carbon atoms; and wherein M is an alkali metal.

3,142,663

POLYMERS WITH CHAINS CONTAINING PHOSPHORUS, CARBON, AND SILICON

Heinz Niebergall, Frankfurt am Main, Germany, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 15, 1960, Ser. No. 49,439
Claims priority, application Germany May 14, 1957
9 Claims. (Cl. 260—80)

1. A copolymerization process which comprises heating about equimolar proportions of a trihydrocarbyl vinyl silane and a dihydrocarbyl vinyl phosphine oxide, wherein each hydrocarbyl radical is selected from the group consisting of alkyl and aryl radicals for 2–20 hours at 85–155° C. in the presence of an olefin polymerization catalyst.

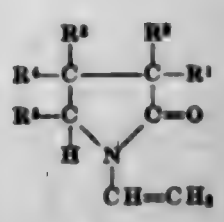
3,142,664

OIL SOLUBLE COPOLYMER OF A N-VINYL PYRROLIDINONE AND AN ALKYL ESTER OF AN UNSATURATED MONOCARBOXYLIC ACID

La Verne N. Bauer, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 19, 1955, Ser. No. 529,585
13 Claims. (Cl. 260—80.5)

1. An oil-soluble copolymer of (1) from 5% to 30% by weight of a N-vinyl pyrrolidinone containing not over ten carbon atoms in all and having the formula



wherein the R's are selected from the class consisting of hydrogen and alkyl groups of not over four carbon atoms, and (2) at least one ester component selected from the group consisting of alkyl methacrylates wherein the alkyl moieties have at least eight carbon atoms, alkyl acrylates wherein the alkyl moieties have at least eight carbon atoms, mixtures of alkyl methacrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms, mixtures of alkyl acrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms, and mixtures of alkyl methacrylates with alkyl acrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms.

3,142,665

NOVEL TETRAFLUOROETHYLENE RESINS AND THEIR PREPARATION

Anthony John Cardinal, Parkersburg, and William Lee Edens, Vienna, W. Va., and John William van Dyk, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1960, Ser. No. 41,711
11 Claims. (Cl. 260—92.1)

1. A particulate polymeric tetrafluoroethylene resin, consisting essentially of fluoroethylene of the group consisting of tetrafluoroethylene, perfluoroalkyl trifluoroethylenes of 3 to 10 carbon atoms, and oxyperfluoroalkyl trifluoroethylenes of 3 to 10 carbons as combined monomer and comprising at least 98 weight percent combined tetrafluoroethylene, predominantly comprising spheroidal particles 0.05 to 0.5 micron in diameter, having an average particle diameter in the range of 0.12 to 0.35 micron, a standard specific gravity of less than 2.235, and a specific melt viscosity of at least 1×10^9 poises at 380° C., said resin being one obtained by subjecting tetrafluoroethylene to polymerizing conditions of temperature and pressure in an aqueous medium having dissolved therein a free-radical polymerization initiator, a dispersing agent, and, present at least during and coextensively with the polymerization of the final 30 percent of the tetrafluoroethylene polymerized, a modifier in amounts ineffective to prevent resin having the aforesaid characteristics from being obtained, but cumulatively effective to maintain the overall rate of polymerization at least 5 percent below that obtaining for the polymerization of an equal quantity of tetrafluoroethylene in an identical reaction medium continuously saturated with tetrafluoroethylene at the same temperature and pressure in the absence of said modifier, said modifier being selected from the group consisting of non-polymerizable chain transfer agents containing at least one covalently-bound non-metallic monovalent atom other than fluorine, perfluoroalkyl trifluoroethylene of 3 to 10 carbon atoms, and oxyperfluoroalkyl trifluoroethylenes of 3 to 10 carbon atoms.

3. A particulate polymeric tetrafluoroethylene resin predominantly comprising spheroidal particles 0.05 to 0.5 micron in diameter, having an average particle diameter in the range of 0.12 to 0.35 micron, a standard specific gravity of less than 2.235, and a specific melt viscosity of at least 1×10^9 poises at 380° C., said resin consisting essentially of tetrafluoroethylene and hexafluoropropylene as combined monomer and comprising at least 98 weight percent combined tetrafluoroethylene, and at least in the outer 30 weight percent of the resin particles, a combined hexafluoropropylene content in the range of 0.01 to 0.3 weight percent as determined by infra-red measurement.

3,143,666

ETHYLENE POLYMERIZATION UTILIZING TWO ORGANIC PEROXYGEN COMPOUNDS AS CATALYSTS

Oliver de S. Deez, Dayton, Lowell E. Erbaugh, Vandalia, and John M. Butler, Dayton, Ohio, assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,358
2 Claims. (Cl. 260—94.9)

1. In the preparation of polymers of ethylene by a continuous non-solvent process, the improvement which comprises continuously flowing through a small diameter, highly elongated tube a reaction mixture comprising ethylene, a chain transfer agent selected from the group consisting of saturated lower hydrocarbons having at least 3 carbon atoms and acetone, the said chain transfer agent being employed in an amount from about 0.3 to 15 mole percent based on ethylene and in the absence of any more than 2% by weight based on ethylene of other solvent

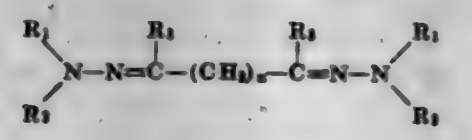
3,142,658

DIOLEFIN POLYMER RUBBER STABILIZED WITH BIS(DIALKYL HYDRAZONES)

Hugh W. Stewart, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

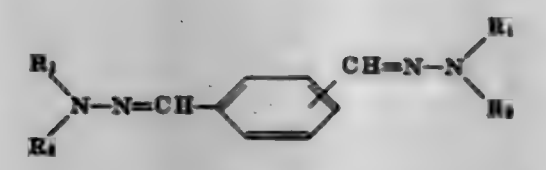
No Drawing. Filed Oct. 26, 1960, Ser. No. 64,982
5 Claims. (Cl. 260—45.9)

1. A composition of matter comprising 100 parts by weight of diolefin polymer rubber and from 0.1 to 0.5 part of a hydrazone selected from the group consisting of,



(I)

and



(II)

where *n* is an integer from 0 to 8, R_1 to R_3 each representing a radical selected from the group consisting of aralkyl, aryl, straight, branched, and cyclized alkyl, alkenyl, hydroxyalkyl, and alkoxyalkyl radicals containing less than 19 carbon atoms, R_3 additionally representing a hydrogen atom, R_1 and R_2 together additionally representing a radical selected from the group consisting of dimethylene, tetramethylene, pentamethylene, hexamethylene, and oxydiethylene.

3,142,659

HALOGEN CONTAINING VINYL RESINS STABILIZED WITH IRON-POLYOL COMBINATION

Robert A. Buckley, Bedford, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 9, 1961, Ser. No. 116,202
8 Claims. (Cl. 260—45.75)

2. The method of producing a heat stabilized halogen containing vinyl resin composition comprising the steps of intimately admixing (1) about 100 parts by weight total resin of at least one resin of the group consisting of polyvinyl chloride, a copolymer of vinyl chloride and vinyl acetate containing about 3 to 15% vinyl acetate, and a copolymer of vinyl chloride and vinylidene chloride, containing about 90% vinyl chloride, (2) from about 0.001 to about 0.1 part per 100 parts of said resin of iron which is part of an iron salt, said parts of said iron present in an amount above that normally introduced into said composition via resins, plasticizers, and solvents as an impurity, but below that normally present in asbestos fillers and related mineral substances as an impurity, and (3) from about 0.2 to about 5.0 parts per 100 parts of said resin of a compound selected from the class consisting of aliphatic polyhydric alcohols having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., esters of aliphatic polyhydric alcohols, said esters having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., and ethers of aliphatic polyhydric alcohols, said ethers having 2 to 8 hydroxyl groups, at least two of which are primary hydroxyl groups and a boiling point in excess of 250° F., and forming said resin into a predetermined shape.

3,142,660

MODIFICATION AND CROSS-LINKING OF FLUOROCARBON POLYMERS

Robert P. Conger, Park Ridge, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 30, 1961, Ser. No. 156,158
12 Claims. (Cl. 260—47)

1. A method of modifying a fluorocarbon elastomer which is a substantially saturated, linear, rubbery polymer of a fluorinated carbon compound wherein any substituents of said compound other than fluorine are selected from the group consisting of hydrogen, chlorine, bromine and nitroso, comprising mixing 100 parts by weight of said elastomer with from 2 to 10 parts by weight of an alkali metal salt of a phenolic material selected from the group consisting of 2,6-dimethylol-4-(lower alkyl) phenols and 2,2'-methylene-bis(4-chloro-6-methylolphenol), and subjecting the mixture to time-temperature conditions sufficient to produce substantial reaction between said elastomer and phenoxide.

3,142,661

POLYMERIZATION OF ACROLEIN AND METHACROLEIN

Heinrich Brendlein, Hanau am Main Hohe Tanne, Erich Bäder, Hanau am Main, Hermann Leyerzapf, Mainz, and Karl-Heinz Rink, Hanau am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed May 31, 1961, Ser. No. 113,604
Claims priority, application Germany June 2, 1960
4 Claims. (Cl. 260—67)

1. In a process for the catalytic polymerization of an acrolein compound selected from the group consisting of acrolein and methacrolein in the presence of water, the steps which comprise preparing an aqueous solution of such acrolein compound of a concentration between 5% and its saturation point, such solution being devoid of polymerization catalysts, holding such solution for a period of 3 to 100 hours at 20 to 60° C. and only thereafter adding the polymerization catalyst to the thus held solution to effect polymerization.

3,142,662

MODIFIED POLYAMIDES CONTAINING THE BENZENESULFONATE MOIETY

William A. H. Huffman, Decatur, Ala., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 19, 1959, Ser. No. 847,105
13 Claims. (Cl. 260—78)

1. A fiber-forming synthetic linear polycarbonamide of the type having recurring amide groups as an integral part of the main polymer chain, and wherein said groups are separated by at least 2 carbon atoms, which comprises the product obtained by reacting a polyamide-forming composition selected from the group consisting of (A) a polymerizable monoaminomonocarboxylic acid of the general formula R—NH—R'—COOH in which R is a univalent hydrocarbon radical or hydrogen and R' is a divalent hydrocarbon radical having a chain length of at least five carbon atoms, and (B) substantially equimolecular proportions of a dibasic carboxylic acid of the general formula HOOCHRCOOH in which R is a divalent hydrocarbon radical having a chain length of at least two carbon atoms and a diamine of the general formula NH_2CH_n, in which *n* is an integer of from 2 to 8 with from about 0.25 to 2.5 molar percent based on said polyamide-forming

composition of an aromatic compound of the general formula:



where *n* is an integer of from 1 to 2; X represents an amide-forming radical selected from the group consisting of COOH, RCOOH wherein R is an alkylene radical containing from 1 to 5 carbon atoms, COOR where R is an alkyl radical containing from 1 to 5 carbon atoms, RCOOR′ where R is an alkylene radical containing from 1 to 5 carbon atoms and R′ is an alkyl radical containing from 1 to 5 carbon atoms, and RNH_2 where R is an alkylene radical containing from 1 to 5 carbon atoms; and wherein M is an alkali metal.

3,142,663

POLYMERS WITH CHAINS CONTAINING PHOSPHORUS, CARBON, AND SILICON

Heinz Niebergall, Frankfurt am Main, Germany, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 15, 1960, Ser. No. 49,439
Claims priority, application Germany May 14, 1957
9 Claims. (Cl. 260—80)

1. A copolymerization process which comprises heating about equimolar proportions of a trihydrocarbyl vinyl silane and a dihydrocarbyl vinyl phosphine oxide, wherein each hydrocarbyl radical is selected from the group consisting of alkyl and aryl radicals for 2–20 hours at 85–155° C. in the presence of an olefin polymerization catalyst.

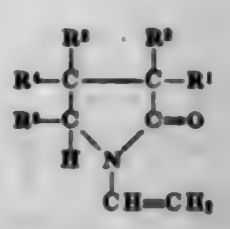
3,142,664

OIL SOLUBLE COPOLYMER OF A N-VINYL PYRROLIDINONE AND AN ALKYL ESTER OF AN UNSATURATED MONOCARBOXYLIC ACID

La Verne N. Bauer, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 19, 1955, Ser. No. 529,585
13 Claims. (Cl. 260—80.5)

1. An oil-soluble copolymer of (1) from 5% to 30% by weight of a N-vinyl pyrrolidinone containing not over ten carbon atoms in all and having the formula



wherein the R's are selected from the class consisting of hydrogen and alkyl groups of not over four carbon atoms, and (2) at least one ester component selected from the group consisting of alkyl methacrylates wherein the alkyl moieties have at least eight carbon atoms, alkyl acrylates wherein the alkyl moieties have at least eight carbon atoms, mixtures of alkyl methacrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms, mixtures of alkyl acrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms, and mixtures of alkyl methacrylates with alkyl acrylates wherein the carbon content of the alkyl moieties averages at least eight carbon atoms.

3,142,665

NOVEL TETRAFLUOROETHYLENE RESINS AND THEIR PREPARATION

Anthony John Cardinal, Parkersburg, and William Lee Edens, Vienna, W. Va., and John William van Dyk, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1960, Ser. No. 41,711
11 Claims. (Cl. 260—92.1)

1. A particulate polymeric tetrafluoroethylene resin, consisting essentially of fluoroethylene of the group consisting of tetrafluoroethylene, perfluoroalkyl trifluoroethylenes of 3 to 10 carbon atoms, and oxyperfluoroalkyl trifluoroethylenes of 3 to 10 carbons as combined monomer and comprising at least 98 weight percent combined tetrafluoroethylene, predominantly comprising spheroidal particles 0.05 to 0.5 micron in diameter, having an average particle diameter in the range of 0.12 to 0.35 micron, a standard specific gravity of less than 2.235, and a specific melt viscosity of at least 1×10^9 poises at 380° C., said resin being one obtained by subjecting tetrafluoroethylene to polymerizing conditions of temperature and pressure in an aqueous medium having dissolved therein a free-radical polymerization initiator, a dispersing agent, and, present at least during and coextensively with the polymerization of the final 30 percent of the tetrafluoroethylene polymerized, a modifier in amounts ineffective to prevent resin having the aforesaid characteristics from being obtained, but cumulatively effective to maintain the overall rate of polymerization at least 5 percent below that obtaining for the polymerization of an equal quantity of tetrafluoroethylene in an identical reaction medium continuously saturated with tetrafluoroethylene at the same temperature and pressure in the absence of said modifier, said modifier being selected from the group consisting of non-polymerizable chain transfer agents containing at least one covalently-bound non-metallic monovalent atom other than fluorine, perfluoroalkyl trifluoroethylene of 3 to 10 carbon atoms, and oxyperfluoroalkyl trifluoroethylenes of 3 to 10 carbon atoms.

3. A particulate polymeric tetrafluoroethylene resin predominantly comprising spheroidal particles 0.05 to 0.5 micron in diameter, having an average particle diameter in the range of 0.12 to 0.35 micron, a standard specific gravity of less than 2.235, and a specific melt viscosity of at least 1×10^9 poises at 380° C., said resin consisting essentially of tetrafluoroethylene and hexafluoropropylene as combined monomer and comprising at least 98 weight percent combined tetrafluoroethylene, and at least in the outer 30 weight percent of the resin particles, a combined hexafluoropropylene content in the range of 0.01 to 0.3 weight percent as determined by infra-red measurement.

3,142,666

ETHYLENE POLYMERIZATION UTILIZING TWO ORGANIC PEROXYGEN COMPOUNDS AS CATALYSTS

Oliver de S. Dorr, Dayton, Lowell E. Erbaugh, Vandalia, and John M. Butler, Dayton, Ohio, assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,350
2 Claims. (Cl. 260—94.9)

1. In the preparation of polymers of ethylene by a continuous non-solvent process, the improvement which comprises continuously flowing through a small diameter, highly elongated tube a reaction mixture comprising ethylene, a chain transfer agent selected from the group consisting of saturated lower hydrocarbons having at least 3 carbon atoms and acetone, the said chain transfer agent being employed in an amount from about 0.3 to 15 mole percent based on ethylene and in the absence of any more than 2% by weight based on ethylene of other solvent

and a combination free radical catalyst comprising mixtures of catalysts of decomposition temperatures differing by at least 20 centigrade degrees and in the range from 110° C. to 200° C., the catalysts being selected from the group consisting of organic peroxygen compounds and oxygen and comprising lauroyl peroxide and ditertiarybutyl peroxide, and maintaining the pressure in the reaction tube in excess of about 15,000 pounds per square inch and carrying out the actual polymerization in the range of 120° to 300° C. and over a broader temperature range than would obtain with use of a single catalyst, utilizing indirect heat exchange for control of same, and adjusting the amounts and ratio of catalyst in line with other variables in the polymerization to obtain good polymer quality along with high conversion of ethylene to the polymer, the catalysts being present in amounts such that each constitutes at least 10 molar percent of the catalyst combination on a molar basis and the total catalyst is 17 to 35 micromols/mole of ethylene, and being selected so as to obtain a substantially large portion of the polymerization at temperatures in the range of 120 to 170° C., and also a substantially large portion of the polymerization at temperatures well above 170° C., while maintaining a relatively smooth reaction as indicated by the temperature-time curve for the reaction being fairly smooth without a peak radically higher than the rest of the curve.

3,142,667

COUNTERCURRENT EXTRACTION OF GELATIN

Donald P. Grettie and Eldon J. Strandine, Chicago, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 26, 1960, Ser. No. 65,000
7 Claims. (Cl. 260—118)

1. The method of extracting gelatin from collagenous material which comprises: controlling the temperature of aqueous extraction liquid substantially continuously flowing through a plurality of extraction zones whereby to maintain a temperature gradient on the liquid throughout said zones, said temperature gradient ranging from above about 175° F., which is sufficient to extract gelatin from the collagenous material to a lower temperature which is below about 150° F., but effective to maintain extracted gelatin and the aqueous extraction liquid in a readily flowable condition; countercurrently contacting said collagenous material sequentially with the liquid in each of said zones whereby to extract a portion of gelatin from said material in each zone, said contact of collagenous material with said liquid in said zones commencing at the lower temperature end of said temperature gradient and terminating at the higher temperature end thereof; and collecting the aqueous extraction liquid including gelatin.

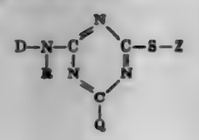
3,142,668

DYESTUFFS HAVING AN AZO, ANTHRAQUINONE, NITRO, OR PHTHALOCYANINE CHROMOPHORIC RADICAL AND A THIAZINE RING HAVING A 5- TO 6-MEMBERED-HETEROCYCLIC-RING THIO SUBSTITUENT

Ian Durham Rattee and Frederick Andrew Wells, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 29, 1960, Ser. No. 39,457
Claims priority, application Great Britain July 8, 1959
6 Claims. (Cl. 260—153)

1. Dyestuffs of the formula:



wherein:

D represents a chromophoric dyestuffs radical selected from the class consisting of the azo, anthraquinone, nitro, and phthalocyanine chromophoric dyestuffs radicals and wherein the nitrogen atom N is attached to a carbon atom of said dyestuff radical;

R represents a member selected from the class consisting of hydrogen, cycloalkyl, and lower alkyl radicals;

Z represents the radical of a heterocyclic compound in which the heterocyclic ring contains 5 to 6 atoms and the sulfur atom S is attached to a carbon atom of the heterocyclic ring which is in turn directly linked to a hetero atom of the said heterocyclic ring selected from the class consisting of oxygen, sulfur, nitrogen, and selenium, and wherein any substituents on carbon atoms present in the said heterocyclic ring are selected from the group consisting of methyl radicals, and the carbon atoms necessary to form a fused aromatic ring selected from benzene and naphthalene rings, and any substituents on the aromatic ring are selected from methyl, methoxy, nitro, acetylamino, chlorine, carboxylic acid, and sulfonic acid; and

Q is selected from the class consisting of —S—Z, chlorine, bromine, lower alkyl mercapto, phenylmercapto, lower alkyl, phenyl, hydroxy, lower alkoxy, phenoxy, amino, lower alkyl amino, di-(lower alkyl)amino, anilino, sulfoanilino, carboxyanilino, disulfoanilino, carboxysulfoanilino, and N,N-di(lower alkyl)dithiocarbamyl.

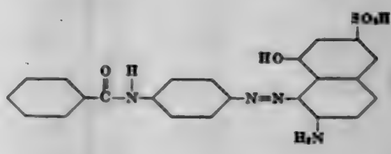
3,142,669

MONOAZO DYES

James F. Feeman, Wyomissing, Pa., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed Dec. 12, 1960, Ser. No. 75,112
4 Claims. (Cl. 260—199)

1. The compound:



3,142,670

VACUUM DRUM DRYING OF STREPTOMYCIN SULFATE

Clarence C. Christman, Springfield, Pa., Rudolph Cicchetti, Harrisonburg, Va., and William John Tinsson, Arlington, Mass., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 6, 1962, Ser. No. 185,504
3 Claims. (Cl. 260—210)

1. A process for the preparation of sterile solid streptomycin sulfate which comprises applying a thin film of a sterile aqueous solution of streptomycin sulfate having a concentration of between about 20% to about 70% solids on a weight basis, said solution being substantially free from contamination with organic solvents, to the surface of a heated revolving drum, said surface being maintained at a temperature of about 80° to about 150° C., and maintaining said film of sterile aqueous solution of streptomycin sulfate in contact with said heated drum for a period between about 4 to about 40 seconds at a pressure ranging from about 1 to about 50 mm. mercury pressure, thereby evaporating moisture from said film to produce sterile, solid streptomycin sulfate, and removing said sterile, solid streptomycin sulfate from the surface of said heated drum.

3,142,671

GLEBOMYCIN AND SALTS THEREOF

Hiroshi Kawaguchi, Masanori Otsuhshi, Takao Miyaki, Tomoo Okazeri, Meiki Matsuzaki, Hideo Koshiyama, and Hiroshi Tsukiura, Tokyo, Japan, assignors to Banyu Pharmaceutical Company, Ltd., Tokyo, Japan, a Japanese corporation

Filed May 31, 1962, Ser. No. 199,195
5 Claims. (Cl. 260—210)

1. A member selected from the group consisting of glebidyl dihydrostreptobiosaminide and nontoxic, pharmaceutically acceptable acid addition salts thereof.

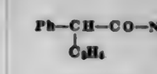
3,142,672

DERIVATIVES OF N-α-PHENYL- AND N-α-BIPHENYLYLBUTYRIC ACIDS AND AMINO SUGARS

Katsutada Masuda, Ashiya, Japan, assignor to Takeda Pharmaceutical Industries, Ltd., Higashi-ku, Osaka, Japan

No Drawing. Original application Sept. 3, 1957, Ser. No. 681,470. Divided and this application Oct. 12, 1960, Ser. No. 66,394
Claims priority, application Japan Sept. 5, 1956
3 Claims. (Cl. 260—211)

1. A compound having the formula



wherein Ph is a member selected from the group consisting of phenyl and biphenylyl, and —NH—R is an amino sugar residue selected from the group consisting of D-glucosamino and chondrosamino.

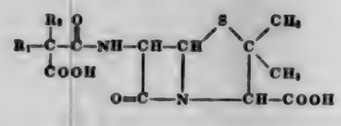
3,142,673

DERIVATIVES OF 6-AMINOPENICILLANIC ACID

Donald C. Hobbs, East Lyme, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 31, 1961, Ser. No. 99,715
12 Claims. (Cl. 260—239.1)

1. A compound selected fro mthe group consisting of those having the formula:



and the pharmaceutically acceptable salts thereof wherein R_1 is selected from the group consisting of straight- and branched-chain alkyl, oxygen-interrupted alkyl and sulfur-interrupted alkyl, of up to six carbon atoms; straight- and branched-chain alkenyl of two to six carbon atoms; cyclopentyl, cyclohexyl, 2 - cyclopentenyl and 2-cyclohexenyl; straight- and branch-chain alkoxy of up to six carbon atoms; straight- and branched-chain alkylmercapto of up to six carbon atoms; phenyloxy; phenylmercapto; phenyl and substituted phenyl wherein the substituent is selected from the group consisting of methyl, ethyl, chloro, bromo, nitro, amino, methoxy, ethoxy and trifluoromethyl; benzyl and substituted benzyl wherein the substituent is selected from the group consisting of methyl, ethyl, chloro, bromo, nitro, amino, methoxy, ethoxy and trifluoromethyl; R_2 is selected from the group consisting of hydrogen and R_1; and R_1 and R_2 when taken together are benzylidene.

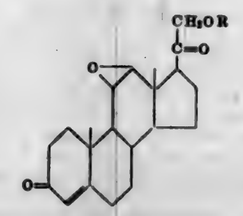
3,142,674

RING A UNSATURATED 11β,12β-OXIDO-STEROID-3-ONES OF THE PREGNANE SERIES

Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Jan. 25, 1956, Ser. No. 561,366. Divided and this application Mar. 26, 1957, Ser. No. 648,492
4 Claims. (Cl. 260—239.55)

1. A compound of the structural formula



wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon monocarboxylic acid having from one to seven carbon atoms, inclusive.

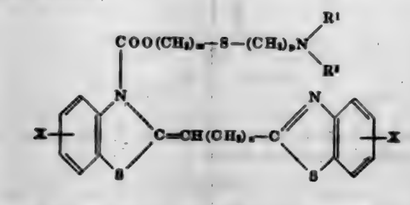
3,142,675

NOVEL DERIVATIVES OF 3-CARBOXYBENZOTHIAZOLENYLBENZOTHIAZOLYLALKANE

Charanjit Rai and John R. Braunwarth, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

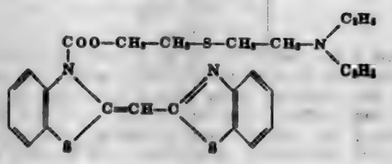
No Drawing. Filed May 18, 1961, Ser. No. 110,859
9 Claims. (Cl. 260—240.7)

1. A compound of the group consisting of basic esters of the formula



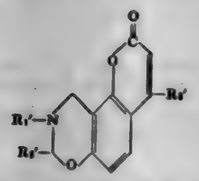
wherein R^1 and R^2 are substituents of the group consisting of hydrogen and alkyl of 1 to 20 carbon atoms, *n* is an integer of 0 to 18, *m* and *p* are integers of 2 to 20, X is a substituent of the group consisting of hydrogen, chlorine, bromine, methyl, ethyl, isopropyl, methoxy, ethoxy, amino and nitro, and the citrate, maleate, stearate, oxalate, gluconate, gallate, butyrate, isovalerate, caproate, laurate, palmitate, oleate, linoleate, formate, acetate propionate, mineral acid, alkali metal, alkaline earth metal, ammonium chloride complex and lower alkyl halide quaternary ammonium salts thereof.

2. The compound of the formula



3,142,676
FYRANO-BENZOXAZINES
Martin Eric Kuehne, Summit, N.J., assignor to Ciba Corporation, a corporation of New Jersey
No Drawing. Filed June 14, 1961, Ser. No. 116,940
9 Claims. (Cl. 260—244)

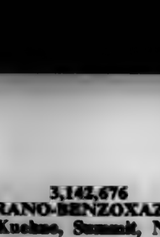
1. A member of the group consisting of a compound of the formula:



in which R_1' is a member selected from the group consisting of lower alkyl, lower alkyl substituted by carbamyl, lower alkyl substituted by carbo-lower alkoxy, cycloalkyl having from five to six carbon atoms as ring members, phenyl-lower alkyl, (lower alkoxy-phenyl)-lower alkyl and pyridyl-lower alkyl, R_2' stands for a member selected from the group consisting of hydrogen, phenyl, halogenophenyl, nitro-phenyl and pyridyl, and R_3' is a member selected from the group consisting of hydrogen and lower alkyl, a non-toxic acid addition salt thereof, and a lower alkyl quaternary ammonium compound thereof.

3,142,677
SUBSTITUTED 1,3,4-DIOXAZINES
Arthur Ferguson McKay, Beaconsfield, Quebec, and Jean-Marc Billy, Montreal, Quebec, Canada, assignors to Monsanto Canada Limited, La Salle, Quebec, Canada
No Drawing. Filed Feb. 23, 1962, Ser. No. 175,281
8 Claims. (Cl. 260—244)

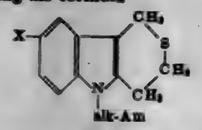
1. A compound having the formula



wherein R in both rings is a member of the group consisting of hydrogen and lower alkyl.

3,142,678
AMINO SUBSTITUTED PENTHIENOINDOLES
Leonard M. Rice, Baltimore, Md., and Meier E. Freed, Philadelphia, and Elizabeth Hartz, Bryn Mawr, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 9, 1962, Ser. No. 165,248
10 Claims. (Cl. 260—247.1)

1. A substance selected from the group consisting of compounds having the formula

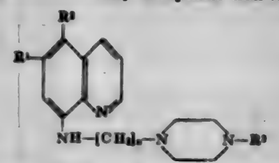


wherein X is a member of the group consisting of hydrogen, chlorine, fluorine, methyl, nitro, amino, and methoxyl, Am represents amino radical containing no more than eight carbon atoms and selected from the group consisting of amino, monoalkylamino, dialkylamino, piperidino, pyrrolidino, morpholino, and N-lower alkyl piperazino, and alk represents an alkylene having a carbon chain of from two to six atoms, and the non-toxic acid-addition salts of these compounds with pharmaceutically acceptable acids.

7. N-(2-morpholinoethyl)-penthienoindole.

3,142,679
PIPERAZINO ALKYLAMINO QUINOLINE DERIVATIVES AND THE MANUFACTURE THEREOF
Paul Anthony Barrett, Albert Gordon Caldwell, and Leslie Percy Walls, London, England, assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York
No Drawing. Filed July 2, 1962, Ser. No. 207,107
Claims priority, application Great Britain Mar. 31, 1958
11 Claims. (Cl. 260—268)

1. A compound selected from the class consisting of the bases of the Formula I and their acid addition salts containing pharmaceutically acceptable non-toxic anions,



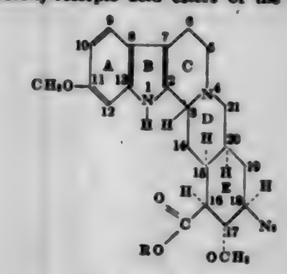
(I)

in which formula R^1 is selected from the class consisting of methoxy, ethoxy and hydroxy, R^2 is selected from the class consisting of hydrogen, methoxy and hydroxy, R^3 is selected from the class consisting of 2-hydroxyethyl, 2-hydroxypropyl, 3-hydroxypropyl and 3-hydroxybutyl, and *n* is an integer from 3 to 6.

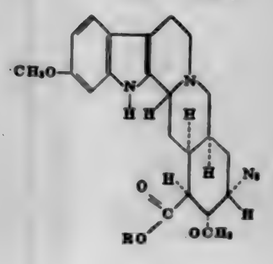
3,142,680
18 - AZIDO - 18 - DESOXY-RESERPIC-ACID-ESTERS AND PROCESS FOR THE PREPARATION OF SUCH COMPOUNDS
Gustav Lettenbauer, Lampertheim, Hesse, Alfred Popelak, Mannheim, Wolfgang Schaumann, Mannheim-Waldhof, and Annemarie Ribbentrop, Mannheim, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a German corporation
No Drawing. Filed Nov. 15, 1962, Ser. No. 238,832
Claims priority, application Germany Nov. 22, 1961
10 Claims. (Cl. 260—287)

1. A member selected from the group consisting of 18-azido-18-desoxy-reserpic acid esters of the formulae:

(Ia)



(Ib)



wherein R is a member selected from the group consisting of alkyl, lower alkoxy alkyl, wherein the alkyl groups are those having from 1–5 carbon atoms, phenyl and benzyl and a non-toxic addition salt thereof.

3,142,681
BASIC ESTERS OF 5-HYDROXYDIBENZO [a,d] [1,4] CYCLOHEPTADIENE-5-CARBOXYLIC ACID
Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 6, 1962, Ser. No. 208,108
7 Claims. (Cl. 260—294.3)

1. A chemical compound selected from the group consisting of compounds of the formula

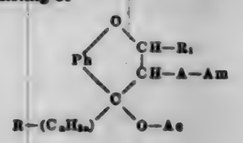


where R is selected from the group consisting of 2-diethylaminoethyl, N-methyl-3-piperidyl and N-methyl-2-pyrrolidylmethyl; and hydrohalide salts of said compounds.

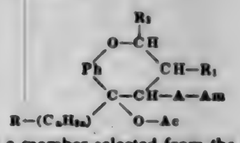
3. N-methyl-3-piperidyl 5-hydroxydibenzo[a,d][1,4]-cycloheptadiene-5-carboxylate.

3,142,682
TERTIARY AMINO DERIVATIVES OF CHROMANS AND HOMO-CHROMANS
George de Stevens, New Providence, N.J., assignor to Ciba Corporation, a corporation of Delaware
No Drawing. Filed Nov. 21, 1961, Ser. No. 154,060
15 Claims. (Cl. 260—295)

1. A member selected from the group consisting of a compound having one of the formulae selected from the group consisting of



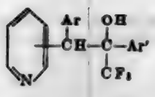
and



in which Ph is a member selected from the group consisting of 1,2-phenylene, (lower alkyl)-1,2-phenylene, (lower alkoxy)-1,2-phenylene and (halogeno)-1,2-phenylene, R is a member selected from the group consisting of phenyl, (lower alkyl)-phenyl and pyridyl, the letter *n* is an integer from 0 to 2, both inclusive, Ac is lower alkanoyl, A stands for lower alkylene, Am is a member selected from the group consisting of N,N-di-lower alkyl-amino, N,N-alkylene-imino in which alkylene has from four to eight carbon atoms, and morpholino, and each of the groups R_1 and R_2 is a member selected from the group consisting of hydrogen, lower alkyl, phenyl and phenyl-lower alkyl, and an acid addition salt thereof.

3,142,683
1-PYRIDYL-1,2-DIARYL-3-TRIFLUORO-PROPAN-2-OLS AND A PROCESS FOR THEIR PREPARATION
John R. Dice and Martin L. Black, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Aug. 14, 1961, Ser. No. 131,694
6 Claims. (Cl. 260—297)

1. Trifluoropropane compounds of the formula



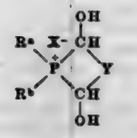
where Ar is a member of the class consisting of phenyl and chlorophenyl, and Ar' is a member of the class consisting of phenyl, chlorophenyl and methoxyphenyl.

3,142,684
N-(BETA-CYANOETHYLALKYL)-2-ARYLENE-THIAZOLE SULFENAMIDE
Albert F. Hardman, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Original application June 17, 1955, Ser. No. 516,311. Divided and this application Aug. 7, 1958, Ser. No. 753,628
3 Claims. (Cl. 260—306.6)

1. As a new composition beta-cyanoethyl-alkyl-2-arylenethiazolesulfenamide in which the alkyl group contains from 1 to 5 carbon atoms.

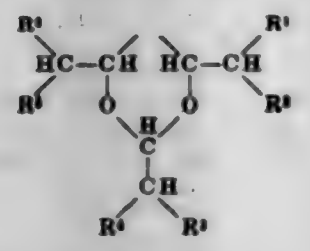
3,142,685
SUBSTITUTED DIHYDROXYPHOSPHORINANIUM, DIHYDROXYPHOSPHOLANIUM AND DIHYDROXYPHOSPHEPANIUM SALTS
Sheldon A. Buckler and Martin Epstein, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Jan. 11, 1962, Ser. No. 165,677
11 Claims. (Cl. 260—340.7)

1. A heterocyclic phosphonium salt of the formula

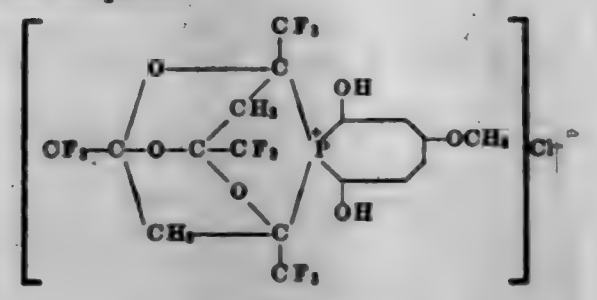


wherein X represents the anion of a water-soluble acid; Y represents a member selected from the group consisting of substituted and unsubstituted, branched and straight chain alkylene providing 2 to 4 carbon atoms in the phosphorus-containing ring, substituted and unsubstituted arylene in which from two to four consecutive ring carbon atoms of the arylene ring provide, respectively, from two to four consecutive carbon atoms in the phosphorus-containing ring, said substituents for alkylene and arylene being selected from the group consisting of halogen, hydroxyl, carbamyl, carbalkoxy, carboxy, lower alkoxy, phenyl and phenoxy; R^a and R^b, respectively, represent a member selected from the group consisting of substituted and unsubstituted, branched and straight chain alkyl, in which said alkyl has from 1 to 18 carbon atoms, substituted and unsubstituted, branched and straight chain alkenyl, in which said alkenyl has from 1 to 18 carbon atoms, said substituents for alkyl and alkenyl being on a carbon atom at least 3 carbon atoms removed from the phosphorus atom of the formula, substituted and unsubstituted cycloalkyl, substituted and unsubstituted cycloalkenyl, substituted and unsubstituted phenyl, said substituents for alkyl, alkenyl, cycloalkyl, cycloalkenyl and phenyl being selected from the group consisting of halogen, hydroxyl, carbamyl, carbalkoxy, carboxy, lower alkoxy, phenyl, phenoxy, amino, nitro, ureido and sulfo; R^a and R^b, respectively, are attached directly to the phosphorus atom through a carbon atom, and R^a and R^b combined form a cyclic secondary phosphine selected from

the group consisting of a 2,4,6-trisecondary-alkyl-1,3-dioxa-5-phosphacyclohexane of the formula



9. The compound



3,142,686

PROCESS FOR PREPARING EPOXY ESTERS OF ALPHA, ALPHA-DIALKYL MONOCARBOXYLIC ACIDS

Robert W. F. Kreps, and Arie Kloetwijk, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 12, 1961, Ser. No. 109,485
Claims priority, application Netherlands May 16, 1960
5 Claims. (Cl. 260—348)

1. In a process for the preparation of epoxy esters of alpha,alpha-dialkyl monocarboxylic acids, which comprises reacting a salt selected from the group consisting of alkali metal and quaternary ammonium salts of an alpha,alpha-dialkyl monocarboxylic acid containing from 4 to 20 carbon atoms with a 1-chloro-2,3-epoxyalkane containing from 3 to 20 carbon atoms at a temperature of from about 50° C. to about 180° C. and separating the 2,3-epoxyalkyl ester of said alpha-alpha-dialky monocarboxylic acid from the reaction products; in combination, the steps of purifying said ester by intimately mixing at 70–75° C. said ester with a mixture of a monohydric alcohol which is miscible in water in all proportions and water separating the hot washing aqueous solution from the ester and removing the alcohol remaining dissolved in the ester by distillation under reduced pressure.

3,142,687

STABILIZATION OF EPOXIDE COMPOSITIONS

William F. Goldsmith, South Charleston, and David F. Marples, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,830
19 Claims. (Cl. 260—348)

1. A color stabilized composition comprising an epoxy compound having at least one vicinal epoxy group and an amount of a peroxide compound at least sufficient to inhibit color development, said peroxide compound being selected from the group consisting of dialkyl peroxides. dicycloalkyl peroxides, hydrocarbon hydroperoxides, and hydrogen peroxide.

3,142,688

METHOD FOR PURIFYING DIGLYCIDYL ETHER OF BISPHENOL A

John E. Lastovica, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 23, 1962, Ser. No. 197,160
9 Claims. (Cl. 260—348)

1. The method for purifying crude diglycidyl ether of 4,4'-isopropylidenediphenol having an epoxy content of at least 23% which comprises:

dissolving the ether in an inert organic solvent consisting of a mixture of a lower alkanol and a lower aliphatic ketone, the amount of solvent and said ketone and said alcohol being employed in a proportion to dissolve the ether at above about 5° C. but insufficient to dissolve the ether at below about 5° C.;

cooling said resulting solution to between about 5° C. to −25° C.; and

recovering said crystallized ether.

3,142,689

OXYDATION OF HYDROXY STEROIDS

Victor Gerardus Joseph Kersten and Max Salomon de Winter, Oss, Netherlands, assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,783
Claims priority, application Netherlands Jan. 24, 1962
4 Claims. (Cl. 260—397.3)

1. Process for the oxidation of a steroid alcohol selected from the group consisting of 3-hydroxy-, 17-hydroxy-, and 19-hydroxy-steroids of the androstane, pregnane, cholane, cholestane, and spirostane series, which comprises reacting said steroid alcohol with chromic acid in the presence of an N,N-dialkyl acylamide, sulfuric acid, and water.

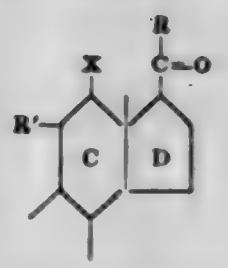
3,143,690

12α-HALO-PREGNENES

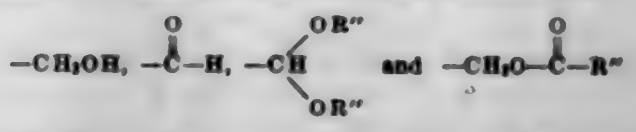
Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 25, 1956, Ser. No. 561,366
17 Claims. (Cl. 260—397.45)

1. A 3-keto-4-pregnene wherein the C and D rings of said compound may be represented by the structural formula



wherein R is selected from the group consisting of



wherein R'' is a hydrocarbon group containing less than eleven carbon atoms, R' is selected from the group consisting of a hydroxy and a keto group and X is selected from the group consisting of a chloro and a fluoro group.

3,142,691

PRODUCTION OF LIGHT-COLORED SULFONATED FATTY ACIDS AND FATTY ACID DERIVATIVES

Carl Wulff, Duesseldorf-Benrath, Werner Stein, Duesseldorf-Holthausen, Otto Koch, Hilden, Rhineland, and Herbert Weiss, Cologne-Deutz, Germany, assignors to Henkel & Cie. G.m.b.H., Duesseldorf-Holthausen, Germany, a German corporation

No Drawing. Filed May 15, 1962, Ser. No. 194,965
Claims priority, application Germany Feb. 2, 1962
12 Claims. (Cl. 260—400)

1. Process for lightening the color of viscous and pasty dark-colored sulfonation products obtained by the alpha sulfonation of a member selected from the group consisting of substantially saturated fatty acids containing

from 6 to 28 carbon atoms, their esters, and mixtures thereof, with an excess of gaseous sulfur trioxide which comprises bleaching the dark-colored sulfonation product with water containing about 20–80% of a member selected from the group consisting of chlorous acid, hypochlorous acid, chloric acid, perchloric acid, monopersulfuric acid, chromic acid, peroxydisulfuric acid, and permanganic acid, their salts and their anhydrides in amount sufficient to produce an equivalent amount of bleaching oxygen as 0.2 to 6% by weight of hydrogen peroxide at a temperature between about 20 to 100° C. until the color of the product is substantially lightened.

3,142,692

PREPARATION OF β-KETO ESTERS

Cataldo A. Maggiolli and Howard E. Munro, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 29, 1961, Ser. No. 99,827
12 Claims. (Cl. 260—485)

1. The method of preparing a β-keto ester of the formula, RCHR'COOR'', wherein R is an acyl radical of a monocarboxylic acid, R' is selected from the group consisting of hydrogen and the acetyl radical and R'' is selected from the group consisting of ethyl and methyl radicals which comprises forming a reaction mixture comprising metallic magnesium, an alcohol selected from the group consisting of methanol and ethanol, an ester selected from the group consisting of ethyl acetoacetate and methyl acetoacetate and a solvent selected from the group consisting of tetrahydrofuran and dioxane, acylating the resulting alkoxymagnesium acetoacetate on the α-carbon atom thereof by reaction with an acyl halide of the formula, RCOX, wherein X is halogen, R is the same as defined above and is free of substituents that would interfere with the acylation reaction, subjecting the resulting acylated acetoacetate magnesium halide to hydrolysis to remove magnesium halide therefrom and recovering said β-keto ester.

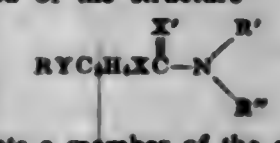
3,142,693

ARYLOXYETHYL ESTERS OF DIALLYLTHIOCARBAMIC ACIDS

Anton G. Weiss, Nitro, W. Va., and Philip C. Hamm, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 7, 1959, Ser. No. 844,872
7 Claims. (Cl. 260—455)

1. A compound of the structure



where R represents a member of the group consisting of phenyl and halogen substituted phenyl radicals containing at least one but not more than three halogen atoms selected from the group consisting of chlorine and bromine, Y, X and X' represent a member of the group consisting of oxygen and sulfur at least one of X and X' being sulfur and R' and R'' represent radicals selected from the group consisting of allyl and monochloro substituted allyl.

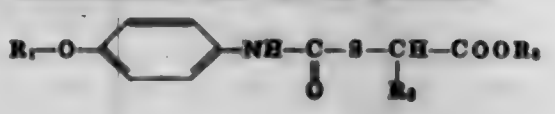
3,142,694

THIOCARBAMIC ESTERS

Jean Metivier, Arpajon, France, assignor to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate

No Drawing. Filed Dec. 14, 1961, Ser. No. 159,453
Claims priority, application France Dec. 20, 1960
6 Claims. (Cl. 260—455)

1. A thiocarbamic ester of the formula:



wherein R_1 and R_2 represent lower alkyl groups and R_3 represents a member of the class consisting of a hydrogen atom and a methyl group.

3,142,695

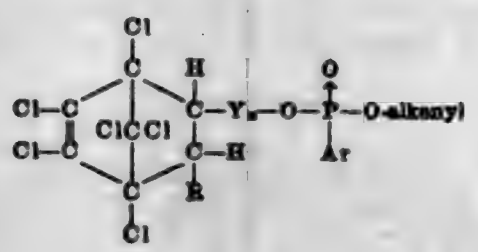
HEXACHLOROBICYCLOHEPTENEALKYL ESTERS OF ARYLPHOSPHONIC ACIDS

Robert J. Rolfe, Joliet, and Emil F. Jason, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 23, 1962, Ser. No. 218,839
3 Claims. (Cl. 260—461)

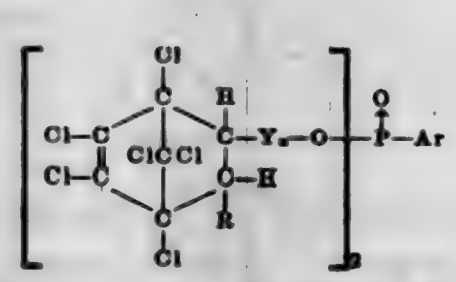
1. A phosphonate of the group consisting of Formula I

I



and Formula II

II



wherein Ar is an aromatic radical of the group consisting of phenyl, naphthyl, phenanthryl and anthryl radicals and such radicals substituted with lower alkyl, phenyl, chloro, bromo and nitro groups, R is from the group consisting of hydrogen and alkyl, Y is a divalent alkylene radical, and n is an integer from 0 to 1.

3,142,696

PROCESS OF PRODUCING ALIPHATIC DINITRILE FROM FATTY ACIDS

Hajime Mihara, Ichiro Miwa, Kimburo Ueno, and Kiyoshi Oowa, all of Toyonaka, Sunagawa, Japan, assignors to Toyo Kentan Industries, Incorporated, Tokyo, Japan, a corporation of Japan

Filed Dec. 10, 1959, Ser. No. 858,660
Claims priority, application Japan Apr. 20, 1959
4 Claims. (Cl. 260—465.2)

1. In a method of producing an aliphatic dinitrile from the corresponding aliphatic dibasic acid and ammonia in the presence of a catalyst involving the steps of heating a dibasic acid selected from the group consisting of azelaic, adipic and suberic in a melting zone to liquify the dibasic acid, feeding said melted dibasic acid to a vaporizing zone, feeding ammonia to said vaporizing zone with said dibasic acid at a temperature above the vaporization temperature of said dibasic acid to vaporize said dibasic acid, feeding the vaporized dibasic acid and ammonia to a reaction zone containing a catalyst selected from the group consisting of mixtures of molybdic acid and phosphoric acid and mixtures of vanadic acid and phosphoric acid to effect dinitrilization of the dibasic acid vapor in the presence of the catalyst, the improvement comprising vaporizing a portion of said dibasic acid at a temperature of from 320 to 350° C. in the vaporizing zone to form said gaseous mixture with ammonia, removing unvaporized dibasic acid from said vaporizing zone, cooling said removed dibasic acid, and recycling said unvaporized dibasic acid from said vaporizing zone to said melter.

3,142,697
PRODUCTION OF LOWER ALIPHATIC NITRILES
Thomas J. Jennings, Lafayette, and Hervey H. Voge, Berkeley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 31, 1961, Ser. No. 113,626
3 Claims. (Cl. 260—465.3)

1. The process for the production of a nitrile selected from the group consisting of acrylonitrile and methacrylonitrile which consists of reacting an olefin selected from the group consisting of propylene and isobutylene with ammonia, in a mole ratio of ammonia to said olefin in the range of from about 0.5:1 to about 2:1, in the presence of molecular oxygen in a mole ratio of oxygen to said olefin in the range of from about 0.5:1 to about 3:1, and of a catalyst consisting essentially of iron phosphate, at a temperature of from about 350 to about 550° C.

3,142,698
CYANOACRYLATE ESTERS
Benjamin D. Halpern, Jenkintown, Jack Dickstein, Elkins Park, and Rose-Marie Hoegerle, Linden, N.J., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 3, 1960, Ser. No. 59,891
4 Claims. (Cl. 260—465.4)

1. An ester selected from the group consisting of the di-2-cyanoacrylate esters of ethylene glycol, polyethylene glycol of molecular weight about 800–1200, and neopentyl glycol.

3,142,699
URETHANE COMPOUNDS AND PROCESS THEREFOR
Kuno Wagner and Hans Hertlein, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Apr. 15, 1959, Ser. No. 806,460
Claims priority, application Germany Apr. 24, 1958
13 Claims. (Cl. 260—471)

1. A process for the preparation of urethane compounds free of urea groups which comprises reacting an organic isocyanate with a member selected from the group consisting of semi-acetals and semi-mercaptals under substantially anhydrous, non-acid conditions at a temperature below about 30° C.

3,142,700
PREPARATION OF ISOPROPENYL ACETATE
August Sterzenegger, Cedar Grove, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Aug. 4, 1961, Ser. No. 129,358
9 Claims. (Cl. 260—488)

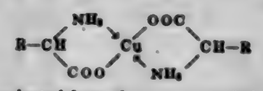
1. A continuous process for the production of isopropenyl acetate which comprises an absorption stage of continuously mixing under turbulent conditions, superatmospheric pressure, and a temperature between about 20° C. and about 100° C., a ketene gas feed containing less than about 10% ketene by volume and a liquid feed comprising acetone and an acidic catalyst; and a substantially separate reaction stage of passing the resulting solution through a reaction zone in substantially laminar flow at superatmospheric pressure and a temperature of at least about 50° C.

3,142,701
PREPARATION OF 2:5-DIBROMOTEREPHTHALIC ACID
Donald Graham Wilkinson, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 12, 1962, Ser. No. 179,211
Claims priority, application Great Britain Apr. 5, 1961
5 Claims. (Cl. 260—515)

1. A process for the manufacture of 2:5-dibromo terephthalic acids which comprises treating an oleum solution of terephthalic acid with 1.7 to 3.0 atomic proportions of bromine for each molecular proportion of terephthalic acid at a temperature of 50–75° C.

3,142,702
PROCESS FOR ISOLATING FREE α-AMINO ACIDS FROM CUPRIC COMPLEX SALTS THEREOF
Natsuo Sawa, Yoichi Tsujino, and Shigeru Kishimoto, Kitajima-machi, Itano-gun, Tokushima Prefecture, and Tetsuji Yoshida, Tokushima, Tokushima Prefecture, Japan, assignors to Toho Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed May 28, 1962, Ser. No. 197,898
Claims priority, application Japan July 25, 1961
3 Claims. (Cl. 260—534)

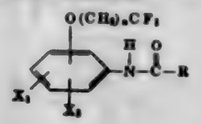
1. A process for the isolation of free α-amino acid from cupric complex salts thereof represented by a following formula:



wherein R is selected from the group consisting of a hydrogen atom, alkyl, hydroxyalkyl and carboxyalkyl, comprising reacting said cupric complex salts with hydrogen gas in a liquid medium, filtering the reaction mixture to separate metallic copper from filtrate containing the isolated α-amino acid.

3,142,703
TRIFLUOROALKOXY-SUBSTITUTED ANILIDES AND GERMICIDAL COMPOSITIONS OBTAINED THEREWITH
Herbert C. Stecker, 113 Hollywood Ave., Hohokus, N.J.
No Drawing. Filed Apr. 20, 1962, Ser. No. 188,942
6 Claims. (Cl. 260—559)

1. A compound of the formula:



wherein:

X_1 and X_2 are members of the class consisting of hydrogen, CF_3, R_1CF_3, $O(CH_2)_nCF_3$, and halogen,

n is an integer of 1 to 5,

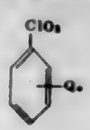
R is a radical of the class consisting of phenyl, benzyl and alkyl groups, having not more than 12 carbon atoms, and

R_1 is an alkyl group having not more than 3 carbon atoms.

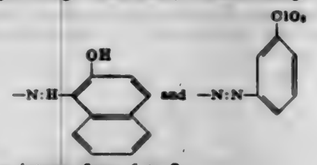
2. 5-halo-3'-trifluoro-methyl-2-trifluoromethoxy salicylanilide.

3,142,704
PERCHLORYL AROMATIC COMPOUNDS
Charles E. Inman, Glenside, Pa., Robert E. Oesterling, Silver Spring, Md., and Edward A. Tyczkowski, Willow Grove, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application Sept. 24, 1958, Ser. No. 762,906, now Patent No. 3,067,211, dated Dec. 4, 1962. Divided and this application June 21, 1962, Ser. No. 204,297
5 Claims. (Cl. 260—562)

1. Nitrogen-containing perchlorylaromatic compounds having the formula



wherein Q is a radical selected from the group consisting of $—NH_2$, $—NO_2$, —NH·HCl, $—NHCOCH_3$,



and c is an integer from 1 to 2.

3,142,705
METHOD FOR THE MANUFACTURE OF N-PHENYL-N-(4-NITROSOPHENYL)-HYDROXYLAMINE
Helmut Freytag, Cologne-Stammheim, Erich Klauke, Cologne-Flittard, Hugo Wilms, Leverkusen, Ernst Roos, Cologne-Flittard, and Joachim George, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 27, 1962, Ser. No. 182,935
Claims priority, application Germany Apr. 6, 1961
5 Claims. (Cl. 260—576)

1. A process for the production of N-phenyl-N-(4-nitrosophenyl)hydroxylamine which comprises contacting nitrosobenzene with anhydrous hydrofluoric acid at a temperature between —20 and +50° C. and subsequently recovering the resulting N-phenyl-N-(4-nitrosophenyl)-hydroxylamine.

3,142,706
METHOD FOR THE PREPARATION OF METHYLATED DECABORANES
Clayton O. Obenland, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Dec. 2, 1960, Ser. No. 73,455
2 Claims. (Cl. 260—606.5)

1. A method for the preparation of a methylated decaborane which comprises reacting decaborane and a methyl halide selected from the class consisting of methyl chloride, methyl bromide and methyl iodide while the reactants are in admixture with an alkylation catalyst selected from the class consisting of aluminum trichloride and aluminum tribromide and while the reactants are in admixture with boron trichloride as a solvent.

3,142,707
METHOD FOR THE PREPARATION OF ETHYLATED DECABORANES
Clayton O. Obenland, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Dec. 2, 1960, Ser. No. 73,457
2 Claims. (Cl. 260—606.5)

1. A method for the preparation of an ethylated decaborane which comprises reacting at a temperature of about 50° to 150° C. decaborane and an ethyl halide selected from the class consisting of ethyl chloride, ethyl bromide and ethyl iodide while the reactants are in admixture with boron trichloride.

3,142,708
METHOD FOR PREPARING α,ω-DIHALOALKANES
John Douglas Young, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 15, 1961, Ser. No. 131,582
3 Claims. (Cl. 260—653.1)

1. A method for preparing α,ω-dihaloalkanes having the general formula

$$X(C_2H_4)_nX$$

wherein n represents an integer from 2 to 10 inclusive, and X represents a halogen having an atomic number from 9 to 53, which comprises reacting ethylene with sulfuryl halide in the presence of a free-radical source at from about 100° to 300° C. and at a pressure of from about 1000 to 30,000 pounds per square inch for from about 5 seconds to about 10 minutes.

3,142,709
PURIFICATION OF VINYL CHLORIDE
Edward H. Gause and Phillip D. Montgomery, both of Texas City, Tex., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed May 22, 1961, Ser. No. 111,429
3 Claims. (Cl. 260—656)

1. A process for the purification of vinyl chloride containing minor amounts of butadiene which consists of intimately contacting said vinyl chloride in the liquid phase with anhydrous hydrogen chloride in an amount from about 0.5% to about 5% by weight of said vinyl chloride at a temperature within the range from about 0° C. to about 100° C. for a period of time from about 5 minutes to about 5 hours and recovering said vinyl chloride.

3,142,710
PURIFICATION OF PROPYLENE
Robert P. Arganbright, Dickinson, Tex., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 7, 1961, Ser. No. 129,530
4 Claims. (Cl. 260—677)

1. A process for the purification of propylene containing minor amounts of methylacetylene and allene as impurities which comprises passing said propylene together with hydrogen chloride over a catalyst comprising a mercuric halide deposited on a porous carrier of high surface activity at a temperature in the range from about 100° to 120° C. and recovering propylene substantially free of said methylacetylene and allene.

3,142,711
ACETYLENE POLYMERIZATION CATALYST AND PROCESS OF USING SAME
Peter S. Sanchwitz, Louisville, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 8, 1961, Ser. No. 87,771
9 Claims. (Cl. 260—678)

1. A non-aqueous catalyst for converting acetylene to mono-vinylacetylene, said catalyst consisting of two phases made by combining: (1) a solution of cuprous chloride and an amine hydrochloride selected from the group consisting of primary and secondary amine hydrochlorides containing not more than six carbon atoms, in an anhydrous liquid carboxylic acid amide containing not more than six carbon atoms, said amide amounting to less than 30% by weight of said solution and (2) a monoalkyl ether of monoethylene glycol containing from six to ten carbon atoms in the alkyl radical.

2. A process for making monovinylacetylene by passing acetylene through a non-aqueous catalyst consisting of two phases made by combining (1) a solution of cuprous chloride and an amine hydrochloride selected from the group consisting of primary and secondary amine hydrochlorides containing not more than six carbon atoms, in an anhydrous liquid carboxylic acid amide containing not more than six carbon atoms and (2) a monoalkyl ether of a monoethylene glycol containing from six to ten carbon atoms in the alkyl radical, followed by recovering monovinylacetylene from the resulting exit gas, removing the tar formed in the catalyst by allowing said catalyst to separate into two layers, separating the lower layer comprising the catalyst salt dissolved in the carboxylic acid amide and separating the tar and the alkyl ether from the upper layer.

3,142,712

METHOD OF MANUFACTURE OF CONJUGATE DIOLEFINS FROM METADIOXANES

André Marie Valet, Fontenay Aux Roses, and Joseph Edouard Weisang and Philippe Jean Paul Maillot, Le Havre, France, assignors to Société Anonyme dite: Compagnie Francaise de Raffinage, Paris, France, a corporation of France

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,750
Claims priority, application France Mar. 31, 1960
12 Claims. (Cl. 260—681)

1. In a method for manufacturing diolefins having double conjugate bonds from alkyl metadioxanes by catalytic scission of said dioxanes forming said diolefins and formaldehyde, the steps which comprise passing said alkyl metadioxanes at elevated temperature over a catalyst for said scission reaction in a reaction zone, maintaining said elevated temperature throughout said reaction zone effecting said scission reaction and splitting of said dioxanes to yield said diolefin and said formaldehyde, said catalyst consisting essentially of the dried and solid reaction product of phosphoric acid and boric acid reacted in a non-stoichiometric molar ratio of phosphorus to boron of about 1.5 to 1.6.

3,142,713

PROCESS FOR HYDROISOMERIZATION OF HYDROCARBONS INCLUDING THE OXIDATIVE REGENERATION OF CATALYST EMPLOYED THEREIN

Norman L. Carr and Oral L. Beber, Crystal Lake, and Vincent Brozowski, Mundelein, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Dec. 16, 1958, Ser. No. 780,859
8 Claims. (Cl. 260—683.65)

1. In a process for the hydroisomerization of nC_5–C_6 paraffin hydrocarbons in which hydrogen and hydrocarbon feed in a hydrogen/hydrocarbon mol ratio within the range from about 0.5 to 5 are passed at a temperature of about 650° to 775° F. and a pressure of about 100 to 1000 p.s.i.g. over a catalyst consisting essentially of 0.01–1.0% wt. of a Group VIII noble metal on an acidic refractory, mixed-oxides support selected from the group consisting of silica-alumina, silica-zirconia, silica-titania, silica-boria, and silica-alumina-zirconia, the improvement which comprises treating the catalyst after a period of use which has resulted in catalyst deactivation or degeneration to restore substantially virgin activity by heating the catalyst to a temperature of 650° to 950° F. for a period of at least two hours in a substantially anhydrous atmosphere selected from the group consisting of oxygen and mixtures of inert gases with oxygen at an oxygen partial pressure greater than the minimum pressure line in the drawing, without exposing said catalyst to oxygen at temperatures above 950° F., reducing the oxidized catalyst with substantially pure hydrogen at 750° to 950° F., and utilizing the catalyst for isomerization of nC_5–C_6 paraffin hydrocarbons under the recited isomerization conditions.

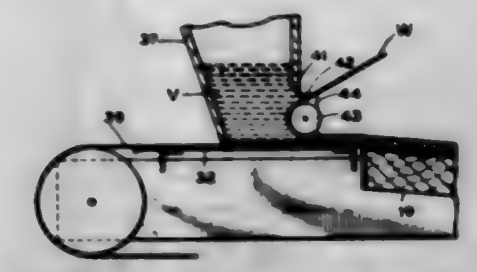
3,142,714

METHOD FOR THE PRODUCTION OF CLEANING DEVICES

Alfred Politzer, Cleveland, James Teng, Parma, Frank Pekarek, Cleveland, Alvin B. Shockley, Berea, and Pao-Chi Wang, Cleveland, Ohio, assignors to Nylonge Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 20, 1961, Ser. No. 160,748
5 Claims. (Cl. 264—27)

1. The method of producing a regenerated cellulose sponge having a non-woven fibrous web adherent to a face thereof comprising the steps of transporting said web with only one face thereof exposed to a viscose sponge forming mass subjected to a uniform predetermined pressure corresponding to a head of at least 4 inches of said viscose sponge forming mass to effect the penetration of said viscose sponge forming mass only partially into said web whereby the fibers of said web at the interface of said web and said sponge forming mass are individually embedded in said viscose sponge forming mass, depositing



a layer of said viscose sponge forming mass with said partially embedded web superimposed thereon upon an advancing endless belt, and coagulating said viscose sponge forming mass while transported by said belt.

3,142,715

PROCESS OF FORMING ACRYLIC RESIN CASTING USING A PERFLUOROCARBON SURFACED MOLD

Robert Emmett Burk, West Chester, Pa.

No Drawing. Filed Mar. 26, 1962, Ser. No. 182,673
9 Claims. (Cl. 264—213)

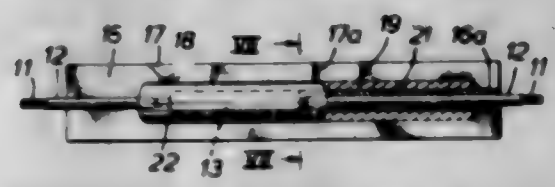
1. A process of forming acrylic resin articles which comprises the steps of casting a liquid comprising an acrylic monomer upon a mold having a solidified casting surface of a perfluorocarbon interpolymer of hexafluoropropylene and tetrafluoroethylene containing at least 2 moles percent of hexafluoropropylene, curing the acrylic resin, and then removing the cast acrylic resin from the perfluorocarbon.

3,142,716

PROCESS UTILIZING SHUTTLE MOULDS

Reginald H. Gardener, Edmonton, Alberta, Canada, assignor to Northwest Industries Limited, Edmonton, Alberta, Canada

Filed July 21, 1961, Ser. No. 125,722
5 Claims. (Cl. 264—272)



1. A method of moulding which comprises:

(1) placing a preformed member within a longitudinally split mould having a cavity defining a main central zone and a pair of terminal zones of lesser diameter providing a stepped cavity therein, said cavity extending along the longitudinal axis of each half of the split mould and provided with entrance means into the main central zone of said cavity, said entrance means being normal to said longitudinally extending cavity and extending from said cavity to the exterior of said mould, the preformed member extending beyond the confines of said mould;

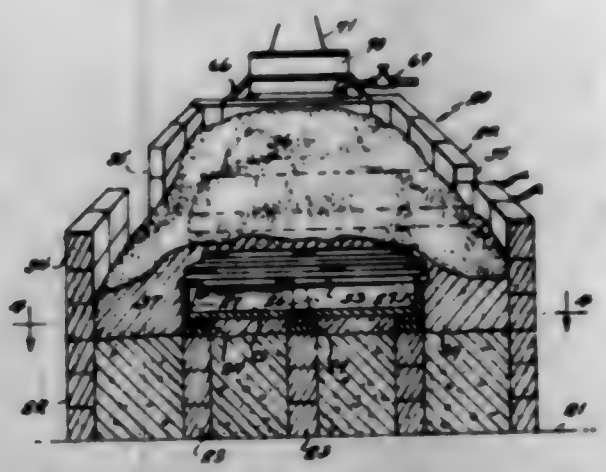
(2) placing a disposable sleeve around said preformed member, said sleeve being adapted to maintain the longitudinally extending preformed member in a coaxial central orientation with the longitudinal axis of said longitudinally extending cavity and being slidable over said preformed member and slidable within the main central zone of said cavity, the face of said sleeve being directed to said entrance means, the sum of the length of a portion of said preformed member which it is desired to encapsulate and the length of said disposable sleeve being equal to the length of said cavity;

(3) injecting a thermoplastic material into the cavity of said mould, said thermoplastic material being injected in a direction normal to the longitudinal axis of said mould, the force of said injected material being translated through 90° so that said thermoplastic material impinges one end face of said sleeve, whereby to impart axial movement to said sleeve and to encase said portion of said preformed member with a casing; and

(4) removing said casing from said mould, said sleeve being captive on said preformed member.

ELECTRICAL

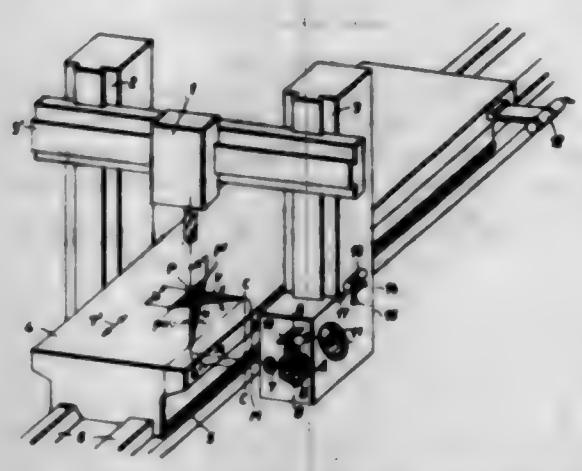
3,142,717
APPARATUS FOR PRODUCING QUARTZ
Leon Appleman, 121 Newbridge Road, Bergenfield, N.J., and Richard H. Eck, 352 Pines Lake Drive, Wayne, N.J.
Filed Mar. 17, 1961, Ser. No. 96,500
2 Claims. (Cl. 13—6)



1. A furnace for the production of quartz comprising a base formed of heat resistant blocks in the shape of a rectangle, sand filling said rectangle, a longitudinally extending tunnel formed of graphite slabs, said tunnel being open at the ends thereof, said tunnel including a top wall and side walls, there being an opening portion in said tunnel top wall intermediate said tunnel ends defining a heating zone, a heating unit disposed above said tunnel open portion, said unit including side walls and a partition extending between said side walls, said partition being spaced below the upper ends of said side walls and with the portions of said side walls above said partition defining a space, lamp black filling said space, sand covering said tunnel for the entire length of said base, an area in said tunnel of equal extent on each side of said heating zone defining respectively a preheating and a cooling zone, an inverted U-shaped tank disposed between said cooling zone and the adjacent end of said tunnel, said tank having the leg portions thereof extending downwardly and adjacent said side walls of said tunnel and with the bight of said tank superimposed upon the top wall of said tunnel, said tank being provided with an inlet for cooling water and with an overflow outlet.

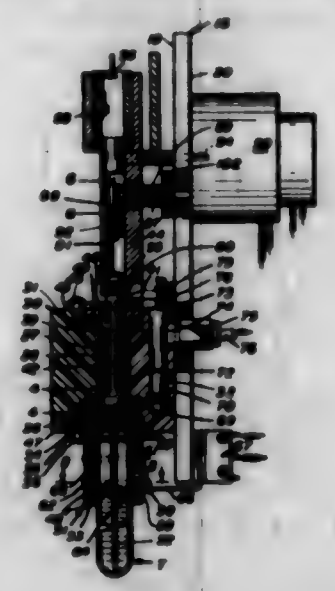
3,142,718
OPTICAL EQUIPMENT FOR THE ACCURATE SETTING AND READING OF THE AMOUNT OF DISPLACEMENT OF A SLIDE
Kurt Rüstsch and Adolf Weyrauch, Wetzlar, Germany, assignors to M. Hensoldt & Sohne, Optische Werke A.G., Wetzlar (Lahn), Germany
Filed Sept. 30, 1960, Ser. No. 59,558
Claims priority, application Germany Oct. 3, 1959
8 Claims. (Cl. 88—14)

2. A device for accurately determining the position of a slide carriage sliding on a stationary bed comprising: a scale connected to one of said carriage and said bed and being indicative of the amount of sliding; a reading unit connected to the other one of said carriage and said bed, said unit including a graticule and optical means for projecting a section of said scale onto said graticule, said optical means including a member disposed in the light path of projection and being tiltable in two directions defining a plane so that the projection of said section is shiftable along said graticule; optical illumination means for projecting a light beam along said direction of sliding; instrument means for determining deflections of said beam relative to said instrument perpendicular to said direction of sliding, one of said instru-



ment means and said optical means being connected to said carriage moving therewith while the other one is connected to said bed; means for shifting one of said instrument means and said illumination means in two different directions extending in a plane perpendicular to said light beam; and follow up means directionally responsive to said shifting and controlling the tilting of said member.

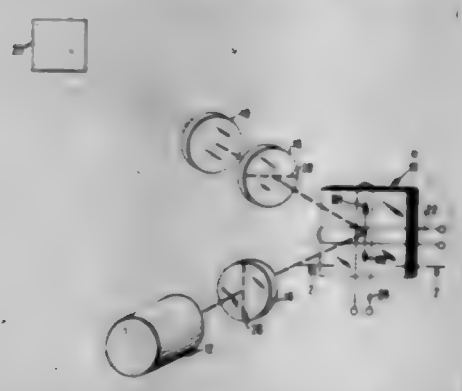
3,143,719
AUTOMATIC FLUID SAMPLING AND PHOTOMETRIC TESTING APPARATUS
Andrew F. Farr, South Gate, Calif.
(1503 E. Chevy Chase Drive, Glendale 6, Calif.)
Filed Sept. 4, 1962, Ser. No. 221,674
7 Claims. (Cl. 88—14)



1. An automatic photometer apparatus comprising in combination means for producing a light beam; a phototube member; a recording instrument adapted to receive

and record in sequence the magnitude of the electrical impulses generated by a beam of light on said phototube member; an examination cell disposed between said light beam means and said phototube member, said examination cell comprising a tubular member having a cylindrical chamber, and having opposed transparent sidewalls disposed in axial alignment with the light beam from said light beam means and said phototube member; a closure member fastened to one end of said chamber, said closure member having a relatively small diameter inlet-outlet tube; a piston head operatively disposed within said chamber; means to reciprocate said head in said chamber, said head at its lowest position being spaced a small fractional inch from said closure member; and means to inject a stream of gas into the space between said closure member and said piston head and out through said inlet-outlet tube at the time when said piston head has reached its lowest point in its reciprocation.

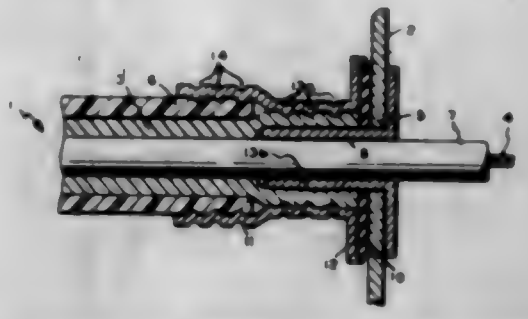
3,142,720
MAGNETO-OPTICAL MEMORY AND DISPLAY DEVICE
Edward N. Adams, White Plains, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 28, 1960, Ser. No. 46,011
9 Claims. (Cl. 88—61)



1. In a magneto-optic apparatus, a source of plane polarized light, magneto-optic effect detector means comprising a plane polarizing analyzer filter, and magneto-optic medium means optically between said source and said filter, said medium means comprising a multiplicity of alternate layer means of metallic ferromagnetic alloy and insulating material, said alloy containing first transition element material, and higher atomic number material chosen from the group consisting of higher transition elements and rare earth elements, and each layer means being of a thickness whereby it is significantly transparent to the light of said source so that said light penetrates and emerges from said medium in a light path including a plurality of said ferromagnetic layer means, said higher atomic number material being present in said alloy in the order of twenty-five percent by weight so as to raise the average spin-orbit coupling of the alloy significantly, and said layer means of said alloy being thin compared to the mean free path of the conduction electrons therein, whereby the magneto-optic effect is enhanced.

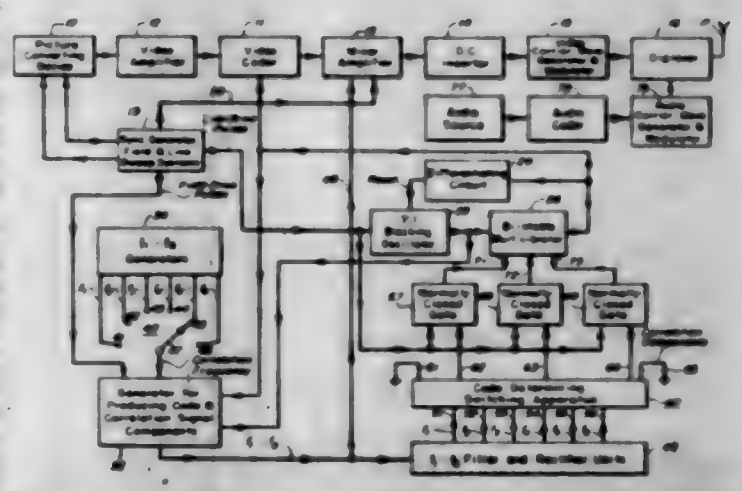
8. In a magneto-optic apparatus, a source of plane polarized light, magneto-optic effect detector means comprising a plane polarizing analyzer filter, and magneto-optic medium means optically between said source and said filter, said medium means comprising metallic ferromagnetic material having electron scattering surface means internally thereof at spacings which are small compared to the mean free path of the conduction electrons of said ferromagnetic material, so as to significantly limit said mean free path and to thereby increase the transparency of said medium, whereby the magneto-optic effect is enhanced.

3,142,721
CONNECTOR FOR JOINING THE OUTER CONDUCTOR OF A COAXIAL CABLE TO A WALL
James G. Long, Fairfield, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Dec. 19, 1960, Ser. No. 76,570
2 Claims. (Cl. 174—65)



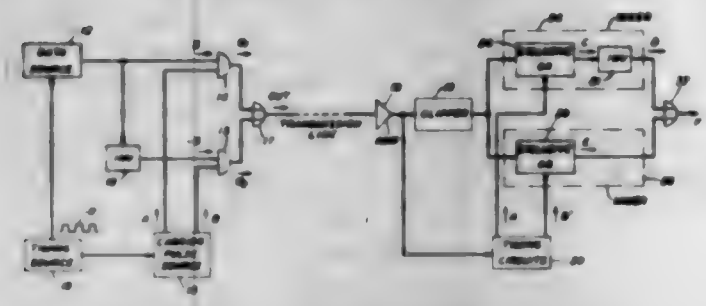
1. A connection electrically joining the outer conductor of a coaxial cable to an apertured panel and passing the inner conductor through the aperture comprising: an outer tube having a flange thereon and made of a relatively malleable metal; said outer tube disposed over and coaxial with the outer conducto. of said coaxial cable, with its flange on one side of the panel; an inner tube having a flange thereon and made of a relatively non-malleable metal; said inner tube disposed through the panel aperture and under, in contact with and coaxial with the outer conductor, with its flange on the other side of the panel; said outer tube deformed radially to join the outer conductor to the inner tube, and deformed longitudinally to grip the panel between the said inner tube flange and the outer tube flange.

3,142,722
COMMUNICATION RECEIVER
Louis Terek, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 30, 1962, Ser. No. 169,762
9 Claims. (Cl. 178—5.1)



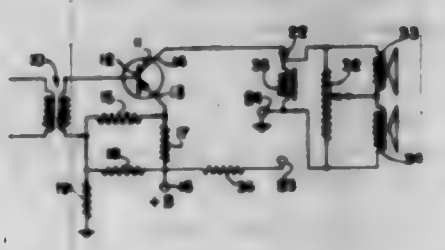
1. A subscriber communication receiver for utilizing a received intelligence signal for each program and wherein a charge may be assessed for each program, comprising: an adjustable code-determining apparatus to be established in a predetermined condition of adjustment to effect utilization of said intelligence signal; means coupled to said code-determining apparatus for performing a correlation test to derive a control effect if the condition of adjustment of said code-determining apparatus corresponds to said predetermined condition of adjustment; a charge register; means responsive to said control effect for actuating said charge register; and means at least partially responsive to actuation of said charge register for disabling said charge register against a repeat actuation to preclude duplicate charges for the same program.

3,142,723
FREQUENCY SHIFT KEYING SYSTEM
Howard C. Fleming, Millburn, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 29, 1961, Ser. No. 155,861
7 Claims. (Cl. 178—66)



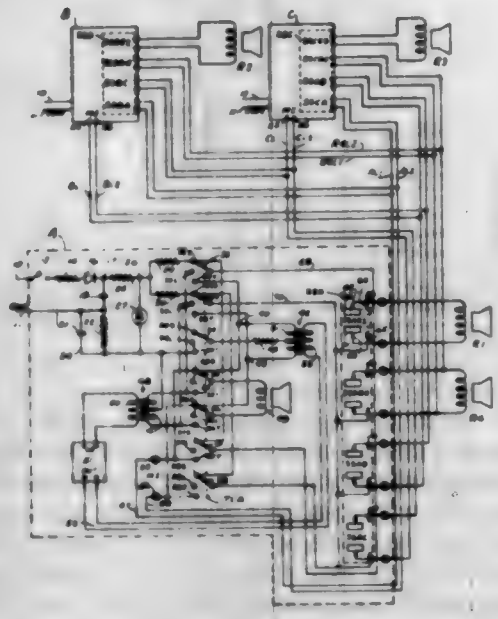
5. In a frequency shift keying system wherein a pair of frequency related and synchronized pulse patterns are keyed to a transmission line under the control of the mark and space bits of a baseband data bit stream, said pulse patterns being frequency related in the sense that the frequency difference therebetween is an integral multiple of the baseband data bit rate, a receiver connected to the remote end of the transmission line, said receiver comprising means for deriving from the received signal a second pair of pulse patterns that are synchronous with the pulse patterns contained in said received signal and of the same frequencies as the first-mentioned pulse patterns, a pair of circuit means each having a pair of inputs, each said circuit means providing an output signal in response to an energizing signal at either but not both of said inputs, means coupling said received signal and one of said second pair of pulse patterns to the input of one of said circuit means, means coupling said received signal and the other of said second pair of pulse patterns to the input of the other of said circuit means, and means for inverting the output of one of said circuit means and combining it with the output of the other circuit means to provide a pulse pattern having a sequence of mark and space bits the same as that of the original baseband bit stream.

3,142,724
AUDIO SYSTEM
Onni G. Juvonen, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 8, 1962, Ser. No. 171,871
6 Claims. (Cl. 179—1)



4. An audio system including in combination, an audio output stage including a transistor having base, emitter and collector electrodes, circuit means connected to said base and emitter electrodes providing input signals and bias potential thereto, a loudspeaker having a tapped winding including first and second winding sections, means connecting the tap on said loudspeaker winding to a reference potential, means connecting said collector electrode to said first winding section whereby output signals and direct current flow through said first winding section, and passive resistance means connected to said second winding section and forming the sole connection thereto to apply direct current thereto so that the current in said second winding section produces a magnetic field which opposes the magnetic field produced by the current in said first winding section.

3,142,725
INTERCOMMUNICATION SYSTEM
John Earl Chapman, St. Charles, Ill., assignor to Dukane Corporation, St. Charles, Ill., a corporation of Delaware
Filed Apr. 16, 1962, Ser. No. 187,815
4 Claims. (Cl. 179—1)



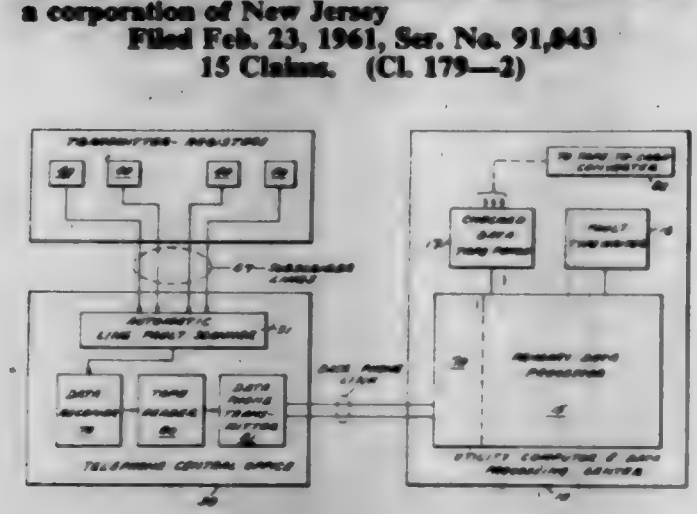
1. In an intercom system having a plurality of master stations interconnected by individual pairs of wires providing voice channels and having a common interstation ground separate from the voice channels, each master station having: an audio frequency amplifier having an output audio frequency transformer with its secondary winding connected at all times to its own voice channel input; a talk-listen switch having stand-by, talk and listen positions; station selector switch means for selecting an outgoing line to a called station; a signalling system effective only on stand-by and, after selecting another station to be called, to determine if the called station is busy, said signalling system including; two equal load resistors connected only on stand-by through its talk-listen switch and through its station selector switch to a selected outgoing voice channel so that said two load resistors in series are connected across the secondary winding of the output audio frequency transformer of another master station; a source of direct potential connected between a high potential terminal and the common interstation ground; a gas tube having a breakdown potential lower than the direct potential available at the station; a two-part ballast resistor network for said gas tube; one such ballast resistor having one terminal connected to the high potential terminal of the voltage supply source; the other ballast resistor being smaller than the first one and having one terminal thereof connected to the interstation ground; a connection from the other terminal of the second ballast resistor to the center of the output transformer secondary winding through its talk-listen switch only when said talk-listen switch is off stand-by; and circuit connections involving the other terminals of the ballast resistors, the gas tube terminals and the common terminal of the load resistors and completed by its talk-listen switch at stand-by only and the talk-listen switch at a connected different master station for determining whether the gas tube at a calling master station is on or off; said two conditions being determined by whether the talk-listen switch at a connected master station is on stand-by or off stand-by; said gas tube condition indicating busy or idle status of any called station.

3,142,726

AUTOMATED SEQUENTIAL INTERROGATION METER READING SYSTEM OVER TELEPHONE LINES

Abraham Brothman, Dumont, N.J., and Richard David Reiser, Port Jervis, N.Y., assignors, by mesne assignments, to Transitel International Corp., Paramus, N.J., a corporation of New Jersey

Filed Feb. 23, 1961, Ser. No. 91,843
15 Claims. (Cl. 179—2)



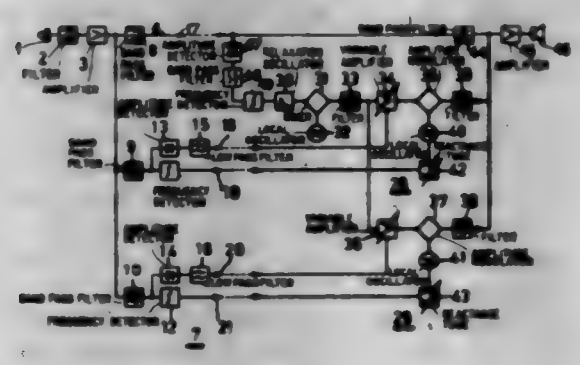
1. The method of reading meters each having an indicating dial over a subscriber telephone system having a plurality of subscriber locations comprising the steps of sequentially transmitting a signal over the conventional subscriber telephone lines which is uniquely identifiable as a request for a meter reading and will not ring the subscriber telephone, converting the dial reading of the meter into simultaneous binary information groups in response to said signal, converting the simultaneous binary information groups into a train of serial binary information groups, transmitting the train of serial information groups in response to the meter reading request, receiving the transmitted information groups, converting the received serial information groups into a plurality of simultaneous binary information groups and recording the simultaneous binary information groups.

3,142,727

SPEECH SIGNAL TRANSMISSION SYSTEM

Petrus Josephus van Gerwen, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 25, 1962, Ser. No. 168,754
Claims priority, application Netherlands Feb. 10, 1961
7 Claims. (Cl. 179—15.55)



1. A transmission system for speech signals comprising a transmitter having a band compression device and a receiver having a band expansion device, said band compression device comprising a plurality of channels, means applying signals of different formant frequency regions to said channels, one of said channels passing signals without compression, the remainder of said channels each comprising a formant frequency detector for providing an output voltage varying with the frequency of the signal of the respective formant frequency region, said receiver comprising means for receiving the signal output of said one channel and said output voltages of the remainder of said channels, said band expansion device comprising means for passing said output signals without expansion, a separate oscillator corresponding to each of the remainder of said channels, means for varying the frequency of said separate oscillator with the received output voltage of the corresponding channel, relaxation oscillator means for providing a sawtooth waveform voltage, a separate amplitude modulator means for each said separate oscillator, means applying said sawtooth waveform voltage and the output of the respective separate oscillator to said amplitude modulator means, and means combining the signals passed without expansion and the outputs of said separate amplitude modulator means.

3,142,728

CALL DISTRIBUTING CIRCUIT

Donald A. MacLeod, Oakland, Calif., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York

Filed June 8, 1962, Ser. No. 201,200
11 Claims. (Cl. 179—27)



1. In a telephone system, a private branch exchange, a hunting connector at said private branch exchange, a group of line terminals engageable by said hunting connector, a group of extension stations connected respectively to said line terminals, a first relay and a second relay at each of said stations, a locking path common to all of said first relays effective upon operation of each respective first relay to hold the relay operated, means effective in turn as a respective station is seized by said hunting connector for operating the first relay of that station, means effective in turn as a call is completed by a respective station and the station released for operating the second relay of the respective station, means effective upon operation of each second relay for indicating an artificial busy condition of the associated station, and means effective upon release of the last station of the group after completion of a call for interrupting said locking path and releasing all operated first relays whereby to remove all artificial busy condition indications.

3,142,729

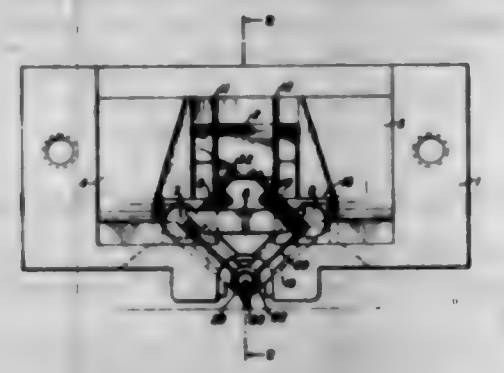
PHONOGRAPH REPRODUCER

Charles C. Davis, Los Angeles, Calif., assignor to Litton Systems, Inc., a corporation of Maryland

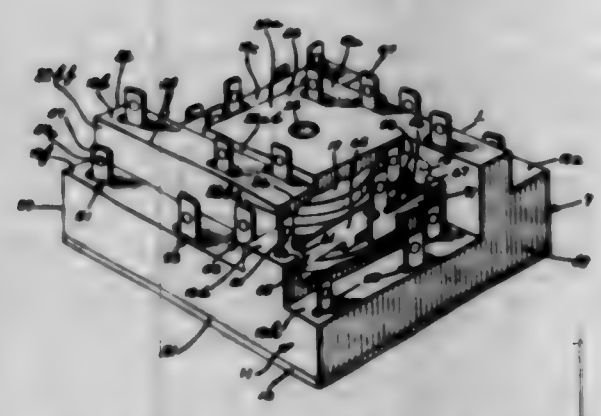
Filed Dec. 10, 1957, Ser. No. 701,872
32 Claims. (Cl. 179—100.41)

6. In a phonograph pickup device for playing back a record groove containing two different record undulation sequences extending along different transverse segments of the groove, a stylus arranged to engage the record groove and to be driven by both its undulation sequences, and a moving system including at least two mechano-electric transducer elements each having a motion-transmitting connection to said stylus and operative to transduce transmitted motion of said stylus into electric signals,

a mounting structure carrying said moving system and said stylus in their operative positions and supporting said stylus for vibration simultaneously in two different transverse planes, said moving system having two relatively rigid drive links, one for each transducer element, with each drive link extending in a different direction from and having a pivotal motion-transmitting connection to said stylus for transmitting motion of said stylus to its transducer elements and a guided portion at a distance from said stylus, two distinct elements of said moving system forming two relatively rigid guide links with one guide link for each drive link having a pivot portion pivotally connected to the guided portion of its drive link and a further pivot portion pivotally connected to said mounting structure, said two drive links and said two guide links constituting a link chain of at least four pivotally connected motion-transmitting links extending from said stylus and operative to confine the motion of each drive link to a distinct direction irrespective of the amplitude of motion transmitted therethrough to its transducer by said stylus.

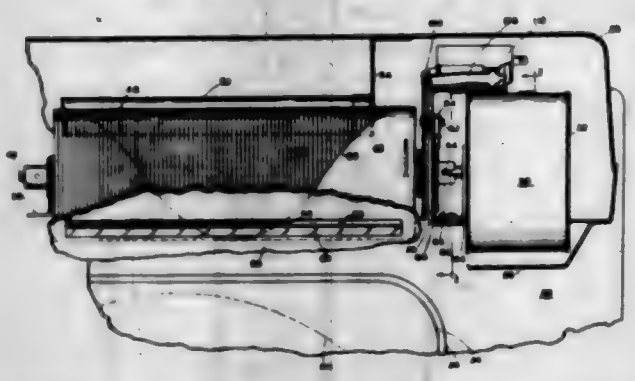


3,142,730
TIMER SWITCHING MECHANISM WITH MULTI-STEP ONE-PIECE CAM
John L. Sloemeger, Morrison, Ill., and Glenn R. Chafee, Jr., Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Dec. 21, 1960, Ser. No. 77,370
8 Claims. (Cl. 200—38)



1. For use in a time controlled switching mechanism, a cam and switch structure comprising a cam member having a central axis of rotation and at least three axially stepped cylindrical cam surfaces arranged concentrically around said axis, said surfaces being immovable relative to each other and having progressively increasing radii between the top and bottom ends of said member, a base means receiving said cam member, said base means including a plurality of axially spaced walls disposed around said cam member, and a plurality of switches mounted on said walls in an axially spaced relationship, each of said switches having an actuating member located adjacent a different one of said cam surfaces for operation thereby.

3,142,731
SEQUENTIAL CONTROL MECHANISM FOR LAUNDRY APPLIANCE
Irvin E. McWethy, Syracuse, and Joseph F. Oles, Camillus, N.Y., assignors, by mesne assignments, to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Apr. 4, 1962, Ser. No. 185,109
10 Claims. (Cl. 200—38)

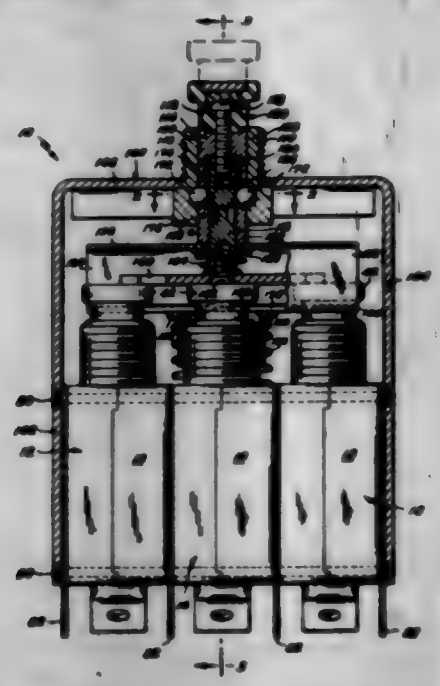


1. A control mechanism for a laundry appliance comprising
a motor driven timer having a shaft extending therefrom for controlling the sequence of operations in the operating cycle of said appliance,
indicator means mounted on a support shaft operatively coupled with said timer shaft to indicate the stage of the cycle of said appliance,
a control arm mounted for rotation about an axis substantially coaxial with said support shaft, said arm being rotatable from an end limit position through a timer advancing arc position,
a friction drive wheel mounted on said support shaft adjacent said arm,
a friction shoe pivotally mounted on said arm for engaging said wheel upon rotation of said arm to rotatably advance said timer shaft in one direction to advance the sequence of operations of said appliance,
and switch means in circuit with said timer actuated to a closed position when said arm is in its end limit position to activate said appliance and to an opened position when said arm is disposed in said timer advancing arc position to deactivate said appliance.

3,142,732
GANGED MULTIPOLE CIRCUIT BREAKER
David E. Clarke, Norton, and Lawrence E. Cooper, Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 1, 1961, Ser. No. 156,341
16 Claims. (Cl. 200—50)

1. A multipole circuit breaker comprising a plurality of individual electric circuit breaker units secured together in an adjacent relationship; each of said circuit breaker units including a housing; relatively movable contact means in each housing for opening and closing a circuit through its respective unit; trip means in each housing for automatically opening said contact means at predetermined conditions to de-energize the circuit through said unit; each of said units being electrically connectable in a separate circuit; each of said individual units having a manually operable actuating member extending externally thereof for manual actuation of the contact means of its respective unit; common manually operable actuating means on said multipole circuit breaker including a first member movable relative to and against each of said individual manually operable actuating members for movement thereof in a contacts-closing direction to close the contact means of each of said individual circuit breaker units; said common actuating means including a second member movable relative to and against each of said individual manually operable

actuating members, said second member having portions for gripping engagement with each of said individual manually operable actuating members for movement



thereof in a contacts-opening direction to automatically open the contact means in all of said individual circuit breaker units when any one of said circuit breaker units is tripped to a contacts-open condition.

3,142,733
PRODUCTION OF HIGHLY POLYMERIC LINEAR POLYESTERS

Max H. Keck, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

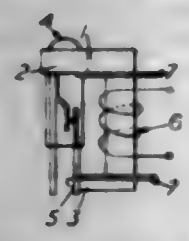
No Drawing. Filed June 2, 1959, Ser. No. 817,498
9 Claims. (Cl. 260—75)

1. In a process for preparing a highly polymeric linear polyester by subjecting at least one bis ester selected from the group consisting of methyl, ethyl, propyl, butyl and phenyl esters of an acid selected from the group consisting of terephthalic acid and isophthalic acid to alcoholysis in the presence of a glycol and thereafter subjecting the glycol ester formed to self-condensation with the removal of glycol the improvement which comprises carrying out both the alcoholysis and condensation in the presence of a catalytic amount of a compound selected from the group consisting of tungstic acid, tungsten hexachloride, tungsten carbonyl, lead tungstate, bismuth tungstate, chromium tungstate, cadmium tungstate, zinc tungstate, iron tungstate, antimony tungstate, antimony paratungstate, borotungstic acid and cadmium borotungstate.

3,142,734
MAGNETIC STRUCTURE FOR REED RELAYS

Bruno Dal Bianco, Milan, and Mario Scata, Monza, Milan, Italy, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 31, 1962, Ser. No. 220,749
Claims priority, application Italy Sept. 5, 1961
2 Claims. (Cl. 200—87)

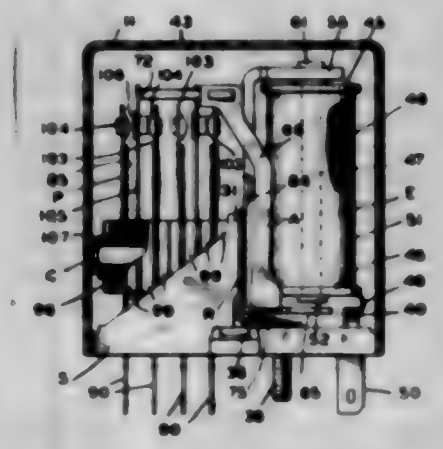


1. An external magnetic circuit for relays having electrical contacts of magnetic material sealed in protective envelopes with a portion of each contact extending out of the same end of said envelope, said circuit comprising a U-shaped structure of high permeable magnetic material defining a magnetic core section having first and second salient pole pieces, a flux generating winding mounted on said core section for generating a magnetic flux to operate said contacts in response to magnetic attraction therebetween, one of said pole pieces comprising a support portion for one end of said envelope independently of any said contact extension and the other of said pole pieces comprising a support portion for the other end of said envelope, the last-said portion electrically and magnetically contacting one only of said relay contact extensions.

3,142,735
MULTIPLE LEAF SPRING ELECTROMAGNETIC SWITCH

James Diciolla, Yonkers, N.Y., assignor to Allied Control Company, Inc., New York, N.Y., a corporation of New York

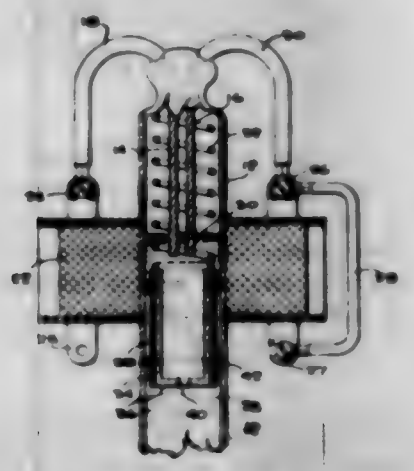
Filed Jan. 10, 1961, Ser. No. 81,772
9 Claims. (Cl. 200—104)



1. In an electromagnetic device, a support unit comprising a base and an upstanding partition carried by and positioned intermediate the ends of the base, the part of the base to one side of the partition being provided with a plurality of spaced slots; an electromagnet unit mounted on the support unit to the other side of the partition and comprising a frame, an electromagnet coil secured to the frame, a core member extending through the coil and a pole piece at one end of the core member; an armature unit mounted for rocking movement relative to the electromagnet unit and comprising an armature disposed to said other side of the partition and cooperatively associated with the pole piece and actuator means carried by the armature; a retainer unit disposed to said other side of the partition and including a resilient arm which bears against the armature unit; a contact assembly disposed to said one side of the partition and comprising a plurality of spaced contact members extending through corresponding slots in the base, electrically non-conductive means insulating the contact members from each other, a plurality of resilient stationary contact arms in intimate contact with corresponding contact members and at least one movable contact arm in intimate contact with one of the contact members; and connector means affixing the electromagnet unit, the retainer unit and the contact assembly to the support unit, said connector means extending through openings defined by the contact assembly, the partition, the retainer unit and the armature unit and being secured to the frame of the electromagnet unit, the above-mentioned parts being so constructed and arranged that the arm of the retainer unit normally and yieldingly imparts rocking movement to the armature unit in one direction relative to the electromagnet unit whereby the armature is positioned away from the pole piece and the actuator means is disposed in a predetermined posi-

tion relative to the movable contact arm, said armature unit, upon energization of the coil, being rocked in a reverse direction against the action of the arm of the retainer unit due to the armature being attracted to the pole piece whereby the actuator means engages and moves the movable contact arm relative to a corresponding stationary contact arm.

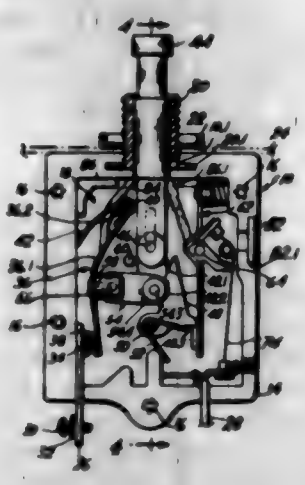
3,142,736
PERIODIC MERCURY RELAY
Irving L. Mitchell, Rockville Centre, N.Y., assignor to Ebert Electronics Corporation, Queens Village, N.Y., a corporation of New York
Filed Oct. 31, 1961, Ser. No. 149,013
11 Claims. (Cl. 200—112)



1. A periodic mercury relay of the displacer type, comprising a pool of mercury, an envelope fabricated of material having the properties of being self lubricated and of an electrical insulator for said pool of mercury, said envelope containing said pool of mercury, a pair of spaced electrodes mounted in said container, a mercury displacing element buoyant in said mercury pool and including a tubular armature portion and a liner portion of ceramic located inside said tubular portion, said liner portion being in the form of an inverted dome having a cap and having a metering orifice in the cap, means mounted on said mercury displacing element for establishing self-lubricative sliding contact with said container, resilient means biasing said mercury displacing element below its position of natural buoyancy in said mercury pool, electromagnetic energizing coil means located in surrounding relationship to a portion of said container and which when energized, actuate said mercury displacing member against the bias of said resilient means so that the level of said pool of mercury drops below the level required to bridge said spaced electrodes in said container, and means connecting said spaced electrodes in series with said energizing coil.

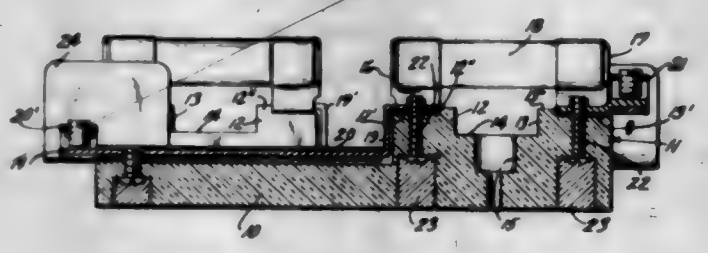
3,142,737
HEAT RESPONSIVE WIRE CIRCUIT BREAKER
Lawrence W. Brackett, Georgetown, Mass., assignor to Wood Electric Corporation, Lynn, Mass., a corporation of Massachusetts
Filed Sept. 9, 1960, Ser. No. 54,996
2 Claims. (Cl. 200—116)

1. A circuit breaker comprising: fixed contact means; movable contact means cooperable with the fixed contact means for closing a circuit; means biasing the movable contact means to open circuit position; an operating member; a pivotally mounted cam member; actuating means pivotally connected to the operating member and to the movable contact means, said actuating means being adapted slidingly to engage the cam member for urging the movable contact means to closed circuit position in response to movement of the operating member while said cam member is maintained in actuating position; an elongate latch mounted on a pivot and normally adapted to hold the cam member in actuating position; biasing means adapted for rotating the latch to release the cam member from actuating position; a roller adjacent to said pivot; and a heat expansible wire extending along said latch and deflected by said roller to engage the latch, said wire being



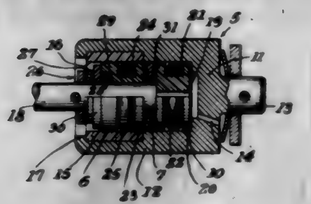
normally adapted for restraining said latch biasing means to prevent latch rotation, and being also adapted to expand in response to overload current in the breaker circuit for releasing restraint of said latch biasing means, thereby releasing the cam member from actuating position for permitting the contact biasing means to move the movable contact means to open the breaker circuit and to keep said circuit open regardless of the position of the operating member.

3,142,738
FUSE HOLDING STRUCTURE
Harry M. Friedman, Brooklyn, N.Y., assignor to Delta Metal Products Co., Brooklyn, N.Y.
Filed July 3, 1961, Ser. No. 121,467
4 Claims. (Cl. 200—133)



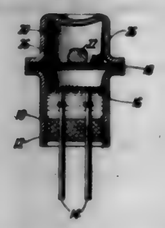
1. In a holding fixture structure for exchangeable electric fuses, an elongated, substantially narrow, elongated dielectric, monolithic base body having at each end at least one spaced elevation integral with and projecting upward from the base body, the elevation at one base end being offset in relation to the elevation at the other base end, said elevations being spaced by a spare-out which separates the elevations to form inner and outer supporting columns, each supporting column having a recess and an end abutment, resilient fuse-receiving mountings supported by and firmly secured to each of the columns, and restricted in their movement by said end abutments, the mountings supported by what may be termed the inner columns being designated as inner mountings, the mountings supported by the outer columns being the outer mountings, the mountings at each elevation being aligned, and an insulated bus bar extending from each of the inner fuse receiving mountings toward and projecting with their ends beyond the end of the base body opposite to that where the elevations are located.

3,142,739
ELECTRIC SWITCH WITH A MOVABLE BODY OF CONDUCTIVE FLUID UNDER PRESSURE
James L. Grupen, Glendora, Calif.
(1269 Lynn Way, Sunnyvale, Calif.)
Filed July 24, 1961, Ser. No. 126,225
9 Claims. (Cl. 200—152)



1. An electric switch comprising a conductive housing having a bore provided with a dielectric liner, a movable plunger in said bore and provided with a conductive stem spaced from said bore, a body of conductive fluid material wholly disposed within the confines of the bore and carried by and bodily movable, in its entirety, with the plunger in electrical contact with the stem and in contact with the mentioned bore to electrically connect the housing and stem in one position of the plunger and electrically disconnect said stem from the housing by contacting the liner in another position of the plunger, and means carried by the plunger to impose pressure on said body of material and force the same into intimate electrical contact with both said bore and said stem in all portions of the plunger.

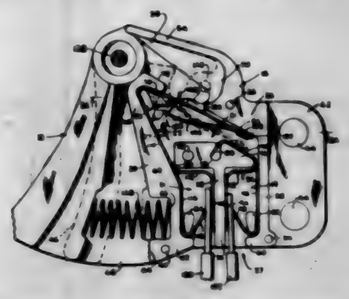
3,142,740
LOW TEMPERATURE CENTRIFUGAL SWITCH
John Gilbert Ray, Mineola, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Aug. 31, 1951, Ser. No. 244,609
6 Claims. (Cl. 200—152)



2. A low temperature mercury type switch having as its fluid type electrical conducting constituent a mercury thallium amalgam containing about 9% thallium.

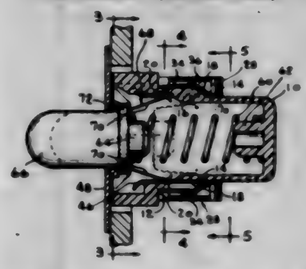
3,142,741
SNAP ACTING TRIGGER SWITCH
George Bury, Chicago, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed July 11, 1962, Ser. No. 209,197
11 Claims. (Cl. 200—157)

3. A trigger switch comprising chambered base means and cover means assembled together to define a switch enclosure having first and second spaced openings, pivot means located adjacent said first opening and mounted between said base means and cover means, manually engageable pivotal bell crank lever means having first and second angularly disposed arms mounted on said pivot means with said second arm extending into said first opening, fixed contact means mounted in said switch enclosure having a terminal portion extending adjacent said second opening, movable contact means comprising a member having a first portion carrying a contact engageable with said fixed contact means and a second portion disposed adjacent to and spaced from the terminal portion of said fixed contact means adjacent to said second opening, said member having a third portion intermediate said first and



second portions engageable with said second arm of said bell lever to impart snap action movement to said contact on said first portion, whereby movement of said first arm of said bell crank lever means causes said second arm to move said movable contact means relative to said fixed contact means with a snap like action.

3,142,742
PLUNGER ACTUATED SWITCH CONSTRUCTION
Joseph J. Kaleba, Roselle, and James J. Wellwood, Villa Park, Ill., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Feb. 3, 1961, Ser. No. 86,973
10 Claims. (Cl. 200—159)

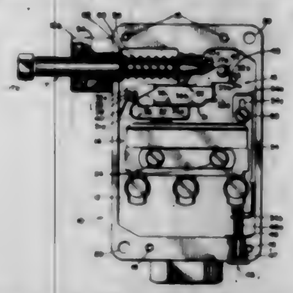


1. A switch assembly comprising, a housing having a forwardly opening blind hole therein, peripherally spaced rearwardly opening grooves formed on the outside of the housing, the forward end of each groove opening into said hole in the housing, a terminal mounted in one of the grooves and having rail portions projecting into the interior of the housing through the opening at the forward end of the groove, a plunger in said hole, a ring having a central aperture through which the plunger projects, a ground plug projecting from the ring into said hole, and a shorting bar carried by the plunger and contacting the rail portion and ground lug in one position of the plunger and being out of contact with the rail portion in another position of the plunger.

3,142,743
MOMENTARY ACTUATOR FOR PRECISION SNAP SWITCH
Burt A. Burgess, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 10, 1961, Ser. No. 102,815
6 Claims. (Cl. 200—160)

1. In combination, a housing supporting a switch mechanism; an actuating arrangement for said switch mecha-

nism, the actuating arrangement comprising: a first lever pivotal about a first axis and engageable with the actuating element of said switch mechanism; a second lever extending in the same direction as said first lever pivotal about the first axis and supporting a bell crank lever pivotal about a second axis, said bell crank lever including a first arm engageable with said first lever near its free extremity and a second arm engageable with an abutment adjustable with respect thereto and from without said housing; and an actuator supportable in and operable from without said housing and initially movable to engage a portion of said second lever to cause pivotal movement of said second lever and said bell crank lever about said first axis and engagement of said first lever by



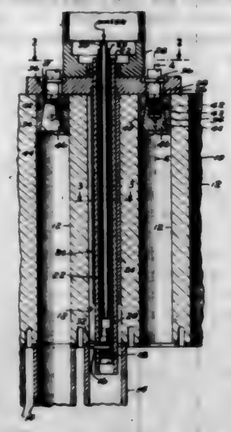
the first arm of said bell crank lever, said actuator and said second lever and said bell crank lever further movable to cause pivotal movement of said first lever about said first axis to engage the actuating element of and actuate said switch mechanism, said actuator and said second lever and said bell crank lever and said first lever still further movable to cause engagement of said adjustable abutment by the second arm of said bell crank lever and pivotal movement thereof about said second axis to cause the first arm thereof to become disassociated from said first lever resulting in disengagement of said first lever from the actuating element of and deactuation of said switch mechanism, return movement of said actuator and said second lever and said bell crank lever being independent of said first lever.

3,142,744
SWITCH OPERATING ATTACHMENT
James W. Keck, Tachikawa, Tokyo, Japan (Southern Airport, Box 99, APO 323, % Postmaster, San Francisco, Calif.)
Filed Nov. 30, 1962, Ser. No. 241,363
6 Claims. (Cl. 200—172)



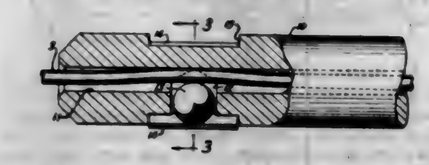
1. In combination, a toggle switch handle movable to closed and open positions, a head secured on the handle, a normally pendant operating handle pivoted to the head, and spring means acting between the head and the operating handle biasing the operating handle toward the switch, said head having a counterbore opening to its inner end which is engaged on the switch handle, and switch handle retaining means within the counterbore, comprising opposed spring jaws, said jaws having lateral pins which are engaged in recesses provided in the sidewalls of the counterbore.

3,142,745
ROTATABLE ARC WELDING TORCH
Ronald William Gotch, Ashford, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed May 4, 1962, Ser. No. 192,516
Claims priority, application Great Britain May 19, 1961
5 Claims. (Cl. 219—125)



1. A rotatable arc welding torch for welding tubes to a tube sheet comprising an elongated rod-like electrode holder, an electrode supported by said holder and extending laterally therefrom, housing means adapted to support said holder within a tube sheet hole and to locate said electrode adjacent the point of the weld, a centering plate affixed to said housing, peg means projecting from said centering plate along axes parallel to the axis of said electrode holder adapted to be engaged in spaced holes in the tube sheet other than the hole in which said electrode holder is supported, and tubular guard means encompassing said electrode holder having an eccentric cross sectional configuration adapted to tangentially contact the wall of the tube sheet hole and to locate the electrode holder so that its axis of rotation coincides with the axis of the tube sheet hole in which it is supported, said peg means being adapted for lateral movement relative to said axis of rotation.

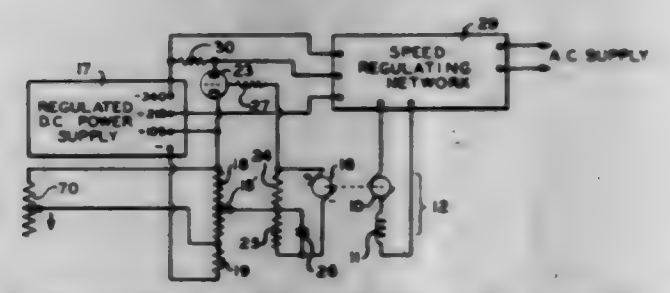
3,142,746
CONSUMABLE ELECTRODE ARC WELDING APPARATUS
Donald W. Schmerling, Fontana, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed July 23, 1961, Ser. No. 127,687
3 Claims. (Cl. 219—130)



1. A consumable electrode contact unit, comprising a tubular contact tube having an axial opening generally corresponding to the diameter of the electrode and a radial opening adjacent the discharge end of the contact tube,

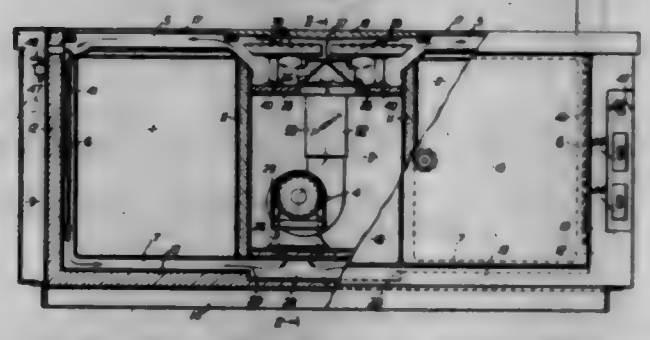
a pressure transmitting member in said radial opening having an inner spherically shaped face and substantially closing the axial passage in the innermost position, and a tubular split spring clip encircling the contact tube and overlying the radial opening to continuously resiliently urge the member into the contact tube with the spherically shaped face engaging the electrode and firmly holding the electrode in engagement with the opposite aligned interior surface of the contact tube.

3,142,747
ELECTRIC ARC WELDING
William W. Walker, Franklin Park, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 17, 1961, Ser. No. 103,481
10 Claims. (Cl. 219—137)



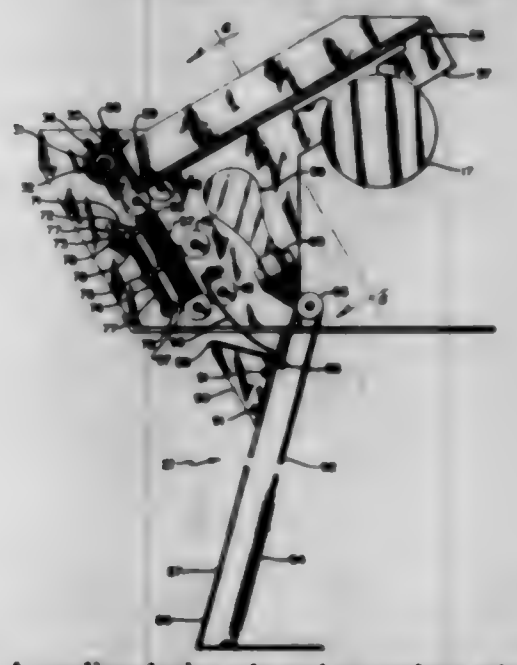
1. The method of arc welding work comprising a pair of members along a groove therebetween whose root opening is characterized by at least one local diminution while maintaining proper root penetration of the weld throughout the groove, which comprises moving the extremity of an elongated consumable electrode along the groove while feeding the electrode to the work at rates within such a range, and with such inductively impressed voltage on the electrode relative to the work, that the electrode and a weld pool on the work make repetitive short-circuiting contacts with each other and an arc between the electrode and the work occurs only in the time intervals between such contacts, maintaining the rate of feed of the electrode when away from any such diminution at substantially less than the maximum of said range, and at said diminution temporarily increasing within said range the rate of feed of the electrode.

3,142,748
ELECTRIC COOKING RANGES
Ernest Warren, Ecclesfield, England, assignor to William Green & Co. (Ecclesfield) Limited
Filed Apr. 11, 1962, Ser. No. 186,807
Claims priority, application Great Britain May 18, 1961
4 Claims. (Cl. 219—392)



1. An electric cooking range comprising at least one oven with a simmering section of a hot plate above it and spaced from it to provide a top flue, together with externally insulated flues down the end and under the bottom of the oven in continuation of the top flue, there being a boiling section of the hot plate below which there is no oven, and electric heating elements disposed close to the undersurface of the boiling section as to effect direct heating of that section, and a fan to force air in closed circuit over the elements and thence into the top flue below the continuing simmering section of the hot plate and round the flues of the oven below the simmering section.

3,142,749
READING MACHINE
Raymond B. Larsen, Rawlins, Wyo., assignor to Uptime Corporation, Rawlins, Wyo., a corporation of Wyoming
Filed Oct. 28, 1958, Ser. No. 768,332
11 Claims. (Cl. 235—61.11)

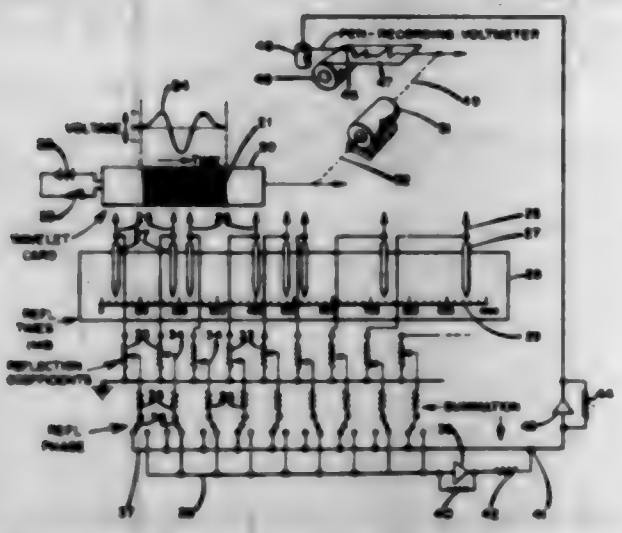


1. A reading device adapted to analyze tabulating cards bearing characters arranged in a series of rows and columns, comprising: a generally vertically disposed guide path, means associated with said guide path to advance each of the cards along said guide path; and an electrical circuit including a light source, a first series of light-sensitive elements arranged in spaced relation corresponding with the distance between rows on the cards each being individually responsive to the passage of a card thereacross to generate a separate signal, a second series of light-sensitive elements arranged in horizontal spaced relation corresponding with the distance between columns on the cards to read each row and generate signal means corresponding thereto; and means supporting said first series and second series of elements in correlated relation to provide for simultaneously sensing the position of and reading, respectively each row of characters on the cards.

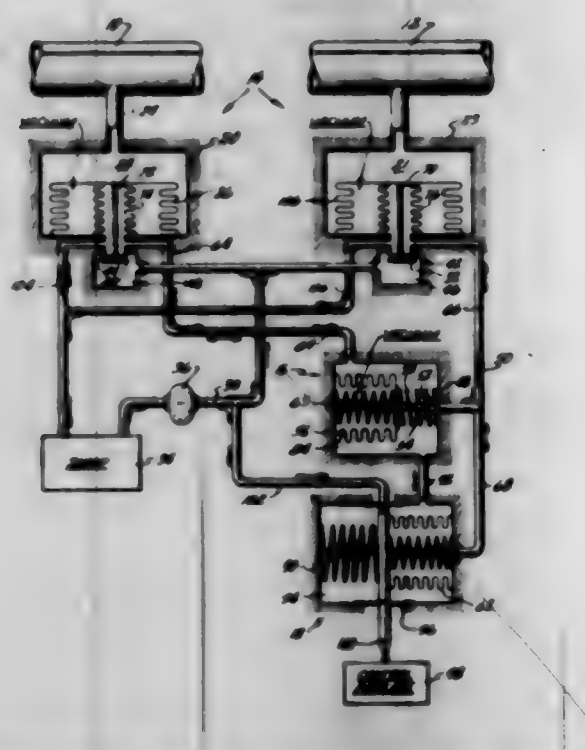
3,142,750
SEISMIC ANALOG RECORD COMPUTER
Daniel Silverman and Charles F. Hadley, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,696
11 Claims. (Cl. 235—184)

1. A seismic analog record computer comprising a wavelet generator including at least one electrically conductive element and a direct-current voltage source connected so thereto that the voltage continuously present thereon varies along the length of said element as the assumed wave-form of a seismic reflection wavelet, a plurality of contactors each adapted to contact said element and by scanning along it to derive said voltage wave-form directly therefrom, means to produce scanning of said element by said contactors in sequence with spacings proportional to the two-way seismic reflection travel times to a corresponding plurality of subsurface seismic-wave-reflecting interfaces, means connected to each of said contactors for modifying the amplitude of the voltage derived by it from said element in dependence upon the reflection coefficient of the corresponding one of said inter-

faces, means connected to said modifying means for summing all of said contactor voltages so modified and with phases corresponding to the polarities of the corresponding reflected seismic wavelets, and means connected to said summing means for recording the output of said summing means as a function of time.



3,142,751
RATIO DEVICE
Frederick P. Evans, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 19, 1961, Ser. No. 111,225
7 Claims. (Cl. 235—200)



1. A computing device for ascertaining the value of the ratio of two variables comprising:

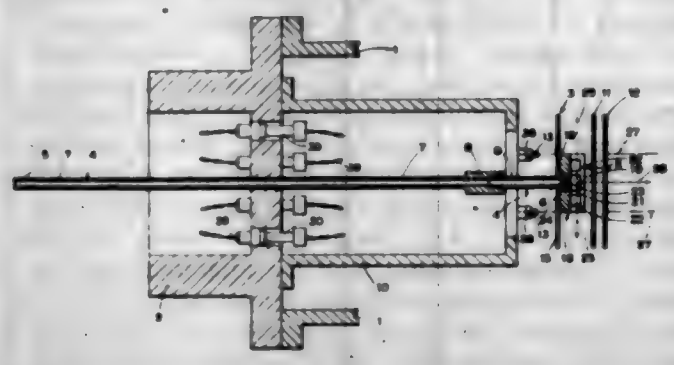
(*a*) sensing means for sensing the value of each of said variables,

(*b*) means responsive to said sensing means for producing modulated pressures proportional to each of said variables,

(*c*) a fluid receiving chamber having a movable member for receiving said modulated pressure,

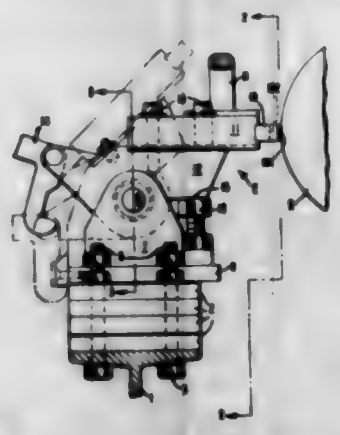
(*d*) control means connected between said sensing means and said fluid receiving chamber and being responsive to said modulated pressure for further controlling the pressure of said modulated pressure for controlling the position of said movable member.

3,142,752
MEANS FOR REDUCING THE MEMORY EFFECT IN A MASS SPECTROMETER ION SOURCE
Allan N. Hamer, Bury, and Colin C. McCormick, Walmsley, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Aug. 17, 1960, Ser. No. 50,147
Claims priority, application Great Britain Aug. 17, 1959
5 Claims. (Cl. 250—41.9)



1. In a mass spectrometer ion source assembly suitable for use with gaseous samples capable of isotopic exchange, the combination comprising an ion source compartment end plate; an ion source mounted from the end plate, the ion source comprising a base and plates defining a channel for an electron beam, the base having an orifice therein communicating with the channel; and a pipe having a bore concentric with and smaller than the orifice for introducing a gaseous sample to the ion source to intersect the electron beam, the pipe being sealed to the end plate in passage therethrough and having a sample discharge end proximate to but spaced from the base such that substantially all the sample passes from the discharge end through the orifice and into the channel.

3,142,753
ELECTRODE MOUNTING ARRANGEMENT FOR ELECTRICAL DISCHARGE TREATMENT OF PLASTIC FILM
Edward De Buhr, Chadds Ford, Pa., and James F. Pfeffer, Jr., Oaklands, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 22, 1962, Ser. No. 167,568
3 Claims. (Cl. 250—49.5)



1. An improved electrode mounting arrangement for electrical discharge treatment of plastic film, said arrangement comprising a supporting frame member, an electrode holder member pivotally mounted on said frame member and electrically insulated therefrom, a first elongated electrode element having a relatively low coefficient of thermal expansion secured to said holder member and movable therewith, said movable electrode element provided with a longitudinally extending normally vertical planar surface, said holder member having a moment of inertia many times greater than said movable electrode element and a coefficient of thermal expansion greater than that of the movable electrode element, said

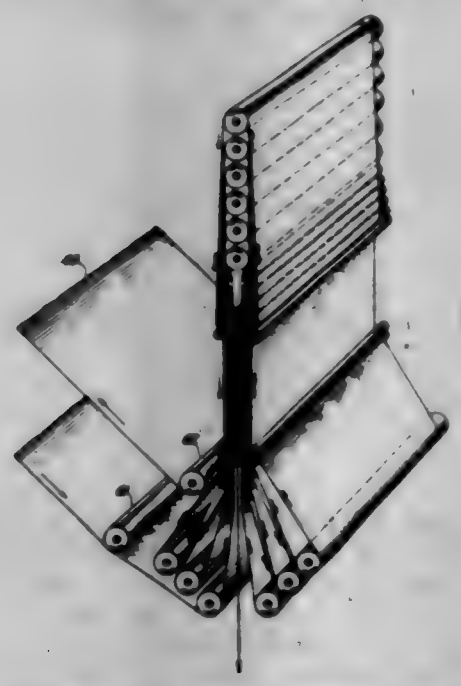
holder member and movable electrode pivotally mounted for movement between an operative position in which the movable electrode element is positioned in closely spaced relationship adjacent to a cooperating aligned parallel second electrode element such that a moving sheet of film may be passed between said elements and a surface of such film treated by an electrical field and discharge created between the electrode elements, the elements positioned in said operative position such that the electrode elements lie substantially in the same horizontal plane with said planar surface lying in a vertical plane and parallel to said second electrode; and an inoperative position spaced a substantial distance from said operative position and said second electrode, said holder member and said movable electrode element provided with cooperating means for adjustably securing said movable electrode element to said holder member and permit selective infinitely variable adjustment of the alignment and spacing of said first movable electrode element with respect to the second electrode while simultaneously permitting continuous limited longitudinal sliding action of said movable electrode element relative to said holder member under forces of thermal expansion due to an electrical discharge between the planar face of the movable electrode element and the second electrode element in order to prevent significant distortion of said planar face, said holder member provided with an actuating means for moving the member between the operative and inoperative positions, and further provided with a releaseable latch means for securing said member in said inoperative position, said holder member pivotally mounted on said frame member by a plurality of adjustable pre-loaded double ball bearing assemblies acting between said members to eliminate lost motion during pivotal movement between them.

3,142,754

METHOD AND APPARATUS FOR THE IRRADIATION OF A CONTINUOUSLY ADVANCING MATERIAL WITH IONIZING RADIATION

Fritz Munzel and Willy Roth, Wattwil, Switzerland, assignors to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

Filed Sept. 12, 1960, Ser. No. 55,582
Claims priority, application Switzerland Sept. 12, 1959
8 Claims. (Cl. 250—52)



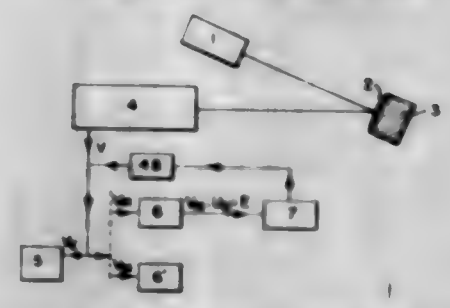
1. Apparatus for the irradiation of a length of material with ionizing radiation, comprising an elongate member having a pair of generally flat opposed surfaces enclosing a source of ionizing radiation emitting ionizing radiation at said surfaces, roller means advancing the material to be irradiated and means guiding the advancing material next adjacent each of said surfaces for irradiation thereof by said source.

3,142,755

METHOD OF DETERMINING TEMPERATURE BY MEANS OF A PHOSPHORESCENT SUBSTANCE, AND MEASURING APPARATUS FOR THE EMPLOYMENT OF SAID METHOD

Jean-Pierre Leroux, 1 Place Montiernoef E.N.S.M.A., Poitiers, France

Filed Dec. 13, 1960, Ser. No. 75,545
8 Claims. (Cl. 250—71)



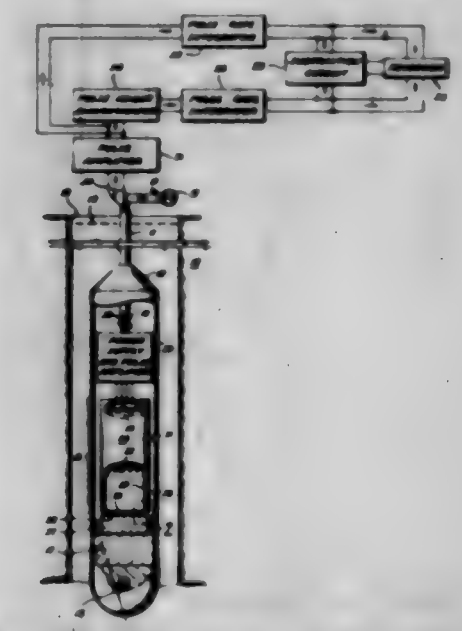
1. A process for the precise determination of temperatures, comprising the steps of exposing to the temperature to be measured a phosphorescent material, continuously irradiating said material with exciting energy whose intensity is a varying periodic function of time, sensing the variations in the intensity of the excited phosphorescence, and calculating the temperature of the material from the relationship of the sensed variations to the periodic function governing said irradiation.

3,142,756

PHOTOMULTIPLIER TUBE WITH TUBULAR CATHODE BONDED TO THE INTERIOR SURFACE THEREOF

Clark Goodman, Houston, Tex., and Jean-Pierre Causse, Ridgefield, Conn., assignors to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Nov. 23, 1959, Ser. No. 854,891
1 Claim. (Cl. 250—71.5)



Radiation-responsive apparatus comprising a photomultiplier including a cylindrical glass envelope having a flat end wall for coupling with a scintillation crystal, a semi-transparent photocathode composed of electron-emissive material formed on the interior face of said end wall and coextensive therewith, at least a first dynode and an anode spaced successive distances from said photocathode axially within said envelope, and a tubular electron emissive cathode bonded to the cylindrical interior face of said envelope and extending from said photocathode a distance short of said first dynode and com-

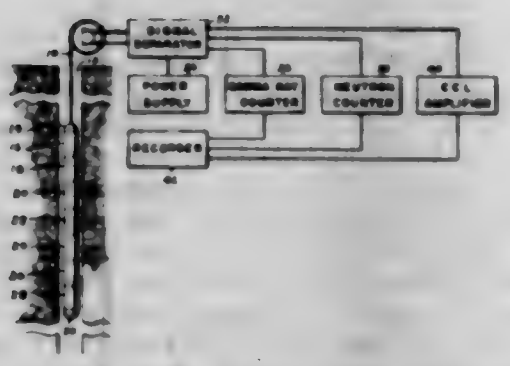
posed of neutron reactive lithium-6 and a secondary-electron emissive material, said cathodes being electrically conductive and arranged to emit electrons into secondary emitting relation to said first dynode upon the application of suitable potentials to said cathodes, anode and dynode said dynode and said cathodes employing the same secondary-electron emissive material.

3,142,757

COINCIDENT PULSE SUPPRESSION SYSTEM FOR SIMULTANEOUS RADIOACTIVITY WELL LOGGING

Raymond B. Beaham, Fort Worth, Tex., assignor to The Western Company, Fort Worth, Tex.

Filed Apr. 8, 1960, Ser. No. 20,976
8 Claims. (Cl. 250—83.3)



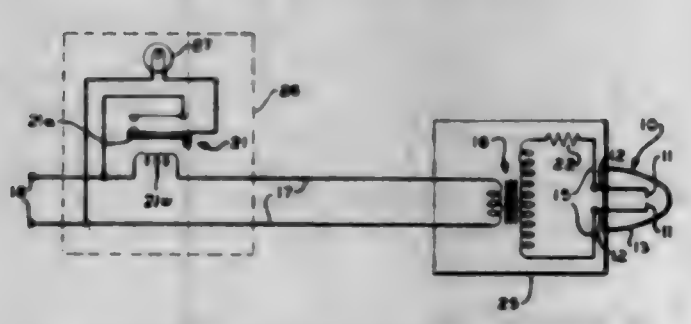
1. In a simultaneous radioactivity bore hole logging operation apparatus for neutron and gamma-ray bore hole measurements, a single physical circuit for extension to above ground recording equipment, individual means for sensing neutron and gamma-ray events, respective pulse-forming devices connected to said individual means for transmitting pulses of opposite polarity over said circuit upon occurrence of such events, and means interconnecting said devices for suppressing the pulse output of one and only one of said devices during the output-producing operation of the other, whereby pulses of only one specified polarity are lost upon the occurrence of two such events in time coincidence.

3,142,758

ULTRAVIOLET DETECTOR DISCHARGE TUBE AND THERMAL RELAY CIRCUIT

John J. Dietz, Cedar Grove, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Feb. 1, 1961, Ser. No. 86,341
3 Claims. (Cl. 250—83.3)



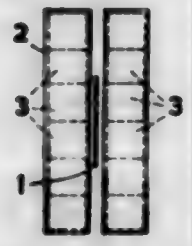
1. An ultraviolet detecting system comprising an ultraviolet detector tube having electrodes adapted to pass a pulsating discharge current when subjected to an applied pulsating potential and excited by incident photons, circuit means for providing a pulsating firing voltage capable of producing a pulsating glow discharge in said ultraviolet tube when the tube is excited by incident photons, and a thermal relay having a heater winding connected in said circuit means to cause the relay to be operated when said ultraviolet tube is undergoing discharge.

3,142,759

MONORAIL PACKAGE IRRADIATION PLANT

Sidney Jefferson, Abingdon, and Frank Rogers, Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Jan. 16, 1961, Ser. No. 83,054
Claims priority, application Great Britain Jan. 20, 1960
6 Claims. (Cl. 250—106)



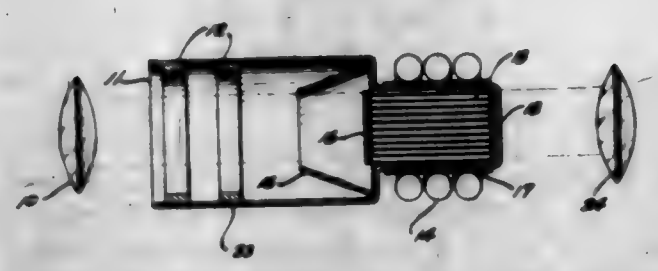
1. Irradiation apparatus comprising a plate like source of gamma radiation, a plurality of containers for containing packages to be irradiated, the height of said containers each being substantially the same as the height of said source, means supporting said containers in groups of two in columnar arrangement, means for passing said groups of containers over at least one face of said source in such a manner that the inner edges of the containers forming said groups move parallel and in close proximity to a medial line dividing said source into substantially equal upper and lower portions, and means permitting re-orientation of the containers forming said groups such that the original inner edges of the containers become the outer edges so as to provide for a substantially uniform radiation dosage for said containers.

3,142,760

LASER IMAGE AMPLIFIER

Harley A. Iams, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 28, 1961, Ser. No. 153,371
2 Claims. (Cl. 250—213)



1. An optical image amplifier comprising optical lens means for focusing an optical image upon a photocathode, photocathode means cooperatively associated with the optical lens means for converting optical images focused thereon into an electron image, electron lens means cooperatively associated with the photocathode means for focusing the electron image upon a laser material surface, a body of laser material having a surface for receiving thereon a focused electron image from the electron lens means, and pumping light means cooperatively associated with the laser material for exciting the laser material and amplifying fluorescence generated therein by the electron image.

3,142,761

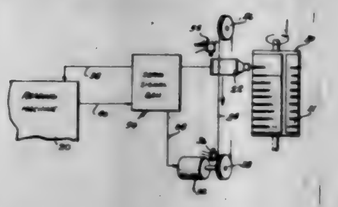
PHOTOSENSITIVE LINE FOLLOWING SERVO SYSTEM FOR READING MACHINES

Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Nov. 30, 1960, Ser. No. 72,702
15 Claims. (Cl. 250—219)

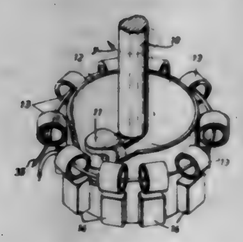
9. In a reading machine for a line of characters on an area which is moved, a scanner of a size to cover the

width of the line, said scanner providing scanner outputs and said scanner having additional sections on each side of the line when said scanner is aligned with said line, servo motor means to retain scanner-to-line alignment, means responsive to the outputs of said sections to provide



electrical signals which correspond to the amount of deviation from said scanner-to-line alignment, means for filtering the components of said signals which correspond to minor short-duration deviations from said alignment, and means to conduct the filtered signals to said servo motor means.

3,142,763
MAGNETICALLY ACTUATED SWITCH DEVICE
George Frederick Kelk, Willowdale, Ontario, and Joseph Tanshman, Downsview, Ontario, Canada, assignors to George Kelk Limited
Filed Jan. 22, 1960, Ser. No. 4,111
4 Claims. (Cl. 307—38)



4. A magnetically actuated switch device adapted to provide an electrical signal responsive to a physical positioning of a switching member and zero signal responsive to another position of said member and comprising in combination: a source of alternating current; a series impedance for said source; a coil having a saturable core and a capacitance in resonant circuit connection therewith; means connecting said resonant circuit to said source through said impedance; a magnetic switch member; means for positioning said magnetic member a pre-determined spacing from said core; means controlling the voltage of said source to a value sufficient only to trigger resonance in said circuit at said pre-determined spacing; means for extracting a resonant electrical current signal from said circuit responsive to the positioning of said magnetic member at said pre-determined spacing from said core; at least one other resonant circuit in parallel connection to said source and impedance with said first mentioned resonant circuit and having a similar coil saturable core and capacitance; means supporting said cores for said coils in pre-determined successive spacing between adjacent cores; and means conveying the said magnetic member successively into association with said cores at said pre-determined distance thereby to extinguish a resonant condition in said first mentioned circuit while causing the generation of a resonant condition in the succesive core and circuit.

3,142,763
CIRCUIT ARRANGEMENT FOR SUPPLYING AN IMPEDANCE WITH CURRENT PULSES
Laurus Jan Trass, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 842,441
Claims priority, application Netherlands Oct. 3, 1958
8 Claims. (Cl. 307—88.5)



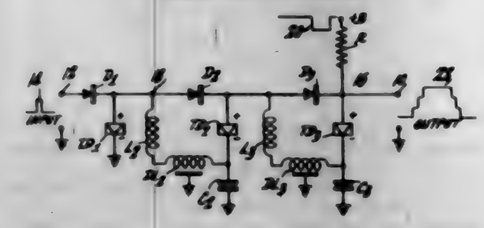
1. A circuit arrangement for feeding current pulses having substantially constant amplitude to a load impedance, comprising a switching transistor having base, emitter and collector electrodes and an emitter-collector electrode path, a regulating impedance and a load impedance connected in series with said emitter-collector path, a source of supply voltage poled to bias said emitter electrode in the forward direction, means for applying control current pulses in the conducting direction to said base electrode, a current amplifier having input and output circuits, said input circuit being coupled to said load impedance, said output circuit being coupled to said regulating impedance, compensating current pulses being produced in said output circuit in response to the voltage drop produced across said load impedance when a current pulse is fed to said load impedance via said regulating impedance and said emitter-collector electrode path, said compensating current pulses being superimposed on said current pulses and compensating for the influence of said voltage drop upon the amplitude of the current pulses.

3,142,764
TRANSISTOR CURRENT SWITCHING FOR LOGICAL CIRCUITS
Claude Jean Principe Frederic Le Can and Christiaan de Ruyter, both of Nijmegen, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 5, 1960, Ser. No. 73,683
Claims priority, application France Dec. 8, 1959
9 Claims. (Cl. 307—88.5)



1. A transistor switching circuit, comprising a transistor having base-, emitter- and collector-electrodes and a base-emitter threshold voltage, input means for supplying forward control pulses to said base electrode, a source of reverse voltage connected to the collector electrode of said transistor for supplying current to the emitter-collector circuit of the transistor, a semi-conductor element having at least two electrodes and a threshold voltage, said element being connected in the emitter circuit of the transistor with its electrodes connected in the reverse direction with respect to the emitter-current of the transistor, a source of forward current coupled to the electrode of said semi-conductor element closest to the emitter of the transistor, and a threshold diode connected in the pass direction with respect to the emitter-current in the emitter-base circuit of said transistor, the respective values of said base-emitter threshold voltage and of the respective threshold voltages of the semi-conductor element and of said threshold diode being such that the sum of the base-emitter threshold voltage of the transistor and of the threshold voltage of the threshold diode is larger than the threshold voltage of the semi-conductor element, but smaller than the voltage drop produced across the semi-conductor element by the current supplied to the semi-conductor element by the source of forward current.

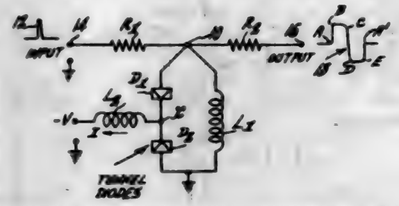
3,142,765
TUNNEL DIODE VOLTAGE MULTIPLIER
Charles M. Wine, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 28, 1960, Ser. No. 79,052
9 Claims. (Cl. 307—88.5)



1. A voltage multiplier comprising a plurality of tunnel diodes, direct current conduction means connecting said tunnel diodes in series, said direct current conduction means including inductive elements interposed between adjacent tunnel diodes, means to apply a direct current bias to said diodes through said direct current conduction means to bias said diodes in the same one of their high and low voltage states, alternating current conduction means coupling said tunnel diodes in parallel, said alternating current conduction means including direct current blocking capacitors in series with at least all but one of said tunnel diodes, said alternating current conduction means also including conduction diodes interposed between corresponding terminals of adjacent tunnel diodes, means to apply a trigger pulse to one of said tunnel diodes in an amplitude sufficient to trigger said one tunnel diode to the other of its voltage states, whereby the changed state of the one tunnel diode causes a trigger pulse to be coupled to one terminal of the next adjacent tunnel diode through the interposed conduction diode before it can be coupled through the interposed inductive element to the other terminal of the tunnel diode, and so on until all tunnel diodes are switched to their other voltage state, and means to derive an output voltage from across said direct current conduction means connecting the tunnel diodes in series, said output voltage being substantially the sum of the voltages across the individual tunnel diodes.

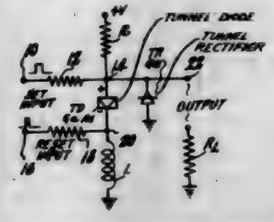
3,142,766
TUNNEL DIODE BIPOLAR PULSE PAIR GENERATOR
Charles M. Wine, Princeton, and James C. Miller, Hamilton Square, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 30, 1960, Ser. No. 79,853
6 Claims. (Cl. 307—88.5)

1. A circuit comprising first and second tunnel diodes, an inductor, means to apply a bias voltage through said inductor to like electrodes of both of said diodes, a second inductor connected across the series combination of said diodes, means to apply a trigger pulse across the series



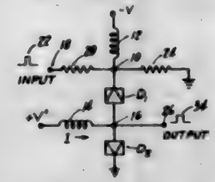
combination of said diodes, and means to derive an output signal from across the series combination of said diodes.

3,142,767
RESETTABLE TUNNEL DIODE CIRCUIT
Eldon C. Cornish, Pennsauken, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 24, 1961, Ser. No. 84,587
8 Claims. (Cl. 307—88.5)



1. A bistable circuit comprising a tunnel diode and an inductor connected in series, a tunnel rectifier connected across said series circuit to variably load said tunnel diode, means to direct current bias said tunnel diode and tunnel rectifier so that a first stable operating condition is provided with the tunnel rectifier in a high impedance state and the tunnel diode in a low voltage state, and so that a second stable operating condition is provided with the tunnel rectifier in a low impedance state and the tunnel diode in a high voltage state, means to apply set and reset pulses to said tunnel diode to switch the tunnel diode between high and low voltage states, and means to derive an output signal from said tunnel diode.

3,142,768
UNIDIRECTIONAL TUNNEL DIODE PULSE CIRCUITS
Melvin M. Kaufman, Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 83,242
15 Claims. (Cl. 307—88.5)



1. A tunnel diode circuit comprising two oppositely poled tunnel diodes connected in series, means to bias said diodes for operation in the same one of their two operating voltage states, means to apply an input signal across the series combination of said diodes, whereby

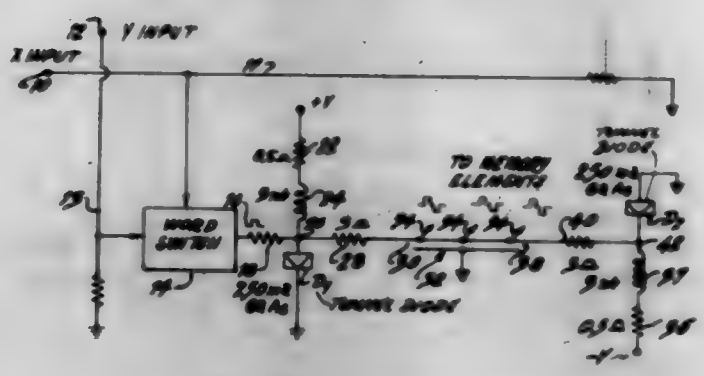
said diodes are switched, and means to derive an output signal from the junction between said diodes.

3,142,769

BIPOLAR PULSE PAIR CIRCUITS EMPLOYING TWO TUNNEL DIODES EACH OPERATING IN A MONOSTABLE MODE

Melvin M. Kaufman, Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 8, 1961, Ser. No. 115,797
11 Claims. (Cl. 307—88.5)



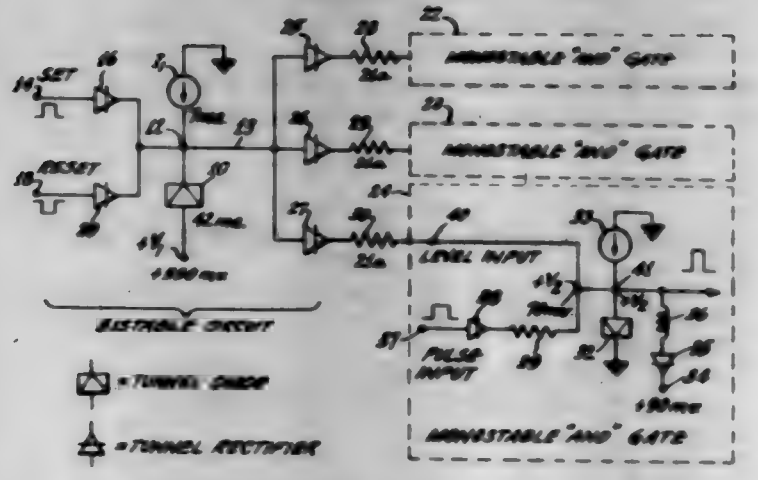
1. A bipolar pulse pair generator comprising two monostable circuits having respective oppositely-poled tunnel diodes, means for coupling both of said circuits to a utilization means, and means to apply an input trigger pulse to one of said circuits to cause it to go through a reactive monostable cycle supplying a pulse of one polarity to said utilization means, whereupon the termination of said pulse results in the triggering of said other circuit through a reactive monostable cycle supplying a pulse of opposite polarity to said utilization means.

3,142,770

TUNNEL DIODE CIRCUITS

Michael Cooperman, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 2, 1962, Ser. No. 177,002
9 Claims. (Cl. 307—88.5)



1. The combination comprising

a negative resistance device having a current-voltage characteristic including a high-current peak having a positive resistance side, an intermediate negative resistance region and a low-current valley having a positive resistance side,

a utilization circuit,

a non-linear impedance device coupled from said negative resistance device to said utilization circuit,

said coupling device and utilization circuit presenting a current-voltage load characteristic to said negative resistance device which includes a constant-current high-impedance portion,

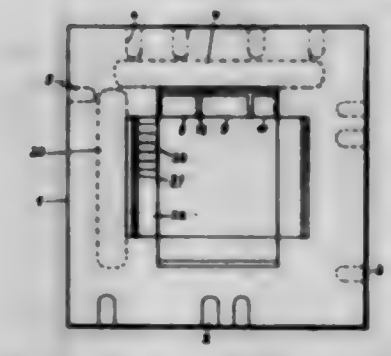
and means to bias said negative resistance device and non-linear impedance device to provide a stable operating point intersection of the positive resistance side of the current valley portion of the negative resistance device characteristic and the constant-current high-impedance portion of the load characteristic.

3,142,771

CONTROL AND INDICATING APPARATUS FOR AUTOMATIC WASHING MACHINES

Karl Wendt, Berlin-Siemensstadt, Germany, assignor to Siemens-Electrogeräte Aktiengesellschaft, Munich, Germany, a German corporation

Filed Dec. 16, 1960, Ser. No. 76,226
Claims priority, application Germany Dec. 17, 1959
7 Claims. (Cl. 307—115)



4. Control and indicating apparatus for automatic washing machines of selectively programmed operation, comprising a washing-machine structure, a program-control device mounted on said structure, program-selector means operatively connected to said device and having manually movable means for selection of different washing programs, an indicating device having a portion normally non-detachable from said machine structure and comprising an indicator member connected to said control device and movable in accordance with the course of the selected washing program, said indicating device having a number of different scales of indicia fixedly connected with said manual means and correlated to said different programs respectively, whereby selective actuation of said manual means places one of said respective scales into coactive relation to said indicator means in accordance with the selected washing program, said manually movable selector means comprising a selector member insertable into and removable from said portion of said indicating device, said selector member having a flat and rectangular shape and being stationary when inserted, one of said scales of indicia being located on one side of said rectangular selector member and being visible from the outside of said indicating device when said selector member is inserted, said selector member having switch actuating means on its other side, said indicating device having a slider displaceable relative to the inserted selector member in accordance with the operation of said program-control device, and electric switch means mechanically connected and displaceable together with said slider to be acted upon by said switch actuating means when said slider travels relative to said selector member, said switches being electrically connected with said program-control device for operation of the latter in accordance with the washing program selected by the inserted selector member.

3,142,772

ELECTRICAL GENERATORS

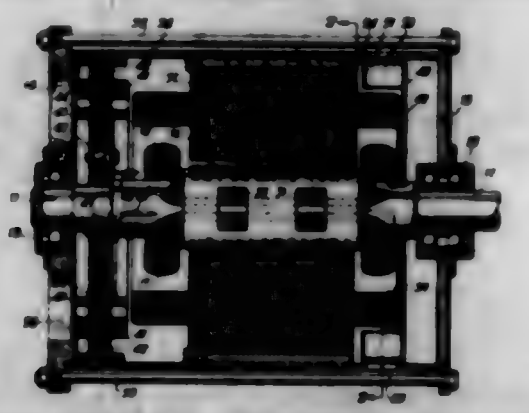
Walter A. Jones, Teaneck, N.J., assignor to Ambrose P. Salvini, Yonkers, N.Y.

Filed Oct. 11, 1960, Ser. No. 62,928
4 Claims. (Cl. 310—62)

1. An electrical generator comprising in combination:

a housing including a tubular member having air inlet

openings at a first end thereof and air exhaust openings at the other, second end thereof; a stator core mounted on and within said member intermediate said inlet and exhaust openings, said core having a central opening therein extending axially of said member from a first end of said core nearest said first end of said member to the opposite, second end thereof; a stator winding on said core adjacent said central opening and radially spaced from said tubular member, said winding having first and second portions of the turns thereof extending respectively axially beyond said first and second ends of said core, said second portions having radially extending winding openings between turns thereof and said core also forming at least one wall of a plurality of first air cooling channels disposed intermediate said stator winding and the inner wall of said member and extending from said first end of said core to the second end thereof adjacent the space between said second portions and said exhaust openings which channels permit cooling air to flow from said air inlet openings along surfaces of said core, exterior to said stator winding, to said exhaust open-

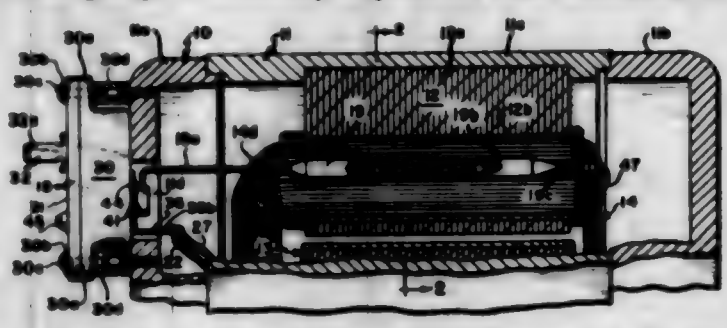


ings; a rotor mounted in said central opening, said rotor having circumferentially spaced windings thereon forming walls of second air cooling channels extending axially of said rotor from one end to the other thereof and the space between the ends of said second channels and said winding openings being unobstructed to permit air to flow from said inlet openings between and along said rotor windings to the radially interior sides of said winding openings and thereafter flow through said winding openings to said exhaust openings; and a centrifugal fan mounted on said rotor adjacent said second portions and having a plurality of axially and radially extending fan blades mounted in radially outward alignment with said winding openings and intermediate said winding openings and said exhaust openings, whereby rotation of said rotor and said fan cause the flow of air along two paths, one from said inlet openings through said first channels and thence outwardly between said blades and through said exhaust openings and the other from said inlet openings through said second channels and thence outwardly through said winding openings, between said blades and through said exhaust openings.

3,142,773
ELECTRIC MOTOR PROTECTION MEANS
Phillip H. Sneberger, Pompano Beach, Fla., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio

Filed Jan. 19, 1961, Ser. No. 83,681
3 Claims. (Cl. 310—68)

1. An electric motor having rotor means and stator means, said stator means comprising: a pole structure having winding slots, a field winding comprising a plurality of turns of a continuous wire having a multiplicity of co-extending closely grouped segments disposed in said winding slots to form a magnetic field for said rotor means, a switch for controlling energization of said winding, an expansible element for operating said switch, one of said winding segments being disposed in said group of segments in said slot and comprising an electrically conductive metallic tubular member one end of which is in communication with said expansible element and the other end of which is closed, said tubular member being in close heat conductive relation with adjacent segments of said group, a thermally expansible fluid contained in



said tubular member and expansible element, and means forming an electrical connection with one terminal of said switch and said one end of said tubular member whereby electric current flowing through said winding segments passes in series through said switch and tubular member.

3,142,774
SYNCHRONOUS TIMING MOTOR ASSEMBLY
Robert S. Landis, Thomaston, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 22, 1960, Ser. No. 77,653
11 Claims. (Cl. 310—83)



1. In a synchronous timing motor assembly the combination comprising a motor unit including a generally flat pole structure and a cylindrical winding arranged along one side thereof, a high speed gear capsule, said gear capsule having a thickened portion defining a chamber and a thin mounting portion adjacent thereto defining a recess, a plurality of high speed reduction gears mounted in said chamber and having a rotor projecting therefrom so that when the capsule and motor unit are secured together the rotor cooperates with the pole structure with the winding being nested in the recess, means defining a reservoir of light vaporizable oil in said capsule with means for conducting the oil to the spindles of the reduction gears, said motor unit being in intimate thermal contact with the capsule so that an atmosphere of oil vapor surrounds said gears.

3,142,775
ELECTRON GUN ASSEMBLIES FOR CATHODE-RAY TUBES
Jack Vernon Shaw, Wilmslow, England, assignor to Ferranti, Limited, Hollinwood, England, a company of The United Kingdom of Great Britain and Northern Ireland

Filed Mar. 26, 1962, Ser. No. 182,494
Claims priority, application Great Britain Mar. 28, 1961
6 Claims. (Cl. 313—82)

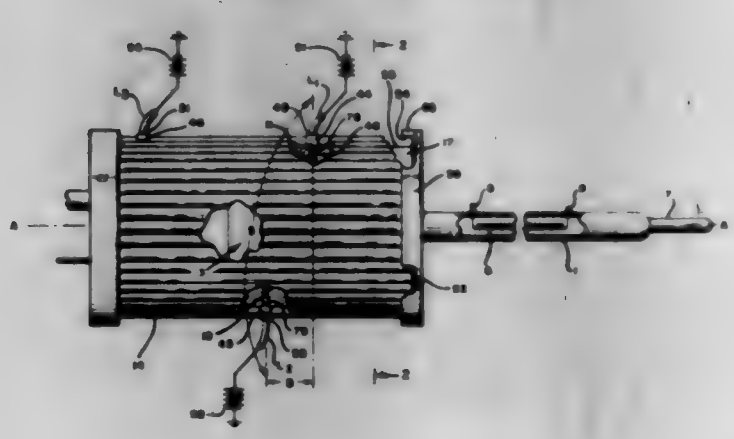
1. An electron gun assembly including a cathode supported within a grid electrode, a first tubular anode, a

second tubular anode of larger diameter than said first anode, and a third tubular anode of larger diameter than said second anode, said grid electrode and said first and second tubular anodes being supported from at least two rods of electrically non-conductive material with said



second anode overlapping said first anode, said third anode being supported to overlap said second anode by means of a plurality of laminar bridging pieces extending from said third anode to a spider rigidly mounted on said first anode.

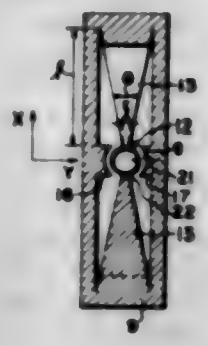
3,142,776
UNITIZED GUN MOUNT AND ENVELOPE
Frank C. Wells, Los Altos Hills, and Stanley F. Swiadek, Sunnyvale, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 1, 1961, Ser. No. 106,807
8 Claims. (Cl. 313—289)



8. In an electron discharge device, an electron gun and an envelope containing said gun, said gun having a means for producing electrons, a plurality of electrodes for focusing and accelerating said beam, and a plurality of insulating spacers stacked in engagement with said electrodes; said envelope comprising a plurality of insulating members coupled together about said spacers and said electrodes, and contact means integral with said envelope comprising a plurality of circumferentially spaced metal bands, each of said bands being electrically connected to one of said electrodes.

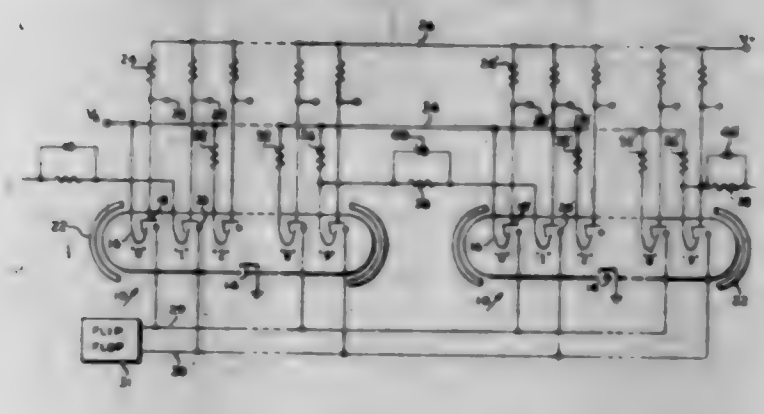
3,142,777
TRAVELING WAVE TUBES HAVING HELIX DERIVED SLOW-WAVE CIRCUITS WITH TAPERED SUPPORT STUBS AND LOADING MEANS
John W. Sullivan, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 15, 1963, Ser. No. 295,605
16 Claims. (Cl. 315—3.5)

6. A slow wave circuit for high frequency electron discharge devices comprising, a contra-wound helix derived slow-wave circuit positioned along and disposed about a predetermined line of circuit development thereby defining a central axis, a plurality of supporting stubs fixedly attached to said slow-wave circuit, said stubs each having their central longitudinal axis lying in a plurality of spaced parallel planes, said planes being disposed normal to said central axis, said stubs having different



transverse dimensions along the length thereof and a loading ridge disposed along the length of and spaced from said slow-wave circuit.

3,142,778
COUNTER CIRCUIT USING DIODE COUPLED TUBE
Arpad Somlyody, Raritan, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 18, 1960, Ser. No. 43,434
1 Claim. (Cl. 315—8.6)



A cascade counter including a pair of series-connected electron beam switching tubes each having a cathode and a plurality of groups of electrodes with each tube being adapted to perform a counting operation in turn,

each group of electrodes including a target electrode which receives an electron beam from its associated cathode and produces an output signal therefrom, a spade electrode which holds an electron beam on its associated target electrode, and a switching electrode which serves to switch an electron beam from one group of electrodes to the next,

the groups of electrodes in each tube comprising a series of steps in a counting cycle with a first group being arbitrarily designated the first step in the counting cycle and a last group being arbitrarily designated the last step in the counting cycle,

the spade electrode at the arbitrarily designated last position being coupled to a first smaller-than-normal spade load resistor of such magnitude that an electron beam cannot be stably supported at this position,

all of the other spade electrodes being coupled to normal spade load resistors of such magnitude that an electron beam can be stably supported at their positions,

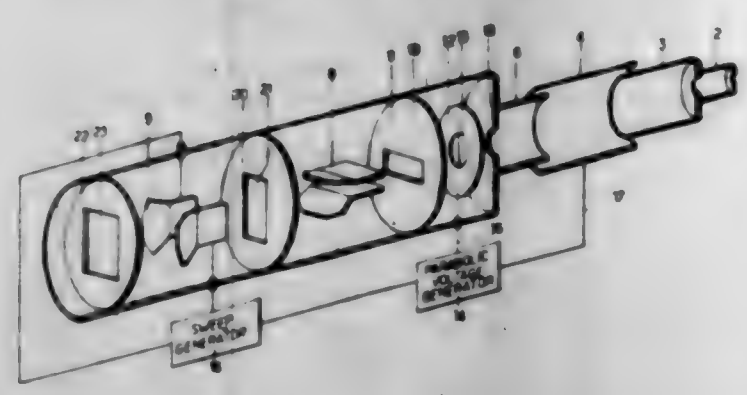
said spade electrode at the last position being coupled through a second resistor to a selected spade electrode in the next adjacent tube,

said first and second resistors combining to act as the load resistance for said selected spade electrode, the

combined resistance of said first and second resistors being of sufficient magnitude to allow said selected spade electrode to support a stable electron beam, and

a diode in parallel with said second resistor to facilitate the coupling of a negative pulse from the spade electrode at the last position in the first tube to the spade electrode at the selected position in the second tube.

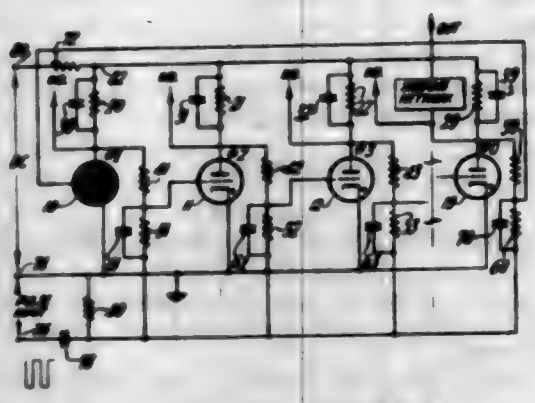
3,142,779
ELECTROSTATIC DEFLECTION ARRANGEMENT FOR ELECTRON TUBES
Georg Wendt, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Dec. 14, 1959, Ser. No. 859,267
Claims priority, application France Dec. 12, 1957
3 Claims. (Cl. 315—22)



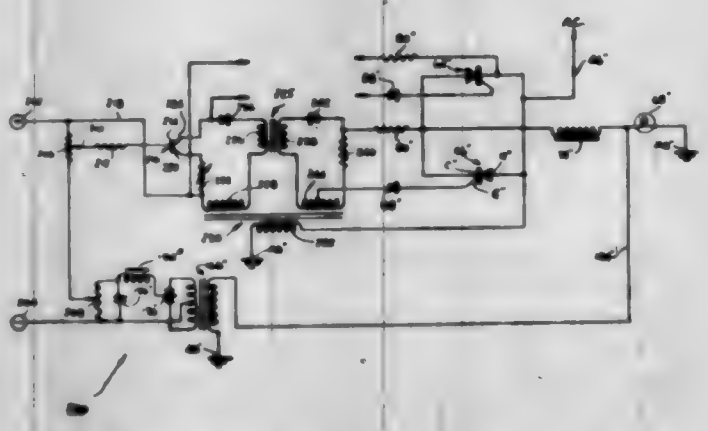
1. A cathode ray tube arrangement comprising means constituting a source of an electron beam, two pairs of mutually crossed plates positioned along the path of said beam for electrostatically deflecting the same, a potential source connected to one of said pair of plates remote from said source to apply a deflecting potential thereto, electrostatic lens means having a field of electric lines of force with two orthogonal planes of symmetry and a different convergence along said two planes, said lens means being operatively positioned along the path of said beam between said source and the other of said pair of plates adjacent said source, means for applying to said lens means a potential proportional at each instant to the square of said deflecting potential applied to said one pair of plates to correct for the astigmatism caused by said one pair, diaphragm means in the form of an electrode intermediate said two pairs of mutually crossed plates and provided with a rectangular aperture having two sides thereof at least equal to the edges of said one pair of plates at the input thereof to thereby correct the astigmatism of the other pair of plates, said electrostatic lens means being defined, on the one hand, by a slit between the two plates of said other pair of plates, and, on the other hand, by an aperture for the passage of said beam provided in a diaphragm disposed between said source and said other pair of plates, said means for applying said proportional potential being operatively connected to said diaphragm, and wherein said last-mentioned aperture is of circular shape.

3,142,780
COLD CATHODE GAS TUBE COUNTING CIRCUITS
Gerald C. Rich, Manhasset, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Mar. 16, 1950, Ser. No. 149,965
13 Claims. (Cl. 315—84.5)

1. A cold cathode gas tube circuit including a gas tube having a cold cathode, an anode and a sensitized control electrode, a resistive voltage divider having its negative terminal connected to said cathode and having a tap connected to said grid, and means to increase the voltage difference between said grid and said anode for shifting said tube from non-conducting into conducting state.



3,142,781
LIGHTING CONTROL CIRCUIT
George C. Izenour, New Haven, Conn., assignor to Century Lighting, Inc., New York, N.Y., a corporation of New York
Filed Mar. 25, 1958, Ser. No. 723,876
1 Claim. (Cl. 315—194)



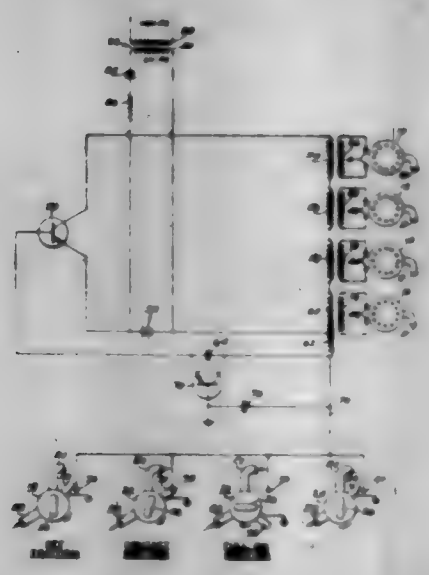
An A.C. lighting load, an A.C. power unit for energizing said lighting load from an A.C. power line, said unit having input terminals and being of the type in which the intensity of lighting of said lighting load is variable as a definite function of a variable electrical characteristic applied to said input terminals, said A.C. unit comprising an output stage constituting a controlled breakdown semiconductor avalanche rectifier consisting of a multiple junction transistor having a normally high forward impedance, a gate terminal, an anode power terminal and a cathode power terminal, the impedance of said rectifier being lowered upon application to said gate terminal of a potential which is positive with respect to the cathode power terminal and said lowered impedance being maintained as long as the anode is positive with respect to the cathode, first circuit means connecting the A.C. power line to the anode and cathode terminals through said lighting load whereby alternately to reverse the voltages applied to said terminals, means for supplying a reference A.C. voltage of the same frequency as the A.C. power line, a phase shifting means constituting a magnetic reset amplifier circuit and a hold-back voltage biasing means, said phase shifting means being connected to said means for supplying a reference voltage and being responsive to the electrical characteristic applied to the input terminals of the power unit for supplying a phase shiftable A.C. control voltage of the same frequency as said A.C. power line, and second circuit means applying said control voltage between the gate terminal and the cathode terminal of the avalanche

rectifier to intermittently render the gate positive with respect to the cathode and thus lower the impedance of the rectifier so that when said impedance is lowered upon application of the control voltage at such time as the anode is positive with respect to the cathode said impedance will remain lowered until the anode becomes negative with respect to the cathode.

3,142,782
TRANSISTOR SYSTEM FOR GAS IGNITION AND THE LIKE

Earl J. Weber, Bay Village, Ohio, assignor to American Gas Association, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 28, 1962, Ser. No. 240,510
9 Claims. (Cl. 317—86)



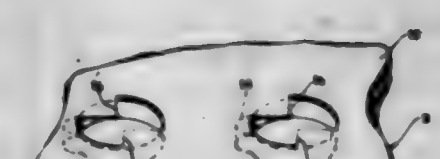
1. A gas ignition system, comprising:
gas burner means;
adjustable gas control means for supplying gas to said burner means;
igniter means responsive to voltage applied thereto to ignite gas emanating from said burner means;
a transistor oscillator circuit for applying voltage to said igniter when said oscillator circuit is operating, said circuit including a transistor, a source of operating bias for an operating elctrode of said transistor, and means normally preventing the application of said bias to said operating electrode to maintain said oscillator circuit normally non-operative;
means responsive to adjustment of said gas control means momentarily to supply operating bias to said operating electrode; and
reactive circuit means for maintaining the supply of operating bias to said operating electrode for a limited time interval following said adjustment of said gas control means, thereby to operate said igniter means for a preselected time interval following said adjustment.

3,142,783
ELECTRICAL CIRCUIT SYSTEM

William B. Warren, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Dulaware

Filed Dec. 22, 1959, Ser. No. 861,277
6 Claims. (Cl. 317—101)

4. A circuit board element comprising; in combination:
a sheet of electrically insulative material having a plurality of holes therein transversely of the sheet, said holes being noncircular whereby noncircular components may be oriented in said noncircular holes;

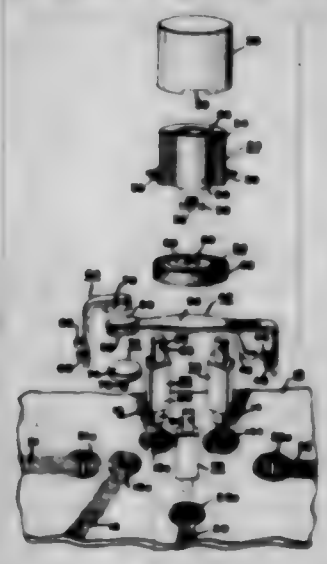


an electrically conductive sheet physically bonded to one surface of said insulative material and extending over a portion only of at least some of said holes.

3,142,784
PLUG TOGETHER RELAY AND PRINTED CIRCUIT BOARD

Rodger E. Bloomfield, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 19, 1960, Ser. No. 56,739
8 Claims. (Cl. 317—113)

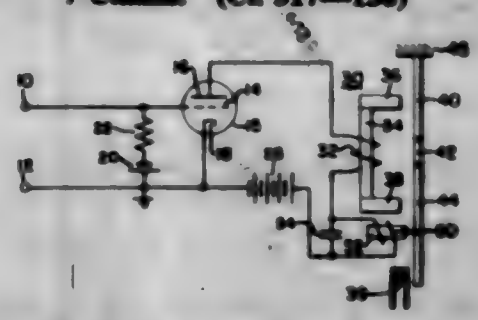


4. A relay comprising, an actuating coil assembly, a fixed contact, a supporting panel, and an armature formed of sheet metal material having integral outwardly struck tabs engaging opposite sides of said supporting panel, said armature assembly carrying an electrical contact that cooperates with said fixed contact and having an integral downwardly struck stop tab that is engageable with said supporting panel.

3,142,785
CONTROL SYSTEM

Merlin E. Jones, North Syracuse, and Carroll R. Miner, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 23, 1959, Ser. No. 801,119
7 Claims. (Cl. 317—138)



1. A control system comprising in combination: an electron device; means for applying a carrier signal which has been amplitude modulated by a modulating signal to said electron device; means controlling said electron device in a manner for providing that said electron device

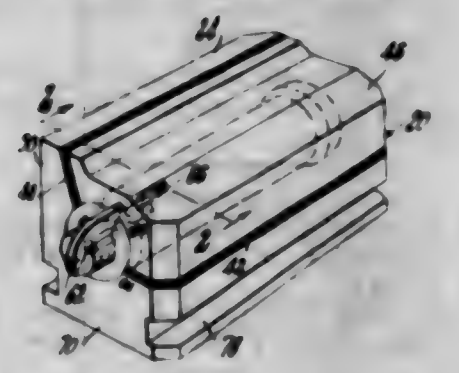
delivers an output signal having an alternating current component in accordance with the frequency of the amplitude modulating signal and a direct current component in accordance with the average amplitude of said amplitude modulating signal; a vibrating reed device having a driving means and a plurality of vibrating reeds adapted to vibrate at different frequencies; means for applying said alternating current component to said driving means for vibrating one of said plurality of reeds in accordance with the frequency of said alternating current component and for applying said direct current component to said driving means for mechanically locking the reed which has been set in vibration by said alternating current component.

3,142,786
MINIATURIZED ALUMINUM MOVABLE COIL
Kenkichi Tsukamoto, 47 Koyamashimofusa-cho, Kita-ku, Kyoto-shi, Japan
Filed Dec. 9, 1960, Ser. No. 74,967
1 Claim. (Cl. 317—158)



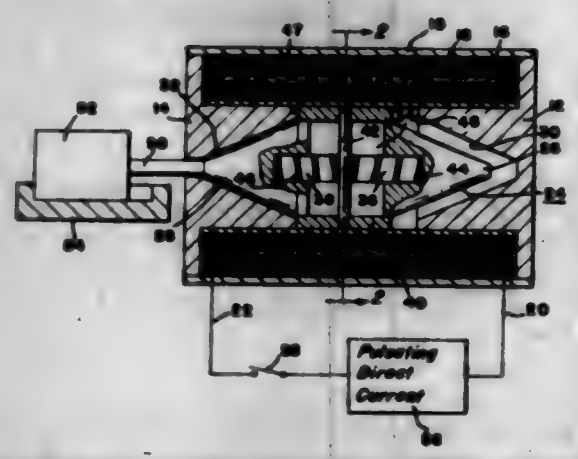
A moving coil arrangement made of concentrically wound aluminum wire, the cross-sectional dimensions of said wire being of the order of 10 microns x 100 microns, said wire having on the outer surface thereof an anode oxidation coating forming an electro-insulative film on said surface, a bonding agent covering disposed over the outer surface of said moving coil, and a supporting member therefor having a ring portion surrounding the outer periphery of said coil and an extending arm.

3,142,787
PERMANENT MAGNETIC BLOCK
George N. Levesque, Warwick, R.I., assignor to Brown & Sharpe Manufacturing Company, Providence, R.I., a corporation of Rhode Island
Filed Apr. 27, 1962, Ser. No. 190,626
4 Claims. (Cl. 317—159)



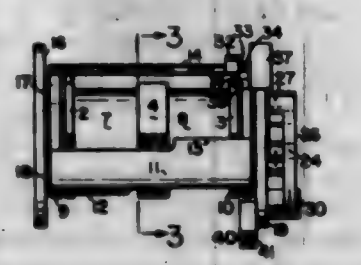
1. For use on a horizontally disposed magnetic flux holding surface, a permanent magnet block support for mounting a small work piece over a central open area which comprises three identical permanent magnet blocks closely grouped on said magnetic holding surface about a focal point at equal distances from said focal point providing a central open area and spaced at equal distances from one another and in identical angular positions about said focal point in which a corresponding magnet flux holding surface of each said block is most nearly adjacent said focal point, each said block comprising a rotatable cylindrical magnet extending the length of the block centrally thereof, said cylindrical magnet being magnetized so that the poles of said cylindrical magnet are on opposite sides of the magnet and extend longitudinally thereof, spacer separated flux bearing segments providing a substantial holding flux receiving base area, and rectangularly disposed external top, side and end surfaces of said block, a horizontal bore receiving said cylindrical magnet through a portion of said block above said holding flux receiving base area, a spacer extending from said bore and intersecting said top surface adjacent the edge of said top surface formed with one side of the block providing a magnet flux holding area across said spacer in said top surface adjacent said edge along the length of the block, a second spacer extending from the opposite side of said bore and intersecting the side surface opposite said above-mentioned side surface providing a magnet flux holding area across said spacer in said last mentioned side surface along the length of the block, corresponding vertical corners between each said side surface and an end surface of each said block being bevelled to facilitate said close grouping of said blocks.

3,142,788
RECIPROCATING ELECTROMAGNETIC ACTUATOR WITH FLUX SHUNTING MEMBER
Robert B. Geleniue, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 10, 1961, Ser. No. 88,516
8 Claims. (Cl. 317—177)



5. An electromagnetic actuator comprising, a source of magnetic flux, first and second magnetic poles magnetically coupled with said source of magnetic flux, an armature member formed of magnetic material shiftable between first and second actuated positions by magnetic attraction of said poles and forming a flux path for flux passing between said poles, and a shiftable flux shunting member formed of magnetic material operable in different shifted positions to shunt flux respectively away from different flux paths existing between said armature member and said poles to thereby unbalance the flux passing between different parts of said armature member and said poles and means for causing said flux shunting member to follow movement of said armature when said poles are not capable of attracting said flux shunting member.

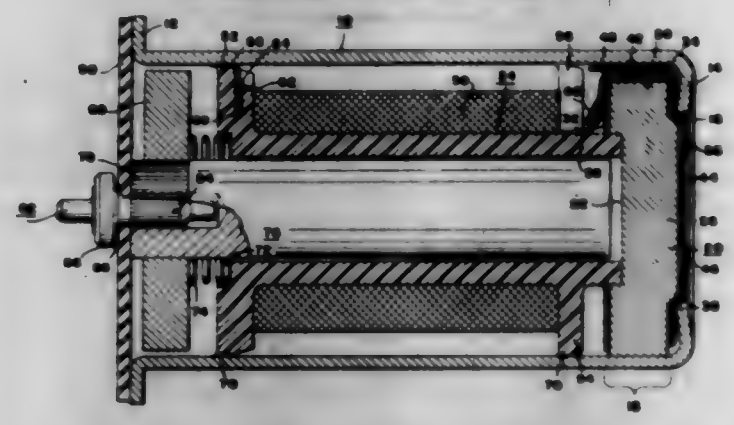
3,142,789
BIDIRECTIONAL POSITIONING DEVICE
Chester R. Rhodes, 206 W. Stardell St., Whittier, Calif.
Filed July 13, 1960, Ser. No. 42,630
11 Claims. (Cl. 317—189)



1. In a device having an armature and a magnetic structure internal thereto for rotation of said armature by magnetic force to a terminal amplitude,

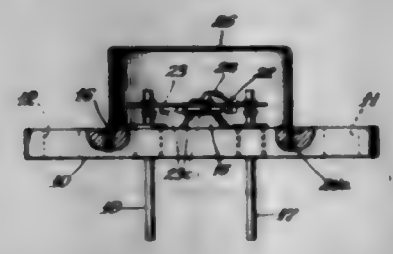
first means for increasing the torque upon said armature at said terminal amplitude comprising,
plural second means disposed upon said magnetic structure for providing magnetic force,
third means to energize a second means,
and fourth means mechanically related to said armature to energize an additional said second means upon rotation of said armature substantially half of said terminal amplitude of rotation.

3,142,790
HERMETICALLY SEALED SOLENOID ASSEMBLY
John P. Baier, William E. Fritz, and Homer E. Smith, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 5, 1962, Ser. No. 207,727
13 Claims. (Cl. 317—191)



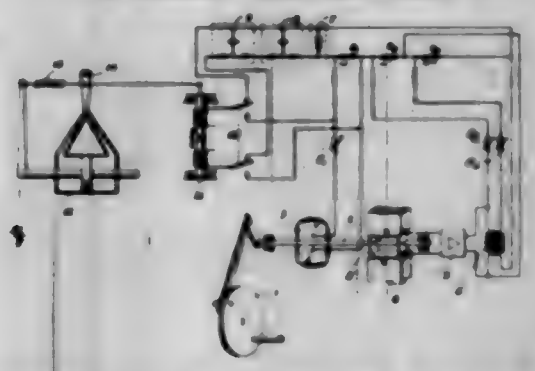
1. A solenoid assembly including, a shell, a base press-fitted in said shell and constituting a stop, a coil assembly press-fitted in said shell in juxtaposition to said base, a reciprocable plunger assembly mounted in said shell coaxial with said coil assembly for movement toward and away from said base, resilient means constantly acting on said plunger assembly for maintaining said plunger assembly in spaced relation to said base when said coil assembly is deenergized, and flexible means attached to said plunger assembly and secured to said shell to effect a seal therebetween and coaxially support said plunger assembly within said coil assembly.

3,142,791
TRANSISTOR AND HOUSING ASSEMBLY
Dale T. Kelley, Phoenix, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 7, 1955, Ser. No. 551,498
1 Claim. (Cl. 317—234)



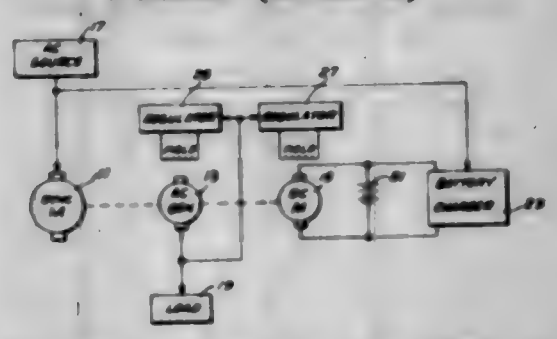
In a semiconductor device having a mounting portion therefor and a plurality of conductor pins upstanding from one side thereof, semiconductor and connector structure for said device including in combination a substantially square semiconductor portion having at least two contacts on one side and having one contact on the other side thereof, and two connector portions with one of said connector portions having an apertured portion at one end and having a substantially square portion at the other end which fits over said semiconductor portion and has tabs thereon which confine said semiconductor portion in a position substantially coextensive with the substantially square connector portion during the assembly of the semiconductor and connector portions, said square portion of said connector portion being in a fused connection with the semiconductor portion, and the other of said two connector portions having an apertured portion and having a contact portion which is in a fused connection with a contact on the semiconductor portion, with said combination structure being mounted on the device mounting portion and on the upstanding conductor pins and being mechanically and electrically secured thereto.

3,142,792
AUTOMATIC FLIGHT CONTROL DEVICE
Waldemar Möller, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Uberlingen (Bodensee), Germany
Filed Feb. 1, 1962, Ser. No. 170,454
5 Claims. (Cl. 318—489)



1. Apparatus for controlling the spatial position of a flying craft comprising:
control means for guiding said craft to assume a preselected spatial position;
means for sensing any deviation of said craft from its preselected spatial position and for producing a first signal proportional to the sum of the amount of said deviation and the first and second derivatives of said deviation with respect to time;
means for limiting the amplitude of said first signal to the value required for maximum movement of said control means;
time-delay circuit means for attenuating said limited first signal in an amount proportional to the velocity and acceleration of said control means;
automatic pilot means responsive to the output of said time-delay circuit means for controlling the movement of said control means;
and retarding means for applying an opposing force to said control means proportional to the displacement thereof.

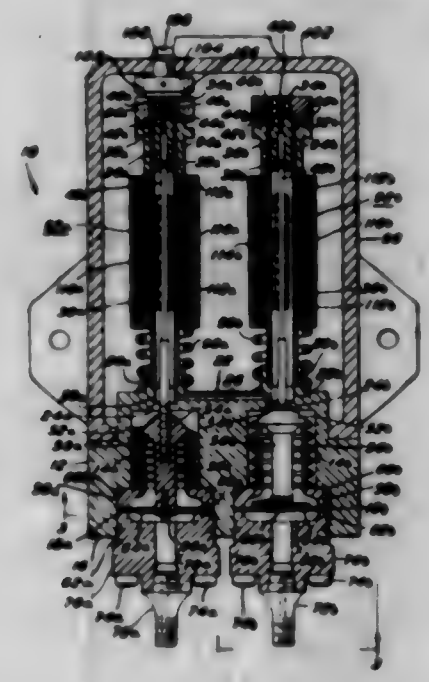
3,142,793
CONTROL SYSTEM FOR STANDBY MOTOR ARMATURE CURRENT IN AN UNINTERRUPTED POWER SUPPLY
Joseph Grillo, New Milford, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Sept. 12, 1961, Ser. No. 137,628
7 Claims. (Cl. 322—9)



1. In a power supply system comprising an A.C. source, a synchronous motor driven by said A.C. source, a D.C. motor, a generator, said synchronous motor, said generator, and said D.C. motor being mechanically coupled together to run at a speed determined by said syn-

chronous motor, and a D.C. source connected to provide armature current for said D.C. motor, the improvement comprising means responsive to the armature current in said D.C. motor to control the excitation of the field of said D.C. motor to maintain said armature current constant.

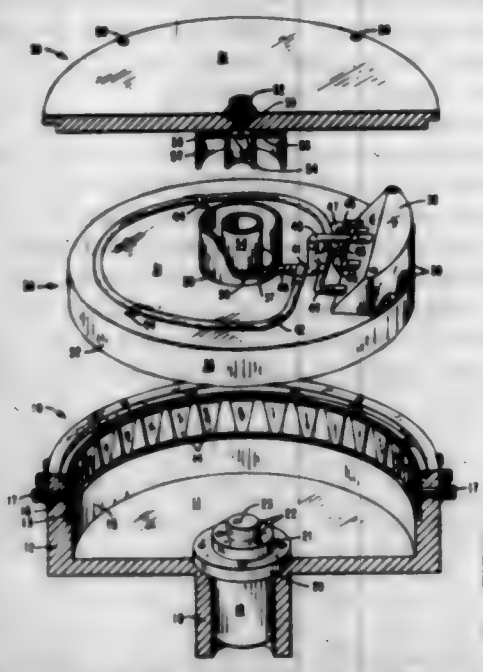
3,142,794
DIFFERENTIAL PRESSURE TRANSDUCER
William B. Pegram, Swarthmore, Pa., assignor to International Resistance Company, Philadelphia, Pa.
Filed May 24, 1962, Ser. No. 197,289
9 Claims. (Cl. 323—51)



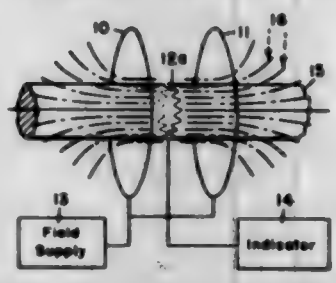
1. A pressure transducer comprising a pair of parallel armature cores of a magnetic material, a separate differential transformer around each of said armature cores, each of said transformers including a primary winding and a pair of secondary windings, the secondary windings of each of said transformers being electrically connected in series bucking relation, the secondary windings of one of said transformers being electrically connected to the secondary windings of the other transformer in series bucking relation, the primary windings of said transformers being electrically connected together, a pair of chambers, a separate diaphragm secured across each of said chambers, means connecting an end of each of said armature cores to one side of a separate one of said diaphragms, means hydraulically connecting the portions of said chambers on the one side of said diaphragms, and means for applying a pressure to be measured to the other side of at least one of said diaphragms.

3,142,795
CAPACITOR DISTRIBUTOR
Charles E. Greeley, Alexandria, Va., assignor to Atlantic Research Corporation, County of Fairfax, Va., a corporation of Virginia
Filed May 31, 1962, Ser. No. 199,196
10 Claims. (Cl. 323—93)

1. A capacitive distributor comprising a stator containing a cylindrical portion having mounted on its inner periphery a plurality of spaced electrically-conductive stator elements insulated from said stator, each of said stator elements being connected to output coupling means arranged on the exterior surface of said distributor, a rotor concentrically arranged and adapted to be rotated with respect to said stator, said rotor having mounted at its periphery a plurality of adjacent, spaced, electrically-conductive active rotor elements insulated from said rotor, input means on said distributor for feeding an input signal to said rotor elements and means positioned between said last-mentioned means and said rotor elements for reversing the phase of the input signal applied to alternate rotor elements.



3,142,796
METHOD AND APPARATUS UTILIZING A CONDUCTOR LOOP IN A MAGNETIC FIELD FOR MEASURING AREAS AND RELATED QUANTITIES
Harold D. Goldberg, 3336 Hull Ave., Bronx, N.Y., and Milton I. Goldberg, New Rochelle, N.Y. (Barrett Road, Katonah, N.Y.)
Filed Aug. 18, 1953, Ser. No. 374,868
4 Claims. (Cl. 324—71)



1. In a method of measuring a rate of change in a cross-sectional area, the steps of providing a flexible expandable and contractible pick-up conducting coil, positioning said coil in contact with the area to be measured and adjusting the configuration of the coil to bring it into conformance with the configuration of said area, producing a uniform steady magnetic field across said coil and in a direction intercepting the plane of the area being measured, changing the area being measured, maintaining the configuration of said coil in conformance with said area during the operative change of the latter, whereby the coil will during said change move transversely across said magnetic field, whereby a voltage will be induced within the coil during said change, and measuring the voltage induced in the coil.

3,142,797
TEST APPARATUS FOR AUTOMOBILE GENERATORS, ALTERNATORS AND VOLTAGE REGULATORS
George W. Grant, 8625 Skokie Blvd., Skokie, Ill.
Filed Apr. 20, 1961, Ser. No. 104,366
3 Claims. (Cl. 324—73)

1. A test apparatus for automobile generators, alternators and voltage regulators comprising

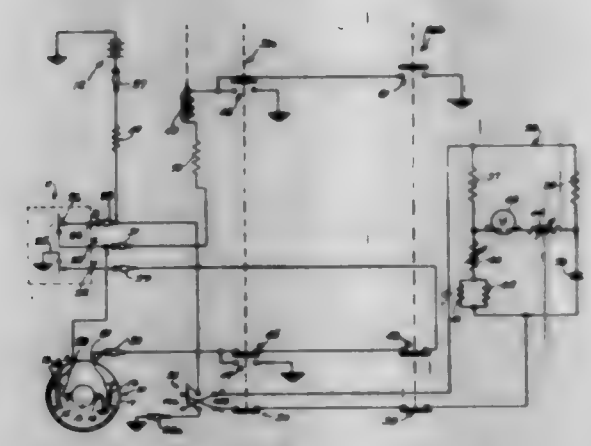
(*a*) coupling means comprising first, second, third, fourth and fifth couplings for connection to the ungrounded terminal of an automobile battery, the bat-

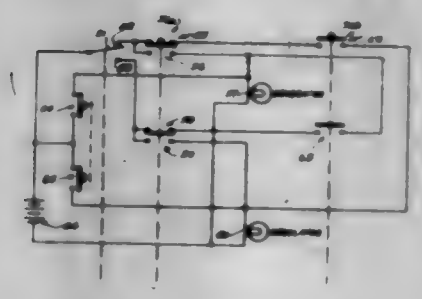
tery terminal of an automobile voltage regulator, the field terminal of the automobile voltage regulator, the field terminal of an automobile generator and the generator terminal of the automobile voltage regulator, respectively; and a sixth coupling for connection to the automobile ground;

(*b*) a metering circuit;

(*c*) circuit means including respective first pairs of normally closed contacts of respective first and second multiple contact switch means connecting said metering circuit between said second and sixth couplings;

(*d*) said metering circuit having means for indicating the voltage between said second and sixth couplings and being capable of indicating whether said voltage is below, within or above a predetermined voltage range;





(*e*) a voltage responsive indicating apparatus for connection between said fifth coupling and ground and being differently responsive to voltages between said fifth coupling and ground which are respectively above and below a predetermined voltage corresponding to a predetermined rated output voltage from said generator;

(*f*) said first multiple contact switch means having second normally closed contacts controlling continuity between said third and fourth couplings, having third normally open contacts controlling continuity between said fourth coupling and ground, and having fourth normally open contacts controlling connection of said voltage responsive indicating apparatus between said fifth coupling and ground; said first and second normally closed contacts of said first switch means being opened, and said third and fourth normally open contacts being closed, in response to actuation of said first switch means; whereby upon actuation of said first switch means a voltage indication of said voltage responsive indicating apparatus below said predetermined voltage indicates a generator failure and a voltage indication of said voltage responsive indicating apparatus above said predetermined voltage indicates a voltage regulator failure, where the metering circuit indicating means shows a voltage between said second and sixth couplings below said predetermined voltage range prior to actuation of said first or second switch means; and

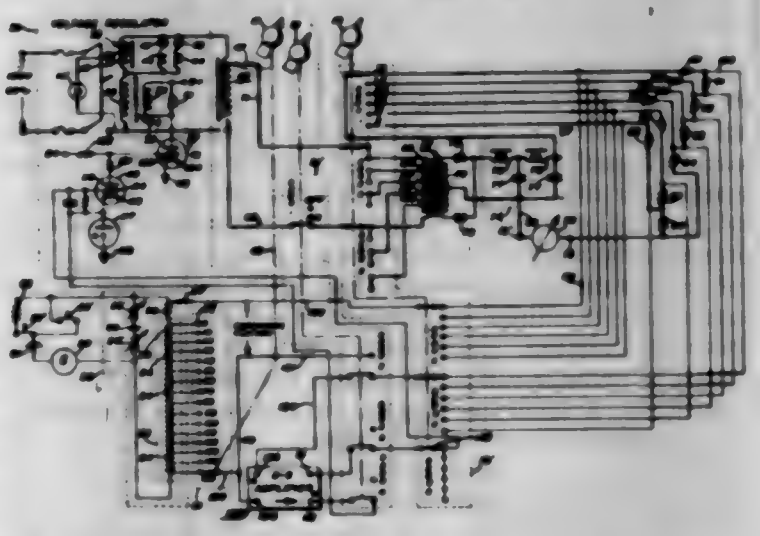
(*g*) said second multiple contact switch means having second normally closed contacts controlling continuity between said third and fourth couplings and being in series with said second contacts of said first switch means, and having third normally open contacts controlling connection of said voltage responsive indicating apparatus between said fifth coupling and ground and being disposed in parallel with respect to said fourth normally open contacts of said first switch means; said first and second normally closed contacts of said second switch means being opened, and said third normally open contacts of said second switch means being closed, in response to actuation of said second switch means; whereby upon actuation of said second switch means with said first switch means in normal non-actuated condition a voltage indication of said voltage responsive indicating apparatus below said predetermined voltage indicates a voltage regulator failure and a voltage indication above said predetermined voltage indicates a generator failure, where the metering circuit indicating means shows a voltage between said second and sixth couplings above said predetermined voltage range prior to actuation of said first or second switch means.

3,142,798

D.C. AMMETER CALIBRATOR UTILIZING FEEDBACK CONTROL AND REGULATION OF CALIBRATING CURRENT

Walter H. Schwarz, Cranford, N.J., assignor, by mesne assignments, to Weston Instruments, Inc., a corporation of Texas

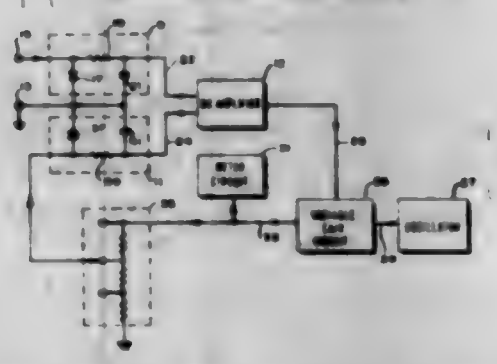
Filed Feb. 1, 1960, Ser. No. 5,995
3 Claims. (Cl. 324—74)



1. A self-balancing system for maintaining a constant current output from a D.-C. calibrator comprising, means developing a D.-C. potential directly proportional to the current output from the D.-C. calibrator, a source of D.-C. reference voltage opposed to the said D.-C. potential proportional to the current output, an amplifier having as an input the unbalance potential between the reference voltage and D.-C. potential proportional to the current output, an A.-C. voltage regulator having as a control signal the amplifier output, means rectifying the A.-C. voltage regulator output to provide the D.-C. calibrator output current, the regulated D.-C. output current being of a magnitude to provide a balance between the said D.-C. reference voltage and D.-C. potential proportional to the said current output, and a variable transformer having a movable arm connecting the output from the A.-C. voltage regulator to the said rectifying means, the said source of D.-C. reference voltage including a voltage divider network comprising a plurality of series connected resistors of equal resistance values, a switch having a movable contact and a plurality of fixed con-

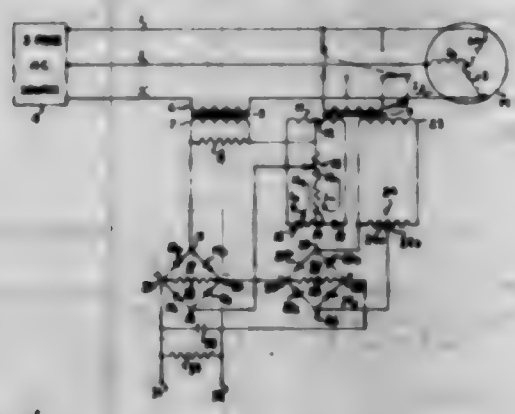
tacts connected to the individual junctions between adjacent resistors of the voltage divider network, the said switch providing means for obtaining a plurality of reference voltage values from the voltage divider network, and means mechanically coupling the movable arm of the variable transformer to the movable contact of the said switch for simultaneous actuation thereof, the output voltage from the variable transformer increasing as the reference voltage is increased by actuation of the switch.

3,142,799
HIGH FREQUENCY VOLTMETER UTILIZING SELF-BALANCING LOOP
Nicholas N. Kovalevski, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 21, 1960, Ser. No. 57,515
5 Claims. (Cl. 324—99)



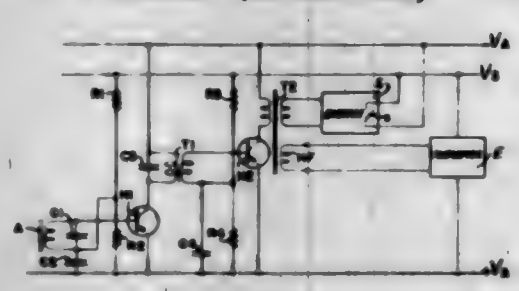
1. High frequency signal apparatus comprising a first transducer to produce a first D.-C. voltage related to the amplitude of an applied signal, circuit means to produce an alternating output signal having an amplitude that is related to a voltage applied thereto, indicating means, means to apply said alternating output signal to said indicating means to produce an indication of the amplitude of said alternating output signal, a second transducer connected to receive said alternating output signal for producing a second D.-C. voltage that is related to the amplitude of said alternating output signal, means to produce an error signal related to the combination of said first and second D.-C. voltages, and means connected to said circuit means for applying said error signal thereto.

3,142,800
IN-PHASE CURRENT DETECTION
William J. Miller, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 27, 1960, Ser. No. 78,726
2 Claims. (Cl. 324—107)



1. A network for measuring the in-phase current in a polyphase alternating current transmission network supplying a lagging power factor load comprising a current transformer having a primary winding in one line of said network and a secondary winding having a resistance load thereacross whereby the voltage across said resistance is a measure of the total current in said line, a voltage transformer having a primary winding connected across said one line and another line of said network, and a center-tapped secondary winding, said secondary winding supplying a first current loop comprising a capacitance and a potentiometer having one end of its resistance portion connected to said center tap and a second current loop comprising a resistance and said potentiometer, said resistance and said capacitance being selectable to provide a predetermined phase shift in the current through said potentiometer with respect to the voltage induced in said voltage transformer secondary winding to provide a current in phase opposition to the voltage component in said resistance load due to reactive current in said line, the contact arm of said potentiometer being set to produce a voltage between said arm and said center tap equal in magnitude to the reactive component of the voltage in said resistance load, means for connecting the voltages in series and rectifying the resultant to produce a unidirectional signal proportional to the in-phase current in said one line.

3,142,801
PORTABLE CALL-SIGNAL RECEIVER WITH POWER SAVING MEANS
Heinrich König, Rothenfluh, near Oberembrach, Zurich, and Gottfried Tschannen, Zurich, Switzerland, assignors to Albiswerk Zurich A.G., Zurich, Switzerland, a corporation of Switzerland
Filed Sept. 21, 1961, Ser. No. 139,698
6 Claims. (Cl. 325—492)

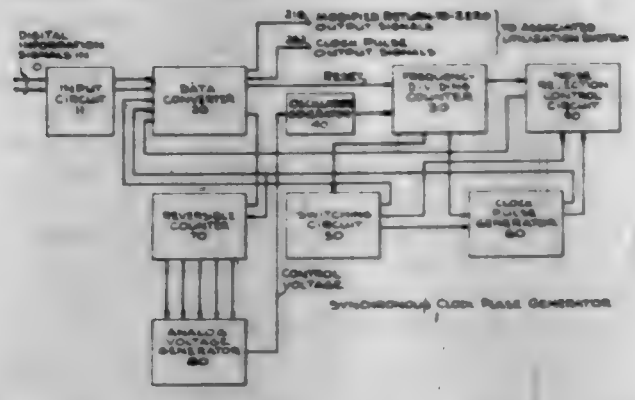


1. A portable call-signal receiver, comprising a transistor pre-stage and an end-stage, an antenna tuned to the call frequency for energizing said pre-stage, a switch controlled by the call-signal amplified in the pre-stage and connected to said end-stage to place it in operation, said pre-stage including means responsive to switching of said switch for maintaining other than class-A amplifier operation in said pre-stage prior to and during the switching of said switch and for transferring said pre-stage to class-A operation simultaneously with placing the end-stage into operative condition, said pre-stage presenting to said antenna a higher input impedance during the other than class-A operation and a low input impedance during class-A operation.

3,142,802
SYNCHRONOUS CLOCK PULSE GENERATOR
Douglas R. Moore, Pasadena, Calif., assignor to Telemetrics, Inc., a corporation of California
Filed July 3, 1962, Ser. No. 207,176
22 Claims. (Cl. 328—55)

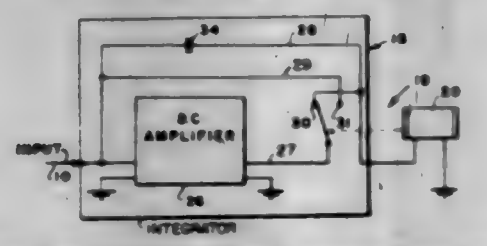
1. A system for generating clock pulses comprising means for receiving binary information signals, means for deriving a pulse signal indicative of each occurrence of a first binary condition of the information signals, means for generating oscillation at a controllable frequency, a first counter circuit operated in response to a given number of oscillations generated by said generating means for providing clock pulses, means for resetting the first counter circuit to an initial count in response to each pulse signal, a reversible counter, means for operating the reversible counter to count in a first sense in response to the coincidence of a pulse signal with a first interval of

each clock pulse and to count in a second sense in response to the coincidence of a pulse signal with a second interval of each clock pulse, and means for deriving a control sig-



nal depending on the condition of the reversible counter, said control signal being coupled to said generating means for controlling the frequency of said oscillations.

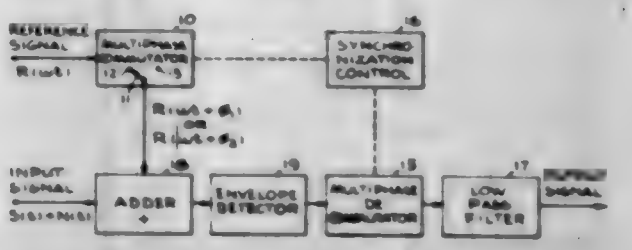
3,142,803
DRIFT COMPENSATED D.C. INTEGRATOR HAVING SEPARATE SELECTIVELY INSERTABLE FEEDBACK LOOPS
John Edward Bigelow, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York
Filed July 29, 1960, Ser. No. 46,245
3 Claims. (Cl. 328—127)



1. A drift compensated direct current integrator comprising: a direct current amplifier having input and output terminals; a first feedback loop including an integrating capacitor connecting said output to said input; a second feedback loop providing a direct connection between said output and said input; a transfer relay winding in series with said integrating capacitor having one terminal grounded; said transfer relay having a transfer contact in each of said first and second feedback loops with the contact in said first feedback loop being normally closed and the contact in said second feedback loop being normally open, whereby solely one of said feedback loops is open-circuited at any given time; said transfer relay having parameters of a value such that said relay is energized at a predetermined level of integrated output signal from said capacitor; and means for reversing the state of said contacts a finite period of time after said transfer relay is energized.

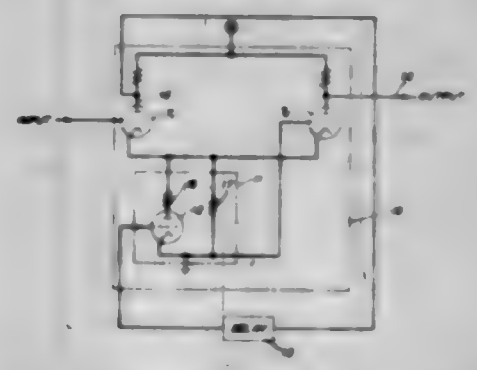
3,142,804
PRECISION PHASE DETECTOR
Ross E. Graves, Pacific Palisades, and Jacob M. Socks, Palos Verdes Estates, Calif., assignors to Space Technology Laboratories, Inc., Redondo Beach, Calif., a corporation of Delaware
Filed Sept. 25, 1962, Ser. No. 226,118
14 Claims. (Cl. 328—133)

1. In combination,
means for applying a first signal to a multiphase commutator, said multiphase commutator generating a commutated first signal by selectively changing the phase of said first signal from a first value to a second value, thereby selectively producing at least two first signals of different phase,
means for combining each of said first signals with a second signal,
a detector responsive to said combined signal for generating an output signal that varies in amplitude as the phase difference between said second signal and said commutated first signal varies,



a multiphase decommutator synchronous with said multiphase commutator and responsive to said output signal from said detector for restoring the D.C. level of said output signal, and
means for smoothing said output signal.

3,142,805
PULSE REGENERATOR CIRCUIT
Michael A. Rappeport, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 29, 1960, Ser. No. 52,625
3 Claims. (Cl. 328—164)

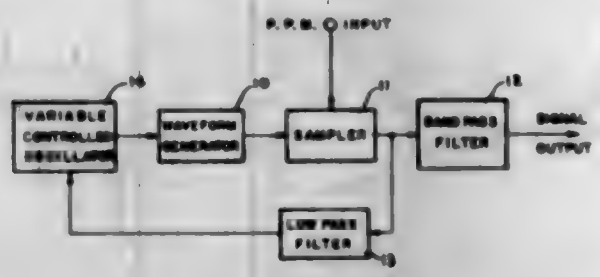


1. Detection means comprising, in combination, a source of pulse input signals in the form of pulses of opposite polarity and spaces, each space or positive or negative pulse occupying individual ones of a succession of time slots, first means responsive to the amplitude of said input signal which is activated when said input signal exceeds a predetermined positive amplitude, second means responsive to the amplitude of said input signal which is activated when said input signal is more negative than a a predetermined negative amplitude, means to generate a positive pulse when said first responsive means is activated, means to generate a negative pulse when said second responsive means is activated, and means to set the predetermined amplitudes at which both said responsive means become activated to a first absolute value during a given time slot when a positive or negative pulse existed during the preceding time slot and to a second absolute value when a space existed during the preceding time slot.

3,142,806
NONREFERENCE PULSE POSITION DEMODULATOR
Humbert M. Fernandez, Orlando, Fla., assignor to Martin-Marietta Corporation, a corporation of Maryland
Filed June 29, 1961, Ser. No. 120,635
5 Claims. (Cl. 329—107)

1. A nonreference demodulator comprising electronic means to generate a sawtooth waveform, sampling means for sampling said sawtooth waveform, said sampling means having an input terminal, said sampling means sampling said sawtooth waveform at times determined by sample signal inputs in the form of pulse position modulation pulses received at said input terminal from an external source, said sampling means having a pulse

amplitude modulated output proportional to the amplitude of the sawtooth waveform at the time the said sample signal input pulses occur, memory means for retaining this voltage after each sample, thus creating a stepped waveform, bandpass filter means for separating out the desired signal output from said stepped waveform, low pass filter means to extract a direct current output from



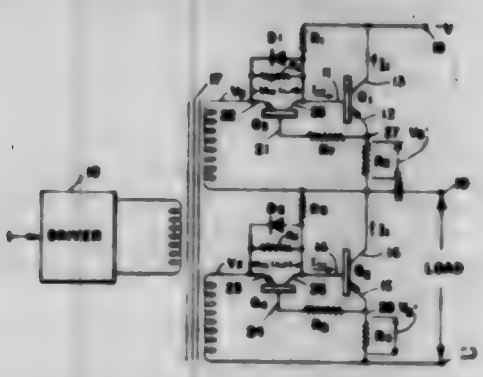
said memory means, synchronizing means for causing the said sawtooth waveform to become synchronized with the average rate of the said pulse position modulated pulses, said synchronizing means comprising a closed loop feedback circuit which uses said direct current output to control the frequency of said generator of sawtooth waveform.

3,142,807

BIASING MEANS FOR TRANSISTORIZED AMPLIFIERS

Madan M. Sharma, Santa Monica, Calif., assignor to Transis-Tronics, Inc., a corporation of California

Filed June 4, 1962, Ser. No. 199,754
1 Claim. (Cl. 330—15)



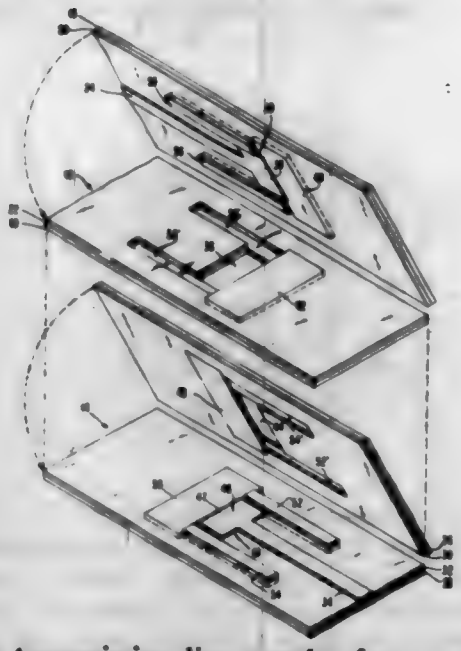
In a transistorized amplifier including first and second output transistors connected in push-pull and having base, emitter, and collector terminals, a voltage source connected to said output transistors, and a driver circuit feeding said output transistors, improved biasing means associated with each of said output transistors, each biasing means including: a compensating transistor having base, emitter, and collector terminals, said emitter and collector terminals being connected between said driver circuit and the base of its associated output transistor; a resistance path connected between the base of said compensating transistor and emitter terminal of said associated output transistor whereby a change in collector current through said output transistor as a consequence of thermal instability, changes the voltage applied to the base of said compensating transistor through said resistance path to change the collector-emitter saturating voltage across said compensating transistor thereby changing the biasing voltage to said output transistor in a manner to compensate for said change in said collector current; a resistance shunting the emitter and collector terminals of said compensating transistor to pass signal current from said driver to said associated output transistor; and a diode connected to shunt said resistor, said diode becoming conducting in a reverse direction when the voltage thereacross due to said signal current exceeds a pre-determined value.

3,142,808

TRANSMISSION LINE FILTER HAVING COUPLING EXTENDING QUARTER WAVE LENGTH BETWEEN STRIP LINE RESONATORS

Tibor Gonda, New York, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 29, 1960, Ser. No. 79,311
7 Claims. (Cl. 333—73)



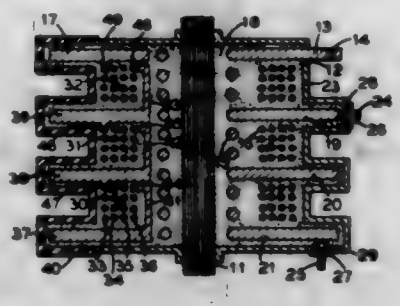
2. A strip transmission line coupler for a propagating wave having a given wave length comprising first and second adjacent strip transmission circuit planes positioned in a stacked array, said first circuit plane including a ground plate and a filter section spaced from said ground plate, means for connecting one edge of said filter section to said ground plate, means for connecting the opposite edge of said filter section to a strip transmission line in said first circuit plane, said second circuit plane including a ground plate and a filter section spaced from the ground plate of said second circuit plane, and means for connecting one edge of said filter section to the ground plate of said second circuit plane, means for connecting the opposite edge of said filter section to a strip transmission line in said second circuit plane, said filter sections being spaced apart and disposed in aligned relationship with respect to each other and interposed between said ground plates and having a length in the direction of wave propagation equal to an odd multiple of a quarter of the wavelength of the propagating wave.

3,142,809

COOLING ARRANGEMENT FOR ELECTRICAL APPARATUS HAVING AT LEAST ONE MULTI-LAYER WINDING

Tibor Remenyik, Zurich, Switzerland, assignor to Andrew A. Halacsy, Mountain View, Calif.

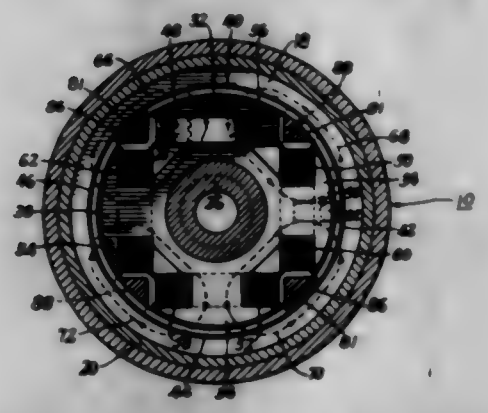
Filed Mar. 27, 1962, Ser. No. 182,909
Claims priority, application Switzerland Apr. 4, 1961
12 Claims. (Cl. 336—61)



1. An electrical device comprising, at least one multilayer winding; and at least one cooling fin electrically and mechanically directly connected to an inner layer of said winding in heat conduction relation with the latter, and

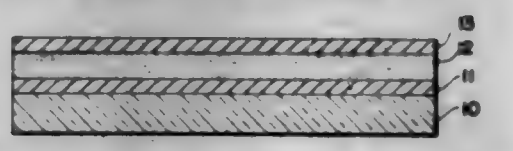
extending outwardly through said winding to project outwardly thereof, in by-passing relation with the outer layers of said winding.

3,142,810
POSITION MEASURING DEVICE
Graydon Smith, Concord, Mass., assignor to Clevite Corporation, Cleveland, Ohio
Filed July 8, 1960, Ser. No. 41,688
23 Claims. (Cl. 336—75)



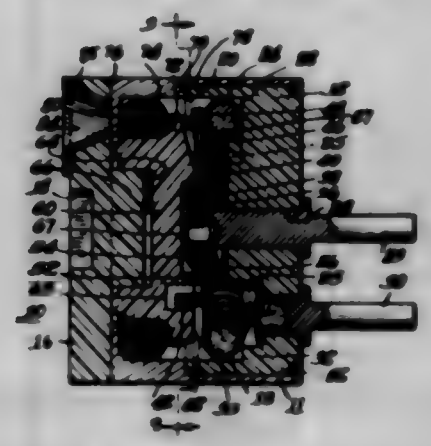
1. Position-measuring apparatus of the type adapted to produce an alternating-current output voltage the amplitude of which varies linearly with the positioning of a movable input member, said apparatus comprising, in combination, magnetic material forming first and second magnetic circuits, said magnetic material being arranged with said magnetic circuits coplanar and positioned side-by-side, primary winding means coupled to said magnetic material to produce alternating flux through said magnetic circuits, secondary winding means coupled to said magnetic material to produce an alternating voltage corresponding to the respective magnitudes of the flux in said two magnetic circuits, said magnetc material being arranged to form air-gap means in series with both of said magnetic circuits; said air-gap means comprising at least one air-gap pole piece which in plan view is arranged in the form of a parallelogram having a pair of opposite sides which are longer than the interconnecting ends thereof, the longer sides of said parallelogram being parallel to the effective plane of said magnetic circuits and the shorter ends being transverse to said effective plane; a flux-barrier for controlling the relative distribution of flux in said magnetic circuits, said flux-barrier comprising at least one closed loop of electrically-conductive material having a elongated element of said loop positioned within said air-gap and elongated in the direction of said longer sides of said parallelogram; said elongated element being so arranged that, in the plan view of said air-gap pole-piece and said flux-barrier element, each lengthwise edge of the element intersects both of said shorter ends of said parallelogram; and means mounting said flux-barrier for movement in a direction transverse to said effective plane.

3,142,811
RESISTOR
James A. O'Connell, Syosset, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Nov. 29, 1961, Ser. No. 155,622
8 Claims. (Cl. 338—20)



8. The method of making a non-linear resistor comprising the steps of heating tin protoxide in air to a temperature between 200° C. and 400° C. for about 40 minutes, admixing said tin protoxide powder with acetone, settling the resulting solution over an electroded substrate and allowing said solution to evaporate, and depositing an electrode over the top surface of the resulting non-linear resistive layer.

3,142,812
POTENTIOMETER
John Clayton, Jr., Maynard, Mass., assignor to Waters Manufacturing, Inc., Wayland, Mass., a corporation of Massachusetts
Filed Jan. 14, 1963, Ser. No. 251,173
7 Claims. (Cl. 338—163)



1. A potentiometer comprising a circular housing, a resistance element and a wiper contact within the housing, and an operating member coupled to the wiper contact and extending centrally from the face of the housing, said potentiometer having:

(*a*) spaced position calibration markings inscribed on the face of the housing surrounding the operating member, and

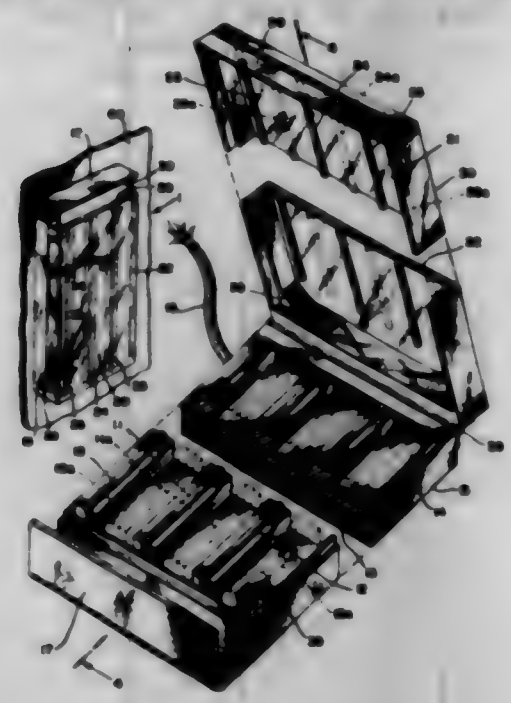
(*b*) a circular manipulating knob on the outer end of the operating member, substantially coextensive with the face of the housing and closely overlying the calibration markings in sliding relation with the face of the housing,

(*c*) the knob having a window opening exposing in its successive rotational positions only the portion of the calibration markings corresponding to the respective positions, the window opening being of angular width greater than the spacing between markings.

3,143,813
ELECTRICAL PROGRAMMING APPARATUS
Joseph J. Matulis, Elmhurst, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 6, 1962, Ser. No. 177,901
1 Claim. (Cl. 338—201)

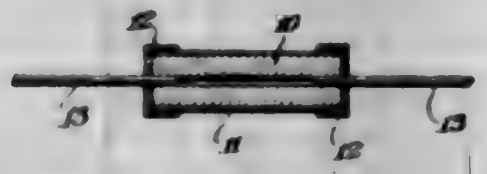
A programmer comprising a plurality of slidewire-type elements, first electrically insulating means for supporting said elements in a parallel and electrically isolating relationship with respect to each other, a plurality of electrically conductive strips, second electrically insulating means for supporting said strips in a parallel and electrically isolated relationship with respect to each other, hinge means for joining said first and said second means to effect a mating juxtaposition of said first and second means whereby said elements are arranged in a longitudinally parallel and spaced relationship with respect to respective ones of said strips, a fixed programming means having electrically conducting segments selectively positioned thereon, slot means arranged to introduce a said fixed programming means between said elements and said strips to selectively electrically connect respective ones of said elements and said strips, an extension for said

first insulating means, said extension being arranged to cooperate with said programming means to prevent the mating of said first and said second insulating means upon an incorrect insertion of said programming means in said slot means, electrical switch means arranged to



be actuated by said programming means upon a correct insertion of said programming means in said slot means and electrically conducting means for providing electrical connections to said switch means, said elements and said strips.

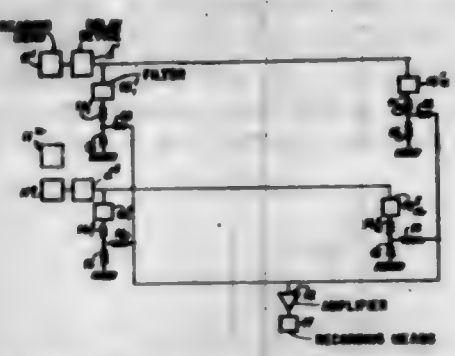
3,142,814
TITANATE ESTER RESISTOR
Preston Robinson, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Aug. 10, 1961, Ser. No. 130,522
5 Claims. (Cl. 338—308)



1. A resistor comprising an insulating base and an adherent layer of resistance material of a hydrolyzed orthotitanic acid tetra ester, said material containing semi-conducting titanium dioxide and contact areas attached thereto.

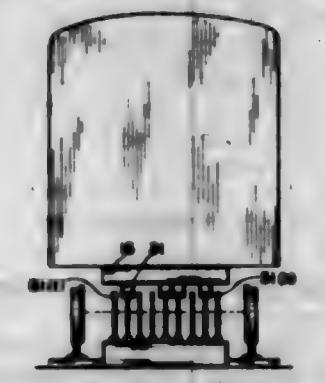
3,142,815
METHOD AND APPARATUS FOR ANALYSING AND PROCESSING SEISMIC RECORDS EMPLOYING A WEIGHTING COEFFICIENT
Claude Henri Picon, Paris, France, assignor to Compagnie Générale de Géophysique, Paris, France, a corporation of France
Filed July 14, 1959, Ser. No. 827,057
Claims priority, application France Aug. 14, 1958
8 Claims. (Cl. 340—15.5)

7. In a method of obtaining seismic data involving the firing of an explosive charge in a geological mass and receiving with an alignment of seismometers the resulting waves emerging from said mass, the method of eliminating the waves having an angle of emergence which is greater than a predetermined critical angle comprising the steps of dividing the waves received by the respective seismometers into their spectral components, modifying each component according to the relative position of the associated seismometer, speed of the associated wave, frequency of the component, magnitude of said critical angle and spac-



ing between said seismometers, and recombining the components thereby eliminating undesired side effects.

3,142,816
VEHICLE IDENTIFICATION DEVICE
Joseph Weizenbaum, Palo Alto, Calif., assignor to General Electric Company, a corporation of New York
Filed Jan. 22, 1962, Ser. No. 167,797
3 Claims. (Cl. 340—31)

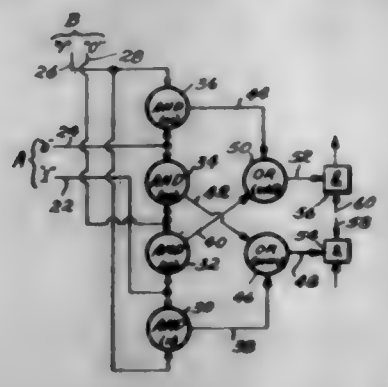


1. A system for sensing information carried by a vehicle comprising: a code member carrier attached to said vehicle and having a plurality of predetermined code member positions; an arrangement of code members positioned in said carrier to represent the desired information; a plurality of sensing levers mounted along the way of said vehicle for engagement with the code members carried by said vehicle; a plurality of electrical switches each adapted to be actuated when a respectively associated one of said sensing levers engages a code member carried by said vehicle; a shift register connected to said switches for storing a representation of the combination of said switches which are actuated by engagement of said sensing levers with the code members in said carrier; means for detecting the orientation of said vehicle; manifesting means for assuming a state indicative of the orientation of said vehicle; and means controlled by said manifesting means for shifting said representation stored in said shift register in a direction corresponding to the orientation of said vehicle.

3,142,817
INFORMATION COMPARISON CIRCUITS
Gale A. Julien, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,890
12 Claims. (Cl. 340—146.2)

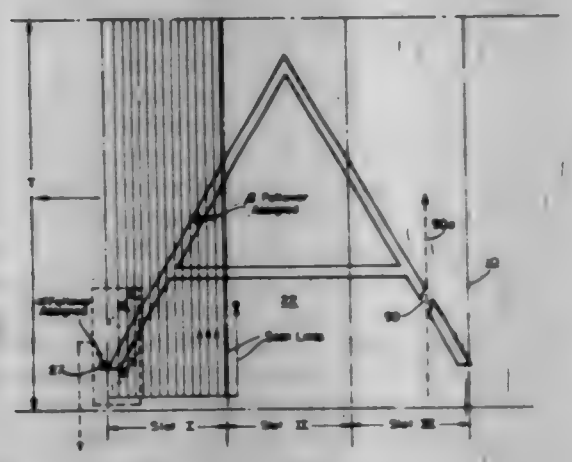
1. A circuit for indicating the parity of a binary word having n digit orders when the digit in each order is represented by a pair of simultaneous different level signals, comprising $(n-1)$ tandemly connected signal comparison circuits, the last-in-line one of those circuits having at least one signal output with the remaining said circuits having a pair of signal outputs, each of said $(n-1)$ circuits having a first pair of signal inputs for receiving respective signals from the pair of outputs of the next preceding one of said $(n-1)$ circuits with the

said first pair of signal inputs for the first-in-line of the said $(n-1)$ tandemly connected circuits being for the purpose of receiving the said pair of different level signals of one of the first and last orders of the said digit orders of said binary word, said $(n-1)$ circuits each having a second pair of signal inputs for respectively receiving the said pairs of different level signals of the rest of



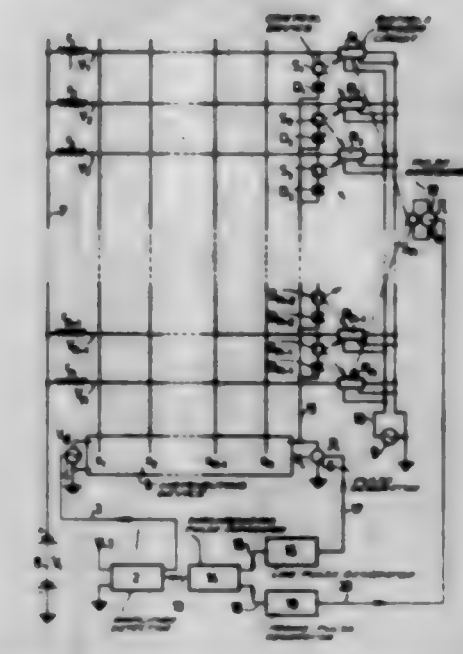
said binary word orders in corresponding digit order, and means in each of said $(n-1)$ circuits intracoupling the said inputs and outputs thereof for effecting a comparison between the signals received at its said first and second pairs of inputs to cause a signal at the output of the said last-in-line comparison circuit indicating the parity of said binary word.

3,142,818
CHARACTER RECOGNITION USING CURVE TRACING
Arthur W. Holt, Silver Spring, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 21, 1961, Ser. No. 90,725
14 Claims. (Cl. 340—146.3)



6. In a character reader, a line producing scanner for an area having a character, there being relative movement between the scan lines and the area, means to recognize a first crossing of a character line by a scan line, a gate system set by the first crossing, recognition means to become sensitive to a crossing of the character line by the second scan line within a predetermined sub area of the second scan line time and produce an output if the second scan line crosses the character line in said sub area, means responsive to said output to again set said gate system to produce a similar sub area in the third scan line time and continue to set said gate system so long as scan lines cross the character line within said sub areas, means responsive to said outputs to recognize the behavior of the trace of the character line formed by the propagation of scan line crossings within said sub areas, and storage means fed by said behavior recognition means.

3,142,819
MATRIX CROSS-POINT SCANNING SYSTEM
Simon Duinker, Geelnus Diemer, Edward Fokko de Haan, and Johannes Gerrit van Santen, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,356
Claims priority, application Netherlands Oct. 2, 1959
10 Claims. (Cl. 340—166)

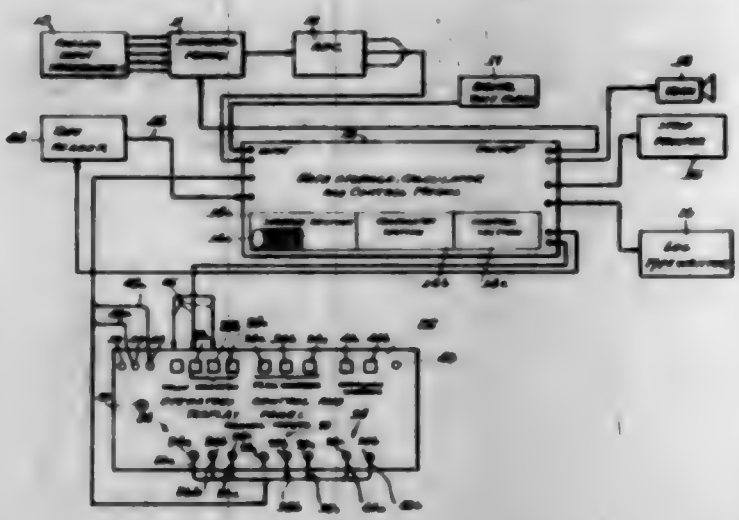


1. A matrix cross-point scanning system having at least two groups of intercrossing conductors and switching means for switching the conductors of one of said groups, in a cyclic order of succession, from a first potential to a second potential and back to said first potential, said system comprising a plurality of bistable trigger circuits having first and second terminals, said trigger circuits each having a first stable state presenting a low impedance between said terminals and a second stable state presenting a high impedance between said terminals, a source of direct voltage having third and fourth terminals, means connecting said third terminal to said second terminals, separate resistor means connected between said fourth terminal and each of said first terminals, means connecting the conductors of said one group separately to the first terminal of at least some of said trigger circuits, a source of operating pulses, means responsive to said operating pulses for triggering said trigger circuits, whereby at least one trigger circuit is brought into said first stable state from said second stable state and at least another trigger circuit is brought into said second stable state from said first stable state in response to pulses from said source of operating pulses, and means for controlling the potential of the conductors of another of said groups of conductors.

3,142,839
VARIABLE MONITORING AND RECORDING SYSTEM
Gilbert S. Daniels, Evanston, Ill., assignor to The Scan Instrument Corporation, a corporation of Illinois
Filed Jan. 20, 1960, Ser. No. 3,535
33 Claims. (Cl. 340—172.5)

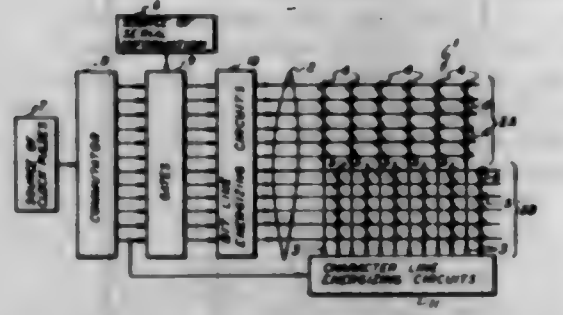
1. A continuous variable monitoring system comprising: respective variable responsive analog signal input means providing analog electrical signals indicative of the values of the variables to be continuously monitored, switching means for cyclically continuously sequentially feeding the analog outputs of said signal input means in a random sequence to a common output, storage means including a series of sequentially addressable storage locations in which are respectively stored variable identifying numbers identifying signal input means to be scanned in the order in which access to the storage location is obtained, first manual switch means for setting the variable

identifying number and a second manual switch means for setitng a number identifying the storage location in which said variable identifying number is to be stored, means responsive to said first and second manual switches for substituing the variable identifying number set on said first manual switch means for the variable identifying



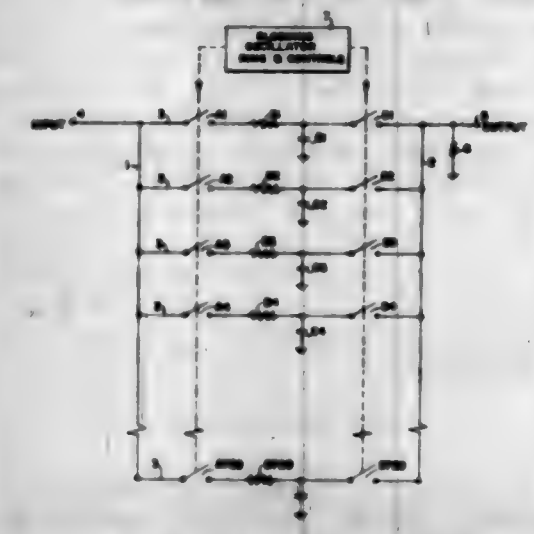
number in the storage location set on said second manual switch means, means for controlling the switching means to scan said analog signal input means in the same order as the corresponding variable identifying numbers appear in said sequentially addressable storage locations, and means responsive to the signals at said common output for indicaitng the presence of abnormal variables.

3,142,821
MATRIX ENERGIZING SYSTEM
Frank A. Litz, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 12, 1958, Ser. No. 741,479
5 Claims. (Cl. 340—173)



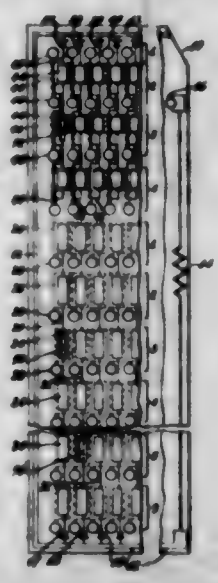
1. A matrix system including two interrelated matrices, each comprised of "bit line" rows and "character line" columns, each matrix having its rows and columns interconnected by capacitor element crosspoints, input terminal means for receiving an electrical signal train in which the value of the signal train at successive intervals of time represents serial binary information, switching means connected to the input terminal means, and the column and row lines of both of said matrices, for establishing circuits to successive selected ones of said capacitor elements corresponding to successive digital positions in the electrical signal train, said switching means including means to charge said selected capacitor means for a time period substantially in excess of the time interval allotted to a digital position in the electrical signal train, and further including means to successively select ones of said capacitor elements from each of said matrices whereby capacitor elements in both matrices are being charged at a given time.

3,142,822
APPARATUS FOR SAMPLING, STORING AND SUMMING SIGNALS
Gregory L. Martin, Phoenix, Ariz., assignor to Goodyear Aerospace Corporation, a corporation of Delaware
Filed June 29, 1961, Ser. No. 120,761
7 Claims. (Cl. 340—173)



1. Apparatus for switching and storing a series of sets of *n* incoming sequential signals comprising input means for said signals, output means, control means, and *n* electrical storage means actuated by the control means and coupled between the input and output means, each of said storage means sequentially and separately storing one of said incoming *n* signals while at substantially the same sequential rate as said sequential storing separately presenting only a substantially small portion of each stored signal to the output means, the remainder of such stored signal being summed electrically with a corresponding signal in the next incoming set of *n* signals.

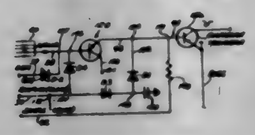
3,142,823
PUNCHABLE MEMORY CARD HAVING PRINTED CIRCUIT THEREON
Morton H. Lewin and Jan A. Rajchman, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 13, 1962, Ser. No. 187,390
4 Claims. (Cl. 340—173)



1. A punchable card comprising an insulating card wherein information can be stored in accordance with the presence or absence of punched holes at prospective hole locations, a common bus printed along an edge on one side of said card, a bias through connector in said card, a printed resistor connected between said bias through connector and said bus, a plurality of conductors printed on said one side of the card each going through and around a plurality of prospective hole

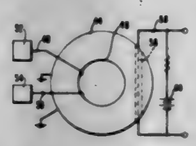
locations, a plurality of printed diodes on said card each having one terminal connected to a respective one of said conductors and having another terminal connected to said bus, a plurality of signal through connectors in said card each near one of said prospective hole locations, and a plurality of conductive islands each printed on the opposite side of said card at and around a prospective hole location and each being connected to a corresponding signal through connector, said card, conductors and islands being constructed so that the punching of a hole at a hole location can cause an electrical connection from the conductor passing therethrough and thereabout to a respective conductive island on the other side of the card, whereby information stored in said card can be read out by means responsive to the presence and absence of punched holes, and the information in a stack of said cards can be read out electrically in content addressing fashion by means connected to said signal through connectors.

3,142,824
ANALOG STORAGE CIRCUIT
James D. Hill, Takoma Park, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 16, 1963, Ser. No. 316,688
7 Claims. (Cl. 340—173)



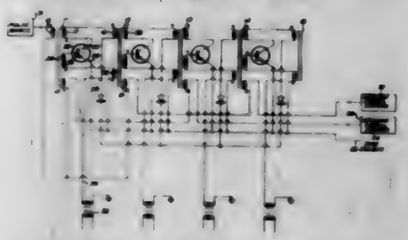
1. In a reading machine having means providing a plurality of analog signals, the improvement comprising analog storage means for said signals, said storage means including a capacitor, means including a diode for charging said capacitor with a signal corresponding to a said analog signal, and an output circuit operatively connected with the same diode to read out the signal stored on said capacitor through said diode in a manner such that the diode characteristic is effectively cancelled.

3,142,825
MAGNETIC COMPUTER ELEMENT
Wilbert L. Shevel, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 18, 1959, Ser. No. 840,862
8 Claims. (Cl. 340—174)



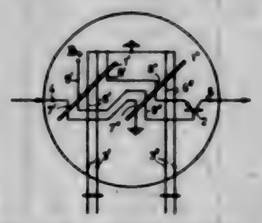
1. A computer device comprising, a coherently switchable element of given shape made of ferrimagnetic material capable of attaining different stable states of remanent flux density and having a plurality of magnetic moments, said element exhibiting an easy direction of magnetization determined solely by the shape of said element along which said moments tend to align themselves defining different directions of remanent flux, orientation input winding means coupling said element for applying a field of predetermined magnitude parallel to the easy direction thereof to coherently rotate the magnetic moments of said material from one remanent orientation state to another and a biased sense winding coupling a portion of the material of said element and wound in alignment with the easy direction thereof for both causing the coherent rotation of said magnetic moments to be uniform and for providing an output signal indicative of a flux change therein.

3,142,826
MAGNETIC CONTROL SYSTEM
Herbert S. Sobel, Natick, Mass., assignor to Raytheon Company, Waltham, Mass., a corporation of Delaware
Filed Aug. 10, 1960, Ser. No. 48,651
6 Claims. (Cl. 340—174)



6. A magnetic shift register comprising a plurality of cascaded magnetic storage units of a material having a substantially rectangular hysteresis curve characteristic, each of said units having bi-stable states of magnetic resonance, coupling loops interconnecting adjacent pairs of said storage units, an input source of logic pulses connected to the first storage unit of said pair of adjacent storage units, a plurality of means to selectively supply shift pulse potential to two adjacent storage units to initiate a change of state therein, a transistor switching unit including collector, emitter and base electrodes between each of said storage units, the emitter and collector electrodes of said transistor switching unit being connected in each coupling loop, serially connected feedback windings coupled to the base electrode of said transistor switching unit, said feedback windings sensing the magnetic state in said adjacent storage units to cause said transistor switching unit to conduct and insure the provision of shift potential to said two adjacent storage units until a complete change of state has been initiated therein, an output circuit pulse distributor means connected to said coupling loops comprising pulse transformer and diode means to provide a continuous flow of output pulses during the conduction of said transistor switching unit.

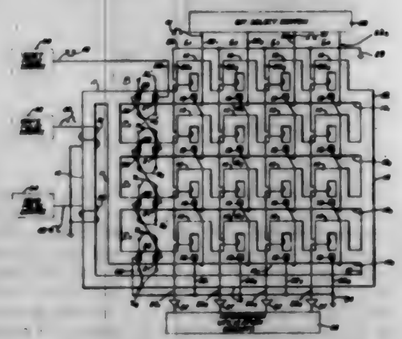
3,142,827
STORING GENERATOR
Jan Frederik Schuh, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 16, 1960, Ser. No. 76,370
Claims priority, application Netherlands Dec. 24, 1959
3 Claims. (Cl. 340—174)



1. A storing pulse generator having a plurality of groups of coupled cocking terminals, comprising first and second cores of magnetic material having a rectangular hysteresis loop, a transistor having input, common and

output electrodes, each of said cores having at least a firing winding, a control winding, a feedback winding, and a plurality of cocking windings, a firing terminal, means connecting said firing windings in series to said firing terminal, means connecting said control windings in series to said input electrode, means connecting said feedback windings in series to said output electrode, one of said electrodes being a collector electrode, an output terminal, means connecting said output terminal to said collector electrode, a plurality of cocking terminals, and means connecting said cocking terminals to separate cocking windings, whereby said cores may be set only upon the simultaneous occurrence of signals at at least two cocking terminals corresponding to the respective core.

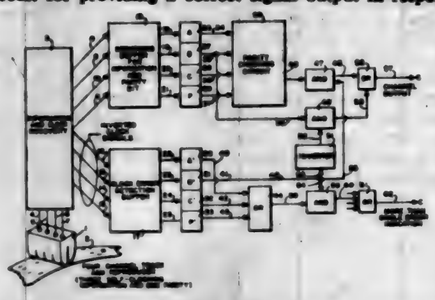
3,143,628
MAGNETIC MEMORY ARRAY
Edmunde E. Newhall, Brookside, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,688
24 Claims. (Cl. 340—174)



24. A magnetic core element comprising a one-piece structure of a magnetic material having substantially rectangular hysteresis characteristics, said structure being apertured to present a plurality of first flux legs connected together at each end respectively by a pair of side rails and a second flux leg, all of said legs and side rails being equally flux-limited and said second flux leg being connected at its ends with said pair of side rails respectively at points such that the closed flux paths through said second flux leg and each of said first flux legs are substantially equal in length.

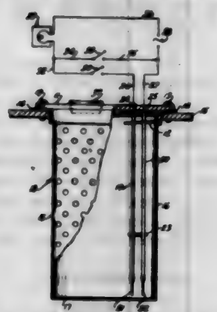
3,142,829
CHECKING METHOD FOR DIGITAL MAGNETIC TAPE SYSTEMS EMPLOYING DOUBLE TRANSITION HIGH DENSITY RECORDING
George E. Comstock 3d, Lloyd Harbor, Huntington, N.Y., assignor to Potter Instrument Co., Inc., Plainview, N.Y., a corporation of New York
Filed Aug. 22, 1960, Ser. No. 51,103
20 Claims. (Cl. 340—174.1)

1. In a digital information recovery system, the combination of, a transducer for deriving information-containing signals and timing signals from a recording medium, a parity checking circuit for providing a signal in response to a detected parity error, a clock error detecting circuit for providing a signal in response to a detected clock error, an information and clock recovery circuit connected with said transducer for providing information-containing signals to said parity checking circuit and timing signals to said clock error detecting circuit, an AND circuit, and means to connect a signal provided by said parity checking circuit and a signal provided by said clock error detecting circuit to said AND circuit for providing a correct signal output in response



to an error detected by both said parity checking circuit and said clock error detecting circuit.

3,142,830
DESICCANT CONTAINER WITH DESICCANT SATURATION INDICATOR
Robert L. Patrick, Palos Park, and Carmelo T. Esposito, Worth, Ill., assignors to Alpha Research and Development, Inc., Blue Island, Ill., a corporation of Illinois
Filed July 20, 1961, Ser. No. 125,441
6 Claims. (Cl. 340—235)

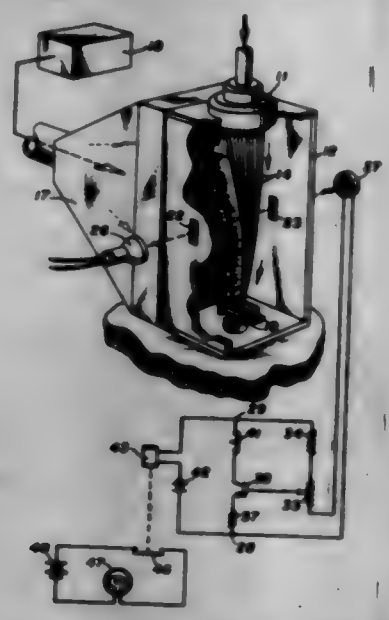


6. A device comprising a container having perforated sides and an imperforate bottom and an annular space therein for desiccant materials, means to hold and expose said desiccant materials and means to catch and retain moisture descending from said desiccant, a cover for said container, a pair of spaced electrodes positioned within said container, the lower ends of said electrodes being disposed close to the bottom of said container in which excess moisture may accumulate to form an electrical conducting medium, the other ends of said electrodes being adapted for connection through said container cover to an external source of alternating current and an electrically actuated alarm means, whereby closure of the electrical circuit by formation of said conducting medium bridging said spaced electrodes results in actuation of said alarm means.

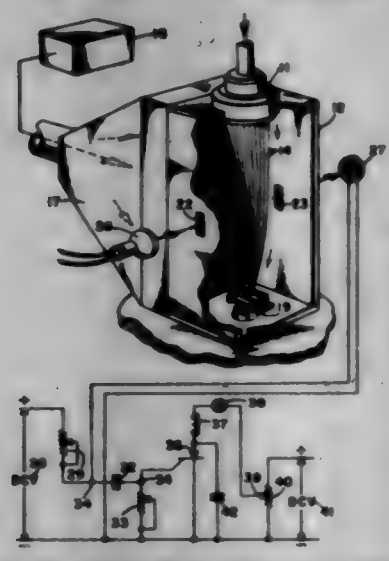
3,143,831
MONITORING AND DETECTION CIRCUITS FOR SPUN FILAMENTS
Ronald Horne and George B. Price, Pensacola, and Robert D. Taylor, Milton, Fla., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 88,952
1 Claim. (Cl. 340—259)

A system for detecting a decrease in denier of melt spun filaments, comprising a spinning chimney through which the filaments pass, said chimney having a pair of

slits in the opposite sides thereof, a nozzle positioned adjacent to the chimney for directing a stream of air from the back of the chimney thereacross to sweep the filaments to the front of the chimney and in a direction normal to a line extending through said slits, a light source positioned adjacent to one of the slits for directing a beam of light along said line through said slits, a cadmium sulphide resistor positioned adjacent to the other slit for receiving said light beam, said resistor having a resistance value which varies in response to variations in intensity of the light beam, a pair of terminals, a first resistor, a potentiometer connected to the resistor, said first resistor and potentiometer being connected in series with the cadmium sulphide resistor between the terminals, a second resistor, a transistor connected in series with the second resistor between the terminals, said transistor having the base thereof connected to the tap of the potentiometer, a relay, a battery connected in series with the relay between the terminals, and alarm means operated by the relay, said transistor conducting to operate the relay in response to a decrease in the resistance value of the cadmium sulphide resistor.

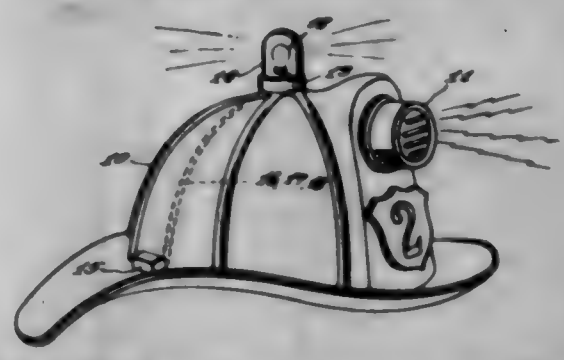


3,142,832
MONITORING AND DETECTION SYSTEMS FOR SPUN FILAMENTS
Ronald Horne, Pensacola, Fla., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware
Filed Oct. 26, 1961, Ser. No. 147,837
3 Claims. (Cl. 340—259)



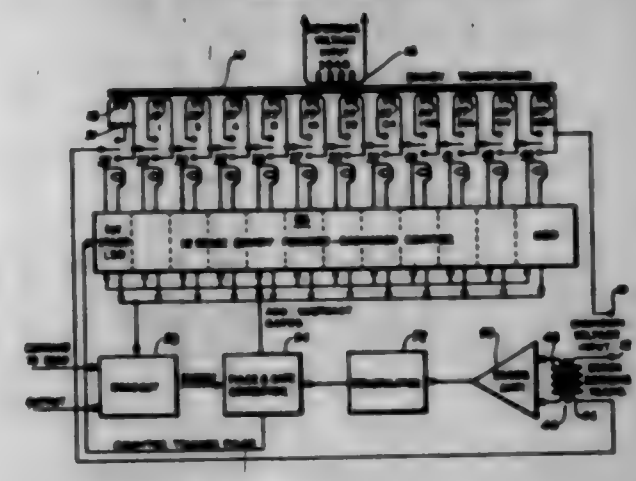
1. A system for detecting a decrease in denier of spun filaments, comprising a base, means on the base for directing a stream of fluid against a plurality of spun filaments to urge said filaments out of a straight path, a light-responsive resistor positioned at one side of said straight path, a light source positioned on the other side of said path for directing a beam of light through said path to the light-responsive resistor, a resistance connected in parallel with the light-responsive resistor, a power supply connected across the resistance and the light-responsive resistor, a junction, a capacitor connected between the junction and one side of said resistor, said resistance being connected between the junction and the other side of the light-responsive resistor, a silicon controlled rectifier having its gate connected to said junction, and means connected to the silicon controlled rectifier for indicating an out-of-limits condition.

3,142,833
FIREMAN'S HAT WITH SIREN AND FLASHING LIGHT MOUNTED THEREON
Joseph Bosley, Townsend St., Pepperell, Mass., and Arthur Borneman, Jr., 262 Main St., Townsend, Mass.
Filed Nov. 18, 1963, Ser. No. 324,342
5 Claims. (Cl. 340—321)



1. In combination with a service type hat, a lamp connected to the hat, a siren connected to the hat, a power pack disposed remote from the hat and having a source of electricity for energizing the lamp and the siren, wires connecting the source of electrical energy to the lamp and the siren providing a pair of open interlocked circuits, the power pack having a pair of open switches each connected in one of the circuits, and means for manually closing each of the switches for energizing the lamp and the siren.

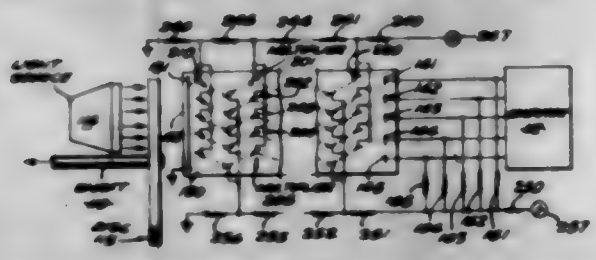
3,142,834
ANALOG DATA ENCODER
Bernd Falk and Jerre M. Murchison, Fort Worth, Tex., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Mar. 26, 1959, Ser. No. 802,156
2 Claims. (Cl. 340—347)



1. An analog data encoder comprising reversible binary counter means, means adapted to be responsive to a reference wave signal for producing a signal corresponding to the existing count represented by said counter means, means for comparing said signal with an unknown signal to produce an error signal, an integrator circuit having capacitor means connected to said comparing means, a pulse forming circuit, switch means interposed

between said integrator circuit and said pulse forming circuit and adapted to be responsive to said reference wave signal for closing said integrator circuit to render said integrator circuit responsive to said error signal to charge said capacitor means during positive half cycles of said reference wave signal and for connecting said pulse forming circuit across said capacitor means to discharge said capacitor means therethrough during negative half cycles of said reference wave signal to produce error pulses, and means responsive to said error pulses for producing a signal to activate said counter means and a signal to control said counter means in either a forward or backward direction to add to or subtract from said existing count depending on the polarity of said error pulses until said error signal is eliminated, whereby the count in said counter means after said error signal is eliminated represents said unknown signal.

3,142,835
POSITION INDICATOR
Norbert D. Lerky, Venice, Calif., assignor to Space Technology Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Mar. 18, 1960, Ser. No. 15,970
2 Claims. (Cl. 340—347)



1. An analog-to-digital converter, including: a rotatable optical disc having a plurality of concentric code rings representing the digits of a number; a stationary light source for providing light along a thin radial area of said disc across each of said rings, each of said code rings having a number of alternate sections transparent and opaque respectively to the light from said source so that as said disc rotates different combinations of transparent and opaque sections are lined up in the thin radial area of light; a stationary photoemissive vacuum tube positioned adjacent said disc along the path of the light from said source so that the light along said thin radial area which passes through a transparent section of any one of the code rings enters said tube, said tube including a translucent photoemissive cathode having an electron emissive surface at least as large circumferentially as said thin radial area illuminated by the light from said source; and an electron receptor for each of said code rings positioned adjacent said electron emissive surface for receiving the electrons emitted from the portion of said surface adjacent thereto, said electron receptors being arranged in a row parallel to said thin radial area so that said receptors are selectively energized in accordance with the coding determined by the transparent sections of said rings along said thin radial area illuminated by the light from said source.

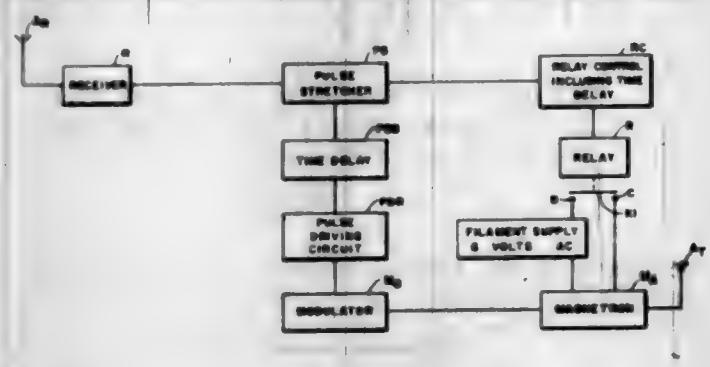
3,142,836
TRANSPONDER CONTROL CIRCUIT
Thomas J. Ambrose, Fairfax, Va., assignor to Aero Geo Astro Corporation, Alexandria, Va.
Filed June 8, 1962, Ser. No. 201,060
6 Claims. (Cl. 343—6.8)

4. In a transponder receiving control signals, the combination which comprises:

(*a*) a magnetron;

(*b*) power supply circuit means connected to said magnetron to heat the filament thereof, and including a switch for connecting and disconnecting the circuit means from the filament; and

(*c*) switch control means for connecting said circuit means with the filament upon detection of control signals and for disconnecting said circuit means from the filament after a predetermined time period during which no control signals have been detected; said



switch control means including a latching relay having two control coils, an amplifier connected to each of said control coils for sending a current surge therethrough to thereby energize the associated coil and control said switch.

3,142,837
TELEMETRY SYSTEM
Charles M. Johnson, Towson City, Md., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 14, 1962, Ser. No. 194,256
3 Claims. (Cl. 343—100)



1. An electromagnetic modulator-reflector, comprising:

a plurality of pairs of antennas, the antennas of each said pairs being symmetrically disposed about a geometric center common to all said pairs;

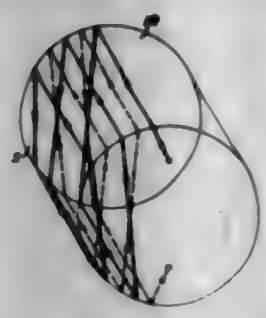
an electrical transmission path connecting the antennas of each of said pairs, all said electrical transmission paths being substantially equal in electrical length. and

a plurality of modulation means, one in each said electrical transmission path, each said modulation means being randomly placed between its respective pair of antennas.

3,142,838
RADIO GONIOMETERS AND RADIO DIRECTION FINDERS INCORPORATING THE SAME
James Frederick Hatch, Hutton, Essex, England, assignor to The Marconi Company Limited, London, England, a British company
Filed Aug. 31, 1962, Ser. No. 220,667
Claims priority, application Great Britain Nov. 23, 1961
6 Claims. (Cl. 343—124)

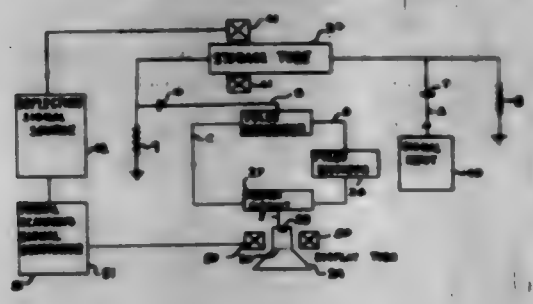
1. A radio goniometer comprising two coaxial relatively rotatable members, one within the other, the outer member comprising a ring-like ferrite body with at least two windings equally spaced around the ring, the inner member having a winding for magnetically coupling in turn, during rotation, with each of said windings on the

outer member, said winding on the inner member being wound so as to progress initially in one direction and sub-



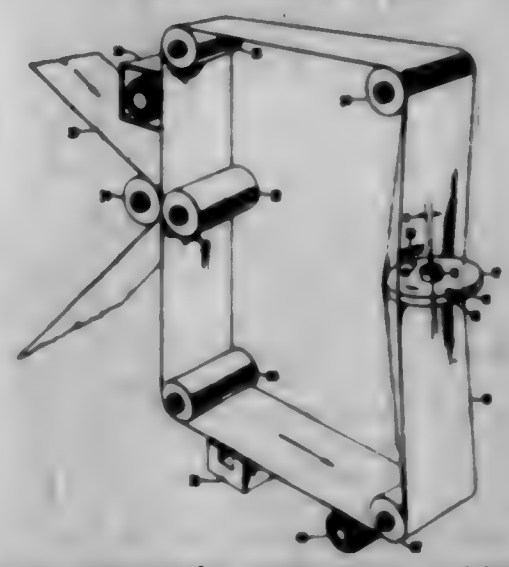
sequently in the opposite direction so that all the turns thereof are effectively in parallel planes.

3,142,839
CIRCUIT ARRANGEMENTS INCLUDING CHARGE STORAGE TUBES
Donald Sydney Hobbs, Horsham, England, assignor to North American Philips Company, Inc., New York, N.Y.
Filed Jan. 23, 1959, Ser. No. 788,684
Claims priority, application Great Britain Jan. 31, 1958
7 Claims. (Cl. 343—7.7)



4. A circuit arrangement including a radar receiver constituting a source of input signals corresponding to echoes from both stationary and moving objects and derived by similar repetitive scans of a field effected in equal or substantially equal intervals of time; a charge storage tube having an electron gun including a cathode electrode for producing one electron beam, and a target having a storage surface, said target being provided with a backing of an electrically conductive material constituting a signal plate; scanning means for effecting similar repetitive scans of the beam over a path on the storage surface in periods equal or substantially equal to the said time intervals, which scanning path consists of a raster of parallel lines; signal input means for applying to the cathode during scans of said path the input signals to cause negative excursions of the cathode potential while ensuring that the potential difference between the storage element being scanned and the cathode is less than the first cross-over potential of the material of the target thereby permitting negative charge to be deposited on the storage surface in accordance with the input signals; means for reducing the cathode potential during the line fly-back time intervals in such manner that the electron beam during such fly-back time intervals is defocussed and the potential difference between the cathode and the elements of the storage surface being swept in such fly-back time intervals is increased to a value greater than the first cross-over potential so that the secondary emission coefficient of the material of the target is greater than unity whereby positive charge is deposited substantially uniformly over the storage surface in the time between successive scans by said scanning means of a storage element of said path; an output circuit connected to the signal plate for deriving, during the scans of said path, output signal information corresponding to deposition of negative charge; a plan-position indicator cathode ray display tube having a luminescent screen; scanning means for scanning radial linear paths on the display tube screen in synchronism with the scanning of the lines on the storage surface of the storage tube; and means for connecting the storage tube output circuit to the display tube to cause the screen to luminesce in accordance with signals corresponding to the instantaneous positions of moving objects.

3,143,348
HIGH-SPEED PRINTING APPARATUS
Charles B. Smith and Victor O. Wilkerson, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 24, 1959, Ser. No. 822,581
1 Claim. (Cl. 346—74)



A ferromagnetography apparatus comprising; a movable magnetizable record medium in the form of a tape, means for continuously moving said magnetizable tape at an angle past a magnetic transducer, means for rotating said transducer relative to the movement of said tape to generate a complete line of information in the form of latent magnetic image characters on said tape in a plurality of rotations of said transducer, said line of characters being skewed with respect to the direction of movement of said tape, means for developing said latent image, means guiding said tape through a printout station with the line of developed characters thereon perpendicular to movement of a printout form, and means to print said developed latent image in parallel lines on the form.

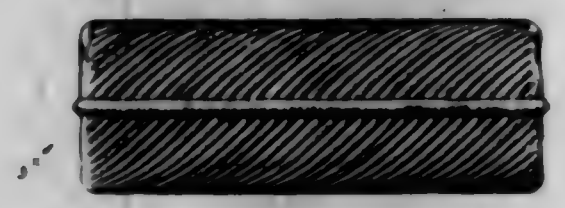
DESIGNS

JULY 28, 1964

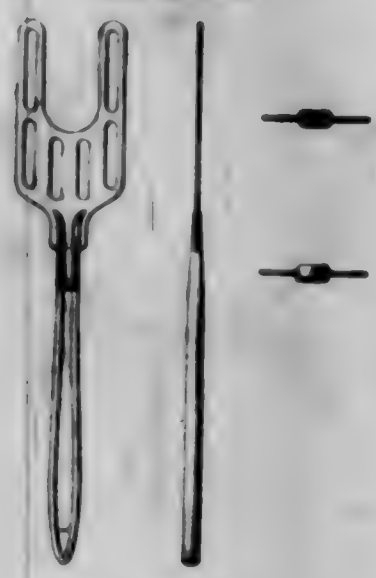
198,740
BATHROOM UNIT
James A. Tiller, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1961, Ser. No. 66,252
Term of patent 14 years
(Cl. D4—2)



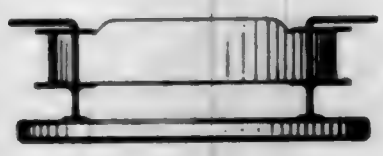
198,741
CORRUGATED LOAF OF BREAD
William R. Kaufmann, Jr., York, Pa., assignor to J. S. Hershey Baking Company, York, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1963, Ser. No. 76,955
Term of patent 14 years
(Cl. D6—1)



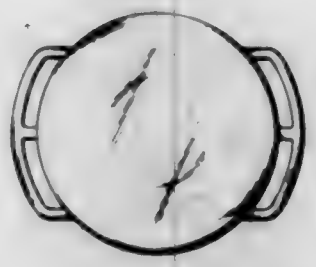
198,742
DUST MOP HANDLE
Earnest L. Bennett, Indianapolis, Ind., assignor to J. I. Holcomb Manufacturing Company, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Dec. 18, 1963, Ser. No. 77,245
Term of patent 7 years
(Cl. D9—2)



198,743
HOLDER FOR FOOD PAN FOR PETS
Tony Robert, 5701 Urbana, Houston, Tex.
Filed July 8, 1963, Ser. No. 75,701
Term of patent 14 years
(Cl. D12—2)



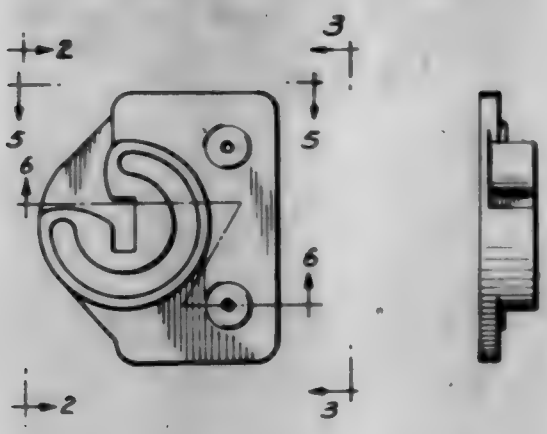
198,744
RADIATOR CLOSURE
C. J Boomgaard, Grand Haven, Mich., assignor to Oldberg Manufacturing Company, Grand Haven, Mich., a corporation of Michigan
Filed Jan. 16, 1963, Ser. No. 73,134
Term of patent 14 years
(Cl. D14—18)



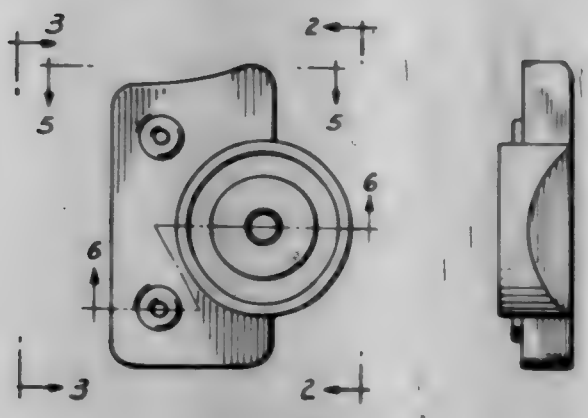
198,745
CHAIR
Ralph E. Lambrecht, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed May 1, 1962, Ser. No. 69,924
Term of patent 14 years
(Cl. D15—1)



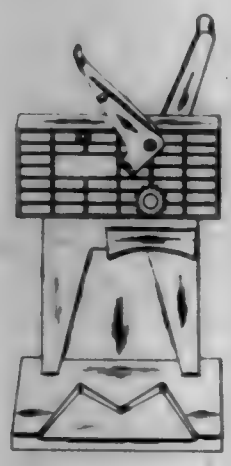
198,746
ROLLER SHADE BRACKET
Theodore W. Cox, East Orange, and Norman G. Johnston, Pequannock, N.J., assignors to The Nevets Company Inc., Newark, N.J., a corporation of New Jersey
Filed July 25, 1961, Ser. No. 66,861
Term of patent 14 years
(Cl. D21—1)



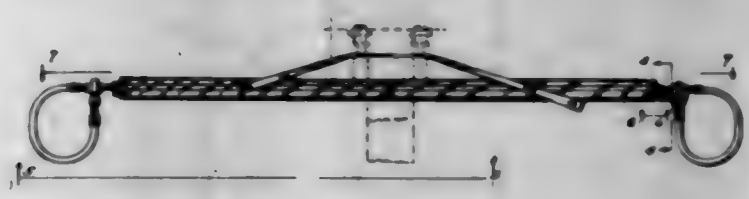
198,747
SHADE ROLLER BRACKET
Theodore W. Cox, East Orange, and Norman G. Johnston, Pequannock, N.J., assignors to The Nevets Company Inc., Newark, N.J., a corporation of New Jersey
Filed July 25, 1961, Ser. No. 66,862
Term of patent 14 years
(Cl. D21—1)



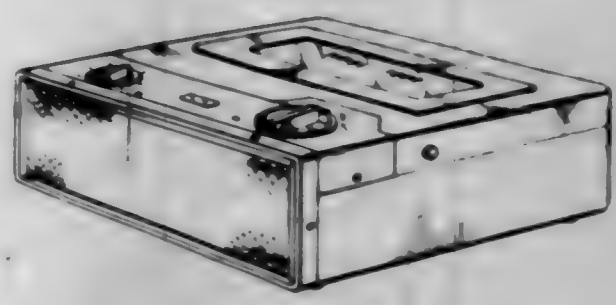
198,748
TOY CAN OPENER
Joseph V. Ferriot, 965 Nokomis Drive, Akron 13, Ohio
Filed Mar. 26, 1963, Ser. No. 74,146
Term of patent 14 years
(Cl. D22—2)



198,749
FLUID-INSULATED ELECTRICAL JUMPER CONDUCTOR FOR SHUNTING EQUIPMENT DURING REPAIR THEREOF ON HIGH VOLTAGE LINES
Robert S. Ewers, Decatur, Ill., assignor to Bodendieck Tool Company, Taylorville, Ill., a corporation of Illinois
Filed Nov. 15, 1963, Ser. No. 77,443
Term of patent 14 years
(Cl. D26—1)



198,750
BATTERY POWERED TAPE RECORDER
Eugene J. Freeman, Studio City, Calif., assignor to Freeman Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed June 3, 1963, Ser. No. 75,170
Term of patent 14 years
(Cl. D26—14)



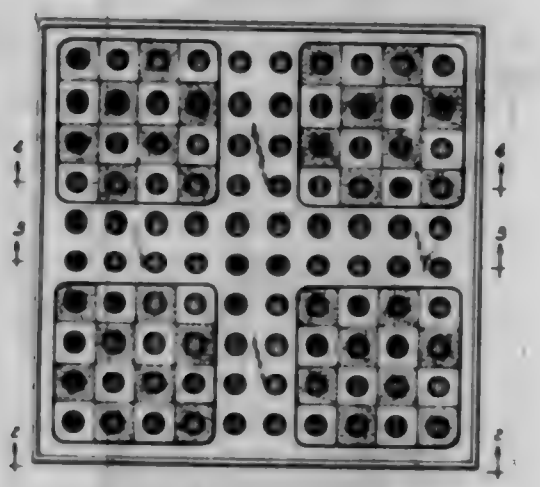
198,751
CHRISTMAS TREE TOP ORNAMENT OR SIMILAR ARTICLE
Jack Burnbaum, 354 Dudley Road, Newton, Mass.
Filed June 17, 1963, Ser. No. 75,374
Term of patent 14 years
(Cl. D29—1)



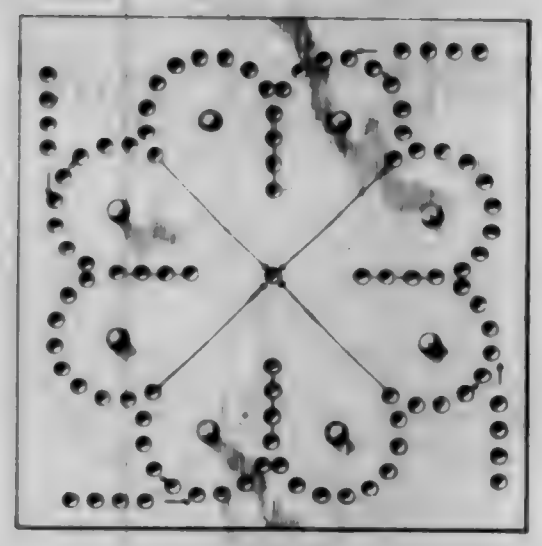
198,752
STUFFED ANIMAL TOY OR SIMILAR ARTICLE
Norman S. Adler and Grace A. Adler, Miami, Fla., assignors to The Girls, Incorporated, Miami, Fla., a corporation of Florida
Filed Dec. 9, 1963, Ser. No. 77,716
Term of patent 14 years
(Cl. D34—2)



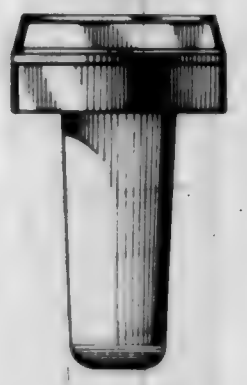
198,753
GAME BOARD
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2000 Arrowwood Drive, Scotch Plains, N.J.
Filed Oct. 18, 1962, Ser. No. 72,182
Term of patent 14 years
(Cl. D34—5)



198,754
GAME BOARD
Clinton L. Mobler, 7 Venetian Circle, Daytona Beach, Fla.
Filed July 5, 1963, Ser. No. 75,681
Term of patent 14 years
(Cl. D34—5)



198,755
OFFERING CONTAINER
Thomas V. Inaia, Chicago, Ill., assignor to Progressive Brezzo Works, Inc., Chicago, Ill., a corporation of Illinois
Filed June 13, 1963, Ser. No. 75,333
Term of patent 14 years
(Cl. D34—11)



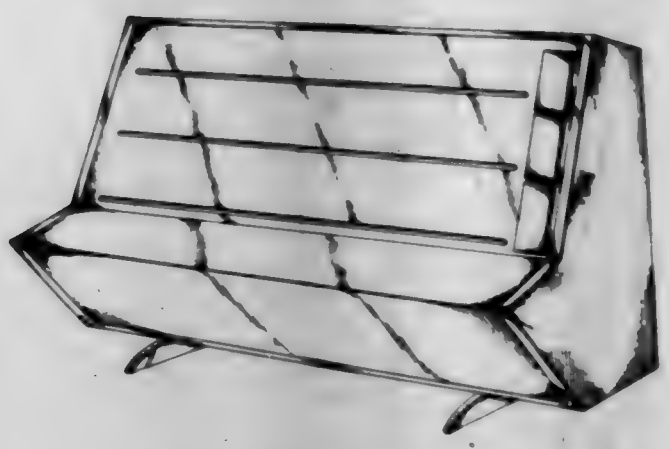
198,756
EDUCATIONAL MUSICAL TOY CLOCK
Duane E. Spengler, West Falls, N.Y., assignor to Fisher-Price Toys Incorporated, East Aurora, N.Y., a corporation of New York
Filed Feb. 27, 1963, Ser. No. 73,741
Term of patent 14 years
(Cl. D34—15)



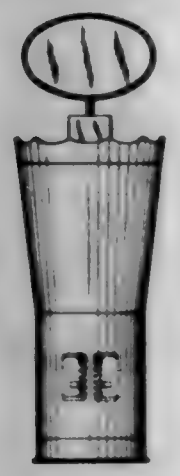
198,757
COMBINED HANDLE AND REEL HOUSING FOR AN EXTENSIBLE LEASH
Phillip S. Rogers, 3283 Salem, Trenton, Mich.
Filed June 13, 1963, Ser. No. 75,331
Term of patent 14 years
(Cl. D38—6)



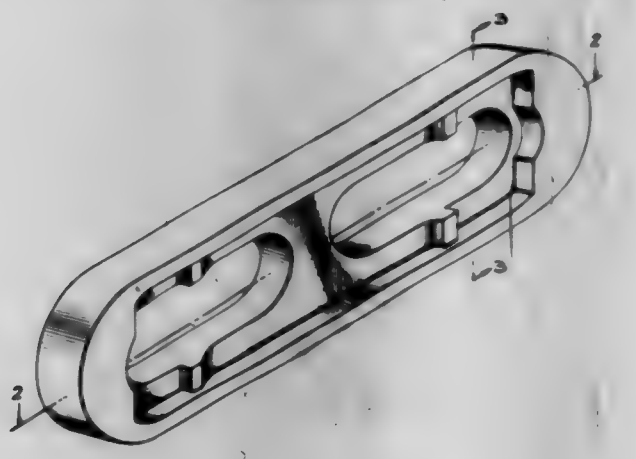
198,758
MOTOR DRIVEN PAPER DISPENSER
Morris D. Brandler, 16 Kenwood Drive, New Rochelle, N.Y., and James F. G. Bewlby, Rte. 23 and Boonton Ave., Butler, N.J.
Filed May 24, 1963, Ser. No. 75,861
Term of patent 14 years
(Cl. D52—2)



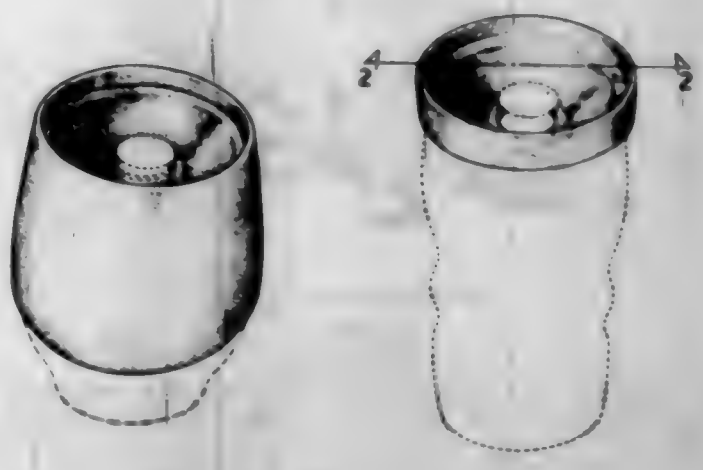
198,759
FLUID VENDING MACHINE
Sam B. Norris, Jr., 1056 Humble Road, El Paso, Tex.
Filed July 22, 1963, Ser. No. 75,892
Term of patent 14 years
(Cl. D52—3)



198,760
RIVETLESS CHAIN LINK
Leonard T. Harris, Chicago Heights, Ill., assignor to Poor & Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 31, 1962, Ser. No. 68,589
Term of patent 14 years
(Cl. D54—3)



198,761
FITMENT FOR PACKAGING CONTAINERS
Sheldon F. Ree, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Nov. 13, 1963, Ser. No. 72,475
Term of patent 14 years
(Cl. D58—8)



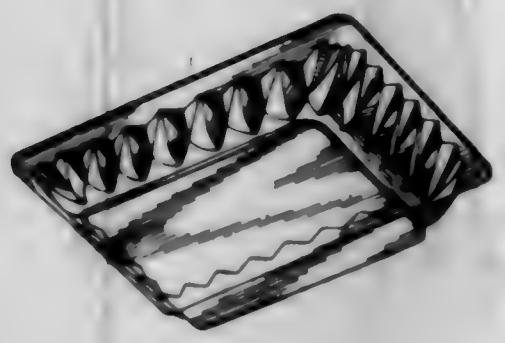
198,762
BOTTLE
Patrick J. Ferree, Minneapolis, Minn., assignor to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed Oct. 23, 1963, Ser. No. 77,111
Term of patent 14 years
(Cl. D58—8)



198,763
BOTTLE
James E. Plummer, 2530 Bonifort Ave., Toledo, Ohio
Filed Feb. 14, 1964, Ser. No. 78,633
Term of patent 14 years
(Cl. D58—8)



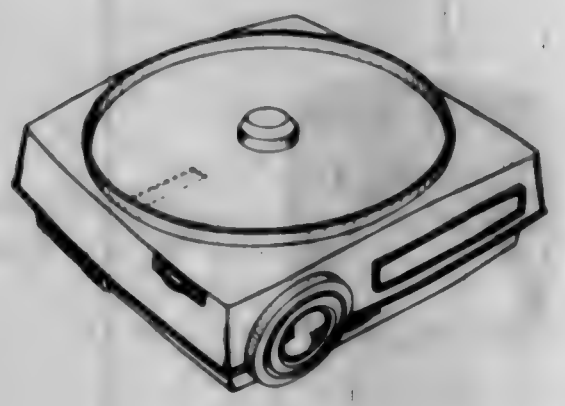
198,764
PACKAGING CONTAINER OR SIMILAR ARTICLE
John Donald Bostrom, Niles, Ill., assignor to Poster Packaging, Inc., Chicago, Ill., a corporation of Delaware
Filed Apr. 12, 1963, Ser. No. 74,407
Term of patent 14 years
(Cl. D58—12.6)



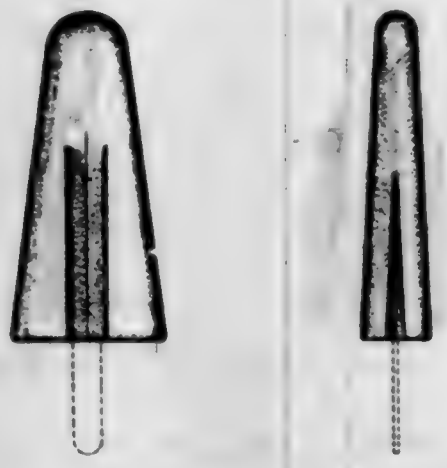
198,765
CONTAINER FOR DAIRY PRODUCTS OR THE LIKE
Herbert E. Marquard, Jr., Avon Lake, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 79,821
Term of patent 14 years
(Cl. D58—17)



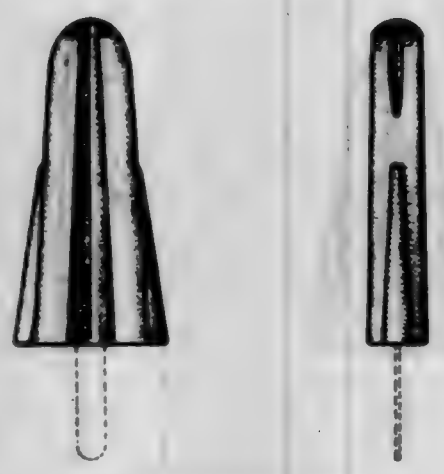
198,766
SLIDE PROJECTOR
David E. Hanson, Fairport, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 10, 1962, Ser. No. 72,061
Term of patent 14 years
(Cl. D61—1)



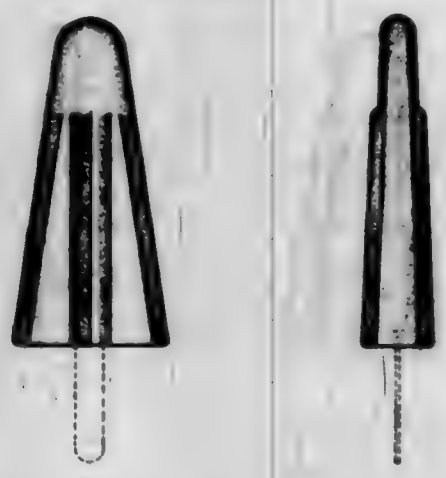
198,767
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,332
Term of patent 14 years
(Cl. D62—2)



198,768
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,333
Term of patent 14 years
(Cl. D62—2)



198,769
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,334
Term of patent 14 years
(Cl. D62—2)



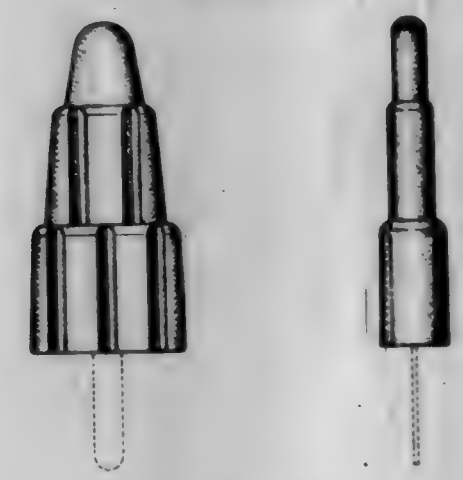
198,770
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,335
Term of patent 14 years
(Cl. D62—2)



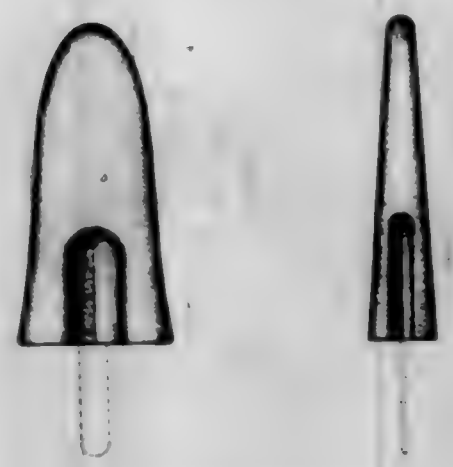
198,771
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,336
Term of patent 14 years
(Cl. D62—2)



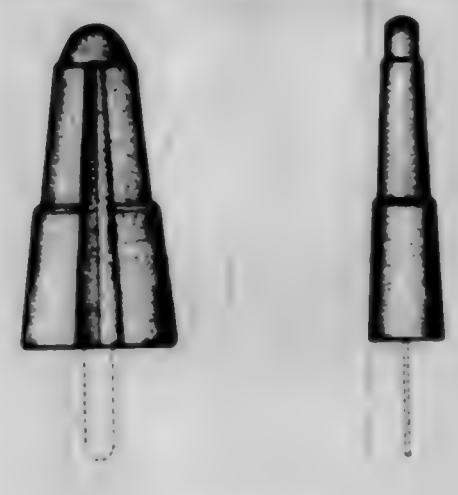
198,772
FROZEN CONFECTION
Richard J. Cowling, Tenafly, N.J., and David L. Hendrick, Commack, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,337
Term of patent 14 years
(Cl. D62—2)



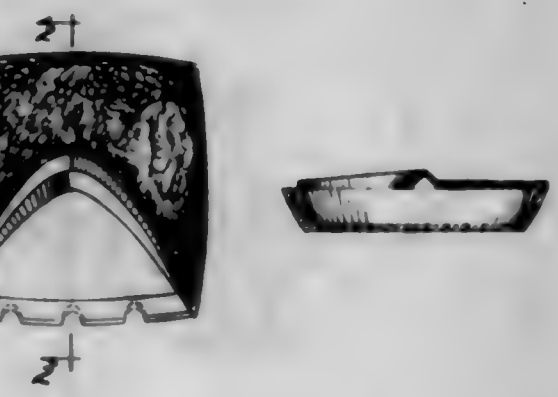
198,773
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,338
Term of patent 14 years
(Cl. D62—2)



198,774
FROZEN CONFECTION
David L. Hendrick, Commack, and John Russell Ridge, New York, N.Y., assignors to Joe Lowe Corporation, Englewood, N.J., a corporation of Delaware
Filed Jan. 23, 1964, Ser. No. 78,339
Term of patent 14 years
(Cl. D62—2)



198,775
ASH TRAY
Walter I. Bieger, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois
Filed May 21, 1963, Ser. No. 74,990
Term of patent 14 years
(Cl. D85—2)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Been, Jerome L., and M. M. Grover, to Pittsburgh Plate Glass Co. Structural adhesive compositions. Re. 25,625, 7–28–64, Cl. 161—186.

Bristle, Samuel M. Assemblable support for animal oilers. Re. 25,623, 7–28–64, Cl. 119—157.

Cowles Chemical Co.: *See*—
MacMullen, Clinton W., and Marsocchi. Re. 25,622.

Grover, Martin M.: *See*—
Been, Jerome L., and Grover. Re. 25,625.

MacMullen, Clinton W., and A. Marsocchi, to Cowles Chemical Co. Stable silane triol composition and method of treating glass therewith. Re. 25,622, 7–28–64, Cl. 117—126.

Marsocchi, Alfred: *See*—
MacMullen, Clinton W., and Marsocchi. Re. 25,622.

Maxson Premix Burner Co., Inc.: *See*—
Yeo, Robert H., and Waid. Re. 25,626.

Pittsburgh Plate Glass Co.: *See*—
Been, Jerome L., and Grover. Re. 25,625.

Stahl, William F. Method of forming plastic containers. Re. 25,624, 7–28–64, Cl. 264—230.

Waid, Donald E.: *See*—
Yeo, Robert H., and Waid. Re. 25,626.

Yeo, Robert H., and D. E. Waid, to Maxson Premix Burner Co., Inc. Air-heating gas burner. Re. 25,626, 7–28–64, Cl. 263—19.

LIST OF PLANT PATENTEES

Ball, George J., Inc.: *See*—
Duffett, William E. 2,429.

Brunnes, Bertha R. Z. Strawberry plant. 2,429, 7–28–64, Cl. 49.

Conard-Pyle Co., The: *See*—
Dot, Pedro. 2,430.

Dot, Pedro, to The Conard-Pyle Co. Rosa plant. 2,430, 7–28–64, Cl. 11.

Duffett, William E., to George J. Ball, Inc. Chrysanthemum plant. 2,428, 7–28–64, Cl. 82.

LIST OF DESIGN PATENTEES

Adler, Grace A.: *See*—
Adler, Norman S. and G. A. 198,752.

Adler, Norman S. and G. A., to The Girls, Inc. Stuffed animal toy or similar article. 198,752, 7–28–64, Cl. D34—2.

American Radiator & Standard Sanitary Corp.: *See*—
Tiller, James A. 198,740.

Bemis Bro. Bag Co.: *See*—
Ferree, Patrick J. 198,762.

Bennett, Earnest L., to J. I. Holcomb Mfg. Co., Inc. Dust mop handle. 198,742, 7–28–64, Cl. D9—2.

Bieger, Walter I., to Arthur Salm, Inc. Ash tray. 198,775, 7–28–64, Cl. D85—2.

Bodendieck Tool Co.: *See*—
Ewers, Robert S. 198,749.

Boomgaard, C. J., to Oldberg Mfg. Co. Radiator closure. 198,744, 7–28–64, Cl. D14—13.

Bostrom, John D., to Poster Packaging, Inc. Packaging container or similar article. 198,764, 7–28–64, Cl. D58—12.6.

Bowlby, James F. G.: *See*—
Brandler, Morris D., and Bowlby. 198,758.

Brandler, Morris D., and J. F. G. Bowlby. Motor driven paper dispenser. 198,758, 7–28–64, Cl. D52—2.

Burnbaum, Jack. Christmas tree top ornament or similar article. 198,751, 7–28–64, Cl. D26—1.2.

Cowling, Richard J., and D. L. Hendrick, to Joe Lowe Corp. Frozen confection. 198,772, 7–28–64, Cl. D82—2.

Cox, Theodore W., and N. G. Johnston, to The Nevets Co. Inc. Roller shade bracket. 198,746, 7–28–64, Cl. D21—1.

Cox, Theodore W., and N. G. Johnston, to The Nevets Co. Inc. Shade roller bracket. 198,747, 7–28–64, Cl. D21—1.

Dow Chemical Co., The: *See*—
Marquard, Herbert E., Jr. 198,765.

Eastman Kodak Co.: *See*—
Hansen, David E. 198,766.

Ewers, Robert S., to Bodendieck Tool Co. Fluid-insulated electrical jumper conductor for shunting equipment during repair thereof on high voltage lines. 198,749, 7–28–64, Cl. D26—1.

Ferree, Patrick J., to Bemis Bro. Bag Co. Bottle. 198,762, 7–28–64, Cl. D58—8.

Ferriot, Joseph V. Toy can opener. 198,748, 7–28–64, Cl. D22—2.

Fisher-Price Toy Inc.: *See*—
Spengler, Duane E. 198,756.

Freeman Electronics Corp.: *See*—
Freeman, Eugene J. 198,750.

Freeman, Eugene J., to Freeman Electronics Corp. Battery powered tape recorder. 198,750, 7–28–64, Cl. D26—14.

Girls, Inc., The: *See*—
Adler, Norman S. and G. A. 198,752.

Hansen, David E., to Eastman Kodak Co. Slide projector. 198,766, 7–28–64, Cl. D61—1.

Harris, Leonard T., to Poor & Co. Rivetless chain link. 198,760, 7–28–64, Cl. D54—3.

Heller, Isaac: *See*—
Robbins, Saul, and Heller. 198,753.

Hendrick, David L.: *See*—
Cowling, Richard J., and Hendrick. 198,772.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,767, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,768, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,769, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,770, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,771, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,773, 7–28–64, Cl. D82—2.

Hendrick, David L., and J. R. Ridge, to Joe Lowe Corp. Frozen confection. 198,774, 7–28–64, Cl. D82—2.

Hershey, J. S., Baking Co.: *See*—
Kauffman, William R., Jr. 198,741.

Holcomb, J. I., Mfg. Co., Inc.: *See*—
Bennett, Earnest L. 198,742.

Isaia, Thomas V., to Progressive Bronze Works, Inc. Offering container. 198,755, 7–28–64, Cl. D34—11.

Johnston, Norman G.: *See*—
Cox, Theodore W., and Johnston. 198,746–7.

Kauffman, William R., Jr., to J. S. Hershey Baking Co. Corrugated loaf of bread. 198,741, 7–28–64, Cl. D6—1.

Lambrecht, Ralph E., to Outboard Marine Corp. Chair. 198,745, 7–28–64, Cl. D15—1.

Lowe, Joe, Corp.: *See*—
Cowling, Richard J., and Hendrick. 198,772.
Hendrick, David L., and Ridge. 198,767–71.
Hendrick, David L., and Ridge. 198,773–4.

Marquard, Herbert E., Jr., to The Dow Chemical Co. Container for dairy products or the like. 198,765, 7–28–64, Cl. D58—23.11.

Mohler, Clinton L. Game board. 198,754, 7–28–64, Cl. D34—5.

Nevets Co. Inc., The: *See*—
Cox, Theodore W., and Johnston. 198,746–7.

Norris, Sam B., Jr. Fluid vending machine. 198,759, 7–28–64, Cl. D52—3.

Oldberg Mfg. Co.: *See*—
Boomgaard, C. J. 198,744.

Outboard Marine Corp.: *See*—
Lambrecht, Ralph E. 198,745.

Owens-Illinois Glass Co.: *See*—
Roe, Sheldon F. 198,761.

Plummer, James E. Bottle. 198,763, 7–28–64, Cl. D58—8.

Poor & Co.: *See*—
Harris, Leonard T. 198,760.

Poster Packaging, Inc.: *See*—
Bostrom, John D. 198,764.

Progressive Bronze Works, Inc.: *See*—
Isaia, Thomas V. 198,755.

Ridge, John R.: *See*—
Hendrick, David L., and Ridge. 198,767–74.

Robbins, Saul, and I. Heller. Game board. 198,753, 7–28–64, Cl. D34—5.

Robert, Tony. Holder for food pan for pets. 198,743, 7–28–64, Cl. D12—2.

Roe, Sheldon F., to Owens-Illinois Glass Co. Fitment for packaging containers. 198,761, 7–28–64, Cl. D58—8.

Rogers, Philip S. Combined handle and reel housing for an extensible leash. 198,757, 7–28–64, Cl. D38—6.

Salm, Arthur, Inc.: *See*—
Bieger, Walter I. 198,775.

Spengler, Duane E., to Fisher-Price Toy Inc. Educational musical toy clock. 198,756, 7–28–64, Cl. D34—15.

Tiller, James A., to American Radiator & Standard Sanitary Corp. Bathroom unit. 198,740, 7–28–64, Cl. D4—2.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF JULY, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AFN, Inc.: *See*—
Major, Coleman J., and Rhees. 3,142,538.
AMP Inc.: *See*—
Demler, Henry W. 3,142,209.
A.T.S. Co. Ltd.: *See*—
Naylor, Leonard T. 3,142,461.
Abba, Charles G.: *See*—
McMahon, Walter M., and Abba. 3,142,583.
Abramovitz, Stanley, to Industrial Tectonics, Inc., Fluid Film Bearing Division. Tilting pad thrust bearing. 3,142,519, 7-28-64, Cl. 308—160.
Accary, Andre, J. Dubuisson, and J. Humbert, to Commissariat a l'Energie Atomique. Process for preparing shaped articles of uranium silicides. 3,142,583, 7-28-64, Cl. 28—14.5.
Adam, Folger, J. W. Browning, H. F. Stapay, and M. Beck; said Stapay and said Beck assors. to F. Adam. Lock controls and the like. 3,142,166, 7-28-64, Cl. 70—279.
Adams, Edward N., to International Business Machines Corp. Magneto-optical memory and display device. 3,142,720, 7-28-64, Cl. 88—16.
Aden, Per E. Fallout shelter. 3,142,271, 7-28-64, Cl. 109—1.
Aero Geo Astro Corp.: *See*—
Ambrose, Thomas J. 3,142,836.
Agency of Industrial Science and Technology, The: *See*—
Ishida, Yasuhiro. 3,142,140.
Agfa Aktiengesellschaft: *See*—
Hofmann, Wilfried, Pfeifer, and Biermeier. 3,142,238.
Aguilar, Clotiel: *See*—
Rice, Harold B., and Aguilar. 3,142,371.
Aguilar, John G.: *See*—
Rice, Harold B., Aguilar, and C. 3,142,371.
Air Reduction Co. Inc.: *See*—
Fukushima, Osamu, and Kurashige. 3,142,532.
Walker, William W. 3,142,747.
Akerley, Robert G.: *See*—
Copithorne, Alton R., De Vita, Greene, Musial, Ioannilli, and Akerley. 3,142,278.
Alba-Waldensian, Inc.: *See*—
Garrou, James E. 3,142,879.
Albin Enterprises Inc.: *See*—
Sorrentino, William J., and Moe. 3,142,355.
Albiswerk Zurich A. G.: *See*—
Konig, Heinrich, and Tschannen. 3,142,801.
Alexander, Harold N. Method and apparatus for forming full color viewing photographic image. 3,142,563, 7-28-64, Cl. 96—2.
Allen, Arthur F., to Rolls-Royce Ltd. Machine tool control apparatus. 3,142,214, 7-28-64, Cl. 82—14.
Allen, Howard G., to Boostitch, Inc. Method of making bypass die. 3,142,204, 7-28-64, Cl. 76—101.
Allied Chemical Corp.: *See*—
Beckham, Leland J., and Kelly. 3,142,558.
Rogers, Stuart M. 3,142,531.
Tweit, Olav M. 3,142,391.
Allied Control Co., Inc.: *See*—
Diciolla, James. 3,142,735.
Allis-Chalmers Mfg. Co.: *See*—
Bahe, Lowell W. 3,142,594.
Buhr, August G. 3,142,275.
Wrangell, Lewis J. 3,142,593.
Alpha Research and Development, Inc.: *See*—
Patrick, Robert L., and Esposito. 3,142,830.
Ambrose, Thomas J., to Aero Geo Astro Corp. Transponder control circuit. 3,142,836, 7-28-64, Cl. 343—6.8.
American Can Co.: *See*—
Balocca, Alfred E. 3,142,433.
Blakeslee, Harry N. 3,142,412.
Deretchin, David R., and Santee. 3,142,609.
Downie, Robert H. 3,142,233.
Heinle, Carl W. 3,142,280.
Meyers, George L. 3,142,430.
American Cyanamid Co.: *See*—
Buckler, Sheldon A., and Epstein. 3,142,685.
Wehner, Donald C. 3,142,615.
American Gas Association, Inc.: *See*—
Weber, Earl J. 3,142,782.
Weber, Earl J., and Westberg. 3,142,332.
American Home Products Corp.: *See*—
Davis, Martin A. 3,142,681.
Rice, Leonard M., Freed, and Herts. 3,142,678.
American Machine & Foundry Co.: *See*—
Miller, Lester, Jr. 3,142,188.
Viescas, Arthur B. 3,142,486.
American Optical Co.: *See*—
Siegmund, Walter P. 3,142,235.
Siegmund, Walter P., and Wight. 3,142,236.
American Telephone and Telegraph Co.: *See*—
MacLeod, Donald A. 3,142,728.
Anchor Coupling Co. Inc.: *See*—
Luther, Roger R. 3,142,502.
Stranberg, Don F., and Luther. 3,142,503.
Anchor Hocking Glass Corp.: *See*—
Foss, George J., and Glessler. 3,142,401.

Anderson, Edward E., M. P. Giggey, W. F. Hampton, and C. P. Shaw, to Ocean Spray Cranberries, Inc. Method of making a cranberry relish. 3,142,574, 7-28-64, Cl. 99—102.
Anderson, Edward E., W. F. Hampton, and A. W. Anti, to Ocean Spray Cranberries, Inc. Process for forming a jellied cranberry sauce. 3,142,577, 7-28-64, Cl. 99—129.
Anderson, Malcolm G., and J. R. Hawkes, to The Goodyear Tire & Rubber Co. Process for making pneumatic tires. 3,142,597, 7-28-64, Cl. 156—123.
Andrews, Laurence M., J. Rabinow, and W. Fischer, to Control Data Corp. Reflective scanning projection system. 3,142,224, 7-28-64, Cl. 88—24.
Anelex Corp.: *See*—
Sweeney, David F. 3,142,247.
Anti, Arthur W.: *See*—
Anderson, Edward E., Hampton, and Anti. 3,142,577.
Antokal, Philip, and M. P. Kritchever, to E. I. du Pont de Nemours and Co. Surface and interior modication of thermoplastic resinous bodies. 3,142,630, 7-28-64, Cl. 204—162.
Apex Tire & Rubber Co.: *See*—
Royen, Markus. 3,142,171.
Apothelox, Robert, to Machine Tool Works Oerlikon, Administration Co. Control means for unarming projectiles. 3,142,225, 7-28-64, Cl. 89—6.5.
Appleman, Leon, and R. H. Eck. Apparatus for producing quarts. 3,142,717, 7-28-64, Cl. 13—6.
Archer-Daniels-Midland Co.: *See*—
Roaning, Martin. 3,142,144.
Arganbright, Robert P., to Monsanto Co. Purification of propylene. 3,142,710, 7-28-64, Cl. 260—677.
Arnold, Theodore M., to Ethyl Corp. Sliding closure and operating means. 3,142,410, 7-28-64, Cl. 220—41.
Art, Marvin E. Cotton boll opener. 3,142,142, 7-28-64, Cl. 56—41.
Ashland Oil & Refining Co.: *See*—
Peterson, William R., and Walker. 3,142,654.
Ateliers & Forges de la Loire (Saint-Chamond, Firminy, Saint-Etienne, Jacob Holtzer), Compagnie des: *See*—
Demeaux, Jean A. 3,142,591.
Atkins, Alan J., to Automotive Products Co. Ltd. Fluid power transmitters. 3,142,369, 7-28-64, Cl. 192—3.2.
Atlantic Research Corp.: *See*—
Greeley, Charles E. 3,142,795.
Attebery, Oliver R. Syringe device. 3,142,297, 7-28-64, Cl. 128—229.
Automotive Products Co., Ltd.: *See*—
Atkins, Alan J. 3,142,369.
Axbe Corp.: *See*—
Axbe, Victor J. 3,142,480.
Axbe, Victor J., to Axbe Corp. Calcining apparatus. 3,142,480, 7-28-64, Cl. 263—39.
Babcock, Roger M.: *See*—
Leveseque, Robert L., and Babcock. 3,142,155.
Babcock & Wilcox Co., The: *See*—
Edlund, Milton C. 3,142,624.
Bader, Erich: *See*—
Brendlein, Heinrich, Bader, Leyersapf, and Rink. 3,142,661.
Baer, Charles E., and S. A. Kelsey, said Kelsey assor. to O. V. Miller. Apparatus and process for neutralizing acid mine drainage water. 3,142,639, 7-28-64, Cl. 210—60.
Baetke, Russell E., to The Boeing Co. Aileron control on variable sweep wing designs. 3,142,459, 7-28-64, Cl. 244—75.
Bahe, Lowell W., to Allis-Chalmers Mfg. Co. Rectifying devices. 3,142,594, 7-28-64, Cl. 148—33.4.
Bahr, Gustav: *See*—
Sedlmayr, Gerhard F. J. A., and Bahr. 3,142,462.
Baier, John P., W. E. Fritz, and H. E. Smith, to General Motors Corp. Hermetically sealed solenoid assembly. 3,142,790, 7-28-64, Cl. 317—191.
Baker, Cletus L., to Titanium Metals Corp. of America. Bend test apparatus. 3,142,174, 7-28-64, Cl. 73—100.
Baker, David K., to Baker Perkins Holdings Ltd. Manufacture of bread dough. 3,142,268, 7-28-64, Cl. 107—88.
Baker, Don R., and T. B. Williamson, to Stauffer Chemical Co. Controlling microorganisms employing sulfosalicylacetonitriles. 3,142,616, 7-28-64, Cl. 167—22.
Baker Perkins Holdings Ltd.: *See*—
Baker, David K. 3,142,268.
Baldwin-Lima-Hamilton Corp.: *See*—
Dawson, Percy B. 3,142,314.
Ris, Kenneth B., and Mulford. 3,142,231.
Baldwin, Ross O., Jr. Mechanical gun. 3,142,294, 7-28-64, Cl. 124—15.
Balmer, Hansjörg, to Nordberg Mfg. Co. Lock structure for crusher adjustment. 3,142,449, 7-28-64, Cl. 241—286.
Balocca, Alfred E., to American Can Co. Composite container and method of making same. 3,142,433, 7-28-64, Cl. 229—51.
Bamford, Donald G., to Massey-Ferguson Inc. Tractor differential lock. 3,142,203, 7-28-64, Cl. 74—710.5.

Banyu Pharmaceutical Co., Ltd.: *See*—
Kawaguchi, Hiroshi, Okanishi, Miyaki, Ohmori, Matsuzaki, Koshiyama, and Tsukiura. 3,142,671.

Barnes, Allie C.; 12½% to R. J. Rahm, 26½% to B. G. Preston, 2% to I. Cramer, 13% to C. W. Weech, 6% to C. B. McFarlin, 6% to Brinson Development Co., and 6% to L. H. and/or V. L. McElderry. Drill bit. 3,142,347, 7-28-64, Cl. 175—340.

Barnett, Edward H.: *See*—
Lipschutz, Sidney, and Barnett. 3,142,472.

Barrett, Paul A., A. G. Caldwell, and L. P. Walls, to Burroughs Wellcome & Co. (U.S.A.) Inc. Piperazino alkylamino quinoline derivatives and the manufacture thereof. 3,142,679, 7-28-64, Cl. 260—268.

Barson, Clifford W.: *See*—
Gough, Vernon E., and Barson. 3,142,178.

Bartlett, Jeffrey H.: *See*—
Morway, Arnold J., and Bartlett. 3,142,643.

Bartlett Laboratories, Inc.: *See*—
Bartlett, Peter G. and R. C. 3,142,479.

Bartlett, Peter G. and R. C., to Bartlett Laboratories, Inc. Control for an air heater. 3,142,479, 7-28-64, Cl. 263—19.

Bartlett, Richard C.: *See*—
Bartlett, Peter G. and R. C. 3,142,479.

Basham, Raymond B., to The Western Co. Coincident pulse suppression system for simultaneous radioactivity well logging. 3,142,757, 7-28-64, Cl. 250—83.3.

Bates, Howard J., R. A. Spry, and R. R. Murray, to The Bucker Co. Vector alignment device. 3,142,160, 7-28-64, Cl. 73—1.

Bauchwitz, Peter S., to E. I. du Pont de Nemours and Co. Acetylene polymerization catalyst and process of using same. 3,142,711, 7-28-64, Cl. 260—678.

Bauer, La Verne N., to Rohm & Haas Co. Oil soluble copolymer of a N-vinyl pyrrolidinone and an alkyl ester of an unsaturated monocarboxylic acid. 3,142,664, 7-28-64, Cl. 260—80.8.

Beaver, David J., and P. J. Stoffel, to Monsanto Co. Antiseptic detergent formulations containing halogenated carbanilates. 3,142,646, 7-28-64, Cl. 252—106.

Beber, Oral L.: *See*—
Carr, Norman L., Beber, and Brosowski. 3,142,713.

Becht, Cletus A., R. C. Gordon, N. Jearlies, and R. W. Sheatsley, to Goodyear Aerospace Corp. Plastic foam mixer. 3,142,477, 7-28-64, Cl. 259—44.

Beck, Nelson: *See*—
Adam, Folger, Browning, Stapay, and Nelson. 3,142,166.

Beckman, Leland J., and F. L. Kelly, to Allied Chemical Corp. Fertilizer containing ammelide-urea mixture. 3,142,558, 7-28-64, Cl. 71—30.

Beckman, Phillip J.: *See*—
O'Connell, Daniel J., Beckman, and Stockholm. 3,142,-669.

Beebee, Ralph N.: *See*—
Shelton, Leonard, Beebee, Jones, and Bush. 3,142,322.

Bettel, Herbert M.: *See*—
Fried, Louis, D'Andrea, and Browning. 3,142,411.

Bell Telephone Laboratories, Inc.: *See*—
Fleming, Howard C. 3,142,723.
Hall, Norris R., and Thompson. 3,142,522.
Newhall, Edmunde E. 3,142,828.
Pfann, William G. 3,142,173.
Rappeport, Michael A. 3,142,806.
Theuerer, Henry C. 3,142,596.

Beloit Iron Works: *See*—
Phillips, Irvin J. 3,142,588.

Berlad, Abraham L., to General Dynamics Corp. Apparatus for the safe storage and handling of normally explosive materials. 3,142,159, 7-28-64, Cl. 62—48.

Berliner, Mayer: *See*—
Lulla, Jack D., Wacks, and Berliner. 3,142,377.

Besley-Wells Corp.: *See*—
Fallon, Herbert J., and Napp. 3,142,137.

Betsch, Theodore D., to Monsanto Co. Voluminous yarn from synthetic continuous thermoplastic filaments. 3,142,147, 7-28-64, Cl. 57—140.

Bianco, Bruno D., and M. Scata, to International Standard Electric Corp. Magnetic structure for reed relays. 3,142,-734, 7-28-64, Cl. 200—87.

Bidlack, Jerald D., to Cadillac Gage Co. Servo motor damper. 3,142,230, 7-28-64, Cl. 91—422.

Biermeier, Hans: *See*—
Hofman, Wilfried, Pfeifer, and Biermeier. 3,142,238.

Bigelow, John E., to General Electric Co. Drift compensated D.C. integrator having separate selectively insertable feedback loops. 3,142,802, 7-28-64, Cl. 328—127.

Billy, Jean-Marc: *See*—
McKay, Arthur F., and Billy. 3,142,677.

Black, John W., to Pemco Wheel Co. Swival mechanism for a caster. 3,142,085, 7-28-64, Cl. 16—21.

Black, Martin L.: *See*—
Dice, John R., and Black. 3,142,693.

Black-Clawson Co., The: *See*—
Hoffman, Robert E., Sponaugle, and Stevens. 3,142,090.

Blackman, Peter J. P. Conlon, and E. M. Perry, to I.C.I./Organics/Inc. Plasticised urea-formaldehyde resins. 3,142,653, 7-28-64, Cl. 260—31.8.

Blaisdell, Donald S., and R. E. B. Klaas. Process for separating solids from sewage. 3,142,638, 7-28-64, Cl. 210—52.

Blake, Frederick L., to Motorola, Inc. System and method for making records. 3,142,562, 7-28-64, Cl. 96—1.

Blakeslee, Harry N., to American Can Co. Opening means for sealed containers. 3,142,412, 7-28-64, Cl. 220—54.

Blanchard, Andre, to Schlumberger Well Surveying Corp. Method and apparatus for forming cables. 3,142,148, 7-28-64, Cl. 57—9.

Blanco, Angel A., to Imperial Chemical Industries Ltd. Neutron radiation shielding material. 3,142,649, 7-28-64, Cl. 252—478.

Bliss, Robert W., to General Electric Co. Installation means for built-in range. 3,142,295, 7-28-64, Cl. 126—37.

Bliss, E. W., Co.: *See*—
Byrne, John J., and Cruger. 3,142,468.

Bloch, Hubert, to Ciba Corp. Immunizing composition containing mesoinosito-tri-alpha-D-mannoside. 3,142,620, 7-28-64, Cl. 167—79.

Blodgett Mfg. Co.: *See*—
Blodgett, Stewart B. 3,142,349.

Blodgett, Stewart B., to Blodgett Mfg. Co. Dynamically compensated weighing scales. 3,142,349, 7-28-64, Cl. 177—164.

Bloomfield, Rodger E., to General Motors Corp. Plug together relay and printed circuit board. 3,142,784, 7-28-64, Cl. 317—113.

Blout, Elkan R., M. Green, H. G. Rogers, and M. S. Simon, to Polaroid Corp. Photographic products, processes and compositions employing azo dye developers. 3,142,565, 7-28-64, Cl. 96—29.

Blout, Elkan R., and M. S. Simon, to Polaroid Corp. Photographic products, processes and compositions utilising acyl hydroquinones. 3,142,564, 7-28-64, Cl. 96—29.

Bobear, William J., to General Electric Co. Organopolysiloxane compositions incorporating heat-age resistant rare earth compounds. 3,142,656, 7-28-64, Cl. 260—37.

Bobo, Melvin, J. R. Martin, and R. J. Smuland, to General Electric Co. Stator assembly. 3,142,475, 7-28-64, Cl. 253—78.

Bobrick Mfg. Corp.: *See*—
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Bodenseewerk Perkin-Elmer & Co., G.m.b.H.: *See*—
Möller, Waldemar. 3,142,181.
Möller, Waldemar. 3,142,792.

Bodian, Marcus, to Sunbeam Lighting Co. Diffuser holder for ceiling light fixtures. 3,142,447, 7-28-64, Cl. 240—147.

Boehringer, C. F., & Soehne G.m.b.H.: *See*—
Lettenbauer, Gustav, Popelak, Schaumann, and Ribbentrop. 3,142,680.

Boeing Co., The: *See*—
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Quenzler, Henry H. W. 3,142,457.

Boepple, Otto H., to Kenyon Instrument Co. Inc. Magnetic instrument. 3,142,122, 7-28-64, Cl. 33—222.

Bofors, Aktiebolaget: *See*—
Carlsson, Arent G. 3,142,228.

Bohannon, William D., Jr., to Western Electric Co., Inc. Apparatus for winding strands on elongated members. 3,142,450, 7-28-64, Cl. 242—9.

Boka, Victor P., Jr., to Purex Corp., Ltd. Spray nozzle. 3,142,306, 7-28-64, Cl. 134—166.

Bolt, William N. Pallet loading mechanisms. 3,142,389, 7-28-64, Cl. 214—6.

Borden Co., The: *See*—
Erekson, Arthur B., and Martz. 3,142,573.
Halpern, Benjamin D., Dickstein, and Hoegerle. 3,142,-698.

Borges, Burt A., to Minneapolis-Honeywell Regulator Co. Momentary actuator for precision snap switch. 3,142,748, 7-28-64, Cl. 200—160.

Borg-Warner Corp.: *See*—
May, Charles W. 3,142,261.
Oliver, Delbert S. 3,142,260.

Borneman, Arthur, Jr.: *See*—
Bosley, Joseph, and Borneman. 3,142,833.

Bosley, Joseph, and A. Borneman, Jr. Fireman's hat with siren and flashing light mounted thereon. 3,142,833, 7-28-64, Cl. 340—321.

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Allen, Howard G. 3,142,204.

Bostwick, Norvan W., to Simmonds Precision Products, Inc. Fuel injection control apparatus. 3,142,291, 7-28-64, Cl. 123—140.

Boyd, Solon O. True vibrato. 3,142,221, 7-28-64, Cl. 84—414.

Boyer, Jean J. Machine for sorting. 3,142,283, 7-28-64, Cl. 209—82.

Brackett, Lawrence W., to Wood Electric Corp. Heat responsive wire circuit breaker. 3,142,737, 7-28-64, Cl. 200—116.

Brand, Jay J., to Pittsburgh Plate Glass Co. Glass snapping apparatus. 3,142,427, 7-28-64, Cl. 225—104.

Brandt, Ove, to The Plymouth Corp. Collapsing die head with trip means selectively positioned to permit manual collapse. 3,142,076, 7-28-64, Cl. 10—96.

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Rai, Charanjit, and Braunwarth. 3,142,675.

Brendlein, Heinrich, E. Bader, H. Layersapf, and K.-H. Rink, to Deutsche Gold-und Silber-Scheideanstalt vormals Roessler. Polymerization of acrolein and methacrolein. 3,142,-661, 7-28-64, Cl. 260—67.

Brinkman, John A., C. J. Meechan, and H. M. Dieckamp, to North American Aviation, Inc. Method for artificial synthesis of diamonds. 3,142,539, 7-28-64, Cl. 23—209.1.

Brinson Development Co., Inc.: *See*—
Barnes, Allie C. 3,142,347.

Bristol-Myers Co.: *See*—
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British Insulated Callender's Cables Ltd.: *See*—
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Brooks, Ralph P. Planter. 3,142,133, 7-28-64, Cl. 47—37.

Brothman, Abraham, and R. D. Reiser, to Transitel International Corp. Automated sequential interrogation meter reading system over telephone lines. 3,142,726, 7-28-64, Cl. 179—2.

Brown, Cicero C. Well tools. 3,142,333, 7-28-64, Cl. 166—130.

Brown, Cicero C., and C. B. Cochran, to Brown Oil Tools, Inc. Hydraulically-actuated well packers. 3,142,339, 7–28–64, Cl. 166—122.

Brown, Donald A., and L. R. Downing, Jr., to Donn Products Inc. Controlled expansion structural beam and grid structure including same. 3,142,367, 7–28–64, Cl. 189—37.

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Brown, Raymond M.: *See*—
Hoernemann, Edward G. 3,142,304.

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Browning, John K.: *See*—
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Brudnak, Andrew, Jr., and F. J. Simak, to International Harvester Co. Flow control compensator. 3,142,342, 7–28–64, Cl. 172—9.

Buckler, Sheldon A., and M. Epstein, to American Cyanamid Co. Substituted dihydroxyphosphorinanium dihydroxyphospholanium and dihydroxyphosphepanium salts. 3,142,685, 7–28–64, Cl. 260—340.7.

Buckley, Robert A., to Ferro Corp. Halogen containing vinyl resins stabilized with iron-polyol combination. 3,142,659, 7–28–64, Cl. 260—45.75.

Budde, Nan G., to Polaroid Corp. Photographic apparatus for treating sheets with a liquid. 3,142,244, 7–28–64, Cl. 95—89.

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Bullard, Burke M. Motorized player piano spill valve. 3,142,220, 7–28–64, Cl. 84—42.

Bunting, Ernest V., to Massey-Ferguson Inc. Valve mechanism. 3,142,316, 7–28–64, Cl. 137—625.18.

Burch, Charles J., to Union Carbide Corp. Metal casting in a protective atmosphere. 3,142,099, 7–28–64, Cl. 22—214.

Burk, Robert E. Process of forming acrylic resin casting using a perfluorocarbon surfaced mold. 3,142,715, 7–28–64, Cl. 264—213.

Burke, Arthur J., to Richardson Corp. Material handling and dispensing apparatus. 3,142,419, 7–28–64, Cl. 222—236.

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Burton, Robert W., and G. N. Drew, to General Motors Corp. Pedal mounting arrangement. 3,142,199, 7–28–64, Cl. 74—516.

Bury, George, to Illinois Tool Works Inc. Snap acting trigger switch. 3,142,741, 7–28–64, Cl. 200—157.

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Busse, Clarence E. Cutter for dispenser of aluminum foil and like material. 3,142,217, 7–28–64, Cl. 83—375.

Busse, Clarence E. Attachment means for carton to convert same to dispenser. 3,142,426, 7–28–64, Cl. 225—43.

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Caferro, Edward M. Duplex food extrusion. 3,142,266, 7–28–64, Cl. 107—1.

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Campbell, Bill L. Can opener and pouring spout. 3,142,417, 7–28–64, Cl. 222—83.5.

Cardinal, Anthony J., W. L. Edens, and J. W. Van Dyk, to E. I. du Pont de Nemours and Co. Novel tetrafluorethylene resins and their preparation. 3,142,665, 7–28–64, Cl. 260—92.1.

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Hawthorne, Herbert J., and Carey. 3,142,345.

Carlsson, Arent G., to Bofors, Aktiebolaget. Loading tray for recoiling gun. 3,142,226, 7–28–64, Cl. 89—45.

Carpenter, Austin T., to United Shoe Machinery Corp. Dimethylol-coesol modified polysulphide polymer sealant. 3,142,656, 7–28–64, Cl. 260—38.

Carpenter, Irvin M.: *See*—
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Carr, Norman L., O. L. Beber, and V. Brozowski, to The Pure Oil Co. Process for hydroisomerization of hydrocarbons including the oxidative regeneration of catalyst employed therein. 3,142,713, 7–28–64, Cl. 26—683.65.

Carter, Lawrence T., to Holt Hosiery Mills, Inc. Preboarding apparatus. 3,142,423, 7–28–64, Cl. 223—76.

Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Article holddown for labeling machines. 3,142,374, 7–28–64, Cl. 198—165.

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Chapman, Aurelius F., to E. I. du Pont de Nemours and Co. Adhesive compositions. 3,142,434, 7–28–64, Cl. 229—53.

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Christensson, Od W. Arrangement in machines for the production of lined packages. 3,142,231, 7–28–64, Cl. 93—36.6.

Christman, Clarence C., R. Cicchetti, and Timson, to Merck & Co., Inc. Vacuum drum drying of streptomycin sulfate. 3,142,670, 7–28–64, Cl. 260—210.

Christoph, Frank J., Jr., to E. I du Pont de Nemours and Co. Process for the purification of hydrogen chloride gas contaminated with phosgene. 3,142,535, 7–28–64, Cl. 23—154.

Christopher, Walter S., to Chicago Lock Co. Adjustable key and assembly jig therefor. 3,142,167, 7–28–64, Cl. 70—411.

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Clark, Philip B., and D. W. Harting, to McGraw-Edison Co. Adjustable side mount for a light. 3,142,501, 7–28–64, Cl. 285—184.

Clarke, David E., and L. E. Cooper, to Texas Instruments Inc. Ganged multipole circuit breaker. 3,142,732, 7–28–64, Cl. 200—50.

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Clemmer, Wallace L., ½ to J. L. Schwabe, and ½ to J. L. and B. E. Mikesh. Detachable rear view mirror. 3,142,469, 7–28–64, Cl. 248—226.

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Coats, John N. Kiln disintegrator. 3,142,846, 7–28–64, Cl. 34—137.

Cobb, Edwin W. Cone, beverage cup and similar article holder. 3,142,425, 7–28–64, Cl. 224—48.

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Comstock, George E., 3d, to Potter Instrument Co., Inc. Checking method for digital magnetic tape systems employing double transition high density recording. 3,142,829, 7-28-64, Cl. 340—174.1.

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Cook, John E., to Owens-Illinois Glass Co. Gob chute actuating mechanism. 3,142,553, 7-28-64, Cl. 65—304.

Coonradt, Harry L., and W. E. Garwood, to Socony Mobil Oil Co., Inc. Production of lubricating oils. 3,142,635, 7-28-64, Cl. 208—111.

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Cosby, Eric L. H. Flexible comb. 3,142,308, 7-28-64, Cl. 132—155.

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Craft, Walter S. Ski towrope grip. 3,142,268, 7-28-64, Cl. 104—202.

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Cravath, Dale. Thermoplastic fastening device. 3,142,066, 7-28-64, Cl. 16—121.

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Dane, Ernest B., Jr., to Massachusetts Institute of Technology. Gyroscope spin axis bearings. 3,142,182, 7-28-64, Cl. 74—5.

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Danielson, Andrew L. Collapsible step bench. 3,142,355, 7-28-64, Cl. 182—106.

Davidson, Sidney. Lower torso garment embodying sacroiliac supporting waist band. 3,141,457, 7-28-64, Cl. 128—95.

Davis, Charles C., to Litton Systems, Inc. Phonograph reproducer. 3,142,729, 7-28-64, Cl. 179—100.41.

Davis, Martin A., to American Home Products Corp. Basic esters of 5-hydroxydibenzo [a,d] [1,4] cycloheptadiene-5-carboxylic acid. 3,142,681, 7-28-64, Cl. 260—294.3.

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Davis, Ralph M., to Container Corp. of America. Shipping container with reusable closure flap. 3,142,432, 7-28-64, Cl. 229—38.

Dawson, Percy B., to Baldwin-Lima-Hamilton Corp. Energy converter. 3,142,314, 7-28-64, Cl. 137—604.

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Demler, Henry W., to AMP Inc. Tool locator. 3,142,209, 7-28-64, Cl. 81—15.

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De Winter, Max S.: *See*—
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Dilts, Fred. Hydro-jet subsoil aerator. 3,142,278, 7-28-64, Cl. 111—7.1.

Dodds, Paul L. Cantilever counter stool. 3,142,468, 7-28-64, Cl. 248—220.5.

Domenighetti, Costante. Road tamping machine. 3,142,191, 7-28-64, Cl. 74—213.

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Wellborn, William W. 3,142,626.
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Kreps, Robert W. P., and A. Klootwijk, to Shell Oil Co. Process for preparing epoxy esters of alpha, alpha-dialkyl monocarboxylic acids. 3,142,686, 7-28-64, Cl. 260—348.

Krieps, Frank J., and H. R. Mattheis, to Container Corp. of America. Container closure with removable section. 3,142,404, 7-28-64, Cl. 215—46.

Krook, Edwin J.: *See*—
Maurits, Orville C., and Krook.

Kuchta, William J.: *See*—
Tifft, Leo R., Karpus, Kuchta, and Hatch.

Kuehne, Alfred K., to Fibercraft Products, Inc. Plastic filter frame. 3,142,550, 7-28-64, Cl. 55—495.

Kuehne, Martin E., to Ciba Corp. Pyrano-benzoxazines. 3,142,676, 7-28-64, Cl. 260—244.

Kummerman, Henri, and G. J. M. Proost, to International MacGregor Organisation (I.M.G.O.). Coiling shutter. 3,142,333, 7-28-64, Cl. 160—272.

Kurashige, Hirotoshi: *See*—
Fukushima, Osamu, and Kurashige.

Kurashiki Rayon Co., Ltd.: *See*—
Fukushima, Osamu, and Kurashige.

Lachat, Remy J., to Whirlpool Corp. Zero locking system for centrifugal apparatus. 3,142,641, 7-28-64, Cl. 210—144.

Lachman, Leon, to Ciba Corp. Injectable solution. 3,142,617, 7-28-64, Cl. 167—58.

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Poorman, Frank, Jr., and Lafitte.

La Grassa, Antonio: *See*—
Polk, Edgwin R., and La Grassa.

Land, Edwin H., to Polaroid Corp. Photographic processing apparatus and product useful therein. 3,142,248, 7-28-64, Cl. 95—89.

Land, Edwin H., to Polaroid Corp. Photographic process. 3,142,566, 7-28-64, Cl. 96—61.

Lang, Harold M., to Pan American Petroleum Corp. Anchor and fluid seal for conduit liner. 3,142,489, 7-28-64, Cl. 285—55.

Langford, Donald C. Apparatus for feeding and draining of runways used as landing aid and safety precaution for aircraft. 3,142,460, 7-28-64, Cl. 244—114.

Larkin, James R., and R. J. Van Twisk, to United States Rubber Co. Mold for open hollow objects. 3,142,094, 7-28-64, Cl. 18—39.

Larky, Norbert D., to Space Technology Laboratories, Inc. Position indicator. 3,142,835, 7-28-64, Cl. 340—347.

Larsen, Raymond R., to Uarco Corp. Reading machine. 3,142,749, 7-28-64, Cl. 235—61.11.

Lastovica, John E., Jr., to The Dow Chemical Co. Method for purifying diglycidyl ether of bisphenol A. 3,142,688, 7-28-64, Cl. 260—348.

Laughlin, James P., Jr.: *See*—
Herndon, William B., Jr., and Laughlin.

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Lazareff, Michel, to Nord-Aviation Societe Nationale de Constructions Aeronautiques. Flying platform fairing. 3,142,456, 7-28-64, Cl. 244—23.

Lazarus, Jack, and J. Cooper, to Ciba Corp. Alginate suspensions of oral pharmaceutical compositions with improved taste qualities. 3,142,621, 7-28-64, Cl. 167—82.

Le Can, Claude J. P. F., and C. De Ruyter, to North American Philips Co., Inc. Transistor current switching for logical circuits. 3,142,764, 7-28-64, Cl. 307—88.5.

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Leflef, Frank M.: *See*—
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Lefiliatre, Guy, J. Redier, and J. Scheidhauer, to Commissariat a l'Energie Atomique. Process for the production of solid products containing radioactive waste material and products obtained by this process. 3,142,648, 7-28-64, Cl. 252—301.1.

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Leland, Bernard, to International Business Machines Corp. Method of treating polyester polymer materials to improve their adhesion characteristics. 3,142,581, 7-28-64, Cl. 117—47.

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Leroux, Jean-Pierre. Method of determining temperature by means of a phosphorescent substance and measuring apparatus for the employment of said method. 3,142,755, 7-28-64, Cl. 250—71.

Lesher, Kenneth W., to Standard Screw Co. Hydraulic lash adjuster. 3,142,290, 7-28-64, Cl. 123—90.

LeTourneau, Robert G. Control mechanism for pivotable device. 3,142,197, 7-28-64, Cl. 74—422.

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Leventhal, Harold A. Diaper rinsing device. 3,142,068, 7-28-64, Cl. 4—1.

Levesque, George N., to Brown & Sharpe Mfg. Co. Permanent magnetic block. 3,142,787, 7-28-64, Cl. 317—169.

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Lewin, Merton H., and J. A. Rajchman, to Radio Corp. of America. Punchable memory card having printed circuit thereon. 3,142,823, 7-28-64, Cl. 340—173.

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Ligett, Wahlo B., to Ethyl Corp. Polyvalent organo-lead fungicide. 3,142,614, 7-28-64, Cl. 167—22.

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Lindblad, Stig M. Safety belt buckles. 3,142,103, 7-28-64, Cl. 24—230.

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Litton Systems, Inc.: *See*—
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Litz, Frank A., to International Business Machines Corp. Matrix energizing system. 3,142,821, 7-28-64, Cl. 340—173.

Lockheed Aircraft Corp.: *See*—
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Lombard, Georges L. M. J. Method and apparatus for marking the location of the armature to be used with a magnetic latch or the like. 3,142,506, 7-28-64, Cl. 292—251.5.

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Lorena, Anton: *See*—
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Luke, Albert R. J., to Massey-Ferguson Ltd. Retractable finger assembly. 3,142,375, 7-28-64, Cl. 198—211.

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Lundin, Robert S., to General Time Corp. Synchronous timing motor assembly. 3,142,774, 7-28-64, Cl. 310—83.

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Mack, Bernhard V. Jacketed-cast bullet. 3,142,356, 7-28-64, Cl. 102—92.5.

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Magnum, Joe T. Drill collar facing tool. 3,142,139, 7-28-64, Cl. 51—241.

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Maillet, Philippe J. P.: *See*—
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Major, Coleman J., and R. C. Rhees, to AFN, Inc. Manufacture of diborane. 3,142,538, 7-28-64, Cl. 23—204.

Maleon, Fred V. Manhole shield. 3,142,234, 7-28-64, Cl. 94—28.

Mancuso, Emanuel. Tool holder assembly. 3,142,215, 7-28-64, Cl. 83—36.

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Marsh, William D., F. S. Pramuk, R. C. Hoke, and C. W. Skarstrom, to Esso Research and Engineering Co. Pressure equalization depressuring in heatless adsorption. 3,142,547, 7-28-64, Cl. 55—26.

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Martin, James. Selectively operable line cutting device. 3,142,219, 7-28-64, Cl. 83—639.

Martin, John. Machine for fabricating seamless high optical quality glass articles. 3,142,552, 7-28-64, Cl. 65—229.

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Martz, Samuel A.: *See*—
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Dane, Ernest B., Jr.

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McHugh, Vincent K. Portable sun-glare visor. 3,142,508, 7-28-64, Cl. 296—97.

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Nascimbene, Romano. Vehicle fog light. 3,142,444, 7-28-64, Cl. 240—41.1.

Naylor, Leonard T., to A.T.S. Co. Ltd. Internal fittings of aircraft. 3,142,401, 7-28-64, Cl. 244—137.

Nelson, Brooks E., to The Osborn Mfg. Co. Double end brush. 3,142,080, 7-28-64, Cl. 15—106.

Nelson, Donald A. Machine for unseating tire beads. 3,142,330, 7-28-64, Cl. 157—1.17.

Nelson, La Von, to Lurex Mfg. Co. Valves for use in laboratory glassware. 3,142,474, 7-28-64, Cl. 251—309.

Neotechnic Engineering Ltd.: *See*—
Gawthrop, Alan. 3,142,420.

Newhall, Edmunde E., to Bell Telephone Laboratories, Inc. Magnetic memory array. 3,142,828, 7-28-64, Cl. 340—174.

Nichols, John B. Sailing vessel. 3,142,282, 7-28-64, Cl. 114—102.

Nickell, Claude H., 50% to A. B. Wilson. Screw threading apparatus with mechanically actuated valve for controlling reversible fluid motor. 3,142,077, 7-28-64, Cl. 10—129.

Nickerson, John D., to International Minerals & Chemical Corp. Manufacture of defluorinated phosphates. 3,142,534, 7-28-64, Cl. 23—106.

Niebergall, Heinz, to Shell Oil Co. Polymers with chains containing phosphorus, carbon and silicon. 3,142,663, 7-28-64, Cl. 260—80.

Nielsen, Chester I., Jr., to Wesbor Stamping Corp. Mounting for car top carriers. 3,142,104, 7-28-64, Cl. 24—265.

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Nordberg Mfg. Co.: *See*—
Balmer, Hansjörg. 3,142,449.

North American Aviation, Inc.: *See*—
Brinkman, John A., Meechan, and Dieckamp. 3,142,539.
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Hobbs, Donald S. 3,142,839.
Le Can, Claude J. P. F., and De Ruyter. 3,142,764.
Schuh, Jan P. 3,142,827.
Traas, Laurus J. 3,142,763.
Van Gerwen, Petrus J. 3,142,727.

Northwest Industries Ltd.: *See*—
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Nottorf, Robert W., to E. I. du Pont de Nemours and Co. Photographic emulions, elements and processes. 3,142,568, 7-28-64, Cl. 96—87.

Nylonge Corp.: *See*—
Politzer, Alfred, Teng, Pekarek, and Shockley. 3,142,714.

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Williams, John H. 3,142,198.

Obenland, Clayton O., to Olin Mathieson Chemical Corp. Method for the preparation of methylated decaboranes. 3,142,706, 7-28-64, Cl. 260—606.5.

Obenland, Clayton O., to Olin Mathieson Chemical Corp. Method for the preparation of ethylated decaboranes. 3,142,707, 7-28-64, Cl. 260—606.5.

O'Brien, Patrick R. Letter opener. 3,142,119, 7-28-64, Cl. 30—278.

Ocean Spray Cranberries, Inc.: *See*—
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Anderson, Edward E., Hampton, and Antl. 3,142,577.

O'Connell, Daniel J., P. J. Beckman, and R. Q. Stockholm, to Trojan Pools, Inc. Construction members for swimming pools. 3,142,069, 7-28-64, Cl. 4—172.

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O'Connell, James A., to General Telephone and Electronics Laboratories, Inc. Resistor. 3,142,811, 7-28-64, Cl. 338—20.

Oehmig, Robert G. Adjustable seal strip. 3,142,097, 7-28-64, Cl. 20—69.

Oehmig, Robert G. Adjustable door stop and weatherstrip. 3,142,098, 7-28-64, Cl. 20—69.

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Ohashi, Kinjiro. Chuck for a machine tool. 3,142,491, 7-28-64 Cl. 279—4.

Ohmori, Tomoo: *See*—
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Obenland, Clayton O. 3,142,707.
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Olson, Theodore M. Double tube dispensing device. 3,142,230, 7-28-64, Cl. 141—309.

Orescan, Michael. Band saw. 3,142,321, 7-28-64, Cl. 143—21.

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Osborn Mfg. Co., The: *See*—
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Oster, Robert F., to Towmotor Corp. Fork lift truck with a self-contained gripping and latching assembly. 3,142,399, 7-28-64, Cl. 214—514.

Otteman, Lloyd G., and L. C. Reese, to Shell Oil Co. Method and apparatus for drilling underwater wells. 3,142,343, 7-28-64, Cl. 175—7.

Otteman, Lloyd G., and L. C. Reese, to Shell Oil Co. Method and apparatus for drilling underwater wells. 3,142,344, 7-28-64, Cl. 175—7.

Otten, Fred J. Automatic coin collector. 3,142,370, 7-28-64, Cl. 194—9.

Otto, Herbert R., Jr. Oil filter. 3,142,640, 7-28-64, Cl. 210—136.

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Pace, Henry A., to The Goodyear Tire & Rubber Co. Polymeric elastomers prepared from isocyanate-modified polyesters solutions thereof and methods for their preparation. 3,142,652, 7-28-64, Cl. 260—22.

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Silverman, Daniel, and Hadley. 3,142,750.

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Dice, John R., and Black. 3,142,683.

Parshall, Clarence M., E. A. Stiegler, P. A. Phillips, and P. Geyer, to United States Rubber Co. Tire building apparatus. 3,142,603, 7-28-64, Cl. 156—405.

Pass, Geoffrey, and H. L. Roberts, to Imperial Chemical Industries Ltd. Novel compounds containing sulphur, fluorine and oxygen. 3,142,537, 7-28-64, Cl. 23—203.

Patrick, Robert L., and C. T. Esposito, to Alpha Research and Development, Inc. Desiccant container with desiccant saturation indicator. 3,142,830, 7-28-64, Cl. 340—235.

Pauley, Robert P., and O. T. Ralph. Method of filling and loading containers. 3,142,396, 7-28-64, Cl. 214—152.

Pearlman, Martin B. Devices for use in the treatment of exhaust gases of internal combustion engines. 3,142,150, 7-28-64, Cl. 60—30.

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Peery, Norman E.: *See*—
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Peterson, Dana. Pin fastening device. 3,142,101, 7-28-64, Cl. 24—158.

Peterson, William R., and D. A. Walker, to Ashland Oil & Refining Co. Butadiene-styrene-acrylate latex terpolymer. 3,142,654, 7-28-64, Cl. 260—29.7.

Petroff, Robert J. Machine assembly support. 3,142,521, 7-28-64, Cl. 312—196.

Pfann, William G., to Bell Telephone Laboratories, Inc. Elastic strain transducers. 3,142,173, 7-28-64, Cl. 73—88.5.

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Tynan, Edward J., and Hales. 3,142,675.

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Phillips, Donald H., to Bristol-Myers Co. Process of reducing foam in submerged aerobic fermentations. 3,142,628, 7-28-64, Cl. 195—80.

Phillips, Henry, and B. E. Paris, to Foster Wheeler Corp. Safety closure means for pressurized furnaces. 3,142,272, 7-28-64, Cl. 110—179.

Phillips, Irvin J., to Beloit Iron Works. Coater rope threading device. 3,142,588, 7-28-64, Cl. 118—407.

Phillips, Philip A.: *See*—
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Picou, Claude H., to Compagnie Générale de Géophysique. Method and apparatus for analysing and processing seismic records employing a weighting coefficient. 3,142,815, 7-28-64, Cl. 340—15.5.

Pierre, Chester J., Jr., and F. M. Leffel. Devices for squaring flat collapsed tubular folding box blanks. 3,142,232, 7-28-64, Cl. 93—53.

Pingon, Pierre J. Machines for public works. 3,142,395, 7-28-64, Cl. 214—138.

Pipes, George R., to Eaton Mfg. Co. Fastener and washer assembly machine. 3,142,078, 7-28-64, Cl. 10—155.

Pittman, Clarence E.: *See*—
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Brand, Jay J. 3,142,427.

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Plumettaz, Fernand, to Plumettaz Societe Anonyme. Bypass shut-off valve for a pipeline. 3,142,313, 7-28-64, Cl. 137—599.2.

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Plymouth Corp., The: *See*—
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Blout, Elkan R., and Simon. 3,142,664.
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Politzer, Alfred, J. Teng, F. Pekarek, and A. B. Schockley, to Nylonge Corp. Method for the production of cleaning devices. 3,142,714, 7-28-64, Cl. 264—27.

Polk, Edgwin B., and A. La Grassa. Method and apparatus for fabricating a plastic container. 3,142,601, 7-28-64, Cl. 156—273.

Polko, Peter P., and L. J. Kivisto, to International Harvester Co. Belt tensioning device. 3,132,193, 7-28-64, Cl. 74—242.11.

Pollard, Thomas, to Gullich Ltd. Bodily adjustable conveyor. 3,142,373, 7-28-64, Cl. 198—126.

Poly-Choke Co., Inc., The: *See*—
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Portteus, James G., to P. A. Portteus. Putting mat with golf ball dispensing means. 3,142,488, 7-28-64, Cl. 273—201.

Portteus, James G., to P. A. Portteus. Golf return game. 3,142,487, 7-28-64, Cl. 273—179.

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Portteus, James G. 3,142,487.
Portteus, James G. 3,142,488.

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Press, Irving D., to Resistoflex Corp. Non-separable swivel joint assembly with clamping and auxiliary sealing arrangement. 3,142,498, 7-28-64, Cl. 285—12.

Press, Richard U. Assembly for bending electrical component axial leads. 3,142,484, 7-28-64, Cl. 269—303.

Preson, Billy G.: *See*—
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Price, George B.: *See*—
Horne, Ronald, Price, and Taylor. 3,142,821.

Price, George C., to Oliver Electrical Mfg. Co. Guy wire protector. 3,142,365, 7-28-64, Cl. 189—32.

Properzi, Ilario. Rolling mill for continuously rolling metal bars and wires. 3,142,208, 7-28-64, Cl. 80—34.

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Pullman Inc.: *See*—
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Millikan, Allen F. 3,142,636.
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Pusch, Robert A.: *See*—
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Quenzler, Henry H. W., to The Boeing Co. Stall pattern lift regulator for airplanes. 3,142,457, 7-28-64, Cl. 244—42.

Raarup, Walter P., and N. E. Peery, deceased; by H. J. Peery, administratrix. Shell Oil Co. System for hydrotreating of hydrocarbons. 3,142,545, 7-28-64, Cl. 23—288.

Rabinow, Jacob, to Control Data Corp. Photosensitive line following servo system for reading machines. 3,142,761, 7-28-64, Cl. 250—219.

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Kaufman, Melvin M. 3,142,769.
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Wine, Charles M., and Miller. 3,142,766.

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Ralph, Otis T.: *See*—
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Ranco Inc.: *See*—
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Rantsch, Kurt, and A. Weyrauch, to M. Hensoldt & Sohne, Optische Werke AG. Optical equipment for the accurate setting and reading of the amount of displacement of a slide. 3,142,718, 7-28-64, Cl. 88—14.

Rappeport, Michael A., to Bell Telephone Laboratories, Inc. Pulse regenerator circuit. 3,142,805, 7-28-64, Cl. 328—164.

Rassieur, Charles L., to Central Mine Equipment Co. Hollow rotary bit head with end opening gate for sample recovery operations. 3,142,346, 7-28-64, Cl. 175—270.

Rattee, Ian D., and F. A. Waite, to Imperial Chemical Industries Ltd. Dyestuffs having an azo, anthraquinone, nitro, or phthalocyanine chromophoric radical and a triazine ring having a 5- to 6-membered heterocyclic-ring thio substituent. 3,142,668, 7-28-64, Cl. 260—153.

Ray, John G., to Sylvania Electric Products Inc. Low temperature centrifugal switch. 3,142,740, 7-28-64, Cl. 200—152.

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Otteman, Lloyd G., and Reese. 3,142,344.

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Reuschel, Konrad, and N. Schink, to Siemens-Schuckertwerke Aktiengesellschaft. Method for pyrolytic production of hyperpure semiconductor material. 3,142,584, 7-28-64, Cl. 117—106.

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Grogel, Merrill A. 3,142,413.

Rhees, Raymond C.: *See*—
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Rhodes, Chester R. Bidirectional positioning device. 3,142,789, 7-28-64, Cl. 317—189.

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Lettenbauer, Gustav, Popelak, Schaumann, and Ribbentrop. 3,142,680.

Rice, Harold B., and J. G. Aguilar, deceased (by C. Aguilar, administratrix), to John Burton Machine Corp. Spotting device for bottles and the like. 3,142,371, 7-28-64, Cl. 198—33.

Rice, Leonard M., M. E. Freed, and E. Hertz, to American Home Products Corp. Amino substituted penthienoindoles. 3,142,678, 7-28-64, Cl. 260—247.1.

Rich, Gerald C., to Sylvania Electric Products Inc. Cold cathode gas tube counting circuits. 3,142,780, 7-28-64, Cl. 315—84.5.

Rich, Howard B., to Howard B. Rich, Inc. Ladder construction. 3,142,356, 7-28-64, Cl. 182—194.

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Richardson Corp.: *See*—
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Roberts, Richard M., G. S. Rosay, and F. M. Fowkes, to Shell Oil Co. Hydrogen peroxide decomposition. 3,142,151, 7-28-64, Cl. 60—35.4.

Robinson, Alec D., and J. T. Stainer, to Dunlop Rubber Co. Ltd. Apparatus for joining unvulcanised rubber tubes. 3,142,606, 7–28–64, Cl. 156—503.

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Robinson, Preston, to Sprague Electric Co. Titanate ester resistor. 3,142,814, 7–28–64, Cl. 338—308.

Rodgers, James S., to Rodgers Hydraulic, Inc. Power operated wrench with two-speed drive. 3,142,210, 7–28–64, Cl. 81—57.

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Jefferson, Sidney, and Rogers. 3,142,759.

Rogers, Howard G.: *See*—
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Röhm, Günter H. Trigger guard for revolver. 3,142,126, 7–28–64, Cl. 42—65.

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Rolih, Robert J., and E. F. Jason, to Standard Oil Co. Hexachlorobicycloheptenealkyl esters of arylphosphonic acids. 3,142,695, 7–28–64, Cl. 260—461.

Rolls-Royce Ltd.: *See*—
Allen, Arthur F. 3,142,214.
McKenzie, Archibald B. 3,142,438.

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Roberts, Richard M., Ronay, and Fowkes. 3,142,151.

Roney, John W., to Insul-8 Corp. Electrical collector assembly. 3,142,368, 7–28–64, Cl. 191—45.

Ronning, Martin, to Archer-Daniels-Midland Co. Roadable wide working-width machine. 3,142,144, 7–28–64, Cl. 56—228.

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Russo, Albert J., Rooney, and Costello. 3,142,819.

Roos, Ernst: *See*—
Freytag, Helmut, Klauke, Wilms, Roos, and George. 3,142,705.

Roosman, William B. Hot line clamp. 3,142,525, 7–28–64, Cl. 339—109.

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Ross, Budd H. Container and cover. 3,142,400, 7–28–64, Cl. 220—24.5.

Ross, William H., to Sperry Rand Corp. Printer and advancing means. 3,142,246, 7–28–64, Cl. 101—76.

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PATENT NOTICE

Department of Commerce
Patent Office
[37 CFR Part 1]

RULES OF PRACTICE IN PATENT CASES

Proposed Interferences

Notice is hereby given that the United States Patent Office proposes to amend certain rules relating to interferences. The amendments are proposed pursuant to the authority contained in Title 35 U.S.C., section 6.

All persons who desire to present their views, objections, recommendations or suggestions in connection with the proposed amendments are invited to do so on or before September 1, 1964, on which day a hearing will be held at 10:00 a.m. in Room 3326B of the Department of Commerce Building. All persons wishing to be heard orally are requested to notify the Commissioner of Patents of their intended appearance.

Some of the proposed changes, necessitated by a recent court decision (In re Dickinson et al., 49 CCPA 951), conform the rules to that decision, and a new rule has been added in the light of that decision, to shorten the time involved in deciding the issue of priority in certain cases.

The text of the proposed amendments are as follows:

Section 1.204(b) of Title 37 CFR (Patent Rule 204(b)) is proposed to be amended by deleting the entire paragraph (b) and replacing it with new paragraphs (b) and (c) reading as follows:

§ 1.204 *Interference with a patent, affidavit by junior party.*

* * * * *

(b) When the effective filing date of an applicant is three months or less subsequent to the effective filing date of a patentee, the applicant, before the interference will be declared, shall file an affidavit that he made the invention in controversy in this country before the effective filing date of the patentee, or that his acts in this country with respect to the invention were sufficient to establish priority of invention relative to the effective filing date of the patentee.

(c) When the effective filing date of an applicant is more than three months subsequent to the effective filing date of the patentee, the applicant, before the interference will be declared, shall file two copies of affidavits by himself and by corroborating witnesses, supported by documentary evidence if available, setting out a factual description of acts and circumstances which would prima facie entitle him to an award of priority relative to the effective filing date of the patentee, and accompanied by an explanation of the basis on which he believes that the facts set forth would overcome the effective filing date of the patentee. This material is considered by the examiner to the extent only of determining whether a date prior to the effective filing date of the patentee is alleged, and if so, the interference is declared; if no such date is alleged, the interference will not be declared.

Section 1.226(a) of Title 37 CFR (Patent Rule 226(a)) is proposed to be amended by deleting from lines 12 and 13 thereof the following language "and affidavits under § 1.204 of the nature specified in § 1.181", so that the new paragraph (a) will read as follows:

§ 1.226 *Notice and access to applications.*

(a) After the preliminary statements have been received and approved, or the time for filing them has expired, the parties will be notified, and given the serial numbers and filing dates of the applications of each adverse party, including any applications which the parties may be entitled to inspect, and the parties will be permitted to see or obtain copies of each other's applications, except copies of affidavits filed under §§ 1.131 and 1.202 which shall be and remain sealed until preliminary statements are opened under § 1.227. The preliminary statements are revealed by an examiner of interferences and shall not be revealed to the opposing parties except as provided in § 1.227.

* * * * *

Section 1.228 is proposed as a new section of Title 37 CFR, and the new section reads as follows:

§ 1.228 *Summary judgment.*

When an interference has been declared on the basis of a showing under § 1.204(c), such showing will be examined by a Board of Patent Interferences. If the Board considers that the facts set out in the showing would not provide sufficient basis for overcoming the effective filing date of the patentee, an order shall be entered after the preliminary statements have been received and approved or the time for filing has expired, pointing out wherein the showing is insufficient and notifying the applicant making such showing that summary judgment will be rendered against him because of such insufficiency at the expiration of a period specified in the notice, not less than thirty days; unless cause be shown why such action should not be taken. Any reasons brought forward during the specified period will be considered by the Board without an oral hearing unless such hearing is requested by the applicant, but additional affidavits or exhibits will not be considered unless accompanied by a showing justifying their omission from the original showing. At the time such order is entered the patentee will be furnished with one of the copies of the showing under § 1.204(c).

Section 1.261 of Title 37 CFR (Patent Rule 261) is proposed to be amended by deleting the present rule, and replacing it with the new rule reading as follows:

§ 1.261 *Termination of interference.*

An interference will be terminated by judgment of priority after final hearing (§§ 1.251 to 1.259), or by judgment on the record as provided by § 1.225 or § 1.252, or by summary judgment because of an insufficient showing under § 1.204(c) as provided by § 1.228, or by dissolution as provided by § 1.233 or § 1.237, or as otherwise provided.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner.

Approved: July 1, 1964.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-6303; Filed, July 8, 1964; 8:46 a.m.]

Published in 29 F.R. 9395, July 9, 1964

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 28, 1964 Volume 804 Number 4

TRADEMARKS

NOTICES

Interviews Involving Trademark Application

Interviews frequently result in a better understanding of the issues involved, shorten the prosecution and facilitate disposal of applications.

Interviews for discussion of registrability of the mark of a pending application will not be had before the first official Office action thereon and ordinarily not before filing the first response. Arrangements for an interview should be made in advance so that the Examiner may review the case and be familiar with the details involved.

Interviews on Friday will no longer be prohibited as a matter of policy but all interviews should be set at a time satisfactory to all parties concerned.

A memorandum summarizing the conclusions reached at the interview should be prepared by the Examiner and placed in the application file. The memorandum will be retained in the application file until the prosecution is completed. Such procedure will not, however, relieve the applicant of the responsibility of complying with the requirements of Trademark Rule 2.62.

HORACE B. FAY, Jr.,
Assistant Commissioner.

July 6, 1964.

This supersedes the notice of February 10, 1958, 729 O.G. (TM 1).

Trademark Suits

Notices under 15 U.S.C. 1116: Trademark Act of July 5, 1946

Reg. No. 143,357 (PURITAN (in script) AND DESIGN), Greenebaum Bros. & Co., Boys' blouses made of cotton, silk, flannel, and the like; **Reg. No. 402,731** (PURITAN in script), I. Jablow & Co., Boys' shirts, pajamas, sports wear, etc.; **Reg. No. 402,732** (PURITAN (in script) AND DESIGN), same; **Reg. No. 433,607** (PURITAN KNITTING MILLS CO. AND DESIGN), The Puritan Knitting Mills Co., Sweaters, scarfs, bathing suits, bathing shirts and bathing trunks; **Reg. No. 557,494** (PURITAN SPORTSWEAR), same, Garments for wear by men, women and children—namely, sweaters, bathing suits, bathing shirts, and bathing trunks; **Reg. No. 704,001** (VIVA FREDDI! BRAVO PURITAN), The Puritan Sportswear Corp., Sports shirts, swim trunks, and beach coats; **Reg. No. 707,222** (PURITAN MATES (in script) AND DESIGN), same, Girls' and ladies', boys' and men's shirts, walk shorts, swimwear, etc.; **Reg. No. 727,738** (PRINCESS PURITAN (in script) AND DESIGN), same, Girls' and ladies' shirts, walk shorts, swimwear, etc.; **Reg. No. 727,739** (LADY PURITAN (in script) AND DESIGN), same, **filed Feb. 24, 1964, D.C., S.D.N.Y., Doc. 64/575, *The Puritan Sportswear Corporation* v. *Puritan Fashions Corporation et ano.***

Reg. No. 201,604 (CADILLAC), General Motors Corporation, Automobiles; **Reg. No. 201,706** (DESIGN OF CADILLAC CREST), same, **filed Feb. 12, 1957, D.C., W.D. Mich. (Grand Rapids), Doc. 3176, *General Motors Corporation* v. *Cadillac Marine & Boat Co.*** Defendant enjoined; complaint dismissed Jan. 20, 1964.

Reg. No. 201,706. (See Reg. No. 201,604.)

Reg. No. 208,668 (BURROUGH'S BEEFEATER DISTILLED LONDON DRY GIN AND DESIGN), James Burrough Limited, Gin; **Reg. No. 678,008** (BEEFEATER), same, **filed Jan. 11, 1963, D.C., District of Columbia, Doc. 114–63, *James Burrough, Ltd. et al. v. Beefeaters Restaurant, Inc. et al.*** Consent final decree; defendants enjoined Jan. 3, 1964.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,244
Date of oldest new application	Oct. 7, 1963
Date of oldest amended application	Sept. 3, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	11-26-63	11-12-63
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 37, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	10-7-63	9-3-63
Renewals (All Classes)	5-5-64	5-30-64
Sec. 12 (c) Publications (All Classes)	5-4-64	

Applications filed during the month of May 1964—2,192

Registrations Issued	418	No. 773,892 to No. 774,309
Renewals Issued	60	

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Reg. No. 394,749 (PETERSON), Harry L. Rogers, Pipes and cigar and cigarette holders, **filed** June 20, 1961, D.C., S.D.N.Y., Doc. 61/2185, *Kapp & Peterson, Limited* v. *Peterson's Ltd., Incorporated et ano.* Consent decree; defendants enjoined Feb. 19, 1964.

Reg. No. 344,958 (ROTO-ROOTER), Roto-Rooter Corporation, Sewer and drain cleaning machines; **Reg. No. 507,721,** same, Municipal, industrial, and domestic sewer, drain, and pipe cleaning service, **filed** Feb. 13, 1964, D.C., W.D. Okla. (Oklahoma City), Doc. 64–59, *Roto-Rooter Corporation* v. *L. K. Flanagan.*

Reg. No. 402,751. (See Reg. No. 143,357.)

Reg. No. 402,752. (See Reg. No. 143,357.)

Reg. No. 403,279 (FURACIN), The Norwich Pharmacal Company, Antiseptics and germicides; **Reg. No. 441,715,** same, Eaton Laboratories, Inc., Antibacterial preparations; **2,416,234,** Stillman and Scott, SERIES OF NITROFURAN COMPOUNDS, **filed** Feb. 17, 1964, D.C., E.D. Mo. (St. Louis), Doc. 64C 74(1), *The Norwich Pharmacal Co.* v. *Blue Line Chemical Co., Inc.*

Reg. No. 407,813 (DAN RIVER), Riverside & Dan River Cotton Mills, Inc., Cotton plaids and checks in the piece or in cut lengths, cotton sheetings, sheets, etc.; **Reg. No. 420,382** (DANSPORT), same, Piece goods of cotton, rayon, wool or mixtures thereof; **Reg. No. 422,463** (IT'S A DAN RIVER FABRIC), Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Incorporated, Men's shirts, shorts, and pajamas, and women's and children's dresses, blouses, shirts, etc.; **Reg. No. 420,158** (DANSHEEN), same, Piece goods of cotton, rayon, or mixtures thereof, **filed** Nov. 13, 1963, D.C., S.D.N.Y., Doc. 63/3318, *Dan-skin, Inc.* v. *Dan River Mills, Inc.* Stipulation and order of dismissal Feb. 14, 1964.

Reg. No. 420,382. (See Reg. No. 407,813.)

Reg. No. 422,463. (See Reg. No. 407,813.)

Reg. No. 422,407. (See Reg. No. 143,357.)

Reg. No. 435,900 (JUJYFRUITS), Henry Heide, Incorporated, Candy; **Reg. No. 635,067** (JUJUBES), same, Gum candies, **filed** June 6, 1957, D.C., E.D. Wis. (Milwaukee), Doc. 57–C–130, *Henry Heide, Inc.* v. *George Ziegler Company.* Reg. No. 435,900 held valid and infringed; Reg. No. 635,067 should be cancelled and held not infringed May 4, 1964.

Reg. No. 439,158. (See Reg. No. 407,813.)

Reg. No. 441,715. (See Reg. No. 403,279.)

Reg. No. 444,291 (HIS EXCELLENCY), Rawlings International, Inc., Men's toiletries—namely, after-shave lotion, talcum powder, and men's cologne; **Reg. No. 535,141,** same, Shave soap, solidified shave-cream, lather shave-cream, and brushless shave-cream, **filed** Aug. 27, 1963, D.C. Oreg. (Portland), Doc. 63–411, *The House for Men, Inc.* v. *Groomwell Co.* Order of dismissal without prejudice on motion and stipulation Feb. 5, 1964.

Reg. No. 522,630 (GEHL), Gehl Bros. Manufacturing Co., Silo fillers, ensilage cutters, hammer mills, and forage harvesters, **filed** Feb. 18, 1964, D.C., E.D. Wis. (Milwaukee), Doc. 64–C–51, *Gehl Bros. Manufacturing Company* v. *Fleet Wholesale Supply Co., Inc.*

Reg. No. 533,033 (TILLAMOOK), Tillamook County Creamery Association, Cheese and butter, **filed** Feb. 14, 1964, D.C. Oreg. (Portland), Doc. 64–77, *Tillamook County Creamery Association* v. *Tillamook Cheese and Dairy Association.*

Reg. No. 535,141. (See Reg. No. 144,291.)

Reg. No. 543,924 (DESIGN OF PENCIL), A. T. Cross Pencil Company, Mechanical pencils, **filed** Apr. 9, 1963, D.C., S.D.N.Y., Doc. 63/1009, *A. T. Cross Company* v. *Nathan Berg et al.* Final consent judgment; defendants enjoined; complaint dismissed Jan. 31, 1964.

Reg. No. 554,043 (CYNTHIA OF HAYMAKER), David Crystal, Inc., Ladies' dresses, skirts, suits, blouses; **Reg. No. 636,224** (HAY JR.), Haymaker Sports, Inc., Ladies', misses' and juniors' dresses, suits, skirts, blouses, pedal-pushers, shorts; **Reg. No. 636,225** (HEY JR.), same; **Reg. No. 715,160** (CHARLES OF HAYMAKER), David Crystal, Inc., Ladies' and misses' dresses, skirts, coats, dress and jacket ensembles, suits, blouses, etc.; **Reg. No. 715,161** (HAYMAKER in script), Haymaker Sports, Inc., Women's outer shirts, skirts, blouses, outer shorts, etc.; **Reg. No. 715,162** (HAYETTE), same, Junior misses' and women's dresses, **filed** July 30, 1963, D.C., E.D. Pa. (Philadelphia), Doc. 23904, *Haymaker Sports, Inc.* v. *E. J. Korvette, Incorporated.* Stipulation of dismissal with prjudice Feb. 17, 1964.

Reg. No. 554,811 (DACRON), E. I. du Pont de Nemours and Company, Synthetic polyester fibers for generalized use in the industrial arts; **Reg. No. 555,055,** same, Yarns of synthetic fibers, **filed** Nov. 20, 1963, D.C., S.D.N.Y., Doc. 63/3207, *E. I. du Pont de Nemours & Co.* v. *Alexander's Department Stores, Inc.* Cause dismissed Feb. 11, 1964. Same, **filed** Apr. 27, 1964, D.C., S.D.N.Y., Doc. 64/1284, *E. I. du Pont de Nemours & Co.* v. *Bud Berman Sportswear, Inc. et ano.* Consent judgment; defendants enjoined May 26, 1964.

Reg. No. 555,055. (See Reg. No. 554,811.)

Reg. No. 564,170 (COVERMARK), Lydia O'Leary, Inc., Cosmetic for obliterating birthmarks and other skin blemishes, **filed** July 24, 1961, D.C., S.D.N.Y., Doc. 61/2597, *Lydia O'Leary, Inc.* v. *Helena Rubinstein, Inc.* Stipulation and order of dismissal Feb. 3, 1964.

Reg. No. 587,494. (See Reg. No. 143,357.)

Reg. No. 592,331 (MANPOWER), Manpower, Inc., Furnishing of its employees on a contract basis to persons or places of business requiring part-time or temporary help, including stenographers, typists, office and factory workers, etc.; **Reg. No. 596,928** (MI MANPOWER, INC. AND DESIGN), same; **Reg. No. 672,365** (MANPOWER), same; **Reg. No. 749,437,** same, Newsletter, **filed** Feb. 5, 1964, D.C., E.D.N.Y., (Brooklyn), Doc. 64C–129, *Manpower, Inc.* v. *Professional Manpower Associates, Inc.*

Reg. No. 595,295 (WALESKOOL in script), Wales Manufacturing Company, Men's summer suits; **Reg. No. 597,940** (WALES (in script) OF BOSTON), same, Water repellent and waterproof men's topcoats; **Reg. No. 714,442** (WALES WEATHERPROOFS (in script) AND DESIGN), same, Men's raincoats, rain hats and rain jackets, **filed** Feb. 28, 1963, D.C., W.D.N.C. (Charlotte), Doc. 1748, *Wales Manufacturing Company* v. *Wales Manufacturing Co., Inc.* Action dismissed with prejudice Jan. 28, 1964.

Reg. No. 596,928. (See Reg. No. 592,331.)

Reg. No. 597,721. (See Reg. No. 344,958.)

Reg. No. 597,940. (See Reg. No. 595,295.)

Reg. No. 606,382 (FORMULABS), Formulabs, Inc., Inks, **filed** Feb. 3, 1964, D.C.N.J. (Newark), Doc. 100–64, *Formulabs, Incorporated* v. *Louis A. Amy Co., Inc.*

Reg. No. 635,067. (See Reg. No. 435,900.)

Reg. No. 636,224. (See Reg. No. 554,042.)

Reg. No. 636,225. (See Reg. No. 554,042.)

Reg. No. 639,231 (LAFAYETTE), The Lafayette Brass Manufacturing Co., Inc., Lawn sprinklers, hose nozzles, hose valves, hose couplings and connections, water filter strainers, etc.; **Reg. No. 639,232** (LAFAYETTE AND DESIGN), same, **filed** Feb. 6, 1964, D.C., S.D.N.Y., Doc. 64/413, *Lafayette Radio Electronics Corporation* v. *Lafayette Brass Company, Inc.*

Reg. No. 639,232. (See Reg. No. 639,231.)

Reg. No. 643,740 (MATCH BOX SERIES AND DESIGN), J. Kohnstam, Ltd., Toy model vehicles and toy model machines, **filed** Feb. 20, 1964, D.C., S.D.N.Y., Doc. 64/558, *Lesney Products & Co., Limited* v. *R. Shackman & Co.*

Reg. No. 645,211 (SAFEWAY), Safeway Stores, Incorporated, Meats and poultry—namely, fresh, cured, and cooked meat and luncheon meats and fresh and frozen fowl; **Reg. No. 721,716,** same, Retail grocery services, **filed** Feb. 3, 1964, D.C., W.D.N.C. (Charlotte), Doc. 1867, *Safeway Stores, Inc.* v. *Harris-Teeter Super Markets, Inc.* Case dismissed Apr. 9, 1964.

Reg. No. 672,365. (See Reg. No. 592,331.)

Reg. No. 678,680. (See Reg. No. 309,053.)

Reg. No. 704,601. (See Reg. No. 143,357.)

Reg. No. 707,832. (See Reg. No. 143,357.)

Reg. No. 714,442. (See Reg. No. 595,295.)

Reg. No. 715,160. (See Reg. No. 554,042.)

Reg. No. 715,161. (See Reg. No. 554,042.)

Reg. No. 715,162. (See Reg. No. 554,042.)

Reg. No. 721,716. (See Reg. No. 645,211.)

Reg. No. 727,738. (See Reg. No. 143,357.)

Reg. No. 727,739. (See Reg. No. 143,357.)

Reg. No. 749,437. (See Reg. No. 592,331.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

8N 170,419. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed June 5, 1963.

BETA

For Textile Glass Fibers.
First use April 1963.

8N 180,637. The Atlantic Refining Company, Philadelphia, Pa. Filed Nov. 7, 1963.

BI-POLY

For Polymeric Material in Film and Sheet Form.
First use Aug. 20, 1963.

8N 184,446. The Dow Chemical Company, Midland, Mich. Filed Jan. 13, 1964.

ANAVOR

For Synthetic Filaments.
First use Nov. 18, 1963.

Class 2—Receptacles

8N 124,682. William S. Schneider, d.b.a. The William Steven Company, Los Angeles, Calif. Filed July 25, 1961.

insta MIX pak

The words "Mix" and "Pak" are hereby disclaimed apart from the mark as shown.

For Multiple-Compartment Containers Made From a Thin, Flexible Web of Synthetic or Laminated Sheet Material and Filled With Liquids, Powders, or Other Fluent Substances To Be Mixed Together Within the Container.
First use on or about Apr. 3, 1961.

8N 139,111. Manhattan Container Corporation, Hazel Park, Mich. Filed Mar. 5, 1962.

Nu-Kegg

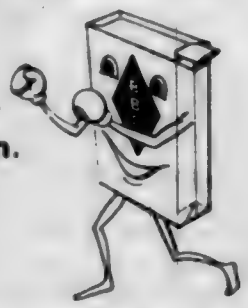
For Cartons of Folded Corrugated Sheet Material.
First use on or about July 1, 1961.

8N 140,982. Reynolds Metals Company, Richmond, Va. Filed Mar. 28, 1962.

FOILCLAD

For Spirally Wound Composite Cans.
First use on or about Mar. 16, 1962.

8N 155,128. Bancroft Bag Factory, Inc., West Monroe, La. Filed Oct. 15, 1962.



No claim is made for the word "Champion" apart from the mark shown.

For Valve Bags.
First use July 25, 1962.

8N 163,539. Euromarket Designs, Inc., Chicago, Ill. Filed Feb. 27, 1963.



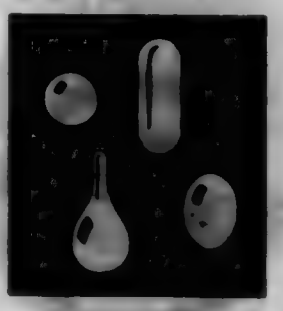
For Plates, Saucers, Cups, Knives, Forks, Spoons, Glasses, Barrels, Candlestick Holders, Serving Trays, Vases, Pans, and Bowls Made of Plastic or Wood.
First use Dec. 1, 1962.

8N 171,161. Molded Fiber Glass Body Company, Linesville, Pa. Filed June 17, 1963.

MFG THERMO-LINEAR

For Boxes, Bins, and Cases for Industrial Use.
First use Nov. 15, 1962.

8N 174,612. R. P. Scherer Corporation, Detroit, Mich. Filed Aug. 7, 1963.



The mark consists of four different highlighted geometric capsule shapes arranged on a rectangular background. Applicant disclaims any of the geometric capsule shapes individually. Owner of Reg. No. 753,489.

For Soft Gelatin Capsules for Use in Packaging Liquid Products of All Kinds.
First use Feb. 22, 1960.

SN 174,973. Meal Caddy, Inc., Secaucus, N.J. Filed Aug. 13, 1963.

TEMP-LOCK

For Insulated Plastic Dishes and Like Containers for the Serving and Storage of Hot or Cold Foods.
First use Aug. 6, 1963.

SN 177,707. Donjim Enterprises, Inc., Plainview, Tex., assignee of Litter Maid of America, Inc., Hereford, Tex. Filed Sept. 25, 1963.



Applicant disclaims the terms "Litter" and "America," and the representation of the map of the United States apart from the mark as shown. The drawing is lined for the colors red and blue, but no claim is made to color.
For Closed Containers for Refuse.
First use Mar. 15, 1962.

SN 183,112. Rubbermaid Incorporated, Wooster, Ohio. Filed Dec. 16, 1963.

CORONADO

For Automobile Wastebaskets.
First use May 1, 1959.

SN 183,233. Tri-Wall Containers, Inc., Plainview, N.Y. Filed Dec. 18, 1963.

TRI-WALL KING-PAK

Owner of Reg. No. 634,035.
For Cartons Made From Corrugated Paperboard.
First use May 1958.

SN 183,913. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Jan. 2, 1964.

SAF-T-PAK

For Folding Cartons for Packaging of Eggs.
First use Dec. 14, 1963.

SN 184,050. Fort Howard Paper Company, Green Bay, Wis. Filed Jan. 6, 1964.



Owner of Reg. No. 653,002.
For Containers for Paper Towels, Paper Wipers, Toilet Tissue and Paper Napkins.
First use July 1960.

SN 184,881. Boise Cascade Corporation, d.b.a. Boise Cascade Container, Wallula, Wash. Filed Jan. 20, 1964.

INSPECTO FLAP

No claim is made to the word "Flap" apart from the mark as shown.
For Corrugated Fiberboard Shipping Containers or Cartons.
First use Nov. 19, 1962.

SN 186,286. Standard-Thomson Corporation, Waltham, Mass. Filed Feb. 7, 1964.

STAT-RAK

For Cardboard or Paperboard Support Member for Merchandise for Counter or Display Use and Particularly Adapted for Support of Thermostatic Devices.
First use in August 1963.

SN 187,052. Vichek Plastics Company, Middlefield, Ohio. Filed Feb. 19, 1964.

VLCHEK

Owner of Reg. No. 528,105.
For Boxes, Trays, and Chests, Including Transparent and/or Compartmented Tackle Boxes, Tool Boxes, Tray Boxes, and Tray Chests, and Also Floral Spray Holders, Center-Pieces, Flower Arrangers, and Bowls, Vases, and Funnels, All Made of Plastic.
First use Dec. 20, 1946.

SN 187,053. Vichek Plastics Company, Middlefield, Ohio. Filed Feb. 19, 1964.



For Boxes, Storage Boxes, Watertight Boxes, Plastic Molded and/or Compartmented Boxes, and Chests.
First use Aug. 4, 1962.

SN 187,054. Vichek Plastics Company, Middlefield, Ohio. Filed Feb. 19, 1964.



No claim is made to the word "Plastics" apart from the mark as shown. Owner of Reg. No. 528,105.
For Boxes, Trays, and Chests, Including Transparent and/or Compartmented Tackle Boxes, Tool Boxes, Tray Boxes, and Tray Chests, and Also Floral Spray Holders, Center-Pieces, Flower Arrangers, and Bowls, Vases, and Funnels, All Made of Plastic.
First use Mar. 30, 1962.

SN 188,243. Inland Container Corporation, Indianapolis, Ind. Filed Mar. 9, 1964.

fmp

For Shipping Containers for Shipping Milk, the Containers Being Formed of Fibreboard, and Liners Therefor.
First use Jan. 9, 1964.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 150,806. Belk Stores Services, Inc., Charlotte, N.C. Filed Dec. 27, 1962.

Archdale

Owner of Reg. Nos. 379,734, 583,058, and others.
For Wallets.
First use Sept. 1, 1961.

Class 4—Abrasives and Polishing Materials

SN 150,875. S. C. Johnson & Son, Inc., Racine, Wis. Filed Aug. 9, 1962.

TRAFFIC GRADE

For Floor Polish.
First use in or about November 1961.

Class 5—Adhesives

SN 186,760. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Feb. 14, 1964.

PPG

For Adhesives for General Use in the Industrial Arts.
First use at least as early as June 4, 1962.

SN 187,718. Beagle Manufacturing Co., Inc., Pasadena, Calif. Filed Mar. 2, 1964.

GARDEN CLUB

For Adhesives for Attaching, Anchoring, Sealing, Hanging, Holding, Splicing All Kinds of Material, Particularly Artificial Flower Arranging Adhesives.
First use June 15, 1958.

SN 187,858. Cox Tire Machinery Co., Inc., Charlotte, N.C. Filed Mar. 3, 1964.

CHEM Seal

For Tubeless Tire Sealant.
First use Feb. 25, 1964.

Class 6—Chemicals and Chemical Compositions

SN 171,101. Diamond Alkali Company, Cleveland, Ohio. Filed June 17, 1963.

NUCHROME

For Leather Tanning Chemicals.
First use in 1956.

SN 171,143. Industrial Biochemicals, Inc., Edison, N.J. Filed June 17, 1963.

TYMET

For Sequestering and Chelating Agents.
First use Mar. 1, 1963.

SN 173,114. Lumin Chemical Company, Wilson, N.C. Filed July 16, 1963.

LUMINFOAM

For Chemical Compositions Useful as Thickeners, Emulsifiers, and Foam Boosters in Detergent Compositions.
First use Oct. 2, 1961.

SN 173,116. Lumin Chemical Company, Wilson, N.C. Filed July 16, 1963.

LUMINAR

For Chemical Compositions Useful as a Complexing Material With Quaternary Compounds—Namely, for Improving Mildness of Shampoo and Skin Detergent Compositions.
First use Oct. 2, 1961.

SN 175,866. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Aug. 27, 1963.

MYCOZYME

For Enzyme Preparation for Use in Brewing Processes.
First use during the year 1945.

SN 176,800. Imperial Type Metal Company, Philadelphia, Pa. Filed Sept. 12, 1963.

VITACOLD

Owner of Reg. Nos. 290,722, 716,614, and others.
For Methyl Alcohol Solution of Methyl Violet Dye Used To Develop the Photographic Image Formed on a Photoengraving Plate by a Light Sensitive Cold Top.
First use July 20, 1959.

SN 176,802. Imperial Type Metal Company, Philadelphia, Pa. Filed Sept. 12, 1963.

VITACOLD

Owner of Reg. Nos. 290,722, 716,614, and others.
For Water Solution of Shellac and Ammonium Dichromate With Other Ammonium Compounds Added, Applied to a Sheet of Photoengraving Metal as a Liquid and Is Dried.
First use July 1, 1959.

SN 176,804. Imperial Type Metal Company, Philadelphia, Pa. Filed Sept. 12, 1963.

VITACOAT

Owner of Reg. Nos. 290,722, 716,614, and others.
For Water Solution of Methyl Violet Dye Used To Develop the Photographic Image Formed on a Photoengraving Plate.
First use July 7, 1959.

SN 176,805. Imperial Type Metal Company, Philadelphia, Pa. Filed Sept. 12, 1963.

VITACOAT

Owner of Reg. Nos. 290,722, 716,614, and others.

For Solution of Chromic Acid Into Which a Photoengraving Plate Is Immersed After the Plate Has Been Coated With a Light Sensitive Material.

First use July 7, 1939.

SN 179,328. The Dow Chemical Company, Midland, Mich. Filed Oct. 18, 1963.

DOWELL

Owner of Reg. Nos. 650,743, 709,882, and others.

For Chemicals and Chemical Compositions Useful in Wells and Underground Earth Formations and in the Treatment of equipment and Storage Facilities.

First use 1932.

SN 179,490. Walker Manufacturing Company, Racine, Wis. Filed Oct. 21, 1963.

Super KWICK

For Solvent Used as a Rust Inhibitor for Automobile Radiators and the Like.

First use June 12, 1946.

SN 180,029. Shell Oil Company, New York, N.Y. Filed Oct. 29, 1963.

SHELLCOR

For Leather Treating Fluid Used as Lubricants and Waterproofants for Chrome Tanned Leather and Are Applied in the Upper Tannery (e.g., at Some Point in the Treatment of Leather After Chrome Tanning but Before Finishing).

First use Oct. 10, 1963.

SN 181,027. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Nov. 13, 1963.

SIRIOGEN

Owner of German Reg. Nos. 757,182, dated Jan. 19, 1962; 775,677, dated July 19, 1963; and U.S. Reg. No. 599,527.

For Dyestuffs and Textile Auxiliaries To Improve Moisture Resistance of Dyeings.

SN 183,001. Crowley Hydrocarbon Chemicals, Inc., New York, N.Y. Filed Dec. 13, 1963.

FLO-AID

For Anti-Caking Agent of Hydrocarbon Origin To Prevent Caking of Fertilizers and Other Granular Products.

First use July 9, 1953.

Class 8 — Smokers' Artides, Not Including Tobacco Products

SN 176,979. Waltham Watch Company, Chicago, Ill. Filed Sept. 13, 1963.

WALTHAM

Owner of Reg. No. 696,608.

For Butane Cigarette Lighters.

First use Sept. 6, 1963.

Class 10 — Fertilizers

SN 188,062. Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. Filed Mar. 18, 1964.

PRO-GREEN

For Turf Fertilizer.

First use Feb. 19, 1964.

SN 189,450. The Eagle-Picher Company, Cincinnati, Ohio. Filed Mar. 24, 1964.

IRN-GRO

For Fertilizer.

First use Feb. 24, 1964.

SN 189,451. The Eagle-Picher Company, Cincinnati, Ohio. Filed Mar. 24, 1964.

IRON-GRO

For Fertilizer.

First use Feb. 24, 1964.

SN 189,569. The Farm Bureau Cooperative Association, Inc., Columbus, Ohio. Filed Mar. 25, 1964.

CITATION

For Lawn Fertilizer.

First use Feb. 24, 1964.

Class 12 — Construction Materials

SN 170,161. Bernstein Bros., Inc., Pueblo, Colo. Filed June 3, 1963.

KWIK-KORRAL

For Portable Corral Sections.

First use May 25, 1963.

SN 181,603. American Cyanamid Company, Wayne, N.J. Filed Nov. 21, 1963.

ROC-LOC

For Combination of a Resin and Catalyst for Use in Securing Bolts in Rock.

First use September 1963.

SN 184,313. Sonoco Products Company, Hartsville, S.C. Filed Jan. 9, 1964.

SONOCO

For Pitch Impregnated Fibre Pipe, Fibre Tubes for Use as Poured Concrete Column Forms, Fibre Tubes for Use as Voids in Cast Concrete Structures and Forms for Cast Concrete Structures.

First use Jan. 2, 1964.

SN 184,814. Sonoco Products Company, Hartsville, S.C. Filed Jan. 9, 1964.



For Pitch Impregnated Fibre Pipe, Fibre Tubes for Use as Poured Concrete Column Forms, Fibre Tubes for Use as Voids in Cast Concrete Structures and Forms for Cast Concrete Structures.
First use Jan. 2, 1964.

SN 185,606. Kemlite Corporation, Joliet, Ill. Filed Jan. 29, 1964.



For Glass Fiber Reinforced Plastic Panels.
First use Dec. 16, 1963.

SN 185,844. Alabama Metal Industries Corporation, Birmingham, Ala. Filed Feb. 3, 1964.

AMICO

For Metal Lath, Expanded Metal and Roof Drainage Equipment.
First use July 10, 1962.

SN 186,422. Weyerhaeuser Company, Tacoma, Wash. Filed Feb. 10, 1964.

THRIFTLINE

For Hardwood Paneling.
First use Dec. 27, 1963.

SN 186,627. E. J. Lavino and Company, Philadelphia, Pa. Filed Feb. 13, 1964.

ERECTAB

Owner of Reg. No. 606,622.
For Refractory Brick With Suspension Means for Installation in Furnace Structures.
First use Dec. 1, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 165,057. K & E Industries, Inc., Wichita, Kans. Filed Mar. 20, 1963.

LITENIN LINE

The word "Line" is disclaimed apart from the mark as shown.
For Rig Line Pipe, Specifically Pipe Having Coupling Members on Ends Thereof Adapted for Repetitive, Easy Connection and Disconnection Suited for Temporary Installation in Connection With Portable Oil Field Drilling Rigs.
First use Feb. 4, 1963.

SN 170,486. Mohawk Precision Corporation, Schenectady, N.Y. Filed June 5, 1963.

HANGIT

For Wall Mounted Fixtures for Temporary Retention and Display of Papers, Graphs, Charts or Other Flexible Sheet Material.
First use Jan. 29, 1963.

SN 171,271. National Lock Co., Rockford, Ill. Filed June 18, 1963.

HALF HOOD

For Casters.
First use May 27, 1963.

SN 179,029. Essex Wire Corporation, Fort Wayne, Ind. Filed Oct. 15, 1963.

PRECISION-GRIP

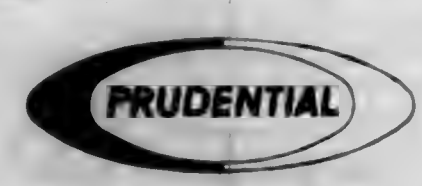
For Fittings for Metal and Plastic Tubing.
First use Sept. 10, 1963.

SN 181,622. Essex Wire Corporation, d.b.a. Precision Fittings, Inc., Fort Wayne, Ind. Filed Nov. 21, 1963.

E-Z PLUMB

For Metal Pipe and Pipe Fittings for Connecting Plumbing Faucets and Water Closets to a Source of Water.
First use Nov. 6, 1963.

SN 184,455. Ekco Products Company, Chicago, Ill. Filed Jan. 13, 1964.



Owner of Reg. Nos. 659,508 and 752,783.
For Non-Electrical Cookware—Namely, Percolators, Dutch Ovens, Skillets, Sauce Pans, Sauce Pots, Kettles, Double Boilers, Mixing Bowls, Egg Poachers, and Steamers.
First use on or about Nov. 15, 1962.

SN 184,939. Market Forge Company, Everett, Mass. Filed Jan. 20, 1964.

JET STEAM-IT

Owner of Reg. Nos. 345,771 and 641,628.
For Institutional Gas, Electric or Direct Steam Pressure Cookers.
First use Nov. 15, 1962.

SN 185,039. ITT General Controls Inc., Glendale, Calif. Filed Jan. 21, 1964.

MEGAFLO

For Valves To Control the Flow of Fluids.
First use Nov. 20, 1963.

SN 186,721. Halkey-Roberts Corporation, Paramus, N.J. Filed Feb. 14, 1964.

ORAL-MATIC

For Fluid Valves.
First use on or about Nov. 1, 1963.

SN 186,916. Wagner Industrial Products Company, Inc., Milwaukee, Wis. Filed Feb. 17, 1964.

wip

For Casters and Wheels.
First use Sept. 27, 1963.

Class 14—Metals and Metal Castings and Forgings

SN 173,347. Eastern Stainless Steel Corporation, Baltimore, Md. Filed July 19, 1963.

SATINBLEND

Owner of Reg. Nos. 430,220 and 620,236.
For Surface Finish Applied to Stainless Steel Sheets.
First use Apr. 10, 1963.

SN 185,426. Latronics Corporation, Latrobe, Pa. Filed Jan. 27, 1964.

SEALLOY

For Alloys for Effecting Vacuum and Pressure-Tight Seals Between Metals and Glass or Ceramics and Other Purposes.
First use Oct. 31, 1963.

SN 185,849. American Type Founders Co., Inc., Elizabeth, N.J. Filed Jan. 31, 1964.

TYPE DIVISION atf

No claim is made to the words "Type Division" apart from the mark as shown. Owner of Reg. Nos. 347,556, 688,242, and others.
For Printers' Type.
First use Jan. 1, 1963.

SN 186,034. Vanadium-Alloys Steel Company, Latrobe, Pa. Filed Feb. 4, 1964.

VASCO 1741

Owner of Reg. Nos. 81,928, 747,470, and others.
For Tool Steel in All Forms, Including Billets, Bars, Rods, Sheets, Wire, Forgings, and Special Shapes; for Use in Both Structural and Tooling Applications.
First use Dec. 8, 1962.

Class 15—Oils and Greases

SN 172,976. Corn Belt Products Co., Inc., Omaha, Nebr. Filed July 15, 1963.

VIKING

For Lubricating Grease and Oil.
First use Sept. 28, 1962.

SN 184,660. Southwest Grease & Oil Co., Inc., Wichita, Kans. Filed Jan. 15, 1964.

POLY PLATE A.S.

For Lubricating Greases.
First use Dec. 13, 1963.

SN 186,847. Halo Sales Corporation, San Francisco, Calif. Filed Feb. 17, 1964.

MARDI GRAS

For Candles.
First use Jan. 5, 1964.

Class 16—Protective and Decorative Coatings

SN 154,055. Ply-O-Glas Company of America, Great Neck, N.Y. Filed Sept. 27, 1962.

PLY-O-GLAS

For Rubber Base Pigmented and Non-Pigmented Coating Compositions for Forming Elastic Waterproof Films on Preformed Surfaces Such as Roofs and the Like.
First use Oct. 1, 1961.

SN 154,483. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 4, 1962.

TRICLENE

Owner of Reg. Nos. 294,535 and 527,810.
For Phosphatizing Solution To Produce Phosphate Coatings on Metal Surfaces and To Protect Metal in Storage and To Give Improved Substrates to Subsequent Painting.
First use May 16, 1962.

SN 164,606. Continental Coatings Corporation, New York, N.Y. Filed Mar. 14, 1963.

STEELSAVER 449

Owner of Reg. No. 724,400.
For Aluminum Vinyl Primer for Wood, Metal, and Masonry.
First use July 26, 1962.

SN 171,433. Corrosion Reaction Consultants, Inc., Philadelphia, Pa. Filed June 20, 1963.

VINYL HIDE

For Vinyl Coating Solution for Protecting Metals Against Corrosion, Masonry Against Erosion, Wood Against Weathering and Surfaces Against the Vapors.
First use Jan. 31, 1962.

SN 173,589. Nelio Chemicals, Inc., Jacksonville, Fla. Filed July 23, 1963.

NELIO

Owner of Reg. Nos. 349,941, 518,462, and 518,752.
For House Paint, and Turpentine Sold as a Paint Thinner.
First use Aug. 17, 1934, on turpentine.

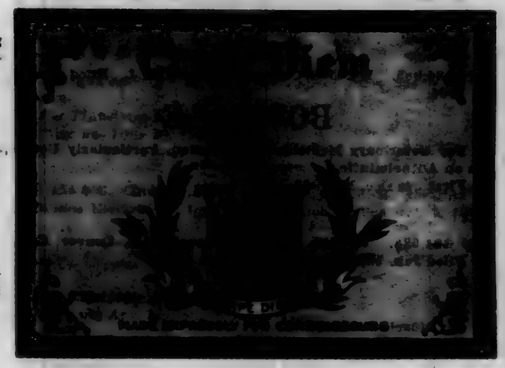
SN 178,880. Teleflex Incorporated, North Wales, Pa. Filed Oct. 14, 1963.

SERMETEL

For Liquid Slurry Compositions for Coating Turbine and Rocket Engines and Parts, Automobile Vehicle Parts, and Other Articles of Manufacture To Impart Heat Resistance, Corrosion Resistance, and Other Special Surface Characteristics.
First use Sept. 12, 1963.

Class 17—Tobacco Products

SN 144,065. Garcia y Vega, Inc., New York, N.Y. Filed May 8, 1962.



The Latin phrase "Carpe Diem" means "seize the day" or "make the most of the day." The phrase "Made Expressly for Connoisseurs" is disclaimed apart from the mark as shown.
For Cigars.
First use in or about 1920.

Class 18—Medicines and Pharmaceutical Preparations

SN 152,778. E.E. Medicine Company, Greenville, S.C. Filed Sept. 10, 1962.

EE DOUBLE EASE

For Medicinal Preparation in Powder Form for Simple Headache and Neuralgia.
First use Sept. 1, 1931.

SN 157,969. Burnbalm, Inc., Boca Raton, Fla. Filed Nov. 27, 1962.

Burnbalm

For Cream for the Relief of Burns, Skin Irritations, Itching, Chafing, and Insect Bites.
First use May 25, 1934.

SN 178,245. American Cyanamid Company, Wayne, N.J. Filed Oct. 2, 1963.

FORMULA C-20X

The word "Formula" is disclaimed apart from the mark as shown.
For Vitamin Preparation for Veterinary Use.
First use Sept. 24, 1963.

SN 184,085. Merck & Co., Inc., Rahway, N.J. Filed Jan. 6, 1964.

BOVIZOLE

For Veterinary Medicinal Preparation, Particularly Useful as an Anthelmintic.
First use Dec. 16, 1963.

SN 184,538. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

WESTRAN

For Muscle Relaxant.
First use April 1960.

SN 184,539. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

PEPSOCOLL

For Digestant Preparation.
First use May 1940.

SN 184,540. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

THYRODIG

For Thyroid Preparation.
First use January 1941.

SN 184,553. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

TRI-TABS

For Appetite Depressant.
First use April 1958.

SN 185,834. The Wellcome Foundation, Ltd., London, England. Filed Jan. 31, 1964.

MARBORAN

Owner of British Reg. No. 748,042, dated Nov. 15, 1955.
For Pharmaceutical Preparations for Antiviral Use.

SN 188,515. C & C Research Products, Inc., Philadelphia, Pa. Filed Mar. 12, 1964.

STIMUNAIL

For Vitamin Preparation Which Tends To Promote Nail Growth in Humans.
First use Sept. 1, 1962.

SN 190,162. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 2, 1964.

SYMMETREL

For Antiviral Agent.
First use Mar. 17, 1964.

SN 190,364. Fuller Pharmaceutical Company, Minneapolis, Minn. Filed Apr. 6, 1964.

FULLER

For Medicated Pads and Ointments for Treating Skin, Membranes, and Tissues.
First use Feb. 5, 1948.

Class 19—Vehicles

SN 105,207. Kurt Reiss, Toronto, Ontario, Canada. Filed Aug. 15, 1960.

AMERICL POWER

Priority claimed under Sec. 44(d) on Canadian application filed Aug. 13, 1960; Reg. No. 133,938, dated Dec. 27, 1963.
For Motor Driven Vehicles—Namely, Passenger Automobiles, Motor and Battery Driven Trucks, and Motorcycles.

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Shuttle Cars, Electrical and Diesel Driven.
First use Jan. 4, 1963.

SN 174,012. Clark Equipment Company, Buchanan, Mich. Filed July 30, 1963.

Cortez

For Motor Homes.
First use June 11, 1963.

SN 174,326. Atlas International Company, Chicago, Ill. Filed Aug. 5, 1963.

2 STAR

For Convertible Tops for Automotive Vehicles.
First use in 1953.

SN 183,113. Rubbermaid Incorporated, Wooster, Ohio. Filed Dec. 16, 1963.

CORONADO

For Rubber or Vinyl Composition Automobile Floor Mats.
First use Feb. 15, 1959.

SN 183,113. Rubbermaid Incorporated, Wooster, Ohio. Filed Dec. 16, 1963.

KRYSTALINER

For Vinyl Automobile Floor Mats.
First use Apr. 23, 1963.

SN 186,736. Market Forge Company, Everett, Mass. Filed Feb. 14, 1964.

STOW-A-BELT

For Reels for Retracting Automobile Seat Belts.
First use October 1963.

SN 186,831. The Fairbanks Company, New York, N.Y. Filed Feb. 17, 1964.

TITANITE

For Industrial Wheels for Materials Handling Equipment.
First use Jan. 30, 1964.

SN 186,943. The Hamptons Shipyards, Inc., East Quogue, N.Y. Filed Feb. 18, 1964.

Columbia

For Cabin Cruisers.
First use on or about Dec. 1, 1956.

Class 20—Linoleum and Oiled Cloth

SN 158,422. Balamundi-Nederland N.V., Huizen, Netherlands. Filed Dec. 4, 1962.

BALADORE

Priority claimed under Sec. 44(d) on Dutch application filed June 22, 1962; Reg. No. 144,885, dated July 27, 1962. Owner of U.S. Reg. Nos. 678,199, 743,544, and others.
For Pliant Plastic-Coated Coverings on a Paper, Felt, Fabric or Other Textile Base Used for Covering Walls.
First use June 1, 1962; in commerce Oct. 1, 1962.

SN 185,758. L. E. Carpenter & Company, Wharton, N.J. Filed Jan. 31, 1964.

VICRWALL

For Vinyl Wall Covering.
First use Dec. 17, 1963.

SN 186,153. Congoleum-Nairn Inc., Kearny, N.J. Filed Feb. 6, 1964.

FAIRMONT

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles.
First use Dec. 18, 1963.

SN 186,154. Congoleum-Nairn Inc., Kearny, N.J. Filed Feb. 6, 1964.

INNOVATION

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles.
First use Dec. 18, 1963.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 126,420. Lafayette Radio Electronics Corporation, Jamaica, N.Y. Filed Aug. 21, 1961.

"MIGHTY 9"

The numeral "9" is disclaimed apart from the mark as shown.
For Transistor Radios.
First use June 20, 1960.

SN 154,656. Industrionics, Inc., Detroit, Mich., assignee of Winco Electronics, Inc., Detroit, Mich. Filed Oct. 5, 1962.

MITY-AMP

For Electronic Audio Amplifiers.
First use Apr. 2, 1962.

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Electrical Generating Equipment; Rotary Converters and Rectifiers.
First use Jan. 4, 1963.

SN 169,385. Norwich Design Corporation, Norwich, N.Y. Filed May 21, 1963.

NORWICH Design CORPORATION
NORWICH, NEW YORK

For Electrically Operated Multiple Sheet Detectors for Detecting and Preventing the Feeding of Multiple Sheets in a Paper Feeding Apparatus.
First use July 16, 1962.

SN 170,360. Tuttle Electric Products, Inc., Kirkland, Ill. Filed June 4, 1963.

TE Products

The word "Products" is disclaimed apart from the mark as a whole.
For Open-Coil Electric Heaters.
First use on or about Sept. 1, 1956.

SN 171,671. Lear Jet Corporation, Wichita, Kans. Filed June 24, 1963.

LEARSTAT

For Energy Control Devices for Selective Operation of Electric Motors, Electric Power Tools, Electrical Appliances, and the Like.
First use Jan. 10, 1963.

SN 173,093. The Bissett-Berman Corporation, Santa Monica, Calif. Filed July 16, 1963.

PARALOC

For Electronic Oscillators.
First use May 31, 1963.

SN 173,991. Willcox & Gibbs Sewing Machine Company, New York, N.Y. Filed July 29, 1963.

SONIC-SEAMER

For Electrically Operated Ultrasonic Seamer for Sealing Thermoplastic Materials.
First use June 6, 1963.

SN 173,992. Willcox & Gibbs Sewing Machine Company, New York, N.Y. Filed July 29, 1963.

SONICTRON

For Electrically Operated Ultrasonic Seamer for Sealing Thermoplastic Materials.
First use June 6, 1963.

SN 174,217. Metalized Ceramics Corporation, Providence, R.I. Filed Aug. 1, 1963.

MetCeram

For Metalized Ceramic Electronic Components, Including Housings, Lead-Ins, Terminals, Headers, Isolators, Substrates, and Other Metalized Elements for Semiconductor and Vacuum Devices.
First use Mar. 8, 1963.

SN 174,507. Richard Hirschmann, d.b.a. Firma Richard Hirschmann Radiotechnisches Werk, Esslingen (Neckar), Germany. Filed Aug. 6, 1963.

HIRSCHMANN

For Accessories for Use in Connection With Radio and Television Devices—Namely, Antennas, Electrical Connectors for Low Voltage Installations, Plugs, Sockets, Terminals, Connecting Clips, and Coupling Connectors.
First use 1924; in commerce 1953.

SN 175,040. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 14, 1963.

AMERON

For Automobile Storage Batteries.
First use Apr. 23, 1963.

SN 181,702. Studebaker Corporation, South Bend, Ind. Filed Nov. 21, 1963.

PortaStart

Owner of Reg. No. 551,669.
For Electric Generator Sets for Starting Engines.
First use Nov. 1, 1963.

SN 182,567. Associated Electrical Industries Limited, London, England. Filed Dec. 9, 1963.

EDISWAN

Owner of British Reg. No. 645,554, dated Mar. 6, 1946; and U.S. Reg. No. 706,573.
For Electric Discharge Lamps and Fluorescent Tubular Lamps.

SN 182,729. Jet Spray Cooler, Inc., Waltham, Mass. Filed Dec. 10, 1963.

JET SPRAY

Owner of Reg. Nos. 622,708 and 758,829.
For Electrical Hot and Cold Beverage Dispensers, Parts and Accessories.
First use on or about Nov. 1, 1957.

SN 185,087. Sprague Electric Company, North Adams, Mass. Filed Jan. 21, 1964.

VUEDOME

For Packages Containing a Plurality of Electronic Components Such as Capacitors, Resistors, Transistors, Pulse Transformers, and the Like.
First use May 8, 1963.

SN 187,447. Ward Leonard Electric Co., Mount Vernon, N.Y. Filed Feb. 25, 1964.

WL

For Electric Resistors, Electric Rheostats, Electric Contactors, Electric Relays, Electric Switches, Lighting Control Systems and Components Including Dimmers, Electric Cycle Dimmers for Lights, Autotransformers, Motorized Autotransformers, Individual and in Banks, Potentiometers, Motor Generator Controllers, Motor and Generator Regulators Using Magnetic Amplifiers, Electric Motor Starters and Control Devices Associated Therewith, and Voltage and Speed Regulators for Motor-Generator Sets and Generators.
First use May 16, 1927.

Class 22 — Games, Toys, and Sporting Goods

SN 132,763. Takle Buket Corporation, Waupum, Wis. Filed Nov. 24, 1961.

DIAL-A-LURE TAKLE BUKET

No claim of exclusive right is made to "Takle Buket" for a fishing tackle container.
For Fishing Tackle Container.
First use June 1, 1961.

SN 159,621. Sports Aids, Inc., Huntington Park, Calif. Filed Dec. 21, 1962.

KENNY-WAY

For Baseball Training Aids—Namely, Ball Projectors, Hand Held Apparatus for Simulating Batting, and a Muscle Exerciser.
First use Nov. 15, 1962.

SN 172,883. Eastview Racquet Club, Inc., Demarest, N.J. Filed July 12, 1963.

VENT-O

For Ventilated Covers for Tennis Racquets.
First use June 8, 1963.

SN 175,810. Sport Unlimited, Inc., Tucson, Ariz. Filed Aug. 26, 1963.

TRAJECTORY

For Table Tennis Game Apparatus, Wherein the Basic Action of Play Is One of a Full-Range, Tethered Trajectory Action at Varying Speeds Requiring Instant Counter-Reflex Action.
First use June 12, 1963.

SN 178,850. Hershey Mfg. Co., Chicago, Ill. Filed Oct. 11, 1963.

JENNINGS & COMPANY J

Owner of Reg. No. 694,492.
For Coin Controlled Amusement Machines.
First use in or about July 1954.

SN 181,896. Original Toy Corporation, Brooklyn, N.Y. Filed Nov. 18, 1963.

WONDER WIGS

No claim of exclusive right is made to the word "Wigs" for the goods recited.
For Wigs for Dolls.
First use Nov. 7, 1963.

SN 182,714. Exotech Incorporated, Alexandria, Va. Filed Dec. 10, 1963.

ASTROWHEEL

For Exercising Device Adapted To Support Human Beings in an Orbital Path About a Horizontal Axis.
First use on or about Sept. 9, 1963.

SN 182,765. Bear Archery Company, Grayling, Mich. Filed Dec. 11, 1963.

Tigercat

For Archery Bows.
First use Nov. 8, 1963.

SN 183,243. Bancroft Racket Company, Pawtucket, R.I. Filed Dec. 19, 1963.

FEDERATION CUP

For Tennis Rackets.
First use Sept. 27, 1963.

SN 183,258. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Dec. 19, 1963.

PROETTE

For Golf Balls.
First use Oct. 31, 1963.

SN 183,494. Brunswick Corporation, Chicago, Ill. Filed Dec. 24, 1963.

LEVELITE

For Billiard Table Beds.
First use Oct. 1, 1963.

SN 183,495. Brunswick Corporation, Chicago, Ill. Filed Dec. 24, 1963.

CELEBRITY

For Billiard Tables.
First use Oct. 1, 1963.

SN 183,882. Fred Arbogast Company, Inc., Akron, Ohio. Filed Dec. 26, 1963.

DASHER

For Artificial Fish Lures.
First use Sept. 14, 1962.

SN 183,553. Fred Arbogast Company, Inc., Akron, Ohio. Filed Dec. 26, 1963.

WAMPUM

For Artificial Fish Lures.
First use Aug. 14, 1963.

SN 183,811. Wayne Tjaden, d.b.a. Tjaden Wood Products, Grand Marais, Minn. Filed Dec. 30, 1963.

PEPPERMINT

For Stilts.
First use Sept. 20, 1963.

SN 184,137. Center for the Gifted Child Inc., San Francisco, Calif. Filed Jan. 7, 1964.

PRIDE & PREJUDICE

For Bound Pads of Sheets on Which Players Make Entries for a Competitive Game.
First use Oct. 23, 1963.

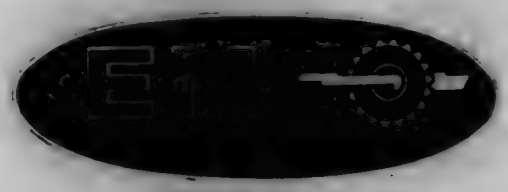
SN 184,138. Center for the Gifted Child Inc., San Francisco, Calif. Filed Jan. 7, 1964.

WAR & PEACE

For Bound Pads of Sheets on Which Players Make Entries for a Competitive Game.
First use Oct. 23, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Belting and Chain Conveyors; Scraper Conveyors; Electric Powered Cutting Machines, Mobile and Non-Mobile; Electric Mine Locomotives; Hoists; Mechanical Loading Machines; Mine Cars With Stationary Motors; Pumps; Vibrating Screens; Crushers and Coal Washing Machinery.
First use Jan. 4, 1963.

SN 163,595. Winslow Manufacturing Corp., Hialeah, Fla. Filed Feb. 27, 1963.

WINSLOW

For Air Pumps, Spray Nozzles, and Liquid Spray Guns.
First use July 1, 1959.

SN 166,785. Century Engineering Company, Inc., Clifton, N.J. Filed Apr. 16, 1963.

EXPENDO CORE

The word "Core" is disclaimed apart from the mark.
For Disposable Industrial Machine Brushes.
First use September 1962.

SN 169,032. Gatke Corporation, Chicago, Ill. Filed May 16, 1963.

GATKE

For Moulded Bearing Members for Machinery and Moulded Suction Box Covers for Papermaking Apparatus.
First use 1926.

SN 173,439. FMC Corporation, San Jose, Calif. Filed July 22, 1963.

CROPMASTER

Owner of Reg. No. 549,464.
For Harvesters.
First use July 31, 1962.

SN 174,833. Allen P. Stern, South Euclid, Ohio, assignee of The Colonial Iron Works Company, Cleveland, Ohio. Filed Aug. 12, 1963.

BOLLARD

For Asphalt Mixing Plants and Parts Therefor and Accessories Thereto.
First use April 1957.

SN 181,701. Southwest Welding & Manufacturing Co., Alhambra, Calif. Filed Nov. 21, 1963.



The drawing is lined for the color red.
For Construction Equipment—Namely, Sheepsfoot Rollers, Pneumatic Tired Rollers, Mobile Sprinkler Tanks, and Towed Type Rippers.
First use Feb. 8, 1963.

SN 183,298. Whiting Corporation, Harvey, Ill. Filed Dec. 19, 1963.

WHITING

For Table Structures for Use With Jacks in Raising and Lowering Vehicle Wheels in Pits, Locomotive Hoists, Locomotive Spotters, Car Hoists, Car Washers, Track Equipped Table Structures for Transferring Railway Rolling Stock Between Tracks, Bus Turntables, Vertically and Horizontal Movable Bridges for Crossing Over Railroad Tracks, Railroad Car Moving Devices, Winches, Locomotive Sanding Devices, Vacuum Gripping Devices, Traveling Cranes, Handpower Cranes, Jib and Pillar Cranes, Gantry Cranes, Tumblers for Cleaning Castings, Ladles for Molten Metal, Ladle Stopper Operating Devices, Gear Brackets for Tilting Ladles and Pulverizers for Coal and Other Materials.
First use 1894.

SN 183,479. United-Greenfield Corporation, Chicago, Ill. Filed Dec. 23, 1963.

UG

For Drills, Including Gun, Masonry, Carbide, and Carbide Tipped Drills; Reamers, Bore Reamers, End Mills, Countersinks, Counterbores, Screw Extractors, Screw Plates, Drill Blanks, Taps, Dies, Tap Heads, Die Heads, Chasers, Chaser Holders and Grinding Fixtures; Single Point Tools, Boring Tools, Tool Holders, Rachets, Sockets, Screwdrivers, Pliers, C Clamps, Lathe Dogs, Hammers, Chisels, Punches, Pipe Tongs, Pipe Vises, and Tool Cabinets; Box, Open End, Adjustable, and Chain Wrenches.
First use Oct. 1, 1963.

SN 183,661. Automotive Associates, Inc., New York, N.Y. Filed Dec. 27, 1963.

RIDE-A-MAGIC

Owner of Reg. No. 752,022.
For Power Mowers of the Garden Type.
First use September 1962.

SN 185,344. Allied Equipment Company, Oklahoma City, Okla. Filed Jan. 27, 1964.

MOLES PAW

For Digging Attachment for Ditching Machines.
First use Sept. 15, 1963.

SN 185,634. U.S. Astro Industries Corp., Lyons, Ill. Filed Jan. 29, 1964.

ASTRO JET-VAC

For Power Driven Portable Vacuum Sweeping and Cleaning Machines for Streets and Roads.
First use July 30, 1963.

SN 186,752. Owatonna Tool Company, Owatonna, Minn. Filed Feb. 14, 1964.

ADJUSTA GRIP

For Mounting Arms for Supporting Engines and the Like Upon the Rotary Mechanism of Engine Positioning Stands.
First use Nov. 20, 1963.

SN 187,090. Crusader Marine Corporation, Warren, Mich. Filed Feb. 20, 1964.

Crusader CHALLENGER

Owner of Reg. No. 716,090.
For Internal Combustion Marine Engines.
First use on or about Sept. 1, 1962.

SN 187,091. Crusader Marine Corporation, Warren, Mich. Filed Feb. 20, 1964.

Crusader CHARGER

Owner of Reg. No. 716,090.
For Internal Combustion Marine Engines.
First use on or about Sept. 1, 1962.

SN 187,612. Rock-Ola Manufacturing Corporation, Chicago, Ill. Filed Feb. 27, 1964.

IVI

Owner of Reg. No. 669,845.
For Drink Vending Machines.
First use Aug. 1, 1953.

SN 187,820. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Mar. 2, 1964.

NIGHT & DAY

For Stainless Steel Tableware—Namely, Knives, Forks, and Spoons.
First use Feb. 17, 1964.

Class 24 — Laundry Appliances and Machines

SN 170,815. W. M. Cissell Manufacturing Company, Incorporated, d.b.a. W. M. Cissell Manufacturing Co., Inc., Louisville, Ky. Filed S.R. June 12, 1963; Am. P.R. Mar. 9, 1964.

CISSELL

Owner of Reg. No. 529,643.
For Apparatus Employed in Dry Cleaning and Laundering—Namely, Spotting Boards, Water-Spray Guns, Condenser Tanks, Dress Dryers, Fur Cleaning and Finishing Apparatus, Sadirons, Water Spray Pressing Irons, Steam-Electric Pressing Irons, Garment Dryers, Steam Finishing Boards, Boiler Feeders, Boiler Return Pumps, Hosiery Drying Machines, Steam Spotting Units, Ironing Boards, Steam Puff Irons, Sleeve Finishers, Steam Spray Guns, Machines for Passing Steam and/or Air Through Garments Supported Thereon and Consisting of Form Finishers, Garment Finishers and Garment Conditioners, Garment Pressing Machines With Offset Support for the Garment, Sizing Spray Tanks, Cuff Brushers, Laundry Dryers, Dry Cleaning Dryers, Condensers for Water Spray Guns, Tailor Irons, Electric Irons, Pre-Spotting Units; and Parts Thereof.
First use July 30, 1920.

SN 183,400. General Motors Corporation, Detroit, Mich. Filed Dec. 23, 1963.

DEEP-ACTION

For Laundry Washing Machines.
First use Oct. 10, 1963.

SN 183,502. General Motors Corporation, Detroit, Mich. Filed Dec. 24, 1963.

GEMINI

For Laundry Washing Machines.
First use Dec. 2, 1963.

Class 25—Locks and Safes

SN 179,493. Weiser Company, South Gate, Calif. Filed Oct. 21, 1963.

BLOCKOKEY

For Lock Sets, Lock Cylinders and Keys Therefor.
First use Aug. 14, 1963.

SN 179,494. Weiser Company, South Gate, Calif. Filed Oct. 21, 1963.

CONVERTOKEY

For Lock Sets, Lock Cylinders and Keys Therefor.
First use Aug. 14, 1963.

SN 179,495. Weiser Company, South Gate, Calif. Filed Oct. 21, 1963.

KEY-BLOCK

For Lock Sets, Lock Cylinders and Keys Therefor.
First use Aug. 19, 1963.

SN 179,496. Weiser Company, South Gate, Calif. Filed Oct. 21, 1963.

KEY X

The word "Key" is disclaimed apart from the mark as shown.
For Lock Sets, Lock Cylinders and Keys Therefor.
First use Aug. 19, 1963.

SN 179,500. Weiser Company, South Gate, Calif. Filed Oct. 21, 1963.

OBSTRUCTOKEY

For Lock Sets, Lock Cylinders and Keys therefor.
First use Aug. 14, 1963.

Class 26—Measuring and Scientific Appliances

SN 139,480. Foster Grant Co. Inc., Leominster, Mass. Filed Mar. 9, 1962.

PANORAMA

Owner of Reg. No. 436,844.
For Sunglasses.
First use on or about Dec. 5, 1961.

SN 154,542. Wayne-George Corporation, Newton, Mass. Filed Oct. 4, 1962.

ADCON

For Data Processing Apparatus.
First use Mar. 30, 1962.

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Truck Scales.
First use Jan. 4, 1963.

SN 172,898. Karl Hehl, d.b.a. Arburg Feingeratefabrik ohg., Hehl & Sohne, Lossburg, Wurttemberg, Germany. Filed July 12, 1963.

ARBURG thermic

Priority claimed under Sec. 44(d) on German application filed Mar. 30, 1963; Reg. No. 775,513, dated July 16, 1963. Owner of U.S. Reg. Nos. 723,296 and 731,126.
For Temperature Regulators, Particularly Temperature Regulators for Use With Machines for Molding and Shaping Thermoplastic Materials.
First use Apr. 10, 1963; in commerce June 12, 1963.

SN 173,936. Manostat Corporation, New York, N.Y. Filed July 29, 1963.

DIGI PET

For Plunger Actuated Liquid Dispensing Device With Quantity Measuring Means.
First use June 26, 1963.

SN 181,858. Contour Comfort Contact Lenses Inc., Waco, Tex. Filed Nov. 26, 1963.



The words "Quality," "Service," and "Price" are hereby disclaimed.
For Corneal Contact Lenses, and Modification Units, Diameter Gauges, and Containers Therefor.
First use Mar. 1, 1963.

Class 27 — Horological Instruments

SN 178,187. Abe A. Friedman, Augusta, Ga. Filed Oct. 2, 1963.

Jacques Prévard

"Jacques Prévard" is a fictitious name.
For Watches.
First use May 7, 1963.

SN 182,169. Fabrique de Montres Zilia S.A. (Uhrenfabrik Zilia AG) (Zilia Watch Co. Ltd.), La Heutte, Bern, Switzerland. Filed Dec. 2, 1963.

HISLON

Owner of Swiss Reg. No. 145,391, dated Feb. 18, 1953.
For Watches and Their Components and Parts of Watches.

SN 188,311. W. & B. Watch Corp., New York, N.Y. Filed Mar. 9, 1964.

Eastern

For Watches.
First use Dec. 4, 1963.

SN 190,072. Elgin National Watch Company, Elgin, Ill. Filed Apr. 1, 1964.

UNISPHERE

For Horological Instruments—Namely, Watches and Clocks.
First use on or about July 1, 1961.

Class 28 — Jewelry and Precious-Metal Ware

SN 159,806. Belk Stores Services, Inc., Charlotte, N.C. Filed Dec. 27, 1962.

Archdale

Owner of Reg. Nos. 379,734, 583,085, and others.
For Jewelry.
First use Jan. 1, 1957.

SN 191,932. Industria Espanola de Perlas Imitacion, S.A., Barcelona, Spain. Filed Apr. 24, 1964.

SATINA

Owner of Spanish Reg. No. 346,401, dated Oct. 17, 1959.
For Imitation Pearls and Imitation Pearl Jewellery.

SN 191,934. Industria Espanola de Perlas Imitacion, S.A., Barcelona, Spain. Filed Apr. 24, 1964.

VELINA

Owner of Spanish Reg. No. 346,402, dated Oct. 17, 1959.
For Imitation Pearls and Imitation Pearl Jewellery.

Class 29 — Brooms, Brushes, and Dusters

SN 175,527. The Valspar Corporation, Rockford, Ill. Filed Aug. 21, 1963.

Valco

For Brushes, Including Paint Brushes, Varnish Brushes, Duster Brushes, Masonry Brushes, Whitewash Brushes, and Scratch Brushes, and Paint Roller Covers.
First use on about Mar. 8, 1962.

SN 182,871. A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. Filed Dec. 12, 1963.

A.W. FABER FELTSTiK

Owner of Reg. No. 760,834.
For Brushes of Felt Material for Lettering and Marking.
First use Nov. 22, 1961.

Class 31 — Filters and Refrigerators

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Filtering Plants.
First use Jan. 4, 1963.

Class 32 — Furniture and Upholstery

SN 174,278. D. W. Lund, M.D., d.b.a. Mattress Pan-Aid Company, Florence, Ala. Filed Aug. 2, 1963.

Pan = Aid

For Mattresses.
First use April 1958.

Class 33 — Glassware

SN 170,410. Karlovarske Sklo, Narodni Podnik, d.b.a. Karlovarske Sklo, National Corporation, Dvory u Kralovych Varu, Czechoslovakia. Filed June 5, 1963.

MOSER

Owner of Czechoslovakian Reg. No. 114,152, dated June 23, 1947; and U.S. Reg. No. 647,260.
For Decorated Hollow Glassware, Especially High Quality Table Sets Decorated by Cutting, Gilding and Engraving.
First use in the year 1946; in commerce February 1956.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 162,927. Electric & Machine Company, Whitesburg, Ky. Filed Feb. 18, 1963.



For Air Control Equipment—Namely, Fans.
First use Jan. 4, 1963.

SN 170,645. K & N Soft Pretzel Company, Norristown, Pa. Filed June 10, 1963.

BAKE-A-TWIST

For Ovens.
First use on or about Apr. 5, 1963.

SN 171,589. Unitek Corporation, Monrovia, Calif. Filed June 21, 1963.

UNITIP

For Welding Electrodes.
First use May 28, 1963.

SN 183,290. Whiting Corporation, Harvey, Ill. Filed Dec. 19, 1963.

WHITING

For Cupolas, Air or Reverberatory Furnaces, Rotary Furnaces, Steel Converters, Annealing Ovens, Dust Filters, Sand Dryers, Pulverized Coal Burners, Direct Arc Electric Metal Melting Furnaces and Electric Induction Metal Melting Furnaces.
First use 1894.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 169,032. Gatke Corporation, Chicago, Ill. Filed May 16, 1963.

GATKE

For Moulded and Woven Brake Linings and Moulded Friction Blocks.
First use 1926.

SN 184,869. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Jan. 10, 1964.

F100

Applicant disclaims the number "100" apart from the mark as shown. Owner of Reg. Nos. 201,751 and 806,085.
For Resilient Vehicle Tires.
First use Dec. 27, 1963.

SN 186,903. George Stratford Oakum Company, Beverly, N.J. Filed Feb. 17, 1964.

XPANS-TITE

For Jute Packing.
First use Nov. 7, 1955.

SN 186,940. Greengate & Irwell Rubber Company Limited, Salford, Lancaster, England. Filed Feb. 18, 1964.

ULTRACON

Owner of British Reg. No. 944,202, dated Jan. 23, 1963.
For Conveyor Belting.

SN 186,941. Greengate & Irwell Rubber Company Limited, Salford, Lancaster, England. Filed Feb. 18, 1964.

ULTRAFLEX

Owner of British Reg. No. 844,373, dated Jan. 30, 1963.
For Conveyor Belting.

Class 36 — Musical Instruments and Supplies

SN 183,130. Victorian Electronics, Ltd., Peoria, Ill. Filed Dec. 16, 1963.

VICTORIAN

For Tape Recorders.
First use on or about Sept. 19, 1963.

SN 183,843. Kapp Records, Inc., New York, N.Y. Filed Dec. 31, 1963.



For Phonograph Records.
First use Nov. 18, 1963.

SN 183,888. Roxy DeCarlo, d.b.a. Monarch Accordion Studios, Denver, Colo. Filed Jan. 2, 1964.

GRAND PRIX

For Accordions.
First use June 15, 1963.

Class 37 — Paper and Stationery

SN 162,713. Educational Aids Co., Inc., Washington, D.C. Filed Feb. 14, 1963.

A-OK

For Paper Put Up Loose in Wrapped Packages, Banded, or in Boxes, or Bound Into Pads, Tablets, or Notebooks for Writing, Printing, Typing, Drawing, and Painting Purposes.
First use December 1962.

SN 173,189. Rose Ribbon & Carbon Mfg. Co., Inc., Harrison, N.J. Filed July 17, 1963.

FOUR-SIDE CLEAN

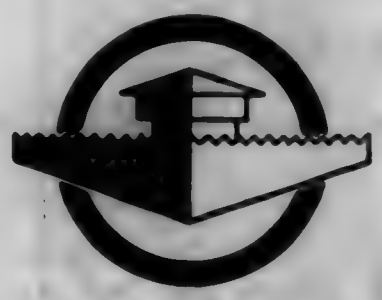
Owner of Reg. No. 718,088.
For Spirit Duplicating Paper.
First use Apr. 12, 1963.

SN 183,885. Copymation, Inc., Elk Grove Village, Ill. Filed Jan. 2, 1964.

COPYMATION

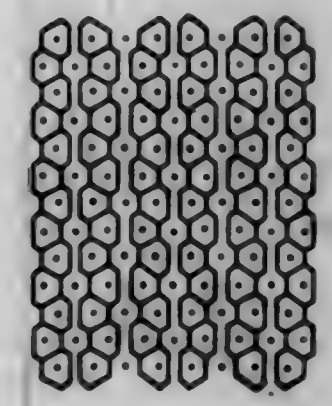
Owner of Reg. Nos. 724,193 and 788,365.
For Drafting Sheet Materials and Sensitized Sheet Materials for Reproducing Engineering and Technical Data.
First use on or about July 1, 1963.

SN 184,052. Fort Howard Paper Company, Green Bay, Wis. Filed Jan. 6, 1964.



Owner of Reg. No. 653,092.
For Toilet Paper, Paper Napkins, Paper Table Covers, and Paper Place Mats.
First use Apr. 10, 1957.

SN 184,307. Paper Corporation of United States, New York, N.Y. Filed Jan. 13, 1964.



The mark consists of an alternate trapezoidal design.
For Check Safety Paper.
First use in or about 1953.

SN 185,862. Columbia Pen and Pencil Co., Inc., New Hyde Park, N.Y. Filed Jan. 27, 1964.

WINGS

Owner of Reg. No. 761,365.
For Pencils and Ball Point Pens.
First use June 1931.

Class 38 — Prints and Publications

SN 156,021. Outdoor American Corporation, Spokane, Wash. Filed Oct. 26, 1962.

American Sunbather

For Magazine Devoted to Nudism.
First use Feb. 1, 1956.

SN 168,284. CBS Films, Inc., New York, N.Y. Filed May 7, 1963.



For Motion Picture Films—Namely, Cartoon Films.
First use May 23, 1960.

SN 168,287. CBS Films, Inc., New York, N.Y. Filed May 7, 1963.

TOM TERRIFIC

For Comic Strips and Motion Picture Films—Namely, Cartoon Films.
First use Apr. 1, 1957, on motion picture films.

SN 168,292. CBS Films, Inc., New York, N.Y. Filed May 7, 1963.

SILLY SIDNEY

For Comic Strips.
First use Aug. 31, 1960.

SN 168,294. CBS Films, Inc., New York, N.Y. Filed May 7, 1963.

HASHIMOTO-SAN

For Comic Strips.
First use Aug. 31, 1960.

SN 168,426. Mobay Chemical Company, Pittsburgh, Pa. Filed May 8, 1963.

TEXIN TOPICS

For Printed Publications—Namely, a Product News Bulletin Devoted to Urethane Elastomers.
First use March 1961.

SN 178,846. Dreyfus & Co., New York, N.Y. Filed July 19, 1963.

TODAY'S METHODS FOR TODAY'S MARKETS

For Printed Financial Market Letters and Statistical Studies Issued Periodically.
First use on or about Mar. 1, 1950.

SN 174,310. The Seven-Up Company, St. Louis, Mo. Filed Aug. 2, 1963.

the 7up Leader

Owner of Reg. Nos. 252,250, 639,769, and others.
For Magazine.
First use Feb. 1, 1960.

SN 178,566. The Rousana Company, Inc., Bronx, N.Y. Filed Oct. 8, 1963.



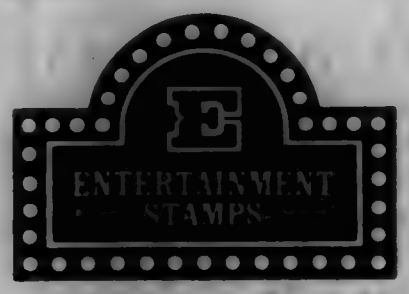
The words "Tarjetas Rousana" mean "Rousana cards." Applicant disclaims the word "Tarjetas" apart from the mark as shown.
For Greeting Cards Printed in the Spanish Language.
First use on or about Aug. 30, 1963.

SN 179,162. Standard Oil Company of California, d.b.a. Signal Oil Company, Los Angeles, Calif. Filed Oct. 16, 1963.

The Signal OILER

The drawing is lined for the colors orange, grey, and yellow, but the coloring may vary from time to time. Owner of Reg. No. 553,189 and others.
For News Publication Periodically Distributed to Applicant's Employees and to Applicant's Distributors and Their Employees.
First use July 1963; since April 1949 as to "Signal" in a different form.

SN 180,080. Entertainment Stamps Inc., New York, N.Y. Filed Oct. 30, 1963.



The words "Entertainment Stamps" are disclaimed apart from the mark as shown.
For Trading Stamps in Pad Form.
First use Oct. 3, 1963.

SN 180,738. The Hearst Corporation, New York, N.Y. Filed Nov. 8, 1963.

SPEAKING OF YOUR HEALTH

For Newspaper Column or Feature Appearing Daily and/or at Other Intervals.
First use Mar. 14, 1963.

SN 182,030. Bio-Dynamic Farming and Gardening Association, Stroudsburg, Pa. Filed Nov. 29, 1963.

BIO-DYNAMICS

For Magazine.
First use Sept. 23, 1941.

SN 182,082. Gordon Harston, Golden, Colo. Filed Nov. 29, 1963.

Cartoons

For Panels Relating to Traffic Safety, Containing Illustrations and Reading Matter, Published Periodically in Newspapers and Magazines.
First use Oct. 7, 1963.

Class 39 — Clothing

SN 159,806. Belk Stores Services, Inc., Charlotte, N.C. Filed Dec. 27, 1962.

Archdale

Owner of Reg. Nos. 379,734, 583,088, and others.
For Men's and Boys' Dress Shirts, Sport Shirts, Ties, Belts, Handkerchiefs, Underwear, Pajamas, Sweaters, Socks, Shoes, Coats, Jackets, Robes, Swim Trunks, Gloves, and All Weather Coats.
First use Feb. 1, 1940.

SN 165,890. George S. Bailey Hat Company, Los Angeles, Calif. Filed Apr. 2, 1963.

U-Rollit by Bailey

Owner of Reg. No. 519,692.
For Hats.
First use Jan. 4, 1952; Aug. 10, 1929, as to "Bailey."

SN 169,692. Billen Shoe Co., Inc., Lewiston, Maine. Filed S.R. May 27, 1963; Am. P.R. June 1, 1964.

COBBOSSEE MOCS

Applicant disclaims the use of the word "Mocs."
For Men's, Women's and Children's Shoes and Moccasins.
First use June 7, 1961.

SN 178,674. California Forms, Inc., Culver City, Calif. Filed Oct. 10, 1963.

BRAKINI

For Brassieres, Panty Briefs, Girdles, and Sets of the Same.
First use May 7, 1963.

SN 178,980. Lehigh Trouser Co., Wilkes-Barre, Pa. Filed Oct. 14, 1963.

SPORT-JAC

The notation "Sport-Jac" is disclaimed apart from the mark as shown.
For Boys' Jackets.
First use Aug. 23, 1963.

SN 179,717. Jack Kannon, New York, N.Y. Filed Oct. 24, 1963.

JACKIE KANNON'S KRAZY FEET

For Wearing Apparel—Namely, Rubber or Polyurethane Novelty Slippers.
First use Sept. 5, 1963.

SN 179,997. Davidow Suits, Inc., New York, N.Y. Filed Oct. 28, 1963.

DAVIDOW

Owner of Reg. No. 406,485.
For Ladies' and Misses' Clothing—Namely, Suits, Jackets, Skirts, Dresses, Coats, Dress Ensembles, and Blouses.
First use in or about December 1939.

SN 181,206. Cambridge Rubber Company, Cambridge, Mass. Filed Nov. 15, 1963.

LAKE PLACID

Owner of Reg. No. 508,298.
For Ladies', Misses', and Children's Boots and Overshoes.
First use August 1946.

SN 181,251. Jehuda Markuse, d.b.a. M & J California Sportswear Mfg. Company, Glendale, Calif. Filed Nov. 15, 1963.

Tamarra

For Men's, Women's, and Children's Hosiery, Anklets, and Underwear, and Dress T-Shirts.
First use July 31, 1963.

SN 181,563. Peters Sportswear Co., Inc., Philadelphia, Pa. Filed Nov. 20, 1963.

PETERS

Owner of Reg. Nos. 751,791, 760,047, and others.
For Men's, Women's, and Children's Jackets.
First use on or about Sept. 18, 1963.

SN 183,157. Arnold Constable Corporation, New York, N.Y. Filed Dec. 17, 1963.

ARNOLTON

Owner of Reg. No. 253,825.
For Hosiery for Men, Women, and Children.
First use Jan. 1, 1926.

SN 183,200. The Berger Brothers Company, New Haven, Conn. Filed Dec. 18, 1963.

STATURE

For Men's and Boys' Brief Type Underwear.
First use Dec. 12, 1963.

SN 183,426. Lucky Stride Shoes, Inc., Maysville, Ky. Filed Dec. 23, 1963.

HOOT

For Shoes.
First use Dec. 11, 1963.

SN 184,164. Maidenform, Inc., New York, N.Y. Filed Jan. 7, 1964.

PIN WHEEL

For Foundation Garments.
First use Dec. 16, 1963.

SN 184,645. National Bellas Hess, Inc., North Kansas City, Mo. Filed Jan. 15, 1964.

Bellebrooke

For Sweaters.
First use July 30, 1962.

Class 40—Fancy Goods, Furnishings, and Notions

SN 153,184. Malcolm-Merle, Inc., Dorchester, Mass. Filed Sept. 14, 1962.

MALMER

For Garment Patches and Tabs.
First use Aug. 16, 1962.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 170,615. Crown Tuft, Incorporated, Dalton, Ga. Filed June 10, 1963.

NYLPUFF

For Textile Carpeting.
First use During October 1958.

SN 184,219. Dan River Mills, Incorporated, Danville, Va. Filed Jan. 8, 1964.

DANVELLA

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.
First use Dec. 6, 1963.

SN 184,220. Dan River Mills, Incorporated, Danville, Va. Filed Jan. 8, 1964.

DEFIANCE

Owner of Reg. No. 157,572.
For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.
First use Sept. 19, 1963.

SN 184,229. Glen Raven Mills, Inc., New York, N.Y. Filed Jan. 8, 1964.

POLY-SQUARE

For Apparel, Home Furnishings and Industrial Fabrics of Natural and Synthetic Fibers and Combinations Thereof.
First use Sept. 13, 1963.

SN 184,264. J. P. Stevens & Co., Inc., New York, N.Y. Filed Jan. 8, 1964.

FAWNSKIN

Owner of Reg. No. 187,760.
For Piece Goods of One or More Natural Fibers, Including Wool, Cotton or of Synthetic Fibers or Blends Thereof.
First use Jan. 3, 1964.

Class 43—Thread and Yarn

SN 168,021. Deering Milliken, Inc., New York, N.Y. Filed May 2, 1963.

MILLAINE

For Yarns Made of Wool and Synthetic Fibers and Combinations Thereof.
First use Mar. 7, 1963.

SN 170,419. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed June 5, 1963.

BETA

For Textile Glass Strand and Yarn.
First use April 1963.

SN 184,447. The Dow Chemical Company, Midland, Mich. Filed Jan. 13, 1964.

ANAVOR

For Synthetic Yarn.
First use Nov. 18, 1963.

Class 44—Dental, Medical, and Surgical Appliances

SN 176,654. Harry G. Greene, Chicago, Ill. Filed Sept. 10, 1963.

ENDOMETRIC

For Magnetic Collars or Sleeves for Dental Mensuration of the Root Canal of the Human Tooth.
First use Sept. 6, 1963.

SN 179,198. Christian Sten Sture Cederroth, d.b.a: Cederrothe Tekniska Fabrik AB, Stockholm-Vallingby, Sweden. Filed Oct. 17, 1963.

SAN-PIN

Owner of Swedish Reg. No. 89,341, dated Apr. 22, 1960.
For Cotton Tipped Tampon and Earpegs Used for Cleaning the Ears.

SN 187,762. Kerr Manufacturing Company, Detroit, Mich. Filed Mar. 2, 1964.

HYDREX

For Dental Preparation for Lining Tooth Cavities.
First use Jan. 28, 1964.

SN 187,964. Sorenson Research Corp., Salt Lake City, Utah. Filed Mar. 4, 1964.

INTRAFUSOR

For Intravenous Catheters and Intravenous Catheter Placement Units for Administration of Anesthetics, Intravenous Feeding and Medicants.
First use Jan. 17, 1964.

SN 190,365. Fuller Pharmaceutical Company, Minneapolis, Minn. Filed Apr. 6, 1964.

FULLER

Owner of Reg. No. 742,778.
For Shielding Appliance Used To Hold Dressings in Place and To Prevent Medicants From Soiling Clothing and Bed Linens.
First use May 16, 1957.

SN 190,617. Homer Higgs Associates, Inc., New York, N.Y. Filed Apr. 8, 1964.

Higgs

For Syringes.
First use about Mar. 2, 1964.

SN 192,000. Don Baxter, Inc., Glendale, Calif. Filed Apr. 27, 1964.

METRISET

For Administration Set for Intravenous Solutions.
First use Mar. 11, 1964.

Class 45—Soft Drinks and Carbonated Waters

SN 147,556. Cott Bottling Co. of Pittsburgh, Inc., d.b.a. Higrade Products Co., Braddock, Pa. Filed June 25, 1962.

HIGRADE

For Soft Drinks and Extracts for Making the Same.
First use Feb. 1, 1919.

SN 174,663. The Grapette Company, Inc., d.b.a. Grapette Products Co., Camden, Ark. Filed Aug. 8, 1963.

FRUITETTE

For Soft Drinks and Syrups and Extracts for Making the Same.
First use Oct. 10, 1941.

Class 46—Foods and Ingredients of Foods

SN 147,262. Caffe A. Ferrara, Inc., New York, N.Y. Filed June 20, 1962.

Ferrara

For Cakes, Pastries, Cookies, Candies, Candy Coated Almonds, Candied Fruit, and Coffee.
First use 1892.

SN 160,793. Mette Munk, Aktieselskab, Odense, Denmark. Filed Jan. 16, 1963.

METTE MUNK

The name "Mette Munk" identifies Mrs. Elma Christine Mette Börjeson, whose consent is of record. Owner of Danish Reg. No. A-3657/61, dated Nov. 10, 1962.
For Danish Pastry.

SN 166,706. Golden Grain Macaroni Co., San Leandro, Calif. Filed Apr. 15, 1963.

PROTINI

For Alimentary Paste Products—Namely, Macaroni, Spaghetti and Noodles.
First use Mar. 18, 1963.

SN 167,632. Hygrade Food Products Corporation, Detroit, Mich. Filed Apr. 26, 1963.

MENORAH

"Menorah" is a Hebrew word meaning "candlestick."
For Sausage Products—Namely, Salami, Frankfurters, Bologna, Tongue, Liverwurst, Beef, Pastrami, and Corned Beef.
First use Apr. 11, 1963.

SN 171,834. American Maize-Products Co., New York, N.Y. Filed June 26, 1963.



For Edible Food Products Derived From Corn—Namely, Corn Salad Oil, Corn and Cane Syrups, Cane and Maple Syrups, Corn Syrups, Corn Oils and Cornstarch, and Molasses.
First use on or about May 7, 1963.

SN 176,178. Dawe's Laboratories, Inc., Chicago, Ill. Filed Sept. 8, 1963.

AZTEC MARIGOLD MEAL

The words "Marigold Meal" are disclaimed apart from the mark as shown.
For Pigmentation Additive for Poultry Feed.
First use Aug. 15, 1963.

SN 177,498. Hugh William Chambliss, Brooksville, Fla. Filed Sept. 23, 1963.



"Weeki-Wachee" are Indian words that mean "winding waters." The word "Citrus" and the representation of the citrus fruit are disclaimed apart from the mark as shown.
For Fresh Citrus Fruits.
First use Sept. 15, 1962.

SN 178,633. Nopco Chemical Company, Newark, N.J. Filed Oct. 9, 1963.

BAKAZYME

For Enzyme Preparation for Baking Purposes.
First use Sept. 13, 1963.

SN 181,581. Weis Markets, Inc., Sunbury, Pa. Filed Nov. 20, 1963.

DUTCH VALLEY

Owner of Reg. No. 701,462.
For Saltines.
First use Oct. 21, 1963.

SN 183,414. Feeds, Inc., Tampa, Fla. Filed Dec. 5, 1963.



For Animal Feed Concentrate for Beef and Dairy Cattles.
First use Jan. 4, 1961.

SN 182,739. Regan Bakeries, Inc., Minneapolis, Minn. Filed Dec. 10, 1963.

DEANO'S

For Bread.
First use Oct. 1, 1958.

SN 183,178. R. L. Kimbrough, d.b.a. Kim Products Company, Van Buren, Ark. Filed Dec. 17, 1963.

Kims

For Frozen Candied Sweet Potatoes, Frozen Fried Sweet Potatoes, Prepared Whole Sweet Potatoes, Frozen Small Whole Potatoes, and Fresh Sweet Potatoes.
First use August 1963; 1952 as to the mark "Kims" on fresh sweet potatoes.

SN 184,583. Oroweat Baking Co., Los Angeles, Calif. Filed Jan. 14, 1964.

OROWEAT

Owner of Reg. Nos. 515,000 and 768,466.
For Bread.
First use July 22, 1963.

SN 185,831. Wallace & Co., Brooklyn, N.Y. Filed Jan. 31, 1964.

SOOTHIES

For Candy.
First use at least July 1948.

SN 186,042. Food Fair Stores, Inc., Philadelphia, Pa. Filed Feb. 7, 1964.

SOCIETY HILL

For Potato Chips, Pretzels and Cookies.
First use July 31, 1963, on potato chips.

SN 186,453. General Foods Corporation, White Plains, N.Y. Filed Feb. 11, 1964.

AMMO

For Cereal Breakfast Food.
First use Oct. 9, 1963.

SN 186,454. General Foods Corporation, White Plains, N.Y. Filed Feb. 11, 1964.

TOP SPEED

For Cereal Breakfast Food.
First use Oct. 9, 1963.

SN 186,456. General Foods Corporation, White Plains, N.Y. Filed Feb. 11, 1964.

PLAINSMAN

For Dog Food.
First use Nov. 14, 1963.

SN 186,458. General Foods Corporation, White Plains, N.Y. Filed Feb. 11, 1964.

EXACT

For Cereal Breakfast Food.
First use Oct. 9, 1963.

SN 186,725. Hygrade Food Products Corporation, Detroit, Mich. Filed Feb. 14, 1964.

FOREST BROOK

For Bacon.
First use on or about Sept. 1, 1957.

SN 186,895. P. J. Rhodes & Co., d.b.a. Constance International Company, San Francisco, Calif. Filed Feb. 17, 1964.

Taste Thrill

For Canned Fruits, Canned Vegetables, Canned Fish, and Dried Fruits.
First use Nov. 29, 1963.

SN 187,181. Drew Chemical Corporation, New York, N.Y. Filed Feb. 21, 1964.

FLEX-A-FREEZE

For Ice Cream Stabilizer-Emulsifier Preparations.
First use at least as early as August 1950.

SN 188,148. Sioux Honey Association, Cooperative, Sioux City, Iowa. Filed Mar. 6, 1964.



Owner of Reg. Nos. 542,942, 756,164, and others.
For Honey.
First use September 1961.

SN 188,342. Early Dawn Dairy Company, Veradale, Wash. Filed Mar. 10, 1964.

STA-LITE

For Cottage Cheese.
First use Jan. 27, 1964.

SN 188,537. Laurence E. Forrest, d.b.a. L. E. Forrest's Diet Foods, Morganton, N.C. Filed Mar. 12, 1964.

THEENGZ

For Crackers.
First use Nov. 26, 1963.

Class 47—Wines

SN 181,230. John Harvey & Sons, Ltd., Bristol, England. Filed Nov. 15, 1963.

SAILING

For Sherry.
First use Sept. 6, 1963; in commerce Sept. 6, 1963.

Class 49—Distilled Alcoholic Liquors

SN 173,815. The R. L. Buse Company, Cincinnati, Ohio. Filed July 26, 1963.

BOUNTY

For Straight Bourbon Whiskey.
First use May 1, 1963.

Class 50—Merchandise Not Otherwise Classified

SN 148,613. Flexoplate, Inc., Chicago, Ill. Filed July 9, 1962.

BILT IN-CURVE

For Rubber Printing Plates.
First use Feb. 21, 1962.

SN 155,680. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 28, 1962.

PLASTISEAL

For Metal Closure Caps for Use on Glass Containers and Sold Primarily to Food Packers.
First use on or about Aug. 22, 1962.

SN 157,773. Connolly Distributing Company, Baltimore, Md. Filed Nov. 28, 1962.



No claim is made to the representation of the cross, apart from the mark as shown.

For Religious Articles—Namely, Rosaries, Medals, Medals and Chains, Statuary, Plaques, and Novelties.
First use Sept. 10, 1962.

SN 170,329. Pasco, Inc., Lake Charles, La. Filed June 4, 1963.

PASCO MAGNI COPY-SET BOARD

The word "Board" is disclaimed apart from the mark as shown.
For Copy Holding Boards Used in Connection With the Preparation of Printing Plates.
First use Mar. 15, 1963.

SN 184,062. H. P. Greig, d.b.a. H. P. Greig Company, Hempstead, Tex. Filed Jan. 6, 1964.

Val-Toi

For Fitted Toiletry Kit Comprising a Razor, Toothbrush, and Grooming Preparations—Namely, Shave Cream, Deodorant Cream, After-Shave Lotion, Tooth Powder, and Skin Freshener.
First use Aug. 16, 1958.

SN 187,542. Gerard Richard Ware, Jackson, Miss. Filed Feb. 26, 1964.

BARTENDER'S HELPER

For Plastic Table, Bar and Counter Mats.
First use Feb. 10, 1964.

SN 191,579. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 20, 1964.

SCOTCH-LANE

For Pavement Striping Tape.
First use Feb. 3, 1964.

SN 191,834. The Buxbaum Company, Canton, Ohio. Filed Apr. 23, 1964.

MR. EXECUTIVE

For Desk Chair Mat Comprising Carpeting Bonded to a Rubber Base.
First use Mar. 18, 1964.

SN 192,114. B. Wilmsen, Incorporated, Philadelphia, Pa. Filed Apr. 27, 1964.

CROWN JEWEL

For Shatterproof Christmas Tree Balls.
First use on or about Apr. 1, 1964.

Class 51—Cosmetics and Toilet Preparations

SN 151,520. Dorothy Perkins Cosmetics, Inc., St. Louis, Mo. Filed Aug. 20, 1962.

DAPPLED SUNLIGHT

For Cologne.
First use Aug. 3, 1962.

SN 154,373. Dorothy Perkins Cosmetics, Inc., St. Louis, Mo. Filed Oct. 2, 1962.

MODEL'S CHOICE

For Cosmetic Skin Cream and Cosmetic Skin Lotion.
First use Sept. 14, 1962.

SN 154,749. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Oct. 5, 1962.

SHAPE 'N SHEEN

No claim is made to the word "Sheen" apart from the specific association shown.
For Hair Spray.
First use on or about Sept. 1, 1956.

SN 155,134. Marie Burns, d.b.a. As You Were Associates, Chicago, Ill. Filed Oct. 15, 1962.

MINK VELVET

Applicant disclaims exclusive rights to the term "Mink" apart from the mark as shown.
For Facial Skin and Hand Lotions and Creams, Face and Body Powders, Lipsticks, and Dyes, Rinses, Dressings, and Lotions for Hair.
First use on or about Sept. 18, 1959.

SN 156,504. Mariposa Products Co., Brooklyn, N.Y. Filed Nov. 2, 1962.

BROADWAY

For Personal Deodorant Stick.
First use July 23, 1962.

SN 157,706. Charlotte L. Kelley, d.b.a. Sorell Cosmetics Company, Greenville, S.C. Filed Nov. 21, 1962.

SORELL

For Face Powder, Skin Care Lotion, Rouge, Eyeshadow Stick, Mascara, Liquid Eyeliner, Eyebrow Pencil, Make-Up Liquid, and Lipstick.
First use Oct. 1, 1962, on face powder and skin care lotion.

SN 158,190. Summit Laboratories, Incorporated, Indianapolis, Ind. Filed Nov. 29, 1962.

PRE-CON GEL

Applicant disclaims the term "Gel" apart from the mark as shown.
For Hair Conditioner.
First use Sept. 1, 1961.

SN 158,856. Charles F. Pentler, Cupertino, Calif. Filed Dec. 10, 1962.

HEAVENLY PINES

For Bath Oils.
First use on or about Oct. 30, 1962.

SN 158,931. Dorothy Perkins Cosmetics, Inc., St. Louis, Mo. Filed Dec. 11, 1962.

JUBILEE

For Cologne.
First use Nov. 16, 1962.

SN 158,932. Dorothy Perkins Cosmetics, Inc., St. Louis, Mo. Filed Dec. 11, 1962.

STAR FALL

For Cologne.
First use Nov. 16, 1962.

SN 163,848. L. T. York Company, Kansas City, Mo., by change of name from Lucky Tiger Manufacturing Company, d.b.a. York Pharmacal Co., Kansas City, Mo. Filed Mar. 4, 1963.

MEDI-CREME

Owner of Reg. Nos. 356,346, 731,065, and 733,680.
For Hand and Body Lotion Having Incidental Medicated Properties.
First use Jan. 20, 1961.

SN 166,106. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed Apr. 4, 1963.

FASHION FINISH

For Nail Enamel and Nail Enamel Remover.
First use October 1961.

SN 166,734. Marudel Products, Inc., New York, N.Y. Filed Apr. 15, 1963.

NOBILITY

For Make-Up, Perfume, Toilet Water, and Cologne.
First use Apr. 9, 1963.

SN 170,820. Helene Curtis Industries, Inc., Chicago, Ill. Filed June 12, 1963.

COLOR SHIELD

Applicant disclaims the word "Color" apart from the mark as shown.
For Temporary Hair Coloring.
First use on or about May 7, 1963.

SN 171,436. Helene Curtis Industries, Inc., Chicago, Ill. Filed June 20, 1963.

HAPPY TISSUE

For Hand Lotion.
First use on or about May 28, 1963.

SN 178,749. Turner Hall Corporation, New York, N.Y. Filed Oct. 10, 1963.

STRAIGHT WAVING

Owner of Reg. No. 406,213.
For Cold Permanent Waving Supplies.
First use Aug. 23, 1962.

SN 180,375. Helene Curtis Industries, Inc., Chicago, Ill. Filed Nov. 4, 1963.

MAGIC SECRET

For Skin Lotion.
First use on or about Oct. 24, 1963.
Subj. to Intf. with SN 192,295.

SN 183,600. Helene Curtis Industries, Inc., Chicago, Ill. Filed Dec. 9, 1963.

SHEER BEAUTY

Owner of Reg. No. 694,677.
For Combined Foundation Cream and Powder.
First use on or about Sept. 4, 1962.

SN 183,304. Animal Hygiene Research Corp., New York, N.Y. Filed Dec. 20, 1963.

MASK-A-TEAR

For Dog and Animal Lotions, Perfumes and Mascara.
First use Apr. 1, 1963.

SN 192,295. Keystone Laboratories, Inc., Memphis, Tenn. Filed Apr. 29, 1964.

MAGIC SECRET

For Skin Lotion and Skin Cream.
First use February 1951.
Subj. to Intf. with SN 180,375.

Class 52—Detergents and Soaps

SN 153,317. Peck's Products Company, St. Louis, Mo. Filed Sept. 17, 1962.

PHOS-MAT

For Acid Solvent for Cleaning of Metal Surfaces Prior to Painting.
First use June 9, 1954.

SN 165,115. Addressograph-Multigraph Corporation, Cleveland, Ohio, by merger from Charles Bruning Co., Inc., Mount Prospect, Ill. Filed Mar. 21, 1963.

COPYTRON

Owner of Reg. Nos. 672,479 and 690,215.
For Cleaning Composition for Use on Reproduction Machines.
First use Mar. 15, 1963.

SN 184,042. The Diversey Corporation, Chicago, Ill. Filed Jan. 6, 1964.

RESULT

For Dishwashing Compound in Powdered Form for Machines.
First use Dec. 9, 1963.

SN 184,284. Helene Curtis Industries, Inc., Chicago, Ill. Filed Jan. 9, 1964.

ENDEN

Owner of Reg. No. 683,780.
For Anti-Dandruff Shampoo.
First use on or about Oct. 28, 1955.

SERVICE MARKS

Class 100 — Miscellaneous

SN 154,910. Monsanto Chemical Company, St. Louis, Mo. Filed Oct. 10, 1962.

R.E.D.A.R.

For Engineering and Research and Development Services Rendered to Firms in the Textile Industry.
First use Sept. 19, 1962.

SN 154,911. Monsanto Chemical Company, St. Louis, Mo. Filed Oct. 10, 1962.

REDAR

For Engineering and Research and Development Services Rendered to Firms in the Textile Industry.
First use Sept. 19, 1962.

SN 160,409. Davies-Shea, Inc., Chicago, Ill. Filed Jan. 9, 1963.

Execu-Search

For Executive Employment Agency.
First use July 1, 1962.

SN 176,852. John P. Yancey, Jr., Newport News, Va. Filed Sept. 12, 1963.

John YANCEY

The name "John Yancey" is that of the applicant whose consent is of record.
For Hotel and Restaurant Services.
First use on or about Feb. 1, 1961.

SN 178,042. Rochester Capital Leasing Corporation, Rochester, N.Y. Filed Sept. 30, 1963.

Agri-Lease

For Leasing Service of Buildings, Machinery and Equipment for Use Generally in the Agricultural Field.
First use Aug. 12, 1963.

SN 184,935. Sureway Service Corporation, Los Angeles, Calif. Filed Jan. 20, 1964.

VU-A-PLAN

For Rental of Projecting Devices for Magnifying and Projecting Micro-Film and Other Reduced Scale Reproductions of Building Plans to Predetermined Scale.
First use Oct. 9, 1963.

Class 101 — Advertising and Business

SN 155,508. Olive N. Henry, d.b.a. O. Henry's Realty, San Leandro, Calif. Filed Oct. 19, 1962.

'WE SELL HAPPY HOMES'



For Real Estate Agency Services.
First use Sept. 12, 1962.

SN 162,630. Robert D. Cunningham, Jr., Chicago, Ill. Filed Feb. 13, 1963.

CREATIVE HOUSE

For Service of Personnel Selection, Procurement, and Placement in the General Field Represented by Advertising, Marketing, and Public Relations.
First use May 1, 1961.

SN 163,440. Western States Angus Association, Sacramento, Calif. Filed Feb. 25, 1963.

BONANZA

Owner of Reg. No. 703,354.
For Advertising, Promoting, and Conducting Sales of Cattle Owned by Others.
First use July 1958.

SN 177,676. A. T. Beckwith, Coral Gables, Fla. Filed Sept. 25, 1963.

REALY STATE

For Advertising Services Rendered to Real Estate Brokers.
First use Aug. 31, 1963.

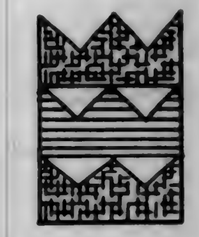
Class 102 — Insurance and Financial

SN 153,893. Reliance National Life Insurance Company, Salt Lake City, Utah. Filed Sept. 25, 1962.

Reliance National

For Underwriting Insurance Services.
First use on or before Sept. 23, 1954.

SN 173,945. Mutual Trust Life Insurance Company, Chicago, Ill. Filed July 29, 1963.



The drawing is lined for the colors blue and gold.
For Underwriting Life Insurance.
First use July 19, 1963.

SN 176,998. Boston Safe Deposit and Trust Company, Boston, Mass. Filed Sept. 16, 1963.



The mark comprises a silhouette portrait of living individuals all of whom have given written consent.
For Commercial Banking and Fiduciary Services.
First use on or about Sept. 22, 1960.

SN 177,581. United Income Life Insurance Company, Ardmore, Okla. Filed Sept. 23, 1963.



For Underwriting Life Insurance.
First use June 1, 1962.

SN 181,219. Devco Mutual Association, Media, Pa. Filed Nov. 15, 1963.

DEVCO



For Underwriting of Insurance.
First use Sept. 15, 1963.

Class 103 — Construction and Repair

SN 164,427. Caterpillar Tractor Co., East Peoria, Ill. Filed Mar. 12, 1963.

CAT

Owner of Reg. No. 564,272.
For Service, Maintenance and Repair of Trucks, Tractors, Engines, Earthmoving Equipment and Control Units Therefor, Generators and Agricultural Equipment.
First use 1951.

SN 169,742. Fred McCoy & Company, Denver, Colo. Filed May 27, 1963.



For Industrial Valve Reconditioning Service.
First use Apr. 1, 1963.

Class 107 — Education and Entertainment

SN 143,216. Episcopal Radio-TV Foundation, Inc., Atlanta, Ga. Filed Apr. 27, 1962.

ONE REACH ONE

For Radio and Television Program.
First use Sept. 24, 1961.

SN 174,876. Kellogg Company, Battle Creek, Mich. Filed Aug. 13, 1963.

Kellogg's

Owner of Reg. Nos. 105,218, 707,012, and others.
For Entertainment Services, Particularly Television and Radio Entertainment.
First use at least as early as 1930 for radio entertainment.

CERTIFICATION MARKS

Class B—Services

SN 178,383. | Virginia Department of Agriculture and Immigration, Richmond, Va. Filed Oct. 4, 1963.

TEL-O-AUCTION

The mark certifies that the livestock at the auctions have been live graded and sorted according to standards adopted by applicant.

For Services—Namely, Auctions of Livestock Where Bidding Is Done by Means of Leased Telephonic Communication as Well as by Those Attending in Person.

First use Jan. 14, 1963.

TM 176

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

773,892. CT. Consolidated Thermoplastics Company. SN 162,824. Pub. 5–12–64. Filed 2–15–63.

773,893. 377. Texon, Inc. SN 164,279. Pub. 5–12–64. Filed 3–8–63.

773,894. TEXON 377. Texon, Inc. SN 164,280. Pub. 5–12–64. Filed 3–8–63.

773,895. OLSONITE. Swedish Crucible Steel Company. SN 164,751. Pub. 5–12–64. Filed 3–15–63.

773,896. CAT (DESIGN). Excel-Mineral Company, Inc., d.b.a. Ex-M-Co. SN 166,700. Pub. 5–12–64. Filed 4–15–63.

773,897. TIPOX. Thiokol Chemical Corporation. SN 169,483. Pub. 5–12–64. Filed 5–22–63.

773,898. GERING. Monsanto Chemical Company. MULTIPLE CLASS (Classes 1, 12, 35, 37, and 50). SN 171,028. Pub. 5–12–64. Filed 6–14–63.

Class 2—Receptacles

773,899. PARADISO. Zappia-Paradiso, S.A. SN 159,793. Pub. 5–12–64. Filed 12–26–62.

773,900. SWIRL MIXER. Arthur J. Rochow, d.b.a. Rochow Swirl Mixer Company. SN 160,830. Pub. 5–12–64. Filed 1–7–63.

773,901. UNIVERSAL. Universal Producing Company. MULTIPLE CLASS (Classes 2, 42, and 50). SN 161,630. Pub. 5–12–64. Filed 1–29–63.

773,902. ZIP SIP. The Genesee Brewing Company, Inc. SN 169,725. Pub. 5–12–64. Filed 5–27–63.

773,903. SPECIFUGE. Lerner Packaging Corporation. SN 172,669. Pub. 5–12–64. Filed 7–9–63.

773,904. TURNPIKE TRAVELER. Clemco Products, Inc. SN 172,867. Pub. 5–12–64. Filed 7–12–63.

773,905. TRAVEL TREAT. Clemco Products, Inc. SN 172,868. Pub. 5–12–64. Filed 7–12–63.

773,906. CHASE SAX. Chase Bag Company. SN 179,200. Pub. 5–12–64. Filed 10–17–63.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

773,907. SIGNET. Anson Incorporated. SN 182,152. Pub. 5–12–64. Filed 12–2–63.

Class 4—Abrasives and Polishing Materials

773,908. GODDARD'S ETC. AND DESIGN. J. Goddard & Sons Limited. SN 104,972. Pub. 5–12–64. Filed 9–16–60.

773,909. NUBRIL. Geigy Chemical Corporation. SN 180,728. Pub. 5–12–64. Filed 11–8–63.

773,910. AMWAY AND DESIGN. Amway Corporation, assignee of Amway Sales Corporation. SN 181,834. Pub. 5–12–64. Filed 11–26–63.

Class 5—Adhesives

773,911. P & S SUPER BOND AND DESIGN. Pierce & Stevens Chemical Corp. SN 165,822. Pub. 5–12–64. Filed 4–1–63.

773,912. STIC-SAFE. Benjamin Foster Company. SN 180,497. Pub. 5–12–64. Filed 11–5–63.

773,913. DUPLOTEX. Lohmann K.G. SN 180,923. Pub. 5–12–64. Filed 11–12–63.

Class 6—Chemicals and Chemical Compositions

773,914. NOROT. Sun Chemical Corporation. SN 155,112. Pub. 5–12–64. Filed 10–12–62.

773,915. SOHIO 140. The Standard Oil Company. SN 157,163. Pub. 5–12–64. Filed 11–13–62.

773,916. NUCLEANT. Fosseo International Limited. SN 162,724. Pub. 5–12–64. Filed 2–14–63.

773,917. SURFATRON. Champion Chemicals, Inc. SN 167,208. Pub. 5–5–64. Filed 4–22–63.

773,918. CONFIGURATION OF A WITCH AND CAT ETC. The Mitchell-Bradford Chemical Co. MULTIPLE CLASS (Classes 6 and 52). SN 167,393. Pub. 5–12–64. Filed 4–23–63.

773,919. THYLON. Thiokol Chemical Corporation. SN 169,667. Pub. 5–12–64. Filed 5–24–63.

773,920. DEXALL. Deshler Products, Inc. SN 174,842. Pub. 5–12–64. Filed 8–12–63.

773,921. IOSPRAY. Lazarus Laboratories, Inc. SN 175,928. Pub. 5–12–64. Filed 8–28–63.

773,922. LITH-O-RITE. SCM Corporation. MULTIPLE CLASS (Classes 6, 11, 26, and 50). SN 178,048. Pub. 5–12–64. Filed 9–30–63.

Class 7—Cordage

773,923. SPARKLE SHEEN. Hallmark Cards, Incorporated. SN 183,406. Pub. 5–12–64. Filed 12–23–63.

773,924. BRAID-LOC. Broderick & Bascom Rope Company. SN 183,521. Pub. 5–12–64. Filed 12–4–63.

773,925. BLAZE. Puritan Cordage Mills. SN 183,794. Pub. 5–12–64. Filed 12–30–63.

Class 10—Fertilizers

773,926. CYANAMID AND DESIGN. American Cyanamid Company. SN 182,240. Pub. 5–12–64. Filed 12–3–63.

Class 11—Inks and Inking Materials

773,922. (See Class 6 for this trademark.)

773,927. HEXALON. Lawter Chemicals, Inc. SN 166,470. Pub. 5–12–64. Filed 4–10–63.

Class 12—Construction Materials

773,898. (See Class 1 for this trademark.)

773,928. CONFIGURATION OF GOODS (DESIGN). The Ohio Clay Company. SN 141,875. Pub. 5–12–64. Filed 4–9–62.

773,929. DENNIS AND DESIGN. W. J. Dennis & Company. MULTIPLE CLASS (Classes 12, 29, and 50). SN 150,655. Pub. 5–12–64. Filed 8–9–62.

773,930. R AND DESIGN. Roddis Lumber and Veneer Company, Inc. SN 166,753. Pub. 5-12-64. Filed 4-15-63.

773,931. ONE-COTE. The Eagle-Picher Company. SN 167,235. Pub. 5-12-64. Filed 4-23-63.

773,932. MUTANE. Meeker Brothers Iron Company. SN 168,019. Pub. 5-12-64. Filed 5-2-63.

773,933. TILEIZE AND DESIGN. International Protective Coatings Corporation. SN 168,624. Pub. 5-12-64. Filed 5-14-63.

773,934. FILL-CRETE. Penn Crete Products Company, Inc. SN 173,682. Pub. 5-12-64. Filed 7-24-63.

773,935. SINTELIT. S.A.D.I. S.p.A. SN 174,054. Pub. 5-12-64. Filed 7-30-63.

773,936. DEXALL. Deshler Products, Inc. SN 174,843. Pub. 5-12-64. Filed 8-12-63.

773,937. BUTLER F-103. Butler Manufacturing Company. SN 178,586. Pub. 5-12-64. Filed 10-9-63.

773,938. COLD SPRING GREEN. Cold Spring Granite Company. SN 178,590. Pub. 5-12-64. Filed 10-9-63.

773,939. GRANILITE. Granite Research Industries, Inc. SN 181,444. Pub. 5-12-64. Filed 11-20-63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

773,940. ELECTRO-VAL. Telsco Industries. SN 166,760. Pub. 5-12-64. Filed 4-15-63.

773,941. TRIPLE-DUTY. Bell & Gossett Company. SN 166,779. Pub. 5-12-64. Filed 4-16-63.

773,942. DISH-MATE. Gerity Products, Inc., by change of name from Gerity Gifts, Inc. SN 167,250. Pub. 5-12-64. Filed 4-22-63.

773,943. AMWAY. Amway Corporation, assignee of Amway Sales Corporation. SN 181,833. Pub. 5-12-64. Filed 11-26-63.

773,944. AMWAY AND DESIGN. Amway Corporation, assignee of Amway Sales Corporation. SN 181,836. Pub. 5-12-64. Filed 11-26-63.

773,945. THERMO MAID AND DESIGN. The West Bend Company. SN 182,690. Pub. 5-12-64. Filed 12-9-63.

Class 14—Metals and Metal Castings and Forgings

773,946. COMINCO. The Consolidated Mining and Smelting Company of Canada Limited. SN 179,698. Pub. 5-12-64. Filed 10-24-63.

773,947. K-W. The Carpenter Steel Company. SN 179,773. Pub. 5-12-64. Filed 10-25-63.

Class 15—Oils and Greases

773,948. OILY BIRD. Ronson Corporation. SN 171,044. Pub. 5-12-64. Filed 6-14-63.

773,949. GUILD HOUSE. American Greetings Corporation. SN 183,146. Pub. 5-12-64. Filed 12-17-63.

Class 16—Protective and Decorative Coatings

773,950. MARRS K AND DESIGN. Koontz Products, Inc. MULTIPLE CLASS (Classes 16 and 52). SN 139,220. Pub. 5-12-64. Filed 3-6-62.

773,951. JEM PHOS. Ajem Laboratories, Inc. SN 155,766. Pub. 5-12-64. Filed 10-24-62.

773,952. JEM MULSION. Ajem Laboratories, Inc. SN 155,768. Pub. 5-12-64. Filed 10-24-62.

773,953. SURF WAX. Herbert Holmes, d.b.a. The Surf Wax Co. SN 160,638. Pub. 5-12-64. Filed 1-14-63.

773,954. NEPTUNE AND DESIGN. C. A. Woolsey Paint & Color Co. Inc. SN 172,268. Pub. 5-5-64. Filed 7-1-63.

773,955. VERSON. Phelan-Faust Paint Mfg. Co. SN 173,591. Pub. 5-12-64. Filed 7-23-63.

773,956. FLOR-WELD. Penn Crete Products Company, Inc. SN 173,675. Pub. 5-12-64. Filed 7-24-63.

Class 18—Medicines and Pharmaceutical Preparations

773,957. 4 SEASONS. Lusco Products Limited. SN 132,691. Pub. 5-12-64. Filed 11-24-61.

773,958. CAMFODINE. Camfodine Company. SN 142,898. Pub. 5-12-64. Filed 4-23-62.

773,959. MIAZYME. Pruvo Pharmacal Company. SN 146,057. Pub. 5-12-64. Filed 6-11-62.

773,960. PENOPRYN. Richardson-Merrell Inc., by merger from Jensen-Salsbery Laboratories, Inc. SN 149,392. Pub. 5-12-64. Filed 7-19-62.

773,961. HEALTH PAK. Clover Farm Stores Corporation, d.b.a. Just Grand Sales Company. SN 154,955. Pub. 5-12-64. Filed 10-11-62.

773,962. POLYCILLIN. Bristol-Myers Company. SN 155,132. Pub. 5-12-64. Filed 10-15-62.

773,963. HOOFLEX. Hazel L. Boxley, d.b.a. Turf Products Co. SN 164,801. Pub. 5-12-64. Filed 5-15-63.

773,964. ABSORBEST. International Latex Corporation. SN 169,636. Pub. 5-12-64. Filed 5-24-63.

773,965. LACTOMICINA. Dr. Fernando Cuenca Villoro. SN 170,182. Pub. 5-12-64. Filed 6-3-63.

773,966. OLIGOCRINE. Societe d'Etude des Catalyseurs. SN 170,348. Pub. 5-5-64. Filed 6-4-63.

773,967. ABSORBEST. International Latex Corporation. SN 170,406. Pub. 5-12-64. Filed 6-5-63.

773,968. ISODETTES JUNIOR. International Latex Corporation. SN 171,453. Pub. 5-12-64. Filed 6-20-63.

773,969. METHAPHOR. The Borden Company. SN 176,422. Pub. 5-12-64. Filed 9-6-63.

773,970. FUNGOSPRAY. Cramer Chemical Company. SN 176,891. Pub. 5-12-64. Filed 9-13-63.

773,971. IBROGEN-L. Armour Pharmaceutical Company. SN 177,838. Pub. 5-12-64. Filed 9-27-63.

773,972. FELOID. Armour Pharmaceutical Company. SN 177,840. Pub. 5-12-64. Filed 9-27-63.

773,973. BON-EVINE. Armour Pharmaceutical Company. SN 177,845. Pub. 5-12-64. Filed 9-27-63.

773,974. BON-ECINE. Armour Pharmaceutical Company. SN 177,847. Pub. 5-12-64. Filed 9-27-63.

773,975. IBROGEN. Armour Pharmaceutical Company. SN 177,849. Pub. 5-12-64. Filed 9-27-63.

773,976. COPE. Sterling Drug Inc. SN 178,496. Pub. 3-31-64. Filed 10-7-63.

773,977. RUBRANOVA. Olin Mathieson Chemical Corporation. SN 181,307. Pub. 5-12-64. Filed 11-18-63.

773,978. STURDIVIM. Syracuse Pharmacal Co., Inc. SN 181,501. Pub. 5-12-64. Filed 11-19-63.

773,979. LIGENON. Geigy Chemical Corporation. SN 181,541. Pub. 5-12-64. Filed 11-20-63.

773,980. LOPATOL. Geigy Chemical Corporation. SN 181,542. Pub. 5-12-64. Filed 11-20-63.

773,981. PYRI-G. Norden Laboratories, Inc. SN 181,861. Pub. 5-12-64. Filed 11-20-63.

773,982. CADCO AND DESIGN. Cadco, Inc. SN 181,858. Pub. 5-12-64. Filed 11-26-63.

773,983. HORMOCAPS. Gold Leaf Pharmacal Co., Inc. SN 181,885. Pub. 5-12-64. Filed 11-26-63.

773,984. VITALEAF. Gold Leaf Pharmacal Co., Inc. SN 181,886. Pub. 5-12-64. Filed 11-26-63.

773,985. RAUTRACTIL. Olin Mathieson Chemical Corporation. SN 181,915. Pub. 5-12-64. Filed 11-26-63.

773,986. WINTUSS. Sterling Drug Inc. SN 182,004. Pub. 5-12-64. Filed 11-27-63.

Class 19—Vehicles

773,987. LUGER. Luger Industries, Inc. SN 150,261. Pub. 5-12-64. Filed S.R. 8-1-62; Am. P.R. 2-10-64.

773,988. TEST WATE AND DESIGN. B. J. Green and M. J. Green, d.b.a. Plumbium Mfg. Company. SN 154,718. Pub. 5-12-64. Filed 10-8-63.

773,989. CAMP LINER. Adventure Line Mfg. Co., Inc. SN 164,784. Pub. 5-12-64. Filed 3-18-63.

773,990. BATH-BUILT. Bath Iron Works Corporation. SN 169,003. Pub. 5-12-64. Filed 5-16-63.

773,991. AIRFLOAT AND DESIGN. King Richards, Inc. SN 174,191. Pub. 5-12-64. Filed 8-1-63.

773,992. WORK-N-PLAY. Independent Protection Co., Inc., d.b.a. Independent Products Co. SN 180,579. Pub. 5-12-64. Filed 11-6-63.

773,993. QUART-R-VAN. Hartman Trailer Manufacturing Company. SN 180,880. Pub. 5-12-64. Filed 11-12-63.

773,994. LEVEL-AIRE. Sea-Trim Corporation. SN 180,964. Pub. 5-12-64. Filed 11-12-63.

Class 20—Linoleum and Oiled Cloth

773,995. AMTICO BON BON. American Biltrite Rubber Co., Inc. SN 178,091. Pub 5-12-64 Filed 10-1-63

Class 21—Electrical Apparatus, Machines, and Supplies

773,996. FOTOFORM. Corning Glass Works. MULTIPLE CLASS (Classes 21 and 26). SN 156,383. Pub. 5-12-64. Filed 11-1-62.

773,997. MONARCH AIRE. Berns Air King Corporation. SN 161,465. Pub. 5-12-64. Filed 1-28-63.

773,998. BRUNING. Addressograph-Multigraph Corporation, by merger from Charles Bruning Co., Inc. SN 165,895. Pub. 4-7-64. Filed 4-2-63.

773,999. MODULE-X. Sel-Rex Corporation. SN 169,660. Pub. 5-12-64. Filed 5-24-63.

774,000. E AND DESIGN. Edwards Company, Inc. SN 169,711. Pub. 5-12-64. Filed 5-27-63.

774,001. ALPS TENDER-AIRE AND DESIGN. Alps Electro-Aire Industries, Inc. SN 169,900. Pub. 5-12-64. Filed 5-20-63.

774,002. DE AND DESIGN. Davis Electronics Corporation. SN 170,046. Pub. 5-12-64. Filed 5-31-63.

774,003. UNI-SEAL. Uni-Seal, Inc. SN 170,127. Pub. 5-12-64. Filed 5-31-63.

774,004. YUASA. Yuasa Battery Company Limited. SN 174,473. Pub. 5-12-64. Filed 8-5-63.

774,005. RING TONE. Richard H. Wann. SN 177,669. Pub. 5-12-64. Filed 9-24-63.

774,006. TROMAFLEX. Max Baermann, d.b.a. Technisch-Physikalisches Laboratorium und Magnetpresswerk. SN 178,322. Pub. 5-12-64. Filed 10-4-63.

774,007. IRON-LECTRIC. Helzberg's Diamond Shops, Inc. SN 178,921. Pub. 5-12-64. Filed 10-14-63.

774,008. SIERRATRON. Sierra Electric Corporation. SN 178,984. Pub. 5-12-64. Filed 10-14-63.

774,009. JOSLYN ETC. AND DESIGN. Joslyn Mfg. and Supply Co. SN 179,905. Pub. 5-12-64. Filed 10-28-63.

774,010. HEXO-LET. Fedtro, Inc. SN 180,082. Pub. 5-12-64. Filed 10-30-63.

774,011. OCTO-LET. Fedtro, Inc. SN 180,083. Pub. 5-12-64. Filed 10-30-63.

774,012. SKILSAW. Skil Corporation. SN 180,332. Pub. 5-12-64. Filed 11-1-63.

774,013. SKILSAW. Skil Corporation. SN 180,617. Pub. 5-12-64. Filed 11-6-63.

774,014. TRANSCREST. Gulf Oil Corporation. SN 180,734. Pub. 5-12-64. Filed 11-8-63.

774,015. SERV-O-MINDER. Loren G. Custer. SN 181,335. Pub. 5-12-64. Filed 11-18-63.

774,016. BAND-GUARD. Motorola, Inc. SN 181,557. Pub. 5-12-64. Filed 11-20-63.

774,017. GRAFSONIC. Graflex, Inc. SN 182,078. Pub. 5-12-64. Filed 11-29-63.

774,018. RACTANGLAR. The Pyle-National Company. SN 182,114. Pub. 5-12-64. Filed 11-29-63.

Class 22—Games, Toys, and Sporting Goods

774,019. MR. SOCIAL SECURITY. Stuart, Inc. SN 168,898. Pub. 5-12-64. Filed 3-4-63.

774,020. PONY. Manson Metal Equipment Co. SN 175,048. Pub. 5-12-64. Filed 8-14-63.

774,021. PENNY THE POODLE. Louis Marx & Co., Inc. SN 175,666. Pub. 5-12-64. Filed 8-23-63.

774,022. SKIL-CHEK. Garnett Gray, d.b.a. Skil-Chek Co. SN 175,988. Pub. 5-12-64. Filed 8-29-63.

774,023. LECTRO-HUNT. Future Hunting Unlimited Corporation. SN 176,185. Pub. 5-12-64. Filed 9-3-63.

774,024. ROCK-A-STACK. Fisher-Price Toys, Inc. SN 176,297. Pub. 5-12-64. Filed 9-4-63.

774,025. SKAT. E. S. Lowe Company, Inc. SN 176,309. Pub. 5-12-64. Filed 9-4-63.

774,026. MARX ELECTRIC SPEEDWAYS AND DESIGN. Louis Marx & Co., Inc. SN 176,310. Pub. 5-12-64. Filed 9-4-63.

774,027. HANOVER. Hanover Sports, Inc. SN 176,794. Pub. 5-12-64. Filed 9-12-63.

774,028. BILLYKIN. Cortland Industries, Inc. SN 177,004. Pub. 5-12-64. Filed 9-16-63.

774,029. HECO AND DESIGN. Harmony Enterprises, Incorporated. SN 177,255. Pub. 5-12-64. Filed 9-18-63.

774,030. QUINTIES. Alexander Doll Company, Inc., d.b.a. Madame Alexander. SN 177,593. Pub. 5-12-64. Filed 9-24-63.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

774,031. MONARCH. Dover Elevator Company, assignee of Monarch Elevator & Machine Company. SN 141,538. Pub. 5-12-64. Filed 4-4-62.

774,032. MELLE AND DESIGN. Les Usines de Melle. SN 154,259. Pub. 5-5-64. Filed 10-1-62.

774,033. D DIXON AND DESIGN. Dixon Automatic Tool, Inc. SN 156,094. Pub. 5-12-64. Filed 10-29-62.

774,034. SPRAYLINE. Sprayline Manufacturing and Supply Co. SN 156,174. Pub. 5-12-64. Filed 10-29-62.

774,035. LOGO DESIGN. Columware, Inc. SN 157,472. Pub. 5-12-64. Filed 11-19-62.

774,036. DESIGN OF HAND GRASPING A CYLINDER. Hydraulic & Air Equipment Co. SN 157,508. Pub. 5-12-64. Filed 11-19-62.

774,037. X-LINE. Otis Engineering Corporation. SN 157,541. Pub. 5-5-64. Filed 11-19-62.

774,038. T-E-L. Tel-E-Lect Products, Inc. SN 157,576. Pub. 5-12-64. Filed 11-19-62.

774,039. SKYTRAK. The West Brick Buggy Corporation. SN 157,660. Pub. 5-12-64. Filed 11-20-62.

774,040. FIBROTOM ENTSTIPPER. Peter Willems. SN 157,661. Pub. 5–12–64. Filed 3–5–63.

774,041. STAMPLICATOR. Stamplicator, Inc. SN 157,737. Pub. 5–12–64. Filed 11–21–62.

774,042. VAC-U-SOL. Monroe Food Machinery, Inc. SN 157,830. Pub. 5–5–64. Filed 11–23–62.

774,043. HENRITE. Henrite Products Corporation. SN 157,902. Pub. 5–5–64. Filed 11–26–62.

774,044. DESIGN OF RIPPLE SYMBOL. Sonic Engineering Corporation. SN 158,391. Pub. 5–12–64. Filed 12–3–62.

774,045. GUILLO-AIR AIR POWERED AND DESIGN. Grant Engineering Co. Limited. SN 159,230. Pub. 5–12–64. Filed 12–17–62.

774,046. TORK-MOR AND DESIGN. Roto Actuator Corp. SN 163,176. Pub. 5–12–64. Filed 2–20–63.

774,047. SABER TOOTH. Buck Tool Company. SN 163,220. Pub. 5–12–64. Filed 2–21–63.

774,048. MAC-35. McCulloch Corporation. SN 166,566. Pub. 5–12–64. Filed 4–11–63.

774,049. BATH-BUILT. Bath Iron Works Corporation. SN 169,002. Pub. 5–12–64. Filed 5–16–63.

774,050. POOL JEWEL. Bell & Gossett Company. SN 171,955. Pub. 5–12–64. Filed 6–27–63.

774,051. PANSAR. C. O. Öberg & Co:s Aktiebolag. SN 173,673. Pub. 5–12–64. Filed 7–24–63.

774,052. UNI-BLEND. Crown Cork & Seal Company, Inc. SN 177,158. Pub. 5–12–64. Filed 9–17–63.

774,053. BONNIE GREEN. Heritage House Products, Inc. SN 177,996. Pub. 5–12–64. Filed 9–30–63.

774,054. SKIL. Skil Corporation. SN 180,330. Pub. 5–5–64. Filed 11–1–63.

774,055. SKIL. Skil Corporation. SN 180,331. Pub. 5–5–64. Filed 11–1–63.

774,056. SKILSAW. Skil Corporation. SN 180,333. Pub. 5–12–64. Filed 11–1–63.

774,057. SKILSAW. Skil Corporation. SN 180,457. Pub. 5–5–64. Filed 11–4–63.

774,058. SI. Aero-Flow Dynamics, Inc. SN 180,480. Pub. 5–5–64. Filed 11–5–63.

774,059. HB. Scovill Manufacturing Company. SN 181,416. Pub. 5–12–64. Filed 11–18–63.

774,060. AMWAY AND DESIGN. Amway Corporation, assignee of Amway Sales Corporation. SN 181,837. Pub. 5–12–64. Filed 11–26–63.

774,061. NOBA. Karin Bartsch, née von Barner. SN 182,761. Pub. 5–12–64. Filed 12–11–63.

Class 24 — Laundry Appliances and Machines

774,062. CAMEO AND DESIGN. Arvin Industries, Inc. SN 158,951. Pub. 2–11–64. Filed 12–12–62.

774,063. PANASONIC AND DESIGN. Matsushita Electric Industrial Co., Ltd. SN 176,551. Pub. 5–12–64. Filed 9–9–63.

774,064. MI-T-BOY. Ametek, Inc. SN 179,989. Pub. 5–12–64. Filed 10–29–63.

Class 26 — Measuring and Scientific Appliances

773,922. (See Class 6 for this trademark.)

773,996. (See Class 21 for this trademark.)

774,065. PREVIEWER 8 AND DESIGN. Viewer Products Inc. SN 83,758. Pub. 4–12–60. Filed 10–21–59.

774,066. T IN A CIRCLE. The Transitel International Corporation. SN 141,766. Pub. 5–12–64. Filed 4–6–62.

774,067. VISIDOME. Greiner Scientific Corporation. SN 148,378. Pub. 5–12–64. Filed 7–5–62.

774,068. HOFFMAN AND DESIGN. Hoffman Electronics Corporation. SN 168,681. Pub. 5–12–64. Filed 2–28–63.

774,069. THERMO-PILL. Federal Auto Products Co., Inc., d.b.a. Everhot Products Co. SN 165,223. Pub. 5–12–64. Filed 3–25–63.

774,070. CHEM MASTER. Economics Laboratory, Inc. SN 166,265. Pub. 5–12–64. Filed 4–8–63.

774,071. ORTHOTRIM. Nytronics, Inc., assignee of Ortho Industries, Inc. SN 166,481. Pub. 5–12–64. Filed 4–10–63.

774,072. SMOKE SENTINEL. Pyrotector, Inc. SN 166,485. Pub. 5–12–64. Filed 4–10–63.

774,073. MINALENS. Morrison Laboratories, Inc. SN 167,024. Pub. 5–12–64. Filed 4–18–63.

774,074. LOG-ALARM. Bauer Electronics Corporation. SN 167,446. Pub. 5–12–64. Filed 4–24–63.

774,075. LIGHTABLE. Ednalite Research Corporation. SN 167,538. Pub. 5–12–64. Filed 4–25–63.

774,076. A AND DESIGN. Aerotec Industries, Inc. SN 168,052. Pub. 5–12–64. Filed 5–3–63.

774,077. ASTEK. Astek Instrument Corp. SN 168,055. Pub. 5–12–64. Filed 5–3–63.

774,078. HUMIDICATOR. Hygrodynamics, Inc. SN 168,125. Pub. 5–12–64. Filed 5–3–63.

774,079. ACRAMATIC. The Cincinnati Milling Machine Co. SN 169,017. Pub. 5–12–64. Filed 5–16–63.

774,080. ACRASIZE. The Cincinnati Milling Machine Co. SN 169,018. Pub. 5–12–64. Filed 5–16–63.

774,081. LINCO. Lincoln Manufacturing Company. SN 169,949. Pub. 5–12–64. Filed 5–29–63.

774,082. INFRA-PAK. Telewave Laboratories, Inc. SN 170,866. Pub. 5–12–64. Filed 6–12–63.

774,083. AUTOPACK. Autopack Limited. SN 171,952. Pub. 5–12–64. Filed 6–27–63.

774,084. ARMORLITE. The Armorlite Lens Company, Inc. SN 174,002. Pub. 5–12–64. Filed 7–30–63.

774,085. FOTOMATIC. Harris-Intertype Corporation. SN 174,026. Pub. 5–12–64. Filed 7–30–63.

774,086. VIBRASENSOR. Textron Electronics, Inc. SN 174,065. Pub. 5–12–64. Filed 7–31–63.

774,087. VIVIPAN. General Aniline & Film Corporation. SN 174,582. Pub. 5–12–64. Filed 8–7–63.

774,088. MAGNA ADD. Robert Hubbell Magnuson and Arthur Richard Magnuson. SN 175,662. Pub. 5–12–64. Filed 8–23–63.

774,089. INFO-TEL. Monsanto Chemical Company. SN 175,669. Pub. 5–12–64. Filed 8–23–63.

774,090. KITCHEN KOMPUTER. Poley Manufacturing Company. SN 176,437. Pub. 5–12–64. Filed 9–6–63.

774,091. MONOPAK. American Machine & Foundry Company. SN 176,703. Pub. 5–12–64. Filed 9–11–63.

774,092. PHASE OF THE MOON. Nuclear-Chicago Corp. SN 177,544. Pub. 5–12–64. Filed 9–23–63.

774,093. BIMAT. Eastman Kodak Company. SN 178,429. Pub. 5–12–64. Filed 10–7–63.

774,094. IRCON. Ircon, Inc. SN 178,612. Pub. 5–12–64. Filed 10–9–63.

774,095. THYDROMETER. The Dow Chemical Company. SN 178,681. Pub. 5–12–64. Filed 10–10–63.

774,096. ALLURA. General Aniline & Film Corporation. SN 178,692. Pub. 5–12–64. Filed 10–10–63.

774,097. INSERTAPROBE. Diamond Alkali Company. SN 178,788. Pub. 5–12–64. Filed 10–11–63.

774,098. KEYTROL. William M. Wilson's Sons, Inc. SN 178,844. Pub. 5–12–64. Filed 10–11–63.

774,099. SEA & SKI. Botany Industries, Inc., d.b.a. Sea and Ski Company. SN 178,867. Pub. 5–12–64. Filed 10–14–63.

774,100. SELECTA-SYSTEM. Barber-Colman Company. SN 179,313. Pub. 5–12–64. Filed 10–18–63.

774,101. BIOCYTE. Biocyte Company. SN 179,379. Pub. 5–12–64. Filed 8–12–63.

774,102. AMPLIBRIDGE. Statham Instruments, Inc. SN 179,473. Pub. 5–12–64. Filed 10–21–63.

774,102. "KIDDIE-PET." The Electric Storage Battery Company. SN 179,879. Pub. 5-12-64. Filed 10-28-63.

Class 27 — Horological Instruments

774,104. KJ AND DESIGN. Kollmar & Jourdan Aktiengesellschaft. MULTIPLE CLASS (Classes 27 and 28). SN 151,238. Pub. 5-12-64. Filed 7-27-62.

774,105. GK AND STAR DESIGN. Gebr. Kuttroff. MULTIPLE CLASS (Classes 27 and 28). SN 151,310. Pub. 5-12-64. Filed 8-10-62.

774,106. TECHNIPOWER. Benrus Watch Company, Inc. SN 181,609. Pub. 5-12-64. Filed 11-21-63.

774,107. STRATFORD. Peoples Jewelry Company. CONSOLIDATED CERTIFICATE. SN 182,455, pub. 5-5-64, filed 11-27-63, Cl. 27; SN 182,454, pub. 5-5-64, filed 11-27-63, Cl. 28.

Class 28 — Jewelry and Precious-Metal Ware

774,104. (See Class 27 for this trademark.)

774,105. (See Class 27 for this trademark.

774,107. CONSOLIDATED CERTIFICATE. See Class 27.

774,108. ROSE TIARA. Gorham Corporation. SN 158,248. Pub. 5-12-64. Filed 11-30-62.

774,109. VS AND DESIGN. William & Sidney Spector, Inc. SN 158,743. Pub. 5-5-64. Filed 12-7-62.

774,110. W AND DESIGN. Windsor Silver Co., Inc. SN 162,891. Pub. 5-5-64. Filed 2-8-63.

774,111. AG AND DESIGN. Gutfreund, Inc. SN 179,182. Pub. 5-12-64. Filed 10-16-63.

774,112. A. B. LEE. Anna Belle Lee. SN 180,414. Pub. 5-12-64. Filed 11-4-63.

774,113. POMPADOUR OF LONDON. Chantereine, Inc. SN 183,707. Pub. 5-12-64. Filed 12-10-63.

774,114. AL AND DESIGN. Dawn Creations, Inc. SN 183,036. Pub. 5-12-64. Filed 12-16-63.

774,115. JB AND DESIGN. Jacoby-Bender, Inc. SN 183,268. Pub. 5-12-64. Filed 12-19-63.

774,116. CHAMPION. Jacoby-Bender, Inc. SN 183,269. Pub. 5-12-64. Filed 12-19-63.

774,117. SOLARENE. Alan Novelty Co., Inc. SN 183,301. Pub. 5-12-64. Filed 12-20-63.

774,118. S AND HEART DESIGN. Bazar, Inc. Sales Co. SN 183,362. Pub. 5-12-64. Filed 12-23-63.

774,119. D'LYLE AND DESIGN. Lyles-Degranier Co. SN 183,427. Pub. 5-12-64. Filed 12-23-63.

774,120. RAG MOP ANNIE. Best Plastics, Inc. SN 183,727. Pub. 5-12-64. Filed 12-30-63.

774,121. WG. William D. Galyean, Jr., d.b.a. W. Galyean Jewelers. SN 183,752. Pub. 5-12-64. Filed 12-30-63.

Class 29 — Brooms, Brushes, and Dusters

773,929. (See Class 12 for this trademark.)

774,122. CROWN JEWELITE. Pro-Phy-Lac-Tic Brush Company. SN 176,569. Pub. 5-12-64. Filed 9-9-63.

774,123. SUNBEAM. Sunbeam Corporation. SN 180,040. Pub. 5-12-64. Filed 10-29-63.

Class 31 — Filters and Refrigerators

774,124. PANASONIC AND DESIGN. Matsushita Electric Industrial Co., Ltd. SN 176,553. Pub. 5-12-64. Filed 9-9-63.

774,125. METRICEL. Gelman Instrument Company. SN 181,137. Pub. 5-12-64. Filed 11-14-63.

Class 32 — Furniture and Upholstery

774,126. DURA-REST. Palmer Bedding Company. SN 125,617. Pub. 10-23-62. Filed 8-6-61.

774,127. DURA-SMOOTH. Palmer Bedding Company. SN 125,618. Pub. 10-23-62. Filed 8-6-61.

Class 34 — Heating, Lighting, and Ventilating Apparatus

774,129. MISC DESIGN. The Cleveland Flux Company. SN 165,211. Pub. 5-12-64. Filed 3-22-63.

774,129. BIG DUTCHMAN. Automatic Poultry Feeder Company. SN 167,689. Pub. 5-12-64. Filed 4-29-63.

774,130. CHIPPEWA. Research Products Corporation. SN 181,924. Pub. 5-12-64. Filed 11-26-63.

774,131. SILENT SAM-SUN AND DESIGN. Suntemp Industries, Inc. SN 182,303. Pub. 5-12-64. Filed 12-3-63.

774,132. SCHOOLMATE. John J. Nesbitt, Inc. SN 182,818. Pub. 5-12-64. Filed 12-11-63.

774,133. SUNROD. Sunrod Manufacturing Corporation. SN 182,975. Pub. 5-12-64. Filed 12-13-63.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

773,898. (See Class 1 for this trademark.)

774,134. STOWAWAY. Triton Technics, Inc. SN 170,868. Pub. 5-12-64. Filed 6-12-63.

774,135. P AND DESIGN. Pawling Rubber Corporation. MULTIPLE CLASS (Classes 35 and 50). SN 175,935. Pub. 5-12-64. Filed 8-28-63.

774,136. TWIN AIR LIFE PRESERVER. Vogue Tyre & Rubber Company, by change of name from Vogue Rubber Company. SN 178,840. Pub. 4-14-64. Filed 10-11-63.

774,137. K-M. Nicolet Industries, Inc. SN 181,053. Pub. 5-12-64. Filed 11-13-63.

Class 36 — Musical Instruments and Supplies

774,138. KLANN ETC. AND DESIGN. Klann Organ Supply Company. SN 173,468. Pub. 5-12-64. Filed 7-22-63.

774,139. VERNON. Vernon Photographic Corp. SN 176,256. Pub. 5-5-63. Filed 9-3-63.

774,140. HOOTENANNY. Jackson-Guldan, Inc. SN 176,634. Pub. 5-12-64. Filed 9-10-63.

Class 37 — Paper and Stationery

773,898. (See Class 1 for this trademark.)

774,141. MOORE-FAST. Moore Business Forms, Inc. SN 139,657. Pub. 5-12-64. Filed 3-12-62.

774,142. SEVENTY-FIVE. The Parker Pen Company, assignee of Lew Mfg. Co. SN 166,641. Pub. 5-12-64. Filed 4-12-63.

774,143. STYLE PERFECT. The Sherwin-Williams Company. SN 175,327. Pub. 5-12-64. Filed 8-19-1963.

774,144. FINCH PAPERS AND DESIGN. Finch, Pruyn and Company, Incorporated. SN 176,296. Pub. 5-12-64. Filed 9-4-63.

774,145. FIRWEAVE. Danak Linens, Inc. SN 176,112. Pub. 5-5-64. Filed 10-1-63.

774,146. CARDKOTE. Champion Papers Inc. SN 178,173. Pub. 5-12-64. Filed 10-2-63.

774,147. KWIK-KLIK. Island Pen Manufacturing Corp. SN 179,299. Pub. 5-12-64. Filed 10-16-63.

774,148. LUXOWEB. Oxford Paper Company. SN 179,555. Pub. 5–12–64. Filed 10–23–63.

774,149. HAYES-T-LETTER. Hayes-T-Letter, Inc. SN 179,633. Pub. 5–12–64. Filed 10–28–63.

774,150. LINPACO. Linderman Paper Company, Inc. SN 180,217. Pub. 5–12–64. Filed 10–31–63.

774,151. OPTI-CARD. Systems Programming Corporation. SN 180,463. Pub. 5–12–64. Filed 11–4–63.

774,152. GC SYMBOL. Graphic Controls Corporation. SN 180,573. Pub. 5–12–64. Filed 11–6–63.

Class 38 — Prints and Publications

774,153. OPERATIVE PLASTERERS' ETC. AND DESIGN. Operative Plasterers' and Cement Masons' Internat. Assn. of the United States and Canada. SN 159,422. Pub. 5–12–64. Filed 12–19–62.

774,154. THIS AMERICA. Melvin L. Bergheim, d.b.a. Mel Bergheim. SN 175,879. Pub. 5–12–64. Filed 8–20–63.

774,155. MEDALIDE. Stanley A. Wise, Jr. SN 175,888. Pub. 5–12–64. Filed 8–27–63.

774,156. HEXAGONAL DESIGN. Samson Science Corporation. SN 175,943. Pub. 5–12–64. Filed 8–28–63.

774,157. IMPRESSARIO. Village House Publishers, Inc., assignee of Booth-Ryan Associates, Inc. SN 176,350. Pub. 5–12–64. Filed 9–5–63.

774,158. NABCA REVIEW. National Alcoholic Beverage Control Association, Inc. SN 176,456. Pub. 5–12–64. Filed 9–6–63.

774,159. HONEYCOMB. Norcross, Inc. SN 177,081. Pub. 5–12–64. Filed 9–16–63.

Class 39 — Clothing

774,160. SKIMEISTER. Woolrich Woolen Mills. SN 147,879. Pub. 12–10–63. Filed 6–27–62.

774,161. FLEX A LON AND DESIGN. Jo-Gal Shoe Company, Inc. SN 153,659. Pub. 5–12–64. Filed 9–21–62.

774,162. BSG AND DESIGN. British Specialty Goods, Ltd. Inc. SN 155,967. Pub. 5–12–64. Filed 10–26–62.

774,163. SPARKLE VELVET AND DESIGN. Collegeville Flag & Mfg. Co. SN 161,007. Pub. 5–12–64. Filed 1–21–63.

774,164. RHONELLA. Societe Rhodiaceta. SN 162,671. Pub. 5–12–64. Filed 2–13–63.

774,165. RHONELLO. Societe Rhodiaceta. SN 162,674. Pub. 5–12–64. Filed 2–13–63.

774,166. RHONELLY. Societe Rhodiaceta. SN 162,677. Pub. 5–12–64. Filed 2–13–63.

774,167. DIXIE PAL AND DESIGN. Raylass Department Stores, Inc. SN 162,868. Pub. 5–12–64. Filed 2–15–63.

774,168. BOOTNIKS. Wellco Ro-Search Industries, Inc. SN 163,685. Pub. 5–12–64. Filed 2–28–63.

774,169. TATTERALL. Parlane Sportswear Co., Inc. SN 165,077. Pub. 5–12–64. Filed 3–20–63.

774,170. RAEL-BROOK. Rael-Brook Limited. SN 165,376. Pub. 5–12–64. Filed 3–25–63.

774,171. O'B AND DESIGN. O'Brien Manufacturing Co. SN 166,116. Pub. 5–12–64. Filed 4–4–63.

774,172. THE BRIARCREST GROUP. Hickey-Freeman Company. SN 166,383. Pub. 5–12–64. Filed 4–9–63.

774,173. FUN FRILLS AND DESIGN. Atlas Underwear Co., Inc. SN 166,683. Pub. 5–12–64. Filed 4–15–63.

774,174. LANGTRY LTD. AND DESIGN. Langtry Ltd., by change of name from Langtry, Ltd. Shirts, Inc. SN 167,008. Pub. 5–12–64. Filed 4–18–63.

774,175. LEISURE LADY LOUNGEWEAR OF DISTINCTION. Top Mode Manufacturing Company. SN 167,659. Pub. 5–12–64. Filed 4–26–63.

774,176. SKIRT LINER. American Maid Company, Inc., assignee of S and Z Manufacturing Company. SN 169,071. Pub. 5–12–64. Filed 5–16–63.

774,177. GRANTOGS. W. T. Grant Company. SN 171,869. Pub. 5–12–64. Filed 6–26–63.

774,178. FLETA. Coast Empire, Inc. SN 171,970. Pub. 5–12–64. Filed 6–27–63.

774,179. KIPPIE KARD-I-KINS. Kippe Togs Mfg. Corp. SN 172,076. Pub. 5–12–64. Filed 6–28–63.

774,180. SAND KNIT. Sand Knitting Mills Corporation. SN 172,247. Pub. 5–12–64. Filed 7–1–63.

774,181. SAND. Sand Knitting Mills Corporation. SN 172,248. Pub. 5–12–64. Filed 7–1–63.

774,182. DESIGN OF SCISSORS. Troy Shirt Makers Guild, Inc. SN 172,437. Pub. 5–12–64. Filed 7–3–63.

774,183. PERALTO. Simon & Sons Shoe Company, Inc. SN 173,870. Pub. 5–12–64. Filed 7–20–63.

774,184. DRESS-SHAPER. Genesco Inc. SN 174,952. Pub. 5–12–64. Filed 8–13–63.

774,185. HASTY HILL. Blue Bell, Inc. SN 175,824. Pub. 5–12–64. Filed 8–27–63.

774,186. HYDE BAY CLUB. Blue Bell, Inc. SN 175,837. Pub. 5–12–64. Filed 8–27–63.

774,187. HILLGATE. Blue Bell, Inc. SN 175,838. Pub. 5–12–64. Filed 8–27–63.

774,188. VARSITY AND DESIGN. Varsity Pajamas, Incorporated, d.b.a. Varsity Pajamas, Inc. SN 175,958. Pub. 5–12–64. Filed 8–28–63.

774,189. VYGORA. Glasgo Limited, Inc. SN 176,730. Pub. 5–12–64. Filed 9–11–63.

774,190. MITEX. M.I.T.E.X. Manifatture Italiane Tessuti Maglierie. SN 178,015. Pub. 5–12–64 Filed 9–30–63.

774,191. FLORENCE WALSH CLOTHES WITH THE CHARM OF A BROGUE. Florence Walsh Fashions, Inc. SN 178,238. Pub. 5–12–64. Filed 10–2–63.

774,192. BELTON. Beltex Corporation. SN 178,251. Pub. 5–12–64. Filed 10–3–63.

774,193. MURPHY'S. G. C. Murphy Company. SN 178,950. Pub. 5–12–64. Filed 10–14–63.

774,194. AMWAY AND DESIGN. Amway Corporation, assignee of Amway Sales Corporation. SN 181,838. Pub. 5–12–64. Filed 11–28–63.

Class 40 — Fancy Goods, Furnishings, and Notions

774,195. BLUPEARL AND DESIGN. Crosthill Industries, Inc. SN 112,443. Pub. 5–12–64. Filed 1–25–61.

774,196. JIFFY. Gaylord Products, Incorporated. SN 176,300. Pub. 5–12–64. Filed 9–4–63.

774,197. PERMA-FUZE. Supply Manufacturing Co., Inc. SN 179,673. Pub. 5–12–64. Filed 10–23–63.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

773,901. (See Class 2 for this trademark.)

774,198. MOONGLOW. H. P. Ogden Company. SN 149,629. Pub. 5–12–64. Filed 7–11–62.

774,199. KNIT-SOF. Collins & Aikman Corporation. SN 163,033. Pub. 5–12–64. Filed 2–19–63.

774,200. INSULINE AND DESIGN. A. W. Scheffres Corp. SN 168,232. Pub. 5–12–64. Filed 5–6–63.

774,201. THERMO-LON AND DESIGN. A. W. Scheffres Corp. SN 169,072. Pub. 5–12–64. Filed 5–16–63.

774,202. EASY-STRETCH E-Z. Wyandotte Worsted Company. SN 169,502. Pub. 5–12–64. Filed 5–22–63.

774,203. SPANTRIQUE. Webco Mills, Inc. SN 172,696. Pub. 5–12–64. Filed 7–9–63.

774,204. NASSAU. Beacon Manufacturing Company. SN 177,151. Pub. 5–12–64. Filed 9–17–63.

774,205. LYNSET. Lynnfield Fabrics Inc. SN 177,261. Pub. 5–12–64. Filed 9–19–63.

774,206. DANLIN. Dan River Mills, Incorporated. SN 177,401. Pub. 5-12-64. Filed 9-20-63.

774,207. JAMIR. J. P. Stevens & Co., Inc. SN 177,462. Pub. 5-12-64. Filed 9-20-63.

774,208. HOLLAND MAID AND DESIGN. Holland Cotton Products Company. SN 177,525. Pub. 5-12-64. Filed 9-20-63.

774,209. PYRAK. Baxter, Woodhouse & Taylor Limited. SN 178,769. Pub. 5-12-64. Filed 10-10-63.

Class 43 — Thread and Yarn

774,210. CASSINO. Emile Bernat & Sons Co. SN 171,079. Pub. 5-12-64. Filed 6-17-63.

774,211. OPALSPUN. Emile Bernat & Sons Co. SN 177,153. Pub. 5-12-64. Filed 9-17-63.

774,212. EMBASSY. F. W. Woolworth Co. SN 178,753. Pub 5-12-64. Filed 10-10-63.

Class 44 — Dental, Medical, and Surgical Appliances

774,213. HIDE-A-THUMB AND DESIGN. The Dontic Corporation. SN 182,603. Pub. 5-12-64. Filed 12-9-63.

774,214. AIR-LON. Dittmar and Penn Corporation. SN 182,937. Pub. 5-12-64. Filed 12-13-63.

774,215. BALLET. Kimberly-Clark Corporation. SN 182,951. Pub. 5-12-64. Filed 12-13-63.

Class 45 — Soft Drinks and Carbonated Waters

774,216. HEAD MASTER. Falk Enterprises Co. Inc. SN 176,510. Pub. 5-12-64. Filed 9-9-63.

774,217. DUTCH DIET. Triangle Beverage Company, d.b.a. Triangle Beverage Co. SN 176,847. Pub. 5-12-64. Filed 9-12-63.

Class 46 — Foods and Ingredients of Foods

774,218. INHIBISAL. Beacon Chemical Industries, Inc. SN 136,101. Pub. 5-12-64. Filed 1-19-62.

774,219. SAROMEX. Stafford Allen & Sons, Ltd. SN 146,806. Pub. 5-12-64. Filed 6-14-62.

774,220. D'AUCY. Societe D'Approvisionnement et de Vente France-Uniconserves. SN 152,932. Pub. 5-12-64. Filed 9-11-62.

774,221. BRUCOF. Brucof Company. SN 159,691. Pub. 5-12-64. Filed 12-26-62.

774,222. LOS ALTOS. Purity Stores, Inc. SN 161,093. Pub. 5-12-64. Filed 1-21-63.

774,223. TABLE PRINCE. The Miami Margarine Company. SN 162,581. Pub. 5-12-64. Filed 2-12-63.

774,224. SWEET 30 AND DESIGN. The Pillsbury Company. SN 163,270. Pub. 5-12-64. Filed 2-21-63.

774,225. CHEF'S KITCHEN AND DESIGN. John Hawks Tasker, d.b.a. Chef's Kitchen. SN 163,430. Pub. 5-12-64. Filed 2-25-63.

774,226. RES-Q. Allied Mills, Inc. SN 163,508. Pub. 5-12-64. Filed 2-25-63.

774,227. DESERT BLOOM. George T. Hansen, d.b.a. Boyden-Hansen Co. SN 164,838. Pub. 5-12-64. Filed 3-18-63.

774,228. SEA PAK CONTOUR CUT. Sea Pak Corporation. SN 165,711. Pub. 5-12-64. Filed 3-29-63.

774,229. TOP TASTE. National Tea Co. SN 166,806. Pub. 5-12-64. Filed 4-8-63.

774,230. LIQUI-AGED. Pellar Laboratories, Inc. SN 167,928. Pub. 5-12-64. Filed 5-1-63.

774,231. CELEBRITY BRAND. Atalanta Trading Corp. SN 169,685. Pub. 5-12-64. Filed 5-27-63.

774,232. DESIGN OF A CIRCLE WITH SWORD AND TASSEL ETC. Bill & Ed Koda. SN 170,289. Pub. 5-12-64. Filed 6-4-63.

774,233. SUNNY WEST AND DESIGN. Colorado Potato Growers' Exchange. SN 171,311. Pub. 5-12-64. Filed 6-19-63.

774,234. SUPREME QUALITY AND DESIGN. Colorado Potato Growers' Exchange. SN 171,312. Pub. 5-12-64. Filed 6-19-63.

774,235. RANCHO GRANDE. Colorado Potato Growers' Exchange. SN 171,315. Pub. 5-12-64. Filed 6-19-63.

774,236. PUNA. Puna Fruit Packers of Hawaii, Ltd. SN 171,568. Pub. 5-12-64. Filed 6-21-63.

774,237. PANCHICKEN. Dwight S. Olmstead, d.b.a. D. S. Olmstead. SN 175,082. Pub. 5-12-64. Filed 8-13-63.

774,238. LOK. Basic Food Materials, Inc. (Delaware corporation), by assignment and change of name from Basic Food Materials, Inc. (Ohio corporation). SN 176,618. Pub. 5-12-64. Filed 9-10-63.

774,239. GOURMATE. Hudson Vitamin Products, Inc. SN 177,042. Pub. 5-12-64. Filed 9-16-63.

774,240. REPP-U-TATION. National Fruit Product Co., Inc. SN 177,535. Pub. 5-12-64. Filed 9-23-63.

774,241. CIRCLE STAR. Morningstar-Paisley, Inc. SN 178,947. Pub. 5-12-64. Filed 10-14-63.

774,242. PUB-NUTS. Sachs Nut Inc. SN 179,464. Pub. 3-31-64. Filed 10-21-63.

774,243. RED MOON AND DESIGN. Blue Moon Fruit Co-Operative Limited. SN 182,156. Pub. 5-12-64. Filed 12-2-63.

774,244. BLUE MOON AND DESIGN. Blue Moon Fruit Co-Operative Limited. SN 182,157. Pub. 5-12-64. Filed 12-2-63.

774,245. MOUNTAIN LODGE. Anheuser-Busch, Incorporated. SN 182,855. Pub. 5-12-64. Filed 12-12-63.

774,246. ROLO. Freund Baking Company. SN 182,874. Pub. 5-12-64. Filed 12-12-63.

774,247. LANG'S. Kal Kan Foods, Inc. SN 183,070. Pub. 5-12-64. Filed 12-16-63.

Class 47 — Wines

774,248. JEZEBEL. Carmel Wine Company, Inc. SN 176,623. Pub. 5-12-64. Filed 9-10-63.

Class 49 — Distilled Alcoholic Liquors

774,249. VOLGA. Standard Wholesale Co. Incorporated, d.b.a. Danton Hill Distilling Company. SN 157,940. Pub. 5-12-64. Filed 11-26-62.

774,250. IVAN ONANOFF. McKesson & Robbins, Incorporated. SN 168,621. Pub. 1-7-64. Filed 5-10-63.

774,251. KINGS BOUQUET. H. C. MacPherson, d.b.a. MacPerson & Company and A. & B. Mackay & Company. SN 171,150. Pub. 5-12-64. Filed 6-17-63.

774,252. CARIBBEAN STAR. Charles Rosenblum, d.b.a. Stuart Lloyd Co. SN 174,241. Pub. 5-12-64. Filed 8-1-63.

774,253. HENRY McKENNA. Joseph E. Seagram & Sons, Inc. SN 175,517. Pub. 5-12-64. Filed 8-21-63.

Class 50—Merchandise Not Otherwise Classified

773,898. (See Class 1 for this trademark.)

773,901. (See Class 2 for this trademark.)

773,922. (See Class 6 for this trademark.)

773,929. (See Class 12 for this trademark.)

774,135. (See Class 35 for this trademark.)

774,254. COM PACT. Rim Trim Inc. SN 160,972. Pub. 5–12–64. Filed 1–18–63.

774,255. FLAG-MASTER. Dard Products, Inc. SN 164,021. Pub. 5–12–64. Filed 3–6–63.

774,256. MAG FAB AND DESIGN. Magnesium Fabricators, Inc. SN 167,283. Pub. 5–12–64. Filed 4–22–63.

Class 51—Cosmetics and Toilet Preparations

774,257. GLAMOUR BATH. Clairol Incorporated. SN 125,803. Pub. 5–12–64. Filed 8–11–61.

774,258. HEALTH PAK. Clover Farm Stores Corporation, d.b.a. Just Grand Sales Company. SN 154,956. Pub. 5–12–64. Filed 10–11–62.

774,259. FASHION CURL. "42" Products Ltd., Inc. SN 168,730. Pub. 5–12–64. Filed 5–13–63.

774,260. VELVELAN. Charles E. Frosst & Co. SN 170,462. Pub. 5–12–64. Filed 6–6–63.

774,261. HERBEENA. Miahati, Inc. SN 173,269. Pub. 5–12–64. Filed 7–19–63.

774,262. STYLE. La Maur, Inc. SN 176,203. Pub. 5–12–64. Filed 9–3–63.

774,263. MAINLINER. Ozon Products, Inc., by merger from Associated Brands, Inc. SN 176,611. Pub. 5–12–64. Filed 9–10–63.

774,264. SAFARI. Lehn & Fink Products Corporation, assignee of Abercrombie & Fitch Company. SN 177,327. Pub. 5–12–64. Filed 9–19–63.

774,265. PRIDE. Fairfield Laboratories, Inc. SN 177,876. Pub. 5–12–64. Filed 9–27–63.

774,266. SOMBRERO AND DESIGN. Lehn & Fink Products Corporation, assignee, by mesne assignments, of Rose & Rowe, Inc. SN 178,301. Pub. 5–12–64. Filed 10–3–63.

774,267. TINTILLATING. Helena Rubinstein, Inc. SN 178,488. Pub. 5–12–64. Filed 10–7–63.

774,268. S. Botany Industries, Inc., d.b.a. Sea and Ski Company. SN 178,869. Pub. 5–12–64. Filed 10–14–63.

Class 52—Detergents and Soaps

773,918. (See Class 6 for this trademark.)

773,950. (See Class 16 for this trademark).

774,269. RAMITEX LIFE. Hodges Research & Development Company. SN 153,282. Pub. 5–12–64. Filed 9–17–62.

774,270. LASTEEN. Wyandotte Chemicals Corporation. SN 170,143. Pub. 5–12–64. Filed 5–31–63.

774,271. MAINLINE CHEMICALS. Hunt & Company, Inc. SN 170,318. Pub. 5–12–64. Filed 6–4–63.

774,272. AMWAY AND DESIGN. Amway Corporation, assignee of Amway Sales Corporation. SN 181,839. Pub. 5–12–64. Filed 11–26–63.

Service Marks

Class 100—Miscellaneous

774,273. STL. Space Technology Laboratories, Inc. SN 120,028. Pub. 5–12–64. Filed 5–15–61.

774,274. NORAL PLAN. North America Business Equipment Limited. SN 145,840. Pub. 5–12–64. Filed 5–31–62.

774,275. JACK B. NIMBLE PORTRAITS, INC. AND DESIGN. Missouri Jack B. Nimble Portraits, Inc. SN 147,135. Pub. 5–12–64. Filed 6–18–62.

774,276. EXCLUSIVELY FORMULATED BY PROCTER & GAMBLE FOOD PRODUCTS RESEARCH AND DESIGN. The Procter & Gamble Company. SN 156,648. Pub. 5–12–64. Filed 11–5–62.

774,277. TRACE. Auerbach Electronics Corporation, d.b.a. Auerbach Corporation. SN 160,467. Pub. 3–31–64. Filed 1–10–63.

774,278. LIVE-CAMERA. W. A. Palmer Films, Inc. SN 161,196. Pub. 5–12–64. Filed 1–22–63.

774,279. MISSILE AND CIRCLE DESIGN. Spaco, Inc. SN 165,264. Pub. 5–12–64. Filed 3–22–63.

774,280. HICKORY HOUSE. Hickory House Motel Enterprises, Inc. SN 165,681. Pub. 5–12–64. Filed 3–29–63.

Class 101—Advertising and Business

774,281. GC AUTOSHIP PLAN. Graphic Controls Corporation. SN 146,375. Pub. 5–12–64. Filed 6–7–62.

774,282. HELPING TO FEED AMERICA BETTER. Robert Brooks, d.b.a. Bob Brooks and Associates. SN 150,357. Pub. 5–12–64. Filed 8–3–62.

774,283. MMI. Merchandising Motivation Inc. SN 169,289. Pub. 5–12–64. Filed 5–20–63.

774,284. SUPERCAR. Independent Television Corporation. SN 173,361. Pub. 5–12–64. Filed 7–19–63.

Class 103—Construction and Repair

774,285. SIR STA-NU ETC. AND DESIGN. Sta-Nu Corporation. SN 85,529. Pub. 5–12–64. Filed 4–21–60.

774,286. DECADE PROGRAM. West Chemical Products, Inc. SN 160,569. Pub. 5–12–64. Filed 1–11–63.

Class 104—Communication

774,287. RADIO VINELAND. Community Broadcasting Service, Inc. SN 175,843. Pub. 5–12–64. Filed 8–27–63.

Class 105—Transportation and Storage

774,288. THRIFTY RENT-A-CAR SYSTEM AND DESIGN. Stemmons, Inc. SN 150,207. Pub. 10–15–63. Filed 7–30–62.

Certification Mark

Class A—Goods

774,289. LABORATORY AND USE TESTED ACCEPTED BY McCALL'S AND DESIGN. McCall Corporation. SN 175,770. Pub. 5–12–64. Filed 8–26–63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

774,290. Republic Steel Corporation, Cleveland, Ohio. SN 170,765. Filed P.R. 6–11–63; Am. S.R. 5–22–64.

Rigid-Floor

For Slotted Steel Floor Units for Livestock Pens and Channels and Accessories Therefor.
First use May 9, 1963.

Class 17 — Tobacco Products

774,291. Garcia y Vega, Inc., New York, N.Y. SN 144,067. Filed P.R. 5–8–62; Am. S.R. 3–31–64.

GARCIA Y VEGA
REGALIAS
MADE IN BOND TAMPA
HAVANA CIGAR
GARCIA Y VEGA REGALIAS MADE IN TAMPA

For Cigars.
First use in or about 1932.

Class 22 — Games, Toys, and Sporting Goods

774,292. Ben Hogan Company, Fort Worth, Tex. SN 143,233. Filed P.R. 4–27–62; Am. S.R. 6–5–64.

Exact Balance

For Golf Clubs, Specifically a Golf Putter.
First use Mar. 1, 1958.

774,293. Mickey Owen Baseball School, Miller, Mo. SN 166,396. Filed P.R. 4–9–63; Am. S.R. 5–18–64.

ADD-A-WEIGHT

For Baseball Bats.
First use Aug. 31, 1962.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

774,294. Peerless Equipment Co., Inc., Joplin, Mo. SN 119,554. Filed P.R. 5–8–61; Am. S.R. 4–22–64.

ROL-N-MIX

For Portable Feed Processing Machines.
First use Apr. 15, 1959.

774,295. Worthington Corporation, Harrison, N.J. SN 188,831. Filed 3–16–64.

MONOROTOR

For Rotary Compressors.
First use August 1961.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

774,296. Devcon Corp., Danvers, Mass. SN 178,532. Filed P.R. 10–8–63; Am. S.R. 5–22–64.

FORM PACK

For Universal Mechanical Packing.
First use September 1962.

Class 38 — Prints and Publications

774,297. Farm Journal, Inc., Philadelphia, Pa. SN 167,246. Filed P.R. 4–22–63; Am. S.R. 6–5–64.

FARMSTEAD FEEDING

For Section of a Magazine.
First use Apr. 13, 1963.

Class 44 — Dental, Medical, and Surgical Appliances

774,298. Scott Aviation Corporation, Lancaster, N.Y. SN 164,902. Filed P.R. 3–18–63; Am. S.R. 5–26–64.

SLING-PAK

For Portable Self-Contained Breathing Equipment.
First use on or about Feb. 15, 1963.

Class 46 — Foods and Ingredients of Foods

774,299. Allied Old English, Incorporated, Newark, N.J. SN 62,656. Filed P.R. 11–18–58; Am. S.R. 6–5–64.

SWEETABS

For Sweetener in Tablet Form for Sweetening Foods
First use Feb. 1, 1946.

774,300. The W. E. Long Co., Independent Bakers' Cooperative, Chicago, Ill. SN 140,568. COLLECTIVE MARK. Filed P.R. 3-23-62; Am. S.R. 2-10-64.

FLAVOR-SPUN

For Bread.
First use Apr. 16, 1961.

774,301. Harry M. Giles, Lynchburg, Va. SN 157,365. Filed P.R. 11-16-62; Am. S.R. 2-10-64.

MRS. GILES

For Refrigerated Potato, Macaroni, Ham, Chicken, Tuna Fish, Egg, and Fruit Gelatin Salads, Pork Barbecue, Cheese, Pizza Pies, Macaroni, Cole Slaw, and Pickles.
First use July 1955.

774,302. Hills Bros. Coffee, Inc., San Francisco, Calif. SN 159,348. Filed P.R. 12-18-62; Am. S.R. 2-20-64.

FLAVOR SO UNBEATABLE IT'S REHEATABLE

For Coffee.
First use Sept. 10, 1962.

774,303. Vita-Pakt Citrus Products Co., Covina, Calif. SN 170,573. Filed 6-7-63.

ARLO'S

For Fresh Orange Juice.
First use July 1, 1944.

774,304. Salada Foods Inc., Woburn, Mass. SN 173,385. Filed P.R. 7-19-63; Am. S.R. 5-21-64.

KRINDELMAN'S COFFEE

For Coffee.
First use May 3, 1963.

774,305. Hinton & Co., Inc., New York, N.Y. SN 175,855. Filed P.R. 8-27-63; Am. S.R. 2-6-64.

PURE BONE BRAND

For Solidified Dog Food.
First use Sept. 12, 1962.

774,306. Westfield-Sommers Foods, Inc., Westfield, N.Y. SN 182,017. Filed P.R. 11-27-63; Am. S.R. 5-25-64.

GRAPE HEART

For Jams and Jellies.
First use November 1963.

Class 49 — Distilled Alcoholic Liquors

774,307. J. M. Douglas & Company Limited, Montreal Quebec, Canada. SN 180,717. Filed P.R. 11-8-63; Am. S.R. 6-8-64.



Owner of Canadian Reg. No. 132,064, dated July 26, 1963.
For Canadian Whisky.

Class 51 — Cosmetics and Toilet Preparations

774,308. Suzanne Thierry Parfums, Inc., Miami, Fla., by change of name from Ondine Parfums, Inc., Miami, Fla. SN 154,505. Filed P.R. 10-4-62; Am. S.R. 5-20-64.



For Perfume and Toilet Water.
First use July 20, 1962.

Service Mark

Class 102 — Insurance and Financial

774,309. H. Norman Fishel, Red Lion, Pa. SN 185,149. Filed P.R. 1-8-63; Am. S.R. 10-22-63.

THE SERVICE THAT SATISFIES

For Insurance Agency Service Offered to His Clients on an Interstate Basis.
First use Dec. 1, 1940.

TRADEMARK REGISTRATIONS RENEWED

184,476. TOPS-ALL. Cl. 46. 5-27-24.
184,498. CARNATION AND DESIGN. Cl. 46. 5-27-24.
184,632. EL TORO. Cl. 46. 5-27-24.
184,634. GRISDALE. Cl. 46. 5-27-24.
184,746. ZENITH. Cl. 27. 6-3-24.
184,757. RYTWIP. Cl. 42. 6-3-24.
184,870. D. Cl. 19. 6-3-24.
184,893. 38 ALUNDUM. Cl. 4. 6-3-24.
184,906. YASHTING. Cl. 38. 6-3-24.
184,923. BASKET WEAVE. Cl. 27. 6-3-24.
184,961. CERTIFIED. Cl. 50. 6-3-24.
185,110. WHITE RIBBON. Cl. 52. 6-10-24.
185,225. NUTRADIET. Cl. 46. 6-10-24.
185,297. CERTIFIED DRY MATS AND DESIGN. Cl. 50. 6-10-24.
185,574. AUTOMATIC. Cl. 28. 6-24-24.
186,125. VIGORO. Cl. 10. 7-1-24.
186,207. S AND DESIGN. Cl. 19. 7-8-24.
186,513. NEMO. Cl. 39. 7-22-24.
186,633. ADMIRATION. Cl. 17. 7-22-24.
187,837. CHAMPION. Cl. 13. 8-12-24.
187,838. VICTOR. Cl. 13. 8-12-24.
188,061. PIKNIK. Cl. 46. 8-19-24.
189,842. REDLEAF AND DESIGN. Cl. 39. 9-30-24.
189,987. BANNER. Cl. 46. 9-30-24.
189,988. SILVER NUGGET. Cl. 46. 9-30-24.
190,726. LYRIC AND DESIGN. Cl. 46. 10-21-24.
191,486. OILGRAM. Cl. 38. 11-11-24.
191,892. VIM. Cl. 46. 11-18-24.
191,941. KLEENEX. Cl. 44. 11-25-24.
192,253. BUFLOVAK. Cl. 23. 12-2-24.
406,153. IRVING A. KEENE (signature). Cl. 51. 8-14-44.
407,058. PEMCO. Cl. 6. 5-16-44.
407,213. SLEEPMASTER. Cl. 42. 5-23-44.
407,406. HUB. Cl. 5. 6-6-44.
407,464. IRGAMIDE. Cl. 18. 6-6-44.
407,512. 39. Cl. 4. 6-6-44.
407,513. 57. Cl. 4. 6-6-44.
407,514. JEALOUSY. Cl. 51. 6-6-44.
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Erratum

In the OFFICIAL GAZETTE of June 9, 1964, at page TM 108, under Trademark Registrations Canceled, Section 8,

639,882. CADIE. Cl. 24. 1-1-57.
640,208. LUSTRE-DUSTER. Cl. 4. 1-22-57.

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Detroit Steel Products Co.
Fieldwood Co., The, Wyckoff, N.J. 662,842, canc. Cl. 28.
Finch, Pruyn and Co., Inc., Glens Falls, N.Y. 774,144, pub. 5–12–64. Cl. 27.
Fishel, H. Norman, Red Lion, Pa. 773,309. Cl. 102.
Fisher-Price Toys, Inc., East Aurora, N.Y. 774,024, pub. 5–12–64. Cl. 22.
Fleming-Green Co. Inc., to Piknik Products Co., Montgomery, Ala. 188,061, ren. 7–28–64. Cl. 46.
Foley Mfg. Co., Minneapolis, Minn. 774,090, pub. 5–12–64. Cl. 26.
Foseco International Ltd., Nechells, Birmingham, England. 773,916, pub. 5–12–64. Cl. 6.
Foster, Benjamin, Co., Philadelphia, Pa. 773,912, pub. 5–12–64. Cl. 5.
"42" Products Ltd., Inc., Santa Monica, Calif. 774,259, pub. 5–12–64. Cl. 51.
Freund Baking Co., St. Louis, Mo. 774,246, pub. 5–12–64. Cl. 46.
Frost, Charles E., & Co., Westmount, Quebec, Canada. 774,260, pub. 5–12–64. Cl. 51.
Future Hunting Unlimited Corp., Canton, S. Dak. 774,023, pub. 5–12–64. Cl. 22.
Galyean, W., Jewelers: *See*—
Galyean, William D., Jr.
Galyean, William D., Jr., d.b.a. W. Galyean Jewelers, Asheville, N.C. 774,121, pub. 5–12–64. Cl. 28.
Garcia y Vega, Inc., New York, N.Y. 774,291. Cl. 17.
Gaylord Products, Inc., Chicago, Ill. 774,196, pub. 5–12–64. Cl. 40.
Gebr. Kuttroff, Pforzheim/Baden, Germany. 774,106, pub. 5–12–64. Cl. 27 and 28.
Gehring Textiles, Inc., New York, N.Y. 662,891, canc. Cl. 42.
Geigy Chemical Corp.: *See*—
Geigy Co., Inc.
Geigy Chemical Corp., Ardsley, N.Y. 773,908, pub. 5–12–64. Cl. 4.
Geigy Chemical Corp., Ardsley, N.Y. 773,979–80, pub. 5–12–64. Cl. 18.
Geigy Co., Inc., New York, N.Y., to Geigy Chemical Corp., Ardsley, N.Y. 407,464, ren. 7–28–64. Cl. 18.
Gelman Instrument Co., Ann Arbor, Mich. 774,125, pub. 5–12–64. Cl. 31.
Genesee Brewing Co., Inc., The, Rochester, N.Y. 773,902, pub. 5–12–64. Cl. 2.
General Aniline & Film Corp., New York, N.Y. 774,087, pub. 5–12–64. Cl. 26.
General Aniline & Film Corp., New York, N.Y. 774,096, pub. 5–12–64. Cl. 26.

General Foods Corp.: *See*—
Baker, Franklin, Co.
General Tire & Rubber Co., The, Akron, Ohio. 662,836, canc. Cl. 42.
Genesco Inc., Nashville, Tenn. 774,184, pub. 5–12–64. Cl. 39.
Geo-Physical Maps, Inc., New York, N.Y. 662,841, canc. Cl. 26.
Gerity Gifts, Inc.: *See*—
Gerity Products, Inc.
Gerity Products, Inc., from Gerity Gifts, Inc., Toledo, Ohio. 773,942, pub. 5–12–64. Cl. 13.
Giles, Harry M., Lynchburg, Va. 774,301. Cl. 46.
Ginsberg, A. J., to Diapulse Mfg. Corp. of America, New York, N.Y. 662,894, canc. Cl. 44.
Glasgo Ltd., Inc., Lansdale, Pa. 774,189, pub. 5–12–64. Cl. 39.
Glidden Co., The: *See*—
Pemco Corp.
Goddard, J., & Sons Ltd., Leicester, England. 773,908, pub. 5–12–64. Cl. 4.
Gold Leaf Pharmacal Co., Inc., New Rochelle, N.Y. 773,983–4, pub. 5–12–64. Cl. 18.
Gorham Corp., Providence, R.I. 774,108, pub. 5–12–64. Cl. 28.
Grace, W. R., & Co., New York, N.Y. 662,751, canc. Cl. 6.
Graflex, Inc., Rochester, N.Y. 774,017, pub. 5–12–64. Cl. 21.
Graham Paper Co., St. Louis, Mo. 184,923, ren. 7–28–64. Cl. 37.
Granite Research Industries, Inc., Somerville, Mass. 773,939, pub. 5–12–64. Cl. 12.
Grant Co., The: *See*—
Ratner, Walter.
Grant Engineering Co. Ltd., Monash, South Australia, Australia. 774,045, pub. 5–12–64. Cl. 23.
Grant, W. T., Co., New York, N.Y. 774,177, pub. 5–12–64. Cl. 39.
Graphic Controls Corp., Buffalo, N.Y. 774,152, pub. 5–12–64. Cl. 37.
Graphic Controls Corp., Buffalo, N.Y. 774,281, pub. 5–12–64. Cl. 101.
Grasslander Co., Ltd., Milverton, Ontario, Canada. 662,831, canc. Cl. 23.
Gray, Garnett, d.b.a. Skil-Chek Co, Atlanta, Ga. 774,022, pub. 5–12–64. Cl. 22.
Green, B. J., and M. J. Green, d.b.a. Plumbium Mfg. Co., Bristol, Tenn. 773,986, pub. 5–12–64. Cl. 19.
Green, M. J.: *See*—
Green, B. J. and M. J.
Greiner Scientific Corp., New York, N.Y. 774,067, pub. 5–12–64. Cl. 26.
Gristede Bros., Inc., Bronx, N.Y. 184,634, ren. 7–28–64. Cl. 46.
Grolier Inc.: *See*—
Grolier Society, Inc., The.
Grolier Society, Inc., The, to Grolier Inc., New York, N.Y. 408,804, ren. 7–28–64. Cl. 38.
Gulf Oil Corp., Pittsburh, Pa. 774,014, pub. 5–12–64. Cl. 21.
Gutfreund, Inc., New York, N.Y. 774,111, pub. 5–12–64. Cl. 28.
HMH Publishing Co., Inc., Chicago, Ill. 662,865, canc. Cl. 38.
Hallmark Cards, Inc., Kansas City, Mo. 773,923, pub. 5–12–64. Cl. 7.
Hanover Sports, Inc., Brockton, Mass. 774,027, pub. 5–12–64. Cl. 22.
Hansen, George T., d.b.a. Boyden-Hansen Co., Alameda, Calif. 774,227, pub. 5–12–64. Cl. 46.
Harmony Enterprises, Inc., Harmony, Minn. 774,029, pub. 5–12–64. Cl. 22.
Harris-Intertype Corp., Cleveland, Ohio. 774,085, pub. 5–12–64. Cl. 26.
Hartman Trailer Mfg. Co., Perkasie, Pa. 773,998, pub. 5–12–64. Cl. 19.
Hayes-T-Letter, Inc., Bristol, Va. 774,149, pub. 5–12–64. Cl. 37.
Helzberg's Diamond Shops, Inc., Kansas City, Mo. 774,007, pub. 5–12–64. Cl. 21.
Henrite Products Corp., Morristown, Tenn. 774,043, pub. 5–5–64. Cl. 23.
Heritage House Products, Inc., Pittsburgh, Pa. 774,053, pub. 5–12–64. Cl. 23.
Herman Brothers, Philadelphia, Pa. 662,890, canc. Cl. 46.
Hickey-Freeman Co., Rochester, N.Y. 774,172, pub. 5–12–64. Cl. 39.
Hickory House Motel Enterprises, Inc., Poplar Bluff, Mo. 774,280, pub. 5–12–64. Cl. 100.
Hijos de Ybarra S.A.: *See*—
Briones & Co., Inc.
Hill, Danton, Distilling Co.: *See*—
Standard Wholesale Co. Inc.
Hills Bros. Coffee, Inc., San Francisco, Calif. 774,302. Cl. 46.
Hinton & Co., Inc., New York, N.Y. 774,305. Cl. 46.
Hodges Research & Development Co., New York, N.Y. 774,269, pub. 5–12–64. Cl. 52.
Hoffman Electronics Corp., Los Angeles, Calif. 774,068, pub. 5–12–64. Cl. 26.
Hogan, Ben, Co., Fort Worth, Tex. 774,292. Cl. 22.
Holland Cotton Products Co., Holland, Mich. 774,208, pub. 5–12–64. Cl. 42.
Holmes, Herbert, d.b.a. The Surf Wax Co., Redondo Beach, Calif. 773,953, pub. 5–12–64. Cl. 16.
Hough, Frank G., Co., The, Libertyville, Ill. 662,804, canc. Cl. 19.
Hudson Vitamin Products, Inc., New York, N.Y. 774,239, pub. 5–12–64. Cl. 46.
Hunt & Co., Inc., Greensboro, N.C. 774,271, pub. 5–12–64. Cl. 52.
Hydraulic & Air Equipment Co., Seattle, Wash. 774,086, pub. 5–12–64. Cl. 23.
Hygrodynamics, Inc., Silver Spring, Md. 774,078, pub. 5–12–64. Cl. 26.
Iberia Concrete Products, Inc., New Iberia, La. 662,760, canc. Cl. 12.
Independent Products Co.: *See*—
Independent Protection Co., Inc.
Independent Protection Co., Inc., d.b.a. Independent Products Co., Goshen, Ind. 773,992, pub. 5–12–64. Cl. 19.
Independent Television Corp., New York, N.Y. 774,284, pub. 5–12–64. Cl. 101.
Industrial Accountancy Partnership Ltd., London, England. 662,840, canc. Cl. 26.
International Latex Corp., Dover, Del. 773,964, pub. 5–12–64. Cl. 18.
International Latex Corp., Dover, Del. 773,967–8, pub. 5–12–64. Cl. 18.
International Nickel Co., Inc., The, New York, N.Y. 662,771, canc. Cl. 14.
International Nickel Co., Inc., The, New York, N.Y. 662,775, canc. Cl. 14.
International Protective Coatings Corp., Fort Lauderdale, Fla. 773,938, pub. 5–12–64. Cl. 12.
Ircon, Inc., Chicago, Ill. 774,094, pub. 5–12–64. Cl. 26.
Island Pen Mfg. Corp., Brooklyn, N.Y. 774,147, pub. 5–12–64. Cl. 37.
Jackson-Guidan, Inc., Columbus, Ohio. 774,140, pub. 5–12–64. Cl. 36.
Jacoby-Bender, Inc., Woodside, N.Y. 774,115–6, pub. 5–12–64. Cl. 26.
Jensen-Salsbery Laboratories, Inc.: *See*—
Richardson-Merrell Inc.
Jo-gal Shoe Co., Inc., Lawrence, Mass. 774,161, pub. 5–12–64. Cl. 39.
Joslyn Mfg. and Supply Co., Chicago, Ill. 774,009, pub. 5–12–64. Cl. 21.
Just Grand Sales Co.: *See*—
Clover Farm Stores Corp.
Kal Kan Foods, Inc., Los Angeles, Calif. 774,247, pub. 5–12–64. Cl. 46.
Karin Bartsch, nee Von Barner, Wuppertal-Cronenberg, Germany. 774,061, pub. 5–12–64. Cl. 23.
Kathi's of California, San Francisco, Calif. 662,882, canc. Cl. 42.
Kaufman, Israel, Nashville, Tenn. 662,814, canc. Cl. 22.
Kearsley & Mattison Co., Ambler, Pa. 662,881, canc. Cl. 40.
Keene's Laboratories Ltd., Newcastle-On-Tyne, England. 406,153, ren. 7–28–64. Cl. 51.
Kellogg Co., Battle Creek, Mich. 191,892, ren. 7–28–64. Cl. 46.
Kimberly-Clark Corp.: *See*—
Cellucotton Products Co.
Kimberly-Clark Corp., Neenah, Wis. 774,215, pub. 5–12–64. Cl. 44.
Kinetic Chemicals, Inc., to E. I. du Pont de Nemours and Co., Wilmington, Del. 408,801, ren. 7–28–64. Cl. 6.
King Richards, Inc., Compton, Calif. 773,991, pub. 5–12–64. Cl. 19.
Kingman Trading Co.: *See*—
Kingman, Zaya.
Kingman, Zaya, d.b.a. Kingman Trading Co., New York, N.Y. 662,912, canc. Cl. 51.
Kippe Togs Mfg. Corp., New York, N.Y. 774,179, pub. 5–12–64. Cl. 39.
Klann Organ Supply Co., Waynesboro, Va. 774,138, pub. 5–12–64. Cl. 36.
Koda, Bill & Ed, South Dos Palos, Calif. 774,232, pub. 5–12–64. Cl. 46.
Kollmar & Jourdan Aktiengesellschaft, Pforzheim/Baden, Germany. 774,104, pub. 5–12–64. Multiple Class (Classes 27 and 28).
Koontz Products, Inc., Houston, Tex. 773,950, pub. 5–12–64. Multiple Classes. (Classes 16 and 52).
Kops Brothers, Inc., New York, N.Y. 186,513, ren. 7–28–64. Cl. 39.
Kubler, George A., to Certified Dry Mat Corp., New York, N.Y. 184,961, ren. 7–28–64. Cl. 50.
Kubler, George A., to Certified Dry Mat Corp., New York, N.Y. 185,297, ren. 7–28–64. Cl. 50.
La Maur, Inc., Minneapolis, Minn. 774,262, pub. 5–12–64. Cl. 51.
Langtry Ltd., Shirt Co., from Langtry, Ltd. Shirts, Inc., Asheville, N.C. 774,174, pub. 5–12–64. Cl. 39.
Langtry, Ltd. Shirts, Inc.: *See*—
Langtry Ltd., Shirt Co.
Lawter Chemicals, Inc., Chicago, Ill. 773,927, pub. 5–12–64. Cl. 11.
Lazarus Laboratories, Inc., Long Island City, N.Y. 773,921, pub. 5–12–64. Cl. 6.
Lee, Anna B., Crossville, Tenn. 774,112, pub. 5–12–64. Cl. 28.
Le Fevre Chemical Co., Oklahoma City, Okla. 662,750, canc. Cl. 6.
Legge, Walter G., Co., Inc., New York, N.Y. 408,424–5, ren. 7–28–64. Cl. 16.
Lehn & Fink Products Corp., New York, from Abercrombie & Fitch Co., New York, N.Y. 774,264, pub. 5–12–64. Cl. 51.
Lehn & Fink Products Corp., New York, N.Y., from Ross & Rowe, Inc., Fort Lauderdale, Fla. 774,266, pub. 5–12–64. Cl. 51.
Lermer Packaging Corp., Garwood, N.J. 773,903, pub. 5–12–64. Cl. 2.
Lew Mfg. Co.: *See*—
Parker Pen Co., The.
Lincoln Mfg. Co., Jefferson, Maine. 774,081, pub. 5–12–64. Cl. 26.

Linderman Paper Co., Inc., Morton, Pa. 774,150, pub. 5–12–64. Cl. 37.
Lloyd, Stuart, Co.: *See*—
Rosenblum, Charles.
Lohmann K.G., Fahr, Rhineland, Germany. 773,913, pub. 5–12–64. Cl. 5.
Long, W. E., Co., Independent Bakers' Cooperative, The, Chicago, Ill. 774,300. Cl. 46.
Lowe, E. S., Co., Inc., New York, N.Y. 774,025, pub. 5–12–64. Cl. 22.
Luger Industries, Inc., Minneapolis, Minn. 773,987, pub. 5–12–64. Cl. 19.
Luscoe Products Ltd., Toronto, Ontario, Canada. 773,957, pub. 5–12–64. Cl. 18.
Lyles-Degrazier Co., Dallas, Tex. 774,119, pub. 5–12–64. Cl. 28.
Lynnfield Fabrics Inc., Boston, Mass. 774,205, pub. 5–12–64. Cl. 42.
M.I.T.E.X. Manifatture Italiane Tessuti Maglierie, Busto Arsizio, Varese, Italy. 774,190, pub. 5–12–64. Cl. 39.
MacKay, A. & B., & Co.: *See*—
MacPherson, H. C.
MacPherson & Co.: *See*—
MacPherson, H. C.
MacPherson, H. C., d.b.a. MacPherson & Co. and A. & B. MacKay & Co., San Francisco, Calif. 774,251, pub. 5–12–64. Cl. 49.
Madame Alexander: *See*—
Alexander Doll Co., Inc.
Magnesium Fabricators, Inc., Linwood, Mich. 774,250, pub. 5–12–64. Cl. 50.
Magnuson, Robert H. and A. R., Columbus, Ohio. 774,088, pub. 5–12–64. Cl. 26.
Manson Metal Equipment Co., Reading, Pa. 774,020, pub. 5–12–64. Cl. 22.
Marsyl, Fosca, d.b.a. Pee-Wee Doll Co., New York, N.Y. 662,815, canc. Cl. 22.
Marx, Louis, & Co., Inc., New York, N.Y. 774,021, pub. 5–12–64. Cl. 22.
Marx, Louis, & Co., Inc., New York, N.Y. 774,026, pub. 6–12–64. Cl. 22.
Masters, George R., Lubbock, Tex. 662,817, canc. Cl. 22.
Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 774,063, pub. 5–12–64. Cl. 24.
Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka Prefecture, Japan. 774,124, pub. 5–12–64. Cl. 31.
May Department Stores Co., The, New York, N.Y. 662,806, canc. Cl. 19.
May Department Stores Co., The, New York, N.Y. 662,855, canc. Cl. 35.
McCall Corp., New York, N.Y. 774,289, pub. 5–12–64. Cl. A.
McCulloch Corp., Los Angeles, Calif. 774,048, pub. 5–12–64. Cl. 23.
McGraw-Hill, Inc.: *See*—
McGraw-Hill Publishing Co., Inc.
Platt, W. C., Co., The.
McGraw-Hill Publishing Co., Inc., to McGraw-Hill, Inc., New York, N.Y. 408,353, ren. 7–28–64. Cl. 38.
McGraw-Hill Publishing Co., Inc., to McGraw-Hill, Inc., New York, N.Y. 410,043, ren. 7–28–64. Cl. 38.
McLaughlin, Harold A., Nevada, Mo. 662,919, canc. Cl. 100.
McKesson & Robbins, Inc., New York, N.Y. 407,784, ren. 7–28–64. Cl. 6.
McKesson & Robbins, Inc., New York, N.Y. 774,250, pub. 1–7–64. Cl. 49.
Merchandising Motivation Inc., New York, N.Y. 774,283, pub. 5–12–64. Cl. 101.
Merchants Distributors, Inc., Boston, Mass. 662,856, canc. Cl. 35.
Meeker Brothers, Iron Co., Haselwood, Mo. 773,932, pub. 5–12–64. Cl. 12.
Miahatl, Inc., New York, N.Y. 774,261, pub. 5–12–64. Cl. 51.
Miami Margarine Co., The, Cincinnati, Ohio. 774,223, pub. 5–12–64. Cl. 46.
Middleby-Marshall Oven Co., Chicago, Ill. 662,830, canc. Cl. 23.
Migaki, Richard, Parlier, Calif. 662,931, canc. Cl. 46.
Minneapolis Milling Co., to Archer-Daniels-Midland Co., Minneapolis, Minn. 184,476, ren. 7–28–64. Cl. 46.
Missouri Jack B. Nimble Portraits, Inc., St. Louis, Mo. 774,275, pub. 5–12–64. Cl. 100.
Mitchell-Bradford Chemical Co., The, Milford, Conn. 773,918, pub. 5–12–64. Multiple Class (Classes 6 and 52).
Monarch Elevator & Machine Co.: *See*—
Dover Elevator Co.
Monroe Food Machinery, Inc., Portland, Oreg. 774,042, pub. 5–5–64. Cl. 23.
Monsanto Chemical Co., St. Louis, Mo. 774,089, pub. 5–12–64. Cl. 26.
Monsanto Chemical Co., St. Louis, Mo., to Monsanto Co., St. Louis, Mo. 407,582, ren. 7–28–64. Cl. 1.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 409,181, ren. 7–28–64. Cl. 1.
Monsanto Chemical Co., St. Louis, Mo. 773,898, pub. 5–12–64. Multiple Class (Classes 1, 12, 35, 37, and 50).
Monsanto Co.: *See*—
Monsanto Chemical Co.
Moore Business Forms, Inc., Niagara Falls, N.Y. 774,141, pub. 5–12–64. Cl. 37.
Morningstar-Paisley, Inc., New York, N.Y. 774,241, pub. 5–12–64. Cl. 46.
Morrison Laboratories, Inc., Harrisburg, Pa. 774,073, pub. 5–12–64. Cl. 26.
Motorola, Inc., Franklin Park, Ill. 774,016, pub. 5–12–64. Cl. 21.
Murphy, G. C., Co., McKeesport, Pa. 774,193, pub. 5–12–64. Cl. 39.
National Alcoholic Beverage Control Association, Inc., Washington, D.C. 774,158, pub. 5–12–64. Cl. 38.
National Fruit Product Co., Inc., Winchester, Va. 774,240, pub. 5–12–64. Cl. 46.
National Tea Co., Chicago, Ill. 774,229, pub. 5–12–64. Cl. 46.
Nesbitt, John J., Inc., Philadelphia, Pa. 774,132, pub. 5–12–64. Cl. 34.
New Jersey Zinc Co., The, New York, N.Y. 409,857–8, ren. 7–28–64. Cl. 14.
Nicolet Industries, Inc., Ambler, Pa. 774,137, pub. 5–12–64. Cl. 35.
Norcross, Inc., New York, N.Y. 774,159, pub. 5–12–64. Cl. 38.
Norden Laboratories, Inc., Lincoln, Nebr. 773,981, pub. 5–12–64. Cl. 18.
North America Business Equipment Ltd., Hamilton, Ontario, Canada. 774,274, pub. 5–12–64. Cl. 100.
Norton Co., Worcester, Mass. 184,893, ren. 7–28–64. Cl. 4.
Norton Co., Worcester, Mass. 407,512–3, ren. 7–28–64. Cl. 4.
Novelty Mfg. Co. Inc., Newark, N.J. 662,907, canc. Cl. 50.
Nuclear-Chicago Corp., Melrose Park, Ill. 774,092, pub. 5–12–64. Cl. 26.
NuWay Foods Co.: *See*—
SavOil, Inc.
Nytronics, Inc., Phillipsburg, N.J., from Ortho Industries, Inc., Paterson, N.J. 774,071, pub. 5–12–64. Cl. 26.
OBerg, C. O., & Co:s Aktieboiag, Eskilstuna, Sweden. 774,051, pub. 5–12–64. Cl. 23.
O'Brien Mfg. Co., Temple, Tex. 774,171, pub. 5–12–64. Cl. 39.
Ogden, H. P., Co., Wayne, Pa. 774,198, pub. 5–12–64. Cl. 42.
Ohio Clay Co., The, Cleveland, Ohio. 773,928, pub. 5–12–64. Cl. 12.
Oilfield Equipment Publishing Corp., The, Pampa, Tex. 662,863, canc. Cl. 38.
Olin Mathieson Chemical Corp., New York, N.Y. 773,985, pub. 5–12–64. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 773,977, pub. 5–12–64. Cl. 18.
Olmstead, D. S.: *See*—
Olmstead, Dwight S.
Olmstead, Dwight S., d.b.a. D. S. Olmstead, Billings, Mont. 774,237, pub. 5–12–64. Cl. 46.
Ondine Parfums, Inc.: *See*—
Thierry, Suzanne, Parfums, Inc.
Operative Plasterers' and Cement Masons' Internat. Assn. of The United States and Canada, Washington, D.C. 774,153, pub. 5–12–64. Cl. 38.
Ortho Industries, Inc.: *See*—
Nytronics, Inc.
Otis Engineering Corp., Dallas, Tex. 774,037, pub. 5–5–64. Cl. 23.
Owen, Mickey, Baseball School, Miller, Mo. 774,293. Cl. 22.
Oxford Paper Co., New York, N.Y. 774,146, pub. 5–12–64. Cl. 37.
Ozon Products, Inc., from Associated Brands, Inc., Brooklyn, N.Y. 774,263, pub. 5–12–64. Cl. 51.
Palmer Bedding Co., Denver, Colo. 774,126–7, pub. 10–23–62. Cl. 32.
Palmer, W. A., Films, Inc., San Francisco, Calif. 774,278, pub. 5–12–64. Cl. 100.
Parfums Blanchard, New York, N.Y. 407,514, ren. 7–28–64. Cl. 51.
Parker Pen Co., The, Janesville, Wis., from Lew Mfg. Co., Coventry, R.I. 774,142, pub. 5–12–64. Cl. 37.
Parlane Sportswear Co., Inc., Boston, Mass. 774,169, pub. 5–12–64. Cl. 39.
Pawling Rubber Corp., Pawling, N.Y. 774,135, pub. 5–12–64. Multiple Class (Classes 35 and 50).
Peerless Accessories Co., Mount Holly, N.J. 662,808, canc. Cl. 19.
Pee-Wee Doll Co.: *See*—
Marsyl, Fosca.
Peerless Equipment Co., Inc., Joplin, Mo. 774,294. Cl. 23.
Pellar Laboratories, Inc., Chicago, Ill. 774,230, pub. 5–12–64. Cl. 46.
Pemco Corp., Baltimore, Md., to The Glidden Co., Cleveland, Ohio. 409,798, ren. 7–28–64. Cl. 6.
Pemco Corp., Baltimore, Md., to The Glidden Co., Cleveland, Ohio. 407,058, ren. 7–28–64. Cl. 6.
Penn Crete Products Co., Inc., Philadelphia, Pa. 773,956, pub. 5–12–64. Cl. 16.
Penn Crete Products Co., Inc., Philadelphia, Pa. 773,934, pub. 5–12–64. Cl. 12.
Penton Publishing Co., The, Cleveland, Ohio. 662,859, canc. Cl. 38.
Peoples Jewelry Co., Toledo, Ohio. 774,107, pub. 5–5–64. Cl. 27 and 28.
Peters Mfg. Co., Wollaston, Mass. 662,887, canc. Cl. 42.
Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 773,955, pub. 5–12–64. Cl. 16.
Philadelphia Seed Co., Philadelphia, Pa. 190,726, ren. 7–28–64. Cl. 46.
Pierce & Stevens Chemical Corp., Buffalo, N.Y. 773,911, pub. 5–12–64. Cl. 5.
Piknik Products Co.: *See*—
Fleming-Green Co. Inc.
Pillsbury Co., The, Minneapolis, Minn. 774,224, pub. 5–12–64. Cl. 46.
Plastile Products, Inc., Chicago, Ill. 662,746, canc. Cl. 5.
Platt, W. C., Co., The, Cleveland, Ohio, to McGraw-Hill, Inc., New York, N.Y. 191,456, ren. 7–28–64. Cl. 38.
Plumbium Mfg. Co.: *See*—
Green, B. J. and M. J.
Procter & Gamble Co., The, Cincinnati, Ohio. 662,915, canc. Cl. 51.

Procter & Gamble Co., The, Cincinnati, Ohio. 774,276, pub. 5–12–64. Cl. 100.
Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 774,122, pub. 5–12–64. Cl. 29.
Pruvo Pharmacal Co., Milwaukee, Wis. 773,959, pub. 5–12–64. Cl. 18.
Puna Fruit Packers of Hawaii, Ltd., Hilo, Hawaii. 774,236, pub. 5–12–64. Cl. 46.
Puritan Cordage Mills, Louisville, Ky. 773,935, pub. 5–12–64. Cl. 7.
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LUTHER H. HODGES, *Secretary*

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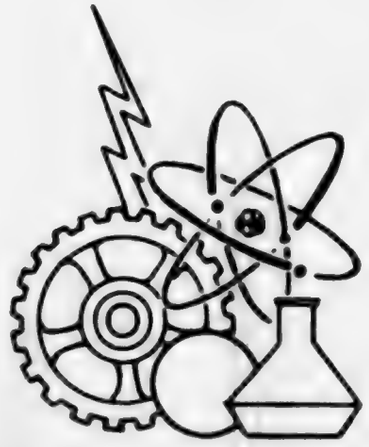
EDWARD J. BRENNER, *Commissioner*

Gazette

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

August 4, 1964 • Volume 805 • Number 1



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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1964

Examiner affirmed	290
Examiner affirmed in part	61
Examiner reversed	87
Total	438

Publication of Portions of Applications

The Patent Office has decided to resume the publication of portions of applications under the following conditions:

(1) Upon the written request of the owner of a pending application for patent which is not under final rejection, that a portion of the disclosure of the application be published in the OFFICIAL GAZETTE and that the application simultaneously be made available to the public, such request also indicating that he intends to abandon the application, such disclosure together with the serial number and date of filing, a representative claim and figure of the drawing which may be designated by the owner, will be published in the OFFICIAL GAZETTE. The Office reserves the right to refuse or refrain from publication of any particular application.

(2) Upon publication, the entire application will be available to the public for inspection and obtaining of copies, and the publication will so state.

(3) The publications will be used as references against other applications in which they may be applicable.

EDWARD J. BRENNER,
Commissioner of Patents.

July 14, 1964.

Department of Commerce
Patent Office

[37 CFR Parts 1, 3]

FORMS AND RULES OF PRACTICE

Notice of Proposed Rule Making

Notice is hereby given that the United States Patent Office proposes to amend several of its rules, to add a new § 1.68 and to provide additional forms relating to patents. The amendments are proposed pursuant to the authority contained in Title 35, U.S.C., section 6.

Section 1.65 of Title 37, Code of Federal Regulations, requires an oath by the inventor when filing application for a patent. Provision is also made §§ 1.42, 1.43, and 1.47 for filing such an oath by a representative of the inventor in cases where the inventor is unable or unwilling to join in the application. Similarly, an oath is required by § 1.67 when presenting a claim for matter not originally claimed, by § 1.172 when applying for a reissue patent, by § 1.151 when applying for a patent for designs, and by § 1.161 when applying for a patent for plants.

Public Law 88-292, of March 26, 1964, authorized the Commissioner to prescribe instances where documents required to be filed in the Patent Office under oath might be accepted if, in lieu of the required document under oath, the applicant were to provide a written declaration setting forth required information. Such a declaration may not be used unless it includes a warning statement that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001).

The proposed amendment to § 1.65 announces the acceptability of such an alternate procedure in connection with the filing of the original application for a patent. The new § 1.68 would set forth the form of the declaration and announce its acceptability in connection with the filing of documents required by §§ 1.67, 1.151, 1.161, and 1.172.

An alternative form (3.11(a)) is provided to the present oath form (3.11) reflecting the required form of a written declaration.

Other sections of rules and forms which will be conformed to the acceptable alternative procedure of the written declaration are listed. These items will merely be changed to make clear that the written declaration in proper form is an acceptable alternative to the oath.

Two important points must be remembered in connection with these changes: (1) The use of the declaration is an alternative to the use of the oath. Either in proper form is acceptable. (2) The declaration may only be used in lieu of the oath in those instances where the Commissioner has provided that it will be an acceptable alternative.

All persons who desire to submit written data, views, arguments or suggestions for consideration in connection with the proposed amendments, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., within 60 days of publication in the Federal Register. An oral hearing will not be scheduled.

The heading preceding § 1.65 and the text of that section as proposed to be amended are as follows:

STATEMENT; OATH OR DECLARATION

§ 1.65 *Statement of applicant.*

(a)(1) The applicant, if the inventor, must state that he verily believes himself to be the original and first inventor or discoverer of the process, machine, manufacture, composition of matter, or improvement thereof, for which he solicits a patent; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, and shall state of what country he is a

New Applications Received During June 1964

Patents	8,168
Designs	447
Plant Patents	6
Reissues	27
Total	8,648

Issue—August 4, 1964

Patents	808	No. 3,142,841 to No.	3,143,738, incl.
Designs	55	No. 198,776 to No.	198,830, incl.
Plant Patents	2	No. 2,431 to No.	2,432, incl.
Reissues	4	No. 25,627 to No.	25,630, incl.
Total	959		

citizen and where he resides; and whether he is a sole or joint inventor of the invention claimed in his application. In every original application the applicant must distinctly state that to the best of his knowledge and belief the invention has not been in public use or on sale in the United States more than one year prior to his application, or patented or described in any printed publication in any country before his invention or more than one year prior to his application, or patented in any foreign country prior to the date of his application on an application filed by himself or his legal representatives or assigns more than twelve months prior to his application in this country. He shall state whether or not any application for patent on the same invention has been filed in any foreign country, either by the applicant or by his legal representatives or assigns. If any such application has been filed, the applicant shall name the country in which the earliest such application was filed, and shall give the day, month, and year of its filing; he shall also identify by country and by day, month, and year of filing, every such foreign application filed more than twelve months before the filing of the application in this country. (2) This statement (i) must be subscribed to by the applicant, and (ii) must either (a) be sworn to (or affirmed) as provided in §1.68, or (b) include the personal declaration of the applicant as prescribed in § 1.68. See § 1.153 for design cases and § 1.162 for plant cases.

(b) If the application is made as provided in § 1.42, 1.43, or 1.47, the applicant shall state his relationship to the inventor and, upon information and belief, the facts which the inventor is required by this section to state.

(c) An additional statement may be required if the application has not been filed in the Patent Office within a reasonable time after execution of the original statement.

The text of the new proposed § 1.68 follows:

(a) The applicant may, in lieu of making an oath or affirmation in the manner provided by § 1.68, set forth in the body of the statement required from him by § 1.65 his written declaration that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true, if, and only if, the applicant is, on the same paper, warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon.

(b) A written declaration by the applicant, satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (section 1.67), when applying for a reissue patent (section 1.172), when applying for a patent for designs (section 1.151), and when applying for a patent for plants (section 1.161).

Sections 1.41, 1.42, 1.43, 1.45, 1.47, 1.51, 1.52, 1.57, 1.61, 1.67, 1.76, 1.153, 1.162, 1.172, and 1.175 will be modified to reflect the acceptance of a written declaration in proper form as directed by § 1.68.

The text of form 3.11(a), an alternative to form 3.11, *Oath to accompany application for patent* follows:

3.11(a) *Declaration to accompany application for patent.*

(Sections 1.65 and 1.68 provide for a declaration in lieu or in place of an oath in certain instances. The petition and specification precede the declaration).

(1) _____, the above named petitioner __ declare __ that _____ citizen __ of the United States (2) and resident __ of (3) _____ that _____ verily believe __ (4) _____ to be the original, first, and (5) _____ inventor __ of the improvement in (6) _____ described and claimed in the annexed specification; that (7) _____ do __ not know and do __ not believe that the same was ever known or used before (8) _____ invention thereof, or patented or described in any printed publication in any country before (8) _____ invention thereof, or more than one year prior to this application, or in public use or on sale in the United States more than one year prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by (9) _____ or (8) _____ legal representatives or assigns more than twelve month prior to this application; and that no application for patent on said invention has been filed by (9) _____ or (8) _____ representatives or assigns in any country foreign to the United States, except as follows: (10) _____.

The undersigned petitioner __ declare __ further that all statements made herein of (8) _____ own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon. Inventor's full name or names (11) _____

_____
(Signature)

Date _____

NOTES: See §§ 1.65 and 1.68.

(1) Name of inventor; if the invention is joint, the names of all the joint inventors.

(2) If the applicant be an alien, state of what foreign country he is a citizen or subject.

(3) Give city and state, or if a foreign resident, city and country, of residence. If more than one inventor gives residences of each inventor if different. Street address need not be given here as it appears elsewhere.

(4) "Himself" in the case of a sole inventor; "themselves" in the case of joint inventors.

(5) "Sole" in the case of a sole inventor; "joint" in the case of joint inventors.

(6) Title of the invention.

(7) "He" in the case of a sole inventor; "they" in the case of joint inventors.

(8) "His" in the case of a sole inventor; "their" in the case of joint inventors.

(9) "Him" in the case of a sole inventor; "them" in the case of joint inventors.

(10) If no application has been filed in a foreign country strike out the words "except as follows:". If one or more applications have been filed in foreign countries, the first application and each application more than twelve months old (six months in design cases) must be recited. The country and date of filing the foreign application must be given and the number of the application or other identifying data may also be stated. The claim for priority under 35 U.S.C. 119 (see § 1.55) may be made here. The following examples illustrate various situations.

(a) Only one prior foreign application filed: that "in (country) on (date)." If the right of priority is also claimed add "the right of priority of which application is claimed."

(b) More than one prior foreign application: state "in (country) on (date) and in other countries on subsequent dates." The country and date do not need to be recited except for the first filed application and each application more than twelve months old (six months in design cases).

(11) All petitioners are to sign (see section 1.41).

Alternates to forms 3.12, 3.13, 3.14, 3.16, 3.21, 3.22, 3.25, 3.28, 3.29, 3.31, and 3.32 will be provided as in the case of 3.11(a) to reflect the allowable procedure of a written declaration in lieu of an oath in these instances.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; P.L. 88-292, 78 Stat. 171)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: June 17, 1964.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-6268; Filed, June 22, 1964; 8:49 a.m.]

Published in 29 F.R. 8911, June 24, 1964

Dedication

3,080,329.—*Charles Miner Barringer*, Kennett Township, Chester County, Pa. POLYURETHANE CELLULAR MATERIALS. Patent dated Mar. 5, 1963. Dedication filed May 11, 1964, by the assignee, *E. I. du Pont de Nemours and Company*.

Hereby dedicates to the public the entire term of said patent.

Photoprints as Drawings—Filing Date Only

Effective September 1, 1964 the Application Branch is authorized and directed to accept all applications in which photoprints have been submitted in lieu of formal drawings, and to forward them to the Examiner, who will notify the applicant immediately that the application has been accepted *for filing only*, and that to be entitled to examination, the applicant must file formal drawings complying with Rule 84 within 60 days, and pay the cost of comparing the photoprints with the formal drawings.

A comparison charge of $10.00 per hour, with a minimum charge of $10.00 per application is hereby established. This charge may be applied against deposit accounts and authorization to charge such accounts should be included when the formal drawings are filed. For those who have no deposit account acceptance of the formal drawings will be contingent upon payment of the comparison charge within the period set.

This notice supersedes the notice of April 24, 1964, published May 26, 1964, in 802 O.G. 871.

EDWARD J. BRENNER,
Commissioner.

July 16, 1964.

Patents Available for Licensing or Sale

3,097,798. Flashlights. Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany. Correspondence to: Spencer & Kaye, Wyatt Building, Washington, D.C., 20005.

3,135,565. Humidor. Richard Bingham, 1732 N. Park Ave., Chicago, Ill.

3,142,392. Electric Mail Sorting Machine. Cletus J. Vellad, Rte. #1, Pinconning, Mich.

General Electric Company is prepared to grant non-exclusive licenses under the following 9 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,054,975. Seal for Transformer Casing and Method of Assembling Same.

3,133,475. Hydraulically-Actuated Operating Mechanism.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

3,076,944. Frequency Transforming Circuits Utilizing Negative Resistance.

3,101,889. Resilient Mounting for Motor and Fan Unit.

Applications for license under the following 3 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section, Bldg. 1, Room 36, Court Street Plant, Syracuse, N.Y.

3,060,424. Signal Simulator.

3,112,452. Signal Processing Arrangement.

3,116,468. Spherical Coordinate Proportional Control Device.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Patent Counsel, Instrument Department, 40 Federal St., West Lynn, Mass., 01905.

3,111,844. Heat Rate Measuring Apparatus.

3,121,038. Method of Providing a High Resistance Insulating Coating for a Conductor in a Sheath.

Patents Withdrawn From the Register

General Electric Company hereby withdraws the following 2 patents from the Register of Patents Available for Licensing or Sale. The patents were listed as being available, in the OFFICIAL GAZETTE as indicated below:

2,959,571. Method of Manufacturing Vacuum Enclosures. Mar. 15, 1960.

2,934,392. Methods of Manufacturing Evacuated and Gas Filled Device. Oct. 31, 1961.

Registration to Practice

The following list contains the names of all applicants for registration to practice before the United States Patent Office who attained passing grades in the examination of April 28, 1964. Information tending to affect the eligibility of any of said applicants on moral or ethical grounds should be furnished the Commissioner of Patents on or before September 3, 1964.

EDWIN L. REYNOLDS,
Chairman, Committee on Enrollment.

July 14, 1964.

List of Applicants Who Passed the Examination for Registration to Practice Before the Patent Office Held April 28, 1964

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Department of Commerce
Patent Office

[37 CFR Part 1]

RULES OF PRACTICE IN PATENT CASES

Proposed Interferences

Notice is hereby given that the United States Patent Office proposes to amend certain rules relating to interferences. The amendments are proposed pursuant to the authority contained in Title 35 U.S.C., section 6.

All persons who desire to present their views, objections, recommendations or suggestions in connection with the proposed amendments are invited to do so on or before September 1, 1964, on which day a hearing will be held at 10:00 a.m. in Room 3886B of the Department of Commerce Building. All persons wishing to be heard orally are requested to notify the Commissioner of Patents of their intended appearance.

Some of the proposed changes, necessitated by a recent court decision (In re Dickinson et al., 49 CCPA 951), conform the rules to that decision, and a new rule has been added in the light of that decision, to shorten the time involved in deciding the issue of priority in certain cases.

The text of the proposed amendments are as follows:

Section 1.204(b) of Title 37 CFR (Patent Rule 204(b)) is proposed to be amended by deleting the entire paragraph (b) and replacing it with new paragraphs (b) and (c) reading as follows:

§ 1.204 *Interference with a patent, affidavit by junior party.*

* * * * *

(b) When the effective filing date of an applicant is three months or less subsequent to the effective filing date of a patentee, the applicant, before the interference will be declared, shall file an affidavit that he made the invention in controversy in this country before the effective filing date of the patentee, or that his acts in this country with respect to the invention were sufficient to establish priority of invention relative to the effective filing date of the patentee.

(c) When the effective filing date of an applicant is more than three months subsequent to the effective filing date of the patentee, the applicant, before the interference will be declared, shall file two copies of affidavits by himself and by corroborating witnesses, supported by documentary evidence if available, setting out a factual description of acts and circumstances which would prima facie entitle him to an award of priority relative to the effective filing date of the patentee, and accompanied by an explanation of the basis on which he believes that the facts set forth would overcome the effective filing date of the patentee. This material is considered by the examiner to the extent only of determining whether a date prior to the effective filing date of the patentee is alleged, and if so, the interference is declared; if no such date is alleged, the interference will not be declared.

Section 1.226(a) of Title 37 CFR (Patent Rule 226(a)) is proposed to be amended by deleting from lines 12 and 13 thereof the following language "and affidavits under § 1.204 of the nature specified in § 1.131", so that the new paragraph (a) will read as follows:

§ 1.226 *Notice and access to applications.*

(a) After the preliminary statements have been received and approved, or the time for filing them has expired, the parties will be notified, and given the serial numbers and filing dates of the applications of each adverse party, including any applications which the parties may be entitled to inspect, and the parties will be permitted to see or obtain copies of each other's applications, except copies of affidavits filed under §§ 1.131 and 1.202 which shall be and remain sealed until preliminary statements are opened under § 1.227. The preliminary statements are revealed by an examiner of interferences and shall not be revealed to the opposing parties except as provided in § 1.227.

* * * * *

Section 1.228 is proposed as a new section of Title 37 CFR, and the new section reads as follows:

§ 1.228 *Summary judgment.*

When an interference has been declared on the basis of a showing under § 1.204(c), such showing will be examined by a Board of Patent Interferences. If the Board considers that the facts set out in the showing would not provide sufficient basis for overcoming the effective filing date of the patentee, an order shall be entered after the preliminary statements have been received and approved or the time for filing has expired, pointing out wherein the showing is insufficient and notifying the applicant making such showing that summary judgment will be rendered against him because of such insufficiency at the expiration of a period specified in the notice, not less than thirty days, unless cause be shown why such action should not be taken. Any reasons brought forward during the specified period will be considered by the Board without an oral hearing unless such hearing is requested by the applicant, but additional affidavits or exhibits will not be considered unless accompanied by a showing justifying their omission from the original showing. At the time such order is entered the patentee will be furnished with one of the copies of the showing under § 1.204(c).

Section 1.261 of Title 37 CFR (Patent Rule 261) is proposed to be amended by deleting the present rule, and replacing it with the new rule reading as follows:

§ 1.261 *Termination of interference.*

An interference will be terminated by judgment of priority after final hearing (§§ 1.251 to 1.259), or by judgment on the record as provided by § 1.225 or § 1.252, or by summary judgment because of an insufficient showing under § 1.204(c) as provided by § 1.228, or by dissolution as provided by § 1.232 or § 1.237, or as otherwise provided.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner.

Approved: July 1, 1964.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-6803; Filed, July 8, 1964; 8:46 a.m.]

Published in 29 F.R. 9398, July 9, 1964

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7- 5-62	7- 3-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	10-30-62	11- 5-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1- 4-63	1- 3-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7- 3-63	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Seperation; Gas Separation; Special Utility; Molding Processes.	8-26-62	10-19-61
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	8-19-62	7-11-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	8-29-62	7-13-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11- 5-62	11- 6-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	9-18-62	9- 5-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	10-29-62	11-19-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	11- 9-62	10- 1-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	5- 2-63	5- 9-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	9-13-62	9-11-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	5- 1-63	9- 4-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	12- 5-62	12- 3-62

CONDITION OF PATENT APPLICATIONS AS OF MAY 31, 1964

Total number of pending applications (excluding Designs)	210, 122
Total number of Design applications pending	6, 073
Total number of applications awaiting action (excluding Designs)	125, 460
Total number of Design applications awaiting action	2, 002
Date of oldest new application awaiting action	May 2, 1962
Date of oldest amended application awaiting action	May 9, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 3,122,076 to 3,134,057, inclusive
Plant Patents	Numbers 740 to 780, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner... Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	5- 6-63	5- 7-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner..... Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	1- 9-63	1-11-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner..... Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10- 3-62	9-19-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner. Machine Tools for Shaping or Dividing involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-18-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner..... Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12- 5-62	10- 3-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner..... Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	12-31-62	2-15-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Supervisory Examiner..... Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	2- 5-63	1-23-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner..... Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	2-25-63	3- 5-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner..... Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	4-30-63	6- 4-63
CIVIL ENGINEERING, GROUP 430—B. BENDETT, Supervisory Examiner..... Building Structures; Bridges, Closures; Closure Operators; Sales; Earth Engineering; Drilling; Mining.	2-15-63	1-20-63
PHYSICS, GROUP 420—R. L. EVANS, Supervisory Examiner..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11- 1-62	11-20-62
TEXTILES AND APPAREL, GROUP 440—E. C. MADER, Supervisory Examiner..... Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-11-63	4-10-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner..... Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-25-63	2-18-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner..... Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-28-63	3-25-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner..... Printing; Typewriters; Stationery; Material Treatment.	11-16-62	12-12-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner..... Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	3- 4-63	3- 4-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner..... Industrial Arts; Household, Personal and Fine Arts.	12-16-63	12-19-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE RICHARD F. SHANNON

No. 7109. Decided February 13, 1964

[51 CCPA —; 327 F.2d 518; 140 USPQ 427]

1. PATENTABILITY—COMPOSITION—OBVIOUSNESS—COMBINATION OF OLD INGREDIENTS.

"• • • since it was known at the time of appellant's invention to use in moldable compositions a filler combination to obtain the sum of the advantages which the filler ingredients could impart individually and since the prior art discloses the advantages in adding glass fibers on the one hand and glass flakes on the other hand to moldable compositions containing conventional binders, we think the prior art would suggest the addition to conventional binders of both glass fibers and glass flakes to provide a composition having the sum of the characteristics which the glass fibers and glass flakes could impart when used without the other."

2. SAME—PARTICULAR SUBJECT MATTER—"REINFORCED MOLDABLE COMPOSITION."

The decision of the Board of Appeals refusing the claims in an application entitled "Reinforced Moldable Composition," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 544,825.

AFFIRMED.

Carl F. Schaffer (*John C. Purdue* of counsel) for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1 through 9 and 11 through 16 of appellant's application Serial No. 544,825, filed November 3, 1955, for Reinforced Moldable Composition. No claim in the application has been allowed.

Appellant's application relates to a reinforced moldable composition which includes an organic or inorganic bonding material and glass both in fibrous form and in flake or platelet form. The invention is said to be "based upon the discovery that bodies reinforced with glass both in fibrous and in flake or platelet form can be produced, and that such bodies have electrical characteristics, weathering properties, vapor and liquid impermeability, and flame resistance substantially improved by virtue of the flake or platelet glass, and excellent physical properties by virtue of the presence of the fibrous glass." Appellant states that the presence of fibrous glass in his moldable compositions facilitates the complete removal of any entrapped air, which "has been found to be extremely difficult to accomplish in compositions including glass flakes and a binder, but without any fibrous glass." Such removal is necessary, according to appellant, in order to achieve "the optimum adhesion between glass flakes or platelets and a binder in a reinforced body."

Claims 1 and 11 are representative and read:

1. A reinforced body consisting essentially of fibrous glass reinforcement, flake glass reinforcement, and from 10 percent to 70 percent of a solid binder composition adhered to such glass, and wherein from 1 percent to 50 percent of

the glass reinforcement is fibrous while the remainder thereof is in flake form.

11. A molding composition consisting essentially of an intimate admixture of fibrous glass reinforcement, flake glass reinforcement and from 10 percent to 70 percent of moldable, synthetic resinous binder composition, and wherein from 1 percent to 50 percent of the glass reinforcement is fibrous.

Claims 1 through 8 are directed to a reinforced body while claims 9 and 11 through 16 are directed to a molding composition. Claims 1, 2 and 9 are said to be generic to organic and inorganic types of binders while claims 3, 4, 5 and 11 through 16 are said to be specific to organic binders. Claims 6, 7 and 8 are said to be specific to inorganic binders.

The references relied on by the Examiner and the Board are:

Whitney, 726,485, April 28, 1903.
Hofman, 1,211,445, January 9, 1917.
Slayter et al., 2,457,785, December 28, 1948.
Dearing et al., 2,623,025, December 23, 1952.
Anderson, 2,632,752, March 24, 1953.

Whitney describes insulating material formed by compacting or pressing together sheets or flakes of glass with a suitable flexible binding material, "such as shellac, boiled linseed-oil, paraffin or other wax, or the like."

Hofman describes compositions for making hard wall plaster and building blocks, consisting of ordinary clay, lime, gypsum, pulverized glass and muriatic acid. Fibers can be included in the compositions.

The Slayter et al. patent describes an apparatus for forming glass film. The glass film may be reduced to flakes of any desired size, the patentees stating that the dielectric qualities of the glass flakes are advantageous in electrical applications, and when combined with a suitable resin an efficient electrical insulation is obtained.

The Dearing et al. patent discloses synthetic resinous polyester compositions which can contain a fibrous filler such as glass fibers or a non-fibrous filler such as ground glass.

Anderson discloses a composition which comprises dehydrated kaolin and a polymerizable polyester. The composition is said to have improved water resistance and electrical properties after polymerization.

The Examiner rejected claims 1, 2 and 6–9, which are readable on inorganic binders, as unpatentable over Hofman in view of Whitney or Slayter et al., the Examiner stating that glass fibers are old as reinforcements for various bodies and that "no invention" is seen in using them as the fibers in Hofman's plaster. Referring to appellant's urging that the pulverized glass, which is added to the starting composition in the Hofman patent, reacts with other constituents of the composition during a preliminary heating and thus the pulverized glass is not found as such in the Hofman composition, the Examiner stated:

> While glass is a notoriously inert material even at red heat, even if applicant is correct in his statement that there is no ground glass present in the ultimate composition of Hofman it is not seen why it should be regarded as inventive to add flake glass to the Hofman plaster, when glass flakes are old as fillers as shown by Whitney and Slayter. There is *not the slightest indication* in either the brief or the specification of why it is desirable to add glass flakes to an *inorganic* fiber-containing binder in any proportion whatever. The glass flakes appear to be an inert filler and nothing more.

The Examiner rejected claims 3 through 5 and 11 through 16, which claims are specific to organic binders, as unpatentable over Anderson

or Dearing et al. in view of Whitney. Concerning those claims he stated:

> Again, the glass flakes merely appear to be a filler and applicant has not shown any advantage in adding glass flakes to the glass-fiber—reinforced resins of the primary references.

The Board, in affirming the Examiner's rejection of all the claims stated:

> The use of glass fibers to increase the strength of various binders is well known in the art as apparently acknowledged in appellant's specification and clearly taught in the references of record, such as Anderson and Dearing et al. It is also well known, as indicated by Whitney and Slayter et al. to employ glass flakes in binders to produce compositions having high dielectric properties. In our opinion, it is quite obvious to one having ordinary knowledge in this art to combine glass flakes and glass fibers to obtain the additive benefits of each, thus to anticipate appellant's contribution.
>
> We consider this combination to be particularly apparent in view of the teaching in Anderson * * * of a filler mixture of a mineral fiber, such as a glass fiber * * *, and a filler having high insulation properties to obtain the combined advantages of high impact strength as well as improved electrical properties. The substitution of glass flakes for the dehydrated kaolin of Anderson is rendered obvious by the use thereof in Whitney and Slayter et al. for the same purpose. We, therefore, consider the Examiner's rejections of the appealed claims as set forth in the answer, to be proper. Since we consider the claimed combination to be obvious to one skilled in this art, the various showings of allegedly improved properties are not significant.

Appellant contends that there is no suggestion in the prior art of adding fibers to a glass flake-binder composition nor any recognition in any of the prior art of the fact that the elimination of entrapped air is a problem, or that such air decreases the strength of the bond between glass flakes and a binder or is otherwise detrimental.

The issue to be resolved here is whether it would have been obvious for one skilled in the art to make appellant's compositions having available the teachings of the cited references. We think it would.

We agree with the Board that the use of glass fibers to increase the strength of various binders was well known in the art at the time of appellant's invention. The patent to Anderson, after listing fiber glass as a filler for a binder, states:

> * * * the presence of a filler in a hardened synthetic resin may cause a substantial improvement in strength, * * *

Anderson also teaches the use of filler combinations to obtain the sum of advantages which the filler ingredients could impart individually. Anderson, while disclosing that dehydrated kaolin improves the water resistance and electrical properties of a moldable composition, states further that:

> A filler combination comprising dehydrated kaolin and mineral fibers (e.g., anthophyllite fibers) performs an additional function in the practice of the invention by imparting better molding properties to a polymerizable unsaturated polyester composition than the molding properties of a polyester composition containing dehydrated kaolin as the sole filler. The use of a filler mixture also improves the impact strength of articles molded from the composition.

Moreover, we think the art suggests that the addition of large glass flakes to molding compositions containing an inorganic or organic binder reinforces plastics and provides desirable electrical characteristics and resistance to moisture penetration. Whitney states that a very valuable insulating material can be formed by compacting together "flakes" of glass with a suitable flexible binding material. Slayter et al. state:

> High dielectric properties are obtained by using glass film in continuous sheet form in which the unbroken surfaces of the film provide an impervious sheet.

This is a great advantage where resistance to moisture penetration is required and it is not readily obtainable when film in the form of *small* flakes are used.

It is also to be understood that the thin film formed in the present manner may be reduced to flakes of any desired size by cutting, chopping or ball milling when it is desired to use them as a *reinforcement* for plastics. The *dielectric qualities* of the glass flakes are advantageous in electrical applications and when combined with a suitable resin having the requisite characteristics * * * an efficient electrical insulation is obtained. [Emphasis ours.]

[1] Accordingly, since it was known at the time of appellant's invention to use in moldable compositions a filler combination to obtain the sum of the advantages which the filler ingredients could impart individually and since the prior art discloses the advantages in adding glass fibers on the one hand and glass flakes on the other hand to moldable compositions containing conventional binders, we think the prior art would suggest the addition to conventional binders of both glass fibers and glass flakes to provide a composition having the sum of the characteristics which the glass fibers and glass flakes could impart when used without the other.

Appellant contends that he attains a composition having fewer air bubbles through the use of glass fibers and has submitted an affidavit directed to a glass fiber-glass flake-resinous binder molding composition to support his contention. It is apparent, however, that the claims in issue directed to the reinforced body do not limit the amount of entrapped air in the bodies defined. Insofar as the claims to a molding composition are concerned, we agree with the Board that "it is an inherent result in the combination," which combination we think is clearly obvious from the art of record. Moreover, in the affidavit he submits in support of his contention, he relies only on a process utilizing a vacuum. There is no showing that any unobvious reduction in the amount of air bubbles results from the mere utilization of glass fibers in the absence of such a vacuum.

[2] For the foregoing reasons the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE KARL HERMANN HACKLANDER

No. 7088. Decided March 12, 1964

[51 CCPA —; 328 F.2d 987; 140 USPQ 588]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"EXPANDED PLASTIC."

The refusal of certain claims in an application entitled "Expanded Plastic," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 595,552.

AFFIRMED.

Jacobi & Davidson, Samuel L. Davidson, Herbert H. Jacobi, for appellant.

Clarence W. Moore (*L. F. Parker* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appellant's invention, as described in his specification and claimed in appealed claims 55–61 of his application,[1] relates to a reinforced

[1] Serial No. 595,552, filed July 2, 1956, for "Expanded Plastic." The appeal originally included claims 52–64; however, at the oral argument counsel for appellant abandoned the appeal as to all claims except 55–61.

sheet or slab of expanded polyurethane. As appellant points out in his specification, "One drawback of expanded plastics is that when they are resilient and very elastic they are subject to being easily torn." The issue on this appeal is whether appellant's claimed solution to the problem of tearing of such plastics is patentable.

As appellant states in his specification,

> The invention consists in expanded plastic incorporating an open textured fabric which in the direction of stretch of the fabric *allows an initial freedom of movement* and thereafter prevents further stretch and consequent tearing of the material. [Emphasis added.]

It is this "initial freedom of movement" which appellant considers to be the essence of his invention. In use, the net structure is said to collapse freely during the initial stretching of the foam; however, after a certain amount of stretch, depending upon the characteristics of the net, the fabric then resists further stretching and prevents the strain from exceeding the elastic limit of the foam. This feature is said to permit the use of appellant's reinforced foam in certain applications (e.g., the upholstery industry) where an initial stretch is desirable or necessary, but where a limit is required to prevent tearing of the plastic foam.

Claim 55 is the broadest of the appealed claims and reads as follows:

> A resilient sheet or slab of expanded polyurethane having a reinforcing fabric of the structure of a net pressed into the surface of the sheet or slab while in an adhesive condition.

The remaining claims specifically define the "fabric" of claim 55 as a "hair net" (cl. 58) or "lace" (cl. 59) or a "knotted fishing net" (cl. 60), or specifically limit the shape of the apertures in the net structure to "pentagons" (cl. 57) or "squares" (cl. 61) or those having "more than four sides" (cl. 56).

The Board of Appeals affirmed the Examiner's rejection of all the claims as unpatentable over the following references:

Kayser, 375,073, December 20, 1887.
Mastin et al., 2,625,535, January 13, 1953.
Scholl, 2,787,266, April 2, 1957.
British patent, 501,882, March 7, 1939.

The basic reference, Scholl, discloses a stretchable cushion material, with respect to which the specification states:

> Still another object of the invention resides in the provision of a stretchable cushioning material comprising a fabric stretchable in all directions, with a sheet of foam latex firmly secured to one face of the fabric, the foam latex having greater stretchability than the fabric, and being more easily rupturable by overstretching than the fabric, whereby the fabric limits the stretch of the foam latex to a safe amount.

The specification further indicates that the material is particularly useful as an elastic surgical bandage, but that it will have other uses apparent to one skilled in the art.

The British patent relates to a laminated elastic fabric in which one or more sheets of an elastic rubber such as latex is combined with one or more layers of a knitted or loosely woven fabric with a rubber adhesive. The specification indicates that the loosely woven fabric is cemented to the rubber sheet while the rubber is in a stretched position, so that when the rubber is allowed to contract to its normal size and shape, the loosely woven fabric will be in a "super-relaxed" configuration.

Kayser shows an elastic fabric in which a backing of India rubber or equivalent elastic material is cemented to "a textile fabric so

knitted, woven, or otherwise made as to be capable of extension in one or more directions." Jersey cloth is given as an example of such a fabric.

Mastin et al. discloses elastomeric diisocyanate modified polyesters, including polyurethane, and points out that such materials are useful in those applications where natural rubber or rubber-like materials are used.

In deciding whether appellant's invention is patentable, we are required, under 35 U.S.C. 103, to determine whether the claimed differences over the prior art are such that appellant's subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made. Appellant contends, and we agree, that the differences are (1) none of the references which show stretchable fabrics or cushion materials discloses the use of polyurethane foam, and (2) none of the references specifically calls for the use of a "net."

The Examiner stated in his answer:

> • • • Scholl teaches the reinforcing of foam latex with a stretchable fabric. Kayser and the British patent teach of reinforcing of rubber sheets with various arrangements of strands and open mesh fabrics. Mastin et al. teaches the equivalence of rubber and polyurethane. It would not require invention to employ the reinforcing fabrics of Kayser or the British patent in place of the reinforcing fabric of Scholl. It would also not require invention to employ polyurethane in place of foamed rubber latex of Scholl as the equivalence of rubber and polyurethane is taught by Mastin et al.

By substituting in the above statement the statutory language of 35 U.S.C. 103 for the Examiner's language ("it would not require invention") we can accept this statement as determinative of the issue herein. Although the appealed claims specify particular types of net structure or aperture conformation, there is nothing in the record which indicates that the use of these types would not have been obvious to one of ordinary skill in this art at the time appellant made his invention. The same is true as to the size of the apertures or net openings. The claims call for a "fabric of the structure of a net." It is clear that the "loosely woven" fabric of the British patent approximates such a structure, and would provide an initial freedom of movement. It is doubtful if such a fabric could properly be called a "knotted fishing net" or "lace," but this does not seem to be relevant to the question of obviousness. We agree with the Solicitor's statement in his brief that

> • • • all fabrics obviously have a certain amount of free stretch depending upon their weave. If free stretch is desired in a fabric use, the kind of textile used in practice would, it is submitted, depend upon the amount of stretch desired. That property could easily be determined by experiment.
>
> Under these circumstances, it would seem clear that patentability of appealed claims 56 to 61, inclusive, cannot be predicated on either the specific type of textile used, i.e. hair net, fishing net, lace, etc.; the specific configuration of the apertures in that textile fabric, i.e. pentagon shaped, square, etc. or the free stretch of the fabric. • • •

Appellant argues that rubber and polyurethane foam are not equivalents, and cites as authority for this proposition *Carborundum Co.* v. *National Tea Co.*, 262 F.2d 277, 120 USPQ 70 (7th Cir. 1958), a patent infringement case. The use of rubber involved there, however, was as a backing for an abrasive pad, and we think the court's statement that polyurethane is not an equivalent for foam rubber is necessarily limited by the well recognized doctrine of equivalency to the particular application of those materials in that case. As such,

it has no apparent relevance to the issue here. We have indicated above that Mastin et al. discloses that polyurethane may be an effective substitute for rubber in many applications. In view of this disclosure, we think that one of ordinary skill in this art would have considered it obvious, at the time appellant's asserted invention was made, that fabrics employed as mechanical reinforcements for rubber were similarly applicable to polyurethane foam.

[1] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE THOMAS C. MORRIS (DECEASED), AND ERIC C. JOHNSON

No. 7005. Decided March 12, 1964. Petition for rehearing denied June 18, 1964

[51 CCPA —; 328 F.2d 905; 140 USPQ 562]

1. PATENTABILITY—COMPOSITION—OBVIOUSNESS—BROAD RECITATION OF ADDITIONAL INGREDIENT.

"Claim 24 does specify 'a normally solid, flexible, thermoplastic mixture of *at least two ingredients* at least one of which is a normally solid, thermoplastic, synthetic polymer.' * * * However, claim 24 does not specify what the second of appellants' 'at least two ingredients' is. * * * Dumont shows a normally-solid thermoplastic composition which may be a superpolyamide or a polyamide condensation product and the record shows the adhesive use of polyamides, having a fluidity within appellants' claimed fluidity range, to be old. Thus, although Dumont does not show a thermoplastic mixture of at least two ingredients, we do not consider the mere requirement of 'at least two ingredients,' in the absence of any further language in the claim specifying what that other ingredient is, to patentably distinguish appellants' claim 24 over the Dumont patent. Furthermore, even though the majority of appellants' examples have at least two thermoplastic synthetic polymeric materials, appellants have indicated that in one of their examples there is but one thermoplastic synthetic polymeric material present and that the 'special combination of properties of the adhesive rod in solid and in heat softened condition depends on the presence of the synthetic polymer material in substantial proportion.' As claim 24 reads, the second of appellants' 'at least two ingredients' could be any type of material including a nonpolymeric material."

2. SAME—OBVIOUSNESS—DIMENSION MATTER OF CHOICE.

"Remaining for consideration is the recitation in the claim that the rod is formed of a thickness of between about 1/8 and 1/2 inch. The Dumont reference does not disclose this particular size. However, we think it does suggest formation of a rod of synthetic resinous polyamides in coil form. We consider the thickness of the rods as only an obvious matter of choice."

3. SAME—PARTICULAR SUBJECT MATTER—"THERMOPLASTIC ADHESIVE RODS OR STRIPS."

The decision of the Board of Appeals, refusing the claim in an application entitled "Thermoplastic Adhesive Rods or Strips," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 377,162.

AFFIRMED.

Dos T. Hatfield (*Merwin F. Ashley* and *Wm. W. Rymer* of counsel) for appellants.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claim 24, the only

remaining claim in appellants' application Serial No. 377,162, filed August 28, 1953, for Thermoplastic Adhesive Rods or Strips.

Claim 24 reads:

A package of solid flexible thermoplastic adhesive in coil form, said coil comprising a plurality of turns of rod of substantially uniform cross-section, said rod being formed of a thickness of between about ⅛ and ½ inch of a normally solid, flexible thermoplastic mixture of at least two ingredients at least one of which is a normally solid, thermoplastic, synthetic polymer, said mixture being fluid with a viscosity suitably low for adhesive application at temperatures in the range of 250° F. to 400° F., the physical properties of said rod including the characteristics that said rod is self-supporting, dry, non-tacky, flexible and sufficiently hard to be coiled for storage and uncoiled for use as needed without cracking, said rod being sufficiently stiff to be capable of being fed from said coil and being reducible progressively and rapidly by heat in said temperature range to a fluid condition in quantities as needed for use in a direct through feed industrial cement applying and dispensing system.

Appellants' application describes a coil of solid, self-supporting, dry, non-tacky, flexible thermoplastic adhesive rod formulated to be fluid in the range of 250° F. to 400° F. The coil is described as for use in a heating and dispensing device in which it is heated to a viscous state and applied to articles to be adhered together. Appellants contend that such use eliminates the need for a molten adhesive reservoir.

The references relied on are:

Price, 1,923,456, August 22, 1933.
Sussenbach, 2,510,727, June 6, 1950.
Shonberg, 2,557,574, June 19, 1951.
Alien Property Custodian Application of Dumont, Serial No. 352,364, published April 27, 1943.

Dumont describes the production of shaped structures, such as filaments, rods, tubes and the like from moldable synthetic resins, by extruding the shaped structures in a plastic, liquid or dissolved state from a nozzle rotating quickly around its axis, and finally cold drawing said structures in the direction of the extrusion. In one embodiment of Dumont, a filament "consisting of thermoplastic synthetic resins" is extruded from a nozzle rotating in bearings. The extruded filament is then wound in coils on a cylinder rotating in bearings with a higher peripheral speed than the corresponding extrusion velocity. Dumont teaches that synthetic resins, preferably those possessing a linear structure of the polymeric molecules, may be extruded with a resulting orientation effect which greatly improves their tenacity. Dumont considers this especially true "for the superpoly-condensates * * * such as the superpolyamides and polyamide condensation products which are obtainable either from dibasic acids and dibasic amines or from aminocarboxylic acids and their lactames."[1]

Price discloses a package for enclosing ribbon-like products, such as wire, wire solder, tape and the like. The package includes a spool member, and a wrapper for encircling the ribbon-like products wound on the spool.

Shonberg discloses wrapping solder wire or other flexible material helically around a core member, the core member forming the body of a spool.

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[1] The Patent Office and appellants have characterized such condensation products as "nylon." Nylon is defined in the Concise Chemical and Technical Dictionary (H. Bennett, ed. 1947) as the "Generic term for any long-chain synthetic polymeric amide which has recurring amide groups as an integral part of the main polymer chain, and which is capable of being formed into a filament whose structural elements are orientated in the direction of the axis."

Sussenbach discloses a sealing composition containing a tacky, adhesive, plastic resin bonding material, chrysotile, an electrical conducting material and an organic polar solvent. In use, a round bead of the plastic sealing composition may be extruded along the margin of a metal plate, another metal plate brought into engagement with the bead, and welding electrodes applied at spaced points along the metal plates. The pressure of the electrodes forces the plates toward one another and squeezes the bead flat. Upon the passage of the welding current through the electrodes, plates, and sealing composition, the plates are squeezed closer together and become welded together.

The Examiner rejected claim 24 on Dumont. He considered the coiled filaments or rods of Dumont to meet all the limitations as to appellants' thermoplastic material and took the position that Dumont's coiled filaments or rods obviously possess all the physical limitations defined in appellants' claim 24.

The Examiner also rejected claim 24 as "lacking invention" over Sussenbach in view of Price or Shonberg. He regarded Price and Shonberg as showing flexible material which has all the physical properties of the material defined in claim 24 formed into rod shape and wound into coil form and concluded that "no invention" would be involved in winding the "rod of Sussenbach" into coil form.

The Examiner further rejected claim 24 as lacking invention over Price or Shonberg in view of Dumont or Sussenbach. The Examiner could find no "invention" involved in substituting the material of Dumont or Sussenbach for the material in Price or Shonberg, thereby providing a coil of adhesive rod. The Examiner made reference to the Fibers Chart in "Modern Plastics," Encyclopedia issue, September 1956, at pages 514 and 515, to show that nylon in filament form "becomes sticky at 400–455° F. which is comparable to the temperature limitations in the claim." He also considered nylon to be flexible and took the view that, since size is not a matter of "invention," the dimensional limitations in claim 24 have no effective force.

The Board of Appeals found no error in the Examiner's decision in rejecting claim 24 over (1) Dumont, (2) Sussenbach in view of Price or Shonberg and (3) Price or Shonberg in view of Dumont or Sussenbach.

In sustaining the Examiner's rejection of claim 24 on Dumont, the Board stated that "Webster's New International Dictionary defines 'adhesive' as—sticky and that therefore Dumont's material may be 'adhesive' at 400° F." The Board further referred to pages 174–175 of "The Technology of Adhesives" by John Delmonte (1947) as "showing the use of nylon as an adhesive to be old, specifically as safety glass interlayers and for shoes, boxes, cloth, leather, wood and glass." The Board considered that Dumont's references to "'filaments, rods * * * and the like' would suggest to one working in the art a flexible member of the thickness of about 1/8 to 1/2 inch particularly when viewed with Shonberg."

The issue facing this court is whether the Board was correct in affirming the Examiner's ground of rejection of claim 24 as unpatentable over (1) Dumont, (2) Sussenbach in view of Price or Shonberg and (3) Price or Shonberg in view of Dumont.

Dumont discloses synthetic resins in the form of shaped structures such as filaments and rods. In a specific embodiment, Dumont shows a solid thermoplastic synthetic resinous filament being wound in a

coil on a cylinder. Thus we think it clear that Dumont suggests winding thermoplastic synthetic resinous rods in coils on a cylinder and would therefore suggest a rod in coil form as set forth in claim 24.

Appellants urge that their reference to a package of "adhesive," the fluid limitation and the size recitation result in structurally distinguishing claim 24 over Dumont.

Dumont teaches that the "superpoly-condensates" may be formed into his shaped structures. Such "superpoly-condensates" are exemplified as being "the *superpolyamides* and *polyamide condensation products* which are obtainable either from dibasic acids and dibasic amines or from aminocarboxylic acids and their lactams." [Emphasis ours.]

Although Dumont does not specify any particular polyamide nor indicate the fluidity or adhesiveness of a polyamide applicable for his invention, it is clear from the record that the use of polyamide condensation products for adhesives is old. The Board referred to Delmonte's "The Technology of Adhesives," pages 174–175 (1947) as making such a showing. That reference, for example, teaches that a resin formed from triglycol diamine and adipic acid, which is soluble in water, alcohol, and dioxane, and melts at 185° C. is "of potential value to the field of adhesives." Such a resin is a polyamide condensation product and Dumont discloses polyamide condensation products. Furthermore, "The Technology of Adhesives" states that:

> • • • Carothers also describes safety glass applications of these polyamides,"[*] and other readily soluble polyamides useful for coatings, packaging materials, and *adhesives*. Ethylene diamines are reacted with fatty acids from soybean to form polyamides soluble in inexpensive solvents. They exhibit excellent adhesion to glassine paper, sulfite paper, lead foil cellophane, etc."[*] [Emphasis ours.]

As to the fluid limitation in the range of 250° F. to 400° F. the triglycol diamine-adipic acid polyamide referred to in "The Technology of Adhesives" melts at 185° C., i.e., 365° F., which is within appellants' claimed temperature range.

[1] Claim 24 does specify "a normally solid, flexible, thermoplastic mixture of *at least two ingredients* at least one of which is a normally solid, thermoplastic, synthetic polymer." [Emphasis ours.] However, claim 24 does not specify what the second of appellants' "at least two ingredients" is. As pointed out above, Dumont shows a normally solid thermoplastic composition which may be a superpolyamide or a polyamide condensation product and the record shows the adhesive use of polyamides, having a fluidity within appellants' claimed fluidity range, to be old. Thus, although Dumont does not show a thermoplastic mixture of at least two ingredients, we do not consider the mere requirement of "at least two ingredients," in the absence of any further language in the claim specifying what that other ingredient is, to patentably distinguish appellants' claim 24 over the Dumont patent. Furthermore, even though the majority of appellants' examples have at least two thermoplastic synthetic polymeric materials, appellants have indicated[4] that in one of their examples there is but one thermoplastic synthetic polymeric material present and that the "special combination of properties of the adhesive rod in solid and in heat softened condition depends on the presence of the synthetic polymer material in substantial proportion." As claim 24 reads, the second of appellants' "at least two ingredients" could be any type of material including a nonpolymeric material.

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[*] Footnote 72 refers to U.S. 2, 191, 556.
[*] Footnote 73 refers to an article in Modern Packaging, 17, 113 (May 1944).
[4] An amendment filed July 23, 1954.

[2] Remaining for consideration is the recitation in the claim that the rod is formed of a thickness of between about ⅛ and ½ inch. The Dumont reference does not disclose this particular size. However, we think it does suggest formation of a rod of synthetic resinous polyamides in coil form. We consider the thickness of the rods as only an obvious matter of choice.[5] There is, of course, nothing in the claim limiting the use of the claimed package to direct through-feeding into a heating and dispensing device. Obviously the package of adhesive may be used by cutting the rods into lengths and melting the lengths in a reservoir. The use of a molten adhesive reservoir has been described by appellants as old.

Since we consider that the appealed claim is unpatentable over Dumont, we find it unnecessary to consider the Examiner's remaining art rejections.

[3] For the foregoing reasons the decision of the Board is affirmed.

AFFIRMED.

RICH, *J.* (dissenting):

The legal problem of obviousness[6] in this case is a difficult one to take hold of. Not that the problem is ever easy to solve, but here it is particularly difficult because of the claim, which is a misfortune inflicted upon us by the U.S. system of claiming. When the issue is approached only from the standpoint of the limitations in the claim and their individual relation to elements of structure, thermal characteristics, packaging methods, and the like to be found in the references, one completely loses sight of reality, of what the applicants actually invented, and reaches a result, as the majority does, which may sound good and seem logical but which rather misses the only important point—whether what the applicants *invented* is something which would have been obvious from the references.

I wish, therefore, to approach the question from the standpoint of what they invented, as the record shows it, and thereafter consider how it is claimed and whether the claim defines, as well as may be, an unobvious invention. If this sounds like a peculiar approach, I would suggest that everyone familiar with this patent business knows full well that a claim considered by itself rarely conveys a clear idea of what has been invented and that the best way to arrive at an understanding of the invention is to compare the disclosure with the prior art and see what the differences are. The claim is then to be read in the light of the disclosure. I will start with the prior art.

Price and Shonberg disclose the conventional, well-known spools of coiled wire solder. Solder is not an "adhesive." Sussenbach discloses a sealing composition for welded seams the plasticity of which "is such that it may be readily extruded from an extrusion gun to form a round bead as it is applied * * *." In other words, it can be laid on the work like toothpaste or caulking compound. It cannot be spooled. It is not an adhesive. The adhering is done with spot welds. Dumont (the German national's application published by the Alien Property Custodian in 1943) is concerned with improving the "tenac-

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[5] There is nothing in the record indicating any criticality in the specific limits of "⅛ and ½ inch." Appellants in the application state:

> The importance of maintaining only a minimum of adhesive in heated condition in combination with the importance of softening or melting the adhesive rapidly when needed dictates that the thickness of the rod or strip shall be *relatively small, in general* from *about* ⅛ to *about* ½ inch in thickness. [Emphasis ours.]

[6] It is my view that obviousness under 35 U.S.C. 103 *is* the sole issue. The majority opinion uses the *expression* "unpatentable over" in affirming the Examiner's rejection of "fully met by Dumont." However, the majority admits to limitations of claim 24 which are *not* to be found in Dumont, combines another reference with it not used by the Examiner, and eschews the "fully met" language. It therefore strikes me Dumont must be treated as a section 103 reference. The other rejections are clearly based on section 103.

ity"—i.e., tensile strength (Webster's New International Dictionary, 2nd ed., "4. *Physics*")—of any kind of "reversibly moldable"—i.e., thermoplastic—synthetic resin by a twofold mechanical working. Extruded articles such as filaments, rods, or tubes are, first of all, extruded through a revolving extrusion nozzle which tends to orient molecules in a circular direction and, secondly, the extruded article is drawn out linearly at a faster rate than it is extruded so as to orient molecules linearly. The disclosure is that the invention applies to "all synthetic resins possessing preferably a linear structure of the polymeric molecules." One part of the linear drawing mechanism is a cylinder on which the extruded article is wound as it is emitted from the extruder "with a higher peripheral speed than the corresponding extrusion velocity." Thus does one end up, possibly and temporarily, with a plastic rod "in coil form" as an incidental result of the drawing operation. Of course, the rod must be removed from the cylinder for use and its ultimate form is not disclosed. The reference says nothing whatever about adhesives and has no bearing on adhesives, their form, composition or handling. It deals solely with the molecular orientation of thermoplastics in general by mechanical working.

Dumont includes nylons among his thermoplastics and "Modern Plastics 1956" is cited merely to show that nylons are "sticky" at 400–450° F. and melt at about 415–480° F. (The majority opinion omits this reference but the Solicitor did not.) The "Technology of Adhesives" reference discloses that certain polyamides (which "nylons" are) may possibly be of value in the field of adhesives, sometimes dissolved in solvents, sometimes as "hot melts."

One cannot find in the cited references any disclosure or any suggestion of an *adhesive* product, usable as such, in the form of a coiled rod. However, by the Patent Office reasoning a spool of nylon fishing line would meet the claim.

There is other "prior art" of which neither the majority nor the Patent Office takes notice which has an important bearing on the issue before us. That is the prior art referred to in appellants' specification and elsewhere with respect to how the thermoplastic resin adhesive compositions were being handled in the field to which the invention pertains at the time appellants came forth with their invention. The patenting of inventions is of practical concern with reference to the promotion of the progress of useful arts and the one thing apparently given no consideration whatever by the Examiner, the Board, the Solicitor, and the majority is the state of the relevant useful art and what the appellants did to it.

The specification points out, and it has not been disputed, that before the invention thermoplastic polymeric adhesive as used in machines employing and applying it [1] was heated in substantial quantity in a reservoir in the machine and pumped in a molten state to the point of application. This had several disadvantages. The reservoir had to be kept filled by the operator of the machine. An excessive quantity of adhesive had to be kept melted which also took too long a time to melt when a machine was started up. Continued heating had a

[1] The practical application of the thermoplastic adhesives appears to have been of practical concern primarily in shoe manufacture and in shoe manufacturing machines. The applicants were employees of B. B. Chemical Co., a wholly owned subsidiary of United Shoe Machinery Corporation, and employees of both companies jointly developed the invention before us and machinery for utilizing the rod-form adhesive, such as machine being shown in MacKenzie Patent 2,762,716, of record.

deleterious effect on some hot melt adhesives, which decomposed. Cleaning out the reservoir was difficult and necessary whenever a change was made from one adhesive to another. These hot melt or "glue pot" adhesives, incidentally, were brittle compositions which were broken up into pieces to be fed to the reservoir and as such were not amenable to being made into the form of rod to be wound into a coil and unwound again for use.

Now against this art background, what was appellants' invention? It was *an entirely new concept in adhesive handling*. It was the concept of providing a solid polymeric type adhesive in the form of an elongated coilable rod of particular strength, flexibility, and fluidity characteristics for a particular purpose, to be used in a non-existent machine which was to be developed to employ their novel concept, provided it worked out. As one of the inventors, Johnson, said in his affidavit, "At the outset, it was not apparent to either of us whether or not we could produce an adhesive formulation suitable for coiled rod formation and having the requisite properties." *After considerable research*, success was achieved and a patent application filed.

The patent specification reflects what was learned in the course of the research. One may conveniently divide the specification into three parts: the broad statement of the invention, the disclosure or discussion of the considerations to be met in carrying out the invention, and ten specific examples of exact formulations of adhesive compositions suitable for practicing the invention.

In the broad statement of the invention the appellants said: "This invention relates to a new thermoplastic adhesive article for direct through feed thermoplastic adhesive dispensing." So far as the record shows, this was a novel concept. "According to the present invention there is provided an elongated body of solid, thermoplastic adhesive constituting a self-supporting rod of uniform cross section for cooperation as supply and control with a heated softening and dispensing passageway having a complementary cross section." No such concept is disclosed in the references. "Compositions which have been completely outside of the field of materials which could be used for adhesives to be dispensed from a molten reservoir may be employed effectively in this special form." And further, "The thermoplastic adhesive rod constitutes a new tool with the aid of which a great many adhesive problems are solved." In no reference is there the slightest suggestion to utilize a thermoplastic resin adhesive in the form of a coilable rod and the "new tool" characterization appears most apt. "The field of uses of the thermoplastic adhesive rod is extremely broad and a wide variety of rods of thermoplastic adhesive may be prepared for the various uses * * *." The breadth of the invention is summed up as follows:

> No serious limitations exist as to physical or chemical properties except that the rod be a thermoplastic adhesive composition, that it possess sufficient flexibility and resistance to fracture at operational temperatures to be coiled and uncoiled and that it be self-supporting and possess dimensional stability such that the rod or strip does not change during storage from the shape required for cooperation with the softening and dispensing passageway.

Following these general statements, the ten specific examples are set forth. In the variety of their formulations they demonstrate that the broad concept of the invention can be carried into practice in a wide variety of ways and support the general statement made in the specification that a skilled compounding chemist, familiar with the

teaching of the specification, could produce satisfactory rods other than those specifically described.

The foregoing amply demonstrates the predicament of the applicants vis-à-vis the Patent Office which complains that the claim is "functional" in many of its limitations, which should therefore be ignored; that the temperature range stated for fluidity is not a "critical" range, whatever that may be taken to mean; that it is indefinite in "other ingredients" than the synthetic polymer; that it does not set forth "specific ingredients"; that Dumont's polymers are not distinguished from "in terms of chemical structure" and fail to set forth molecular weights of the components; and that there is "no limitation as to the diameter of the coil."

If appellant's broad concept of coiled adhesive in rod form which is basically a polymeric thermoplastic resin is not protected by a broad claim, the practical result is that *it is not protected at all* because of the ease with which formulations other than those specifically disclosed could be devised, with which to enjoy the benefits of the invention without meeting the limitations of such a claim as the Patent Office appears to visualize as meeting its requirements. Therefore we are faced with a broad claim. Appellants would be fools to try for any other.

If we center our attention on the invention as described, it is apparent that it is *a broad invention nowhere suggested in the references.* But attention has been centered on the claim instead, read without much regard to the scope of the invention or the meanings of the terms in the claim construed in the light of the supporting disclosure.

The main rejection rests on Dumont alone and is based on two things: that it shows some nylon, possibly in rod form, temporarily rolled on the cylinder of a machine the real purpose of which was to stretch it as it came out of the extruder; and that another reference says nylon gets "sticky" if it is hotter than 400° F. (This was the Patent Office view and I appreciate that the majority abandons it for another of its own making synthesized from "Technology of Adhesives.") I feel that appellants are right in pointing out that the claim distinguishes from Dumont in its size limitation, in its "fluid" limitation, and in calling for a package of "adhesive" which becomes fluid in the range 250–400° F. It is clear to me that the Board tacitly admits that Dumont teaches nothing about adhesives and further that it distorts the meaning of "fluid" to include that which is not fluid according to the common meanings of that word, so as to include that which is merely sticky.[*]

In utilizing Shonberg's roll of solder in sustaining another rejection it also appears to me that the Board distorts the common meaning of "adhesive" in contending that solder is an "adhesive, having all the properties as called for in the claim except containing synthetic polymer." As this court said in *In re Dean*, 48 CCPA 1072, 291 F.2d 947, 130 USPQ 107, claims are to be read in the light of the specification, not in a vacuum, and in the context of this case solder (i.e.,

[*] The Solicitor's brief acknowledges that the Board's position was that "fluid" in the claim "does not distinguish from the stickness of nylon at 400° F." but obviously he did not relish the task of trying to support that position for no attempt was made to do so. Instead, the brief switches to the argument that there is nothing to show that 400° F. is a "critical" limit of a temperature range. I therefore regard the Board's position on this point as entirely lacking in support by the Solicitor.

metallic solder which is all the references disclose) is not an "adhesive" within the meaning of the claim.*

The acting Board member, writing its opinion on rehearing (in which its first opinion's new rejection under Rule 196(b) was wholly withdrawn), said that he "could go on and on with respect to the other 'properties' as claimed" and it appears to me that taking the approach that was taken this is no doubt true. I think, however, that the Patent Office had already gone "on and on" to too great an extent in synthesizing supposed suggestions for appellants' invention, as claimed, from the prior art where no such suggestions exist and in finding technical reasons for ignoring the plain meaning of the claim, properly read in the light of the specification, along with various claim limitations, so as to give the claim a semblance of *reading on* an entirely unrelated prior art disclosure.

Read in the abstract, claim 24 does seem, on first impression, to have some rather vague limitations. But read in the light of the disclosure as a bona fide effort to so define the actual invention disclosed *as to provide it with adequate protection* and at the same time do the necessary in *distinguishing in terms from the prior art* references, I would be at a loss to improve upon it.

I do not see any legal compulsion for us to present appellants with the choice of having no protection at all, which results from the majority opinion, or entirely inadequate protection, which would result from acceding to the unjustifiable requirements of the Patent Office in this case.

There is more than adequate precedent in the prior opinions of this court, many of which are referred to in the dissenting opinion of Judge Smith, for approving a claim such as the one before us on the ground that unobviousness may be predicated on a *broad novel concept* for doing a thing though the *means* for doing it, once the concept is given, may seem quite simple in view of prior art viewed with hindsight perception. Of course the claim must distinguish *in terms* from the prior art, but that it amply does if what it says is heeded.

I fully agree with appellants' conclusion which says:

> We submit that this is one of those cases in which because of seemingly slight structural differences [in the claim] *a very great and unobvious difference in conception has been lost sight of* by the Examiner and Board. Properly analyzed, the present facts show strongly that rejection as unpatentable over the four references relied on was unwarranted. [My emphasis.]

SMITH, *J.* (dissenting):

The invention claimed in rejected claim 24 is a "package of solid flexible thermoplastic adhesive in coil form." In defining the properties of the adhesive per se, the claim also calls for the flexible thermoplastic adhesive to be "a normally solid, flexible thermoplastic mixture of at least two ingredients." This mixture must also be "fluid with a viscosity suitably low for adhesive application at temperatures in the range of 250° F. to 400° F."

I do not find these features in Dumont. Dumont, in my opinion,

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* Soldering with metallic solder alloys such as the references show is, moreover, an art totally unrelated to the art of securing with "adhesives." The essential difference is that in soldering the work must be brought up to the temperature at which the solder melts, at least in the surface portion contacted by the solder, else it will not be wetted by the fluid solder and the solder will not bond. Another difference is that chemical fluxes are generally used and, furthermore, soldering is limited to the bonding of metals with metals. The asserted fact that appellants' adhesives may be used on metal does not equate adhesives with solder.

does not show a material which is an "adhesive" within the normal context of the term.

Adhesives are a recognized industrial category. They all have the recognized quality of gripping another material under conditions of use despite such differences as they have in chemical composition.

Dumont's material is a polyamide which is extruded and wound under controlled conditions which produce a structural condition which is asserted to have an orientation of its linear molecules in several directions. This is said to increase the "tenacity" of the product. Webster's Third New International Dictionary defines "tenacity" as, among other things, "tensile strength." I am, therefore, unable to agree with the interpretation given Dumont in the majority opinion. Further, I find no suggestion in Dumont of a flexible thermoplastic adhesive consisting of "at least two ingredients." Likewise, I find no showing in Dumont that the material disclosed therein when heated to the range of 250° F.–400° F., will become fluid and have a sufficiently low viscosity that it is suitable for *adhesive* application within the claimed temperature ranges. Many solids become fluid when subjected to temperatures higher than ambient temperatures. One skilled in this art would know that to be effective as an adhesive, it must possess a sufficiently low viscosity if it is to have adhesive properties in its fluid state. For example, various waxes, which become fluid at various temperatures, are not "adhesives" in the normal sense of the term. They lack tackiness and readily return to their amorphous state when the temperature is reduced. Normal glues and pressure sensitive adhesives, however, have the required low viscosity and tackiness at ambient temperatures to cause adherence of materials to which they are applied.

Thus, the appealed claim has not only a preamble statement referring to an adhesive product but also defines that product in terms which I think distinguish it over the Dumont disclosure. In this particular I think our decision here should be governed by our opinion in *In re DeNapoli, Jr., and Balmer*, 49 CCPA 1056, 1059, 302 F.2d 768, 133 USPQ 556, where the court in reversing an ex parte rejection said:

> The Board failed to mention the reference in the preamble of the claim to "a phonographic translating machine," leaving the implication that it agreed with the Examiner that the preamble "is merely a statement of the suggested use and therefore lacking in patentable significance." However, the body of the claim refers to the adjustable mirror as reflecting the image "into a position to be visible to the transcribing typist." It seems to us that, taken together, those two recitations impart a limitation to the claim which cannot be ignored in determining patentability. • • •

It seems clear to me that the Dumont reference does not suggest appellants' conception, even though it discloses a roll of plastic which in form may be regarded as more or less similar to appellants' claimed package of adhesive. As I see it, Dumont does not disclose what I think are important limitations in appellants' claim. Thus, since Dumont does not suggest appellants' claimed invention, I would find the rejection over Dumont to be improper.

In determining whether the claimed subject matter as a whole is obvious within the meaning of section 103, it is necessary to consider not only structural distinctions recited in the claims but the purpose for which the invention was conceived.

Thus, in *In re Osplack*, 39 CCPA 932, 937, 195 F.2d 921, 93 USPQ 306, the rule is stated that

> • • • the conception of doing a thing, the result of which is new and useful, must be considered along with the actual steps of doing it in considering the presence or absence of patentability. • • •

Or, as we said in *In re Harvey E. Hortman, Jr.*, 46 CCPA 814, 264 F.2d 911, 121 USPQ 218:

> • • • [I]n determining the unobviousness of a device, it is proper to consider "the conception of a new and useful improvement" • • • along with the actual means of achieving the improvement." *In re Shaffer*, 43 CCPA 758, 763, 229 F.2d 476, 108 USPQ 326, and cases there cited. • • • For though the structure may be but a simple expedient when the novel concept is realized, that structure may not be obvious to the skilled worker in the art where the prior art has failed to suggest the problem or conceive of the idea for its elimination.

Or, as Judge Learned Hand stated in *H. K. Regar & Sons* v. *Scott & Williams*, 63 F.2d 229, 17 USPQ 81, 83 (2d Cir. 1933):

> • • • When old devices are changed at all, the change may be dictated by a new conception, which it took originality to conceive. Strictly, the old device is not then put to a new use; the new use begets a new device. In such cases it requires but little physical change to make an invention. • • •

It seems to me, therefore, that the differences which appellants are claiming over the Dumont disclosures are such that the subject matter as a whole would not have been obvious to one of ordinary skill in the packaging of adhesives. I would reverse the decision of the Board.

U.S. Court of Customs and Patent Appeals

IN RE PAUL DIEDRICH

No. 7126. Decided March 12, 1964

[51 CCPA —; — F.2d —; 140 USPQ 597]

1. PATENTABILITY—COMPOUND—COMBINATION OF REFERENCES—OBVIOUSNESS—CLOSE STRUCTURAL RELATIONSHIP.

   "In the present case, in view of the close structural relationship of the corresponding compounds in the French and Priewe et al. patents • • • in view of the disclosed similar utility of the compounds in both patents, and in view of the teaching in the Priewe et al. patent of the equivalency of the —COOH and —COR′ (e.g., —CO—NH—CH_2—COOH) groupings and the indication that the —COOH group can be converted into the —CO—NH—CH_2—COOH group, we think it would be clearly obvious to the man of ordinary skill in the art to modify the compounds of the French patent as suggested by the Examiner. • • • there is nothing in the record to show that the claimed compounds are significantly superior to the X-ray contrast agents shown in the prior art."

2. SAME—PARTICULAR SUBJECT MATTER—"X-RAY CONTRAST AGENTS."

   The refusal of the claims in an application entitled "X-Ray Contrast Agents," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 718,981.

AFFIRMED.

Michael S. Striker, Harold D. Steinberg, for appellant.

Clarence W. Moore (*J. E. Armore* of counsel) for the Commissioner of Patents.

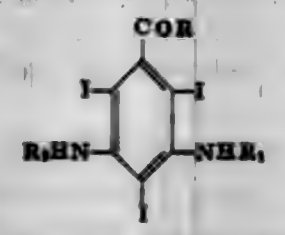
Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals affirming the Examiner's rejection of claims 2, 5, 6, 7, 8, 9, 10, 11 and 12 of appellant's application Serial No. 718,981, filed March 4, 1958, for X-Ray Contrast Agents. No claim has been allowed.

Appellant's application describes X-ray contrast agents which are particularly suitable for urography. The nature of appellant's X-ray contrast agents is evident from a consideration of representative appealed claims 2 and 7 which read:

2. A compound selected from the group consisting of amino acid imides of N-acyl derivatives of 3,5-diamino-2,4,6-triiodobenzoic acid having the following general formula:



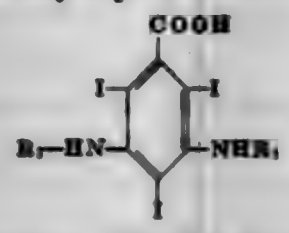
wherein R is an amino acid residue selected from the group consisting of glycine, alanine, valine, leucine, norleucine, isoleucine and phenylalanine, wherein R_1 is an alkane aliphatic acyl radical of up to 7 carbon atoms, and wherein R_2 is selected from the group consisting of hydrogen and alkane aliphatic carboxyacyl radicals of up to 7 carbon atoms; and non-toxic salts thereof.

7. 3,5-bis-(acetylamino)-2,4,6-triiodohippuric acid.

The references relied on by the Examiner and the Board are:

Priewe et al., 2,776,241, January 1, 1957.
French patent, 1,118,311, March 12, 1956.

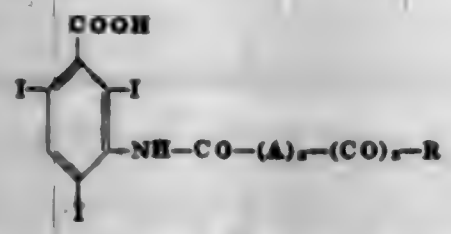
The French patent discloses 3,5-diacylamino-2,4-,6-triiodobenzoic acids which can be structurally represented as:



(I)

R_1 being a carboxyacyl group. The 3,5-diacylamino-2,4,6-triiodobenzoic acids of the French patent are stated to be suitable as "good X-ray contrast media" and are "preferably suitable for urography, and in particular as contrast media for kidneys in intravenous applications of their salts."

The Priewe et al. patent discloses N-acyl-3-amino-2,4,6-triiodobenzoic acids of which the N-acyl residue is derived from polybasic carboxylic acids. The acids of the Priewe et al. patent can be structurally represented as:



(II)

wherein A represents a saturated divalent hydrocarbon residue with not more than 16 carbon atoms, R is a hydroxyl, alkoxy, or unsubstituted or mono- or disubstituted amino group, and x indicates the number 0 or 1. The N-acyl-3-amino-2,4,6-triiodobenzoic acids in the Priewe et al. patent are said to be good X-ray contrast agents and "suitable for X-ray visualization of the kidneys." Priewe et al. teach that the usefulness of their N-acyl derivatives is not limited to the free acids of the above formula but that the —COOH group on the benzene nucleus may be converted into a —COR′ group where R′ may be "a carboxy alkyl amino group," such as —NH—CH_2—COOH, viz. one derived from the amino acid glycine.

The issue here is obviousness over the prior art, the Examiner rejecting the appealed claims on the French patent in view of Priewe et al.

It is the Examiner's position that there is no "invention" in substituting the —COR′ grouping in the compounds of the Priewe et al. patent for the —COOH group in the compounds of the French patent.

The Board, in affirming the Examiner, stated:

> * * * Both references are in the same art and the compounds of both have the same utility. Both are N-acyl derivatives of triiodobenzoic acid. Because of the closeness of the compounds of the two references, it would clearly be obvious for the man of ordinary skill in the art to modify the compounds of the French patent in the carboxyl radical thereof by the amino acid residues of the Priewe et al. patent. * * *

We find no reversible error in the Board's decision.

Appellant argues that it would not be obvious to modify the compounds of the French patent from the teaching of the Priewe et al. patent because the N-acyl radical in the compounds of the French patent is derived from a monobasic carboxylic acid while the N-acyl radical in the compounds of the Priewe et al. patent is derived from a polybasic carboxylic acid.

We are not persuaded, however, by appellant's urgings. As this court has said in *In re Krogman*, 42 CCPA 1037, 223 F.2d 497, 106 USPQ 276, "Whether a reference is pertinent, or a combination of references is proper, depends solely upon what is reasonably and realistically taught thereby in relation to that which is claimed." [1] In the present case, in view of the close structural relationship of the corresponding compounds in the French and Priewe et al. patents readily apparent from a visual inspection of Formulae (I) and (II), in view of the disclosed similar utility of the compounds in both patents, and in view of the teaching in the Priewe et al. patent of the equivalency of the —COOH and —COR′ (e.g., —CO—NH—CH_2—COOH) groupings and the indication that the —COOH group can be converted into the —CO—NH—CH_2—COOH group, we think it would be clearly obvious to the man of ordinary skill in the art to modify the compounds of the French patent as suggested by the Examiner. As the Solicitor has pointed out, there is nothing in the record to show that the claimed compounds are significantly superior to the X-ray contrast agents shown in the prior art.

[2] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

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2,824,004. (See 2,823,414.)

2,823,960. (See 2,823,414.)

2,871,911, Goldsworthy and Landgraf, APPARATUS FOR PRODUCING ELONGATED ARTICLES FROM FIBER-REINFORCED PLASTIC MATERIAL, filed Nov. 10, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1278–60 WB, *Glastrusions, Inc.* v. *New Plastic Corporation et al.* Action dismissed Jan. 2, 1964.

2,875,425, L. Gilbert, MULTIPLE ELECTRICAL CONNECTOR, filed July 14, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 912–61–K, *Continental Connector Corp.* v. *Houston Fearless Corp.* Judgment in favor of defendant, plaintiff's action for infringement and defendant's counterclaim dismissed without prejudice Dec. 31, 1963.

2,906,729, T. R. Persentka, SHEET SEPARATING MECHANISM FOR DUPLICATORS; **2,962,944**, same; **3,044,967**, P. A. Stephenson, PAPER FEED TRAY FOR DUPLICATING MACHINES, filed Feb. 12, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c265, *A. B. Dick Company et al.* v. *Heyer, Incorporated.*

2,907,228, G. K. Burke, VENOCLYSIS EQUIPMENT, filed Feb. 14, 1964, D.C., N.D. Calif. (San Francisco), Doc. 42114, *Baxter Laboratories, Inc.* v. *Cutter Laboratories, Inc.*

2,962,944. (See 2,906,729.)

2,962,944, H. W. Shumaker, WIND DEFLECTORS, filed Oct. 7, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1794, *Hugh W. Shumaker et al.* v. *Grabcraft Industries, Inc.* Final consent judgment; patent held valid and infringed; defendant enjoined (notice Feb. 13, 1964).

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2,989,621, Merrill and Waite, FITTING FOR TAPPING STEEL WALLED MEMBERS; 2,989,731, P. D. Merrill et al., FITTING FOR PERFORATING STEEL WALLED MEMBERS, filed Feb. 6, 1962, D.C., N.D. Okla. (Tulsa), Doc. 5339, *M. B. Skinner Company, a division of Textron Oregon, Inc. v. Continental Industries, Incorporated.* Patents held invalid and claims 1, 2, 3, and 10 of Patent 2,950,637 and claims 3 and 4 of Patent 2,960,731 not infringed; complaint dismissed Feb. 17, 1964.

2,991,999, Harrison and Smucker, MOLDING MECHANISM AND HEATING ARRANGEMENT, filed Oct. 31, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 1401-61-K, *Crown Machine and Tool Company, Inc. et al. v. Bridges Plastic Products, Inc.* Stipulation and order of dismissal without prejudice; defendant enjoined Jan. 16, 1964.

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2,992,847, R. D. MacDonald, ROAD BASE SPREADING APPARATUS; 3,015,261(a), same, TRENCH FILLING AND SHOULDER SPREADING MACHINE; 3,069,817, same, ROADWAY MACHINE; 3,091,999, same, BASE SPREADER, filed Feb. 10, 1964, D.C., S.D. Ill. (Peoria), Doc. P-2684, *Ulrich Manufacturing Co. v. Ulmac Equipment Company et al.*

3,114,656, W. G. Scharf, LUSTROUS FABRICS AND METHODS OF PRODUCING SAME, filed Feb. 14, 1964, D.C., S.D.N.Y., Doc. 64/508, *Metal Film Company v. Metlon Corp. et al.*

2,988,781. (See 2,990,697.)

2,988,998, J. P. St. Amour, HOLE LOCATION GAUGE, filed Feb. 25, 1964, D.C., E.D. Mich. (Detroit), Doc. 25025, *John P. St. Amour v. A. A. Industries, Inc. et al.*

2,998,997, Darnell and Vellines, MESSAGE CONVEYING APPARATUS, filed Apr. 19, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62-571 WB, *Dorcon Corporation v. Griffith Company et al.* Judgment in favor of defendants; claims 1 through 4 of Patent No. 2,998,997, held invalid Feb. 5, 1964.

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3,013,302, Getchell and Peglow, DISHWASHER WITH DISPENSER FOR WATER CONDITIONING LIQUID; 3,088,478, J. A. Fay et al., DISHWASHER; 3,094,992, Gives and Peglow, DISHWASHER WITH CONTROLS IN DOOR, filed Feb. 5, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-161-JWC, *Waste King Corporation v. General Electric Company.*

3,015,261(a). (See 2,992,947.)

3,015,261(b), R. D. MacDonald, TRENCH FILLING AND SHOULDER SPREADING MACHINE, filed Feb. 6, 1964, D.C., S.D. Ill. (Peoria), Doc. P-2682, *Ulmac Equipment Co., Inc. v. Ulrich Manufacturing Co.*

3,022,942, W. E. Schober, TAPE HANDLING MACHINE, filed Feb. 6, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-170-TC, *Viking of Minneapolis, Inc. v. Earl W. Muntz.*

3,025,926, W. E. Dameron, METHOD AND APPARATUS FOR DETERMINING DEPTH OF WELL SAMPLES, filed Feb. 8, 1964, D.C., W.D. Tex. (Pecos), Doc. 3809, *Core Laboratories v. Bennie R. Jones and Harold E. Johnson doing business as RGM Core Analysis, Ltd.* Same, filed Feb. 10, 1964, D.C., W.D. Okla. (Oklahoma City), Doc. 64-53, *Core Laboratories, Inc. v. John Fred Evatt and Harold Wayne Hunt doing business as RGM Core Analysis, Ltd.*

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3,030,716, R. P. Shea, PAVING MACHINE CONTROL SYSTEM, filed Feb. 7, 1964, D.C., E.D. Ill. (Danville), Doc. 64-9-D, *Rexford P. Shea et al. v. Blaw-Knox Company.*

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3,036,390, J. H. Grossman, LIGHT-WEIGHT SHOE CONSTRUCTION, filed Feb. 18, 1964, D.C., S.D.N.Y., Doc. 64/530, *Penobscott Shoe Company v. Larutan, Inc.*

3,040,660, W. E. Rupp, QUICK OPENING CENTRIFUGAL PUMP, filed Aug. 9, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1427, *The Gorman-Rupp Company v. Bell & Gossett Company.* Cause dismissed Feb. 17, 1964.

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3,046,997. (See 2,593,729.)

3,049,817. (See 2,962,947.)

3,058,479. (See 3,013,568.)

3,061,062. (See 3,013,568.)

3,068,484, Moehlenpah and Palme, APPARATUS FOR FABRICATING WOOD STRUCTURES; 3,069,694, same, filed Feb. 12, 1964, D.C., E.D. Mich. (Detroit), Doc. 24962, *AR-KA Engineering, Inc. v. Troy Steel Corp. et al.*

3,069,694. (See 3,068,484.)

3,072,134, S. J. Jamison, DIAPER, filed Nov. 13, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c2044, *Johnson & Johnson v. The Kendall Company.* Stipulation of dismissal without prejudice (notice Feb. 13, 1964).

3,075,558, D. A. Wales et al., APPARATUS FOR AND METHOD OF IDENTIFYING MATERIAL UNITS, filed Feb. 24, 1964, D.C. Minn. (Minneapolis), Doc. 4-64/59, *Magnetics, Inc. v. Flo-Tronics, Inc.*

3,076,726, R. K. Nolte, METHOD OF AND APPARATUS FOR RINSING AND DRYING METAL PANS, filed Sept. 10, 1962, D.C., E.D. Mich. (Detroit), Doc. 21389, *Metalwash Machinery Corporation v. Awrey Bakeries, Inc.* Consent judgment; patent held valid and infringed (notice Feb. 5, 1964).

3,082,339, F. Meyer, ELECTRONIC TIMING APPARATUS WITH PRECISE STARTING POINT FOR SELECTED INTERVAL, filed Feb. 18, 1964, D. C., E.D.N.Y. (Brooklyn), Doc. 64C-167, *Tempo Instrument, Inc. v. Logitek, Inc.*

3,091,999. (See 2,992,947.)

3,099,852, L. A. Grant, POWER OPERATED BRUSH ATTACHMENT FOR EARTH MOVING MACHINE, filed Feb. 20, 1964, D.C., W.D. Pa. (Pittsburgh), Doc. 64-149, *Louis A. Grant v. D. A. Sansotta Company et al.*

3,115,652. (See 3,011,196.)

3,123,815. (See 3,041,597.)

Des. 191,965, A. Mosheim, FLORAL WASH SPONGE, filed Apr. 24, 1962, D.C., S.D.N.Y., Doc. 62/1570, *House of Treasure, Inc. v. Celebrity, Inc.* Action dismissed inadvertently June 13, 1963—ordered that the dismissal be vacated June 28, 1963; stipulation and order of dismissal Feb. 17, 1964.

Des. 197,146, G. Fisher, SHOE BAG, filed Feb. 14, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C-160, *Triangle Mfg. Co., Inc. v. Paramount Bag Co., Inc.* Same, filed Feb. 14, 1964, D.C., S.D.N.Y., Doc. 64/510, *Triangle Mfg. Co., Inc. v. Protex Products Company Sales, Inc.*

REISSUES

AUGUST 4, 1964

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,627
REFINING OF COAL HYDROGENATION PRODUCT

Donald C. Overholt, Scott Depot, W. Va., Grover D. Roy, Haddonfield, N.J., and Roy R. Warren, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original No. 3,084,118, dated Apr. 2, 1963, Ser. No. 832,451, Aug. 10, 1959. Application for reissue Oct. 3, 1963, Ser. No. 314,590

11 Claims. (Cl. 208—265)

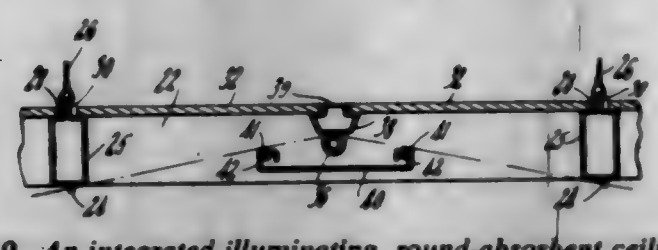
1. Process for refining liquid coal hydrogenation product which comprises adding to said product containing ash, unreacted carbon residues, and water and having a viscosity between 65 and 2,000 centipoises at a temperature of 55° C. from about 50 to about 100 parts by weight of liquid aromatic hydrocarbon precipitant per 100 parts by weight of said coal hydrogenation product and from about 2 to about 5 parts by weight, *on a 98% acid basis,* of a coagulating agent selected from the group consisting of [98] *90–100* percent sulfuric acid and [98 percent] aminosulfonic acid per 100 parts by weight of said coal hydrogenation product, separating two fractions, the first fraction being a liquid phase consisting predominantly of ash-free liquid product and the precipitant, and the second fraction being a sludge phase consisting predominantly of ash and carbon residues, and removing the precipitant from said first fraction to yield an ash-free liquid product.

25,628
CEILING ILLUMINATING SYSTEM

Michael Henry Kruger, Chestnut Hill, Mass., assignor to Smithcraft Corporation, Chelsea, Mass., a corporation of Massachusetts

Original No. 3,094,285, dated June 18, 1963, Ser. No. 39,058, June 27, 1960. Application for reissue Dec. 19, 1963, Ser. No. 342,582

23 Claims. (Cl. 240—9)



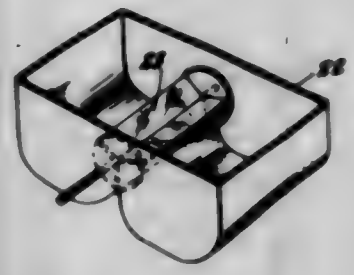
19. An integrated illuminating, sound-absorbent ceiling comprising a multiplicity of elongated grid members adapted to be suspended in parallel, spaced-apart relation from overhead structure forming a plurality of spaced-apart grid member pairs, each grid member provided with an elongated upwardly directed support surface and an elongated bottom edge, opaque acoustical sheet members having light-reflective lower surfaces disposed over and supported in part by said upwardly directed surfaces of said grid members, each sheet member extending in an overlying relation relative to the space between a pair of grid members, a plurality of elongated light source means, each light source means associated with a said pair of grid members, an elongated strip member associated with each light source means, adapted to support said light source means therebelow, said strip member positioning said light source means above said elongated bottom edges of said grid members, parallel therewith, and generally midway therebetween, said strip members providing upwardly directed support surfaces located in the vicinity of said light source means, engaging for support the corresponding acoustical sheet members, each light source means and the corresponding pair of grid members being relatively positioned so that the bottom edges of said grid members define cut-off lines for light passing directly from said light source means at a predetermined small downward angle to the horizontal, to shield said light source means from direct view from the working area at angles to the horizontal smaller than said predetermined angle, said acoustical sheet members having major portions of their said lower surfaces extending from said supporting strip members to said supporting grid members exposed directly to illumination from said light source means, and exposed unimpededly to the working area therebelow, whereby said opaque acoustical sheet members serve as secondary sources of illumination to said working area, while said supporting grid members for said acoustical sheet members cut off glare from said ceiling.

25,629
METHOD OF SHRINKING, DYEING AND FINISHING

Frank P. Murphy, 1813 N. 2nd St., Philadelphia 23, Pa., and Henry Kline, 913 E. Adams Ave., Philadelphia 24, Pa.

Original No. 3,083,074, dated Mar. 26, 1963, Ser. No. 38,554, June 24, 1960. Application for reissue Apr. 29, 1963, Ser. No. 276,681

2 Claims. (Cl. 8—18)



1. The process of dyeing, preshrinking and finishing [garments of] cotton [Jersey] *jersey* cloth *for use in garments,* which comprises placing the [garments of] cotton [Jersey] *jersey* cloth in bags, making up a scouring bath in a paddle wheel dyeing machine, placing the bags of the [garments of] cotton [Jersey] *jersey* cloth in said paddle wheel dyeing machine, agitating the scouring bath and the [garments of] cotton [Jersey] *jersey* cloth in the bags by running the paddle wheel while the bags of [garments of] cotton [Jersey] *jersey* cloth are in the scouring bath and thereby scouring the [garments of] cotton [Jersey] *jersey* cloth, dropping the scouring bath, rinsing the [garments of] cotton [Jersey] *jersey* cloth in the paddle wheel dyeing machine, making up a dye bath in the paddle wheel dyeing machine and agitating the [garments of] cotton [Jersey] *jersey* cloth by running the paddle wheel while the bags of [garments of] cotton [Jersey] *jersey* cloth are free in said dye bath, dropping said dye [baths] *bath,* rinsing the [garments of] cotton [Jersey] *jersey* cloth, making up a finishing bath in said paddle wheel dyeing machine containing a cationic

finish, agitating said [garments of] cotton [Jersey] *jersey* cloth by running said paddle wheel while the [garments of] cotton [Jersey] *jersey* cloth [are] *is* in said finishing bath, extracting the moisture from said [garments of] cotton [Jersey] *jersey* cloth, removing the [garments of] cotton [Jersey] *jersey* cloth from said bags, and immediately thereafter tumbling the [garments of] cotton [Jersey] *jersey* cloth free from the bags until [they are] *said cloth is* dry.

25,630

CORROSION RESISTANT COATING

Newell C. Cook, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Original No. 3,024,177, dated Mar. 6, 1962, Ser. No. 831,494, Aug. 4, 1959. Application for reissue Mar. 6, 1964, Ser. No. 360,789

13 Claims. (Cl. 204—39)

1. A method of forming a silicide coating on a metal composition having a metal melting point of at least 600° C., at least 50 mol percent of said metal composition being at least one of the metals selected from the group of metals whose atomic numbers are 23–29, 41–47, and 73–79, said method comprising (1) forming an electric cell containing said metal composition as the cathode joined through an external electrical circuit to a silicon anode and a fused salt electrolyte composed essentially of at least one alkali metal fluoride and from 0.5 to 50 mol percent of at least one alkali metal fluosilicate, said electrolyte being maintained at a temperature of [about 600–800° C., but below the melting point of said metal composition] *at least 600° C., but below the melting point of said metal composition* in the substantial absence of oxygen, (2) controlling the current flowing in said electric cell so that the current density of the cathode does not exceed 5 amperes per square decimeter during the formation of the silicide coating, and (3) interrupting the flow of electrical current after the desired thickness of the silicide coating is formed on the metal object.

PLANT PATENTS

GRANTED AUGUST 4, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,431

RED MAPLE

Milfred W. Staples, 416 E. Summit St., Kent, Ohio

Filed June 19, 1963, Ser. No. 289,149

1 Claim. (Cl. Plt.—51)

A new and distinct variety of red maple, *Acer rubrum* L., of upright spreading symmetrical growth habit characterized by the unusual foliage coloration described above, and by the ability to transmit such characteristics to all or substantially all of its asexually reproduced progeny.

2,432

AZALEA PLANT

Hubert B. Lewis and Helen H. Lewis, both of 16562 E. Leffingwell Road, Whittier, Calif.

Filed Feb. 25, 1963, Ser. No. 260,933

1 Claim. (Cl. Plt.—56)

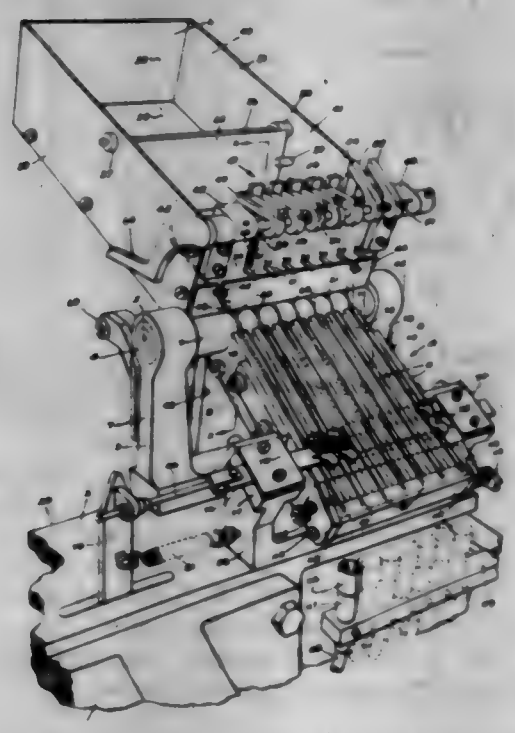
A new and distinct variety of azalea plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of relatively large, flat and attractive dark green foliage, a habit of bearing flowers in clusters of from 2 to 6 flowers on short stems, with each cluster giving the effect of a single, very large double flower, and a distinctive and attractive Neyron Rose general color tonality of the flowers.

PATENTS

GRANTED AUGUST 4, 1964

GENERAL AND MECHANICAL

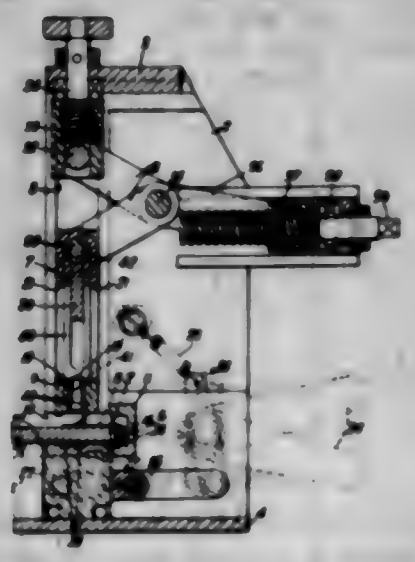
3,142,841
NAILING FEED MACHINE MECHANISM
Charles A. Davis, Saugus, Mass., assignor to W. J. Young Machinery Co., Inc., Lynn, Mass., a corporation of Massachusetts
Original application Feb. 20, 1959, Ser. No. 794,593, now Patent No. 3,071,291, dated Jan. 1, 1963. Divided and this application Nov. 13, 1961, Ser. No. 152,094
10 Claims. Cl. 1—6)



1. In a nailing machine feed mechanism, means forming a plurality of parallel inclined chutes, each adapted to contain a row of aligned nails having heads positioned on the upper surface of said chute, means extending across said chutes and positioned to engage the head of the lowermost nail in each row, means for actuating said last mentioned means for simultaneous release of said lowermost nails from said chutes, and a plurality of means for independently retaining the second lowermost nail in each chute while said lowermost nails are released.

3,142,842
BELT-FASTENING MACHINES
Leslie A. Neale, Sheffield, England, assignor to Hayden-Nilos Limited
Filed Nov. 6, 1962, Ser. No. 235,810
Claims priority, application Great Britain May 2, 1962
11 Claims. (Cl. 1—342)

1. A belt-fastening machine for making a joint-half consisting of U-shaped elements and pointed staples to pass through a belt and holes in the limbs of the elements, the machine comprising a comb-bar with a slotted front face to receive the bases of the U-shaped elements, a securing rod to secure the bases of the elements inside the comb-bar, a staple-presenting bar disposed parallel to and forwardly of the slotted face of the comb-bar, the bar having a downwardly-directed face and being formed with a lengthwise slot through its thickness from that face, there being registering pairs of vertical grooves formed in the side walls of the slot each to receive and direct downwardly the legs of a staple, a pressing member of the width and length of the slot in the bar, vertical guide means for the pressing member, means to move the pressing member downwardly into the slot, and an anvil mem-



ber with an upwardly-directed face below the pressing member, that face being formed with point-bending recesses in register with and below the pairs of vertical grooves in the slot of the bar.

3,142,843
SHIRT WITH IMPROVED ADJUSTABLE COLLAR BUTTON
Samuel Berger, Deurich Apartment, Apt. D-20, 4401 Conshohocken Ave., Philadelphia 31, Pa.
Filed Sept. 16, 1963, Ser. No. 309,133
7 Claims. (Cl. 2—128)



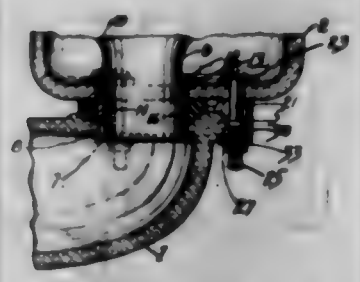
1. In a shirt including first and second overlapping edges lengthwise thereof and a collar permanently affixed thereto, the improvement comprising providing a pouch having a forward wall, said pouch being adjacent said collar and said first overlapping edge, an opening formed in said pouch, a base having a forward and rearward face provided in said pouch, a conventional button projecting outwardly of said opening and being secured to said base for sliding movement relative to said opening, a buttonhole complementary to said button provided in said second overlapping edge and adapted to receive said button, said base including a window and having a piece of cloth having a forward and rear portion, said rear portion being secured to said rearward face, said cloth passing through said window with a forward portion of said cloth facing said pouch opening, said button being secured to said cloth on the forward portion thereof, said button being adapted to slide relative to said opening and relative to said buttonhole as permitted by the extent of said pouch opening.

3,142,844
STRAND TYPE SUSPENDERS
Alan E. Murray, 844 Colorado Ave., Bridgeport, Conn.
Filed Apr. 4, 1961, Ser. No. 100,678
4 Claims. (Cl. 2—326)



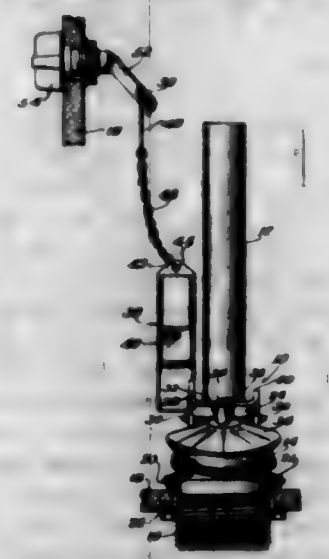
1. A device for supporting clothes in position around the waist which comprises a closed loop of elastic strand material, at least two slidable keeper means spaced apart from each other and holding portions of said loop adjacent each other, the portions of the loop intermediate said spaced keeper means being adapted to engage in part the sides of the wearer's neck, the remaining portions of said loop being adapted to extend down substantially the center of the front and back of the trunk of a body along substantially vertical lines, at least one strand of elastic material attached to each of the portions of said loop extending beyond said spaced keeper means, said strands of second-mentioned elastic material each having two terminal ends, and means positioned at said terminal ends for attachment to the clothes being supported.

3,142,845
CLOSE-COUPLED TANK TO WATER CLOSET
Howard A. Fulton, Perrysville, Ohio, assignor to Mansfield Sanitary, Inc.
Filed June 21, 1963, Ser. No. 289,661
4 Claims. (Cl. 4—12)



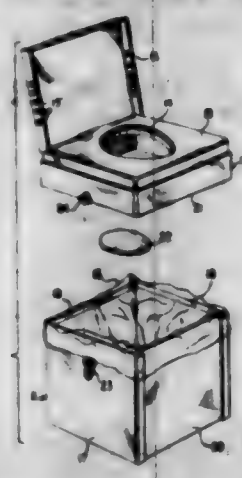
1. A close-coupled water closet combination comprising a toilet bowl having outwardly projecting side and rear flanges, a tank and means for securing said tank in assembled relation to said bowl, said means including side and rear bolts extending through the bottom wall of the tank and nuts on the bolts, the side bolts extending through the side flanges and the rear bolt extending down past the rear flange, and a generally U-shaped adapter engaging the underside of said flanges and having bosses near its ends and near its middle through which said bolts extend, said adapter being composed of material which is substantially non-corrosive and non-conductive electrically.

3,142,846
FLUSH VALVE
Frank B. Lackenmaier and John W. Sanderson, Delphi, Ind., assignors to Gerber Industries, Inc., a corporation of Indiana
Filed Aug. 26, 1963, Ser. No. 304,315
4 Claims. (Cl. 4—62)



1. A flush valve for a flush tank of the type provided with a discharge tube having a valve seat at the upper end thereof and an overflow tube connected to said discharge tube and offset therefrom; said valve comprising, in combination, a pair of spaced pivot elements located on opposite sides of the overflow tube, a U-shaped lever having its legs pivotly mounted on said pivot elements so as to straddle the overflow tube, a valve member carried by said U-shaped lever below the bight of the U and being normally adapted to seal against said valve seat, and a hollow container mounted on one leg of said U-shaped lever and being positioned to move in a plane laterally offset from the overflow tube so that there is no engagement between the hollow container and the overflow tube, said container having a restricted discharge orifice therein for providing a time delay between the time when the valve is first opened and the time when the valve re-closes.

3,142,847
PORTABLE KNOCK-DOWN COMMODE HAVING SEPARABLE PARTS FOR NESTING
Adrian F. Kurrels, 4181 Vaughn Ave., Merced, Calif.
Filed Aug. 16, 1962, Ser. No. 217,418
1 Claim. (Cl. 4—142)



A portable knock-down commode comprising a rectangular box-like body portion including separable side walls which are arranged upright during use, each of said side walls provided at its bottom with a relatively narrow inturned horizontal flange, the flanges of one opposed pair of side walls adapted to rest upon the flanges of the other opposed pair of side walls in assembly adjacent the corners of the body portion, one opposed pair

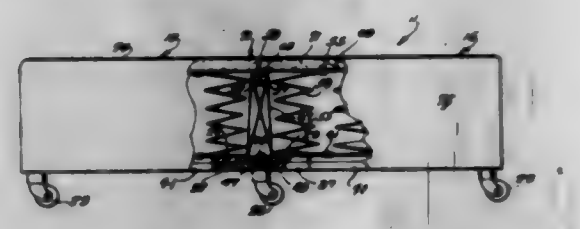
of said side walls being provided along the upright edges thereof with inwardly directed channel forming extensions spaced outwardly of such side walls and close thereto, the other opposed pair of said side walls provided along their upright edges with coacting channel forming extensions substantially at right angles to said other pair of said side walls and adapted to receive the first-named channel forming extensions slidably in interlocking relation and separably, a separately formed readily removable bottom wall for said body portion which is rectangular, flat and substantially rigid and of a size to fit within said body portion and rest upon said horizontal flanges of the side walls, said bottom wall removable upwardly from said body portion, a flexible bag placeable within said body portion above and on said bottom wall and being open at its top and adapted to have an upper marginal portion thereof folded over the top edges of the side walls and extended downwardly over the outer faces of the side walls, said bag then constituting a bodily removable liner for said body portion, a seat unit for said commode having a rectangular downwardly open vertically shallow unitary skirt portion engageable telescopically and removably over top portions of said side walls of the body portion with said folded bag marginal portion disposed between said side walls and skirt portion and substantially held frictionally thereby, a seat panel on the top of said skirt portion rigid therewith and having an opening in alignment with the interior of the body portion and bag, a cover for the seat panel hinged thereto at one side of the seat panel and being substantially coextensive in rectangular area with the seat panel and skirt portion, said cover, seat panel and skirt portion constituting a unit separate from the body portion, and coacting latch means on opposite sides of the skirt portion and on one opposed pair of said side walls near the tops thereof allowing said seat unit to be locked releasably upon said body portion, the arrangement being such that when the seat unit is removed from the body portion and said side walls and bottom wall of the body portion are separated and stacked in superposed relation, the latter may be nested bodily within the confines of the skirt portion while resting upon the seat panel, said seat unit then being inverted, whereby a flexible element surrounding the seat unit and the parts nested therein may constitute a substantially unitized assembly for convenient carrying.

3,142,848

BED CONSTRUCTION

Raymond H. Blecker, Homewood, Ill., assignor to Simmons Company, New York, N.Y., a corporation of Delaware

Filed Dec. 19, 1962, Ser. No. 245,773
5 Claims. (Cl. 5—174)



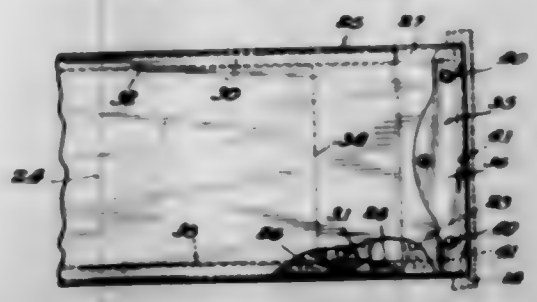
1. A foldable bed unit comprising a pair of juxtaposed bed sections each of which includes a rigid frame and a resilient cushion construction supported on the said frame, means interconnecting the said sections for hinged movement about an axis disposed adjacent the upper surface of said cushion constructions and generally parallel to the planes of said frames, said sections being swingable about said axis between an open position in which said sections are disposed with their frames in generally co-planar relation and a folded position in which said sections are disposed with their upper surfaces in substantially face-to-face contact, the edges of said frames which are adjacent to each other when said sections are in said open position being formed so as to assume an overlapping relationship, and removable leg means secured to said frames of said sections, at least one of said leg means including means insertable into the said overlapping portion of each of said frames when said sections are in said open position so as to lock said sections in said open position.

3,142,849

BOAT SEAT STRUCTURE

Nicholas B. Jagemann and Roy S. Pilger, Manitowoc, Wis., assignors to Mirro Aluminum Company, Manitowoc, Wis., a corporation of New Jersey

Filed Dec. 13, 1962, Ser. No. 244,344
10 Claims. (Cl. 9—7)



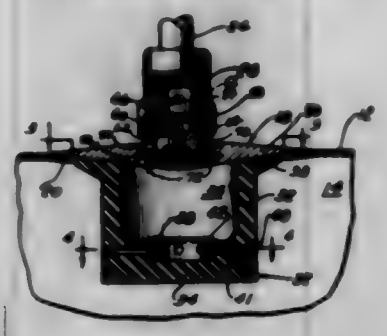
1. In seat structure for a pleasure boat, in combination with the hull of the boat, a transverse panel member extending from inside the hull on one side of the boat to inside the hull on the opposite side, said panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with integral, inwardly directed underneath flanges, a spacer at each end of the panel member, said panel member at each said end having telescoping relation with its spacer, a yoke member at each end of the panel member and having telescoped relation therewith, securing means fixedly uniting the panel member, the spacer and the yoke member respectively in assembled relation, and other means for fixedly securing each yoke member to its respective side of the hull.

3,142,850

INFLATOR FOR CO$_2$ INFLATION DEVICE

Albert De Boer, St. Louis, Mo., assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware

Filed Aug. 13, 1962, Ser. No. 216,418
3 Claims. (Cl. 9—11)



1. An inflator for an inflatable device comprising, in combination, a manifold adapted to be sealingly confined within an opening in a wall of said inflatable device, and said manifold adapted to be connected to a source of pressurized fluid for inflating the inflatable device; a cold dissipater positioned within the inflatable device and affixed to said manifold in substantial isolation from direct engagement with said inflatable device, said cold dissipater being cup-shaped and defining together with said manifold a preliminary expansion chamber of relatively small volume relative to the volume of the compartment

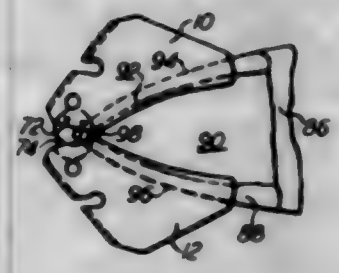
defined within said inflatable device, means within said cup-shaped member for creating turbulence within the preliminary expansion chamber to raise the temperature of the expanding pressurized fluid sufficiently to thereafter avoid cracking the walls of said inflatable device, said cold dissipater having therein a plurality of openings constricted in cross-section relative to the size of said preliminary expansion chamber for communicating the preliminary expansion chamber with the compartment defined within the inflatable device.

3,142,851

METHOD OF LASTING THE TOES OF SHOES

Walter A. Vornberger, Medford, Mass., assignor to Jacob S. Kamborian, West Newton, Mass.

Filed June 7, 1961, Ser. No. 115,405
5 Claims. (Cl. 12—7.1)



1. The method of lasting the toe end of a shoe, wherein the shoe upper and insole are mounted on a last having converging sides meeting at a relatively sharp tip at the toe end of the last and wherein the upper has a lasting margin extending upwardly from the insole at the toe end of the last, comprising the steps of: engaging the portions of the margin at the sides of the last exclusive of the tip with wiping instrumentalities to apply wiping stresses thereto and wipe them upon the insole, leaving unwiped and unengaged the margin at and adjacent the tip, and forming pleats in the margin adjacent the tip; and cutting into the pleats formed in the preceding step while the wiping stresses are maintained.

3,142,852

AUTOMATIC TOOTHBRUSH

Edgar A. Phaneuf, Southborough, and Hans Springer, Ashland, Mass., assignors to General Electric Company, a corporation of New York

Filed May 31, 1962, Ser. No. 198,883
18 Claims. (Cl. 15—22)



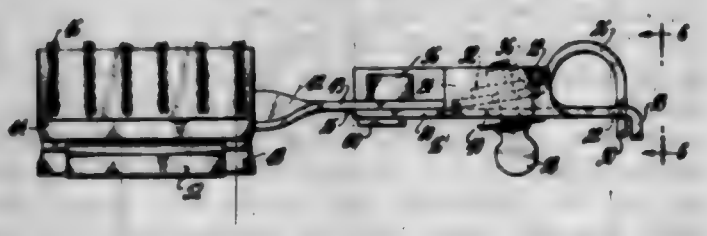
1. An electrically operated toothbrush comprising a casing, a battery positioned within said casing, an electric motor positioned within the casing and powered by said battery, a toothbrush holder member connected to be reciprocated by said motor, a toothbrush supported by said holder member and having a plurality of bristles extending generally perpendicularly from said toothbrush, guide means positioned within the casing for permitting only straight line reciprocation of said holder member with respect to said casing, said motor and said guide means causing said holder member to reciprocate said toothbrush in only a straight line direction substantially perpendicular to said bristles through a predetermined short stroke length, said bristles being of such flexibility and length that when said toothbrush is reciprocated in a straight line by said holder member through said predetermined short stroke length substantially all of the bristle tips placed into contact with gingival tissue tend to remain where placed while the non-tip portions of the bristles move to and fro causing the tips to produce a massaging action and substantially all of the bristle tips that are simultaneously placed into contact with tooth surfaces slide on said surfaces producing a scrubbing action.

3,142,853

BRUSH ASSEMBLY WITH ATTACHMENT CLAMP

Orvil E. Hensley, 21324 Meyler Ave., Torrance, Calif.

Filed Apr. 1, 1963, Ser. No. 269,624
1 Claim. (Cl. 15—160)



A brush assembly of the character described, adapted for detachable mounting to the shaft of a golf cart and the like, and comprising in combination:

(*a*) a generally flat-bottom, longitudinal channel member having generally parallel edge walls upstanding along opposite sides, one of which walls extends beyond the other one toward the distal end of the channel, and both of which walls end short of the proximate end of said member, the proximate end of said member being formed with a pair of downturned tabs, laterally spaced apart to define an open-ended slot in general alignment with the longitudinal axis of the channel;

(*b*) an opposing coupling plate formed with a generally flat portion receivable in juxtaposition within said channel, an adjacent, outwardly bowed portion adapted to frictionally embrace a shaft to which the assembly is attached, and a proximate portion disposable transverse to the channel member and characterized by a laterally restricted neck receivable in said slot, and a laterally flared, terminal segment pivotally engageable beneath said downturned tabs;

(*c*) a fastening element adapted to secure said flat portion and said channel member in juxtaposition and having a limited radial adjustability in the direction of the longitudinal axis of the channel member so as to accommodate shafts of different diameter embraced by said bowed portion by permitting positioning of the restricted neck along said slot toward and away from the adjacent ends of said side walls;

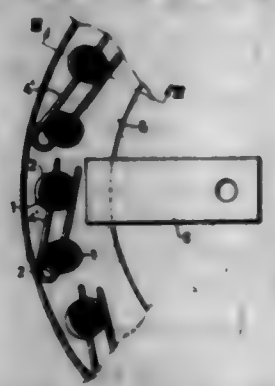
(*d*) a shank carrying a brush head at its outer end and having a generally flat, inner end disposable in juxtaposition with the distal end of said channel, and locking means adapted to secure said juxtaposed flat end selectively (1) parallel to the channel and alternately clear of and received between the flat portion of the coupling plate and said channel, and (2) transverse to said channel and in end abutment with said longer side wall, which shank and brush head are selectively detachable from said channel member.

3,142,854

ROTARY BRUSH COMPRISING AN ANNULAR BRISTLE CARRIER AND A CIRCLE OF BRISTLES

Albert Theodore Nielsen, Nr. Bjaert, near Kolding, Denmark, assignor of one-half to Niels Edward Nielsen, Kolding, Denmark

Filed Mar. 12, 1963, Ser. No. 264,491
Claims priority, application Denmark Mar. 15, 1962
1 Claim. (Cl. 15—188)



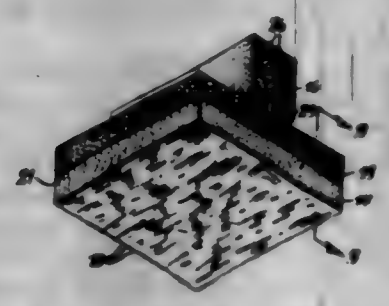
A rotary brush comprising an annular disc shaped brush back member having a circular series of circumferentially spaced holes therein, a plurality of tubular holders inserted through said holes from the external surface thereof, said holders having opposed holes therein, a plurality of tufts consisting of bristles of hairpin shape mounted in said tubular holders, a cross pin extending completely through each of said holders and its opposed openings and extending through the bend of the hairpin bristles therein to secure said bristles in said holders and said holders in said sockets, said opposed holes being disposed flush with the internal surface of said annular disc, and wherein the cross pins of two adjacent bristle tuft holders are formed by the limbs of a generally U-shaped wire.

3,142,855

LIQUID AND PASTE APPLICATOR

James R. Gilchrist, Clarence, N.Y., assignor to Truly-Magic Products, Inc., Buffalo, N.Y., a corporation of New York

Filed May 24, 1961, Ser. No. 112,438
1 Claim. (Cl. 15—210)



An applicator, comprising

(A) a generally flat working member polyurethane sponge pad of the open cell type in which the walls between cells are ruptured to
  (*a*) have body softness,
  (*b*) to provide a broad working face capable of adapting itself to the surface to be coated and
  (*c*) to establish communication between its cells and with the surface cells forming craters so that a substantial quantity of liquid can be absorbed into said working member pad to be released through the craters of its broad working face in response to working force applied through said working member pad against said surface to be coated,

(B) a backing member polyurethane sponge pad of the closed cell type in which the cells are substantially isolated from one another
  (*a*) to have the required body firmness to transmit said working forces to said working member pad,

(C) a flexible polyester film in the order of .0035 of an inch thickness generally coextensive with and interposed between opposed broad faces of said pads and secured thereto,
  (*a*) to stiffen the applicator in the direction of said broad working face,
  (*b*) to hold the applicator yieldingly in shape transversely of the said working face to permit the working member pad to be worked into corners and crevices, and
  (*c*) to permit of varying the working forces applied from said backing member pad to said working member pad to move the desired amount of liquid contained in said working member pad onto said surface,

(D) a generally flat handle member polyurethane sponge pad generally coextensive with and arranged against the broad face of said backing member pad remote from said working face,

(E) a narrow stripe of adhesive uniting central portions only of said backing member pad to said handle member pad and extending substantially from one edge of the applicator to the opposite edge, thereof,
  (*a*) whereby edge portions of said handle member pad can be moved from said backing member pad and brought into face-to-face relation with each other to form a handle, and

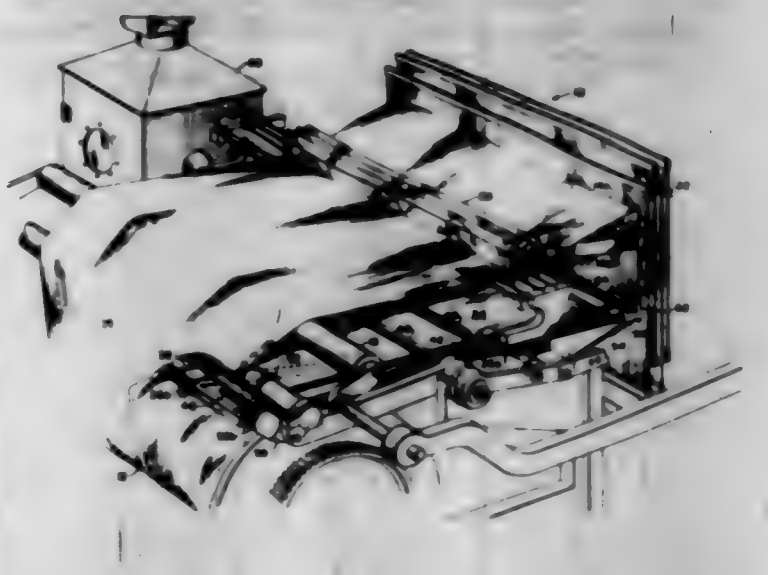
(F) small fibers and an adhesive uniting said small fibers with the rims only of said craters of said working face
  (*a*) to assist in the streakless release of said liquid.

3,142,856

TEXTILE MACHINERY CLEANING APPARATUS AND METHOD

Philip F. Maguire, Jr., Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed Dec. 28, 1961, Ser. No. 160,859
26 Claims. (Cl. 15—246)



1. Textile machinery cleaning apparatus for gathering from the air adjacent said machinery lint which is generated by the operation of said machinery in at least one region thereof and which collects thereon after falling downwardly through said air, thereby preventing said collection, said apparatus comprising:
  (*a*) a first pair of supports spaced apart within said region,

(*b*) a substantially flat resilient sheet mounted on said supports and presenting a surface toward said falling lint and being impervious thereto, said sheet extending substantially across said region, whereby said sheet intercepts said falling lint and supports said lint thereon,

(*c*) a second pair of supports spaced apart within said region, each latter support being located in juxtaposition to a corresponding one of said first pair of supports,

(*d*) sweeping means mounted on said second pair of supports for movement through at least a portion of said region relative to said sheet for sweeping said supported lint to a station located adjacent an edge of said sheet in said region, and

(*e*) means located at said station for receiving from said sweeping means lint which has been moved thereby to said station and for removing said lint from said station,

(*f*) said first pair of supports including:

(1) a bracket secured to one edge of said resilient sheet and mounted upon said lint receiving means,

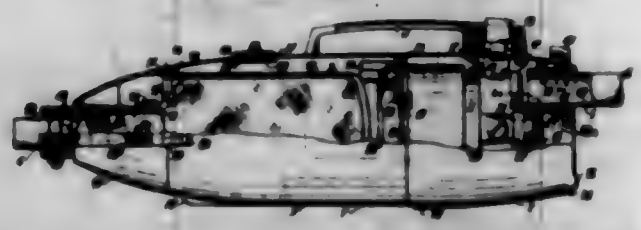
(2) a stiffening bar secured to the opposite edge of said resilient sheet,

(3) a plurality of coil springs secured at one end thereof to said stiffening bar,

(4) an elongate member extending transversely of said sheet and secured to the other end of said coil springs, and

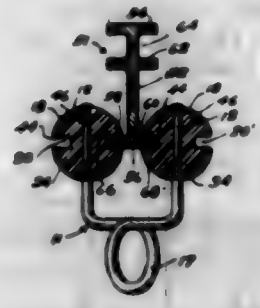
(5) means supporting said elongate member substantially in the plane of said sheet, whereby said sheet is maintained under tension by said coil springs.

3,142,857
VACUUM CLEANERS
Marcel Fresard and Erwin Aeberseld, Geneva, Switzerland, assignors to Mefina S.A., Fribourg, Switzerland, a corporation of Switzerland
Filed Feb. 19, 1962, Ser. No. 174,127
Claims priority, application Switzerland May 30, 1961
3 Claims. (Cl. 15—327)



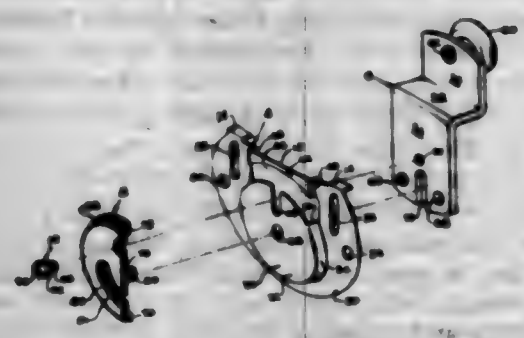
1. An improvement in vacuum cleaners, comprising, in combination, a casing including, a front section having an intake nozzle, a center section releasably interlocked with the mating end of the front section, a filter bag assembly housed in said center section and in communication with said nozzle, a plurality of spaced anchoring lugs on the inner face of the center section and having threaded bores, a rear section connected with the mating end of the center section adjacent said lugs and having an exposed edge, a transverse wall integral with and located inwardly of said exposed edge to provide an outwardly facing fittings housing and concealing cavity, said transverse wall also having a recess on its inner face and a tubular socket constituting an air exhaust, a combined motor and pump unit having a boss for entering said recess, a clamping plate located in the front portion of the rear section and having openings, the peripheral portion of said plate slidably mounted in said section, a plurality of braces for causing the said plate to seat the boss of the motor and pump unit in said recess, said braces piercing said transverse wall and having threaded end portions passing through said openings of the clamping plate to enter the threaded bores of said anchoring lugs on the center section and provided on their outer ends with tool engaging ends accessible from said fittings cavity, nuts and lock nuts on the threaded ends of said braces between the anchoring members and the clamping plate, and washers between the nuts and said plate, whereby, the nuts and lock nuts on the threaded ends of said braces may freely turn with the braces without displacing the plate while the said threaded ends enter the bores of the locking lugs.

3,142,858
DRAPERY HANGER
Bruce J. Bieda, 5590 N. River Road, Rosemont, Ill.
Filed Nov. 22, 1961, Ser. No. 154,222
5 Claims. (Cl. 16—87.6)



1. A universal drapery hanger slide assembly for use with C-track and I-track units for overhead and ceiling applications including a single rod looped to form a drapery hook eyelet and having both of its end portions bent away from the loop in the same direction to extend rectilinearly in spaced substantially parallel relation to each other, a sphere carried adjacent the outer end of each of said end portions for rotation about the axis of the corresponding end portion, and an annular peripheral groove formed in the outer surface of each sphere, said grooves being coplanar and spaced from each other a distance sufficient to receive the track members of an I-track member.

3,142,859
ADJUSTABLE SLIDING DOOR HANGER ASSEMBLY
Charles R. Suska, Roxbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed May 2, 1962, Ser. No. 191,873
4 Claims. (Cl. 16—105)



1. A hanger assembly for supporting a door for movement on a track or the like comprising a hanger strap having bearing means at one end adapted to be received in the track, a mounting bracket adapted to be fixed to one face of the door, said mounting bracket having a boss projecting from the face thereof and means forming a guideway for the hanger strap, said strap being received in said guideway for guided vertical reciprocal movement, a cam member rotatably mounted on said boss for rotatable movement about its center and having a cam slot therethrough, and a combination cam follower and locking screw threadedly connected to the strap and extending into the cam slot, said boss being apertured to accommodate the cam follower and locking screw and the cam slot being formed with portions at varying radial

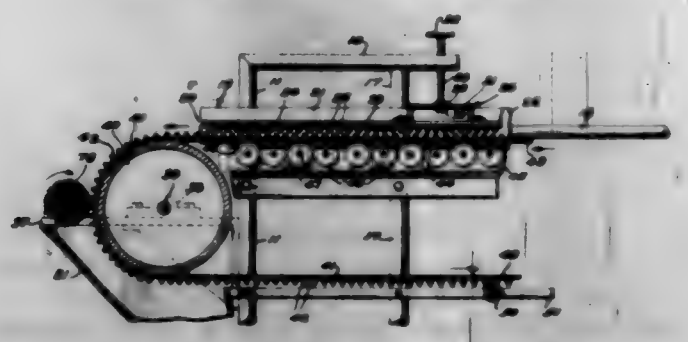
distances from the center of the cam member so that rotation of the camming member causes the cam follower and locking screw to be cammed in a vertical direction by the cam slot to adjust the vertical position of the strap and the door supported thereby and said screw having an enlarged portion engageable with the surface of the cam member adjacent the cam slot to lock the assembly in adjusted position.

3,142,860

APPARATUS FOR TENDERIZING AND SEPARATING MEAT FROM BONES

Adonirum J. Churchill, Opa-Locka, Fla., assignor to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri

Filed Jan. 18, 1957, Ser. No. 634,967
12 Claims. (Cl. 17—1)



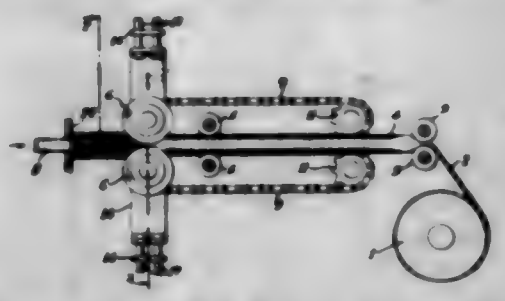
1. Apparatus for tenderizing and separating meat from bones, said apparatus comprising a frame, an elongated platen carried by said frame, the lower surface of said platen having a facing of yieldable material with a plurality of depending frusto-conical yieldable projections, a pulley rotatably mounted on said frame adjacent each end of said platen, a belt trained over said pulleys with the upper flight disposed in spaced substantially parallel relation below said platen, a plurality of yieldable frusto-conical projections on the outer surface of said belt, means for adjusting the spacing between said platen and the upper flight of said belt, means for supporting the upper flight of said belt at a plurality of spaced points throughout substantially the length of said platen comprising a plate secured to said frame below said upper flight, a plurality of rows of spaced openings in said plate, rollers projecting through said openings and engaging the inner surface of said upper flight, means for driving said belt, whereby meat-carrying bones passing between said platen and said belt will be kneaded by said projections to tenderize, shred, and remove meat from the bones, an elongated sifting drum open at both ends and rotatably mounted in said frame longitudinally thereof below said belt, said drum comprising spaced longitudinally extending parallel bars and spaced reinforcing rings surrounding said drum and secured to said bars, means to drive said drum, a feed hopper above said belt adjacent one end, stripping means comprising a brush rotatably mounted on said frame and engaging the outer surface of said belt where the same passes over said pulley at the end opposite said hopper and means to drive said brush at a surface speed greater than that of said belt, said stripping means serving to strip meat and bones from the projections on said belt, a chute below said stripping means and the adjacent end of said belt for receiving meat and bones and discharging the same into one end of said drum, a conveyor belt disposed below said drum and extending outwardly of said frame for receiving meat passing between the bars of said drum, the bones being discharged from said drum at the end opposite said chute, means to drive said conveyor belt, a rotary brush extending transversely of said conveyor belt and inclined with respect to the direction of travel to clean the surface of said conveyor belt and direct the meat carried thereby toward one side and means to drive said rotary brush.

3,142,861

APPARATUS FOR SHIRRING SAUSAGE CASINGS

Ernst Riegler, Niederwalluf, Rheingau, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden, Biebrich, Germany

Filed Aug. 20, 1962, Ser. No. 218,805
Claims priority, application Germany Aug. 24, 1961
5 Claims. (Cl. 17—42)



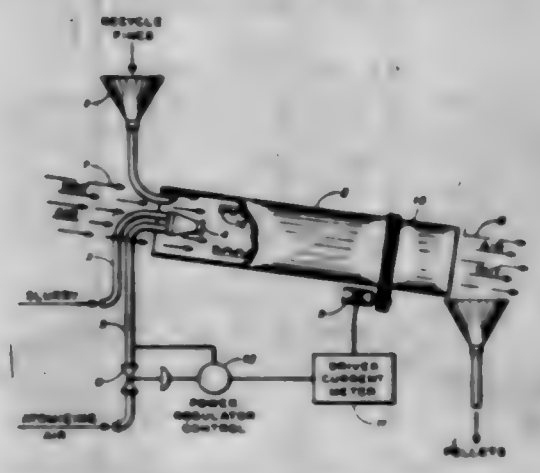
1. An apparatus adapted for use in shirring sausage casings comprising a mandrel having an abutment affixed thereto, a pair of rolls mounted on opposite sides of the mandrel, means for rotating the rolls in opposite directions, and means for imparting reciprocating motion to the roll in a direction normal to the mandrel axis.

3,142,862

APPARATUS FOR CONTROL OF PELLET SIZE BY RELATING WORK LOAD TO ATOMIZER PRESSURE

Thomas A. R. Guldman, San Francisco, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed May 3, 1962, Ser. No. 192,266
2 Claims. (Cl. 18—1)



1. In an apparatus for preparing pellets of a fracture resistant material which comprises a rotating drum equipped with lifters on its wall, means for rotating said drum at a constant rate, means for introducing fines into the drum, an atomizer for spraying droplets of a dispersion of the fracture resistant material onto the fines as they fall from the lifters across the drum, pressure means operably connected to said atomizer for controlling the size of the droplets, means for moving said coated fines through said drum, and means for drying the coated fines with hot gas traveling concurrently with the coated fines through said drum, the improvement which comprises means for varying said atomizer pressure responsive in direct relation to the work load of said rotating means.

3,142,863

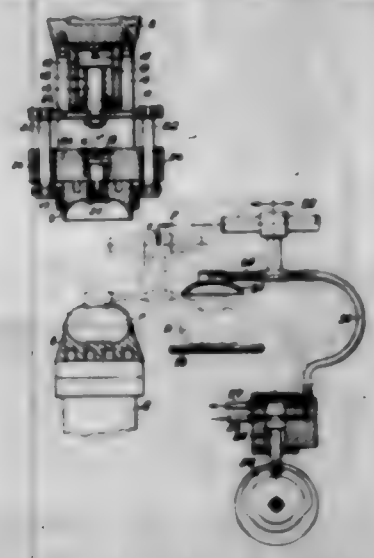
PRESSES, MOLDINGS AND FORMING MACHINES

Mario Mazzoni, Busto Arsizio, Italy, assignor to G. Mazzoni S.p.A.

Filed July 18, 1961, Ser. No. 124,900
Claims priority, application Italy Aug. 1, 1960
6 Claims. (Cl. 18—3)

1. A device of the kind described comprising at least one mold having a stationary die member and a movable

die member, a slide carrying said movable die member to move same into and out of engagement with said stationary die member, a trimming member mounted on one of said die members for movement with respect thereto to trim excess material expressed from said mold, ejector means disposed in said movable die member to eject a molded article molded by said mold, fluid means operatively connected to said trimming member and said ejector means to operate the same sequentially whereby the trimming member is caused to trim off the expressed material after the engagement of the die members and the



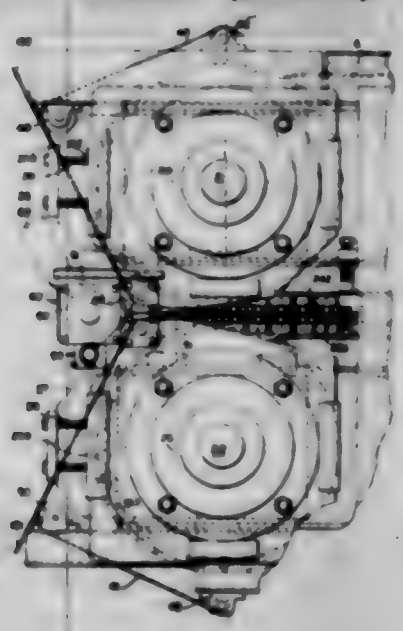
ejector means is caused to eject the article at the instant the movable die member is moved out of engagement with the stationary die member, engaging means movable into a position to engage said molded article after being ejected from said movable die member, said engaging means after engaging said molded article being movable to another position to deposit said molded article onto a conveying means to carry said molded article to a position remote therefrom, and means operatively connected to said engaging means to cause same to engage said molded article as well as to move said engaging means into said engagement position and said depositing position.

3,142,864

MEANS AND METHOD FOR THE FORMATION OF PANELING HAVING A FOAMED PLASTIC CORE

Perry H. Pelley, Wichita, Kans., assignor to Tru-Scale, Inc., Wichita, Kans., a corporation of Kansas

Filed Oct. 27, 1959, Ser. No. 848,996
3 Claims. (Cl. 18—4)



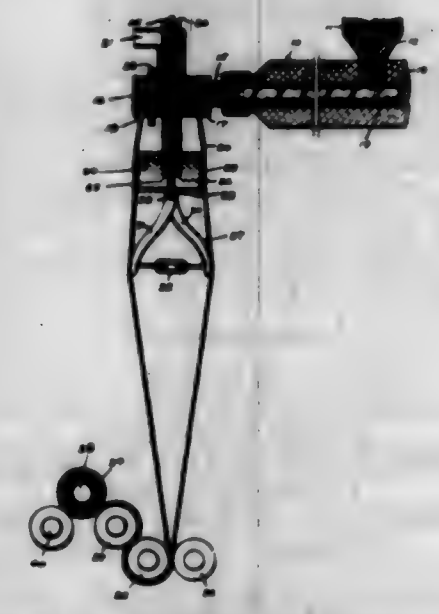
2. In a machine for the continuous formation of a panel having a core of foamable material, means mounting a pair of endless belts having backing plates for continuous longitudinal movement of successive segments thereof in closely spaced parallel planes defining a confined area, means supporting said plates with said segments non-yieldably restrained in said planes, a pair of insulating belts, one each circumscribing each of said backing plates with successive segments thereof adapted to move longitudinally through said confined area, a distributor adapted to contain solid foamable material with an elongated nozzle projecting between said planes for distributing said material, and means having a plurality of perforated tubular probes with said probes projecting between said planes in a marginal area adjacent said nozzle for feeding an activator for said foamable material into enveloping relation with said material.

3,142,865

METHOD AND APPARATUS FOR PRODUCING THERMOPLASTIC TUBING AND SHEETING

Carlton A. Richie and Anthony J. Scalora, both of Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

Filed Oct. 26, 1961, Ser. No. 147,867
9 Claims. (Cl. 18—14)



1. A method for producing thermoplastic tubing and sheeting comprising the steps of extruding heated thermoplastic material in the form of circular tubing, passing the extruded tubing over a cooling former of the size and the contour desired in the final tubing, maintaining a low pressure gaseous medium in the tubing between the points of extrusion and cooling, cooling said tubing as it passes over said former, maintaining a low pressure gaseous medium in said tubing between said former and the point of collapsing of said tubing, changing the cross-sectional shape of said tubing from circular to elliptical, collapsing said tubing in order that the longitudinal axis of said tubing is normal to the major axis of said tubing when in elliptical form and thereafter collecting said tubing.

3,142,866

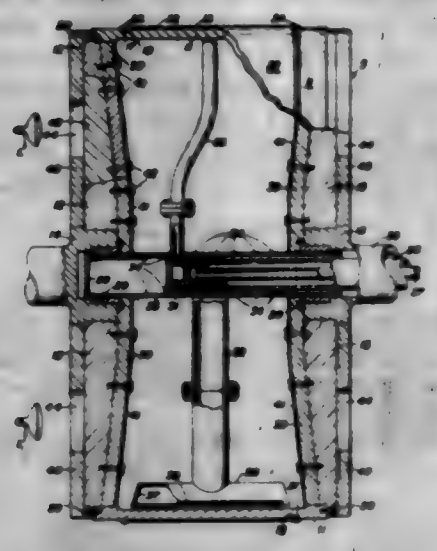
LIQUID COOLED CASTING DRUMS

Waldemar Pabe, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 16, 1961, Ser. No. 83,056
5 Claims. (Cl. 18—15)

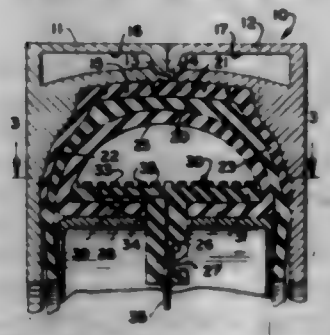
1. A film casting drum for use in forming a self-supporting film by deposition on the drum periphery of a stream of molten thermoplastic material for cooling to its setting point and comprising: a closed hollow body member having a tubular portion of heat conductive material the external surface of which constitutes the casting surface onto which the stream of molten thermoplastic material is to be deposited and having end walls

of heat conductive material closing the ends of said tubular portion and directly connected thereto so as to be in heat conductive relation therewith; means for supporting said body member for rotation about the axis of said tubular portion; and means for filling said hollow body member with a cooling liquid and thereafter feeding said cooling liquid into and out of said body member while



it is rotating to control the temperature of said casting surface; means for reducing to a minimum the temperature gradient between the tubular portion of said body member and said end walls for eliminating possible distortion of said tubular portion, including means insulating said end walls from direct contact with said cooling liquid within said body member to prevent the direct transfer of heat between the two.

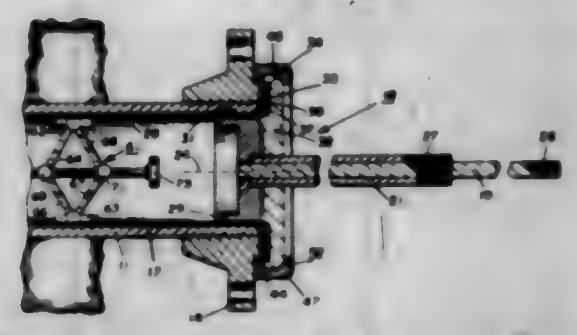
3,142,867
APPARATUS FOR RECAPPING A VEHICULAR TIRE
Randolph R. Pollock, 1103 N. Locust Ave., Lawrenceburg, Tenn.
Filed Mar. 1, 1962, Ser. No. 176,684
7 Claims. (Cl. 18—18)



2. Apparatus for vulcanizing a cap onto a tire casing comprising a matrix, means carried by said matrix for applying vulcanizing heat, a continuous hollow curing tube within the tire casing, said curing tube having a flattened portion along its inner periphery, means for introducing air under pressure into said curing tube, an annular tube supporting rim in engagement with the flattened portion of said tube, a flexible core within said hollow tube, means carried by said core for heating the air within said tube, whereby a centralized concentration of supplementary heat is provided to form a barrier against the dissipation of the vulcanizing heat through said rim.

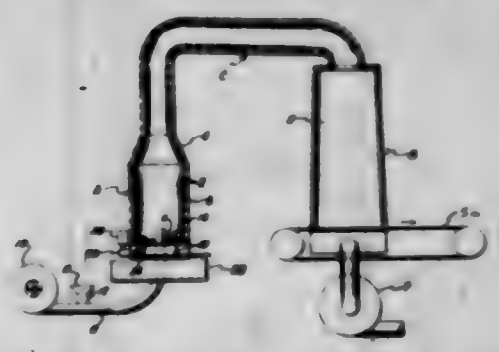
3,142,868
FLANGING TOOL
Floyd E. Blount, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed July 2, 1962, Ser. No. 206,993
6 Claims. (Cl. 18—19)

6. A flanging tool for forming a flange on a thermoplastic pipe comprising inner and outer telescoping members, bearing means carried by at least one of said members for journaling said members for longitudinal movement relative to one another, a pipe centering means mounted at one end of said inner member for slidably engaging the inner surface of a pipe received thereon whereby said pipe is positioned in concentric alignment with the longitudinal axis of the inner member, a molding head carried on the outer member and provided with a plane surface facing the pipe centering means and perpendicular to the longitudinal axis of said members, said plane surface having radial dimensions sufficient to receive the flange formed on a pipe, a forcing cone integrally carried by said molding head in coaxial alignment with the longitudinal axis of said inner member and extending from the plane surface on said molding head toward said pipe centering means, said forcing cone having a diverg-



ing surface, the terminus of said cone remote from the plane surface having a diameter at least as small as the inside diameter of a pipe received on the pipe centering means and the remainder of such cone having progressively greater diameters until the divergent surface of the cone merges with the plane surface on said molding head, an annular guide plate disposed adjacent the plane surface and provided with a central opening therethrough of sufficient dimensions to pass over a pipe received upon said pipe centering means, spacing means interposed between the plane surface on the molding head and the guide plate for separating the plane surface and the guide plate apart a distance at least equal to the thickness of a pipe received on the pipe centering means, and clamping means for securing the guide plate to said molding head.

3,142,869
PROCESS AND APPARATUS FOR OPENING AND CLEANING FIBROUS MATERIAL
Thomas R. Gould, Martinsville, N.J., William P. Hahn, Toledo, Ohio, and Donald O. Coleman, Martinsville, and Charles D. Simmers, Neshanic Station, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed May 4, 1961, Ser. No. 107,787
10 Claims. (Cl. 19—205)



1. Apparatus for opening, cleaning and felting a fibrous material containing unwanted particles comprising, an aeration chamber, said aeration chamber extending in a vertical direction, a felting zone, duct means for conducting air and cleaned fibers from said aeration chamber to said felting zone, foraminous means extending generally in a horizontal direction across a lower portion of said aeration chamber, means for introducing the fibrous ma-

terial containing unwanted particles into said aeration chamber between said foraminous means and said duct means with the heavier clumps of said fibrous material falling onto the surface of said foraminous means closest to said duct means, means for supplying a plurality of generally horizontally directed fluid streams across said aeration chamber adjacent said surface of said foraminous means closest to said duct means to open and clean said heavier clumps of fibrous material so as to separate the fibers from the unwanted particles, means for producing a flow of volume air passing through said foraminous means and into and through said aeration chamber, said volume air serving to transport cleaned fibers from said aeration chamber through said duct means to said felting zone while said unwanted particles pass downwardly through said foraminous means, and means for felting said cleaned fibers so transported into said felting zone.

3,142,870
SELVAGE FIBER CONTROL FOR COMBING MACHINE
John H. Nydam, North Uxbridge, Mass., assignor to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts
Filed July 25, 1961, Ser. No. 128,625
Claims priority, application Canada May 3, 1961
4 Claims. (Cl. 19—231)



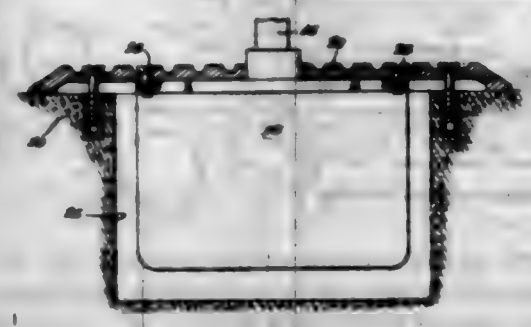
3. Comber detaching mechanism for the treatment of fibers comprising a plurality of upper and lower detaching rolls, means between said lower rolls to direct air against the edge of a web of fibers passing between said upper and lower rolls for maintaining the edge fibers of said web in a desired alignment, and means mounted adjacent one of said upper rolls to prevent fibers from passing up into said upper rolls.

3,142,871
POWER OPERATED BLEACHER
William J. Harms, Kalamazoo, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed Oct. 6, 1960, Ser. No. 60,857
20 Claims. (Cl. 20—1.126)



1. In an extensible spectator supporting structure, a series of upright frames adapted to be supported on a floor or the like including a stationary frame at one extreme of the series, means connecting adjacent frames and permitting individual movement of all except the stationary frame between retracted positions adjacent each other and extended positions relative to the stationary frame, means for locking said connecting means in extended positions, and means for moving the movable frames from retracted positions to extended positions, comprising, a pusher disposed adjacent the frames and reciprocable toward and away from the stationary frame between a retracted position and an extended position, a pawl mounted on the pusher for movement between a position to engage successive movable frames to push the latter toward extended positions when the pusher moves toward extended position and a position to bypass succeeding frames on movement of the pusher toward the stationary frame, and means connected to the pawl for moving it toward frame engaging position.

3,142,872
DOOR CONTROL DEVICE
Allen T. Meyer, Arlington Heights, Ill., assignor to Republic Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 11, 1961, Ser. No. 137,287
1 Claim. (Cl. 20—64)

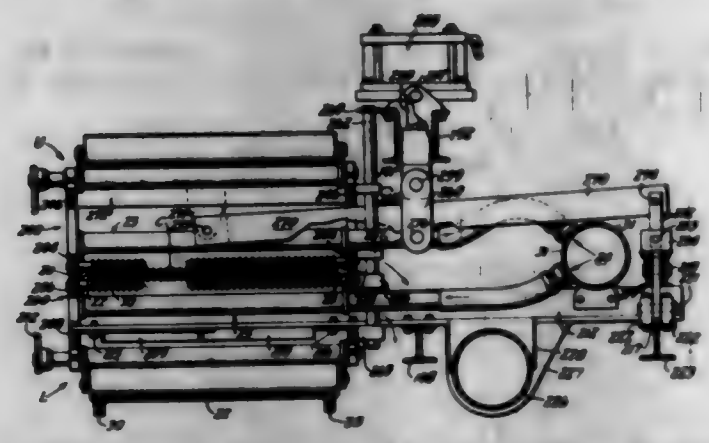


A swinging door supporting and controlling structure comprising a door checking mechanism of the type having a housing and a vertical upstanding spindle for supporting and controlling the movement of a door; a generally rectangular threshold strip having a width substantially greater than the width of said housing, said threshold strip having an opening therethrough near one end to permit the passage of said spindle; means securing said housing rigidly to the lower face of said threshold strip with said spindle projecting upwardly through said opening and with the edges and ends of said threshold strip projecting outwardly substantially beyond said housing in all directions horizontally so that said checking mechanism and said threshold strip constitute a unitary structure; the floor beneath the door supported by said spindle being formed to provide a clearance recess larger in width, length, and depth than said housing but substantially smaller in length and width than said threshold strip, means for anchoring the lower surface of said threshold strip directly against the top surface of the floor within the door opening with said housing extending into said recess without touching the floor substance and with the portions of said threshold strip spaced outwardly of said housing and resting against the floor surface outwardly of said recess transferring the weight of the door checking mechanism and of the door supported thereby directly from the checking mechanism to the floor by way of said threshold strip to prevent floor engagement by any portion of said checking mechanism.

3,142,873
CONTINUOUS METAL CASTING APPARATUS
Robert William Hazelett, Burlington, Vt., and Richard Hazelett, Rocky River, Ohio, assignors to Hazelett Strip-Casting Corporation, Fairfield, Conn.
Original application Mar. 17, 1958, Ser. No. 722,005, now Patent No. 3,036,348, dated May 29, 1962. Divided and this application May 22, 1961, Ser. No. 125,301
3 Claims. (Cl. 22—57.4)

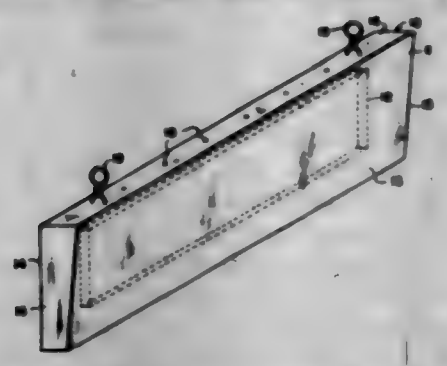
1. Apparatus for casting metal strip directly from molten metal comprising a machine framework, first and second belt carriages each including a frame with spaced pulleys and an endless flexible band extending thereover, cantilever means supporting said first belt carriage at three points of support for mechanically isolating said first belt carriage from stresses imposed upon the machine framework comprising first and second cantilever arms each having one end secured to the frame of the first carriage, said arms being rigidly supported by said framework at first

and second positions, respectively, for providing two points of support for said first belt carriage and a link pivotally connected to said arms and to said machine framework for providing a third common point of support for said arms, said link being movable in relation to said arms and in relation to said machine framework, guide means



rigidly secured to the frame of the first carriage, the frame of the second carriage slidingly engaging said guide means for sliding motion therealong toward and away from the first carriage, a movable supporting element connected to the frame of the second carriage, and motive mechanism connected to said movable support element for moving the second carriage along said guide means.

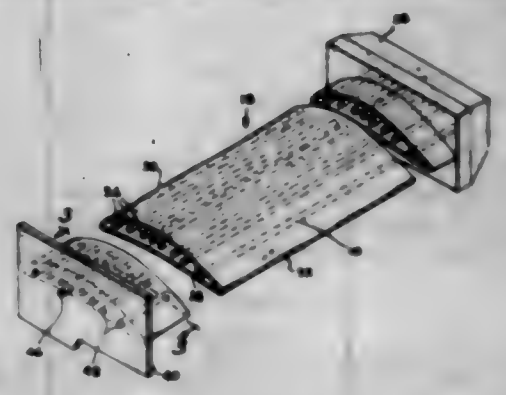
3,142,874
EXOTHERMIC MATERIAL IN A NON-METALLIC REFRACTORY CASING
Roy E. Ferree, Valencia, Pa., assignor to Treesdale Laboratories, Inc., Mars, Pa., a corporation of Pennsylvania
Filed Mar. 7, 1961, Ser. No. 93,956
2 Claims. (Cl. 22—147)



1. A side board for suspension from the top surface of an ingot mold, comprising a non-metallic, refractory portion and a portion of exothermic material, and hanger means comprising horizontal rod means extending, in spaced relationship, above and parallel to the top edge of said side board for direct support on said top surface and comprising downwardly extending rod portions suspended from said hanger means and integrally embedded within said refractory portion and constituting the sole means for supporting the side board, said portion of exothermic material being totally encased in said refractory portion, the top portion of said refractory portion being provided with an opening for introducing exothermic material, and a readily detachable plug for sealing said opening.

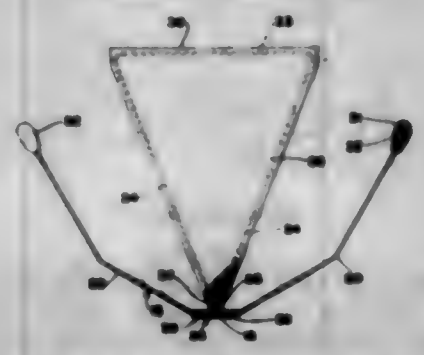
3,142,875
METAL CASTING CORES
Nick G. Lirones, North Muskegon, and Theodore Operhall, Whitehall, Mich., assignors to Howe Sound Company, New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1961, Ser. No. 101,201
4 Claims. (Cl. 22—196)

1. The process of forming castings of high melting point metals wherein said castings are provided with elongated internal passages, said process comprising the steps of forming cores by providing a main body portion of a material adapted to be removed from the castings after formation thereof, coating said main body portion with a metal selected from the group consisting of chromium, platinum, tungsten, columbium, tantalum, and alloys thereof to provide a coating between .0001 and .01 inch thick, imbedding said cores in an expendable pat-



tern material whereby the ends of the cores extend outwardly of the pattern material, forming a ceramic shell mold around the pattern material whereby the said ends of the cores are at least partially imbedded in the shell mold, sealing the embedded portions of the core ends in the mold, removing the pattern material from said mold, and introducing said metal into said mold to form said castings.

3,142,876
DEVICE FOR REMOVABLY RETAINING MISCELLANEOUS ARTICLES IN A POCKET
Bruce Roberts, Cleveland, Ohio, assignor to Alfred C. Body, Cleveland, Ohio
Filed June 21, 1960, Ser. No. 37,206
8 Claims. (Cl. 24—3)



1. For use with a pocket having a lower seam and side seams, a device for removably retaining articles in said pocket comprising a base member, a pair of flexible arms adapted to extend outwardly from the base member in a common plane in such a manner that the distance between the extremities of the arms is normally greater than the width of the pocket whereby the arms will be biased inwardly by the side seams when inserted into the pocket with the base member adjacent the lower seam so as to place the upper portion of the pocket in tension, a generally flat member connected to the base member with the flat member being flexibly biased to lie in a plane which diverges from the plane of the arms upwardly from the lower seam and toward the back of the pocket, whereby articles may be removably secured between said back of the pocket and the flat member.

3,142,877
TENSIONING DEVICE
Hubert G. Lesley, % The Ald Corporation, Clayton, Ga.
Filed Apr. 9, 1962, Ser. No. 186,076
8 Claims. (Cl. 24—68)

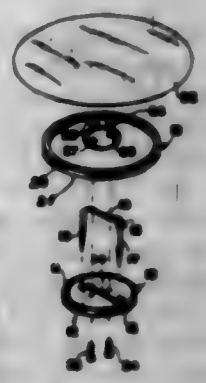
1. In a tensioning device of the type wherein a body receives at one end a rod, the effective length of which

may be varied, the combination therewith of a lever pivotally mounted at the other end of said body, a detent mounted on said body for confining said lever in a retracted condition protruding essentially axially inwardly of said body, a C-shaped arm pivotally connected by one end to an intermediate portion of said lever and adapted



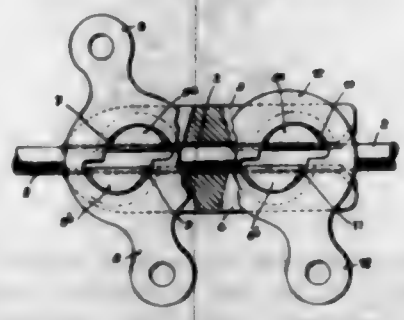
to extend around the pivotal connection of said lever when said lever is in its retracted position, line retaining means at the other end of said arm for removably receiving a line, a lug carried by said arm and engageable with said line for confining said line in said retaining means, and means for moving said lug to a release position with respect to said line.

3,142,878
STAPLE BUTTON FASTENER
James V. Santora, 72 Ellwood St., New York 40, N.Y.
Filed Apr. 10, 1963, Ser. No. 272,138
1 Claim. (Cl. 24—96)



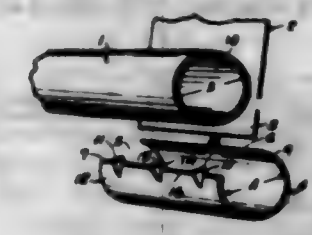
A button comprising a first disc having an upper peripheral flange, said disc having a pair of spaced holes therethrough and having a substantially S-shaped groove in the upper surface thereof between the holes, an inverted U-shaped staple having a substantially S-shaped bight portion and having prongs extending through said first disc and its bight portion seated in said groove, a second flanged disc on said first disc, larger in diameter than the first disc, said second disc having spaced holes in alignment with the holes in the first disc, said second disc having top and bottom peripheral beads, a fabric cover stretched over the top of the second disc and under the bottom peripheral bead and clamped between the peripheral edge of the first disc and the body of the second disc, screws extending through the aligned holes, and nuts on the ends of the screws fastening the discs to each other, the prongs of the staple protruding outwardly of the first disc.

3,142,879
HAULING AND HOISTING GEAR INCORPORATING A METAL CABLE
Simon Favre, 56 Rue Victor Herbert, Firminy, France
Filed Oct. 3, 1962, Ser. No. 228,060
Claims priority, application France Oct. 12, 1961
1 Claim. (Cl. 24—134)



In combination with a pair of cooperating jaws each of which includes two equally spaced semi-cylindrical trunnions bounded by a flat surface facing the opposite jaw, said jaws being adapted to clamp therebetween a hauling and hoisting cable, the provision of two parallel links spaced longitudinally of the jaws by a distance equal to the spacing of the trunnions and provided each with an aperture constituted by two semi-circular recesses adapted to house corresponding trunnions on the cooperating jaws, said recesses of each aperture being longitudinally offset with respect to one another and opening into one another along a common diametral boundary line, each recess having a radius larger than that of the semi-cylindrical trunnion to be accommodated within said recess and having a center which is offset from that of the corresponding trunnion whereby said trunnion is in contact with the corresponding recess along a single line of tangency and thereby allows slight rolling of each trunnion along the semi-circular outline of the corresponding recess upon angular shifting of the links with reference to the jaws.

3,142,880
CLIP FOR SECURING FLEXIBLE MATERIAL TO A CYLINDRICAL MEMBER
Boyd A. Davies, West Highway 54, Pratt, Kans.
Filed Feb. 4, 1963, Ser. No. 256,014
2 Claims. (Cl. 24—265)



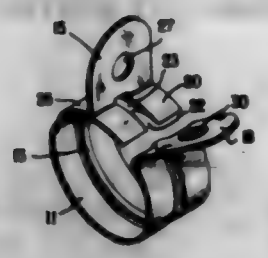
1. A clip for securing flexible material in lapped relation about a side of a cylindrical member, said clip comprising

a C-shaped body of resilient sheet metal having a diameter to clamp about the cylindrical member and having a smooth marginal inner face extending along one edge to clamp an end of the flexible material to the cylindrical member for the flexible material to exert a rotative force on the clip when the flexible material is extended in a bight over said one edge and around the clip to extend from the opposite edge,

means on the clip for gripping the cylindrical member to anchor the clip thereto under pull of the flexible material, and

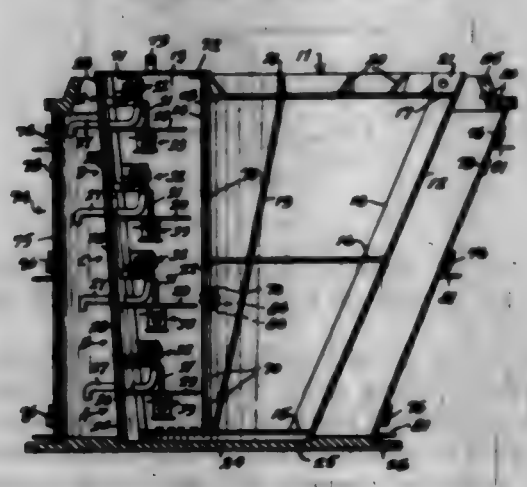
means on the outer face of the clip for preventing lateral movement of the flexible material on the clip.

3,142,881
HOSE CLAMP
Alva J. Johnston, P.O. Box 1369, Cut Bank, Mont.
Filed June 6, 1962, Ser. No. 200,381
1 Claim. (Cl. 24—279)



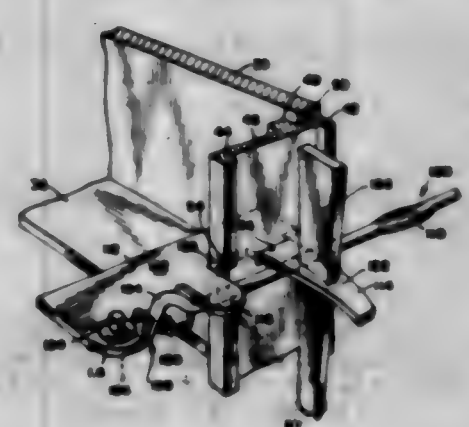
A clamp suitable for use with a hose of curtailed resilience having a smooth connection inserted therein, capable of completely encircling said hose in both relaxed and tightened positions and capable of biting relatively uniformly and continuously around the hose to cause a positive and firm seal, without pinching, comprising a sheet metal strap including a circular portion capable of having a relaxed position and a tightened position and an outwardly bent ear portion at one end of said circular portion, said strap being corrugated to provide a continuous circular internal projection and an external groove of about the same depth as said internal projection, a second ear provided with a foot portion for attachment to the strap, positioned a short distance from the end of said circular portion opposite said first ear, said short distance providing a circularly extending portion, the free end of said extending portion and the projection of said extending portion being tapered along the inwardly facing side to provide an open notch aligned with the projection at said other end of the circular portion, said notch being coordinated in size with said internal projection and with said external groove, to allow the said extending portion to fit the underside of said other end of the circular portion, said projection at the said other end of the circular portion in the tightened position fitting within said notch and said groove.

3,142,882
MOLD FOR CONCRETE STRUCTURES
Guy J. Lovera, Milford, Conn., assignor to Metropolitan Welding Fabricators, Incorporated, Milford, Conn., a corporation of Connecticut
Filed Feb. 5, 1962, Ser. No. 171,000
10 Claims. (Cl. 25—124)



1. A mold for casting an upright concrete wall structure having upright series of ladder forming step irons or the like partially imbedded therein and partially projected therefrom, said mold comprising a pair of spaced mold forms providing a casting space between them, one of said forms comprising a rigidly connected pair of transversely spaced upright wall sections having transversely spaced opposed parallel upright side edges defining an upright space opening to said casting space, a pair of transversely opposed parallel side walls rigidly connected to said wall sections extending from said side edges thereof away from said casting space, a plurality of superimposed mold form sections engaged in said upright space and engageable therein from the casting space side thereof, each said mold form section comprising an upright wall transversely spanning said upright space and having parallel side edges engaged with said parallel side edges of said upright wall sections, shelf means carried by at least some of said mold form sections extending away from said casting space for supporting a step iron or the like partially projected within said casting space, clamping means carried by said mold form sections for clamping said step irons or the like upon said shelf means, and latching means for releasably connecting said mold form sections to said opposed side walls.

3,142,883
TIE ROD AND ANCHOR BOLT COMBINATION WITH EXTERNAL ANCHOR POINT
Roman Kort, River Forest, Ill., and Byron E. Ruth, Morgantown, W. Va., assignors to Symons Mfg. Company, Des Plaines, Ill., a corporation of Delaware
Filed June 22, 1962, Ser. No. 204,364
7 Claims. (Cl. 25—131)



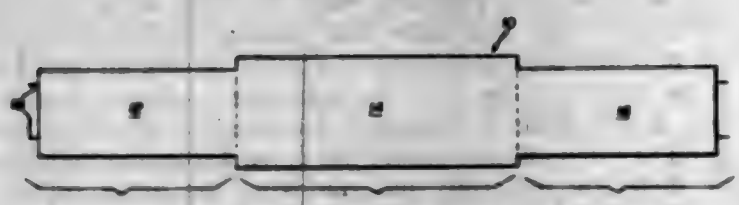
1. In a concrete wall form installation, the combination with an erected concrete wall form including a pair of prefabricated panel units having marginal frame members disposed in abutting edge-to-edge relationship, there being a pair of aligned slots in said abutting frame members, and means in the vicinity of said slots defining a void between said frame members, of a tie rod and anchor bolt combination for operatively connecting said panel units to a pair of similar oppositely disposed panel units in the installation, said tie rod and anchor bolt assembly comprising a tie rod having an upturned end and a frangible break-back spaced inwardly from said upturned end a distance appreciably greater than the overall transverse width of said panel units including said marginal frame members, and an anchor bolt in the form of a substantially flat horizontally disposed plate having a body portion from which there extends laterally from one edge thereof a bolt portion proper, there being a hole in said plate spaced outwardly from the bolt portion proper, said bolt portion proper projecting through the aligned slots in said marginal frame members, and a wedge passing through the slot in said bolt portion proper and bearing against a face of one of said marginal frame members and serving to clamp the other frame member against the body portion, said body portion extending alongside said other frame member and said hole being spaced outwardly from said marginal frame members, said tie rod projecting between said frame members and through said void and having its upturned end projecting upwardly through said hole whereby the tie rod is pivotally connected to the bolt for swinging movement of the bolt with respect to the tie rod in its own horizontal plane.

3,142,884

METHOD AND APPARATUS FOR CONTROLLING THE COOLING ZONE OF A TUNNEL KILN

Owen H. Crom, O'Hara Township, Allegheny County, Pa., assignor, by mesne assignments, to Pullman Incorporated, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 19, 1961, Ser. No. 146,189
7 Claims. (Cl. 25—142)



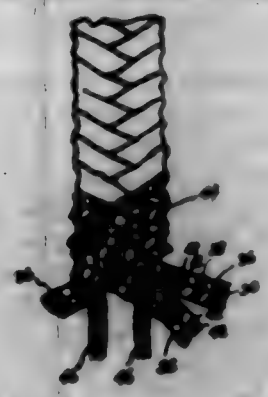
1. In a tunnel kiln for firing ceramic ware, said kiln having a preheat zone, a firing zone and a cooling zone in that order, said cooling zone having a rapid cooling sub-zone adjacent said firing zone, air circulating means for withdrawing air from said sub-zone and for feeding air thereto, said air circulating means having an inlet and an outlet, means for supplying cold air to said inlet, means for venting said outlet, and automatic temperature responsive means for governing said air supply means and said venting means for varying the two while maintaining the airflow therethrough at a substantially constant ratio.

3,142,885

METHOD OF MANUFACTURING MULTI-COLOR, CHENILLE YARN, BRAID AND FABRICS, AND PRODUCTS MANUFACTURED BY SAID METHOD

Jesse S. Capel, Troy, N.C., assignor to A. Leon Capel & Sons, Incorporated, a corporation of North Carolina

Filed Feb. 2, 1962, Ser. No. 170,583
10 Claims. (Cl. 28—72)



1. A method of manufacturing a multi-color, chenille, braided fabric comprising coloring different segments of a strand of textile material with at least two different colors to provide different colored segments, weaving a woven fabric with filling yarns made from said strand of different colored segments, cutting said woven fabric warpwise into lengths of chenille-like yarn, braiding a plurality of said yarn lengths together to form at least one braid, and securing lengths of said at least one braid together lengthwise.

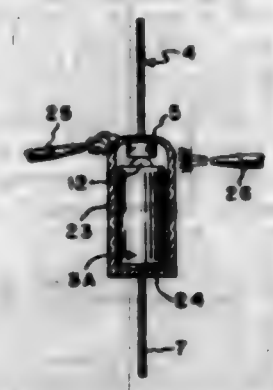
3,142,886

METHOD OF MAKING GLASS ENCASED ELECTROLYTIC CAPACITOR ASSEMBLY AND ARTICLE RESULTING THEREFROM

Robert W. Bronson, Dallas, and Norman D. Kerbitz, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Aug. 7, 1959, Ser. No. 832,352
7 Claims. (Cl. 29—25.31)

1. A method for making a glass encased electrolytic capacitor having a capacitor blank which includes a porous body of an anodizable metal, a dielectric film on the exposed surfaces of said porous body, an electrically conductive layer on said dielectric film, a lead wire attached to the capacitor blank, and a glass bead fused to the junction of the lead wire and the blank, said method comprising the steps of inserting said capacitor blank into a glass casing having an open end and a closed end to which a second lead wire has been attached, soldering



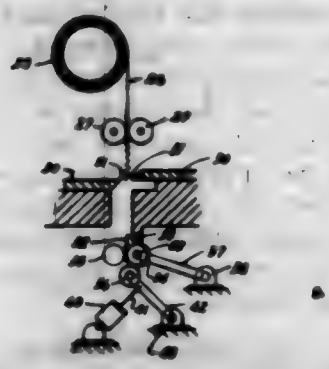
said second lead wire to said capacitor blank, placing a second glass bead over said first-mentioned lead wire so that it rests on the fused glass bead, heating said glass casing in the vicinity of its open end to fuse the glass and form a seal about said first-mentioned lead wire and to the second glass bead.

3,142,887

METHOD OF MAKING A SPLIT ANNULAR TOLERANCE RING

Karl Hülck, Bad Kissingen, and Fritz Schultes, Schweinfurt, Germany, assignors to Deutsche Star Kugelhalter G.m.b.H., Schweinfurt, Germany

Filed Sept. 14, 1960, Ser. No. 55,968
3 Claims. (Cl. 29—148.4)



1. A method of making a split annular tolerance ring having peripheral corrugations therein said corrugations being elongated axially of the annular ring and having arcuate contact surfaces cooperatively presenting a generally sinusoidal overall peripheral surface, comprising the steps of corrugating a steel strip to form the corrugations thereof to substantially their finished configuration, forming the corrugated strip into a coil, heat treating the coil of corrugated strip, severing from said heat treated coil lengths of corrugated strip sufficient to form an annular ring of the desired dimension, and forming the severed length of heat treated and corrugated strip into a split annular ring.

3,142,888

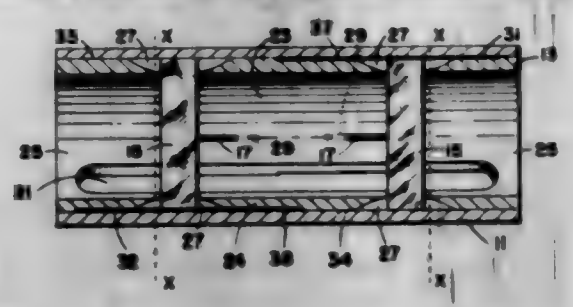
METHOD OF MAKING A FLEXURAL PIVOT DEVICE

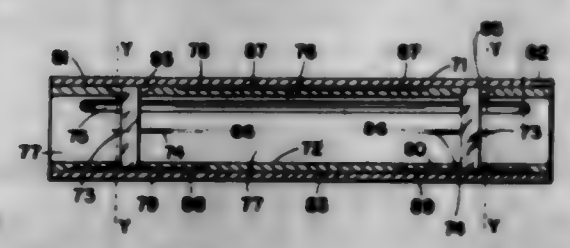
Henry Troeger, Otsego, Cooperstown, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Original application Feb. 26, 1960, Ser. No. 11,298, now Patent No. 3,073,584, dated Jan. 15, 1963. Divided and this application Aug. 7, 1962, Ser. No. 223,285
4 Claims. (Cl. 29—149.5)

1. The method of making a flexural pivot device comprised of forming an inner tubular sleeve having two axially-extending diametrically-located openings and two axially-extending ribs between said openings, reducing the outer diameter of diagonally-opposite surfaces of said

ribs to provide overhanging arcuate reduced-diameter surfaces and diametrical thereof arcuate mounting surfaces, slotting said ribs at each end to provide a first pair of opposed radial slots in a first axial plane and axially-spaced from said first pair of slots a second pair of opposed radial slots which are in a second axial plane perpendicular to said first axial plane, positioning a flat spring in each pair of said opposed slots within the periphery of said inner sleeve to provide crossed springs, positioning a tubular outer sleeve of such length on said mounting surfaces so that said openings are covered and overhanging recesses are formed at the reduced-diameter surfaces of





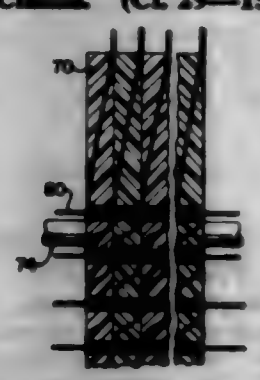
said inner sleeve, bonding said springs to said inner sleeve and said mounting surfaces of said inner sleeve to said outer sleeve, removing both ends of said inner and outer sleeves inwardly of the ends of said openings and outwardly of the outer springs whereby said inner sleeve is axially separated into two arcuate inner sleeve elements, cutting through said outer sleeve to said recesses whereby said outer sleeve is separated to form first and second outer sleeve means respectively connected to one of said inner sleeve elements and to the other of said inner sleeve elements whereby limited relative rotation between the first and second outer sleeve means can be effected with flexing of said springs.

3,142,889

METHOD OF MAKING AN ARRAY OF HELICAL INDUCTIVE COILS

Herman E. Austen, Trotwood, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application June 12, 1958, Ser. No. 741,583, now Patent No. 3,051,930, dated Aug. 28, 1962. Divided and this application Aug. 31, 1959, Ser. No. 836,984
7 Claims. (Cl. 29—155.5)



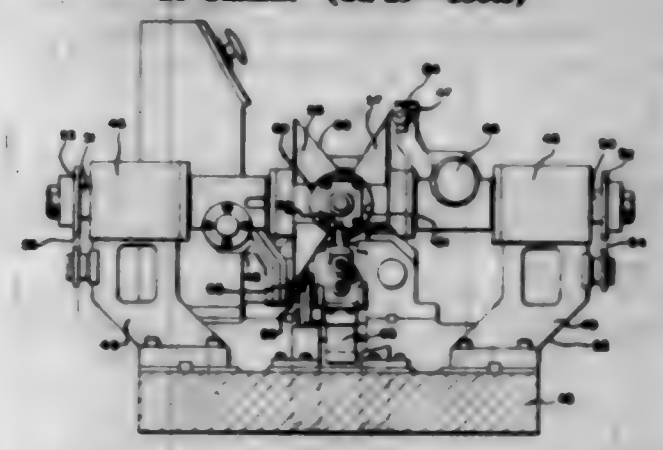
1. The method of making an array of helical inductive coils embedded in a hardenable plastic dielectric material for use in a memory device, the axial holes of said coils being free of the dielectric material including the steps of providing a top and a bottom die plate having axially alined holes to receive pins on which the coils are wound, said holes defining the configuration of the coil array, and a U-shaped separator piece having the thickness of the desired coil length and having wire-clearance slots; setting pins in the holes in the bottom plate; winding coils on said pins, with insulated electrically conductive wire, in an electric series, leaving uncoiled wire ends extending beyond the edge of the bottom plate; placing the U-shaped separator around the entire group of pins and over the extended wire, the wire being accommodated by the clearance slot; placing the top plate on the pins and separator to form a mold having an opening at the mouth of the U of the separator; casting a hardenable plastic dielectric material through the mouth of the mold to surround and embed the coils; hardening the plastic dielectric material; and removing the array of embedded coils from the mold.

3,143,899

ARMATURE WINDER AND STAKER

Morris E. Adams and Wilbur C. Crim, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 15, 1959, Ser. No. 840,193
23 Claims. (Cl. 29—155.5)



6. In a continuous method of applying coil windings to an armature core and staking lead wires to a commutator, the steps comprising, supporting an armature assembly including an armature core and a commutator, staking a lead wire into one of the commutator slots, directing said wire into pairs of oppositely disposed armature core slots by applying the wire along a continuous path that is substantially parallel with the longitudinal axis of said armature assembly while maintaining the armature assembly stationary, severing a length of said wire and staking the severed ends of said wire into pairs of commutator slots whereby the staked end of one of said lengths of wire forms the end of a first coil winding and the severed end of the other wire forms the beginning of another coil winding, and then alternately winding and staking as aforesaid to completely wind and stake an armature assembly.

ERRATUM

For Class 29—155.5 see:
Patent No. 3,143,738

3,143,891

METHOD OF FORMING RIGID CONTACT TAILS

Lawrence R. Travis, Melrose Park, Pa., assignor to Elco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 18, 1961, Ser. No. 103,748
2 Claims. (Cl. 29—155.55)

1. The method of manufacturing a one-piece contact having the contradictory properties of a resilient head section of thin rectangular material and a stiff, sharply defined tail section of a substantially thicker rectangular cross-section than said head section, said method comprising providing a one-piece blank of uniform thin rectangular cross-section which is essentially completely thin

and resilient throughout, said blank including a resilient head section of thin rectangular material and a resilient tail section of the same thin rectangular material, the head and tail section of said blank each having a short rectangular dimension and a long rectangular dimension; subjecting said thin resilient tail section including the short dimension thereof to the action of a pair of confining dies defining said sharply defined, substantially thicker rectangular cross-section with sharp corners, whereby to cold coin said blank tail section and to induce cold flow thereof



to increase the short rectangular dimension of said blank tail section and decrease the long rectangular dimension thereof to produce a stiff tail section of a substantially thicker rectangular cross-section than said head section, said tail section being sufficiently stiff and work-hardened to withstand substantial wrapping pressures during the wrapping of the lead of an outside circuit thereabout and having sharp corners to enable said lead of an outside circuit to dig more deeply into said tail section during said wrapping thereof.

3,142,892

PRODUCTION OF METAL POWDER COMPACTS

Robert A. Powell and Frank L. Zaleski, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed June 13, 1961, Ser. No. 116,887
2 Claims. (Cl. 29—182)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a process for producing a compact of metal powder consisting essentially of about 70% copper and 30% zinc comprising mixing said powder with a lubricant, compressing said mixed powder and sintering said compressed powder in a nitrogen atmosphere, the improvement which consists in the step of employing lithium stearate as said lubricant.

2. A single-sintered, prealloyed 70–30 brass powder compact produced according to the process of claim 1, said compact being characterized by a tensile strength ranging between 38,500 and 42,000 p.s.i., a tensile elongation in 1 inch ranging between 30 and 42% and a density ranging between 7.99 and 8.17 grams per cubic centimeter.

3,142,893

HETEROGENEOUS SINTERED ALLOYS

Ernest J. Bradbury, Solihull, Dennis W. Wakeman, Moseley, Birmingham, and Victor Allen Tracey, Solihull, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 19, 1962, Ser. No. 203,465
Claims priority, application Great Britain June 20, 1961
5 Claims. (Cl. 29—182)

4. A heterogeneous alloy containing, by weight, about 20% to about 80% of a homogeneous nickel-chromium alloy formed of a nickel-chromium alloy powder, having a particle size of about 75 to about 160 microns, substantially uniformly dispersed in an metallurgically bonded to about 80% to about 20% of another homogeneous nickel-chromium alloy formed of a nickel-chromium alloy powder having a particle size of about 75 to about 160 microns, said homogeneous alloys having lattice parameters within about 0.1% to about 5% of each other, the same crystal structures and having melting points within about 150° C. of each other.

3,142,894

SINTERED METAL ARTICLE AND METHOD OF MAKING SAME

Stuart T. Ross, Bloomfield Township, Oakland County, and Walter E. Jominy and Frederick A. Hagen, Detroit, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 774,166, Nov. 17, 1958. This application Aug. 31, 1962, Ser. No. 220,854
20 Claims. (Cl. 29—182.5)

1. In a process of producing sintered powdered ferrous products having substantial dimensional stability under service conditions at temperatures up to about 1200° F. the steps comprising briquetting a composition containing at least about 79% by weight of ferrous powder particles into a predetermined shape capable of being handled, sintering the briquettes in a reducing atmosphere at a temperature sufficiently high to cause the ferrous particles to bond together and produce a relatively dense iron particle structure, cooling the sintered product in a reducing atmosphere and during processing substantially uniformly cooling the sintered product in an oxidizing atmosphere from a temperature between 1050° F. to 2150° F. at a rate not exceeding about 500° F. per hour.

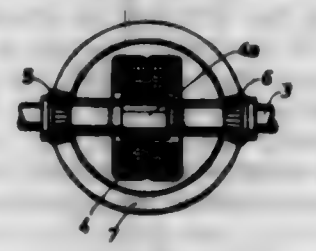
12. As an article of manufacture, a sintered powdered metal product for a seal or bearing operable at elevated temperatures up to 1200° F. and having substantial dimensional stability when exposed to said elevated temperatures, comprising a compacted and sintered matrix of bonded ferrous particles having an oxidized grain structure which is characterized by the appearance of substantial amounts of iron oxide from the group consisting of magnetite, wüstite and hematite and mixtures thereof between and around particles of ferrite and pearlite from the group consisting of partially decarburized pearlite and spheroidized pearlite and mixtures thereof.

3,142,895

CONTROL DEVICE BY WHICH THE COUPLING LENGTHS OF SLIDE FASTENERS AND THE INTERMEDIATE SPACES BETWEEN ADJACENT COUPLING LENGTHS OF SLIDE FASTENERS ARE DETERMINED

Karl Friedrich Nägele, Ossmstrasse, Stuttgart-Hohenheim, Germany

Filed June 25, 1963, Ser. No. 290,493
9 Claims. (Cl. 29—208)



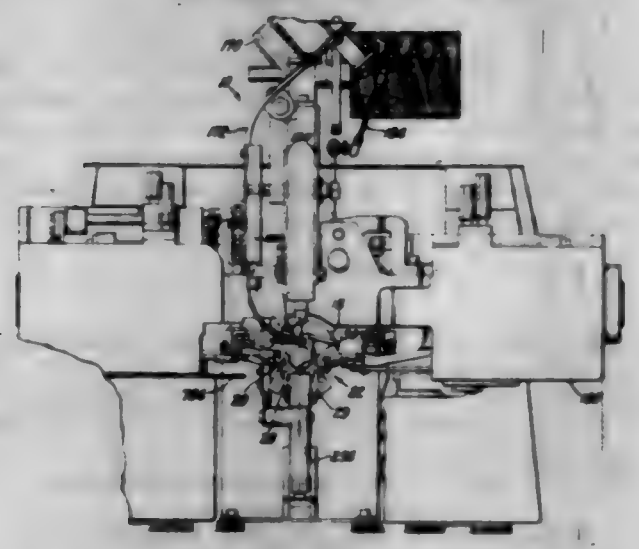
1. In a machine for securing coupling links of slide fasteners to a continuous carrier tape in which the coupling links are forming rows of predetermined equal lengths, said rows being spaced by equal sections of predetermined lengths which are void of coupling links, a control device for determining the lengths of said rows of coupling links and the lengths of said intermediate spaces which are void of coupling links, comprising a housing; reversible transmission means arranged within said housing; a connecting shaft operatively connecting said reversible transmission means with the coupling links securing mechaniam of said machine so as to continuously

drive said reversible transmission means; driving members of said reversible transmission means; journalled freely rotatably on said connecting shaft; coupling means for selectively coupling one of said driving members to said connecting shaft; a stationary spindle secured to said housing; a driven member of said reversible transmission means journalled freely rotatably on said stationary spindle and drivingly connected with said driving members; a control nut threadedly engaging said spindle and drivingly connected to said driven member said control nut reciprocating between two end positions in dependence on coupling the driving members of said reversible trasmission means alternately to said connecting shaft; cam means provided on said control nut in axially spaced relation; control means engaged by said cam means actuating said coupling means for reversing said reversible transmission means, the axially spaced relation between said control means and said cam means being adjustable; a cam disc adjustably mounted on said control nut cooperating with an actuating lever, whereby, via interconnecting links, the feed of said coupling links to the securing location on said carrier tape is interruptable corresponding to the length of said intermediate spaces which are void of coupling links.

3,142,896
STRINGING MACHINES

Charles P. Cardoni, Hamilton, Vincent P. Romeo, Danvers, George F. C. Burke, Beverly, and Waldo B. Hanson, Rowley, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed June 15, 1961, Ser. No. 117,219
22 Claims. (Cl. 29—241)



1. A machine for stringing an article comprising receiving means for the article, means for passing a length of flexible strand from a supply through the article, means for severing the length of strand from the supply, means for bringing together the two ends of the length of strand, and means for thereafter clinching an eyelet thereby to secure together the two ends in tell-tale relationship.

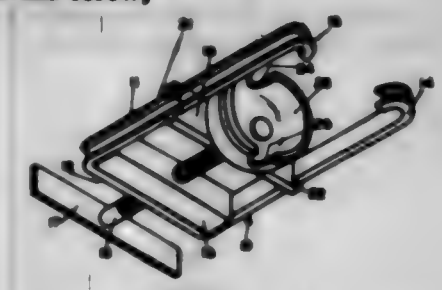
3,142,897
TOOL

Walter T. Davis, 1831 Bryden Road, Columbus, Ohio

Filed July 30, 1962, Ser. No. 213,316
1 Claim. (Cl. 29—259)

A tool for the assembly and disassembly of starter assemblies of automobiles wherein the starter assembly has a cup shaped casing, a resilient member in the casing, a plate also in the casing bearing on said resilient member, and a pin bearing on the rear of said cup shaped casing and holding the resilient member compressed against the plate comprising

a U-shaped member having a forward end and a rear end; formed with a base at the rear end; having a threaded block secured within the base of the U-shaped member; having a pair of retrograded portions at the forward end of the U-shaped member;
a screw threaded through the threaded bore of the block member;
a handle for the screw;

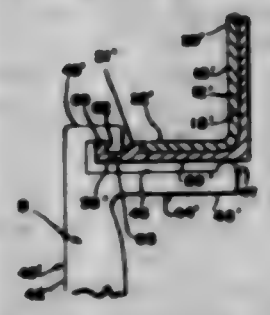


a slotted cross member secured to the screw adjacent the forward end of the screw and formed with slots which embrace the legs of the U-shaped member;
a cup shaped member formed with a pair of semi circular cut-out portions secured to the screw adjacent to the forward end of the screw, the cup shaped member being provided for contacting the base of the frame of the starter assembly;
the retrograded end portions of the U-shaped member being provided for the purpose of contacting the plate on the starter assembly within the confines of the casing of said assembly and for urging the plate of the starter assembly rearwardly to compress the resilient member of the starter assembly and the cut-out portions of the cup being provided for the purpose of embracing the pin which is to be removed.

3,142,898
INTERLOCKING EXTRUSIONS AND MEANS FOR UNLOCKING THE SAME

George F. Swenck and William B. McMullin, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

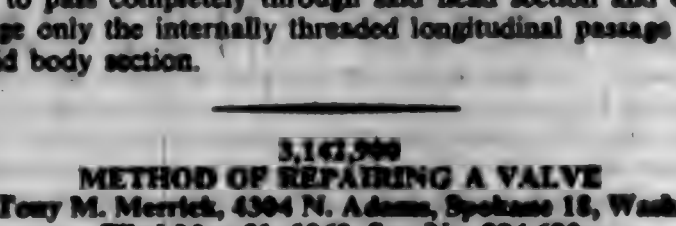
Filed Apr. 11, 1961, Ser. No. 102,227
1 Claim. (Cl. 29—370)



For use in unlocking extruded sections snap-locked together, the sections having a ridge-like keeper element on one section with a flange extending outwardly of the same and having an upwardly extending hook-like element along the edge thereof, the ridge-like keeper element cooperating with a tongue-like catch element to restrain them against unlocking and the sections being sufficiently resilient whereby the tongue-like catch element can ride over the keeper element and snap into latching engagement, a hand tool comprising a handle, an elongated head element carried on said handle and having an axis extending substantially transversely of the same, said elongated head element being substantially U-shaped in cross section and having one leg thereof shorter than the other leg thereof to define an elongated groove therebetween parallel to the axis of the head element, said shorter leg having a hook-shaped rib complementary to the hook-like element of the flange extending along its free edge toward and terminating short of the longer leg, said longer leg having a rib extending

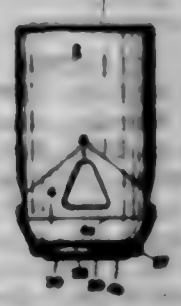
along its free edge toward the plane of the shorter leg, said head element being adapted to receive the flange of the one section in said groove with the hook shaped rib of the shorter leg hooking against said hook-like element of the flange and with the rib of said longer leg bearing against a different side of the one section and providing a fulcrum to flex the sections apart in unlocking direction.

3,141,899
EXTRACTOR
Edward S. Meyer, 520 Fairfield Ave., Ridgewood, N.J.
Filed Oct. 12, 1960, Ser. No. 62,287
1 Claim. (Cl. 29—275)



An extractor tool for removing a bushing lodged in the rear output shaft of an automobile automatic transmission, comprising in combination, an elongated cylindrical tool body section adapted to penetrate said bushing head portion, sized to fit into the head of the bushing to be extracted, transverse passages in said tool body section at about the level of corresponding apertures in said bushing head portion, engaging members lodged in said transverse passages adapted to be moved outwardly therefrom and penetrate said bushing head apertures, tapered inner tips on said engaging members, an internally threaded longitudinal passage in said tool body section communicating with said transverse apertures, a polygon shaped head section on said tool body section adapted to be engaged by a wrench and turned so as to work said tool body section into said bushing head, a threaded internal hollow section in said head section of the tool adapted to be engaged by the threaded end of a slide hammer, the diameter of said hollow section being larger than the diameter of said internally threaded longitudinal passage, and, a screw insert with a tapered tip insertable in said longitudinal passage adapted to engage said engaging member's tapered tips and push said members outwardly, the diameter of said screw member being such as to pass completely through said head section and engage only the internally threaded longitudinal passage of said body section.

3,142,900
METHOD OF REPAIRING A VALVE
Tony M. Merrick, 4304 N. Adams, Spokane 18, Wash.
Filed May 31, 1963, Ser. No. 284,690
1 Claim. (Cl. 29—401)



The herein described method of stopping leakage in a valve of the character described having a valve body and a removable valve sleeve each with an annular ground face coacting with the other to form a ground joint wherein the valve body face is damaged by erosion beyond sealing with the valve sleeve face, which consists in:

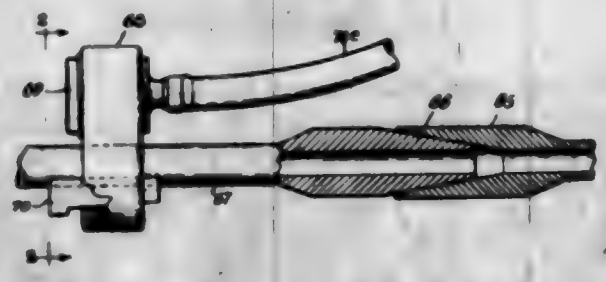
removing the sleeve from the valve body;

forming an annularly coextensive recess in the face of said sleeve intermediate its axially spaced margins;

applying to said recess an O ring of a cross-sectional body diameter to be received in said recess with a sufficient amount disposed beyond the face of said sleeve to extend into and plug said damage of said valve body face; and

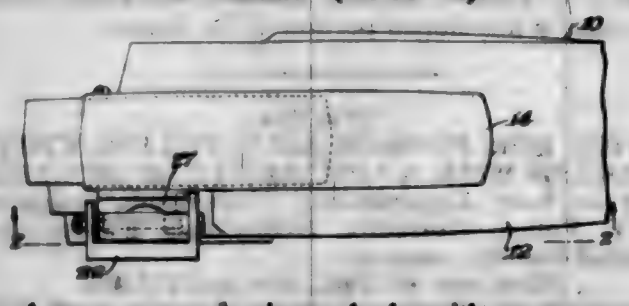
reinstalling said sleeve in said valve body under sufficient force to bring the said faces into engagement and deform said O ring into said damage to seal between said faces.

3,142,901
METHOD OF MAKING SHAFT JOINT UTILIZING GYRATORY VIBRATIONS
Albert G. Bodine, Sherman Oaks, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)
Original application Aug. 19, 1957, Ser. No. 678,985, now Patent No. 3,063,143, dated Nov. 13, 1962. Divided and this application Mar. 16, 1962, Ser. No. 180,286
2 Claims. (Cl. 29—525)



1. The method of coupling the tapered pin and box members of a threadless taper pin and box shaft joint, that comprises: introducing the pin member into the box member, elastically expanding said box member by imparting bodily gyratory motion to one of said members relatively to the other of said members, simultaneously therewith forcing said members together, and terminating the gyrational motion to permit the box member to elastically contract into firm engagement with said pin member.

3,142,902
ENGAGING AND OPENING MECHANISM FOR A CAN OPENER
John W. Tone, Wilmington, Gustave A. Oberg, Claymont, and Ernest S. Erickson, Wilmington, Del., assignors to Reuson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Mar. 21, 1962, Ser. No. 181,275
10 Claims. (Cl. 30—4)



1. A can opener having a body with can supporting means and can engaging means on said body pivotably mounted upon said body, said can opener comprising a cutting blade included in said can engaging means, a toothed can driving wheel rotatably mounted upon said can supporting means substantially opposite said cutting blade for engagement under the bead of a can whose lid is being severed by said blade, pressure elements secured to one of said body and said can engaging means for engaging the bead of a can inserted between said blade and said can driving wheel ahead and in back of said blade, and at least one resilient reacting element secured to the other one of the said body and said engaging means substantially opposite said pressure elements biasing said bead in a direction in which it is firmly maintained in engagement with said can driving wheel whereby said can

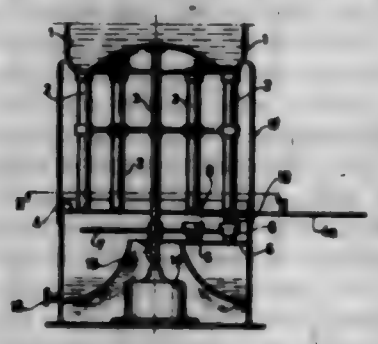
is positively driven while said blade is inserted through said lid to sever it from said can.

3,142,983
OPENER
Bruno V. Stiller, Bannockburn, Ill.
(2840 Telegraph Road, Deerfield, Ill.)
Filed Oct. 2, 1961, Ser. No. 142,390
1 Claim. (Cl. 30—16)



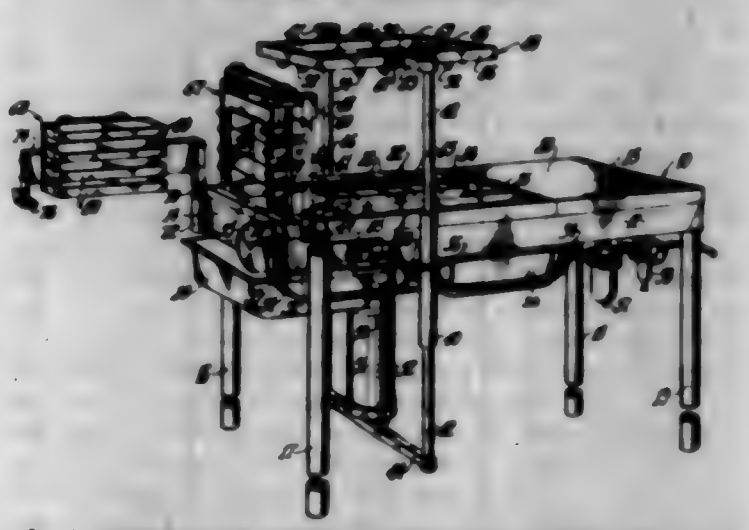
A safety push down piercer for a metal can top having a projecting rim surrounding the top, the piercer comprising a channel-shaped hand graspable metal handle with longitudinal slots in the opposite webs near one end, a cutter with a sharp point at one end for piercing a can top and with a channel-shaped portion at the other end of the cutter movable within the channel of the handle, a pintle for the cutter extending through both sides thereof and into the slots of the handle for pivoting the cutter to move rotatably and longitudinally in the slots of the handle, the cutter having an abutment at the channeled end near the pintle for engaging the inside of the handle and limting the rotation of the cutter in one direction, the channel sides of the cutter having small hooks at the edges opening away from the abutment of the cutter end adapted to engage under and beneath the outside of a rim of a can when the cutter is in extended position from the handle with the abutment rotated against the inside thereof, the cutter being rotatable in the handle in a direction opposite to that in engaging the abutment thereof to conceal the sharp point and hooks within said channel shaped handle, whereby the handle is raised at an angle above a can and moved downwardly upon the small hooks to press the sharp cutter point through the top of a can, and the cutter enclosable within the handle and movable longitudinally on its pintles in the slots to move it within, and to substantially enclose the cutter in this slotted portion of the handle.

3,142,984
DEVICE FOR PERIODICALLY FILLING CHEESE MOULDS WITH A METERED LUMP OF CURD
Geert de Boer, Lippenhuizen, Netherlands, assignor to N.V. Volma, Gorredijk, Netherlands, a Netherlands limited-liability company
Filed Apr. 16, 1963, Ser. No. 273,483
Claims priority, application Netherlands Apr. 17, 1962
6 Claims. (Cl. 31—13)



1. A device for filling successive cheese moulds with measured quantities of curd in non-liquid condition, the said device comprising a plurality of sieve cylinders arranged in a closed path and continuously movable therealong, said cylinders having upper and lower ends, means for feeding a mixture of whey and curd to the upper ends of the cylinders, a stationary table located beneath the cylinders with the lower ends thereof proximate the table, said table being a stationary table provided with at least one aperture having an extent as measured in the direction of movement of the sieve cylinders which is greater than the diameter of a sieve cylinder, the device further comprising a conveyor for a plurality of cheese moulds moving synchronously with the continuously moving sieve cylinders with the moulds in registry with the cylinders, a portion of the path of a cheese mould being situated under the aperture in the said table, whereby curd is freely deposited from the cylinders into the associated moulds and is subsequently severed by the table at the edge of the aperture.

3,142,985
SPACING AND CUTTING MEANS
Ray H. Strasbaugh, 10990 S. Santa Fe Ave., Downey, Calif.
Filed Apr. 26, 1961, Ser. No. 105,589
8 Claims. (Cl. 31—34)

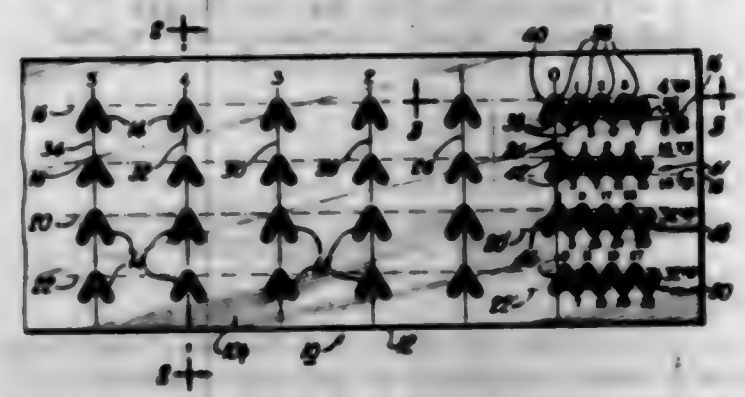


1. A cutting and slicing machine comprising in combination: a pallet formed with transverse channels of variable width and adapted to support a severable workpiece thereacross for fractionation thereof, a spacing head disposed generally parallel to said pallet and having a mutually parallel series of laterally variably separable spacing elements which individually carry a cutting edge, and operative means for effecting relative movement between the pallet and spacing head whereby said cutting edges may be passed thru said workpiece and enter the corresponding channels of the pallet upon fractionating the workpiece supported thereupon.

3,142,986
SCALING DEVICE
Thomas Mitsos, 901 Wheeling Road, Mount Prospect, Ill.
Filed June 13, 1962, Ser. No. 202,288
2 Claims. (Cl. 33—111)

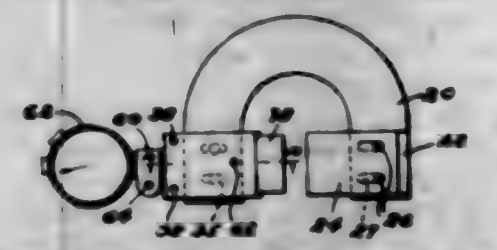
1. A scaling device for use with a marking instrument in marking measurements on a planar surface of a recording medium, said device comprising a body having a flat surface adapted to overlie said planar surface and formed of thin, flat, transparent sheet material having defined therein a plurality of V-shaped slots, each of said slots having side walls intersecting to form an apex, said walls formed at angles to the flat surface of said body forming guide means for guiding the marking instrument to the apex of said slots when said instrument is inserted in said slots for marking on said medium, said body defining at least one straight edge, said plurality of slots comprising a first group of slots with their apexes aligned

to lie on a common line parallel to said straight edge at equal predetermined distances apart and a second group of slots forming a continuous zig-zag slot with each V-



shaped slot therein aligned in side-by-side relation with their apexes aligned to lie on lines parallel to said common line at intervals which are fractions of said predetermined distances.

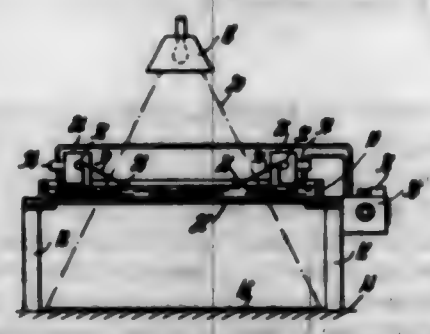
3,142,907
CHECKING GAGE
Jan Reef, 41520 8-Mile Road, Northville, Mich.
Filed May 8, 1962, Ser. No. 193,899
7 Claims. (Cl. 33—147)



1. A gage comprising a generally U-shaped frame having a pair of opposed aligned arms, a blade mounted upon one arm adjacent to the end of the arm and extending transversely thereacross and projecting into the space between the arms, a blade assembly mounted upon and extending transversely across the other arm opposed to the blade of the first mentioned arm, said blade assembly comprising a blade sandwiched between connected and spaced apart top and bottom guide plates, said blade having slidable linear movement between the guide plates and beyond the ends thereof into the space between the arms and toward and away from the blade of the other arm, ball bearing means supporting the slidable blade for its linear slidable movement toward and away from the blade of the other arm, means yieldingly tensioning the slidable blade toward the blade of the other arm, a dial gage supported by the frame and having a plunger and indicator coupled with the plunger to register the movement thereof, said plunger having coupling engagement with the slidable blade of the blade assembly to be actuated thereby to register movement of the blade upon the indicator, said top and bottom guide plates being connected together in spaced apart relationship by spacer connecting means so as to permit slidable ball bearing supported movement of the blade between the plates, and said ball bearing support for the slidable blade comprising two pairs of ball bearings, one pair being disposed adjacent to each of the two linear margins of the blade.

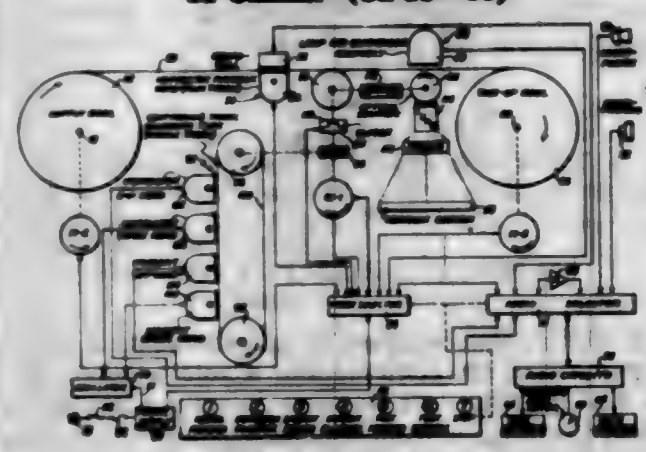
3,142,908
WAVE GENERATING APPARATUS
Martin Annis, Woburn, and Edwin C. Williams, Jr., Southboro, Mass., assignors to American Science and Engineering, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed July 19, 1962, Ser. No. 210,946
27 Claims. (Cl. 35—19)

1. Wave generating apparatus comprising
two wave generators adapted to be spaced apart for acting on a wave propagating medium to generate waves therein,
each said wave generator including a support structure adapted to be positioned in said wave propagating medium,
wave generating means pivotally mounted on said support structure at a point above the surface of said wave propagating medium,
said wave generating means including a wave initiating member positioned forwardly from said pivot point, a pendulous member extending downward from said pivot point, and an actuator member positioned rearwardly from said pivot point,



and electromagnetic means cooperating with said actuator member for moving said wave generating element about said pivot point to move said wave initiating member in a direction generally perpendicular to the surface of said wave propagating medium to generate waves therein,
a power source for energizing said electromagnetic means to drive said wave generators for generating waves in said medium,
and control means connected in circuit between said power source and said wave generators to energize both said electromagnetic means at the same frequency to generate waves in said medium,
said control means including means to vary the relative phase of the energizing signals applied to said wave generators.

3,142,909
ELECTRONIC SOUND REPEATER MECHANISM
Carlos A. Iranzoni, New York, N.Y., assignor to Linguatronics, Inc., Washington, D.C.
Filed Oct. 31, 1961, Ser. No. 149,169
11 Claims. (Cl. 36—35)

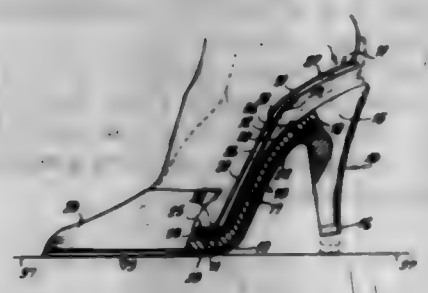


1. A method of audio-visual instruction comprising the steps of (1) projecting on a screen the picture on a sound motion picture film representation of the manner of formation of a sound, and synchronized therewith, playing back the recorded sound on the film, (2) rerecording the playback sound during said playing back, (3) stopping said film, (4) recording a student's repetition of the sound, and (5) simultaneously playing back and comparing the student's recording and the said rerecording of the sound while holding said film stopped.

3,142,910
FOOTWEAR WITH HEEL-FOLLOWER

Beth Levine, 52 W. 12th St., New York, N.Y.

Filed Nov. 18, 1959, Ser. No. 853,957
5 Claims. (Cl. 36—2.5)



1. In an article of footwear, a shoe foundation structure including a sole structure having a ball portion, a shank portion and a heel portion, a heel provided on the undersurface of said heel portion, a first resilient leaf element extending from said ball to said heel portion to normally bias said heel to a position above the plane of said ball portion, a heel follower having a ball portion, a shank portion and a heel portion overlying the corresponding portions of said sole structure, said heel follower being secured to said sole structure only in the region of the respective ball portions thereof, and a second resilient leaf element provided on said heel follower and biasing the latter away from said sole structure.

3,142,911
ADJUSTABLE CHILD'S SHOE

Harry F. Waters, Room 1731, Roosevelt Hotel, 45 E. 45th St., New York, N.Y.; Jessie H. Raberg, executrix of said Harry F. Waters, deceased

Filed May 5, 1961, Ser. No. 107,973
3 Claims. (Cl. 36—2.5)



1. A child's shoe adapted to accommodate a growing foot comprising, in combination, a sole portion, an integral heel portion, side portions integral with said sole and heel portions, a front tongue adapted to overlie the forward portion of the foot and to be partially overlapped by the forward portions of said side portions, a rear tongue extending upwardly from said heel portion, and adapted to form a pleat, lacing means for adjustably interconnecting the rear edges of said side portions, lacing for adjustably interconnecting the front edges of said side portions, and a relatively rigid insert overlying said sole portion and said heel portion, the portion of said insert overlying said heel portion being defined by a plurality of integral extensions connected to each other along fold lines.

3,142,912
DEVICES FOR CIRCULATING AIR IN FOOTWEAR

Truls Owe Larsen, 51 E. Collinsgate, Oslo, Norway

Filed July 24, 1961, Ser. No. 126,063
Claims priority, application Norway July 28, 1960
6 Claims. (Cl. 36—3)

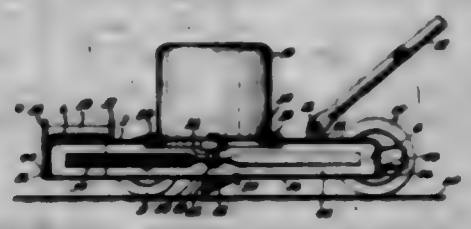


1. A device for circulating air in footwear, comprising a sole member adapted to be arranged in footwear, said member having a heel portion, a shank portion and a toe portion, corresponding to the heel, longitudinal arch, and forefoot, respectively, of a wearer's foot, said sole member including an upper layer and a lower layer spaced therefrom, said layers being connected together at least along a line which defines a closed geometrical figure which in size is equal to substantially the major portion of the area of the upper layer, thereby to define a single cavity extending from said heel portion through said shank portion and into said toe portion, the cavity thereby defined including a heel cavity portion within said heel portion, a shank cavity portion within said shank portion, and a toe cavity portion within said toe portion, said upper layer being provided with at least one opening disposed in the heel portion only near the rearward end thereof and for providing free communication between said heel cavity portion and the atmosphere, said upper layer being provided with at least one opening in the toe portion and only near the forward end thereof for providing free communication between said toe cavity portion and the atmosphere, the portions of the upper and lower layers which define said shank cavity portion being imperforate and free of structure which will normally impede free air passage in both directions between said heel cavity portion and said toe cavity portion, said sole member being compressible for pumping air from the heel cavity portion into the shank cavity portion and then into the toe cavity portion due to the compression between said layers caused by the walking of a wearer, and means disposed within said shank cavity portion for interrupting free communication between said heel cavity portion and said toe cavity portion when the foot of the wearer compresses said shank portion, thereby to prevent air within said cavity from being returned to said heel cavity portion.

3,142,913
SNOW PLOW ATTACHMENT FOR LAWN MOWERS

John C. Jacob, 5001 Metropolitan Ave., Kansas City, Kans.

Filed Apr. 2, 1963, Ser. No. 184,059
3 Claims. (Cl. 37—43)



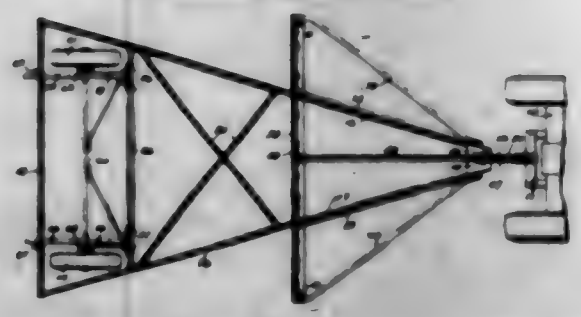
1. In combination with a rotary lawn mower consisting of a wheeled, generally horizontal base having a downturned skirt around its edges, said base and skirt defining an outlet tunnel extending laterally to the line of travel of said base at one side thereof, said base and tunnel being open at the bottom, and a prime mover mounted on the top of said base and having a vertical

power output shaft extending downwardly through said base, a snow plow attachment comprising:

(*a*) a generally planar, horizontal pan affixed to said base to close the bottom thereof at the level of the lower edge of said skirt, whereby to form a chamber between said base and said pan, said pan having a restricted aperture formed therein which is elongated transversely of the base, said aperture extending substantially to the side of the base at which said tunnel is disposed but terminating in spaced relation from the opposite side of the base, and

(*b*) an impeller blade affixed to said shaft within said chamber and operable to draw air and snow into said chamber through said pan aperture and to discharge them from said chamber through said tunnel, said impeller blade including sections extending radially from said shaft and inclined to their plane of rotation, said blade being rotated so as to move rearwardly at the side of the base at which said tunnel is disposed, and forwardly at the opposite side of the base.

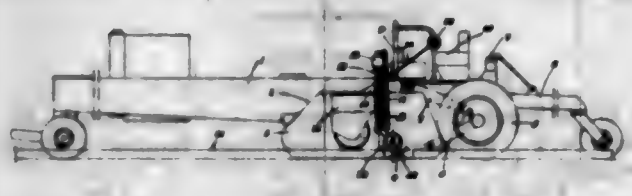
3,142,914
LAND LEVELING MACHINE
Edwin A. Lokin, Mancos, Colo.
Filed Feb. 20, 1963, Ser. No. 259,913
3 Claims. (Cl. 37—169)



1. In a tractor-drawn land leveling machine a substantially triangular frame having cross members, a blade fixed to the frame at substantially a right angle to the longitudinal axis of the frame and extending downwardly therefrom, an adjustable hitch on the forward end of the frame for connection with a tractor to maintain the forward frame end in given relation to the land to be levelled, a carriage automatically movable relative to the frame upon change of level of the frame and comprising wheels on an axle pivotally connected by pairs of supports and arms to a pair of brackets on the frame, said connection of said pairs of supports and arms to said brackets being on a common pivot, said pivots being undersize relative to the holes in said brackets for permitting tilting of the carriage transversely of the frame as a wheel rolls over an obstruction higher than ground level at the other wheel, said arms being adjustably connected intermediate the ends thereof to the carriage axle and extending over a frame cross member, and flexible means adjustably connecting the ends of the arms with the frame, the ends of the arms limiting carriage movement in one direction and the flexible means limiting movement in another direction relative to the frame.

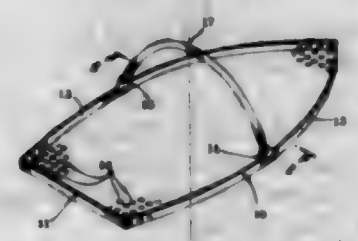
3,142,915
AUTOMATIC LEVEL CONTROL SYSTEM FOR CONSTRUCTION MACHINES
John Curlett, Los Gatos, and Raymond A. Gurries, San Jose, Calif., assignors to Gurries Manufacturing Co., San Jose, Calif., a corporation of California
Filed May 11, 1962, Ser. No. 196,392
9 Claims. (Cl. 37—189)

1. In a road building machine which includes a surface working implement, ground engaging supporting traction means, hydraulic rams mounted on the machine to relatively raise and lower the traction means, and feed and return lines connected to the rams; a level control device comprising a vertical sleeve, means mounting the sleeve on the machine at one side thereof, a tubular stem slidable in the sleeve and projecting at both ends therefrom, a valve mounted on the upper end of the stem and interposed in said feed and return lines, a gauge wheel supported from the stem at its lower end, a connection between the wheel and valve to actuate the latter upon



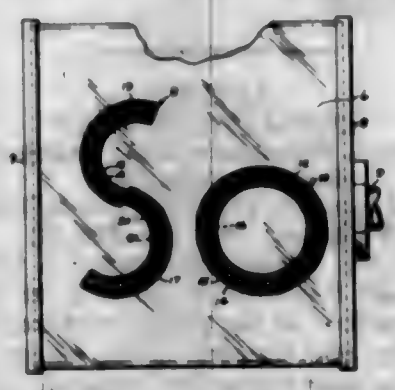
relative vertical movement of the gauge wheel, and means between the sleeve and stem to adjust the stem lengthwise of the sleeve and maintain the same in any adjusted position; said last named means comprising a vertical screw shaft within the stem, brackets turnably supporting the screw shaft at its ends and projecting from one side of the sleeve through a longitudinal slot in the adjacent wall of the stem, a nut engaging the screw shaft and supported from the stem, and hand means to rotate the screw.

3,142,916
ACCESSORY FOR GARMENT STEAMING DEVICES
Sidney Jacobson, 14211 Dickens, Apt. 10, Sherman Oaks, Calif.
Filed Mar. 1, 1962, Ser. No. 176,651
3 Claims. (Cl. 38—97)



1. An accessory for a garment steaming device, said accessory comprising: a perforated plate; a layer of polymerized tetrafluoroethylene bonded to said plate; and means to hold said plate in a substantially fixed position on said device, said plate having a strength substantially greater than that of said polymer, said polymer being bonded to the interior surfaces of said perforations.

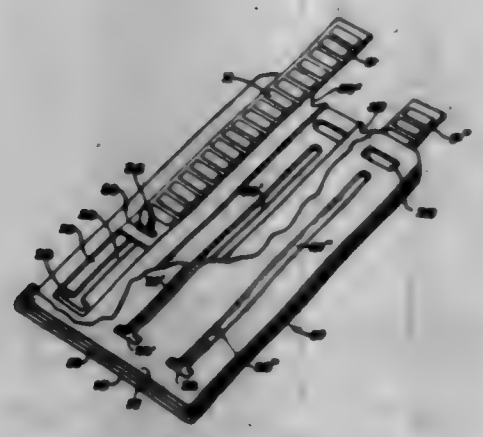
3,142,917
PRESSURE ACTIVATED DEVICES
Donald L. Spencer, Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed May 17, 1962, Ser. No. 195,628
5 Claims. (Cl. 40—37)



5. In combination, a closed compartment, means for admitting pressure fluid thereto or exhausting the same

therefrom, an elongated flexible body of foam material supported in the compartment in such a way that major portions of the body are freely movable, said flexible body being composed principally of closed gas-containing cells, a portion of said body having a flexible non-cellular surface, whereby an increase of pressure in said compartment produces differential contraction of cellular and non-cellular portions which causes curvilinear flexure of said body, said compartment having at least one transparent wall portion.

3,142,918
STRIP STORAGE DEVICE
Glen W. Offenend and Norman J. Rosenburgh, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 30, 1962, Ser. No. 213,337
2 Claims. (Cl. 40—64)



1. A storage device for film strips bearing visible images comprising: a sheet folded upon itself to form a multiply envelope having an inner and two outer plies,

(*a*) the inner ply having a plurality of parallel strip-receiving channels which are open on one end of the ply to receive the strips for storage therein, and

(*b*) the outer plies having

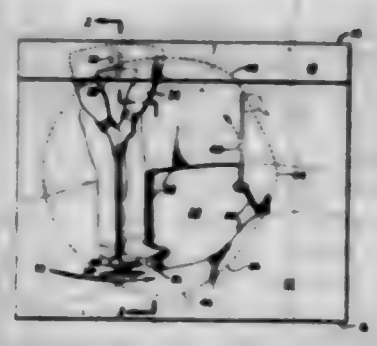
(1) a plurality of slots extending longitudinally of said channels and medially disposed in opposed relation with respect to said channels to facilitate the engagement and longitudinal movement of strips in said channels, and

(2) a plurality of apertures located adjacent to the open ends of said channels and medially disposed in opposed relation with respect to said channels to form an opening through which film strips in said channels can be transilluminated for viewing purposes;

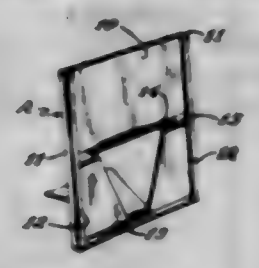
(*c*) said device having on the one end thereof in which said channels are open a plurality of notches in a predetermined recurring pattern relative to the channels to provide an index for positioning any one of the plurality of channels in a predetermined relation to a given point.

3,142,919
ANIMATED DISPLAY
James A. Richardson, 2447 Vallejo St., San Francisco, Calif.
Filed Sept. 13, 1962, Ser. No. 223,372
6 Claims. (Cl. 40—106.41)

1. An animated display comprising a frame, a disc mounted on said frame for rotation about an axis and having a cam surface on the periphery thereof, a movable display member, and support means mounting said display member on said frame and engaging said cam surface at a predetermined angular position around the axis of rotation thereof for moving said display member responsive to rotation of said disc with said support means pivotally connected to said frame and engaging said disc only along the peripheral cam surface thereon.



3,142,920
CALENDARS
Jeffery N. Nelson, 7305 Harriet Ave., Wilbur E. Bennington, 5857 Irving Ave. S., and Marshall S. Bates, 4253 Dupont Ave. N., all of Minneapolis, Minn.
Filed Nov. 1, 1961, Ser. No. 149,303
1 Claim. (Cl. 40—122)



A calendar support including:

(*a*) a generally rectangular back panel,

(*b*) channel shaped forwardly extending opposed side portions on said back panel forming parallel grooves of a predetermined width,

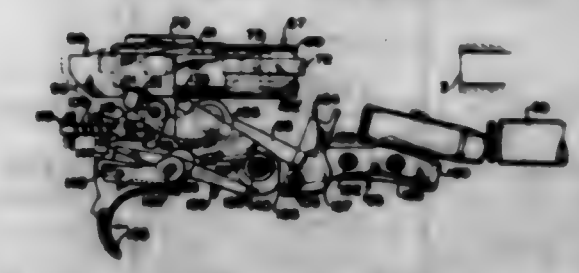
(*c*) a forwardly turned flange along the lower edge of said panel,

(*d*) said panel having a slot extending throughout the width thereof at a locus intermediate the upper and lower edges of said panel for the insertion of cards and the like into the grooves of said channel shaped portions from behind said back panel, and

(*e*) a forwardly turned partition flange integral with the portion of the back panel above said slot and extending forwardly from the back panel along the upper edge of said slot,

(*f*) whereby additional cards and the like can be inserted in the grooves of said channel-shaped portions to rest on said partition flange for facile subsequent removal via the upper ends of said grooves.

3,142,921
CARTRIDGE LIFTER MECHANISM FOR SEMI-AUTOMATIC GUN
William B. Ruger, Southport, Conn., assignor to Sturm, Ruger and Company, Inc., Southport, Conn., a corporation of Connecticut
Filed Mar. 1, 1961, Ser. No. 166,991
8 Claims. (Cl. 42—17)



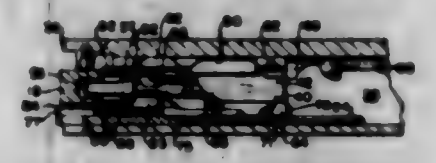
1. A semi-automatic gas-operated gun which comprises a receiver with an attached barrel, a tubular magazine located below the barrel, a bolt including means to lock

the bolt to the receiver, slide means for locking and unlocking the bolt reciprocal in the receiver, a trigger housing removably attached to the receiver in which is mounted a cartridge lifter, said housing being in operative connection with the tubular magazine so that a cartridge fed from the magazine can engage the lifter, a dog pivotally attached to the rearward part of the lifter having means to engage a notch in the slide to hold the slide and bolt rearward while a cartridge is being fed onto the lifter, and a spring operated cam having one cam surface which engages means on the lifter to push the rearward part of the lifter up and a second cam surface which engages means on the lifter to hold the rearward part of the lifter down and the forward part up.

3,142,922
REPEATING FIREARM

William B. Ruger, Southport, Conn., assignor to Sturm, Ruger and Company, Inc., Southport, Conn., a corporation of Connecticut

Filed May 4, 1962, Ser. No. 192,551
6 Claims. (Cl. 42—17)

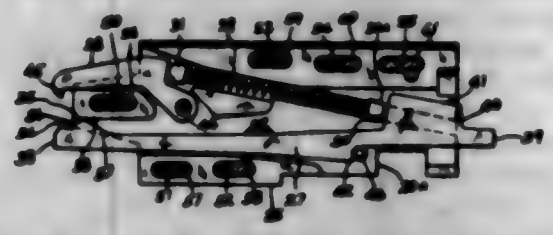


1. The improved repeating gun which comprises a receiver having an attached barrel, a trigger housing removably attached to the receiver, a reciprocable bolt having means for locking the bolt in the receiver, a reciprocable slide having a rearward portion mounted in the receiver, means on the slide in operative connection with the bolt to lock, unlock and reciprocate the bolt, a firing pin in the bolt having means in operative connection with the means on the slide to hold the firing pin out of contact with the cartridge when the bolt is unlocked.

3,142,923
BOLT ASSEMBLY COMPRISING A PIVOTED FIRING PIN SERVING ALSO AS THE EJECTOR AND AN EXTRACTOR

Edwin S. Vartanian, North Haven, and Joseph A. Badali, Branford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Mar. 12, 1962, Ser. No. 178,972
7 Claims. (Cl. 42—25)

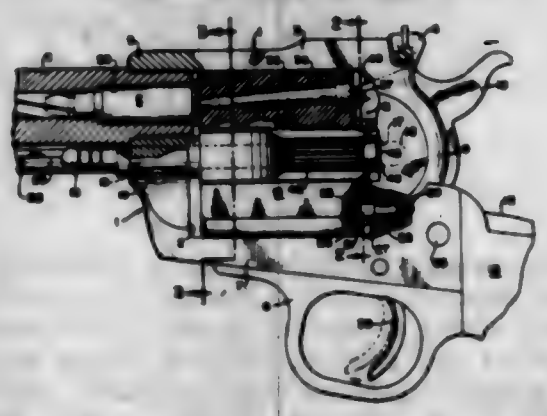


1. A bolt assembly for firearms comprising a body having two ends, a tapered nose portion at one end, a firing pin movably mounted in said body and protruding beyond the ends of the body, an extractor claw pivotally mounted in said body, a forward end of the firing pin having an extractor portion operative to engage the outer periphery of a cartridge, a projection on said firing pin positioned inwardly of the extractor portion and operative to contact an end face of said cartridge, said projection having a rearwardly extending cam surface operative to ride on said tapered nose portion to allow said firing pin to move toward said extractor claw as the firing pin moves forwardly relative to the body, a rear end of the firing pin having a surface operative to engage the rear wall of a receiver to impart a longitudinal forward movement to the firing pin, a recess in the rear end of the firing pin defining a shoulder operative to be engaged by a hammer to impart a slight forward movement to the firing pin to fire said cartridge, said extractor claw having a hook portion extending beyond said nose portion in diametrically opposed relation to the extractor portion of said firing pin, resilient means mounted in said body to bias the extractor claw toward the firing pin and to bias the firing pin rearwardly relative to said body, a projection formed integral with the rear end of said firing pin, said resilient means having one end engaging said projection to provide a pivot about which said firing pin rotates as the forward portion of the firing pin moves toward said extractor claw, stop means mounted in said body operative to engage the firing pin to limit the rearward longitudinal movement of said firing pin.

3,142,924
SINGLE-SHOT GUN WITH LATERALLY SWINGING BREECHBLOCK

William B. Ruger and Harry H. Sefried II, Southport, Conn., assignors to Sturm, Ruger and Company, Inc., Southport, Conn., a corporation of Connecticut

Filed June 18, 1962, Ser. No. 203,033
5 Claims. (Cl. 42—32)

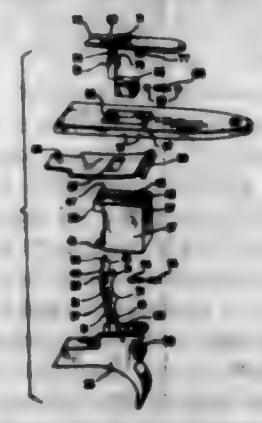


1. In a gun having a frame, a barrel secured to the frame having a cartridge chamber therein, a breechblock mounted on a pin having its axis parallel to and below the bore of the barrel, a firing pin in the breechblock, a hammer mounted in the frame having a striker head which can extend through the frame to contact the firing pin, the improvement which comprises a recess in the rearward part of the breechblock, a trigger having a sear part for engaging a notch in the hammer, which sear part can also engage the recess in the breechblock whereby the trigger cannot be pulled to release the hammer unless the breechblock is fully closed and in firing position in which position the sear portion can enter the recess.

3,142,928
DOUBLE-BARRELED SINGLE-TRIGGER FIREARM

Allen N. Miller, 1002 S. Orchard, Boise, Idaho

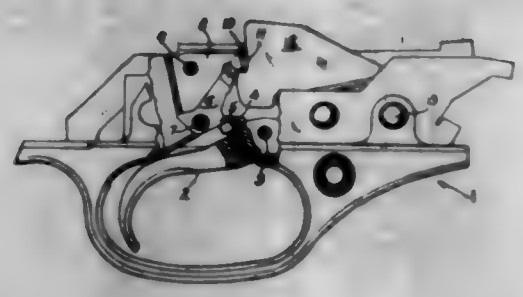
Filed July 8, 1963, Ser. No. 293,310
14 Claims. (Cl. 42—42)



1. In a firearm having a plurality of barrels and a hammer and a sear for each barrel and a connector

movable laterally selectively to engage one of the sears and a trigger for moving the connector to move said one sear to release one of the hammers to fire a selected barrel, and having a selector that straddles guide means and is movable laterally along the guide means into conjunction with a selected one of the sears; the improvement comprising a pair of members projecting from opposite sides of the guide means and means resiliently urging said members apart thereby to urge the selector into one or another of said lateral positions with an over-center snap action.

3,142,926
TRIGGER WITH ADJUSTABLE SCREW AND STUD THEREIN
Edward L. Morrow, Fairfield, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 27, 1962, Ser. No. 205,612
5 Claims. (Cl. 42—69)



1. In a trigger assembly including a pivotally mounted sear engageable with a pivotally mounted hammer, a trigger having an opening therein, a stud pressed into one end of said opening, said stud having an enlarged head portion engageable with said sear, screw means threaded in the other end of said opening engageable with said stud to move said enlarged head portion toward said sear as the screw means is rotated.

3,142,927
SONIC FISH BAIT
Harold E. Strom, 3110 Wentworth, Livonia, Mich.
Filed Oct. 13, 1961, Ser. No. 144,907
2 Claims. (Cl. 43—42.31)



1. In an audible fishing lure, an elongated hollow body member closed at the front to form a fish line attachment connection, said elongated hollow body member being open at the rear end, said body member being provided with oppositely disposed apertures adjacent the front end, a transverse retainer member positioned to extend through said oppositely disposed apertures, means for holding said transverse retainer member in position, at least one clapper carrier connected to the free end of said transverse retainer member to extend along the exterior of said tubular body member in spaced relation thereto, means for connecting a fish hook to said tubular body member, and a water-actuatable clapper freely threaded on said clapper carrier, whereby movement of said elongated hollow body member and said clapper through water causes said clapper to move into repetitive tapping engagement with said body member to provide a continuous sound pattern.

3,142,928
FISHING LURES
Robert Adams, Box 123, Wittenberg, Wis.
Filed Dec. 28, 1961, Ser. No. 162,755
4 Claims. (Cl. 43—43.4)



1. A fishing lure comprising a hook having a shank, a line attaching means near the forward end of said shank, a rearmost curved section and a sharp, barbed end; a first continuous guard loop on one side of said hook having a first portion extending outwardly from a position near the front of said hook shank, a middle portion being spaced radially further from said shank than the sharp, barbed end thereof, and a rear portion extending outwardly from a position approximately at the rear of said shank into the region between the sharp end of said hook and the rearmost curved section of said hook; a second continuous guard loop disposed on the side of the hook opposite said first guard loop and having a first portion extending outwardly from a position near the front of said hook shank, a middle portion being radially further from said shank than the sharp, barbed end thereof and a rear portion extending outwardly from a position approximately at the rear of said shank into the region between the sharp end of said hook and the rearmost curved section of said hook, and a joining means to fixedly fasten the first and rear portions of said guard loops to the said hook shank.

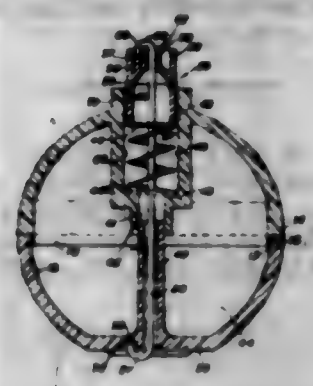
3,142,929
OUTRIGGER TROLLING FLOAT
Thomas W. Kibbee, 594 NW. 54th St., Miami, Fla.
Filed Apr. 11, 1962, Ser. No. 186,747
1 Claim. (Cl. 43—43.13)



An outrigger trolling float comprising a pair of buoyant runners, a pair of braces rigidly connecting said runners in parallel spaced relation, and tow attaching means secured to the forward portion and on the outer side of one of said runners for attaching a tow source thereto, said one runner being the inboard runner of said pair of runners and the sides of said runners corresponding to the side on which said tow attaching means is mounted being the inboard sides relative to the tow source and the opposite sides being the outboard sides, said runners being symmetrical in outline and configuration and having longitudinal edges which are substantially straight for the major portion of their length and curved at their front ends to a centrally disposed point to form skids, the outboard sides of said runners being substantially planar and the inboard sides of said runners being beveled from their longitudinal and curved forward edges to cause said runners to steer away from the direction of the tow source, said braces comprising rigid bars whose ends terminate in substantially right angle extensions having bolt holes therein, said runners having adjacent both of their edges spaced sets of bolt holes registering with the holes in the brace extensions, bolts inserted through said holes and releasably securing said braces and runners together, said tow attaching means comprising an eyebolt, and said

inboard runner having a plurality of bolt holes spaced along both of its edge portions for the selective positioning of said eyebolt to vary the effective angle between said float and the tow source attached thereto, whereby the braces and eyebolts may selectively be secured to the respective edge portions and said runners may be inverted in accordance with the side from which they are to be towed.

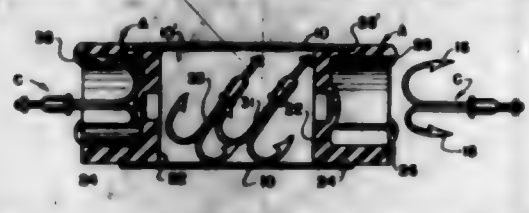
3,142,930
FISHING FLOAT
Frederick A. Lambach, Omaha, Nebr., assignor to Plastilite Corporation, Omaha, Nebr., a corporation of Nebraska
Filed July 24, 1963, Ser. No. 297,418
3 Claims. (Cl. 43—44.95)



1. A fishing float for attachment to a fishing line having a first portion thereof and a second portion thereof:
a lightweight float body having an axial bore extending therethrough, with one end portion of said bore affording a spring seat;
a biasing spring mounted within said spring seat;
a plunger, having a central axial aperture, extending into said bore and into engagement with said spring, said spring biasing said plunger outwardly of said bore;
a shaft extending axially of said bore and through said plunger aperture, said shaft having first and second hooked end portions for hooking said first portion of the line with said plunger and for hooking said second portion of the line with said float body;
a pair of inner and outer annular rings with an annular recess therebetween in said plunger for receiving said first of said hooked ends of said plunger on the said inner ring, said first of said hooked end portions having its terminal end extending into the recess between said rings, said plunger being rotatable while said first hooked end portion is on the inner ring and with its terminal end disposed in said annular recess and said plunger is biased to its maximum extent outwardly of said bore;
and a surface on said float body opposed to the movable plunger having an aperture of dimension just slightly greater than the diameter of the said second hooked end of said shaft to receive therein said second hooked end portion of the said shaft.

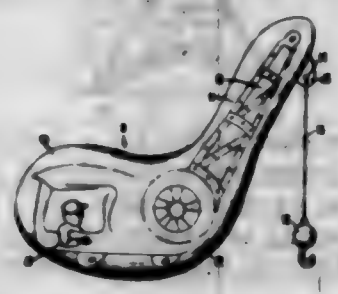
3,142,931
COMBINATION FISH HOOK HOLDER AND CONTAINER THEREFOR
George Ulsh, 7343 Windsor Mill Road, Baltimore, Md.
Filed July 5, 1962, Ser. No. 207,667
3 Claims. (Cl. 43—57.5)

1. A container for fish hooks comprising a hollow rigid elongated tubular body portion having at least one open end adapted to accommodate a plurality of separate individual fish hook clusters, a pliable combination closure for the tubular body and a hook cluster holding element adapted to releasably hold a single fish hook cluster provided with hook elements and a shank portion, said closure and hook holding element having a closed inner end, an open outer end and a substantially tubular side wall, means carried by the outer surface of the closure and hook holding element for allowing a part of the side wall thereof to become engaged with the tubular body portion whereby the open end of the closure and hook holding element extends outwardly from the end of the



tubular body, the inner surface of the side wall of the closure and hook holding element having means for guiding the hook cluster axially of the closure and hook holding element and being of such diameter and depth as to slidably receive the cluster through the open end thereof to a point where the hook elements and shank portion adjacent the hook elements are totally within the side wall.

3,142,932
PLASTIC INFLATABLE TOYS
Jerome H. Lemelson, 85 Rector St., Staten Island, N.Y.
Original application Jan. 31, 1955, Ser. No. 485,041, now Patent No. 2,939,707, dated June 7, 1960. Divided and this application Apr. 11, 1960, Ser. No. 26,925
1 Claim. (Cl. 46—49)

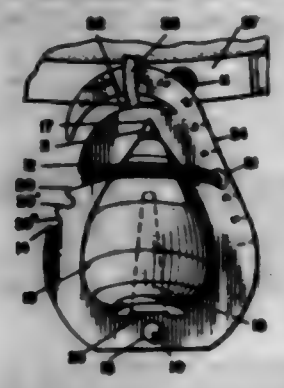


A toy and game device comprising in combination, an inflatable plastic body fabricated of flexible plastic and being made air tight for inflation by a circumscribing sealing line welding sheets of said plastic together, a lower portion of said body having a bulbous shape with a rounded bottom, an elongated inflatable portion of said body projecting outward and upward from said lower portion and defining a manipulation boom, said elongated boom having, when inflated, a flexible manipulation cord, means for securing one end of said cord to said boom near the upper end thereof, the lower end of said flexible cord being weighted for retaining said cord taut in a hanging condition from said boom, means for retaining said body upright on said bulbous base with the boom extending outward from the lower portion of the body whereby said cord overhangs and clears said body, and article retaining means at the lower end of said cord, means for releasably retaining an article thereon, the length of said cord being such that as said body is rocked back and forth, said article retaining means will be raised and lowered relative to the floor whereby articles may be manipulated and picked up off the floor thereby.

3,142,933
ACCESSORY FOR A TOP
Max J. Ruderian, 545 Hanley, Los Angeles 49, Calif.
Filed Sept. 11, 1962, Ser. No. 222,776
3 Claims. (Cl. 46—65)

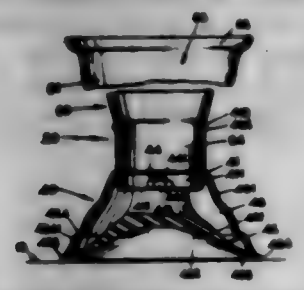
1. An accessory for a top comprising, in combination: an integral flat stamping having a central cut-out area defined by curved inside edges merging towards each other to define an apex at first ends and terminating at second ends in a tongue member extending into said cut-out area; and a top having diametrically opposite sidewalls of a given outline and a central slot opening in its

base, said curved inside edges conforming in shape to said outline, said tongue being receivable in said slot



whereby said top may be held within said stamping by said side edges and tongue.

3,142,934
FLOWER OR PLANT HOLDER FOR TOMBSTONE
Alfred J. Mehling, 1214 Colburn St., Toledo 9, Ohio
Filed Nov. 8, 1962, Ser. No. 236,362
3 Claims. (Cl. 47—34)



1. In a flower or plant holder for a tombstone,
a base member comprising a shroud part, a foot part, a socket part and a connector part; and
a cup member having an opening at one end and a foot portion of cylindrical shape at the other end;
in which
the shroud part is a sheet metal sleeve open at each opposite end and has an annular shoulder in concentric relation to the major longitudinal axis of the sleeve bearing an annular surface of a diameter substantially equal to that of the cup member opening and more proximate one end of the shroud part than the other end;
the foot part is a body of molded rubber having
a substantially spherical concave face in registry with and extending entirely across to close the mentioned one end of the shroud part, and
an annular flexible lip integral with and projecting outwardly from the mentioned face
adapted, when the foot part is pressed to direct its mentioned face against a tombstone, to engage a surface thereof and to be itself distorted and to distort the foot part thereby allowing air between the tombstone surface and mentioned face to expel so that the mentioned face may be brought to approach the tombstone surface and, when the foot part is released, sealing the intersurface space that air between the foot part face and tombstone surface is rarefied and at a lower than atmospheric pressure whereby the foot part is pneumatically secured to the tombstone;
the socket part is a cylindrical metal thimble having
a beaded edge and
being of an outer diameter substantially equal to the inner diameter of the mentioned other end opening of the shroud part as to be telescopically insertable therein to a position that the socket part closes the mentioned other end opening and the bead engages and extends in covering relation over the edge of the shroud part about the mentioned other end opening, and
an inner diameter substantially equal to the outer diameter of the cup member foot portion and adapted to snugly receive the same when inserted; and
the connector part is a thread bearing bolt element embodded in the foot part and a therewith co-acting nut element in engagement with the socket part and adapted to draw the socket and foot parts together to clamp the shroud part against relative movement therebetween
whereby the base member secured to a tombstone provides, when the foot portion of the cup member extends into the socket part, means for removably supporting the cup member in flower or plant holding relation on a tombstone and, when the cup member engages the shoulder surface in an annular area adjacent the cup member opening, the cup member provides means for guarding the base member between use periods of the members.

3,142,935
PLANT ACCESSORY
Emil Campos, Hoboken, N.J., assignor to Plastic Plants, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Jan. 17, 1963, Ser. No. 252,210
4 Claims. (Cl. 47—48.5)

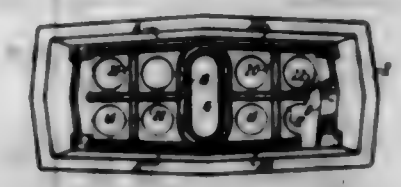


1. An article of the character described for the dispensing of liquid to plants, said article comprising a body simulating in appearance a main vertically extending trunk and branch stubs extending therefrom, the body and stubs being hollow, the opposite ends of said body being formed with openings for the receiving and discharge of liquid, the cavity of the body providing a main reservoir portion and the cavities defining the hollow interior of said stubs communicating therewith to provide auxiliary reservoir portions, a venting valve body controlling the inflow of air through the upper end of said body and movably engaged with the surface of the latter for that purpose, said valve body being hollow and presenting a side as well as a lower surface both formed with openings and the adjacent surface of said trunk body being formed with an opening alignable with the opening in the side surface of said valve body.

3,142,936
FLOWER VASE WITH FLOWER STEM-POSITIONING DEVICE
James C. Tweddell, Bethel Park, Pa., assignor to James H. Matthews & Company
Filed Dec. 14, 1962, Ser. No. 246,297
3 Claims. (Cl. 47—41)

3. A flower vase comprising: a rigid container of horizontal oblong cross-section, said container having means for supporting integral with said container in the interior

thereof and presenting a plurality of support points near each end of said container near the top of said container, said support points lying in a common horizontal plane; a horizontally extending flower stem support piece of semi flexible perforated plastic material being in size substantially coextensive with the interior cross-section of said



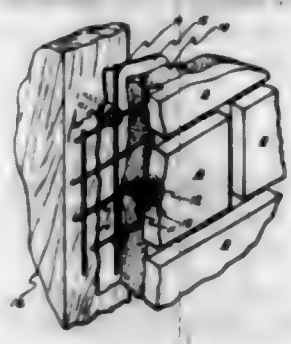
container as taken through the region of said support points and resting on the support points presented by said means; and said container comprising a plurality of integral restraining projections located near each end of said container and being above and adjacent to said flower stem support piece.

3,142,937
COVERING FOR ROOFS AND WALLS
Emil Ess, Bergstrasse 6, Schaffhausen, Switzerland
Filed July 18, 1961, Ser. No. 124,946
Claims priority, application Germany June 15, 1961
10 Claims. (Cl. 50—228)



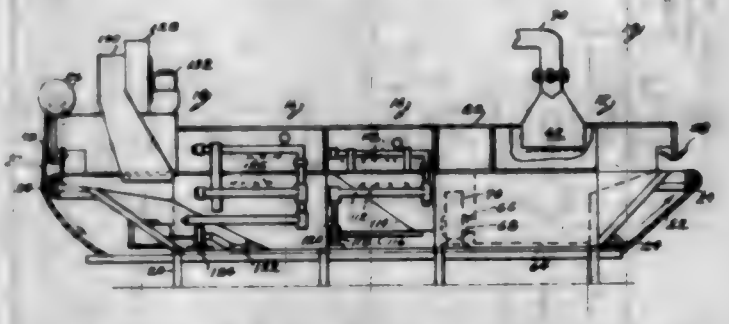
1. Covering for roofs and walls comprising a skin composed of a plurality of sheets each having a pair of substantially parallel sides, and fastening means, each sheet engaging an adjacent one along one of its longitudinal edges, and the fastening means comprising brackets adapted to be fastened on a supporting structure, wherein each of said sheets comprises a first marginal portion along a first one of its said longitudinal edges, said first marginal portion comprising a first part folded inwards 180° along one of said sides of the sheet, an adjacent second part folded outwards through 180° from said first part and there beyond and defining therebetween an outwardly open groove, and a terminal third part extending from the outer portion of said second part in a curved path transversely of the pair of sides and to a point past a projection of the other of said pair of sides and defining a concave side facing towards said groove and said other side said sheet further comprising a second marignal portion along another of its longitudinal edges substantially opposite to the said first longitudinal edge, said second marginal portion extending transversely away from said other side in a direction opposed to said folded first part, then outwardly substantially parallel to said other side and then returning transversely of and past a projection of said other side, thus forming a hollow rib on the said other side of the sheet, and thereafter substantially outwards thus forming a termianl flange, said terminal flange of the second marginal portion of one sheet engaging said groove of the first marginal portion of an adjacent sheet, and wherein the said brackets each comprise a convex back portion engaging the inside of said hollow rib of said one sheet at least on the parts thereof extending transversely of said sheet, and a foot portion extending from said back portion of the bracket into contact with the concave side of said terminal third part of the first marginal portion of said adjacent sheet for applying the latter onto said supporting structure.

3,142,938
WALL STRUCTURE
Elwood L. Eberhardt, 275 Leo Ave., San Jose, Calif.
Continuation of application Ser. No. 161,528, Dec. 22, 1961. This application Oct. 11, 1963, Ser. No. 316,205
4 Claims. (Cl. 50—344)



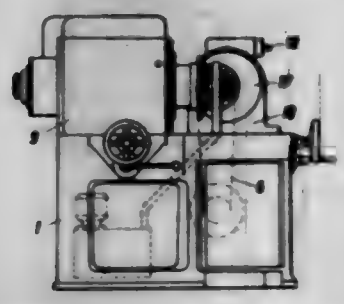
1. A facing structure for a building comprising:
(*a*) upright wall support means;
(*b*) a gridwork having spaced horizontal and vertical rods;
(*c*) means for securing said gridwork in an upright position to said wall-supporting means;
(*d*) a plurality of brackets secured to said gridwork, each of said brackets having two legs joined together at an apex, each of said legs being bent at a point intermediate the end thereof and the said apex to form an angle of less than 90°, each of said brackets being supported by one of said gridwork horizontal rods at points where said legs are bent, the lowermost ends of said legs resting against the front of a horizontal rod directly beneath the first-mentioned horizontal rod whereby to cantilever said apex of said bracket outwardly and away from said gridwork;
(*e*) and a plurality of facing slabs each having at least two pins secured therein normal to one plane thereof, each of said pins resting over and upon one of said brackets at the apex thereof and beneath the said horizontal rod supporting said bracket.

3,142,939
CRAB SHELL CLEANING MACHINE
James W. Booker, 807 Strangi Ave., Biloxi, Miss.
Filed Jan. 14, 1963, Ser. No. 251,333
7 Claims. (Cl. 51—14)



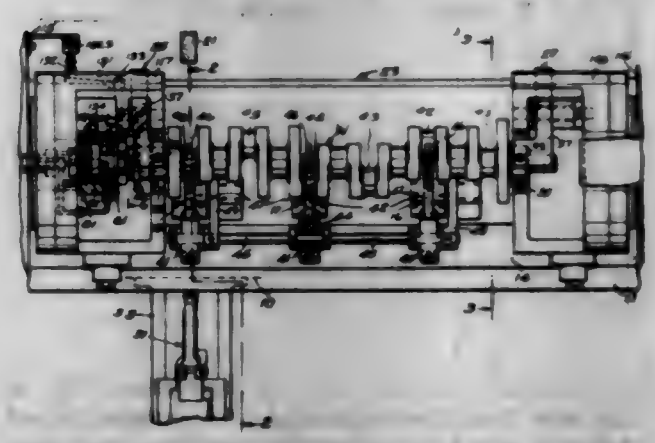
1. Apparatus for cleaning crab shells comprising: a pair of relatively thin, elongated support members spaced apart a distance which is somewhat less than the end-to-end length of a crab shell whereby a crab shell may be placed across said support members; means mounting said support members against relative movement; an elongated, crab shell retaining element; means mounting said retaining element for reciprocal movement between a position in which one end thereof lies substantially midway between said support members and a position in which said one end is spaced from the plane defined by said support members, whereby a crab shell may be held between said retaining element and said support members; and means for spraying a fluid abrasive composition into the space between said support members in a direction which is at an angle to the plane defined by said support members.

3,142,940
MACHINE FOR LAPPING GEARS
Hans Rebeski, Remscheid, Germany, assignor to W. Ferd. Klingelnberg Sohne, Remscheid, Germany
Filed Mar. 7, 1963, Ser. No. 263,571
Claims priority, application Germany Mar. 8, 1962
14 Claims. (Cl. 51—26)



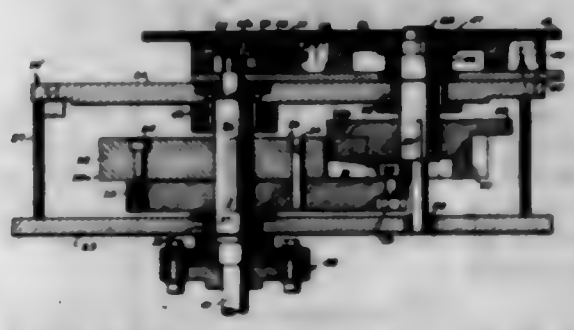
1. In a machine for lapping gears, especially spiral bevel gears: a housing, bearing means mounted in said housing, first sleeve means rotatably journalled in said bearing means, second sleeve means eccentrically and rotatably journalled in said first sleeve means, means for preventing axial displacement of one of said sleeve means while the other one of said sleeve means is axially displaceable, spindle means for receiving one of said gears to be lapped, said spindle means being eccentrically and rotatably journalled in said second sleeve means, means for preventing axial movement of said spindle means relative to said first and second sleeve means, first and second actuating means respectively operatively connected to said first and second sleeve means for individually oscillating the same about the respective longitudinal axis thereof, and third actuating means operatively connected to the other one of said sleeve means for imparting thereupon a reciprocatory movement in axial direction thereof.

3,142,941
GRINDING MACHINE
Roger H. Fournier, Millbury, Glover C. Joyce, Worcester, and Harold A. Schmeckl, Holden, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 3, 1962, Ser. No. 228,038
20 Claims. (Cl. 51—105)



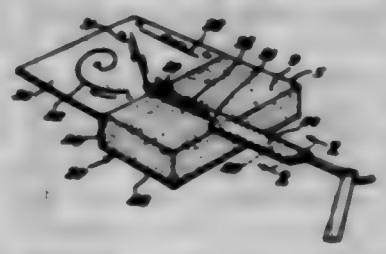
5. In a crankpin grinding machine having power driven rotatable work piece supporting means and means operable automatically to perform a series of grinding operations upon the respective crankpins of a crankshaft, axial indexing means automatically operable in the intervals between successive grinding operations to position successive crankpins for the next grinding operation, angular indexing means automatically operable in the same intervals between successive grinding operations by engagement with a crankpin of a rotating crankshaft to position successive crankpins angularly for the next grinding operation, and by-pass means actuated during a given interval by said axial indexing means operable to inactivate said angular indexing means during the next succeeding interval when the crankpin subject to the next grinding operation is coaxial with the crankpin subject to the previous grinding operation.

3,142,942
BRAKING DEVICE FOR INDEXING MACHINE
Michael J. Celovsky, Detroit, Mich., assignor to Industrial Tool Engineering Company, Detroit, Mich., a corporation of Michigan
Filed June 9, 1960, Ser. No. 35,909
8 Claims. (Cl. 51—134)



3. An abrading machine having an abrading wheel and an indexing turntable having a series of stations for carrying articles to be abraded, a shaft connected to said turntable, an indexing cam connected to said shaft for indexing said turntable, said indexing cam having a series of arcuate areas with a common radius and with the arcuate areas being peripherally disposed about said indexing cam, the indexing cam having a series of circumferentially spaced radially extending roll passageway areas separating the arcuate areas from one another, a circular plate having a recessed area in which said cam roll passageway areas are disposable during the course of the rotation of the indexing cam and the circular plate, the circular plate having a peripheral surface having the same radius as the radius of the arcuate areas for periodic engagement together to prevent rotation of the turntable while the abrading wheel functions to abrade an article carried by said station, a drive shaft connected to said circular plate, a cam roll connected to said drive shaft and disposed in coaxial alignment with the recessed area on said circular plate which cam roll is engageable in said cam roll passageway areas at intervals during the course of the rotation thereof for indexing the cam and the turntable, and brake means coordinated with the rotation of said shafts for braking said shaft during the periods of engagement between the peripheral surface of said circular plate and the arcuate areas of said indexing cam, the brake means being progressively releasable as said cam roll enters each of said cam roll passageways on said indexing cam for indexing the turntable and being progressively engageable as said cam roll leaves each of said cam roll passageways after the turntable has been substantially indexed to minimize abrupts starts and stops.

3,142,943
RAZOR HONING DEVICE
Harold C. Osborne, 6410 Girard Ave., Cincinnati, Ohio
Filed Mar. 5, 1962, Ser. No. 177,458
1 Claim. (Cl. 51—158)



In a device for directing the manually executed steps of honing a straight razor comprising a honing stone

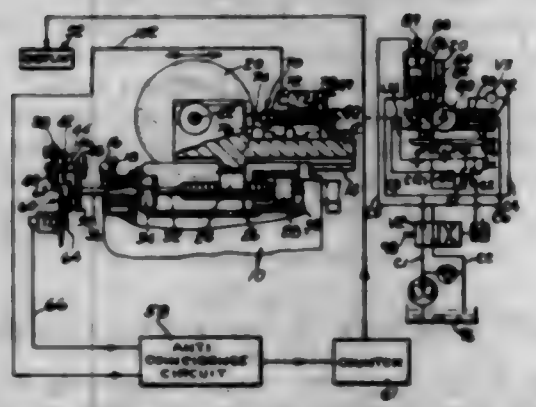
holder having a planar pattern face parallel to the plane of the flat honing surface of the stone, a diagonal guide means on the pattern face disposed at substantially 45° with the longitudinal center line of the stone, a second guide means on the pattern face having the form of an involute of a circle, the long curve of the involute being substantially normal to the longitudinal center line of the stone, a pattern follower comprising a sheath adapted to enclose the blade of a straight razor, and a reference means including an integral finger having a longitudinal line marked centrally thereon which intersects a circular reference mark on the free end of the finger, said finger extending from the toe end of the sheath, said reference means on the end of the arm cooperable with each of the guide means on the pattern face of the holder.

3,142,944

COMPENSATED GRINDING WHEEL FACE POSITION INDICATOR FOR GRINDING MACHINES

William R. Becker, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed June 21, 1963, Ser. No. 289,639
16 Claims. (Cl. 51—165)



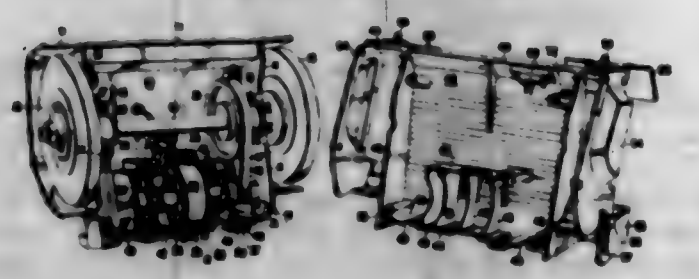
1. In combination with a grinding machine including a grinding wheel and of the kind having an indicator constructed and arranged to indicate, by indicating the position of the grinding wheel, when the work has been reduced to the desired dimension and having a truing device for truing the grinding wheel; automatically operable means operable, in response to actuation of the truing device, to reset the indicator to compensate for the effect upon the size of the work of the reduction in radius of the grinding wheel resulting from each truing operation.

3,142,945

BELT-DRIVEN BENCH GRINDER POWERED BY BUILT-IN SMALL SERIES MOTOR

Reynold Happe, Greenville, S.C., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 21, 1963, Ser. No. 252,800
5 Claims. (Cl. 51—166)



1. A bench grinder comprising a housing split substantially along a single vertical plane to form a rear base section and a front removable cover section, an electric motor secured to said base section and having an output shaft, a grinding wheel shaft journaled in bearings secured to said base section independently of said cover section and extending with at least one of its ends exterior to said housing, and driving connections between said motor output shaft and said grinding-wheel shaft interiorly of said housing for driving said grinding-wheel shaft at an angular speed less than that of said motor output shaft, the axes of the shafts being located substantially in the plane of the housing-split with the motor located entirely at one side of the grinding-wheel shaft.

3,142,946

GRINDING RUNNER

John M. Byal, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed June 28, 1961, Ser. No. 120,899
7 Claims. (Cl. 51—209)



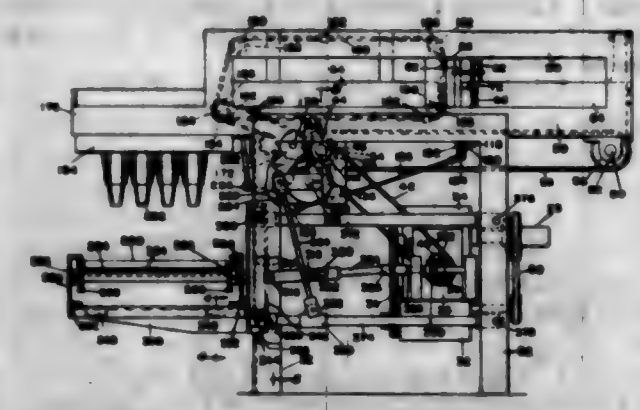
1. A substantially circular grinding runner adapted to provide more uniform distribution of grinding action across the width of the glass sheet, said runner having a working surface comprising a plurality of noggins positioned so as to provide an ever increasing noggin concentration from the runner center to the runner periphery, said noggins being arranged in individual lines outwardly spiraling from the runner center in the direction of rotation of the runner, a plurality of first channels between said noggins, said first channels spiraling outwardly from the runner center in a direction counter to the direction in which the runner is rotated, and a plurality of second channels formed between said noggins, said second channels spiraling outwardly from the runner center and in the same direction as the direction in which the runner rotates.

3,142,947

BOTTLE PACKING MACHINE

Joseph H. Walter, Walkley Hill Road, Haddam, Conn.

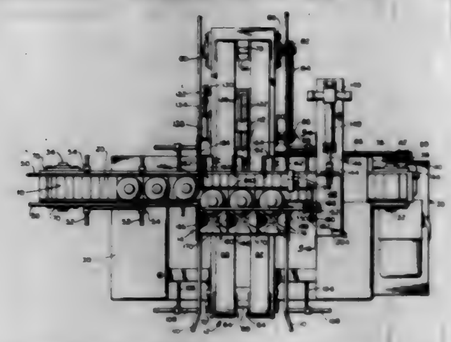
Filed Oct. 9, 1961, Ser. No. 143,951
16 Claims. (Cl. 53—55)



1. In a bottle packing machine, an elongated frame, a bottle conveyor mounted thereon for movement longitudinally thereof, longitudinally extending vertical dividers spaced above said conveyor providing single lanes for the bottles, a bottle dropping station at one end of said frame, said dividers being discontinued at a predetermined location providing a space separating the same into a forward section of dividers leading to said bottle dropping

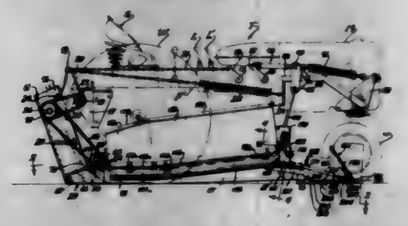
station and a rear section, means for intermittently opening and closing said lanes at said space, and longitudinally spaced flight bars spanning said conveyor and means to move said flight bars continuously around said forward section of dividers and above said conveyor at a rate slower than that of said conveyor.

3,142,948
CARTON LOADING APPARATUS
Boyd J. Arnett, 1914 Monroe St., Santa Clara, Calif.
Filed Oct. 31, 1961, Ser. No. 149,078
10 Claims. (Cl. 53—55)



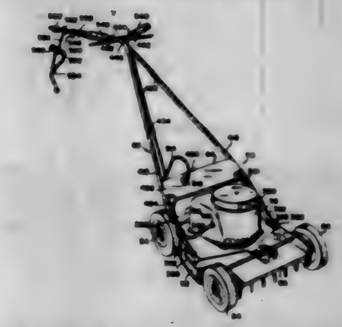
1. Carton loading apparatus which comprises an article conveyor arranged to frictionally propel the articles in single file relation along a predetermined path, a continuously-moving carton conveyor arranged to frictionally propel cartons along a path below the article path on said article conveyor and transversely thereof, means mounted for movement into the path of cartons on said carton conveyor for intermittently stopping motion of the carton on said carton conveyor with one carton in article-receiving position, means movable across said article conveyor to displace articles laterally therefrom at a position thereon above said transversely-disposed carton conveyor whereby the displaced articles can drop into a carton thereunder, and means operative in response to the accumulation of articles in abutting relation adjacent said article-displacing means and the presence of a carton on said carton conveyor thereunder for actuating movement of said article-displacing means.

3,142,949
BEAN PICKER
Wyman I. Carlson, Lewiston, N.Y., assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York
Filed May 15, 1961, Ser. No. 109,967
2 Claims. (Cl. 56—19)



1. In a ripe bean harvester having a frame adapted to be propelled along a row of mature bean plants in the field, the ripe pods of such mature bean plants being conditioned to burst open on any approach to rough handling, a threshing reel journalled on said frame to rotate about an axis arranged above and extending longitudinally of said row, picking fingers projecting radially from said reel to engage and comb said bean plants in said row, means rotating said reel to effect upward movement of said picking fingers through said plants, a horizontal mold board arranged alongside said row of bean plants and against which said plants are bent over by said picking fingers, a semicylindrical cover concentric with and enclosing the side of said reel opposite from said mold board, and a generally horizontal conveyer arranged along the side of said mold board opposite from said reel to receive the bean pods, bean seeds, leaves and stems removed from said bean plants by said picking fingers; the combination therewith of means retarding the escape of dry bean seeds released from the pods by the bursting of said pods by said picking fingers, comprising a series of brushes mounted on said reel in circumferential alternation with said fingers with their bristles projecting radially outwardly with respect to said reel a distance at least substantially equal to the length of said picking fingers and with their ends in closely spaced relation to said semicylindrical cover and said mold board and said brushes extending axially along said reel and being arranged at spaced intervals circumferentially around said reel with their bristles interspersed among and in the path of movement of said picking fingers, whereby the dry bean seeds released by said picking fingers in the region of said mold board are confined to said region by the mold board and the bristles in advance of and following the picking fingers releasing the bean pods in said region and are guided by said advance and following brushes over said mold board onto said conveyer.

3,142,950
POWER MOWER HANDLE AND CONTROL MEMBERS
John R. West, Marysville, Ohio, assignor to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio
Original application July 31, 1957, Ser. No. 675,331, now Patent No. 3,028,717, dated Apr. 10, 1962. Divided and this application Dec. 14, 1961, Ser. No. 159,272
4 Claims. (Cl. 56—25.4)



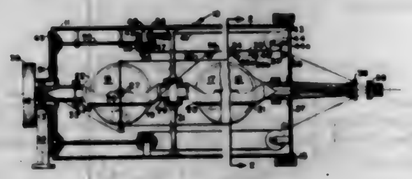
1. A powered lawn mower comprising: a wheeled frame; handle attachment brackets on said frame; a cutting mechanism and a power means, drive connected thereto, secured to said frame; a handle assembly comprising a lower yoke with legs secured to said brackets and laterally disposed dual handle bars at the upper end; control lever means pivoted on said handle assembly at each said handle bar, each lever means comprising at least one long lever arm disposed along an associated handle bar in a position to be gripped and moved toward said handle bar and a short lever arm on the opposite side of said long lever arm; an elongate rod guided in said handle assembly for movement essentially longitudinally of said handle assembly having means at its upper end adapted to be engaged and shifted by each said short lever arm when an associated said long lever arm is gripped against said handle bar; control means adapted to be engaged by the lower end of said rod and connected to control said power means; and biasing means between said rod and said handle assembly to bias said rod so its upper end is urged toward said short lever arms.

3,142,951
APPARATUS FOR THE FINISHING OF SYNTHETIC FILAMENTARY MATERIAL
Pierre Jean Terra, Lyon, France, assignor to Societe Rhodiaceta, Paris, France, a French body corporate
Filed Feb. 6, 1962, Ser. No. 171,485
Claims priority, application France Mar. 15, 1961
5 Claims. (Cl. 57—34)



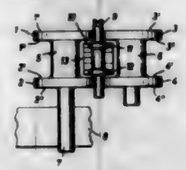
1. A machine for twisting and thereafter heating filamentary materials, comprising a frame carrying on one face at least one bank of twisting devices, guide means for leading the threads from each of the twisting devices individually over the top of the frame to the opposite face thereof, a bank of heating means located on said opposite face at narrow spacings less than the spacings of the twisting devices, each of the heating means extending for at least a major part of the height of the frame and providing a hot zone at a temperature to effect a heat treatment of the material, means for leading the threads downwardly through the hot zones of said heating means, and winding devices located on the frame for winding the threads individually.

3,142,952
STRANDING APPARATUS
Frederic B. Krafft, Roy E. Correll, and Joachim F. Otto, Hastings on Hudson, N.Y., assignors, by mesne assignments, to Anaconda Wire and Cable Company, a corporation of Delaware
Filed May 8, 1962, Ser. No. 193,204
20 Claims. (Cl. 57—58.32)



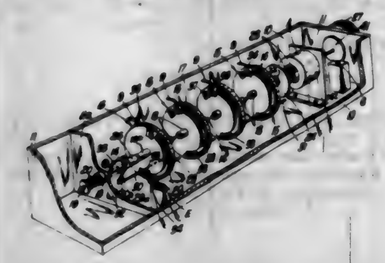
1. A strand twisting apparatus comprising a flyer, a strand storing reel, a cradle supporting said reel, means supporting said flyer rotatable around said reel and said cradle, drive means rotating said flyer, an endless belt mounted on said flyer and revolving therewith, guide means guiding a strand between said reel and said belt, means advancing said strand, said strand being urged against said belt by the centrifugal force resulting from the rotation of said flyer, said belt advancing at approximately the same speed of advancement as said strand.

3,142,953
DRIVE SYSTEM FOR FALSE TWISTERS
Hans Gasser, Schweinfurt, and Otto Lang, Hammelburg, Germany, assignors to Kugelfischer Georg Schafer & Co., Schweinfurt, Germany
Filed May 16, 1962, Ser. No. 207,834
Claims priority, application Germany May 17, 1961
3 Claims. (Cl. 57—77.45)



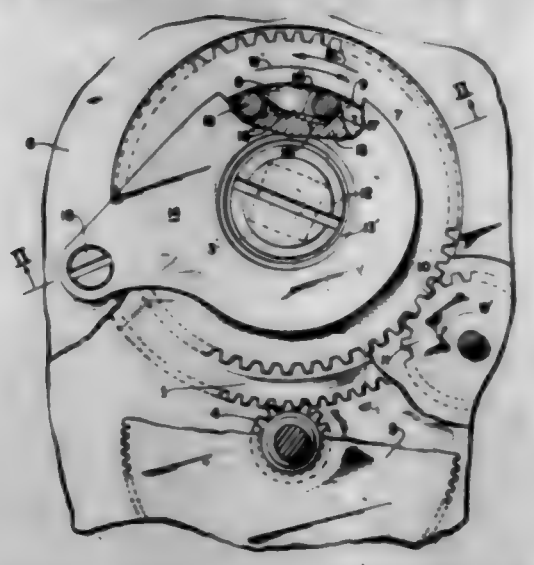
1. A high speed rotary drive for false twisting spindles, comprising laterally spaced pairs of coaxial discs, each of the pairs coplanarly arranged, a rotary twisting tube received between the pairs of discs, and magnetic means attracting the tube against the peripheries of the discs, the tube provided with two axially spaced collars having outwardly tapering cross-section, each collar being adjacent to an associated pole piece of the magnetic means, each of the pole pieces having an inwardly curved recess of substantially smaller radius than that of the adjacent collar, the recess forming two edges within the pole pieces which edges subtend at the axis of the tube an angle which lies inside the angle included between the radii from the axis of the tube to the axes of rotation of the discs, and the recess being located opposite the collars so that a concentration of the magnetic flux between the collar and the edges of the recess of the pole piece is achieved.

3,142,954
TIMING DEVICES
Geoffrey Redmayne, The Wall House, North Road, Hertford, England
Filed Nov. 7, 1962, Ser. No. 236,884
Claims priority, application Great Britain Nov. 7, 1961
26 Claims. (Cl. 58—22.9)



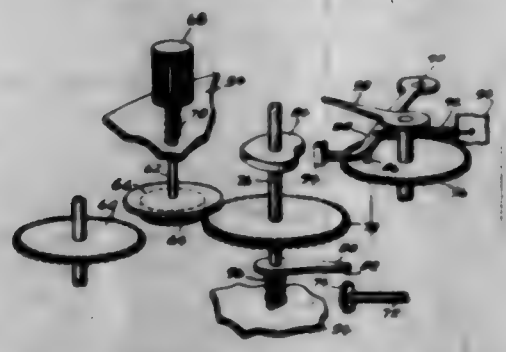
1. A timing device comprising a number of indicating members so mounted as to be individually movable in opposite senses, in one sense against a loading force and in an opposite sense under the action of the loading force, manually operable means for moving the indicating members against their loading forces to limiting positions, manually operable means the actuation of which causes one of said indicating members to move under the action of its loading force, lost motion devices between said various indicating members so arranged that a predetermined extent of movement of said one indicating member causes another of said indicating members to move under the action of its loading force and a predetermined movement of that member causes the next indicating member to move under the action of its loading force, and so on, and manually operable means for arresting any one of the indicating members which may be moving under the action of its loading force.

3,142,955
POWER CLUTCH FOR THE MAIN SPRING OF WATCH MOVEMENTS AND THE LIKE
Rene A. Flechter, 137 Hollywood Ave., Douglaston 63, N.Y.
Filed Feb. 27, 1961, Ser. No. 91,676
13 Claims. (Cl. 58—83)



1. In a watch movement, having a frame, a coil spring, an arbor fixed to one end of said spring, a rotatable clutch element fixed to said arbor and having teeth engageable by the teeth of a crown wheel for winding, a cover plate removably fixed to the frame, a second clutch element fixed to the cover plate, one of said clutch elements having a cylindrical surface coaxial with the arbor and the other of said clutch elements having cam surfaces which are generated by lines parallel to the arbor axis and which surfaces are spaced from and at least in part inclined toward said cylindrical surface, and at least one body of circular cross-section having a diameter less than the maximum distance between said cylindrical surface and the cam surfaces of said other clutch element, said body being located in the space between the cam surfaces of the respective clutch elements and being movable into and out of wedging relation to said cam surfaces, the cover plate being so positioned as to retain the body of circular cross-section in the space between the cam surface and the cylindrical surface.

3,142,956
AUTOMATIC REGULATOR FOR TIMEPIECE
Donald A. Bly, Millersville, Pa., and Robert E. Le Blanc, Silver Spring, Md., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Sept. 16, 1959, Ser. No. 840,342
15 Claims. (Cl. 58—85.5)



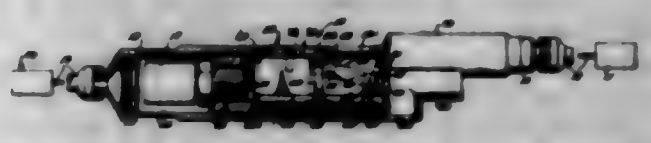
1. A device for automatic regulation of the escapement hair spring of a timepiece in connection with the setting of the hands of said timepiece comprising a rotatable adjusting shaft for setting the hands of said timepiece, regulating means for said hair spring, and driving means drivingly coupled between said adjusting shaft and said regulating means when said adjusting shaft is operated, said driving means comprising an intermittent drive for transforming continuous rotary motion of said adjusting shaft in a single direction to intermittent additive motion of said regulating means.

3,142,957
ENGINE SUPERCHARGING APPARATUS
Raymond E. Roesling, Long Beach, Calif., assignor, by mesne assignments, to Jack M. Riley, Fort Lauderdale, Fla.
Filed Feb. 19, 1962, Ser. No. 176,481
1 Claim. (Cl. 60—13)



In engine supercharging apparatus having engine fuel metering means, a throttle valve for controlling the operation of said metering means, and an engine exhaust gas waste gate movable to divert exhaust gas to a turbosupercharger for operation thereof to provide compressed air to the engine, the combination of: a throttle sequentially movable through a first sector and a second sector for increasing the engine output, and movable back through said second sector and then said first sector for decreasing the engine output; and control means for moving only said throttle valve upon movement of said throttle through said first sector, and for moving only said waste gate upon movement of said throttle through said second sector, said control means including a longitudinally movable cam body having a first groove extending longitudinally in one direction and thence diagonally and a second groove extending longitudinally in a direction opposite to said first direction and thence diagonally, a throttle valve control element and a waste gate control element movable along axes normal to the axis of movement of said cam body, and a pair of pins carried by said valve control element and said gate element control, and slidable in said second and said first grooves, respectively, whereby movement of said cam body in response to movement of said throttle through said first sector moves one of said pins through the longitudinal portion of said first groove and the other of said pins through the diagonal portion of said second groove to operate only said throttle valve, and whereby movement of said cam body in response to movement of said throttle through said second sector moves said one of said pins through the diagonal portion of said first groove and said other of said pins through the longitudinal portion of said second groove to operate only said waste gate.

3,142,958
BAROMETRICALLY RESPONSIVE POWER CONTROL MECHANISM
Albert L. Roberts, Torrance, and James P. O'Donnell, Van Nuys, Calif., assignors to Ordnance Associates, Inc., South Pasadena, Calif., a corporation of California
Filed June 27, 1961, Ser. No. 119,897
19 Claims. (Cl. 60—26.1)



1. An automatic pressure responsive relay operable to control a power unit with which said relay is adapted to be associated, said relay comprising means movably supporting a work-performing member including means nor-

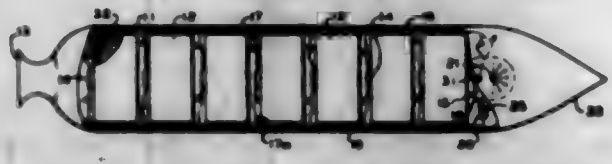
mally substantially unstressed biasing the same to move in one direction, means including sensitive trigger-controlled mechanism for cocking and holding said work-performing member in cocked position in opposition to said biasing means immediately prior to the time of need for said power unit and in readiness to perform work, and pressure sensitive actuator means responsive to a predetermined ambient pressure to disengage said trigger-controlled mechanism and release said work-performing member from the cocked position thereof.

3,142,959

RANGE CONTROL OF SELF PROPELLED MISSILE

Eugene L. Klein, Alexandria, Va., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 11, 1959, Ser. No. 839,441
9 Claims. (Cl. 60—35.6)



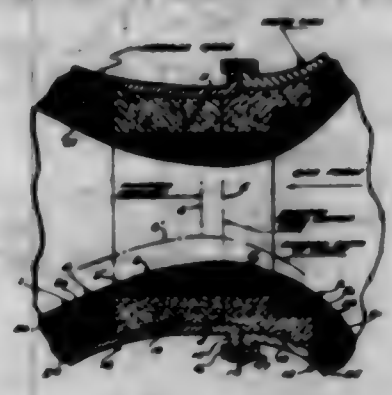
1. A rocket comprising, in combination, a plurality of solid propellant segments having their surfaces completely restricted against surface burning disposed serially along a common axis, said propellant segments being solid cylinders and having their longitudinal axes positioned along said common axis for successive burning, a case surrounding said segments, said case having a leading end as regards direction of travel and an exhaust nozzle at the other end, a separate igniter operatively positioned on and against the propellant on the side of each propellant segment facing said exhaust nozzle, means for exciting the igniter nearest said exhaust nozzle, and means for regulating a predetermined number of said propellant segments to be burned.

3,142,960

MULTI-MATERIAL REFRACTORY ROCKET PARTS AND FABRICATION METHODS

Raymond M. Black, Willowick, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed July 6, 1961, Ser. No. 122,326
11 Claims. (Cl. 60—35.6)



1. A rocket nozzle throat having a converging-diverging surface to be directly exposed to ablation producing conditions of high velocity gas flow and high temperature comprising

an edge exposed structure having

(*a*) substantially parallel and variably spaced apart sheet-like laminae,

(*b*) said laminae each being a thin flexible strength providing, thermal shock resisting, unitary and yieldably non-brittle refractory resistant to said conditions,

(*c*) said refractory laminae being interconnected and spaced apart by bonded alternate layers of bonding material,

(*d*) said bonding material, positioned between said laminae, having a greater thickness than said laminae, and

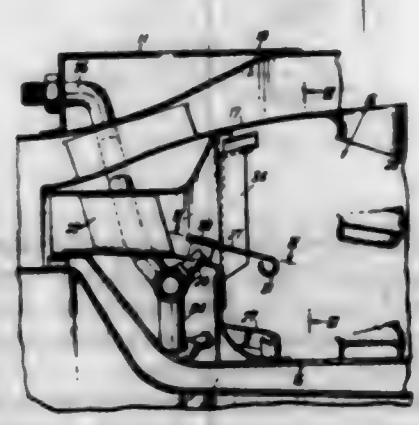
(*e*) means to bond and anchor said laminae in position to provide resistance against being pulled out of position by said conditions.

3,142,961

COMBUSTION CHAMBER FOR A GAS TURBINE ENGINE

Denis Richard Carlisle, Risley, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain

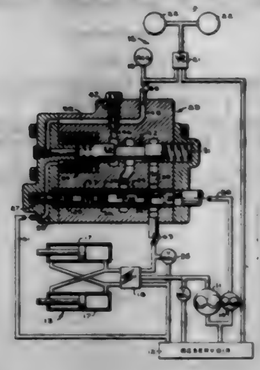
Filed Jan. 21, 1963, Ser. No. 252,853
5 Claims. (Cl. 60—39.74)



1. A combustion chamber for a gas turbine engine comprising a fuel injection nozzle disposed within said chamber, means for supplying the fuel injection nozzle with fuel, a plate which is mounted within the combustion chamber to extend longitudinally thereof, said plate sloping radially inwardly toward its downstream end, the upstream portion of the plate having substantially all the fuel from the fuel injection nozzle directed onto it, means for directing past the plate a stream of combustion air which urges the fuel to travel downstream along the plate and which effects atomisation of the said fuel, said last-mentioned means including a baffle positioned along each longitudinal edge of said plate and extending transversely of the plate, and deflector means at the downstream end of and forming part of the plate, said deflector means extending across the width of and terminating at the longitudinal edges of the plate for deflecting the fuel so that the latter passes off the plate transversely thereof.

5. An annular combustion chamber for a gas turbine engine comprising a plurality of circumferentially spaced injection nozzles disposed within the annular chamber, means for supplying said fuel injection nozzles with fuel, a plurality of plates circumferentially spaced from each other mounted within the combustion chamber and each extending longitudinally thereof, there being one plate for each of said fuel injection nozzles, each of said plates being positioned adjacent its respective fuel injection nozzle so that the upstream portion of the plate receives substantially all of the fuel from the fuel injection nozzle directed at it, an annular assembly of angularly spaced apart baffles mounted in said annular combustion chamber, each adjacent pair of said baffles having one of said plates mounted therebetween, said baffles directing a stream of combustion air past the plate to urge fuel to travel downstream along the plates which effect atomization of the fuel, and each of said plates being bent back on itself to form a gutter for the fuel, the gutter for each plate extending transversely of the plate and opened at each of its opposite ends so that fuel at the downstream ends of said plates is deflected and passes off each of the plates transversely thereof.

3,142,962
CONTROL VALVE
Kenneth R. Lobbeser, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 25, 1963, Ser. No. 260,437
9 Claims. (Cl. 60—51)



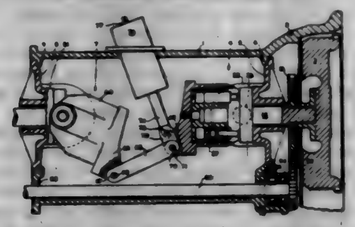
1. A control valve for use in combination with a hydraulic system including a source of working fluid, a pump disposed to deliver fluid from the source, an open center system and a closed center system with an accumulator, comprising in combination;

first valve means in communication with the pump, the open center system and the closed center system;

said valve means having a restrictive orifice hydraulically disposed between the pump and closed center system whereby a pressure drop is developed when the volumetric output of the pump is greater than the fluid flow through the orifice; and

means responsive to the pressure drop across the orifice to communicate the pump with the open center system through said valve means wherein the physical area of communication is a direct function of the magnitude of the pressure drop across the orifice whereby the volume of fluid flow through the orifice is maintained relatively constant.

3,142,963
HYDRAULIC APPARATUS
Oswald Thoma, Charlton Kings, England, assignor to Dowty Hydraulic Units Limited, Ashchurch, England, a British company, and Unipat A.G., Glarus, Switzerland, a Swiss company
Filed Oct. 16, 1962, Ser. No. 230,893
Claims priority, application Great Britain Oct. 26, 1961
21 Claims. (Cl. 60—53)



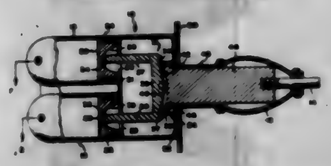
12. A power transmission comprising a tilting-head pump-unit and a tilting-head motor-unit, each including a rotative drive flange, means hydraulically interconnecting said pump-unit and said motor-unit, a rigid link of unvarying length having a pivotal connection at one end with the pump tilting-head and another pivotal connection at its other end with the motor tilting-head, so that tilting movement of one tilting-head causes tilting movement of the other tilting-head, the spacing between the pivotal connections of the link being less than the spacing between the respective drive flanges.

3,142,964
HYDRAULIC APPARATUS
Oswald Thoma, Charlton Kings, Cheltenham, and Edward Victor Ward, Cheltenham, England, assignors to Dowty Hydraulic Units Limited, Ashchurch, England, a British company
Filed Jan. 31, 1963, Ser. No. 255,256
Claims priority, application Great Britain Mar. 7, 1962
22 Claims. (Cl. 60—53)



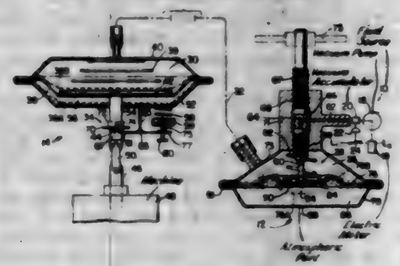
1. A hydraulic power transmission comprising a tilting head pump unit, a tilting head motor unit, at least one hydraulic connection between pump and motor, support, shaft bearing means in the support within which drive shafts of the pump and motor units are rotatably mounted, trunnion bearing means in the support within which the heads of pump and motor units are tiltably mounted, a rigid link of invariable length pivotally connected to the pump head at a position spaced from its tilt axis and pivotally connected to the motor head at a position spaced from its tilt axis so that pump and motor heads may only move simultaneously, and means for adjusting the heads about their tilt axes, the shaft bearing means being so arranged that the axes of the shafts are in non-coaxial relation one to the other, and the pivotal connections of the link being so arranged that when the pump head is in its maximum displacement position the motor head is at a minimum displacement position, greater than zero displacement.

3,142,965
DUAL ACTION MASTER BRAKE CYLINDER ASSEMBLY
Raymond J. Hazelbaker, 11 Woodlawn Ave., Uniontown, Pa.
Filed Sept. 20, 1963, Ser. No. 310,429
23 Claims. (Cl. 60—54.6)



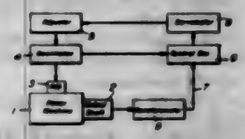
1. In a brake system or the like, a pair of parallel master cylinders, a pair of pistons axially slidable in said master cylinders, each piston having a concavity in the rear face thereof, an actuator rearwardly of and between said cylinders and adapted to be moved by a brake pedal, said actuator having a concave face on the end thereof towards said pistons, and a U-shaped connecting assembly between said pistons and said actuator, said U-shaped connecting assembly having a pair of push rods with rounded ends each engaging in the concavities of the rear faces of said pistons and having a sphere rotatably mounted in the surface of the bight thereof facing said concave face of said actuator, said sphere resting against said concave face.

3,142,966
VACUUM SERVO SYSTEM AND THE LIKE
Harold W. Rice, Fullerton, Calif., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed Nov. 24, 1961, Ser. No. 154,437
15 Claims. (Cl. 60—60)



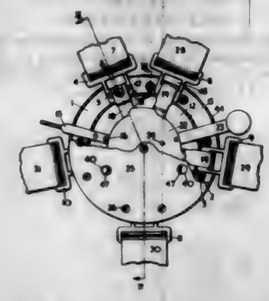
1. A combination for use with a vacuum source of actuating fluid under vacuum condition and the like: a master controller having a master vacuum chamber connectable to said vacuum source in actuating fluid flow relationship; first means automatically maintaining actuating fluid in said master vacuum chamber at a controlled vacuum condition; a slave member having a slave vacuum chamber connected in actuating fluid flow relationship to said master vacuum chamber; and a slave actuating means operating in response to vacuum condition of actuating fluid in said slave vacuum chamber in which combination said first means is adjustable to produce a plurality of different controlled vacuum conditions in said master vacuum chamber and in which said slave vacuum chamber is resiliently hermetically sealed with pressure characteristics to resist contraction by the vacuum conditions in said slave vacuum chamber, and in which said second means is a resilient second means outside said slave vacuum chamber and is adjustable outside said slave vacuum chamber to vary the response of said pressure characteristics to vacuum condition in said slave vacuum chamber independently of said first means.

3,142,967
MAXIMUM POWER SEEKING AUTOMATIC CONTROL SYSTEM FOR POWER-PRODUCING MACHINES
Paul H. Schweitzer, 617 W. Park Ave., State College, Pa.
Filed Sept. 22, 1961, Ser. No. 141,244
Claims priority, application Germany Sept. 23, 1960
20 Claims. (Cl. 60—105)



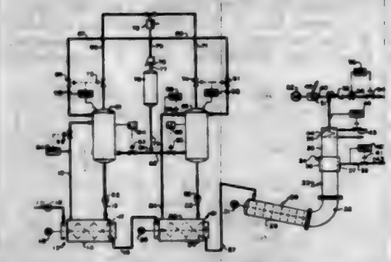
19. The method of operating a power-producing machine at maximum output power under varying operating conditions, said machine being of the type having a power output shaft and an adjustable machine variable the setting of which controls the power output, said method comprising: continuously oscillating the setting of the machine variable within limits on either side of the variable initial setting; sensing torque increases of the power output shaft; combining the torque increase sensing signal and the phasing of the continuously oscillating variable setting and obtaining a control signal; and adjusting the machine variable setting to an optimum setting by means of said control signal.

3,142,968
BODY HARNESS FASTENING MEANS
Edgar W. J. Basham, Edward J. Gratrex, Robert F. Harland, and Dennis F. Mankell, all of Yeovil, Somerset, England, assignors to Normalair, Ltd., Yeovil, England, a corporation of Great Britain
Filed Nov. 27, 1959, Ser. No. 855,620
Claims priority, application Great Britain Dec. 2, 1958
7 Claims. (Cl. 61—70)



1. A body harness fastener and releasing means for use with additional apparatus in combination with ballast weight retaining and releasing means, comprising a back plate and a front plate forming a housing having a series of apertures disposed around the periphery thereof and adapted to receive a plurality of buckles, each buckle attached to a strap of said harness, a fixed spider plate within said housing having depending therefrom a series of radially disposed spring fingers, each finger arranged adjacent said apertures and actuated simultaneously by rotation of a first rotatable cam member disposed within said housing, holes provided in said front plate of said housing to receive projections provided with slots carried by a ballast pouch containing said ballast weights, said ballast pouch being retained or released by rotation of a second rotatable cam member disposed adjacent said front plate and adapted to engage said slots of said projections in the retained position.

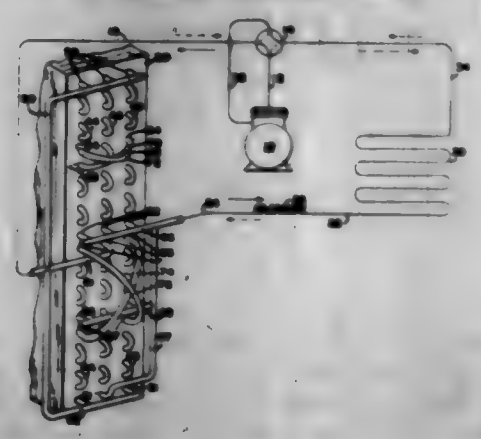
3,142,969
REFRIGERATION CONTROL SYSTEM
Frederick L. Stoller, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 13, 1962, Ser. No. 236,789
9 Claims. (Cl. 62—58)



1. A method for controlling the cooling power of a refrigerant which is utilized to cool a fluid which is passed in indirect heat exchange with at least a portion of the liquid refrigerant in a refrigerant zone, comprising withdrawing refrigerant vapor from said refrigerant zone, compressing the thus withdrawn refrigerant vapor, condensing a first portion of the thus compressed refrigerant vapor, introducing the resulting condensed refrigerant vapor into said refrigerant zone responsive to the level of liquid refrigerant in said refrigerant zone to maintain said level substantially constant, introducing a second portion of

said compressed refrigerant vapor into said refrigerant zone, and controlling the rate of withdrawal of refrigerant vapor from said refrigerant zone and the rate of introduction of said second portion of compressed refrigerant vapor into said refrigerant zone in an opposite manner responsive to the pressure in said refrigerant zone.

3,142,970
COIL APPARATUS
Harry T. Hale, Bridgeport, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,490
11 Claims. (Cl. 62—324)



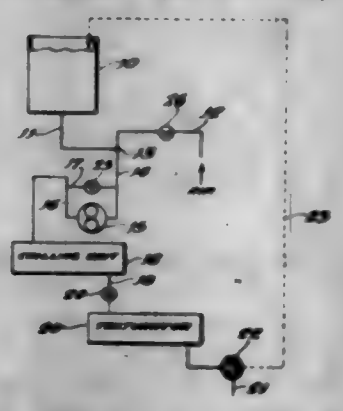
6. In coil apparatus for use in a reversible refrigeration system including reversing means having a refrigerant gas line leading therefrom and expansion means having a refrigerant liquid line leading therefrom, the combination of

(1) first and second substantially vertically disposed rows of heat exchange tubing, each having a first opening in the lowermost portion thereof adapted to communicate with the refrigerant system gas line,

(2) first conduit means connecting a first part including said first opening of each of said first and second rows in series flow relationship with a second part of the opposite second and first rows respectively, and

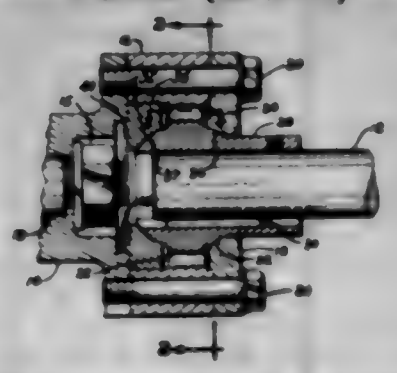
(3) a second opening in the lowermost portion of each of said second parts adapted to communicate said first and second rows with the refrigerant system liquid line.

3,142,971
METHOD AND APPARATUS FOR EMULSIFYING AND TEXTURATING FATS
Perry W. Morgan, Jr., New Orleans, La., and Harvey D. Royce, deceased, late of New Orleans, La., by Marjorie Baker Royce, executrix, New Orleans, La., assignors to Hunt Food and Industries, Inc., a corporation of Delaware
Filed Mar. 28, 1961, Ser. No. 100,779
4 Claims. (Cl. 62—342)



2. Laboratory apparatus for emulsifying and texturating fats comprising a cabinet having a lower enclosed portion, and providing an upper work surface, a back enclosure projecting above said work surface and communicating with said lower enclosure, a jacketed chilling unit and a texturator mounted on said work surface, means including a flow control valve connecting the outlet of said chilling unit with the inlet of said texturator, said chilling unit and said texturator each having a rotor shaft extending rearwardly through the wall of said back enclosure, drive means located in said lower enclosed portion and extending upwardly into said back enclosure for driving said rotor shafts, a refrigerating unit located in said lower enclosed portion, means connecting said refrigerating unit with the jacket of said chilling unit, a feed bowl located above said work surface, emulsifying means having an inlet connected with said feed bowl and an outlet connecting with said chilling unit, gas supply means communicating with said inlet, said emulsifying means comprising a positive displacement pump having a capacity in excess of twice the capacity of the system comprising said chilling unit, said flow control valve, and said texturator, by-pass means connecting said inlet and said outlet, and a regulating valve disposed in said by-pass means to regulate the pressure of the emulsion passing through said chilling unit.

3,142,972
MISALIGNMENT COUPLING
David C. Spaulding, Jr., Toledo, Ohio, assignor to The Bunting Brass and Bronze Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 10, 1962, Ser. No. 222,530
1 Claim. (Cl. 64—7)



In a misalignment coupling for connecting a driving and driven shaft for transmission of torque and thrust from the driving shaft to the driven shaft, the combination of:

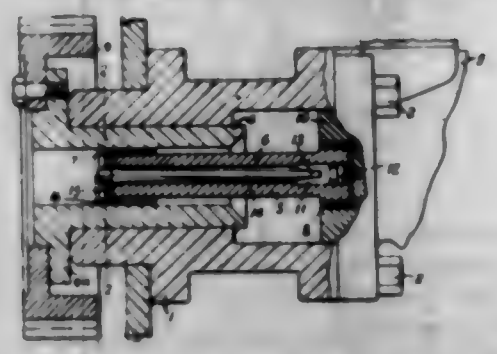
(A) a hub fastened to one of said shafts and having
  (1) a spherical body and
  (2) a series of engaging teeth projecting radially outwardly from the periphery of said spherical body,
    (*a*) said teeth having spherically formed crown portions and spherically convex flanks to accommodate rocking movement of the coupling,
    (*b*) the center of curvature of said crown portions of said teeth lying at the center of said spherical body,

(B) an outer coupling member surrounding said hub and including
  (1) a driving member fastened to the other of said shafts,
  (2) a sleeve member having internal teeth in mesh with the teeth of said hub,
    (*a*) said internal teeth having straight crowns,
  (3) a freely mounted thrust pad between said hub and said driving member at one side of said hub teeth,
    (*a*) said thrust pad abutting said driving member and freely mounted for rotation with respect to both said driving member and said hub,
    (*b*) said thrust pad having a diameter larger than the distance across the diametrically opposed internal teeth,

(4) a second thrust pad in engagement with the spherical body of said hub on the side of said hub teeth opposite said freely mounted thrust pad, and

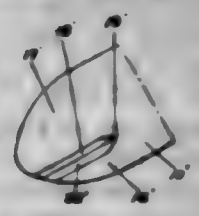
(C) peripherally-spaced, axially-extending means to hold together said driving member, said sleeve member and said second thrust pad of said outer coupling member in assembled relation around said hub.

3,142,973
DRIVING SHAFTS
Fraser Mackie Evans, Ickenham, Middlesex, and Kenneth Albert Walters Kemp, Ealing, Middlesex, England, assignors to C.A.V. Limited, London, England
Filed May 31, 1962, Ser. No. 199,160
Claims priority, application Great Britain June 1, 1961
1 Claim. (Cl. 64—27)



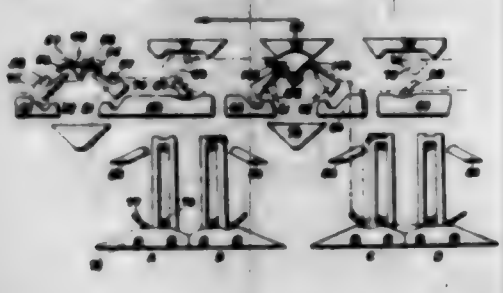
Means for transmitting rotation from an internally splined hollow driving member to an internally splined hollow driven member, and comprising in combination a hollow shaft which is provided externally at one end with parts for slidable engagement with the internal splined portion of the driving member, and at the opposite end with parts for slidable engagement with the internal splined portion of the driven member, a torsion bar disposed throughout the greater part of the length within said hollow shaft, a toothed member which is rigidly united with an end portion of said torsion bar and which extends from the first mentioned end of said hollow shaft, and which is engageable with the internal splined portion of the driving member, a plug member accommodated with said hollow shaft and in driving engagement at one end with said driven member, a recess formed in the opposite end of said plug member, said recess having a cross section complementary to the cross section of the other end portion of the torsion bar and with which it is angularly misaligned prior to the engagement of the driven member and shaft, said recess also having a flared entrance portion, whereby upon axial movement of the internal spline portion of the driven member and plug member with respect to the external parts on the end of said hollow shaft and said torsion bar during assembly, said other end of the torsion bar will be guided by the flared portion into the recess thereby stressing the torsion bar.

3,142,974
METHOD OF KNITTING HOSIERY
Oscar Fregeolle, Lincoln, R.I., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Apr. 9, 1959, Ser. No. 805,336
4 Claims. (Cl. 66—48)



1. A method of knitting a toe of a circularly knitted article of hosiery on a circular, independent needle knitting machine having needles, a relatively rotatable and reciprocable needle cylinder and cam means which comprises the steps of rendering inactive a segment of needles at the instep side greater than half the total number of needles, reciprocating the remaining needles through said cam means while feeding yarn to them and progressively retiring end needles from action to knit a narrowed tab, then shogging said cylinder and needles substantially 180°, rendering inactive those needles on which the sole tab has been knitted and reciprocating the opposite segment of needles through said cam means while similarly retiring end needles to knit a second narrowed tab at the instep side of greater extent and size than the sole tab.

3,142,975
KNITTING MACHINE AND METHOD
Oscar Fregeolle, Lincoln, R.I., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Dec. 27, 1960, Ser. No. 78,719
7 Claims. (Cl. 66—48)



1. A method of knitting a toe of a circularly knitted article of hosiery on a circular, independent needle, knitting machine having needles, a relatively rotatable and reciprocable needle cylinder, cam means fixedly mounted with respect to each other and at equal levels and yarn feeding means at each of two feeding stations, which comprises the steps of dividing the needles into an instep group and a sole group, causing one of said groups of needles to take yarn and knit at the cam means of one of said stations and progressively retiring terminal needles alternately from each side of said one group from action to knot a narrowed tab, and simultaneously causing the other of said groups of needles to take yarn and knit at the cam means of the other of said stations and progressively retiring terminal needles alternately from each side of said group from action to knit a second narrowed tab opposite the first automatically returning all of said retired needles into a knitting track, and then knitting a plurality of loopers rounds with all of the needles of said knitting machine.

3,142,976
AUTOMATIC WASHING MACHINE WITH IMPROVED CYCLE SELECTION MEANS
Lawrence R. Collins and Reuer S. Faidy, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed May 22, 1963, Ser. No. 282,463
4 Claims. (Cl. 68—12)

1. In a washing machine having a plurality of different selectable washing sequences including a wash step, a rinse step, and a liquid extraction step:

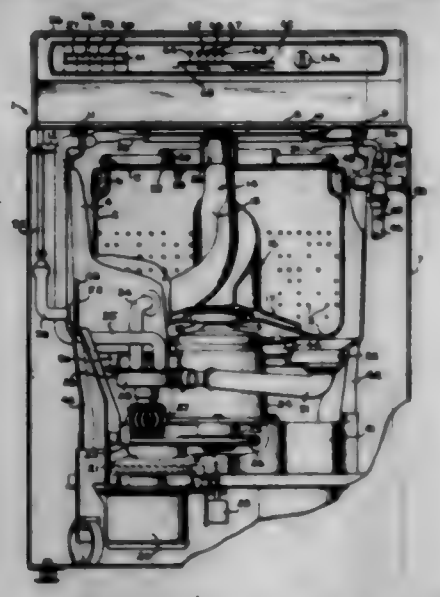
(*a*) first manual means operable to a plurality of positions corresponding to the plurality of different washing sequences;

(*b*) first switch means having a plurality of positions and controlling at least one function of said machine to provide said plurality of different washing sequences, said first manual means in each position providing one of said switch means positions;

(*c*) electrically controlled means for effecting said steps;

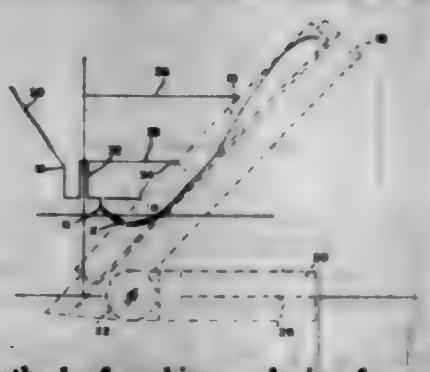
(*d*) timer motor means;

(*e*) second switch means for controlling operation of said electrically controlled means and said timer motor means to provide a wash step followed by rinse and extraction steps of predetermined duration and then termination of operation of said machine, said timer motor means operating said second switch means to provide said steps and said termination;
(*f*) a dial;
(*g*) first indicating means showing on said dial which point in a sequence of steps has been reached;



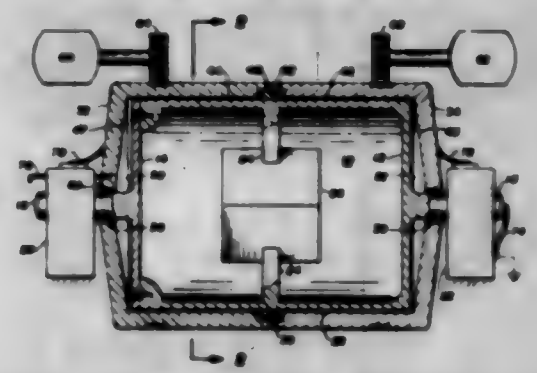
(*h*) second manual means for setting said first indicating means to select a point at which a sequence of steps begins;
(*i*) and second indicating means showing on said dial a plurality of different points in said wash step at which said first indicating means may be set, said second indicating means being controlled by said first manual means to indicate one of said plurality of points in said wash step for each selected one of said plurality of washing sequences.

3,142,977
METHOD FOR READING OSCILLOGRAPH TRACE
Robert G. Hoey, 1353 W. Kildare, Lancaster, Calif.
Filed May 6, 1960, Ser. No. 27,456
2 Claims. (Cl. 73—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



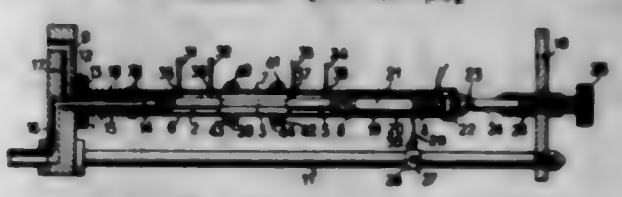
1. The method of making a device for point reading of specific oscillograph trace recording of in-flight aileron flutter, said method comprising, making a series of ground runs at different positions of said aileron and transferring the aileron deflection readings for each aileron position to a calibration card, determining an on-the-ground calibrate step and an in-flight calibrate step by introducing an identical known resistance into an on-the-ground run and the in-flight test run for a short interval and determining the aileron deflection in each case to become the calibrate step in each case, aligning the ground calibrate step with the in-flight calibrate step by obtaining coincidence of their lower points and rotating the card about these lower points as a center until the ground calibrate step has become the hypotenuse of a right triangle one of whose legs is the in-flight calibrate step, adjusting arm elements to incorporate the angles so determined, thus producing a point-reading device effective for reading all points on the individual trace for which it was made.

3,142,978
MOTION TRANSMITTING APPARATUS
Donald L. Klass, Barrington, Ill., assignor to Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Jan. 8, 1962, Ser. No. 164,859
12 Claims. (Cl. 73—12)



1. An apparatus of the character described comprising:
(*a*) a rotatably supported hollow drum provided with first and second electric field fluid responsive coupling surfaces which are surfaces of revolution;
(*b*) means within said drum for supporting material to be operated upon;
(*c*) first and second electric field responsive fluid coupling members rotatably supported in co-axial relation with said drum and having surfaces of revolution spaced from said first and second coupling surfaces, respectively, said drum, first coupling member and second coupling member cooperating to form two electric field-responsive fluid couplings;
(*d*) means for rotating at least one coupling member;
(*e*) and automatic means for alternately electrically energizing one coupling substantially instantaneously upon de-energizing the other coupling.

3,142,979
APPARATUSES FOR MEASURING THE COEFFICIENT OF THERMAL CONDUCTIVITY OF SOLID MATERIALS
Paul Cogez, Montrouge, Jacques Humbert, Vitry-sur-Seine, and Claude Gewiss, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 6, 1960, Ser. No. 20,647
Claims priority, application France Apr. 15, 1959
7 Claims. (Cl. 73—15)



1. In an apparatus for measuring the thermal conductivity of a solid material sample by the steady heat flow method, a thermal chain comprising a hot witness, said sample and a cold witness, means for circulating a longitudinal heat flow through the chain, a continuous protection screen surrounding said chain, said screen comprising three separable parts each of said parts surrounding one of said witnesses and said sample, said parts surrounding said witnesses and said witnesses being of the same material, said parts surrounding said sample having a thermal conductivity not exceeding and approximating that of said sample, means for maintaining in said screen the same temperature gradient as in said thermal chain; resilient means for absorbing thermal expansion and length

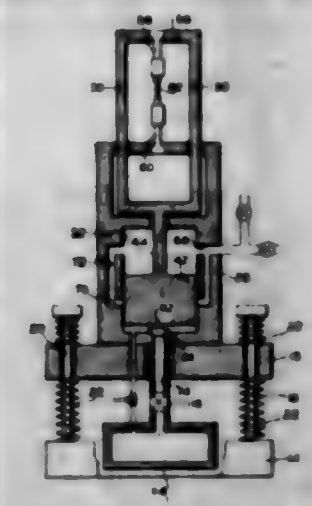
tolerances of said chain; means for measuring the temperature differential between points longitudinally spaced along said thermal chain; means for centering said thermal chain; and insulating means for preventing heat flow from the end of said hot witness away from said sample.

3,142,980

FAST ACTING TENSILE TESTER

Axel G. H. Anderson, Wayland, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed July 2, 1962, Ser. No. 207,132
6 Claims. (Cl. 73—97)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A tensile testing machine including a stanchion provided with a cylinder having a power cavity and a pair of arms extending vertically upward from said cylinder, a block for closing the bottom end of said cavity, a wall closing the top end of said cavity, a shaft extending through a mating hole in said wall, a piston fixedly mounted on the lower end of said shaft in said cavity for vertical reciprocation therein, a yoke mounted for vertical displacement in said stanchion between said arms so as to be slidingly supported thereby, said yoke being connected to said shaft for reciproctaion by said piston, a bore extending through said block into communication with said cavity, a valve seat located at the mouth of said bore in said cavity, a valve assembly mounted in the lower section of said shaft for displacement within said piston into contact with said valve seat to block communication between said bore and said cavity, a lower platen integrally formed between said arms, an upper platen carried by said yoke, a pair of work transducers respectively mounted on said lower platen and said upper platen for securely gripping a specimen therebetween, a pneumatic system including a high pressure piping system for delivering high pressure gas to said bore to energize said piston for rupturing the specimen when said valve assembly is unseated from said valve seat, means in said pneumatic system for initially displacing said piston to unseat said valve assembly, and means for damping the surplus energy in said piston and yoke by oscillation thereof between two air cushions respectively formed in said cavity above and below said piston.

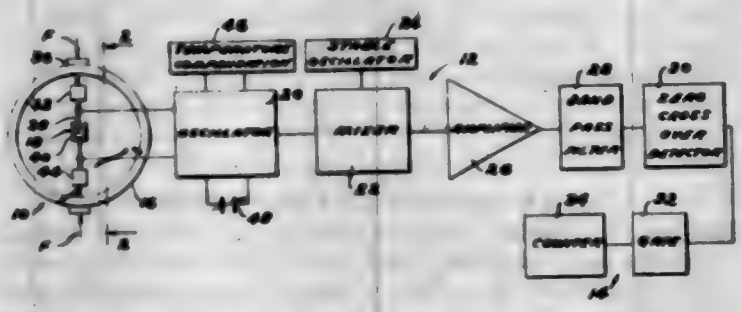
3,142,981

DIGITAL FORCE TRANSDUCER

William B. Gross, Oak Park, Mich., assignor to Performance Measurements Company, Detroit, Mich., a corporation of Michigan

Filed Nov. 22, 1960, Ser. No. 71,015
5 Claims. (Cl. 73—141)

1. Apparatus for measuring the magnitude of a force applied thereto comprising a load ring, means for applying a radially directed force to the load ring for deforming the load ring in accordance with the magnitude of the force applied thereto, a condenser including a single plate movable between a pair of parallel plates, insulating means connecting the condenser to the load ring between the points of application of the force thereto for producing relative movement between the plates on deflection of the load ring, a variable frequency oscillator having a tank circuit means of the variable frequency oscillator whereby the frequency of the oscillator varies in accordance with the movement of the plates of the capacitor due to the deformation of the load ring, a stable oscillator for producing a fixed frequency electrical signal, a mixer connected to receive the output signals of the oscillators for mixing the electrical signals from the stable oscillator and from the variable frequency oscillator to provide a difference frequency output signal the frequency of which is dependent on the force applied to the load ring, a band past filter tuned to pass the difference frequency output of the mixer, connected to receive the mixer output, a zero cross-over detector including a grounded diode for providing a unidirectional electrical signal at a frequency equal to the difference frequency connected to receive the output of the filter, a grounded emitter trigger pulse transistor the base of which is connected to receive the unidirectional electrical signal through a resistor, a source of electrical energy connected to the collector of the transistor and means for biasing the transistor to cut-off except when the unidirectional electric signal applied to the base thereof reaches a predetermined value to saturate the transistor and produce a square wave trigger pulse, a multi-vibrator having an output of oppositely going square waves triggered by the trigger pulse transistor output and an output circuit connected to the double output of the mutli-vibrator including a pair of transistors having collectors connected together and to a source of electrical potential through a resistor, grounded emitters and bases connected respectively to the square waves output of the multi-vibrator through a resistor and connected together through a center tapped resistor and means connected to the center tap of the center tapped resistor for biasing the last two mentioned transistors to cut-off except when both multi-vibrator outputs are at a substantially zero voltage during change of state thereof whereby a plurality of digital signals proportional in number to the difference frequency are produced at the collector of the last two mentioned transistors, and a gate circuit and counter connected in series to the output of the last two transistors for counting the number of pulses produced in a predetermined period of time as a measure of the magnitude of the force.



3,142,982

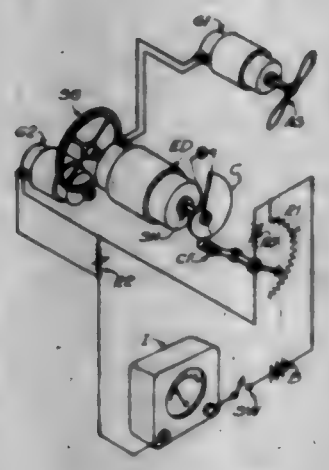
TAKE-OFF MONITOR

Harold Asaph Ferris, St. Lambert, Quebec, Canada, assignor to Canadian Marconi Company, Montreal, Quebec, Canada

Filed July 30, 1954, Ser. No. 446,703
Claims priority, application Canada Sept. 23, 1953
7 Claims. (Cl. 73—178)

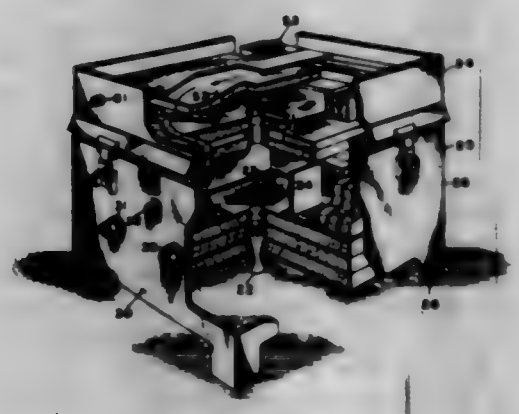
3. Apparatus aboard an aircraft for monitoring the performance of said aircraft during the take-off run comprising in combination, an airspeed responsive system arranged to provide a response which is a predetermined function of the forward airspeed only of said aircraft, an acceleration responsive system arranged to provide

a response which is a predetermined function of the acceleration of said aircraft in the horizontal plane in the forward direction only, response summation means to which are applied said airspeed response and said acceleration response, and indicating means responsive to said summation means and adapted to indicate when the response of said summation means is less than a predetermined minimum.



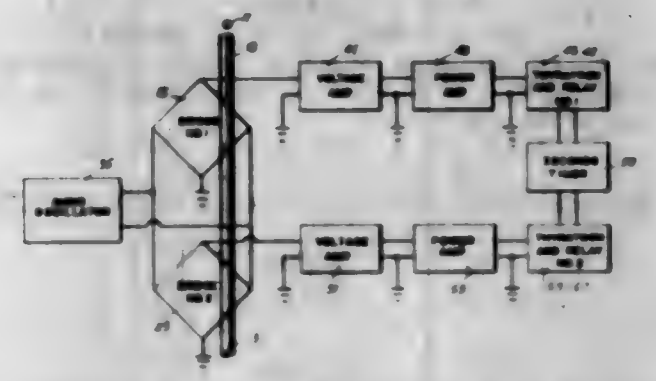
3,142,983
HEAT TRANSFER TEST DEVICE
Hudson L. Dudley, Herndon, Henry F. Saelling, Woodbridge, and Alvin M. Maher, Jr., McLean, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Aug. 29, 1960, Ser. No. 52,533
13 Claims. (Cl. 73—190)





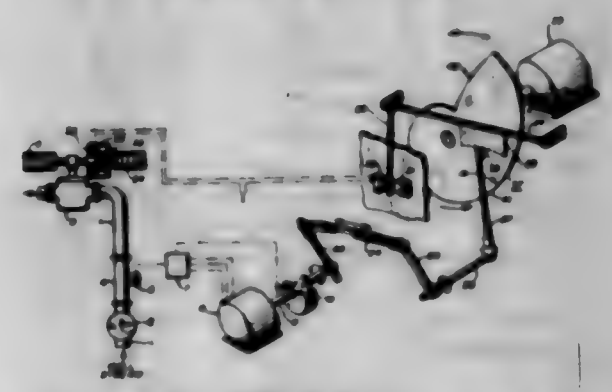
7. A heating transfer test apparatus to aid in determining the amount of gas flow and the temperature of said gas necessary to cool a device subjected in operation to known heating environments comprising a heat insulating housing, said housing including interiorly thereof a chamber for enclosing the device, said chamber having an exterior surface, means for heating all of said surface and supplying sufficient heat to the interior of said chamber to maintain a predetermined heat balance within said chamber, said heat balance insulating the interior of said chamber from the exterior thereof, means for supplying gas having a controlled temperature and flow rate to the device in the chamber, and means for measuring temperature within the chamber.

3,142,984
FLOW MEASUREMENT
Raymond G. Harmon, Charleston, and Frederick A. Lery, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 27, 1960, Ser. No. 58,752
6 Claims. (Cl. 73—194)



1. Apparatus for measuring flow rate of a fluid stream comprising, in combination, a magnetic particle adapted to be inserted in said stream and transported with the fluid thereof, a fixed-length section of substantially non-magnetic conduit disposed to conduct said fluid stream therethrough and having a proximal end and a distal end, first means at the proximal end of said fixed-length section to sense the proximal end passage of said magnetic particle and to develop a first signal at the time of said proximal end passage, second means at the distal end of said fixed-length section to sense the distal end passage of said magnetic particle and to develop a second signal at the time of said distal end passage, said first and second signal developing means being separated by a preselected distance along said conduit section according to the fixed length thereof, a thyratron circuit having at least one control grid responsive to said signals and a plate circuit relay having contacts adapted to sequentially initiate and stop electrical timing action and an electrical timer in circuit with said relay adapted to indicate elapsed time between said signals.

3,142,985
NET OIL METER
Donald E. Seaver, Tulsa, Okla., assignor to Instruments, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Nov. 13, 1961, Ser. No. 151,905
4 Claims. (Cl. 73—233)



2. A meter system with which the net oil of well production having high water-oil ratio is manifested, including

a conduit through which the production is passed;

a constant displacement pump in the conduit and moving the production through the conduit at a constant rate;

a positive displacement meter in the conduit recording the total volume of liquids of the production;

a capacitance unit mounted in the conduit to respond to the dielectric constant of the liquids of the production as a primary element;

an electro-mechanical system responsive to the primary element, and including,

(*a*) a crystal-controlled vacuum-tube oscillator circuit having a plate circuit tuned at a predetermined minimum load resonance of the crystal,

(*b*) an input circuit including the primary element capacitance unit,

(*c*) a coupling transformer linking the plate circuit and input circuit together and tuned to permit maximum current to pass in the plate circuit at a predetermined high value of dielectric constant of the liquids through the primary element,

(*d*) a mechanically adjustable capacitance unit included in the input circuit which is adjusted to return the plate current to a predetermined value,

(*e*) and a motor responsive to the plate current and mechanically linked to the adjustable capacitor to return the plate current to the predetermined value;

a linkage-cam-electric circuit system for transducing the motor positions into electric pulses whose cumulative length have a ratio to the total time the positive displacement meter is actuated which is equal to the ratio of the water to oil in the liquids to which the capacitance unit primary element responds;

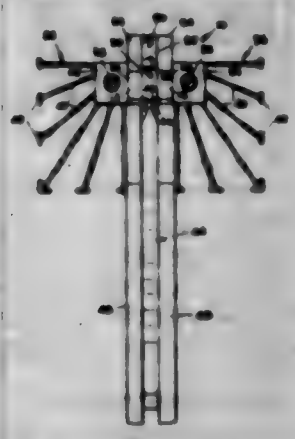
and a water register coupled to the positive displacement meter by the transducing circuit electric pulses so as to cumulate the total water passed through the meter, whereby the water register reading may be subtracted from the total volume register of the positive displacement meter to ascertain the net oil passed through the conduit during a predetermined period.

3,142,986

THERMOELECTRIC DEW POINT HYGROMETER

Charles Wood, Maplewood, and Arthur E. Meixner, Hackensack, N.J., assignors, by mesne assignments, to Industrial Instruments, Inc., Cedar Grove, N.J., a corporation of New Jersey

Filed May 10, 1963, Ser. No. 279,369
3 Claims. (Cl. 73—336)



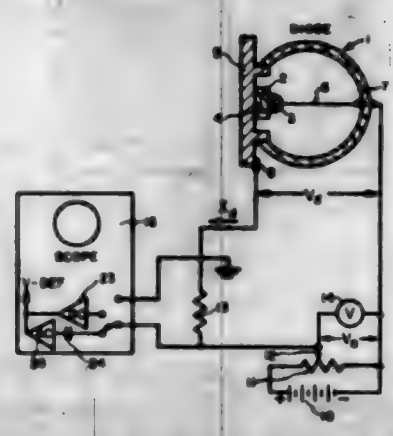
1. In a dew point hygrometer, a thermoelectric module having a metallic body of heat conductive material interposed between and in direct contact with a pair of spaced bodies of thermoelectric materials, said metallic body having a flat mirrored reflecting surface exposed to view and a bore therein close to said mirrored surface for receiving therein a temperature sensing element, and another metallic body of heat conductive material of substantially the same size as said first metallic body and having a flat-mirrored reflecting surface adjacent to and of substantially the same dimensions as and in the same plane with said first flat mirrored surface, means for supporting said two metallic bodies in physically spaced relationship such that said second metallic body is external to the path between said thermoelectric bodies through said first-mentioned metallic body, said second mirrored surface also being exposed to view for enabling a visual comparison between the two flat mirrored surfaces.

3,142,987

SEMICONDUCTOR THERMOMETER

Philip H. Dowling, White Plains, and Michael Poleshuk, Irvington, N.Y., assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 13, 1962, Ser. No. 216,457
14 Claims. (Cl. 73—362)



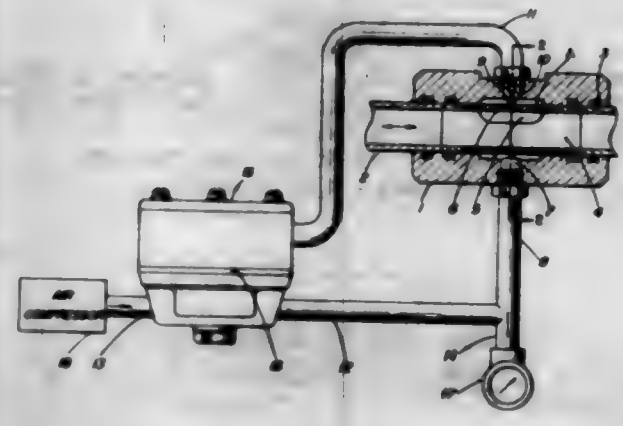
8. A semiconductor thermometer comprising a semiconductor junction, means for applying across the junction a voltage in the reverse direction including means for varying the magnitude of the said voltage, said junction exhibiting the characteristic that at a prescribed reverse voltage value which is a stable function of the junction temperature, pulses of current traverse the junction at current values below that value at which appreciable heating of the junction occurs, and means for determining the voltage at which a preselected quality of the said current pulses is established to thus obtain an accurate indication of the junction temperature.

3,142,988

PRESSURE SENSING APPARATUS

Robert G. Love, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Oct. 10, 1960, Ser. No. 61,491
2 Claims. (Cl. 73—388)

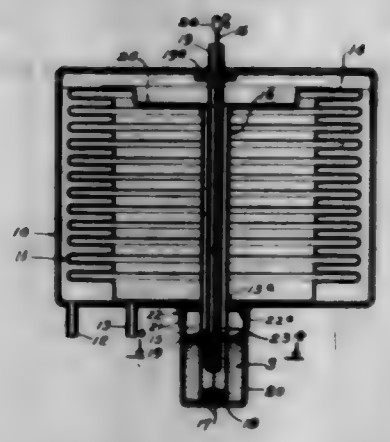


2. Pressure sensing apparatus, comprising in combination: a body member having a bore, a tube in the bore forming a fluid passageway of constant size, said tube having a lateral opening, a resilient sleeve encircling said tube, said sleeve having a resilient diaphragm filling said lateral opening and having an inner surface flush with the inner surface of the tube, means on the body member cooperating with said sleeve to define an annular chamber therebetween, the chamber having spaced ports, and a fluid discharge nozzle in one of said ports extending into said chamber and having an outlet adjacent said diaphragm.

3,142,989
LIQUID SEAL FOR DIFFERENTIAL PRESSURE APPARATUS

Franklin B. Bristol, Sr., Three Mile Hill, Middlebury, Conn.

Filed Apr. 9, 1962, Ser. No. 185,976
8 Claims. (Cl. 73—407)

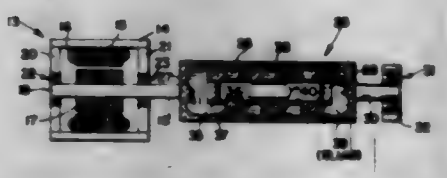


1. In an instrument for measuring and indicating fluid differential pressures, a casing having means for connection with a first source of fluid pressure to be measured, motion transmitting and sealing means comprising a vertical bellows located within said casing and rigidly connected to the bottom thereof, means passing through the bottom of said casing and said bellows for connecting the inside of said bellows with a second source of fluid pressure, a transparent well detachably secured to and extending below the bottom of said casing and containing a sealing liquid, a first movable tube connected at its top to the center of the upper free end portion of said bellows and having its lower end extending into the liquid in said well, a second stationary tube located concentrically within said movable tube and rigidly connected to the top of said casing and having its lower end extending into the liquid in said well, a vertical movable shaft located concentrically within said second tube, and connected to the bottom of said first movable tube and extending out of the top of said casing, and linkage means connected to the top of said shaft for indicating on an exterior scale the vertical movements of said shaft.

3,142,990
ACCELEROMETER

Vernon H. Anke, Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Feb. 27, 1959, Ser. No. 796,147
5 Claims. (Cl. 73—490)

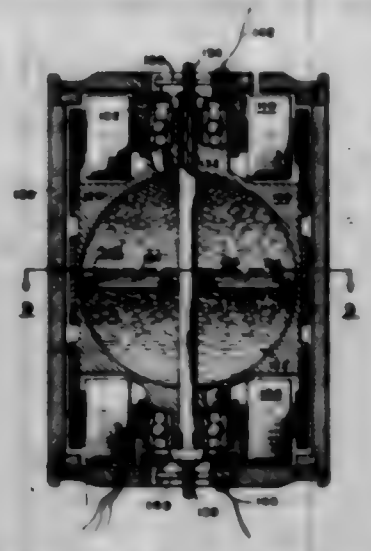


1. A double integrating accelerometer compriaing an internally threaded transparent container rotatably mounted on a support and adapted to contain a fluid; a symmetrically shaped opaque float within said container and adapted to be rotated therewith; means for spinning said container and its contents; optical pickoff means including means for directing a beam of light through said container and a pair of light sensitive signal producing means, said pickoff means sensing relative longitudinal displacement between said container and said float and producing a signal of a sense and magnitude indicative of the sense and magnitude of said displacement; and means connected to said pickoff means and to said spinning means for varying the angular velocity of said container as a function of said signal, said variation in angular velocity causing said threaded container to produce a flow of said fluid of a sense tending to cause relative longitudinal displacement between said container and said float.

3,142,991
FLUID ROTOR SENSOR

Roland Pittman, Grand Rapids, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Aug. 8, 1960, Ser. No. 48,305
20 Claims. (Cl. 73—504)



2. In combination: means forming a closed spherical, rotatable chamber having a spin axis oriented in a predetermined direction; driving means to spin said chamber about said spin axis; a rigid axial support member coaxial with said spin axis and passing through said chamber; an annular motion-detecting disc means, symmertically positioned around said axial support member; first flexible fluid-tight membrane means positioned between the inner edge of said annular disc and said rigid axial member; second flexible fluid-tight membrane means connected between the outer edge of said annular disc and the inner wall of said rotatable chamber; two different liquids positioned on opposite faces of said disc and said membrane members and filling said chamber, one said liquid being heavier than the other said liquid; motion-sensing means extending radially from said axial member and communicating with said disc means whereupon application of acceleration in a plane normal to the said spin axis, after the said chamber is in rotation, establishes an oscillation on the motion detecting disc means relative to said axial member to generate an electrical signal which is a measure of said acceleration.

3,142,992
SHOCK SENSITIVE DEVICES

Melvin H. Smith, Menomonee Falls, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Jan. 4, 1962, Ser. No. 164,364
19 Claims. (Cl. 74—2)

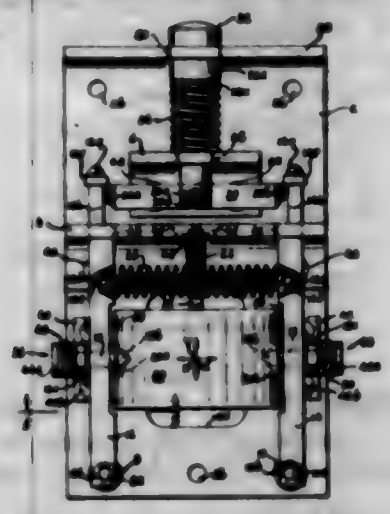
1. In a shock sensitive device operable to release a relatively large amount of mechanical energy when subjected to a shock force from any direction;

(*a*) actuator means movable to actuate an external device,

(*b*) potential energy storing means biasing said actuator means for movement in a direction to actuate the external device,

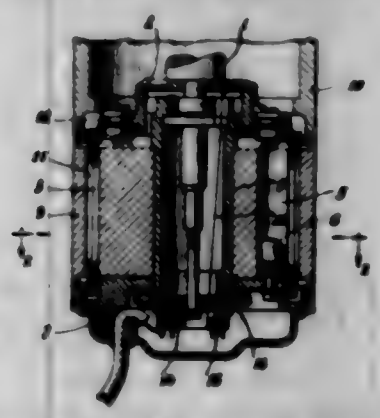
(*c*) and means responsive to a shock from any direction for releasing said actuator means whereby the potential energy of said biasing means is released to

drive said actuator means in said direction, said shock responsive means comprising an inertia member and means for supporting said inertia member for relative movement with respect to said supporting



means sufficient to release said actuator means in response to a shock from any direction and means automatically operating when the shock terminates to restore said inertia member and its said supporting means to their original relative positions.

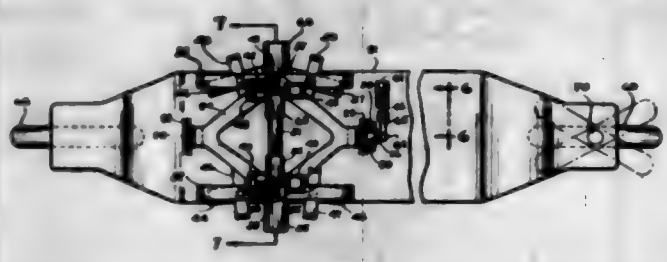
3,142,993
PICKOFF SYSTEM FOR GYROSCOPE CONTROL
Waldemar Möller, 18 Wehnbergstrasse, Uberlingen (Bodensee), Germany
Filed July 13, 1959, Ser. No. 826,719
Claims priority, application Germany July 11, 1958
4 Claims. (Cl. 74—5.6)



1. Gyroscope control apparatus which comprises a stationary magnetic core having a plurality of alternating north and south magnetic poles; non-polarized magnetic shunt means forming a complete cylinder surrounding said core and enclosing an airgap therebetween; a cylindrical coil body mounted for limited rotational movement in said airgap, said cylindrical coil body comprising a plurality of adjacent abutting individual coils, each of said coils forming a portion of the said cylindrical coil body and extending from one end of the said cylindrical coil body to the other; and means for rotating said cylindrical coil body within said airgap in accordance with precession movement of a gyroscope.

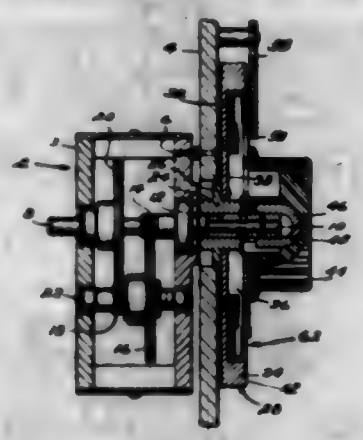
3,142,994
METHOD OF CANCELLING GYRO DRIFT
Martin J. Berlyn, 389 Metcalfe Ave., Montreal, Quebec, Canada
Filed Dec. 21, 1961, Ser. No. 162,314
11 Claims. (Cl. 74—5.34)

1. A stabilizer for a single track vehicle comprising two gyro platforms, frame means for said platforms, said frame means being pivotally mounted relative to the vehicle deck so that it can rock through a small angle relative to the deck about an axis parallel with the roll axis, means resisting pivotal movement of said frame, a single pickoff responding to angular displacement of said frame means relative to said deck, said pickoff generating signals which normally monitor the gyros of both platforms, each platform being capable of stabilizing the vehicle without assistance from the other, each platform



having two contra rotating single degree of freedom gyros with input axes normally parallel with the roll axis of the vehicle, both platforms being pivotally mounted in said frame means, a slewing motor for each platform and capable of slewing it through an angle of substantially 90 degrees about an axis at right angle to the roll axis.

3,142,995
INCREMENTAL DIAL MECHANISM
John W. Forrest, West Acton, Mass., assignor to Acton Laboratories, Inc., Acton, Mass., a corporation of Massachusetts
Filed Feb. 2, 1962, Ser. No. 170,659
13 Claims. (Cl. 74—10.54)



1. A dial mechanism comprising first and second concentric dials rotatable in synchronism with each other and having cooperating scales for establishing and indicating instantaneously the angular position of a given rotatable member relative to a first fixed reference point, and a third concentric incremental dial operatively coupled to one of said first and second dials and having a scale thereon for indicating the angular displacement of the same rotatable member from a second selected reference point.

3,142,996
CAM SHAFT CONSTRUCTION
Karl V. Anderson, Corning, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 1, 1959, Ser. No. 856,420
8 Claims. (Cl. 74—54)

1. A cam assembly for mounting within a frame comprising:

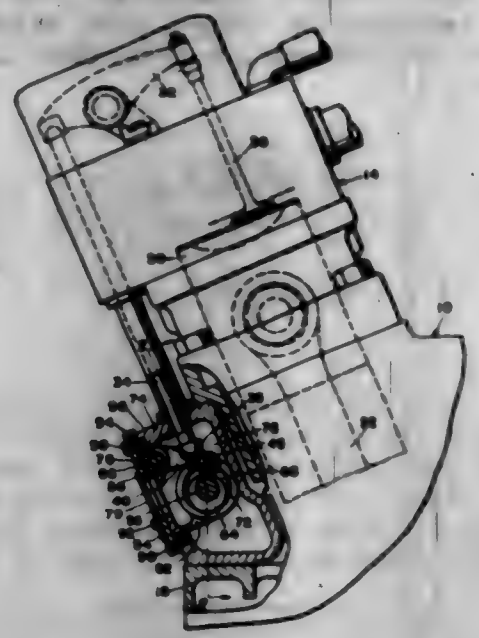
(*a*) a shaft including shaft sections and a cam section,

(1) said cam section having at least one cam thereon,

(*b*) means connecting said cam section to said shaft sections,

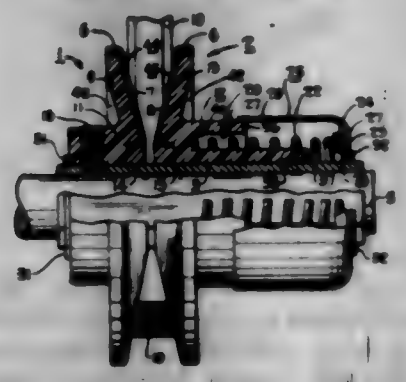
(*c*) cover plate support means removably connected to the outside of said frame rotatably supporting said cam section within said frame and aligning said cam section with said shaft sections, and

(*d*) a cam follower pivotably connected to said cover plate support means and operatively cooperating with said cam,



(1) said cover plate support means, cam section and cam follower being removable as a unit from said frame.

3,142,997
MOLDED PLASTIC PULLEY WITH HEAT CONDUCTING METAL LINING
John F. Reenga, 3417 Fairfax Road, Cleveland Heights, Ohio
Filed Nov. 27, 1961, Ser. No. 155,635
4 Claims. (Cl. 74—230.17)



1. In a variable diameter sheave assembly for use in power transmission by a flexible V-belt,

a pair of companion drive members for receiving between them and engaging the opposite sides of a V-belt,

each drive member comprising hub means and radial disc means, said assembly including means for mounting said members on a shaft with their disc means confronting for rotation in unison about a common axis and for relative axial movement toward and away from one another in changing the effective diameter at which a given belt is engaged by the assembly,

at least one of said members comprising a one piece molded plastic body in which the disc means thereof projects radially outwardly from the hub means and has an outer periphery concentric to said axis,

a liner of sheet metal having high heat conductivity relative to the plastic body on and wholly supported by the latter,

said liner having an outer periphery at the periphery of the disc means and an inner periphery comprising flange means including elements lying along lines which are oblique to and intersect said axis,

said oblique elements of the inner periphery having a mechanical interlock with the plastic body securing the liner to the plastic body and preventing axial separation,

said liner having a conical friction surface disposed in spaced confronting relation to the companion drive member for direct engagement by a belt received between the members,

and the radial extent of the liner surface being several times greater than the radial extent of the area of engagement between the liner and a belt engaged between the drive members for radial transmission by conductivity and dissipation of heat generated at the liner surface by said engagement.

3,142,998
REVERSIBLE DRIVE TRANSMISSION
Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 20, 1961, Ser. No. 96,925
8 Claims. (Cl. 74—424.8)



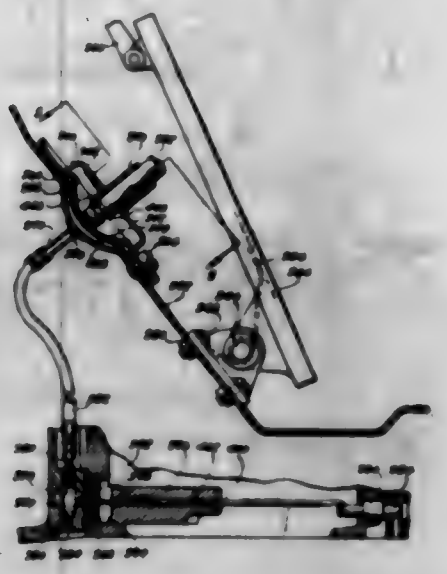
1. A lift assembly for use in raising or lowering the top of a convertible automobile or similar device comprising a feed screw and a feed nut extensible link including a hollow sleeve pivoted to the top at one end, a feed nut secured in the other end of the hollow sleeve and a feed screw engaged with the feed nut, a two-part pivotally mounted housing having a chamber therein, one part of the housing having an opening therethrough through which one end of the feed screw extends into said chamber, a bearing plate within the chamber opposite the opening and bearing means operable between the bearing plate and the end of the feed screw within the housing, a bearing and a feed screw driving worm gear sleeve over the feed screw and positioned within the chamber, a nut threadedly engaged with the end of the feed screw for vertically positioning the worm gear and gearing in the chamber, means securing said one part of the housing to the other part thereof to positively locate the worm gear in conjunction with the nut, a worm in mesh with said worm gear in said chamber one end of which is freely rotatably supported and the other end of which is supported for rotation in a friction bushing whereby the worm may be driven in only one direction on application of an axial force to the extensible link and means connected to the worm for positively driving the worm in opposite directions.

3,142,999

DOWNSHIFT CONTROL MECHANISM

John J. Searles, Garden City, and William D. Ross, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Sept. 22, 1961, Ser. No. 140,113
1 Claim. (Cl. 74—472)



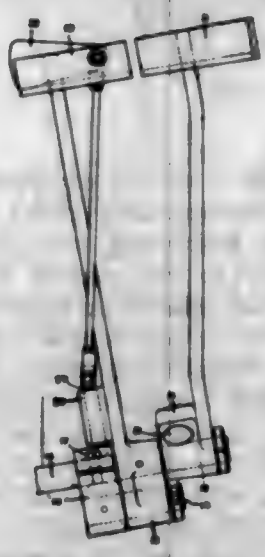
In a multiple speed power transmission mechanism for a throttle controlled engine powered vehicle, said transmission mechanism including a housing having two portions with juxtaposed engageable surfaces, gear elements in said housing defining a plurality of torque delivery paths of different torque multiplication ratios, fluid pressure operated servos adapted to control the relative movement of said gear elements, a fluid pressure source, conduit structure interconnecting said pressure source and said servos, control valve means forming a part of said conduit structure for controlling automatically the operation of said servos in sequence during a speed ratio change, a pressure distributor valve means situated in said conduit structure for overruling the operation of said control valve means, a personally operable engine throttle control member, an actuator servo including a first movable wall defining in part a first pressure chamber, means for connecting said first movable wall to said engine throttle control member upon movement of the latter to a position corresponding to a substantially wide open engine throttle setting, a follower servo including a second movable wall defining in part another pressure chamber, said follower servo comprising a recess formed in one housing portion, said second movable wall comprising a flexible diaphragm extending over said recess, the margin of which is secured between said juxtaposed surfaces, a passage connecting said pressure chambers and defining therewith a closed hydrostatic circuit, a one-way check valve means communicating with said circuit for admitting air under atmospheric pressure to said circuit when a negative gauge pressure is established therein and for inhibiting loss of air from said circuit, means for mechanically connecting said second movable wall to a movable portion of said distributor valve means whereby a speed ratio change to a relatively low speed ratio can be accomplished independently of the operation of said control valve means, said engine throttle control member being pivotally mounted on a sheet metal wall, said sheet metal wall being formed with an indentation, said first movable wall comprising a flexible diaphragm extending over said indentation, said means for connecting said first movable wall to said throttle control member including an actuator engaging said diaphragm and adapted to be engaged by said throttle control member, said actuator having an arcuate surface of a curvature mating with the curvature of said indentation to conform said diaphragm to said indentation, and means for clamping the margin of said diaphragm on said sheet metal wall to form said first pressure chamber.

3,143,900

BRAKE SYSTEMS FOR VEHICLES

Alexander John Wilson, Sutton Coldfield, England, assignor to Girling Limited, Birmingham, England, a British company

Filed May 15, 1961, Ser. No. 109,928
Claims priority, application Great Britain May 20, 1960
3 Claims. (Cl. 74—480)



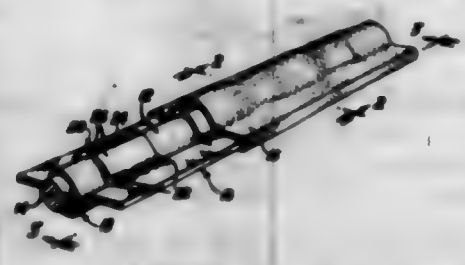
1. Means for applying separately and simultaneously brakes on opposite sides of a vehicle comprising two pedals mounted side-by-side for angular movement about a common axis, drive-operated means for locking the pedals together for simultaneous operation, means coupling one pedal directly to the brakes on one side of the vehicle, means including compensating mechanism coupling the other pedal to the brakes on the other side of the vehicle, and means controlled by said pedal locking mechanism for rendering said compensating mechanism operative when the pedals are locked together.

3,143,601

REMOTE CONTROL APPARATUS

Matthew C. C. Chisholm, Jr., Lower Gwynedd Township, Montgomery County, and Karl H. Schoenaker, Horsham, Pa., assignors to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed June 7, 1961, Ser. No. 115,479
3 Claims. (Cl. 74—501)



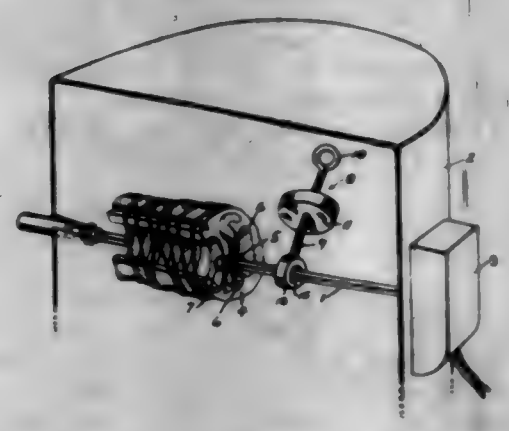
1. A remote control apparatus comprising a flexible strip, a first set of protrusions projecting from one side of said strip and longitudinally spaced therealong to provide transversely continuous supporting surfaces, a second set of protrusions extending from the opposite side of said strip and longitudinally interspaced between said first set of protrusions, said second set of protrusions being longitudinally slotted to provide transversely discontinuous supporting surfaces, said first and second sets of protrusions being longitudinally aligned along the axis of said strip, a flexible tube supported and retained by said first and second set of protrusions, and a control member movably supported within said tube.

3,143,002
PEDAL DEPRESSERS FOR VEHICLE BRAKES
Berthold L. Palmer, 28400 Ryan Road, Warren, Mich.
Filed July 11, 1962, Ser. No. 209,124
1 Claim. (Cl. 74—532)



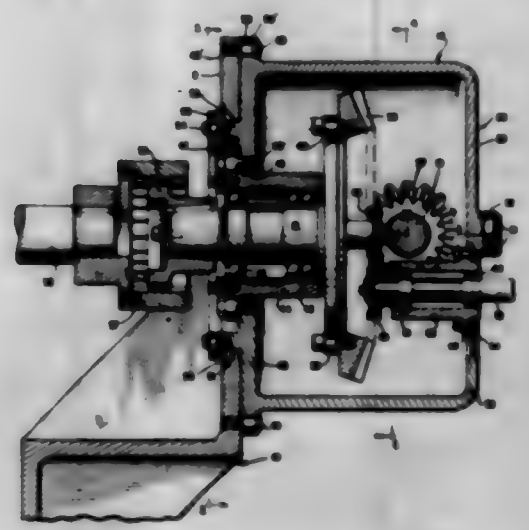
An attachment for a vehicle equipped with a steering column and a brake-operating pedal, said attachment comprising a collar embracing said column, means for clamping said collar to the column at selective levels, a sleeve fixed on said collar in an exterior relation to the collar, a rod slidable in said sleeve and formed at one of its ends with a threaded aperture, a screw threaded in said aperture and having a substantially transverse relation to the rod, means on one end of the screw for applying rotation to the screw, and a foot on the other end of the screw for seating on and depressing said pedal, the rod being slidable and rotatable in the sleeve to accommodate the attachment to various installations of the column and pedal encountered in different vehicles, said clamping means including a coupling forming two relatively transverse lugs, one of said lugs having a slot slidably receiving an end portion of the collar, the other end portion of the collar being inserted in said slot, said clamping means further including a clamping bolt threaded in the other of said lugs to thrust said inserted end portion of the collar against said sliding end portion.

3,143,003
COUNTERBALANCE FOR ROTARY SPIT
Leo J. Schmitt, Antwo, Wis.
Filed Mar. 3, 1961, Ser. No. 93,180
2 Claims. (Cl. 74—573)



1. An adjustable apparatus for counterbalancing an object mounted eccentric of a rotatably driven spit comprising a ring-like retaining member adapted to surround said spit and including a radially aligned threaded opening in one side thereof, a threaded shaft received within said opening having one end adapted to bear against said spit to grip the spit between said end of the shaft and the inner surface of the retaining member, and a weight in threaded engagement upon said shaft and movable longitudinally thereon, whereby the position of the apparatus upon said spit may be varied circumferentially and the weight adjusted radially to provide a balanced load upon said spit.

3,143,004
REVERSIBLE GEAR DRIVE
Lawrence H. Hankin, Jr., Richmond, Va., assignor to The Inta-Roto Machine Company, Inc., Richmond, Va., a corporation of Virginia
Filed Jan. 3, 1963, Ser. No. 164,697
7 Claims. (Cl. 74—665)



1. Reversible gearing for plural rotary instrumentalities whose direction of rotation it is desired to change selectively comprising support plate means having a plurality of spaced pilot openings formed therethrough, a gear case abutting one face of the support plate means adjacent each pilot opening thereof and having a positioning flange engaging within the pilot opening rotatably, an adapter ring engageable with the opposite face of the support plate means and abutting the positioning flange, bolt means interconnecting said adapter ring and positioning flange and adjustable to allow said flange and case to rotate upon the support plate means and to lock the latter in selected rotated positions thereon, a shaft journaled upon each gear case axially of the adapter ring and flange and extending beyond said opposite face of the support plate means and coupled to one of said rotary instrumentalities, a line shaft section journaled upon each gear case substantially at right angles to said shaft and having ends projecting equidistantly beyond opposite sides of said case, a bevel gear on each line shaft section within each case, a coacting bevel gear on said shaft within each case and meshing with the first-named bevel gear, releasable coupling means for the ends of each line shaft section to releasably couple the same to adjacent ends of identical line shaft sections of identical gear cases on said support plate means, and means to turn said coupled line shaft sections in unison.

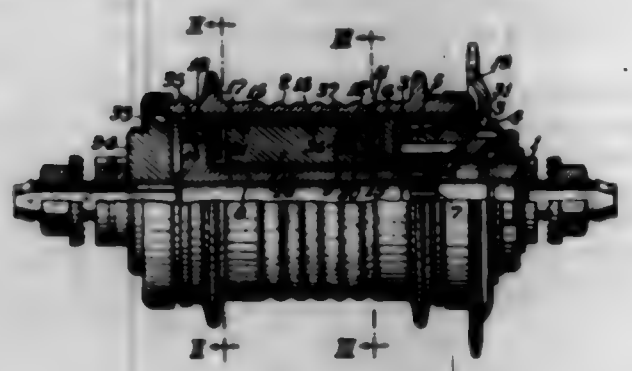
3,143,005
MULTIPLE SPEED HUB WITH AUTOMATICALLY VARYING TRANSMISSION RATIO
Hans Joachim Schwerdhöfer, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed Dec. 12, 1962, Ser. No. 244,073
Claims priority, application Germany Dec. 28, 1961
4 Claims. (Cl. 74—752)

1. A multiple speed hub for a bicycle and like vehicle comprising, in combination:
(*a*) a shaft having an axis;
(*b*) a driver member mounted on said shaft for rotation about the axis thereof;
(*c*) a hub shell mounted on said shaft and rotatable about said axis,
(*d*) multiple ratio transmission means mounted in said hub shell for rotating said hub shell at one of the multiple transmission ratios of said transmission

means responsive to rotation of said driver member, said transmission means including

(1) a plurality of meshingly engaged transmission members, one of said transmission members being connected to said driver member for joint rotation, and

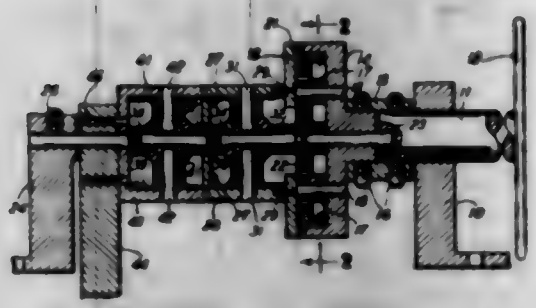
(2) two unidirectional clutch means respectively interposed between two of said transmission members and said hub shell, one of said clutch means being movable between an operative and



an inoperative position, said two transmission members being operatively connected for simultaneous rotation at different speeds; and

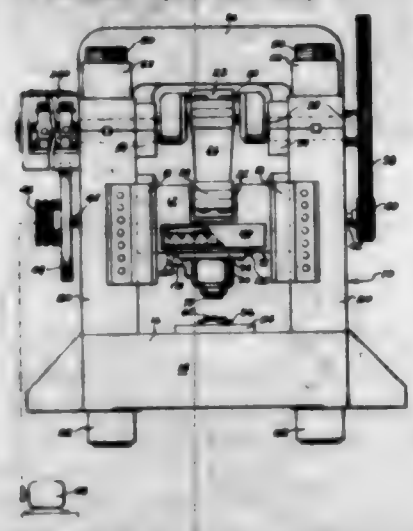
(e) centrifugal governor weight means mounted in said hub shell for rotation therewith and radially movable in said hub shell, said weight means engaging said one unidirectional clutch means for moving the same between said positions thereof when said weight means radially moves in said hub shell.

3,143,006
GEAR TRAIN
Anton Kratochvil, 1418 Washington Ave., Racine, Wis.
Filed Nov. 13, 1962, Ser. No. 237,165
4 Claims. (Cl. 74—797)



1. A gear train for automobile power steering connectable intermediate a steering wheel and steering linkage, comprising a planetary gear set of a ring gear and a sun gear and a planet gear with the latter operatively connectable with said steering wheel, a fixed shaft extending coaxially with said sun gear, two oppositely disposed bevel gears axially mounted on said shaft in spaced-apart relation with one of said bevel gears connected to said sun gear for rotation therewith and the other of said bevel gears being non-rotatably fixed on said shaft, an additional bevel gear, all said bevel gears being in meshed relation and with said additional bevel gear disposed intermediate the other said two bevel gears for orbiting same, means operatively interconnecting said ring gear and said additional bevel gear to synchronize the rotation of said ring gear and the orbital movement of said additional bevel gear, and means for operatively interconnecting said additional bevel gear and said steering linkage.

3,143,007
HYDRAULIC ASSIST FOR PRESS
Earl A. Thompson, 1300 Hilton Road, Ferndale, Mich.
Filed June 30, 1961, Ser. No. 121,215
1 Claim. (Cl. 78—13)



In an automatic press having a main press frame, the combination comprising platens mounted for relative movement on the frame, a main drive shaft mounted for rotation in fixed relation to the frame, a single primary power source connected to rotate the shaft, a motion transfer and conversion linkage operated by the shaft to cause relative opening and closing movement of the platens, a multiple-action die having elements mounted on both platens, some of the elements being movably mounted relative to their respective platen, a closed liquid filled chamber forming a first motion transmitting device between the movably mounted elements for causing reciprocal motion therebetween coordinated with the opening and closing movements of the platens, means on the frame for unloading finished work pieces from the die and loading unfinished work pieces into the die prior to each closing of the platens, a plurality of returned biased shiftable piston type fluid motors connected to operate the loading and unloading means, a plurality of rotary cam operated single acting hydraulic pulsator units, a plurality of liquid columns forming second motion transmitting devices interconnecting the pulsator units and the fluid motors for transferring cam motion therebetween, and a common camshaft means operated by and driven synchronously with the press drive shaft and connected to operate the pulsator units through a predetermined sequence of movements whereby the loading and unloading of work pieces to and from the multiple-action die and the relative motion between the die elements are coordinated with the opening and closing movements of the platens.

3,143,008
PRESS FOR PERFORMING WORK ON METAL WORKPIECES
Arthur W. Payne, Rochester, Mich., assignor to Bundy Tubing Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 23, 1960, Ser. No. 78,033
4 Claims. (Cl. 78—17)

1. A press for performing work on metal workpieces comprising,

a pair of blocks mounted side by side and having spaced apart inner surfaces which face each other and which extend in substantially parallel planes,

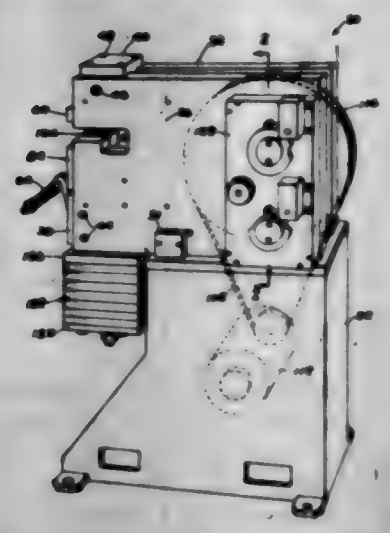
a first pair of substantially axially aligned openings in said blocks which open through said surfaces, and a first crank having shafts journaled in said openings,

a second pair of substantially aligned openings in said blocks which open through said surfaces, and a second crank having shafts journaled in said second openings,

the axes of said cranks being displaced from each other but being substantially parallel,

both of said cranks being rotatable within the space between said surfaces,

a tool carrier operably connected with said first crank, said tool carrier having opposite sides, each of which substantially throughout its extent lies substantially in a single plane, said sides having slidable bearing engagement against said inner surfaces of said blocks,



a pair of work-holding jaws, one of which is fixedly mounted between said inner surfaces of said blocks, said one jaw being positioned to hold work generally in the path of movement of said tool carrier,

the other of said jaws having opposite sides, each of which substantially throughout its extent lies substantially in a single plane, the latter-said sides having slidable bearing engagement with said inner surfaces of said blocks,

means operable responsive to turning of said second crank to reciprocate said other jaw to and from work-holding relation to said fixed jaw, the latter said means being disposed within the space between said surfaces,

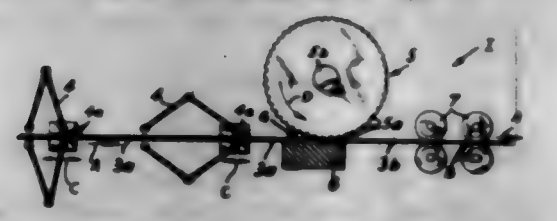
and means operable to turn said cranks substantially in unison.

3,143,809

PROCESS AND APPARATUS FOR DRAWING DEFORMABLE STOCK

Joachim Pfeiffer, Plettenberg-Ohle, Westphalia, Germany

Filed Nov. 21, 1960, Ser. No. 70,631
Claims priority, application Germany Nov. 24, 1959
20 Claims. (Cl. 80—18)



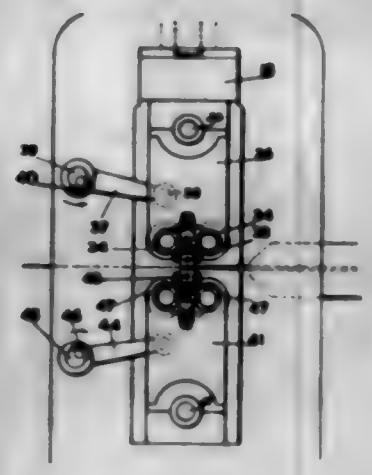
1. A process for drawing deformable elongated stock which comprises the steps of advancing the stock through a drawing gap of diminishing cross-sectional area; subjecting the stock to the action of a succession of compressing forces acting in a direction substantially perpendicular to the direction of stock advance through the gap so that the cross sectional area of the stock is reduced by simultaneous lengthening of the stock at the downstream side of the gap; and simultaneously subjecting the stock to a succession of forces acting in the same direction in which the stock advances through the gap for shifting spaced zones of the stock with respect to the remainder of the stock in a direction toward the downstream side of said gap so that said first mentioned forces may compress the shifted zones into the remainder of the stock in said gap.

3,143,810

METHOD OF AND APPARATUS FOR REDUCING THE THICKNESS OF METAL

Karel Saxl, Sutton Coldfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Sept. 15, 1959, Ser. No. 840,130
Claims priority, application Great Britain Sept. 17, 1958
9 Claims. (Cl. 80—40)



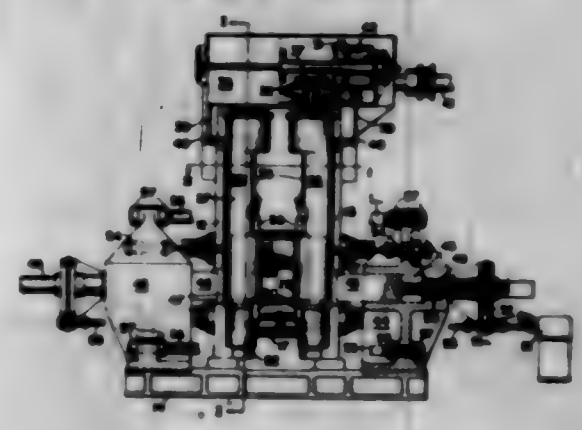
1. Apparatus for reducing the thickness of metal comprising: frame means; a pair of oppositely swingable arms pivotally mounted to said frame means with their free ends adjacent; a pair of work rolls; means freely rotatably mounting one of said work rolls to the free end of one arm and the other of said rolls to the free end of the other arm, said last-mentioned means constituting the sole means carried by said apparatus in engagement with the ends of said rolls; means for mechanically driving the arms to swing the same forwardly and backwardly in synchronism with each other, and means for positively feeding the metal between said rolls.

3,143,811

ROLLING MILL HAVING PIVOTAL ROLL FRAMES

Maurice Paul Sieger, Upper St. Clair Township, Allegheny County, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 24, 1961, Ser. No. 98,112
5 Claims. (Cl. 80—56)



1. A rolling mill comprising,

a pair of cooperating rolls for engaging the two opposite sides of and reducing a workpiece passed therebetween;

separate housings for rotatably supporting each roll;

carrier means for supporting said housings;

pivotal means for connecting at least one of said housings to said carrier means;

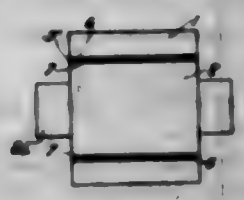
means for driving said rolls; and

means for moving said pivotally connected housing about said pivotal means toward and away from the other housing;

said last-mentioned means comprising

a frame for said pivotally connected housing having a longitudinal opening;
a reciprocable ram received in said opening extending substantially in a direction at right angles to said pivotally connected housing;
a crosshead having a circular recess at one side thereof and mounted on the one end of said ram and movable substantially at right angles relative to said ram;
said pivotally connected housing having a complementary circular projection which is received in said recess of the crosshead so that on the angular movement of said pivotally connected housing about its pivotal means said crosshead will be caused to move relative to said ram;
the mounting portion of said ram being constructed so that a portion of said crosshead is always maintained normal to the axis of the roll of said pivotally connected housing; and
an adjusting screw mounted in said frame and connected to the other end of said ram for reciprocating said ram thereby to pivotally move said pivotally connected housing.

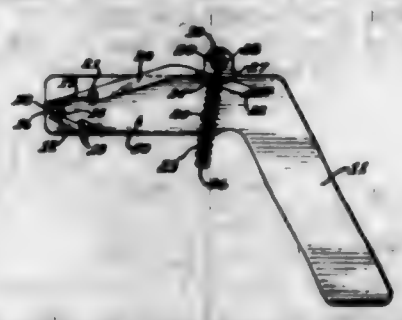
3,143,012
HOOPED ASSEMBLY
Marcel Henri Pierre Deporthes, Firminy, France, assignor to Compagnie des Ateliers et Forges de la Loire St.-Chamond-Firminy-St.-Etienne-Jacob Holtzer, Paris, France, a corporation of France
Filed Dec. 15, 1961, Ser. No. 159,560
Claims priority, application France Dec. 21, 1960
10 Claims. (Cl. 80—58)



1. A hooped assembly including an inner metallic member having an outer surface and an outer metallic member having an inner surface, said inner member having on its outer surface and united thereto at least one layer of a metal having good heat conductive properties, said outer surface and its layer having at their interface a first continuous crystalline union with the crystals of said layer and the crystals of said inner member intermingling with each other and said first crystalline union being substantially free of occluded gas; said outer member having on its inner surface and united thereto at least one other layer of a metal having good heat conductive properties, said inner surface and said other layer having at their interface a second continuous crystalline union with the crystals of said other layer and the crystals of said outer member intermingling with each other and said second crystalline union being substantially free of occluded gas, said layers being in forcible contact with and united to each other and being of such softness that there is formed a third continuous crystalline union at their interface with the metal of the respective layers interpenetrating each other and said third crystalline union being substantially free of gas, whereby there is provided a good heat conducting path between said two members.

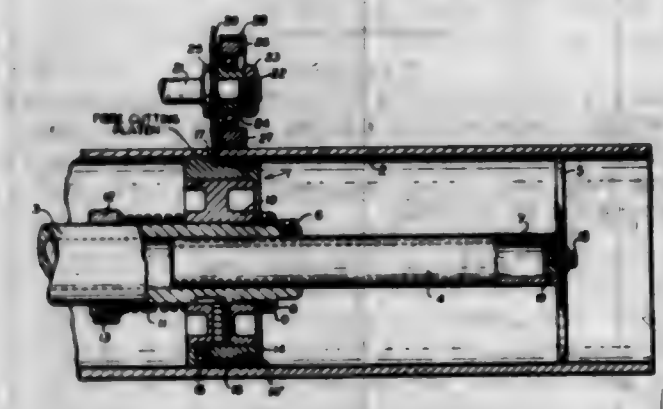
3,143,013
WIRE STRIPPER WITH LONGITUDINALLY OFFSET CUTTING EDGES
Johnee A. Freeman, 3607 W. Alice, Phoenix, Ariz.
Filed Jan. 21, 1963, Ser. No. 252,648
2 Claims. (Cl. 81—9.5)

1. A wire stripper comprising in combination:
(*a*) a frame,
(*b*) a transverse cutting edge fixed on said frame,
(*c*) a transverse movable cutting edge mounted on said frame for movement relative to said fixed cutting edge in a path of travel located to the rear of said fixed cutting edge so as to avoid direct contact between said cutting edges,



(*d*) means between said frame and said movably mounted cutting edge to normally yieldingly urge said movably mounted cutting edge relative to said fixed cutting edge,
(*e*) a grip handle fixed to said frame,
(*f*) and a thumb actuated device associated with said movably mounted cutting edge for moving said movably mounted cutting edge relative to said fixed cutting edge when inserting and stripping a wire between said cutting edges.

3,143,014
CORE CUTTER
Arthur T. Blake, 57 Ilford Ave., North Arlington, N.J.
Filed Aug. 8, 1963, Ser. No. 300,814
2 Claims. (Cl. 82—101)



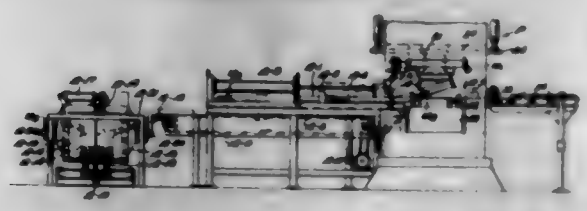
1. A core cutter comprising
a platen assembly including a first hollow shaft and a cutting platen axially sliding thereon and adapted to support a cardboard core,
a second shaft telescopically received by said first shaft,
a core support disk secured to the free end of said second shaft and adapted to provide a second support to said cardboard core at a predetermined axial distance from said platen assembly,
means for releasably attaching said core support disk to said second shaft,
said cutting platen having an annular recess on its outer periphery,
an annular fibre platen mounted on said cutting platen,
a retainer ring securing said fibre platen to said cutting platen,
a rotary cutter,
a shaft carrying said rotary cutter,
a hub mounted on said shaft,
a ball bearing supported by said hub,
a ring member rotatably mounted on said bearing,
at least one cut depth limit roller having an annular cover of a yielding material and engaging the outer face of said cardboard core during operation of said cutter, and
means for axial adjustment of said cutting platen on said first shaft.

3,143,815

SHEET FEEDING, PUNCHING AND DISK STACKING EQUIPMENT FOR THE MANUFACTURE OF WHEEL DISKS OR THE LIKE

Karl Luther, Lathrup Village, and Gordon C. J. Parent, Southgate, Mich., and Walter W. Bulgrin, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 26, 1960, Ser. No. 58,582
7 Claims. (Cl. 83—91)



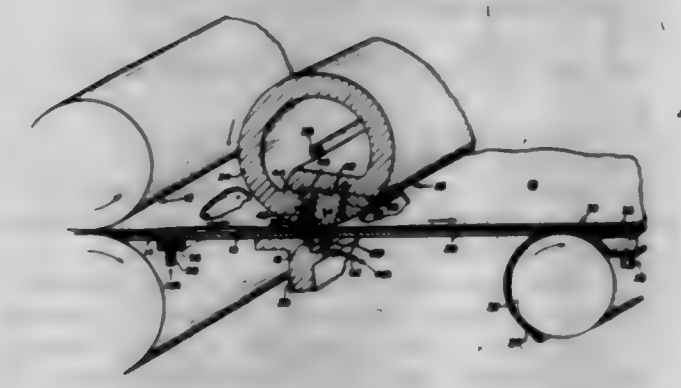
1. Apparatus for continuously punching circular blanks for disk wheels progressively from a succession of plates and stacking said blanks, including a press, an upper female blanking die and a lower male blanking die mounted in said press, means for frictionally retaining a blank in said female die as the die is raised, knockout means for dropping said blank from said female die when said die reaches a predetermined height, a sliding carriage on the discharge side of the press, means for moving said carriage to and from a position below said female die to recieve a blank therefrom, a discharge conveyor below said carriage to receive a blank from said carriage, a discharge chute at the end of said conveyor, a table to receive blanks from said chute, guide gates on opposite sides of said table to cause stacking of successive blanks thereon, and means to raise at least one of said gates to allow discharge of a stack of blanks.

3,143,816

WEBCUTTING MECHANISM WITH FORCED AIR WORK AND PRODUCT TRANSFER MEANS

David Noel Obenshain, Lake, Md., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Dec. 28, 1960, Ser. No. 79,053
4 Claims. (Cl. 83—98)



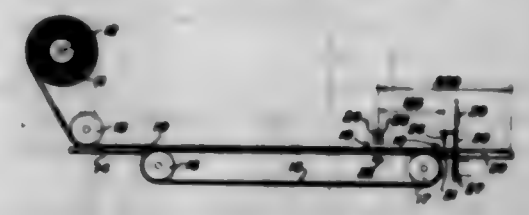
1. In a rotary web cutter including a stationary cutting blade, a rotary cutter drum, a rotary cutting blade carried in fixed position on the drum and cooperating with the stationary blade to form a cutting zone in which a traveling web is severed, feed rolls spaced forwardly from the cutting zone for advancing the traveling web into the cutting zone, a first bridge plate bridging the span between the feed rolls and the cutting zone, and a second bridge plate following the cutting zone, said rotary web cutter characterized by the fact that said first bridge plate has a transversely extending row of upwardly and forwardly inclined air passages through it, and further characterized by the fact that said second bridge plate has a transversely extending row of upwardly and forwardly inclined air passages through it, said air passages in said first and second bridge plates directing air at high velocity between said bridge plates and the traveling web, in severed or unsevered condition, to so reduce the lateral pressure against the lower face of the web that atmospheric pressure above the web forces the web toward the bridge plates.

3,143,817

DEVICE FOR CONTROLLING THE SEVERING OF A STRIP MATERIAL INTO SHEETS

Harvey P. Donnell, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 28, 1960, Ser. No. 45,984
10 Claims. (Cl. 83—211)



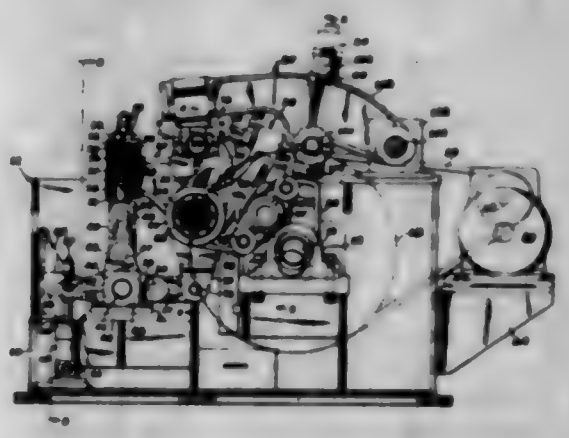
1. In a device for actuating a cutting element to sever a moving strip into discrete sheets, said strip having spaced areas thereon of equal length distinguishable from said strip, the combination comprising a cutting station including a cutter and means for actuating said cutter, a second station spaced from and ahead of said cutting station, means for moving said strip past said second station and said cutting station, means arranged in said second station for deriving a control signal upon simultaneous detection of the trailing edge of one area and the leading edge of the next and successive area, and means responsive to said control signal for initiating said actuating means when the area between the detected areas is located centrally with respect to said cutter.

3,143,818

TUBE CUTTING APPARATUS

Buford R. Everett, Geneva, Ill., assignor to Pines Engineering Co., Inc., Aurora, Ill., a corporation of Illinois

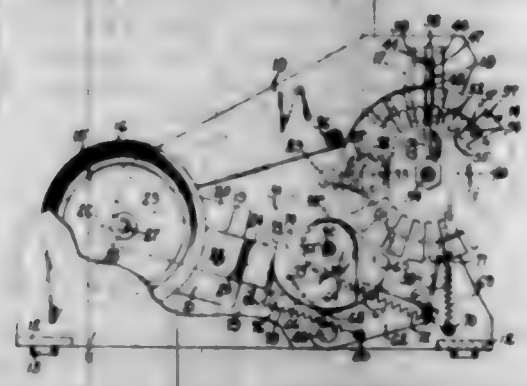
Filed Feb. 20, 1962, Ser. No. 174,488
13 Claims. (Cl. 83—214)



1. A tube severing machine which comprises a clamp having movable clamp dies and adapted to clamp tube stock in a fixed position, means common to both of said clamp dies for moving them in unison into and out of clamping position, means to adjust said moving means to adapt said clamping dies to accommodate tube stock of different diameters, said clamp dies each having a slot extending through it crosswise of the stock, a cutter blade normally disposed on one side of said clamp dies and movable about a fixed axis across the top of said slot and adapted to cut a groove in the stock approximately tangential to the inner diameter thereof, a second cutter blade normally disposed above said clamp dies and movable through an arc and adaptable to completely sever the stock by penetrating it at the point where it is grooved by the first cutter blade, drive means including a crank

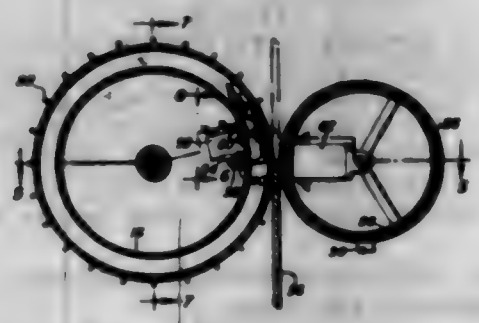
shaft, means connecting said crank shaft to means common to both of said cutter blades for driving the cutter blades in sequence, and means to adjust the cutter blades relative to their mountings to compensate for size reduction resulting from sharpening said blades.

3,143,819
TAPE DISPENSER
Alfred P. Krueger, Southbury, Conn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 27, 1961, Ser. No. 91,838
13 Claims. (Cl. 83—224)



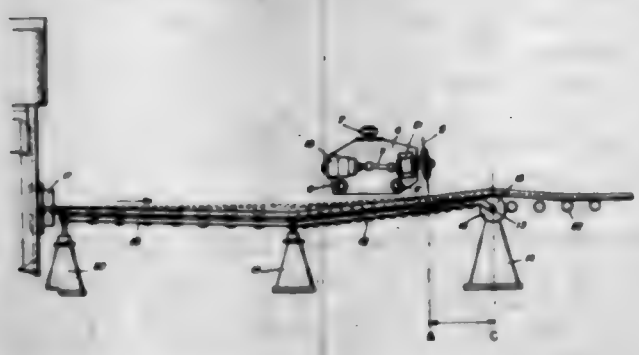
1. A tape dispenser comprising a frame, a supply roll of pressure-sensitive tape mounted therein, said tape being tacky on at least one surface thereof, a rotatably mounted feed roll carried by the frame and to the periphery of which a tacky side of the tape adheres to be drawn from the supply roll when the feed roll is rotated in a tape-feeding direction, means for rotating the feed roll in the last-named direction, the feed roll having a multiplicity of radially directed interruptions in its peripheral surface over a plurality of which interruptions the tape extends as it is advanced, a tape-severing blade supported for radial movement between a retracted position spaced radially outwardly from the periphery of said feed roll to a tape severing position within a registering one of said interruptions, means for moving said blade between said retracted and severing positions, and roll-indexing means adjacent said feed roll and said blade for locking said feed roll against accidental rotation thereof when said blade is in the tape-severing position and for insuring registration of one of said roll-surface interruptions with the blade during movement of the blade from retracted toward tape severing position irrespective of the position to which said feed roll has been moved by said feed roll rotating means.

3,143,820
TOLL COMPUTER ASSEMBLY WITH CUTTER DRUM CLUTCHED TO COMPUTER DRUM BY PRESENCE OF TAPE
Elden E. Ehinger, Centreville, Va.
Filed Feb. 18, 1963, Ser. No. 259,271
5 Claims. (Cl. 83—286)



1. A toll computer assembly comprising a rotatable cutter drum, a rotable pressure drum disposed in side-by-side relation with the cutter drum and rotatable about an axis parallel thereto, means connected to the pressure drum for moving the pressure drum towards and away from the cutter drum for cutting a toll tape disposed between the cutter drum and pressure drum, sensing means mounted on the pressure drum for sensing the presence of a toll tape between the cutter drum and pressure drum, a computer drum disposed within the cutter drum for driving the cutter drum and consuming the toll tape therebetween, and means interconnecting the computer drum and cutter drum in response to the presence of tape between the cutter drum and pressure drum for interlocking the computer drum with the cutter drum for consuming the proper quantity of toll tape.

3,143,821
ROTARY SAW
Walter Vom Dorp, Rheydt, Germany, assignor to Mannesmann-Meer Aktiengesellschaft, Duesseldorf, Germany, a company of Germany
Filed Sept. 19, 1962, Ser. No. 224,766
6 Claims. (Cl. 83—329)



1. A rotary saw for cutting a tube into lengths while said tube is moving at high speed along its centerline, comprising

a rotary saw blade,

a saw blade carrier means for moving the blade in a closed orbital path defining a plane, both said plane and a portion of said path intersecting said tube at an acute angle, said blade being mounted on said carrier means so as to meet said tube and cut it perpendicularly to its centerline during the portion of the orbital path in which it intersects said tube, said blade having an orbital velocity component in the same direction as that of the moving tube during cutting, the arclength of the orbital path during cutting being equally distributed on both sides of an orbital path radius which is perpendicular to the centerline of the tube, in combination with

means for changing the acute angle between said tube and said orbital path plane in accordance with the diameter of the tube to be cut, so that the saw blade always begins and ends its cutting at the same points in the orbital path and the arclength of the path during cutting is always constant regardless of the diameter of the tube being cut,

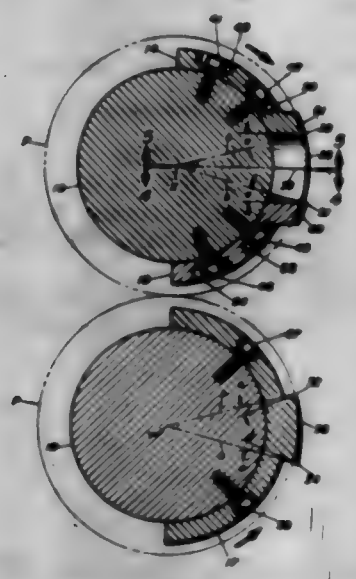
whereby the proper angle setting for each diameter of tube enables the arclength of the cutting portion of the orbital path of the saw to remain constant for tubes of all diameters.

3,143,822
ROTARY WINDOW CUTTER FOR ENVELOPE MACHINES OR THE LIKE
Egil A. Andersen, Auburn, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed May 1, 1961, Ser. No. 106,917
5 Claims. (Cl. 83—341)

1. Apparatus for cutting openings in sheet material comprising

(*a*) two opposed, axially parallel rotary carrier members,

(*b*) cooperating male and female cutting dies having rigid cutting edges carried by said carrier members, said cutting edges having leading and trailing portions adapted for cutting the sheet material perpendicular to the direction of feed, and rounded intermediate cutting edge portions connecting said leading and trailing portions,



(*c*) means for rotating said carrier members in opposite directions to cause a progressive and continuous meshing action of the cutting edges of the dies from the leading cutting edge to the trailing cutting edge,

(*d*) means shaping said leading cutting edges relative to each other to cause contact to initiate therebetween at a point, then progressively diverge to the intermediate cutting edges, and progressively continue around and to the end of the intermediate cutting edges, and

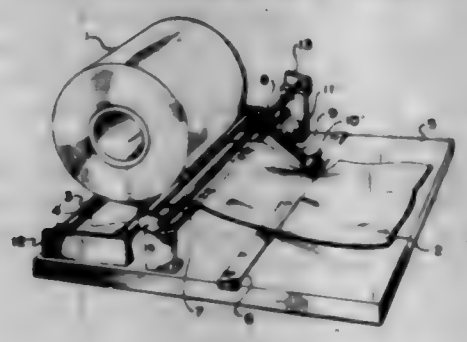
(*e*) means shaping said trailing cutting edges relative to each other to cause contact to continue therebetween from the intermediate cutting edges and converge to a point.

3,143,823

APPARATUS FOR CUTTING THIN LIMP FOILS OR SHEETS

Karl G. S. Addin, Landskrona, Sweden, assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Dec. 28, 1961, Ser. No. 162,782
5 Claims. (Cl. 83—472)



1. Apparatus for transversely cutting thin, limp webs which comprises:

(*a*) a base,

(*b*) a hard, flat, smooth cutting rail secured to the base,

(*c*) a guide rod supported above said base and parallel with said cutting rail,

(*d*) a slide guide movable along said guide rod and rotatable about the axis of said guide rod,

(*e*) an arm rigidly secured at one extremity to the slide guide, and

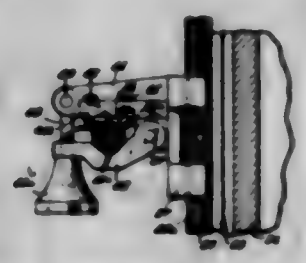
(*f*) a freely turning roller wheel, composed of material not harder than said rail, mounted on the opposite extremity of said arm and rotatable in a plane perpendicular to the axis of said arm, the rolling edge of said wheel thus inclined as to the top surface of said rail, and having a sharpened cutting edge extending about the periphery of its outer rolling edge, said cutting edge only being adapted to bear against the top of the flat cutting rail and caused to roll along the said top surface over which said unrestrained film has been positioned.

3,143,824

ROTATABLE CUTTER TOOL PAIR WITH CUTTER DISC ANGULARLY POSITIONED

Wieslaw D. Markowski, Beloit, Wis., assignor, by mesne assignments, to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware

Filed Jan. 26, 1960, Ser. No. 4,811
3 Claims. (Cl. 83—497)



1. An apparatus for slitting a traveling web comprising,

a knife edged first cutter rotatably mounted on a first axis,

a second cutter having axially spaced first and second cutting edges and rotatably mounted on a second axis,

a shaft-like support member extending transverse to said first axis supporting said first cutter and having opposed flat parallel side clamping surfaces and rotatable about its axis 180° between first and second positions with said first cutter coacting with said first edge in said first position and with said second edge in said second position, a mounting member having a fixed mounting surface,

a tapered block member having side surfaces at a predetermined angle relative to each other with an inner side surface engaging the mounting surface and an outer side surface engaging said clamping surface,

said block member being reversible so that the angle of the outer side surface is changed relative to the mounting surface and to change the angle of the first cutter relative to the second cutter,

and means for fixedly clamping said support member against said block member and said block member against said support surface.

3,143,825

SHEARING DEVICE WITH SHEAR BLADES HAVING REMOVABLE SHEARING INSERTS

Gordon E. Koester, 545 W. 129th Place, and Joseph H. Passey, 7701 S. Morgan St., both of Chicago, Ill.

Filed Mar. 26, 1962, Ser. No. 182,347
2 Claims. (Cl. 83—641)

1. A device for shearing bar stock or the like comprising;

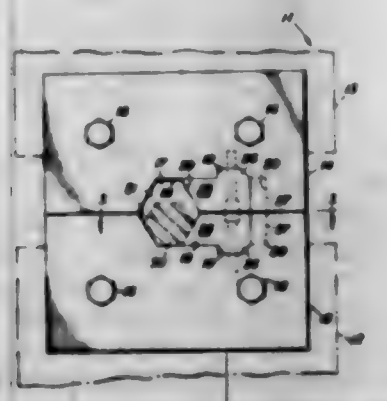
(*a*) upper and lower knife members disposed in shearing relation to each other,

(*b*) a cutout portion on each knife member,

(*c*) said cutout portions being disposed in opposed facing relation,

(*d*) a relatively flat recessed area on each cutout portion,

(*e*) each area having a recess disposed therein,
(*f*) each cutout portion being provided with a first shear face extending angularly from its recessed area,
(*g*) an insert disposed in each cutout portion and being seated on said flat area,
(*h*) said inserts each including a key portion disposed in said recesses,
(*i*) a second shear face on each insert,



(*j*) said second shear faces extending angularly with respect to said recessed areas,
(*k*) said first and second shear faces being horizontally spaced with respect to each other and with portions of said flat areas providing a shearing opening for receiving a bar to be sheared,
(*l*) means for moving said knife members relative to each other to affect shearing of a bar in said opening, and
(*m*) means removably connecting said inserts in said cutout portions.

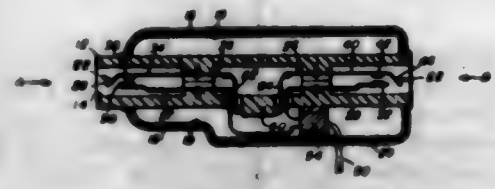
3,143,926
TOOL FOR PUNCHING ACOUSTIC HOLES
David W. Akerson, St. Paul, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 228,217
8 Claims. (Cl. 83—686)



1. A straight punch for penetrating fiberboard comprising a shank portion for entering the board and a tapered end portion, said punch at the junction of said tapered end portion and said shank portion having a cross-section at least as large as the cross-section of said shank portion, said shank portion being a plurality of times longer than said tapered end portion, said cross-section at said junction having an area in the range from 0.000765 to 0.0123 sq. inch, said punch having a flat end substantially perpendicular to the lengthwise extent of the punch and having an area in the range from 0.0000196 to 0.00125 sq. inch, said side walls of said tapered end portion being angular with an axis parallel to the lengthwise extent of the punch in the range from 7.5° to 30°

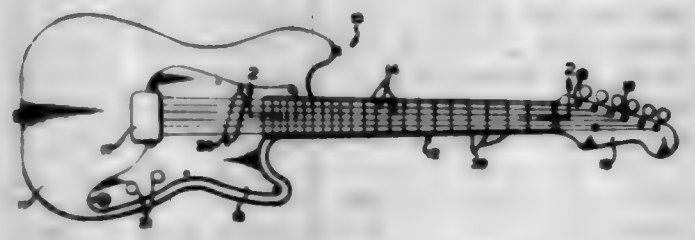
3,143,927
MUSICAL CONTROL DEVICE
George P. Smith, Rte. 1, Box 194-A, Petersburg, Va.
Filed Dec. 15, 1961, Ser. No. 159,679
1 Claim. (Cl. 84—171)

A mechanism for remotely controlling several musical instruments activated by an electrical impulse pattern comprising, a hand instrument housing having a first number of elongated passages therethrough, a terminal strip in said housing having a series of electrical cables corresponding in number to said first number of passages and extending to each one of said remotely controlled devices, a switch having first and second contact points housed within each of said passages, first and second lead lines extending from each of said switches and connected to a particular line of each of said cables, an electrical potential at each of said contact points,



each said switch including a first baffle responsive to air moving in one longitudinal direction of its associated passage to connect the potential at said first contact point to said first lead line and a second baffle responsive to air moving in the opposite longitudinal direction to connect the potential at said second contact point to said second lead line, and a plurality of interrupter switches in said housing for selectively breaking the electrical continuity of said cables, an operator controlled button connected to each of said interrupter switches and extending to a point outside of said housing.

3,143,928
ADJUSTABLE NECK CONSTRUCTION FOR GUITARS AND THE LIKE
Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.
Filed Aug. 26, 1963, Ser. No. 304,478
5 Claims. (Cl. 84—293)



1. A guitar, which comprises,
a body,
an elongated wooden neck base connected at one end to said body,
said neck base being formed of a first type of wood,
said neck base having an upper surface which is curved about an imaginary axis disposed substantially below and generally parallel to said neck base,
the upper side of said neck base having a narrow groove formed longitudinally therein for the majority of the length thereof and disposed in a plane which is generally perpendicular to said upper surface and lies midway between the edges of said upper surface,
elongated metal truss rod means disposed longitudinally in said groove,
said truss rod means including adjustable means to vary the degree of tension in said truss rod means,
an inlay element mounted in said groove above said truss rod means,
a thin wooden fret board disposed on said upper surface of said neck base,
said fret board being formed of a second type of wood different from said first type of wood,
said fret board having parallel upper and lower

surfaces which are curved about said imaginary axis,

said lower fret board surface being in engagement with and adhesively secured to said upper surface of said neck base, and

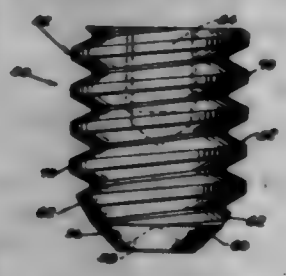
a plurality of strings mounted in tensioned relationship over said fret board and over a portion of said body, spacing between said strings and said fret board being determined in part by said adjustable means for varying the degree of tension in said truss rod means.

3,143,029

SET SCREW WITH CENTER OF GRAVITY LOCATED TO PERMIT ORIENTATION

Calvin O. Brown, Bartlett, Ill., assignor to Set Screw & Mfg. Company, Bartlett, Ill., a corporation of Illinois

Filed Mar. 28, 1960, Ser. No. 18,105
2 Claims. (Cl. 85—1)



1. A headless set screw comprising a substantially cylindrical body having a longitudinal axis, one end of said body having a work engaging cone-shaped portion extending therefrom and substantially concentric with said longitudinal axis, the other end of said body being recessed for engagement by a torque applying tool for effecting rotation of said screw about said longitudinal axis, a plurality of turns of thread of normal form on said body about the longitudinal axis thereof and extending to said one end thereof, the longitudinal mid-point of the thread turns of normal major diameter of such a screw having the thread turns of normal major diameter extending to an intersection with said cone-shaped portion being located substantially at the center of gravity thereof, and said body portion having an externally tapered surface extending outwardly from said cone-shaped portion to a thread turn of normal major diameter, the angle between said tapered surface and said longitudinal axis being less than the angle between the outer surface of said cone-shaped portion and said longitudinal axis, said tapered surface intersecting said outer surface of said cone-shaped portion along a circle having a diameter no greater than the normal minor diameter of said thread turns, the longitudinal distance between the intersection of said tapered surface and said cone-shaped portion and the intersection of said tapered surface and the major diameter of said thread turns being less than the longitudinal extent of a thread turn, the longitudinal mid-point of the remaining thread turns of normal major diameter of said screw having said tapered surface thereon being displaced substantially from the center of gravity thereof toward said torque applying end, whereby said screw will readily gravimetrically orient itself with said cone-shaped portion down and said screw will have a substantially full normal thread turn immediately adjacent to said cone-shaped portion.

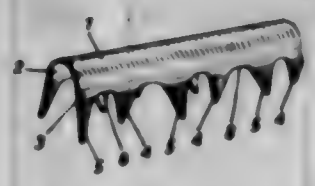
3,143,030

MULTIPLE PRONGED CONNECTOR

Max Ernst Andreas Meller, Rue des Cotesux 18, Cortaillod, Switzerland

Filed July 28, 1960, Ser. No. 45,869
Claims priority, application Switzerland July 29, 1959
6 Claims. (Cl. 85—13)

1. A connector for driving into a material to penetrate it and secure two pieces of material together comprising an elongated body of a generally U-shaped cross section and being substantially symmetrical about a central plane with the legs of the U joined by a connector portion of constant arcuate configuration and terminating in side edges and spaced teeth depending from said side edges with alternate teeth forming an acute angle with each other, and providing a row of inner and outer teeth,



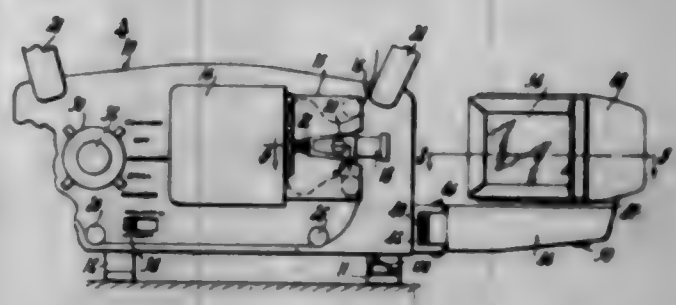
said connector portion presenting a concave surface toward said teeth and the teeth in said inner row being bent and extending inwardly from said side edges and disposed in longitudinal alignment with each other, the teeth in said other row being disposed in alignment with each other to positively spread said inner and outer row of teeth in a constantly increasing angle with respect to each other as they are driven into a material.

3,143,031

EDITING MOTION PICTURE PROJECTOR

Henry J. Kamiski, Hingham, and Samuel Silbovitz, Quincy, Mass., assignors to Keystone Camera Company, Inc., Boston, Mass., a corporation of Massachusetts

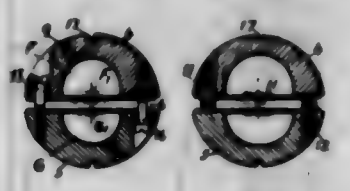
Filed July 21, 1961, Ser. No. 125,817
4 Claims. (Cl. 88—16)



1. In combination, a motion picture projector including a frame, a light source, a lens and shutter system, film guiding means including a light controlling aperture for guiding motion picture film between said lens and shutter system and said light source so that light rays from said light source modified by images formed on said film may be projected through said lens system, a marking aperture adjacent said light controlling aperture in said film guiding means, and film marking means including a piercing element supported adjacent said film guiding means, a resilient support structure permitting movement of said piercing element toward and through motion picture film disposed on said film guiding means adjacent one margin thereof for placing a permanent indicium thereon, and means secured adjacent said film guiding means and said marking aperture preventing any light from said light source from entering said lens system through said marking aperture, and a viewing apparatus attached to said projector frame, including releasable means to secure said viewing apparatus to the front of said projector frame forwardly of said lens system, a viewer housing supported from said securing means, a translucent image forming surface defining a front wall of said housing, an aperture in a side wall of said housing adjacent said image forming surface, and a reflecting surface in the rear portion of said viewer housing mounted at an angle to said image forming surface such that said modified light rays projected through said lens system may pass through said aperture for impingement on said reflecting surface and reflection therefrom onto said im-

age forming surface so that images formed on said film may be projected and viewed.

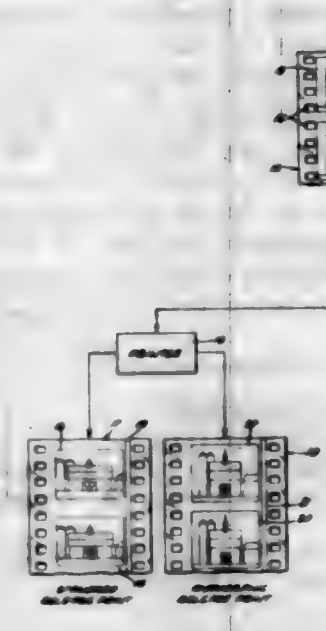
3,143,832
PROJECTION DEVICE FOR PROJECTORS WITH TWIN LENS SYSTEM
Karl Leonard Erling Cedaln, Olivedalsgatan 22A, Gothenburg, Sweden
Filed June 26, 1962, Ser. No. 205,294
4 Claims. (Cl. 88—16.6)



1. A projection device for projectors fitted with a twin lens system for simultaneous projection of two images from a vertically propelled film band, said lens system comprising a number of lenses on one side of the horizontal central plane of the lens system forming one of the portions of the twin lens system, and an equal number of corresponding lenses forming the other portion of the said twin lens system on the opposite side of the horizontal central plane, positioned in pairs with the first mentioned lenses, each pair of lenses being positioned one behind the other, and the lenses being in the shape of segments in size slightly larger than half lenses, two holders having the shape of approximate half portions of a cylinder carrying the lenses, one of the holder portions housing the lens segments of one side, and the other holder portion housing the lens segments of the other side, a cylindrical casing fixed to the projector and in which said holder portions are slidably and rotatably mounted, said holder portions being located within said casing so as to provide an interspace therebetween in the horizontal central plane, adjusting screws and tightening bolts cooperable with said holder portions for adjusting said portions relative to each other, said adjusting screws and tightening bolts while crossing the interspace being tangentially disposed beyond the range of the lens segments on opposite sides of the vertical longitudinal middle plane of the lens system, said adjusting screws and tightening bolts being arranged in pairs with each pair being set opposite each other on opposite sides of the vertical longitudintal middle plane of the lens system, and a pair of adjusting screws being disposed between each pair of tightening bolts thereby permitting a tilting adjustment around the adjusting screws of one holder portion in relation to the other while retaining the optical axis of each holder portion in one and the same vertical plane.

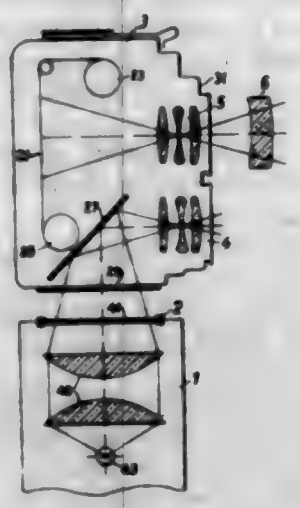
3,143,833
METHOD OF MAKING MOTION PICTURES USING ANAMORPHIC LENSES
Douglas G. Shearer, Los Angeles, Calif., assignor to Metro-Goldwyn-Mayer Inc., a corporation of Delaware
Filed Jan. 10, 1955, Ser. No. 480,848
5 Claims. (Cl. 88—24)

4. The method of producing photographically anamorphous motion picture records of scenes comprising the steps of photographing the scene by compression in only one direction of the image of the scene so as to produce a primary record having a degree of anamorphism, and printing the primary record with an additional degree of anamorphism by compression in the same direction as said one direction of the image of the scene upon a secondary record, the degree of anamorphism in the photographing and printing steps respectively being less than the total degree of anamorphism and the total degree of anamorphism in the secondary record being the



product of anamorphism separately introduced in the two stages, said secondary record comprising substantially the whole of said primary record.

3,143,834
PHOTOGRAPHIC CAMERA
Werner Fasoch, Braunschweig-Bienrode, and Harry Schade, Braunschweig, Germany, assignors to Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate, Braunschweig, Germany, a firm of Germany
Filed Jan. 22, 1962, Ser. No. 167,868
Claims priority, application Germany Feb. 2, 1961
8 Claims. (Cl. 88—24)



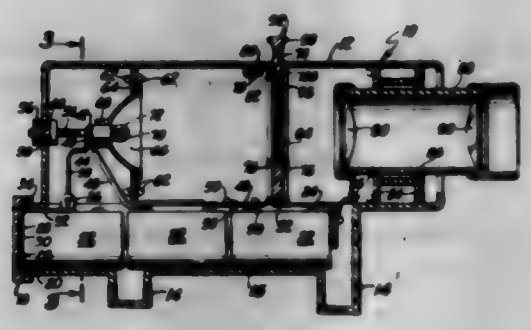
1. A supplementary optical system for a twin-lens mirror reflex focusing camera having a film-containing exposure chamber and an associated exposure objective for projecting an image of an external object onto the film in the exposure chamber and having a viewfinder chamber with a movable focusing screen normally positioned at a fixed location and an associated viewfinder objective for projecting an image of the same external object onto the focusing screen, said two objectives being simultaneously movable axially conjointly for focusing both of them jointly on objects at different object distances, said camera being usable as a projector by moving the focusing screen to an out-of-the-way position and by providing a holder for holding a transparency in a projection position parallel to and spaced from the normal position of the screen and a light source for illuminating the transparency so that light rays therefrom are projected through the viewfinder chamber and viewfinder objective onto a re-

ceiving surface spaced in front of the camera, said supplementary optical system comprising means for altering the focusing relationship of the two objectives to each other to such an extent that when an image of a transparency is properly focused on a receiving surface at a predetermined distance from the camera, the image on the receiving surface will be properly focused by the exposure objective onto the film in the exposure chamber, thereby enabling the exposure chamber of the camera to be used for a new exposure duplicating the transparency which is simultaneously being projected through the viewfinder chamber.

3,143,035
PROJECTOR

Derek W. Morgan, Fullerton, Calif., assignor to Aids, Incorporated, Anaheim, Calif., a corporation of Nevada

Filed Feb. 19, 1962, Ser. No. 174,122
1 Claim. (Cl. 88—24)

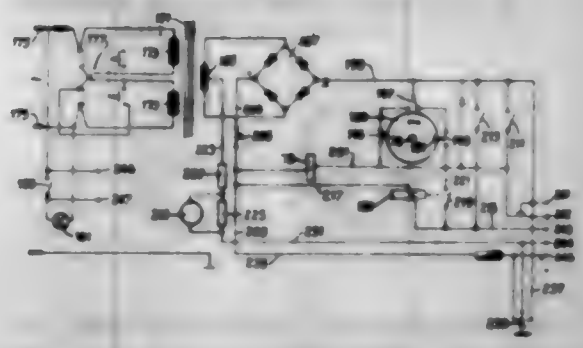


A projector for projecting a film slide which includes:
a housing having a slot formed therein and having guides located leading from said slot;
a film slide holder capable of being moved through said slot to within said guides so as to be located within said housing;
projection lens means movably mounted on said housing at one side of the location of said slide holder within said housing;
a parabolic reflector for reflecting light mounted within said housing on the other side of the position of said slide holder within said housing, the axis of said reflector being aligned with the axis of said projection lens means;
a bulb holder positioned along the axis of said reflector so as to be capable of being moved with respect to the focal point of said reflector;
a light bulb held by said reflector so that the filament of said light bulb is located adjacent to the focal point of said reflector, said housing providing an uninterrupted and uninfluenced light path from said bulb to said slide holder;
means for moving said bulb holder and said light bulb along the axis of said reflector so as to locate the filament of said light bulb at the focal point of said reflector, said means for moving comprising a threaded shaft attached to said bulb holder, said threaded shaft extending along the axis of said reflector and a nut rotatably held by said housing, said shaft being threaded within said nut; and
means for supplying current to said light bulb, said means for supplying current including switch means within a circuit, said switch means being positioned within said housing so as to be engaged by said slide holder when said slide holder is in position within said housing so as to be closed and so as to supply current to said light bulb by engagement with said slide holder.

3,143,036
PHOTOGRAPHIC SLIDE PROJECTOR

Horst Rohmann, Braunschweig, Germany, assignor to Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate, Braunschweig, Germany, a firm of Germany

Filed Dec. 20, 1960, Ser. No. 77,190
Claims priority, application Germany June 1, 1960
2 Claims. (Cl. 88—28)



1. A slide projector comprising means defining a channel for receiving a slide in projection position, means for holding a slide magazine, means for engaging a magazine to advance it step by step past said channel to bring successive slides in said magazine into a position alined with said channel, means for engaging a slide in said magazine alined with said channel and moving such slide from said magazine into projection position within said channel, common drive means for concomitantly driving both said magazine engaging means and said slide engaging means, said drive means including a rotary shaft operatively connected to both of said engaging means, an electric motor for driving said shaft, a cam on said shaft and rotating therewith, an electric circuit effective to cause said motor to drive said shaft when said circuit is energized and to discontinue driving of said shaft by said motor when said circuit is not energized, a first switch in said circuit, said first switch being operated by said cam in such manner that said first switch is open when said shaft and cam are in a predetermined rest position and said switch is closed when said shaft and cam are in any other position, second switch means for temporarily energizing said first mentioned circuit independently of said first switch, to start rotation of said shaft and cam so that said first switch will close and will keep said first mentioned circuit energized independently of said second switch means until said shaft and cam complete one cycle and come again to said rest position, an electric solenoid effective, when energized, to reverse the direction in which said magazine engaging means moves said magazine, and an electric circuit for energizing said solenoid, said second switch means comprising a manually operated switch for energizing said solenoid circuit and another switch operatively connected to said solenoid to be closed when said solenoid is energized, said other switch when closed serving to energize said first mentioned circuit independently of said first switch.

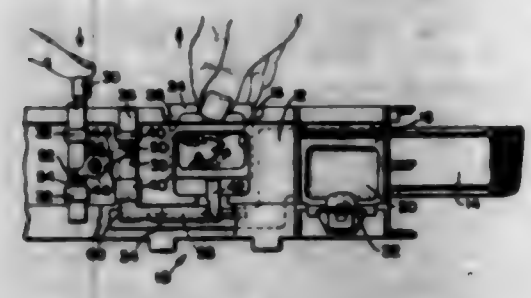
3,143,037
SLIDE PROJECTOR INTERLOCK SYSTEM FOR THE SLIDE-CHANGING AND EDITING MECHANISMS

Vernon H. Jungjohann, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 23, 1961, Ser. No. 175,217
3 Claims. (Cl. 88—28)

1. In an interlock for a slide changer having a viewing position, the combination comprising:
(*a*) transport means movable from an inoperative position through a cycle of operation for transporting a slide over a first path to and from said viewing position,

(*b*) editing means movable from an inoperative position through a cycle of operation for moving said slide from and to said viewing position over a second path transverse to said first path, and



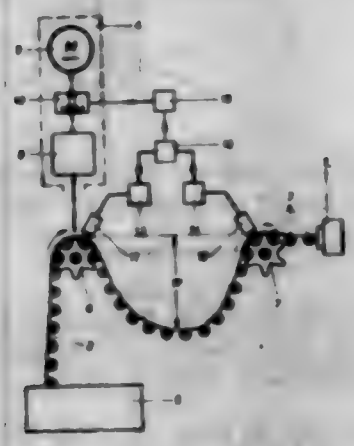
(*c*) co-operating means interlocking said transport and editing means and including a rib on said transport means and a lip on said editing means co-operating upon initiation of the cycle of one of said two means for preventing movement of the other of said two means to a position which would interfere with the initiated cycle, so long as said initiated cycle is in progress.

3,143,038

APPARATUS FOR FEEDING AN AMMUNITION BELT TO A RAPID-FIRE CANNON

Hans Joachim Bilstein, Neuss (Rhine), Germany, assignor to Firma Rheinmetall G.m.b.H., Duesseldorf, Germany

Filed June 19, 1963, Ser. No. 289,628
Claims priority, application Germany June 23, 1962
4 Claims. (Cl. 89—33)



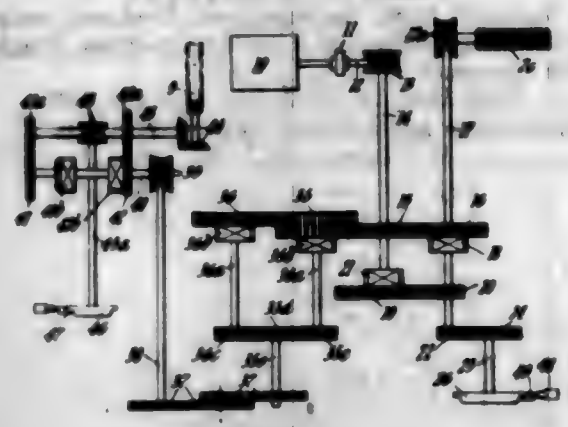
1. Apparatus for feeding an ammunition belt to a rapid fire cannon and for maintaining a predetermined sag in the ammunition belt between two belt feeding members spaced apart in the feed direction of the belt, the feed members each comprising a toothed wheel mounted for rotation about a fixed axle, rotary electric driving means controllably operable to drive the one of the said feed members on the input side of the ammunition belt, first and second detection means for detecting cartridges in the ammunition belt as they pass the respective feed members, first and second counting means connected to the respective first and second detection means for producing a counting pulse in response to each detection of a cartridge by the respective detection means, means connecting the first and second counting means to a comparator device adapted to produce an output when the counts of the respective first and second counting means differ, and a pulse transmitter device for receiving the output of the comparator device in response to such output transmitting a control signal to operate the said driving means to drive the said one feed member in such a sense to restore the sag in the ammunition belt to the predetermined sag.

3,143,039

METHOD FOR FINISHING GEARS

John Alfred Mills, 24 Kingsley Ave., Newcastle-upon-Tyne, England

Filed Jan. 31, 1961, Ser. No. 86,032
Claims priority, application Great Britain June 7, 1960
14 Claims. (Cl. 90—1.6)



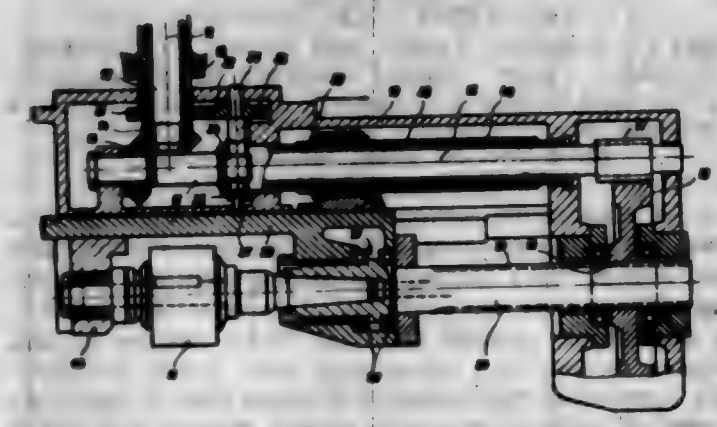
1. A method of shaving gear members comprising mating the gear to be shaved with a rotary shaving cutter member, rotating one of said members thereby driving the other member through the intermeshing engagement of the teeth of the two members, the axes of the gear member and cutter member being crossed at an angle of at least 3° and less than 30°, imparting relative traverse of one member relative to the other in a plane which is parallel to the axes of both so as to make at least two passes, at least the initial pass being made at a relatively high rate of feed and at least the final pass being made at a relatively low rate of feed, the ratio of the high rate of feed to the low rate of feed being of the order of between 1.25 and 3 to 1.

3,143,040

HOB HEAD WITH TANGENTIAL SLIDE ON HOBBING MACHINES

Erich Baumann, 44 Bruenstrasse, Ludwigsburg, Wurttemberg, Germany

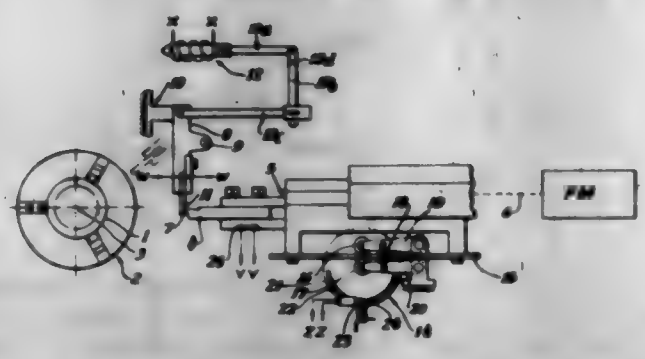
Filed July 18, 1961, Ser. No. 124,824
6 Claims. (Cl. 90—4)



1. In the hob head of a hobbing machine an improved drive for a hob comprising a first pair of concentric drive shafts, a second pair of concentric driven shafts, a means for connecting said first pair of concentric drive shafts to said second pair of concentric driven shafts, a third driven shaft, means of connecting said third driven shaft to one shaft of said second pair of concentric driven shafts, axes of said third driven shaft and said second pair of concentric driven shafts being in the same symmetrical plane of the hob head, a slide, means for connecting said slide to the other shaft of said second pair of concentric driven shafts, means for mounting said slide with respect to the above said plane, means on said slide of mounting said third driven shaft and a hob mounted for rotation on said third driven shaft, said hob being rotated when one shaft of said first pair of

drive shafts is rotated and moved axially when the other shaft of said first pair of drive shafts is rotated.

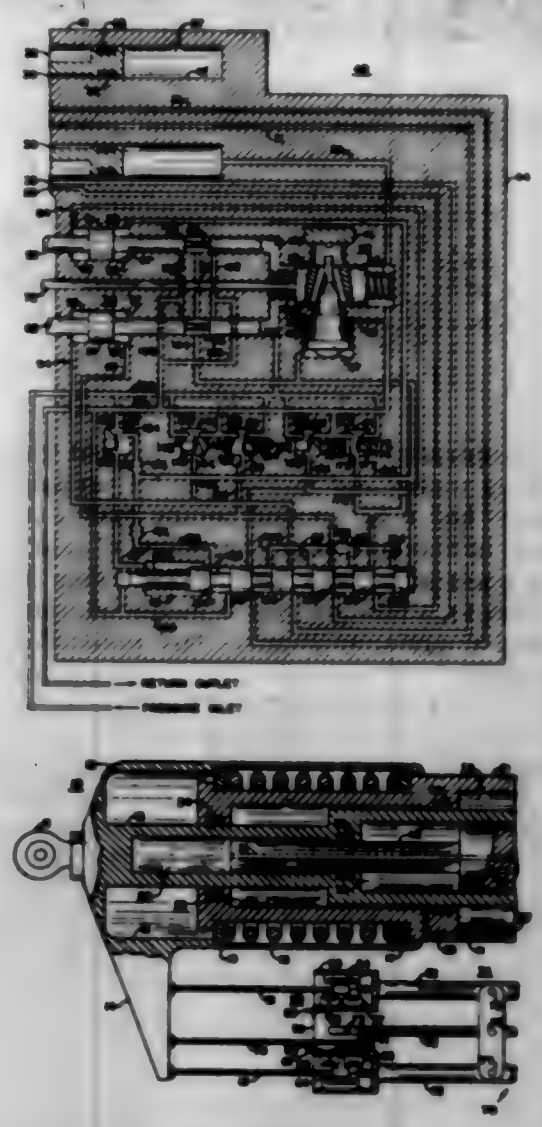
3,143,841
CONTROL FOR MACHINE TOOL UTILIZING A VIBRATING CRYSTAL
Laszlo Namenyi-Katz, Rothampton, England, assignor to Vectron Electro-Physics Limited, Bedfont, England, a British company
Filed Jan. 22, 1962, Ser. No. 167,859
Claims priority, application Great Britain Jan. 27, 1961
10 Claims. (Cl. 90—16)



1. In a machine having a tool, which approaches towards a workpiece in a predetermined direction and performs a work operation thereon such as for example a turning, grinding, milling or drilling operation, and means for driving said tool, the improvements comprising an electrically excited vibratory element removably positioned in the path of approach of said tool for contact with said tool to damp and restrain vibration of said element, means operated by the damped vibration of said element to produce an electrical signal, means responsive to said electrical signal for removing said element from the path of said tool, means for measuring the approach of said tool to said workpiece and operation of which is initiated by said signal, and means for stopping the movement of said tool toward said workpiece operated by said measuring means when a predetermined measurement is achieved.

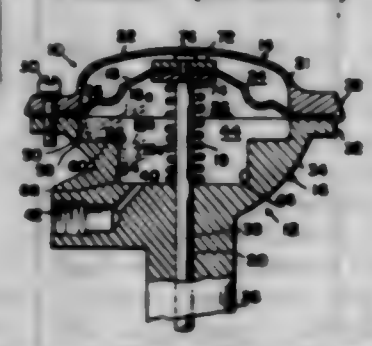
3,143,842
ELECTRO-HYDRAULIC SERVOMOTOR
Roger D. Borgeson, Fridley, and Robert F. Rasmussen, Brooklyn Center, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 30, 1960, Ser. No. 79,950
17 Claims. (Cl. 91—363)

1. In a hydraulic servomechanism: a base member; a reversible actuator means; a supply passage; a return passage; engage valve means; control valve means, said engage valve means and said control valve means connecting said supply passage and said return passage to said actuator means; dual comparator rods; means mechanically connecting said comparator rods; each of said rods having an enlarged diameter section thereon forming a comparator piston concentric therewith; dual comparator cylinders, each of said comparator pistons being slideable contained within said comparator cylinders thereby forming dual pairs of comparator chambers; said dual comparator rods each having a reduced diameter section thereon spaced from said comparator piston and cooperating with said base member to form an annular chamber; means connecting each said annular chamber with said supply passage and said return passage thereby forming dual comparator disengage valves; said control valve means connecting said supply passage and said return passage to said comparator chambers, said comparator pistons being operable in response to the fluid flow rate of said control valve means, said comparator disengage valves being operable in response to a predetermined displacement of said comparator pistons; switching means operable in response to said said predetermined displacement of said comparator pistons, and dual feedback



means, said feedback means producing signals indicative of the displacement of said actuator means.

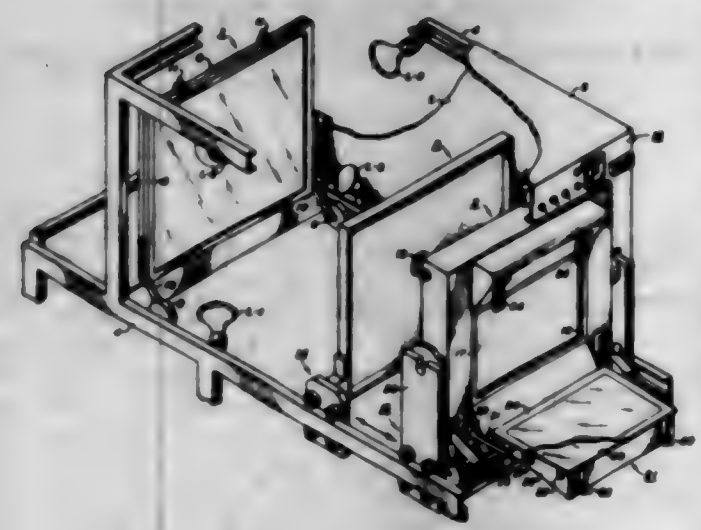
3,143,843
SPRING BIASED DIAPHRAGM DEVICE
David C. Kinney, East Detroit, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Apr. 3, 1961, Ser. No. 100,883
1 Claim. (Cl. 92—94)



Structure for providing variable linear movement in response to a predetermined uniform pressure variation over a predetermined pressure range, comprising a housing having a recess therein with a concentric outer larger diameter portion and smaller inner diameter portion providing an annular abutment surface therebetween and forming surface contours in accordance with the variation in linear movement desired for predetermined pressure increments at pressures within said predetermined pressure range, a passage extending through said housing terminating substantially centrally of said recess, a flexible diaphragm having its periphery positioned around the periphery of said recess and including an area within

its periphery large in comparison to the projected area of said recess for enabling the diaphragm to conform exactly to the surface of said recess on movement thereof toward said recess, a cover for said recess including an annular flange secured to said housing about the periphery of said recess for clamping the periphery of said diaphragm about the periphery of said recess between the housing and cover, said cover having an opening therein for providing atmospheric pressure between the cover and the diaphragm, a rod in said passage one end of which extends into said recess, a pair of annular plates positioned centrally of said diaphragm on opposite sides thereof and means extending through the annular plates and diaphragm and secured to said one end of said rod for fixedly securing said rod to said diaphragm centrally thereof for movement therewith, resilient means within said recess operable between the bottom of the recess and one of said plates for urging said diaphragm and rod outwardly of the recess toward said cover and means for connecting a vacuum source to said recess adjacent the bottom thereof for compressing the resilient means and conforming the flexible diaphragm to the contours of the recess to present a changing effective diaphragm area in said recess and thus control the linear movement of the rod in the passage in accordance with the force of the spring balanced by the vacuum drawn in the recess.

3,143,844
XEROGRAPHIC PLATE HOLDER
Thomas C. Murray and Robert H. Liva, Rochester, and Norbett H. Kaupp, Newark, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 4, 1963, Ser. No. 249,381
3 Claims. (Cl. 95—1.7)



1. In a xerographic processing unit wherein a xerographic plate is positioned during one or more xerographic processing steps,

a frame member for locating a xerographic plate in operative position during said processing steps,

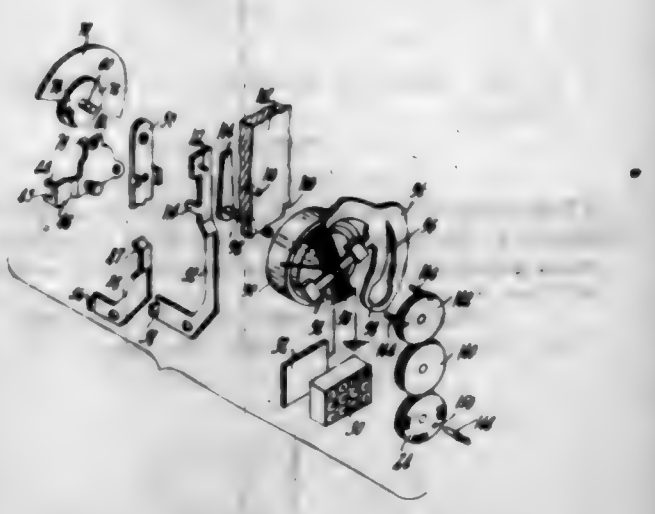
a plate holder for supporting a xerographic plate,

said plate holder being pivotally mounted on the frame member and arranged to move a xerographic plate to a first position in which the plate is held in operative relation to the frame member and to a second position in which the plate is removed from operative relation with the frame member,

one or more plate positioning guides mounted on said plate holder to effect registration of a xerographic plate thereon,

and a pair of permanent magnets located on opposite sides of said plate holder and attached thereto, said permanent magnets being in register with magnetic members mounted on a xerographic plate, whereby a xerographic plate positioned on said plate holder is retained in a stable position thereon during movement of the plate holder between the first and second positions.

3,143,845
PHOTOGRAPHIC CAMERA OPERATION CONTROL APPARATUS
Henry J. Kaminski, Hingham, and Samuel Silbovitz, Quincy, Mass., assignors to Keystone Camera Company, Inc., Boston, Mass, a corporation of Massachusetts
Filed Nov. 16, 1961, Ser. No. 152,755
10 Claims. (Cl. 95—10)



1. In a photographic camera, the combination of a case, means including a lens structure defining an exposure aperture, means in said case for advancing photographic film past said exposure aperture, a shutter mechanism positioned between said lens structure and said film advancing means for controlling the exposure of the film, a shutter control mechanism including two spaced members, light sensing means mounted on said case for providing a signal indicative of the amount of light available for film exposure purposes, a movable vane element, and means responsive to said signal from said light sensing means for supporting and moving said vane element to a position between said two spaced members, said vane in said position preventing operation of the shutter mechanism when the amount of light sensed by said light sensing means is outside of that range necessary for proper exposure of the film, said vane element being in physical contact with only said vane support means during movement of said vane element.

3,143,846
CAMERA EXPOSURE CONTROL
John C. Peacock, Santa Ana, Calif., and Charles A. Gregory, Jr., Richmond, Va., assignors to Flight Research, Incorporated, Richmond, Va., a corporation of Virginia
Filed May 8, 1962, Ser. No. 193,162
11 Claims. (Cl. 95—10)

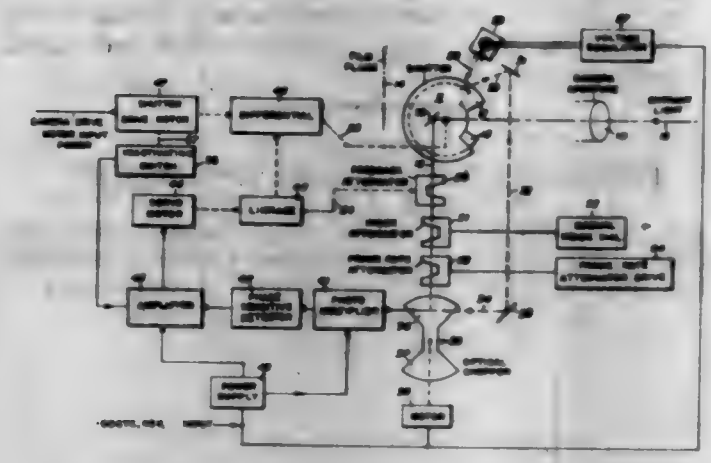
1. In a camera, the method of regulating an exposure control device so that the intensity of light incident upon the film tends to remain constant, comprising:

(*a*) causing the entrant light to be reflected from the camera shutter when the shutter is closed;

(*b*) comparing said reflected entrant light with a reference radiation of preselected constant value;

(*c*) developing from said comparison a signal which is a function of the variation of the intensity of said reflected entrant light from that of said reference radiation; and

(*d*) using said signal to adjust the exposure time control device of the camera in the direction indicated



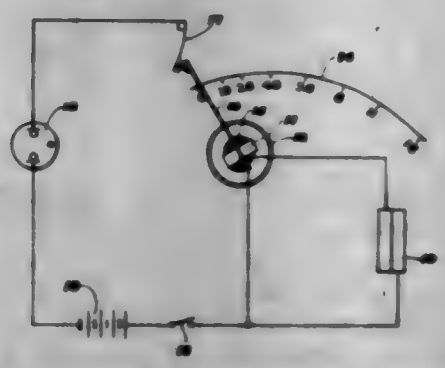
by said signal as necessary to compensate for said variation.

3,143,847

LOW BRIGHTNESS INDICATOR FOR CAMERA

William T. Sherwood, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 30, 1962, Ser. No. 213,301
1 Claim. (Cl. 95—10)



In a photographic camera having a viewfinder, a photoresponsive element illuminatable by scene light, and a galvanometer including (*a*) a coil energizable under control of said element and mounted for deflection in a first direction in response to said energization, (*b*) a member movable with said coil, and (*c*) a spring for urging said coil in a second direction opposite said first direction, a flashing light low-scene-brightness signal device comprising in combination:

(1) a relatively low power consumption electric lamp in series circuit with said coil and supported by said camera in such a position that light therefrom is visible in said viewfinder;

(2) a battery in series circuit with said coil and said lamp for energizing said coil and said lamp, the polarity of said battery with respect to said coil being arranged so that energization of said coil by said battery causes deflection of said coil in said first direction;

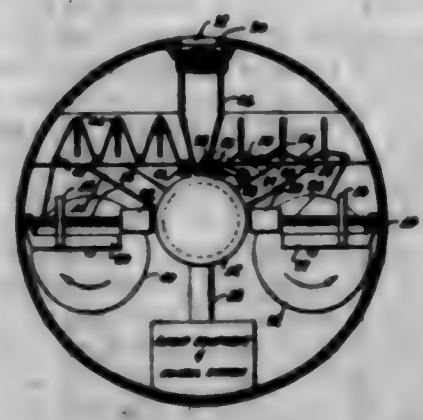
(3) a normally open switch closable in response to movement of said member to a switching position corresponding to a predetermined low value of scene brightness for completing an electric circuit including said battery, coil and lamp for energizing said lamp and said coil to deflect the latter in said first direction, said switch being adapted for re-opening in response to deflection of said member in said first direction away from said switching position, whereupon said lamp and coil are de-energized and said member is biased toward said switching position by said spring, for generating a flashing light signal the period of which varies as a function of the value of scene brightness below said predetermined low value.

3,143,848

PHOTOGRAPHIC APPARATUS

Merton E. Davies, Santa Monica, Calif., assignor to The Rand Corporation, Santa Monica, Calif., a non-profit corporation of California

Filed Mar. 16, 1959, Ser. No. 799,618
12 Claims. (Cl. 95—12.5)



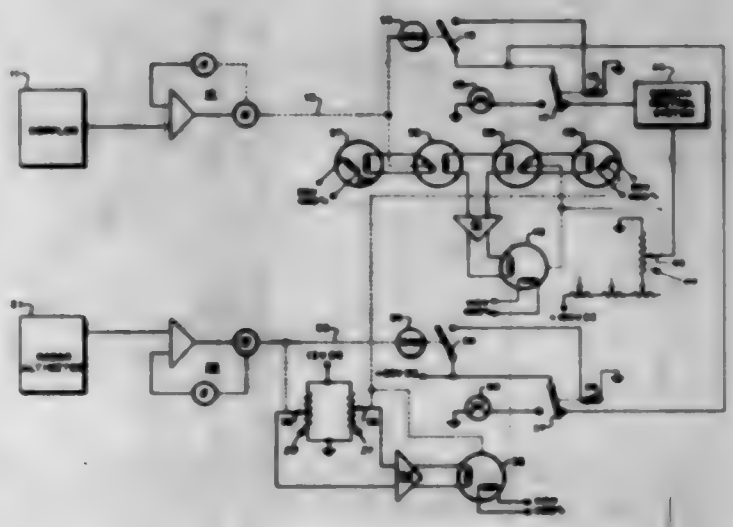
1. A photographic apparatus for surveying a spatial body comprising: a vehicle adapted to be freely projected about said spatial body while rotating about a spin axis of said vehicle; camera means mounted in said vehicle for rotation therewith about said spin axis to scan said body as said vehicle spins; means for sensing the scan rate of said camera means; and means for moving film past the exposure aperture of said camera means at a speed corresponding to the said scan rate of said camera.

3,143,849

TIME INTERVAL COMPUTER

Francis E. J. Tholey, Hatboro, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 1, 1961, Ser. No. 128,598
6 Claims. (Cl. 95—12.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A computer system for determining the time interval between film exposures necessary to obtain sufficient and constant overlap of photographic frames in an aerial camera for use by a reconnaissance aircraft, comprising in combination: Doppler radar means providing an output signal proportional to aircraft velocity in the heading direction, first shaft means, first servo means connected between said Doppler radar means and said first shaft means converting said output signal proportional to aircraft velocity into a displacement of said first shaft means, radar altimeter means providing an output signal proportional to aircraft altitude, second shaft means, second servo means connected between said radar altimeter

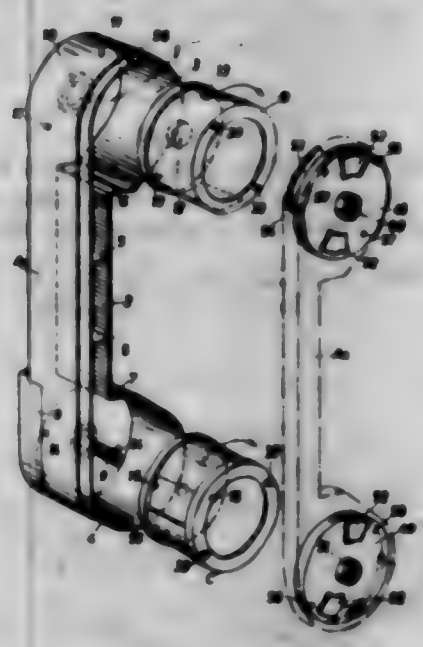
means and said second shaft means converting said output signal proportional to aircraft altitude into a linearly proportional displacement of said second shaft means, an electromechanical computer coupled to said first and second shaft means, means included in said electromechanical computer for comparing the respective displacements of said first and second shaft means to provide an output proportional to the ratio of aircraft velocity to aircraft altitude, camera control means, connecting means coupling the output of said electromechanical computer to said camera control means whereby said camera control means is provided with an input proportional to the necessary interval between film exposures.

3,143,850

FILM MAGAZINE FOR CAMERAS

Alfred Winkler and Wilfried Hofmann, Munich, Germany, assignors to Agfa Aktiengesellschaft, Munich, Germany

Filed Apr. 19, 1962, Ser. No. 188,764
Claims priority, application Germany Apr. 28, 1961
5 Claims. (Cl. 95—31)



1. In a film magazine for cameras, in combination, a magazine housing and a film cassette adapted to be located in said housing, said cassette having a predetermined axis and said cassette when in said housing having a face which is located directly next to a face of said housing, one of said faces being formed with a pair of depressions and the other of said faces carrying a pair of pins respectively located in said depressions when said cassette is in said housing with said faces next to each other, a pair of radial lines which intersect at the axis of said cassette and extend therefrom through the axes of the cooperating pins and depressions making with each other an angle different from 180° so that the cassete can be located in the housing only in a given angular position.

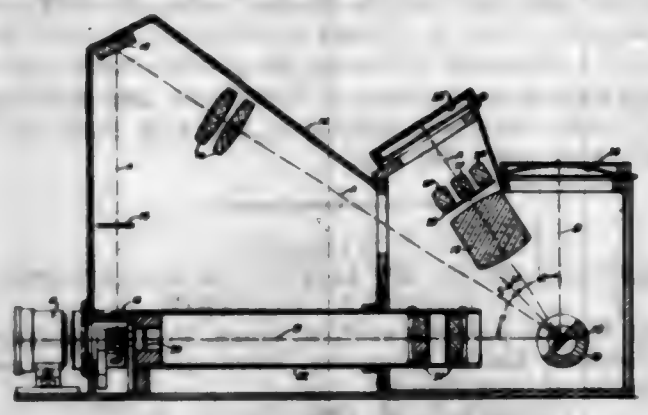
3,143,851

COMBINATION STREAK AND FRAMING CAMERA

Lawrence R. Teeple, Jr., Palo Alto, Calif., assignor, by mesne assignments, to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of Delaware

Filed Mar. 3, 1961, Ser. No. 93,209
5 Claims. (Cl. 95—36)

1. A combination streak and framing camera comprising a housing, a rotatable mirror therein, means for directing a focused beam of light containing an image of an event to be recorded into the housing, a beam splitter intercepting said beam and dividing it into two separate paths, separate optical systems in said paths for focusing the beams therein toward said mirror from different angles, and means to support film in two positions



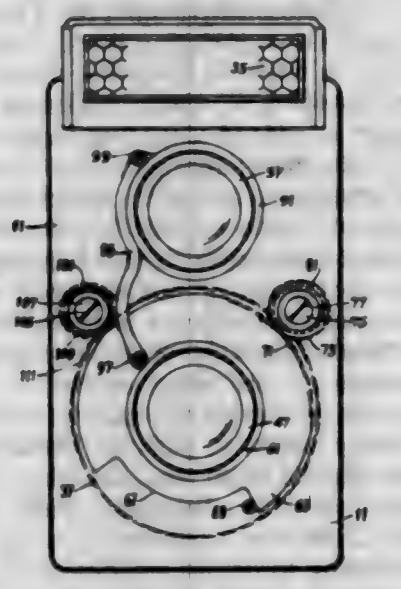
for separately recording images from the beams in said separate paths as they are swept across the film upon rotation of the mirror.

3,143,852

CAMERA CONSTRUCTION

Richard Weise and Claus Prochnow, Braunschweig, Germany, assignors to Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate, Braunschweig, Germany, a German firm

Filed July 7, 1961, Ser. No. 122,465
Claims priority, application Germany July 15, 1960
2 Claims. (Cl. 95—44)



1. A twin lens reflex camera comprising a picture taking lens and a finder lens spaced vertically from each other, each of said lenses having a focusing lens mount rotatable to focus its respective lens, a shutter and diaphragm unit in optical alinement with said picture taking lens, a shutter setting ring rotatable on said unit, a front wall supporting said unit and lens mounts and lenses, a cover detachably mounted on said front wall and having a portion spaced forwardly from said front wall to enclose said unit and said lens mounts, means operatively coupling the two lens mounts to each other to turn together, a first shaft and a second shaft each supported from said front wall for rotation about respective axes substantially parallel to the optical axis of said picture taking lens, an operative connection between said first shaft and one of said focusing lens mounts so that rotation of said first shaft will rotate both of said focusing lens mounts to focus both of said lenses simultaneously, an operative connection between said second shaft and said setting ring on said unit so that rotation of said second shaft will adjust the position of said setting ring, a first manually rotatable setting knob and a second manually rotatable setting knob each mounted on said cover and located respectively in axial alinement with said first and second shafts, and means forming an axially

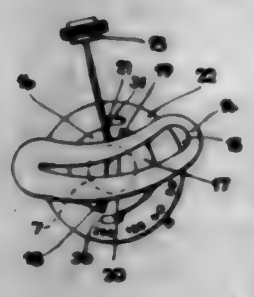
detachable driving connection between each of said setting knobs and its respective shaft when said cover is in normal operative position on said front wall, said driving connection being so formed that when said cover is detached and moved forwardly away from said front wall, said driving connections will separate and said knobs will come away with said cover and said shafts will remain with said front wall.

3,143,053

PHOTOGRAPHIC APPARATUS WITH AUTOMATIC EXPOSURE CONTROL

Max Bideau, Joinville-le-Pont, Seine, France, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 29, 1960, Ser. No. 11,722
Claims priority, application France Apr. 8, 1959
8 Claims. (Cl. 95—64)



1. In a camera having mans for focusing an image of a scene onto a photosensitive surface, a manually adjustable first exposure-factor-setting device, and an exposure meter including a member movable automatically to a position corresponding to scene brightness, the combination including: a second exposure-factor-setting device comprising a movable diaphragm vane having a tapered aperture and coupled to said member for movement therewith, the aperture being arranged to enable various portions thereof to be aligned with said focusing means in response to the movement of said member; and additional diaphragm means overlapping a part of said vane and adjustable to any of a plurality of stable positions, the additional diaphragm means being coupled to said first exposure-factor-setting device for manual adjustment therewith and defining means to partially mask the vane aperture portion aligned with the focusing means by an amount varying with the adjustment of the additional diaphragm means, the vane aperture portion and masking means co-operating to define a composite exposure aperture compensating for both of said exposure factors.

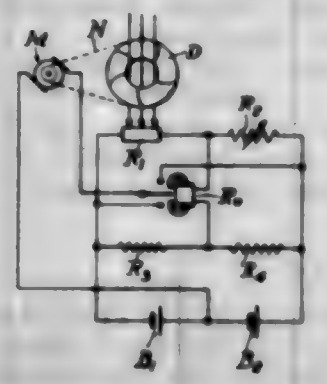
3,143,054

DEVICE FOR ADJUSTING LIGHT MEASURING INSTRUMENTS, PARTICULARLY FOR PHOTOGRAPHIC CAMERAS WITH AUTOMATIC DIAPHRAGM ADJUSTMENT

Martin Ploke, Kiel, and Heinz Thiele, Kiel-Wik, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany

Filed June 19, 1961, Ser. No. 118,179
Claims priority, application Germany June 18, 1960
3 Claims. (Cl. 95—64)

1. A bridge circuit operated by direct current, including a photo-conductive cell having arranged in front thereof an automatically controllable light decreasing device for controlling light measuring devices, particularly in a camera with an automatic diaphragm mechanism, characterized in this, that for introducing the factors of film speed, filter transmissivity, transmissivity of the adjustable diaphragm, and image frequency or exposure time, which factors influence the diaphragm aperture required for a correct exposure, a bridge circuit R_3 is provided which is arranged in series with the photo-conductive cell R_1 and is variable according to the values of the photo-conductive cell R_1, said values being produced at the illumination intensity required for a correct exposure under consideration of said exposure factors, so that the resistance ratio $u=R_1:R_2=R_3:R_4$ present when the bridge is balanced is always adjusted to a value $1<u<10$, for a photo-conductive cell of average sensi-



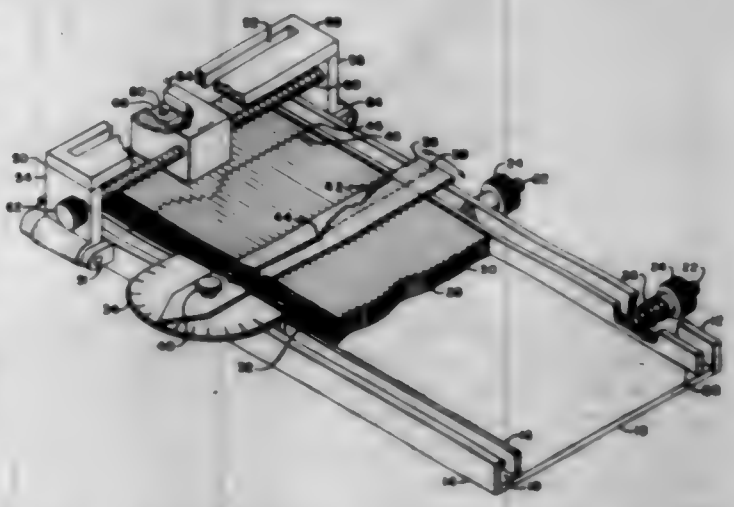
tivity with an accuracy of ±30% with respect to the value $u=\sqrt{1+(R_{1\,min}+R_3)/R_5}$ when $R_{1\,min}$ signifies the smallest resistance value adopted by an average photo-conductive cell while R_3 is the bridge resistance being connected with the photo-conductive cell, and R_5 is the resistance in the diagonal branch of the bridge with the relay.

3,143,055

SEISMIC SECTION CORRECTION DEVICE

Warren A. Alexander, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware

Filed Aug. 22, 1960, Ser. No. 51,015
10 Claims. (Cl. 95—73)



10. A method of preparing a seismic section composed of side-by-side traces upon a plurality of parallel strips, the edge of each said strip being not greater in width than the width of the trace of said section which comprises in combination: arranging the edges of such strips to form a surface; preparing such surface to be image sensitive; aligning the traces of the seismic section with the edges of the strips; and thereafter exposing the said surface to produce an image of the seismic section on such surface.

3,143,056

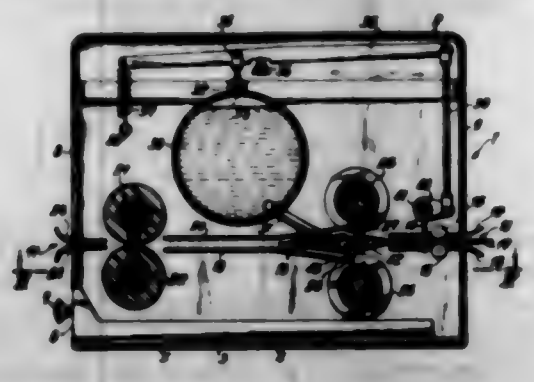
APPARATUS FOR DIFFUSION DEVELOPING

Walter Limberger, Hamburg, Poppenbuttel, Germany, assignor to Lumoprint Zindler KG., Hamburg, Germany

Filed Jan. 26, 1961, Ser. No. 85,118
Claims priority, application Germany Jan. 28, 1960
16 Claims. (Cl. 95—89)

16. A device for diffusion developing in which two layer carriers are used, comprising a housing, inlet means in one wall of said housing, outlet means in another wall of

said housing, upper guide means defining the upper side of a guide path between said inlet and said outlet means, lower guide means defining the lower side of said guide path, a chamber within said guide path intermediate said guide means, said chamber having openings defined therein of such size normally preventing a free flow of liquid out of said openings but allowing such flow if a pressure is exerted upon the liquid within said chamber, a pair of squeezing and transporting rollers rotatably supported within said housing and disposed within said guide path between said chamber and said outlet means, drive means



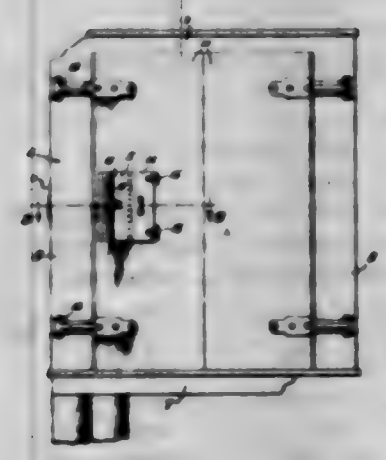
actuating said pair of squeezing and transporting rollers, a supply container for developing liquid within said housing above said chamber, duct means connecting said supply container with said chamber, liquid flow control means regulating flow of liquid from said container to said chamber, actuating means for operating said control means, said actuating means extending at least partly into said guide path intermediate said chamber and said inlet means and being operable by the layer carriers so as to operate said control means in dependence on the passage of layer carriers, said layer carriers engaging said chamber and being wetted on one side by liquid flowing from said openings.

3,143,857

AIR DEFLECTOR TO VEHICLES

Robert A. Jewell, Savannah, Ga., assignor to Great Dane Trailers, Inc., Savannah, Ga., a corporation of Georgia

Filed May 17, 1962, Ser. No. 195,643
3 Claims. (Cl. 98—2)



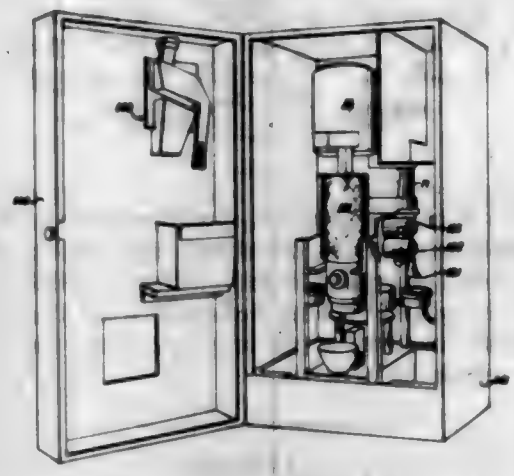
1. A vehicle having sides and ends adapted for tandem loading with another similar vehicle on a railway flat car with the vehicles in end to end adjacency, wherein the vehicle is of the ventilated type and has at least one door in one end having a ventilator opening therein near the juncture of that end with a side of the vehicle, in combination with an air deflector, the deflector being mounted in the vehicle end door adjacent the ventilator opening between the ventilator opening and the said juncture, the deflector being at such an angle to the door surface as to direct air moving around said juncture to the ventilator opening.

3,143,858

AUTOMATIC COFFEE-MAKING MACHINE

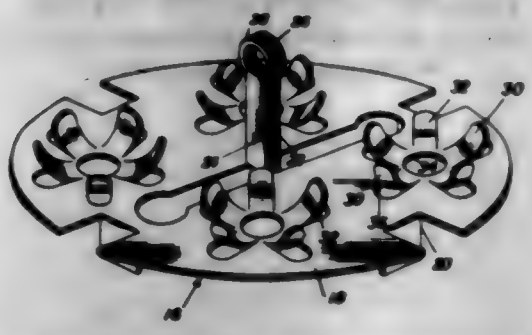
Pierre Eugene Jannin, 1 Square Trudaine, Paris 9, France

Filed Oct. 24, 1962, Ser. No. 232,682
Claims priority, application Luxembourg Oct. 31, 1961
14 Claims. (Cl. 99—283)



1. An automatic coffee-making machine comprising: a supply station for delivering a metered quantity of ground coffee including a ground coffee dispenser and first control means for energizing said ground coffee dispenser to dispense ground coffee; a compressing station for compressing said metered quantity of ground coffee including a compressing means and second control means for energizing said compressing means; a percolating station including a source of hot water under pressure, a distribution means for delivering hot water under pressure, said distribution means including an orifice of given cross-section, first valve means for connecting said source of hot water to said distributor means and means for supporting a coffee cup; a washing station including a source of wash liquid, a wash liquid dispensing means and second valve means connecting said source of wash liquid and said wash liquid dispensing means; said stations being disposed on the periphery of a circle and equiangularly displaced from each other; a plate; four canisters fixed to said plate in a circle and equiangularly displaced from each other, each of said canisters including a pierced base and an open top having a rim with a cross-section cooperatively engageable in a fluid-tight manner with the orifice of said distribution means; plate driving means supporting said plate so that said canisters are opposite said stations, said plate driving means including rotary drive means for rotating said plate in indexed steps so that each of said canisters is moved sequentially opposite each of said stations and axial drive means for axially moving said plate, said rotary drive means and said axial drive means cooperating when energized to, in sequence, move said plate away from said stations, to rotate said plate one-quarter of a revolution and to move said plate toward said stations; and means for energizing said first and second control means, said first and second valve means and said plate driving means in a prescribed sequence so that after each sequential movement of said plate, a first canister receives a metered quantity of ground coffee, a second canister preceding said first canister is subjected to a compressing action, a third canister preceding said second canister has its top rim applied in fluid-tight manner against the mouth of a said distributor means and accordingly serves for the percolation of the coffee which then flows directly through the pierced base of said third canister into the coffee cup placed therebeneath, and a fourth canister preceding said third canister is subjected to the washing operation.

3,143,059
HOLDER FOR STEAMING STUFFED ARTICHOKES
Sebastian Soño, 1519 Independence St., New Orleans, La.
Filed Aug. 5, 1959, Ser. No. 831,812
7 Claims. (Cl. 99—440)



1. In an artichoke holder, the combination of a base, a plurality of sockets on said base, each socket consisting essentially of a plurality of radial fingers struck from said base and rising and curving upwardly from the upper surface thereof to form a partially spherical socket within which to retain the artichoke.

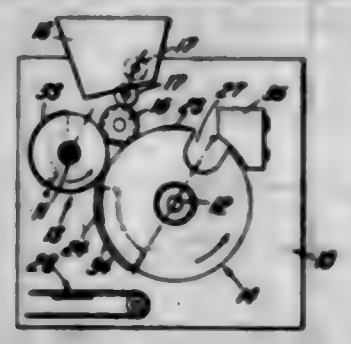
3,143,060
CARD PRINTING AND PUNCHING DEVICE
Iroy N. Soaler, Somersworth, N.H., assignor to VIP, Inc., Dover, N.H., a corporation of New Hampshire
Filed June 6, 1961, Ser. No. 115,110
30 Claims. (Cl. 101—19)



1. A card printing device comprising a platen, printing means spaced from said platen, said printing means and said platen being relatively movable toward each other, said printing means including at least one print bar bearing a plurality of indicia spaced along its length and being lengthwise movable relative to said platen so that any one of said indicia can be positioned in given registration with respect to the platen for printing of the so registered indicia on a card inserted between the platen and printing means when the platen and printing means are relatively moved toward each other, means for moving said bar lengthwise for indexing any desired one of said indicia to a printing position and including a separate slide for each print bar lengthwise movable relative to said bar and indexable to a plurality of positions, and coupling means connecting said slide to said print bar for unison movement, said coupling means including means for independently adjusting said bar relative to said indexed slide for accurate registration relative to a print point.

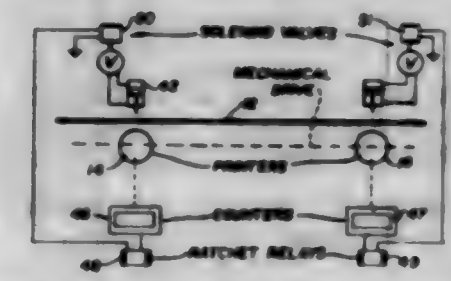
3,143,861
MACHINE FOR PRINTING ON CYLINDRICAL SURFACES
Arthur William Excell, London, England, assignor to Rejafix Limited, London, England, a British company
Filed Nov. 15, 1961, Ser. No. 152,511
Claims priority, application Great Britain Nov. 24, 1960
7 Claims. (Cl. 101—38)

1. A rotary printing machine for printing on a plurality of cylindrical parts of an elongated article in the form of a solid of revolution which parts have different diamsters to each other, comprising roller means mounted for rotation about its axis, means for driving the roller means, pressure roller means for resiliently maintaining the article in rolling contact with the roller means, and a plurality of printing surfaces mounted on the periphery of the roller means all disposed at a common radius relative to said axis but at axially spaced and circumferentially staggered locations relative to each other so that printing surfaces for printing on parts having different diameters are in contact with the article at different times to each other, and cam means mounted coaxially with and driven at the



same speed as the roller means, which cam means provides dwell portions axially aligned with each respective printing surface, each of the dwell portions having a radius for driving rolling engagement with the article while the aligned printing surface is printing on the article substantially equal to said common radius, and which cam means has portions thereof relieved for preventing interfrrence with the operation of the dwell portions.

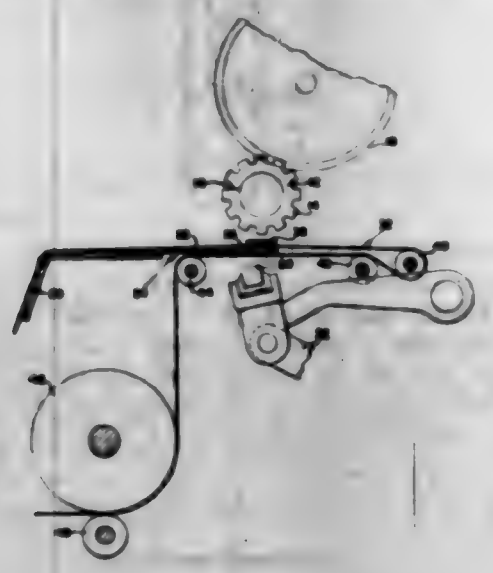
3,143,862
FOOTAGE PRINTING MACHINE
Douglas Barr Rankin, Montreal, Quebec, and David William Seager, Lachine, Quebec, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed May 14, 1962, Ser. No. 194,451
3 Claims. (Cl. 101—74)



1. Apparatus for marking off predetermined repetitive lengths on a strip of moving material, each repetitive length being a total of a series of unit lengths, which comprises a plurality of identical marking counters, in spaced side by side relationship along the length of the strip of material, each counter having a unit length count capacity before reset to zero exceeding the total unit lengths in a repetitive length, and the number of marking counters required being equal to lite unit count capacity of a single marking counter plus one divided by the repetitive length to be marked, means for simultaneously driving said marking counters, and means to sequentially move each said marking counters and said material relative to each other so as to effect a marking engagement whereby each marking counter successively marks off said repetitive lengths on the material, an impulse counter associated with each marking counter and driven by said driving means, each said impulse counter being interconnected with the moving means associated with each marking counter to control the sequential operation thereof, said marking counters being adjusted relative to one another so that the count on a successive counter lags the count on a previous counter by an amount equal to the units in a repetitive length plus the distance between the counters, whereby the sequential engagement of the marking counters with the material renders each counter effective to mark the material only over that portion of its count capacity equal to a repetitive length

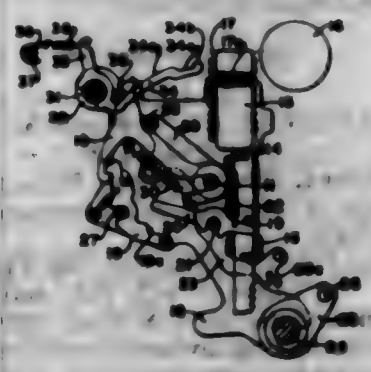
and whereby the adjustment and the spacing of said marking counters compensates for the zero reset of the counter to achieve a continuous marking of unit lengths in successive repetitive lengths on the material.

3,143,863
DOUBLE PRINT PREVENTING SHIELD IN WEB PRINTING MACHINES
Walter J. Stark, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Sept. 27, 1962, Ser. No. 226,668
3 Claims. (Cl. 101—93)



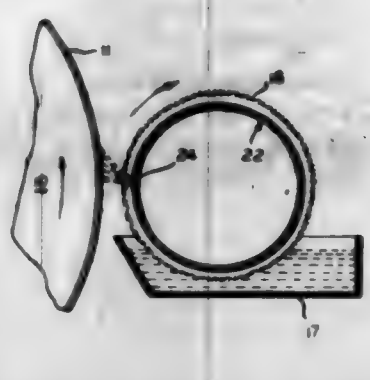
3. Printing mechanism comprising, in combination,
a type surface containing type characters positionable for enabling printing to be produced on record material;
hammer means capable of being operated for moving the record material to produce printing on the record material from the type surface;
guide means to guide the record material in a looped path between the type surface and the hammer means so that two webs of said material are presented therebetween; and
a spring member interposed between the two webs of record material and capable of transmitting the force of the hammer means to the web adjacent the type surface so that printing takes place only on that web and not on the other web.

3,143,864
PRINT HAMMER ANTI-REBOUND MECHANISM
Courtney H. Vann, Ithaca, N.Y., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 11, 1962, Ser. No. 229,907
6 Claims. (Cl. 101—93)



1. The combination of a print hammer; a type carrier; means imparting a printing stroke of said hammer with respect to said type carrier for taking an impression therefrom; an abutment on said print hammer; and a unitary pawl member operably associated with said abutment for preventing the print hammer from taking more than one impression from said type carrier during each printing stroke thereof; said pawl member having a control surface cooperating with said abutment throughout a major portion of each printing stroke of the print hammer for maintaining the pawl member ineffective; and said pawl member having a latching surface cooperating with said abutment immediately following the completion of each printing stroke of the print hammer for making the pawl member then effective for restraining said print hammer in a partially retracted position.

3,143,865
MOISTENING APPARATUS AND METHOD FOR OFFSET PRINTING PRESSES
Russell C. Warczak, 518 W. Berry Ave., Chicago, Ill.
Filed June 7, 1960, Ser. No. 34,528
16 Claims. (Cl. 101—147)



1. The method of moistening a rotating printing plate cylinder including the steps of directing a flow of low pressure air against a moving screen having a moistening liquid entrapped therein with the flow being in a direction inclined to the surface of said screen and directed toward the plate cylinder in the general direction of rotation of the plate cylinder, the flow being inclined in the direction of said movement of said screen, the inclination of the air flow in relation to said screen surface being such as to avoid substantial surface reflections of the air flow by said screen and at the same time large enough to avoid forcing the moistening liquid down the surface of said screen.

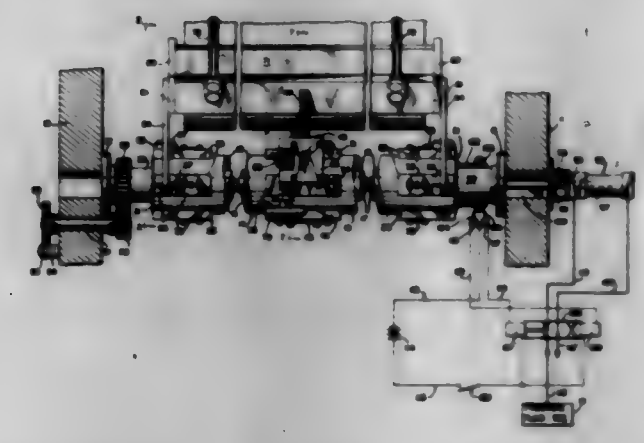
4. A moistening assembly for use with printing plate cylinders including a cylindrical screen and means mounting said screen for rotation, a moistening solution reservoir positioned beneath said screen so that the lower portion of said screen moves within a moistening liquid carried by said reservoir during rotation by said screen, a manifold positioned within said screen and having an air outlet orifice positioned adjacent to the surface of said screen for delivering an air flow to the screen, said orifice being elongated and being inclined to a radius of said screen which intersects the screen at the mid point of contact with said air flow, and means delivering low pressure air to said manifold, the air being delivered in a volume such that the manifold is kept under substantially the same pressure throughout the entire length thereof.

3,143,866
PRODUCTION OF DUPLICATING MASTERS
Lewis E. Walkup, Columbus, Ohio, assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 5, 1954, Ser. No. 402,320
21 Claims. (Cl. 101—149.4)

1. In a process for the production of a master for duplicating processes the steps comprising forming a

tackifiable powder image on a member bearing a film of duplicating dye, said powder image being formed on said film, tackifying said image, pressing said tackified image to a master sheet while said image is in contact with said member, solidifying the image in contact with the master sheet and said member to form an adhesive bond therebetween, and separating said member from said master sheet forming on said master sheet a fused solid image bearing a film in image formation of duplicating dye.

3,143,647
DOCTOR BAR MECHANISM
Lawrence H. Haskin, Jr., Richmond, Va., assignor to The Intа-Roto Machine Company, Inc., Richmond, Va., a corporation of Virginia
Filed Jan. 8, 1962, Ser. No. 164,765
16 Claims. (Cl. 101—157)



1. In doctor bar mechanism, supporting means, an intermediate rotatable tubular shaft journaled upon the supporting means, an inner axially reciprocatory shaft coaxially mounted telescopically within said intermediate tubular shaft and movable relative thereto, an outer tubular shaft engaging telescopically over the intermediate tubular shaft and enclosing a major portion of the latter, rigid key means interconnecting the inner reciprocatory shaft and the outer tubular shaft whereby the same may reciprocate as a unit relative to the intermediate tubular shaft, the intermediate tubular shaft having a slot receiving the key means movably, substantially frictionless roller means interconnecting the intermediate and outer tubular shafts so that the same may turn as a unit and have relative axial movement, doctor blade holder means mounted bodily upon the outer tubular shaft and movable therewith, means connected with the intermediate tubular shaft to adjust the same rotatably to swing the doctor blade holder means in an arc about the axis of the inner shaft, a servomotor connected with said shaft to reciprocate the same and thereby reciprocate the outer tubular shaft and doctor blade holder means, and control means for the servomotor operated directly by the movement of the inner reciprocatory shaft.

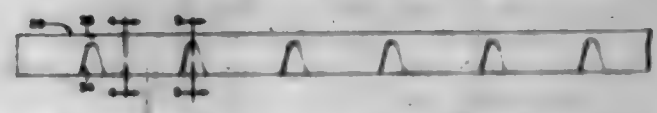
3,143,868
PERFORATING APPARATUS
William T. Bell, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Feb. 17, 1960, Ser. No. 9,324
5 Claims. (Cl. 102—20)

1. Well perforating apparatus for use in a cased well bore comprising an assembly of shaped charge containers, each having interconnections extending along a central axis of said assembly, each of said containers enclosing therein a shaped explosive charge having a hollowed forward end and adapted to develop a perforating jet along a perforating axis, said containers and charges being arranged so that said perforating axis is disposed transversely of said central axis, said containers further having forward and rearward ends, said forward ends extending outwardly from said central axis for a substantially greater distance than said rearward ends and said rearward ends receiving the main portion of said explosive charge, said containers being angularly oriented with respect to one



another about said central axis so that at least two of the outwardly extending forward ends may contact the wall of the casing and space all of the said rearward ends containing said explosive charges a substantial distance from the wall of the casing sufficient to minimize shock waves to the casing from the detonation of said explosive charges, and blasting cord means extending along the length of said assembly and attached to said rearward ends of said containers for detonating said explosive charges.

3,143,869
EXPLODING TAPE
Stanley Ostrow, Silver Spring, Md., assignor to Electronic Research and Development Corporation, Washington, D.C., a corporation of the District of Columbia
Filed May 18, 1960, Ser. No. 30,037
3 Claims. (Cl. 102—28)
(Granted under Title 35, U.S. Code (1952), sec. 266)



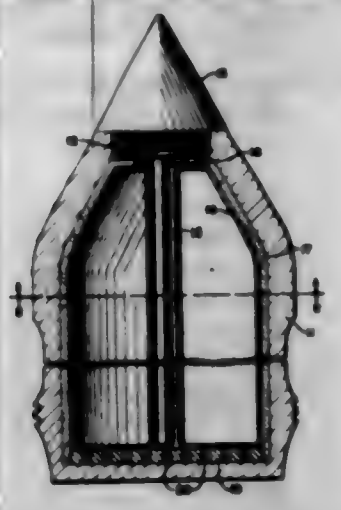
1. The combination of a combustion-supported gas-filled chamber, a flexible metallic foil tape disposed in said chamber, and means for passing electrical current through said foil to initiate combustion thereof, said tape comprising a thin strip of aluminum foil having substantial width and relatively continuous running length, a plurality of equally sized notches disposed at equal ignition point intervals along the length of said tape, each of said notches extending inward from one and the same edge of the foil and reducing its width to a narrow bridging portion connecting the unnotched portions of the foil, the bridging portions each being of a size to be heated and burned simultaneously by passage of electrical current along the length of the tape.

3,143,876
SAFE BIOLOGICAL OR CHEMICAL WARFARE PROJECTILE
Gilbert C. Bowen, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 27, 1962, Ser. No. 214,172
10 Claims. (Cl. 102—66)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a device having an outer container and an inner container, the inner container having a noxious agent therein, the improvement comprising:

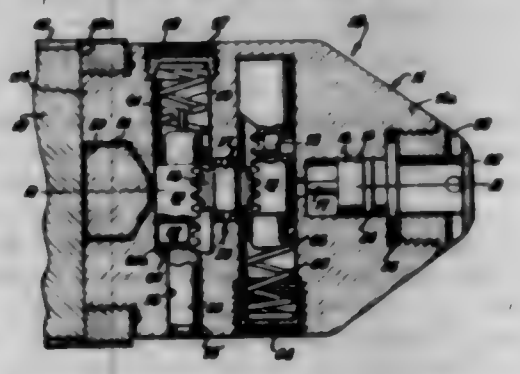
a chemically neutralizing means disposed between the inner and outer containers and surrounding the inner container whereby when the inner container is rup-

tured without complete fragmentation of the outer container the agent contained within the inner con-



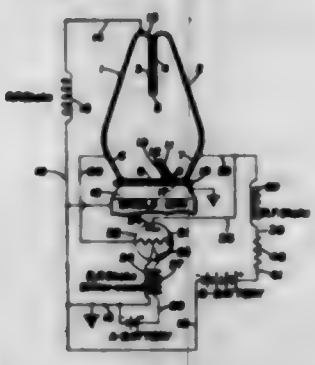
tainer is permanently neutralized by said neutralizing means.

3,143,671
SELF-ARMED AND ACTUATED BOMB
Jack H. Arnold, Jr., and Harold J. Jaeger, Newhall, Calif., assignors, by mesne assignments, to Special Devices, Inc., Newhall, Calif., a corporation of California
Filed Nov. 29, 1960, Ser. No. 72,414
5 Claims. (Cl. 102—70)



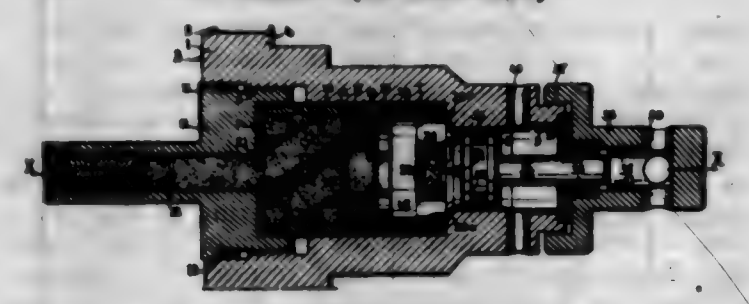
1. In a pressure-actuated bomb having a main explosive charge, adapted to be self-armed at a predetermined pressure and adapted to be automatically fired at a second higher predetermined pressure, the provision of: a fuze member including a firing pin adapted for axial movement along an axial arming axis of said fuze member and a detonator means for detonating the explosive charge, said detonator means being located between said firing pin and main explosive charge, said detonator means and firing pin adapted to be moved relative to each other between an unarmed position wherein the firing pin, detonator means and explosive charge are out of alignment with said arming axis, and an armed position wherein the firing pin, detonator means and explosive charge are in alignment with said arming axis, said detonator means including a rotatable pinion member rotatably mounted about a transverse axis and carrying a cylindrical detonator charge exposed at both ends, said detonator charge having an axis out of alignment with said arming axis in said unarmed position, a pair of rack members mounted to move in opposite directions in a common plane normal to said rotatable pinion member axis, one of said rack members being mounted between said pinion member and the explosive charge and being in engagement with said pinion member and carrying a cylindrical relay charge having an axis substantially parallel to and out of alignment with said arming axis in said unarmed position, said other rack member being mounted between said pinion member and said firing pin and being in engagement with said pinion member and carrying a cylindrical primer charge having an axis substantially parallel to and out of alignment with said arming axis in said unarmed position, pressure responsive alignment means for moving said pair of rack members and said pinion member relative to each other from said unarmed position to said armed position wherein the axes of said primer, detonator, and relay charges are in axial alignment with said axial arming axis when the ambient exterior pressure equals a predetermined arming pressure, and holding and pressure responsive firing means for holding said firing pin stationary in said fuze member for automatically releasing and firing said firing pin to strike said primer charge in the armed position when the ambient exterior pressure is greater than said predetermined arming pressure required to arm the fuze member.

3,143,872
PROXIMITY FUZE ANTENNA
Albert H. Dell, Cheverly, Md., and John H. Kuck and Jules H. Sreb, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 19, 1948, Ser. No. 21,868
6 Claims. (Cl. 102—70.2)



4. In a radio proximity fuze for a projectile, a generator of radiant energy, comprising, an antenna loop, said loop being divided into two approximately symmetrically located halves having their end portions overlapping, a dielectric at each end of each such half, thus forming two capacitors integral with the loop and diametrically opposite one another, and oscillator circuits coupled with the respective halves of said loop to provide mutually balanced radiation from said halves, whereby said projectile is not subjected to undesired excitation from said generator due to any unbalance in the oscillator circuits.

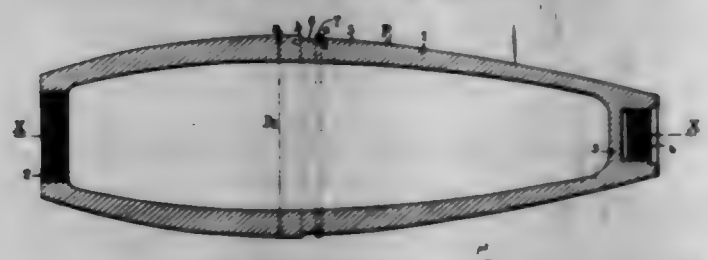
3,143,873
FLUID PRESSURE ACTUATED TIME DELAY FUZE
Joseph Raymond Janse, Paris, France, assignor to Hotchkiss-Brandt, Paris (Seine), France, a corporation of France
Filed Mar. 8, 1962, Ser. No. 178,484
Claims priority, application France Mar. 10, 1961
6 Claims. (Cl. 102—85.6)



1. An igniting device for a self-propelled projectile adapted to be shot out of a launching tube by the gases of an auxiliary launching charge, said device comprising the combination of means defining a body, a chamber having an axis and formed in the body, a primer device located adjacent one end of the chamber, a piston having a forward face in facing relation to the primer device and a rear face and slidable in a gas-tight manner along said axis in the chamber between a rear position

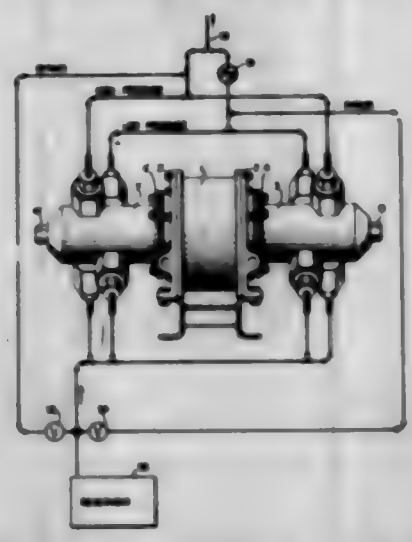
and a forward position, a firing pin carried by the forward face of the piston and capable of striking and penetrating the primer device when the piston slides to said forward position, the primer device being adapted to ignite upon application thereon of a given percussion force by the firing pin, means defining a retaining device mounted in the body for preventing the piston from sliding rearwardly from said forward position beyond an intermediate position in which the firing pin is at such distance, from the primer device that the piston, when moved relative to the primer device by the force of gravity along said axis when said axis is vertical, can not gain sufficient impetus to permit the firing pin to apply said given percussion force on the primer device, said retaining device including a locking member ordinarily lockingly engaged with the piston, and means responsive to the action of the gas of the auxiliary launching charge and associated with the locking member for removing the locking member from engagement with the piston and thus rendering the piston free to slide rearwardly when the auxiliary launching charge is ignited, and a passageway formed in the body and putting the chamber in communication with the exterior of the body, the passageway opening into the chamber in such position that the passageway is located on the side of the piston corresponding to said rear face of the piston in said intermediate position thereof and is located on the side of the piston corresponding to said forward face of the piston in said rear position thereof, whereby on launching the projectile said gases of the auxiliary launching charge drive the piston at a force exceeding said percussion force to said forward position and gases emanating from the ignited primer device drive the piston to said rear position and escape through the passageway.

3,143,874
PROJECTILE FOR A MORTAR HAVING A NON-RIFLED BORE
Joseph Raymond Jasse, Paris, France, assignor to Hotchkiss-Brandt, Paris, France, a corporation of France
Filed June 28, 1961, Ser. No. 120,429
Claims priority, application France June 29, 1960
5 Claims. (Cl. 102—92.5)



1. In a projectile adapted to be fired by a launching charge from a launching gun tube and provided with a sealing ring of expandable material and having an outside diameter smaller than the inside diameter of the launching tube and combined with an annular recess in the projectile for sealing radial clearance between the projectile and the launching tube, the ring being ordinarily located at the rear end of the recess and the recess having a forwardly divergent annular face which closely engages the ring so as to expand the ring as the ring is urged forwardly relative to the projectile by the launching charge, the provision of small recesses on a periphery of the ring, said recesses forming throughway passages between the ring and one of two elements consisting of the launching tube and the divergent face, whereby when the projectile is launched the hot gases of the launching charge urge the ring forwardly in sealing engagement with the launching tube and the destructive effect of a small proportion of said gases passing through said passages reduces the tensile strength of the ring in the region of the recesses so that the ring ruptures as the projectile issues from the launching tube.

3,143,875
PUMP
Anthony E. Giroux and Jack R. Hulse, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed June 12, 1961, Ser. No. 116,521
3 Claims. (Cl. 103—37)



1. A fluid pump comprising a pump housing, said housing having a central bore extending therethrough, a plug removably secured in one end of the housing and axially aligned with the central bore, said bore forming a low pressure cylinder in the opposite end of the housing, said plug having a high pressure cylinder formed therein, said high pressure cylinder being axially aligned with said central bore, a connecting rod in the bore, means for reciprocating the connecting rod, a plunger on the connecting rod in position for cooperating with the low pressure cylinder to form a low pressure pump chamber, said rod extending into the high pressure cylinder and forming a high pressure plunger cooperating with the high pressure cylinder to form a high pressure pump chamber, said bore having a shoulder formed therein between said chambers, packing in said bore surrounding the connecting rod between the plug and the shoulder, spring means between said plug and said packing yieldably urging said packing against said shoulder whereby the flow of fluid between said chambers is prevented, high pressure valve means extending through the housing and in communication with said bore between the plug and the packing adjacent said spring, and low pressure valve means extending through the housing and in communication with said low pressure chamber.

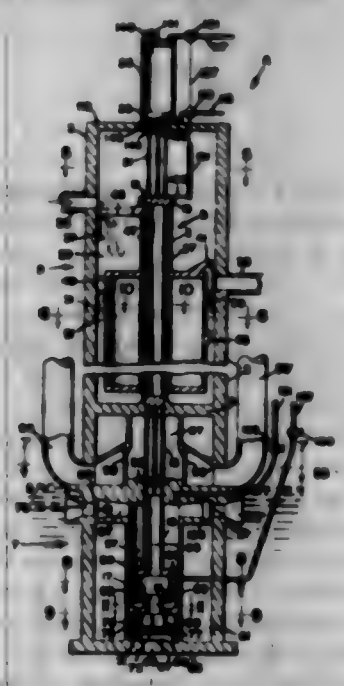
3,143,876
CONSTANT PRESSURE, VARIABLE VOLUME DELIVERY PUMP
George L. Pyritz, 55 S. Linwood Ave., Indianapolis 11, Ind.
Filed Oct. 11, 1962, Ser. No. 230,089
8 Claims. (Cl. 103—37)



1. A pump for delivery of a fluid at substantially constant high pressure and variable volume comprising
a body;
a drive shaft rotatably carried by the body;

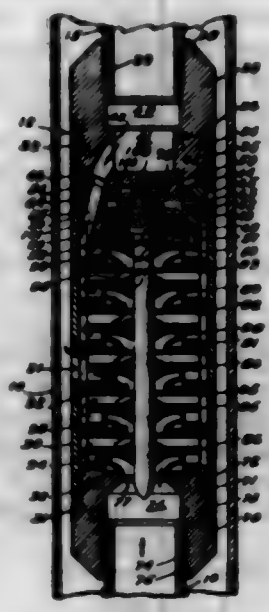
a plurality of cylinders in one group carried by the body and having their axes circumferentially spaced around and in parallelism with the axis of said shaft;
a piston reciprocally carried in each cylinder;
cam drive means engaging said pistons and actuated by turning of said shaft effecting reciprocation of the pistons;
said shaft having a fluid intake passageway therein with an outlet port on the side of the shaft;
a port sleeve longitudinally slidable along the shaft and fixed on the shaft against circumferential travel therearound;
a cylindrical wall in said body within which said port sleeve revolves and slides in contact therewith;
each of said cylinders having a passageway leading therefrom to a port in said wall, the ports being spaced apart around a common circumferential line;
a fluid receiving chamber at one end of said cylindrical wall and spaced from said cylinder ports;
said port sleeve having a hole therethrough over said shaft port and sequentially registrable with said cylinder ports;
lands helically around said port sleeve sequentially covering and uncovering said cylinder ports by turning of said shaft;
a pair of said lands defining a discharge passageway from the cylinder ports to said receiving chamber;
a fluid discharge chamber; and
a valve between said receiving and said discharge chambers opening under predetermined pressure differential between the receiving and discharge chambers for fluid flow from the receiving chamber into the discharge chamber;
said port sleeve being subject to pressure in said receiving chamber tending to shift the sleeve along said shaft thereby varying the timing of the port sleeve lands in travel across said shaft and cylinder ports for greater fluid flow, and being subject also to pressure in said discharge chamber tending to shift the sleeve in reverse direction along the shaft to reversely vary said timing for less fluid flow.

3,143,077
BUOYANCY WATER LIFT
Steven A. Scanavino, Box 716–1, Hawthorne, Nev.
Filed Apr. 21, 1961, Ser. No. 104,645
8 Claims. (Cl. 103—56)



1. In a water lifting device for lifting water from a water basin to an elevation substantially above the surface of the basin and including a housing member having a lift column and a water fillable plunger mounted for vertical reciprocal movement within the housing at the lower end thereof and including water inlet means communicating with the basin water, outlet means for discharging water therefrom, and valve means associated with said inlet and outlet means for controlling water flow, the improvements comprising: A fluid discharge means in communication with said plunger for receiving water therefrom and discharging same at an elevation substantially above the surface of the water basin; a water fillable buoyancy chamber formed in the upper portion of said housing; a cylindrical buoy mechanically connected to the upper portion of said lift column for movement therewith and being partially submerged in said buoyancy chamber, said water fillable plunger being slidably mounted with the lower end of said lift column and having connection for reciprocal movement with said buoy, said cylindrical buoy having a height and a buoyancy lifting force area sufficient to create a buoyancy equal to the combined weight of said lift column, water filled plunger and the water in said discharge means; water lift actuating means for alternately moving said water filled plunger to plunger discharge position and plunger filling position.

3,143,078
WELL PUMP
Jonathan C. Gaslow, South Gate, Doran B. Harney, Downey, and Wilburn O. Shepherd, Whittier, Calif., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Mar. 14, 1962, Ser. No. 179,565
10 Claims. (Cl. 103—87)



1. Turbo-lift apparatus for installation in wells, comprising:
an elongated, hollow, cylindrical housing adapted to be lowered into a well casing;
a first inlet at the top end of said housing for introduction of power fluid thereinto;
a second inlet adjacent the bottom end of said housing for intake of production fluid thereinto;
an elongated shaft coaxially rotatably mounted in said housing;
a turbine impeller coaxially secured to an upper portion of said shaft;
a pump impeller coaxially secured to a lower portion of shaft;
means within said housing defining passages for flow of pressure fluid downwardly from said first inlet drivingly through said turbine impeller to an intermediate interior portion of said housing below said turbine impeller;

means within said casing defining passages for flow of production fluid upwardly from said second inlet through said pump impeller to said intermediate interior portion of said housing above said pump impeller;

a discharge port extending laterally directly through said housing from said intermediate interior portion of said housing to the exterior thereof;

and means for balancing axial thrust tending to displace said shaft and said impeller therein axially of said housing, including:

a cylindrical chamber coaxially positioned in the upper portion of said housing, said chamber having a lower, coaxial entrance bore in communication at its lower end with said first inlet, said entrance bore being of reduced inside diameter relative to the upper adjoining portion of said chamber, thereby forming an upwardly facing, annular chamber shoulder in said chamber surrounding said entrance bore,

a balancing member fixed coaxially on the upper portion of said shaft, said balancing member having an upper disk portion of an outside diameter greater than the inside diameter of said entrance bore, and a depending cylindrical hub portion of reduced outside diameter relative to said disk portion, thereby forming a downwardly facing annular disk shoulder at the juncture of said disk and hub portions, said disk portion being positioned coaxially in said chamber with said hub portion extending therefrom coaxially through said entrance bore, whereby the said downwardly facing annular shoulder of said disk is positioned over said upwardly facing annular chamber shoulder, the axial separation therebetween being variable in accordance with axial displacement of said balance means and said shaft relative to said chamber,

and duct means connecting the said chamber to the adjacent exterior portion of said housing, whereby power fluid may flow from said first inlet, between said shaft and said bore and through said axial separation into said chamber and thence out through said duct means, whereby the said disk portion may be subjected to fluid pressure from said first inlet with a resulting axial force thereon which varies in accordance with the said axial separation of said disk shoulder and said chamber shoulder as determined by axial displacement of said shaft from a predetermined position relative to said housing.

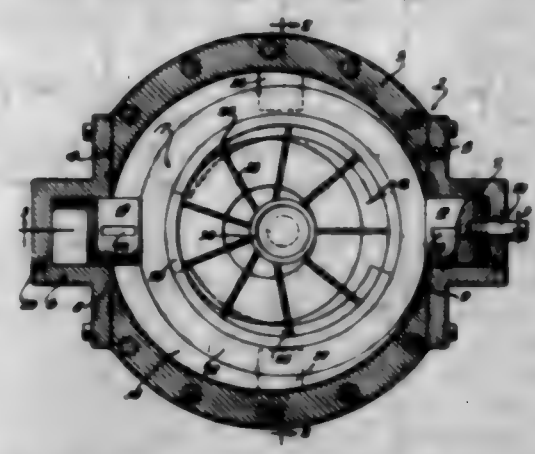
3,143,879

REVERSIBLE DISCHARGE FLOW AND VARIABLE DISPLACEMENT PUMP

James F. Garner, 17370 Grand Ave., Elsinore, Calif.

Filed Aug. 7, 1961, Ser. No. 129,697
5 Claims. (Cl. 103—120)

1. In a reversible discharge flow and variable displacement pump comprising a housing, said housing having a chamber therein, a rotor concentrically journaled in said chamber, a shaft attached to said rotor to drive the same, a plurality of radially extending vanes slidably mounted in said rotor for radial movement, a shift yoke slidably mounted in said housing for movement relative to the rotor, means on the yoke engaging the inner radial ends of the vanes, oppositely positioned and radially extending pistons on said yoke, cylinders detachably mounted on the housing, said pistons extending into the cylinders, said housing including a flat sealing surface thereon to receive the cylinders, said shift yoke having a recess formed therein to receive said vanes, said recess being larger in diameter than the rotor to provide pumping chambers between the rotor and the peripheral surface of the recess, said housing having a fluid inlet and a fluid outlet therein, both extending axially, a vertical wall on one side of said shift yoke, said wall having a pair of arcuate openings therethrough, said arcuate openings communi-



cating with the pumping chambers in all positions of the parts whereby the pumping chambers are successively opened to the inlet port and the outlet port, and a ring rotatably mounted on the inner circular face of said shift yoke, the outer ends of the vanes sealingly engaging said ring.

3,143,[illegible]

DEEP WELL PUMP FOR VISCOUS OIL

Wayne N. Sutliff, 2931 Pierce Road, Bakersfield, Calif.

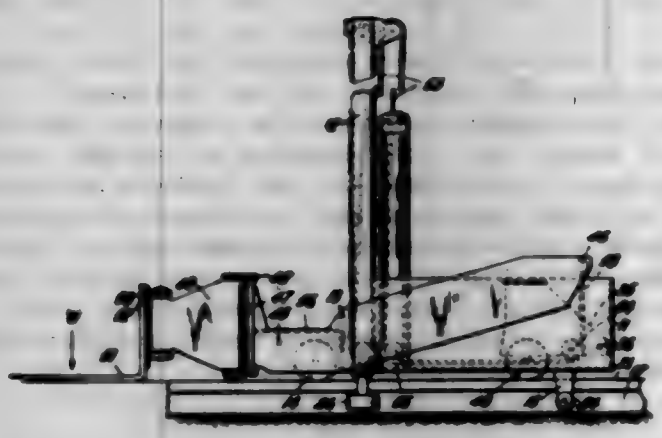
Filed Mar. 25, 1963, Ser. No. 267,561
3 Claims. (Cl. 103—179)



1. In a deep well pump for pumping highly viscous oil, said pump being adapted to be located at the lower end of a string of production tubing and actuated by a sucker rod within said tubing, the combination of: a sub connected to and closing the lower end of said tubing to confine a column of production fluid therein, said sub having an axial bore of relatively large diameter compared to the diameter of said sucker rod; a plunger actuating piston closely fitting said bore and reciprocable therein; connector means connecting the upper end of said piston to the lower end of said sucker rod for repeatedly reciprocating said piston in said bore, each reciprocation including a suction stroke and a compression stroke; standing valve means provided in said sub permitting an upward flow of production fluid therethrough into said production fluid column but preventing a reverse flow of fluid therethrough; reciprocating pump means having a suction and compression chamber communicating with the lower end of said standing valve means for drawing production fluid from said well into

said chamber on the suction stroke of said pump means and forcing fluid from said chamber upwardly through said standing valve means and into said production fluid column on the compression stroke of said pump means; and means for connecting said piston to said pump means to produce a suction stroke of the latter by each downstroke of said piston and a compression stroke of said pump means during each upstroke of said piston, said standing valve means remaining closed during the downstroke of said piston whereby a very substantial net downward hydrostatic pressure is imposed upon said piston by the fluid head of said production column, in addition to the weight of said sucker rod, thereby speeding up the downstroke of said piston and increasing the productive capacity of said pump means.

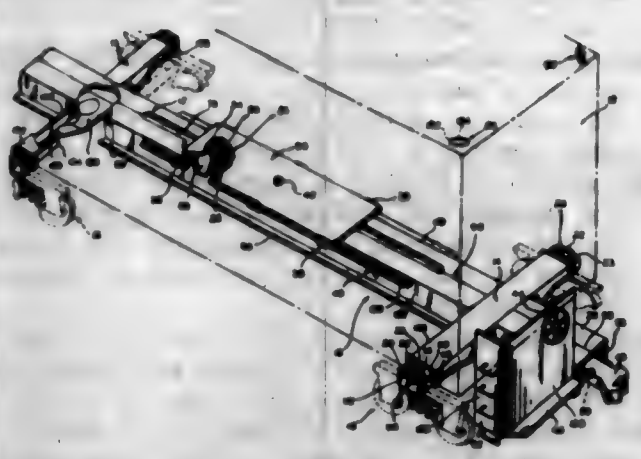
3,143,881
GUIDANCE OF INDUSTRIAL TRUCKS
John Robert Vernon Dolphin and Leonard Bruce Russell, Basingstoke, England, assignors to Lansing Bagnall Limited, Basingstoke, Hampshire, England, a British company
Filed Nov. 7, 1962, Ser. No. 236,893
Claims priority, application Great Britain Feb. 7, 1962
7 Claims. (Cl. 104—246)



1. In an industrial truck the combination of a body, ground wheels at one end of the body, a load-supporting member on the body which overhangs the ground wheels so as to support a load beyond the wheel-base of the truck, a cradle pivoted on the body between the other end thereof and said ground wheels to swing up and down on the body, a guide-engaging member located upon the cradle in a position spaced from the pivotal axis thereof and shaped so as to be capable of engaging beneath a fixed guide-rail extending parallel to the course along which the truck is to run, and a rear ground wheel for the truck which wheel is rotatably mounted on the cradle at a point lying on the same side of the pivotal axis of the cradle as said guide-engaging member.

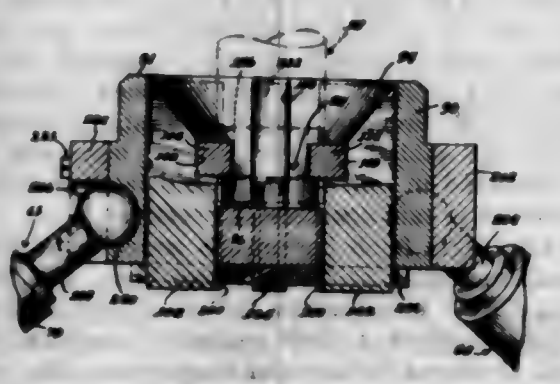
3,143,882
DECKLESS LONG TRAVEL CUSHION CAR FOR FREIGHT CONTAINERS
Kenneth J. Austgen, Griffith, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 9,135, Feb. 16, 1960, and Ser. No. 44,328, July 21, 1960. This application Sept. 27, 1962, Ser. No. 228,215
10 Claims. (Cl. 105—366)

1. A railroad car for transporting containers, said car comprising a frame composed of a center sill structure, a bolster structure secured adjacent each end of the center sill structure, each bolster structure including means for securing same to a car truck, a platform riding on and carried by said center sill structure, said platform being mounted for movement longitudinally of said center sill and having a width substantially conforming to the width of said center sill structure, a cushioning device interposed between said center sill structure and said platform, means securing a container to said platform when the container is placed on the car, said center sill and bolster structures defining an open framework, an end sill secured to the center sill structure at each end thereof spaced from the adjacent bolster structure, and projecting laterally of said



center sill structure, said frame being open between the respective end sills and bolster structures, and a vertical guard structure carried by each of said end sills, said guard structures being coextensive with the portions of the respective end sills that project away from said center sill structure, said guard structures at each end of the center sill structure defining an intervening gateway across the width of the center sill structure.

3,143,883
FIFTH WHEEL STAND
Jack E. Gutridge, Dyer, Ind., and Jack W. Borger, Calumet City, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,310
3 Claims. (Cl. 105—368)



1. A fifth wheel stand for securing a trailer body of the type having a depending kingpin defining a slotted lower end portion to a railroad car or the like by engaging the kingpin thereof, said stand comprising:

a kingpin latch device and a support therefor,

said latch device comprising a fifth wheel member formed on its top to define a substantially planar upwardly facing fifth wheel surface and an upwardly facing kingpin seat recessed in said member,

said support comprising retractable prop means to which said fifth wheel member is secured at one end thereof for retractably mounting said fifth wheel member in a kingpin engaging position wherein said fifth wheel surface is horizontally disposed,

said prop means at the other end thereof being adapted to be secured to the car,

said kingpin seat of said fifth wheel member opening at said fifth wheel surface and being in circumambi-

ent relation about a central axis that is substantially perpendicular to said surface, which axis is vertically disposed when said fifth wheel member is disposed in its said kingpin engaging position,

with the outer rim portion of said seat being defined by a kingpin guide surface disposed in substantially circumambient relation about the central axis of said seat and that converges inwardly of said fifth wheel member towards said axis and downwardly from said fifth wheel member surface,

said guide surface merging into a centrally disposed portion of said seat that is proportioned to receive the lower end of the trailer kingpin when said fifth wheel member is in its kingpin engaging position,

and means for forming a compression stress connection between said fifth wheel member and the portion of the kingpin that projects through the space defined by said guide surface when the kingpin is received in said seat,

said means comprising apertures formed in said fifth wheel member in spaced relation about said central axis and said centrally disposed portion of said seat,

said apertures extending parallel to said central axis and opening at said guide surface about and adjacent to said centrally disposed portion of said seat,

with the portions of said fifth wheel member that define said apertures each defining an elongate abutment surface facing said axis and extending parallel to said axis, said abutment surfaces extending upwardly through said fifth wheel member to substantially the level of said fifth wheel surface,

and removable latch members proportioned to be received in said apertures, respectively, and to engage with the respective abutment surfaces of the respective apertures,

said latch members each being proportioned to, when positioned in the respective apertures, project upwardly from the said aperture openings through said seat to substantially the level of said fifth wheel surface,

said latch members each being further proportioned to substantially fill the space between the respective abutment surfaces and the kingpin when the latter is received in said seat and said latch members are respectively received in said apertures, said latch members thereby being proportioned to engage the kingpin portion that lies in subetantial coplanar relation with said fifth wheel surface when the kingpin is received in said seat and said latch members are received in said apertures, respectively,

and releasable latch bar means cooperating with said latch members, said fifth wheel body, and the kingpin slotted end portion for releasably holding said latch members in their respective apertures in their said abutment surface and kingpin engaging positions and for keying said fifth wheel member to the kingpin,

said fifth wheel member being formed with an aperture extending therethrough generally crosswise of said central axis of said seat and in alignment with the position of the kingpin slot when the kingpin is disposed within said seat and in said seat centrally disposed portion,

one of said latch members being formed with a recess that is aligned with said crosswise aperture when said latch members are in their abutment surface and kingpin engaging positions,

said latch bar means comprising an elongate rigid member proportioned to extend into said crosswise aperture and through the kingpin slot and said one latch member recess when the kingpin is received in said seat and said latch members are received in said abutment surface forming apertures, respectively,

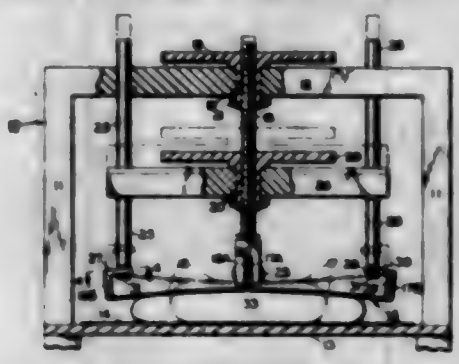
and means for securing said latch members together.

3,143,084

ADJUSTABLE FLEXIBLE DOUGH MOLDING ASSEMBLY

Herbert C. Rhodes, 10106 SE. Stark St., Portland, Oreg.

Filed Sept. 12, 1962, Ser. No. 223,167
4 Claims. (Cl. 107—9)



1. In a dough molding assembly of the character described including a conveyor for the dough pieces to be molded, a flexible plate adjustably mounted above the conveyor for engagement with the dough pieces moved along on said conveyor, a central longitudinal reinforcing rib on the top face of said plate, longitudinal side reinforcing ribs along the side edges of said plate, said plate being transversely flexible, adjustable means for supporting said side ribs at a pair of locations along said flexible plate so arranged that the spacing of said ribs, and therewith the spacing of said side edges of said plate above said conveyor can be adjusted at each of said locations, and adjustable means for supporting said central rib at said locations so arranged that the spacing of said central rib, and therewith the spacing of the center portion of said plate above said conveyor, can be separately adjusted at each of said stations, whereby the transverse curvature of the bottom dough-engaging face of said plate as well as the spacing of said face above said conveyor can be adjusted independently at each of said stations.

3,143,085

ADJUSTABLE CUTTER DISC

Jerome G. Gebhardt, Catonsville, and Peter M. Cameron, Owings Mills, Md., assignors to DCA Food Industries Inc., New York, N.Y., a corporation of New York

Filed Oct. 12, 1960, Ser. No. 62,243
4 Claims. (Cl. 107—14)



1. A doughnut forming device comprising a tubular nozzle, a support stem depending below said nozzle, a pair of coaxial discs mounted on said stem below said nozzle, an annulus of elastomeric material sandwiched between the peripheries thereof and having a peripheral border of substantially uniform thickness extending to the peripheral edge of said annulus, means for axially adjusting the relative positions of said discs whereby to selectively compress and radially expand said annulus

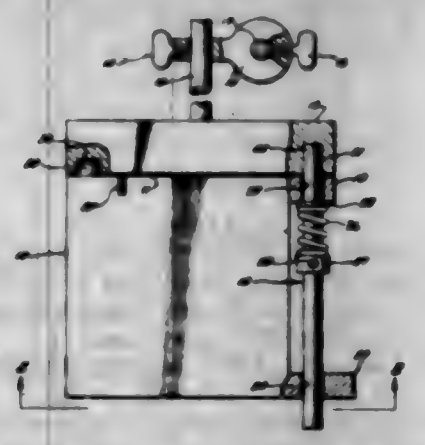
and release and radially contract said annulus, and a cutter sleeve having a lower section provided with a downwardly directed sharp cutting edge and slidably registering with said nozzle and reciprocable between an advanced depressed position slidably engaging the periphery of said annulus and a retracted position above said annulus, the inner diameter of said cutter sleeve being greater than the outer diameter of said discs and the periphery of said annulus being normally expanded into a slidable substantially frictional engagement with the inner periphery of said cutter sleeve lower section when said cutter sleeve is in said depressed position.

3,143,086
IRONING TABLE
Charles R. Turner and John H. Hilldale, Jr., Philadelphia, Pa., assignors to The Proctor-Silex Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 25, 1960, Ser. No. 51,853
11 Claims. (Cl. 108—81)



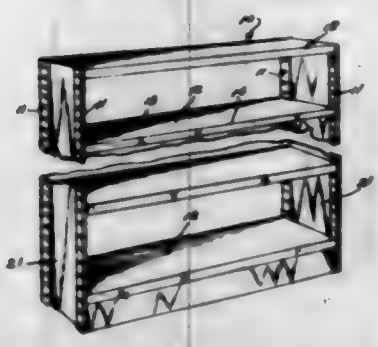
1. In an ironing table, an elongated top supported by a pair of crossed legs pivotally connected to each other at a point intermediate their ends, a fixed pivot connection between said top and the upper end of one of said legs, a transverse member connected to the upper end of the other leg, retaining guide means on said top slidably supporting said member, said table top having generally parallel edges except at one end where at least one edge is tapered toward convergence with the other edge along a straight line intersecting said one edge closely adjacent the outer end of said guide means, a generally triangularly-shaped leaf for selectively extending the table top to provide an essentially straight edge, hinge means connecting said leaf to the top along the tapered edge to permit rotationable movement of the leaf relative to the top into and out of the plane of the top, support means affixed to the top and to the leaf for supporting said leaf in the plane of the top, manually operable means for releasing said support means, spring means adapted to rotate the leaf and fold it upward beneath the underside of the top, and resilient means to engage said support means and thereby retain the leaf in its folded position.

3,143,087
SUPPORT
Jerome A. Rodder, 775 Sunshine Drive, Los Altos, Calif.
Filed Nov. 23, 1962, Ser. No. 239,605
6 Claims. (Cl. 108—116)



1. Apparatus for supporting equipment, the apparatus comprising an upright post, a bar, means for clamping the bar to the post, a platform disposed adjacent the bar, pivot means securing the platform to the bar, a dowel secured to the platform and extending toward the bar, the bar having a recess in it to receive the dowel and lock the platform to the bar in a substantially horizontal position when the bar is clamped to the post, and means for sliding the platform away from the bar to withdraw the dowel from the recess in the bar and release the platform to permit it to pivot downwardly with respect to the bar from the substantially horizontal position.

3,143,088
SHELVING STRUCTURE
Robert J. Evans, Aurora, Ill., assignor to Aurora Equipment Company, Aurora, Ill., a corporation of Illinois
Filed June 13, 1962, Ser. No. 202,282
11 Claims. (Cl. 108—144)

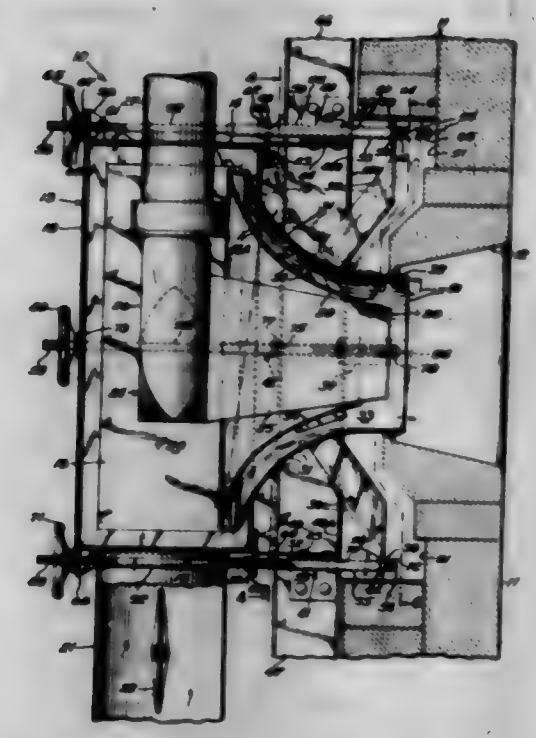


1. In combination,
a shelf having a main shelf portion and underturned shelf flanges along four sides of the shelf,
the shelf having cut-out recessed areas in said underturned shelf flanges at opposite ends of said shelf which define pairs of opposed converging shelf edges, and
four rectangularly arranged posts confronting said underturned shelf flanges disposed at opposite ends of said shelf and having pairs of vertically spaced embossments,
each pair of the embossments having opposed converging inclined shelf supporting edge portions and flap portions for supporting a shelf thereon and with said shelf supporting edge portions being engaged in unitary assembly with said opposed converging edges of said embossments and with said flap portions holding the associated shelf flange against the associated post.

3,143,089
FULL BURNER ASSEMBLY
Gilbert C. Whitney, Jr., and Kenneth E. Lee, Dansville, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Jan. 8, 1963, Ser. No. 253,781
11 Claims. (Cl. 110—28)

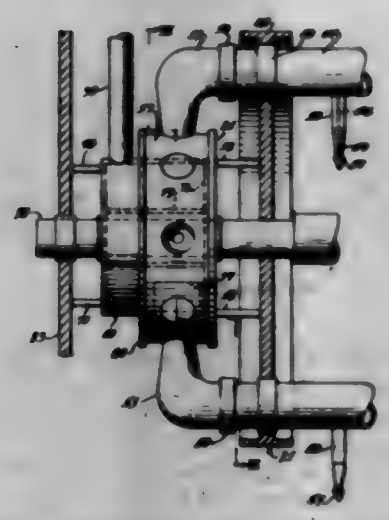
1. A fuel burner assembly comprising, a burner nozzle having a longitudinal axis connected to receive fuel from a source thereof and having an outlet to discharge the same for combustion, a source of combustion air under pressure, a baffle arrangement including at least one tubular member encompassing the burner nozzle and coaxial therewith arranged to define with the nozzle an elongated annular passageway of diminishing circumference, said passageway extending from a large circumference end in communication with said source of combustion air to receive combustion air and terminating at a small circumference end in communication with the discharge end of said burner nozzle to discharge combustion air adjacent said burner nozzle outlet, said member being pivotally adjustable about a point approximately located in the plane of the burner nozzle outlet and along the axis of the nozzle to position the axis of said member at an angle

relative to the longitudinal axis of the burner nozzle to vary the direction of the combustion air discharged and



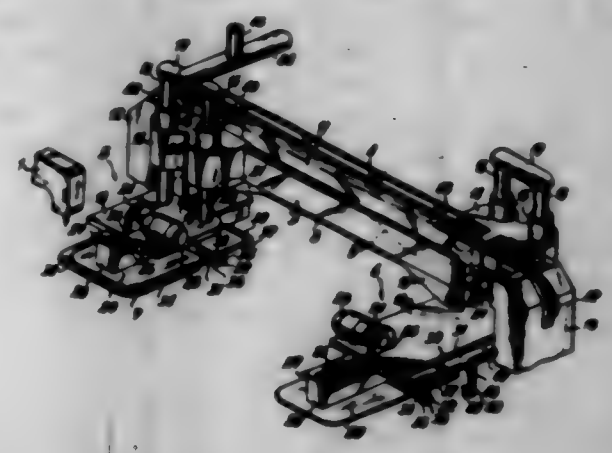
to control the direction of the burner flame, and means to pivotally adjust said member.

3,143,090
SOIL TREATING APPARATUS
Robert D. Cecil and Charles H. Cecil, Jr., both of R.R. 3, Grand Detour, Ill.
Filed May 4, 1962, Ser. No. 192,418
1 Claim. (Cl. 111—6)



In soil-treating apparatus, a carriage supported for movement over soil to be treated, leg means depending from said carriage, support means journalled by said leg means for rotation about a general horizontal axis, said support means including an axle and a pair of axially spaced wheels on said axle, a plurality of hollow shafts extending between and journalled by said wheels for rotation relative thereto about axes parallel to and at equal radial distances from said generally horizontal axis, said shafts being in circumferentially spaced relation with respect to said wheels to cooperate therewith in providing an open skeletonized assembly, a row of hollow spikes extending downwardly from each of said hollow shafts and having openings adjacent the lower ends thereof, geared drive connecting means between said hollow shafts and said leg means for holding said hollow shafts against rotation relative to said leg means and thereby maintaining said spikes in vertical positions, a fluid supply drum secured to said leg means having inner and outer cylindrical surfaces in coaxial relation to said generally horizontal axis and having an opening in the lower side thereof, means for supplying fluid to the interior of said drum, a fluid distributor drum carried by said support means in surrounding relation to said fluid supply drum and having a plurality of outlets each adapted to communicate with said fluid supply drum through said opening in said lower side thereof, a plurality of radially disposed elbows having ends coupled to said outlets and opposite ends disposed adjacent ends of said hollow shafts, and sealed coupling means between said opposite ends of said elbows and said ends of said hollow shafts for allowing flow of fluid to said hollow shafts while also allowing rotation of said hollow shafts relative to said elbows.

3,143,091
FOLDING AND TRANSFERRING ARRANGEMENT FOR MATERIAL CUT IN SEWING INSTALLATIONS
Conrad Arbter, Seal (Saale), Germany, assignor to G. M. Pfaff AG, Kaiserslautern, Pfalz, Germany
Filed June 22, 1962, Ser. No. 204,377
Claims priority, application Germany Oct. 2, 1961
3 Claims. (Cl. 112—2)

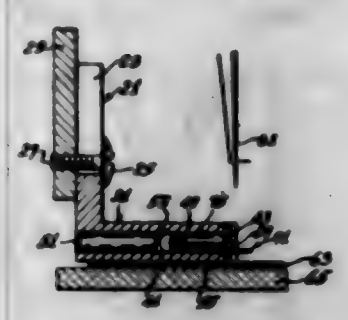


1. In a sewing insallation comprising a sewing machine and a folding device, means for feeding individual material cuts having turned over borders into position for sewing, said means comprising a base plate for said folding device, a material gripper having a gripper plate and a flap, said base plate having a recess and said gripper plate being movable horizontally into said recess, a device for supporting material cuts and movable vertically into said recess, said material gripper being adapted to support the material cut while exposing the folded border to be sewn, said gripper plate being supported on a carriage and said flap being pivotally movable from below against said gripper plate, means operative to move said flap against said gripper plate and means operative to move said carriage and said gripper horizontally into sewing position adjacent said sewing machine.

3,143,092
ATTACHMENTS FOR SEWING MACHINES
Aaron Glassman, Scranton, and Paul J. Benarrigo, Dunmore, Pa., assignors to Pennsylvania Sewing Research Corp., a corporation of Pennsylvania
Filed June 18, 1962, Ser. No. 203,167
8 Claims. (Cl. 112—165)

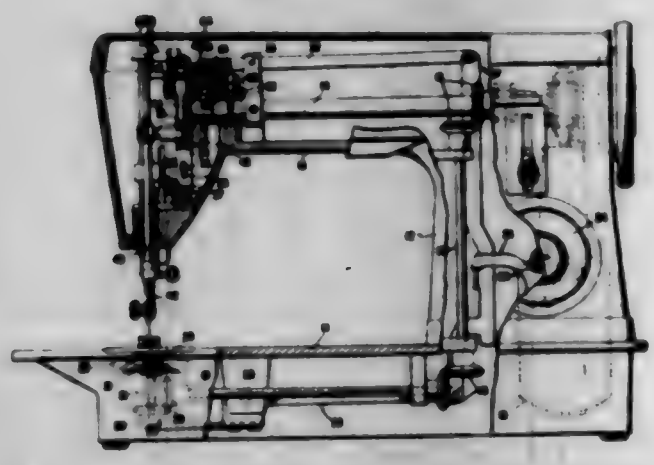
1. A sewing machine attachment for locating and holding a magnetizable accessory in a predetermined position for sewing comprising a substantially horizontally extending positioning member having an open cavity therein,

at least a portion of the walls of said cavity defining a seat for said accessory in said predetermined position, and magnetic means within said positioning member for producing a magnetic flux which extends from said seat



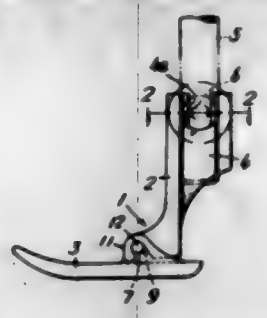
through the opening of said cavity, said magnetic flux being of sufficient strength to attract said accessory from outside said cavity to said seat and to hold said accessory on said seat in said predetermined position.

3,143,893
LOCK STITCH SEWING MACHINES
Frank Parry, Morris Plains, N.J., assignor to The Singer Company, a corporation of New Jersey
Filed Mar. 5, 1962, Ser. No. 177,569
2 Claims. (Cl. 112—181)



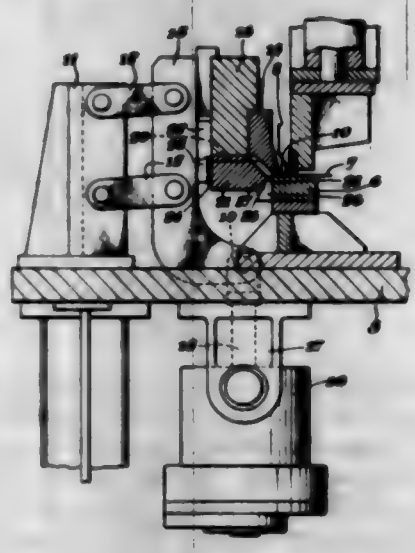
1. In a lock stitch sewing machine having a frame, an endwise reciprocatory needle bar, a loop taker having a bobbin journaled therein and means including a shaft rotatable in said frame for operatively connecting said needle bar and said loop taker for movement in timed relation as is required for the formation of lock stitches, means for actuating said needle bar and loop taker connecting means, mechanism for replenishing thread on said bobbin in place in said loop taker during actuation of said needle bar and loop taker connecting means, control mechanism carried by said sewing machine for rendering said thread replenishing mechanism effective and ineffective, a releasable driving connection between said rotatable shaft and said needle bar driving crank means including a latch lever pivotally supported on said crank means and formed with a detent biased into and out of interlocking relation with a recess formed in said shaft, a release member shiftably supported on said sewing machine frame, and means operatively connected with the control mechanism for said bobbin thread replenishing mechanism for shifting said release member into the path of said latch lever to effect movement of said latch lever detent out of interlocking relation with said shaft recess when said bobbin thread replenishing mechanism is rendered effective.

3,143,894
PRESSURE FOOT FOR SEWING MACHINE
Kaichi Yamada, Tokyo, Japan, assignor to Koshin Seisakusho Kikai Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Oct. 12, 1962, Ser. No. 230,041
Claims priority, application Japan June 12, 1962
2 Claims. (Cl. 112—235)



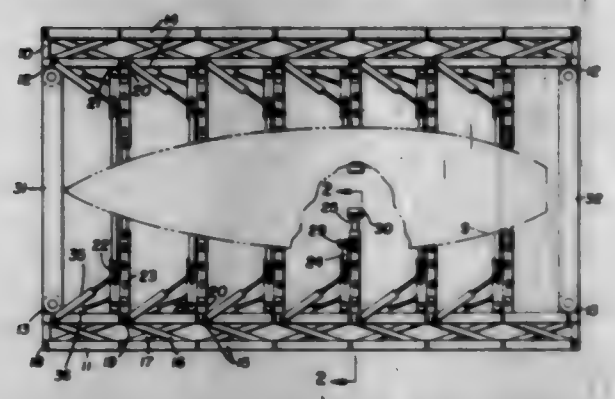
1. A pressure foot for sewing machines having a pressure foot bar comprising a shank detachably connectable to the sewing machine pressure foot bar, said shank having a bottom slot and a bore extending to one side of said slot, a pin slideably mounted in said bore, resilient means tending to retain said pin extending from said bore into said slot, a pressure shoe, an axle mounted on said pressure shoe insertable in said slot for being detachably retained by said pin whereby said pressure shoe is detachably connected to said shank and said shank bottom slot being defined at the inner end thereof by a convex wall against which said axle abuts when in said slot to permit a rocking of said shoe relative to said shank when in use.

3,143,895
CLINCHING APPARATUS
Thomas Francis Tribe, Castle Mill Works, Dudley, England, assignor of one-half to British Federal Welder and Machine Company Limited
Filed Aug. 23, 1961, Ser. No. 133,364
Claims priority, application Great Britain Aug. 30, 1960
4 Claims. (Cl. 113—54)



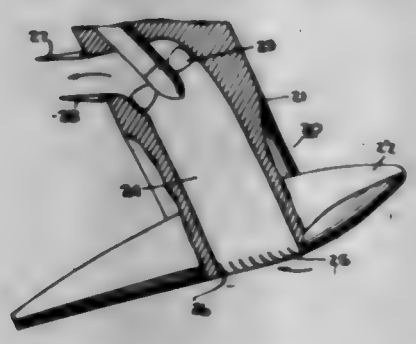
1. Clinching apparatus comprising a frame, a clinching member mounted on said frame, means to move said clinching member towards and away from a panel surface, a pre-form member movably mounted on said clinching member, fluid-pressure means to advance said pre-form member substantially normally towards an upstanding marginal flange of the panel to bend such flange to an acute angle to the panel surface, a stationary part on said frame to retract the advanced pre-form member prior to engagement of said clinching member with the pre-formed flange, and automatic control means associated with said fluid-pressure means to release fluid-pressure during the movement of said clinching and pre-form members towards the panel surface.

3,143,096
DEVICE FOR RAISING SUNKEN SHIPS
Warren H. Meyer, Rte. 2, Atlanta, Mich.
Filed July 23, 1962, Ser. No. 211,653
5 Claims. (Cl. 114—52)



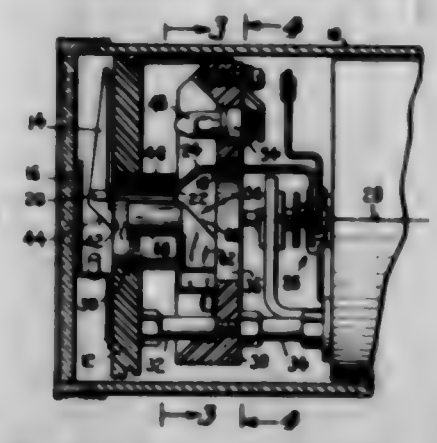
1. A device for raising sunken ships comprising a pair of elongated frame members and a pair of end frame members interconnecting said elongated frame members and positioning them in spaced parallel relation, a plurality of movable extensible arms on each of said frame members extending inwardly relative thereto, a plurality of plates adapted to be attached to said sunken ship and means on each of said arms for pivotal attachment to a corresponding one of said plates, respectively, means on said frame members for moving said arms relative thereto, and buoyant means for floating said frame and said ship.

3,143,097
PROPULSION SYSTEMS FOR WATER BORNE CRAFT
Leonard Meyerhoff, Brooklyn, N.Y., assignor to Eastern Research Group, a partnership
Filed Mar. 8, 1961, Ser. No. 94,388
24 Claims. (Cl. 114—66.5)



1. In a water borne craft designed to be hydrodynamically lifted above its displacement position, the combination of means for lifting the craft in response to the speed of said craft with respect to the water thereby producing hydrodynamic lifting forces, means connected to said craft for mounting said lifting means at a distance therefrom, said lifting means being located below the water line when said craft is at said displacement position, and a propulsion system extending upwardly adjacent an upwardly extending portion of said mounting means including a fully enclosed propeller disposed below the water line when said craft is at said displacement position, said system also having a water inlet disposed adjacent said lifting means and a water outlet, whereby water is inducted into said inlet, passes through said propeller and is ejected as a stream from said outlet, said propulsion system also including control means positioned in the vicinity of said outlet and being adapted to deflect the ejected water stream in any one of a plurality of desired directions, whereby a reaction force is produced and acts on said craft.

3,143,098
ILLUMINATED INSTRUMENT
Dana J. Blackwell, Naugatuck, Conn., assignor to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut
Filed June 12, 1962, Ser. No. 201,870
8 Claims. (Cl. 116—129)



1. An illuminated indicating instrument compriaing, in combination:

(*a*) a dial having indicia thereon, said dial being adapted for lighting from the rear,

(*b*) a pair of spaced-apart lamps located to the rear of the dial, to effect rear lighting thereof,

(*c*) a pointer movable over the front of the dial and having a light-reflecting means adjacent its pivotal axis and an illuminable area along its length, by which the pointer may be lighted by a light beam directed at it from the rear of the dial,

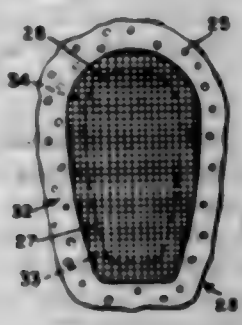
(*d*) a substantially straight elongate, solid light-piping member having opposite extremities, said member being located at the rear of the dial and extending between the said lamps with the said extremities of the member disposed adjacent the lamps to receive light therefrom, said member having a deep V-notch with substantially planar sloping reflective faces disposed in one side intermediate its extremities, said notch having a depth which is commensurate with the distance between said one side and the opposite side of the member,

(*e*) said sloping faces meeting each other along a common line and constituting a pair of dual, juxtaposed substantially planar reflector means on the light-piping member and in the said notch intermediate the said extremities of the member, for reflecting solid beams of light of appreciable thickness and substantially parallel rays received individually in opposite directions from the said lamps, as substantially similar beams which are directed both in a single direction laterally of the member to form a combined beam which has been reflected but once and which is of substantially double strength, said combined beam being adaptable for reflection forward through the dial and at the light-reflecting means of the pointer, thereby to light the latter with at least one beam strength regardless of whether both of the lamps are operative or only one is operative.

3,143,099
APPARATUS AND METHOD FOR PREVENTION OF SKIN BLISTER IN FOWL
Alton B. Poole, Abington, and Richard S. Brunemann, Natick, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 2, 1962, Ser. No. 214,235
17 Claims. (Cl. 119—143)

1. In combination with a male fowl, a shield for preventing blister on the unfeathered skin of the keel bone area of the male fowl, said shield being of the type anchored under, and around, the base of the feather quills surrounding said keel bone area, the combination of

a preformed, flexible, integral patch of protective, material substantially coextensive in area with the area of said unfeathered skin, said patch being adapted to cover and shield said unfeathered skin, and



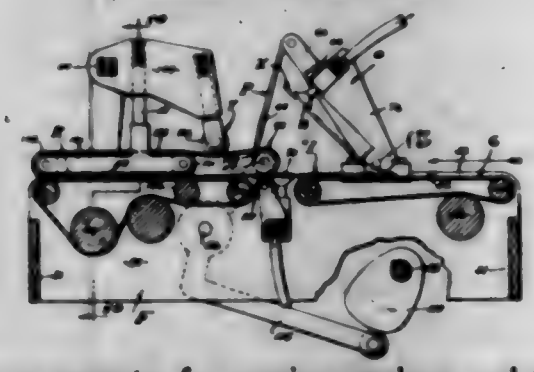
a thermoplastic, flexible, bonding agent firmly secured to said patch, at least around the periphery thereof, said agent extending outwardly beyond said periphery to beyond the feather quills surrounding said unfeathered skin and being firmly anchored to the bases of said quills

whereby said patch is held in position covering said unfeathered skin by said bonding agent and by said feather quills.

3,143,100
UNFOLDING MECHANISM FOR ENVELOPE OPENING APPARATUS

Edward A. Krupotich, Los Angeles, Calif., assignor to Thomas W. Evans, Howard J. Sherman, Wilbur Clark, and Edward A. Krupotich, Beverly Hills, Calif., as partners

Filed Dec. 26, 1961, Ser. No. 162,149
9 Claims. (Cl. 120—35)



1. In an apparatus for opening envelopes and comprising means destroying three edges of each envelope, an envelope unfolding mechanism including:

(*a*) a frame,

(*b*) spaced conveyers carried end to end by the frame and each comprising a belt trained over a pair of spaced rollers, one to receive envelopes from the apparatus and one to deliver opened envelopes,

(*c*) positioning means to momentarily stop each envelope at the opening between said conveyers,

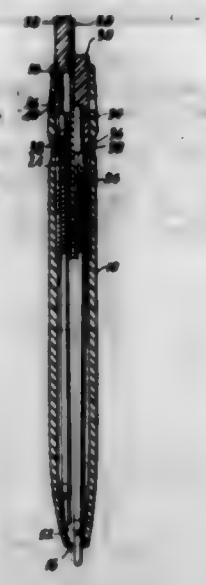
(*d*) and unfolding means operating between said conveyers to lay back one side of each stopped envelope for delivery in an opened condition by the second mentioned conveyer.

3,143,101
MULTI-CARTRIDGE PEN

Emil Hechtle, Oradell, N.J., assignor to Radiant Pen Corp., Kenilworth, N.J.

Filed Aug. 11, 1961, Ser. No. 130,851
1 Claim. (Cl. 120—42.13)

A multi-cartridge ball point pen comprising a one piece pen body forming a combined cap and barrel having an opening at one end for allowing a single cartridge to project therethrough, and a mouth at the other end; said pen body having a transverse body seat intermediate said mouth and opening, a transversely extending spacer positioned within the body and on said transverse body seat, and having a separator extending longitudinally from the spacer, said spacer provided with transverse seats, a cartridge and surrounding spring associated with each spacer seat, with the spring reacting against the spacer seat and its associated cartridge to tend to drive the cartridge in a direction out of the mouth of the body, and locking means including a plunger engaging each

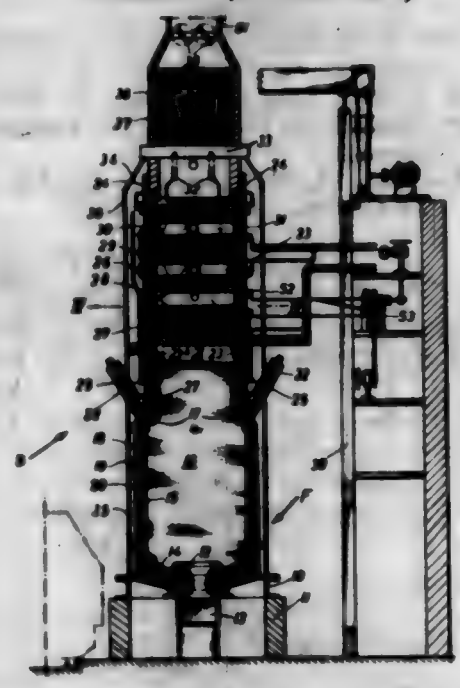


cartridge and cooperating means on the body for holding the cartridge in either a project or retract position, said locking means additionally holding the spacer against the transverse body seat, said body mouth being wide enough to enable the insertion therethrough of the spacer, cartridges, springs and plunger, said separator extending between said plungers when the plungers are in the project position, and when the plungers are in the retract position.

3,143,102
FORCED CIRCULATION BOILER WITH INTERNAL CIRCULATING TUBES

Erwin Wahl, Cologne-Delbruck, Olivier von Swietochowski, Bergisch Gladbach, and Georg Czempas, Cologne-Delbruck, Germany, assignors to Walther & Cie A.G., Cologne-Delbruck, Germany

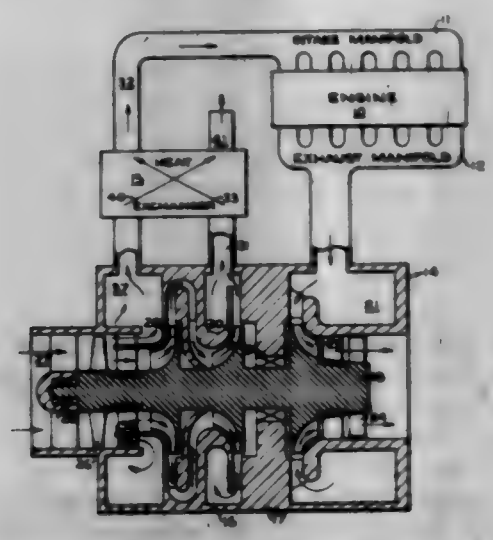
Filed June 5, 1959, Ser. No. 818,279
3 Claims. (Cl. 122—494)



1. A forced circulation boiler comprising, in combination: an inner shell defining therewithin a furnace chamber and an uptake communicating with the chamber; tubing lining the furnace chamber and the uptake; an

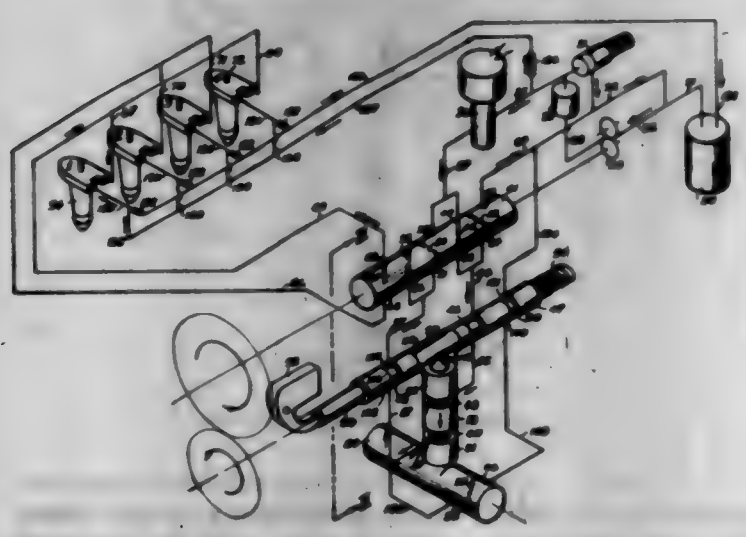
air-heater on the top of the uptake; an external gas tight shell supporting the airheater and the tubing in the uptake, said external shell surrounding the inner shell and forming with the latter an enclosed space; and means for producing and maintaining in said space a static gas pressure higher than the pressures prevailing in the chamber and in the uptake whereby the products of combustion developing in the chamber are prevented from penetrating through the inner shell.

3,143,183
MULTI-STAGE SUPERCHARGER WITH SEPARATE OUTLET FOR COOLING AIR
Arthur A. Zahn, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Aug. 23, 1963, Ser. No. 304,011
3 Claims. (Cl. 123—119)



1. In combination with an internal combustion engine having a supercharger for directing air under pressure to its combustion spaces, a heat exchanger for reducing the temperature of said air interposed between the supercharger and the engine, means to direct supercharged air through the heat exchanger, and means to direct supercharged air at lower pressure and temperature from adjacent the intake of the supercharger through the heat exchanger as a coolant.

3,143,184
FUEL PUMP AND DISTRIBUTING APPARATUS
Cleeste L. Cummins, 80 Cloudview Road, Sausalito, Calif., and Cleeste Lyle Cummins, Jr., Mill Valley, Calif.; said Cleeste Lyle Cummins, Jr., assignor to said Cleeste L. Cummins
Filed Dec. 14, 1961, Ser. No. 166,730
29 Claims. (Cl. 123—140)



1. In a fuel system for use with a compression ignition engine with fuel injectors, said system having

a housing with a bore, a shuttle piston in said bore, with its ends defining first and second ported chambers, one in each end of said bore, means for charging fuel under pressure from a fuel source to each said chamber alternately, thereby to move said shuttle piston and discharge fuel from the opposite chamber, and means for connecting said first chamber at discharge to a fuel injector on the engine,

the combination therewith of:

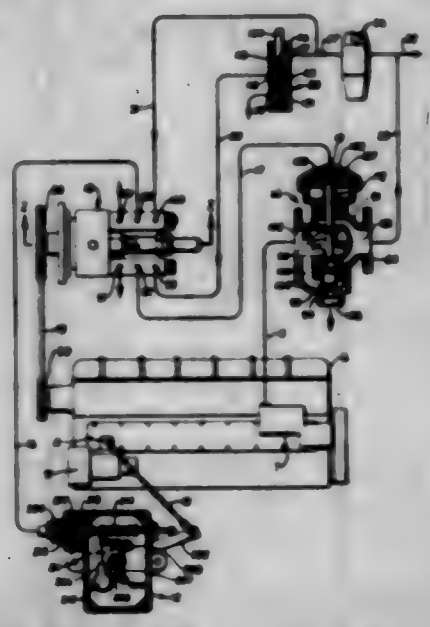
a manually controlled throttle having a cam face operatively engageable with one end of said shuttle piston to determine the extent of movement of the shuttle piston in one direction,

movement-limiting means engageable by the other end of said shuttle piston to determine its extent of movement in the other direction,

control means responsive to the speed of said engine and adapted to be connected to said engine and actuated thereby, and

fuel-regulating means movably mounted in said housing and controlled by said control means for reducing the amount of fuel delivered to said fuel injector at predetermined engine speeds regardless of the position of said manually controlled throttle cam face.

3,143,185
FLUID PRESSURE STARTING AND SHUTDOWN SYSTEM FOR ENGINES
Elton B. Fox, 618 36th St., Richmond, Calif.
Filed Jun. 22, 1962, Ser. No. 167,549
6 Claims. (Cl. 123—179)



1. A fluid pressure engine start and safety shutdown system comprising:

(*a*) a normally closed main valve adapted to control a supply of engine starting air from a source to a pneumatic operated engine starting means and a pneumatic valve actuator therefor connected to open said valve;

(*b*) a pressure responsive engine shutdown actuator adapted for connection to a source of reduced fluid pressure;

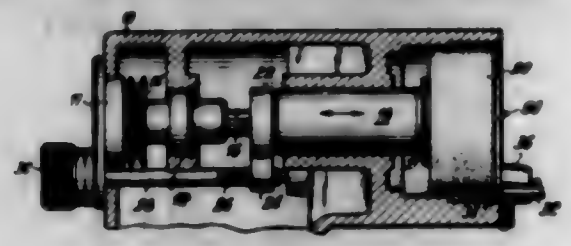
(*c*) a multiple position valve having first, second, and third positions and adapted for connection to said reduced fluid pressure source and being connected to said pneumatic valve actuator, said pressure responsive engine shutdown actuator, and to the atmosphere;

(*d*) said first valve position establishing communication between said reduced pressure source, said pneumatic valve actuator, and said pressure responsive engine shutdown actuator, said second valve position establishing communication between said pneu-

matic valve actuator and the atmosphere and maintaining said communication between said reduced pressure source and said pressure responsive engine shutdown actuator, and said third valve position establishing communication between said engine shutdown actuator and the atmosphere and maintaining said communication between said pneumatic actuator and the atmosphere; and

(*e*) an engine speed responsive actuator adapted for connection to said engine and connected to and displacing said multiple position valve from said first position to said second position when said engine is started and from said second position to said third position when said engine exceeds a predetermined speed.

3,143,106
GRINDING WHEEL DRESSING DEVICE
Kurt Zwick, Munich, Germany, assignor to Feinmechanik G.m.b.H., Weilheim, Germany, a company of Germany
Filed Apr. 10, 1963, Ser. No. 272,864
Claims priority, application Germany Apr. 25, 1962
7 Claims. (Cl. 125—11)



1. A grinding wheel dressing arrangement comprising, in combination:

(*a*) a support;

(*b*) shaft means rotatable on said support about an axis of rotation;

(*c*) fastening means for fastening a grinding wheel to said shaft for rotation therewith in a radial plane;

(*d*) a dressing tool carrier mounted on said support for movement of a portion of said carrier transverse of said axis;

(*e*) attaching means on said carrier for attaching a dressing tool to said carrier portion in dressing engagement with a grinding wheel fastened to said shaft; and

(*f*) abutment means for limiting movement of said dressing tool in a direction away from said axis during said transverse movement of said dressing tool carrier,

(1) said carrier being a lever having two arms, a portion of said carrier intermediate said arms being pivotally fastened to said support, said attaching means being mounted on one of said arms, and said abutment means including two engageable abutment members, one of said abutment members being mounted on said support, and the other abutment member being mounted on the other arm of said lever.

3,143,107
PORTABLE TORCH
William L. Lindgren, Sycamore, Ill., assignor to Turner Corporation, Sycamore, Ill., a corporation of Illinois
Filed July 6, 1962, Ser. No. 208,874
3 Claims. (Cl. 126—371.2)

1. A portable torch comprising,

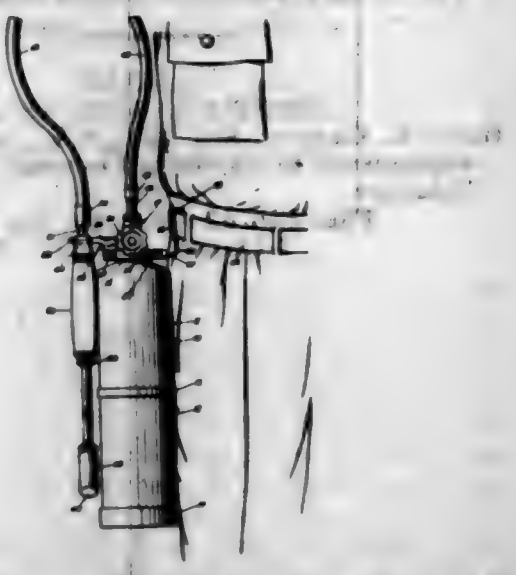
a burner head,

rigid conduit means forming a fuel passage connected to said burner head and including

an enlarged pistol grip handle surrounding said fuel passage for grasping and manipulation by a user,

a fuel tank,

a flexible conduit means connected to said tank at one end and connected to said rigid conduit means at one end of said pistol grip handle remote from said burner head,

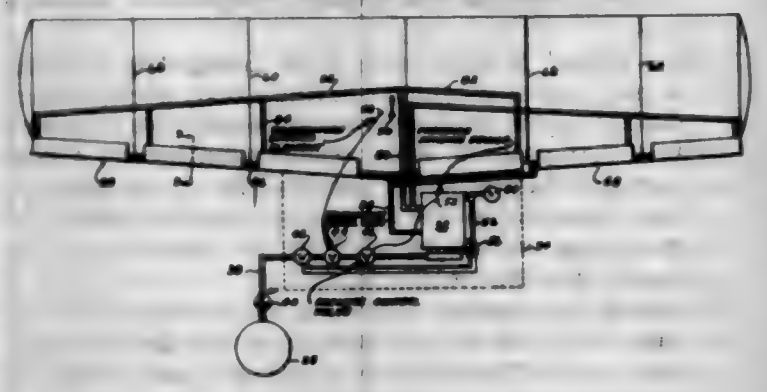


a bracket at the top of said fuel tank including a rigid hanger extending laterally in one direction on one side of the tank, and a vertically upstanding reversely-bent belt clip offset laterally in an opposite direction on the opposite side of the tank,

said handle having a hanger aperture formed therein adjacent said one end to receive said hanger,

whereby said fuel tank may be suspended from the belt of a user and said handle may be carried on said hanger with said burner head depending therefrom into a safe position on the lower outside portion of the tank.

3,143,108
SYSTEM FOR HEATING LIQUID IN TANKS
Thelmer A. Rogers, % Lubbock Machine & Supply, Drawer 1589, Lubbock, Tex.
Filed June 6, 1960, Ser. No. 34,167
3 Claims. (Cl. 126—343.5)



1. A heated tank system comprising:

(*a*) a liquid container,

(*b*) wheels mounted on the liquid container, said wheels being a means for transporting the liquid container,

(*c*) said liquid container having a pan attached thereto,

(*d*) said pan being totally sealed from said container,

(*e*) a boiler attached to said container,

(*f*) a bottle containing liquified petroleum gas attached to said container,

(*g*) a fuel conduit from the bottle containing liquified petroleum gas to the boiler,

(*h*) a steam conduit from the top of the boiler to the top of the pan,

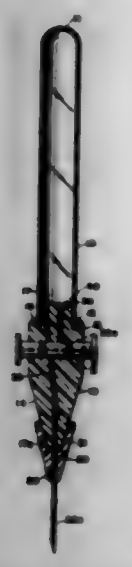
(*i*) a condensate conduit from the bottom of the pan to the bottom of the boiler,

(*j*) a first cut-off valve in the fuel conduit,

(*k*) said first cut-off valve being responsive to the pressure within the boiler,

(*l*) a second cut-off valve in the fuel conduit,
(*m*) said second cut-off valve being responsive to the temperature within the liquid container, and
(*n*) a pressure regulator valve in the fuel conduit to lower the pressure to a suitable value.

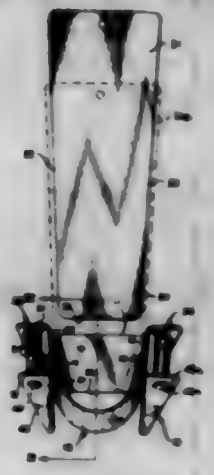
3,143,109
BLOOD DRAWING DEVICE
Harry R. Gewertz, Sea Cliff, N.Y., assignor, by mesne assignments, to Raytheon Company, a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 172,403
2 Claims. (Cl. 128—2)



1. A blood drawing device comprising a receptacle having an open end,
a valve body sealed at one end to the open end of the receptacle and extending outwardly therefrom,
means at the other end of the valve body for receiving and supporting a hollow needle,
a first passageway extending longitudinally of the valve body, said passageway communicating with said means at one end and with the receptacle at the other end,
valve means in said valve body comprising a transversely movable cylinder having a body portion intercepting said first passageway when the valve is located in a first position, said body portion having a port therein which provides continuation of the passageway when the valve is located in a second position for permitting uninterrupted flow of blood from the needle into the receptacle,
a second passageway extending longitudinally of the valve body in spaced relation to the first passageway and communicating at opposite ends with the valve cylinder and receptacle,
a second port in said body portion of the valve located in spaced relation to said first port and in communication with said second passageway when the valve is in said first position,
a distensible member covering the receptacle end of the second passageway,
and a bore in the valve connecting said second port with atmosphere external of the device.

3,143,110
FOOT HOLDER FOR A CAST TABLE
Homer H. Stryker, Kalamazoo, Mich., assignor to Stryker Corporation, a corporation of Michigan
Filed Mar. 1, 1962, Ser. No. 176,741
4 Claims. (Cl. 128—48)

1. A device for holding a human foot while a plaster cast is being applied thereto, comprising:
a base plate having flange means along opposite edges thereof extending in substantially the same direction and defining opposing surfaces;
a thin, arcuate heel member having end portions rigidly secured to the opposing surfaces of said flange means, each of said end portions having a substantially straight edge parallel with and spaced from said base plate, said flange means and said edges of said heel member and of said base plate defining a pair of grooves opening toward each other and converging slightly toward said heel member, said heel member extending substantially perpendicularly away from said base plate and having a concave surface facing toward said base plate;
an elongated and flat sole plate means having straight lengthwise edges substantially throughout the length thereof, said opposing surfaces of the flange means and said straight edges of the sole plate means converging toward one end of said sole plate means,

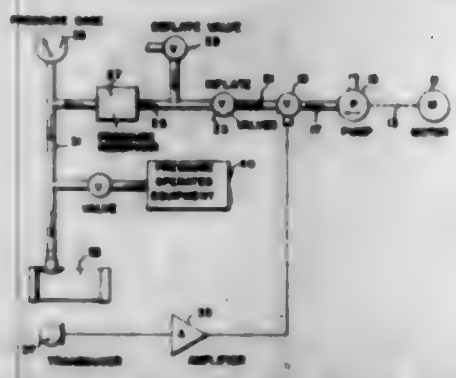


said edges near said one end being slidably and snugly receivable into said grooves so that said sole plate means is parallel with said base plate, said sole plate means being adapted to be substantially embedded within the plaster cast with the other end thereof exposed, and said convergence of said edges being adapted to permit sliding removal of said sole plate means from within said plaster cast and out of said grooves;
a pair of strap-engaging clamp means secured to said flange means on opposite sides of said base plate, and strap means engaged by said clamp means, said strap means being removably engaged by at least one of said clamp means, said pair of clamp means being positioned so that said strap means will be engaged thereby when it extends over the arch of a foot supported upon said sole plate means with the heel thereof against said heel member.

3,143,111
BLOOD PRESSURE FOLLOWER
John H. Green, Pinner, England, assignor to Winston Electronics Limited, Shepperton, England, a British company
Filed Sept. 23, 1960, Ser. No. 58,115
3 Claims. (Cl. 128—213)

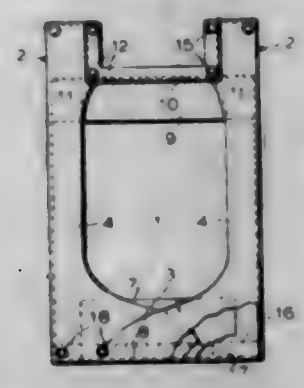
1. A system for the continuous control of blood pressure in a digit comprising a cuff for application to a portion of said digit and including flexible inflatable means, pneumatic pressure means connected to said inflatable means, a pressure transducer within said cuff adjacent to said digit for producing a signal in response to each arterial pulsation in said digit, a normally closed air valve between said pneumatic pressure means and said inflatable means, means controlled by said transducer for temporarily opening said valve in response to each of said signals produced by said transducer, means connected to said inflatable means for indicating the pressure therein, at least one drug container, means for controlling the flow of drugs from said container, an adjustable pressure

actuator connected to said means for controlling the flow of said drugs, and means connecting said pressure actua-



tor to said inflatable means whereby said actuator is operated when the pressure in said inflatable means reaches a predetermined limit.

3,143,112
DIAPER HOLDER
Mable M. Sanford, 1332 Haight St., San Francisco, Calif.
Filed Jan. 21, 1963, Ser. No. 252,631
1 Claim. (Cl. 128—287)



A diaper holder comprising:

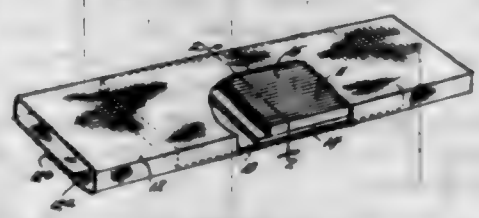
(*a*) an elongated sheet of flexible, relatively thin, imperforate, waterproof sheet material having spaced, similarly extending marginal portions extending longitudinally thereof along two of the longitudinally extending edges thereof each, respectively folded over one and the same side of the central portion of said sheet that extends between said marginal portions, and end portions on said sheet extending generally normal to said marginal portions and between their corresponding ends;

(*b*) a pair of flat extensions of flexible moisture proof material connected with said marginal portions at one of the corresponding ends and in longitudinal alignment therewith, said extensions having adjacent edges facing each other and generally parallel;

(*c*) a straight waist band of substantially uniform width secured along one of its longitudinally extending edges to the end portion extending between said extensions and to the distal end edges of said extensions whereby said extensions will form loose circular pleats generated about points along said one longitudinally extending edge of said band at substantially the junctures between said adjacent edges of said extensions and said end portion, which pleats will expand to closely follow the curvature of the legs of a baby when said band is in encircling relation to the waist of such baby at the front side thereof with said central portion of said sheet between the legs of such baby and with the ends of said extensions connected to the end of said sheet opposite to said extensions, and

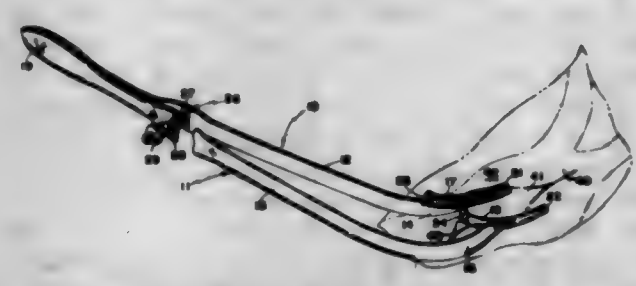
(*d*) means for so connecting the ends of said extensions to the end of said sheet opposite thereto.

3,143,113
ABSORBENT BANDAGE
Victor Mills, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 15, 1962, Ser. No. 217,217
5 Claims. (Cl. 128—290)



1. A sanitary napkin for placement next to the body of the user, said napkin having a plurality of courses of absorptive material, at least one of said courses comprising an absorptive layer adapted to promote lengthwise flow of fluid to be absorbed by the napkin, said layer comprising a multiplicity of plies of cellulosic webs in face-to-face contact and normal to the plane of the face of said napkin, substantially all of said plies extending substantially lengthwise of said napkin in at least the central transverse region thereof, the outermost edges of said plies of said layer being contiguous to the portion of said napkin to which the fluid to be absorbed is first supplied.

3,143,114
SURGICAL APPLIANCE
Horace Frank McCarthy, North Andover, Mass., and Maurice H. Subilia, Salem Depot, N.H., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 2, 1960, Ser. No. 73,373
4 Claims. (Cl. 128—303)

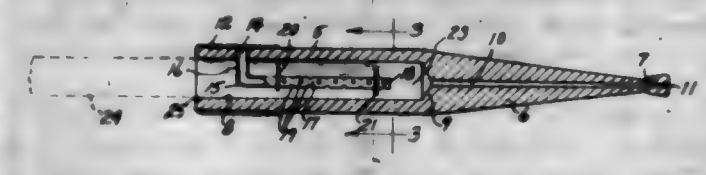


1. A surgical appliance comprising:

(*a*) a handle including a pair of angularly displaced elongated members secured at one of their ends and curving laterally at the other ends thereof; and

(*b*) a bisected sleeve member secured to each of said other ends at an intermediate point defining a front and a rear portion and disposed to co-operate with each other to form a closed cylinder when said other ends are moved toward each other, the forward portion of said sleeve member extending substantially in line with said laterally curved ends, and the rear portion curving from said intermediate point toward said elongated members.

3,143,115
CIGARETTE HOLDER
Robert B. Wilson, 746 Rosecrans Ave., Manhattan Beach, Calif.
Filed Feb. 26, 1962, Ser. No. 175,563
2 Claims. (Cl. 131—198)

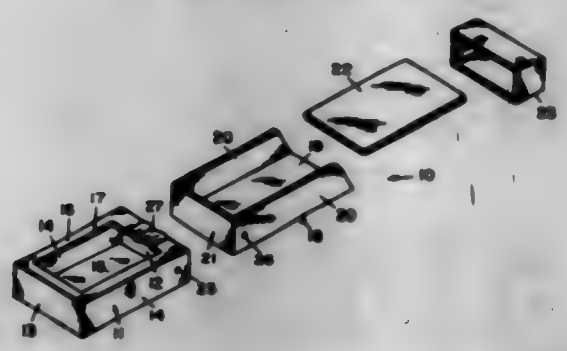


1. A cigarette holder comprising, in combination, a cylindrical tube open at one end for removably receiving

the end of a cigarette, a mouth piece extending from the other end of the tube and having a small bore formed therethrough to communicate with the tube, a forward portion of the tube defining a radially extending aperture, an L-shaped tube having a portion thereof disposed centrally within said cylindrical tube and secured at one end within said radial aperture, the centrally disposed portion of said L-shaped tube having a plurality of small pin holes communicating between the radial aperture and the internal portion of said cylindrical tube, and a mixing baffle secured over the inner portion of said L-shaped tube to mix smoke and fresh air passing into said small bore.

3,143,116
COMBINED POCKET ASH TRAYS AND CIGARETTE CASES

Donald I. Gedeon, 8444 Fullerton Ave., River Grove, Ill.
Filed July 3, 1961, Ser. No. 122,065
2 Claims. (Cl. 131—238)



1. A combined pocket ash tray and cigarette case, comprising a substantially rectangular box-shaped casing having an open end, a closed end wall, a pair of side walls, a bottom wall and a top wall provided with a substantially rectangular opening having its edges spaced inwardly from the marginal edges of the top wall whereby portions of the top wall define a perimetric flange around said opening, a cigarette package holder slidably positioned in said casing and projectable through the open end thereof, said holder being U-shaped in cross-section and including a bottom, a pair of side walls, and an inner end wall, the bottom of said holder slidably engaging the bottom wall of said casing and the side and end walls of the holder having upper edges spaced downwardly from the underside of the top wall of the casing, the interior of the casing between the closed end wall of the latter and the inner end wall of said holder forming an ash receptacle when said holder is projected, said ash receptacle being accessible through said opening in the top wall of the casing, a flat closure plate for said opening slidably positioned in said casing in the space between the upper edges of the side and end walls of said holder and the top wall of the casing, said closure plate being slidably projectable through the open end of said casing, said holder having an open outer end, and a removable closure cap provided on the open outer end of said holder, said closure cap also constituting a closure for the open end of the casing and serving to retain said flat closure plate against projection through the open end of the casing.

3,143,117
HEAD COVER FOR USE IN TREATING HAIR

Donna E. Rund, 8500 Longview Road, Kansas City, Mo.
Filed Jan. 9, 1961, Ser. No. 81,514
5 Claims. (Cl. 132—9)

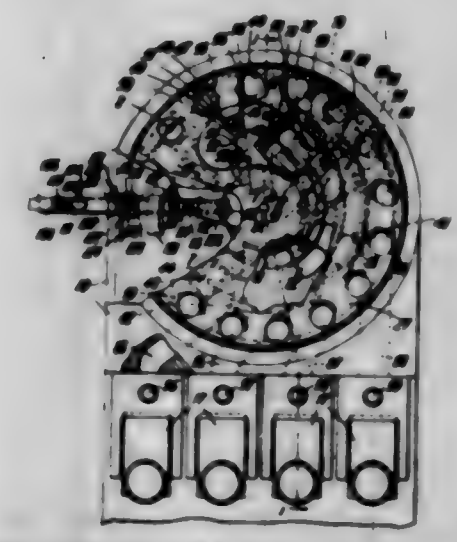
1. A head cover for use in treating hair comprising a plurality of substantially triangular sections of absorbent material; and a pivot member shiftably interconnecting said sections at the apex portions thereof, said cover adapted to be positioned upon the head of a user thereof with said pivot member at substantially the crown of the user's head, said sections being of sufficient length and



number to substantially define a hemispherical enclosure for the head of the user when the cover is so positioned.

3,143,118
COIN SORTING APPARATUS

Sidney Haines, Dovercourt, England, assignor to Vacumatic Limited, Harwich, England, a British company
Filed Sept. 25, 1961, Ser. No. 140,344
Claims priority, application Great Britain Sept. 26, 1960
20 Claims. (Cl. 133—3)



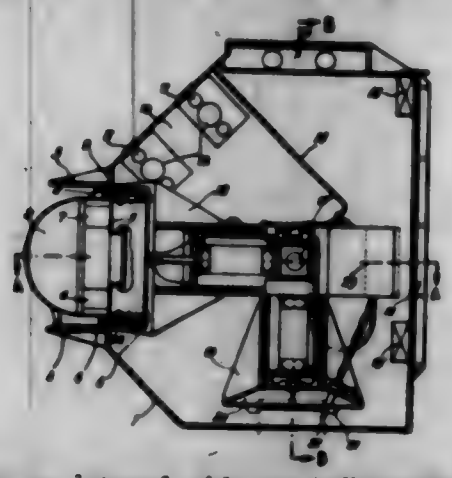
1. An apparatus comprising containing means for containing a number of mixed coins of different sizes, sorting means for sorting the mixed coins into their different sizes, counting means for counting the sorted coins of each size, separate collecting means for collecting each size of sorted and counted coins, means rendered operative when said counting means indicates that a predetermined number of coins of any one size have been counted, for preventing any further coins of said one size which have been sorted from entering the appropriate collecting means until it has been emptied, which means retains said further coins in the sorted condition, and ejecting means for ejecting any further coins of at least said one size which are not so retained from the sorting means back into the containing means when said predetermined number of coins of said one size have been counted.

3,143,119
DISASSEMBLY AND DECONTAMINATION APPARATUS ESPECIALLY FOR CALUTRONS

Albert Simon, Clamart, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 13, 1962, Ser. No. 236,880
Claims priority, application France Nov. 29, 1961
5 Claims. (Cl. 134—59)

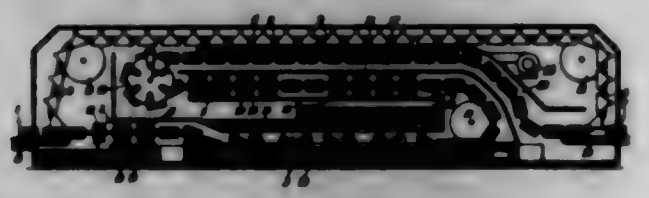
1. Apparatus for the disassembly and decontamination of highly radioactive vessels, characterized in that said apparatus comprises a leakproof casing with glove holes and inspection windows which is pivotally mounted on a horizontal shaft and which is provided on the periphery thereof with a coupling station designed to receive the

vessel to be disassembled and decontaminated, a disassembly station as well as a station for washing the cover of the vessel operably connected with said casing, said leakproof casing containing a stationary assembly of two



jacks which are integral with two bell-housings, the first of said bell-housings being fitted with a device for sealing and securing the cover of said vessel, whilst the second bell-housing is fitted with means for washing said vessel.

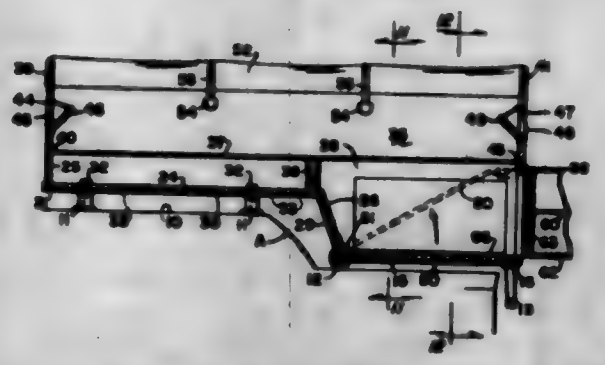
3,143,130
APPARATUS FOR WASHING BOTTLES OR THE LIKE
Alexander Uuthank, Kensington, Victoria, Australia, assignor to In-Crate Bottling Co. Proprietary Limited, Kensington, Victoria, Australia, a corporation of Victoria, Australia
Filed Jan. 28, 1963, Ser. No. 254,990
8 Claims. (Cl. 134—73)



1. Apparatus for washing bottles without removal from conventional transporting crates having side and bottom walls and open at the top, comprising an endless conveyor, crate carriers at spaced intervals along said conveyor to each receive a crate of bottles, means for moving the conveyor, means for reversing the crate carriers at periods during their movement, means for securing the crates in the carriers including means to prevent the bottles from falling out when the carriers are reversed, means for washing the bottles at points during the movement of the crate carriers, said means for securing the crates in the crate carriers including spreadable resilient members which engage the side walls of the crate to secure it in the crate carrier, and means for automatically spreading said resilient members to clampingly engage and release the crates when being fed into and removed from the crate carriers.

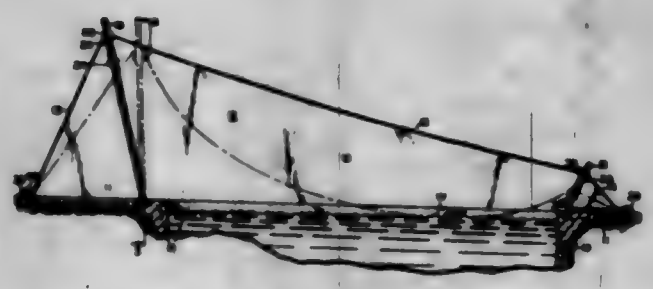
3,143,131
SLEEPER
Robert E. McKee, 227 Peyton Bldg., Spokane 8, Wash.
Filed June 11, 1962, Ser. No. 201,716
2 Claims. (Cl. 135—1)

1. A camper or sleeper adapted to be mounted on an automobile having a passenger compartment, a trunk and a rear bumper, including a generally rectangular box-shaped body, having front and side walls, said body having a front portion of lesser depth and a rear portion of greater depth, thereby being adapted to be mounted with the front portion disposed over the top of the passenger compartment of said automobile, and the rear portion disposed over the trunk of said automobile; means for attaching the front portion of said body to said top of said automobile; supporting means attached to the rear of said body and adapted to be attached to the rear bumper of said automobile in upstanding relation thereto; side panels hinged to the top of said side walls; a front panel hinged to the top of said front wall; a bar extending between the rear upper edges of said side



walls; a rear panel hinged to said bar, each of said panels being adapted to be moved between a horizontal, closed position and a vertical, open position; a covering adapted to be extended over said panels when in open position to form a top; and a pair of doors pivotally connected to the rear edge of said side walls below said bar and adapted to be swung between open and closed positions.

3,143,132
FLEXIBLY SUPPORTED ENCLOSURE FOR OUTDOOR SWIMMING POOL
Burton J. Goodrich, 1217 SW. 19th Ave., Portland, Oreg.
Filed Feb. 12, 1962, Ser. No. 172,386
2 Claims. (Cl. 135—3)



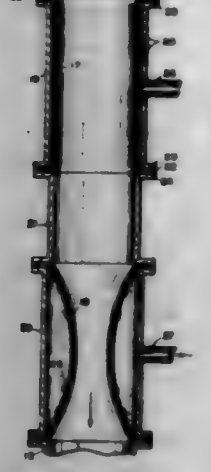
1. A tent-like enclosure for an outdoor swimming pool including a row of similar posts positioned on one side of the swimming pool, holding means for the bottom ends of said posts secured in the ground surfacing adjacent said pool, the bottom ends of said posts flexibly mounted on said holding means for limited movement of said posts in all directions, said posts normally inclined outwardly away from said pool and normally extending substantially parallel to each other, a row of posts on the opposite side of said pool, the posts in this second mentioned row inclined outwardly away from said pool and thus sloping in opposite direction from the posts in said first mentioned row, the posts in said second row being substantially parallel to each other and considerably shorter in length than the posts of said first mentioned row, means secured to the ground surfacing adjacent said pool for holding the posts of said second row in place, a covering of pliant sheet material supported by said two rows of posts, means for securing the border portions of said covering to the ground beyond said posts and on all sides of said pool, said covering provided with apertures for the top ends of the posts of both of said rows, cap sleeves on all of said posts supporting said covering at said apertures respectively, adjustable support elements for said cap sleeves, and coil springs included in said adjustable support elements on some of said posts.

3,143,123
SUN PROTECTOR FOR VEHICLES
Fred C. Boor, 4976 Fyler Ave., St. Louis 39, Mo.
Filed Sept. 5, 1961, Ser. No. 135,924
1 Claim. (Cl. 135—5)



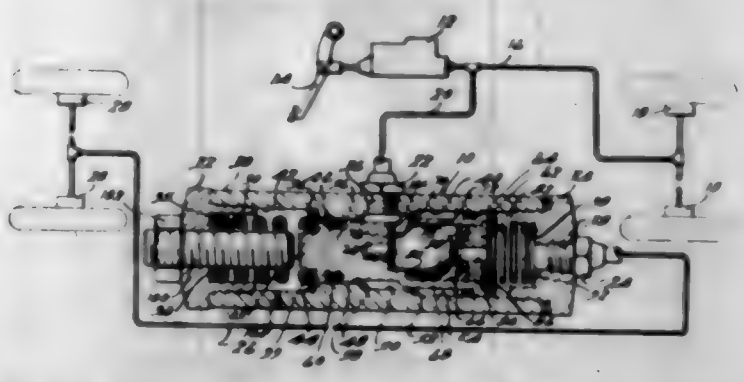
A sun protector for a vehicle roof, comprising a rigid rectangular frame with sides formed of elongated substantially straight tubes having longitudinally disposed slots, each end of the frame being of U-shape with a cross bar and with parallel legs substantially normal thereto and telescopingly received in said tubes to vary the length of the frame, a flexible fabric sheet stretched over said frame and secured at its margins to said frame, supports for said frame and sheet positioned at the corners of said frame and each comprising an upstanding bushing fixed to one of said legs and being slidable in one of said slots, an elongated horizontal arm with one end pivotally secured to said bushing and provided at its other end with a depending element for pivotally mounting the support on a vehicle roof, said arms and depending elements being movably mounted about their pivots to the frame to accommodate shifting of said frame and fabric sheet as a unit over a vehicle roof in which the protector is applied and means to secure said legs at selected positions in said tubes.

3,143,124
AIDING FLOW OF PSEUDO-PLASTICS THROUGH CONDUITS
David B. Todd, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 19, 1960, Ser. No. 76,607
5 Claims. (Cl. 137—13)



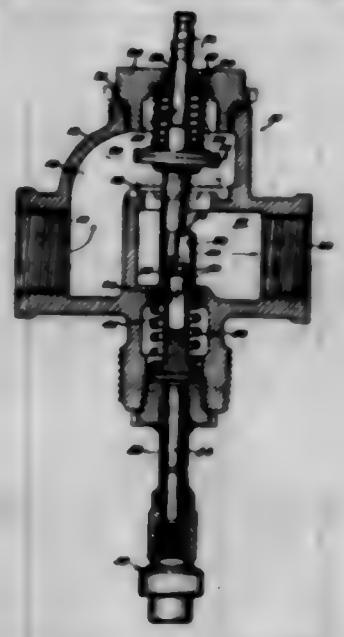
1. Method of aiding the flow of a pseudo-plastic liquid through a conduit wherein said liquid is situated and is initially at rest comprising the steps of moving a pair of axially spaced walls of said conduit which are in contact with said liquid alternately in opposite directions so as alternately to diminish and increase the conduit volumes of the conduit zones adjoining said walls, said motions being coordinated so that the volume increases at one said wall while it diminishes at the other throughout the entire movement thereof, thereby inducing a reciprocating flow of said liquid and reducing the apparent viscosity thereof at least at the conduit wall.

3,143,125
BRAKE PRESSURE PROPORTIONING DEVICE
William Steiner, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 18, 1961, Ser. No. 159,988
9 Claims. (Cl. 137—38)



1. A brake pressure control device for use in a vehicle hydraulic brake system including a housing having a fluid inlet adapted to receive fluid from a source of fluid pressure, a fluid outlet through which fluid is adapted to be displaced to a brake cylinder and a fluid chamber providing communication between said inlet and outlet, differential area means in said chamber sealingly engaging the walls thereof, opening means in said piston providing fluid communication from the inlet side to the outlet side of said fluid displacing means, deceleration responsive means for closing said opening means and changing the areas of said fluid displacing means exposed to inlet fluid pressure, and resilient means adapted to be loaded by movement of said fluid displacing means under the influence of inlet fluid pressure when said opening means is open and to exert a force on said fluid displacing means assisting displacement of fluid through said outlet after closure of said opening means.

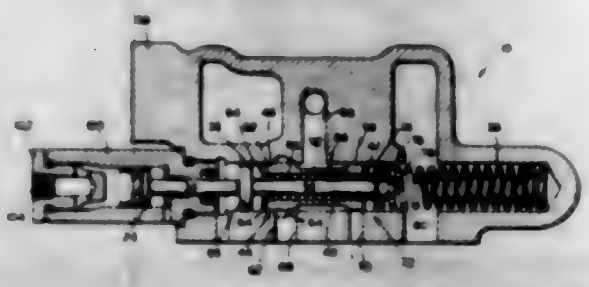
3,143,126
FUEL CONTROL VALVE
Charles M. Terry, Decatur, Ill., assignor to A. W. Cash Valve Manufacturing Corporation, a corporation of Illinois
Filed Jan. 2, 1963, Ser. No. 249,073
9 Claims. (Cl. 137—94)



7. A thermostatically operated fluid control valve, comprising: a valve casing having inlet and outlet ports with a valve seat intermediate said ports, said valve seat having a centerline; a valve stem having a valve member mounted between the ends thereof selectively engageable with said seat, said valve stem having a tapered portion at one end thereof; means urging the

valve member toward said seat; means engageable with said stem for holding the stem in a cocked position spaced from said centerline to maintain the valve member off said seat; means responsive to temperature above a predetermined value for releasing said valve stem from the cocked position comprising a stem guide selectively engageable with said tapered portion for returning said valve stem to said centerline to uncock the stem thereby effecting valve closure.

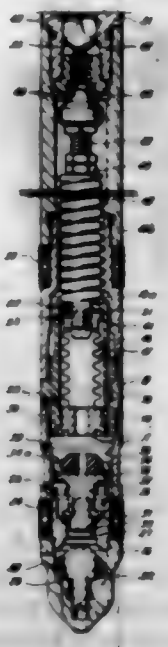
3,143,127
REGULATING VALVE
Barry L. Frost, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Nov. 7, 1962, Ser. No. 236,820
6 Claims. (Cl. 137—116.3)



5. A regulating valve comprising an elongated body having a longitudinally extending bore therein, inlet, outlet and return ports in said body communicating with said bore, said outlet port being disposed intermediate said inlet and return ports, a unitary spool assembly slidably disposed in said bore, said assembly including an outer spool member having a longitudinally extending bore and an inwardly projecting portion therein, an annular groove in the outer periphery and intermediate the ends thereof for connecting said inlet port with said outlet port or connecting said outlet port with said return port, a recess in one end of said outer spool member and a passage connecting said groove and said second-mentioned bore, an inner spool member having a flange portion disposed adjacent said recess and an elongated rod portion slidably passing through said second-mentioned bore, a stop member connected to said rod portion adjacent the end opposite said flange portion for retaining said outer spool member on said rod portion and a regulating spring disposed in said second-mentioned bore for biasing said outer spool member into abutment with said flange portion of said inner spool member, and means for actuating said inner spool member between two extreme positions, said means including a cylinder member connected to said body which serves as a stop for said inner spool member, a piston slidably disposed in said cylinder, a piston rod connected to said piston and extending through one end of said cylinder to engage said flange portion of said inner spool and actuate said inner spool member toward one of said positions and a return spring disposed in said bore for biasing said inner spool member toward the other of said positions in abutment with said cylinder member.

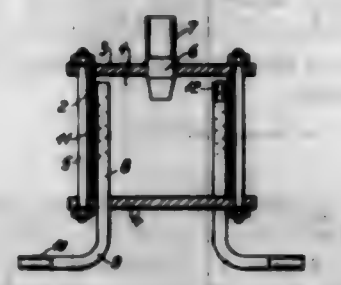
3,143,128
GAS LIFT VALVE
Lewis J. Bicking, Jr., Dallas, Tex., assignor to Merla Tool Corporation, Dallas, Tex., a corporation of Texas
Filed July 28, 1961, Ser. No. 127,641
2 Claims. (Cl. 137—155)

1. A gas lift valve comprising, a tubular housing, spaced seal means on the exterior of the housing defining therebetween an intermediate section of the housing, a main gas passageway through the housing having an inlet in said intermediate section and an outlet outside of and on one side of said intermediate section, a valve seat across said main gas passageway, a main valve member cooperable with the valve seat to control flow through the passageway, a pressure responsive member mounted in the housing, means connecting said main valve member and pressure responsive member together, means exposing one side of said pressure responsive member to said intermediate section of the housing, a pilot gas passageway having an inlet in said intermediate section and an outlet outside and on the other side of said intermediate section, the other side of said pressure responsive



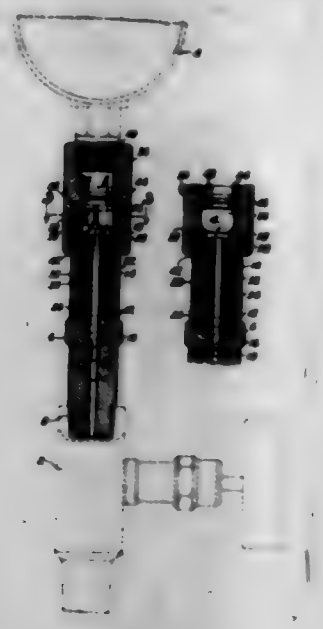
member forming a part of said pilot gas passageway, said pilot gas passageway having a bleed section upstream of said pressure responsive member, a pilot valve seat across said pilot gas passageway downstream of said pressure responsive member, a pilot valve member controlling flow through the pilot gas passageway, bellows means arranged between said main and pilot gas valve seats controlling said pilot valve member, and means exposing said bellows means to said intermediate section of the housing.

3,143,129
DISTRIBUTOR OF LIQUID AMMONIA
Kaj Otto Andersen, Nyvang pr. Skaelskor, Denmark
Filed Dec. 11, 1962, Ser. No. 243,887
Claims priority, application Denmark Dec. 22, 1961
4 Claims. (Cl. 137—210)



1. A distributor of liquid ammonia comprising a chamber having an inlet for connection to a source of liquid ammonia and a plurality of outlets for connection to positions of consumption, e.g. discharge tubes on harrow teeth for dispersing liquid ammonia into the soil, characterized in that the outlets are constructed as substantially parallel tubes located in the interior of the chamber, said tubes being closed at one end and being provided with a great number of narrow openings in the side walls thereof, the openings of each tube being distributed over a considerable length of the tube starting adjacent to the closed end thereof, the mouth of the inlet being directed towards the bottom of the chamber substantially parallel to the tubes.

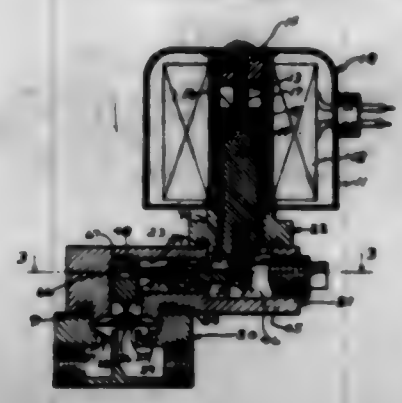
3,143,130
CONDENSATION TRAP
Irvin B. Weiss, Bellaire, Tex., assignor to Anderson, Greenwood & Company, Houston, Tex., a corporation of Texas
Filed Dec. 14, 1961, Ser. No. 159,220
3 Claims. (Cl. 137—247.11)



1. A condensate trap comprising; an elongated body member having a longitudinally extending chamber therein; inlet and outlet passageways extending, respectively, from opposite ends of said body member to respectively adjacent ends of said chamber; a first tube, substantially smaller in diameter than said chamber, fixed to said body at the inlet end of said chamber in communication with said inlet passageway to define a continuation thereof, said first tube extending centrally of said chamber toward said outlet passageway and having an open end spaced therefrom; a second tube, larger than said first tube but smaller in diameter than said chamber, extending longitudinally of said chamber in spaced concentric relation to said first tube and the sides of said chamber, said second tube having an open end and a closed end, said closed end comprising a radially flattened portion extending laterally of said second tube and engaging shoulder means in said chamber to limit movement of said second tube toward said inlet end and to hold said second tube in said concentric relation to said chamber and first tube, the length of said second tube being such that the closed end is spaced from the open end of said first tube and such that the open end of said second tube is spaced from the inlet end of said chamber.

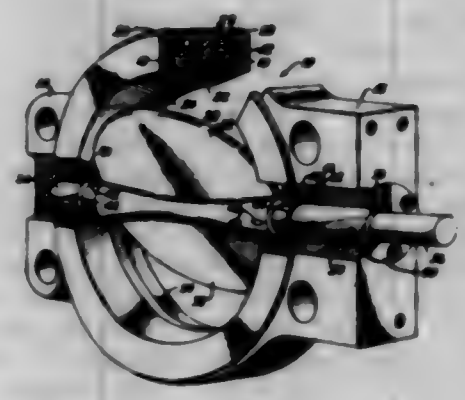
3,143,131
CONVERTIBLE NORMALLY CLOSED TO NORMALLY OPEN SOLENOID VALVE CONSTRUCTION
Rufus M. Spencer, Cana, Va., assignor to U-Stretch Corporation, Mount Airy, N.C., a corporation of North Carolina
Filed Dec. 26, 1962, Ser. No. 247,826
12 Claims. (Cl. 137—269)

1. In a solenoid operated valve of the type having a first housing assembly in which is located a chamber and a valve member positioned within the chamber and moveable into and out of engagement with a valve seat located adjacent an outlet port in said housing and having a second housing assembly including a tube enclosing said solenoid and a spring loaded armature plunger actuated by said solenoid, said first and second housing assemblies having mating surfaces normally adapted to being secured together with said plunger controlling said valve member normally closed, the improvement which renders said first and second housing assemblies employable in a normally open type valve operation comprising, a third housing assembly adapted to being fixedly secured to and between said first and second housing assemblies, said third housing assembly having one mating surface adapted to being secured to the mating surface of said first housing assembly and having another mating surface laterally and vertically offset from the first adapted to being secured to the mating surface of said second housing assembly and having a chamber extending between open-



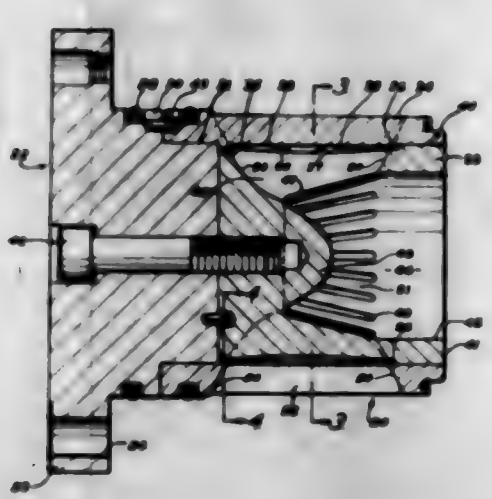
ings located at each of said third housing mating surfaces, said third housing chamber being designed to communicate at one end with said first housing chamber and at the other end with said second housing tube, a rocker lever mounted in said third housing chamber, means adapted to connect one arm of said lever with said armature plunger, means connected to the other arm of said lever and adapted to control the position of said valve member, said first housing assembly including said valve member thereby being adapted to operate as normally open.

3,143,133
SEAL ARRANGEMENT FOR A BUTTERFLY VALVE
Thomas W. Pangburn, Sewickley, Pa., assignor to Fisher Governor Company, a corporation of Iowa
Filed June 12, 1961, Ser. No. 116,348
5 Claims. (Cl. 137—375)



1. A butterfly valve comprising a valve body having an opening, a flexible liner in said opening defining a port through which gaseous or liquid material may pass and having diametrically opposed apertures aligned with similar apertures in said body for receiving a shaft adapted to carry a rotatable valve for engagement with said liner to close said port, a retainer bonded in each liner aperture and having an opening through which said shaft passes, the wall defining said retainer opening having a recess therein, an O-ring in said recess for sealing the space around said shaft from the passage of said material, the outer wall of said retainer and a wall on said body engaging said liner therebetween, and a self-lubricating plastic bushing in each body aperture adjacent to and abutting one end wall of said retainer and engaging said shaft.

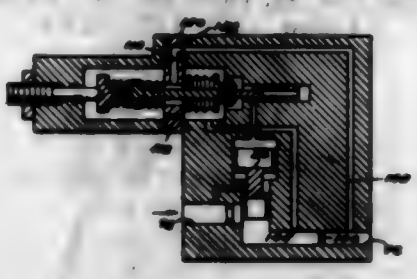
3,143,133
COMPRESSOR VALVE
Edmund P. Thomas, Allentown, Pa., assignor to The White Motor Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 28, 1962, Ser. No. 219,958
9 Claims. (Cl. 137—454.4)



1. An air compressor valve comprising,
(*a*) a body member;
(*b*) a cage member surrounding the body member;
(*c*) the cage and body members having valve chamber surfaces defining a valving chamber and defining a plurality of valve member restraining spaces;
(*d*) one of the member valve chamber surfaces including a plurality of elongated flat valve seats formed therein;
(*e*) a plurality of elongated normally flat, flexible valve members in said valving chamber and each oriented to cooperate with one of the valve seats, each valve member being positioned for limited, free floating, movement in a different one of said restraining spaces;
(*f*) said one member including a plurality of fluid passages therethrough each surrounded by one of said valve seats and selectably closable when valve members abut the seats;
(*g*) said other member valve chamber surface including a plurality of convexly curved valve member stops each oriented to support one valve member when the valve members are forced away from the associated seats;
(*h*) said other member including a plurality of passages each disposed between an adjacent pair of stops and each communicating with said chamber;
(*i*) said body member including an open ended cavity in communication with each of the passages of the body member;
(*j*) said cavity having an end opening transverse to the longitudinal axis of said seats; and,
(*k*) the passages in said cage communicating with the fluid peripherally ambient to the valve.

3,143,134
FLUID REGULATOR
John J. Karpis, 9901 Melrose Ave., Livonia, Mich.
Filed Dec. 12, 1960, Ser. No. 75,148
12 Claims. (Cl. 137—486)

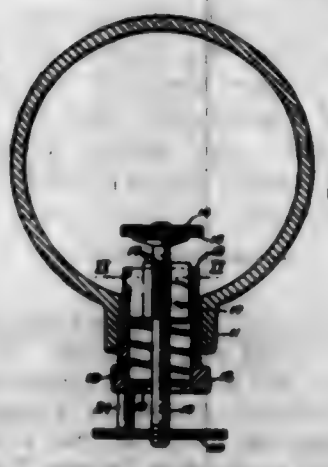
2. A fluid flow controlling device comprising, in combination: a fluid flow passageway through which the fluid flow to be controlled moves, a throttle valve in said passageway for controlling flow therethrough, a fluid pressure actuator coupled with the throttle valve to shift it, fluid passageway means communicating with the actuator to introduce fluid pressure thereto and other fluid passageway means communicating with the actuator to allow fluid pressure to escape therefrom, a fluid pressure balanced spool type servo valve in one of said passageway means for controlling the pressure in the actuator, first means for dividing fluid pressure into opposing unequal forces of constant ratio, second means for dividing a second fluid pressure into opposing unequal forces of constant ratio, said first and second means connected together and movable in response to a resultant unbalanced force therebetween, said servo valve connected to said first and second means to move therewith, said first means subjected to the fluid pressure in said passageway at that



side of the throttle valve where flow is to be regulated, and said second means subjected to a fluid pressure with reference to which the said flow is to be regulated.

4. The invention as defined in claim 2 characterized in that said passageway is provided with an orifice therein through which the fluid flow to be controlled moves and said first means is subjected to fluid pressure in said passageway at one side of the orifice and said second means is subjected to fluid pressure in the passageway at the opposite side of the orifice.

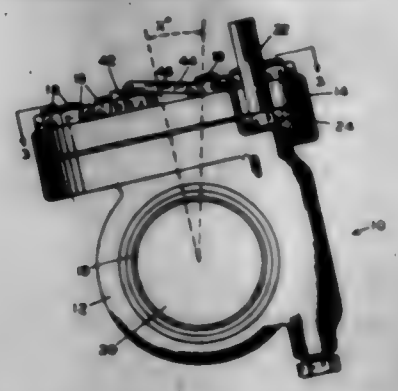
3,143,135
DRAIN MEANS FOR IRRIGATION PIPE
Gail Cornelius, Portland, Oreg., assignor to R. M. Wade & Co., Portland, Oreg., a corporation of Oregon
Filed Oct. 27, 1961, Ser. No. 148,216
1 Claim. (Cl. 137—494)



Drain means for use in a sprinkler irrigation system having a movable cylindrical line connectable with a source of water under pressure, spaced sprinklers thereon and spaced drain means therein for draining the line before it is moved, each said drain means being in the form of a valve including a tubular housing extending from below upwardly into the line to a level substantially above the lower inner cylindrical surface of the line, a valve element for closing the upper end of said housing, a valve stem on said element extending downwardly through the housing, spring means urging the valve and stem upwardly to open the valve, stop means limiting the opening movement, a dispersion plate comprising a disc on the lower end of the valve stem concentric with the housing, said stop means limiting upward movement of the valve stem to a point where the dispersion plate is spaced from the lower end of the housing a distance to permit unimpeded drainage through

the housing, and said dispersion plate serving to disperse discharging water to reduce the force of impingement thereof upon the ground, and also serving to load the spring when the line is again charged with water to hasten closing of the valve.

3,143,136
CHECK VALVE
Frank Wheatley, Jr., Tulsa, Okla., assignor to Frank Wheatley Pump & Valve Mfg., Tulsa, Okla., a corporation of Oklahoma
Filed Oct. 31, 1960, Ser. No. 65,980
1 Claim. (Cl. 137—527.8)



A positive closing check valve adaptable for passing a physical object therethrough, comprising:

a valve body having an axial opening therethrough:

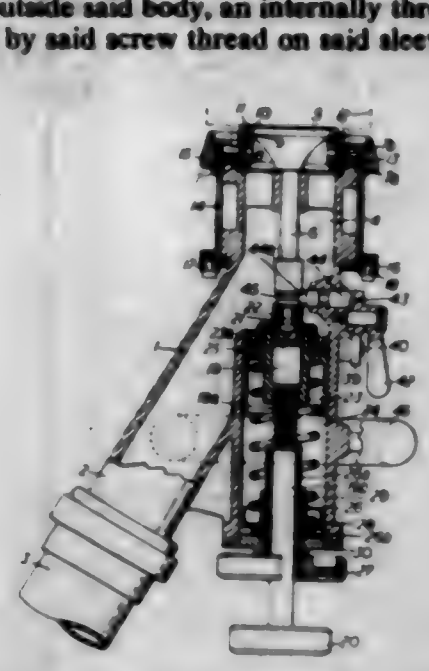
a seat formed in said valve body surrounding said opening;

a clapper supported to pivot about an axis within said body, said axis extending in a plane perpendicular to the axis of said opening in said valve, the axis about which said clapper pivots displaced at an angle of approximately 8 to 20 degrees from the vertical, said clapper having a seating surface formed thereon adaptable to engage, when said clapper is pivoted to closed position, said seat formed in said valve body;

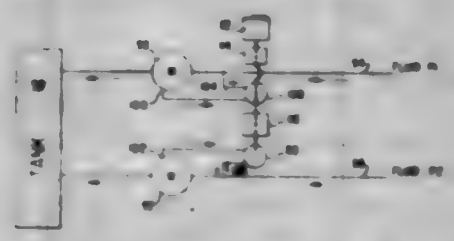
means externally of the valve whereby said angle of displacement from the vertical of the axis about which said clapper pivots is indicatable whereby said angle of displacement from the vertical of the axis about which said clapper pivots is such that said clapper barely pivots closed when no flow occurs in the valve.

3,143,137
QUICK-ACTING BIASED VALVED COUPLING FOR FLUID PIPE
Jacques Muller, 123 Avenue du General de Gaulle, La Garenne-Colombes, France
Filed May 16, 1961, Ser. No. 110,557
Claims priority, application France May 24, 1960
4 Claims. (Cl. 137—552)

1. In a pipe coupling comprising a hollow body having means at one end adapted for rapidly coupling said body to a connector on a tank or conduit or the like, and a branch on said body to which another pipe may be connected, an improved valve structure comprising a poppet type valve having a stem guided in said body cooperating with a seating adjacent said one end thereof to control the flow of fluid between said one end of said body and said branch, a control spindle co-axial with said valve stem connected thereto by a running joint, said control spindle having a screw thread along a part of its length, a member forming a spring abutment mounted for axial movement but held against rotation engaged by said screw thread, a hand wheel attached to said control spindle, whereby rotation of said control spindle causes axial displacement of said abutment with respect to said valve stem, a rotatable sleeve mounted in the other end of said body co-axial with said control spindle, an external screw thread on the portion of said sleeve inside said body, a second hand wheel attached to the portion of said sleeve outside said body, an internally threaded member engaged by said screw thread on said sleeve constituting a second spring abutment, and a compression spring located between said two abutments, whereby rotation of said hand wheels varies the pressure exerted by said spring on said valve and the position of said valve for a given spring pressure.



3,143,138
HYDRAULIC MOTOR AND PROPORTIONING SYSTEM
John X. Hogan, 3507 Morrison St. NW., Washington, D.C.
Filed Sept. 7, 1962, Ser. No. 222,031
14 Claims. (Cl. 137—567)

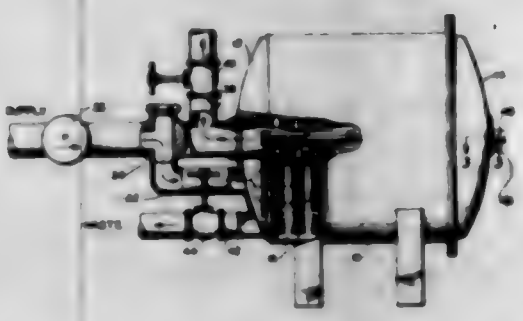


1. A hydraulic motor comprising a rotary vane positive displacement unit having a fluid circuit between a main inlet and outlet and having a second outlet therebetween, the cross sectional area of said fluid circuit being greater between said second outlet and said main inlet than between said second outlet and said main outlet, and metering pump means connected to said second outlet to remove fluid from said motor and determine its speed of rotation.

3,143,139
DISTRIBUTING VALVE
Eugene D. Pretti, Berkeley, Calif., assignor to Jacuzzi Bros., Inc., Richmond, Calif., a corporation of California
Filed Nov. 16, 1961, Ser. No. 152,876
6 Claims. (Cl. 137—590)

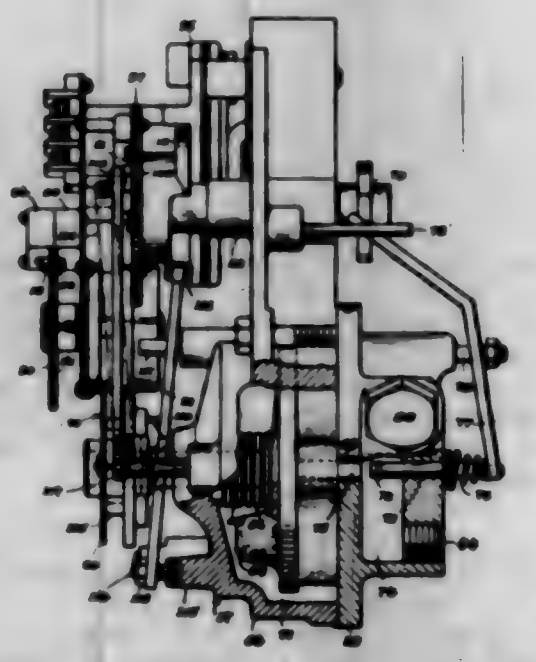
1. A distributing valve for controlling fluid flow through selected ones of a group of fluid conducting apertures which comprises: an elongated tube having a plurality of apertures therethrough spaced from each other longitudinally of said tube, a pair of generally cylindrical, flexible, and fluid impervious membranes each having first and second ends thereof, said membranes being positioned in said tube with said first ends thereof attached to said tube at areas of said tube on opposite ends of said plurality of apertures, a manipulating element mounted

axially in said tube in spaced relation therefrom for longitudinal movement therein and having longitudinal and radial fluid conducting passageways, and means attaching said second ends of said membranes to said manipulating element at remote areas of said manipulating element, the sum of the distance between said remote areas of said manipulating element and the distance be-



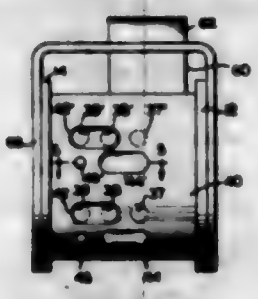
tween said areas of said tube being greater than the sum of the lengths of said membranes by an amount which is not greater than about twice the distance between adjacent apertures, whereby a passage is defined between said membranes which may be moved sequentially over said apertures responsive to movement of said manipulating element.

3,143,140
AUTOMATIC WATER SOFTENER CONTROL VALVE AND OPERATING MEANS THEREFOR
Edward T. Yaeger, Elgin, Ill., assignor to Elgin Softener Corporation, Elgin, Ill., a corporation of Illinois
Filed July 15, 1959, Ser. No. 827,309
21 Claims. (Cl. 137—624.2)



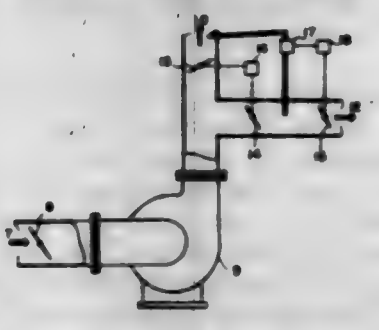
16. In a plate-type valve, the combination of a ported body member, a ported stem plate member adapted to effect different communication between the ports in the body member in different positions of rotation of the stem plate member, a cover on the body member enclosing said stem plate member, spring means urging said stem plate member normally into sealed operative relationship to the body member, a lever fulcrumed relative to the cover and operatively connected with and freely rotatable relative to the stem of said stem plate member to lift the same when the lever is oscillated, means for oscillating said lever so as to lift said stem plate member and reseat it, and means independent of said lever for turning said stem plate member from one position to another while the same is lifted.

3,143,141
PNEUMATIC CONTROL DEVICE
Roland D. Beck, Anaheim, Calif., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed Oct. 30, 1961, Ser. No. 148,613
8 Claims. (Cl. 137—625.2)



1. In a device for controlling a pneumatic flow, the combination comprising, a body member, a plurality of conduits formed in said body member, means defining an opening for each of said conduits, a flexible tape slidably disposed on said body member, said flexible tape defining a transfer valve movable for operative positioning relative to said openings, and pneumatic flow means integrally formed on said flexible tape in raised relationship to said body member and establishing communication between said openings for transferring a pneumatic flow between said conduits.

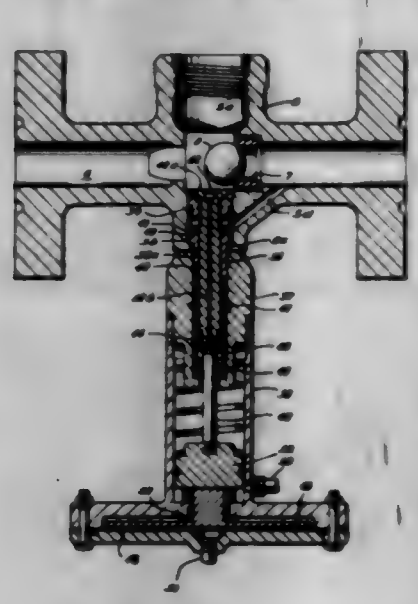
3,143,142
APPARATUS FOR SELECTIVE RECOVERY OF WASTE GAS FROM OXYGEN TOP BLOWING CONVERTER
Keiji Okaniwa and Isao Takatama, Tsurumi-ku, Yokohama, and Shigeru Maehara and Isoji Igarashi, Yawata, Japan, assignors to Yawata Iron & Steel Co., Ltd., and Yokoyama Engineering Co., Ltd., Tokyo, Japan, both corporations of Japan
Filed Apr. 5, 1962, Ser. No. 185,392
Claims priority, application Japan Apr. 10, 1961
2 Claims. (Cl. 137—628)



1. A gas flow switching apparatus for a waste gas recovery system for recovering waste gas from an oxygen top blowing converter having a cooling device fitted over the mouth of the converter, a dust collector connected to the cooling device for collecting and purifying the waste gas from the cooling device in the unburned state, an induced draft fan connected to said dust collector for drawing the unburned gas through the cooling device and dust collector, a flow regulating valve between said fan and said dust collector for regulating the pressure in said cooling device, a gas holder for holding the waste gas collected, and a stack for discharging waste gas to the atmosphere: said gas flow switching apparatus comprising a gas flow conduit adapted to be connected at one end to said induced draft fan, a collecting conduit branching from the other end of said gas flow conduit and adapted to be connected to said gas holder, a stack conduit branching from the other end of said gas flow conduit and adapted to be connected to the stack, a first switchover valve in said collecting conduit and a second switchover valve in said stack conduit, switchover valve operating means connected to said switchover valves for quickly closing one while quickly opening the other and vice versa, a pressure regulating valve in said stack conduit

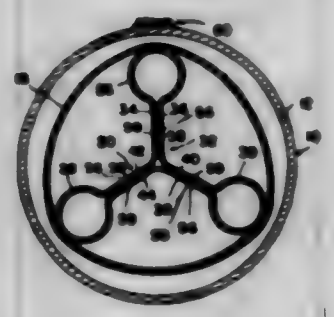
spaced from said second switchover valve in the direction toward the stack, valve actuating means connected to said pressure regulating valve, and pressure sensing and comparing means connected to said collecting conduit between said first switchover valve and the gas holder and to said stack conduit between said second switchover valve and said pressure regulating valve and coupled to said valve actuating means for causing said valve actuating means to close said pressure regulating valve when said first switchover valve is closed to regulate the pressure between said second switchover valve and said pressure regulating valve in response to the difference between the last mentioned pressure and the pressure in said gas holder.

3,143,143
SEQUENTIALLY OPERABLE VALVES
Joseph W. Taylor, Bolling A. Abercrombie, and Vernon B. Scott, Longview, Tex., assignors to U.S. Industries, Inc., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 50,953
1 Claim. (Cl. 137—629)



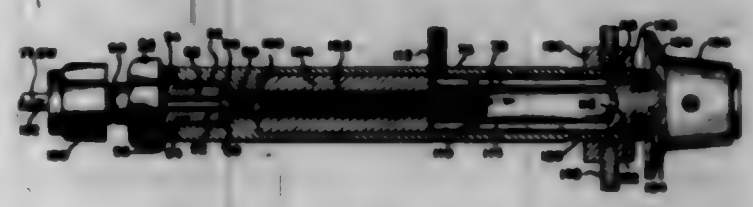
A valve comprising a body provided with a flow passage; a valve seat in the passage; a ball for engaging the valve seat and closing the passage, said ball being movable to a position to the side of the passage away from the seat to open the valve; a by-pass conduit communicating with the flow passage on both sides of the seat; a valve seat in the by-pass; a reciprocating plunger extending through the seat in the by-pass and exteriorly of the body of the valve, said plunger having a retracted position and an extended valve-opening position; sealing means in the by-pass sealing between the plunger and the body, the effective area encompassed by the sealing means being the area against which pressure in the by-pass acts to urge the plunger to its retracted position; a valve member carried by the plunger to engage the seat in the by-pass and close the by-pass when the plunger is in its retracted position to prevent line pressure from entering the by-pass and exerting a force on the effective area of the plunger, the effective area of the plunger encompassed by the sealing means being smaller than the area of the seat in the by-pass to provide a reduction in the force exerted by line pressure on the plunger opposing its movement to its extended or valve-opening position when the valve member moves away from the seat in the by-pass and opens the by-pass; a cylinder mounted on the body through which the plunger extends, said plunger including a piston reciprocally mounted in the cylinder; a passageway in the plunger connecting line pressure in the valve body to the cylinder to exert a force on the piston urging the plunger toward its extended valve-opening position, the area of the piston being less than the effective area of the plunger encompassed by the sealing means to provide a force on the plunger tending to lessen the force required to open the by-pass and move the plunger toward its extended position; and pressure-operated means for moving the plunger to its extended position, comprising a first fluid-operated motor having a pressure responsive member capable of exerting sufficient force on the plunger to move the valve member from the seat in the by-pass and open the by-pass, thereby reducing the force exerted on the plunger by line pressure, the travel of the pressure responsive member being sufficient to open the by-pass but less than that required to move the plunger into engagement with the ball, and a second fluid-operated motor having a pressure responsive member for exerting a force on the plunger sufficient to move the plunger toward its extended valve-opening position against line pressure when the by-pass is open but which is not sufficient to move the ball from the seat and open the valve until the pressure drop across the ball has been substantially reduced by the open by-pass.

3,143,144
ACCUMULATOR
William Harold Peet, 2115 Devonshire Road, Ann Arbor, Mich.
Filed Nov. 27, 1961, Ser. No. 155,101
7 Claims. (Cl. 138—30)



1. A backing for interiorly supporting the flexible diaphragm tube of an accumulator, said backing comprising a hollow core, said core including spaced confronting walls adapted to support on their outer surfaces spaced portions of the diaphragm tube when the latter is collapsed and to flex toward and into contact with each other by the pressure of the collapsed tube, and means providing fluid communication between the hollow interior of said core and the space surrounding said core including a port in one of said walls, said port being substantially closed by the other of said walls when said walls flex toward and into contact with each other as aforesaid.

3,143,145
METHOD AND MEANS OF CONTROLLING THE RATE OF FLUID FLOW
James M. Kanse, Wilmington, Del., assignor to F & M Scientific Corporation, a corporation of Delaware
Filed Feb. 28, 1963, Ser. No. 261,600
1 Claim. (Cl. 138—43)



A device for controlling the rate of flow of a fluid comprising a first member having a cylindrical passageway, said passageway having internal screw threads, a second member having external screw threads adapted to engage said internal screw threads, the major diameters of said screw threads being substantially equal, the

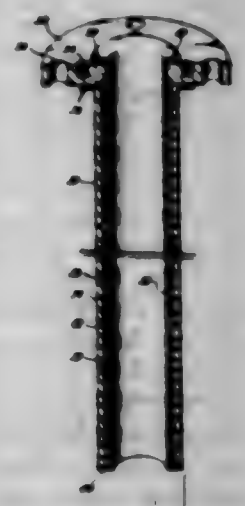
angle of said internal and said external threads being different, the minor diameter of said internal screw thread being less than or substantially equal to the minor diameter of said external screw thread, thereby to form a helical conduit through which said fluid may flow.

3,143,146
LEAKPROOF TELESCOPIC LOADING ARM
Logan L. Kennedy, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,509
3 Claims. (Cl. 138—107)



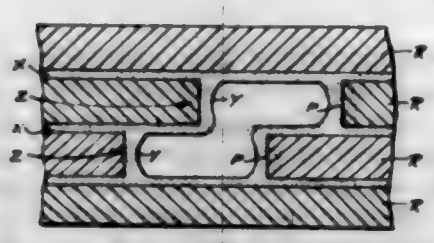
1. A telescopic arm comprising in combination a rigid telescopic tube, a flexible impermeable liquid condit, said tube having conduit supporting means at spaced points in the upper portion thereof, said conduit being longitudinally disposed within and being attached to said supporting means in the rigid telescopic tube and collapsing and extending in response to the position of said telescopic tube.

3,143,147
DIP TUBE
Franklin T. Sellars and Frank G. Wooden, Jr., Houston, Tex., assignors to John L. Doré Co., Houston, Tex., a corporation of Texas
Filed Sept. 8, 1961, Ser. No. 136,932
3 Claims. (Cl. 138—140)



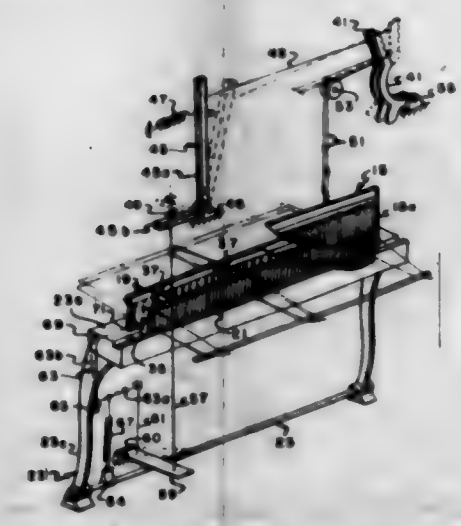
1. A dip tube for containers comprising:
an elongate metal tubular reinforcing means having first and second ends,
an outwardly extending mounting flange attached to the reinforcing means at the second end thereof,
an inner plastic sheath readily slidably mounted on said reinforcing means and extending from said mounting flange through said reinforcing means and extending beyond the first end thereof,
said inner sheath including an inner flange concentric with and abutting said mounting flange,
an outer plastic sheath readily slidably mounted on said reinforcing means and extending from the mounting flange around said reinforcing means and extending beyond the first end thereof,
said outer sheath including an outer flange concentric with and abutting said mounting flange,
a middle plastic filler member having a cross section substantially the same as the cross section of the reinforcing means mounted between the extensions of the inner and outer sheaths and fused throughout its length thereto,
said middle member being spaced from the first end of said reinforcing means, thereby providing a gap for thermal expansion of said reinforcing means and thermal contraction of the sheaths and middle member,
said sheaths and middle member being of the same plastic material, and
said reinforcing means having a different rate of thermal expansion than said sheaths and middle filler member.

3,143,148
PAPER TUBING
Philip R. Worn, Princeton, N.J., assignor to Decorated Metal Manufacturing Company, Inc., Milltown, N.J., a corporation of New York
Filed June 18, 1962, Ser. No. 203,658
4 Claims. (Cl. 138—144)



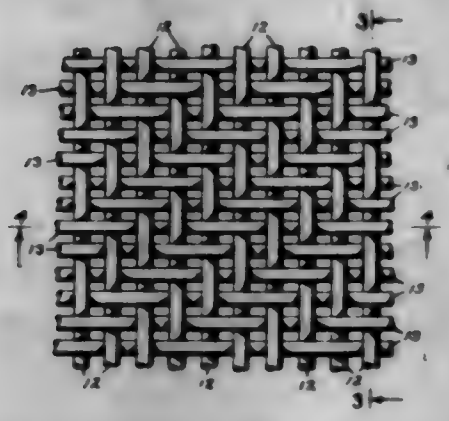
1. A tubular member comprising a series of layers of paper, each layer being provided with perforations throughout their entire areas, the layers being so wound that the perforations in the layers only partially overlap, and sufficient bonding means disposed between the layers and into the openings between the layers as to adhere the surfaces of the layers and to extend into the perforations as to form a rivet like connection therebetween.

3,143,149
OSCILLATABLE REED STRUCTURE
Albert W. Stoudenmire, Pendleton, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Sept. 25, 1961, Ser. No. 140,279
6 Claims. (Cl. 139—48)



1. A loom having two reeds, one of said reeds being movable relative to the other of said reed in a direction transverse to the path of warp filaments therethrough, means for imparting back-and-forth motion to said one reed transverse to the normal path of movement of warp filaments therethrough, said motion-imparting means including a variable source of fluid pressure, a fluid-pressure-to-mechanical-movement transducer mechanically connected in motion-imparting relation to said one reed, and a fluid conduit connecting between said variable source of fluid pressure and said transducer.

3,143,150
FABRIC FOR FOURDRINIER MACHINES
William E. Buchanan, 345 Lake Road, Menasha, Wis.
Filed Oct. 18, 1961, Ser. No. 145,950
10 Claims. (Cl. 139—425)



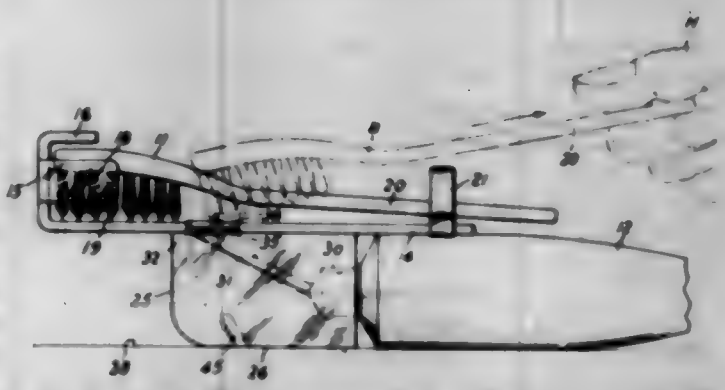
1. A woven Fourdrinier fabric comprising a plurality of spaced warp threads interwoven with a plurality of spaced weft threads wherein each weft thread passes alternately over a pair of warp threads and under a pair of warp threads in a repeated pattern that includes knuckles in both the weft and warp threads and defines an open area between the spaced threads, said weft threads being of a material at least substantially as abrasive resistant as said warp threads and with the knuckles of the weft threads being at least substantially as high as the knuckles of the warp threads, the fabric having more weft threads than warp threads per square inch of fabric, and the open area of the fabric being from about 13% to about 20%.

3,143,151
NOSE-PIECES FOR ISOBARIC LIQUID-DRAWERS
Roger Louis Joseph Denis, Paris, France, assignor to Etablissements Chelle, Alfortville, France
Filed June 7, 1960, Ser. No. 34,488
Claims priority, application France June 9, 1959
13 Claims. (Cl. 141—302)



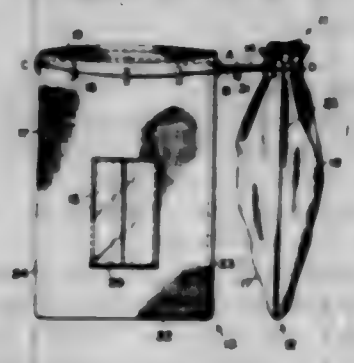
1. In a nose-piece for isobaric liquid-drawers used for filling receivers with a liquid from a source of liquid and of the type have a conventional liquid valve within the nose-piece body and a conventional gas nozzle with ports for charging the receivers with gas, exhausting the gas from the receiver during the filling operation thereof and limiting the liquid level in said receivers, the improvement comprising: a displaceable rigid gas and liquid retaining device in the nose-piece body and defining an annular passage therebetween in all positions of said device, and means for displacing said retaining device upon opening of the liquid valve to a position in said nose-piece body in which the annular passage is a maximum, whereby the liquid flows without loss of charge through said annular passage with said liquid valve open to fill said receiver to a level determined by the gas nozzle ports, said rigid gas and liquid retaining device upon cessation of the flow of liquid and while said liquid valve remains open, cooperating with the nose-piece body to effect a seal therebetween which is formed due to surface tension of the liquid which retains the liquid in the nose-piece body, entraps the gas remaining above the liquid within the filled receiver and prevents the flow of said gas to the source of liquid.

3,143,152
TOOTHBRUSH HOLDER AND PASTE DISPENSER
Chester Knable, 1126 Old Cumberland St., Lebanon, Pa.
Filed Dec. 13, 1961, Ser. No. 159,812
4 Claims. (Cl. 141—360)



1. A combination toothbrush holder and toothpaste dispenser device comprising an elongated support having a body portion between the ends thereof and on one side of the support, means on one end of the support and on the side opposite said one side for receiving the bristle end of a toothbrush with the bristles facing the base of said support, means at the opposite end of said support for engaging and releasably holding the handle end of the toothbrush, said body portion of said support having a passage therethrough one end of which opens at a point along said support adjacent said toothbrush bristle end and between such bristle end and said handle holding means, means on said body portion communicating with the opposite end of said passage for receiving the threaded end of a toothpaste tube and supporting the tube from the threaded end, means on said support closing said one end of said passage, and means for mounting said closing means for movement to a position opening said passage one end whereupon by squeezing said tube and moving the bristles of the toothbrush across said passage opening, paste may be dispensed into the brush.

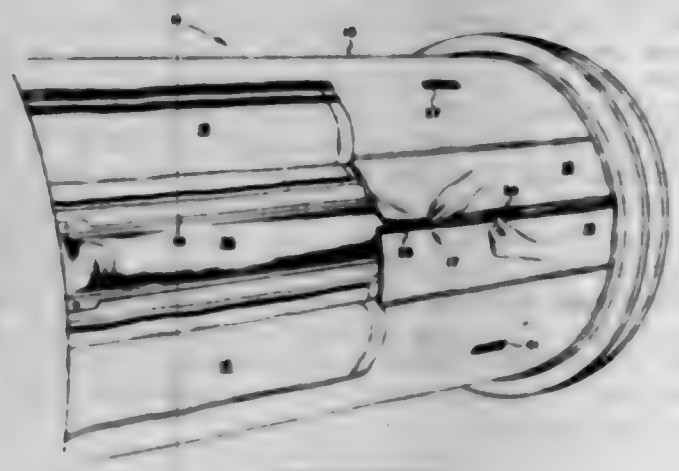
3,143,153
CONTAINER
Martha Smith, 81 Jordan Road, Brookline, Mass.
Filed Aug. 8, 1962, Ser. No. 215,708
4 Claims. (Cl. 150—11)



1. A plural component shoe container comprising, first and second pockets adapted to store shoes,

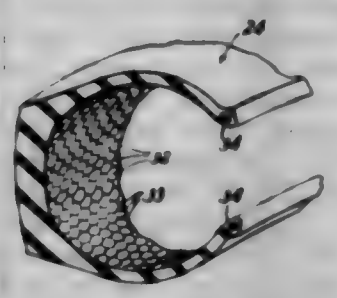
said first and second pockets each being formed of a substantially opaque textile material and each having a front section,
a transparent panel mounted on each front section and forming a window allowing visual access to the inside of each pocket,
a drawstring extending between and affixed to each of said pockets,
said drawstring providing a means for opening and closing each of said pockets,
and first and second independent access means mounted respectively on said first and second pockets.

3,143,154
PROTECTIVE COVER
Robert A. Best, Cupertino, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 4, 1963, Ser. No. 262,521
1 Claim. (Cl. 150—52)



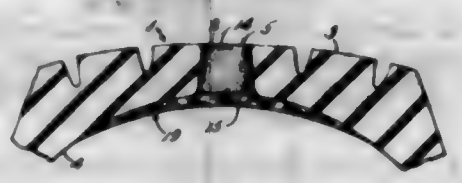
A protective cover consisting of a sheet of flexible protective material including at least one pair of opening panels, each opening panel having means for attaching the same to the exterior surface of said sheet of flexible protective material one edge of one panel having a strip of material, said panel having a second strip of material spaced from and parallel to said first mentioned strip of material, one edge of the other panel having a belt for being connected to either said first or second strips of material, means for attaching to the interior surface of said protective material a sheet of transparent material adjacent the opening produced when said panels are folded back.

3,143,155
TIRE
Harold Wayne Knox, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 29, 1961, Ser. No. 113,505
2 Claims. (Cl. 152—330)



1. A tire comprising a fabric-reinforced body having a crown and sidewall portions terminating in inextensible beads, and means on the interior surface of said tire to delocalize the stresses in said tire body, said means extending along the interior tire surface from the crown portion to the beads and comprising laterally interconnected rib portions defining a plurality of isolated, depressed irregular pockets in the interior surface of said tire.

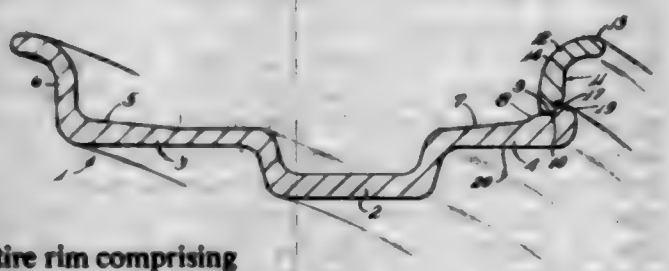
3,143,156
TIRE REPAIR
George Clarke Fagert, Cuyahoga Falls, and Robert D. Murphy, North Canton, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 9, 1962, Ser. No. 186,171
25 Claims. (Cl. 152—370)



3. A method of repairing a tire, comprising
(*a*) forming an outwardly narrowing opening in said tire,
(*b*) inserting a tapered, rubbery plug, small end first, outwardly into said opening,
(*c*) wedging said plug firmly in said opening with one end thereof projecting beyond the inner surface of said tire,
(*d*) forming on said plug-end a head of a lateral dimension no greater than that of said plug end, whereby, when said tire is inflated, the fluid pressure seats said plug tightly in said opening and presses said plug-head into substantial lateral alignment with the said inner surface of said tire.

10. A tire repair comprising
(*a*) a tire portion having a well defining an outwardly narrowing opening,
(*b*) a sealing plug fixed in said opening,
(1) one end of said plug normally projecting beyond the inner surface of said tire portion and having its edge formed flush with the edge of said opening,
whereby, when said tire in inflated, the fluid pressure compresses said plug tightly against said wall and presses said end into substantial lateral alignment with said inner surface of said tire.

3,143,157
UNIVERSAL RIM
James Joseph Robson and Thomas Allan Robertson, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 27, 1961, Ser. No. 155,006
1 Claim. (Cl. 152—411)



A tire rim comprising
(1) an annular base,
(2) a sloping, generally axial surface at one side of said annular base adapted to sealingly engage a tire bead,
(3) an annular surface axially outwardly of said sloping surface and terminating in an abutment,
(4) a removable, endless rim flange disposed on said annular surface and against said abutment and adapted to engage the radially extending face of the tire bead,

(*a*) said annular surface being of greater transverse width than the radial inner end of said rim flange, and merging into

(5) a sharply rising surface adapted to supportingly and sealingly engage the heel portion of the tire bead prior to engagement of the tire bead face with said rim flange,

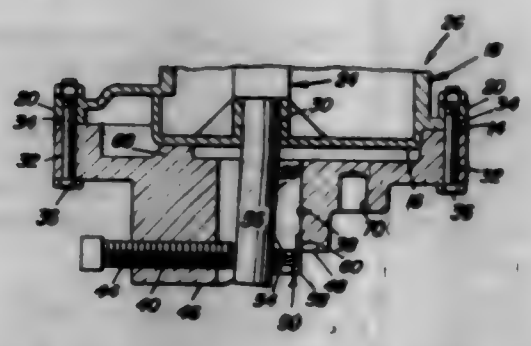
whereby communication between the interior of a tire mounted on said rim and the atmosphere is effectively prevented.

3,143,158

ENGINE POSITIONER AND SHAFT STRAIGHTENER

Grant L. Sundquist, 413 N. Gill St., Monticello, Iowa, and Marlin R. Smith, R.R. 1, Central City, Iowa

Filed Jan. 12, 1961, Ser. No. 82,234
2 Claims. (Cl. 153—32)



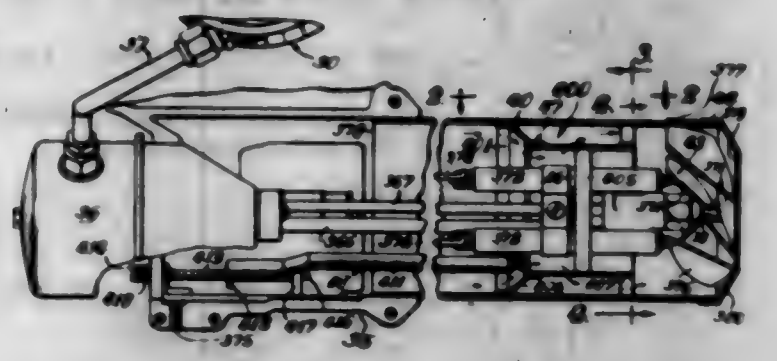
1. An engine positioner and shaft straightener for an engine of the type having a housing with an output shaft having one end journaled through one end thereof and outwardly projecting mounting flange means disposed about the sides of said housing adjacent said one end thereof, said engine positioner and shaft straightener comprising a mounting base having a mounting face, means on said base adapted to rigidly secure said engine thereon with said flange means in surface-to-surface contacting relation with corresponding portions of said mounting face and the latter opposing said one end of said housing, said mounting base having an opening formed therethrough adapted to receive said output shaft, thrust means mounted on said base having an abutment member movable from one side of said opening transversely of said opening toward the other side thereof and adapted to engage said shaft and deflect the latter laterally whereby should one end of said shaft be bent it may be engaged by said abutment member and urged toward its original straight position, abutment means carried by said mounting base on said one side of said opening and inwardly of said corresponding portions of said mounting face and adapted to abut said one end of said housing adjacent said output shaft and inwardly of said mounting flange and to prevent breakage of said housing adjacent said shaft upon operation of said thrust means to straighten said shaft by preventing excess deflection of said one end and flange means of said housing, standard means, said mounting base including means for rotatably supporting said base on the upper end of said standard means for rotation about a selected one of a plurality of predetermined angularly disposed axes of rotation fixed relative to said base, two of said axes being disposed at right angles relative to each other, the lower end of said standard means including mounting means adapted for rigid support from a supporting surface, said mounting base having a plurality of angularly disposed bores formed therein comprising said rotatable supporting means, said standard means comprising a rod-like member extending upwardly from said mounting means and selectively rotatably receivable in said bores, means limiting longitudinal penetration of said rod-like member in said bores.

3,143,159

OIL BURNER AIR CONTROL

Charles B. Smithson, Bloomington, Ill., assignor to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware

Filed Oct. 1, 1962, Ser. No. 227,493
9 Claims. (Cl. 158—1.5)



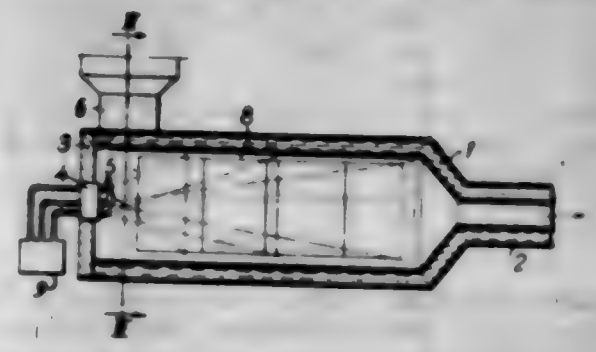
1. In an oil burner having a blast tube with a nozzle disposed centrally therein, control means for regulating the flow of air through said blast tube, comprising a transverse centrally disposed baffle in fixed relation in said blast tube and of smaller diameter than said blast tube, a shiftable sleeve member having a portion at the upstream side of said baffle slidably engaging the interior of said blast tube and a portion slidably engaging the periphery of said baffle, said last-named portion having at least one opening therein, and means for moving said shiftable member axially of said blast tube to vary the effective size of said opening at the upstream side of said baffle, whereby the flow of air passes axially through said sleeve member to said baffle, thence radially outwardly through said opening, and thence axially between said sleeve member and said blast tube.

3,143,160

FURNACE FOR INTERMITTENT COMBUSTION

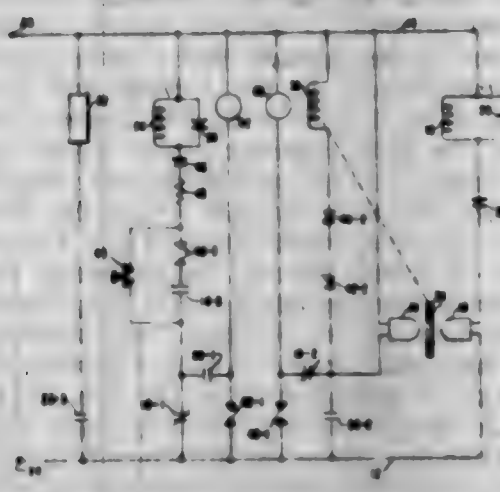
John Anders Rydberg, Stockholm, Sweden, assignor to Aktiebolaget Gustavsbergs Fabriker, Gustavsberg, Sweden, a corporation of Sweden

Filed Sept. 28, 1961, Ser. No. 139,499
Claims priority, application Sweden Sept. 22, 1960
1 Claim. (Cl. 158—4)



A furnace for intermittent combustion of fluid fuel comprising a furnace chamber, at least two fuel injection nozzles positioned together to spread injected fuel over substantially the entire volume of the furnace chamber, fuel supply means for intermittently supplying fuel substantially simultaneously to said nozzles at a positively controlled frequency, an air intake to said furnace chamber, a non-return valve controlling said air intake, a suction action creating outlet duct means in open communication with said furnace chamber to discharge gases from said chamber after each combustion causing fresh air to enter said chamber through said air intake, and a lattice which occupies substantially the entire volume of the furnace chamber and consists of a refractory material which becomes incandescent in operation and causes substantially simultaneous ignition of the injected fuel throughout the entire volume of the furnace chamber.

3,143,161
SELF-CHECKING CONDITION RESPONSIVE SYSTEM
Donald L. Graves, Woburn, and Philip Giuffrida, North Andover, Mass., assignors to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 26, 1963, Ser. No. 275,953
9 Claims. (Cl. 158—28)



6. An electrical control system arranged to be energized on need for fuel burner operation and having means adapted to be connected to energize the fuel burner to establish a flame,

comprising a flame sensor adapted to be associated with said fuel burner to detect flame at the fuel burner,

means including a simulator for simulating the absence of flame,

sensor responsive means,

first and second timing devices having identical timing cycles,

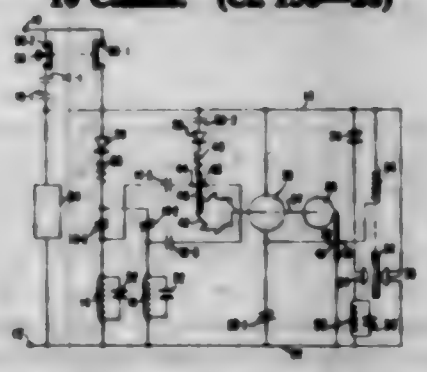
means including a load device controlled by said sensor responsive means,

means responsive to the energization of said load device to actuate said first and second timing devices simultaneously,

means responsive to the completion of the timing cycles of both timing devices to actuate said simulator and to deactuate said timing devices,

and means responsive to an indication of absence of flame from said sensor responsive means while said load device is energized to reactuate both said timing devices at the same time.

3,143,162
SELF-CHECKING CONDITION RESPONSIVE SYSTEM
Donald L. Graves, Woburn, and Philip Giuffrida, North Andover, Mass., assignors to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 26, 1963, Ser. No. 275,954
10 Claims. (Cl. 158—28)



6. A combustion supervision system comprising a flame sensor for disposition in supervising relation to a combustion chamber,

a flame relay coupled to said flame sensor for producing a signal indicative of the presence of flame in said combustion chamber,

control means to cause said flame sensor to indicate flame failure,

an electrically operable combustion control device,

coupling means controlling the energization of said combustion control device,

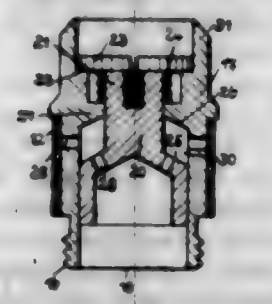
cyclically operative checking means generating a major cycle signal and a plurality of minor cycle signals within said major cycle, each said minor cycle being of shorter duration than said major cycle,

means to apply said minor cycle signals to said coupling means to energize said combustion control device,

means to apply said major cycle signals to said control means to produce a simulated flame failure condition,

and means responsive to said flame relay to disable said coupling means.

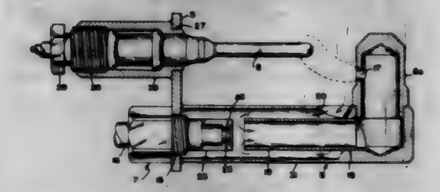
3,143,163
OIL BURNER
Josef Rosner, Wiesenstrasse 54, Memmingerberg, near Memmingen, Bavaria, Germany
Filed June 13, 1960, Ser. No. 35,525
Claims priority, application Germany Sept. 7, 1959
3 Claims. (Cl. 158—36.3)



1. In an oil burner having an oil pump, an atomizing nozzle having a hollow nozzle housing and a nozzle mouth at one end, a conduit connecting said pump to the other end of said nozzle housing, a valve mounted within said nozzle housing with an annular space therebetween and screwed into said nozzle housing, said valve having a hollow valve housing and a movable valve member mounted therein, a cylindrical filter member surrounding said valve housing, said movable valve being slidable in said valve housing toward and away from said nozzle mouth to open and close fluid communication from said conduit and said nozzle mouth, said movable valve having a central reduced shaft portion, said valve housing having a central inner collar portion surrounding said shaft for slidably guiding said movable valve, a screw having an enlarged head of greater diameter than said reduced shaft portion threaded into the end of said shaft adjacent the conduit end of the nozzle housing, said valve housing having an annular space between said collar and said screw head, a spring mounted in said annular space between said collar and screw head to bias said movable valve member toward said conduit end of said nozzle housing, said annular space being provided with an enlarged portion receiving said screw head, said shaft having an enlarged shoulder portion at its end adjacent the nozzle mouth, with a skirt portion depending from said shoulder portion, said valve housing having apertures providing communication between said filter and said movable valve, said shoulder of said movable valve having apertures communicating with said nozzle mouth whereby when oil under pressure passes into said nozzle housing the pressure against said screw head will force said movable valve toward said nozzle mouth and move said apertures of said shoulder of said movable valve into communication with the apertures in said

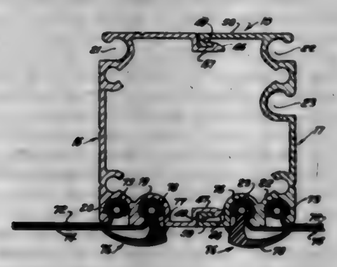
valve housing, whereby oil under pressure may flow from said conduit through said nozzle mouth via said filter member and valve housing and movable valve apertures.

3,143,164
GAS-FUELED DUST-INCINERATING PILOT BURNER
Raymond E. Grohall, Milwaukee, Wis., assignor, by mesne assignments, to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana
Filed Nov. 15, 1960, Ser. No. 69,461
1 Claim. (Cl. 158—115)



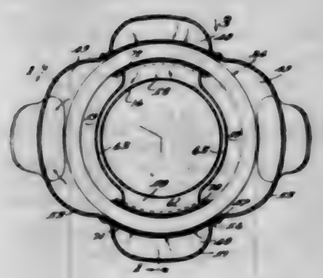
An incinerating type pilot burner comprising a tubular burner body having a fuel inlet end and having its other end closed and provided thereat with a tubular burner tip extending generally normal thereto, said tip being formed with a flame port directed generally parallel with said burner body and toward said fuel inlet end thereof, said burner body being formed with a reduced internal diameter throat portion adjacent said tip, said burner body also being formed with a primary air inlet passage extending through the wall thereof adjacent said tip and having its flow axis lying generally in the same plane as the flow axis of said flame port such that substantially all primary air entering said passage must pass in incinerating relation with respect to burning fuel at said flame port, said air inlet passage opening internally of said burner body at the end of said throat portion farthest from said tip, a sleeve extending from said reduced diameter throat portion in coaxial spaced relation within said burner body and toward said fuel inlet end thereof substantially beyond said air inlet passage, fuel inlet means at said fuel inlet end of said burner body comprising a fuel inlet fitting for directing fuel into the adjacent end of said sleeve for inspiration therewith of air drawn in through said air inlet passage.

3,143,165
METAL FRAME STRUCTURE AND PREFORMED STRUCTURAL UNITS COMPRISING THE SAME
Ted W. Lewis, 7225 Jewel Ave., Fort Worth, Tex.; Robert H. Howard, 8109 Preston Highway, Louisville, Ky.; and Jerry N. Worthy, 2210 Main St., Big Spring, Tex.
Filed July 18, 1961, Ser. No. 124,869
2 Claims. (Cl. 160—394)



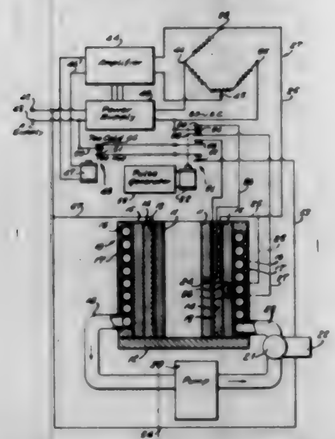
2. In a building structure as described, the combination of an I beam having an integral longitudinal flange on one side of its intermediate web portion, parallel to its top and bottom flanges, in spaced apart relation thereto, having a pair of closely spaced, longitudinally extending channels therein, a sheet of flexible material having a marginal portion thereof received in one of the channels and extending outwardly beyond a longitudinal edge of the flange, and an elongated retaining member received in said one of the channels, above the flexible sheet material, in frictional engagement therewith, whereby the flexible sheet material is secured against displacement from said one of the channels, and a gutter member arranged perpendicularly to the I beam and having an end portion of the I beam connected thereto intermediate its ends, the gutter member having bottom and side portions defining a trough, and having an integral longitudinal flange extending laterally outwardly therefrom, opposite the first mentioned flange of the I beam, having a pair of closely spaced, longitudinally extending channels therein corresponding to the longitudinally extending channels of the I beam and communicating therewith, the gutter member having a downward extension of one of its side members, on the side of the trough opposite said flange, forming with said side member a vertically extending flange for atttachment of the gutter member to a supporting surface, and having an integral longitudinal flange extending laterally outwardly from its lower edge, below the adjacent end of the I beam, whereby the I beam is supported on the gutter member, and an elongated baffle plate having one of its longitudinal edges secured to the side portion of the gutter member opposite said first mentioned side portion and extending upwardly therefrom, the baffle plate having an integral longitudinal flange extending laterally outwardly from its upper edge, immediately above the adjacent end of the I beam, and the adjacent end portion of the I beam conforming to the peripheral surface of the gutter member.

3,143,166
HEAT EXCHANGER FOR GAS TURBINES
Sam B. Williams and John F. Jones, Birmingham, Mich., assignors to Williams Research Corporation, Birmingham, Mich., a corporation of Michigan
Filed Jan. 28, 1960, Ser. No. 3,691
4 Claims. (Cl. 165—9)



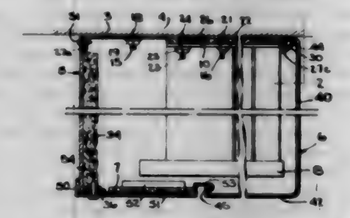
1. A seal for the inner and outer cylindrical surfaces of a drum-shaped annular heat exchanger matrix comprising a continuous closed rectangular bellows loop having an arcuate shape along two sides conforming to the corresponding cylindrical matrix surface, a first plate on one side of said bellows loop and adapted to maintain sliding engagement with the matrix, and a second plate on the opposite side of said bellows loop and adapted to engage the adjacent duct opening, both plates being of arcuate shape throughout their extent to conform to said cylindrical matrix surfaces.

3,143,167
TEMPERATURE CONTROLLED ENCLOSURE FOR TESTING PURPOSES
Adolf Vieth, Wanaque, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed May 19, 1961, Ser. No. 111,247
8 Claims. (Cl. 165—27)



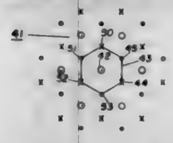
1. A temperature controlled enclosure comprising, a first metal wall surrounding the enclosure space, a heating means in thermal contact with said first wall for raising the temperature of the enclosure, a second metal wall surrounding the heating means, cooling means in thermal contact with said second wall for lowering the temperature of the enclosure, a first temperature-sensitive element in thermal contact with said first metal wall, a second temperature-sensitive element in thermal contact with said second metal wall, and a control circuit connected between said elements and said heating and cooling means for energizing the heating and cooling means selectively to produce a desired temperature within the enclosure, said control circuit including a bridge, an amplifier, and a switching means for connecting the heating means to a source of power when said first temperature-sensitive element is connected to the bridge and for activating the cooling means when said second temperature-sensitive element is connected to the bridge.

3,143,168
MOUNTING FOR AN AIR CONDITIONER
Charles Robert Huckleberry, Clarksville, Ind., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 14, 1961, Ser. No. 89,160
7 Claims. (Cl. 165—67)



1. A mounting for an air conditioner, comprising a ceiling plate, means attaching said ceiling plate to a ceiling, an air conditioner unit, means extending beneath said ceiling plate supporting said air conditioner unit therebelow, a rear panel extending from said ceiling plate and forming a side closure for the air conditioning unit, said rear panel having openings for electrical and piping conduits leading to the air conditioner unit, said ceiling plate having tracks running transversely of the rear panel, a cabinet cooperating with the rear panel to close the sides of the air conditioner unit, two opposite sides of said cabinet having tracks which cooperate with said tracks in the ceiling plate such that the cabinet may be slid horizontally into mounted position as said cooperating tracks are engaged, and a cabinet panel carried on said cabinet whereby said ceiling plate, rear panel, cabinet, and cabinet panel enclose the air conditioner unit, said cabinet being slid into mounted position after the air conditioner unit has been mounted on the ceiling plate and after piping and electrical connections to the air conditioner unit have been made through the rear panel whereby access to the air conditioner unit is provided by sliding said cabinet along said tracks from its mounted position without disturbing the piping and electrical connections.

3,143,169
SECONDARY RECOVERY METHOD FOR PETROLEUM BY FLUID DISPLACEMENT
Sidney M. Foulks, Irving, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Aug. 20, 1959, Ser. No. 835,073
5 Claims. (Cl. 166—9)



1. A process for the recovery of liquid material from a subterranean formation penetrated by a central well surrounded by *n* peripheral wells arranged in a geometric pattern with said central well at the midpoint of said geometric pattern, each of said peripheral wells being equidistantly spaced from each of the adjoining peripheral wells wherein *n* is a whole even number of at least 6, comprising the steps of:

(1) closing off every other of said peripheral wells,
(2) injecting into said central well a fluid capable of displacing said liquid material contained within said subterranean formation,
(3) producing said liquid material contained within said subterranean formation from the remainder of said peripheral wells until said displacing fluid arrives at said peripheral wells,
(4) closing off said central well,
(5) opening said wells closed off in step (1),
(6) injecting into each of said peripheral wells opened in step (5) said fluid capable of displacing said liquid material contained within said subterranean formation, and
(7) producing said liquid material contained within said subterranean formation from the remainder of said peripheral wells.

3,143,170
METHOD AND APPARATUS FOR BOREHOLE OPERATIONS
Norman A. Nelson, South Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,595
15 Claims. (Cl. 166—35)

10. A method for perforating in a well bore having a plurality of pipe strings arranged therein in side-by-side relationship comprising the steps of:

establishing a fixed orientation reference point in one of said pipe strings;

detecting and permanently recording the angular position of another of said pipe strings relative to the angular position of said reference point;



orienting in said one pipe string the direction of perforation of a perforator having a selected radial direction of perforation relative to the angular position of said reference point; and then

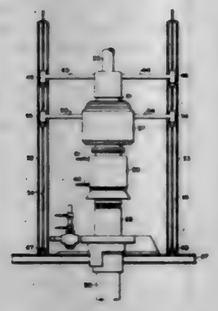
actuating said perforator.

3,143,171

UNDERWATER WELL GUIDE SYSTEM

Lloyd G. Otteman and John A. Haeber, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Apr. 11, 1961, Ser. No. 102,222
10 Claims. (Cl. 166—665)



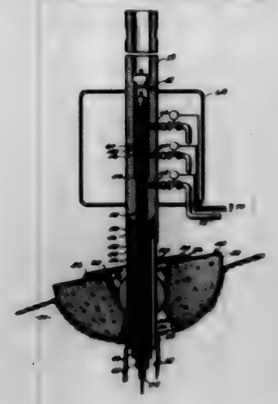
1. Apparatus for guiding wellhead equipment from an operational base above the surface of a body of water to a predetermined point below the surface of the water, said apparatus comprising a support base positioned below the surface of the water, a plurality of tubular guide columns with the lower ends thereof being fixedly secured to said support base at spaced distances about an axis, a flexible guide line fixedly secured to each of said guide columns below the top thereof and substantially coaxial therewith, said guide lines extending upwardly through said water to said operational base thereabove, and means carried on said operational base and connected to said guide lines for supporting the upper ends thereof, each of said tubular guide columns having a longitudinal aligning slot therein in line with a radius line of the axis of said support base, said guide columns and said longitudinal slots being adapted to receive cooperating guide means in the upper end thereof.

3,143,172

SELF-ALIGNING LANDING BASE FOR OFF-SHORE DEEP WATER DRILLING

Charles E. Wakefield, Jr., Bakersfield, Calif., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Oct. 16, 1961, Ser. No. 145,334
8 Claims. (Cl. 166—46.5)



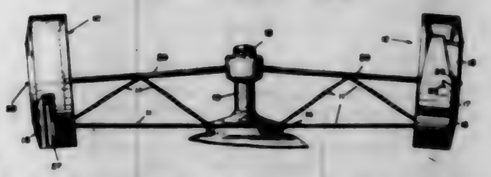
1. Landing base apparatus for use with a conductor pipe in off-shore drilling operations conducted in an underwater formation from floating vessel, comprising in combination: a base member adapted to land on said formation, said base member including means for supporting said conductor in said formation and means associated with said conductor pipe so arranged and proportioned that said conductor pipe is universally movable relative to said base member whereby said conductor pipe maintains substantially vertical alignment irrespective of the slope of said formation on which said base member is landed.

3,143,173

AIR GIRANDOLE EQUIPPED WITH MECHANICAL SUSTAINERS

Ernesto Dall'Asta, Avda. San Martin 329, Lima, Peru

Filed May 11, 1962, Ser. No. 193,931
2 Claims. (Cl. 170—135)



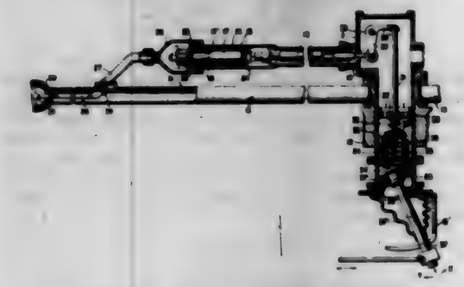
1. A fly-wheel for a helicopter or the like comprising a plurality of sustainer devices symmetricaly placed at its periphery, each sustainer comprising a rotor, a cylindrical housing enclosing said rotor, said housing having parallel base walls of a concavo-convex shape and being fixed to said fly-wheel at its concave side, said housing having an opening at the top facing the direction of the revolving motion of the fly-wheel, said housing having side walls cut away corresponding to said opening, said housing having a second opening at its lower part and to the rear of the direction of the revolving motion of the fly-wheel, a conduit extending towards the back from said second opening, each rotor having three funnels symmetrically placed in a reclined position on a truncated cone which forms the hub, said funnels having collecting mouths extending the whole width of said hub facing the direction of rotation of the fly-wheel, each funnel extending toward the back, curving and narrowing gradually until it totally penetrates into said hub on the internal side, intermediately before the following funnel, the narrow end of such funnel connecting with a conduit which bends and passes to the opposite side where it bends again and goes radially to the periphery of the rotor, describing a sagging line backwardly, crossing the funnel above, and ending in the upper side thereof, said conduit being embedded in the external lateral wall, a shaft on which said rotor is mounted extending through the center of said housing, said shaft extending to the center of the fly-wheel and means for driving said shaft.

3,143,174

FUEL CONTROL INSTALLATION FOR A ROTATING RAM JET UNIT ON A PROPELLER BLADE

Wilhelm Jurisch, Parksiedlung, Nellingen, Kreis Esslingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Oct. 17, 1960, Ser. No. 63,941
Claims priority, application Germany Oct. 31, 1959
16 Claims. (Cl. 170—135.4)



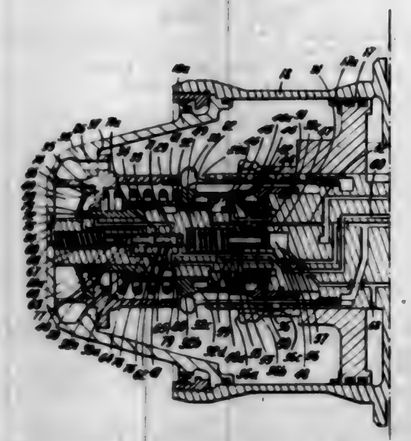
1. An installation for controlling and effectively supplying fuel quantities for rotating ram-jet units including burners arranged at the outer ends of the rotor blades of helicopters, comprising fuel supply means for supplying fuel to the burners of the drive units by the centrifugal force occurring during operation of the drive unit, a fuel metering and control means arranged in said fuel supply means including a metering bore and a control piston adapted to meter the flow through said bore, said control piston being arranged to rotate in unison with the rotor blade and being movable by said centrifugal force between a full-load and an idling speed position to meter said bore, and an adjustable rotary speed control means for controlling said fuel metering and control means comprising means including a spring means for applying a preselected spring force against said control piston to limit movement thereof in response to said centrifugal force beyond a predetermined metering position corresponding to a selected rotary speed and an equilibrium condition for said means for applying said spring force, said control piston being movable against said spring force to tend to close said metering bore when the centrifugal force acting on said piston exceeds a predetermined limit corresponding to the preselected spring force and adjustable speed selector means adapted for continuous manual control during operation of said installation for providing a control impulse against said means for applying said spring force to adjust said predetermined metering position, said adjustable rotary speed control means adjusting said fuel metering and control means to one of said full-load and idling speed positions upon receipt of the initial control impulse from said speed selector means for such length of time until a return impulse from said speed regulating means in the form of a changed centrifugal force re-establishes the equilibrium condition disturbed by the adjustment in said metering position.

3,143,175

VARIABLE PITCH PROPELLERS

Robert Terence Ehmes and Arthur Hampton Lane, Cheltenham, England, assignors to Dowty Rotol Limited, Cheltenham, England, a British company

Filed Oct. 13, 1960, Ser. No. 62,485
Claims priority, application Great Britain Oct. 16, 1959
6 Claims. (Cl. 170—160.32)



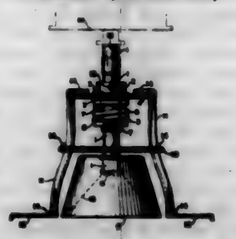
1. A variable pitch propeller having pitch control means comprising a hydraulic piston-and-cylinder motor connected to the propeller blades to alter the pitch thereof, a plurality of stops operable to prevent relative movement of the piston and cylinder, in a sense to fine the propeller pitch, beyond respective predetermined fine pitch settings, supply conduits for supplying pressure fluid to opposite ends of the cylinder of said motor, a source of pressure fluid, a further fluid conduit which is independent of said supply conduits and which is connected to said source, means for effecting successive increases in the pressure in said further conduit, and withdrawal means for withdrawing said stops successively when said successive increases of pressure occur in said further fluid conduit.

3,143,176

SPRINKLER HEAD, GRASS TRIMMING ADAPTER

Hugh N. Drane, Jr., 7154 Oakridge Drive, San Antonio, Tex.

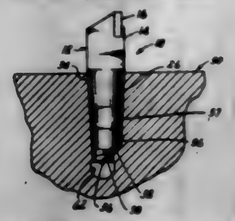
Filed Jan. 31, 1962, Ser. No. 170,069
1 Claim. (Cl. 172—13)



In a trimming device for sprinkler heads, a shaft having an upper driving end and a lower end, a bell-shaped guard rotatably mounted on the lower end of said shaft, said guard having a lower conical opening outwardly diverging at the lower end, a lock ring adjustably secured

to an intermediate portion of said shaft, said ring having a fixed annular shoulder, a rotatable support disc on said shaft, a pair of spaced friction washers disposed on opposite sides of said disc, said disc and washers being positioned to abut said fixed shoulder, adjustable means yieldingly urging said disc and washers into frictional driving engagement with said fixed shoulder, blade supports secured to said disc and having outwardly projecting blades at their lower ends, said blades and the lower end of said guard being substantially coplanar.

3,143,177
TOOL HOLDER
Louis C. Galorneau, 931 S. Gulley, and John G. Fowler, 24934 Winona, both of Dearborn, Mich.
Filed Jan. 23, 1961, Ser. No. 84,161
3 Claims. (Cl. 175—413)



1. In a tool bit for use with a tool holder, the combination of,

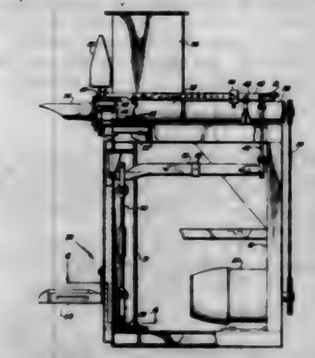
a tool bit, the outer end of said tool bit having at least one cutting surface thereon, the inner end having a tapered shank;

a cylindrical drive member integral with said tapered shank, said cylindrical drive member being of lesser diameter than said tapered shank, one edge of said cylindrical drive member located in tangential relationship to the lowermost edge of said tapered shank;

said cylindrical drive member depending from the bottom surface of said tapered shank, the axis of said drive member off-set in spaced relationship to the rotational axis of said tapered shank so as to accurately establish a pre-determined relationship between said cutting surface and the tool holder in which said tool bit is used.

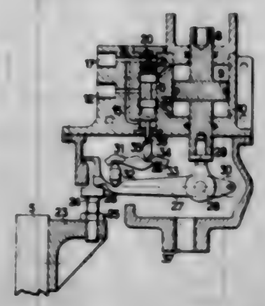
3,143,178
BAG PACKER WEIGHING ASSEMBLY
Edwin J. Douglas, Whittier, Calif., assignor, by mesne assignments, to Cherry-Burrell Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed Mar. 30, 1960, Ser. No. 18,648
1 Claim. (Cl. 177—120)

A weighing assembly for a bag packer comprising a weighing platform including a bag seat and a filling spout adapted to support a bag being filled with material, a weighing assembly frame, at least one resilient horizontal connecting member attached to the weighing platform and the weighing assembly frame so as to support the weighing platform and simultaneously permit the vertical movement of the bag support assembly in response to the weight of the material contained in the bag, said one connecting member comprising a pair of resilient suspension straps that are connected to the weighing assembly frame and extend from opposite sides of the frame in substantially parallel directions in a substantially horizontal plane, a weighing platform support bracket connected between the ends of said suspension straps, means for connecting said weighing platform to said support bracket, a first pivotal support means that is fixed relative to the weighing assembly frame, a first substantially horizontal beam pivotally supported at one end by said first pivotal support means, a second substantially horizontal beam, a vertical beam connecting member connecting one end of the second beam to the end of the first beam not pivotally supported, means for attaching a weight to the end of the second beam not connected to the first beam by the vertical connecting member, a second pivotal support means that is fixed relative to weighing assembly frame, said second pivotal support means supporting the second



beam at a point between the weight and the connecting member, a vertical weighing platform connecting member connecting the weighing platform to the first beam at a point intermediate between the first pivotal support means and the vertical beam connecting member, and means associated with the second beam to terminate the filling of the bag in response to a predetermined amount of movement of the second beam.

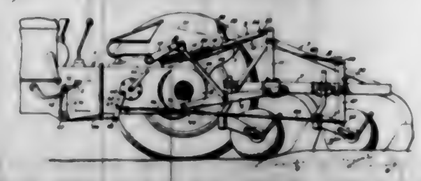
3,143,179
AUTOMATIC CONTROL MEANS USED IN THE FILLING OF CONTAINERS
Jacques Falmandier, 32 Blvd. Felix Faure, Chatillon-sous-Bagneux, France
Filed Oct. 10, 1960, Ser. No. 61,751
Claims priority, application France Oct. 15, 1959
6 Claims. (Cl. 177—120)



6. An apparatus for automatically delivering to a container an amount of material to satisfy a predetermined weight limit, in combination a scale support adapted to receive a container, material feeding means positioned to discharge material into said container, balancing means supporting said support for vertical displacement proportional to the change of weight of said container and the material discharged into said container, servo-control means operatively engaged by said balancing means during the latter part of said discharge from said feeding means, said servo-control means receiving the output movement of said balancing means as an input

movement proportional to the difference between the weight to be obtained and the instantaneous weight of the material that has been delivered, said servo-control means being adapted to amplify said input movement and to provide an amplified output movement proportional to the movement of said input movement, whereby said control means for said feeding means is operated by the output movement of said mechanism.

3,143,180
SAFETY DEVICE FOR TRACTORS
Leo R. Davis, Orange Beach, Ala. (Foley, Ala.)
Substituted for abandoned application Ser. No. 458,074, Sept. 24, 1954. This application Apr. 2, 1963, Ser. No. 271,551
4 Claims. (Cl. 180—14.5)



1. A safety device for a tractor having a pedal actuated clutch and an implement carrying frame mounted thereon for vertical swinging movement by upper and lower link members, comprising: a link serving as said upper link member, the effective length of which is shortened upon application of a predetermined compressive force to permit said frame to swing upwardly with respect to said tractor; a lever pivotally mounted intermediate its ends on said frame, said lever having limited lateral movement along its pivotal axis; a stop member having a slot formed therein secured to said frame so that, in one position, said lever is received in said slot at a point above the pivotal axis of said lever and held against pivotal movement in one direction and, in another position, said lever will clear said stop means; guide means secured to said tractor below said clutch pedal; and an elongated flexible means trained over said guide means and secured to said clutch pedal and to said lever at a point below its pivotal axis, the arrangement being such that when said lever is received in said slot, upward movement of said frame relative to said tractor causes clutch disengaging movement of said clutch pedal, said clutch being reengageable while said frame is in an elevated position by dislodgment of said lever from said slot and movement of said lever laterally to a stop-clearing position.

3,143,181
SEISMIC TRANSDUCER AND CUSHIONING DEVICE THEREFOR
Marvin G. Bays, Graydon L. Brown, and Henry A. Wakefield, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Dec. 6, 1961, Ser. No. 157,388
8 Claims. (Cl. 181—5)

1. A seismographic transducer for imparting seismic vibration signals to the earth comprising, in combination:

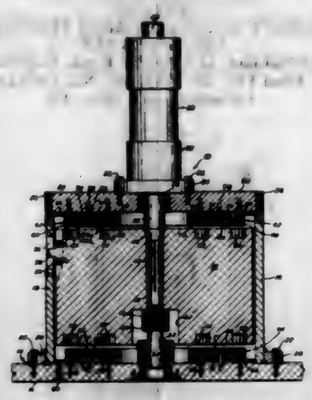
a mass member;

a ground-engaging member;

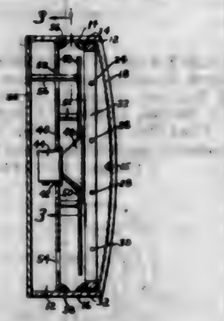
a linear actuator interconnecting the two members for reciprocating the mass member vertically relative to the ground-engaging member with the mass member having upper and lower limits of travel;

upper and lower cushioning means disposed at the upper and lower limits of travel, respectively, of the mass member, each cushioning means comprising means forming a variable volume cushioning chamber, the volume of the respective cushioning chamber being decreased as a consequence of the mass member approaching the respective limit of travel, a body of rubber in each cushioning chamber, the body of rubber having an uncompressed volume less than the corresponding volume of the cushioning chamber when the body of rubber is uncompressed,

whereby as the mass member approaches the limits of travel, the respective cushioning chamber will be decreased and the respective body of rubber therein will first be deformed until the volume of the cushioning chamber equals the volume of the body of rubber, and then the body of rubber will be subjected, upon a further decrease in the volume of the cushioning chamber, to bulk compression to thereby cushion the force of impact between the mass member and the housing.



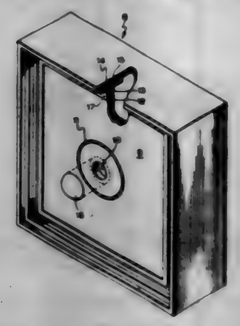
3,143,182
SOUND REPRODUCERS
Garold D. Sears, 5634 Eskridge, and Patrick M. Sullivan, 3755 Gramercy, both of Houston 25, Tex., assignors of one-third to E. J. Mosher and one-third to Harry J. Mosser, both of Houston, Tex.
Filed July 17, 1961, Ser. No. 124,584
5 Claims. (Cl. 181—31)



1. A sound reproducer having an upper panel, a lower panel, first and second side panels, and a back panel coupled to said upper, lower, and said side panels to provide a chamber having a front portion and a back portion, a coil mounting board having a plurality of apertures therein and disposed in the chamber away from said back panel, driving means positioned in one of the apertures of said coil mounting board, a front mounting board adapted for coupling to said driving means in the front portion of the chamber, bridge means coupled to said front mounting board and to said coil mounting board,

and a sounding post coupled to said front mounting board and to said back panel through an aperture in said coil mounting board, said driving means causing vibration of said front mounting board with lower frequency vibrations being transmitted through said sounding post to said back panel to provide resonance within the chamber.

3,143,183
DIRECT RADIATOR HIGH FIDELITY LOUDSPEAKER
Sidney Herbstman, 412 Tenafly Road, Englewood, N.J.
Filed Feb. 25, 1963, Ser. No. 260,624
5 Claims. (Cl. 181—31)



1. A woofer loudspeaker section having a fairly even sound pressure level well above transient distortion at frequencies between about 20 c.p.s. and 3000 c.p.s., comprising in combination,

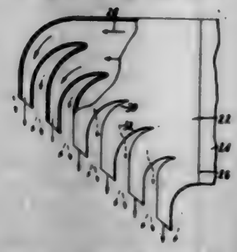
an outer frame defining a plane;

a flat, large area square-shaped polystyrene radiator diaphragm in said frame and in said defined plane, said diaphragm having a central aperture therein so that a voice coil can be coupled thereto;

inner and outer edge portions on said diaphragm, said outer edge portion being rigidly fixed to said outer frame, said inner and outer portions being coupled by flexible suspension means; and,

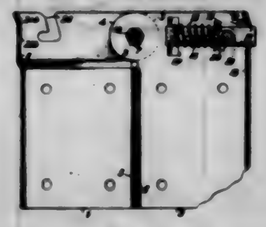
a steel wire ring of high density material between said central aperture and said inner edge portion.

3,143,184
NOZZLE FOR SUPPRESSING JET NOISE
Ralph Murch Deuning and William James Lewis, both of Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Oct. 26, 1961, Ser. No. 147,869
Claims priority, application Great Britain Oct. 31, 1960
1 Claim. (Cl. 181—51)



A gas discharge nozzle comprising a duct having a circular section inlet end and an elbow bend outlet end, and a plurality of splitters extending across the outlet end perpendicular to planes containing the maximum curvature of the elbow bend, the splitters being curved to correspond to the curve of the elbow bend so as to constitute a cascade of corner vanes, each splitter being hollow and having a closed upstream end facing the inlet end of the duct and an open downstream end of elongated parallel sided cross section.

3,143,185
MULTI-PURPOSE FOLDING LADDER
Gerhard Wenger, Hebbelstrasse 5, Murrhardt, Wurttemberg, Germany
Filed Apr. 30, 1962, Ser. No. 191,118
Claims priority, application Germany May 3, 1961
3 Claims. (Cl. 182—24)



1. A folding multi-purpose ladder comprising a plurality of ladder sections, pairs of hinge means pivotally connecting the ends of adjacent ladder sections of said plurality of ladder sections, the pivots of said hinge means connected to opposite ends of each ladder section positioned on opposite sides of the ladder plane to allow zigzag folding of said plurality of ladder sections, each of said hinge means including a pair of link boxes connected to the ends of adjacent ladder sections and pivotally connected adjacent their inner ends with the inner ends disposed in overlapping relation when said boxes are pivoted in axial alignment, a latch bar connected interior of one of said link boxes for movement transverse to the axis of the pivot and extending through registered apertures in said overlapping inner ends to lock said link boxes and ladder sections in axial alignment, a return spring connected to said latch bar to normally urge it to the locked position, said one link box having slots in the sidewalls thereof extending parallel to said latch bar, a latch release pin extending transversely through said latch bar in sliding relation and projecting through said slots, a pair of beveled surface portions carried by the other link box sloping inwardly from the inner end and terminating in apertures through the walls thereof, one of said beveled surface portions positioned to engage the end of said latch release pin and the other beveled surface portion positioned to engage the projecting end of said latch bar as said link boxes and ladder sections are pivoted into axial alignment to move said latch release pin relative to said latch bar and retract said latch bar and release pin against the force of said return spring to a release position and release the same into engagement with the apertures at the ends of said beveled portions to automatically lock said link boxes and ladder sections in end to end axial alignment.

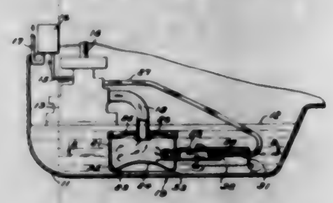
3,143,186
EMERGENCY EXIT MEANS
Constantine C. Bourdanis, 4832 N. Tahoma Ave., Chicago, Ill.
Filed Mar. 7, 1960, Ser. No. 13,290
10 Claims. (Cl. 182—95)

1. Means for effecting an emergency exit from a room having a window opening in a wall thereof, the lower portion of the window opening being defined by a window sill on the interior surface of the wall, comprising a ladder supporting frame adapted to be moved between a normal inside position and an outside position wherein an end portion thereof is horizontally spaced outwardly from the window sill; a foldable metallic ladder having

one end connected to said end portion of said supporting frame, said ladder being arranged in a folded condition within the room when not in use and extending substantially parallel and spaced from the exterior surface of the wall when being used; mounting structure for said ladder supporting frame including a first horizontally disposed, U-shaped bracket secured to the interior surface of the wall of said room below the window sill with the legs thereof extending horizontally inwardly, the bight portion being formed to provide a mounting surface spaced horizontally inwardly from the interior surface of the wall intermediate the legs of said bracket, an elongated vertical bar having its uppermost end rigidly fastened to said mounting surface of said bracket, and a second horizontally disposed bracket adapted to be rigidly fastened to the interior surface of the wall, said second bracket having a mounting surface horizontally spaced inwardly from the interior surface of the wall and lying substantially in the same vertical plane as the mounting surface of said first bracket, and adjustable means for rigidly connecting said mounting surface of second bracket to said vertical bar at a plurality of positions along the length of said vertical bar whereby the vertical spacing between said first and second brackets may be selectively varied; and means operatively interconnecting said supporting frame and the legs of said first bracket, said means permitting said supporting frame to be moved between said stored position and said outside position, said means being engageable with said window sill to establish said outside position of said supporting frame by limiting the extent of horizontal outward movement permitted by said end portion of said supporting frame with respect to said window sill.

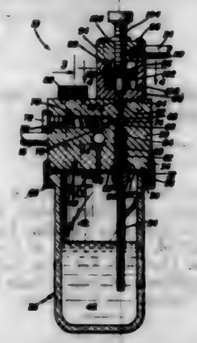


3,143,187
LUBRICATING SYSTEM
John P. Stefas, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 325,893
8 Claims. (Cl. 184—6)



1. In a lubricating system, a lubricant sump, a pump adapted to pump a quantity of lubricant in excess of the normal lubricating requirements of the system, a substantially circular casing in said sump, an inlet conduit extending generally from the center of said circular casing to the inlet side of said pump, and a bypass conduit in communication with the outlet side of said pump for receiving the excess lubricant pumped by said pump, the outlet of said bypass conduit being positioned at the periphery of said circular casing to impart a generally rotary motion to the lubricant within said circular casing for driving heavier particles carried by the lubricant away from the pump inlet.

3,143,188
AIR LINE LUBRICATOR
Harry W. Normandin, Detroit, Mich., assignor to Ablington Machine Company, Detroit, Mich., a co-partnership
Filed June 12, 1963, Ser. No. 287,422
3 Claims. (Cl. 184—55)

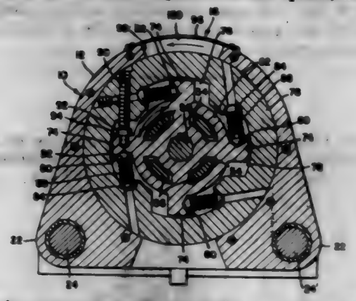


1. In combination with a source of pressure fluid and a fluid operated device supplied with a relatively compressible fluid under pressure from said source, means for supplying metered quantities of a relatively incompressible fluid comprising, storage means operatively connected to said source for maintaining a supply of said incompressible fluid under the static pressure of said compressible fluid, an ejection chamber adapted to be filled with a metered volume of said incompressible fluid, piston means displaceable through a predetermined stroke for varying the volume of said ejection chamber and pressure of the incompressible fluid therein, valve means responsive to said variation in pressure independently of the piston means for either admitting incompressible fluid from the storage means into the ejection chamber or discharging said incompressible fluid from the ejection chamber, said pressure responsive valve means comprising, a one-way outlet valve responsive to an increase in pressure in the ejection chamber when the volume thereof is being reduced for opening the ejection chamber to permit displacement of the fluid therefrom, and a one-way inlet valve responsive to a reduction in the pressure in the ejection chamber when the volume thereof is being increased for establishing fluid communication with the storage means, intermittently operative valve means operatively connecting said source to the piston means for itnermittent displacement thereof through said predetermined stroke.

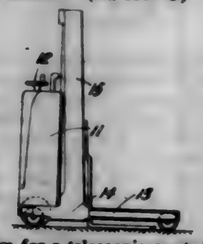
3,143,189
SPRING TENSIONED COLLET CHUCK FOR SWAGING MACHINES
Lewis H. Ruple, Perrysburg, Ohio, assignor to Abbey Etna Machine Company, Perrysburg, Ohio, a corporation of Ohio
Filed Oct. 4, 1962, Ser. No. 228,410
6 Claims. (Cl. 185—40)

5. Mechanism for converting intermittent rotary motion to intermittent rotary and reverse rotary motion comprising a spindle, a spider secured to rotate with said spindle, an annular plate mounted for rotation in spaced relation to said spider, means limiting independent rotary motion between said spider and said annular plate, said rotary motion limiting means including a plurality

of resilient torque transmitting members having opposite ends engaging the annular plate and the spider, and friction brake means mounted to apply a rotary motion restraining force to said annular plate.



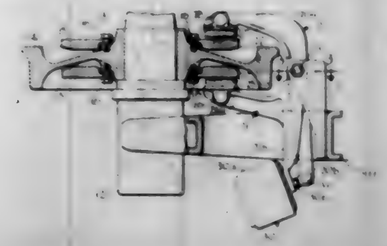
3,143,190
INDUSTRIAL TRUCKS
Robert Edgar Knights and John David Dixon, Basingstoke, England, assignors to Lansing Bagnall Limited, Basingstoke, England, a company of Great Britain
Filed June 13, 1962, Ser. No. 202,203
Claims priority, application Great Britain June 14, 1961
4 Claims. (Cl. 187—9)



1. A mast system for a telescopic-masted industrial lift truck, comprising a first fixed mast section, a second mast section which runs on the first mast section, a third mast section which runs on the second mast section, a lifting carriage which runs on the third mast section, a two-stage jack comprising three elements disposed in line with each other between the first and second mast sections whereof the first element has one end connected to the fixed mast section adjacent the bottom of the latter, whereof the second element has one end connected to the second mast section adjacent the top of the latter, and whereof the third element is disposed intermediate and is in telescopic engagement with the first element and the second element, a first flexible tension member connected between the carriage, the third jack element, and the upper end portion of the second mast section for lifting the carriage along the third mast section as the second and third jack elements are extended relative to each other, and a second flexible tension member connected between the bottom end portion of the third mast section, the top end portion of the second mast section and the first mast section for lifting the third mast section as the first and third jack elements are extended relative to each other.

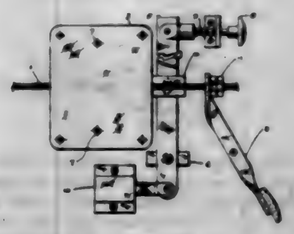
3,143,191
DISK BRAKES FOR RAILWAY CARS
Robert G. Stacy, Jenkintown, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 12, 1961, Ser. No. 109,668
1 Claim. (Cl. 188—59)

In a railway car, the combination comprising:
(*a*) a truck having a longitudinally extending sideframe;
(*b*) a wheel-axle unit rotatably mounted in bearings in said sideframe whereby each wheel is to one side of said sideframe;
(*c*) a brake disk mounted on said wheel-axle unit adjacent to one of said wheels;
(*d*) a bifurcated support bracket connected to said sideframe and extending transversely from said sideframe, said support bracket providing a pivot support longitudinally opposite said brake disk;
(*e*) first and second bell crank levers, each of said levers comprising:
(1) a longitudinally extending support arm,
(2) and a transversely extending operating arm,
(3) said support arm and said operating arm being pivoted on said pivot support;
(*f*) said operating arms extending through said side frame from one side to the other;



(*g*) brake shoes pivotally mounted on the ends of said support arms opposite the sides of said brake disk;
(*h*) a fluid actuated power cylinder mounted on the end of one of said operating arms and having an operating rod pivotally connected to the end of the other of said operating arms for actuating said bell crank levers, said power cylinder being longitudinal and projecting from said operating arm on the longitudinal side thereof adjacent to said support arms, to provide a compact assembly with said brake shoes and said support arms located on one side of said sideframe and the ends of said operating arms and said power cylinder located on the other side of said sideframe;
(*i*) and a pivot pin pivotally connecting said bell crank levers to said pivot support and supporting said levers, said brake shoes and said power cylinder as an assembly.

3,143,192
BRAKE MECHANISM
Perry P. Buchanan, Royal Oak, Mich.
(828 W. 14 Mile Road, Clawson, Mich.)
Filed Apr. 24, 1961, Ser. No. 104,980
8 Claims. (Cl. 188—65.1)



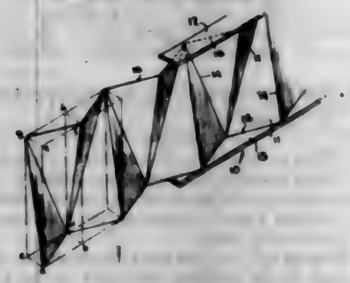
1. Apparatus for controlling brake mechanism of a vehicle wherein a linear actuating member is connected with the brake mechanism including, in combination, a support, a relatively movable cam means mounted by the support, an arm mounted on the cam for movement relative thereto, a locking shoe operatively connected with said arm and arranged for engagement with the linear actuating member, means normally biasing said arm in a direction to establish engagement of said shoe with the linear actuating member, an actuating element connected with said cam to shift the cam, control means for said element, said element being movable in one direction to effect disengagement of the locking shoe with the linear actuating member, and means normally yieldingly biasing said actuating element in a direction urging the cam toward a position to effect gripping engagement of the locking shoe with the linear actuating member.

3,143,193
APPARATUS FOR PNEUMATICALLY ADJUSTING BRAKE LINKAGES
Jules Emile Joseph Fenilly, Paris, France, assignor to Societe Generale "Isothermos," Paris, France
Filed July 18, 1962, Ser. No. 210,763
Claims priority, application France July 25, 1961
10 Claims. (Cl. 188—196)



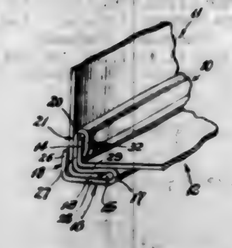
1. A pneumatic adjuster for a brake linkage, said adjuster comprising: pneumatic motor means including a cylinder, and a piston retractable and extendible in said cylinder to respectively decrease and increase the length of the motor means, said motor means being adapted for connection to a supply of pressure medium for adjusting the length of the motor means, first and second inlets for said motor means adapted for connection with said supply for feeding different mass flows of pressure medium to the motor means to establish different pressures in said motor means, means operatively supporting the piston within the cylinder to provide relative movement between the piston and the cylinder in response to the different mass flows and the different pressures resulting therefrom, means operatively associated with said piston and cylinder for equilibrating the different pressures, and means associated with the last said means for automatically actuating the same as the motor means reaches a length corresponding to a desired adjustment of the brake linkage.

3,143,194
BUILDING STRUCTURE
Robert E. Hart, Peekskill, N.Y., assignor to Designs for Recreation Areas, Inc., New York, N.Y., a corporation of Delaware
Filed June 7, 1960, Ser. No. 34,489
8 Claims. (Cl. 189—34)



1. A load bearing structure having a first wall comprising a plurality of pairs of triangular members, each pair defining two sides of a triangular pyramid, adjacent ones of said triangular pyramids having a common edge, the apex of any one of said triangular pyramids being in the plane of the base of an adjacent one of said triangular pyramids, the plane of the base of any one of said triangular pyramids being substantially parallel to the plane of the base of an adjoining one of said triangular pyramids, the center of gravity of any one of said triangular pyramids falling within the base area defined by the two adjoining triangular pyramids, said base area constituting the area between a line connecting the inner set of base intersections of said adjoining pyramids and a second line connecting the outer set of base intersections of said adjoining pyramids.

3,143,195
LOCKING STRIP FOR PANELS
William A. Schroeder, Jr., Bridgeport, Conn.
(8 Perry Drive, Monroe, Conn.)
Filed Sept. 12, 1961, Ser. No. 137,605
2 Claims. (Cl. 189—36)

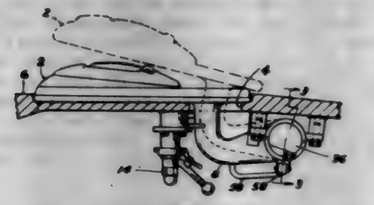


1. As an article of manufacture, a corner locking strip for joining an edge of one panel with an edge of another panel to form a corner, said edges of the panels each having an angularly disposed flange which extends in a plane parallel with the plane of the other panel when the panels are joined, comprising a unitary strip of substantially rigid material preformed to provide in cross section a first portion, a second portion connected to form an angle with the first portion, a third portion connected to the second portion by a reverse bend, a fourth portion connected to form an angle with the third portion and to lie in a plane substantially parallel with the plane of the first portion, said first, second, third and fourth portions forming an L-shaped channel to slidably receive endwise the flanged edge of one of said panels, and a fifth portion connected to the fourth portion by a reverse bend to lie in a plane parallel with the fourth portion, the fourth and fifth portions forming a U-shaped channel to slidably receive endwise the flanged edge of the other panel, the first and fourth portions, the second and third portions, and the fourth and fifth portions being respectively substantially parallel and spaced from each other a distance substantially equal to the thickness of the panel parts to be placed therein.

3,143,196
DRIVER'S HATCH
Joseph A. Gutowski, Livonia, and Chester A. Piotrowski, Detroit, Mich., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Dec. 19, 1961, Ser. No. 160,678
10 Claims. (Cl. 189—46)

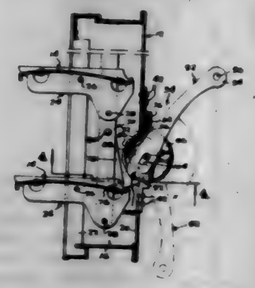
1. In a vehicle body having a vertically swinging hatch door, a torsion bar fixed at one end to said body, a torsion bar casing encompassing said torsion bar and fixed to the end of said torsion bar opposite that end which is fixed to said body, a hinge arm fixed at one end

to said hatch door, said casing passing through said hinge arm at its opposite end, and means provided to cooperate with said hinge arm and said casing so as to maintain said torsion bar in a torsionally deflected con-



dition when said hatch door is in closed position and permitting longitudinal movement of said hinge arm and attached hatch door along said torsion bar casing when said hatch door is in open position.

3,143,197
OPERATOR FOR JALOUSIES
Gonzalo Garcia Matheus, Calle 64, 4–134 Bella-Vista, Maracaibo, Venezuela
Filed Oct. 23, 1962, Ser. No. 232,427
7 Claims. (Cl. 189—62)



1. In combination, a jalousie frame having vertical side members, louvers extending between and pivoted on the side members, an operating bar pivoted to the louvers at a point eccentric relative to the pivotal axes of the louvers, a housing fixed to one of the side frame members, a rotor axially journaled on the housing, a lever arm on said rotor, a link pivotally connected at one end to said lever arm and at the other end to said operating bar, a handle pivotally and slidably mounted on the housing, a guide and locking pin on said handle and engageable with said rotor to rotate the latter and shift the louvers between open and closed positions or partially open positions, and a spring-biased detent on said housing and selectively seatable in detent grooves formed in said rotor for holding the louvers in open and closed positions or in partially open positions.

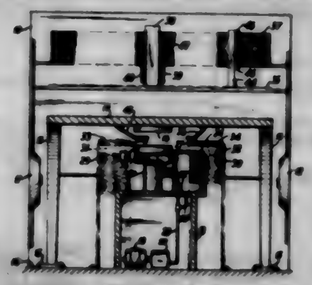
3,143,198
AUTOMATIC VENDING MACHINE
William I. Alexander, Harrison, N.Y., assignor to Mayday, Inc., Newark, N.J., a corporation of New Jersey
Filed June 20, 1963, Ser. No. 289,192
5 Claims. (Cl. 194—15)

1. A record playing and manufacturing machine comprising, in combination

a plurality of phonograph records, a rotatable phonograph turntable, a transfer arm adapted to select a record and position the selected record on the turntable, a selection switch, a coin operated switch connecting the selection switch to the transfer arm,

a phonograph arm including a transducer to convert sounds recorded on the record into electrical signals, means to position the phonograph arm on the record positioned on the turntable, an amplifier to amplify the signals, a loudspeaker connected to the amplifier,

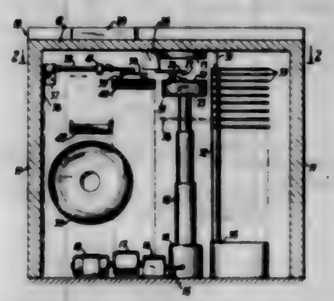
a group of phonograph record pressing stampers, a second selection switch, a movable press platen and a cooperating second press platen, a transfer arm adapted to select a stamper and position the selected stamper on one of the platens, coin operated means connecting the second selection switch to the trans-



fer arm, a source of record blank material, means to deposit the record blank material between the two platens, means to operate the platens so that they come together and form an impressed record, and means to remove the completed pressed record from between the platens,

in which machine, upon depositing of a coin and operation of the selection switch, the transfer arm positions the selected stamper on one of the platens, record blank material is positioned on the selected stamper, the press platens are closed, the record pressed, the platens opened and the record removed.

3,143,199
PHONOGRAPH RECORD VENDING MACHINE
Eliot S. Gerber, New York, N.Y., assignor to Mayday, Inc., Newark, N.J., a corporation of New Jersey
Filed June 20, 1963, Ser. No. 289,220
1 Claim. (Cl. 194—15)



A record playing and manufacturing machine comprising, in combination

a plurality of thin stampers having sound recorded on them, a rotatable phonograph turntable, transfer means to select a stamper and position the selected stamper on the turntable, a selection switch, a coin operated switch connecting the selection switch to the transfer means,

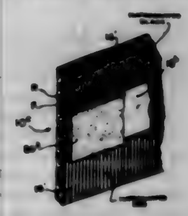
a phonograph arm, means to position the phonograph arm on the stamper positioned on the turntable, a transducer to convert sounds recorded on the stamper into electrical signals, a phase inversion circuit to convert the signals 180° out-of-phase, an amplifier to amplify the signals, a loudspeaker connected to the amplifier,

a second selection switch, a movable press platen and a cooperating second press platen, coin operated means connected to the selection switch, a source of record blank material, means to deposit the record material between the said platens, means to operate the said platens so that they come together to form an impressed record, and means to remove the completed pressed record from between the platens,

wherein upon depositing of a coin and operation of the first selection switch the transfer means positions the selected stamper on the turntable and the sound recorded on the stamper is broadcast by the loudspeaker, and

wherein, upon depositing of another coin and operation of the second selection switch, the transfer means positions the second selected stamper on one of the platens, record blank material is positioned on the selected stamper, the press platens are closed, the record pressed, the platens opened and the record removed.

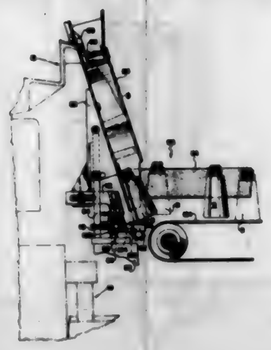
3,143,200
ERROR CORRECTING TYPEWRITER RIBBON
Benjamin Gutman, 1217 46th St., Brooklyn, N.Y.
Filed July 17, 1962, Ser. No. 210,401
1 Claim. (Cl. 197—172)



An error correcting typewriter ribbon comprising a porous tape having two longitudinal sections impregnated with differently colored printing media for impressing first characters on a paper sheet in a typewriter when said sections are selectively struck by typewriter keys, said sections being adjacent to each other transversely of the tape, a thin plastic film strip secured to one side of the tape and at a longitudinal central portion thereof, and an opaque medium of the same color as the paper sheet covering said film strip for impressing other characters on said paper sheet over the first characters to obscure the same on said paper sheet when the other side of the tape is struck by said keys at the longitudinal central portion thereof.

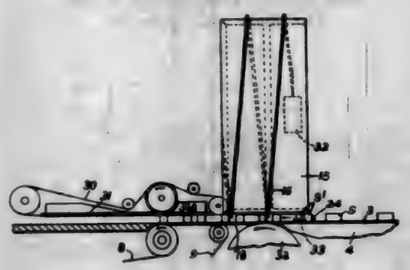
3,143,201
UNSCRAMBLER AND ERECTOR FOR ARTICLES SUCH AS PLASTIC BOTTLES
Charles Wyle, Bloomfield, Forrest W. Hyde, Avon, and Sven Williesen, Hartford, Conn., assignors to Emhart Manufacturing Company, Hartford, Conn., a corporation of Delaware
Original application Apr. 7, 1961, Ser. No. 101,451, now Patent No. 3,101,832, dated Aug. 27, 1963. Divided and this application July 30, 1962, Ser. No. 213,485
3 Claims. (Cl. 198—33)

1. Apparatus for orienting intermingled articles, such as bottles, and then erecting them bottom end down on a conveyor or the like, the said apparatus comprising a bowl having a spiral track therein leading from its bottom for the articles to climb in end to end relationship as a result of bowl vibration, means controlled by the endwise orientation of the articles and operable thereon to assure their advance bottom end first at the end of the track, a chute having an open upper end communicating with the end of the track and an open bottom end facing generally downwardly whereby the articles reaching the bottom end of the chute fall bottom end down, a resilient platform supported below the chute to control



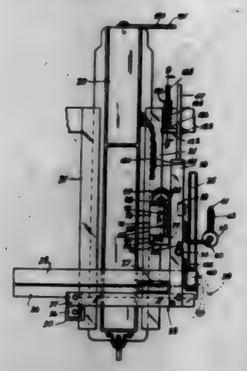
the bounce of the falling articles, and means comprising a pair of driven endless belts arranged generally parallel to each other and turning on substantially vertical axes to catch the bounced articles therebetween and to transport them in erect single file order.

3,143,202
APPARATUS FOR FEEDING CIGARETTE MOUTHPIECE COMPONENTS
Tom Rowlands, Deptford, London, England, assignor to Molins Machine Company Limited, London, England, a British company
Original application Nov. 22, 1960, Ser. No. 71,691, now Patent No. 3,118,454, dated Jan. 21, 1964. Divided and this application Feb. 25, 1963, Ser. No. 260,577
Claims priority, application Great Britain Nov. 26, 1959
2 Claims. (Cl. 198—34)



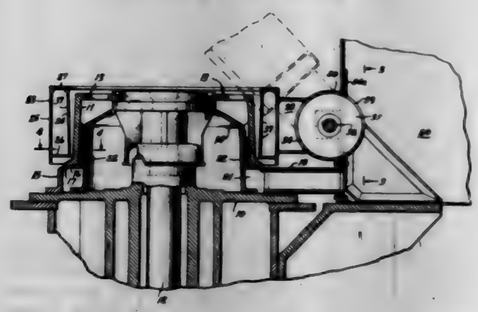
1. Apparatus for feeding mouthpiece components in succession on to a continuous wrapper, comprising a rotatable member arranged for rotation about an axis substantially parallel to the direction of feed of the components and a counter-surface located adjacent said rotatable member, the said member being provided with a screw thread whose leading face engages successive components and feeds them forwardly, the said rotatable member being further provided with a presser-surface so located as to engage at least the rear one of two endwise abutted, forwardly moving components and press such rear component against the counter-surface so as at least to retard its forward movement until the screw thread has entered between said two components so as to ensure their separation.

3,143,283
METHOD AND APPARATUS FOR TAKING A PROOF FROM TYPE-CAST SLUGS
Richard G. Starling, 18 Elvira Drive, Belleville, Ill.
Filed Dec. 30, 1959, Ser. No. 862,880
17 Claims. (Cl. 199—61)



3. An apparatus for use in making proof from cast type slugs as they are made in a type-casting machine, which machine has a slug mold, a movable member and motor means driving it in the manufacture of the slugs, the combination of: means to receive a slug after it is ejected from the mold, means connected with the receiving means to hold the slug in fixed position in the receiving means, a press element, and means disposed in position to be engaged by and operated by the movable member to press the slug and the press element together to make an impression of the slug.

3,143,284
COOLING MEANS FOR A WIRE DRAWING BLOCK
Carl O. Bruestle, Metuchen, N.J., assignor to Syncro Machine Company, Perth Amboy, N.J., a corporation of New Jersey
Filed Sept. 20, 1960, Ser. No. 57,318
11 Claims. (Cl. 205—20)



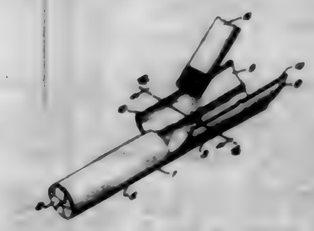
1. Means for cooling the drawing blocks of wire drawing machines, comprising, in combination, a toroidal member having a cylindrical wall thereof extending generally parallel to and surrounding the exterior surface of each drawing block end of substantially the same axial extent as the drawing block, means for supplying cooling air thereto, apertures in said wall through which said cooling air flows to impinge on the vertical surface of the drawing block, a generally bell-shaped member fixedly mounted within the drawing block and having vertical portions thereof extending adjacent the interior surface of the drawing block forming a narrow passageway and means for causing cooling air to flow through said passageway between said vertical surface of said bell-shaped member and said interior vertical surface of the drawing block.

3,143,285
FOOD CARRIER
Max J. Ruderian, 545 Hanley, Los Angeles, Calif.
Filed Nov. 20, 1962, Ser. No. 239,871
4 Claims. (Cl. 206—4)



1. A food carrier comprising, in combination: a first food storage compartment terminating at its lower end in an outwardly directed annular flange defining a first exterior bead; a second food storage compartment terminating at its upper end in an outwardly directed annular flange defining a second exterior bead; and a coupling member for securning the lower end of said first storage compartment to the upper end of said second food storage compartment, said coupling member comprising an annular wall with a transverse partition, the upper end and lower end of said wall terminating in upper and lower inwardly turned annular flanges adapted to snap over said first exterior bead and said second exterior bead, respectively, said partition functioning as a cover for said second food storage compartment.

3,143,286
DISPOSABLE ASH TRAY
Paul Sullins, 705 Maple St., Crossett, Ark.
Filed Mar. 13, 1962, Ser. No. 179,434
4 Claims. (Cl. 206—41)



1. An individual disposable ash receiver comprising a tubular body to removably encase only a single elongated smokeable tobacco product and thus to be packaged with said product, said body having a diameter slightly greater than the diameter of said one product to closely surround the product, said body having a transverse slot extending around a portion of the circumference of said body intermediate its ends to divide said body into upper and lower portions; said upper portion having an open upper end and a longitudinal slot extending between said transverse slot and the open end of said upper portion so that said upper portion may be opened into a flared trough to facilitate the receiving of ashes when said product is removed, said lower portion having a closed wall of substantial strength at the lower end of said slot to prevent extension of said trough into said lower portion.

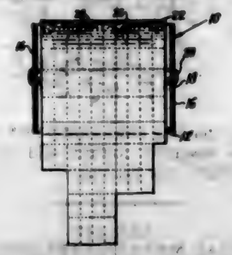
3,143,287
MEDICATION DISPENSING MEANS
David P. Wagner, 276 Elmhurst Ave., Elmhurst, Ill.
Filed July 27, 1962, Ser. No. 212,970
6 Claims. (Cl. 206—42)



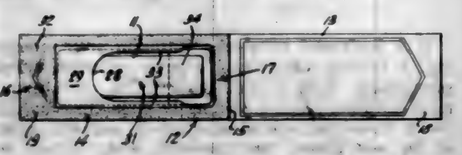
1. A pill dispensing device for dispensing pills on a non-uniform daily schedule which must be synchronized with the personal physiological cycle of the user, comprising, in combination, a calendar disk bearing a multiplicity of readable day-of-week identifications of successive days, said identifications being physically arranged in an annular pattern and continuing chronologically over a plurality of weeks, a pill disk disposed in concentric relation to said calendar disk and defining a pattern of pill receivers, said pill disk defining a time reference indicator and being adjustable rotatably with reference to said calendar disk to move said time reference indicator into circumferential registration with any one of a plurality of said day-of-week identifications, said pattern of pill receivers in said pill disk and said pattern of day-of-week identifications being related to each other to effect an alinement of the pill receivers with a set of the day-of-week identifications for each adjusted position of the pill disk in which said time reference indicator is alined with one of said day-of-week identifications, said pill receivers having a positional relationship to each other and to said time reference indicator which corresponds with reference to said pattern of day-of-week identifications on said calendar element to a predetermined daily schedule for dispensing pills, means for holding said pill disk and said calendar disk in adjusted positions relative to each other, a dispensing disk rotatably disposed in covering relation to said pill disk to retain pills in said pill receivers, and said dispensing disk defining a pill dispensing aperture therein adjustable upon rotation of the dispensing disk into alinement with successive ones of said pill receivers for dispensing pills from said receivers.

3,143,288
ADHESIVE TAPE
Hiram Simmers, Jr., Shepherdstown, W. Va.
Filed Sept. 16, 1960, Ser. No. 56,518
1 Claim. (Cl. 206—56)

A roll of sectionable adhesive tape for medical purposes comprising a strip of tape having an adhesive undersurface and provided with two pluralities of spaced parallel rows of tear and ventilation perforations, one plurality of parallel rows of perforations extending longitudinally of said strip, the other plurality of parallel rows of perforations extending transversely of said strip, said intersecting rows of perforations defining similar elongated rectangles with a perforation at each corner of each rectangle, the longitudinal axes of the rectangles extending longitudinally of the strip, the perforations in the transverse rows being more closely spaced than the perforations in the longitudinal rows, all of said individual perforations being spaced apart from each other a distance substantially greater than the diameter of said individual perforations thereby providing joining areas between said individual perforations of substantial strength, whereby when two or more rectangles are severed as a unit, the untorn perforations act as a ventilation means without impairing the sturdiness of the joining areas.



3,143,289
SURGICAL PACKAGE
Iwan Wolodymyr Twilansky, South Orange, N.J., assignor to Ethicon, Inc., a corporation of New Jersey
Filed July 16, 1962, Ser. No. 209,889
5 Claims. (Cl. 206—63.3)

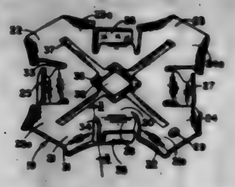


1. An interiorly sterilized package comprising an outer hermetically sealed envelope and an interiorly sterilized suture packet within said envelope, said envelope comprising a base portion and a cover portion joined by a strippable seal, said cover portion having gripping means adjacent one end of the strippable seal at the front end of the envelope for separating the cover portion and the base portion and thereby stripping said seal, said base portion having holding means for gripping the base portion as the cover sheet is separated therefrom, the base portion having a retaining portion forming a pocket normally closed by said cover portion and holding the suture packet in position on the base portion after the cover portion has been stripped therefrom to open the pocket and expose the end of said object nearest the rear end of the envelope, said retaining portion comprising side strips overlapping the side edges of said packet and yieldingly engaging said side edges for minimizing the likelihood of said packet being displaced from said pocket, and defining a T-shaped opening for removing the packet from the pocket.

3,143,210
CAN PACKAGE
John J. Heydon, 611 W. Hill, Fullerton, Calif.
Filed Nov. 16, 1959, Ser. No. 853,069
14 Claims. (Cl. 206—65)

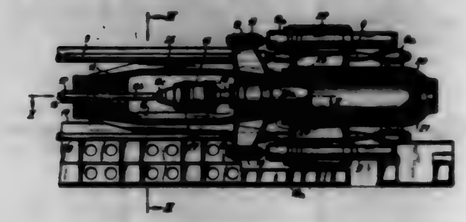
5. A multiple can clip comprising a blank having a relatively flat top surface, depending can grasping fingers

extending downwardly from the side of said blank, at least one cantilevered U-shaped bent beam extending from said blank between pairs of said fingers, said beam having



a first portion extending downwardly and a free end portion extending upwardly toward said top surface and adapted to contact a can bending.

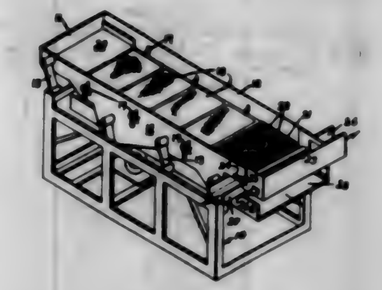
3,143,211
HORIZONTAL METAL-EXTRUSION PRESSES
Gerhard Paul Krusse, Pittsburgh, Pa., and Horst-Hans Groos, Duesseldorf, Germany, assignors to Schloemann Aktiengesellschaft, Duesseldorf, Germany
Filed Jan. 9, 1961, Ser. No. 81,619
Claims priority, application Germany Jan. 23, 1960
6 Claims. (Cl. 207—3)



1. A horizontal metal-tube extrusion press, comprising: a cylinder cross-beam, a main extrusion cylinder substantially integral with the cylinder cross-beam, a main extrusion piston guided in the main extrusion cylinder, a cross-head secured in a radially movable manner to the said piston, the cross-head being formed with lateral window apertures, a press ram carried by the cross-head, and piercing means, including: a piercing cylinder, a piercing piston slidable in the piercing cylinder, a piercing mandrel, means located in the main extrusion piston for driving the piercing means, and a mandrel cross-bar which is radially adjustable in relation to the piercing piston; and the press further comprising: arms extending from the mandrel cross-bar and projecting out of the window apertures of the cross-head, stationary abutments carried by the said arms for limiting the stroke of the mandrel, and abutment bodies, carried by the arms projecting from the mandrel cross-bar, these abutment bodies being slidable in the direction of extrusion, and being adapted to co-operate with the stationary abutments so as to stop the advance of the mandrel cross-bar when the abutment bodies meet the stationary abutments.

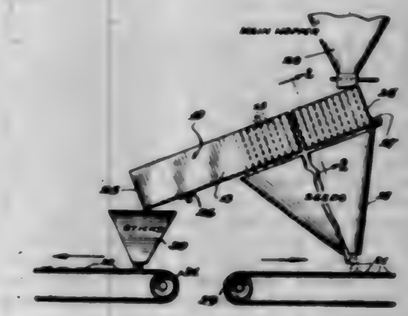
3,143,212
POD SEPARATOR
Francis Albert Miller, Milton-Freewater, Oreg., assignor to Key Equipment Company, Inc., Milton-Freewater, Oreg., a corporation of Oregon
Filed Oct. 8, 1962, Ser. No. 229,877
4 Claims. (Cl. 209—85)

1. A separator for pods leaving a vibrating screen assembly comprising:
a stationary supporting framework;
a movable frame mounted on said framework for limited longitudinal motion relative to said framework;
a plurality of separator screens arranged in a longitudinal row on said frame for motion therewith;
means on said framework operatively connected to said frame adapted to effect longitudinal vibratory motion of said frame relative to said framework;
a longitudinally grooved plate mounted on said frame at the exit end of said screens adjacent one end of the final separator screen adapted to have deposited thereon material passing from the surface of said final separator screen;



a transverse ledge mounted on said frame longitudinally displaced from said plate in a direction opposite to said screens and located elevationally below said plate, the distance separating said plate and ledge being sufficient to allow pods to fall therebetween; and receptive means located vertically below the space separating said plate and ledge adapted to receive pods separated thereby.

3,143,213
MATERIAL SEPARATING DEVICE
Roscoe C. Burton, New Orleans, La., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed May 8, 1961, Ser. No. 108,619
6 Claims. (Cl. 209—93)



1. A device for separating materials, comprising a substantially unbroken bottom, a first side, and a second side, which together form the interior of said device, and a plurality of compartments positioned along at least one of said sides, said compartments having entrance and exit openings which are adjacent to said bottom, said entrance openings being in communication with said interior and the plane of said entrance openings being substantially transverse to the plane of said bottom and said exit openings.

3,143,214
OBJECT MOUNTING ASSEMBLY
Dwight Herbert Moore, Belding, and Kenneth G. Aylsworth, Greenville, Mich., assignors to Stahlin Brothers Fibre Works, Inc., Belding, Mich., a corporation of Michigan
Filed Aug. 1, 1963, Ser. No. 299,329
11 Claims. (Cl. 211—26)



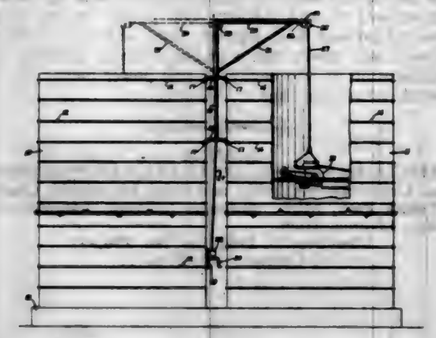
1. An object mounting assembly comprising:
an elongated rail having a substantially flat object supporting bed,
means mounting said rail on a support,
a channel groove formed at the rail-support interface,
a clip having an element engageable with the object on the bed and having a leg insertable between the said rail and the support,
and an element broken out from the said leg and contained within said groove and engageable with a wall of said groove,
whereby said clip is prevented from being removed from between said rail and support and serves by engagement with the object to maintain the object in a fixed position on the support.

3,143,215
GARMENT SUPPORTING STRUCTURE
Gabriel M. Sirin, Detroit, Mich., assignor to Carrick Products Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 4, 1961, Ser. No. 129,344
3 Claims. (Cl. 211—105.1)



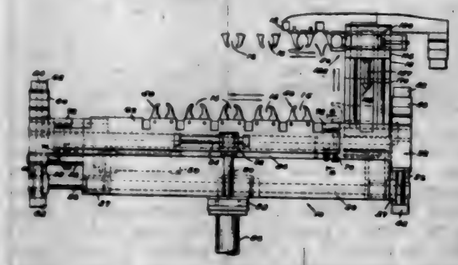
1. A clothes hanger support comprising: an elongated one-piece member including an upper downwardly-open channel portion defining a clothes hanger hook supporting ridge, a lower downwardly-open channel portion formed with and parallel to said upper channel portion, said channel portions being disposed one above the other with the upper ridge portions of each secured to one another, stop means projecting upwardly from said clothes hanger hook supporting ridge to limit longitudinal movement of said hangers on said supporting ridge, and a continuous imperforate flange portion extending upwardly and outwardly from the lower edge of one of said channel portions for engaging the end portions of clothes hanger hooks to prevent excessive deformation thereof under conditions of excessive stress thereon; and support means mounted on each end of said member for engaging portions of a container and supporting said member.

3,143,216
BOOM MEANS
Gus H. Brunkan, 405 2nd Ave. SE., Dyersville, Iowa
Filed Jan. 16, 1961, Ser. No. 83,039
17 Claims. (Cl. 212—61)



1. A boom means comprising; a mast anchor, means for securing said mast anchor to the exterior of a silo, a mast pivotally supported by said mast anchor, a boom arm secured to and extending from said mast, a flexible element, and means secured to said mast and said boom for guiding said flexible element, said flexible element engaging said guiding means, the ends of said flexible element depending from the extending end of said boom arm and said mast, said means for securing said mast anchor to the exterior of a silo including a downwardly projecting hook-like element adapted to engage a reinforcing band of a silo.

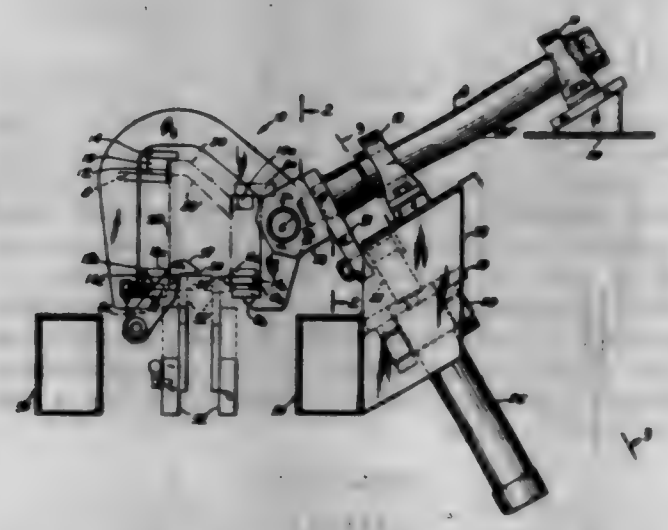
3,143,217
TRANSFER MECHANISM
George L. Andersen, Birmingham, Mich., assignor, by mesne assignments, to Avis Industrial Corporation, Roseville, Mich., a corporation of Michigan
Filed Jan. 16, 1961, Ser. No. 82,789
6 Claims. (Cl. 214—1)



1. Mechanism for advancing workpieces step-by-step along a row of equally spaced stations comprising a fixed support adjacent said stations, a carriage mounted on said support for reciprocation along a path substantially parallel to said row of stations, means for reciprocating said carriage through a stroke equal to the spacing between stations, a clamp slide mounted on said carriage for reciprocation transversely of the path of said carriage to and from an advance position, a plurality of clamps mounted on said slide, said clamps being spaced apart in the direction of carriage reciprocation the same distance as said stations, said clamps in the advance position of said slide registering with said stations at one end of the carriage stroke and advancing a station at the other end of the stroke, a device adapted to be advanced and retracted

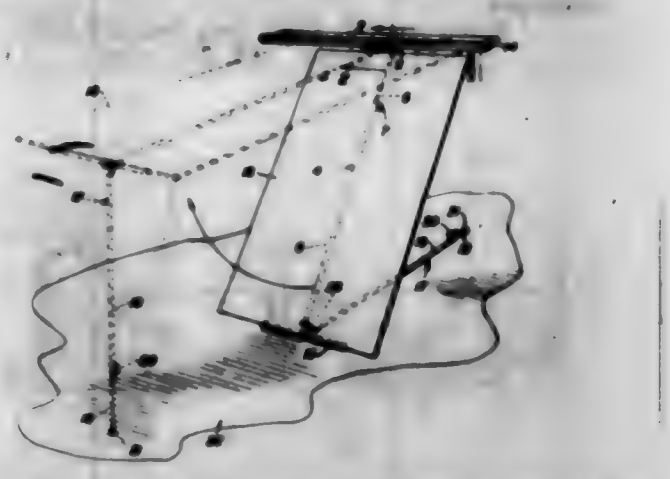
in the direction of reciprocation of said slide and operative to cause said clamps to grip when advanced relative to said slide and to release when retracted relative to said slide, power means for reciprocating said device relative to said slide, a lost motion connection between said device and slide to reciprocate said slide by the reciprocation of said device, said power means being mounted on said fixed support, and a sliding connection between said power means and said device enabling the reciprocation of said device by said power means in any position of said carriage.

3,143,218
ARTICLE HANDLING APPARATUS AND METHOD
Emil Umbricht, Northville, and Orlan M. Arnold, Grosse Pointe Park, Mich., assignors to Ajax Laboratories, Inc., Livonia, Mich.
Filed Sept. 5, 1961, Ser. No. 136,957
7 Claims. (Cl. 214—1)



1. In an apparatus for treatment of heavy recessed castings and the like by a fluid medium, a device for tipping from a processing line to an advantageous angle the article being treated, comprising a machine frame, a processing line track with a gap, a cradle which comprises two C-shaped frame members set transverse to the longitudinal axis of the cradle and a longitudinal torsion-resisting brace rigidly secured to said C-shaped frame members, a plurality of horizontal lower guide bars extending longitudinally between said C-shaped frame members and adapted to extend across said gap in the track, a plurality of upper guide bars extending longitudinally between said C-shaped frame members, said upper and lower guide bars defining an enclosure therebetween for receiving and supporting the article in said cradle, holding means mounted on said cradle for engaging the article to prevent its sliding along the guide bars while the cradle is in a tipped position, transfer means, holding means release coupled to said transfer means, said longitudinal torsion-resisting brace extending beyond a C-shaped frame member at one end, a rotatable shaft connected to an angle to the extending end portion of the brace, the axis of said shaft lying in a vertical plane, said shaft being rotatably mounted to said machine frame at an angle to the horizontal, a lever arm for rotating the shaft about its axis, a hydraulic cylinder swingably mounted on the machine frame and having its piston rod pivotally connected to said lever arm whereby said cylinder and piston rod are adapted to rotate said shaft about its axis for tipping said cradle, and control means for initiating the tipping cycle and for stopping said cradle at a predetermined canted position thereby to position the article into a predetermined position for drainage and access.

3,143,219
CEILING BOARD JACK
Alvan C. Aldrich, 4704 Clifton Ave., Lorain, Ohio
Filed May 3, 1962, Ser. No. 192,268
5 Claims. (Cl. 214—1)



1. A ceiling board jack comprising a rod, means for pivotally connecting one end of the rod to the upper portion of a wall structure beneath joists resting thereon, said rod for receiving thereon a ceiling board and being swingable upwardly for elevating said board and supporting same closely beneath the joists for application thereto, a supporting leg, and a pair of arms on one end of said leg straddling the other end portion of the rod, and pivotally secured thereto for hingedly suspending said leg therefrom, said one end of the leg being engageable beneath the rod for supporting same in raised position with the board thereon, said rod being of circular cross section, said one end of the leg having a substantially concave seat therein for receiving said rod.

3,143,220
APPARATUS FOR HANDLING PIPE
Benjamin L. Goepfert, West Covina, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,375
2 Claims. (Cl. 214—2.5)



1. Apparatus for use in a derrick having a travelling block assembly suspended on fall lines from the upper end of the derrick and an elevator secured to the travelling block assembly for movement therewith, said apparatus comprising

a fixedly-positioned crown block at the top of said derrick,

elongated rigid track means mounted substantially vertically within said derrick on opposite sides of the centerline thereof,

runner means mounted on each of said travelling block assembly and engaging said track means for guided movement therealong,

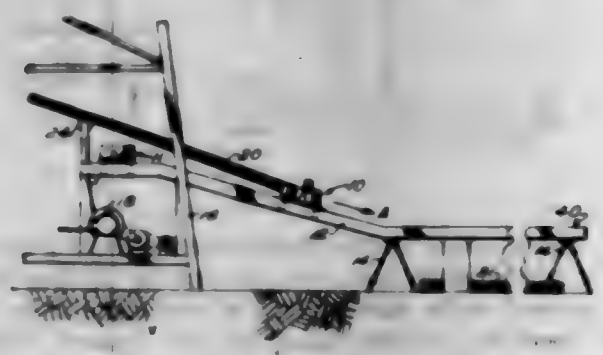
a travelling block assembly including a power swivel secured to and between said runner means,

a lower unitary portion of each of said rigid track means being pivotally mounted near the upper end thereof within said derrick with the lower end being movable between two fixed positions horizontally offset from each other near the lower portion of said derrick,

said movable portion of said rigid track means being fixedly mounted at its upper end against vertical movement relating to said derrick and being of a length at least that of a length of pipe to be handled in said derrick, and

power-actuated laterally-extendible positioning means engaging said movable portion of said track means for alternatively maintaining said portion in each of two substantially fixed positions, one of said positions being along the normal path of said travelling block assembly within said derrick, and the other of said positions being along an offset path.

3,143,221
PIPE CAR
Billy J. Blackmon, 2632 Kermit Highway, Odessa, Tex.
Filed Aug. 29, 1963, Ser. No. 305,267
4 Claims. (Cl. 214—2.5)



1. In a car for laying down pipe from a derrick, said car including

(*a*) wheels on the car positioned to run on a track,

(*b*) a V-shaped body pivoted to the car,

(*c*) strut means for supporting the V-shaped body in an upright position, and

(*d*) a latch mounted in the car for retaining the strut means in a supporting position; the improvement comprising in combination:

(*e*) a cover partly over the open side of the V-shaped body

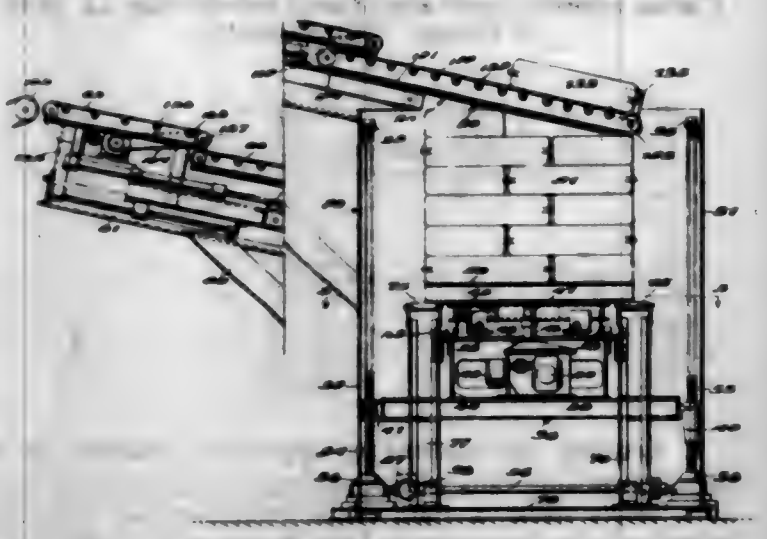
(*f*) said cover mounted for movement along said V-shaped body, and

(*g*) means attached to the body for moving said cover,

(*h*) said means for moving said cover responsive to the latch; so arranged and constructed that the cover is effective to hold pipe in the V-shaped body until the latch moves which in turn moves the cover to release the pipe in the V-shaped body and releases the strut permitting the V-shaped body to move from the upright position.

3,143,222
PALLETIZING MACHINE
William T. Cashie, Estontown, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Aug. 31, 1961, Ser. No. 135,277
10 Claims. (Cl. 214—6)

1. In a palletizing machine a loader for placing packages on a pallet comprising a movable carriage having a pair of longitudinally extending side pieces, a belt on pulleys journalled in said side pieces adapted to carry a package on its upper surface, a roller extending across the outer end of said belt and having its ends supported in toggles mounted on said side pieces, means for reciprocating said carriage to and away from a selected area of a



pallet being loaded, means for holding said roller in the path of said package during the motion of the carriage toward said area, means responsive to movement of the carriage away from said area for removing said roller from the path of the package and means for moving the upper surface of said belt in the opposite direction and so discharging the package on said pallet.

3,143,223
METHOD AND MEANS FOR PACKING ARTICLES OF TAPERED SHAPE
Daniel McIntyre, Portland, William R. Diehl, Haddam, and Walter A. Olson, East Hampton, Conn., assignors to Emhart Manufacturing Company, Hartford, Conn., a corporation of Delaware
Filed June 28, 1961, Ser. No. 120,253
10 Claims. (Cl. 214—6.5)

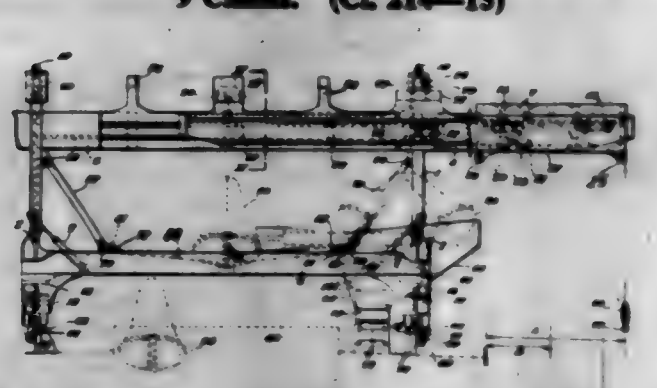


1. A method of orienting tapered articles in end-by-end relationship in a plurality of side-by-side rows to form a load group comprising a generally rectangular tier for a shipping case, said method comprising the steps of advancing the articles in erect single file order with similar ends facing in the same transverse direction with respect to their path of travel, laying the articles on their sides during advance thereof so that some similar ends face in opposed transverse directions with respect to their path of travel and in accordance with a predetermined pattern for a predetermined number of advancing articles, repeating the said pattern for each occurrence of the predetermined number of advancing articles, moving a selected number of the foremost articles in the advancing single file transversely of the path of travel to form a load group row, and repeating the said movement of the selected number of articles to form a plurality of side-by-side rows of articles which then comprise a load group tier.

3,143,224
APPARATUS FOR THE LOADING AND UNLOADING OF SHIPS

George Thomas Richardson Campbell, Montreal, Quebec, and Norman Vernon Lukey, St. Lambert, Quebec, Canada, and Thomas Bentham Hemsley, South Gosforth, Newcastle-upon-Tyne, England, assignors to International MacGregor Organization (I.M.G.O.), Monte Carlo, Monaco, a body corporate of Monaco

Filed May 16, 1961, Ser. No. 110,365
Claims priority, application Great Britain May 21, 1960
9 Claims. (Cl. 214—15)

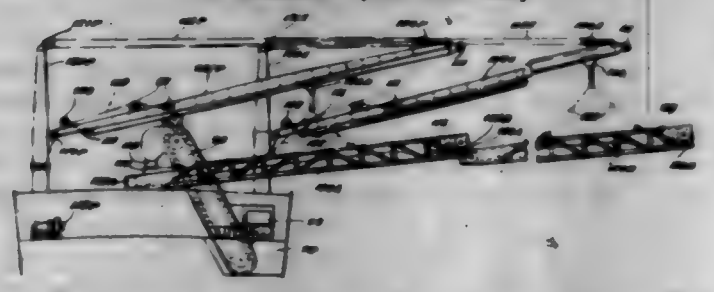


1. Loading and unloading apparatus installed on a ship, comprising rails extending lengthwise on either side of a ship's deck, a rigid rectangular wheeled carriage spanning hatch openings on the ship's deck, displaceable lengthwise of the ship on, and guided by said rails, and a transverse bridge with a runway and a crane crab for lifting cargoes, means provided on said carriage to raise and support the bridge for use and for lowering it for storage when out of use and comprising also on each side of the ship's deck a pair of columns cross-connected at their upper ends by an arched member, so forming on either side of the ship's deck a gantry, said two gantries being pivotally mounted at their bottom ends in order to allow them to be folded down athwartship, i.e., towards each other for resting upon said carriage and means provided for raising said bridge when said gantries are in their erected positions.

3,143,225
CONVEYOR APPARATUS FOR THE UNLOADING OF BULK CARGOES FROM SHIPS

George Thomas Richardson Campbell, Montreal, Quebec, and Norman Vernon Lukey, St. Lambert, Quebec, Canada, and Thomas Bentham Hemsley, South Gosforth, Newcastle-upon-Tyne, England, assignors to International MacGregor Organization (I.M.G.O.), Monte Carlo, Monaco, a body corporate of Monaco

Filed May 16, 1961, Ser. No. 110,366
Claims priority, application Great Britain May 21, 1960
12 Claims. (Cl. 214—15)

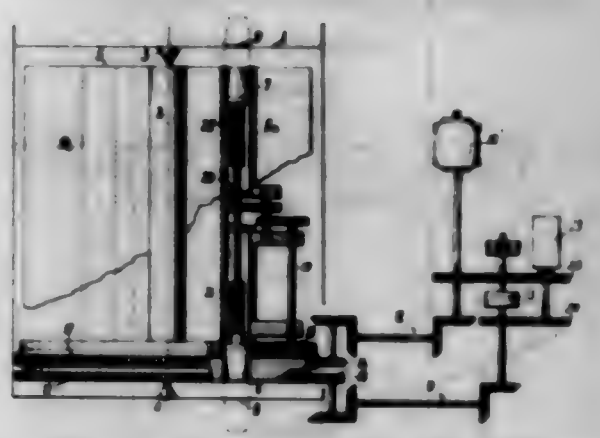


1. In a ship having a deck, holds below said deck, hatches opening through said deck from said holds, and at least one fixed structure erected upon said deck, an unloading apparatus for bulk cargo from said holds comprising at least one belt conveyor extending lengthwise of said deck substantially at the level of said deck, at least one overside discharge belt conveyor, said overside discharge conveyor having a rigid frame and being stowable transversely on said deck, at least one anchorage adjacent said fixed structure and upon said deck, on which anchorage an inner end of said rigid frame is adapted to be mounted removably and pivotally about horizontal and vertical axes, two booms universally pivoted each at its inner end upon transversely spaced pivots on said fixed structure, two winches, two multiple purchase cables extending from said winches one to each of said booms to support said booms at a variable angle to the horizontal, means to suspend from one of said booms said rigid frame when pivotally mounted so as to support said discharge belt conveyor in extension over either side of the ship, and elevator conveyor means for transferring cargo from said lengthwise belt conveyor to said discharge belt conveyor.

3,143,226
REACTOR FUEL HANDLING HOOD

Raymond Cagin, Maisons Laffite, Paul Chemin, Paris, Jean Millot, Sannois, and Pierre Molet, Bruney, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed June 12, 1962, Ser. No. 201,940
Claims priority, application France June 22, 1961
8 Claims. (Cl. 214—18)



1. In a nuclear reactor fuel element handling hood having axially aligned fuel element transfer orifices provided in opposed walls thereof; a fuel magazine supported in said hood for rotation about an axis spaced a predetermined distance from and parallel to the axis of said axially aligned orifices, said magazine having at least one passage extending therethrough from one end to the other end thereof for receiving fuel elements therein, said passage being disposed parallel to said axis of rotation and spaced radially outwardly from said axis of rotation a distance equal to said predetermined distance; a plug mounted for axial movement on said magazine at either end thereof and spaced circumferentially from said passage, said plugs being disposed in axial alignment on an axis parallel to said axis of rotation and spaced radially outwardly from said axis of rotation a distance equal to said predetermined distance; means for simultaneously moving said plugs axially in opposite directions between an extended position seated in said orifices and a retracted position withdrawn from said orifices into the interior of said hood; and means for rotating said magazine.

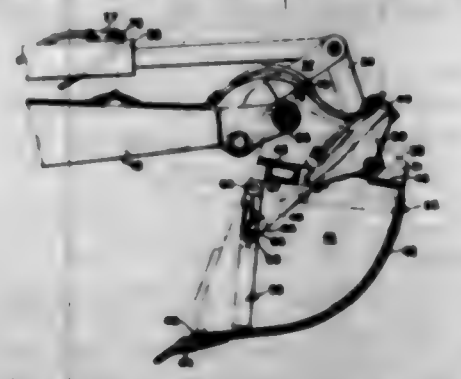
3,143,227
EJECTOR FOR POWER LOADER

Edward R. Wiemann, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Dec. 21, 1961, Ser. No. 161,161
6 Claims. (Cl. 214—138)

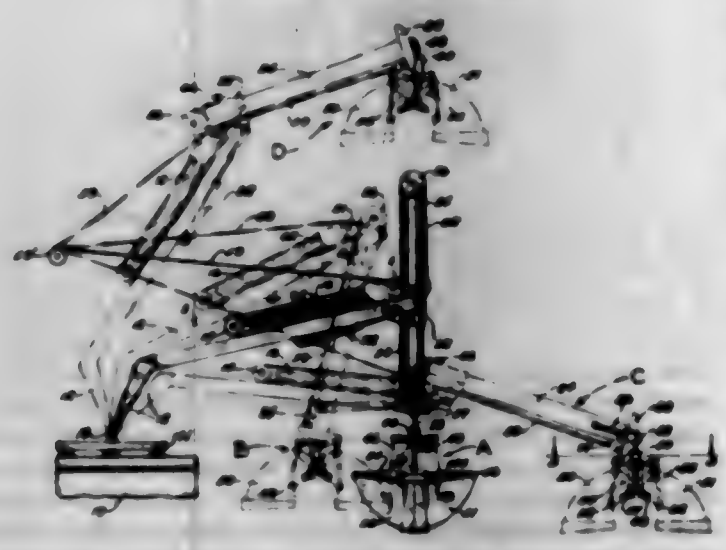
1. On a backhoe having a main boom, a dipperstick mounted on one end thereof, and a bucket supported at a projecting end of the dipperstick to swing about a horizontal axis, the improvement comprising: hydraulic means including a bucket tilting double acting piston cylinder arrangement extending between the dipperstick and bucket for effecting the movement of the bucket about the horizontal axis between a load-carrying position generally

beneath the axis and a load discharge position offset laterally from the axis, an ejector element contained within the bucket having an edge thereof substantially conforming to the interior surface of the bucket and pivotally mounted on the bucket; hydraulic means including a double acting piston cylinder arrangement and connected to the ejector element for reciprocating the element in ejecting strokes and retracting strokes; a first fluid conduit means affording a direct connection between the cylinders of the piston cylinder arrangements whereby pressure may be applied simultaneously to the respective pistons to tend to create a movement of the bucket to a dumping position and the ejector element in an ejecting



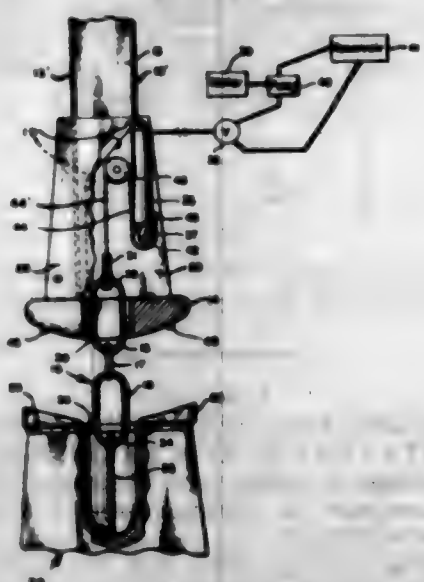
stroke; a second conduit means affording a direct connection between the cylinders whereby pressure may be applied simultaneously to the respective pistons to tend to create movement of the bucket to a carrying position and movement of the ejector element in a retracting stroke, the relative sizes of the piston and cylinders being such that movement of a material loaded bucket toward the dumping position without discharge of material will automatically effect a responsive movement of the ejector element in an ejecting stroke and movement of the bucket toward a load-carrying position will, upon an external resistance to the bucket movement, automatically effect a responsive movement of the ejector element in a retracting stroke.

3,143,228
EXCAVATORS
Roy O. Billings, Box 2611, Milwaukee, Wis.
Filed Dec. 15, 1961, Ser. No. 159,577
16 Claims. (Cl. 214—147)



1. In an excavator including a transport vehicle having a pivotally mounted boom projecting outwardly therefrom; a rigid dipstick pivotally connected to an outer portion of said boom and having a lower end with a pin; an earth handling implement having an upwardly facing portion forming a seat for coaction with said lower end of said dipstick; a link chain suspended from said pin on the lower end of said dipstick; and a pin to which the lower end of said chain is connected for normally supporting the implement in spaced, suspended position below said lower end of the dipstick, said chain and pin connection permitting the lower end of the dipstick to engage said earth handling implement seat when the implement is in engagement with the ground.

3,143,229
EXCAVATORS
Roy O. Billings, Box 2611, Milwaukee, Wis.
Filed July 6, 1962, Ser. No. 207,946
17 Claims. (Cl. 214—147)

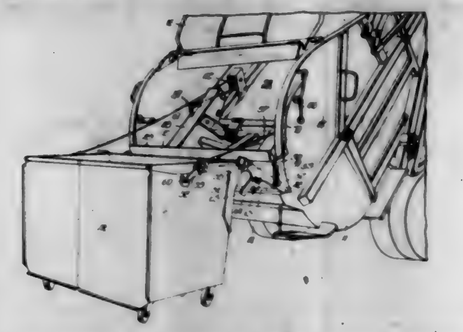


1. In an excavator of the type having a dipstick with a digging bucket coupled to the lower end thereof, a bucket and dipstick coupling assembly, comprising: a hydraulic cylinder and ram mounted on and adjacent the lower end of said dipstick, said ram being extendible downwardly along the dipstick; a first wheel rotatably mounted on the lower, free end of said ram; a second wheel rotatably mounted on the dipstick in a fixed position above said first wheel; a flexible coupling member vertically-movably carried by and normally depending below said dipstick, the lower end of said coupling member being connected to and normally supporting said digging bucket in spaced relation below said dipstick; an adjustment line anchored to said hydraulic cylinder, said adjustment line being trained about said wheels and being secured to the upper end of said coupling member; and hydraulic means for extending said ram, thereby acting upon said adjustment line and attached coupling member, to draw said digging bucket upwardly into engagement with the lower end of said dipstick.

3,143,230
REFUSE VEHICLE
Cyril R. Gollnick, Oshkosh, Wis., assignor to Leach Company, Oshkosh, Wis., a corporation of Wisconsin
Filed May 9, 1960, Ser. No. 27,985
9 Claims. (Cl. 214—302)

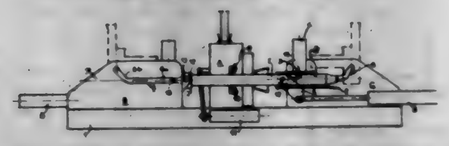
7. In a vehicle of the type having a storage body and a loading hopper behind and in communication with the body, the combination of a forwardly and rearwardly reciprocable carrier plate in the hopper, an upwardly and downwardly swingable packer plate in the hopper which is pivotally connected at its front edge to the rear edge of the carrier plate for movement both with and independently of the latter, means for reciprocating the carrier plate forwardly and rearwardly, means for swinging the packer plate upwardly and downwardly, and one or more cables within the upper portion of the hopper for connection with a separate container, the rear ends of the cables being adaped to be detachably connected with the container for raising and tilting the same to discharge refuse therein into the hopper, the front ends of the cables being connected to the back of the packer plate in offset rela-

tion to the pivotal axis of the latter, and the intermediate portions of the cables being looped around pulleys which



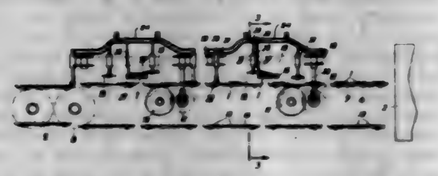
are journaled on the back of the carrier plate in forwardly spaced relation to the front ends of the cables.

3,143,231
MACHINE FOR THE EXTRACTION OF NUCLEAR FUEL CARTRIDGES
René Guilloteau, Cachan, and Georges Petillat, Paris, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Mar. 28, 1961, Ser. No. 98,916
Claims priority, application France Apr. 15, 1960
7 Claims. (Cl. 214—305)



1. A machine for extracting irradiated cartridges of nuclear fuel from their casings, comprising in combination two assemblies, each provided with means for receiving and clamping a casing by its opposite ends in a substantially horizontal position, said casing containing at least one cartridge, means for exerting a longitudinal traction force on the said casing, a cutting head arranged between said assemblies for subdividing the casing into two parts, and means for swinging each of said receiving and clamping means and the resultant half-casings carried thereby into a position in which the open ends of the half casings are downwardly directed.

3,143,232
APPARATUS FOR TRANSFERRING CHOCOLATE BARS OR THE LIKE FROM ONE CONVEYING SYSTEM TO ANOTHER
Otto Hänsel, Jr., Hannover, and Hans Lesch, Hannover-Kirchrode, Germany, assignors to Otto Hansel Junior G.m.b.H., Hannover, Germany, a corporation of Germany
Filed Aug. 17, 1960, Ser. No. 50,273
6 Claims. (Cl. 214—310)



1. A distributor for chocolate bars, tablets, or the like comprising

a first conveyor including endless chains mounted to move in a vertical plane and adapted to support a plurality of chocolate bars disposed crosswise on said first conveyor,

a second conveyor including conveying chains disposed adjacent to and moving in the direction of movement of said first conveyor in a horizontal plane extending perpendicularly to the plane of movement of said first conveyor,

at least one third conveyor disposed crosswise to and between said first and said second conveyors,

a plurality of plates removably carried by said first conveyor,

each of said plates supporting one of said chocolate bars,

means for moving said first conveyor at a speed identical with that of said second conveyor,

lifting members operatively connected with and moving with said second conveyor,

means for raising and lowering, respectively, said lifting members during their travel with said second conveyor,

means for interlocking said lifting members with said plates during the travel of said first and second conveyors, in order to lift said plates from said first conveyor to a level above said third conveyor,

abutment means disposed adjacent to said third conveyor and within the path of said chocolate bars during the lifted position of the latter and moving said cholocate bars from said lifted plates onto said third conveyor to be received thereon longitudinally in a single line, and

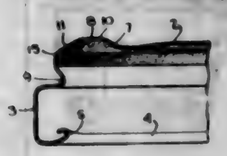
said lifting members, upon lowering the latter to the level of said first conveyor during their continued travel with said second conveyor, depositing again said plates onto said first conveyor.

3,143,233
MATERIAL HANDLING APPARATUS
Dafydd W. Evans, Cleveland Heights, and Robert F. Oster, Rocky River, Ohio, assignors to Towmotor Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 7, 1961, Ser. No. 87,594
9 Claims. (Cl. 214—652)



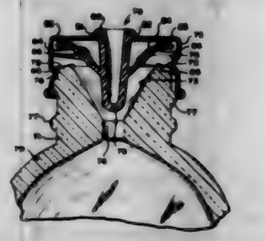
1. in combination, a vehicle having a generally upright carrier plate, material handling apparatus comprising a turntable rotatably supported on said plate, a pair of telescopically related members carried on said turntable so as to extend generally horizontally outwardly from said vehicle, load supporting means on each of said members for supporting a load thereon, first drive means connected to said turntable and actuatable to rotate said turntable and said members effective to swing said load supporting means on said members in one direction through a predetermined arcuate path, second drive means connected to one of said members and actuatable to rotate said one member relative to the other of said telescopically related members effective to swing the load supporting means on said one member in the opposite direction through a predetermined arcuate path, control means for controlling the actuation of said first and second drive means whereby the load supporting means in each of said members swings away from each other to a load supporting position, and said first drive means being subsequently actuatable to rotate said turntable and telescopically related members effective to swing said load supporting means through an additional arcuate path in said one direction to a load discharging position.

3,143,234
CLOSURE CAP AND SEALED PACKAGE THEREFOR
George J. Foss and Daniel D. Acton, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Feb. 10, 1960, Ser. No. 7,842
7 Claims. (Cl. 215—40)



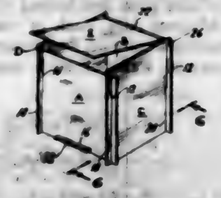
1. A closure cap comprising a cover portion and a depending skirt portion, the lower edge of said skirt portion being rolled inwardly to form a bead, a plurality of spaced locking lugs extending inwardly from said inwardly rolled bead adapted to engage a container to hold said closure cap on the container, the upper section of said skirt portion being inset from the lower section of the skirt portion, an gasket-receiving channel in said cover portion adjacent said upper inset section of the skirt, a gasket in said gasket-receiving channel, at least a portion of the top surface of said gasket-receiving channel being substantially flat, the plane of said flat portion being substantially parallel to and above the plane of the cover portion, and means for retaining said gasket in said gasket-receiving channel.

3,143,235
CONTAINER CLOSURE
Stanley Lowen, 37 Huntington Drive, Yonkers, N.Y.
Original application Oct. 30, 1958, Ser. No. 770,680, now Patent No. 3,053,407, dated Sept. 11, 1962. Divided and this application June 18, 1962, Ser. No. 203,181
1 Claim. (Cl. 215—40)



In the combination of a container having an opening therein and an annular flat sealing surface surrounding said opening, said opening having an inwardly inclined, downwardly disposed wall defining a restricted opening in said container; a closure member engageable with said container for covering said opening, said closure member having an aperture therethrough, a plug portion for entry into said restricted opening to obstruct the same; a retainer portion extending from the top of said plug portion through the aperture of said closure member and frictionally engaged therewith; a sealing element laterally extending medially from said plug portion; said sealing element comprising an upwardly inclined wall making sealing contact with the inwardly inclined surface of said container, said upwardly inclined wall terminating adjacent the underside of said closure member at a point above the inner edge of the container surface, an initially downwardly inclined sealing lip extending from said inclined wall and containing said flat annular sealing surface, said line of juncture of said lip and said inclined wall forming a fulcrum point whereby the closure member pressing against said fulcrum point will flatten said lip into engagement with the container sealing surface and form a seal at said inner edge, the inner edge of said annular sealing surface contacting the upper portion of said inclined wall.

3,143,236
KNOCK-DOWN BOX CONSTRUCTION
Jay Charles Haas, 784 Columbus Ave., New York, N.Y.
Filed June 13, 1962, Ser. No. 202,257
1 Claim. (Cl. 217—12)

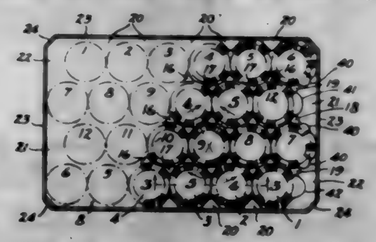


A knock-down box construction comprising a front face of a planar board material having two side edges, a top edge and a bottom edge, said front face having a pair of side slots formed adjacent and parallel to said side edges extending from said top edge approximately half way toward said bottom edge, and a bottom slot formed parallel to said bottom edge and centered between said side edges, a rear face similar to said front face, a pair of side faces of planar board material each having side edges, a top edge and a bottom edge, said side faces each having formed therein a pair of side slots adjacent and parallel to the side edges of said side face and extending from the bottom edge approximately half way toward said top edge, the respective side slots of said front, rear and side faces cooperating to join said faces together with said slots interconnected, a rectangular bottom face of planar board material having front, back and side edges and including two centered tabs extending from said front and rear edges respectively, said tabs received within said bottom slots of said front and rear faces and cooperating therewith to support said bottom face within said knock-down box construction, and a pivoting top formed of a planar board material having front and rear edges and side edges, the distance between said front and said rear edge of said top being greater than the distance between the front and rear faces of said box when assembled and the distance between the side edges of said top being less than the distance between said side faces of said box when assembled, said top face having pivot members extending outwardly from said side edges parallel to said rear edge, said side faces having cooperating pivot openings formed therein at an upper corner receiving said pivot members and pivotally securing said top face to said box construction for pivotal motion, said pivot members being securable within said pivot opening contemporaneous with the assembly of one of said side faces into engagement with said front and rear faces.

3,143,237
FRUIT TRAY
Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company, Passaic, N.J., a corporation of New Jersey
Filed Nov. 22, 1961, Ser. No. 154,140
6 Claims. (Cl. 217—26.5)

5. A one-piece molded multiple-compartment tray formed from a thin flexible inextensible sheet of thermoplastic vinyl resin and having parallel longitudinal and transverse rows of drawn article-receiving cup-shaped por-

tions of generally circular shape, said tray having a generally rectangular perimeter and having a narrow endless upwardly projecting vertical marginal flange extending throughout its periphery, each cup being in alignment with a series of other cups in one of the longitudinal rows and in alignment with a series of cups in one of the transverse rows, each inner cup which is spaced inwardly from the last-cup of one of said rows and inwardly from the margin of said tray being surrounded by six other cups and having six upwardly projecting hollow posts at its periphery which terminate substantially in a plane below the level of said marginal flange, the portions of the tray between said posts providing narrow partitions, each extending between adjacent posts, each of said partitions terminating below the level of the tops of said posts and having diverging walls forming part of adjacent cups, each of said cups being tapered and increasing in size in a direction away from its bottom, the vertical walls of each inner cup being



formed by the walls of said posts and said partitions, the ends cups at the ends of some rows being spaced inwardly from the end cups at the ends of adjacent rows, a ledge extending between said marginal flange and an end cup which is spaced from said marginal flange, said ledge being located between a pair of end cups which are adjacent to said last-named end cup and adjacent to said marginal flange, said ledge having three wide rounded notches forming continuations of radially outwardly projecting portions of the peripheral walls of said pair of cups which form vertical channels of rounded cross section below said notches, said channels extending along the major portion of the height of the associated end cup to facilitate radial expansion of such cup, the central portions of the partitions which separate the cups of the longitudinal rows having a height less than half that of the partitions which separate the cups of the transverse rows, each channel having a vertical length about 2 to 5 times its width and being separated from the other channels by one of the posts.

3,143,238
SINGLE WALLED METAL CONTAINERS
Walter William Bulgrin, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 13, 1962, Ser. No. 179,423
5 Claims. (Cl. 220—5)

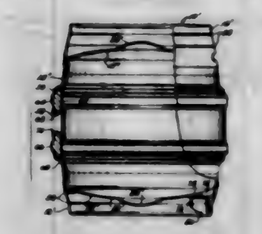
1. In an improved single walled metal container, a body portion comprising:

end shells of predetermined tapered axial length with centrally disposed exterior spherical embossment, one of the end shells having an apertured star-shaped embossment on its exterior surface;

an intermediate continuous center portion having spaced annular configurated flat surfaces reinforced on at least one side of the flat surfaces by annular corrugations, the center portion spacing and joining the end shells in annular welded junctures;

a patch plate assembly surrounding and defining a bung opening in the intermediate continuous center portion;

a single walled, annular ribbed chime skirt secured to the exterior surface of each end shell at a point spaced axially outwardly from the welded juncture of the end shell and the intermediate continuous center portion;

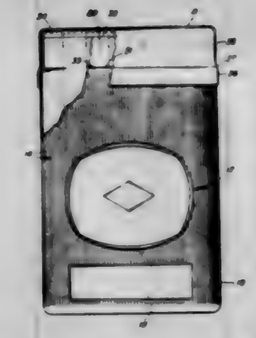


each chime skirt having a radially inwardly projecting re-entrant curved flange, one of the chime skirts having a semi-circular notch formed at a predetermined point in the re-entrant curved flange;

an adaptor fitting projecting axially outwardly from the apertured star-shaped embossment on one of the end shells and having an annular recessed neck;

and an ungulated cylindrical sleeve secured at one end to the annular recessed neck of the adaptor fitting and secured to the opposite end at one side within the notch on the one chime skirt.

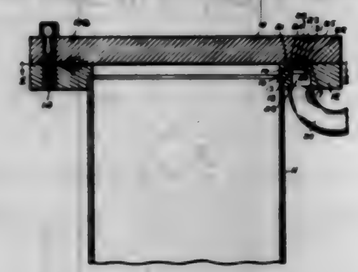
3,143,239
CONTAINER WITH TELESCOPIC COVER
Fred E. Wiley, Longmeadow, Mass., and Clifford H. Goldsmith, Ridgefield, Conn., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed May 27, 1963, Ser. No. 283,295
6 Claims. (Cl. 220—42)



1. A container having a cup-shaped body member with an open top and a cover member adapted to fit telescopically over the top portion of the body member, said members each having the general form of a rectangle in horizontal section, said body member having a neck band at the top of reduced outer dimension forming a peripheral shoulder at its junction with the body member portion below the band extending peripherally of the body member, said cover having an upper portion adapted to fit over said neck band and an enlarged lower skirt portion adapted to extend down over and below said shoulder, the outer length of the rectangle at said neck band across the body member in one direction and the height of said neck band comprising the legs respectively of a right triangle, and the inner length in the corresponding direction of the rectangle forming said skirt of the cover being equal at least to the hypotenuse of said right triangle.

3,143,240
SEAL FOR VACUUM CHAMBERS
Walter C. Crocker, South Weymouth, Mass., assignor to High Vacuum Equipment Corporation, Hingham, Mass., a corporation of Massachusetts
Filed July 29, 1963, Ser. No. 298,169
8 Claims. (Cl. 220—46)

1. A sealing device, for a vacuum system, comprising a first enclosure member having an opening therein, a second enclosure member coupled to said first member around said opening, said first member having a pair of spaced grooves and a pair of spaced ribs surrounding said opening and facing toward said second member, and said second member having a pair of grooves and a pair of ribs opposing and registering with the respective grooves and ribs of said first member, each of said ribs constitut-



ing one wall of one of said grooves, and seal means disposed between said members and disposed at least partially in said registering pairs of grooves.

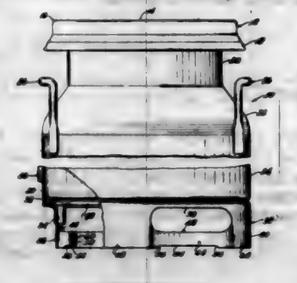
3,143,241
NON-STICK SKILLET
Edwin D. Howell, Rome, N.Y., assignor to Revere Copper and Brass Incorporated, Rome, N.Y., a corporation of Maryland
Filed Apr. 7, 1964, Ser. No. 357,972
7 Claims. (Cl. 220—64)



4. A non-stick cooking utensil having a tri-component composite wall structure the outermost component of which is a layer of stainless steel, the intermediate component of which is a layer of aluminum bonded to the inner surface of said outermost component, and the innermost component of which is a coating of non-stick plastic material bonded to the inner surface of said intermediate component.

3,143,242
CONTAINER SUPPORT
Harry Mulder, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 3, 1961, Ser. No. 100,405
7 Claims. (Cl. 220—69)

1. A container having a bottom support comprising a skirt substantially coextensive with the periphery of said container, said skirt having spaced peripheral sections, laterally inwardly depressed sections integral with and adjoining the first said sections, and undercut portions extending along the bottom edges of said inwardly depressed sections, each of said undercut portions having



shoulders at each end thereof adapted to engage over the top of another like container when stacked thereon.

3,143,243
RESILIENT BASE FOR CONTAINERS
Meredith Hall MacKusick, Springfield Township, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 23, 1961, Ser. No. 146,715
1 Claim. (Cl. 220—69)



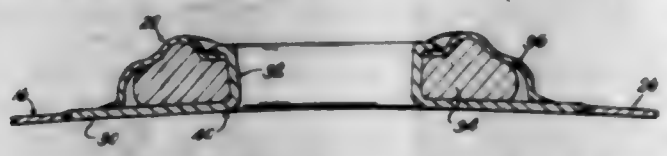
In combination, a cylindrical container comprising; a cylindrical container body portion, a domed bottom end wall continuously circumferentially joined to said body portion, a cylindrical skirt portion surrounding said domed bottom end wall and extending axially downwardly from said container body portion, a plurality of circumferentially spaced drain holes in said cylindrical skirt portion axially disposed at points where said domed bottom end wall is circumferentially joined to said container body portion, a circular stiffener band joined to the radially inner surface of said cylindrical skirt portion along the lower peripheral edge thereof, a resilient annular base member compressibly fit within said cylindrical skirt portion, a circumferential rabbet on the radially outer surface of said annular base member interlockingly engaged with said circular stiffener band, a beveled top surface on said resilient annular base member frictionally abutting said domed bottom end wall, a plurality of transverse drain channels in said beveled top surface aligned respectively with said spaced drain holes in said cylindrical skirt, and a substantially flat bottom portion of said resilient base member extending axially below and overlapping said lower peripheral edge of said cylindrical skirt portion.

3,143,244
BUNG PATCH PLATE ASSEMBLY
Harry Mulder, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 24, 1961, Ser. No. 84,568
4 Claims. (Cl. 220—71)

1. In a barrel having a single-walled side wall and a flanged bung sleeve projecting out of and integral with said single-walled side wall,

a reinforcement patch plate assembly, comprising;

an inner patch plate surrounding said flanged bung sleeve and integral with said flanged bung sleeve and said single-walled side wall;



an outer patch plate surrounding said flanged bung sleeve and secured thereto and to said inner patch plate exteriorly thereof;

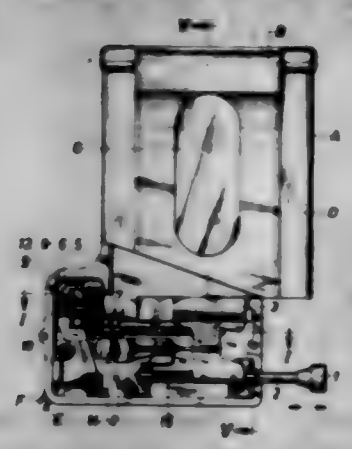
and means surrounding said flanged bung sleeve and disposed between and abutting said inner patch plate and said outer patch plate to reinforce said outer patch plate and said flanged bung sleeve.

3,143,245

AUTOMATIC AUTOMOBILE CIGARETTE LIGHTER WITH CASE

Adamo Giuliani, 237 Leighton Ave., Toronto, Ontario, Canada

Filed June 14, 1961, Ser. No. 117,241
Claims priority, application Canada Mar. 28, 1961
4 Claims. (Cl. 221—147)



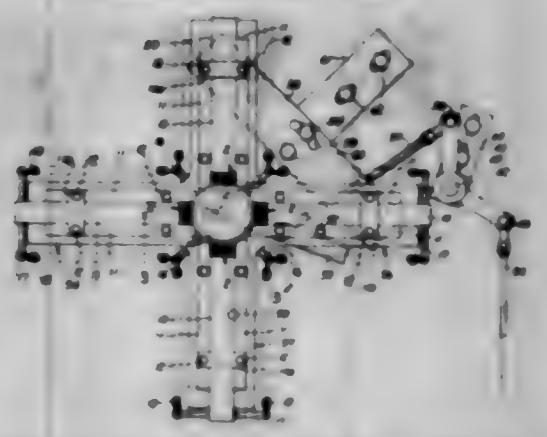
1. An automatic automobile cigarette lighter with case including a principal body having intercommunicated upper and lower parts; said upper part constituting a case for the horizontal retention of cigarettes and said lower part housing means for the selection and lighting of the lower-most of said cigarettes; said selection and lighting means comprising a horizontal rod having one end protruding rearwardly from said lower part, bushing means slidably supporting said rod, a push button attached to rear end of said rod extendably of said lower part; pressure on said button moving said rod axially forwardly; resilient means biasing said rod rearwardly; a cigarette holding vice including a pair of vertical, spaced apart arms having lower edges attached to said rod and upper edges deformed outwardly to form cup-section jaws; said jaws freely receiving the lowermost of said cigarettes from said case upon said rod being in its rearmost position; horizontal latch means having a pair of jaws resiliently biased together; said jaws having inner edges flanking and slidably cooperating with said vertical arms of said vice and squeezing said arms together upon said rod being pushed forwardly, causing said cupped jaws to gently grip said lowermost cigarette and carry it forwardly simultaneously therewith; detent means in one of said edges of said latch jaws to releasably retain said vice in a foremost position; electric lighter means located within said lower part of said principal body forwardly of said vice and in axial alignment with said lowermost cigarette; the forward tip of said cigarette becoming juxtaposed said lighter upon said vice being in said foremost position; an electrical circuit including said lighter; normally open electrical switch means included in said circuit in series with said lighter; interconnecting means between said vice and said switch causing said switch to close upon said vice moving forwardly; a heating element connected in said circuit in parallel with said lighter and in series with said switch; a heat sensitive dilatable strip located adjacent said heating element and cooperable with said latch means, dilation of said strip under the influence of said heating element opening said jaws of said latch and releasing said vice from said detent; said resilient means returning said vice and said horizontal rod thereafter to their rearmost positions breaking said switch; said cupped jaws freely supporting said lowermost cigarette; said lowermost cigarette having its forward tip lit and said principal body being apertured to permit removal of said lit cigarette from said vice.

3,143,246

LEAD FEEDING APPARATUS

James A. Hager, Highland Heights, Ohio, assignor to General Electric Company, a corporation of New York

Filed Aug. 17, 1962, Ser. No. 217,726
2 Claims. (Cl. 221—232)



1. Apparatus for feeding lead wires from a group comprising, in combination, a platform having an area for supporting a group of lead wires arranged in a parallel manner in vertical position, said platform being provided with a recessed surface having an opening therein, a cylinder having a cylindrical surface provided with a vertical slot for receiving at least one individual lead wire, a portion of said cylindrical surface being tapered inwardly toward one edge of said slot to facilitate entry of a lead into said slot as said cylinder oscillates, said cylinder having a recessed portion above said slot to prevent interference of the cylinder with the upper portions of said lead wires, means mounting said cylinder on said platform for oscillation about a vertical axis, means for pressing the group of lead wires against said curved and tapered surfaces so that a lead wire enters said slot and drops onto said recessed surface, means for oscillating said cylinder to move the lead wire in said slot away from the group and to align it with said opening so that the lead wire falls out of said slot through said opening, and means for returning said cylinder to its initial position.

3,143,247

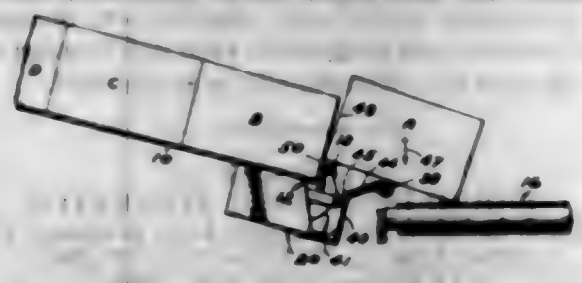
ARTICLE RELEASING MEANS FOR INCLINED STORAGE SUPPORTS

Howard C. Blake, Oak Park, Mich., assignor to Admos, Inc., Warren, Mich., a corporation of Delaware

Filed Nov. 15, 1961, Ser. No. 152,479
2 Claims. (Cl. 221—290)

1. An inclined chute on which a plurality of articles are stored in a row having means for releasing each successive lowermost article one at a time comprising the combination of a release device having a gate member adjacent the lower end of the chute selectively movable from a blocking position of engagement with the leading face of the lowermost article to a releasing position of disengagement therewith, and an article rocking device mounted on the discharge side of said release device, said

article rocking device including a deflector plate, means mounting the deflector plate adjacent the discharge side of said gate member in upwardly inclined relation to the extended plane of said chute, said deflector plate having a discharge end spaced from the lower end of the chute a distance less than the length of an article, a roller mounted at the discharge end of the deflector plate on an axis transverse to the chute with the surface of



the roller forming a continuation of the upper surface of the deflector plate and also forming a fulcrum whereby a lowermost article, upon movement of the gate member to releasing position, moves from the chute onto the deflector plate and rocks upwardly and downwardly in passing over said fulcrum to permit the gate member to be returned to blocking position in time for engagement with the leading face of an immediately following article.

3,143,248

OPENER AND SPOUT FOR MILK CARTONS AND THE LIKE

Ronald A. Branda, 1820 N. Edwards, Wichita, Kans.

Filed Feb. 4, 1963, Ser. No. 256,865
1 Claim. (Cl. 222—81)



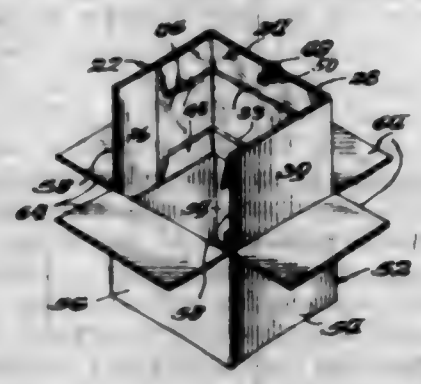
An opener and spout for cardboard milk cartons and the like comprising, in combination, an elongated and relatively wide face plate having a flat inner surface positionable against the outer surface of a milk carton or the like, an integral flange along the center portion of one edge of said face plate and projecting therefrom at substantially a right angle thereto, elongated spout means having a base wall integrally formed with said flange and projecting to each side of the plane of said flange, said spout means being triangular in transverse cross section with said base wall thereof being positioned in a plane substantially parallel to and spaced from the plane of said face plate, the lower end portion of said spout means being tapered from said base wall thereof to the edge thereof opposite from said base wall and inclined outwardly and downwardly from said base wall to form a sharp point, a wall in said spout means extending from the bottom edge thereof upwardly therealong and positioned in a plane substantially parallel to and spaced from the plane of said base wall, said last-named wall having a lip thereon at the upper edge thereof facing said base wall thereof to deflect liquids, said last-named wall and the portion of said spout means between said wall and said edge thereof opposite from said base wall extending above said base wall and defining an air vent, the upper edge of said base wall of said spout means being inclined from the end portions thereof downwardly and inwardly toward the center of said base wall and defining a pouring lip, said opener and spout being constructed and adapted to be mountable on a cardboard milk carton or the like with said point of said spout means piercing the inclined top portion of said carton and folding a portion of same downwardly to be snugly gripped between said base wall of said spout means and said face plate and with said air vent providing a passageway for air into said carton during the pouring of milk therefrom across said pouring lip.

3,143,249

COLLAPSIBLE BULK FLUID CONTAINER

Reginald D. Merrill and Edward C. Hauser, Chicago, Ill., assignors to Stone Container Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 8, 1962, Ser. No. 164,743
6 Claims. (Cl. 222—105)



1. A package for storing and dispensing fluid and the like comprising, a flexible, plastic bag of tubular formation having a filling and dispensing spout at one end thereof, a liner comprised of three panels arranged end to end, said bag being adhesively secured to a portion of each of said panels, said bag being collapsed to a flattened condition and having a pair of elongated folded portions extending along the upper and lower longitudinal edges of the liner and overlying at least a portion of all of the panels, said spout being on the upper folded portion and having its axis transverse thereto, a pair of said panels being movable to a position transverse to the remaining panel, said liner and bag attached thereto being arranged to be inserted into an outer carton with the bag remaining in flattened condition whereby fluid can be introduced through said spout to expand the bag and fill the same for the storage and later dispensing of said fluid through said spout.

3,143,250

AEROSOL SPRAY DISPENSERS

Joseph R. Peague, Stratford, Conn., assignor to Clark Metal Products Incorporated, Fairfield, Conn., a corporation of Connecticut

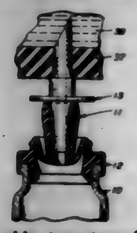
Filed Jan. 5, 1962, Ser. No. 164,560
3 Claims. (Cl. 222—182)



1. In an aerosol dispenser, a container having a reduced neck portion at its upper end, an outwardly extending upwardly facing annular shoulder adjacently below said neck portion, a valve unit secured upon said neck portion including a cylindrical vertical wall disposed in spaced relation above said annular shoulder, an overlay element comprising a cylindrical vertical sleeve portion

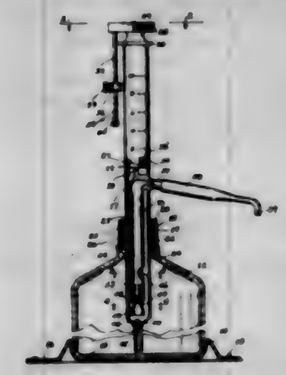
having a circular upper edge disposed in a plane normal to its vertical axis and defining an open upper end in which said cylindrical wall is received, said sleeve portion having an inside diameter slightly greater than the outside diameter of said cylindrical wall and having a plurality of circumferentially spaced vertical ribs integral therewith and projecting inwardly from its inner surface a predetermined distance which in the detached relation of said overlay element will project slightly within the approximate outside circumference of said cylindrical wall, said ribs being frictionally engaged along vertical contact lines with said cylindrical wall under pressure resulting from outward displacement of said ribs and inward flexing of the circumferential portions of said sleeve portion between said ribs, whereby said overlay element is frictionally retained upon said valve unit under yielding pressure in any position of vertical adjustment thereon, an annular shoulder portion extending outwardly from the lower end of said sleeve portion in upwardly spaced relation to said annular shoulder of said container, and an annular skirt portion extending downwardly from said shoulder portion of said overlay element and engaged at its lower edge with said annular shoulder of said container to limit and determine the position of vertical adjustment of said overlay element, and a removable closure cap having a circumferential wall frictionally engaged for vertical sliding movement with the outer surface of said sleeve portion and having an annular lower edge for abutting said annular shoulder portion of said overlay element to limit its engaged position upon said sleeve portion.

3,143,251
ADDITIVE CONTAINER FOR MEDICANTS OR THE LIKE
Raymond W. Barton and Joe T. Herron, Evansville, Ind., assignors, by mesne assignments, to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Filed June 9, 1961, Ser. No. 116,843
5 Claims. (Cl. 222—289)



1. An axially operable, two-stage dispensing-pump-and-closure member, in combination with a container neck and tubular connector having one end portion for insertion in a sealing portion of a parenteral solution bottle or the like, said dispensing-pump-and-closure member comprising a resilient tubular member including a lower sealing flange sealingly engageable on the upper end of said container neck, said tubular member including an annular, axially-and-inwardly deformable first pump section extending vertically from the upper surface of said flange and defining a cylindrical first pump chamber therewithin, said tubular member including an axially-and-inwardly deformable second pump section extending vertically and radially inwardly from the upper end of said first pump section and including a dome-shaped wall portion defining a second pump chamber and being progressively reduced in cross-section from the upper end of said first pump section and progressively increasing in flexibility therefrom, said dome-shaped wall portion forming a substantially annular zone of inflection at the upper end of said first pump section, and a tubular sleeve relatively more rigid than said dome-shaped wall portion and extending axially and vertically from the upper end thereof, said sleeve including a lower portion relatively thicker than the upper end of said dome-shaped wall portion and forming an annular zone of initial inflection substantially at the juncture between said sleeve and said dome-shaped wall portion when said sleeve is displaced axially into said second pump chamber, said connector having another end received in said tubular sleeve and further rigidifying the same to facilitate inward axial displacement through said pump chambers and progressive axial deformation of said pump sections for incrementally pumping fluid.

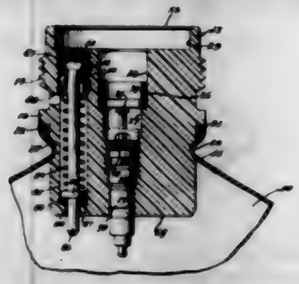
3,143,252
LIQUID DISPENSING APPARATUS
Justin J. Shapiro, 39 Domingo Ave., Berkeley, Calif.
Filed Mar. 5, 1962, Ser. No. 177,294
12 Claims. (Cl. 222—309)



3. In a burette device of the character described, a syringe chamber, a dispensing plunger sealingly and slidably mounted in said chamber and being provided with an actuating portion projecting from the chamber, a liquid intake conduit adjacent the end of the chamber opposite said actuating portion, a frusto-conical seat member communicatively connecting said intake conduit to said end of the chamber, a valve ball disposed in said seat member and being sealingly engageable in its vertex, a laterally extending discharge conduit on said syringe chamber, and a substantially tubular inner chamber in said syringe chamber communicatively connected at one end to and extending downwardly a substantial distance from said discharge conduit, the other end of said inner chamber extending adjacent said frusto-conical seat member and being formed with an inwardly convergent open bell-shaped portion adapted to sealingly receive said valve ball when the device is inverted.

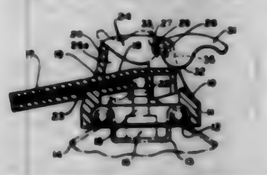
3,143,253
CENTER VENTED PRESSURE CONTAINER
William L. Lindgren and Magnus Lagreid, both of Sycamore, Ill., assignors to Turner Corporation, Sycamore, Ill., a corporation of Illinois
Filed Aug. 17, 1961, Ser. No. 132,158
6 Claims. (Cl. 222—396)

3. For use in a pressurized fluid tank, an outlet fitting comprising a bushing made of flexible plastic material and having an outer peripheral annular recess, shell means made of metal and forming a neck in said tank having an embossed portion including a rib offset radially inwardly and conformably received in said recess, said outlet fitting having an axial through opening and a tire valve in said through opening having an actuator stem to be engaged by the push pin of a gas fitting, said outlet fitting having a second axial through opening formed therein, a spring loaded safety valve in said second opening, and a venting aperture in the side wall of said outlet fitting



communicating with said second axial through opening to vent gaseous fluid released by said safety valve.

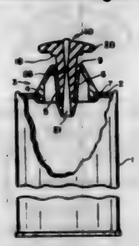
3,143,254
DISPENSING CAP FOR AEROSOLS
Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 23, 1962, Ser. No. 211,587
3 Claims. (Cl. 222—394)



1. A dispensing cap for aerosol containers having a tubular discharge valve stem comprising a body member having a lower annular wall portion and a front wall projecting upwardly therefrom, a pair of upwardly projecting side walls on opposite sides of said annular wall portion, said side walls being connected to said front wall at one end and having a kerf-like space therebetween, a valve operating tab resiliently attached to the inner portion of the cap, the operating tab projecting rearwardly in said kerf-like space, a hub projecting from the underside of said tab to form a socket for the tubular valve stem of an associated aerosol container, said socket being in communication with an internal channel extending outwardly through said tab to form an outlet, a pair of lugs mounted in alignment on the inside surfaces of said side walls, an actuating lever including a cam surface, said lever having a pair of trunnions engaged by said lugs, a circular groove surrounding the trunnions on said lever wherein the circular grooves of said lever engage the lugs mounted on said side walls, rotation of said lever to the operating position causing said cam surface to bear against the end of the said tab whereby pressure on the actuating lever can be utilized to operate the valve stem and unseat the valve for the discharge of the contents of the container through said outlet.

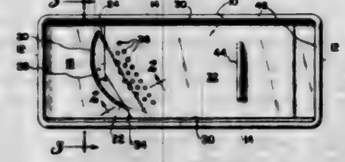
3,143,255
CAPTIVE PLUG DISPENSING CLOSURE
Harry R. Leeds, 18 Allandale Road, Philadelphia 51, Pa.
Filed Jan. 28, 1963, Ser. No. 254,357
6 Claims. (Cl. 222—479)

1. A captive plug dispensing closure for a container, comprising a generally tubular plug of elastomeric material having a longitudinal axis, said plug having integral generally transverse upper and lower flanged portions spaced apart along the said axis and adapted each to engage correspondingly arranged abutments of the container spaced apart a distance smaller than that separating the said flanged portions, whereby said plug is axially movable over a predetermined distance, said plug containing a bore extending completely through it in its axial direction, the bore orifices at the top and bottom of the plug being enlarged and the bore tapering inwardly from both orifices to form a constricted region in the proximity of



the plug center, the plug portion extending between the flanged portions progressively increasing in diameter toward the upper flange, the plug portion extending below the lower flange progressively decreasing in diameter away from the lower flange, the plug portion extending above the upper flange being enlarged to serve as a handle for reciprocating the plug within the container between the abutments.

3,143,256
DISPENSING CONTAINERS
Frank S. Lazure, New Kensington, and Ross C. Reed, Fox Chapel Borough, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1963, Ser. No. 271,125
6 Claims. (Cl. 222—480)

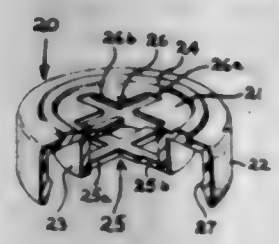


1. A container of the class described including an initially imperforate panel provided with a depressibly rupturable entrance area therein, a protuberance carried by the entrance area and extending outwardly away from the panel, a resilient plate element in movable integrated assembly overlying the panel, said plate element positioned in disposition over the protuberance being outwardly and visually deflected thereby in adjacent under surface contact therewith, and said resilient plate element assuming substantially coextensive coplanar bearing contact with the panel on depressible rupture of the entrance area to depress the protuberance below the plane of the panel.

3,143,257
DISPENSING FITMENT WITH ANTI-SPLASH BAFFLE
George Victor Mumford, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Nov. 14, 1962, Ser. No. 237,531
5 Claims. (Cl. 222—547)

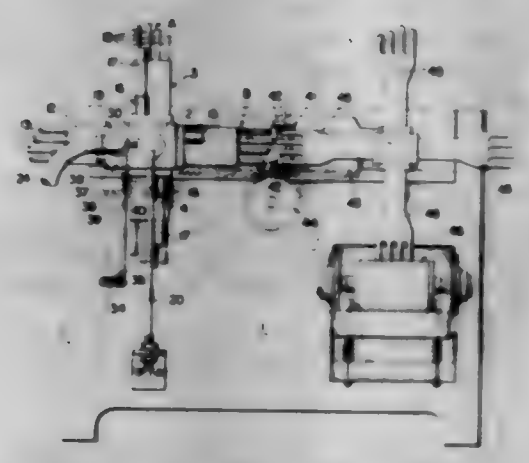
5. A dispensing fitment for a liquid containing bottle comprising a top panel portion, a depending attaching skirt at the periphery of said top panel portion, an annular wall secured to the underside of said top panel portion

and spaced inwardly from said skirt, said skirt being provided with means to secure said fitment to said bottle, said top panel portion having a cross-shaped aperture, the legs



of which substantially span said annular wall, and a cross-shaped baffle aligned with said aperture attached to said wall in spaced relationship to said top panel portion.

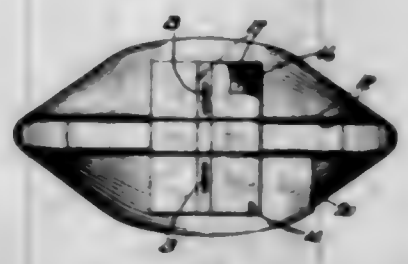
3,143,258
GLOVE TURNING MACHINE
Bernard H. Wittler, Roswell, Ga., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 27, 1962, Ser. No. 240,356
3 Claims. (Cl. 223—43)



1. In a glove turning machine, a glove form comprising a hand element including individual finger and thumb portions, means for moving said glove form from a glove-receiving position to a glove-stripping position, stripping means cooperating with said glove form in said glove-stripping position for stripping a glove therefrom, and means for inverting the tips of a glove on said glove form and for holding the same during the operation of said glove-stripping means comprising a vacuum chamber and a source of vacuum connected thereto, said hand element being hollow and open at the tips of said finger and thumb portions, a port connecting said vacuum chamber and the interior of said hand element, a valve disposed within said vacuum chamber and movable between a first position wherein said source of vacuum is connected through said port to said hand element and a second position wherein said source of vacuum is closed with respect to said hand element, and means for actuating said valve in timed relation to the movement of said glove-stripping means.

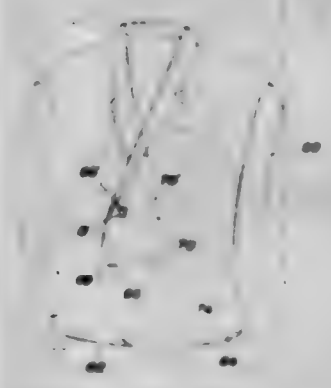
3,143,259
METHOD OF FORMING A DECORATIVE BOW OR PREASSEMBLY THEREFOR
Thomas J. J. Paar, Chicago, Ill., assignor to Chicago Printed String Co., Chicago, Ill., a corporation of Delaware
Filed Oct. 10, 1960, Ser. No. 61,641
4 Claims. (Cl. 223—46)

1. A method of forming a decorative bow comprising forming a length of ribbon into a hank having a plurality of nested superposed convoluted sections of ribbon, distorting said hank by rotating spaced portions thereof in opposite directions through an angle not exceeding about 90° whereby the intervening portions of said hank between said rotated portions each assumes a nested funnel-



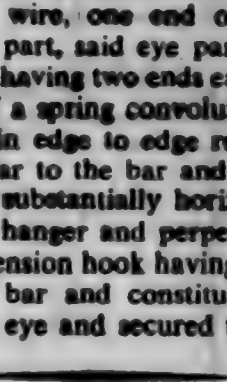
like configuration, securing the rotated portions to the same side of a base member in spaced generally coplanar relation to each other, and unnesting said funnel-like configurations of said intervening portions.

3,143,260
GARMENT FORM RETAINERS
Frank Y. Sherbondy, P.O. Box 10236, San Antonio, Tex.
Filed Oct. 3, 1963, Ser. No. 313,669
4 Claims. (Cl. 223—71)



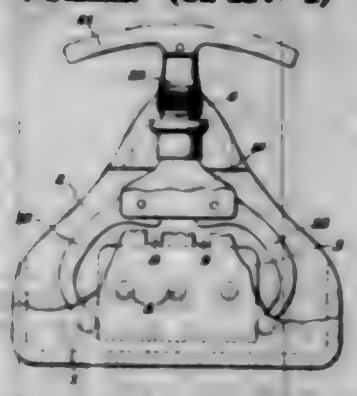
1. A form retainer for a coat garment, said garment having overlapping front portions with at least one buttonhole on one portion, and at least one button on the other portion, said retainer comprising an elongated flat rectangular body of yieldable material for insertion between the overlapping front portions of the garment, said body being cut whereby an elongate flap is coupled to said body by a connection integral with said flap and said body, said flap being swingable outwardly from said body about an axis defined by said connection, said connection extending parallel to the longitudinal axis of said body, said flap being positioned inwardly of an end of said body and adapted for engagement in said buttonhole, said flap having its longitudinal axis extending at least substantially perpendicularly to the longitudinal axis of said body, said body also having at least two button receiving openings therein spaced longitudinally from said flap, from one another and from the ends of said body, each of said openings comprising a circular aperture in said body and a series of straight slits in said body extending radially from said circular aperture and having one end opening directly into said circular aperture, said slits being equally arcuately spaced from one another around said aperture, the majority of said slits being angularly disposed to the longitudinal axis of said body, all of said slits terminating at least substantially equidistantly from the center of the said circular aperture, said flap having side edges which converge inwardly toward one another from said connection, said flap having a plurality of aligned pairs of recesses in said edges whereby said flap is adapted to move within buttonholes of varying size with one pair of aligned recesses in the side edges thereof accommodating the buttonhole in accordance with its size.

3,143,261
COMBINED COAT AND TROUSER HANGER HAVING BENT WIRE CONNECTING MEMBER
Norman E. Brooke, 3232 Rittenhouse St. NW., Washington, D.C.
Filed July 18, 1961, Ser. No. 124,939
2 Claims. (Cl. 223—91)



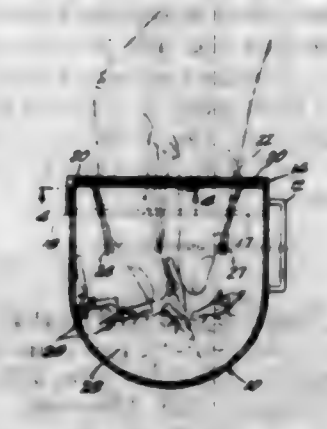
1. In a combined coat and trouser hanger wherein there is an elongate, longitudinally arcuate coat supporting bar and a pair of elongate cooperating jaw members disposed longitudinally of the concave side of said bar; the combination with said bar and jaw members of a one piece, substantially U-shaped inverted spring metal connecting member between the bar and said jaw members, said connecting member being formed from a single length of resilient wire and having spaced leg portions joined to a head portion, said head portion including a central eye part and a pair of spring parts connecting the eye part to the leg portions, means passing through the eye part and securing the latter to the underside of the bar midway between the ends of the latter, a suspension hook attached to the top of the bar midway between the ends of the bar, said leg portions having the ends thereof remote from said spring parts each secured to one of said jaw members midway of the ends thereof, said leg portions being biased to move apart and separate the jaw members, means connecting the leg portions for facilitating drawing together the ends thereof and the jaw members, each of said spring parts consisting of a single convolution of the wire, one end of each convolution merging with a leg part, said eye part also consisting of a single convolution having two ends each of which merges with another end of a spring convolution and said spring convolutions being in edge to edge relation and lying in a plane perpendicular to the bar and said eye part lying in a plane which is substantially horizontal in the operative position of the hanger and perpendicular to the first plane, and said suspension hook having a shank end which passes through the bar and constitutes the said means passing through the eye and secured thereto.

3,143,262
HANDCUFF HOLSTER
Paul T. Sullivan, 1465 W. Waters St., Elmira, N.Y.
Filed Sept. 4, 1962, Ser. No. 221,022
4 Claims. (Cl. 224—2)



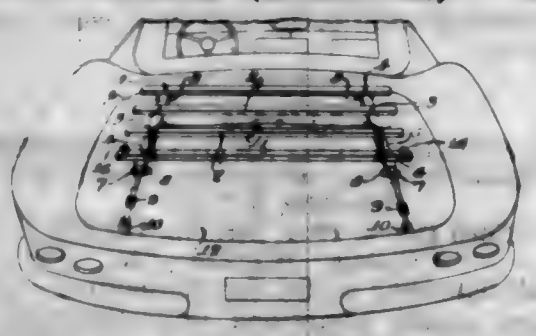
1. A holster for a handcuff having jaws pivotally mounted for opening and closing movement
means for actuating said jaws and
means movable into and out of operative position for preventing actuation of said jaws;
said holster comprising a pocket for receiving said jaws,
means in said pocket to prevent insertion of the handcuff therein except while the jaws are in open position, and
elastic means for resisting withdrawal of the handcuff from said pocket,
said elastic means also comprising means for maintaining in inoperative position said means for preventing actuation of said jaws.

3,143,263
LIVE BAIT RECEPTACLE
Admiral J. Farmer, P.O. Box 313, Azusa, Calif.
Filed July 19, 1962, Ser. No. 210,978
4 Claims. (Cl. 224—5)



1. A bait receptacle for live bait of the type used by fishermen adapted to be carried on the person, said receptacle having a hollow main body provided with a wide area access opening, self-closing flexible closure means for said opening including a multiplicity of closely positioned flexible resilient fingers supported at the edge of the opening and cooperating with one another to form a closure for the opening incapable of being opened by bait but readily displaced by the user's fingers when the finger tips are thrust through the opening, said resilient fingers normally lying in a predetermined position closing said opening but being readily deflectable both inwardly and outwardly away from said predetermined position by the user's fingers, and said resilient fingers being disposed in closely spaced layers with the fingers in one layer lying at an angle to those in the other layer whereby the fingers in one layer provide supporting action for a number of fingers in the other layer during deflection of the layers from their normal positions.

3,143,264
LUGGAGE CARRIERS
Charles R. Spero, 5950 N. Winthrop Ave., Chicago, Ill.
Filed Apr. 30, 1962, Ser. No. 190,934
1 Claim. (Cl. 224—42.1)



A carrier adapted to be mounted on the trunk lid of a vehicle comprising a plurality of substantially parallel load support rails mounted adjacent their ends at pivots on spaced apart rail mounts extending substantially parallel to each other, said rail mounts being provided with

downwardly extending friction means for engagement with the trunk lid, the rails being movable at said pivots angularly in scissors fashion relative to the rail mounts to alter the shape of the carrier between an expanded load carrying condition and a collapsed storage condition, the rails being spaced from each other and the rail mounts extending substantially perpendicular to the rails when the carrier is in its expanded load carrying condition, the transverse spacing between the rails being diminished and the rail mounts extending in non-perpendicular direction to the rails when the carrier is in its collapsed storage condition, said rail mounts having flexible connecting means for engagement with the trunk lid for keeping the carrier located in a fixed position on the lid, said connecting means being adjustable in length to adapt the carrier to different size lids and to allow the connecting means to be drawn taut, said rails having flexible binding means connected thereto for securing a load positioned thereon, said flexible binding means including a first flexible member which is secured between two spaced apart loops mounted on the side portions of the carrier and a second flexible member encircled into a closed loop around the top and front sides of the load and the bottom of the rails centrally of the rails, the second flexible member being engaged with the central portion of said first flexible member.

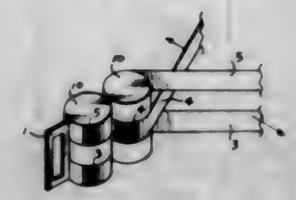
3,143,265
CARRIER FOR PRACTICE GOLF BALLS
Max J. Ruderian, 545 Hanley, Los Angeles 49, Calif.
Filed Sept. 27, 1962, Ser. No. 226,648
2 Claims. (Cl. 224—46)



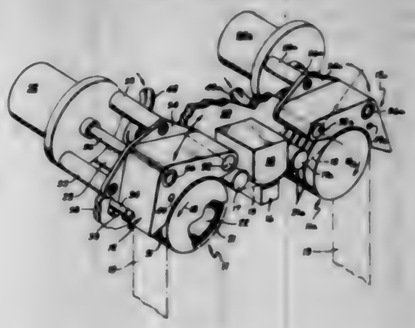
1. A carrier for practice golf balls, each of the type constituting a hollow plastic sphere with a plurality of openings passing through its surface, comprising: an elongated rod of diameter smaller than the diameter of said openings in said balls whereby said balls may be threaded onto said rod by passing said rod through substantially diametrically opposite openings in said balls; and separable base members on the ends of said rod, each of said base members having opposite upper and lower concave surfaces, the upper surfaces of said base members including central openings into which the ends of said rod extend respectively, said upper concave surfaces functioning as a tee for said balls when separated from said rod.

3,143,266
SELF-TIGHTENING ARTICLE CARRIER
Midori Imatake, 185 Hall St., Apt. 1610, Brooklyn 5, N.Y.
Filed Oct. 4, 1961, Ser. No. 142,897
4 Claims. (Cl. 224—52)

1. A self-tightening carrier for transporting a plurality of elongated articles comprising, in combination, a first support member for lifting the carrier comprising a first handle, a second support member usable selectively as a second handle for lifting the carrier and alternatively usable in conjunction with said first handle for self-tightening said carrier, a plurality of flexible bands of coextensive length each having opposite ends each secured to a respective support member, said bands having their opposite ends secured to said support members in an arrangement in which said ends are disposed in a spaced condition relative to each other and in the same sequence relative to said two support members said bands being disposed extending parallel to each other when said carrier is empty and in an extended condition, said bands having sufficient length and flexibility to each interlace between said elongated articles receivable extending transversely of said bands with alternate bands interlaced on the same sides of said articles so that said articles are interwoven therein, each of said support members having an opening therein for lifting said carrier, said second support member having means defining an elongated separate opening spaced from the other opening thereon, said first support member being dimensioned for insertion sequentially through said separate opening and said other opening of said second support member in position with said bands connected thereto disposed side-by-side transversely of said openings in said second support member and interlaced therein in the second support member, thereby to allow said second support member to move along said bands longitudinally thereof and cause said bands to tighten around said articles in response to the weight of articles interlaced in said bands when said carrier is lifted by said first support member in at least a partially loaded condition.

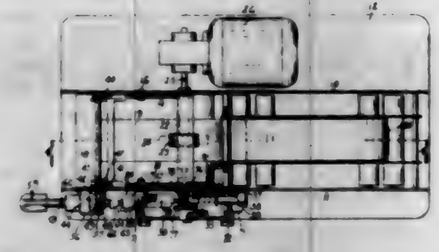


3,143,267
TAPE HANDLING DEVICE
Alexander R. Maxey, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 18, 1961, Ser. No. 124,843
12 Claims. (Cl. 226—95)



1. In a tape transport, apparatus for processing said tape, comprising: means for directing a first evenly and stably distributed pressurized fluid against a first surface of said tape so as to provide stable lubricated flotation of said tape with respect to said means; and means having a first operative position permitting said flotation and a second operative position for selectively and substantially instantaneously directing a second more highly pressurized fluid against the opposite side of said tape so as to cause collapse of said flotation and clamping of said tape against said first named means.

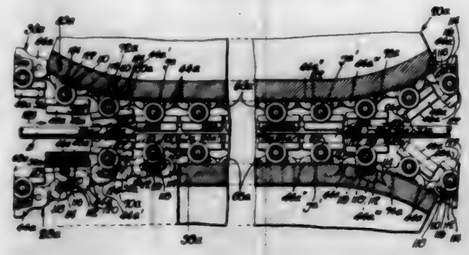
3,143,268
DELIVERY DEVICES
Joachim Marx, Wesseling, near Cologne (Rhine), Germany, assignor to Meto-Gesellschaft Kind & Sohne, Hirschhorn am Neckar, Germany
Filed Oct. 26, 1960, Ser. No. 65,053
4 Claims. (Cl. 226—136)



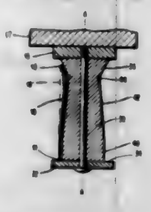
2. A tape-dispensing mechanism comprising a frame, a feed roller rotatably mounted thereon, means for driving said roller, a bodily movable presser roller mounted on the frame and which, when in a strip-feeding position, cooperates with the feed roller to feed a strip of tape therebetween, the presser roller being spring biased toward the feed roller, releasable means to latch the presser roller in a nonfeeding position, a control member bodily movable with the presser roller and mounted for shifting movement with respect to the last-mentioned roller in an axial direction, a control disk mounted on the frame for rotation and having on its periphery cam members circumferentially spaced apart and spaced apart axially of the disk, means operable on movement of the presser roller from the latched position to the strip-feeding position to couple said drive means to the control disk to drive the latter, and shift means movably mounted on the frame and operatively connected to said control member, the selected cam member being operative to cam said control member to a position wherein the presser roller occupies said nonfeeding position and is latched, thereby rendering the drive to said disk inoperative, said shift member provided with a cam portion cooperating with a movable part of said latching means to release the last-named means when said shift member is operated to shift said control member.

3,143,269
TRACTOR-TYPE STOCK FEED
Jan van Eldik, Bebington Wirral, Cheshire, England, assignor, by mesne assignments, to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Original application Nov. 29, 1961, Ser. No. 155,653, now Patent No. 3,103,306, dated Sept. 10, 1963. Divided and this application July 24, 1963, Ser. No. 305,908
5 Claims. (Cl. 226—172)

1. In a tractor-type stock feed, the combination of two sets of rotary sprockets; companion chains carried by said sprocket sets, respectively, and having adjacent runs to grip stock and feed it in a predetermined path; power means to drive certain sprockets for stock feed by said chain runs; and back tracks having feed sections for the respective chain runs and lead-on sections converging to and continuous with the respective feed sections, each chain having links with track roller means and stock-gripping surfaces with their opposite ends leading and trailing, respectively, in the chain drive direction, of which the surfaces of the links of at least one chain are provided by feed pads pivoted intermediate their ends on the respective links, and means urging said feed pads on their links into angular positions in which they reach the stock path with their trailing surface ends first and are yieldable from the stock path with their trailing surface ends.



3,143,270
SINGLE-EDGE GUIDE FOR MOVING TAPE
Neal B. Cohen, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 18, 1962, Ser. No. 203,286
9 Claims. (Cl. 226—196)

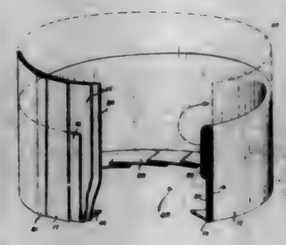


1. A tape guide having
(1) a reference surface oriented to establish the desired lateral position of one edge of the tape along the desired path,
(2) a first supporting surface spaced from said reference surface so as to support the other edge of said tape along an arcuate path having a particuplar radius from an axis normal to said reference surface, said first supporting surface being shaped to be inclined to and facing said reference surface so as to maintain said one edge of said tape against said reference surface,
(3) a second supporting surface adjacent to said reference surface and shaped so as to support said one tape edge along an arcuate path having substantially said particular radius.

3,143,271
COLLAPSIBLE PORTABLE GRANARY OR LIKE CONTAINER
Thomas G. Peterson, 1614 SW. Evans, Des Moines, Iowa
Filed June 1, 1962, Ser. No. 199,477
5 Claims. (Cl. 229—4.5)

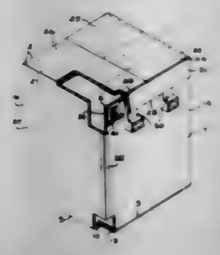
1. In a foldable container, comprising,
a cylindrical unit of bendable sheet material, said cylindrical unit consisting of a plurality of bendable tubes, each of said tubes being co-extensive in length with the exception of one inner tube which has an end portion extending beyond the adjacent end of the other tubes,

said end portion forming a radially inwardly extending ring portion on the inner bottom edge of said cylindrical unit, said ring portion consisting of a continuous series of lap folds along its entire circumference,



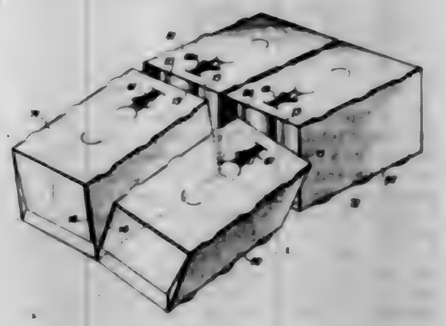
said inner tube having a length substantially equal to the length of said other tubes, said other tubes forming a top portion of said cylindrical unit and adapted to be bent along the top circumferential edge of said one tube.

3,143,272
TOP LIFTING CARTON
Harold E. Webb, Lyndon, and Jerry D. Smith, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Dec. 10, 1962, Ser. No. 243,371
2 Claims. (Cl. 229—37)



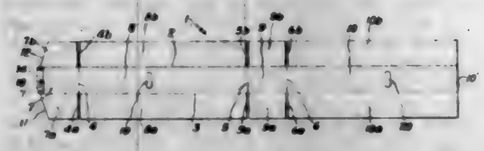
1. A carton formed of a single substantially rectangular sheet of fiber board, said sheet having first, second and third longitudinally extending substantially parallel sections; said first section being creased and secured to form the bottom; said second section being creased to form four side panels; said third section being transversely cut to form four flaps each joined to and substantially coextensive with the side panel along the upper edge of said side panel, each of said flaps having at least a part thereof bent in over said side panels into a plane substantially perpendicular thereto, said parts of said flaps being secured together to form a top, at least one of said flaps having two creases both formed substantially parallel to the junction line between said one flap and the one side panel to which it is joined so as to divide said one flap into three portions, the first of said portions adjacent said junction line being bent downwardly outside the side panel to which said one flap is joined, the second of said portions adjacent said first portion being bent upwardly and reaching approximately back to said junction line, the third of said portions constituting the part of said one flap which is bent in over said side panels into a plane substantially perpendicular thereto, said one side panel having openings formed therein adjacent its top corners, said first portion having openings formed therein adjacent its ends, said panel openings being respectively aligned with said first portion openings to form pairs of aligned openings; and pairs of rigid securing parts associated respectively with said pairs of aligned openings; the first part of each pair being positioned against the inner surface of said side panel, the second part of each pair being positioned against the outer surface of one of said flap portions, the two parts of each pair being secured to each other through one of said pairs of aligned openings, both parts of each pair being separate and formed of substantially flat material, one part of each pair having a projection formed to extend through the pair of aligned openings, the other part of each pair having a slot formed therein to receive said projection, said other part being formed so that said projection is locked in said slot by movement of one of said parts relative to the other.

3,143,273
MULTI-BOX LIKE CONTAINER
Warren J. Bunting, New York, N.Y., and John J. Goodrich and Maurice E. Blais, Rumford, R.I., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Apr. 4, 1962, Ser. No. 184,971
4 Claims. (Cl. 229—51)



1. A carton for canned goods comprising a bottom wall, a pair of side walls foldably connected to the edges of the bottom wall respectively, a pair of top walls foldably connected to the edges of the side walls respectively, a pair of center walls disposed in face to face relation and being foldably connected to the top walls and to the bottom wall respectively, a pair of spaced end walls foldably connected to the top walls, side walls and bottom wall respectively, said carton being provided with a longitudinally extending line of perforation extending from the top edge of one end wall, down said one end wall, along the bottom wall and up the other end wall to the top edge of the other end wall, said carton being provided with a transversely extending line of perforation extending from the bottom edge of one center wall, up said center wall across one of said top walls, down said adjacent side wall, across the bottom wall, up the other side wall, across the adjacent top wall and down the other center wall, whereby the so-formed carton for canned goods may be severed into four packages along said lines of perforations with each of the packages having one open end, the top and bottom walls of each package being provided with a substantially lyre-shaped, tongue-like cut adjacent the open end, the tongued portion of which being adapted to be medially folded, depressed inwardly and wedged between a pair of cans with one edge of said portion engaging the rim of one of said cans and the other edge of said portion engaging the rim of the other of said cans to resist longitudinal movement of the cans towards said open end of said package.

3,143,274
FLUORESCENT LAMP CARTON
Donald G. Maine, Chagrin Falls, Ohio, assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1962, Ser. No. 234,609
2 Claims. (Cl. 229—51)

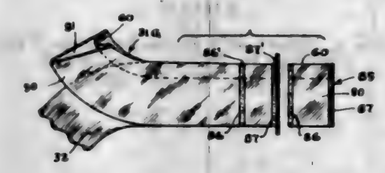


1. A rectangular shipping and dispensing carton for elongated fluorescent lamps, said carton being formed of corrugated fiberboard and comprising two side panels and two end panels joined together with at least one manufacturer's joint between one end panel and a side panel, said manufacturer's joint being formed by a piece of gummed tape having greater adhesion than cohesion, said tape being peelable to allow said one end panel to become hinged upon its opposite edge, the side panels having exterior flaps which are overlapped at the center only and glued together to form top and bottom walls of the carton, the end panels having interior flaps which are folded under the top and bottom walls, the flaps of said one end panel being cut back along their edges next to the manufacturer's joint to allow said one end panel to be folded into or out of the carton.

3,143,275
COLLAPSIBLE SHIPPING CARTON
Willis L. Diggs, Jacksonville, Fla., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Aug. 13, 1962, Ser. No. 216,570
2 Claims. (Cl. 229—52)

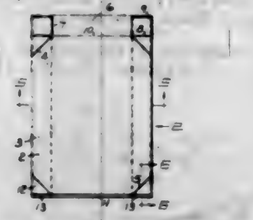
1. A box of paperboard or similar material, said box comprising oppositely disposed end walls interconnecting along opposite edges thereof with oppositely disposed side walls, a bottom wall structure attached along the bottom edges of said end and side walls, top wall panels integral with and connected to said side walls along fold lines, an upper support panel integral with the top edge of each end wall and folded to extend inwardly of said box in horizontal position, a reinforcing flap integral with and connected to the inward edge of each of said upper support panels and bent along such inward edges to extend downwardly and to terminate against the inner surfaces of said end walls, handgrips formed in said end walls, each said handgrip comprising a cut out segment folded inwardly of said box along a line of fold on said end walls, each said segment having a bottom panel extending horizontally from said line of fold to abut a respective reinforcing flap, each said segment further having an upwardly extending portion rising from its bottom panel and extending along in contact with said reinforcing flap and of sufficient length so that its top edge abuts the adjacent upper support panel.

3,143,276
CONTAINERS
Robert G. Nichols, 211 Skyline Drive, Barrington, Ill.
Filed June 11, 1963, Ser. No. 287,120
3 Claims. (Cl. 229—55)



1. A container comprising first and second different materials of which the first material consists of a tube of thermoplastic film presenting a closed bottom and a pair of panels and of which the second material is a sheet of material stiffer than the first material, said first material being juxtaposed on said sheet so that one of said panels is a bottom panel juxtaposed directly over said sheet to serve as a lining for the sheet and the other panel is juxtaposed directly over said bottom panel, said panels being bonded to said sheet along spaced parallel lines that are transverse to said closed bottom, and said panels being free of one another at the end of the tube opposite said closed bottom to afford an open mouth enabling the tube to be filled with goods to be contained between said panels, said bottom panel by virtue of its plasticity and lining nature enabling said sheet to be distorted by bulky goods inserted into said tube without buckling.

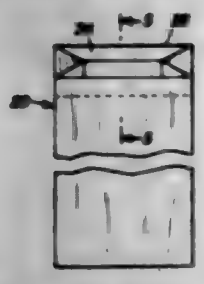
3,143,277
BAGS
Arthur E. La Fleur, 273 River St., Manistee, Mich.
Filed May 18, 1961, Ser. No. 111,015
2 Claims. (Cl. 229—57)



2. A bag made of tubular heat sealable plastic material having rectilinear side panels arranged in opposed relation provided with square corner portions, parallel gussets arranged in opposed relation along the side edges of said panels and extending inwardly therebetween from one corner to the other with said side panels each connecting one outer marginal edge of one gusset with one outer marginal edge of the other gusset, means sealing the lower edges of the panels to one another throughout their width from corner to corner and the lower opposed ends of each gusset to one another to provide a four-ply thickness at the corner portions of said bag, a diagonal seal at the upper end of said bag extending upwardly and inwardly across the full width of each side of each gusset directed obliquely across said square corners uniting the gusset with the side of the panel adjacent thereto, the diagonal seals of each gusset being superimposed one on the other, upwardly extending seals uniting the two panels and extending upwardly to the top edge of the bag from the upper extremity of each pair of diagonal superimposed seals, the upwardly extending seals being adapted to unite the panels and arranged to extend parallel to define a filler mouth, and parallel spaced seals located at the upper

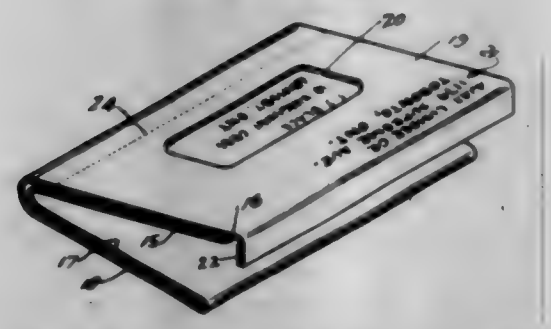
end of the bag to extend normal to the upwardly extending seals for uniting the upper ends of the gussets and panels at spaced apart locations.

3,143,278
BAG
Marie A. Hiebert, 4873 Trojan, San Diego, Calif.
Filed Nov. 16, 1962, Ser. No. 238,202
1 Claim. (Cl. 229—62)



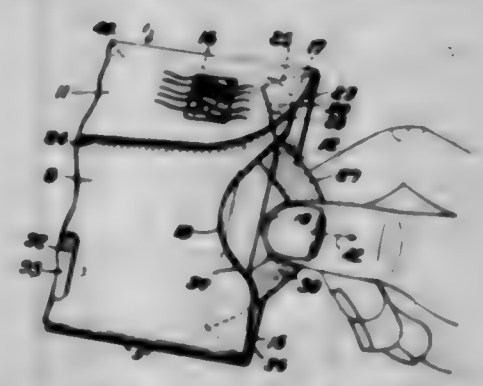
A flexible bag formed of water impervious material, said bag having a closed bottom and an open top, said top comprising an outer and an inner wall interconnected by an integral rounded edge portion, said inner wall comprising a continuous uniform width skirt, self-sealing adhesive of the type that will not adhere to the uncoated surfaces of the bag but will adhere to itself coated on the surface of the back side of said skirt and positioned between the inside of said outer wall and the outside of said inner wall, said adhesive coating being of substantially the same width as said skirt, whereby material inserted into said bag upon filling remains out of contact with said adhesive, said skirt being capable of being turned upwardly exposing said adhesive surface in facing relationship thereby causing sealing engagement when pressed, said bag prior to sealing, during and after filling, being shorter in overall height than after sealing.

3,143,279
COMBINED ENVELOPE AND STATEMENT FORM
Sydney J. Black, 10 Kingsway Crescent, Grimsby, Ontario, Canada
Filed Feb. 7, 1962, Ser. No. 171,716
1 Claim. (Cl. 229—73)



A combination envelope statement and return form comprising a rectangular sheet having transverse folding lines for folding said sheet into four substantially equal parts, one side of said sheet being divided by said folding lines into a customer's name and address part, two statement parts, and a window part, each of said parts being of equal width and the said marginal edges thereof being coextensive, the reverse side of said sheet being divided into a blank part, a reply address part, a blank part, and a window part, respectively, said customer's name and address part having folding lines spaced inwardly from and parallel to said marginal edges to provide narrow folding strips on the side edges thereof, one of said statement parts having narrow gummed strips on the side edges thereof, a transverse perforated line on said window part spaced from said statement part, a narrow gummed strip between said perforated line and statement part, and the other end of said window part having an extension, a folding line between the window part and said extension, said extension being gummed on the same side as said customer's name and address and said customer's name and address part is foldable over and superposed on said window part, and said parts are foldable and secured for mailing by said gummed extension, and wherein said statement parts are unsecured for unfolding and inspection by the recipient, whereupon said form is adaptable for remailing by removing said window part by severing, infolding said folding strips, and successively folding said customer's name and address part and one of said statement parts upon the other of said statement parts and securing the latter together by said gummed strips to form an envelope, the latter being adaptable to be finally closed and sealed by infolding said gummed strip preparatory to remailing said form.

3,143,280
QUICK OPENING ENVELOPE
Walter L. Hierstetner, Mission, Kans., assignor to Tension Envelope Corporation, a corporation of Delaware
Continuation of application Ser. No. 794,897, Feb. 24, 1959. This application Dec. 14, 1961, Ser. No. 159,383
6 Claims. (Cl. 229—85)



1. An envelope including generally rectangular panels of substantially the same size and having registering inner faces providing a pocket therebetween,

said panels being connected together along two of their edges for closing permanently two adjacent sides of the pocket,

one of the other edges of the panels providing therebetween an insert opening for inserting an enclosure into said pocket,

a closure flap on one edge of the insert opening,

gum extending along substantially the full length of the closure flap to permanently seal the insert opening closed when the envelope is used,

the remaining other edges of the envelope providing a removal opening for removal of the enclosure from said pocket after the closure flap is sealed,

an opening flap for closing the removal opening and having connection with one of the remaining edges that provide said removal opening and having a fold at said connection for bringing said opening flap into the pocket and between said panels,

a pull tab connected with the opening flap by a fold reverse to the fold of said opening flap for extending the pull tab outwardly in the direction of the fold at said connection and between the opening flap and the inner face of the panel that overlies said opening flap with said pull tab terminating near the edge of said overlying panel,

said pull tab being of a size relatively to the opening flap to leave an area of the opening flap in contact with the overlying panel and on the side of the insert opening,

and a spot of adhesive connecting said area of the opening flap to the inner face of said overlying panel for sealing the removal opening and closing the end of the insert opening prior to sealing of the closure flap.

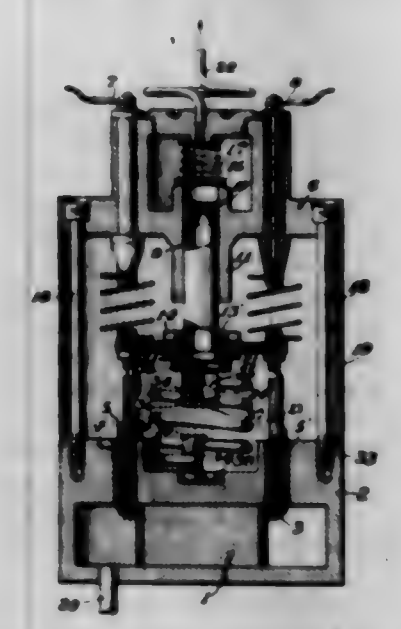
said opening flap having a cutting edge movable in the plane of said area and in a path across the adhesive spot for cutting through the seal provided by the adhesive spot upon pullout of the pull tab and to withdraw the opening flap after cutting through said seal.

3,143,281

ELECTROMAGNETIC OSCILLATING DRIVE, MORE PARTICULARLY FOR PLUNGER COMPRESSORS

Heinrich Dölz, Jahnstrasse 31, Seligenstadt, Germany

Filed July 10, 1962, Ser. No. 208,872
Claims priority, application Germany July 11, 1961
7 Claims. (Cl. 230—55)



1. A compressor arrangement comprising, in combination:

(*a*) a support member;

(*b*) a cylinder on said support member, said cylinder having an axis;

(*c*) a plunger member axially slidable in said cylinder;

(*d*) electromagnetic means for moving said plunger member in said cylinder in one axial direction;

(*e*) helical spring means coaxial with said cylinder for urging said plunger member to move in the other axial direction, said spring means having two axially spaced end portions; and

(*f*) two fastening means respectively fastening said end portions to said plunger member and to said support member,

(1) at least one of said fastening means including yieldably resilient means urging the associated end portion transversely of said axis toward a predetermined position of axial alignment with said cylinder.

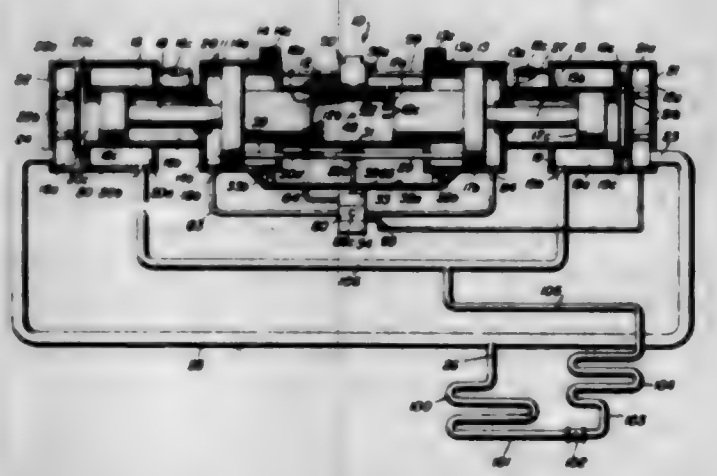
3,143,282

FREE-PISTON ENGINE COMPRESSOR

Rollin J. McCrory, Frederick A. Creswick, and Robert W. King, Columbus, Ohio, assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed June 18, 1962, Ser. No. 203,344
15 Claims. (Cl. 230—56)

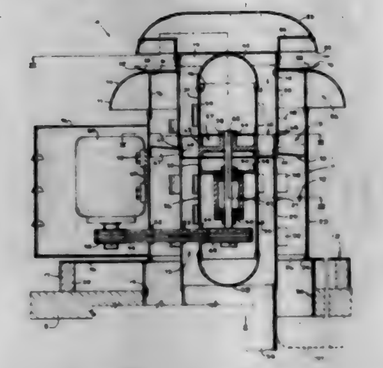
1. A two-stroke-cycle, free-piston internal combustion engine compressor comprising cylinder means, engine compressor free-piston means reciprocatively within said cylinder means and having faces respectively forming with said cylinder means a combustion chamber, a pneumatic bounce chamber having a vent, and a gaseous fluid compressing chamber; fuel input means in output communication with said combustion chamber and having substantially the same quantity output of fuel to said combustion chamber for each cycle of a series of cycles of the engine operation for said free-piston means to operate on substantially constant combustion power input for power stroke throughout said series of cycles of the engine, said free-piston means introducing on each power stroke an increase in volume of the combustion chamber and decrease in volumes of said pneumatic bounce chamber and compressing chamber respectively, and on each return stroke a decrease in volume of the combustion chamber and increase in volumes of said pneumatic bounce chamber and compressing chamber respectively; pressure-responsive gaseous fluid ingress and anti-backflow means in communication with said compressing chamber for fluid to enter said compressing chamber in response to return stroke of said free-piston means; pressure-responsive gaseous fluid egress and anti-backflow means in communication with said compressing chamber for fluid to be discharged from said compressing chamber in response to next power stroke of said free-piston means and whereupon said piston means on the power stroke transmits energy to storage in fluid in said pneumatic bounce chamber for exertion to the next return stroke of said free-piston means; and bounce control means for the engine to maintain substantially constant inner dead position of said piston means in said series of cycles of the engine while length of stroke of said piston means



varies upon variation in load being encountered by said piston means through said pressure responsive gaseous fluid egress and anti-backflow means, said bounce control means including vent control means operatively communicating with said bounce chamber vent for said vent to be opened and closed, said vent control means comprising synchronously movable means synchronously operatively interconnected with said piston means, for moving in synchronism with said piston means in cycles of said series of cycles of the engine through positions wherein said vent is open and to positions for said vent and pneumatic fluid having reference pressure in said bounce chamber to be closed for said piston means thereafter to work against said fluid in said bounce chamber in power stroke, and said vent control means further comprising movable load responsive means communicating with said compressing chamber, for taking any of a series of positions relative to said synchronously movable means in response to load encountered by said piston means through said pressure-responsive gaseous fluid egress and anti-backflow means, and communicating with said synchronously movable means for said vent to be opened, and for closing said vent and pneumatic fluid at said reference pressure in said bounce chamber on movement of said synchronously movable means to one of said positions of said synchronously movable means wherein said vent is to be closed consistent with varying the mass of pneumatic fluid in said bounce chamber inversely with

load encountered by said piston means through said pressure-responsive egress and anti-backflow means, for said piston means thereafter to work in power stroke against said mass of fluid.

3,143,283
FAN EQUIPMENT
Sewell H. Downs, Kalamazoo, Mich., assignor to Clarage Fan Company, Kalamazoo, Mich., a corporation of Michigan
Filed July 27, 1961, Ser. No. 127,233
3 Claims. (Cl. 230—121)



1. A power ventilator for effecting the simultaneous flow of gas in opposite parallel directions through two adjacent paths therein, comprising:

a casing having a substantially circular cross section and being open at the axial ends thereof;

an intermediate, substantially cylindrical wall structure coaxially disposed within and spaced from said casing to define a first annular passageway extending axially of said casing, said wall structure including first and second, axially spaced wall members;

an inner, substantially cylindrical wall structure disposed coaxially within and radially spaced from the intermediate wall structure to define therewith a second annular passageway extending axially of said intermediate structure and being independent of said first passageway, said inner wall structure including first and second axially spaced wall members;

an axial flow impeller disposed between the first and second wall members of said inner wall structure and of said intermediate wall structure, said impeller having a first set of blades located within said second annular passageway, said blades being arranged and shaped to effect a flow of gas through said second annular passageway in one axial direction, said impeller having a second set of blades located within said first annular passageway, said second set of blades being arranged and shaped to effect the flow of gas through said first annular passageway in the opposite axial direction, said second set of blades being of greater radial extent than, and having about one half of the axial extent of, said first set of blades, and said first set of blades being capable of developing during rotation of said impeller at substantially normal operating speed, a higher total pressure than the total pressure developed by the second set of blades; and

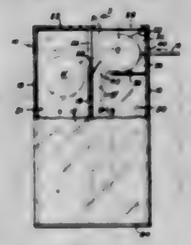
means supporting said impeller for rotation coaxially within said casing whereby the gas flow is effected, said support means being disposed within and secured to said inner wall structure.

3,143,284
RESILIENT MOUNTING FOR MOTOR-FAN UNIT
Anders Folke Napoleon Lindsjo and Jean Ivan Ragnar Boivie, Stockholm, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 5, 1961, Ser. No. 102,926
8 Claims. (Cl. 230—235)



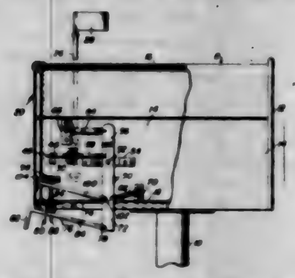
1. In apparatus of the class described, the combination of a first member providing a casing, a second member comprising a unit having a driven rotatable element, said members having a gap therebetween when said second member is supported within said first member, and means for supporting said second member within said first member, said supporting means comprising ring-shaped structure which includes a circular portion of resilient elastomeric material mounted on one of said members and at least eight projections distributed about and flexible with respect to said circular portion, said projections extending axially of said members and radially across the gap from said one member to a curved peripheral surface of said other member, the radial distance of said projections between said members being greater than the thickness of said projections, said projections being in frictional engagement with said other member only at the curved peripheral surface thereof and otherwise free and unconstrained, and said ring-shaped structure being so constructed and formed that when said second member is in equilibrium it is pre-stressed and said projections and said circular portion are in first positions relative to one another, and when said second member is subjected to torque and is unbalanced said projections and said circular portion flex from the first relative positions to second relative positions to enable said second member to twist about the axis of rotation of said driven element without significant movement in an axial direction lengthwise of and in a radial direction transverse to the axis of rotation of said driven element.

3,143,285
ENCOURAGEMENT SAVINGS BANK
James F. Fulton, Mamaroneck, N.Y., assignor to Wilbur W. Randall, West Hartford, Conn.
Filed May 13, 1963, Ser. No. 279,970
8 Claims. (Cl. 232—5)



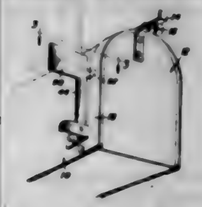
6. A coin bank for two savers who must match deposits coin-for-coin having in combination; two adjacent transparent tubes each sized to stack coins flatwise and having top and bottom walls and a common intermediate wall, a coin passage through said intermediate wall, a foyer in the upper end of one of said tubes, a first slot in one outer wall of said foyer, fixed means to support a coin in said foyer after entry through said slot, a second slot in said foyer in a wall opposite said coin passage and arranged to receive a coin to push the first coin through the passage into the other tube, and means to direct said second coin from the foyer into the tube beneath it.

3,143,286
AUTOMATIC MAILBOX DOOR ACTUATING MEANS AND SIGNAL
Dewey S. Edge, Sr., P.O. Box 170, Bagdad, Fla., assignor of twelve and one-half percent to Emory Byrd, Milton, Fla.
Filed Apr. 10, 1962, Ser. No. 186,488
11 Claims. (Cl. 232—35)



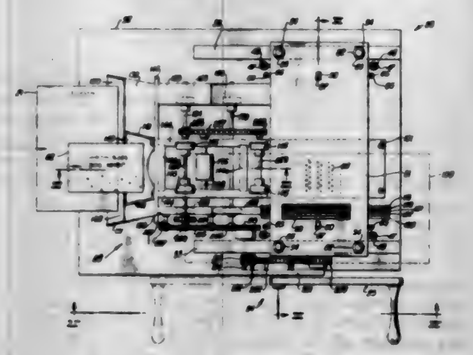
1. In combination, a conventional-type rural mailbox open at its front end and provided at said front end with a hingedly mounted closing door, an exterior signalling flag having a vertically disposed staff manually liftable to a flag elevating position and gravity lowerable to a lowered flag position, guide means for said staff fixed on an exterior of one vertical side wall of said mailbox, friction holding means operatively mounted on said side wall and projecting outwardly therefrom and normally in friction-retaining but trippable engagement with said staff and releasable when said door is opened, and manually actuated door opening, closing and friction releasing means comprising a spring-loaded trip lever pivotally mounted in said mailbox and operatively connected to said friction holding means, an operating linking connection between said lever and door including a door-operating push-pull link connected at one end to said door and at the other end to said lever, and accessibly mounted handle means slidingly mounted and operatively connected to said lever.

3,143,287
MAILBOX SIGNAL DEVICE
Mitchell O. Holt, Bakersfield, Calif.
(352 S. Palm Drive, Beverly Hills, Calif.)
Filed Sept. 21, 1962, Ser. No. 225,345
2 Claims. (Cl. 232—35)



2. In combination with a mailbox having at least one substantially vertical side wall and a forwardly swinging front door including a rearwardly extending flange thereon overlapping the exterior of said side wall, a signal device for automatically indicating the opening of said door, said signal device consisting of an elongated signal having a laterally extending flag portion at one end thereof, and a bracket means mounting said signal on said side wall, said bracket means consisting of at least one vertical elongated panel integrally connected along its lower edge with a horizontal bottom panel, and a mounting plate rigid with and projecting laterally from the inner end of the vertical panel, said mounting plate being engaged flush against said side wall with the elongated panel extending perpendicularly outward from the side wall slightly to the rear of the door flange, fastener means fixing the mounting plate, and consequently the bracket means, to said side wall, said elongated signal having the other end thereof orientated adjacent the inner end of the vertical panel, means pivotally fixing said other end of the signal to the vertical panel for movement of the signal in a vertical plane parallel to said vertical panel, said signal being movable between a first vertical position perpendicular to the bottom panel and parallel and adjacent to the mailbox side wall, and a second position parallel to the bottom panel and perpendicular to the mailbox side wall, said signal in said second position contacting and being supported by said bottom panel, said signal, when in said first position, having the flag portion thereof projecting laterally outward perpendicular to the mailbox side wall so as to overbalance the signal outwardly for inducing gravitational movement of the signal to the second position, and a tab on said signal projecting laterally therefrom for engagement between the side wall and the door flange when the signal is in said first position and the door is closed, so as to prevent movement of the signal to said second position until the door is swung open and the flange moved away from the tab.

3,143,288
SOURCE PUNCHING DEVICE
Donald R. Biegel, North Hollywood, Calif., assignor, by mesne assignments, to Dashew Business Machines, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 3, 1961, Ser. No. 80,416
24 Claims. (Cl. 234—45)

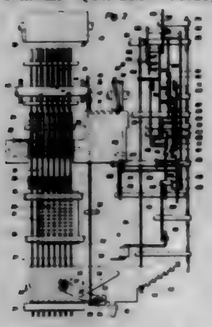


1. In a device for transferring information from a card to a sales slip, the combination of: a frame means including a plurality of spaced upstanding posts; punch means carried by the frame means and including a perforated female plate retained against movement on said posts, a perforated male plate slideably movable on said posts and carried in spaced relation to said female plate, perforations in said male plate and female plate being aligned; a punch strip plate slideably carried on said posts and spaced above said male plate, a plurality of punch elements supported for limited movement by said

punch strip plate and extending into aligned perforations on said male plate, friction means carried by said male plate for frictional engagement with each punch element for holding the punch elements against movement; means responsive to information carried by a card and including a movable sensing pin aligned with each punch element; and actuating means on the frame means and including an actuating shaft extending beneath the female plate, reset shaft means in cooperable engagement with said punch means and said information-responsive means, and cam means interconnecting said actuating shaft and said reset shaft means; and means for simultaneously positioning an information-bearing card in cooperable relation to said responsive means and a sales slip in position to be punched by said punch means.

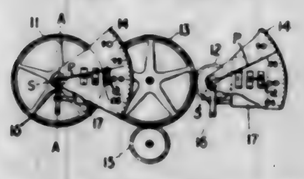
12. In combination with a punch machine having punch members movable between punch and non-punch position for transferring information from a data bearing card to a record means, the provision of: means comprising resilient frictional material supported in frictional gripping engagement with said punch members between their ends.

3,143,289
CALCULATING MACHINE FOR DIVISION CALCULATIONS
Helmut Langenberger, Niederstotzingen, Wurttemberg, Germany, assignor to Walter Buromaschinen Gesellschaft m.b.H., Essen, Germany, a firm
Filed Nov. 22, 1961, Ser. No. 154,236
12 Claims. (Cl. 235—60.15)



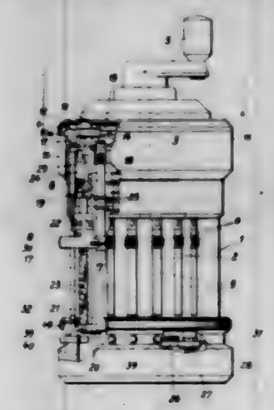
1. In a calculating machine for division calculations, a totalizer including a plurality of ordinally arranged numeral wheels, a digit setting mechanism for setting the dividend and the divisor, a printing mechanism comprising digit type carriers and decimal point type carriers, an actuating mechanism comprising denominationally arranged and longitudinally movable actuating rack bars attached to said digit type carriers, means for transmitting the dividend or divisor set up in said setting mechanism to said actuating rack bars and said type carriers, means for transmitting the dividend and divisor into said totalizer, a revolution counter for receiving the quotient by counting the number of machine operations in each shifting position of the totalizer and being engageable with said actuating rack bars, a shift unit for denominationally shifting the totalizer to the right or to the left, respectively, comprising a clutch for shifting the totalizer to the left, and a second clutch for shifting the totalizer to the right, a setting means for pre-determining the ordinal position of the decimal point in the quotient to be calculated for controlling the number of shift steps of the totalizer to the right, according to the adjustment of the setting means for the decimal point, and means for forming and automatically locating the quotient in the revolution counter in an ordinal position corresponding to the adjustment of said setting means for pre-determining the decimal point.

3,143,290
ROTARY CONVERTER
Ludomir Dunikowicz, Wembley Park, and Leonard Stanislaw Dunikowicz, Ruislip, England, assignors to Hydroforce Limited, London, England
Filed Apr. 17, 1961, Ser. No. 103,621
Claims priority, application Great Britain Apr. 21, 1960
2 Claims. (Cl. 235—61)



1. An apparatus for converting numeral values from one unit system to another unit system, comprising a value registering means for each unit system, each value registering means including a revolution counter having at least one number wheel, a dial having a linear scale thereon and a pointer, a gear for each registering means, a shaft on which each gear is mounted, a further gear meshing with each of said first named gears for driving said gears at a predetermined ratio corresponding to the relationship between the systems, continuous carry mechanism between the gears, each pointer being secured to the shaft and overlying the dial, and gear means between each shaft and each revolution counter for driving said at least one number wheel in a direction opposite to the direction of movement of the pointer so that when the pointer approaches the zero position of the linear scale, the number wheel will be overlaid by the pointer with the correct reading being generally underneath the pointer in the vicinity of the zero position.

3,143,291
MINIATURE-TYPE CALCULATING MACHINES
Elmar Maier, Feldkirch, Vorarlberg, Austria (Landstrasse 139, Vaduz-Muhlebois, Principality of Liechtenstein)
Filed Dec. 4, 1961, Ser. No. 156,647
Claims priority, application Austria Dec. 5, 1960
8 Claims. (Cl. 235—63)



1. In a calculator, in combination;
a plurality of setting shafts;
a plurality of handles mounted on said setting shafts, respectively, for movement along the same, and including means for turning said setting shafts, respectively, between a plurality of digital positions including a cleared zero position;
means biasing said handles to move to an end position at the end of the respective setting shaft for turning said setting shafts to said zero positions;
a plurality of locking means for locking each handle to the respective setting shaft for locking the latter in each digital position thereof, said locking means being respectively mounted on said handles for movement with the same along said setting shafts, and also for movement transversely to the respective setting shaft between a locking position engaging the respective setting shaft, and a releasing position;
and a manually operated clearing means operatively connected to all said locking means and being movable from a normal inoperative position to a clearing position for moving all said locking means to said releasing positions of the same whereby said handles are released and are moved by said biasing means to said end position whereby said setting shafts are turned to said zero positions.

3,143,292
AIR DISTRIBUTING UNITS
Richard A. Church, North Syracuse, and Boris W. Haritonoff, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 30, 1959, Ser. No. 823,907
7 Claims. (Cl. 236—49)



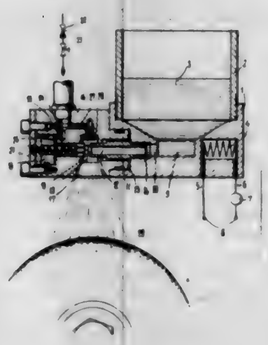
1. In an air distributing unit for discharging conditioned air into an area to be treated, the combination of a plenum chamber, means for supplying air at a substantially predetermined pressure to said plenum chamber, means defining an outlet from said plenum chamber into the area to be treated, a damper arrangement associated with said outlet, said damper arrangement including a control chamber, a bladder member enveloping at least a portion of the wall of the control chamber adjacent the outlet, means for supplying a pressure less than plenum chamber pressure to the control chamber, means for supplying air from the control chamber to the space between the bladder member and the wall of the control chamber and means responsive to variation in a predetermined air pressure to vary control chamber pressure to actuate the damper arrangement.

3,143,293
VARIABLE-AREA NOZZLE
Frank V. Purse, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 13, 1961, Ser. No. 102,677
6 Claims. (Cl. 239—75)



1. A nozzle comprising a hollow frusto-conical member terminating in an opening of reduced cross-section, the interior surface of said frusto-conical member which is adjacent to said opening being formed into a regular pyramidal frustum of n flat surfaces where n is an integer greater than 2, a hollow open-ended regular pyramidal frustum insert member of n sides defined by relatively thin flat lateral walls whose longitudinal edges lie in abutting contact and having a taper angle substantially equal to that of said first-mentioned frustum, the open major base of said insert member having a greater perimeter than said opening and the open minor base of said insert member having a smaller perimeter than said opening and at least two adjacent longitudinal edges of said insert member being continuously slit over at least a portion of their length including the minor base portion of the lateral wall defined by said edges, said insert member being fitted within said frust-conical member and protruding through the opening thereof so that the major base portion of each lateral wall of the insert member is in uniform and co-extensive contact with a corresponding flat surface of the frusto-conical member, the lateral wall of said insert member which is defined by said slit edges forming a resilient cantiliver deflection member free to deflect outwardly from the longitudinal axis of said insert member and independently of the other lateral walls.

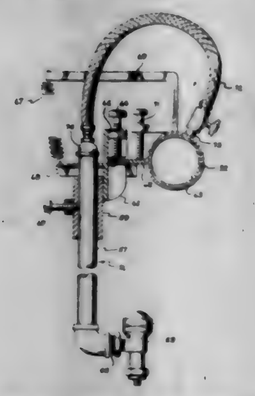
3,143,294
APPARATUS FOR THE APPLICATION OF WAX ONTO GRINDING, POLISHING WHEELS AND THE LIKE
Johan Gunnar Lundin, Nybohovsbacken 103, Stockholm, Sweden, and Per Olov Sivert Penngård, Sandfjardsgatan 120, Johanneshov, Sweden
Filed Oct. 26, 1961, Ser. No. 147,788
Claims priority, application Sweden Aug. 4, 1961
1 Claim. (Cl. 239—135)



In an apparatus for the application of grinding and polishing wax compositions onto grinding and polishing tools and the like, a jet nozzle for supplying gas under pressure therethrough from a source of gas pressure, an expansion chamber adjacent said jet nozzle and in communication therewith, said expansion chamber being substantially larger in diameter than the diameter of said nozzle, a thermostatically heated container for holding solid wax composition therein and heating it into a liquified state, a duct connected to said container at one end, the other end of said duct extending within said expansion chamber a substantial distance and being disposed substantially at right angles with the main axis of said expansion chamber so as to supply wax composition to said chamber at a right angle with respect to the direction of flow of said jet of gas under pressure, a cylinder disposed in alignment with said other end of said duct,

piston means in said cylinder, a circular valve disc carried by the end of said piston adjacent said another duct end and adapted to shut off flow of wax through said duct, said valve disc being disposed within said expansion chamber, spring means in said cylinder for normally holding said valve disc in a seated position, conduit means in communication with said cylinder on one side of said piston means for communicating with a source of pressure to supply gas pressure to move said piston means and valve disc to an unseated position, valve means for controlling the flow of gas under pressure to said jet nozzle and through said conduit means to said cylinder for regulating the unseating of said valve disc, and a diverging gas-wax mixing chamber adjacent to and communicating with said expansion chamber for discharging a dispersion of gas and wax from said apparatus.

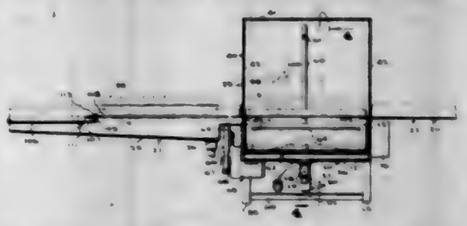
3,143,295
AGRICULTURAL SPRAY APPARATUS
Elsie E. Booker, P.O. Box 162, Eloy, Ariz.
Filed June 21, 1960, Ser. No. 37,753
4 Claims. (Cl. 239—142)



1. In unit spray apparatus, a supply tank, a horizontal distribution pipe supported at the rear of the supply tank, a plurality of assemblies, each assembly comprising a ring rotatably carried by the distribution pipe, a horizontal plate fixed on said ring, a bracket horizontally adjustably supported on said ring, a vertical spray supply pipe carried by said bracket with a spray head on the bottom end and a flexible hose connection to the distribution pipe at the upper end, and spring means imparting rotatory movement to each individual assembly to bias each such assembly to a substantially vertical position, each said assembly adapted to rotate against its said spring bias when a ground obstruction is encountered.

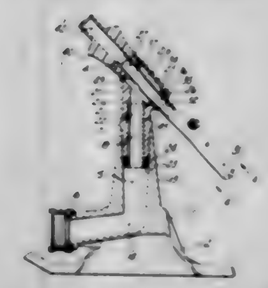
3,143,296
DISHWASHER IMPELLER ASSEMBLY HAVING A CHANGE OF PACE MECHANISM THEREFOR
Byron T. Wall, Flushing, N.Y., assignor, by mesne assignments, to New Jersey Bank and Trust Company, Paterson, N.J., a New Jersey banking corporation
Filed Nov. 16, 1962, Ser. No. 238,162
6 Claims. (Cl. 239—242)

6. In a dishwasher, a housing provided with diametrically opposed slots therein, an impeller revolving in said housing, said housing rotating slowly in a controlled sweeping motion directing fluid thrown off the impeller in a predetermined direction, a change of pace mechanism for said impeller for minimizing ineffective periods of direction of flow of fluid from said impeller, said change of pace mechanism being operatively connected to said impeller and housing and including interengaging gears operatively connected to said drive shaft, cams operatively connected to said gears, and arms operatively connected



to said cams whereby the arms are actuated by said cams, and whereby the speed of rotation of the housing is periodically varied.

3,143,297
ROTARY LAWN SPRINKLER INCLUDING SPRAY AREA ADJUSTING MEANS
Ivar Jepson, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 11, 1963, Ser. No. 315,522
11 Claims. (Cl. 239—251)

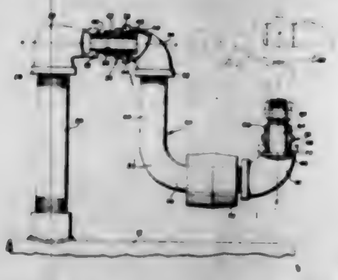


1. A spray head for use with a rotary sprinkler of the type for watering a lawn comprising a hollow support member defining a chamber therein and disposed for rotation about a principal axis, means for conveying water under pressure into said chamber, a single elongated spray arm extending from said member at an angle less than 90° from said principal axis, said arm being hollow and in fluid communication with said chamber, plurality of discharge orifices defined in said arm and spaced in substantially longitudinal alignment whereby the fluid forced through said orifices can wet a given lawn area, an adjustable control knob disposed on the opposite side of said member from said arm, said knob and arm being mounted on said support member for rotation about a spray axis defined by the longitudinal axis of said arm, and said knob and arm being connected together so that rotation of said knob causes a corresponding rotation of said arm for varying the diameter of lawn area to be wetted, and means counterbalancing the centrifugal force of said arm when the head is rotated about the principal axis.

3,143,298
MOVABLE FIELD SPRINKLER
William J. Jones, Palo Alto, Calif., assignor to Hiller Engineering Corporation, San Jose, Calif., a corporation of California
Filed June 12, 1961, Ser. No. 116,404
1 Claim. (Cl. 239—264)

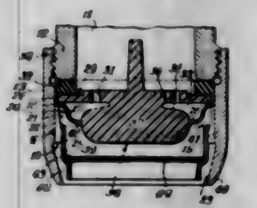
A sprinkler head support adapted for attachment to a riser of a lateral sprinkler line comprising an elbow joint adapted for connection to said riser; a horizontally disposed swivel joint connected to said elbow joint; a pipe

structure of U-shaped conformation having a horizontally disposed center leg and opposite vertical legs, one of said vertical legs being separable from said horizontal leg; a cylindrical weighting sleeve surrounding said center leg and adapted to be positioned thereon upon separation of



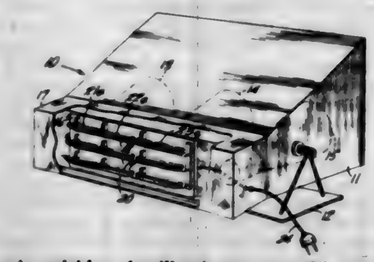
said separable vertical leg from said center leg and held in position by the vertical legs of the assembled U-shaped structure; means for connecting one of said vertical legs to said swivel joint; and means for supporting a sprinkler head on the other of said vertical legs.

3,143,299
AERATING DEVICE
Frank E. Benjamin, Chicago Heights, Ill., assignor to Wrightway Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 14, 1963, Ser. No. 302,046
6 Claims. (Cl. 239—427)



1. In an aerating device having a tubular casing with upper and lower ends defining a fluid inlet and outlet, respectively, an apertured disk extending across said casing adjacent said inlet, and a breakup and mixing body depending from said disk; the improvement comprising a plurality of axially extending ribs projecting radially inwardly from the inner surface of said casing and spaced circumferentially around the interior of said casing whereby to provide a plurality of axially extending grooves between said ribs, said ribs having lower ends terminating substantially above said outlet, and an imperforate tubular partition supported concentrically within said casing for discharging a central aerated stream from said outlet, said tubular partition having an upper end portion of uniform diameter engaging the inner edges of said ribs, said partition also having a lower end portion extending below said lower ends of said ribs and terminating adjacent said outlet in concentric inwardly spaced relation from the lower end of said casing whereby to define an enlarged annular air inlet zone therebetween for the entry of air upwardly in countercurrent relation with respect to the effluent aerated stream from said tubular partition, and said grooves communicating at their lower ends with said air inlet zone for the passage of air upwardly through said grooves between said casing and said upper end portion of said tubular partition into the space around said body and below said disk.

3,143,300
VARIABLE COLOR ILLUMINATOR
Frederick L. Way, Whitestone, N.Y., assignor to Mobilcolor, Inc., New York, N.Y.
Continuation of application Ser. No. 125,854, July 21, 1961. This application Mar. 4, 1963, Ser. No. 263,378
9 Claims. (Cl. 240—3.1)



1. A variable color illuminator comprising a plurality of different colored electric light sources, resistance means connected in series with each light source, each of said resistance means comprising a plurality of heat producing resistance elements, and a plurality of normally open thermal switch means each disposed in close proximity to and connected across a corresponding resistance element, each of said switch means having a thermal response characteristic in conjunction with the heat generated by the corresponding resistance element which differs from the thermal response characteristic of the other switch means associated with the same resistance means so that said switch means will close at random time intervals in direct response to heat generated by the element.

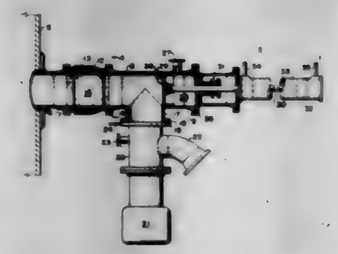
3,143,301
LAMP ASSEMBLY WITH RESILIENT MOUNTING FOR WEDGE BASE BULBS
Wayne Trautner, Overland Park, and Don R. Armacost, Mission Hills, Kans., assignors to Peterson Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 5, 1961, Ser. No. 143,111
8 Claims. (Cl. 240—90)



8. In a lamp assembly, a housing having a back with a flat inner surface, a lens mounted on said housing to define a chamber therein, a lamp socket in said chamber to receive and support a wedge base bulb having a transparent glass envelope surrounding a filament and a glass base portion extending from said envelope, said base having an axial central shaft and opposite laterally extending wings with substantially parallel opposed faces and transverse grooves in said faces extending from said central shaft, said bulb having two terminal wires extending from the filament through the base and turned toward the envelope and lying along faces of the wings and grooves with one wire on one face of one wing and the other wire on the opposite face of the other wing, said lamp socket having an electric contact retaining body member of non-conducting resilient material and elastic throughout, said body member having opposed surfaces, said body member having a cavity of generally

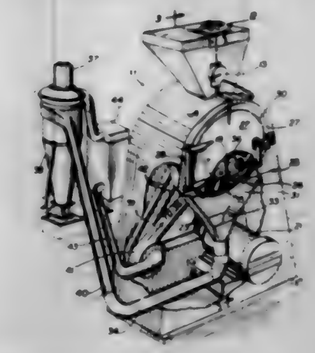
elongate cross section opening at one opposed surface and terminating in a bottom portion in spaced relation to the other opposed surface, said cavity having a transverse cross sectional shape substantially corresponding to the cross sectional shape of the bulb base and slightly smaller whereby the body member portions defining the cavity resiliently engage the faces of the bulb base wings and central shaft, spaced resilient metal contacts embedded in the body member in said cavity engaging bulb terminals on a bulb base positioned in said cavity, means on said contacts engaging the transverse groove in the bulb base to retain the bulb base therein, said means being spaced from said one surface of the body member whereby the adjacent portion of the envelope is resiliently engaged by the body member at said one surface and the bulb base end remote from said envelope engages the bottom portion of said cavity, a pair of spaced apart cavities each equally spaced in said body member from the first-named cavity and extending substantially parallel thereto, said contacts being substantially U-shaped with spaced leg portions resiliently engaging opposed faces of the wings of the bulb base, an extension on one of the legs of each of said contacts, conductor receiving members on said extensions and positioned in the respective spaced apart cavities, each of said cavities having enlarged portions spaced from said one surface of the body member and defining inwardly facing shoulders, means on one of the contact leg members and the conductor receiving members engaging said shoulders to retain the contacts in the body member, laterally extending flanges integral with said body member, and means securing said flanges relative to said housing to support said body member in said chamber.

3,143,302
CONDUIT WITH CLEAN-OUT DEVICE
George J. Carlson, Berkeley, Frank A. Cleland, Oakland, and Walter Doug, San Francisco, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 7, 1961, Ser. No. 115,366
9 Claims. (Cl. 241—46)



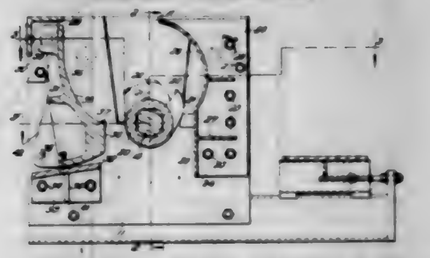
3. A duct for the flow of liquid which contains constituents that are adherent to walls, said duct comprising: a substantially horizontal conduit of uniform cross section having an open inlet end; a lateral discharge pipe communicating with the conduit at an intermediate part thereof to provide a terminal chamber in the conduit beyond the lateral pipe; movable means forming an overflow weir which extends upwards from the conduit floor at a location between said inlet end and said lateral discharge pipe; a scraper in peripheral engagement with the wall of the conduit of size to be contained within said terminal chamber, means for reciprocating said scraper through said conduit between said terminal chamber and said inlet end, said weir means being movable to a retracted position permitting passage of the scraper past said weir location; and, connected to said lateral discharge pipe, a disintegrator having confining walls, an intake duct, and an outlet pipe.

3,143,303
HIGH EFFICIENCY HAMMER MILL
Leslie Palyi, Toronto, Ontario, Canada, assignor to Universal Milling and Machinery Limited, Ottawa, Ontario, Canada, a corporation of Ontario, Canada
Filed Dec. 1, 1960, Ser. No. 72,893
Claims priority, application Canada Nov. 4, 1960
16 Claims. (Cl. 241—51)



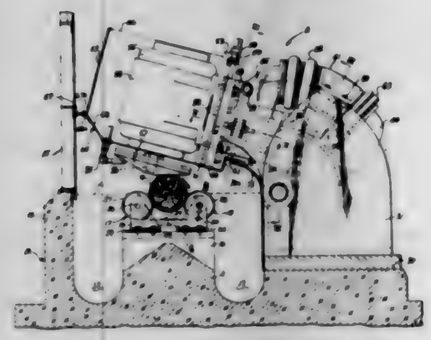
1. In an impact disintegrator apparatus, a rotor journalled for rotation in a frame about an axis and provided with a plurality of circumferentially and axially spaced striking blades pivotally supported in the rotor, a cylindriform apertured sizing screen coaxial with the rotor axis surrounding the rotor and blades, spaced end walls supporting the marginal edges of the screen to enclose a comminuting chamber therebetween, an end wall having an infeeding aperture disposed for feeding material into the chamber at a point intermediate the rotor axis and the outer ends of the blades, and providing a nozzle opening spaced from the infeeding aperture for injecting fluid therethrough tangentially in the direction of blade motion into the comminuting chamber, means to provide a reduced pressure about the exterior of the screen, means supplying said nozzle with a gaseous substance at a pressure greater than the pressure head due to a gas velocity equal to the peripheral blade velocity whereby to produce a jet impinging on a portion of said screen, and an apertured abrading member secured upon the inner surface of said sizing screen and extending in the direction of blade motion from a point adjacent said infeeding aperture over an arc in the range from about 120 to about 300 degrees.

3,143,304
CRUSHING APPARATUS
Harry Spragg, Chesterfield, England, assignor to Markham & Company Limited, Chesterfield, England, a British company
Filed Aug. 15, 1960, Ser. No. 49,492
3 Claims. (Cl. 241—186)



1. An apparatus for shearing of rock comprising a rotor rotable about a substantially horizontal axis at least one shearing member projecting from the periphery thereof and which during rotation sweeps past another shearing member or anvil fixed to a fixed part of the apparatus and a guide surface extending upwardly from the latter shearing member so as to guide the material to be sheared into the path of movement of the movable shearing member characterised in that the guide plate extending above the anvil is concavely curved about axes parallel to the axis of rotation to provide an involute curve extending upwardly from the anvil and tilted away from the rotor at an angle of between 10° and 15° from a center point located adjacent the anvil edge.

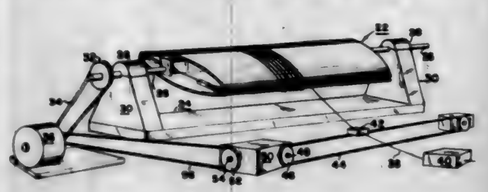
3,143,305
HELICAL PULP GRINDER
Loyal H. Hess and Lloyd Hornbostel, Beloit, Wis., assignors to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 28, 1959, Ser. No. 849,349
10 Claims. (Cl. 241—279)



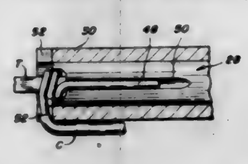
1. Apparatus for grinding logs to produce pulp therefrom, comprising conveyor means for supporting the logs during travel along said conveyor, a plurality of individually operable grinding surfaces to abrade the logs at spaced locations thereon and while said logs are supported by the conveyor means, means to drivingly support each of the grinding surfaces independently of the other grinding surfaces, stationary means pivotally mounting the drive support means, and pneumatic means connected to the drive support means and to the stationary means to individually swingably move said support means in an arcuate path downwardly and upwardly to locate the grinding surface on said support means into and out of engagement with the logs.

3,143,306
PANEL MAKING APPARATUS
Maximilian J. Dijkmans, New York, N.Y., and Leroy Magers, Jr., and Raymond S. Beiner, Hillside, N.J., assignors to Preload Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1960, Ser. No. 49,381
5 Claims. (Cl. 242—7)

1. Apparatus for making modular filament wound reinforced plastic panels of various radii of curvature, said apparatus comprising a support frame, a driven shaft supported on said frame, a flexible surface mandrel having longitudinal and transverse sides, said mandrel being mounted on the shaft, said longitudinal sides being substantially parallel to the shaft and said transverse sides lying in a plane substantially perpendicular to the shaft, adjustable position means within the mandrel for curving the flexible surface of the mandrel to a selected radius of curvature about the axis of the shaft whereby said surface mandrel is curved in the plane of the transverse sides, said adjustable means connected to the flexible surface of the mandrel at the longitudinal sides of the mandrel and means for rotating said shaft whereby filament may be placed on said mandrel by said rotation.



3,143,307
CONDUCTOR WRAPPING BIT
William J. Baker, Reed City, Mich., assignor to Gardner-Denver Company, a corporation of Delaware
Filed Oct. 31, 1962, Ser. No. 234,433
5 Claims. (Cl. 242—7)

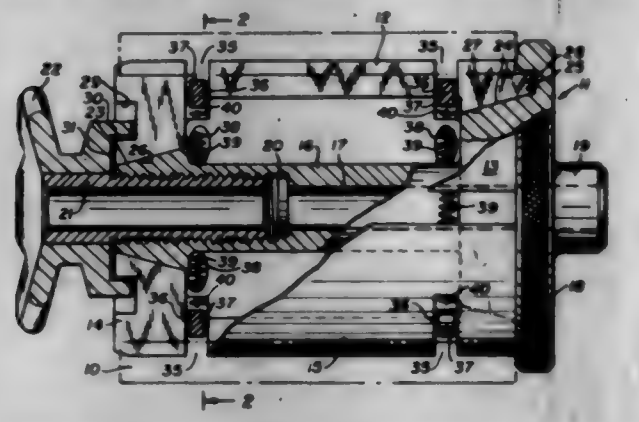


1. In a device for wrapping a conductor around a terminal in successive convolutions:
a. a rotatable wrapping bit having an end face;
b. said bit defining terminal-receiving means and conductor receiving means opening to said end face;
c. first surface means defined by said end face and sloping with respect to the plane of the terminal-receiving opening for camming a conductor convolution radially toward a terminal disposed in said terminal-receiving means and axially forwardly into engagement with a next preceding convolution wrapped around said terminal; and,
d. second surface means defined by said end face and extending forwardly from said first surface means in contacting relation with said conductor convolution to restrain the latter from radial separation from said terminal due to the forward axial thrust of said first surface means.

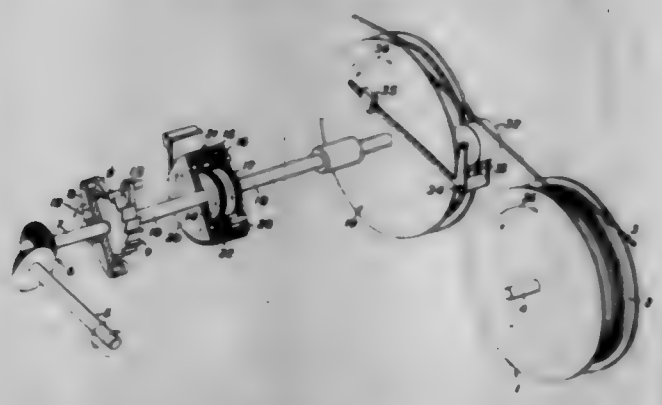
3,143,308
COLLAPSIBLE COP HOLDER
George F. Bemyo, Montreal, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Feb. 14, 1963, Ser. No. 258,485
12 Claims. (Cl. 242—46.2)

1. In a collapsible arbor, a support, a pair of arbor segments movably mounted on the support in spaced relation about the longitudinal axis of the arbor, means for moving the segments on the support such that every point of the outer surface of each segment is moved in a common direction outwardly or inwardly with respect to the arbor axis, and means pivotally connecting the segments and movable therewith for rotation of the segments in opposed directions during outward or inward movement

to decrease or increase respectively the space between the segments at the circumference of the arbor the means for moving the segment in the prescribed manner being adapted to permit said rotation.



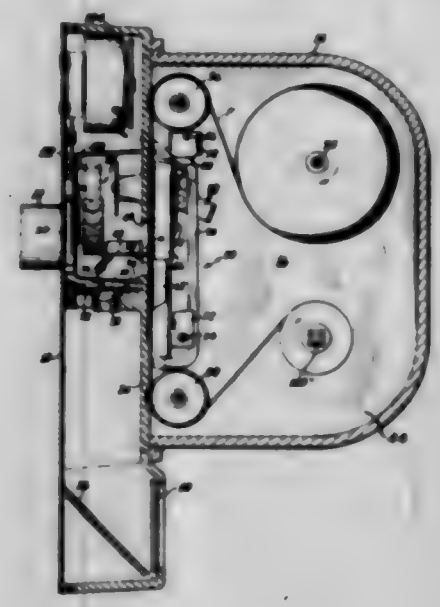
3,143,309
MACHINERY FOR LAYING AND RECOVERING SUBMARINE CABLE
Eric Fifield Stuart Clarke, Kenton, Harrow, England, assignor to Her Majesty's Postmaster General, London, England
Filed Apr. 26, 1962, Ser. No. 190,379
Claims priority, application Great Britain May 4, 1961
7 Claims. (Cl. 242—47.09)



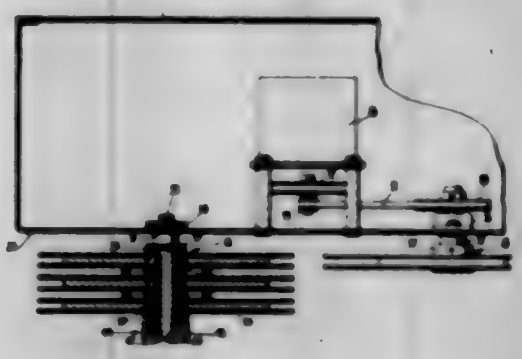
1. Submarine cable laying and recovering machinery comprising in combination a cable back tensioning mechanism for gripping the cable by frictional engagement for driving and braking the cable, a main cable winding means, a drive transmission from said winding means to the mechanism whereby the latter can be connected to said winding means for cable driving purposes and disconnected from said winding means for cable braking purposes, and, in that transmission, a coupling comprising an input shaft rotatable from, said winding means, an output shaft joined to the mechanism, and an arrangement for controlling the speed of rotation of the output shaft with respect to the input shaft and the torque transmitted by the latter to the output shaft.

3,143,310
FILM FEEDER
Alexander R. Nordea, New York, N.Y., assignor to American Foto Patrol Inc., a corporation of New York
Filed Apr. 11, 1961, Ser. No. 102,225
6 Claims. (Cl. 242—55.11)

1. Film-feeding mechanism, including a reciprocable actuator having an electromagnet operable to effect forward strokes of the actuator and having a spring to effect return strokes of the actuator, a positive-acting film advancing mechanism operable by said actuator during each forward stroke thereof to advance a single-frame length of film and said mechanism having a detent and operating means therefor effective to arrest said film between successive forward strokes and to release said film during forward strokes, and a take-up mechanism including a shaft for a take-up roll and a one-way drive for said shaft having a resilient coupling to said actuator, said one-way drive being arranged to drive said shaft during the return strokes of said actuator.

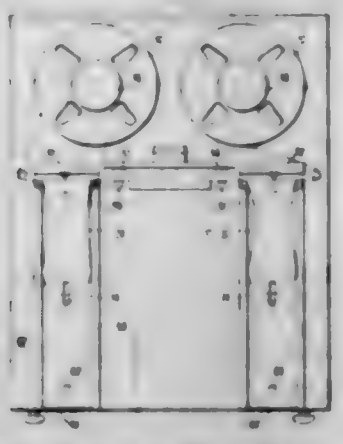


3,143,311
MULTIPLE REEL MAGNETIC TAPE TRANSPORT
Frank M. Curtin, 15925 E. Whittier Blvd., Hayward, Calif.
Filed Sept. 11, 1961, Ser. No. 137,299
8 Claims. (Cl. 242—55.11)



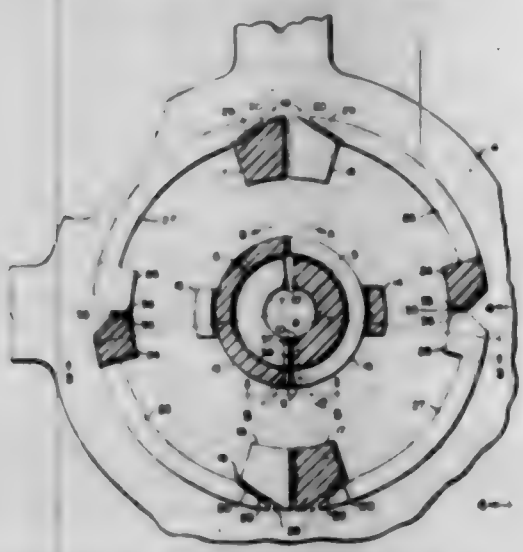
1. A tape transport comprising a mounting panel, a supply spindle and a take-up spindle mounted in spaced relation upon said panel, a plurality of supply reels having tapes wound thereon carried upon said supply spindle, spacer means on said supply spindle interposed between said supply reels to retain same in individually rotatable spaced relation, clutch nut means secured to the outer end of said supply spindle for exerting an adjustable amount of pressure against an outermost one of said supply reels, a corresponding plurality of take-up reels carried upon said take-up spindle with the leading ends of said tapes correspondingly secured to said take-up reels, spacer means on said take-up spindle interposed between said take-up reels to retain same in individually rotatable spaced relation, clutch nut means secured to the outer end of said take-up spindle for exerting an adjustable amount of pressure against an outermost one of said take-up reels, a multiple magnetic head assembly mounted upon said panel intermediate said supply and take-up spindles, said assembly having a plurality of heads corresponding to said tapes, means guiding said tapes from said supply reels through said head assembly adjacent corresponding ones of said heads and to said take-up reels, and capstan means synchronously pulling said tapes between said supply reels and take-up reels.

3,143,312
TAPE DRIVE
Leonard R. Harper, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 8, 1962, Ser. No. 164,835
6 Claims. (Cl. 242—55.12)



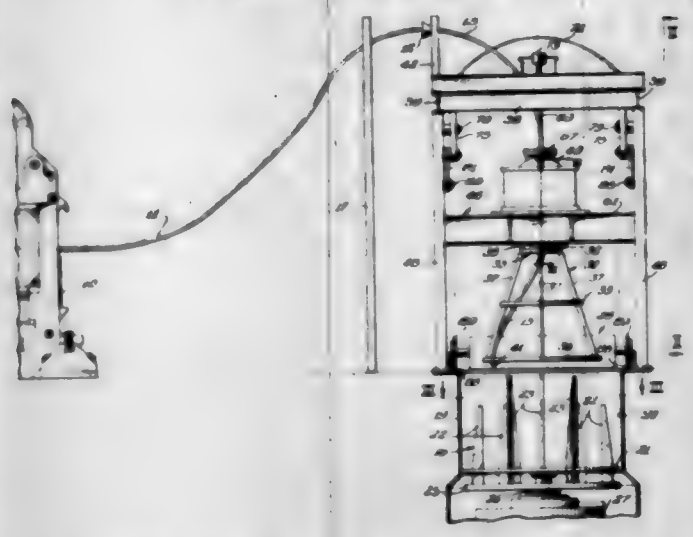
1. A tape drive system comprising a reel, drive means, a pneumatic clutch, a tape column provided with pressure at one end and a partial vacuum at the other end and a port intermediate the end of said tape column, means for coupling said port to said clutch, said clutch selectively actuable according to the condition of pressure sensed at said port to drive said reel, said condition of pressure determined by the position of a tape in said tape column relative to said port.

3,143,313
MOLDED SEPARABLE REEL
Alfred Z. Parzycki, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Dec. 6, 1961, Ser. No. 157,394
9 Claims. (Cl. 242—71.8)



1. A reel half for cooperation with a like reel half to form a tape supporting reel comprising: a circular flange; arcuately shaped tape supporting arms forming segments of an expandable hub for frictional engagement with the inner course of a supply of tape wound on said reel, said arms each having one end rigidly fixed to an inner face of the flange and the remainder of said arm adjacent said inner face extending along and spaced from said inner face for flexure outwardly with respect to the axis of the circular flange in a path parallel to the face of the flange from a relaxed position out of frictional engagement with said inner course to a flexed position to engage said inner course; and means for moving said free ends of said arms from the relaxed to the flexed position upon interengagement of said reel half with a like reel half and rotation of said halves relative one to the other.

3,143,314
COILING DEVICE FOR HOT ROD
Charles G. Bosco, Sterling, Ill., assignor to Northwestern Steel & Wire Company, Sterling, Ill., a corporation of Illinois
Filed Jan. 14, 1963, Ser. No. 251,383
3 Claims. (Cl. 242—83)

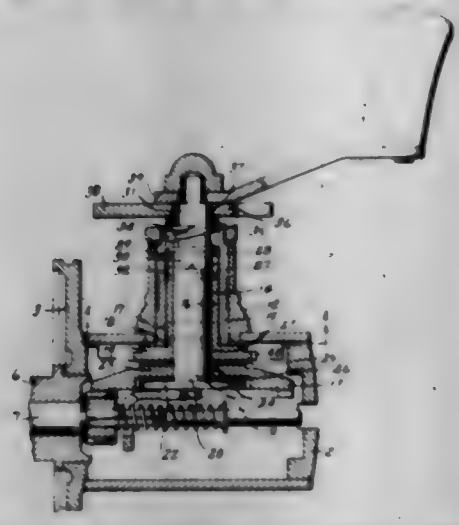


3. A coiling device for coiling hot rod and the like directly from the finishing stand of a Merchant Mill comprising a cylindrical shell extending downwardly from a floor line a substantial distance therebeneath, a reel mounted below the floor line for rotation about a vertical axis and including a rotatable plate, a motor rotatably driving said plate, a plurality of guide stakes extending upwardly of said plate and spaced inwardly of said shell, a stripper plate extending about said guide stakes and mounted for vertical movement therealong to raise a coil of wire on said guide stakes to floor level to accommodate stripping of the coil from said guide stakes, a cage spaced above the floor line and mounted for rotation about an axis coaxial with the axis of rotation of said reel, a motor, a geared drive connection from said motor to said cage for rotatably driving said cage in a direction opposite to the direction of rotation of said reel, a rod laying pipe extending downwardly along said cage and mounted thereon for rotation therewith and terminating in vertically spaced relation with respect to said reel and shell and in radially spaced relation with respect to the axis of rotation of said reel and having a discharge end portion opening in a direction opposite to the direction of rotation of said cage, for laying rod on said reel, means for guiding the hot rod directly from the finishing stand of the Merchant Mill to said rotatable rod laying pipe comprising a non-rotatable feed pipe terminating at its discharge end in axial alignment with the upper end of said rod laying pipe, a pusher for pushing the hot coiled rod stripped from said reel by said stripper plate from said stripper plate, said cage being mounted for vertical movement above the floor line a distance sufficient to clear the coiled rod on said stripper plate, and power means holding said cage in fixed vertically spaced relation with respect to the floor line and for raising said cage above the floor line to accommodate said pusher to push the coiled hot rod from said stripper plate.

3,143,315
STAR DRAG FOR FISHING REEL
Gerald D. Harrington and Henry G. Shakespeare, both of Richland, Mich., assignors to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Filed June 22, 1961, Ser. No. 118,923
5 Claims. (Cl. 242—84.45)

5. In a fishing reel a housing, the improvement comprising an adjustable drive and drag comprising a tubular bearing opening into said housing, a gear stem sleeve rotatably mounted in said bearing and having an inner

end extending into said housing and having at its inner end a first flat disk lying perpendicular to the axis of said bearing, a gear stem mounted for rotary movement in said gear stem sleeve having an outer end and an inner end in said housing and at said inner end a flat disk perpendicular to the axis of said gear stem sleeve and lying parallel to and opposed to said first disk to provide slip clutch means, a gear having a flat central portion generally coextensive with said disks and disposed therebetween and having a central aperture fitted over said gear stem, friction material disposed between said disks and the central portion of said gear, cam follower means on said gear stem sleeve having a face thereon facing outwardly of said housing, a cam member slidably and non-rotatably disposed on said gear stem and having an in-



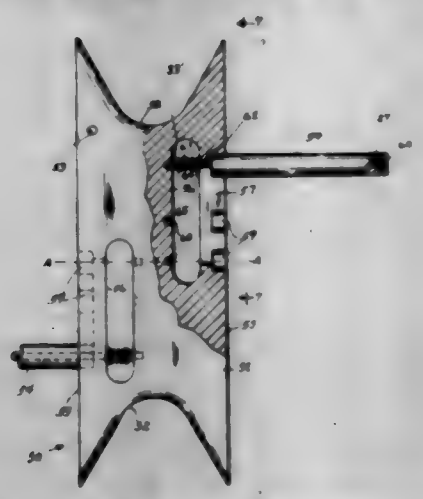
wardly facing cam face bearing on said cam follower face and adapted open relative rotation of said cam member and said gear stem sleeve to control relative axial movement of said gear stem sleeve and said gear stem, a compression spring bearing against said cam member to hold the cam face thereof yielding against said cam follower, an adjusting nut screw-threaded on said gear stem in operative engagement with and disposed to adjustably compress said spring to adjust the slip clutch means and a crank non-rotatably fixed on the outer end of said gear stem and ratchet means comprising ratchet teeth on said gear stem sleeve, a pawl pivoted on said housing and means associated with said gear stem sleeve to lift said pawl out of engagement with said ratchet teeth on line retrieving movement of said crank.

3,143,316

KITE REEL DEVICE

Justin J. Shapiro, 39 Domingo Ave., Berkeley 5, Calif.

Filed Dec. 16, 1960, Ser. No. 76,285
5 Claims. (Cl. 242—96)



1. A reel device of the character described comprising a substantially flat body of rigid material having parallel opposite sides and being formed with respective notches at its top and bottom ends adapted to receive the turns of a flexible cord wound on said body, respective handle members at the opposite side edges of the body, said handle members including supporting shafts and having gripping portions freely rotatable on said shafts, said body being provided with positioning recess means spaced inwardly from the side edges of the body and being located to receive the inner ends of the shafts, guide means in the side edges of the body engageable with portions of said handle members and cooperating with said recess means to support the handle members in positions perpendicular to said side edges, and means detachably retaining said shaft inner ends in said recess means.

3,143,317

SUPERSONIC AIRCRAFT

Gerald David Walley, Freckleton, and Frank Gerrie Willox, Lytham St. Annes, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Oct. 30, 1961, Ser. No. 148,547
Claims priority, application Great Britain Nov. 18, 1960
2 Claims. (Cl. 244—42)



1. A supersonic aircraft comprising in combination: a fuselage, a slender wing of triangular plan configuration attached to said fuselage, triangular nose flaps forming the forward apex of said wing, and hinged to said fuselage about a substantially transverse axis, pilot-operated controls in said fuselage linked to said nose flaps in the sense of deflecting the same upward for producing a lift increment at high angles of incidence of said slender wing, trailing edge flaps hinged to said slender wing and coupled to said nose flaps in the sense of being deflected downward for producing a lift increment at high angles of incidence of said slender wing and for balancing the nose-up pitch moment produced by the upward deflection of said nose flaps.

3,143,318

AIRCRAFT HAVING AT LEAST TWO JET PROPULSION UNITS PLACED SYMMETRICALLY WITH RESPECT TO THE CENTRAL AXIS OF THE AIRCRAFT

Silvius Dornier and Hans-Martin Duthe, both of Friedrichshafen, Germany, assignors to Dornier-Werke G.m.b.H., Friedrichshafen, Germany, a firm

Filed Feb. 12, 1962, Ser. No. 172,450
Claims priority, application Germany Feb. 16, 1961
11 Claims. (Cl. 244—74)

1. An airplane comprising:

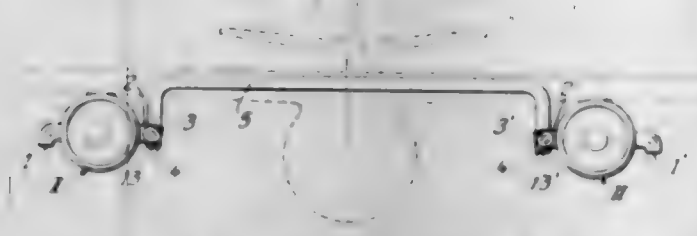
at least two jet propulsion units placed symmetrically with respect to the longitudinal axis of the airplane,

each unit having at least one pair of thrust nozzles laterally of the unit and a gas producer connected to said nozzles for supplying operating gas thereto,

a connecting conduit connecting one half of the number of nozzles of one unit for gas flow with one half of the number of nozzles of the opposite unit, and

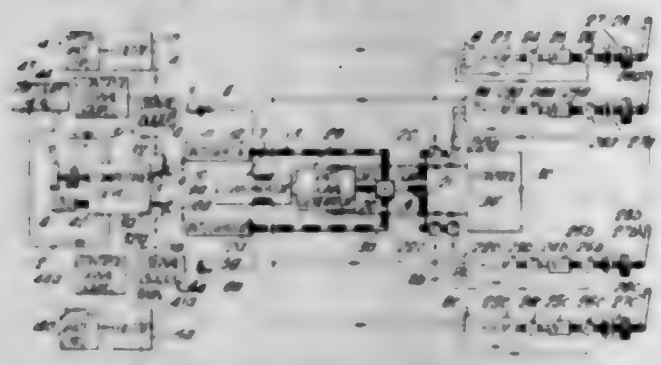
valve means interposed between said nozzles and said conduit and each of said gas producers,

said valve means being constructed and arranged to permit gas flow from said gas producers to said nozzles of the respective units and to stop gas flow through said conduit, during normal operation of the units, and for connecting one half of the number of nozzles of one unit for gas flow from the gas producer of the first unit to one half of the nozzles of the opposite unit and for stopping gas flow to



the one half of the number of nozzles of the first unit, upon failure of the opposite unit, and for connecting one half of the number of nozzles of the opposite unit for gas flow from the gas producer of the opposite unit to one half of the number of nozzles of the first unit and for stopping gas flow to the one half of the number of nozzles of the opposite unit, upon failure of the first unit.

3,143,319
APPARATUS FOR THE CONTROL OF AN AIRCRAFT'S SPEED
John Anthony David Gorham and Reginald Charles Frank Legg, Bishops Cleeve, Cheltenham, England, assignors to Smiths America Corporation, Lakeland, Fla.
Filed Feb. 26, 1960, Ser. No. 11,299
21 Claims. (Cl. 244—77)



1. Apparatus for the control of the speed of an aircraft which has means for applying a propulsive thrust to the aircraft and means for varying the magnitude of said thrust, the apparatus comprising means for generating a first signal in accordance with any deviation of the aircraft's speed from a datum value, means for generating a second signal dependent upon the rate of pitch of the aircraft, control means for actuating said thrust varying means and means for applying said first and second signals additively to said control means, the control means being adapted to respond to the sum of said applied signals to actuate said thrust varying means to vary the propulsive thrust in the manner required to reduce said deviation towards zero.

3,143,320
SINGLE-AXIS AUTOPILOT FOR AIRCRAFT
John L. Payer, 124 W. Pershing, Santa Maria, Calif.
Filed Oct. 29, 1962, Ser. No. 233,974
1 Claim. (Cl. 244—78)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A single-axis autopilot for aircraft, comprising:

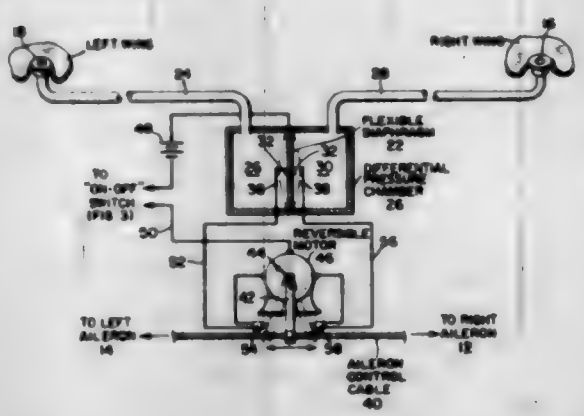
(*a*) a pair of static holes, one hole being located on the upper surface of each aircraft wing in an area where the pressure developed during flight is relatively low;

(*b*) a closed chamber having two portions separated by a flexible diaphragm;

(*c*) a pair of conduits respectively connecting said pair of static holes with the two portions of said closed chamber;

(*d*) means responsive to a flexing of said diaphragm in either direction for closing an electrical circuit;

(*e*) a prime mover energized when said circuit is closed, the direction of rotation of the shaft of said prime mover being governed by the direction in which said diaphragm is flexed;

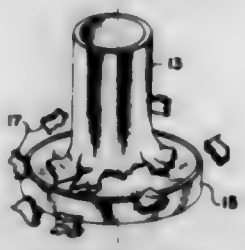


(*f*) means responsive to energization of said prime mover for operating an aerodynamic control surface of said aircraft, said control surface operating means including an arm carried by the shaft of said prime mover, and a cable connected to the ailerons of said aircraft, said arm being connected to said cable;

(*g*) means for limiting the extent of rotation of said prime mover shaft in either direction, said limiting means comprising a pair of limit switches included in said circuit and acting to deenergize said circuit when the shaft of said prime mover has rotated in either direction through a given predetermined angle; and

(*h*) means for inactivating said autopilot to permit the operator of said aircraft to trim said craft and place it on a desired heading, following which action the said inactivating means is rendered inoperative so that said autopilot may control said aircraft to maintain the wings thereof essentially level regardless of the aerodynamic forces acting thereon.

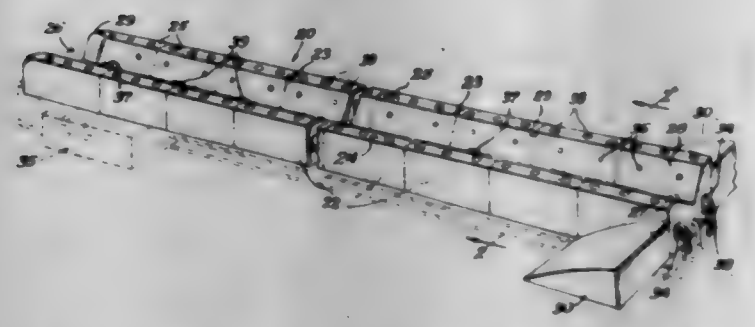
3,143,321
FRANGIBLE TUBE ENERGY DISSIPATION
John R. McGehee, Newport News, and Melvin E. Hathaway and Edmond J. Zavada, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 12, 1962, Ser. No. 209,479
20 Claims. (Cl. 244—100)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. A load energy dissipation means for aerial vehicles comprising, in combination: an aerial vehicle and a landing gear arrangement therefor; said landing gear arrangement including a plurality of tubular members perpendicularly adjacent said vehicle and a plurality of reaction members each having a shank portion positionable within

the end portion of each individual tubular member spaced from said vehicle; said reaction members being operatively connected to target anticipator means and each said reaction member shank merging with a circular groove of hemispherical cross-sectional area formed on said reaction member whereby, when said target anticipator means engages a target, the load energy force of said aerial vehicle will act essentially along the longitudinal axis of said tubular members causing sliding movement thereof relative to the individual reaction member shanks associated therewith to effect movement of said tubular members into individual ones of said grooves to thereby progressively stress portions of said tubular members beyond the ultimate tensile strength thereof and cause progressive fragmentation of said tubular members with simultaneous uniform dissipation of said load energy force resulting in constant deceleration of said vehicle.

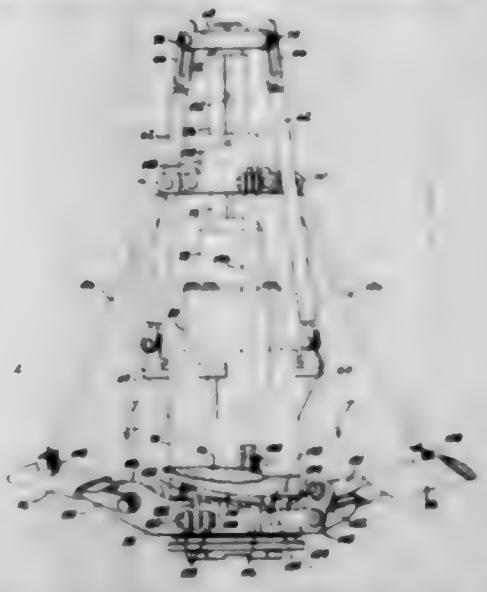
3,143,322
AIRCRAFT LANDING DEVICE
Ralph Green Mainwaring, 3503 Oak Ave., Brookfield, Ill.
Filed Mar. 28, 1961, Ser. No. 98,941
18 Claims. (Cl. 244—114)



8. In combination, an aircraft having an elongated fuselage provided along a major portion of the length of its underside with an elongated and longitudinally extending support surface forming an integral part of said fuselage, and an elongated and rigid slideway landing surface in the upper portion of an elevated runway, said landing surface being complementary to said support surface and of a width substantially equal to the width of said support surface and adapted for seating engagement therewith for supporting said fuselage and stabilizing said fuselage against lateral tilting and being of a length at least several times greater than the length of said fuselage.

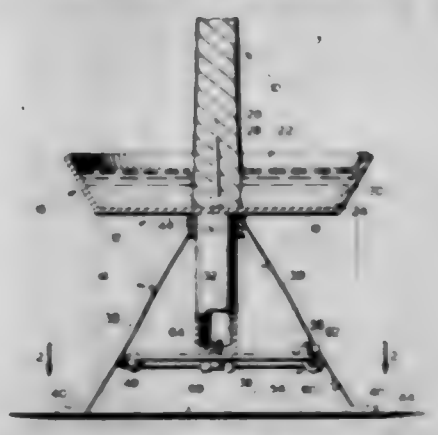
3,143,323
AERIAL DEVICE WITH RETARDING ROTOR
Richard H. Hollrock, Simsbury, Conn., assignor to Kaman Aircraft Corporation, a corporation of Connecticut
Filed Sept. 21, 1962, Ser. No. 225,289
17 Claims. (Cl. 244—138)

1. In an aerial device for retarding the descent of a body, the combination comprising a normally vertical pintle connectible with said body and having a central axis, a hub connected with said pintle for rotation about said central axis and including a vertically extending stem coaxial with said central axis, a plurality of generally radial blades connected at their inboard ends with said hub for pivotal movements about flapping axes arranged generally transverse of said central axis, a coning synchronizer bushing carried by said central stem and vertically slidable relative thereto, a plurality of synchronizer links, first means connecting one end of each of said synchronizer links to said synchronizer bushing so as to move vertically with said bushing, and second means pivotally connecting the other end of each of said synchronizer links to a respective one of said blades, said first means comprising a plurality of links each pivotally connected at one end to an associated synchronizer link and at the other end connected to said synchronizer bushing for



limited pivotal movement relative thereto about a generally horizontal axis.

3,143,324
CHRISTMAS TREE HOLDERS
Francis F. Kappelman, 7913 SE. Woodward St., Portland, Oreg.
Filed Nov. 26, 1962, Ser. No. 239,991
4 Claims. (Cl. 248—44)

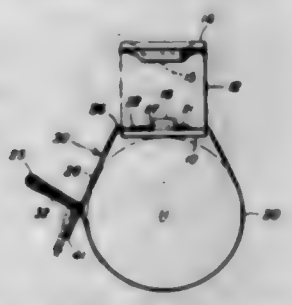


4. A stand for a tree having an elongated tree trunk comprising a base element having a plurality of supporting legs, an aligning ring secured to said supporting legs, an elongated aligning bar having two ends; one end of said aligning bar being pivotally secured to said aligning ring, said aligning bar being sufficient in length for extending to a point on said aligning ring diametrically opposed to the point where said one end is pivotally secured thereto, means connecting said tree trunk to said aligning bar intermediate the ends of said aligning bar, means secured to said supporting legs in spaced relationship above said aligning ring and operatively connected to said tree trunk to pivotally support the same, and an adjusting means slidingly connecting the other end of said aligning bar to said aligning ring.

3,143,325
CABLE SUPPORT
John A. Carpenter, 2705 E. Saginaw Way, Fresno 3, Calif., and Arley D. Carpenter, 7118 La Tijera Blvd., Los Angeles 45, Calif.
Filed Aug. 9, 1962, Ser. No. 215,894
8 Claims. (Cl. 248—68)

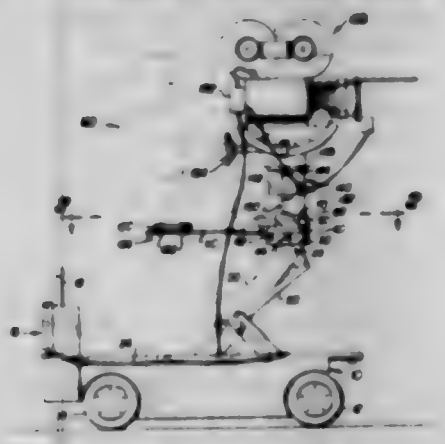
1. A cable support comprising a base having a web platform to be engaged transversely by a cable, a clamp strap secured to the platform, and a cinch strap secured to the platform in alignment with the clamp strap, said

clamp cinch strap comprising a frame surrounding an integral T-shaped member the edge of the head of which



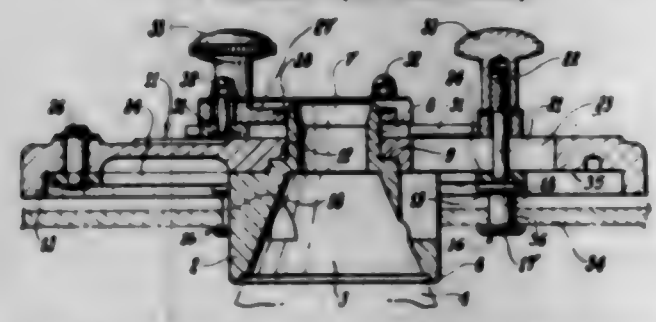
forms a fulcrum about which the clamp strap is to be bent to embrace the T-shaped member on both sides.

3,143,326
ADJUSTABLE SEAT
Ted J. Hamilton, 13445 Blythe St., Van Nuys, Calif.
Filed May 31, 1962, Ser. No. 199,122
7 Claims. (Cl. 248—122)



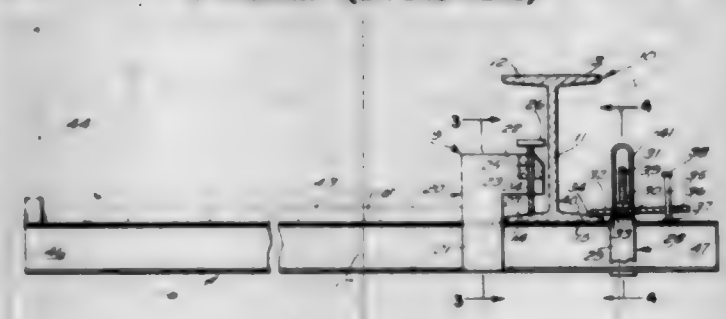
1. An adjustable technician's seat for use in conjunction with a camera dolly which comprises: a substantially vertical and elevatable camera support member; a first substantially round plate horizontally and axially mounted on said support member intermediate the ends thereof; a second substantially round plate horizontally and axially mounted on said support member and spaced apart from said first plate; a third substantially round plate slidably interposed between said first and second plates for 360° rotational movement between said first and second plates; an extension on said third plate extending beyond the peripheral edges of said first and second plates; a bracket mounted on said extention and projecting outwardly from said plates; and a technician's seat mounted on said bracket.

3,143,327
ADAPTER UNITS FOR WHEEL BALANCING APPARATUS
John Watt, Thornbury, Victoria, Australia, assignor to Replex Proprietary Limited, Brunswick, Victoria, Australia, a company incorporated of the State of Victoria
Filed May 29, 1963, Ser. No. 284,788
Claims priority, application Australia May 30, 1962
6 Claims. (Cl. 248—205)



1. An improved adjustable adapter unit for wheel balancing apparatus of the kind indicated including a body portion adapted at its lower end for removably mounting on an upstanding supporting member which forms part of said balancing apparatus so that the main axis of said body portion is coaligned with the axis of said supporting member, said body portion having a transverse flange extending at substantially right angles to the main axis of said body portion and which has formed therein at least three slots which extend between the outer edge portion of said flange and said body portion, at least three posts each of which extends through one of said slots and is slidable lengthwise therein and depends beneath the lower surface of said flange where it is provided with a pair of longitudinally spaced collarlike abutments with a neck portion therebetween, a master control assembly and guide means operatively connecting and guiding said posts so that substantially the same movement may be simultaneously imparted thereto so as to cause them to move inwardly and outwardly in relation to said main axis whilst maintaining said posts equidistantly spaced from each other and from said main axis, and means for releasably retaining said posts in any of their adjusted operative positions so that when said retaining means are secured the upper surfaces of the lower collarlike abutments are located in a common plane at substantially right angles to said main axis, the construction and arrangement of said parts being such that they remain balanced about said main axis irrespective of adjustment of said posts, whereby said adapter unit may be connected to a wheel to be balanced from one side thereof by retracting if necessary, the assembly of posts so that they may be passed through the usual central aperture in the wheel and then expanding said posts until their neck portions are in engagement with the inner periphery of the wheel defining said aperture with said lower collarlike abutments located beneath said inner periphery so that when the adapter unit is fitted to said upstanding supporting member of the balancing apparatus, the wheel is suspended upon the lower collarlike abutments of said posts.

3,143,328
SCAFFOLDING DEVICE
Luigi Damiano, 130 Farm St., Providence, R.I.
Filed Nov. 13, 1961, Ser. No. 151,743
3 Claims. (Cl. 248—228)



1. A scaffolding device for attachment to an elongated structure of I shape cross section having at each end of a web a pair of oppositely extending companion flanges comprising in combination:

(*a*) a beam having a planar surface to engage an outer surface of the laterally projecting flanges of said structure while arranged at right angles thereto,

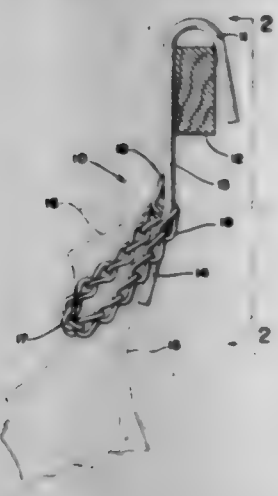
(*b*) an upstanding inverted L shape bracket attached to said beam with an arm of the bracket for overhanging the inner surface of one of the lateral flanges of the structure,

(*c*) means extending through said arm for engaging said overhung inner surface,

(*d*) a yoke movable on said beam toward and from said bracket, and

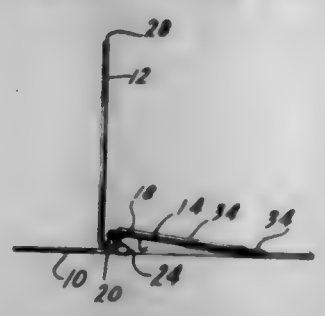
(*e*) a lever fulcrumed intermediate its ends on said yoke with one end engaging the inner surface of the companion lateral flange of the structure and means to swing the lever about the fulcrum to assist in clamping the beam to the said structure.

3,143,329
MEAT HANGER
Joseph A. Christopher, General Delivery, Ashtabula, Ohio
Filed Nov. 7, 1962, Ser. No. 235,969
6 Claims. (Cl. 248—317)



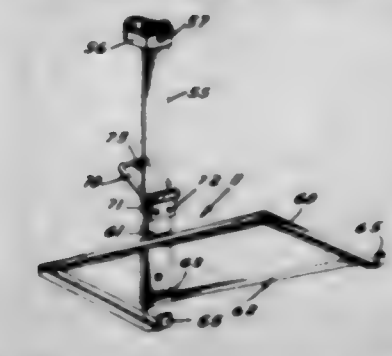
1. A meat hanger for use in transporting and storing sides of meat comprising hook means adapted to be received over a slat, said hook means including a downwardly substantially straight portion which is integral with a terminal portion which angles downwardly and outwardly from said straight portion, chain means having a first link portion at one end attached slightly above the intersection of said terminal and straight portion, a second link portion removed from the first link portion of said chain means, said second link portion received on said terminal portion below said first link portion, thereby forming a loop grippingly to engage a side of meat with the angled terminal portion substantially conforming to the angle of a shank portion of said die.

3,143,330
SKILLET TIPPER
La Vergne H. Williams, Columbia, Conn., assignor to Gunver Manufacturing Company, Manchester, Conn., a corporation of Connecticut
Filed July 17, 1962, Ser. No. 210,520
3 Claims. (Cl. 248—351)



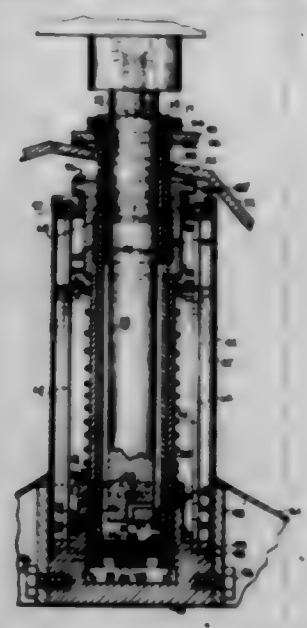
1. A device for tilting skillets or the like to drain fried foods before they are removed from the skillet, said device comprising a generally flat sheet metal base having a spring-forming tongue struck therein, a sheet metal support plate having at its lower end and on opposite sides thereof bent tabs directed towards said spring and at right angles to said support plate, said base having integral undercut lugs overlying said tabs, said plate also having a ledge-like projection lying above said base and projecting towards said spring roughly half the distance as said tabs, said spring being sprung into engagement with the upper surface of said ledge to yieldably maintain the support plate upright, said support plate being tiltable to a folded position overlying said base and releasably maintained in said folded position by continued engagement of said deflected spring with said ledge, said plate having a supporting surface at the upper end thereof for receiving the handle of a skillet and thereby maintaining a skillet in a tilted position.

3,143,331
TELEVISION RECEIVER SUPPORT
John L. Corey, 1134 N. Edgemont, Los Angeles 29, Calif.
Filed Nov. 6, 1961, Ser. No. 150,366
4 Claims. (Cl. 248—356)



1. A support for a television receiver comprising a stanchion having an upper and lower end portion and an intermediate portion offset with respect to said end portions, a first suction pad means providing a swivel connection between one end portion of said stanchion and said first suction pad, a second suction pad, a hollow tube, said second suction pad being secured to one end of said hollow tube, the other end of said hollow tube having a sliding fit with the other end portion of said stanchion, said other end portion of said stanchion being hollow, means in said hollow tube and in said other end portion of said stanchion for rotatably and slidably supporting said hollow tube with respect to said other end portion, a framework for supporting a television receiver, a buckle having a pin thereon and disposed on said framework, and spaced apart apertures in said offset stanchion portion adapted for engagement with the pin of said buckle to support said framework on said stanchion in a selected position, the offset of said intermediate stanchion portion being such that the center of gravity of the television receiver extends substantially through said upper and lower end portions of said stanchion.

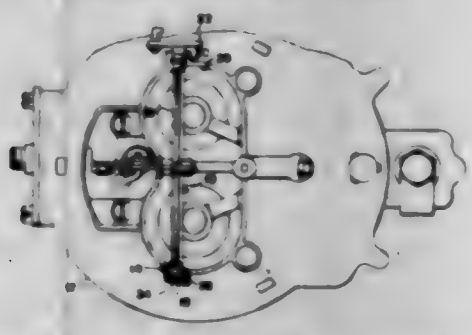
3,143,332
HYDRAULIC LIFT SUPPORT FOR CHAIR
Lee S. Watlington, 1204 N. Linden, Bloomington, Ill.
Filed Feb. 23, 1962, Ser. No. 174,940
6 Claims. (Cl. 248—404)



1. In combination, a structure comprising an oil reservoir, a stationary cylinder arranged coaxially in said reservoir, a sleeve embracing said cylinder and movable longitudinally with respect thereto, spring means embracing said sleeve for yieldably maintaining said sleeve

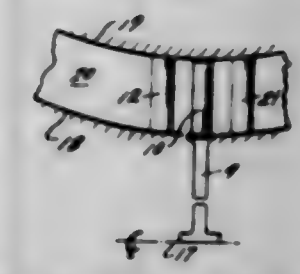
in one position relative to said cylinder and for permitting movement thereof within said structure, a plunger within said cylinder and movable longitudinally with respect thereto, check valve means carried by said cylinder and operable by the pressure of fluid in said reservoir as it is forced through said check valve means into said cylinder by movement of said sleeve in one direction against said spring means so as to effect intermittent movement of said plunger relative to said sleeve, and a chair seat carried by and movable with said plunger.

3,143,333
BEARING SUPPORT AND RETENTION OF INTEGRAL CHOKE UNIT
Bob G. Lift, Royal Oak, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Apr. 3, 1961, Ser. No. 100,114
4 Claims. (Cl. 251—279)



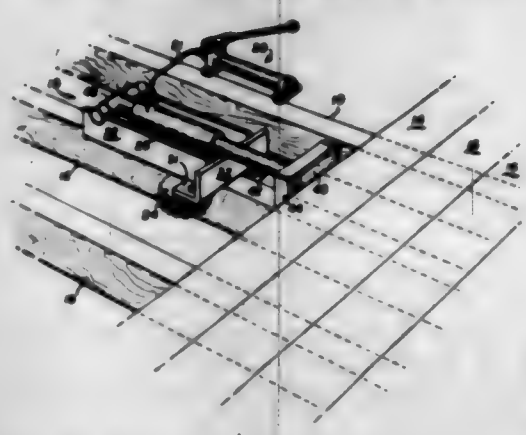
1. Structure for rotatably mounting a shaft comprising a lug extending outwardly from a surface, a slot extending through said lug toward said surface having a depth greater than the diameter of the shaft to be rotatably mounted for receiving the shaft, a groove in said lug extending transversely of said slot and a shaft positioned in said slot and toward said surface, a pin located outwardly of said slot so as to be between the open end of the slot and a shaft positioned in the slot extending transversely of the lug and slot having ends located in said groove, said groove having side walls converging outwardly of said lug for firmly holding the pin within the groove.

3,143,334
FLOW PATH DESIGN
Marvin Ray Simonson, Fairfield, Ohio, assignor to General Electric Company, a corporation of New York
Filed Aug. 6, 1962, Ser. No. 215,164
8 Claims. (Cl. 253—65)



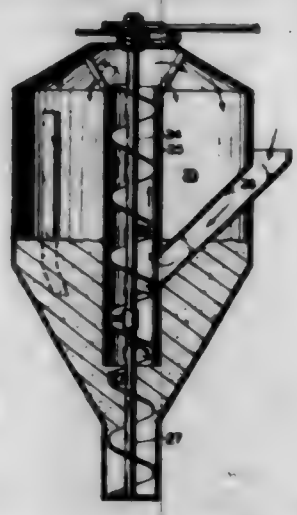
1. In a tip turbine fan having turbine buckets peripherally disposed about radially-extending fan blades and rotatable about a central axis,
a flow path including spaced walls defining a conduit directing motive fluid through said buckets,
fixed nozzles in said conduit spaced upstream of said buckets,
said nozzles and buckets being airfoil shaped and having a constant cross section and blade angle from root to tip,
said flow path having a portion curved to offset the centrifugal force due to the fluid tangential velocity from the nozzles whereby the static pressure gradient across the flow path is substantially zero.

3,143,335
CLAMPING DEVICE FOR CONSTRUCTING FLOORING, DECKING, AND THE LIKE
Dean W. Lacosse, 4270 McKellar Lane, Palo Alto, Calif.
Filed Nov. 1, 1962, Ser. No. 234,675
6 Claims. (Cl. 254—11)



1. A clamping device for releasably engaging a stringer member and for urging a plurality of boards, supported crosswise upon the stringer member, into intimate contact with one another and comprising:
(*a*) bracket means for seating upon said stringer member;
(*b*) gripping elements pivoted upon parallel pivot axes on said bracket means at opposite sides of said stringer member, each gripping element having a cam surface engaging an opposite face of said stringer member;
(*c*) extensible plunger means pivotally mounted to said bracket means for pivotal movement between an operating and a disengaging position about a pivot axis at right angles to the pivot axes of said gripping elements, the axis of extension of said plunger means when in said operating position being at right angles to the gripping element pivot axes and the plunger means pivot axis, and the direction of extension being selected to urge said cam surface into closer engagement with said stringer member;
(*d*) a pad affixed to the end of the extensible portion of said plunger means for contact with a crosswise supported board; and
(*e*) actuating means for extending the extensible portion of said plunger means against said plurality of boards.

3,143,336
METERING IMPROVEMENT FOR FEED MIXERS
Jonas J. Byberg, 511 N. Water St., Silverton, Oreg.
Filed May 9, 1960, Ser. No. 27,635
3 Claims. (Cl. 259—97)



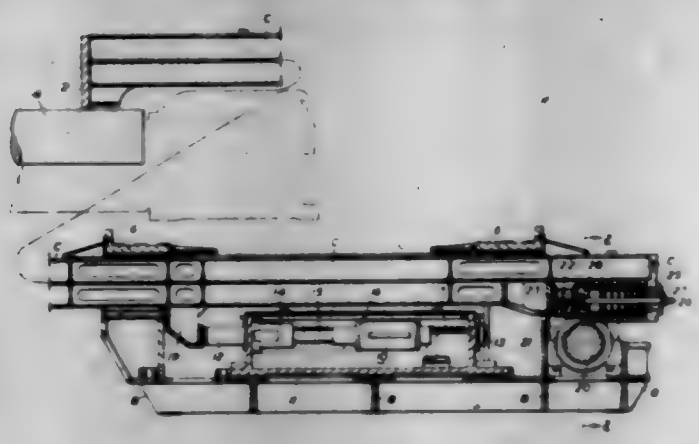
1. In a feed mixer, a mixing tank, a vertical main mixing auger centrally positioned in said tank, an inlet feed opening leading to said main auger, means for rotating said main auger, a conveyor tube encompassing said main

auger, the bottom end of said tube terminating above the bottom of said tank, a cooperating lower auger in said tank for feeding material in the lower portion of said tank to said bottom end of said tube and to said main auger, means carried by said main auger and located within the tank for rotating said cooperating lower auger with said main auger, and means for disconnecting said lower auger from said main auger for rendering said lower auger inactive to feed material from the lower portion of said tank to said tube and main auger, whereby to restrain the mixing of material already in said tank and additional material being distributed in said tank with the rotation of said auger.

3,143,337
BUMPERS

Henry Andrew Rees and Tom Alexander George Shimeld, Sheffield, England, assignors to Davy and United Engineering Company Limited, Darnall Works, Sheffield, England

Filed Apr. 27, 1961, Ser. No. 106,133
Claims priority, application Great Britain Apr. 28, 1960
10 Claims. (Cl. 267—1)



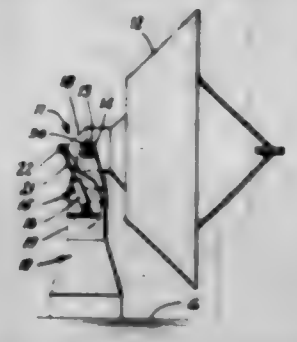
1. A bumper comprising a plurality of individual bumper sections, each bumper section having an individual bumper head arranged on one side of said section and side-by-side with a bumper head of adjacent sections for absorbing the force caused by an engaging workpiece, each bumper section having an individually operable shock absorbing means and an individual operable recoil means remotely arranged from said head thereof, means for transferring shock imposed on one of said bumper sections to its shock absorbing means and recoil means, and means displaceable by said bumper section and associated with said recoil means and said shock absorbing means of said other bumper sections, whereby shock imposed on a bumper section will be absorbed jointly by the shock absorbing means thereof and the recoil and shock absorbing means of the other sections.

3,143,338
HYDRAULIC-PNEUMATIC POWER ASSIST APPARATUS

Homer S. Hoard, Jr., San Jose, Calif., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 3, 1961, Ser. No. 121,773
6 Claims. (Cl. 267—1)

5. In combination, a massive structure, support means for said structure, means defining a pivot for mounting said structure upon said support means with its center of gravity to one side of said support means and providing for pivotal movement of its center of gravity within predetermined fixed limits to said one side of said support means, motor means for effecting such pivotal movements, a hydraulic cylinder, means pivotally linking said cylinder to said support means, a piston movable within said hydraulic cylinder and including rod means extending from an end thereof, means pivotally linking said rod means to a region of said massive structure disposed to the side of said pivot for mounting said structure opposite its center of gravity, said piston and cylinder thereby being pivotable as a unit relative to said support means and said massive structure as it is moved about its pivot, conduit means connected to said cylinder toward the end



thereof from which said rod means extends, and hydraulic-pneumatic accumulator means connected to said conduit means and operative to exert hydraulic forces upon said piston thereby statically counterbalancing said massive structure as its center of gravity is moved about its pivot.

3,143,339
CUSHION CONSTRUCTION AND SPRINGS THEREFOR

Hyland C. Flint, Orchard Lake, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan

Filed Aug. 17, 1961, Ser. No. 132,227
10 Claims. (Cl. 267—107)



1. In a cushion construction, a frame having front and rear frame members spaced by side members, a plurality of spring strips extending between the frame members, the spring strips being made of wire having downwardly extending front end supporting sections with the ends secured in fixed relation to the front frame member, the rear ends of the spring strips having an upwardly and forwardly extending section disposed at an acute angle to the rear end portion of the spring strip, and means for attaching the upwardly and forwardly extending section of the spring strip in free pivotal relation on the rear frame member, the endmost spring strips and alternate spring strip therebetween being of high construction, with additional spring strips of less height than the first said alternate spring strips disposed therebetween.

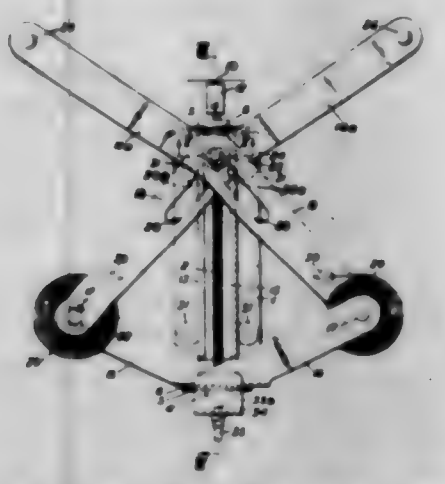
3,143,340
VEHICLE WINDOW REGULATORS

Jan Anatol Maslonka, Birmingham, England, assignor to Wilmot-Breeden Limited, Birmingham, England

Filed May 9, 1960, Ser. No. 27,771
Claims priority, application Great Britain May 11, 1959
2 Claims. (Cl. 268—127)

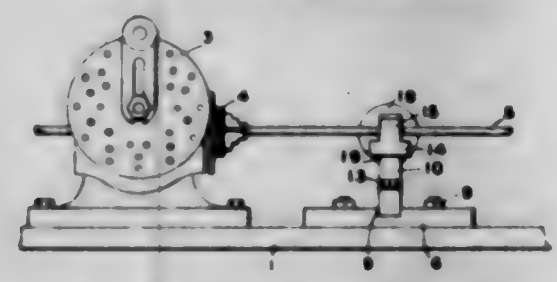
1. A vehicle window regulator comprising in combination a screw and nut assembly, guide means for the nut of said assembly which act to prevent rotation of said nut, and two crossed window operating levers each having a cam-shaped slot along an intermediate portion of its length in the region of cross-over, said levers respectively being pivotally mounted at one end about fixed axes disposed on opposite sides of the screw with the other ends of the levers being adapted to act on the

window, said nut having a projection engaging both slots in said levers and movable therealong during rotation of the screw to pivot said levers in opposite directions about said fixed axes, each of said cam-shaped slots including a portion substantially aligned with respect to



the pivotal axis of each lever and another portion merging with said first-mentioned portion and being upwardly offset therefrom whereby an increased mechanical advantage is obtained as the levers are caused to be moved by the projection to a window closed position, and means for rotating the screw.

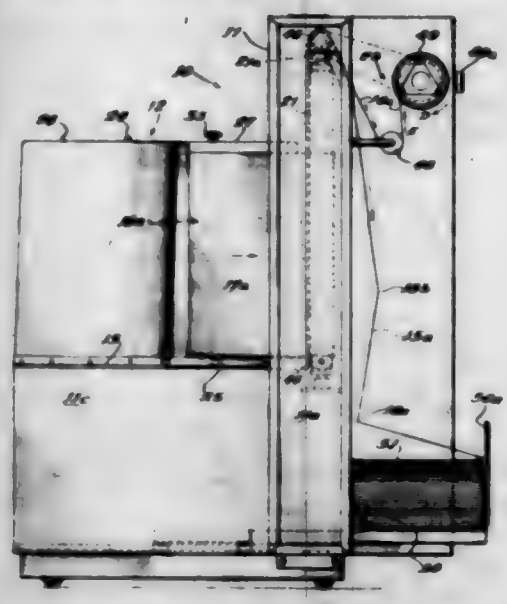
3,143,341
CENTERING CLAMP ATTACHMENT
Claud C. Craven, 1802 Pendleton, Kansas City 24, Mo.
Filed Oct. 17, 1960, Ser. No. 63,086
2 Claims. (Cl. 269—240)



1. A work piece supporting device comprising, a base plate, a standard projecting upwardly from said base plate and having opposed vertical side surfaces and opposed vertical end surfaces, said standard having a V-jaw on one of said end surfaces, a rectangular frame having an abutment at one end thereof and upwardly extending means having an interior facing V-jaw at the other end thereof, said frame surrounding said standard and positioned thereon whereby said frame V-jaw is selectively opposed to said standard V-jaw, a threaded bore in said abutment and a threaded shaft engaged in said bore and adapted to bear against the other of said end surfaces for drawing said frame V-jaw toward said standard V-jaw, and means projecting laterally from said side surfaces and selectively slidably and pivotally supporting said frame on said standard permitting said frame other end to selectively pivot downwardly away from said standard V-jaw.

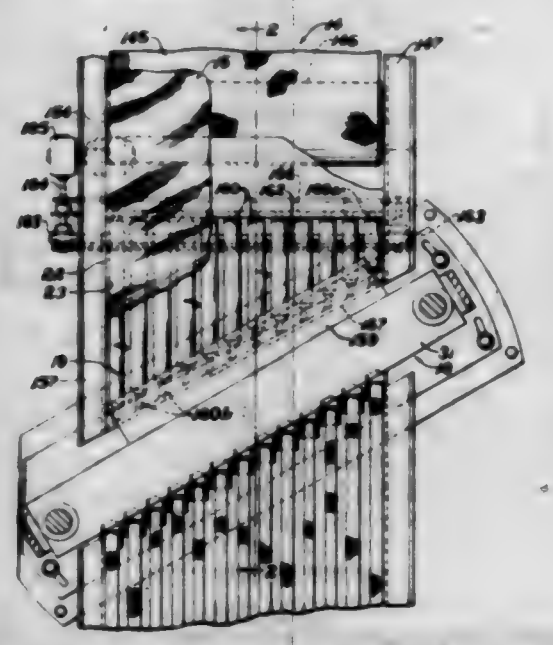
3,143,342
DELEAVER STAND
Robert M. Pine, Chicago, and Donald J. Steidinger, Clarendon Hills, Ill., assignors to Varco, Incorporated, a corporation of Illinois
Filed Oct. 4, 1962, Ser. No. 228,398
15 Claims. (Cl. 270—52.5)

1. A device for deleaving zigzag folded stacks of superposed strips of continuous form stationery having transverse lines of weakening and in which the stationery strips have opposite marginal edges superposed to form a pair of marginal edges of the stack with strips of transfer material interleaved therebetween, comprising: means for holding a stack of zigzag folded stationery on one of said marginal edges of said stationery strips, driven means for pulling at least one strip of said stationery and one strip



of said transfer material from said stack while held on said edge; a plurality of rolls for guiding and turning the stationery so that the transverse lines of weakening of said stationery will be changed from vertical to horizontal, said rolls being adapted to direct said stationery into deleaved relation with said stack.

3,143,343
FABRIC ALIGNMENT APPARATUS
Victor H. Hasselquist, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Original application July 17, 1956, Ser. No. 598,313, now Patent No. 3,130,100, dated Apr. 21, 1964. Divided and this application Nov. 30, 1961, Ser. No. 156,060
2 Claims. (Cl. 271—59)



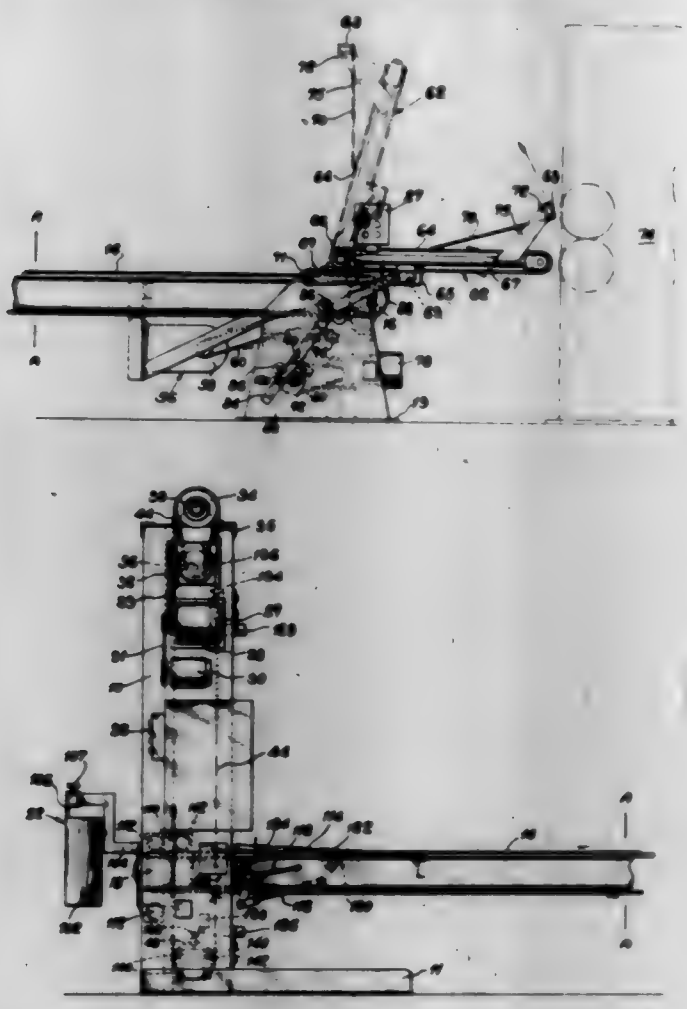
1. Apparatus for aligning a strip of elastomeric cord fabric as said fabric is moved in the direction of its length; comprising a plurality of rotatable, laterally spaced, cylindrical, fabric engaging rolls disposed in a horizontal plane axially parallel to the direction of the length of said strip, said rolls having progressively decreasing length in the order of their position away from the side of the apparatus nearest the edge guide means to the opposite side; edge guide means disposed parallel to the axes of said rolls; and means to jointly rotate said

rolls whereby the fabric engaging portions thereof move in a direction to urge said fabric against said edge guide means.

3,143,344
SHEET STACKER

Joseph A. Miller, Englewood, and Frank A. Kruglinski, North Bergen, N.J., assignors to General Corrugated Machinery Co. Inc., Palisades Park, N.J., a corporation of New Jersey

Filed Jan. 14, 1963, Ser. No. 251,287
17 Claims. (Cl. 271—68)



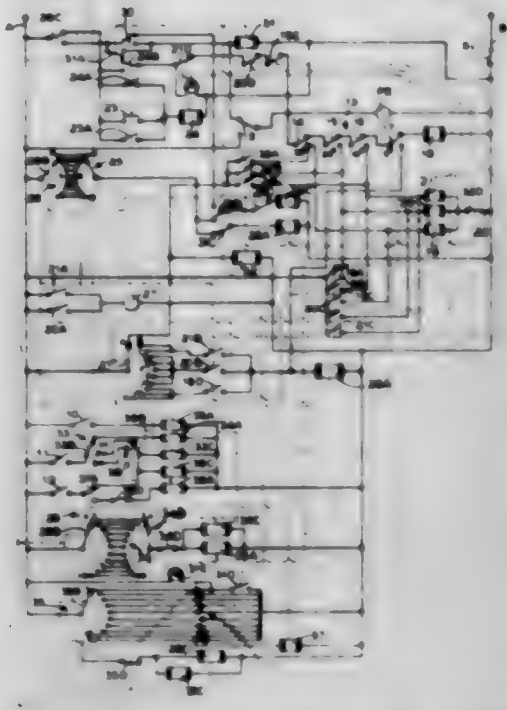
16. A layboy for delivering sheets from a printer-slotter to a sheet stacker comprising:
a frame;
a plurality of movable belts mounted so as to move from the printer-slotter toward the sheet stacker;
a mounting bar affixed to the layboy adjacent to the printer-slotter;
at least one hold-down strap mounted on the mounting bar and movable therealong;
a drive shaft mounted to the frame and adapted to drive the plurality of movable belts;
driving means coupled to the drive shaft; and
a motor for raising and lowering the end of the layboy adjacent to the printer-slotter.

3,143,345
COIN OPERATED CONTROL SYSTEM FOR BOWLING ALLEYS

Harry Greenwald, 149—47 Powells Cove Blvd., Whitestone, N.Y., assignor of one-third to Louis Wolff, and one-third to Harry Silbergleit, Brooklyn, N.Y.

Filed Aug. 16, 1961, Ser. No. 131,894
10 Claims. (Cl. 273—54)

3. A bowling pin spotter system having an electrically operated pin spotter mechanism, a normally open ball switch, a normally open strike switch closed in response to the absence of standing pins at any time during the operation of said mechanism, a normally open sweep switch, means for controlling the operation of said mechanism comprising coin actuated switches operable upon insertion of coins of respectively different denominations, a coin registering stepper switch, a manually operated switch having the successive contacts respectively connected to the contacts of said coin registering switch, circuit means connecting said stepper switch and said coin actuated switches for stepping said stepper switch to a contact position thereof corresponding to the total amount of the coins inserted into said coin actuated switches, said manually operated switch being pre-set at a position corresponding to a predetermined charge per player per game, a player registering stepper switch, circuit means connecting said player registering switch and said coin registering switch

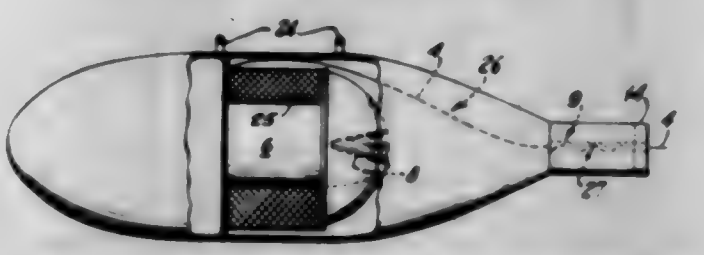


and responsive to operation of said coin registering switch to a contact position connected to the pre-set contact position of said manually operated switch to step said player registering switch, a frame registering stepper switch, circuit means connecting said frame registering switch, said player registering switch, said ball, strike and sweep switches for stepping said frame registering switch in response to concomitant operation of said ball and sweep switches twice in succession while said strike switch is inoperative or a single concomitant operation of said ball, strike and sweep switches, and circuit means connected to the 11th contact of said frame registering stepper switch operative on the stepping of said last mentioned switch from the 10th to its 11th contact to open the circuit to said mechanism.

3,143,346
DEVICE FOR REGULATING AND STOPPING THE REMOVAL OF CABLE FROM A TOW TARGET CABLE STORAGE MEANS

Knut Olof Bülow, Strandpromenaden 18, Nasbypark, Sweden

Filed July 18, 1961, Ser. No. 124,986
5 Claims. (Cl. 273—105.3)



1. In combination, a towing vehicle and a towable vehicle, a cable braking device connected to one of said

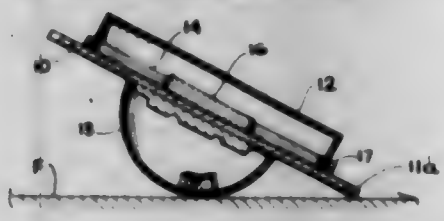
vehicles and a mechanical connection provided on the other of said vehicles, a cable secured to said mechanical connection at one end and adapted to be slidingly engaged within said braking device at a distance from said end, and storage means including a reel associated with said braking device for storing a portion of said cable in a coiled condition to be payed out through said cable braking device, a portion of the cable on said storage means being wound in the shape of a cone, a portion of the cable of said cone being provided with a progressively enlarged diameter along its length, said device having a channel provided with a plurality of non-rotatable friction surfaces adapted to be progressively engaged by said cable, whereby the increased force required to unwind said cable in the shape of a cone causes increased frictional force between said cable and said friction surfaces to thereby control the rate at which the stored portion of said cable is payed out, and the travel of said cable through said braking device being arrested when said enlarged diameter portion of said cable engages said non-rotatable friction surfaces.

3,143,347

GAME TOP WITH TRANSPARENT HEMISPHERICAL SPINNING BEARING CONTAINING A MOVABLE GAME ELEMENT

Max J. Ruderian, 545 Hanley, Los Angeles 49, Calif.

Filed Dec. 10, 1962, Ser. No. 243,316
2 Claims. (Cl. 273—147)



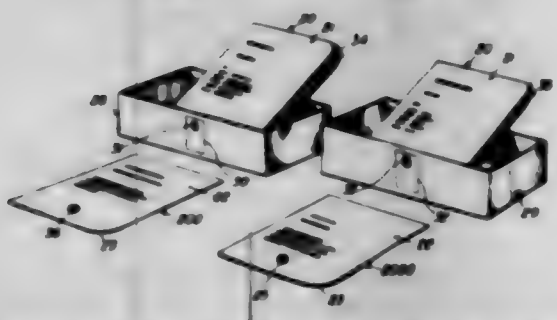
1. A game top comprising, in combination: a central flat disc shaped member having a scalloped peripheral edge over 360 degrees; a transparent housing coupled to the top side of said disc; symbol means in said housing in which symbols are disposed about a central point in outward radial alignment with individual scallops defined by said scalloped edge; a spinning bearing means comprising a transparent hemisphere secured to the lower side of said disc to provide a bearing surface for spinning said disc about the axis of said disc, one of said scallops engaging the floor when said disc comes to rest, whereby the symbol in radial alignment with said scallop is arbitrarily determined; and at least one movable element in said hemisphere to provide a game when said top is not being used as a spinning top.

3,143,348

CARD GAME FOR AMUSEMENT AND EDUCATIONAL PURPOSES

Marx J. Carsen and Roy A. Carsen, Whitestone, N.Y., assignors to Carsen & Son, Ltd., Long Island City, N.Y., a corporation of New York

Filed Feb. 24, 1961, Ser. No. 91,480
12 Claims. (Cl. 273—152.1)



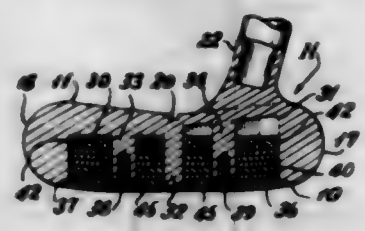
1. A card game comprising a deck of cards of like physical construction each having a face side bearing at least one answer to a put or implied question for exposure to view upon being uncovered by removal of all of the other cards which may cover this face and a hidden back side bearing one of a plurality of distinctly different identifying indicia, each card bearing means to facilitate uniform stacking of the cards in the deck with their answer face sides all facing in the same direction, and classifying means of a physical structure differing distinctively from that of all of said cards having a plurality of different delineated group locations for selectively receiving said cards in different groups at the different locations, each such face-borne answer card having a recognizable association to only one of the plurality of group locations which directs transfer by a manipulator of the deck to such group location of this card as a result of the manipulator's exercise of judgment of the truth or falsity of the answer, each group location being identified by certain indicium differing distinctly from all of the identifying indicia associated with all of the remaining group locations of said classifying means with each group location identifying indicium being in a predetermined matching relation apparently associated with and corresponding to only one of the distinct identifying indicia carried by the back sides of said cards and with that of each card hidden from the view of the manipulator as the face side of this card is observed by him for selective classification in said group locations, the attainment by the manipulator in his judging the truth or falsity of a particular answer indicated on the exposed face side of any particular card of such matching relation between the hidden indicium on the back side of this card and the indicium identifying a particular classifying group location to which he transfers this card in the exercise of such judgment being informative of the correctness of the manipulator's classifying action, and vice versa.

3,143,349

GOLF CLUB HEAD HAVING TWO WEIGHT RECEIVING RECESSES TO INDIVIDUALLY VARY THE WEIGHT OF THE TOE AND HEEL PORTIONS

Wilfred J. MacIntyre, Huron, Ohio (% Norwalk Truck Lines, Inc., 180 Milan Ave., Norwalk, Ohio)

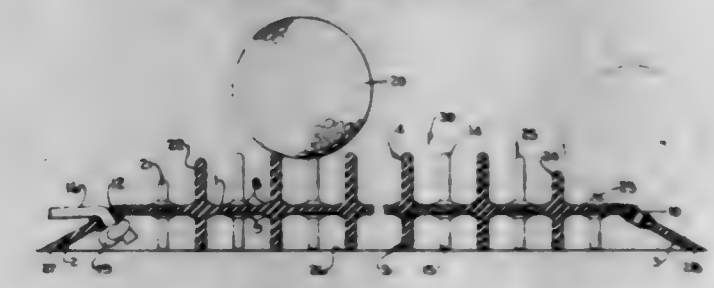
Filed Apr. 25, 1961, Ser. No. 105,437
1 Claim. (Cl. 273—171)



In a putter for use on a golf green for striking a golf ball and directing the ball toward the golf hole, a putter head comprising a body including a toe body portion and a heel body portion forming opposite ends of said body, said body having an underside, an upper side, and a substantially vertical ball striking surface extending along one lateral side of said body and along said heel and toe body portions and intersecting said upper side and underside of said body, a pair of recesses extending into said body from the underside thereof, one of said recesses located in said heel body portion and the other of said recesses located in said toe body portion, a substantially vertically extending post integral with said body and projecting into each of said recesses substantially centrally thereof, rib members formed integrally with said body and extending from the bottom of the recess in said heel portion and having a free end projecting into said recess in said heel body portion a distance less than the distance the associated post extends therein and providing a hollow

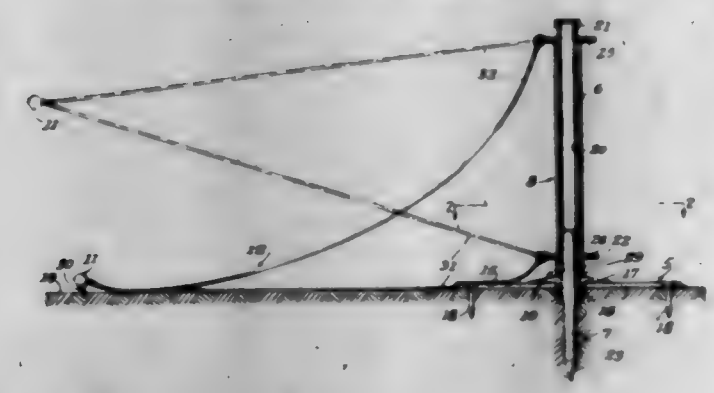
in said body between the free end of said rib members and the bottom of said recess in said heel body portion, a group of substantially flat weights in a stacked relation in each of said recesses and having openings therethrough conforming substantially to the cross section of said posts and through which said posts extend, cover plate means for each of said recesses extending thereover and covering said recesses, said group of weights in each of said recesses retained therein by said cover plate means and said group of weights in said recess in said heel body portion being supported between said cover plate and the free end of said rib members, and fastening means engaging each of said posts and said cover plate means for removably holding said cover plate means in place and releasable to release said cover plate means to provide for removal of weights from said recesses and individual adjustment of said toe and heel body portions of said putter head.

3,143,350
GOLF PRACTICE MAT
William P. Lester, 1954 General St., San Pedro, Calif.
Filed Jan. 9, 1963, Ser. No. 250,277
3 Claims. (Cl. 273—195)



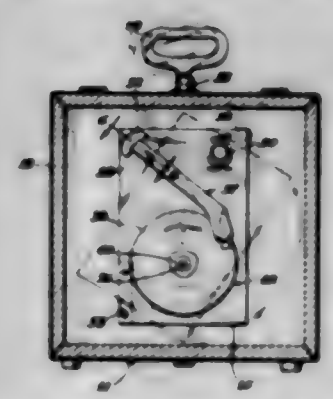
1. A golf practice mat comprising a sheet of flexible material and an array of a plurality of closely spaced elongated flexible supports integral with and arising from each side of said sheet, said sheet and said supports constituting a unitary molding, an elastic tether secured to said sheet for fastening the mat to the ground with said mat supported in position on the ground with one of said arrays of flexible supports upper-most for supporting a golf ball and with the other array lower-most and acting as a cushion under said sheet, said sheet having an end with an inclined extension in position to guide a golf ball from the ground level to the top of said upper-most array.

3,143,351
TETHERED GOLF BALL ON A SELF-LOCKING ROTATABLE SPOOL
Robert R. Bertrand, 5726 Murietta Ave., Van Nuys, Calif.
Filed Apr. 30, 1962, Ser. No. 191,242
3 Claims. (Cl. 273—200)



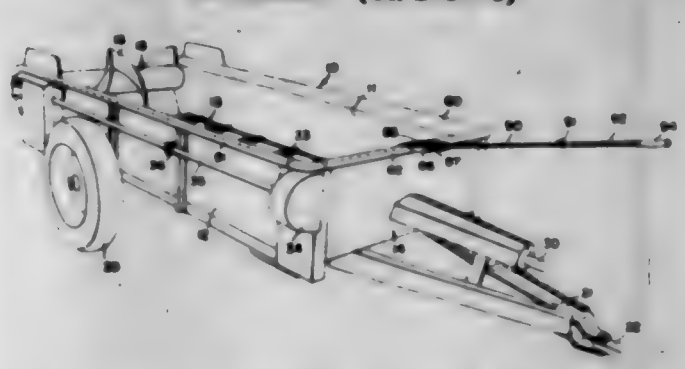
1. A golf practice device comprising:
(*a*) a base,
(*b*) a fixed standard on said base,
(*c*) a cap on the upper end of the standard,
(*d*) a spool rotationally and longitudinally movable on said standard,
(*e*) a clutch to releasably hold the spool non-rotational on the standard and releasable for freeing the spool to rotate freely on the standard upon endwise movement of the spool toward the cap on the standard, said clutch comprising a pin extending through said standard and notches on one end of the spool,
(*f*) a ball,
(*g*) cord means to hold the ball captive to the spool and adapted to wrap around said spool when locked and when the ball is stroked and flies out centrifugally, and
(*h*) a central earth-penetrable base-locating member extending from the standard and attached to said standard by said pin.

3,143,352
PORTABLE SOUND TRANSLATING DEVICE
Ernest O. F. Tatter, Addison, and Peter W. Tappan, Bartlett, Ill., assignors to Warwick Manufacturing Corporation, a corporation of Delaware
Filed July 7, 1961, Ser. No. 122,557
10 Claims. (Cl. 274—9)



3. A portable or mobile sound translating device, comprising: a support; a motor-board supported by said support and mounted for pivotal movement in the plane of the motor-board; sound translating equipment having components secured to said motor-board comprising a portable electrical power source, sound translating means, and amplification and speaker means, said motor-board being balanced about the pivotal mounting thereof substantially to float the sound translating equipment and thereby enable the device to operate substantially free of disturbing forces while being transported.

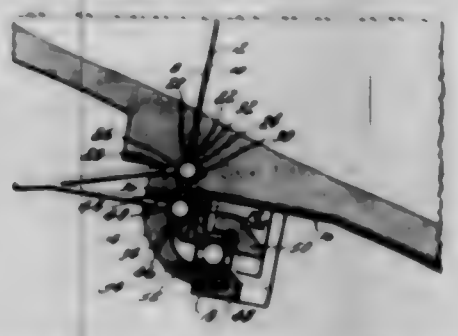
3,143,353
CONTROL MECHANISM FOR SPREADER
Eitar A. Henningsen, Genesee, Maurice J. Martens, East Moline, and John E. Hoffman, Jr., Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Continuation of application Ser. No. 91,690, Feb. 27, 1961. This application Oct. 21, 1963, Ser. No. 318,151
10 Claims. (Cl. 275—3)



7. A control mechanism for a material unloader having front and rear ends and composed of a box-like structure having a floor, upright wall at the front and sides thereof, and a material unloading mechanism with adjustable

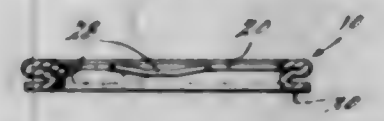
drive means adjacent the rear end, said control mechanism comprising: substantially continuous tube means supported on the walls having a rear terminal end adjacent the drive means and extending forwardly therefrom outboard of the walls, said tube means having a fore-and-aft extending tubular member projecting forwardly of the front wall; an adjusting element on the forward end of the tubular member; a flexible element disposed within the tube means; means connecting one end of the flexible element to the adjustable drive means; and means connecting the opposite end of the flexible element to the adjusting element whereby the latter may effect adjustment of the drive means.

3,143,354
SEAL FOR SWIVELLED NOZZLE
Philip P. Newcomb, Manchester, and Robert E. Coburn, Warehouse Point, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 16, 1961, Ser. No. 110,444
4 Claims. (Cl. 277—75)



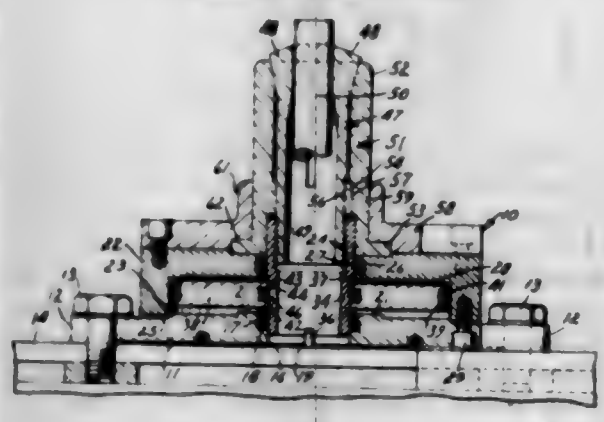
1. In a swivelled nozzle having a fixed nozzle portion and a movable nozzle portion cooperating to form an exhaust gas passage and being in juxtaposition with a narrow space therebetween, and bearing means externally of said nozzle for supporting the movable nozzle portion for rotation about the axis of the bearings, the improvement of a seal in said narrow space comprising a groove in at least one of said portions, a hollow ring in said groove having first, second and third perforations selectively positioned so that pressurized lubricant introduced to said ring enters the interior of said ring through said first perforation to cause said ring to bear against said groove, and so that lubricant from the interior of said ring passes through said second perforation into said groove to lubricate between said ring and said groove, and so that lubricant from the interior of said ring passes through said third perforation into said narrow space adjacent said gas passage.

3,143,355
SPARK PLUG GASKET
Arthur F. Gobb, Wyandotte, Mich., assignor to McCord Corporation, Detroit, Mich., a corporation of Maine
Filed Aug. 15, 1961, Ser. No. 131,682
2 Claims. (Cl. 277—236)



1. A spark plug gasket for assembly with a spark plug having a threaded end and an undercut portion inwardly of said threaded end, said gasket comprising an annular sheet metal member bent back upon itself to define a series of generally parallel deformable ring portions integrally joined at their peripheries, one of said ring portions having connected thereto in fixed radial relation a series of integral radially inwardly extending uniform projections spaced around the inner periphery thereof, the inner extremities of said projections defining a series of thread members disposed in a circle inwardly of said sealing surfaces, said projections being of a size to mate with the threads of the threaded end of said plug whereby said gasket when said projections are mated with the threads of said plug may be screwed on or off the threaded end of said plug, the outermost ring portions providing annular sealing surfaces and said projections being disposed between said sealing surfaces and of an overall thickness substantially less than the overall thickness of the series of said ring portions in their compressed condition so that the fixed relationship of said projections relative to said ring portions and the diameter of the circle formed by the inner extremities thereof are not disturbed by and during compression of said ring portions.

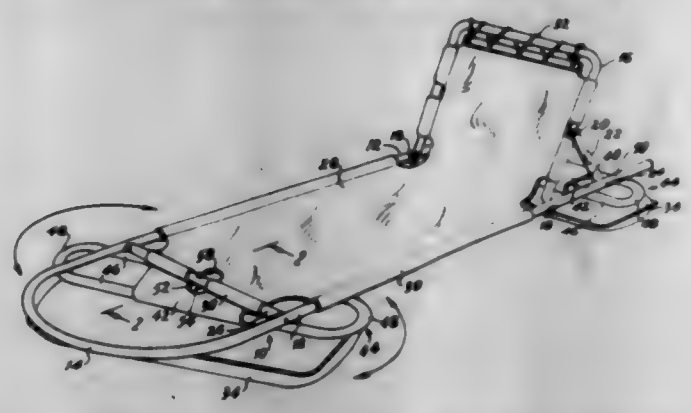
3,143,356
POWERHEAD
Percy E. Pray, 3328 Arthur St. NE., Minneapolis 18, Minn.
Filed Aug. 6, 1963, Ser. No. 300,244
3 Claims. (Cl. 279—4)



1. A powerhead for holding work pieces comprising:
(*a*) a casing adapted to be secured to the work supporting portion of a machine tool and defining a cylindrical chamber, a pair of fluid passages one each communicating with an opposite end of said chamber, and axial openings through each opposite end thereof to said chamber,
(*b*) a cylindrical drawbar extending axially through said axial openings for axial sliding movements relative to said casing and keyed to said casing against rotary movements relative thereto,
(*c*) a piston concentrically mounted on said drawbar for common axial movements therewith within said chamber and having a sealing ring slidably engaging the cylindrical wall of said chamber,
(*d*) said piston and drawbar being moved alternately in opposite directions axially of said chamber responsive to introduction of fluid under pressure alternately to opposite ends of said cylinder through said passages,
(*e*) a generally cylindrical work piece holder extending axially outwardly from one end of said drawbar and axially adjustably secured at its inner end to said drawbar for common axial movements therewith and for adjustable movements axially of said drawbar,
(*f*) said holder being longitudinally split at its outer end portion outwardly of said casing to provide a plurality of radially inwardly and outwardly movable gripping elements yieldingly biased in one direction of radial movement thereof,
(*g*) an actuator element mounted on said casing and engaging said movable gripping elements to impart movements thereto in a direction against said yielding bias responsive to axial movement of said piston and drawbar in one direction,
(*h*) independent means operatively connecting said actuator element to said work piece holder for imparting adjusting movement to said holder relative to said drawbar, and

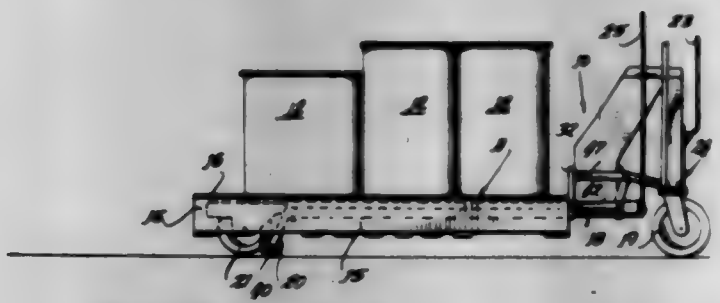
(*i*) means for releasably locking said actuator element against movements in directions to adjust said work piece holder.

3,143,357
GLIDING VEHICLE FOR USE ON SNOW, ICE OR WATER
Norman Krupnik, 13118 Rangoon St., Pacoima, Calif.
Filed Apr. 18, 1962, Ser. No. 188,321
6 Claims. (Cl. 280—16)



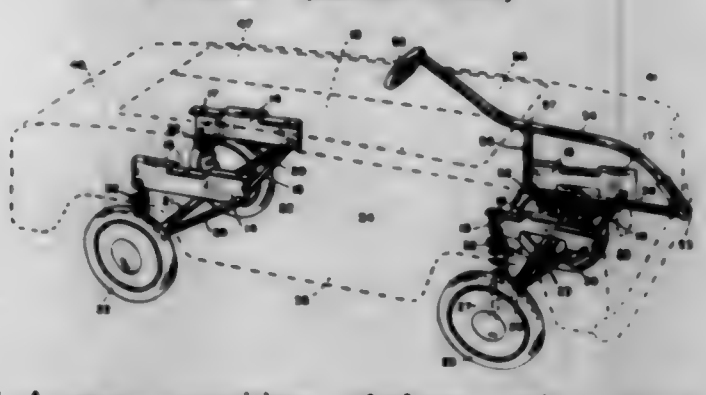
1. A vehicle of the character described comprising a body-supporting platform, said platform comprising a frame including spaced side members, a fabric web supported between said spaced frame side members, a pair of floats, each comprising a pneumatic cushion formed with a smooth-surfaced, surface-contacting bottom section, means supporting one of said floats at one end of said platform comprising spaced, rigid rod elements secured transversely of said platform at one end thereof, and means provided on the upper portion of said float engageable over said spaced rod elements, a second pair of rod elements, and means connecting said rod elements to one another, said second pair of rod elements pivotally supported at the opposed end of said platform for rotation in a plane perpendicular to said platform, said second float having means provided on its upper portion engageable over said second pair of rod elements.

3,143,358
PALLET TRUCK
Warren Du Broff, 305 Carol Court, Highland Park, Ill.
Filed June 14, 1962, Ser. No. 202,613
2 Claims. (Cl. 280—43.5)



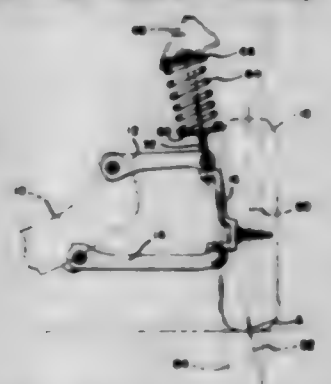
1. A pallet truck, comprising
(A) a generally vertically oriented frame equipped with wheel means at the lower end thereof,
(B) an elongated subframe connected at one end to said frame and extending generally horizontally,
(C) means on said frame for elevating said subframe,
(D) wheel means on the other end of said subframe, and
(E) means on said subframe for rotating said subframe wheel means from a horizontal to a vertical position, said subframe being equipped at said other end with second wheel means, said second wheel means being smaller in diameter than said subframe wheel means, and means on said subframe for pivoting said second wheel means through a vertical arc to elevate said other end of said subframe whereby said subframe wheel means can be rotated into load carrying position.

3,143,359
CHILD'S COASTER WAGON
Emanuel F. Dupuis, Box 31, St. Norbert, Manitoba, Canada
Filed Jan. 7, 1963, Ser. No. 249,889
2 Claims. (Cl. 280—87.03)



1. A wagon, comprising: a platform; a pair of spaced, lengthwise, vertical saddle members secured under and to said platform to reinforce same; two pairs of axled ground wheels below said saddle members, a pair across each end of the platform; a pair of inverted U-shaped cranks, each having the legs thereof secured to one of the axles of said wheels, extending upwardly therefrom at an angle, and the central portion of each crank pivotally mounted in the saddle members; compression spring means between the saddle members and the axles of said wheels, one at each of said crank legs, for resiliently supporting the platform from the axles; stub axle type steering means for turning one pair of the ground wheels in the steering manner of an automobile; a shell body enclosing and supported by the platform, and presenting a central upper well opening thereto; a control bar connected to said steering means, for operation of same; one end of said control bar pivotally mounted under and to the platform, and the opposite end thereof extending ahead; an outer tongue having one end thereof connected to the extending end of the control bar, the central part of said tongue pivotally mounted on the body at a point above, and in alignment with, the pivot point of the control bar, and the opposite end of the tongue terminating over said well opening, for manual operation of the steering means therefrom.

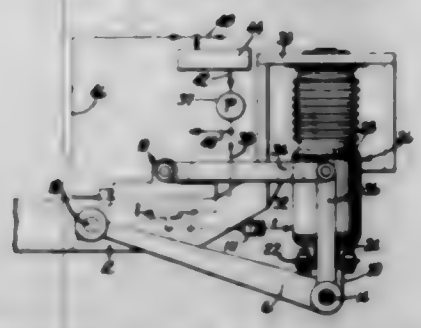
3,143,360
VEHICLE SUSPENSION
Julius B. Schultz, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 30, 1960, Ser. No. 40,022
8 Claims. (Cl. 280—96.2)



1. In a suspension system for a vehicle, the combination comprising a pivotally mounted suspension arm and a wheel support spindle, said arm having a socket member pivotally secured thereto, said spindle having a ball seated

in said socket, a pin intercoqnecting said ball and said socket, the axis of said pin being located perpendicular to the pivot axis of said socket member, a suspension spring interposed betwen a sprung vehicle part and an unsprung suspension part.

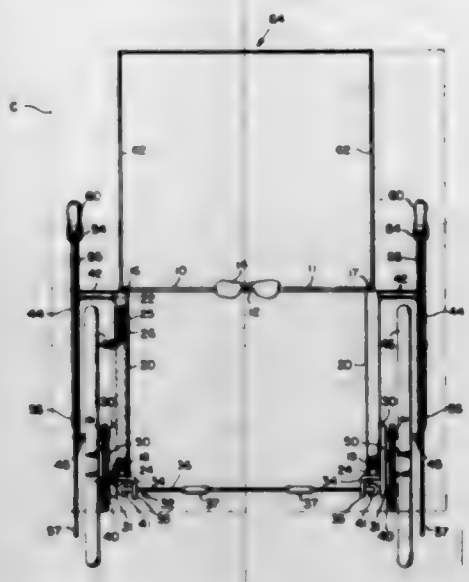
3,143,361
LEVELING VALVE
Edward J. Herbenar, Detroit, and Robert A. Rasmussen, St. Clair Shores, Mich., assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Feb. 6, 1958, Ser. No. 713,760
2 Claims. (Cl. 280—124)



1. A fluid leveling system for a vehicle comprising in combination a vehicle frame member, a vehicle axle member, an expansible chamber member connected between said frame member and said axle member for resiliently supporting the axle member on the frame and controlling the level of the frame member with respect to a wheel supported on the axle member, a fluid pressure pump adapted to deliver pressurized leveling fluid to the system, a reservoir for supplying fluid to said pump, a control valve located between the pump and the expansible chamber member and having a valve body with a central valve chamber therein with a first port leading into said chamber and connected to receive pressurized fluid from the pump, a second port leading into said chamber and connected to said expansible chamber, and a third port leading from said chamber and connected to conduct a bleeding leveling fluid to said reservoir, a first valve member adjustably threaded into said first port and having a valve operating stem projecting into said valve chamber, a second valve member adjustably threaded into said third port and having a valve operating stem extending into said chamber, a valve-operating arm extending into the valve chamber and located between said valve operating stems whereby movement in a first direction will engage the stem of the first valve member and movement in a second direction will engage the stem of the second valve member, a control arm connected between the frame member and axle member and movable responsive to variations in relative location between the frame member and axle member, a clutch means located between the control arm and the valve-operating arm to connect said arms and cause operation of the valve members with relative movement of the axle member beyond predetermined limits, a pressure-responsive clutch operating member connected to the first port and operative to connect the clutch only when the first port is pressurized by the pump, means to automatically disconnect the clutch with failure of pressure, and means to automatically reorient the clutch with the build-up of pressure at said first port whereby the arms will function to open the valve members at the proper relative positions of the axle and frame with repressurization of the first port by the pump.

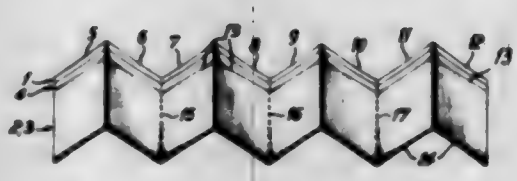
3,143,362
DICYCLE
Jasper Wilkes, 430 Lake Road, Webster, N.Y.
Filed Dec. 7, 1962, Ser. No. 243,109
5 Claims. (Cl. 280—288)

1. A rider-propellable vehicle comprising a frame that extends transversely of the direction of vehicle movement, a pair of forks mounted at the opposite sides of said frame respectively for independent pivotal movement about generally upright axes, a wheel mounted between the furcations of each of said forks respectively for rotation about a generally horizontal axis, pedal means mounted on said



frame and operatively coupled to said wheels through universal joints for rotating the wheels, and a steering extension connected to each of said forks respectively for adjusting the position of each of said forks and wheels about its respective upright pivotal axis.

3,143,363
METHOD FOR FOLDING LARGE AREA MAPS INTO THE SHAPE OF A BOOK AND CORRESPONDINGLY FOLDED MAPS
Gerhard Falk, Burchardstrasse 8, Hamburg, Germany
Filed July 11, 1961, Ser. No. 123,224
Claims priority, application Germany July 13, 1960
1 Claim. (Cl. 283—35)



A method of folding a sheet into book form capable of being performed mechanically wherein said sheet has a primary side and a secondary side, comprising the steps of linearly perforating said sheet at spaced parallel locations forming perforation lines extending in a first direction, substantially doubling said sheet with the secondary side in engagement forming a first fold perpendicular to and centrally intersecting said perforated lines, refolding the substantially doubled sheet to form a second fold parallel to said first fold and slightly offset with respect to the center line of the substantially doubled sheet parallel to said first fold whereby a margin will be formed along an edge of the completely folded sheet, said perforated lines terminating at said second fold, zigzag folding said refolded sheet into portions along parallel folds perpendicularly disposed to said first and second folds, said parallel folds being spaced apart a distance equal to one-half the distance separating adjacent perforated lines, and alternate parallel folds coinciding with said perforated lines.

3,143,364

PROCESS FOR BONDING POLYETHYLENE TO NON-POROUS SURFACES AND LAMINATED POLYETHYLENE PRODUCT

Edwin A. Klein, Basking Ridge, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed July 29, 1960, Ser. No. 46,119
23 Claims. (Cl. 285—55)



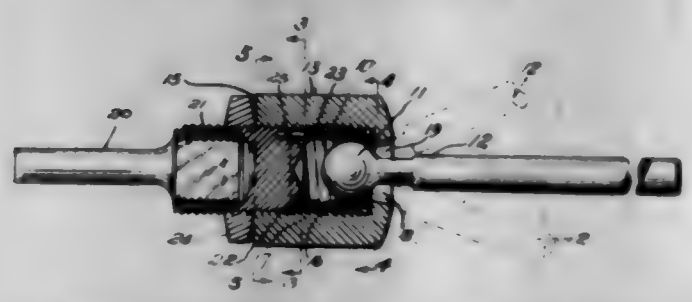
19. A female coupling of the turn-buckle type consisting essentially of a length of polyethylene pipe having tightly bonded to the opposite portions of its inside circumference, oppositely threaded layers of aluminized polyethylene containing between about 8% and about 20% of finely divided aluminum.

3,143,365

FLEXIBLE CONNECTING MEANS

Ernest Egger, 306 Comstock St., Joliet, Ill.

Filed Oct. 4, 1962, Ser. No. 228,395
1 Claim. (Cl. 287—12)



A flexible connecting means comprising a coiled spring, a ball positioned within said coiled spring, said spring having a diameter slightly less than the diameter of the ball before insertion therein so that after insertion said ball is tightly but pivotally held within said spring, a rod connected to and extending outwardly from said ball, a capped nut having a hollow interior with screw threaded inner walls and a flange with a reduced opening at its outer end, said coiled spring holding said ball being within the hollow interior of said capped nut and said rod extending outwardly through the reduced opening of said capped nut, a bar having a screw threaded bolt portion at one end engaging the screw threads on the inner walls of said capped nut, said bolt portion having a reduced end fitting within one end of said coiled spring, a pin attached to said bolt portion and engaging one end of said coiled spring to prevent rotation of the spring, and a nut threaded on said bolt portion and engaging the inner end of said capped nut, said rod adapted to be pivoted on said ball to extend and be held by said spring in a desired direction.

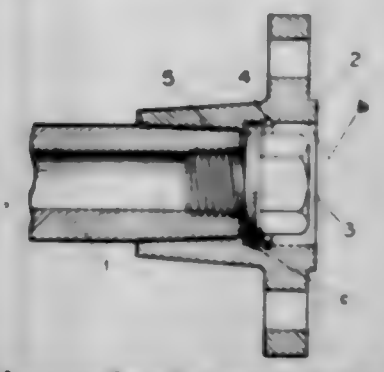
3,143,366

QUICK KEYLESS COUPLINGS

Harry J. Nichols, 1122 Rue Ave., Point Pleasant, N.J.

Continuation of application Ser. No. 370,438, July 27, 1953. This application Mar. 27, 1959, Ser. No. 802,330
4 Claims. (Cl. 287—53)

1. A quickly mountable and demountable keyless coupling assembly capable of self-coupling and self-uncoupling operation by an ordinary wrench comprising in combination: a tapered shaft part with coaxial screw-threads; a mating coupling part having an axial tapered bore complemental to said shaft and mounted coaxially thereon, *said coupling part also having a plain coaxial counterbore with a circular abutment at its inner end, said counterbore having a plain circumferential half-round groove intermediate its ends;* a *resilient plain thrust-ring of round section and with open ends spring-seated in said circumferential groove and extending thereinto for approximately half the radial thickness of the section;* and a reversible semi-automatic push-pull screw-jack mechanism for forcibly pushing said parts into coupling engagement and subsequently forcibly uncoupling and pulling said parts apart; said mechanism including said parts, *said thrust-ring,* and a reversibly rotatable axially traveling push-pull jack-screw shaped in part so as to be rotatable by an ordinary wrench and



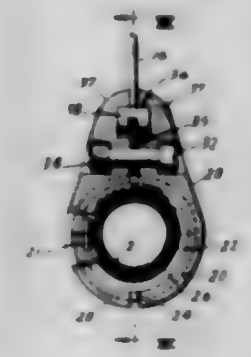
having coaxial screw-threads engaging with the aforesaid coaxial screw-threads so as to cause said jack-screw to travel axially when so rotated and having an *integral* round driving part working in said counterbore between said abutment and said thrust-ring, said driving part having an under circular bearing surface slidable upon said abutment during pushing operation of said jack-screw, *and an outer circular chamfered corner adapted to slide on said thrust-ring on uncoupling operation of said jack-screw and to wedge said thrust-ring outwardly into said groove, thereby to lock said thrust-ring against dislodgement from said groove by combined thrust and torsional forces applied by said jack-screw.*

3,143,367

LIQUID DISPENSING APPARATUS HAVING IMPROVED DELIVERY HOSE RETRIEVER MEANS

James Alan MacDonnell, Longmeadow, Mass., assignor to Gilbert & Barker Manufacturing Company, West Springfield, Mass., a corporation of Massachusetts

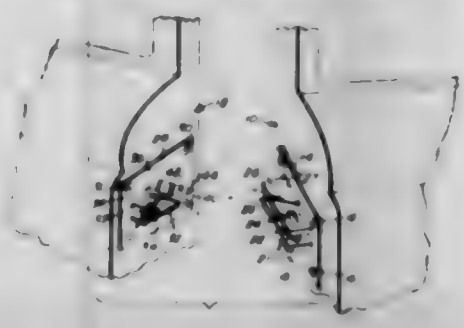
Filed June 11, 1962, Ser. No. 201,694
3 Claims. (Cl. 287—92)



1. A clamp device for supporting a delivery hose of liquid dispensing pump apparatus and connecting said hose to a retractable cable of hose retriever mechanism, said device comprising a collar and clamping means for securely gripping the collar on the hose, a bracket having members with portions encircling said collar and engaged thereby for rotation of the bracket about the collar and the axis of the hose, said members also having outwardly extending portions and means for fastening said members together, said extending portions being supported in spaced relation with the facing inner walls thereof at right angles to the axis of said collar, said inner walls having opposed recesses therein and a rod pivotally

mounted at its ends in said recesses, said rod being provided with means for attaching a cable thereto between said inner walls.

3,143,368
SAFETY LOCK
Jack W. Stage, 562 Blackberry Lane, San Rafael, Calif.
Filed May 15, 1963, Ser. No. 280,525
11 Claims. (Cl. 292—198)



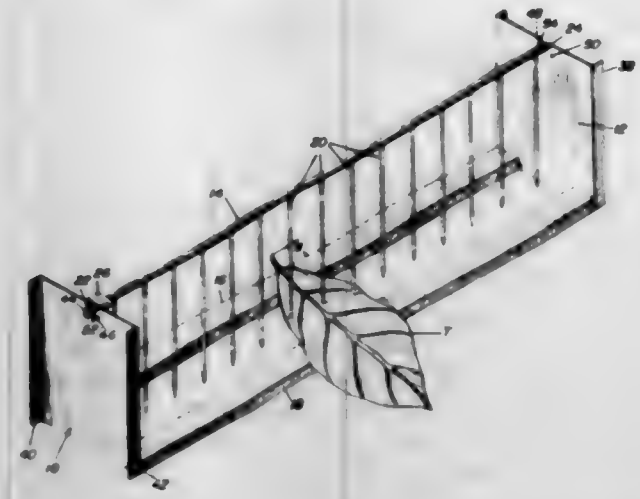
1. A locking device for securing first and second items together which have relative movement between disengaged and engaged positions comprising a first plate extending outwardly from said first item and having an aperture near one end thereof, a second plate, a pin extending from said second plate, means pivotally mounting said second plate to said first item for movement between an open position where said pin is spaced from said aperture to a closed position where said pin extends through said aperture, a third plate carried by said second item, a cam surface on said third plate engageable with said second plate for moving said second plate from said open position to said closed position and said pin through said aperture as said items are moved from said disengaged position to said engaged position, second means removing said cam member from engagement with said second plate and pivoting said second plate to said open position, and third means of said second item for receiving said pin when said pin is in said engaged position.

3,143,369
DOOR STOP
Francis A. Adams, 3375 Brothers Place SE., Washington, D.C.
Substituted for abandoned application Ser. No. 128,567, Aug. 1, 1961. This application Apr. 15, 1964, Ser. No. 360,802
1 Claim. (Cl. 292—288)



In a door stop consisting of a vertical rod, a foot attached to the lower end of said rod and adapted to rest on the floor, and a rubber pad through which the said rod passes, said rod being in screw-threaded engagement with said pad, said pad having an outer free edge and outer marginal area on the underside thereof that extend completely around the rod, the said marginal area of said pad being adapted to be supported on, and to be normally completely in contact with the floor, and any portion of said edge being insertable in a space between the floor and the bottom edge of a door; and the upper surface of said pad being movable into and out of contact with said edge of said door by turning the rod while said marginal area remains in contact with the floor.

3,143,370
TOBACCO RACK
Tiras J. Danford, 1127 Rosewood Ave., Rocky Mount, N.C., and Joseph J. Harrington, Lewiston, N.C.
Filed May 11, 1962, Ser. No. 193,955
1 Claim. (Cl. 294—5.5)



A rack for the storage of tobacco leaves comprising in combination:

(*a*) two spaced apart end sections disposed in a substantially parallel relationship,

(*b*) each of said end sections consisting of a flat rectangular sheet of metal having two upper corners and two lower corners,

(*c*) two elongated channel members connecting the opposed lower corners of said two end sections,

(*d*) a plurality of leaf piercing fingers having lower ends in the form of spike-like points and arranged in substantially the same plane and each piercing finger being approximately the same length as the distance between the upper and lower corners of said end sections,

(*e*) the upper end of said plurality of leaf piercing fingers all being joined to a common elongated pipe which is approximately the same length as said elongated channel members,

(*f*) a V-shaped notch approximately midway along the top edge portion of each of said two end sections,

(*g*) the opposite ends of said elongated pipe resting in said V-shaped notches,

(*h*) J-shaped hooks having their inner ends positioned within the hollow interior of said elongated pipe,

(*i*) the inner ends of said J-shaped hooks being joined to the outer ends of two separate spring members,

(*j*) the inner ends of said two separate spring members being joined together by a length of wire,

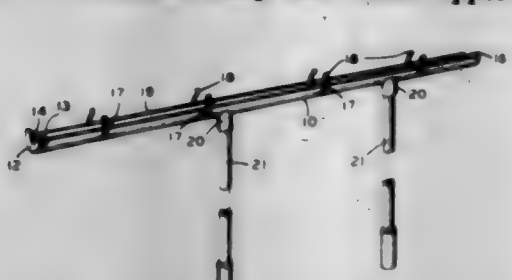
(*k*) the outer ends of said J-shaped hooks each being engaged within a hole located in the side of each end section adjacent the V-shaped notch, and

(*l*) two flanges on the outer sides of each end section extending between the upper and lower corners thereof, the pair of flanges on one end section extending outwardly away from the pair of flanges on the other end section.

3,143,371
DEVICE FOR REMOVING AND INSERTING FLUORESCENT LAMPS
Jack Bloch, 1800 Albemarle Road, Brooklyn, N.Y., and Harold L. Loew, 328 Cross St., Fort Lee, N.J.
Filed Aug. 28, 1962, Ser. No. 217,990
6 Claims. (Cl. 294—28)

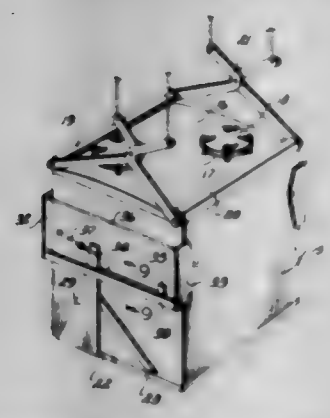
1. A device for installing and removing elongated tubular lamps, having contact pins extending from opposite ends thereof, into a ceiling fixture having a fixed and re-

tractable socket member for receiving the contact pins, said device comprising an elongated cradle being curved in transverse section and presenting opposed side walls for confining a lamp therein, spring fingers extending upwardly from the upper edges of the cradle and adapted to fit over an inserted lamp and whose upper terminals



extend outwardly to permit the cradle to be moved upwardly into engaging contact with a lamp installed in a ceiling fixture, said cradle being open at one end thereof and being provided with a fixed wall at its opposite end having a slot extending downwardly from its upper edge to receive a contact pin of a tube, said wall adapted to bear against the adjacent end of an attached tube to move it against a socket member at the opposite end.

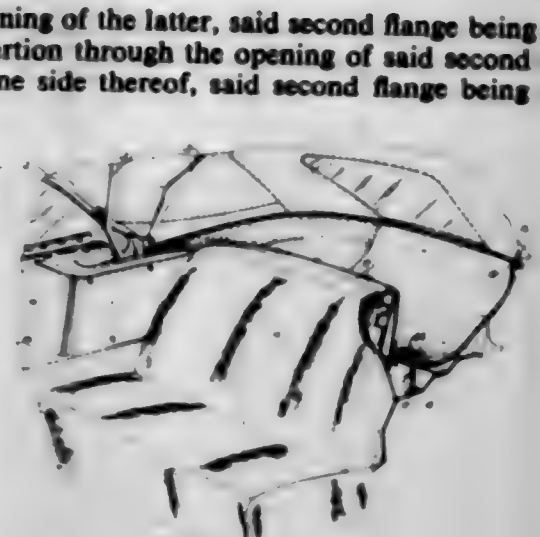
3,143,372
BULK PRODUCT LOADER
James D. Teague, 3361 Oak Knoll Drive, Los Alamitos, Calif.
Filed Jan. 22, 1962, Ser. No. 167,738
2 Claims. (Cl. 294—71)



1. A bulk product loader comprising a bin having side walls and a top, a pair of bottom doors hingedly mounted on two opposite side walls, the inner edges of said doors overlapping, a finger extending vertically from that one which extends beyond the other, and a latch bar hinged on the side walls of the bin and having a block located thereon to engage behind the finger to prevent swinging thereof and release of the bottom doors, and an additional locking means for the finger in the form of a hook pivoted on a side wall and engageable about the upper end of the finger.

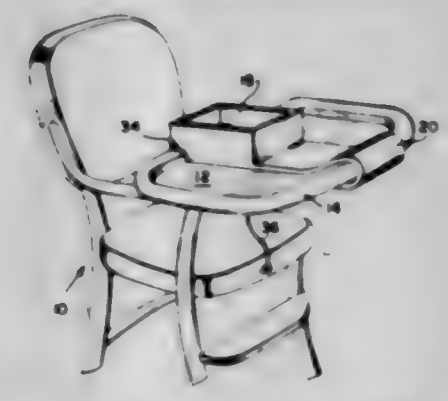
3,143,373
DRAIN TUBE ASSEMBLY
Maurice E. Fordyce, Farmington, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 22, 1961, Ser. No. 161,482
8 Claims. (Cl. 296—107)

1. In combination, a first member and a second member in a spaced relationship, each of said members having a drain opening therein, and a drain tube extending between said members and connecting said openings, said drain tube comprising a body portion having a first flange at one end and a second flange at its other end, said first and second flanges being larger than the openings in said first and second members respectively, said first flange attached to the surface of said first member at the opening of the latter, said second flange being resilient for insertion through the opening of said second member from one side thereof, said second flange being engaged



by the other side of said second member to retain said other end of the tube against withdrawal from the opening in said second member.

3,143,374
CHILDREN'S FEEDING TRAY
Ralph J. Corboni, 327 Sharon Drive, New Orleans, La.
Filed Nov. 6, 1963, Ser. No. 321,889
6 Claims. (Cl. 297—188)

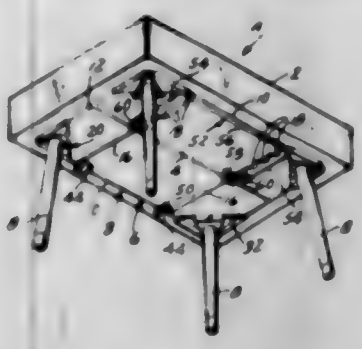


1. An integral one-piece, molded infant feeding tray having a generally elongated configuration and adapted to attach across the width of a high-chair tray comprising, a first hook means adapted to hook about the back edge of a high-chair tray, a bowl section immediately above said first hook and integral therewith and adapted to receive food, a planar element extending from the bottom surface of said bowl section and integral therewith and extending beyond the front-most portion of said bowl section, and a second hook means extending from the front-most portion of said planar element and integral therewith and adapted to hook about the front edge of the high-chair tray.

3,143,375
ADJUSTABLE FURNITURE PIECE
Murray Langbaum, East Hills, N.Y., assignor to Nova Products Corp., Brooklyn, N.Y., a corporation of New York
Filed Mar. 22, 1962, Ser. No. 181,634
10 Claims. (Cl. 297—439)

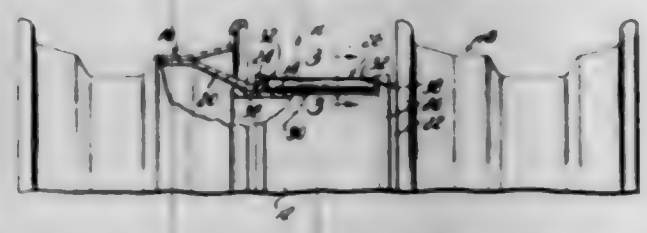
1. In combination, (*a*) a self-supporting cushion assembly including a rigidifying part therefor, (*b*) a support comprising a skeleton frame independent of said cushion assembly, smaller in all lateral dimensions than said cushion assembly, and comprising narrow side and end members meeting at corners, corner plates secured to said side and end members inside the corners of said frame and having an essentially vertical aperture formed therein, and legs with parts removably receivable in said corner plate apertures, said legs when thus attached to said

frame extending downwardly therefrom, said frame including a longitudinally extending series of member-engageable structural elements spaced therealong, (*c*) means secured to said cushion assembly at a first area and engaging said frame at a second area remote from said structural elements and effective to articulately secure said



cushion assembly on top of said frame, and (*d*) an adjustment member articulately secured to said cushion assembly at a third area remote from said first area and selectively engageable with said structural elements for selectively causing said cushion assembly to articulately move relative to said frame and to assume any one of a plurality of positions relative thereto.

3,143,376
SPACER FOR DUAL RIMS
Mario A. Di Federico, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Feb. 6, 1963, Ser. No. 256,615
1 Claim. (Cl. 301—13)



A spacer for separating a pair of tire rims on a vehicle wheel, comprising an annular base having a plurality of uniform radial corrugations substantially equally spaced about its circumference and extending laterally from margin to margin thereof, said margins rising radially from said base into circumferentially undulating, straight-sided flanges having faces of substantial height adapted to engage the tire rims, respectively.

3,143,377
WHEEL DISKS AND DISK WHEEL ASSEMBLIES
Walter W. Bulgrin and Meredith Hall MacKusick, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 26, 1960, Ser. No. 58,578
6 Claims. (Cl. 301—63)

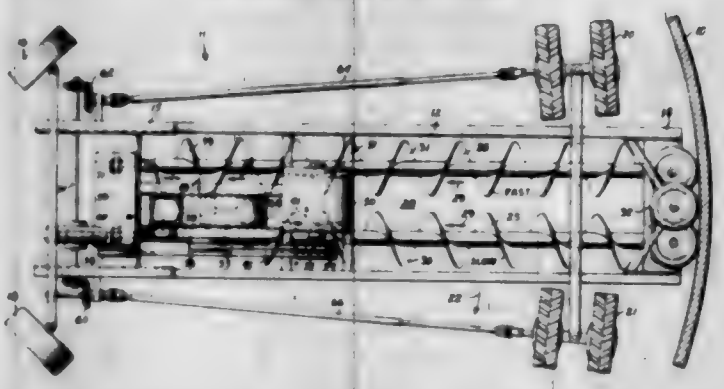


1. A metal spun wheel disk having a curved bowl shape with a flat hub portion and a cylindrical relatively thin rim flange connected by an outwardly convex parabolically curved intermediate portion and the thickness of the curved intermediate portion tapering gradually from the hub portion outwardly to the peripheral cylindrical rim flange, the thickness of said disk tapering in proportion to the sine of the angle formed by the tangent at any point on said parabolically curved intermediate portion with respect to the axis of said curved bowl shape.

ERRATUM

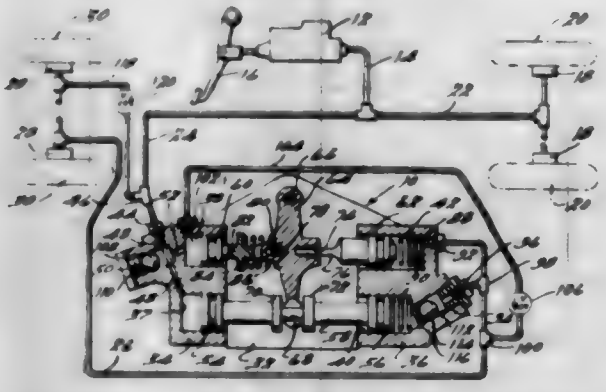
For Class 302—37 see:
Patent No. 3,143,380

3,143,378
GATHERING DEVICE
William E. James, Ephrata, and Daniel C. Heitsim, Shippensburg, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 31, 1962, Ser. No. 198,818
3 Claims. (Cl. 302—56)



1. An improvement in a silo unloader positionable within a vertically extending silo for travel around the silo axis and having means for removing material from the top surface of a column of ensilage therein and for conveying such material toward said axis to means which discharges the material from the silo, the improvement residing in said removing and conveying means and comprising, in combination, a pair of radially extending augers located one directly in front of the other relative to the travel of the unloader, said augers having flights engageable with said ensilage top surface and cooperative to deliver material between the augers and toward said discharge means, and power means rotating said one auger at a given speed and said other auger at a different speed whereby there is relative axial movement of the flights of the respective augers and the material conveyed is subjected to a shredding action as it is conveyed.

3,143,379
BRAKE PRESSURE PROPORTIONING DEVICE
Carolus L. Ekstergian, Media, Pa., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 18, 1961, Ser. No. 159,987
5 Claims. (Cl. 303—24)



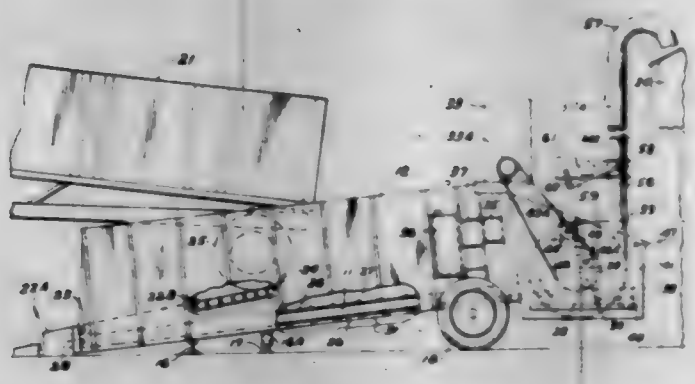
2. A pressure proportioning device adapted to be interposed between the master cylinder and the rear brake

cylinders of the hydraulic brake system of a vehicle having front and rear brakes, said device including differential area piston means, said piston means having areas exposed to fluid from said master cylinder, a valve arranged for closure after a predetermined initial brake application and operable to limit the areas of said piston exposed to master cylinder pressure, said piston means having at least one fluid displacing portion operable to pressurize fluid at said rear brake cylinders by movement thereof in a given direction upon an increase in master cylinder pressure after actuation of said valve, and resilient means arranged for loading by said piston means during a substantial portion of said initial brake application and operable to give up energy in a direction assisting said fluid displacing portion in pressurizing fluid at said rear brake cylinders after actuation of said valve.

3,143,380
MOBILE SILO HOPPER

Paul E. Dehring, Rte. 1, Box 41, Armada, Mich., and John M. Burdick, 61380 Haven Ridge Road, New Haven, Mich.

Filed July 31, 1962, Ser. No. 213,744
9 Claims. (Cl. 302—37)



1. A portable and self-contained loader for use with a silo, comprising a bed having supporting wheels, side walls and an end wall, a loading ramp at the end of said bed opposite said end wall arranged to receive a truck or the like, drag-type conveyors moveable over said bed in the direction away from said ramp, a transverse conveyor belt at the end of said bed adjacent said end wall, a blower mounted on one of said side wall and having an intake opening in alignment with said transverse belt, an exhaust opening in said blower, a conduit in communication with said exhaust opening and the interior of said silo, and means mounted on said bed to drive said conveyors, means mounted on said bed to drive said transverse belt and means mounted on said bed to drive said blower.

ERRATUM

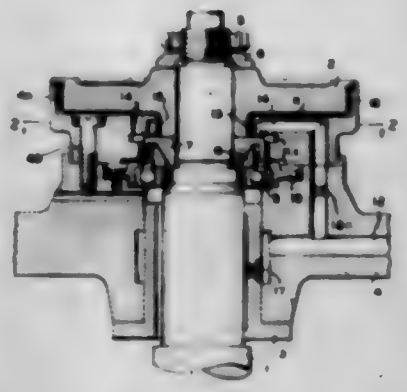
For Class 303—24 see:
Patent No. 3,143,379

3,143,381
FLUID THRUST BEARING

Michel Vurpillot, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France

Filed June 2, 1961, Ser. No. 114,458
Claims priority, application France June 13, 1960
6 Claims. (Cl. 308—9)

1. A fluid thrust bearing for a revolving shaft comprising: a fixed housing having a wall thereof forming a fixed thrust member of said bearing; a shaft mounted for axial and rotary movement in said housing; a piston forming a movable thrust member of said bearing fixedly secured to said shaft for movement therewith, said piston having one end wall thereof facing said wall of said housing and forming therewith the fluid pressure chamber of said fluid thrust bearing; means for conducting fluid under pressure

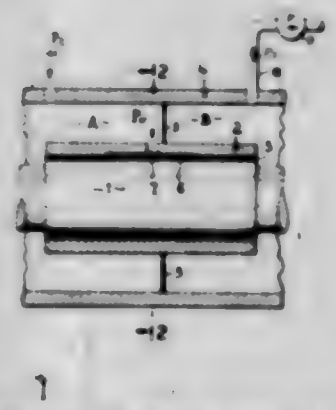


to said chamber for supporting said piston; means responsive to axial movement of said piston for controlling the flow of said fluid through said conducting means; and means for discharging said fluid from said chamber at a controlled rate of flow.

3,143,383
AERODYNAMIC BEARING

André Ertaud, Paris, Jean Friberg, Bourg-la-Reine, and Pierre Maglaot, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed May 29, 1962, Ser. No. 198,530
Claims priority, application France June 6, 1961
5 Claims. (Cl. 308—122)



1. An aerodynamic bearing comprising a bushing, a rotary shaft rotating in said bushing, a slight clearance being provided between said shaft and said bushing, means for feeding gas under pressure to said clearance, the central portion of the internal surface of the bushing being provided with a fine groove, and pumping means provided to exhaust said gas at one end of said bearing by subjecting said one end to a relatively low pressure, said groove and the other end of said bearing being in communication with a chamber subjected to a pressure distinctly higher than said relatively low pressure.

3,143,383
MEANS FOR PREVENTING FRETTING EROSION

Eric N. Bamberger, Cincinnati, Ohio, and Filbert E. Spinelli, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed July 21, 1961, Ser. No. 125,667
8 Claims. (Cl. 308—241)

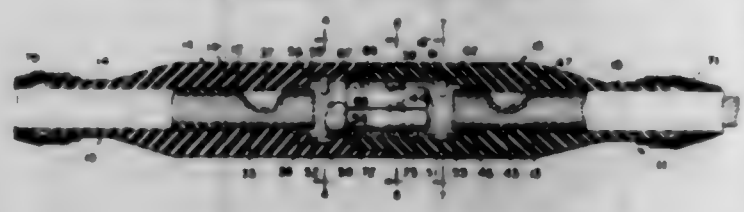
1. The combination which comprises: two substantially stationary members having opposed contacting surfaces; the contacting surface of the first of said members comprising a metal selected from the group consisting of iron, nickel, cobalt, iron base alloys, nickel base alloys and cobalt base alloys; and the contacting surface of the

second of said members comprising an anti-fret coating comprising, by weight, 20–40 percent nickel, 2–10 percent



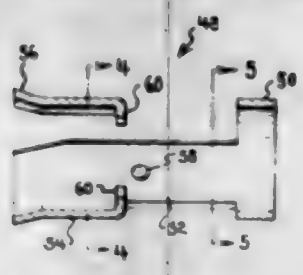
indium, with the balance essentially copper bonded to the second of said members.

3,143,384
CABLE CONNECTOR ASSEMBLY
Robert Senior, Jr., Cincinnati, Ohio, assignor to Empire Products, Incorporated, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 24, 1962, Ser. No. 227,628
5 Claims. (Cl. 339—59)



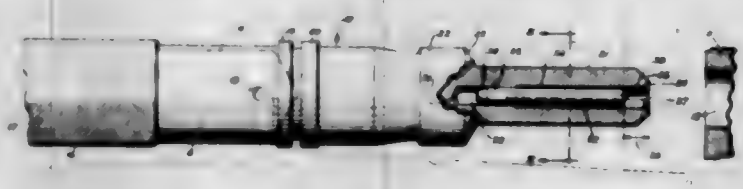
1. A cable connector assembly comprising a pair of insulated cable ends, a first electrically conductive coupling element electrically connected to one of said cable ends, a second electrically conductive coupling element electrically connected to the other of said cable ends, a first insulating sleeve disposed in surrounding relationship to said one cable end and sealingly engaged therewith, a second insulating sleeve disposed in surrounding relationship to the other of said cable ends and sealingly engaged therewith, said insulating sleeves having interengageable outer end portions which cooperate to form a fluid-tight joint in engagement with one another, said outer end portions having contactable surfaces of complementary configuration, said second coupling element having an outer end portion which is adapted to be received in the bore formed longitudinally through said second sleeve, said second sleeve having an inwardly projecting lip means formed at the outer end of the inner surface thereof, the outer end of said second coupling element engaging said lip means for retaining the second coupling element in operative position, said second sleeve being provided with a longitudinally extending groove formed in the inner surface thereof for receiving outwardly projecting pin means formed on said second coupling element, and a ring member mounted in fixed position within said second sleeve and having a notch formed therein, said notch opening toward the outer end of said sleeve and being in alignment with the groove formed in said second sleeve, said second coupling element including outwardly projecting pin means adapted to slide along said groove and into the aligned notch in said ring member to prevent relative rotation between said second coupling element and said second sleeve.

3,143,385
ELECTRICAL CONNECTING DEVICE
John A. Zimmerman, Jr., Hershey, and Frank B. Miller, Jr., Mechanicsburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed May 14, 1962, Ser. No. 194,369
6 Claims. (Cl. 339—217)



6. A contact retainer comprising a cylindrical sleeve, arms extending axially from opposite sides of said sleeve at one end thereof, enlarged ends on said arms extending arcuately partially around the axis of said sleeve, the trailing edges of said enlarged ends which are proximate to said sleeve having lips directed radially inwardly towards the axis of said sleeve, the leading edge portions of said enlarged ends which are remote from said sleeve being conical and divergent with respect to the axis of said sleeve, said retainer being intended for usage in a cylindrical cavity having a pair of opposed bosses intermediate its ends with said sleeve disposed against said bosses on one side with said arms extending between said bosses, and with said lips being disposed against said bosses on their opposite sides whereby, a contact terminal having an intermediate circumferential recess disposed in said cavity is restrained against axial motion in one direction by the wedging effect of said lips between said bosses and one side of said recess.

3,143,386
MALE CONNECTOR CONTACT
Joseph A. Nava, Villa Park, and Henryk W. Merecz, Chicago, Ill., assignors to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey
Filed Aug. 6, 1962, Ser. No. 214,978
2 Claims. (Cl. 339—252)

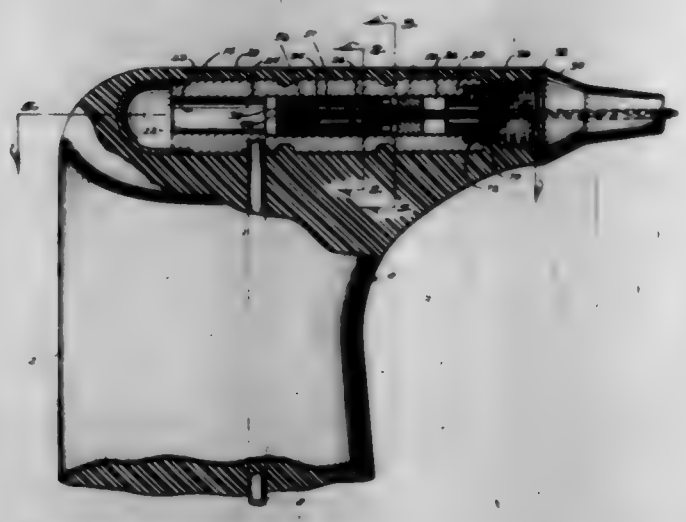


1. A pin contact comprising
an elongate generally cylindrical male contact member having
one end formed to effect a coupling connection with a conductor wire,
the opposite end of said contact member comprising a mating portion having a uniform outer peripheral surface and adapted to be inserted in a female contact,
said mating portion having an annular recess extending axially inwardly from the end thereof to divide the mating portion into inner and outer concentric pins,
said outer pin being axially split to form tines radially deflectable within the limits of said recess,
said inner pin having its outermost end relieved axially inwardly sufficiently to prevent welding of the tines during current rupture.

3,143,387
ANTENNA MAST FOR AIRPLANES

Herman R. Person, Columbus, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska

Filed Dec. 17, 1962, Ser. No. 245,054
3 Claims. (Cl. 339—273)



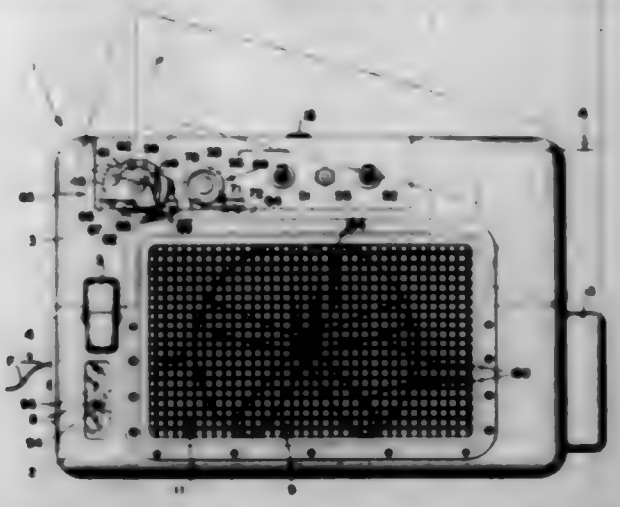
3. In an antenna mast,
a chuck barrel having an interior opening and having a forward end and an open rearward end,
a chuck body slidably positioned in the interior opening of said chuck barrel,
said chuck body having an axial bore therein, said axial bore terminating in a compartment adjacent the rearward end of said chuck body, said compartment having an aperture means in its rearward end in alignment with said axial bore, one side portion of said compartment being cut away to expose the interior of said compartment,
a hollow tightening screw means threadably connected on its rearward end to the interior of said chuck barrel rearwardly of said compartment,
a hollow shank portion secured to said screw means and movably extending through said aperture means into said compartment,
and a hollow shoulder on the forward end of said shank portion and rotatably positioned within said compartment, said shoulder being adapted to engage the rearward interior end of said compartment upon the rearward movement of said tightening screw in said chuck barrel;
the size of the cut away portion of said compartment being greater than the size of said shoulder to permit the lateral displacement of said shoulder and said shank means from said compartment when said chuck body and said tightening screw are removed from said chuck barrel,
the open end of said chuck barrel, the hollow tightening screw, the hollowing shank portion, the hollow shoulder and the axial bore in said chuck body being adapted to receive an antenna wire to be engaged and gripped by said chuck elements.

3,143,388
RECORDING APPARATUS

John P. Mahoney, Jr., Wheatridge, and Richard S. Kampf, Denver, Colo., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Feb. 7, 1957, Ser. No. 638,729
7 Claims. (Cl. 346—109)

7. In an oscillograph for recording the time-variations of a plurality of phenomena under observation by means of a plurality of traces on a recording medium, a source of radiant energy, means located close to said source of radiant energy and receiving radiant energy from said source of radiant energy and collimating said radiant energy into a beam, a plurality of flat galvanometer mirrors each adapted to be oscillated by a separate galvanometer in response to the variations of one of the phenomena under observation and located in the path of said beam so as to deflect a portion of said beam upon oscillation of said mirror by one of said galvanometers, a plurality of cylindrical galvanometer lenses located in the path of said beam and each having the axis of its cylindrical

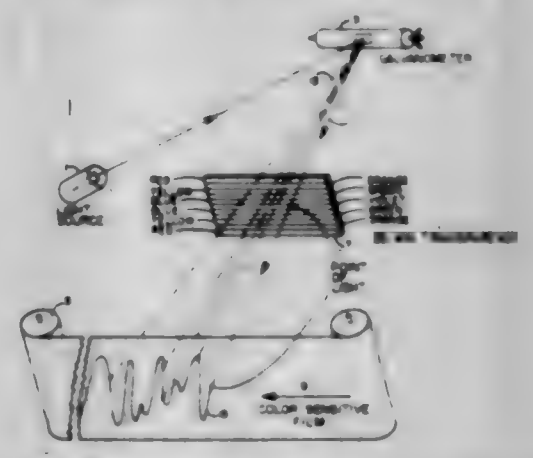


surface nearly parallel to the axis of oscillation of one of said galvanometer mirrors and each placed to transmit said radiant energy to one of said galvanometer mirrors and to transmit radiant energy reflected from said galvanometer and to focus an image of said source on said recording medium, and means receiving each of said beams of radiant energy from each of said galvanometer mirrors and concentrating said beams of radiant energy into spots of high intensity on said recording medium.

3,143,389
MULTICOLOR RECORDING

Clifford D. Dransfield, Dallas, Tex., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 25, 1961, Ser. No. 140,438
11 Claims. (Cl. 346—109)



1. Apparatus for recording an amplitude varying signal in the form of a multicolored amplitude varying trace comprising
(*a*) a light source,
(*b*) a reflecting means for projecting a point of light and moving said point of light in accordance with the amplitude varying signal,
(*c*) a color sensitive film, and
(*d*) a color transparency containing two sets of similar color bands, each set of said bands occupying one-half of said transparency and arranged so that the color of any given point on the trace is indicative of the signal's amplitude deviation from the zero signal level at that point, said transparency located between said reflecting means and said color sensitive film.

CHEMICAL

3,143,390
PROCESS FOR THE DYEING AND PRINTING OF CELLULOSE FIBRES

Hans Heuberger, Oberwil, Basel-Land, Switzerland, and Hans Rafael, Weil am Rhein, Germany, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,384
Claims priority, application Switzerland Sept. 22, 1961
1 Claim. (Cl. 8—54.2)

In a process for fixing reactive dyestuff in cellulose material, comprising impregnating the cellulose material with a liquor containing a reactive dyestuff the reactive grouping of which is the trichloropyrimidyl-(4)-amino radical and urea, pre-drying and then heating the impregnated material and finally rinsing, soaping and drying the same,

the improvement consisting of, in combination,

(*a*) adding to said impregnating bath per liter thereof from 0.01 to 0.15 mol of caustic alkali, and from 0 to 0.15 mol of a basically reacting salt selected from the group consisting of an alkali metal carbonate, an alkali metal metasilicate, disodium phosphate, trisodium phosphate and tetrasodium pyrophosphate.

(*b*) pre-drying the impregnated material to a moisture content of about 5% to 25% at about 80° C.,

(*c*) and thereafter carrying out said heating of the predried material at a temperature of about 220° C. for about 30 seconds.

3,143,391
ALKALI METAL TETRAFLUOROCHLORATES AND THEIR PREPARATION

Thomas J. Hurley, Jr., Niagara Falls, Richard O. MacLaren, North Tonawanda, and Ellsworth D. Whitney, Eggertsville, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Oct. 12, 1959, Ser. No. 846,035
6 Claims. (Cl. 23—14)

6. A material selected from the class consisting of cesium tetrafluorochlorate of the formula $CsClF_4$ and rubidium tetrafluorochlorate of the formula $RbClF_4$.

3,143,392
PROCESS FOR PREPARING ALUMINUM SULFATE

Walter C. Saeman, Orange, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed June 9, 1961, Ser. No. 116,069
14 Claims. (Cl. 23—123)

1. A process of making aluminum sulfate comprising:

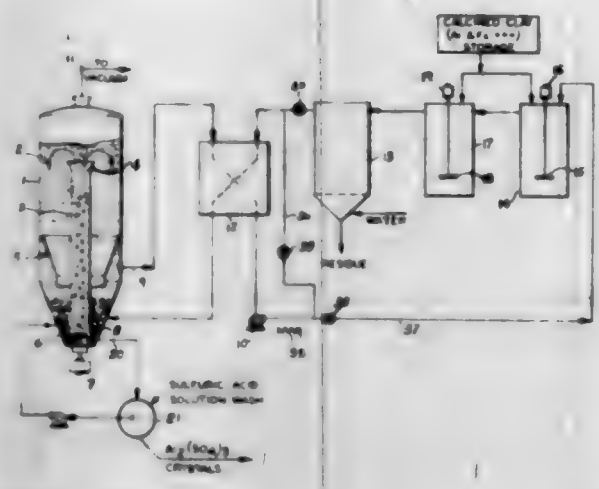
(*a*) providing in a first vessel a first suspension, comprised of substantially pure crystalline aluminum sulfate suspended in a supersaturated first solution of aluminum sulfate acidified with sulfuric acid in the range of about 3% to about 40%;

(*b*) further supersaturating said first solution by concentration to induce crystallization of aluminum sulfate therefrom;

(*c*) segregating by hydraulic elutriation from said first suspension in said first vessel a first zone of a second suspension of a first system of fine crystals of aluminum sulfate suspended in said first solution and a second zone of a first system of relatively larger crystals of aluminum sulfate in said first solution;

(*d*) withdrawing said second suspension in an accompanying portion of said first solution from said first vessel;

(*e*) dissolving said first fine crystals of said withdrawn second suspension into the said accompanying portion of said first solution to form a second solution of aluminum sulfate;



(*f*) leaching an aluminum-iron-containing ore with said second solution with said ore being present in an amount insufficient to neutralize said second solution whereby the aluminum and iron of said ore are extracted therefrom and whereby there is formed an enriched third solution containing dissolved aluminum and iron in its ferric state;

(*g*) alkalizing said third solution with an aluminum-iron containing ore in an amount sufficient to precipitate the dissolved iron in said third solution to form an enriched fourth solution of reduced iron content;

(*h*) separating said fourth solution from the undissolved residue therein;

(*i*) introducing said fourth solution into said first vessel; and

(*j*) withdrawing from said second zone of said first vessel said first system of relatively larger crystals in said first solution.

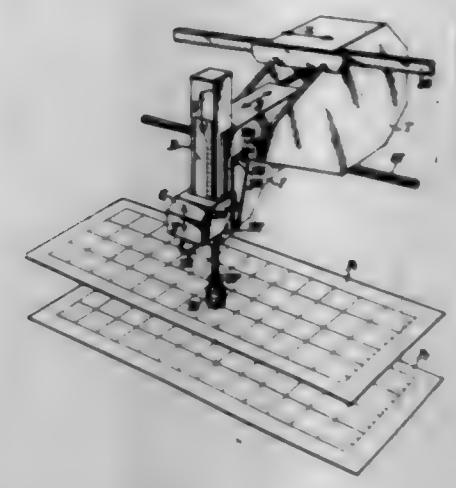
3,143,393
APPARATUS FOR AUTOMATICALLY PERFORMING CHEMICAL OPERATIONS AND SIMILAR OR RELATED OPERATIONS

Luc Donald de Seguin des Hons, 6 Rue Rene Brement, Drancy, France

Filed June 13, 1960, Ser. No. 35,654
25 Claims. (Cl. 23—253)

1. An apparatus for automatically performing chemical operations, comprising, in combination, a worktable, a multiplicity of receptacles supported on said worktable certain of which at least contain liquids, a multiplicity of pipettes one of which acts as a main pipette, a motor-driven pump rotatable in both directions, tube means connecting said pump to said pipettes and to the atmosphere so that a fluid may pass through the pipettes, means for controlling said pump in accordance with the desired passages of fluid through said pipettes, and means supporting said pipettes above the worktable for displacement parallel to the axes of a system of three coordinates one of which is vertical in order to bring each pipette in vertical alignment with any receptacle and subsequently to move said pipette down and up with respect to said re-

ceptacle, whereby liquid may be removed by any pipette from a receptacle and discharged into any other receptacle



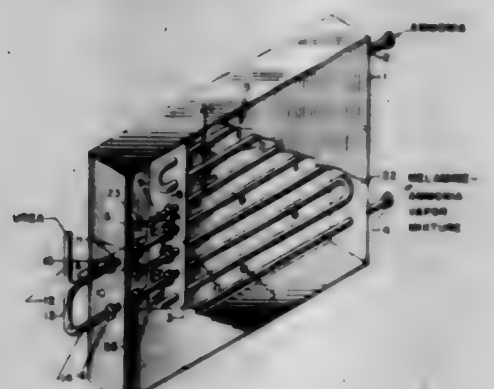
in amounts corresponding to the desired passages of fluid through said pipette.

3,143,394
TUBE REACTOR FOR MANUFACTURE OF MELAMINE

William Charles Mallison, Westport, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

Original application Apr. 25, 1956, Ser. No. 580,639 now Patent No. 2,927,923, dated Mar. 8, 1960. Divided and this application Apr. 30, 1959, Ser. No. 810,144

5 Claims. (Cl. 23—284)



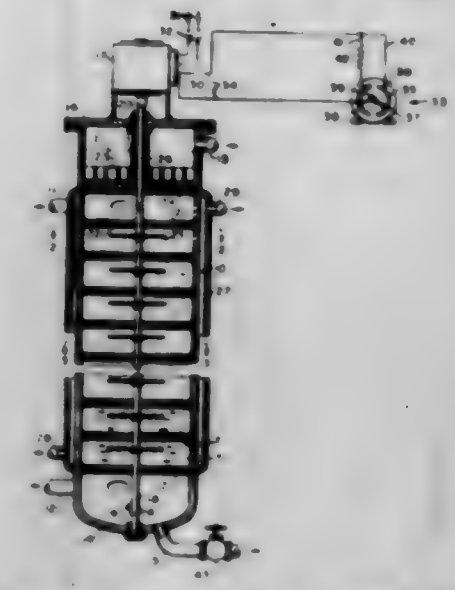
1. An improved reactor for melamine synthesis which comprises in combination: a closed, horizontally-elongated, heat and pressure resistant housing having disposed therein a bank of horizontal, parallel tubes spaced one above the other and joined at their ends by U-bends to make a continuous tube originating from a point outside the housing, entering the housing at a point in the upper portion thereof, passing downwardly therethrough and exiting from the housing at a point in the lower portion thereof, said housing being divided into a large and a small chamber by a vertically-positioned divider wall running across the line of said continuous tube and through which said continuous tube passes and returns thus providing a series of U-bends in each chamber of the housing, said smaller chamber containing at least two U-bends, means within said large chamber for heating said tubes, at least two of said U-bends in said smaller chamber being connected to and fed by a separate branch tube originating outside said housing and connected to the bottom of its corresponding U-bend in said small chamber, each of said sparate branch tubes having a constriction therein to control the amount and rate of feed to its corresponding U-bend, and separate means for feeding reaction components through said continuous tubing and said branch tubes.

3,143,395
METHOD OF OPERATING A FLUID MIXER WITH ROTATING BAFFLES

Oswald H. Milmore, Piedmont, Calif., assignor to Shell Oil Company, a corporation of Delaware

Filed July 14, 1959, Ser. No. 827,989

7 Claims. (Cl. 23—310)



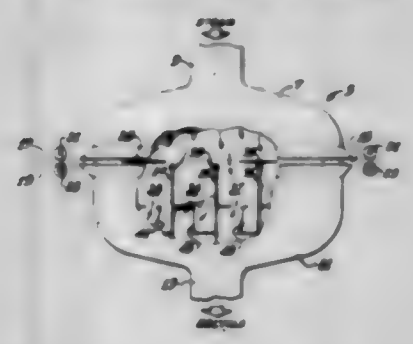
1. In the method of mixing fluids that are at least partially immiscible which comprises flowing said fluids through a vertically elongated vessel containing a plurality of transverse, axially spaced, baffles defining a series of consecutively communicating compartments, and a rotor shaft extending through said vessel and carrying at least some of said baffles for rotation therewith, and rotating said shaft and the baffles carried thereby to form a dispersion of one of said fluids in the other, the improvement which comprises continually changing the rotational speed of said rotor shaft and baffles during the mixing process between alternating relatively higher and lower speeds sufficient to maintain said fluids as a dispersion.

3,143,396
PRESSURE-ACTUATED VALVE FOR CONTROLLING GAS FLOW IN DRIERS

John J. Eige, Redwood City, Raymond E. Lundberg, Menlo Park, and Harmon H. Woodworth, Palo Alto, Calif., assignors, by mesne assignments, to Jet Stream Products, Inc., Reno, Nev., a corporation of Nevada

Filed Mar. 2, 1961, Ser. No. 92,964

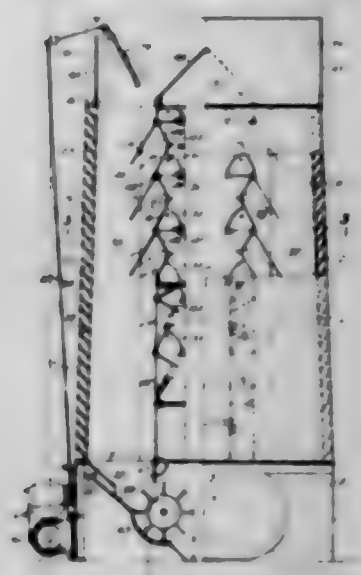
5 Claims. (Cl. 34—54)



1. In a dryer for materials wherein the materials are passed through a drying chamber and subjected to the flow of gas therethrough, the improvement comprising a series of partitions dividing said chamber into a plurality of compartments and dividing the gas flow into a plurality of parallel paths flowing through said compartments, means in each of said compartments forming an orifice through which the gas must pass, a movable vane mounted downstream from said orifice and having an orifice closing plate mounted at one end thereof, and biasing means comprising a combination of a spring and weighted lever arm for normally holding said vane to an open position,

said vane being situated so that one side thereof is subjected to the full gas pressure and the other side is subjected to the reduced pressure of the gas after having passed through the orifice.

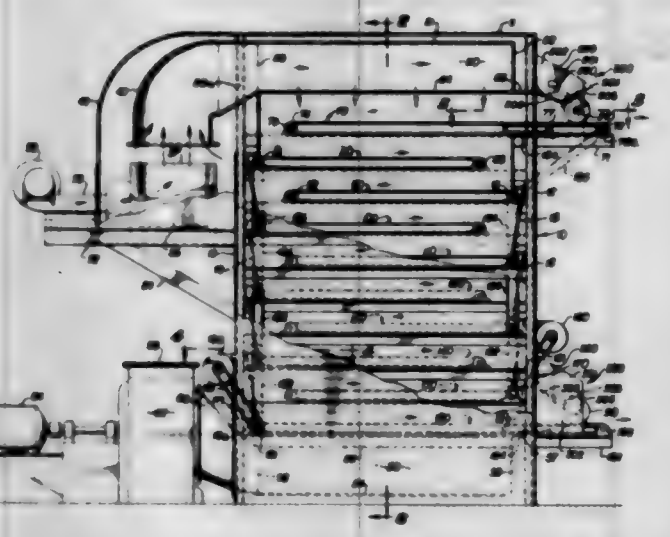
3,143,397
COOLING TOWER
James T. Keefe, San Carlos, Calif., assignor to California Press Manufacturing Company, a corporation of California
Filed Nov. 17, 1959, Ser. No. 853,486
9 Claims. (Cl. 34—174)



1. A tower for the treatment of material such as pellets or the like comprising a base section having a discharge opening therefrom; spaced end walls rising from said base section and joined by spaced outside walls having air intake openings distributed thereover; a pair of inside spaced louvre wall assemblies extending between said end walls and defining between them, an air withdrawal chamber within said tower, each louvre wall assembly being normally closed but adapted to progressively open from the bottom up, as material piles up against said louvre wall assembly; and means spanning the upper ends of said spaced louvre wall assemblies to close said air withdrawal chamber at its upper end and create a pair of columns in said tower for flow of material to be treated.

3,143,398
SEALED APPARATUS FOR DRYING, WARMING AND AERATING MATERIALS
Russele E. Swarthout, Downey, Calif., assignor to Challenge-Cook Bros., Incorporated, Los Angeles, Calif., a corporation of California
Filed Sept. 14, 1962, Ser. No. 223,763
3 Claims. (Cl. 34—203)

1. A device for drying, warming and aerating materials which comprises: a substantially air-tight main housing having outer walls, and having inner walls spaced from said outer walls; plenum chambers mounted adjacent the top and the bottom of said main housing; means for introducing warm air into one of said plenum chambers and passing said warm air from said plenum chamber into the interior of said main housing; means for passing said warm air from the interior of said main housing into the other of said plenum chambers; means for exhausting warm air from the other of said plenum chambers; a plurality of power-driven, substantially horizontal conveyor belt flights vertically spaced from each other and disposed seriatim in said main housing in the stream of said warm air intermediate said plenum chambers, each belt flight moving in a direction opposite to that of the belt flight immediately above it, the topmost and the lowermost of said belt flights extending beyond said main housing; a horizontal platform mounted externally of said main housing; an opening in said main housing aligned with said platform, the topmost of said belt flights extending over and being supported by said platform and passing through said opening, said opening accommodating said topmost belt flight and materials loaded thereon; a secondary housing mounted on said platform and on the main housing, said secondary housing enclosing said opening and having an open external end; a transverse plate disposed in



said secondary housing and pivotally mounted on said main housing above the opening in said main housing; a roller suspendably mounted on said transverse plate and disposed so as to ride on said topmost belt flight and to serve, in combination with said transverse plate, as an air seal for said main housing opening; means for dropping said materials from each belt flight to the next belt flight immediately below it at the end of each such belt flight; and means for removing said materials from the lowermost of said belt flights externally of said housing.

3,143,399
GASOLINE CONTAINING ORGANOMETAL ANTIKNOCK COMPOUND
Peter Ballinger, San Rafael, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Original application Sept. 30, 1960, Ser. No. 59,518, now Patent No. 3,073,852, dated Jan. 15, 1963. Divided and this application Sept. 29, 1961, Ser. No. 141,636
2 Claims. (Cl. 44—69)

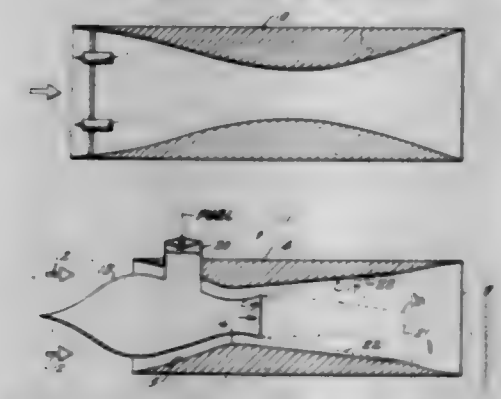
1. Composition consisting essentially of a hydrocarbon base fuel boiling in the gasoline boiling range having an octane number of at least 85 and containing at least 20 percent by volume of aromatic hydrocarbons, not more than 25 percent by volume of olefinic hydrocarbons and at least 25 percent by volume of paraffinic and naphthenic hydrocarbons, said hydrocarbon fuel having incorporated therein bis(trimethyllead) sulfide in an amount sufficient to improve the octane number.

3,143,400
GASOLINE CONTAINING ORGANOLEAD COMPOUND
Peter Ballinger, San Rafael, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Original application Nov. 28, 1960, Ser. No. 71,917, now Patent No. 3,073,854, dated Jan. 15, 1963. Divided and this application Sept. 29, 1961, Ser. No. 141,638
2 Claims. (Cl. 44—69)

1. Composition consisting essentially of a hydrocarbon base fuel boiling in the gasoline boiling range having an

octane number of at least 85 and containing at least 20 percent by volume of aromatic hydrocarbons, not more than 25 percent by volume of olefinic hydrocarbons and at least 25 percent by volume of paraffinic and naphthenic hydrocarbons, said hydrocarbon fuel having incorporated therein trimethyllead methyl thioglycolate in an amount sufficient to improve the octane number.

3,143,401
SUPERSONIC FUEL INJECTOR
Jurgen Hans Lambrecht, Rancho Cordova, Calif., assignor to General Electric Company, a corporation of New York
Filed Aug. 17, 1961, Ser. No. 132,162
8 Claims. (Cl. 48—180)



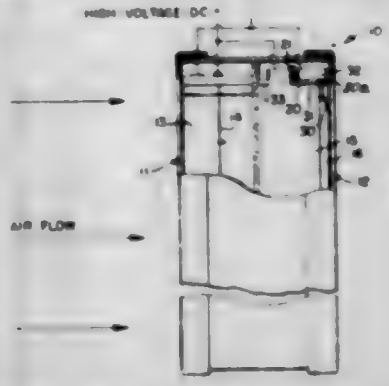
1. A supersonic fuel injector fot use in a supersonic airstream comprising, an upstream directed hollow spike, a tube surrounding said spike in concentric spaced relation and said tube converging from its forward end to form a throat and then diverging to its downstream end, said spike and tube forming an external compression supersonic annular inlet with no normal shock within said tube, a fuel supply line connected to the interior of said spike to supply fuel under pressure, said spike converging in the converging portion of the tube and terminating in a downstream directed opening substantially at the tube throat, means including said opening supplying fuel to the diverging portion of said tube.

3,143,402
PROCESS FOR REMOVAL OF IMPURITIES FROM BORON HALIDES
George L. Hervert, Downers Grove, and Carl B. Linn, Riverside, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed June 19, 1961, Ser. No. 117,781
10 Claims. (Cl. 55—71)

1. A process for separating boron trifluoride from a gaseous mixture comprising boron trifluoride and a sulfur compound impurity which comprises contacting said gaseous mixture with a substantially anhydrous liquid hydrocarbon, absorbing at least a portion of said impurity in said hydrocarbon, and recovering a purified boron trifluoride.

3,143,403
GAS CLEANING APPARATUS
Elmer H. Swensen, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 8, 1960, Ser. No. 7,469
5 Claims. (Cl. 55—156)

2. A one-piece parallel plate structure for an electrostatic gas cleaner comprising: a plurality of spaced parallel plates constructed of a continuous sheet of conductive material and of a generally rectangular shape, said plates forming a unitary structure having a portion common to each of said plates at one end thereof to connect each of said plates at said one end, said common portion including a portion co-extensive with said one end of each of said plates and extending from one edge of each of said plates to an intermediate position only a portion of the distance across said one end thereof, said common portion further including a portion extending between each two adjacent plates, bent with respect to said co-extensive portions, and formed as a narrow strip extend-



ing generally diagonally to said plates from the co-extensive portion at said one edge of each of said plates to the co-extensive portion at the intermediate position on the next adjacent one of said plates, said common portion providing a low resistance electrical and mechanical connection between said plates.

3,143,404
GAS CHROMATOGRAPHY COLUMNS
John J. Heigl, Short Hills, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 30, 1960, Ser. No. 59,588
3 Claims. (Cl. 55—208)



1. A gas chromatography column comprising a series of thin, metal-ribboned tubes concentrically arranged and spaced uniformly within each other, each tube defining by crimped wall portions thereof a plurality of capillaries lengthwise of said tube having a cross-sectional area between .00000625 and 0004 square inch, said capillaries having an organic agent suitable for use in gas chromatography as a thin film on the capillary walls, a hollow tubular center core located concentrically within said capillary tubes, alternate ones of said capillary tubes extending lengthwise beyond the end of an intermediate tube to provide communication between the spaces between adjacent tubes and continuous communication between each of said tubes, radial annular sealing members connecting the ends of said alternate capillary tubes, the outermost and innermost pairs of tubes defining openings for the passage of gas longitudinally through said series of tubes.

ERRATUM

For Class 62—13 see:
Patent No. 3,143,406

3,143,405
METHOD OF PRODUCING POLYAMIDE COATED GLASS FIBERS
Robert Wong, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 3, 1960, Ser. No. 67,090
5 Claims. (Cl. 65—3)

1. A method for the in situ formation of the polyamide reaction product of a dicarboxylic acid halide

reactant and a polyamine reactant upon the surfaces of glass fibers comprising attenuating fibers from a body of heat softened glass at a rate in excess of 4000 feet per minute, and during said attenuating, applying a first solution of one of said reactants to said surfaces, immediately superimposing a second solution of the other of said reactants upon said first solution, and immediately reacting said dicarboxylic acid halide and said polyamine to yield between 1 to 25% by weight of said polyamide reaction product.

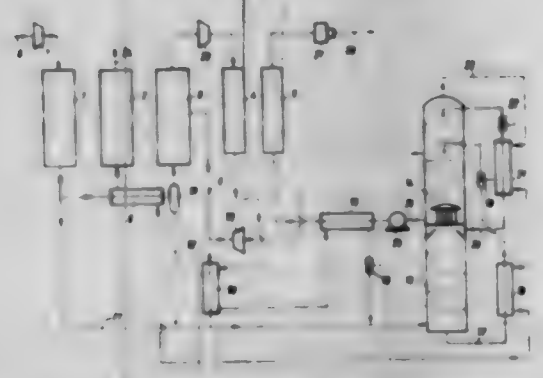


3,143,406

SYSTEM FOR CONDUCTING HEAT EXCHANGE OPERATIONS IN A GAS SEPARATION APPARATUS INCORPORATING PERIODICALLY REVERSIBLE REGENERATORS

Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft, Wiesbaden, Germany

Filed Aug. 10, 1961, Ser. No. 130,627
Claims priority, application Germany Aug. 13, 1960
9 Claims. (Cl. 62—13)



1. In a process for the separation of a gas mixture into a higher boiling point fraction and at least one fraction of lower boiling point, the method which comprises compressing the gas mixture, cooling and purifying the compressed gas mixture in at least one regenerator of a reversing regenerator system, feeding a first part of the cooled compressed gas mixture into a rectifying device, passing a second part of the cooled compressed gas mixture in the opposite direction through a second regenerator previously at least partially freed from formerly deposited impurities of the crude gas mixture by passing at least part of a separation product gas through it, warming the cooled and cleaned gas mixture thereby at least partially to ambient temperature, cooling said warmed second part of the gas mixture by passing it through a third regenerator through which at least part of a separation product withdrawn from the rectifying device was previously passed, warming said separation product thereby to ambient temperature, passing said second part of the gas miture into the rectifying device, withdrawing other separation products from the rectifying device and warming them in further reversing regenerators.

ERRATUM

For. Class 62—58 see:
Patent No. 3,142,969

3,143,407

COMPOSITION FOR CONTROL OF VEGETATION

Ellen M. Mitchell, Long Beach, Paul E. Giguere, La Mirada, and Dale W. Rake, Yorba Linda, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Continuation of abandoned application Ser. No. 738,296, May 28, 1958. This application Mar. 2, 1959, Ser. No. 796,214
5 Claims. (Cl. 71—2.4)

1. A composition for control of vegetation capable when applied in one application of imparting a quick burn along with a prolonged herbicidal action, said composition comprising as the essential active ingredients a herbicidal concentration of a material selected from the group consisting of sodium and calcium borates, an alkali metal chlorate and an organic herbicide dispersed in a thixotropic gel, said organic herbicide selected from the group consisting of 2,4-dichlorophenoxyacetic acid, 2,4,5-trichlorophenoxyacetic acid, 2-methyl-4-chlorophenoxyacetic acid, 2-chloro-4,6-bis(ethylamino)-S-triazine, 3-(p-chlorophenyl)-1,1-dimethyl urea, 3-phenyl-1,1-dimethyl urea, 3-(3,4-dichlorophenyl)-1,1-dimethyl urea, 3-(3,4-dichlorophenyl)-1-methyl-1-n-butyl urea, 2-chloro-4,6-bis-(diethylamino)-S-triazine, . 2,3,6-trichlorobenzoic acid, isopropyl-N-(3-chlorophenyl) carbamate, sodium salt of 2,4-dichlorophenoxyacetic acid, sodium 2-(2,4-dichlorophenoxy)ethyl sulfate, 2,2-dichloropropionic acid, sodium 2,4,5-trichlorophenoxyethyl sulfate, trichloroacetic acid, 3-amino-1,2,4-triazole, and sodium salt pentachlorophenate, said gel comprising an aqueous colloidal suspension of a material selected from the class consisting of clays, methyl cellulose, alginates, guar gums, gum arabic, casein, hydrous magnesium silicate, and carboxymethylcellulose.

3,143,408

PESTICIDAL COMPOUND

Carl V. Smythe, Moorestown, and Kenneth S. Kraskin, Riverton, N.J., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 28, 1963, Ser. No. 254,304
3 Claims. (Cl. 71—2.5)

1. A compound characterized by the following analysis:
A molecular formula of: $C_{27}H_{32}O_8$;
The presence of the following atoms, in the stated percentage is found:
Carbon 66.77
Hydrogen 6.78
Oxygen 25.94
A molecular weight of: 512±17;
An optical rotation: $[\alpha]_D^{20}=+45°$ (c. 1.2% in benzene);
Its ultraviolet spectrum shows two peaks, λ max.: 261 mμ and 220.5 mμ;
Its infrared spectrum (in a potassium bromide wafer) shows absorption bands at the following frequencies expressed in reciprocal centimeters: 3000, 2900, 2274, 1725, 1705, 1641, 1598, 1497, 1434, 1413, 1379, 1353, 1330, 1269, 1219, 1142, 1078, 1042, 1036, 980, 964, 927, 887, 873, 856, 824, 811, 775, and 735.

2. A composition comprising the compound of claim 1 and water.

3,143,409

ADDUCT OF 3-p-CHLORO PHENYL, 1,1-DIMETHYL-UREA AND A MIXTURE OF POLYCHLOROBENZOIC ACIDS, USE AS HERBICIDAL AGENTS

Robert Earl Emond, Mooretown, Lambton, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 2, 1958, Ser. No. 746,084
6 Claims. (Cl. 71—2.6)

4. A method for sterilizing soil to control the growth of unwanted vegetation which comprises applying to the area on which vegetation is to be controlled a composition comprising about 0.1 to 25.0 weight percent of the reaction product obtained by reacting at least an equimolar amount of 3-p-chlorophenyl-1,1-dimethyl urea with a molten mixture of polychlorobenzoic acids consisting essentially of 2,5-dichloro-, 2,3,5-trichloro-, 2,3,4,5-tetrachloro- and 2,3,5,6-tetrachlorobenzoic acids, said mixture of acids having a melting point of about 180° F. and an average molecular weight of about 200, and as a carrier therefor, a mineral oil selected from the class consisting of gas oils and cut-back asphalt oils.

3,143,410

PREVENTION OF COALESCENCE OF HYGROSCOPIC GRANULAR MATERIAL WITH COLLOIDAL CLAY

Homer A. Smith, Berkeley Heights, N.J., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland

No Drawing. Filed Oct. 21, 1959, Ser. No. 847,706
8 Claims. (Cl. 71—64)

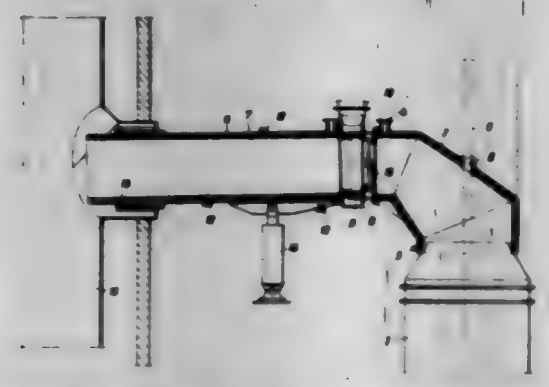
1. A method of conditioning hygroscopic granular material to prevent its coalescence due to heat, pressure or moisture which comprises uniformly coating such granular material with a small quantity of a dispersion of a material selected from the group consisting of colloidal attapulgite clay and colloidal sepiolite clay.

3,143,411

METHOD OF AND APPARATUS FOR LEADING OFF AND COOLING OF CONVERTER GASES

Hans Hoff, Essen-Bredeney, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany, a corporation of Germany

Filed July 12, 1960, Ser. No. 42,319
Claims priority, application Germany July 18, 1959
7 Claims. (Cl. 75—28)



1. A method of leading off and cooling of converter gases by means of a cap mounted on the mouth of a converter and leading into a conduit, comprising the steps of

feeding a stream of converter gases from a converter through a cap,

feeding selectively said stream of converter gases from said cap into a conduit and throttling said stream of converter gases prior to their entrance into said conduit, respectively, and

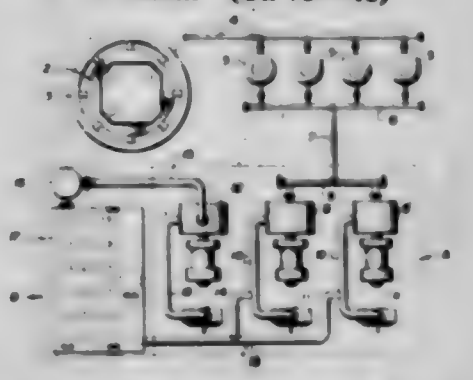
feeding cooling gases continuously into said conduit at a point downstream from said throttling point and selectively joining said stream of converter gases in said conduit during nonthrottling of said stream of converter gases and feeding solely said cooling gases into said conduit during throttling of said stream of converter gases at a point upstream of the point of entrance of said cooling gases.

3,143,412

METHOD OF ENRICHING THE OXYGEN CONTENT OF AIR SUPPLIED TO BLAST FURNACES

Melville W. Robinson, Jr., Beaver, and Robert J. Allison, Coraopolis, Pa., assignors to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 28, 1960, Ser. No. 72,004
1 Claim. (Cl. 75—41)



The method of enriching the oxygen content of blast air supplied to blast furnaces and other metallurgical furnaces, comprising the steps of,

utilizing adjacent the existing blower supplying atmospheric blast air to such furnace, a second blower,

feeding the blast from the second said blower to a cold box type of air separator apparatus adjacent the latter blower capable of supplying oxygen as a liquid and gas,

selectively storing said liquid oxygen in an adjacent liquid oxygen reservoir and feeding the gaseous oxygen from said separator apparatus to the atmospheric air inlet pipe of the existing blast blower when said second blower is operating and from the liquid oxygen storage reservoir through a vaporizer to said atmospheric inlet pipe when the said second blower is not feeding blast air to the air separator apparatus,

said feeding of the oxygen to said existing blast blower atmospheric air inlet pipe being at pressures above atmospheric for displacing atmospheric air therein in amounts to raise the oxygen content of the blast air to the furnace to the desired amount,

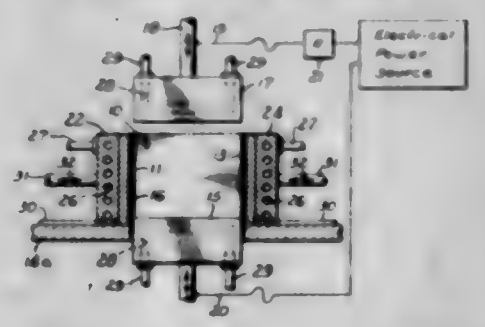
then passing the oxygen enriched blast air through suitable heating stoves before injection into the furnace.

3,143,413

CERAMIC MATERIALS AND METHODS FOR THEIR MANUFACTURE

Siegfried G. Krapf, 404 S. Peck Drive, Beverly Hills, Calif.

Filed June 3, 1960, Ser. No. 33,866
12 Claims. (Cl. 75—201)



1. In a process for the manufacture of high temperature resistant materials, said process being of the type employing a uniform finely-divided particle mixture including a first filler component, a metallic second com-

ponent, and a third component which is reactable with the second component at an elevated temperature in a self-sustaining exothermic reaction to form a ceramic refractory body and which mixture contains by weight up to about 70 percent of said first component, about 10 percent to 40 percent of said second component, and an amount of said third component to react substantially all of said second component, the improvement comprising:

applying a pressure of at least about one ton per square inch to the particle mixture;

passing electric current through the mixture while being compressed to heat the mixture to the elevated temperature at which said exothermic reaction will occur;

continuing said electric current passage during said exothermic reaction while the mixture is being compressed, with the heating and reaction being carried out without interruption and with continuous application of pressure and electric current; and

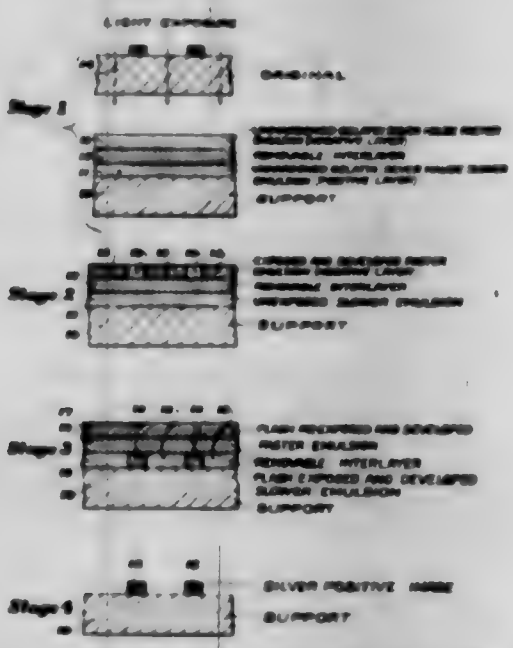
finally effecting cooling of the resulting integrated product.

3,143,414

PROCESS FOR PREPARING DIRECT POSITIVES

Edward C. Yackel and Thomas I. Abbott, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 2, 1961, Ser. No. 92,874
6 Claims. (Cl. 96—27)



1. The process for preparing a direct positive with a light-sensitive element having a support, an unhardened gelatino-silver halide emulsion layer serving as a positive layer, a gelatino-silver halide emulsion layer serving as a negative layer positioned further from said support than said positive layer and an interlayer positioned between said positive layer and said negative layer comprising a hydrophilic colloid not hardened by oxidized tanning developers, said light-sensitive element having substantially greater light sensitivity to a region of the visible spectrum in said negative layer than said positive layer when exposed through said negative layer, which comprises exposing said negative layer and forming a latent image in said negative layer without exposing said positive layer, developing said latent image in said negative layer in an aqueous alkaline solution with a tanning developer and thereby forming a silver negative image in said negative layer, exposing said positive layer through said silver negative image in said negative layer in the presence of said aqueous alkaline solution and said tanning developer and thereby forming a silver positive image in said positive layer, and thereafter washing off said negative layer, said interlayer and undeveloped portions of said unhardened gelatino-silver halide emulsion in said positive layer and leaving said silver positive image on said support.

3,143,415

METHOD OF PREPARING POSITIVES COMPRISING A HYDROPHILIC NITROCELLULOSE LAYER FOR PRINTING AND PLATE-MAKING USE

Masaharu Sasaki, 437 1-chome, Futaba-cho, Shinagawa-ku, Tokyo, Japan

No Drawing. Filed Dec. 5, 1960, Ser. No. 73,496
Claims priority, application Japan May 6, 1960
6 Claims. (Cl. 96—33)

1. A method for preparing a sheet material useful in reproducing images which comprises coating one surface of a transparent smooth sheet of polyester resin with a film consisting of nitrocellulose having a thickness of less than about 0.02 micron, contacting said nitrocellulose film with an aqueous solution of nitric acid and alum to adhere said nitrocellulose film to said polyester sheet and to render said nitrocellulose film hydrophilic, applying to the treated nitrocellulose film a thin coating of an aqueous emulsion of a hydrophilic substance selected from the group consisting of gelatin and polyvinyl alcohol, said aqueous emulsion of said hydrophilic substance containing a comminuted opaque chromatic powder, and drying said emulsion coating to provide a film coating of said hydrophilic substance containing said comminuted opaque chromatic powder on said treated nitrocellulose film.

2. The method according to claim 1 wherein subsequent to said drying step said film coating of said hydrophilic substance is treated with a bichromate photosensitizing agent.

3. The method according to claim 2 wherein subsequent to said treatment of said film coating of said hydrophilic substance with said bichromate photosensitizing agent, an area of the resultant treated hydrophilic substance coating is exposed to light, said exposed area representing a negative of a predetermined image, and the exposed hydrophilic substance coating of said sheet material thereafter is washed with water to remove said hydrophilic substance coating from said sheet material in the area unexposed to said light.

3,143,416

LIGHT SENSITIVE COATINGS FOR SCREEN PRINTING COMPRISING A LIGHT SENSITIVE MATERIAL WITH A CONDENSATE OF A ω,ω'-DIAMINE AND A ω,ω'-DICARBOXYLIC ACID

Maximilian Karl Reichel and Wilhelm Neugebauer, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 21, 1960, Ser. No. 57,414
Claims priority, application Germany Oct. 2, 1959
17 Claims. (Cl. 96—35)

1. Light sensitive material comprising a porous base material having a coating thereon comprising a light sensitive compound capable of rendering the coating insoluble in aqueous alcohol upon exposure to light and an N-alkoxy methylation product of a partially depolymerized polycondensate consisting of the monomeric units of a ω,ω'-diamine condensed with a ω,ω'-dicarboxylic acid.

9. A process for making screen printing stencils which comprises exposing a coated porous base material to light under a master, the coating comprising a light sensitive compound capable of rendering the coating insoluble in aqueous alcohol upon exposure to light and an N-alkoxy methylation product of a partially depolymerized polycondensate consisting of the monomeric units of a ω,ω'-diamine condensed with a ω,ω'-dicarboxylic acid, and

treating the exposed coating with a solvent, whereby the non-light struck portions thereof are removed.

3,143,417

LIGHT SENSITIVE COATINGS FOR SCREEN PRINTING CONTAINING N-ALKOXYMETHYLATED POLY-ε-CAPROLACTAM

Maximilian Karl Reichel and Wilhelm Neugebauer, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 21, 1960, Ser. No. 57,415
Claims priority, application Germany Oct. 2, 1959
19 Claims. (Cl. 96—35)

1. Light sensitive material comprising a porous base material having a coating thereon comprising a light sensitive compound capable of rendering the coating insoluble in aqueous alcohol upon exposure to light and an N-alkoxymethylated poly-ε-caprolactam.

3,143,418

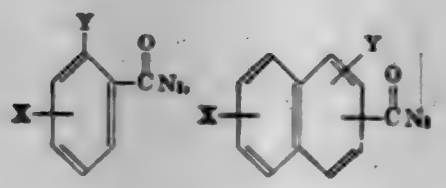
VESICULAR IMAGE-FORMING COATINGS COMPRISING A LIGHT-SENSITIVE CARBAZIDO

William J. Priest and James A. Van Allan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

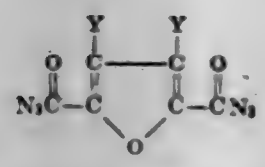
Filed May 1, 1961, Ser. No. 106,869
10 Claims. (Cl. 96—49)

10. A process for forming a vesicular image in a light-sensitive vesicular-image-forming layer coated on a support, said process comprising the steps of:

(1) exposing said layer to light through an original image, to produce an imagewise release of nitrogen gas and a nonreactive nongaseous photolysis product which has no absorbtion of said light, said nitrogen gas and nongaseous photolysis product being released from a light-sensitive compound selected from those having the formulas:



and



wherein Y represents a group selected from the class consisting of the hydroxyl group, an amino group having at least one hydrogen atom attached to the nitrogen atom, and the mercapto group, said Y groups being attached to a carbon atom adjacent to the carbon atom in the ring to which the carbazido group is attached; X represents a group selected from the class consisting of the hydrogen atom, an alkyl group having from 1 to 4 carbon atoms, an alkoxy group having from 1 to 4 carbon atoms, an aryl group, a halogen atom, the nitro group, an acyl group having from 1 to 4 carbon atoms and an aryloxy group; said light-sensitive compound being dispersed in a synthetic film-forming binder selected from the class consisting of homopolymers of styrene, homopolymers of vinyl chloride, homopolymers vinylidene chloride, copolymers of vinyl chloride with a different vinyl monomer, and copolymers of vinylidene chloride with a vinyl monomer said binder having a low permeability to nitrogen gas; and

(2) heating the said image exposed layer to a temperature of from 85° to 110° C. to cause the formation of a vesicular image corresponding to the said original image.

3,143,419

HIGH-SPEED PRINTOUT EMULSIONS CONTAINING SILVER IODIDE AND SILVER OXALATE

Paul B. Gilman, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 2, 1960, Ser. No. 33,381
3 Claims. (Cl. 96—50)

1. A method of preparing photographic images directly comprising photoexposing briefly and intensely a photographic element comprising a support and coated on said support a photographic emulsion of the printout type comprising a hydrophilic colloid having dispersed uniformly therethrough silver oxalate and silver iodide, said silver oxalate and said silver iodide being the only light-sensitive silver salts present in said photographic emulsion and the concentration of the silver iodide being between 0.03 and 0.9 mole per mole of total silver, and photodeveloping said photoexposed photographic element by exposing said photographic emulsion uniformly to fluorescent radiation until the previously unexposed background areas print out to a density substantially higher than that of the areas briefly and intensely photoexposed.

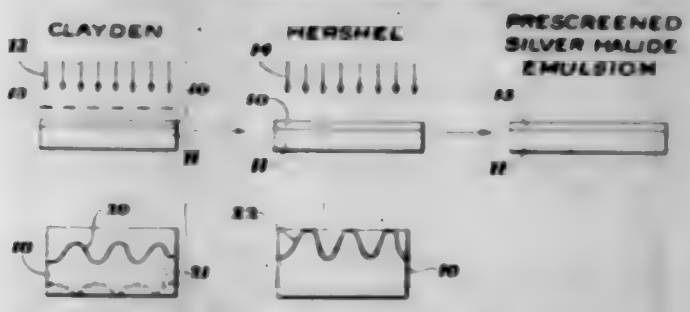
3. A photographic element comprising a flexible support and coated thereon a photographic emulsion of the printout type comprising a hydrophilic colloid having dispersed uniformly therethrough light-sensitive silver salts consisting of silver oxalate and silver iodide, the concentration of the silver iodide being between 0.03 and 0.9 mole per mole of total silver.

3,143,420

PRESCREENING FILM BY CLAYDEN AND HERSCHEL EXPOSURE

Donald J. Howe, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 14, 1960, Ser. No. 69,153
4 Claims. (Cl. 96—79)

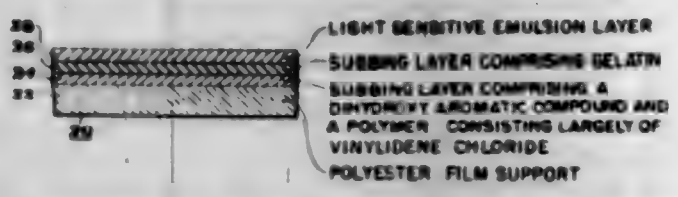


1. The method of making a halftone sensitive material comprising the steps of exposing at least once a uniformly thick Clayden-sensitive and Herschel-sensitive layer of photosensitive silver halide emulsion through a uniform halftone screen to a high-intensity short-duration uniform flash having sufficient intensity and sufficiently short duration to produce a Clayden desensitization of the emulsion layer, said emulsion layer after said flash exposure having a sensitivity distributed over the layer in an undulating halftone pattern with a corresponding distribution of a faint surface latent image at the Clayden desensitized areas reducing the effect of the undulating pattern of sensitivity; and then exposing the Clayden desensitized emulsion layer at least at the Clayden desensitized areas to a non-surface latent image forming infrared exposure sufficiently to substantially remove by Herschel effect the faint surface latent image created by the Clayden desensitizing flash exposure, thereby increasing the effect of the undulating halftone pattern of sensitivity.

3,143,421
ADHERING PHOTOGRAPHIC SUBBING LAYERS TO POLYESTER FILM

Gale F. Nadeau, Clemens B. Starck, and Frederick J. Jacoby, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 17, 1960, Ser. No. 15,542
6 Claims. (Cl. 96—87)



6. A photographic film element comprising a polyethylene terephthalate film support, a sub-layer on at least one surface thereof of a composition comprising

(1) a copolymer of methacrylate, vinylidene chloride and itaconic acid, said copolymer being comprised of at least 35 percent by weight of vinylidene chloride, and

(2) from about 0.1 percent to 5 percent by weight, based on the weight of the copolymer, or resorcinol, a gelatin layer on the sub-layer, and a light-sensitive silver halide emulsion layer on said gelatin layer.

3,143,422
POLYMERIC CYCLOPENTADIENE COATINGS ON POLYETHYLENE AND OTHER POLYMERIC HYDROCARBONS

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 8, 1961, Ser. No. 87,741
5 Claims. (Cl. 96—87)

1. A hydrophobic polyhydrocarbon substrate having thereon a coating comprising a cyclopentadiene homopolymer of molecular weight of about 1,000 to 16,000, the substrate being substantially free of said homopolymer, and having thereon a light-sensitive silver halide emulsion.

3,143,423
NEW PHOTO-RESIST BENZOYLAZIDE COMPOSITIONS

George A. Reynolds, James A. Van Allan, and Douglas G. Borden, all of Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,557
8 Claims. (Cl. 96—91)

5. A film-forming light-sensitive photo-resist composition comprising a solution of:

(1) at least one solvent-soluble light-sensitive photopolymerizable benzoylazide selected from the class having the formula:



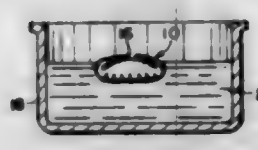
wherein X and Y each represent a member selected from the class consisting of the hydrogen atom, the hydroxyl group, the carboxyl group, the thiol group, an amino group, an arylmethylenimine group, a hydroxyalkyl group, the 2-hydroxyethoxy group, a carboxyalkyl group, a thiolalkyl group, an aminoalkyl group, a hydroxyaryl group, a carboxyphenyl group, a mercaptoaryl group, an aminoaryl group, and the azido group, such that said amino group, said aminoalkyl group and said aminoaryl group each contain at least one active hydrogen atom attached to the nitrogen atom, and such that one of the groups X and Y represents the hydrogen atom; and

(2) at least one colloidal binder selected from the class consisting of gelatin; ethyl cellulose; cellulose acetate propionate; poly(vinyl acetate); poly(vinyl butyral); poly(4-vinyl pyridine); polyethylene oxide; polystyrene; copolymers of ethyl acrylate and acrylic acid; copolymers of butadiene and methacrylic acid; copolymers of styrene and butadiene; natural rubber; poly-cis-1,4-isoprene; homopolymers of vinyl chloride; copolymers of vinyl alcohol and vinyl acetate; copolymers of vinyl chloride and vinyl acetate; copolymers of methyl acrylate and vinylidene chloride; terpolymers of acrylonitrile, ethylacrylate and vinylidene chloride; terpolymers of poly(vinyl chloride), vinyl acetate and maleic acid; and an alcohol soluble polyamide resin.

3,143,424
METHOD FOR MAKING A FRIED SANDWICH

Paul C. Wilson, 146 Main St., Carthage, Ill.

Filed Dec. 6, 1961, Ser. No. 157,482
4 Claims. (Cl. 99—1)



1. A method for preparing an edible food article comprising the following steps:

providing a meat body and a quantity of bread dough compounded with yeast for effecting raising of said dough upon heating thereof;

fabricating a sandwich structure by substantially surrounding said meat body in said dough;

floating said sandwich structure in water heated to a temperature effective for rapidly proofing said dough, but below a temperature destructive of the yeast in said dough; and

cooking said meat body and said dough by means of a deep frying operation whereby said meat body is substantially encased in freshly made bread.

3,143,425
SINGLE-STEP PROCESS OF PRODUCING HOP EXTRACTS

Adam Mueller, Coburg, Germany, assignor to Chemisches Laboratorium Dr. A. Mueller, Coburg, Germany, a corporation of Germany

No Drawing. Filed June 30, 1961, Ser. No. 120,965
Claims priority, application Germany July 7, 1960
6 Claims. (Cl. 99—50.5)

1. In a process of producing hop extracts by extraction of hops with organic solvents, the steps which comprise mixing comminuted hops simultaneously with an organic solvent and with water containing ammonia in an amount sufficient to impart to the mixture of hops, solvent and water a pH-value between about 8.5 and about 9.0, the amount of water present in the extraction mixture being between about 10% and about 40% of the organic solvent, separating the resulting extract from the spent hop residue, removing the solvent therefrom, and concentrating the extract.

3,143,426
METHOD OF TREATING COFFEE AND PRODUCTS OBTAINED THEREBY

Joseph Felton, 41 Park Ave., New York, N.Y.

No Drawing. Filed Oct. 16, 1961, Ser. No. 145,467
9 Claims. (Cl. 99—71)

1. A method for preparing an extract containing the flavor and aroma of coffee which comprises mixing about 100 parts of green coffee with at least about 50

parts of a first solvent which serves to dissolve and absorb the aromatic constituents of the coffee and which is a water miscible liquid having a boiling point above 200° C., the amount of said first solvent being sufficient to effect a thorough wetting, penetration and extraction of the coffee, heating the mixture to a temperature of from about 190° C. to 250° C. but below the boiling point of the first solvent until the green coffee has turned brown, cooling the mixture, adding about 2 to about 10 parts of water to the cooled mixture, heating the mixture to distill the water from the mixture, recovering the volatiles which are distilled from said mixture during both of said heating steps in a second portion of said first solvent, adding to said mixture after the removal of said water at least about 50 parts of a second organic solvent boiling below about 100° C., refluxing the mixture of solvents, removing the said second solvent and said brown coffee from the mixture, and then combining the first solvent containing the aromatic constituents extracted from the coffee during said heating steps with the second portion of the first solvent containing the recovered volatiles.

3,143,427

METHOD OF PROCESSING OVALBUMEN

Karl Thies, Proeletrasse 18, Munich 9, Germany

No Drawing. Filed July 25, 1960, Ser. No. 44,889
Claims priority, application Germany July 30, 1959
5 Claims. (Cl. 99—114)

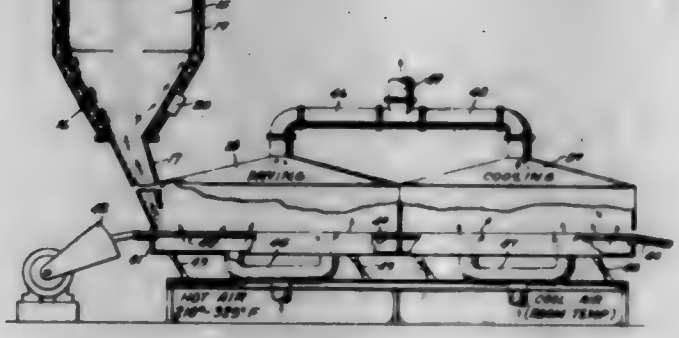
1. Method for reducing the albumen concentration and the degree of viscosity of ovalbumen while preserving the typical processing properties of the latter, comprising the steps of adding not more than about an equal volume of whey to liquid ovalbumen, mixing the ovalbumen and the whey until a perfectly homogenized mixture is obtained and adding an alimentary acid to the homogenized mixture so as to obtain a pH value of about 2–3.

3,143,428

METHOD AND APPARATUS FOR AGGLOMERATION

Frederick E. Reimers, Westfield, N.J., Marvin D. Miller, Oceanside, N.Y., and Erwin Naborney, Fanwood, N.J., assignors to American Sugar Company, a corporation of New Jersey

Filed Oct. 10, 1962, Ser. No. 229,713
18 Claims. (Cl. 99—141)



1. The method of producing a dry, free-flowing agglomerated edible material from fine particles of solid edible material including at least a major proportion of fine pulverized sugar, which comprises the steps of

dropping the fine solid material to be agglomerated at substantially ambient temperature in the form of a substantially continuous curtain of fine particles falling freely and uninterruptedly through an agglomerating zone,

directing a plurality of jets of substantially dry steam at said curtain of fine particles in sufficient number and spread of the respective jets so as to cover the entire area of said curtain with steam, and thereby moistening the particles of material making up said curtain, said steam being at a temperature substantially higher than that of said curtain of fine particles against which said steam is directed,

almost immediately thereafter subjecting the thus moistened particles of material of said curtain, while such particles are still falling freely in said zone, to the action of a second set of jets of at least one fluid, selected from the class consisting of air and substantially dry steam, said fluid being delivered at a sufficient velocity to impart turbulence to said moistened particles in said zone and thereby cause them to agglomerate while still unsupported except by the turbulent fluid in said zone, so as to form agglomerates, said jets being symmetrically disposed on both sides of said curtain of fine particles and the amount of steam supplied by said jets to said curtain of fine particles being sufficient to moisten said fine particles whereby the moistened particles are agglomerable on contact with said second set of jets,

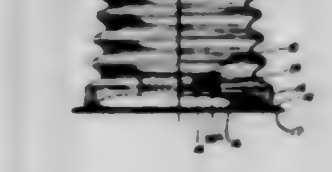
and thereafter drying said agglomerates to form a dry, free-flowing material.

3,143,429

COLLAPSIBLE DISPOSABLE CONTAINER AND NURSING UNIT

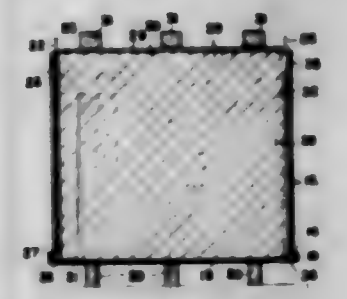
Emery C. Swanson and Charles Keith Sherck, Golden Valley, and Marvin E. Cook, New Brighton, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed Oct. 9, 1961, Ser. No. 143,624
12 Claims. (Cl. 99—171)



1. A collapsible disposable container comprising a corrugated hollow tubular body having an attached base, a non-separable liquid dispensing member attached to the body at the end opposite from the base, a barrier wall separating the interior of said body from the interior of said liquid dispensing member, said barrier wall being provided with communicating means to permit the passage of liquid and to substantially prevent the passage of a dry powdered material from said body to said dispensing member opening means in said base for introducing material into said container body and closure means for sealing said opening, said container body, base and liquid dispensing member being composed of compatible thermoformable synthetic resinous material and inseparably heat sealed together.

3,143,430
METHOD OF PACKAGING CHEESE CURD
Robert A. Snow, Green Bay, Wis., assignor, by mesne assignments, to L. D. Schreiber Cheese Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Dec. 12, 1961, Ser. No. 158,741
13 Claims. (Cl. 99—178)



1. A method of packaging cheese within a vertically arranged retainer comprising the steps of placing a double layer of porous absorbent material formed by a single piece folded over upon itself within said retainer and extending only from substantially the bottom of said retainer to the top thereof with the free ends of said material being arranged at the top end of said retainer, filling said retainer with cheese curd, and draining the liquid of said curd through said material and out of said retainer, and removing said material after a predetermined time by pulling the end of said layer of said material spaced from said curd out of said retainer thereby peeling said material off of said curd without removing said retainer from said curd.

3,143,431
PROCESS FOR THE MANUFACTURE OF VALUABLE BRIGHT DRYING POLISH WAXES
Josef Kaspp, Albert Thalhofer, Heinrich Träger, and Wolfgang Sapper, all of Gersthofen, near Augsburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 25, 1960, Ser. No. 44,835
Claims priority, application Germany July 31, 1959
9 Claims. (Cl. 106—8)

1. A process for the manufacture of a bright drying polish wax, which comprises heating to an elevated temperature at least one aliphatic carboxylic acid containing more than 18 carbon atoms and a member selected from the group consisting of dicarboxylic acids, phthalic anhydride and mixtures of phthalic anhydride and maleic anhydride with a mixture of dihydric alcohols in which the hydroxyl group is attached to an aliphatic carbon atom and which contains, besides the hydroxyl groups, only carbon and hydrogen atoms, with the presence of up to 50 equivalent percent of an oxalkylated dihydric phenol resin until the acid number is in the range from 5 to 50, 0.5 to 2 equivalents of alcoholic hydroxyl groups being applied for one equivalent of carboxylic acid groups, and 0.5 to 2 equivalents of monocarboxylic acids for each dicarboxylic acid equivalent.

3,143,432
OPTICAL GLASS
Heinz Brömer, Germannstein, and Norbert L. Meinert, Wetzlar (Lahn), Germany, assignors to Ernst Leitz, G.m.b.H., Wetzlar (Lahn), Germany, a corporation of Germany
No Drawing. Filed Jan. 6, 1960, Ser. No. 705
Claims priority, application Germany Jan. 9, 1959
2 Claims. (Cl. 106—54)

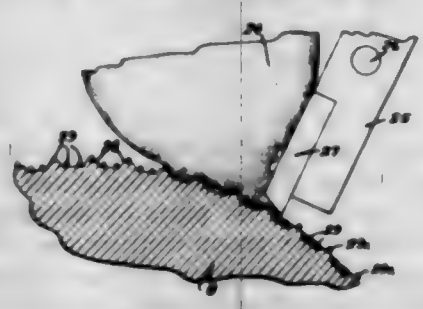
1. Optical glass with high index of refraction and small dispersion consisting essentially of

	Percent by weight
Silica and boron trioxide	20–46
of which silica is	14–35
and the boron trioxide is not less than	5.5
Lanthanum oxide	30–40
Alkaline earth oxide	7.5–20
of which barium oxide is less than	.5
Zirconium oxide	0–10
at least one oxide of the group consisting of the oxides of zinc and cadmium	0–10

3,143,433
CERAMIC STRUCTURAL PRODUCTS
William H. Blair, 3936 Bryn Mawr Drive, Dallas, Tex.
No Drawing. Filed Sept. 14, 1959, Ser. No. 839,565
2 Claims. (Cl. 106—71)

1. A multi-colored ceramic member comprising a first plurality of lightweight aggregate particles covered with a first colored slurry coating; a second plurality of lightweight aggregate particles covered with a different colored slurry coating; the major dry ingredients of said slurry coatings consisting essentially of clay in finely divided form, 100 parts, flux, 10 to 75 parts, talc, 5 to 25 parts; said first plurality and said second plurality being mixed together in substantially equal numbers and being selected from the class consisting of bloated clays and shales, said pluralities of aggregate particles being compressed together and being held together in rigid contiguous relationship by said slurry coatings when fired.

3,143,434
METHOD AND APPARATUS FOR PRODUCING PERFORATED ADHESIVE MATERIAL
Wilfred Tennant, Hythe, near Southampton, England, assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Feb. 20, 1956, Ser. No. 566,685
Claims priority, application Great Britain June 27, 1955
6 Claims. (Cl. 117—4)

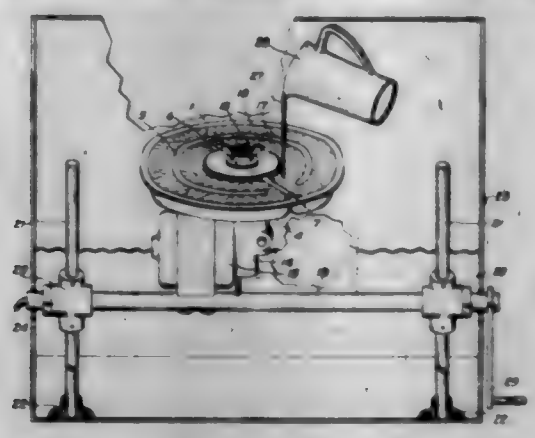


6. The method of making adhesive material with the aid of a roll having numerous spaced projections on the surface thereof, including the steps of feeding a web of backing material over said roll, applying adhesive to said web, contemporaneously doctoring the applied adhesive onto said web in locations corresponding to the valleys between projections on the roll and abrading the web over said projections to provide in the web numerous apertures of such size as to render the finished material vapor porous but substantially liquid impervious in normal use of the material.

3,143,435
ROUND PANEL LAMP PHOSPHOR COATING
William C. Martyny, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York
Filed Jan. 5, 1962, Ser. No. 164,523
4 Claims. (Cl. 117—33.5)

1. A process for phosphor coating a vitreous plate of a round fluorescent panel lamp having circularly extending concave depressions therein separated by circular and radial ridges which comprises supporting the plate concave side up, flowing a phosphor suspension over the

plate, spinning the plate to throw off the major part of the excess phosphor suspension by radial flow, overturning the plate, and spinning it at reduced speed con-



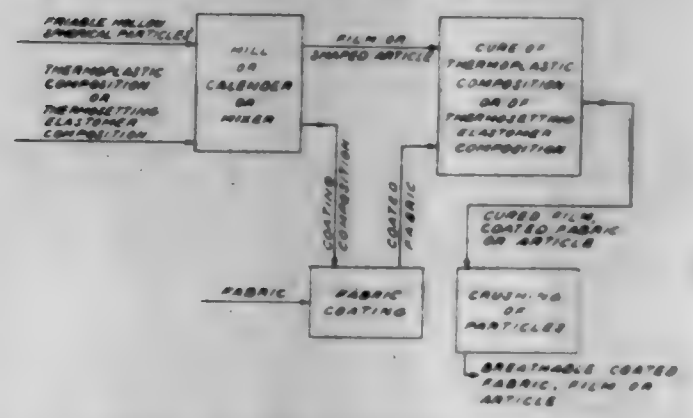
cave side down to allow the residual excess phosphor to flow out of the depressions, and continuing the spinning at reduced speed while drying the coating.

3,143,436

METHOD OF MAKING BREATHABLE FILMS AND COATED FABRICS

Lucian P. Doumaux, South Bend, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 20, 1960, Ser. No. 63,725
3 Claims. (Cl. 117—65.2)



2. A method for making breathable film comprising interspersing from 10 to 50 parts by weight of friable hollow spherical particles in 100 parts by weight of a composition selected from the group consisting of thermoplastics and thermosetting elastomers, said composition being sufficiently soft to prevent these particles from fracturing during the compounding and mixing thereof and said particles all having diameters less than the thickness of the film to be formed and being chemically inert with respect to such compositions and insoluble therein, casting the interspersion into a film, allowing said interspersion to set, and subsequently subjecting the film to crushing forces, thereby producing pluralities of minute passageways throughout the film.

3,143,437

TREATMENT OF POLYACRYLONITRILE TEXTILE MATERIALS

Jean Baptiste Rosset, Lyon, France, assignor to Crylor, Paris, France, a body corporate of France

No Drawing. Filed Jan. 27, 1960, Ser. No. 4,876
Claims priority, application France Feb. 2, 1959
9 Claims. (Cl. 117—138.8)

1. A process for the treatment of acrylonitrile polymer textile fabrics to impart a permanent finish thereto, which comprises subjecting textile fabrics formed of a polymer containing at least 85% of acrylonitrile to impregnation with a solution of a thermoplastic polymer in a liquid at a temperature at which the liquid is a non-solvent for the textile fabrics and drying the textile fabrics at a temperature at which the liquid is a solvent, therefor, thereby coating the fibres of which the fabric is composed with the said thermoplastic polymer.

3,143,438

APPARATUS FOR COATING WEB MATERIAL

Mark Campbell, Keyser, W. Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed July 26, 1960, Ser. No. 45,445
18 Claims. (Cl. 118—104)



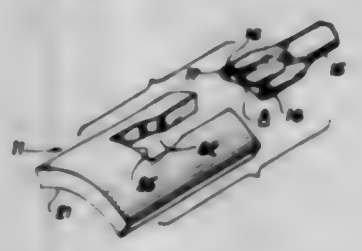
17. A device to meter and smooth coating material applied to a traveling web comprising, in combination, a flexible cylindrical doctor rod, a rod receiving member one end of which is curved to rotatively support and surround the rod in the order of about 90 degrees of the circumference of the rod, a flexible doctor blade for cleaning said rod, said blade attached to said rod receiving member, one end of which blade bears approximately tangentially against the rod at a point approximately diametrically opposite a center portion of the curved end of said rod receiving member, and a rigid support on which the other end of said blade is mounted.

3,143,439

SURFACE THERMOCOUPLE ASSEMBLY

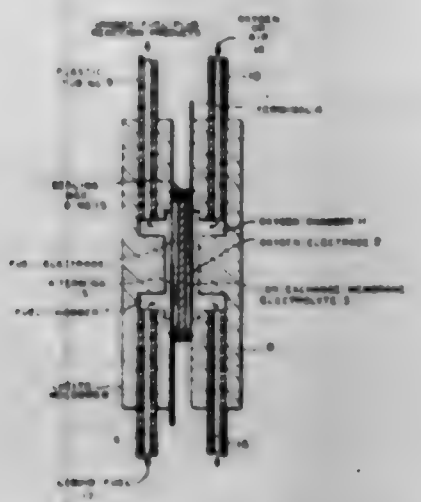
Peter F. Hansen, Niles, Ill., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 11, 1961, Ser. No. 144,349
6 Claims. (Cl. 136—4)



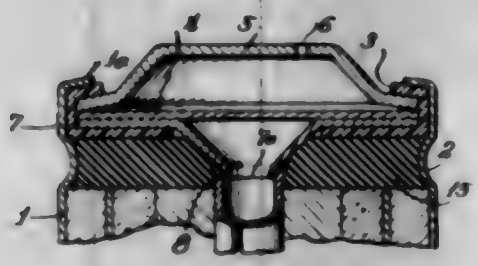
1. A surface thermocouple assembly adapted to be secured to a surface whose temperature is to be sensed comprising: a thermocouple element having a tubular metallic sheath, a plurality of wires contained in said sheath together with electrically-insulating material to space and support said wires, said wires being joined at one end to constitute a thermoelectric junction adjacent one end of said sheath, and a metallic pad having a face conformed for contiguous relation with the surface to be sensed and a notch in one edge to receive said one end of the sheath with the said junction lying within the confines of the pad, said sheath being essentially flattened on one side to present a flush relation with said pad face and an extended area of said sheath contiguous to said surface, and material intermediate said notch and sheath end portion uniting said end and pad in heat-conducting relation.

3,143,440
FUEL CELL
Herbert Hunger, Long Branch, and James E. Wynn, Neptune, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Aug. 4, 1960, Ser. No. 47,568
3 Claims. (Cl. 136—86)
(Granted under Title 35, U.S. Code (1952), sec. 266)



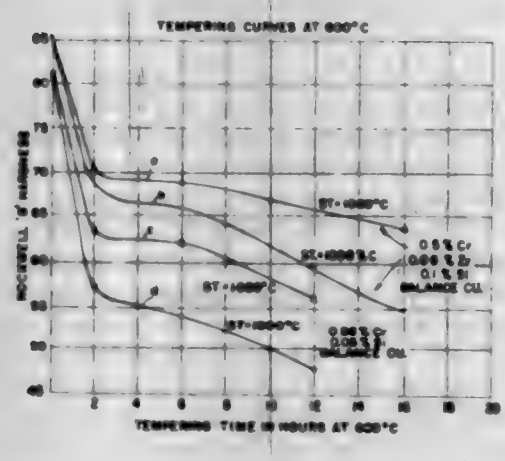
1. A fuel cell for the direct production of electrical energy from a liquid fuel comprising a solvated anion exchange resin membrane as the sole electrolyte, said membrane being positioned between two gas permeable porous electrodes, means for applying a liquid fuel to the porous fuel electrode, said liquid fuel consisting of the exothermic reaction products of an aqueous solution of formaldehyde containing about 37% of formaldehyde with an aqueous solution of potassium hydroxide, said reaction product, after cooling consisting of a mixture of methanol, formaldehyde and potassium formate and means for supplying a gaseous oxidant to the other porous electrode.

3,143,441
DIAPHRAGM VALVE FOR VENTING FLUID
Joseph J. Coleman, Milton E. Wilke, and Clifford J. Vander Yacht, Freeport, Ill., assignors to Servel, Inc., Evansville, Ind., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,243
14 Claims. (Cl. 136—178)



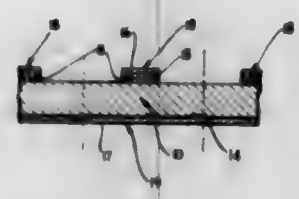
1. A hermetically sealed fluid valve for an enclosure opening comprising a resilient spring-metal diaphragm, a rigid terminal cap having its periphery in contact engagement with the periphery of said diaphragm and its central portion spaced apart from the central portion of said diaphragm to permit said diaphragm to bow into the space therebetween, said terminal cap having an aperture provided therein to permit the passage of fluid therethrough, a sealing gasket of a sealable material disposed in sealing engagement over the edges of both said diaphragm and said terminal cap, and means associated with said enclosure opening for sealingly clamping said gasket radially against the edges of said diaphragm and said terminal cap, the arrangement being such that said opening is caused to be hermetically sealed under normal conditions, and whereby a pressure differential which develops between the two sides of said diaphragm of a predetermined magnitude causes said diaphragm to bow and its edge to recede from said gasket while said gasket is restrained in position by the edge of said terminal cap, thus breaking the seal and permitting fluid to flow between said diaphragm and said gasket and causing said pressure differential to be reduced, whereupon said seal is re-established.

3,143,442
COPPER-BASE ALLOYS AND METHOD OF HEAT TREATING THEM
George Roland Watts, Bishops Stortford, Herts, England, assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Jan. 23, 1962, Ser. No. 168,126
14 Claims. (Cl. 148—160)



1. A method of producing a copper-base alloy welding electrode material which comprises preparing a copper-base alloy containing from a small but effective amount up to 2% by weight of chromium and a small but effective amount up to 0.1% by weight of zirconium and balance copper and subjecting said alloy to a heat-treatment comprising heating the alloy to a temperature varying from above 1000° C. up to the solidus temperature of the alloy, rapidly quenching the alloy from this temperature and subsequently ageing the alloy at a temperature of 300–500° C. for a time so as fully to develop the overall properties thereof.

3,143,443
METHOD OF FABRICATING SEMICONDUCTOR DEVICES
Joseph Maserjian, Newport Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 1, 1959, Ser. No. 810,366
5 Claims. (Cl. 148—178)

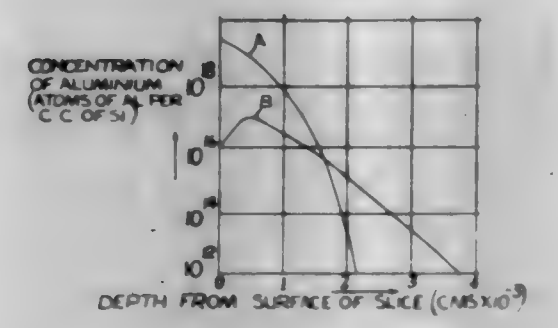


1. In a method of fabricating a semiconductor device including a lightly doped semiconductor region adjacent a heavily doped semiconductor region, the improvement comprising forming an aluminum regrowth region on one surface of a heavily donor doped crystal of silicon and subjecting the resulting structure to an elevated temperature in a mildly oxidizing atmosphere to diffuse aluminum out of the regrowth region.

3,143,444
SEMI-CONDUCTOR DEVICES

Ronald Charles Lowe, Sutton Coldfield, and Thomas Lawrence Hughes, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Oct. 20, 1961, Ser. No. 146,565
Claims priority, application Great Britain Nov. 9, 1960
1 Claim. (Cl. 148—188)

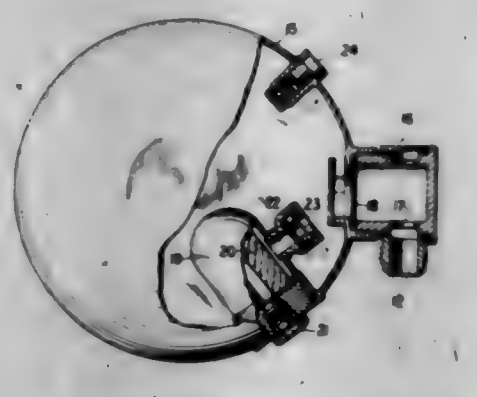


A process for manufacturing a P-N-P semiconductor slice comprising: placing a slice of N-type silicon in an atmosphere of gaseous aluminum, at an elevated temperature, leaving said slice in said atmosphere at an elevated temperature for a time necessary to diffuse aluminum into said slice and to produce P-type layers on opposite faces of said slice, removing the atmosphere of gaseous aluminum, and then maintaining said slice in air at an elevated temperature for a period of time necessary to diffuse aluminum into the slice to thereby change the concentration profile of said aluminum such that the greatest concentration of aluminum occurs below the surface of the slice.

3,143,445
GENERATION OF GASEOUS MIXTURES FOR INFLATABLE DEVICES

Lester V. Hebenstreit, Bloomfield, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Nov. 3, 1961, Ser. No. 149,896
4 Claims. (Cl. 149—1)



1. A charge for producing a mixture of cool gases under low pressure consisting essentially of about 0.57 to about 0.67 pound of a hot gas-generating pyrotechnic substance, said pyrotechnic substance being one which produces about 992 to about 1165 B.t.u. when said 0.57 to 0.67 pound of substance is ignited, an expandable fluid coolant isolated from and surrounding said substance, said coolant consisting essentially of about 6.89 to about 7.33 pounds of carbon dioxide and about 0.46 to about 0.90 pound of ethyl alcohol, said charge being a total weight of about 7.92 to about 8.90 pounds, said pyrotechnic substance and said isolated coolant being of an arrangement to cause said isolated coolant to admix with hot gases to be generated by said pyrotechnic substance when said pyrotechnic substance is ignited.

3,143,446
PROPELLANT CHARGE CONTAINING FLUID ENCAPSULATIONS

Kurt Berman, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Nov. 27, 1959, Ser. No. 855,896
8 Claims. (Cl. 149—2)



1. A charge for a reaction engine comprising:
(*a*) a matrix cast into a rigid state of desired shape,
(*b*) a plurality of capsule envelopes randomly distributed throughout said matrix, each of said envelopes being non-reactive with said matrix at ambient conditions and,
(*c*) at least one fluid encapsulated in said envelopes, said fluid being non-reactive with said envelopes at ambient conditions; said charge forming a solid propellant wherein, under elevated temperature conditions, the capsule envelopes dissolve permitting mixture of the fluid in said envelopes and of the fluid and the rigid matrix, at least one of said mixtures resulting in a chemical reaction which produces a propelling force by the expulsion of the reaction products.

3,143,447
CHEMICAL ETCHES FOR LEAD TELLURIDE CRYSTALS

Marriner K. Norr, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy

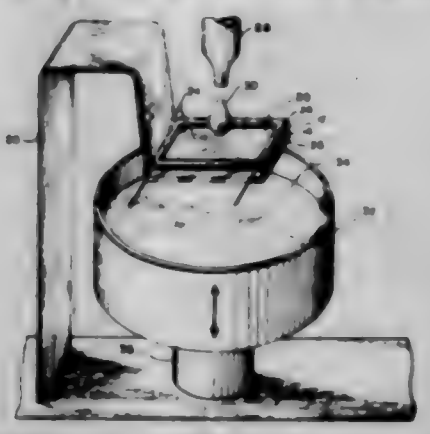
No Drawing. Filed Dec. 22, 1960, Ser. No. 77,764
7 Claims. (Cl. 156—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A solution for etching lead telluride crystals consisting essentially of iodate and hydroxyl ions.

3,143,448
PHOTOMAGNETOELECTRIC CELL AND METHOD

Herbert Mette, Neptune, and Arthur Bontright, Asbury Park, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Feb. 21, 1962, Ser. No. 174,922
2 Claims. (Cl. 156—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)



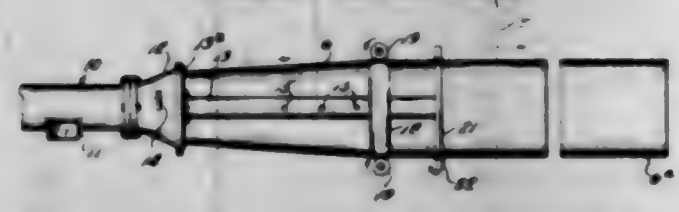
1. The method of sensitizing the exposed surface of a thin layer of n-type germanium semiconductor material not more than 10 microns in thickness to produce a photomagnetoelectric cell comprising the steps of lining the perimeter of said exposed surface with a masking wax to form a shallow tray having raised rims, releasing a drop-wise mixture of CP4 etchant diluted with distilled water to ½ strength into said tray until the diluted CP4

etchant completely covers said exposed surface, said CP4 etchant comprising a solution of equal parts of concentrated hydrofluoric and glacial acetic acids, about 1.5 parts of concentrated nitric acid for each previous part, and a few drops of liquid bromide for each 50 cu. cm. of the etchant, and rapidly rinsing said diluted CP4 etchant from said exposed surface by completely immersing said exposed surface in distilled water within a period not more than one second after the application of said etchant on said exposed surface.

3,143,449
TUBED INNERLINER FOR BAGLESS CURED TIRES

George P. Bosomworth and Arthur M. Lancaster, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Nov. 28, 1958, Ser. No. 775,276
1 Claim. (Cl. 156—126)

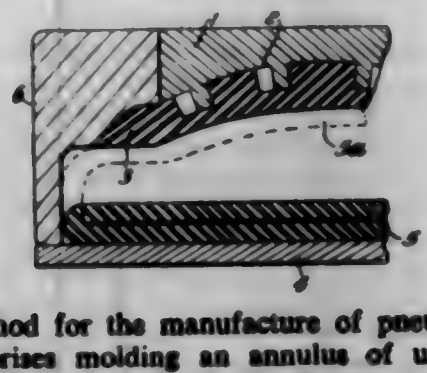


In a method of manufacturing a pneumatic tubeless tire wherein a band having continuous beads at each end and a plurality of plies of stretch resistant elements connecting said beads is formed and said band is expanded to generally toroidal shape and cured in a mold in said toroidal shape, steps comprising forming a splice-free cylindrical sleeve of vulcanizable rubbery material, adhering said cylindrical sleeve in unvulcanized state to the inner ply of an unvulcanized but vulcanizable rubberized tire band to cover completely the radial inner surface thereof from bead to bead, thereafter applying fluid under pressure directly against the radial inner surface of said sleeve while collapsing the edges of said tire band axially toward each other to form the toroidal shape and subjecting the shaped vulcanizable tire to heat to vulcanize the same.

3,143,450
METHOD FOR THE MANUFACTURE OF PNEUMATIC TIRES

Ronald Jesse Barber, Erdington, Birmingham, and Jack Milner Lowe, Sutton Coldfield, England, assignors, by mesne assignments, to Dunlop Tire and Rubber Corporation, Buffalo, N.Y., a corporation of New York

Filed Dec. 24, 1958, Ser. No. 782,728
Claims priority, application Great Britain Jan. 15, 1958
4 Claims. (Cl. 156—126)

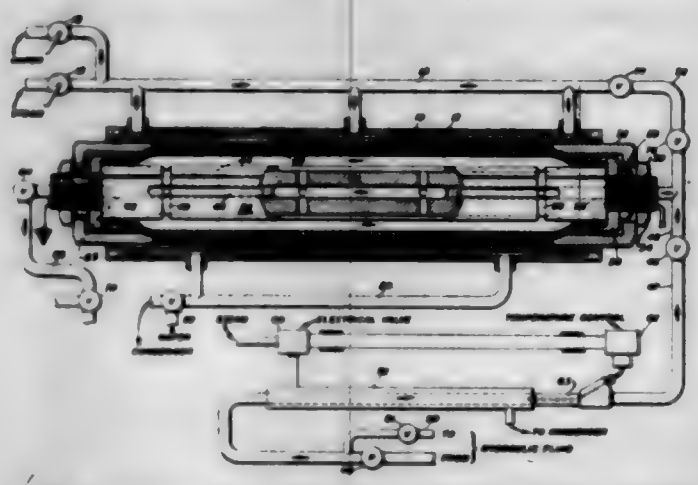


1. A method for the manufacture of pneumatic tires which comprises molding an annulus of unvulcanized tread composition radially outwardly into a tread molding ring having an inner surface indented with a tread molding pattern, placing an annular breaker symmetrically and coaxially within and in contact with the inner surface of said annulus of unvulcanized tread composition in said molding ring, placing said assembly of tread annulus and breaker coaxially and symmetrically about an unvulcanized carcass on an expansible building surface, expanding said building surface and carcass into union with said breaker strip and molding and vulcanizing said assembly of carcass, breaker and annulus.

3,143,451
METHOD OF MAKING A MULTI-PLY PLASTIC TUBULAR ARTICLE

Robert C. Pratt, Scituate, and Charles H. Scott, Braintree, Mass., assignors to Babbitt Pipe Company, Inc., West Hanover, Mass.

Filed Oct. 16, 1959, Ser. No. 846,879
14 Claims. (Cl. 156—194)

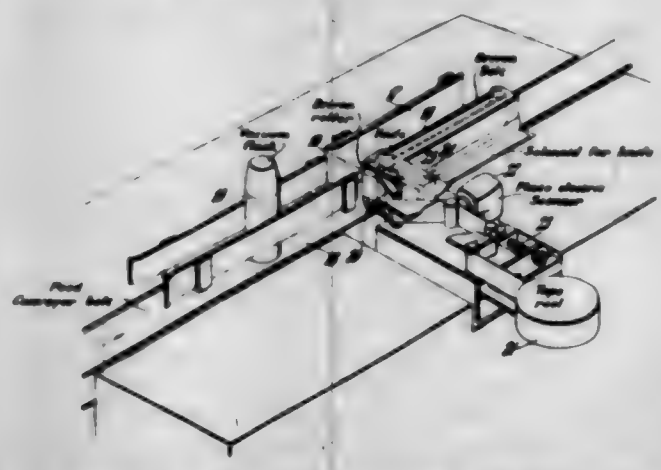


1. The method of making a multi-ply plastic tubular member comprising the steps of,
impregnating stripe of fibrous material having an inherent stretch characteristic with a thermo-setting resin,
spirally winding a plurality of the stripe into a multi-ply tubular preform,
heating the preform to a temperature below the curing temperature of the resin to soften the resin and lubricate the fibrous material,
following the softening of the resin applying an outwardly acting pressure internally of the preform to compress the plies together while circumferentially stretching the fibrous material,
and simultaneously raising the temperature of the heat to the curing temperature of the resin.

3,143,452
DEVICE FOR APPLYING ADHESIVE TAPE

Cyril Stanley Larkin, Boreham Wood, England, assignor to Adhesive Tapes Limited, Bristol, England, a British company

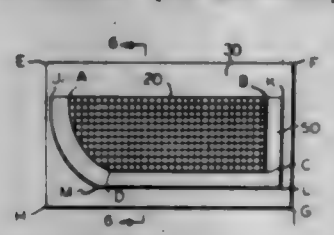
Filed Sept. 14, 1961, Ser. No. 138,165
Claims priority, application Great Britain Oct. 5, 1960
6 Claims. (Cl. 156—522)



1. A machine for applying pressure sensitive tape to cylindrical objects comprising an extended runway including elongated driven belt means and wall means spaced adjacent said driven belt means for passing a cylindrical object therebetween, a driven roller disposed adjacent the

inlet end of said runway and in alignment with said driven belt means and extending parallel thereto, said driven roller being spaced forward of the leading end of said belt means and spaced opposite the leading end of said wall means, means for feeding pressure sensitive tape onto said roller with the adhesive face of the tape facing outwardly from the roller, and means for cutting and severing adhesive tape as the tape passes between the space between the roller and said leading end of said belt means.

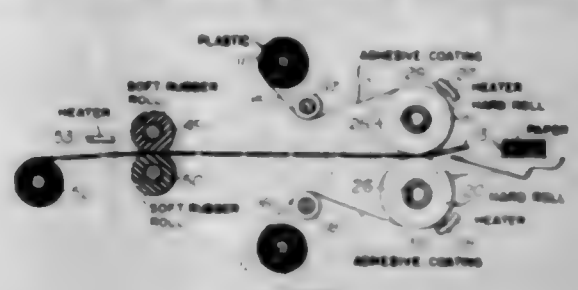
3,143,453
METHOD OF MAKING A PROTECTIVE SHEATH FOR BOAT HULLS
Albert J. Huston, 5125 Benton St., Lincoln, Nebr.
Filed Nov. 14, 1962, Ser. No. 237,469
5 Claims. (Cl. 156—267)



1. A method for producing protective sheaths for boat hulls which comprises the steps of:
(1) providing a half-hull pattern which has dimensions corresponding to the dimensions of approximately the surface area of a hull which is on either half of a vertical plane passing midway through the bow and stern,
(2) said pattern preferably being made from a fabric material having a limited degree of porosity,
(3) placing said half-hull pattern upon a first sheet made of elastic, waterproof material,
(4) said first sheet having length, width and heighth, dimensions which exceed the correspondinbg dimensions of said half-hull pattern;
(5) placing a comparatively narrow border strip of material around the front, rear and bottom sides of said half-hull pattern,
(6) placing a second sheet over said half-hull pattern and border strip, said second sheet being about the same size and compositions as said first sheet,
(7) subjecting the aforesaid assembly to a bonding operation so that the facing surfaces of said first sheet, second sheet and border strip bond together,
(8) trimming the front, rear and bottom sides of said assembly to the desired degree,
(9) trimming the top of said assembly along a line corresponding generally with the top line of said half-hull pattern, and
(10) removing said half-hull pattern from between said first and second sheets so as to thereby form a protective sheath for a boat hull.

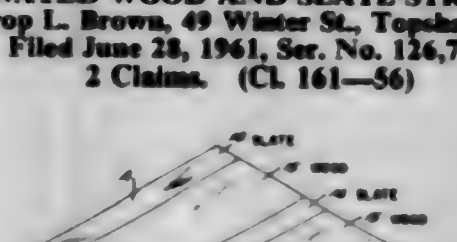
3,143,454
LAMINATING PRESS
Donald F. Hannon, Shaker Heights, Ohio, assignor to Laminators, Inc., a corporation of Ohio
Filed Jan. 11, 1960, Ser. No. 1,760
11 Claims. (Cl. 156—499)

1. A laminating press comprising a frame, a first pair of rolls comprising first and second hard surfaced cylindrically contoured rolls, the first pair of rolls being journalled on the frame and mounted in closely spaced relationship to define a first pressure applying station therebetween, tensioning springs connected to the frame and operably connected to one of the hard rolls to bias and one hard roll toward the other hard roll, support springs connected to the frame and operably connected to said one hard roll and biasing said one hard roll away from the other hard roll against the action of the tensioning springs, the first roll being a metal roll and the second roll being a firm rubber composition roll, first and second shoe type heating elements mounted on the frame, said first heating element being disposed adjacent said first roll and extending longitudinally from substantially one end of the first roll to the other, said second heating element being disposed adjacent said second roll and extending from substantially one end of the second roll to the other, said first and second heating elements being respectively spaced from said first and second rolls to heat the outer surface of one of a pair of laminating sheets reeved over each of said rolls, a pair of relatively soft cylindrically contoured rubber rollers positioned in substantial abut-



ment with one another and journalled on the frame parallel to one another and to the first and second hard rolls, said soft rollers defining a second work station, said pairs of rolls being positioned to define a path of travel from one station to the other for sheets of material to be laminated together with one roll of each pair on each side of the path and drive means connected to said first and second rolls and to said pair of soft rollers to tension such pair of laminating sheets and to draw said laminating sheets past the said heaters and then draw said laminating sheets, and an included sheet of material to be covered, through said first and second pressure applying stations respectively.

3,143,455
LAMINATED WOOD AND SLATE STRUCTURE
Winthrop L. Brown, 49 Winter St., Topsham, Maine
Filed June 28, 1961, Ser. No. 126,779
2 Claims. (Cl. 161—56)



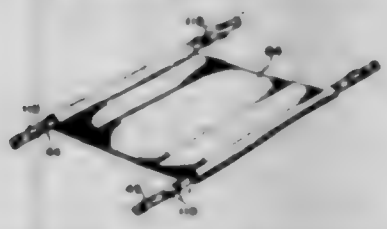
1. A laminated wood and slate structure comprising blocks of fine grained, uniform and smooth-splitting slate having opposite face surfaces parallel to the cleavage plane and to the grain of the slate, side surfaces perpendicular to the cleavage plane and parallel to the grain and end surfaces extending transversely of the cleavage plane and the grain and blocks of wood having face and side surfaces parallel to the grain of the wood and end surfaces extending transversely of the grain, said slate and wood blocks being laminated together in alternate relationship by a bonding agent having affinity for both the slate and the wood with the side surfaces of the respective blocks being in adjacent, confronting relationship and with the face surfaces being exposed on opposite faces of the laminated assembly and having the grain of the wood and slate in parallel relationship and with the cleavage plane of the slate parallel to the faces of the assembly, the faces of the laminated assembly having dressed, smooth and finished surfaces and with the face surfaces of the slate and wood being in a common plane.

3,143,456

METHOD OF AND APPARATUS FOR ADHERING CORD TO FABRIC STRIPS AND STRIPS PREPARED THEREBY

John J. McGrath, Arcadia, and Nathan M. Weiss, San Fernando, Calif., assignors to Southland Cord and Machine Manufacturing Company, Los Angeles, Calif., a corporation of California

Filed Feb. 13, 1961, Ser. No. 88,923
11 Claims. (Cl. 161—101)



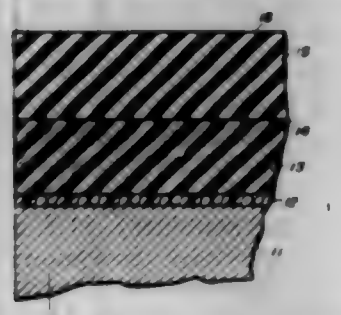
1. A boxing strip for use on upholstery and furniture, comprising a strip of material of a predetermined width, a welting cord integrally attached to a longitudinal edge portion of said strip, said edge portion being wrapped around said cord, and said strip of material and said welting cord being joined together by a thermoplastic material which holds them in fixed relation with respect to each other, the contacting portions of said strip being unattached.

3,143,457

VIBRATION DAMPING TREATMENTS

Ross E. Morris, Vallejo, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 9, 1960, Ser. No. 13,970
7 Claims. (Cl. 161—161)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A laminated water-borne ship structural section for dampening sound waves generated by ship-produced mechanical vibrations, said section comprising a metal sheet of at least ¼ inch thickness, a cellular vulcanized butyl rubber layer coextensive with and continuously bonded to said metal section, and a solid high-density butyl rubber overlayer coextensive with and continuously bonded to said cellular layer, the mass per unit area of the dense overlayer and the relative thicknesses, dynamic moduli and loss factors of the two rubber layers being mutually fixed for providing a vibrational damping rate of at least 57 db/sec. at 240 c.p.s. and at least 340 db/sec. at 540 c.p.s.

3,143,458

METHOD OF MAKING ELECTRICAL PAPER

Charles Andre Charron, Westfield, Mass., assignor to The Stevens Paper Mills, Inc., Westfield, Mass., a corporation of Delaware

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,187
1 Claim. (Cl. 162—76)

In the manufacture of electrical paper for use as dielectric material in capacitors the method of improving the power factor of said paper which comprises the steps of introducing into the pulp slurry ethylene-diamine-tetraacetic acid to remove cations therefrom, the quantity of said ethylene-diamine tetraacetic acid being sufficient to react with said cations to form ring compounds, thereafter washing said pulp to remove said ring compounds, testing the extract resistivity of the paper, and continuing said washing until said resistivity is at least 600,000 ohms/cm.^{3}.

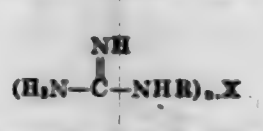
3,143,459

NONFOAMING WETTABLE POWDER COMPOSITIONS

Alfred F. Marks, Norwalk, and Ilse B. Frederick, Glenbrook, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 18, 1958, Ser. No. 727,546
8 Claims. (Cl. 167—42)

1. A method of preparing a nonfoaming wettable powder composition which comprises: impregnating an emulsion of a silicone-based, water-dispersible antifoam agent on a finely ground inert powder carrier to give a mixture containing from 10 to 25% of the antifoam emulsion; blending the resultant mixture with a mixture consisting of additional inert powder carrier, a wetting and dispersing surface-active agent, and an alkyl guanidine salt of the formula:



wherein R is alkyl containing from 10 to 16 carbon atoms, *n* is an integer selected from one and two, and X stands for an acid residue, of a member selected from the group consisting of monocarboxylic acid, hydrochloric acid, sulfuric acid and phosphoric acid.

3,143,460

METHOD FOR MAKING PESTICIDE COMPOSITION OF A PESTICIDE-RESIN MIXTURE COATED ON GRANULES

David A. Pearce, Mission, Kans., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 23, 1960, Ser. No. 10,081
13 Claims. (Cl. 167—42)

1. A method for manufacturing a non-dusty, free-flowing granular pesticide composition comprising blending together a water-soluble resin, a volatile solvent for said resin and an inert non-absorbent granular material until the granules are uniformly covered and have the consistency of wet sand, blending with the resulting wet sand-like mixture a finely divided solid pesticide insoluble in said solvent and evaporating the solvent from the resulting blend.

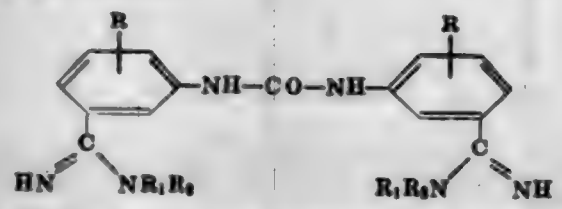
3,143,461

METHODS FOR TREATING BABESIASIS

Samuel Sidney Berg, Ilford, Essex, England, assignor to May & Baker Limited, Dagenham, England, a British company

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,603
Claims priority, application Great Britain Dec. 15, 1958
2 Claims. (Cl. 167—53)

1. A process for the treatment of a domestic animal suffering from babesiasis which comprises administering to the animal a member of the class consisting of diamidines of the formula:



wherein R is in one of the positions meta and para to the amidino group shown in the formula and represents a member of the class consisting of hydrogen and halogen atoms, and lower alkyl, lower alkoxy, nitro and NH_2, and R_1 and R_2 represent members of the class consisting of the hydrogen atom and lower alkyl, and their acid addition salts having therapeutically acceptable anions, the

quantity of said compound administered being sufficient to alleviate the babesiasis.

3,143,462
NEMATOCIDAL PESTICIDAL AGENT

Klaus Schwarzer and Arnold Hansweiler, Cologne-Flittard, and Bernhard Homeyer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 21, 1960, Ser. No. 23,637
Claims priority, application Germany Apr. 29, 1959
4 Claims. (Cl. 167—55)

1. Process for combating nematodes which comprises treating nematode-infested soil with a compound of the following formula

$$Cl—CH_2—CH=CH—CH_2—O—R$$

in which R stands for a member selected from the group consisting of acyl radicals of lower alkanoic acids containing up to 4 carbon atoms, hydrogen, lower alkyl radicals up to 4 carbon atoms, lower hydroxy-substituted and lower chloro-substituted alkyl radicals up to 4 carbon atoms.

3,143,463
1-(PARA-HALOPHENYL)-2-LOWERALKYL - AMINO PROPANE: WEIGHT REDUCING COMPOSITION AND METHOD

Torkil O. Holm, Copenhagen, Denmark, and Rudolf Kopf, Bergisch-Gladbach, Germany, assignors to H. Lundbeck & Co., Kemisk Pharmaceutisk Laboratorium A/S, Copenhagen, Valby, Denmark

No Drawing. Filed Dec. 21, 1959, Ser. No. 860,637
13 Claims. (Cl. 167—22)

1. An oral pharmaceutical composition, having selective anti-appetite and weight-reducing properties with a minimum of central stimulatory effect, which is useful in controlling obesity, comprising in unit dosage form an effective quantity of between about five and about 75 milligrams of a compound selected from the group consisting of 1 - (para-chlorophenyl)-2-methyl-2-aminopropane, 1 - (para-bromophenyl)-2-methyl-2-aminopropane, and non-toxic pharmacologically acceptable acid addition salts thereof, and a non-toxic pharmaceutical diluent.

3,143,464
METHOD OF STERILIZATION

Charles Riffkin, Highland Park, and David Marcus, East Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 11, 1962, Ser. No. 209,237
5 Claims. (Cl. 167—58)

1. A method for cold sterilizing aqueous injectable pharmaceutical compositions in situ which comprises incorporating 2,3-epoxypropanol in the composition and maintaining the composition sealed from further outside contamination until sterile.

3,143,465
PHARMACEUTICAL PREPARATIONS COMPRISING PHOSPHORUS CONTAINING CATION EXCHANGE RESINS HAVING A BASIC DRUG ADSORBED THEREON; AND TREATMENT THEREWITH

John Wm. Keating, Big Rapids, Mich., assignor to Wallace & Tiernan Inc., Belleville, N.J., a corporation of Delaware

No Drawing. Filed June 19, 1961, Ser. No. 117,853
29 Claims. (Cl. 167—65)

3. A pharmaceutical composition in dosage unit form comprising a phosphorus containing cation exchange resin selected from the group consisting of phosphonic, phosphonous and phosphoric cation exchange resins having adsorbed thereon an organic drug compound containing a basic nitrogen group, said organic drug compound in free base form having an LD-50 in rats of between approximately 10 and 3000.

3,143,466
N-(BETA-HALOPROPIONYL)-PIPERIDINES AS CNS DEPRESSANTS

Leo G. Abood, Oak Park, Ill., assignor to Colgate-Palmolive Company, a corporation of Delaware

No Drawing. Filed Feb. 1, 1962, Ser. No. 170,587
4 Claims. (Cl. 167—65)

1. A pharmaceutical composition comprising about 25 to 500 mg. of a member of the group consisting of N-(beta-chloropropionyl)-piperidine and N-(beta-bromopropionyl)-piperidine, and a pharmaceutical carrier.

3,143,467
ANTHELMYCIN AND A PROCESS FOR ITS PRODUCTION

Robert L. Hamill, Marvin M. Hoehn, and James M. McGuire, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

Filed Feb. 19, 1962, Ser. No. 173,958
5 Claims. (Cl. 167—65)

3. A member of the group consisting of the antibiotic anthelmycin and its acid addition salts, said antibiotic being a white, solid substance which is soluble in water and acidic aqeuous solutions, is somewhat soluble in methanol, and is relatively insoluble in ethanol, acetone, chloroform, butanol, and ether; which decomposes above 200° C.; which is weakly basic, having pK'a values of 3.3, 6.8, and 7.9 in water; which has an optical rotation $[\alpha]_D^{25}$° of −17.5° (1.58 percent in water); which gives a positive ninhydrin test for α-amino acids and a positive Elston-Morgan test for amino sugars; which has the approximate composition of 44.39 percent carbon, 6.53 percent hydrogen, 10.39 percent nitrogen, and 38.69 percent oxygen; which has a molecular weight as calculated from titration data of about 660; which, when mulled in mineral oil, has the following distinguishable bands in its infrared absorption spectrum: 2.99, 6.04, 6.23, 6.69, 7.1 (shoulder), 7.77, 8.27, 8.65 (shoulder), 9.32, 9.7 (broad shoulder), 10.5 (broad shoulder), 11.3, and 12.8 microns; and which has an ultra-violet absorption spectrum in neutral and basic aqueous solutions showing intense absorption maxima at about 234 mμ and 267 mμ with absorptivity values of

$$E_{1\,cm}^{1\%} = 127 \text{ and } 135.5$$

respectively, and in aqueous acid solution has a single absorption maximum at about 274 mμ with an absorptivity value of

$$E_{1\,cm}^{1\%} = 198$$

3,143,468
CAPREOMYCIN AND ITS PREPARATION

Earl B. Herr, Jr., Robert L. Hamill, and James M. McGuire, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

Filed May 25, 1962, Ser. No. 197,658
11 Claims. (Cl. 167—65)

4. A method of producing capreomycin which comprises cultivating a capreomycin-producing strain of *Streptomyces capreolus* in a culture medium containing assimilable sources of carbon, nitrogen and inorganic salts, under submerged aerobic conditions until a substantial amount of capreomycin is produced by said organism in said culture medium, and recovering the capreomycin from said culture medium.

6. An antibiotic substance selected from the class consisting of capreomycin, prepared by the process of claim 4, and the salts thereof with pharmaceutically acceptable

acids, said capreomycin being characterized as follows: a white, solid substance which is soluble in water; is relatively insoluble in most organic solvents; is stable in aqueous solution at a pH in the range of about 4 to about 8; has titratable groups of pK'_a values approximating 6.5, 8.0, 10.0, and 13.0 as determined by electrometric titration in dimethylformamide-water solution (2:1 parts by volume); has an apparent molecular weight around 740 as determined from electrometric titration data; gives a positive ninhydrin test and a negative Ehrlich indole test; forms a dihydrochloride salt which, as a mineral oil mull thereof, has infrared spectral absorption maxima in the range of 2.0μ to 15.0μ at about the following wave lengths, expressed in microns: 3.10, 6.00, 6.65, and 8.15; has ultraviolet spectral absorption maxima in 0.03 N hydrochloric acid at about 268mμ with an extinction coefficient,

$$E^{1\%}_{1cm.} \text{ of } 269$$

and in 0.05 N potassium hydroxide solution at about 283mμ with an extinction coefficient,

$$E^{1\%}_{1cm.} \text{ of } 175$$

forms a disulfate salt which has an optical rotation in water, $[\alpha]_D^{25}$, of $-27.6°$ (c.=1, weight per volume), and yields, upon acid hydrolysis, at least about one molar proportion of each of five amino acids, including alanine, serine, 2,3-diaminopropionic acid, and β-lysine.

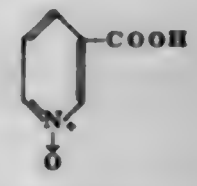
3,143,469

ANTI-CHOLESTEROL NICOTINIC ACID N-OXIDE

André Georges Debay, 5 Rue Georges Citerne, Paris, Seine, France, and Jacques Louis Marie Joseph Théry, 53 Rte. de Croissy, Le Vesinet, Seine-et-Oise, France

No Drawing. Filed June 15, 1962, Ser. No. 202,701
Claims priority, application France June 26, 1961
8 Claims. (Cl. 167—65)

1. Therapeutic composition having a cholesterol lowering action comprising an active compound selected from the group consisting of nicotinic acid N-oxide having the formula:



and the therapeutically administrable salts thereof, and a pharmaceutic vehicle, said composition being in the form of a unit dose containing an amount of active compound suitable for the daily administration of 0.40 to 6 g. of said compound.

3,143,470

RABIES VIRUS PROPAGATION IN EMBRYONIC CELLS MAINTAINED IN A MEDIUM CONTAINING PANCREATIC DIGEST OF CASEIN

Burton I. Wilner, Grosse Pointe Farms, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,840
4 Claims. (Cl. 167—78)

1. Process for the production of culture liquids containing live rabies virus which comprises incubating an embryonic cell monolayer infected with live rabies virus in a sterile, protein-free, aqueous, cell-maintenance medium containing at least 0.3% by weight of pancreatic digest of casein under aseptic conditions until a substantial quantity of live rabies virus is present in the culture liquid and removing the culture liquid containing the live rabies virus from the infected, intact, embryonic cell monolayer without disrupting the monolayer.

3,143,471

ARGON METHOD OF DRYING AND PRESERVING LYOPHILIZED THERAPEUTIC PRODUCTS

Michael G. Coady, Broomall, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

Filed Jan. 18, 1962, Ser. No. 167,192
3 Claims. (Cl. 167—78)

1. In a method of preserving and stabilizing a lyophilized therapeutic preparation, the steps which comprise:
(1) filling a confined space with dry argon,
(2) introducing into said confined space a container having therein a moist therapeutic preparation, said container having a filler opening spaced from the bottom thereof,
(3) evacuating the argon from said confined space while maintaining a temperature sufficient to bring about the sublimation of moisture from said preparation until said moisture has been substantially completely removed,
(4) reintroducing dry argon into said confined space and into said container,
(5) increasing the pressure of the argon in said confined space in excess of atmospheric pressure,
(6) removing said container from said confined space and exposing it to the atmosphere, and
(7) then sealing said container in said atmosphere.

3,143,472

ENTERIC COMPOSITIONS

Lewis C. Lappas and Charles W. McKeehan, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Sept. 25, 1961, Ser. No. 140,201
11 Claims. (Cl. 167—82)

1. An enteric medicament which comprises a drug protected from the gastric environment by a coating of a partial ester of a copolymer selected from the group consisting of the poly(olefin-maleic anhydride)s wherein the olefin moiety contains from 2 to 20 carbon atoms and the poly(vinyl alkyl ether-maleic anhydride)s wherein the alkyl group contains from 1 to 3 carbon atoms, said partial ester being water soluble at a pH greater than about 3.5.

3,143,473

STABLE, SOLID, ORAL LIVE ANTIPOLIOMYELITIS VACCINE COMPOSITIONS AND PROCESS FOR PREPARING THEM

Walter Hennessen and Rudolf Mauler, Marburg an der Lahn, and Gerhard Rost, Frankfurt am Main, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany

No Drawing. Filed Dec. 27, 1961, Ser. No. 162,553
Claims priority, application Germany Aug. 16, 1961
3 Claims. (Cl. 167—78)

1. A process for manufacturing stable, storable orally administrable dosage unit formulations of poliomyelitis vaccine which comprises coating the surface of sugar candy kernels with an aqueous suspension of operative unit dosages of live attenuated poliomyelitis virus, and drying said coated kernels at a temperature within the range of about 0° to 37° C. under a sterile, inert gas stream.

3,143,474

PREPARATION OF DUCK-EMBRYO MODIFIED INFECTIOUS CANINE HEPATITIS VIRUS VACCINE

Ernest J. Froelich, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 30, 1962, Ser. No. 213,118
12 Claims. (Cl. 167—78)

1. A vaccine for immunizing dogs against infectious canine hepatitis comprising an apathogenic, avirulent

living, duck-embryo modified, infectious canine hepatitis virus.

3,143,475
VITAMIN-CONTAINING GELATIN BEADLETS AND THE PROCESS OF PREPARING THEM

Arnold Koff, West Orange, and Peter Fredrick Widmer, Allendale, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 23, 1961, Ser. No. 83,891
16 Claims. (Cl. 167—81)

1. A process comprising the steps of
(1) forming an aqueous emulsion containing, dispersed therein, a fat-soluble vitamin-active material and gelatin;
(2) forming discrete droplets of said emulsion entirely above the surface of a vegetable oil;
(3) allowing said droplets to fall through an inert atmosphere into said vegetable oil which is maintained at a temperature of from about 15° to about 25° C.;
(4) cooling the vegetable oil containing the droplets to a temperature of about 0° to about 15° C.; and
(5) dehydrating the gelatin beadlets formed thereby with a lower alkanol.

3,143,476
COLD WAVE NEUTRALIZING COMPOSITION AND PROCESS

Samuel Grant, Chicago, Ill., assignor to Helene Curtis Industries, Inc., Chicago, Ill., a corporation of Illinois

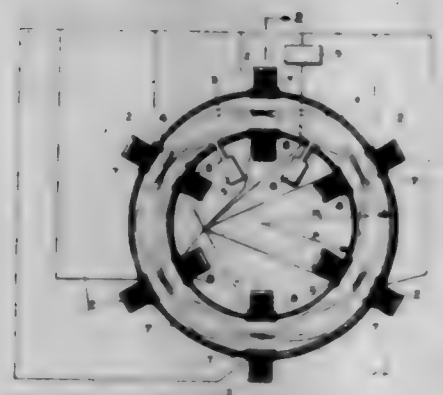
Filed Sept. 15, 1954, Ser. No. 456,314
5 Claims. (Cl. 167—87.1)

1. A process for neutralizing a keratin reducing cold wave solution on the hair, said process comprising applying to the hair a neutralizing solution including by weight between 3% and 18% bromate salts selected from the group consisting of alkali and alkali earth metal bromates, at least 0.001% of iron, and a sequestering agent.

3,143,477
PLASMA CONFINING DEVICE

Jean-Michel Dolique, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, Paris, France

Filed May 17, 1960, Ser. No. 29,693
Claims priority, application France June 2, 1959
6 Claims. (Cl. 176—3)

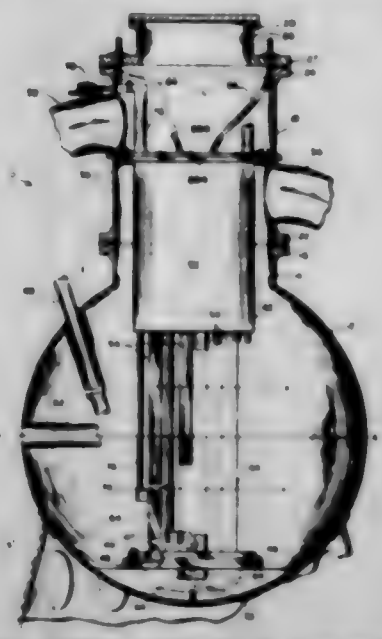


1. A plasma confining device, comprising a ring-shaped vessel, magnetic field generating means associated with said vessel for establishing on the inside thereof a magnetic field having lines of force essentially parallel to the walls of said vessel, magnetic mirror means distributed along said ring for tightening at predetermined spatial intervals the density of said magnetic lines of force, means for filling said vessel with plasma, and means for establishing within said plasma a pattern of transverse hydromagnetic waves having a standing distribution with antinodes located substantially within the planes of maximum density of said tightened magnetic lines of force.

3,143,478
HIGH FLUX BEAM REACTOR

Jack Chernick, Patchogue, Kenneth W. Downes, Setauket, Julius M. Hastings, Patchogue, Joseph M. Hendrie, Bellport, and Herbert J. C. Kouts, Brookhaven, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 5, 1961, Ser. No. 108,212
8 Claims. (Cl. 176—18)



1. A heavy water moderated neutronic reactor for producing external beams of high flux thermal neutrons comprising a vessel for containing heavy water, removable internals submerged in said water having a core of highly enriched uranium fuel elements, inlet means in said vessel above said internals for supplying said heavy water, outlet means in said vessel below the top of said internals for withdrawing said heavy water, means within and attached to said vessel for supporting said internals and separating incoming from outgoing heavy water, said means including passageways for passing water from said inlet means down through said core to fill said vessel and pass out through said outlet means, said passageways carrying heavy water through and around said fuel elements in amounts resulting in the under-moderation of said core, said pressure vessel enclosing a reflector consisting of a volume filled by flowing heavy water surrounding said core to fully moderate said core and establish maximum thermal flux outside of said core, a plurality of control rods extending along the outer surface of said internals for movement along said outer surface toward and away from the core of said internals for exercising nuclear control over said reactor, and means for extracting from said reactor beams of thermal neutrons.

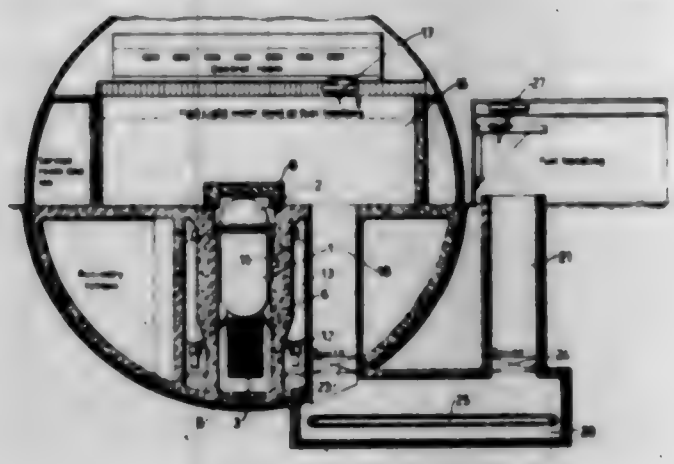
3,143,479
CORE HANDLING IN HEAVY WATER REACTORS

Bernt Torsten Allan Hargö, Solna, and Anton Ingvar Holtz, Vallingby, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden

Filed Dec. 2, 1960, Ser. No. 73,260
Claims priority, application Sweden Dec. 7, 1959
3 Claims. (Cl. 176—30)

3. In a process for core handling in a shut-down heavy water reactor the steps comprising: drawing-off the heavy water from the core and confining it in a tank while heavy water is being sprayed over the fuel elements; spraying light water over the fuel elements thereby washing out the rest of the heavy water, a mixture of heavy water and light water thus obtained being collected and confined in a container; filling the reactor with light water to a predetermined level after which the reactor is opened and at least part of the core is moved out of and a new core is moved into the reactor in the way used in light water reactors; then closing the reactor and drawing off

the light water from the core while light water is sprayed over the fuel elements; spraying heavy water over the fuel elements thereby washing out the rest of the light water, a mixture of light water and heavy water thus



obtained being collected and confined in said container; and finally filling the reactor with heavy water to a predetermined level, after which the reactor is ready for a new running period.

3,143,480
PRODUCTION OF 6β-HYDROXY-Δ³-A-NOR-PREGNENE-2,20-DIONE
Allen I. Laskin and Frank L. Weisenborn, Somerset, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 30, 1962, Ser. No. 191,250
1 Claim. (Cl. 195—51)

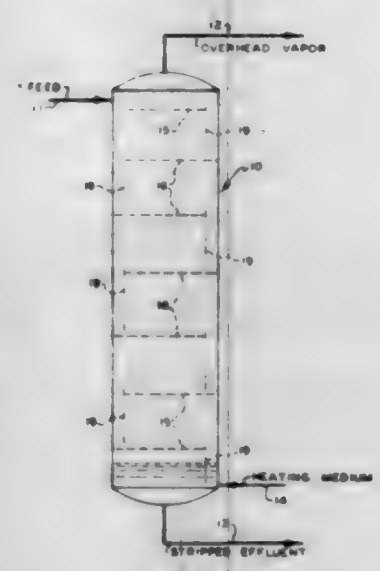
A process for producing 6β-hydroxy-Δ³-A-norpregnene-2,20-dione which comprises subjecting A-norprogesterone to the action of enzymes of the microorganism *Cokesomyces recurvatus* in an organic nutrient medium in the presence of oxygen and a source of nitrogen.

3,143,481
RECOVERY OF ALKYLLEAD COMPOUNDS
Eugene L. Croxton, Baton Rouge, La., and Donald E. Park, Orangeburg, S.C., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 22, 1963, Ser. No. 317,926
5 Claims. (Cl. 202—46)



1. In the steam distillation recovery of tetraalkyllead compounds from a batch reaction mass including a substantial proportion of subdivided lead and tetraalkyllead, the improved process comprising steam distilling over one-half of the tetraalkyllead in a first steam distillation at a steam rate of 0.015 to 0.05 pound of steam per minute per pound of lead, then transferring the residue from said first steam distillation to a second steam distillation and steam distilling additional tetraalkyllead at a steam rate of 0.0075 to 0.05 pound of steam per minute per pound of lead until the sum of the tetraalkyllead distilled in the first and second distillations is over about 95 percent of the tetraalkyllead originally present in the reaction mass.

3,143,482
SEPARATION APPARATUS
Norman F. McLeod, Nederland, and Rollin N. Carlson, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 9, 1961, Ser. No. 81,369
5 Claims. (Cl. 202—234)



1. Separation apparatus comprising a substantially vertical, elongated cylindrical vessel having arranged therein at least three substantially horizontal perforated trays, at least an upper and a lower of said trays having larger perforations than any of the perforations in at least one intermediate tray; fluid inlet means operatively communicating with said vessel at a point above said upper tray; fluid outlet means operatively communicating with said vessel at an upper end thereof; a second fluid outlet means operatively communicating with said vessel at a lower end thereof; and heating means disposed in said lower end thereof.

3,143,483
METHODS OF EXTRACTING URANIUM FROM ORES CONTAINING IT
Jean Le Bris, Paris, Pierre Mouret, Bourg-la-Reine, and Paul Pottier, Fontenay-aux-Roses, France, assignors to Commissariat a l'Energie Atomique, Paris, France, a society of France
Filed June 12, 1956, Ser. No. 590,864
Claims priority, application France June 20, 1955
4 Claims. (Cl. 204—1.5)

1. A method of precipitating uranium from aqueous solutions of a carbonate of a member of the group consisting of the alkali metals and ammonium containing the uranium in the hexavalent state, which method comprises incorporating a hydrogenation catalyst in the solution in the form of particles in suspension therein, subjecting the whole to electrolysis while stirring, to disengage nascent hydrogen conveyed through the mass of said solution by said catalyst, and removing the precipitated tetravalent uranium oxide from the solution.

3,143,484

METHOD OF MAKING PLATED CIRCUIT BOARDS

Raymond G. Olin, Utica, and Ralph W. Richter, Whitesboro, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 29, 1959, Ser. No. 862,569
8 Claims. (Cl. 204—15)

1. A method of making a plated circuit board, comprising the steps of providing a board of electrically insulating material devoid of metal laminations on the surfaces thereof, providing at least one hole through said board at each area thereof where a plated conductor is desired, applying a resist to the front surface of the board at all areas except where plated conductors are desired, electroless-plating conductive material onto the walls of said holes and onto both surfaces of the board except where covered by said resist, applying a resist over the electroless-plated material on the back surface only of said board, electroplating conductive material onto the exposed electroless-plated areas by making a current connection through the electroless plating on the back surface of the board, and removing the resist and the electroless-plated material from the back surface of said board to sever electrical connections that were used for the step of electroplating.

3,143,485

ALUMINUM ANODIZING

William P. Kampert, Lower Burrell, and Joseph H. Manhart, Penn Hills, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 28, 1961, Ser. No. 155,466
5 Claims. (Cl. 204—58)

1. A method of anodizing aluminum, comprising
making an aluminum article anode in an electrolyte consisting essentially of
at least 10 grams per liter of 4-sulforesorcinol,
at least 1 gram per liter and less than 15 grams per liter of sulfate (calculated as H_2SO_4) provided by at least one compound selected from the group consisting of sulfuric acid and water soluble sulfates and bisulfates, and
water, the weight ratio (R) of 4-sulforesorcinol to sulfate (calculated as H_2SO_4) being at least that expressed by the formula: $R=4.5+S/20$, where S is the number of grams per liter of 4-sulforesorcinol in the electrolyte,
for a time sufficient to produce a colored anodic oxide coating at least 0.1 mil thick.

3,143,486

RECOVERY OF ZINC FROM ZINC PLANT RESIDUE

Ralph Watt Pickering, Sandy Bay, Tasmania, and Edward Whayman, Moonah, Tasmania, Australia, assignors to Electrolytic Zinc Company of Australasia Limited, Melbourne, Victoria, Australia

Filed Nov. 27, 1961, Ser. No. 155,074
Claims priority, application Australia Dec. 5, 1960
8 Claims. (Cl. 204—119)

1. A process for the extraction of zinc from zinc plant residue containing zinc ferrite which consists essentially of subjecting the residue to a first stage leaching treatment in a substantially oxygen-free atmosphere in the presence of sulphuric acid is excess of that stoichiometrically equivalent to the zinc in the residue and at a temperature within the range from 140° C. to 260° C. and at a pressure which is at least the corresponding vapour pressure of the solution and subjecting the combined solid and liquid products of the first stage leaching treatment to a second stage leaching treatment in an atmosphere in which there is a partial pressure of oxygen amounting to at least 5 pounds per square inch absolute at a temperature within the range from 140° C. to 260° C. and at a total pressure which is at least the sum of the corresponding vapour pressure of the solution and the partial pressure of oxygen.

3,143,487

HYDROGEN AS A PROMOTER FOR THE SYNTHESIS OF HALOGENATED THIOETHERS

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 28, 1962, Ser. No. 205,840
9 Claims. (Cl. 204—158)

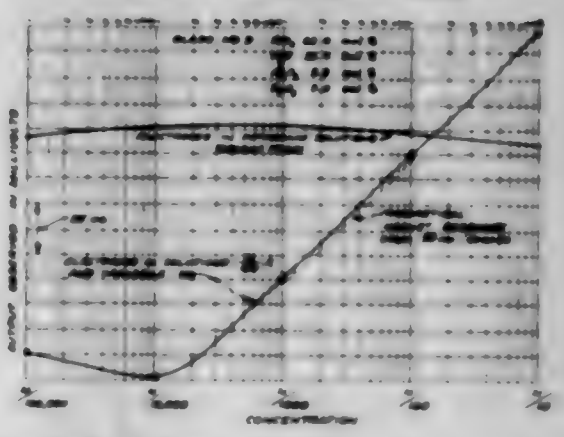
1. A process for producing halogenated thioethers comprising contacting an organic compound containing at least one unsaturated linkage between two carbon atoms of aliphatic character with a mercaptan in a reaction zone in the presence of hydrogen, at least one of said reactants being a halogenated compound, and subjecting the reactants to the influence of light rays having wave lengths below about 3000 Angstrom units, said hydrogen being present in an amount sufficient to increase the reaction rate.

3,143,488

LITHIA-ALUMINA-SILICA GLASS CONTAINING PHOSPHORUS

Edwin P. Arthur and John E. Leonard, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Oct. 24, 1960, Ser. No. 64,556
7 Claims. (Cl. 204—195)



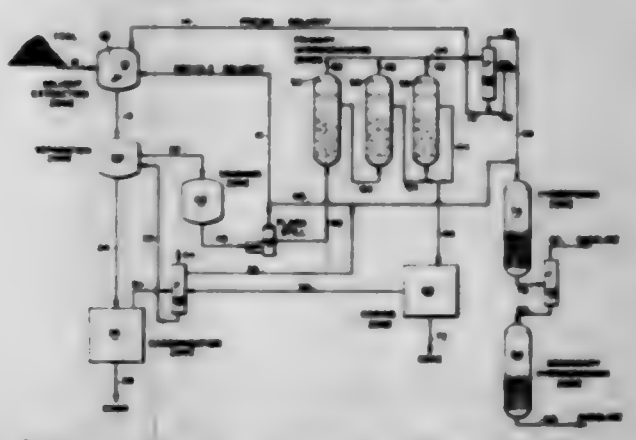
4. An ionic sensitive phosphate glass made from a prefusion mixture of salt and oxide which is calculated to provide in mol percent, about 25 lithia, 6 alumina, 63 silica, and 6 phosphorus pentoxide.

3,143,489

PROCESS FOR MAKING LIQUID FUELS FROM COAL

Everett Gorin, Pittsburgh, Pa., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 24, 1961, Ser. No. 154,451
9 Claims. (Cl. 208—8)



1. A process for the production of liquid fuel from coal which comprises

(*a*) subjecting the coal to solvent extraction to convert up to 80 weight percent of the MAF coal,

(*b*) recovering from the extraction products of step (*a*) a coal extract substantially all of which is non-distillable below 400° C.,

(*c*) treating said coal extract from step (*b*) in a primary catalytic hydrocracking zone with sufficient hydrogen to convert at least the major portion thereof to a distillable hydrocarbonaceous liquid, the major portion of which boils in the range of 200 to 400° C.,

(*d*) recovering said distillable hydrocarbonaceous liquid from step (*c*) in a substantially ash-free state,

(*e*) catalytically hydrofining at least the major portion of said distillable hydrocarbonaceous liquid from step (*d*) to yield effluent hydrofiner products substantially free of nitrogen, oxygen, and sulfur compounds, but at least the major portion of which boils in the range of 200 to 400° C., and

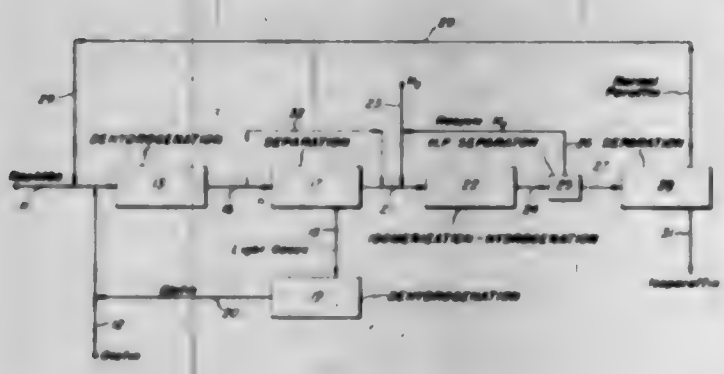
(*f*) thereafter treating at least a portion of the hydrofiner products boiling between 200 and 400° C. in a secondary catalytic hydrocracking zone with sufficient hydrogen to yield a liquid fuel which boils below 200° C.

3,143,490

HYDROCARBON CONVERSION PROCESS TO PRODUCE ISOPARAFFINS FROM OLEFINS

Harry M. Brennan, Hammond, and Clifton G. Frey and Herman S. Seelig, Valparaiso, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed July 27, 1961, Ser. No. 127,272
10 Claims. (Cl. 208—49)



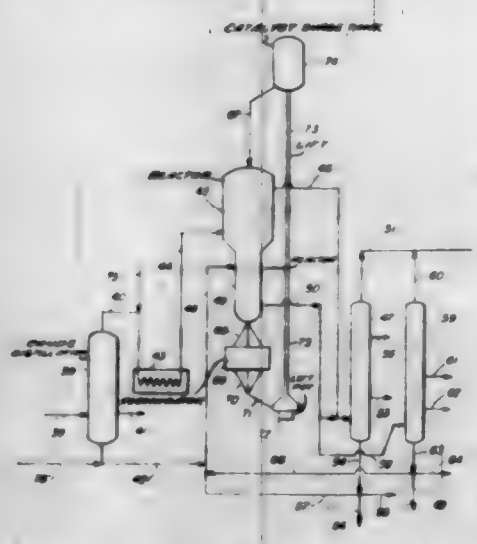
9. A hydrocarbon conversion process which comprises contacting a gasoline boiling range hydrocarbon charge containing substantial normal paraffins with a C_2–C_3 olefinic hydrocarbon in the presence of an acidic hydrogen transfer catalyst in a hydrogen transfer zone at a temperature in the range of about 800° F. to 1000° F., a pressure in the range of atmospheric to 200 p.s.i.g., a space velocity in the range of about 0.25 to 2 liquid volumes of feed per hour per volume of catalyst and a hydrogen to hydrocarbon mole ratio in the range of about 0.5 to 2 moles of hydrogen per mole of hydrocarbon feed; fractionating the resulting effluent from said hydrogen transfer zone into at least a light fraction rich in paraffins and an olefinic fraction; contacting said light fraction with a dehydrogenation catalyst under dehydrogenation conditions; recycling the resulting dehydrogenated light paraffins to said hydrogen transfer zone; contacting said heavy olefinic fraction with a catalyst comprising from about 0.5 to about 5 weight percent nickel and from about 0.1 to 1 mole of arsenic per mole of nickel on a silica-alumina cracking catalyst support in the presence of at least about 1200 standard cubic feet of hydrogen per barrel of said olefinic fraction, at a temperature in the range of about 450° F. to 650° F., a pressure in the range of about 250 to 750 p.s.i.g., and a liquid hourly space velocity in the range of about 0.1 to 10 volumes of hydrocarbon per hour per volume of catalyst; and recovering a product rich in isoparaffin having a carbon number distribution corresponding to said hydrocarbon charge.

3,143,491

CATALYTIC CONVERSION OF HYDROCARBONS WITH A SILICA-ALUMINA AND CRYSTALLINE ZEOLITE CATALYST COMPOSITE

Eric V. Bergstrom, Byram, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Feb. 28, 1962, Ser. No. 174,553
1 Claim. (Cl. 208—74)



That method for the catalytic treatment of petroleum to convert it substantially to products of gas oil and lower boiling nature, including gasoline of good anti-knock quality which comprises:

vaporizing and separating from the crude oil a straight-run gasoline fraction which includes any material boiling below gasoline,

subjecting this straight-run gasoline fraction to contact with a catalyst comprising a composite of a microporous amorphous silica-alumina cracking catalyst and crystalline aluminosilicate at temperatures of the order of 1000° F. to 1200° F. to convert a substantial portion thereof to materials boiling below the gasoline boiling range,

passing the residual remainder of the crude oil into contact with a similar catalyst at temperatures of the order of 800° F. to 1000° F. to convert it to products lighter than gasoline, gasoline, gas oil fractions and coke,

and fractionating the products of said conversions,

the said conversion catalyst being circulated cyclically through the several conversion zones, and regenerated by burning after withdrawal from the crude residue conversion zone,

the entire regenerated catalyst being introduced to the straight-run gasoline conversion zone at a temperature of the order of 1250° F., and after exit from such zone the entire catalyst stream is then introduced directly into the crude residue conversion zone.

3,143,492

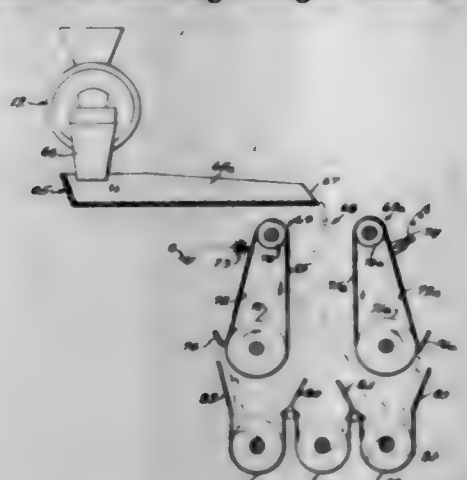
ELECTROSTATIC SEPARATION

Harry L. Bullock, New York, N.Y., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 17, 1961, Ser. No. 153,124
16 Claims. (Cl. 209—127)

9. An electrostatic separation apparatus comprising: a vibratable member having a dielectric surface for supporting and charging material to be separated, means including downwardly moving portions of endless surfaces

of dielectric material defining a free-fall electrostatic separation zone for receiving charged material from said



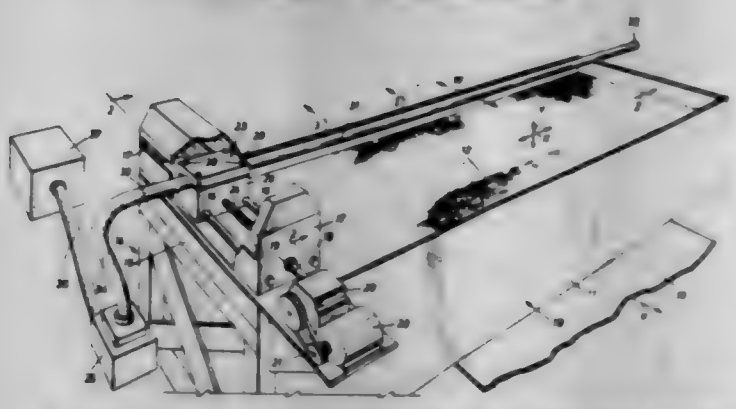
vibratable member, and means including adjustable dividers defining a collection zone beneath said electrostatic separation zone.

3,143,493

SYSTEM AND METHOD FOR MAINTAINING EFFICIENCY OF SCREENING PARTICLES UNDER VARYING CONDITIONS OF MOISTURE CONTENT

Donald Alan Anderson, King, Ontario, Canada, assignor, by mesne assignments, to Canadian Ingersoll-Rand Company, Limited, Montreal, Quebec, Canada

Filed Mar. 17, 1961, Ser. No. 96,549
14 Claims. (Cl. 209—238)



5. The method of increasing the throughput of particles on a particle sizing screen and comprising: loading said particles onto said screen; establishing a plurality of air jet streams spaced apart from one another located at a distance above said screen substantially equal to the distance separating adjacent said jet streams and directed on parallel axes substantially normal to said screen and diverging outwardly at an angle of about thirty degrees from said axis to define substantially conical shaped paths; continuously traversing said air jet streams over said screen to effect continuous scanning of the entire area of said screen by said jet streams and to accelerate passage of the smaller of said particles through said screen while continually disturbing the larger said particles retained thereby; changing the direction of said traversing motion of said air jet streams while the same are in traversing motion as aforesaid; and, removing said retained particles.

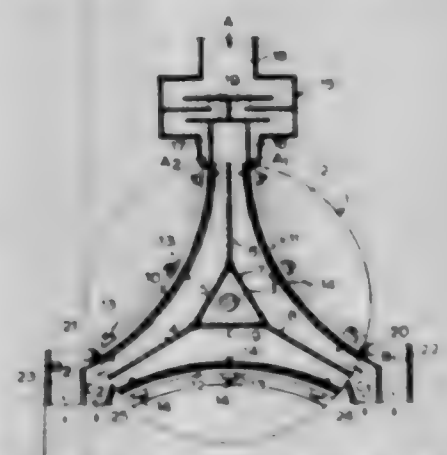
3,143,494

APPARATUS FOR SEPARATING PARTICLES ACCORDING TO SIZE

Jan N. J. Leeman, Heerlen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

Filed Feb. 7, 1961, Ser. No. 87,674
Claims priority, application Netherlands Feb. 12, 1960
8 Claims. (Cl. 209—251)

1. In a particle separation apparatus for separating a mixture of liquid suspended particles according to size, wherein a plurality of substantially identical screening decks, each having the shape of a segment of a cylindrically curved surface, are employed to accomplish the desired separating, the improvement comprising arranging said screening decks with adjacent ends in closely spaced pairs on the circumference of a cylinder concentric with the axis of rotation of such cylinder, said screening decks being non-coincident with each other and with the circumference of said cylinder, feed means for at least one of said closely spaced pairs of screening decks for feeding the mixture of particles and a suspending liquid at said adjacent ends of said screening decks and over the full width of the associated screening decks substantially tangentially onto the concave sides thereof in a direction perpendicular to the generatrices of said cylindrically curved screening decks, said feed means being fixedly disposed in adjacent relation to one of said spaced pairs of screening decks on opposite sides of a vertical plane, said feed means being so formed that in each operative position of said apparatus both said adjacent ends of said one closely spaced pair of screening decks can be supplied by said feed means simultaneously and at a substantially equal rate, means for removably mounting the screening decks and means for mounting said plurality of screening decks for rotational movement together about a common axis disposed in said vertical plane into at least three different positions of rotation in which a different one of said plurality of screening decks is disposed in each of the following three positions: (1) a first operative position with one end adjacent said feed means to receive particles and a suspending liquid fed therefrom; (2) a second operative position with the opposite end adjacent said feed means to receive particles and a suspending liquid fed therefrom; and (3) a third position spaced from said feed means whereby the screening deck therein can be removed while two other screening decks are in operation in said first and second operative positions.



3,143,495

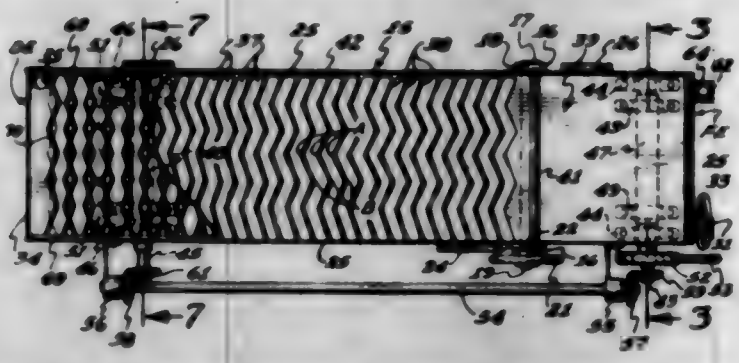
MINERAL RECOVERY UNIT

Joseph Stephan, Phoenix, Ariz., assignor to Charles Newman, Turney, Ariz.

Filed Dec. 27, 1960, Ser. No. 78,440
5 Claims. (Cl. 209—440)

1. A placer type mineral recovery unit comprising an elongated longitudinally inclined pan arranged to allow a hydraulic suspension to be fed into its higher feed extremity to overflow its lower discharge extremity, a plurality of riffles extending to overflow its lower discharge extremity; a plurality of riffles extending transversely of and on the bottom of said pan and spaced-apart to form transversely extending collection channels between adjacent riffles, each of said riffles being longitudinally "zig-zag" in shape to provide said collection channels with longitudinally-aligned pointed portions directed toward the higher extremity of said pan and alternating pocket portions directed toward the lower extremity

of said pan, a movable frame, a pan frame supporting said pan and mounted on said movable frame, a rigid frame, spaced apart rotary members having continuous eccentric perimeters mounted on said rigid frame, means



for supporting said movable frame on said rotary members and means for actuating said rotary members to impart uniform oscillatory movement to said movable frame and supported pan.

3,143,496

MAGNETIC FILTER APPARATUS AND METHOD

Charles B. Maretzo, Brooklyn, N.Y., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York

Filed Feb. 8, 1962, Ser. No. 171,933
12 Claims. (Cl. 210—65)



12. The method of cleaning out accumulations of magnetic particles from a magnetic type filter which includes vertically disposed non-magnetic tube means having its lower end open to the exterior of said filter, and magnet rod means normally positioned and slidable within said tube means, and an openable drain means at the bottom of the filter, comprising the steps of filling said filter with liquid, then sliding said magnet rod means substantially out from said lower end of the tube means, and opening said drain means to permit said liquid to flow by gravity therethrough and out of said filter.

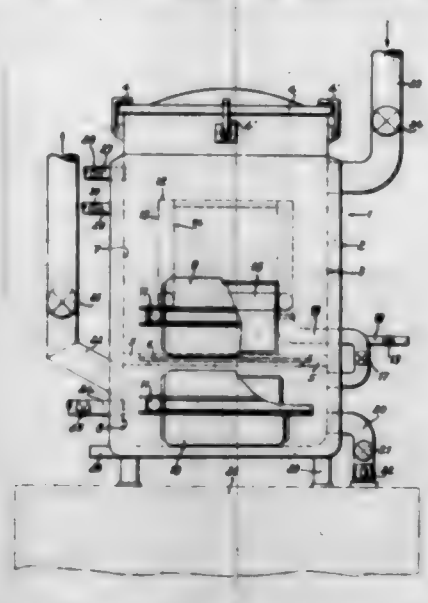
3,143,497

PROCESS AND APPARATUS FOR RECOVERING RESIDUAL SOLVENT FROM SLUDGE

Heinrich Fuehring, Augsburg, Germany, assignor to Max Boehler & Ferdinand Weber, trading as the firm Boehler & Weber Kommanditgesellschaft, Augsburg, Germany

Filed Feb. 25, 1960, Ser. No. 11,020
Claims priority, application Germany Feb. 28, 1959
6 Claims. (Cl. 210—67)

1. A process for recovering residual solvent from sludge accumulated on a filter mass during a filtration stage in which the filtered solvent passes through an outlet into a collector, comprising the steps of compacting said sludge under fluid pressure against said filter mass, thereby squeezing and initial flow of solvent from said sludge, directing the squeezed-out solvent through said outlet into the collector, subsequently disconnecting



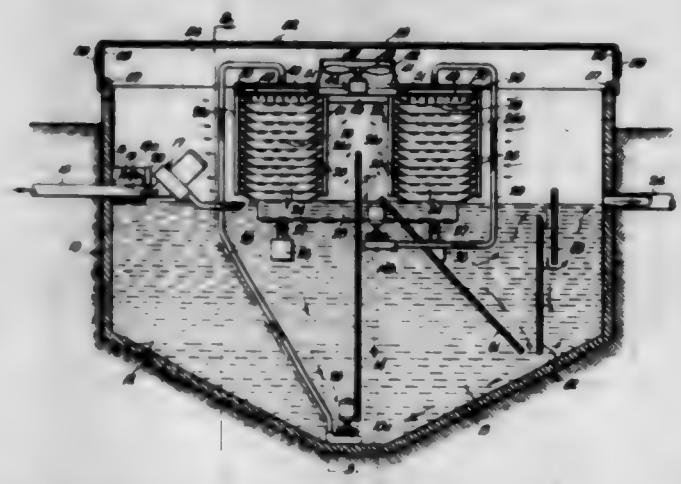
said outlet and collector and passing steam by way of said outlet and said mass through said sludge for entraining the residue of the solvent in a direction opposite the flow direction of the squeezed-out solvent, and thereupon driving the entrained residue into the collector by way of another filter mass.

3,143,498

APPARATUS FOR TREATMENT OF SEWAGE

Homer E. Fordyce, Kansas City, Mo., and Charles E. Loetel, Overland Park, Kans., assignors to The Marley Company, a corporation of Missouri

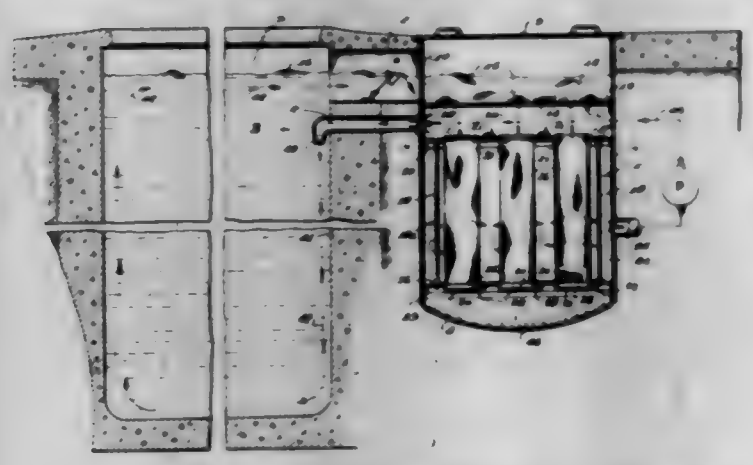
Filed Oct. 27, 1960, Ser. No. 65,423
11 Claims. (Cl. 210—109)



1. Apparatus for reducing the biological and chemical oxygen demand of liquid waste products comprising a waste receiving container subdivided into at least two side-by-side chambers open at the upper ends, means for flowing waste products into one of said chambers, a transfer passageway between said chambers operable to cause transfer of liquid from said one chamber into the other, a discharge conduit connected with the other of said chambers and located to cause flow of liquid from said second chamber when the level therein exceeds a predetermined value, an oxygenating structure disposed centrally of said chambers and having oppositely extending portions overlying and spaced above the liquid level of the respective chambers, pump means in each chamber for withdrawing liquid from the chamber and delivering it to the upper end of the corresponding overlying portion of said oxygenating structure, liquid diffusion means within each portion arranged to diffuse and retard the downward

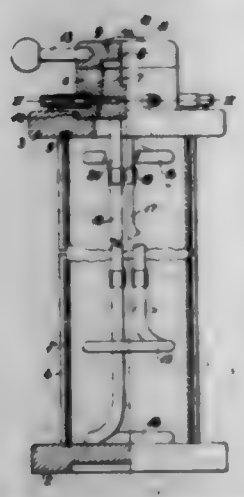
flow of liquid in said portion but permitting the liquid to reenter the chamber as it leaves the diffusion means, said diffusion means being spaced from one another to provide an air space therebetween and open on the sides adjoining and opposite from said air space whereby to provide air flow paths transverse to the flow of liquid through the diffusion means, and blower means connected with said air space and operable to draw air therefrom whereby to cause air to flow inwardly through said flow paths in said diffusion means toward said air space whereby to intimately contact the moving air with said diffused liquid.

3,143,499
HIGH SKIM RATE SWIMMING POOL FILTER
Avy L. Miller, 13246 Saticoy St., North Hollywood, Calif.
Filed May 16, 1960, Ser. No. 29,388
3 Claims. (Cl. 210—169)



3. A filter system for a swimming pool comprising a coarse filter; means feeding water from adjacent the top of the pool in a relatively large quantity to said coarse filter; a fine filter; means passing a smaller quantity of said corase filtered water through said fine filter; means injecting said fine filtered water through said coarse filtered water to insert a portion of the latter directly back into the pool; and means directing the combined coarse and fine filtered water into the pool in a direction to move the top of the pool water toward the coarse filter to carry floating debris thereto.

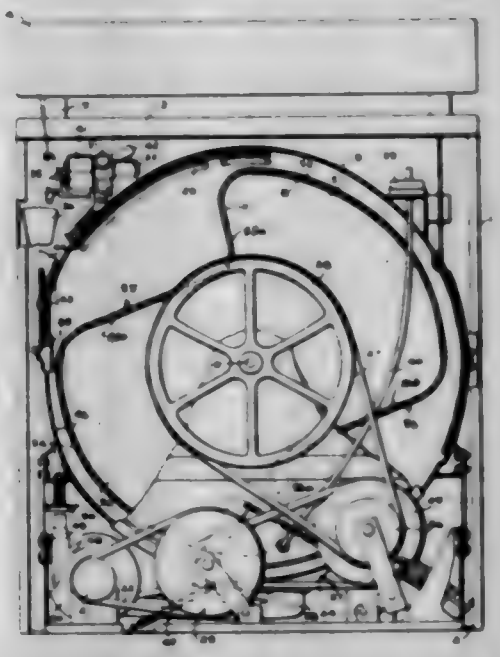
3,143,500
DEMINERALIZATION COLUMN
Laurits Gudmund Damgaard, Virum, Denmark, assignor to H. Struers Chemiske Laboratorium, Copenhagen, Denmark
Filed Sept. 24, 1962, Ser. No. 225,694
Claims priority, application Denmark Sept. 30, 1961
5 Claims. (Cl. 210—190)



1. A demineralization column comprising a closed elongated container in upright position, a mixed bed of cation and anion exchange materials in said container, three flow distributors located adjacent the top, middle, and bottom, respectively, of said container and each consisting of a hollow member having a plurality of passage openings distributed over the cross section of said container, a multi-way rotary valve mounted at the top of said container, said rotary valve having a stationary valve member and a rotary valve member mounted for rotation about a vertical axis, said rotary valve member facing the interior of said container, said stationary and rotary valve members having cooperating valve faces, conduit means connecting the interior of said top, middle, and bottom distributors via passages of said rotary valve member with angularly spaced ports in the valve face of said rotary valve members, said stationary valve member being constructed with inlets and outlets for connection to a source of liquid to be demineralized, a source of liquid to be used for separating the anion and cation exchange materials, two sources of different regenerating liquids, a regeneration liquids drain-off, a demineralized liquid discharge, and a separating liquid discharge, said inlets and outlets communicating through passages of said stationary valve member with ports in the valve face thereof in positions such as to establish, in cooperation with the ports of the valve face of said rotary valve member, the following flow paths in three different positions of said rotary valve member:

(*a*) separating liquid in through bottom distributor and out through top distributor;
(*b*) regenerating liquids in through bottom and top distributors, respectively, and out through middle distributor;
(*c*) liquid to be demineralized in through top distributor and demineralized liquid out through bottom distributor.

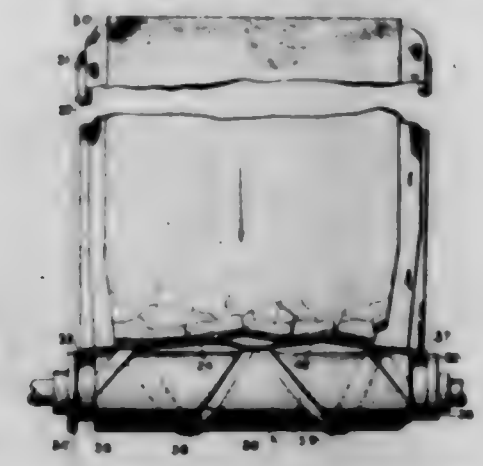
3,143,501
LAUNDRY CENTRIFUGING MACHINE WITH IMPROVED CLOTHES RECEPTACLE
Joseph C. Worst, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 23, 1962, Ser. No. 218,944
2 Claims. (Cl. 210—380)



1. In a laundry centrifugal extraction machine; a rotatable clothes container, a motor, means connecting said motor to said container for driving said container at a speed sufficient to cause centrifugal extraction of liquid from clothes in said container, said speed being sufficient that an unbalance of said container due to an unbalance of the clothes in said container may damage the machine, said container including an outer wall having a substantially smooth inner surface, said outer wall including spaced, outwardly convex portions forming pockets and

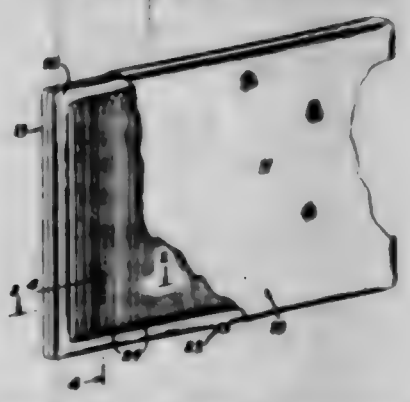
outwardly concave portions between said pockets, said concave portions extending over a substantial portion of said outer wall, each of said concave portions including a relatively short section of rapidly changing radius and a relatively long section of slowly changing radius, said sections sloping smoothly toward said pockets, said slope causing clothes thrown against said outwardly concave portions during centrifugal extraction to move along said concave portions to form a substantially thicker than normal layer of clothes in said pockets.

3,143,502
FILTER
John E. Krynski, East Moline, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1960, Ser. No. 58,402
1 Claim. (Cl. 210—401)



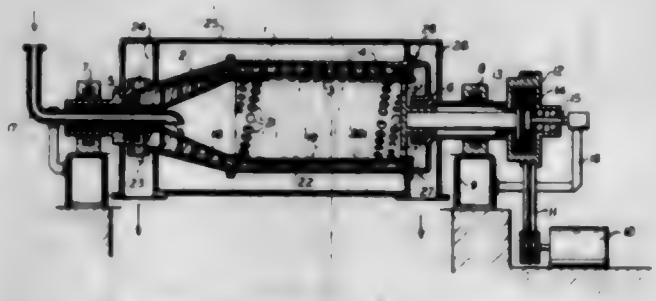
In a drum type filter, a drum mounted for rotation about a horizontal axis; a discharge roll mounted for rotation about a horizontal axis parallel with said drum axis; an endless cloth belt surrounding a substantial portion of the periphery of said drum and discharge roll, and sealingly engaging the drum adjacent the edges of said drum, said cloth belt having a width transversely substantially greater than the width of said drum and roll and having its edges overhanging freely from the edges of said drum and extending radially inwardly a substantial distance from said drum edges, said overhanging edges having seam means therealong, resilient tensioning means of less length than the length of said belt arranged within said seam means for drawing the latter taut across the entire width of said drum and holding the same thereon.

3,143,503
FILTER LEAF SUPPORT STRUCTURE
Irving Schmidt, New City, and Jay F. Taylor, Brooklyn, N.Y., assignors to Multi-Metal Wire Cloth Company, Inc., Bronx, N.Y., a corporation of New York
Filed May 26, 1961, Ser. No. 112,819
4 Claims. (Cl. 210—461)



1. In a filter leaf of the type in which a rigid support is sandwiched between filtering septa, a support structure consisting essentially of a pair of sheets of plastic material each formed to define a corrugated filter leaf wall peripherally surrounded by a U-shaped marginal portion, said sheets being bonded together with the peaks of the corrugation and the edges of the marginal portions of one sheet secured in face to face relation to the peaks of the corrugations and edges of the marginal portions of the other sheet, the corrugations of the united sheets being arranged vertically to define a set of vertical channels underlying each septum, and the U-shaped marginal portions of the united sheets forming a strengthening and rigidifying tubular border about the periphery of the leaf, the tubular border at the bottom margin of the leaf defining a horizontal filtrate-collecting conduit, said walls having openings establishing flow passages between the lower ends of said channels and the interior of said conduit, and a drain connected to said conduit.

3,143,504
SOLID-BOWL CENTRIFUGE WITH DISCHARGE SCREW
Fritz W. Schneider, Dortmund, Germany, assignor to Krupp-Dolberg Gesellschaft mit beschrankter Haftung, Essen, Germany, a corporation of Germany
Filed Dec. 28, 1960, Ser. No. 79,037
Claims priority, application Germany Jan. 5, 1960
2 Claims. (Cl. 233—7)



1. In a solid bowl centrifuge,
a screw drum mounted for rotation about its longitudinal axis and having a helical screw extending about its outer face throughout its entire length for the continuous separation of slowly settling particles from a carrier liquid,
a housing,
a solid-walled drum being rotatably mounted in said housing,
said solid-walled drum including a hollow cylindrical portion and a continuing conically reduced portion,
said screw drum being disposed coaxially to and within said solid-walled drum and including a first hollow cylindrical portion of larger diameter, a continuing conically reduced portion and a further continuing second hollow cylindrical portion of smaller diameter,
said screw drum having an end wall at the free end of said first cylindrical portion of larger diameter,
said end wall having an opening at its outer periphery,
said first cylindrical portion of said screw drum having a plurality of perforations,
an inlet pipe for the goods to be centrifuged extending through said second cylindrical portion and extending into and terminating at the narrow end of said conically reduced portion of said screw drum,
the outer diameter of said inlet pipe being substantially identical with the inner diameter of said second cylindrical portion, in order to prevent an escape of the goods to be centrifuged from said screw drum along said inlet pipe,
the inner end of said inlet pipe being turned toward the inner face of said conical portion of said screw drum, in order to feed the goods to be centrifuged toward the inner face of said conical portion and ensure the travel of the goods along the inner face of said conical portion to said first cylindrical portion of said screw drum,

said conically reduced portion of said screw drum receiving at its inner face of smaller diameter said goods to be centrifuged and accelerating said goods during their travel toward said cylindrical portion of said screw drum,

an annular weir disposed outside of and adjacent to said end wall,

the lead-off edge of said weir having a diameter, the value of which extends between the values of the inner diameters of said screw drum at the reduced end of said conically reduced portion and of said first cylindrical portion, so that the liquid is removed from said screw drum through said opening of said end wall in an axial direction opposite to that of removal of said solid particles.

3,143,505

OIL COMPOSITIONS CONTAINING MIXED METAL SALTS

Arnold J. Morway, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 28, 1961, Ser. No. 106,187
7 Claims. (Cl. 252—32.5)

1. An oil composition comprising a major amount of lubricating mineral oil and about 2 to 40 wt. percent of a mixed salt thickener comprising coneutralized alkaline earth metal salts of phytic acid and acetic acid in a mole equivalent amount of about 0.1 to 25 moles of said acetic acid per mole equivalent of said phytic acid.

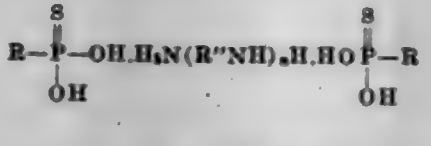
3,143,506

LUBRICANTS CONTAINING AMINE SALTS

Elmer E. Schallenberg, Beacon, and Roger G. Lacoste, Hopewell Junction, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 20, 1960, Ser. No. 37,090
4 Claims. (Cl. 252—32.7)

1. A lubricating composition comprising lubricating oil as the major component and a polyamine salt of a hydrocarbyl thiophosphonic acid in an amount sufficient to impart detergent properties through said polyamine salt having the general formula



where R is a hydrocarbyl radical containing at least 12 carbon atoms, R'' is a divalent aliphatic hydrocarbyl radical containing 2 to 10 carbon atoms and n is an integer having a value of 1 to 8.

3,143,507

REACTION PRODUCTS OF PHOSPHORUS THIOIC ACIDS WITH QUINOID COMPOUNDS AND LUBRICANTS CONTAINING SAME

Thomas W. Mastin, Willoughby, George R. Norman, Lyndhurst, and William M. Le Suer, Cleveland, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 8, 1961, Ser. No. 130,005
10 Claims. (Cl. 252—46.6)

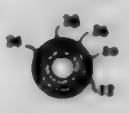
1. A lubricant comprising a major amount of lubricating oil and from about 0.001% to about 20% by weight of a product obtained by the process which comprises reacting an organic phosphorus thioic acid selected from the class consisting of phosphorodithioic, phosphoromonothioic, and phosphinodithioic acids in which the organic groups are selected from the class consisting of hydrocarbon groups and halo-, nitro-, ether-, and ester-substituted hydrocarbon groups with the quinoid ring of a quinone compound.

3,143,508

DEVELOPER FOR ELECTROPHOTOGRAPHY

Edward K. Kaprelian, 29 Riveredge Road, Red Bank, N.J.

Original application July 3, 1957, Ser. No. 669,866, now Patent No. 2,940,847, dated June 14, 1960. Divided and this application Mar. 14, 1960, Ser. No. 14,777
6 Claims. (Cl. 252—62.1)



1. A toner particle for developing electrophotographic images consisting of an inner portion of a liquid dye material, an encapsulating layer of a transparent solid surrounding the liquid core, a second layer of a transparent photoconductor and a substantially continuous outer layer of light filter material capable of transmitting a restricted portion of the spectrum.

3,143,509

METHOD OF INHIBITING UNDESIRABLE RADIOACTIVE LABELING AND RADIATION DAMAGE IN SYSTEMS CONTAINING MATERIAL UNDERGOING RADIOACTIVE DECAY

Kang Yang and Preston L. Gant, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Mar. 15, 1961, Ser. No. 96,018
7 Claims. (Cl. 252—301.1)

1. The method of inhibiting molecular decomposition and undesirable chemical chain reactions in systems containing β ray emitting radioactive elements, and a compound capable of forming free radicals upon irradiation with beta photons, said compound being selected from the group consisting of hydrogen and normally gaseous paraffins which comprises introducing in said system a material selected from the group consisting of normally gaseous olefins, normally gaseous diolefins, NO, HI and I_2 which will freely react with free radicals formed in said system to produce stable compounds.

3,143,510

COPPER AND TIN ACTIVATED ORTHOPHOSPHATE PHOSPHORS

Willem Lambertus Wanmaker and Cornelis Bakker, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 16, 1960, Ser. No. 29,217
Claims priority, application Netherlands June 12, 1959
5 Claims. (Cl. 252—301.6)

1. A luminescent substance, activated by monovalent copper and bivalent in and represented by the formula:

$$x\mathrm{SrO}.y\mathrm{MeO}.z\mathrm{P_2O_5}.p\mathrm{Cu_2O}.q\mathrm{SnO}$$

wherein Me designates at least one element selected from the group consisting of aluminum, magnesium, zinc, cadmium and boron, which substance fulfills the following conditions:

$$(a)\quad 2.5<\frac{x+y+p+q}{z}<3.0$$

$$(b)\quad 0.001<\frac{p}{2z}<0.2$$

$$(c)\quad 0.001<\frac{q}{z}<0.3$$

$$(d)\quad 0.003<\frac{y}{z}<0.9$$

$$(e)\quad 0.8<\frac{2q}{p}<4.5$$

3,143,511
HYDROCRACKING OF PARAFFINS
John A. Bichard, Point Edward, Ontario, and Roger M. Butler and Noel J. Gasper, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 20, 1960, Ser. No. 23,366
4 Claims. (Cl. 252—466)

1. A method of preparing a C_6+ paraffin hydrocracking catalyst which comprises contacting a platinum impregnated porous alumina hydroforming catalyst with ferric chloride vapor and with moisture in controlled amounts to form a hydrolyzed outer surface iron-containing deposit on the alumina, calcining the catalyst bearing said outer surface deposit to convert said deposit into nonmagnetic iron oxide and then reducing the outer surface deposit of nonmagnetic iron oxide to a metal magnetic deposit.

3,143,512
ADDITION OF BARIUM SULPHATE TO SEALANTS USED IN FAYING SURFACE TYPE JOINTS
Paul C. Kline, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
No Drawing. Original application July 19, 1961, Ser. No. 125,281. Divided and this application Jan. 29, 1963, Ser. No. 262,283
2 Claims. (Cl. 252—478)

1. A composition of matter consisting of 0.1–25 percent by weight of barium sulphate, 5–20 percent by weight of lead monoxide and balance a polysulphide polymer.

3,143,513
LUBRICANT COMPOSITION
Leslie R. Day, Letcombe Regis, Wantage, and Ronald C. Watkins, East Hendred, England, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Feb. 20, 1961, Ser. No. 90,197
Claims priority, application Great Britain Feb. 26, 1960
4 Claims. (Cl. 252—51.5)

1. A lubricating composition comprising a major proportion of a mineral lubricating oil and a minor amount, sufficient to depress the pour point of said oil, of a mineral lubricating oil pour point depressant which is an oil-soluble copolymer of (1) ester of fumaric acid and C_8 to C_{18} alcohol, (2) vinyl acetate, and (3) a material selected from the group consisting of maleic anhydride and N-vinyl pyrollidone; and an amount within the range of 0.003 to 0.3 wt. percent sufficient to further depress the pour point of said composition of an oil-soluble synergistically-acting copolymer of 70 to 98 wt. percent of polyethylene having a molecular weight of from 800 to 6000 and 30 to 2 wt. percent of an ester of vinyl alcohol and a C_1 to C_4 monocarboxylic acid.

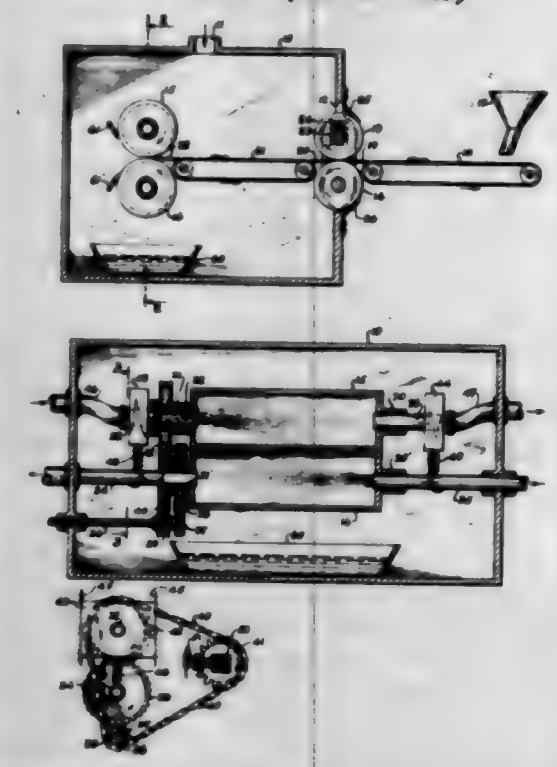
3,143,514
CATALYTIC POLYMERIZATION OF SILAZANES
William A. Boyer, Tinley Park, Ill., assignor, by mesne assignments, to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed June 15, 1960, Ser. No. 36,146
6 Claims. (Cl. 260—2)

4. A process for polymerizing the reaction product of a member of the class consisting of ammonia and primary amines with a halosilane having the formula

$$RSiHal_3$$

wherein R is a monovalent hydrocarbon group which comprises heating said reaction product in the presence of a catalytic amount of a catalyst from the class consisting of alkali metals and alkali metal amides.

3,143,515
METHOD FOR RECLAIMING SCRAP POLYURETHANE RESINS
Roy T. Hurley, Saddle River, N.J., assignor, by mesne assignments, to Reeves Brothers, Inc., New York, N.Y., a corporation of New York
Filed Apr. 18, 1956, Ser. No. 579,028
1 Claim. (Cl. 260—2.3)



The method of decomposing a polyurethane resin foam which comprises pressing said resin in an inert atmosphere between two bodies at least one of which is heated and thereby raising the temperature of said resin between 200° C. and 350° C. until the resin decomposes with the production of a liquid residue, and collecting the liquid residue.

3,143,516
POLYMERIZABLE COMPOSITION COMPRISING UNSATURATED CELLULOSE ETHER AND PROCESS OF PREPARING SAME
Wolfgang Klendauer, Wiesbaden, and Julius Voss, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed Mar. 21, 1961, Ser. No. 97,173
Claims priority, application Germany Mar. 26, 1960
14 Claims. (Cl. 260—17)

1. Carbohydrate ether mixtures suitable for the production of polymerisable solutions which mixtures comprise at least one unsaturated polymerisable carbohydrate ether and at least one non-polymerisable high molecular substance acting as carrier for at least one polymerisation catalyst and being soluble, at least partly, in the same solvent as the unsaturated polymerisable carbohydrate ether.

3,143,517
SUBSTANTIALLY NON-POROUS POLYURETHANE PLASTIC AND METHOD FOR PRODUCING SAME
Herbert L. Heiss, New Martinsville, W. Va., assignor, by direct and mesne assignments, of one-half to Monsanto Company, St. Louis, Mo., a corporation of Delaware, and of one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 373,036, Aug. 7, 1953, now Patent No. 3,102,875, dated Sept. 9, 1963. This application Sept. 15, 1959, Ser. No. 839,994
14 Claims. (Cl. 260—18)

1. In the preparation of a substantially non-porous polyurethane plastic by a process which comprises react-

ing an organic compound containing at least two active hydrogen containing groups in the molecule, said active hydrogen containing groups being reactive with isocyanate groups, with a member selected from the class consisting of an organic polyisocyanate and an organic polyisothiocyanate present in the reaction mixture in a ratio of more than one mol thereof per mol of said active hydrogen bearing compound to form a liquid adduct having terminal groups selected from the class consisting of —NCO and —NCS groups and thereafter effecting solidification through chain lengthening, the improvement which comprises effecting the said chain lengthening until a solid substantially non-porous product is obtained while the adduct is associated with an inert organic plasticizer of a polyurethane plastic having a boiling point of at least about 200° C. at atmospheric pressure in the absence of any substantial amount of any added compound containing active hydrogens whereby said chain lengthening is achieved primarily through reaction of groups selected from the class consisting of —NCO and —NCS groups with reactive hydrogens on said adduct and through reaction of terminal groups of the last said class with each other.

3,143,518

HOT MELT POLYVINYL ALCOHOL ADHESIVE PLASTICIZED WITH PROPYLENE GLYCOL

Vincent M. Smith, Bayport, and Robert J. Stirn, Garden City, N.Y., assignors to United Resin Products Inc., Brooklyn, N.Y., a corporation of New York

No Drawing. Filed June 21, 1963, Ser. No. 289,751
5 Claims. (Cl. 260—33.4)

4. A hot melt adhesive applicable in anhydrous form to paper and reactivated by moistening with water, said adhesive consisting essentially of from 65 to 75 parts of polyvinyl alcohol having a partial hydrolysis value of from 72.9% to 79.0% and a molecular weight of from about 9,000 to about 12,000, and from 35 to 25 parts of propylene glycol, all by weight.

3,143,519

SILICONE RUBBERS CONTAINING ALIPHATIC DIKETONES, KETO ALCOHOLS AND KETONE ACID ESTERS

Siegfried Nitzsche and Manfred Wick, Burghausen, Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed June 17, 1960, Ser. No. 36,714
Claims priority, application Germany June 30, 1959
5 Claims. (Cl. 260—37)

1. A silicone rubber stock consisting essentially of 100 parts by weight of an essentially diorgano-siloxane polymer of the unit formula RR'SiO where each R is a monovalent radical selected from the group consisting of hydrocarbon radicals and halogenated hydrocarbon radicals and each R' is an alkyl radical of less than 7 carbon atoms, 10–200 parts by weight of a filler and up to 5 parts by weight organic peroxide vulcanizing agent and containing .001 to 1% by weight based on the silicone rubber stock of an additive selected from the group consisting of aliphatic diketones, keto alcohols and ketone acid esters.

3,143,520

5-ALKOXYISOPHTHALIC ACID POLYESTERS AND VULCANIZATES THEREOF

Robert A. Hayes, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 19, 1961, Ser. No. 83,636
5 Claims. (Cl. 260—40)

1. A vulcanizable elastomer which is an ester of (1) a glycol of 3 to 12 carbon atoms, (2) 2 to 20% by weight of the elastomer of m-phenylene dioxydiethanol and (3) a dicarboxylic acid, the dicarboxylate units in the elastomer being 5 to 100 percent (based on the weight of the dicarboxylic acid) of a 5-alkoxyisophthalate containing 4 to 18 carbon atoms in the alkoxy group.

5. The process of preparing a vulcanizate which comprises heating 100 parts by weight of the elastomer of claim 1 for substantially 60 minutes at 340° F. with 0.5 to 2 parts of paraformaldehyde and substantially 30 parts of carbon black, 2 parts of a reaction product of sorbitol and mannitol with stearic acid and 2 parts of stannous chloride.

3,143,521

PROCESS FOR GRAFT-COPOLYMERIZING

Donald F. Thompson, Landenberg, Pa., and Gerard L. Christoffels, Tewksbury, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed July 21, 1960, Ser. No. 44,272
5 Claims. (Cl. 260—45.5)

1. Process for preparing a graft copolymer comprising contacting a preformed polymer material consisting essentially of a member of the group consisting of halogenated polyethylene; halogenated, oriented, high energy irradiated polyethylene; halogenated polypropylene; halogenated, oriented high energy irradiated polypropylene; halogenated copolymers of ethylene and propylene; and halogenated copolymers of ethylene and butene with a monomer mixture consisting essentially of (1) a first monomer selected from the group consisting of monoethylenically unsaturated aromatic hydrocarbons and monoethylenically unsaturated aromatic halohydrocarbons and (2) a second monomer copolymerizable with said first monomer and selected from the group consisting of maleic acid, acrylic acid, methacrylic acid, cinnamic acid and the anhydrides, metal salts and nitriles of said acids for a sufficient period of time to form a copolymer of said monomers graft copolymerized with said preformed polymer material, said contacting occurring in the absence of a free radical generating catalyst.

3,143,522

METHOD OF GRAFTING STYRENE ONTO BUTADIENE-STYRENE POLYMER

Wendell R. Conard, Kent, and Robert J. Reid, Canal Fulton, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 19, 1961, Ser. No. 111,161
1 Claim. (Cl. 260—45.5)

Method of producing a high-impact styrene plastic consisting essentially of styrene and butadiene, which method comprises dissolving 2 to 25 percent of an elastomeric polymer of 100 to 60 percent of butadiene and up to 40 percent of styrene, in 98 to 75 percent, respectively, of styrene, then forming a suspension with 100 parts of this solution using 100 to 300 parts of water and 0.1 to 3.0 parts of polyvinyl alcohol, and polymerizing the styrene at 35 to 135° C. in the presence of the elastomeric polymer with 0.2 part of phenylcyclohexane hydroperoxide as catalyst.

3,143,523

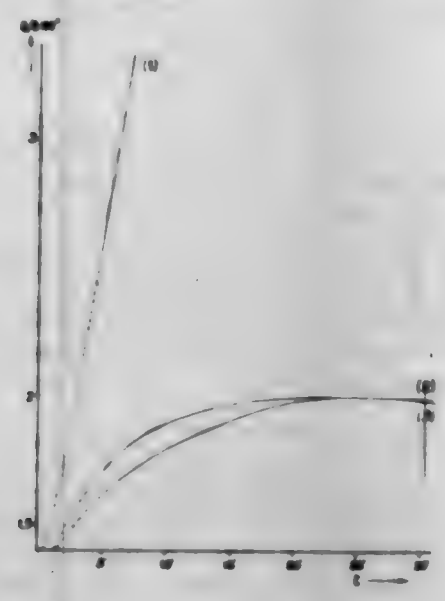
STABILIZED CRYSTALLINE POLYMERIC OLEFINS

Cornelio Caldo, Terni, Italy, assignor to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

Filed Oct. 24, 1960, Ser. No. 64,418
Claims priority, application Italy Oct. 27, 1959
24 Claims. (Cl. 260—45.8)

1. A process for stabilizing the crystalline polymeric olefins against the action of heat, ageing and light, comprising mixing a polymeric olefin selected from the group

consisting of polyethylene, polypropylene and polybutene, from about 0.02 to 2% by weight of a betacyanoethyl compound selected from the group consisting of tris(betacyanoethyl) acetophenone, monobetacyanoethyl dodecylamine, di(betacyanoethyl) hydroquinone obtained by reacting hydroquinone with acrylonitrile in molar proportions of 1:2 in the presence of metallic sodium at 120–130° C., monobetacyanoethyl octadecylamine, bis-9,9-



(betacyanoethyl) fluorene, 9-(betacyanoethyl) carbazole, bis(betacyanoethyl) sulfide, betacyanoethyl phenol having a melting point of 62–65° C., di(betacyanoethyl) amine, tris(betacyanoethyl ethanol) amine, betacyanoethyl-2-oxynaphthalene, 2,2,5,5-tetra(betacyanoethyl) cyclopentanone, gamma acetyl-gamma isopropenylpimelonitrile, betacyanoethyl acetophenoxime, tris(betacyanoethyl) nitromethane, and betacyanoethyl dodecylmercaptan.

3,143,524

ORGANOPOLYSILOXANES CONTAINING SILICON-BONDED CARBOXYALKYL RADICALS

Glenn D. Cooper and Maurice Prober, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 22, 1955, Ser. No. 529,896
6 Claims. (Cl. 260—46.5)

2. An organopolysiloxane composition selected from the class consisting of (*a*) a solid organopolysiloxane consisting of recurring structural units of the formula

$$HOOCCH_2CH_2SiO_{3/2}$$

and (*b*) an organopolysiloxane consisting of units of the formula

$$(CH_3)_3SiO_{1/2},\ (CH_3)_2SiO,\ \text{and}\ HOOCCH_2CH_2SiO_{3/2}$$

where the aforesaid three siloxy units are present in such a molar ratio that there are present from 0.03 mol to 0.40 mol trimethylsiloxy units, 3 mols dimethylsiloxy units, and from 0.03 to 0.38 mol carboxyethylsiloxy units.

3,143,525

PREPARATION OF POLYCARBONATES BY SUSPENSION POLYMERIZATION

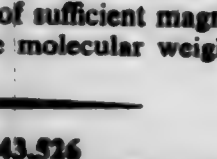
John B. Ott, Northampton, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 27, 1959, Ser. No. 795,892
6 Claims. (Cl. 260—47)

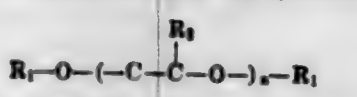
1. A process for preparing polycarbonate resins by suspension polymerization which comprises reacting a bis(hydroxyaryl) compound with at least an equimolar proportion of phosgene at a temperature of from above the freezing point of the reaction mixture to 40° C. in a substantially oxygen-free aqueous reaction system in the presence of (*a*) from 30–1000% by weight, based upon the total weight of reactants, of an inert water-immiscible organic solvent for the polycarbonate resin formed, (*b*) at least 2 mols of a water-soluble acid acceptor per mol of phosgene employed, (*c*) from 0.001–2% by weight, based upon the total weight of reactants, of a quaternary ammonium salt containing from 6–14 carbon atoms and (*d*) from 0.01–5% by weight, based upon the total weight of reactants plus organic solvent, of a suspending agent; the volume of water employed in the aqueous phase being equal to from 0.5–10 times the volume of the organic solvent employed; said bis(hydroxyaryl) compound corresponding to a formula selected from the group consisting of:

(*a*) HO—A—A—OH
(*b*) HO—A—O—A—OH
(*c*) HO—A—SO_2—A—OH

(*d*)



wherein A represents an aromatic radical, R′ represents radicals independently selected from the class consisting of hydrogen and monovalent hydrocarbon radicals containing from 1–6 carbon atoms, R represents a radical selected from the class consisting of alkylene and alkylidene radicals containing from 1–6 carbon atoms and *m* is a whole number equal to twice the number of carbon atoms contained in R; said suspending agent being selected from the classes consisting of (1) non-amorphoteric inorganic compounds having a solubility in water of less than 0.01 part per 100 parts of water on a weight basis and preferentially wet by the aqueous phase, said inorganic compound having an average mean particle size of less than 10 microns and (2) soluble organic polymers having a weight average molecular weight of at least 10,000 selected from the group consisting of (*a*) homopolymers of acrylic and methacrylic acids and copolymers thereof with vinylidene monomers copolymerizable therewith, (*b*) homopolymers containing tertiary amino groups, (*c*) homopolymers containing quaternary ammonium groups and copolymers thereof with vinylidene monomers copolymerizable therewith and (*d*) dialkyl ethers of polyethylene oxides corresponding to the general formula:



wherein R_1 is an alkyl radical containing from 1–20 carbon atoms, R_2 is a radical selected from the group consisting of hydrogen and methyl radicals and mixtures thereof and *n* is an integer of sufficient magnitude to provide a total weight average molecular weight of at least 10,000.

3,143,526

LINEAR POLYESTERS OF 1,4-CYCLOHEXANEDICARBOXYLIC ACID AND AROMATIC DIOLS

John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 23, 1960, Ser. No. 31,216
18 Claims. (Cl. 260—47)

1. A linear highly polymeric fiber-forming polyester of:
component (A) consisting of from one to two dibasic carboxylic acids selected from the group consisting of trans-1,4-cyclohexanedicarboxylic acid, 4,4′-sulfonyldibenzoic acid, 4,4′-diphenic acid, terephthalic acid, isophthalic acid, cis-1,4-cyclohexanedicarboxylic acid and aliphatic dicarboxylic acids having from 1 to 10 carbon atoms, wherein at least 70 mole percent of said component (A) is said trans-1,4-cyclohexanedicarboxylic acid, and
component (B) consisting of from one to two diols selected from the group consisting of:
(*a*) 4,4′-dihydroxydiphenyl-2,2-propane,

(*b*) a 4,4'-dihydroxydiaryl substituted hydrocarbon wherein said hydrocarbon is a divalent aliphatic radical having from 4 to 40 carbon atoms and each of said aryl radicals is a member of the benzene series containing from 6 to 9 carbon atoms and is substituted with from none to two chlorine atoms,

(*c*) 1,4 - dihydroxynaphthalene and derivatives thereof in which as many as 4 nuclear hydrogen atoms have been added in which the hydroxy radicals are attached to an aryl nucleus, and

(*d*) 9,10 - dihydroxyanthracene and derivatives thereof in which as many as 8 nuclear hydrogen atoms have been added in which the hydroxy radicals are attached to an aryl nucleus; and as to said polyester:

(1) when said diol (*a*) is the sole diol, said acid component (A) must consist of from 70 to 90 mole percent of said trans-1,4-cyclohexanedicarboxylic acid and from 10 to 30 mole percent of one of said other acids,

(2) said polyester melts at between 250° C. and 350° C.,

(3) said polyester has an inherent viscosity of at least 0.55 as measured in methylene chloride, and

(4) said polyester is soluble in methylene chloride.

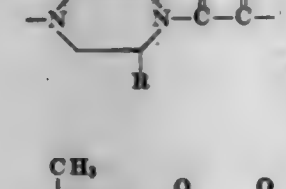
3,143,527

POLYAMIDES FROM ALKYL PIPERAZINES

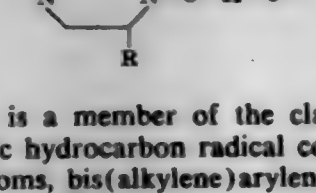
Emerson La Verne Wittbecker, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 27, 1959, Ser. No. 802,305
14 Claims. (Cl. 260—78)

1. A novel fiber-forming polyamide capable of orientation along the fiber axis and consisting of repeating structural units selected from the class consisting of



and



wherein —X— is a member of the class consisting of divalent aliphatic hydrocarbon radical containing from 1 to 11 carbon atoms, bis(alkylene)arylene, and bis(alkylene-oxy)arylene, and R is a member of the class consisting of hydrogen and methyl.

3,143,528

ALKANOLAMINES, ALKANOLAMINE BORATES AND ALKANOLAMINE BORONATES AS ADDITIVES FOR POLYAMIDES

Arnold B. Finestone, Leominster, Mass., and Frederick R. Eirich, Brooklyn, N.Y., assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Filed Mar. 29, 1961, Ser. No. 99,137
15 Claims. (Cl. 260—78)

1. A solid synthetic linear polyamide composition having enhanced crystalline uniformity and wherein the polyamide is a thermoplastic poly-carbonamide, said polyamide composition having dispersed therein from about 0.01 to 2% by weight of at least one additive selected from the class consisting of (1) alkanolamines having the general formula:

$$R_m{}^1N(R^2OH)_x$$

wherein R^2 represents a bivalent radical containing from two to six carbon atoms, x is an integer from one to three, m varies from zero to two and R^1 is a radical selected from the class consisting of hydrogen, alkyl, aryl, alkaryl, cycloaliphatic and aralkyl radicals, (2) alkanolamine borates and (3) alkanolamine boronates.

3,143,529

POLYMERIC DERIVATIVES OF 3-AMINO-2,2-DIMETHYLCYCLOBUTANEACETIC ACID

Glen W. Hedrick, Lake City, Fla., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed June 29, 1961, Ser. No. 120,794
6 Claims. (Cl. 260—78)
(Granted under Title 35, U.S. Code (1952), sec. 266)

4. A resinous homopolymer of 3-amino-2,2-dimethylcyclobutaneacetic acid.

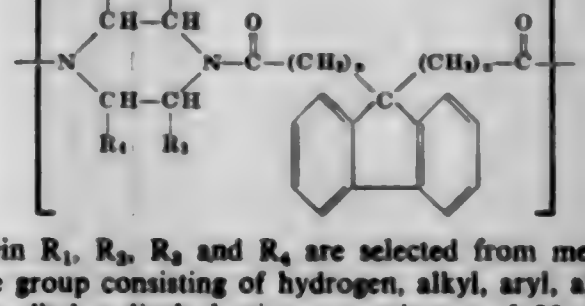
3,143,530

LINEAR POLYCARBONAMIDES FROM PIPERAZINES AND FLUORENE DICARBOXYLIC ACIDS

Anthony A. D'Onofrio, Martinsville, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 19, 1961, Ser. No. 104,000
15 Claims. (Cl. 260—78)

1. Linear, amorphous thermoplastic polycarbonamides having a plurality of recurring structural units of the general formula:



wherein R_1, R_3, R_3 and R_4 are selected from members of the group consisting of hydrogen, alkyl, aryl, alkaryl, and aralkyl radicals having a maximum of 20 carbon atoms, and n is a positive integer of from 1 to 3, inclusive.

3,143,531

THERMALLY STABLE COPOLYMERS OF VINYLTIN AND ETHYLENICALLY UNSATURATED COMPOUNDS

Hugh E. Ramsden, Scotch Plains, N.J., assignor, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 16, 1958, Ser. No. 735,667
16 Claims. (Cl. 260—78.5)

1. A solid copolymer having a melting point above 350° F. consisting essentially of a minor proportion of an organotin compound having the formula

$$Vi_nR_aR_b'R_c''SnX_{4-(n+a+b+c)}$$

wherein R, R', and R'' are selected from the class consisting of aryl, aralkyl, alkaryl, heterocyclic and alkyl groups; Vi is a vinyl substituent; n is a whole number from 1 to 4; a, b, and c are small whole numbers from 0 to 3; $a+b+c=0$ to 3; and X is an anion selected from the class consisting of halogen, alkoxy, aryloxy, mercaptide, thiocarboxylate, and carboxylate groups; and a major proportion of an ethylenically unsaturated compound.

14. A method of producing a thermally stable copolymer of an ethylenically unsaturated compound which comprises polymerizing a mixture consisting essentially of a major proportion of the ethylenically unsaturated

organic compound, and a minor proportion of an organotin compound having the formula

$$Vi_nR_aR_b'R_c''SnX_{4-(n+a+b+c)}$$

wherein R, R', and R'' are selected from the class consisting of aryl, aralkyl, alkaryl, heterocyclic and alkyl groups; Vi is a vinyl substituent; n is a whole number from 1 to 4; a, b, and c are small whole numbers from 0 to 3; $a+b+c=0$ to 3; and X is an anion selected from the class consisting of halogen, alkoxy, aryloxy, mercaptide, thiocarboxylate, and carboxylate groups, in the presence of a free radical polymerization catalyst.

3,143,532

PROCESS FOR THE MANUFACTURE OF BEAD POLYMERS

Karl Heinz Kahrs, Frankfurt am Main, Werner Starck, Hofheim, Taunus, Fritz Winkler, Kelkheim, Taunus, and Johann Wolfgang Zimmermann, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 4, 1959, Ser. No. 857,259
Claims priority, application Germany Dec. 24, 1958
1 Claim. (Cl. 260—78.5)

In the method of making bead polymers of vinyl esters, the step which comprises polymerizing at least one vinyl ester of an organic acid having 2 to 5 carbon atoms in an aqueous phase, with agitation, at a temperature of 65–85° C., in the presence of (A) 0.2 to 1.5 percent, by total weight of said ester, of a polyoxyethylated polyoxypropylene having a molecular weight of at least 5,000 and containing sufficient poly(ethylene oxide) to render it water soluble, and (B) 0.01 to 10 percent, by total weight of said ester, of a free radical polymerization catalyst soluble in said ester and dissolved therein.

3,143,533

MALEIC ANHYDRIDE COPOLYMER

Huey Pledger, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 22, 1961, Ser. No. 111,471
4 Claims. (Cl. 260—78.5)

1. A thermoplastic copolymer of maleic anhydride and 5-methylenebicyclo[2.2.1]hept-2-ene.

3,143,534

PREPARATION OF DYEABLE POLYMERS

Elbert C. Herrick, Rosemont, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 12, 1960, Ser. No. 49,132
14 Claims. (Cl. 260—79.3)

1. Method of preparing dyeable polymers which comprises contacting an alpha olefin having 2–10 carbon atoms at a temperature in the range of 0–50° C. with a liquid alkylatable benzenoid hydrocarbon free of any olefinic substituent and containing a catalytic mixture of (1) a titanium halide in which the titanium has a valence of at least three and wherein the halogen is selected from the group consisting of chlorine and bromine, (2) an aluminum compound selected from the group consisting of alkyl aluminum dihalides, dialkyl aluminum halides and alkyl aluminum sesquihalides wherein the halogen is selected from the group consisting of chlorine and bromine, and (3) water in a molar proportion to said aluminum compound in the range of 0.6–1.5, the molar proportion of the aluminum compound to the titanium halide being in the range of 0.2–1.0, separating from the reaction mixture solid polymers composed of long alkyl chains attached to aromatic rings, forming a slurry of said polymers in an inert liquid reaction medium, treating the resulting mixture with a sulfonating agent under sulfonating conditions, and recovering sulfonated polymers from the reaction mixture.

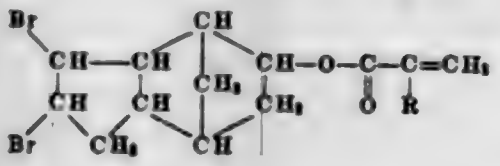
3,143,535

2,3-DIBROMOHEXAHYDRO-4,7-METHANOINDAN-5-YL ACRYLATE AND METHACRYLATE AND POLYMERS THEREOF

Winston J. Jackson, Jr., John R. Caldwell, and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,202
9 Claims. (Cl. 260—85.5)

4. A polymer of a compound having the general formula:



wherein R represents a member selected from the group consisting of a hydrogen atom and a methyl group.

3,143,536

DEPOLYMERIZATION OF STYRENE IN THE PRESENCE OF FREE RADICAL GENERATING SUBSTANCES

Giuseppe Guzzetta, Milan, Franco Sabbioni, Castellanza, and Giovanni Battista Gechele, Rome, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Jan. 29, 1958, Ser. No. 736,423
Claims priority, application Italy Jan. 29, 1957
1 Claim. (Cl. 260—93.5)

A process for depolymerizing polystyrene having a molecular weight above 1,000,000 in a regular, non-random manner, to obtain polystyrene having any desired molecular weight between 50,000 and 1,000,000, while substantially inhibiting the formation of branched and cross-linked chains during the depolymerization, which process comprises mixing the polystyrene of molecular weight above 1,000,000, in particulate condition, with from 0.1% to 5.0% by weight of 4,4'-thiobis (3-methyl-6-tert. butylphenol) and effecting the depolymerization of the polystyrene by maintaining the mixture in the absense of a solvent for the polystyrene and in substantially dry condition, at a temperature selected from room temperature and a temperature in the range between about 200° C. and about 250° C. until the desired depolymerization takes place, this depolymerization at room temperature being facilitated by subjecting the dry mixture to vigorous mechanical stress.

3,143,537

OLEFIN POLYMERIZATION USING AN ALUMINUM ALKYL-TRANSITION ELEMENT COMPOUND-ALKALI METAL FLUORIDE CATALYST COMPOSITION

Hugh J. Hagemeyer, Jr., and Marvin B. Edwards, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,343
15 Claims. (Cl. 260—93.7)

9. A process for the polymerization of α-monoolefinic hydrocarbons containing 3 to 10 carbon atoms to solid crystalline polymer which comprises contacting said hydrocarbon with a catalytic mixture substantially free of unreacted halide and having been prepared by reacting

an aluminum trialkyl wherein the alkyl radicals contain from 1 to 12 carbon atoms, a halide of a transition metal selected from the group consisting of titanium, vanadium, chromium, molybdenum and zirconium and an alkali metal fluoride, from 0.5 to 12 moles of alkali metal fluoride per mole of transition metal halide having been employed in said reaction.

3,143,538

POLYMERIZATION OF PIPERYLENE

James J. Robertson, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 15, 1961, Ser. No. 109,883
7 Claims. (Cl. 260—94.3)

1. The method of making a polymer in an inert solvent, in which method the polypiperylene produced is substantially entirely of 1,4-addition configuration, from monomer which includes at least a substantial amount of piperylene, which method comprises admixing a hydrocarbon lithium with a trihalide of a metal of Group III of the Periodic Table in the presence of some monomer, mixing the resulting product and monomer to be polymerized with a hydrocarbon aluminum compound of the formula

$$\text{Hydrocarbon}_x\text{AlHalogen}_y$$

in which there is at least some hydrocarbon and the sum of x and y is 3, said hydrocarbon being selected from the group consisting of alkyl groups, alkenyl groups, aralkyl groups and phenyl; the hydrocarbon lithium, the trihalide and the hydrocarbon aluminum compound being present in the molar ratio of 0.1 to 5/0.1 to 5/0.1 to 5, and polymerizing the monomer at a temperature of −100 to 250° C., the catalyst concentration being 0.001 to 5 percent of the weight of the monomer.

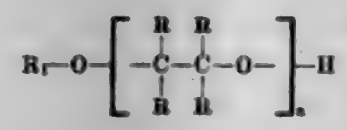
3,143,539

PRODUCTION OF PROCESSABLE POLYOLEFINS

Kelly Farhat and Frederick J. Webb, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 4, 1960, Ser. No. 6,623
2 Claims. (Cl. 260—94.9)

1. Process for reducing the molecular weight of a high molecular weight polymer of ethylene having an intrinsic viscosity above 1.5 and having been produced by contact of ethylene with a catalyst obtained by partial reduction of a compound selected from the group consisting of oxides, halides, oxyhalides and alcoholates of titanium, vanadium, nickel, cobalt, iron and chromium by means of a reducing agent selected from the group consisting of the free metals of groups I, II and III of the periodic table and the organometallic compounds of such metals, which comprises washing said polymer with an aqueous solution of a polyoxyolefin having the structure



wherein R, independently in each occurrence, represents a substituent selected from the group consisting of hydrogen and hydrocarbon groups, each repeating unit in the brackets containing 2–10 carbon atoms, n is an integer greater than 4, and R_1 is a radical selected from the group consisting of hydrogen and hydrocarbon radicals containing 1–30 carbon atoms, the amount of said polyoxyolefin supplied being from 0.1 to 10%, based on the weight of said polymer, and drying and heating the polymer for at least 60 hours at temperatures in the range of 90°–300° C. while still wet with said aqueous solution.

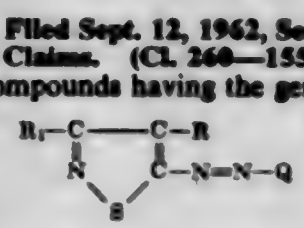
3,143,540

AZO DYES FROM AMINOISOTHIAZOLES

Ronald H. Meen, William H. Moore, and Joseph B. Dickey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 12, 1962, Ser. No. 223,247
9 Claims. (Cl. 260—155)

1. Monoazo compounds having the general formula



wherein

R=a member of the class consisting of a hydrogen atom and a nitro group,

R_1=a member of the class consisting of a hydrogen atom and a lower alkyl group and

Q=a member of the class consisting of the residue of an aniline coupling component, N-glyceryl-2,7-dimethylbenzomorpholine, N-glyceryl-2-methylbenzomorpholine and N-glyceryl-2,7-dimethyl-1,2,3,4-tetrahydroquinoline coupling component residues,

said compounds being free of water-solubilizing carboxyl and sulfonic acid groups.

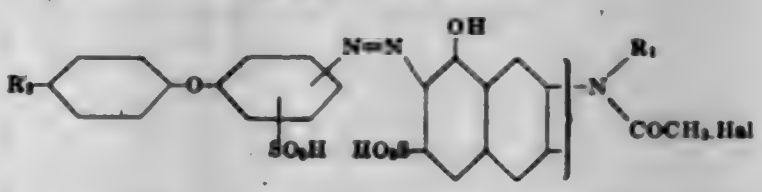
3,143,541

MONOAZO DYESTUFFS

Meinrad Hürbin and Guido Schetty, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,619
Claims priority, application Switzerland Dec. 14, 1961
5 Claims. (Cl. 260—199)

1. A monoazo dyestuff of the formula



wherein

the —N=N— group is in one of the positions ortho and para to the ether bridge,

R_1 is a member selected from the group consisting of alkyl with not more than 5 carbon atoms, benzyl, p-chlorobenzyl, p-bromobenzyl and p-methylbenzyl,

R_2 is a member selected from the group consisting of alkyl with at least 4 and not more than 18 carbon atoms, cyclohexyl, p-methylcyclohexyl, benzyl and phenyl,

with the proviso that the sum of the carbon atoms of R_1 and R_2 is at least 9, and

Hal is a member selected from the group consisting of chlorine and bromine.

3,143,542

PROCESS FOR THE REDUCTION OF ORGANIC COMPOUNDS

Karl Ziegler, 1 Kaiser-Wilhelm-Platz, Mulheim an der Ruhr, Germany, and Josef Schneider and Kurt Schneider, Mulheim an der Ruhr, Germany; said Josef Schneider and said Kurt Schneider assignors to said Karl Ziegler

No Drawing. Filed Mar. 29, 1961, Ser. No. 99,821
Claims priority, application Germany July 21, 1955
19 Claims. (Cl. 260—239)

1. In the reduction of an organic compound containing a functional group consisting of carbon and another element selected from the group consisting of oxygen and nitrogen and containing a multiple bond between said carbon and said other element, the step of reducing such multiple bond to a bond of lesser number, which comprises reacting said compound with a reducing agent selected from the group consisting of aluminum dialkyl hy-

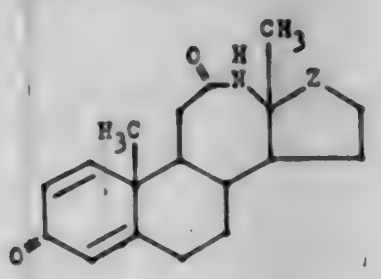
drides, aluminum trialkyls in which aluminum trialkyls at least one alkyl is an isoalkyl being branched at the β carbon atom and their addition compounds with one mole of an alkali metal hydride to produce a reaction product in which hydrogen supplied by said reducing agent is added to said carbon and the aluminum-containing radical of said reducing agent is added to said other element whereby the number of bonds in said multiple bond is reduced.

3,143,543
Δ^1 AND $\Delta^{1,4}$ 12a-AZA-3,12-DIOXO-C-HOMO STEROIDS

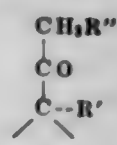
Robert H. Mazur, Deerfield, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,018
6 Claims. (Cl. 260—239.3)

1. A compound of the formula



wherein Z is selected from the group consisting of the β-hydroxymethylene radical, β-(lower alkanoyloxy)-methylene radicals, and radicals of the formula



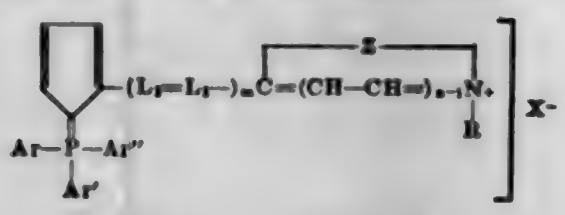
in which R′ is selected from the group consisting of hydrogen and hydroxyl and R″ is hydrogen when R′ is hydrogen and is selected from the group consisting of hydrogen, hydroxyl, and lower alkanoyloxy radicals when R′ is hydroxyl.

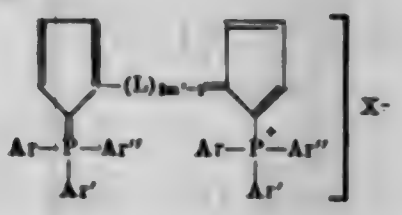
3,143,544
TRIARYLPHOSPHONIUM CYCLOPENTADIENYLIDE METHINE DYES AND PHOTOGRAPHIC EMULSIONS SENSITIZED THEREWITH

André Emile Van Dormael, Heverlee-Louvain, and Jean Marie Nys and Henri Depoorter, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,231
Claims priority, application Great Britain Oct. 24, 1958
1 Claim. (Cl. 260—240)

A polymethine dye selected from the group consisting of those represented by the following formulae:

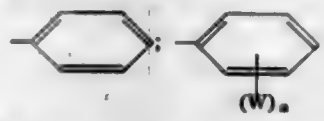




wherein

L, L_2 and L_3 each represents a member selected from the group consisting of methine, ethyl substituted methine, and methyl substituted methine,

Ar, Ar′ and Ar″ each represents a member selected from the group consisting of



where W is halogen,

Z constitutes the non-metallic atoms necessary to complete a nitrogenous heterocyclic nucleus selected from the group consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a thionaphtheno-thiazole, an oxazole nucleus, a benzoxazole nucleus, naphthoxazole nucleus, selenazole nucleus, benzoselenazole nucleus, naphthoselenazole nucleus, thiazoline nucleus, thiazolidine nucleus, oxazoline nucleus, oxazolidine nucleus, selenazoline nucleus, quinoline nucleus, isoquinoline nucleus, dialkylindolenine nucleus, pyridine nucleus and benzimidazole nucleus,

X is an acid radical of the type used in the cyanine dyes,

R represents a lower alkyl radical,

m represents a positive integer selected from the group consisting of 0, 1 and 2,

m′ represents a positive integer selected from the group consisting of 1, 2, 3 and 4, and

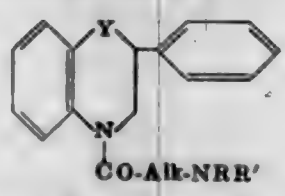
n represents a positive integer selected from the group consisting of 1 and 2.

3,143,545
4-AMINOALKANOYL-2-PHENYL-3,4-DIHYDRO-2H-1,4-BENZOTHIAZINES

Harman S. Lowrie, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 27, 1961, Ser. No. 155,187
6 Claims. (Cl. 260—243)

1. A compound of the formula



wherein Y is selected from the group consisting of

—S— and —SO_2—

Alk is lower alkylene; and —NRR′ is selected from the group consisting of di(lower alkyl)-amino, piperidino, monohydroxy(lower alkyl)piperidino, and monohydroxy (lower alkyl)piperazino.

3,143,546
PROCESS FOR THE PRODUCTION OF PIGMENTS OF THE DIOXAZINE SERIES

André Pugin and Jost von der Crone, Riehen, near Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Apr. 4, 1963, Ser. No. 270,561
Claims priority, application Switzerland Apr. 18, 1962
4 Claims. (Cl. 260—246)

1. In a process for the production of substantially water-insoluble dioxazine, which comprises reacting an inorganic salt and a 2,5-bis-phenylamino-3,6-dichloro-1,4-benzoquinone wherein the phenylamino radicals are ring-substituted in 2′-position with an ether group, and extracting the resulting reaction product in a crude to finely ground state, the improvement wherein

(*a*) the inorganic salt is water-soluble and non-oxidizing and is selected from the group consisting of the ammonium and alkali metal salts of sulfuric acid, the ammonium and alkali metal salts of hydrochloric acid, and calcium chloride,

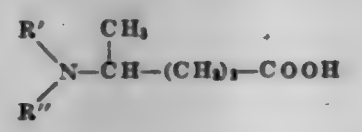
(*b*) the ratio of said inorganic salt to said 1,4-benzoquinone is about 1:1 to 5:1,
(*c*) the reaction temperature is about 150 to 260° C. and
(*d*) the resulting reaction product is extracted with a dilute aqueous alkaline solution.

3,143,547
PROCESS FOR FORMING DIALKYLAMINO KETONES AND N-ALKYL-LACTAMS

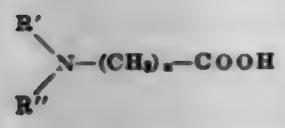
Philip A. Cruickshank and John C. Sheehan, Lexington, Mass., assignors to Research Institute for Medicine and Chemistry, Inc., Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Mar. 27, 1961, Ser. No. 98,306
8 Claims. (Cl. 260—247.7)

1. A process for forming dialkylamino ketones and N-alkyl-lactams, comprising heating a dialkylamino acid with an excess of a member of the group consisting of acetic anhydride and propionic anhydride in a nitrogen atmosphere; said acid being a member of the group consisting of:



and



wherein n=3 to 4; R′, R″ being non-tertiary alkyl having one to seven carbon atoms,

dialkylamino ketone being formed if R′ and R″ are both primary alkyl, N-alkyl-lactam being formed if R′ and R″ are both secondary alkyl, and a mixture of ketone and lactam being formed if R′ is primary alkyl and R″ is secondary alkyl.

3,143,548
N,N′-DIMETHYL-N″,N″-BIS(2-HYDROXYETHYL) MELAMINE

Sidney L. Vail, John G. Frick, Jr., and John D. Reid, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Feb. 19, 1960, Ser. No. 10,005, now Patent No. 3,015,583, dated Jan. 2, 1962. Divided and this application July 26, 1961, Ser. No. 131,043
2 Claims. (Cl. 260—249.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

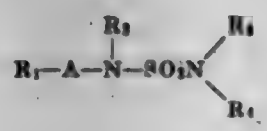
1. N,N′ - dimethyl - N″,N″ - bis(2 - hydroxyethyl) melamine.

3,143,549
PHENYLALKYLSULFAMIDES

John J. Lafferty, Levittown, and Bernard Loev, Broomall, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 14, 1962, Ser. No. 223,826
7 Claims. (Cl. 260—268)

1. A compound of the formula:



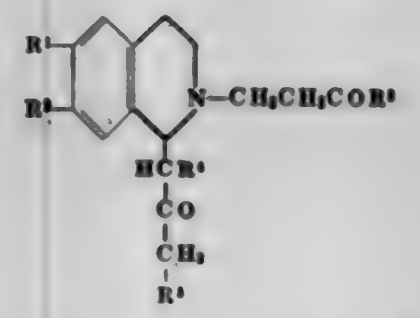
in which:
A is lower alkylene having 2 to 5 carbon atoms inclusive;
R_1 is a member selected from the group consisting of phenyl, halophenyl, trifluoromethylphenyl, lower alkylphenyl, lower alkoxyphenyl, aminophenyl, hydroxyphenyl, dihalophenyl, di-lower alkylphenyl, di-lower alkoxyphenyl and methylenedioxyphenyl;
R_2 is a member selected from the group consisting of hydrogen and lower alkyl;
R_3 and R_4 are members selected from the group consisting of hydrogen, lower alkyl and, when taken together with the nitrogen atom to which they are attached, N-pyrrolidinyl, N-piperidyl, N-piperazinyl, N′-lower alkyl-N-piperazinyl and N′-hydroxy-lower alkylene-N-piperazinyl.

3,143,550
SUBSTITUTED TETRAHYDROISOQUINOLINES

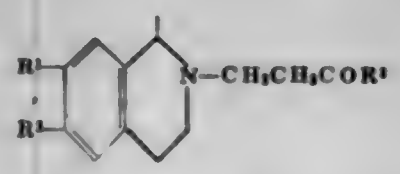
Elwyn Evans, Wembley, and Herbert James White, Chalfont St. Giles, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed Aug. 27, 1962, Ser. No. 219,723
Claims priority, application Great Britain Sept. 8, 1961
15 Claims. (Cl. 260—288)

1. A process for the preparation of a compound of the formula



where R^1 and R^2 are selected from the group consisting of hydrogen, lower alkoxy, and lower alkylene dioxy represented by R^1 and R^2 taken together; R^3 is lower alkyl; R^4 is selected from the group consisting of hydrogen, lower alkoxy carbonyl, carboxyl, lower alkanoyl and R^5 is selected from the group consisting of R^4; lower alkyl, monocyclic aralkyl, monocyclic aryl and the group



where R^1, R^2 and R^3 have the above meanings in which a compound of the formula



where R^1 and R^3 have the above meanings is first reacted with a vinyl ketone of the formula

$$CH_2{=}CHCOR^3$$

where R^3 has the above meaning in the presence of a medium consisting essentially of an alcohol and then adding a reactive methylene compound of the formula

$$R^6CH_2COCH_2R^7$$

where R^6 is selected from the group consisting of carboxyl, alkoxy carbonyl and lower alkanoyl and R^7 is

selected from the group consisting of R^2 hydrogen, lower alkyl, monocyclic aryl, monocyclic aralkyl and the group



where R^1 and R^2 have the above meanings.

3,143,551
DERIVATIVES OF INDOLE

Albert Hofmann and Franz Troxler, Bottmingen, Basel-Land, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland, a Swiss firm

No Drawing. Filed Oct. 24, 1961, Ser. No. 147,158
Claims priority, application Switzerland Oct. 26, 1960
4 Claims. (Cl. 260—319)

1. Indole derivatives of the formula



wherein R_1 is a member of the group consisting of lower alkyl and phenyl lower alkyl and R_2 is a member of the group consisting of hydrogen, lower alkyl, lower alkenyl and phenyl lower alkyl.

3,143,552
REACTION PRODUCTS OF NITRILES AND SULFUR TRIOXIDE

Donald L. Klass, Barrington, and Vincent Brozowski, Mundelein, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Oct. 27, 1961, Ser. No. 148,025
10 Claims. (Cl. 260—327)

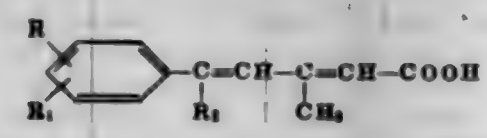
1. A solid crystalline reaction product produced by adding an alkyl nitrile to a sulfur trioxide- dioxane complex in an inert solvent at about 0°–3° C. to form a reaction mixture, using a 1:1 mol ratio of the alkyl nitrile and sulfur trioxide, allowing the reaction mixture to increase to room temperature, keeping said reaction mixture at room temperature for a period of time sufficient to produce a reaction product containing the alkyl nitrile and sulfur trioxide in a 1:1 mol ratio and characterized by an infrared spectrum indicating the presence of a $—SO_2—$ group and a C=N linkage, and recovering the reaction product from the solvent.

3,143,553
BUTADIENE CARBOXYLIC ACIDS

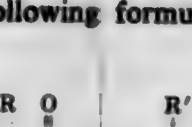
Heinrich Ruschig and Ernst Jürgens, Bad Soden, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a company of Germany

No Drawing. Filed June 2, 1961, Ser. No. 114,303
Claims priority, application Germany June 4, 1960
4 Claims. (Cl. 260—332.2)

1. Butadiene carboxylic acid of the formula



wherein R and R_1 are members of the group consisting of hydrogen, chloride, alkyl of 1 to 4 carbon atoms, alkoxy of 1 to 4 carbon atoms, amino, dialkylamino of 2 to 4 carbon atoms and carboxy, and R_2 is a member of the group consisting of thienyl-(2) and



in which R and R_1 are as defined above.

3,143,554
ACETYLENICALLY UNSATURATED ALCOHOLS

David Adriaan van Dorp, Vlaardingen, and Daniel van der Steen, Leiden, Netherlands, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,801
Claims priority, application Great Britain Apr. 27, 1960
6 Claims. (Cl. 260—345.9)

4. A compound of the formula

$$[H(C{\equiv}C{-}CH_2{-})_nO]_{p'}R'$$

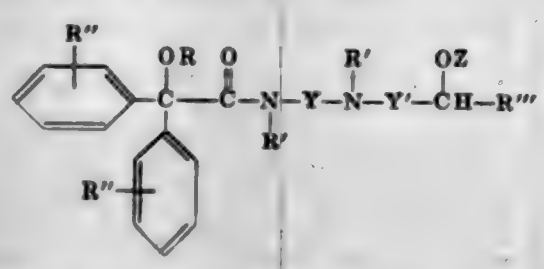
where n is an integer having a value of from 2 to 4, R′ is a group selected from the class consisting of Grignard metal monohalide groups, alkali and alkaline-earth metals, 2-tetrahydropyranyl and benzyl and p' is the valency of R′.

3,143,555
DIPHENYLACETAMIDE DERIVATIVES

John Krapcho, New Brunswick, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 5, 1962, Ser. No. 177,207
12 Claims. (Cl. 260—347.3)

1. A compound selected from the class consisting of compounds of the following formula:



wherein R is lower alkyl; R′ is a member of the group consisting of lower alkyl and lower alkenyl; R″ is a member selected from the group consisting of hydrogen, halogen, halomethyl, lower alkyl, lower alkoxy, hydroxy, nitro, amino, cyano, lower alkanoyloxy and phenyl; Y is lower alkylene; Y′ is lower alkylene; Z is a member selected from the group consisting of hydrogen and lower alkanoyl; and R‴ is a member selected from the group consisting of R″-substituted phenyl, thienyl, furyl, and pyridyl; and the pharmaceutically acceptable acid addition and quarternary salts thereof.

12. 2-ethoxy-N-{2-[(β-hydroxy - 2 - furylethyl)methylamino]ethyl}-N-methyl-2,2-diphenylacetamide.

3,143,556
6-METHYL-6-HYDROXY STEROIDS AND PROCESSES FOR THE PRODUCTION THEREOF

J Allan Campbell and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Oct. 5, 1960, Ser. No. 60,559
18 Claims. (Cl. 260—397.4)

17. A compound selected from the group consisting of 17α-acetoxy-6-hydroxy 6-methyl-Δ^4-pregnene-3,20-dione and the Δ^1-derivative thereof.

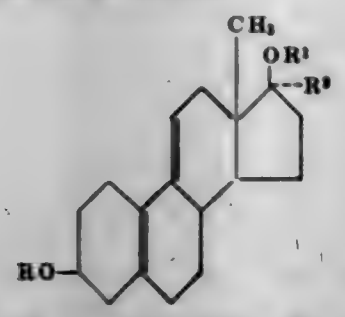
3,143,557

SUBSTITUTED 19-NORANDROSTA-5(10),9(11)-DIENES AND METHOD OF PREPARING SAME

John Johnston Brown, Pearl River, and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 27, 1963, Ser. No. 304,975
7 Claims. (Cl. 260—397.5)

1. A compound of the formula:



wherein R and R^1 are selected from the group consisting of hydrogen and lower alkanoyl and R^2 is selected from the group consisting of hydrogen, methyl, vinyl, ethynyl, chloroethynyl and when R^2 is hydrogen then R^1 is lower alkanoyl.

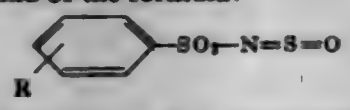
3,143,558

ARYL SULFONYLTHIONYLAMIDES AND DERIVATIVES THEREOF AND METHODS OF PRODUCING THE SAME

Gunter Kresse, Berlin-Frohnau, and Artur Maschke, Berlin-Charlottenburg, Germany, assignors to Schering AG., Berlin, Germany

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,126
Claims priority, application Germany Jan. 6, 1960
8 Claims. (Cl. 260—397.7)

1. A compound of the formula:



wherein R is selected from the group consisting of hydrogen, lower alkyl, halogen and nitro.

6. p-Nitrobenzene sulfonylthionylamide.

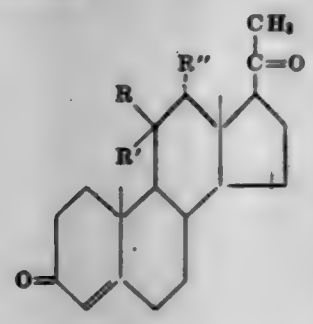
3,143,559

12α-LOWER ALKYL STEROIDS AND THEIR METHOD OF PREPARATION

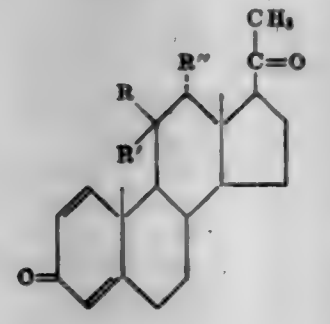
Gordon H. Thomas, Birmingham, England, and Josef Fried, Princeton, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 3, 1962, Ser. No. 228,000
4 Claims. (Cl. 260—397.45)

1. A compound selected from the group consisting of steroids of the formula



and



wherein R is hydrogen, R′ is β-hydroxy, and R″ is lower alkyl.

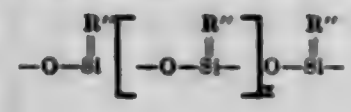
3,143,560

POLYMERIC PHENAZASILINES

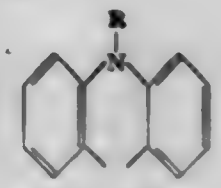
David Wasserman, Springfield, N.J., and Robert E. Jones, North Muskegon, Mich., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,114
6 Claims. (Cl. 260—448.2)

2. Polymeric phenazasilines having the formula:



where R″=



X=1–50 and R is lower alkyl.

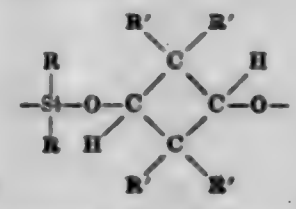
3,143,561

POLY-(ALKOXY SILANES) AND THEIR PROCESS OF PREPARATION

Edward U. Elam and Robert H. Hasek, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 23, 1960, Ser. No. 57,905
20 Claims. (Cl. 260—448.8)

1. Poly(alkoxysilanes) consisting essentially of recurring units of the formula:



wherein R is a member selected from the group consisting of alkyl and aryl radicals containing 1 to 10 carbon atoms and R′ is a lower alkyl radical, said polymer having a molecular weight in the range of about 400 to about 40,000.

3,143,562

PREPARATION OF AROMATIC PEROXY ACIDS

Leonard S. Silbert and Daniel Swern, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 27, 1961, Ser. No. 98,716
8 Claims. (Cl. 260—465)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for the preparation of an aromatic peroxy acid comprising contacting an aromatic compound of the general formula



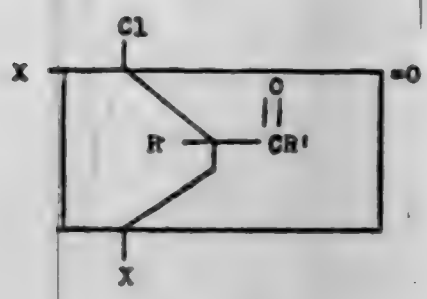
wherein R is selected from the group consisting of H and a short carbon chain alkyl radical, and X is selected from the group consisting of H, NO_2, CN, F, Cl, Br, COOR and an alkyl radical, in a reaction medium selected from the group consisting of methane sulfonic acid and ethane sulfonic acid at a temperature in the range of about 10 to 60° C., with hydrogen peroxide, thus converting the aromatic compound to an aromatic peroxy acid, and separating the aromatic peroxy acid from the reaction mixture.

3,143,563
BICYCLOOCTANES AND METHOD OF PREPARATION

Homer J. Sims, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 21, 1961, Ser. No. 161,291
5 Claims. (Cl. 260—468)

1. A compound having the formula



in which R is a member from the class consisting of hydrogen and methyl, R' is a member from the class consisting of hydroxy, methoxy, ethoxy, and methyl, and X is a member from the class consisting of chlorine and hydrogen.

3,143,564
METHOD FOR PRODUCING 2-TRANS-VITAMIN A ACID

Masunao Matsui, Tokyo, Shigeya Saito, Nishinomiya-shi, Kiyoshi Ohizumi, Ashiya-shi, and Teruya Nishida and Shigeru Okano, Toyonaka-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Jan. 15, 1962, Ser. No. 166,389
4 Claims. (Cl. 260—468)

1. A method for producing 2-trans-vitamin A acid compounds, comprising contacting one member of the group consisting of 2-cis-vitamin A acid, its lower alkyl esters and unsubstituted amides, with potassium amide in an amount of at least 1 mol per mol of the 2-cis-vitamin A acid compound to be isomerized in an inert medium for 0.5 to 20 hours, thereby to be isomerized to yield the corresponding 2-trans-vitamin A acid compound.

3,143,565
PROCESS FOR PRODUCTION OF D,L-GLUTAMIC ACID FROM α-KETOGLUTARIC ACID

Gentaro Noyori, Hidehiro Okazaki, Hidemoto Kurokawa, and Makoto Honda, all of Tokyo, Japan, assignors to The Noguchi Institute, Tokyo, Japan, a corporation of Japan

Filed Apr. 19, 1962, Ser. No. 188,795
7 Claims. (Cl. 260—482)

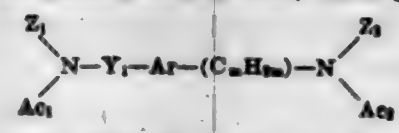
1. A process for the production of a member of the group consisting of D,L-glutamic acid, lower alkyl esters thereof and salts thereof by catalytic aminative hydrogenation which comprises continuously introducting a starting material selected from the group consisting of α-ketoglutaric acid, lower alkyl esters of α-ketoglutaric acid and salts of α-ketoglutaric acid respectively, to a reaction medium selected from the group consisting of an ammonia solution in water and an ammonia solution in an alkanol having up to four carbon atoms, at a temperature of the order of 10° C. to 150° C. in the presence of a hydrogenating catalyst, and in a hydrogen atmosphere at a pressure of about 1–200 kg./cm.², wherein said starting material is introduced at such a rate to said reaction medium as to keep the concentration of unchanged starting material calculated as free acid in the reaction mixture, not to exceed 2% by weight.

3,143,566
N,N'-DI-[HALOGENATED-(LOWER-ALKANOYL)]-DIAMINE COMPOSITIONS AND THEIR PREPARATION

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

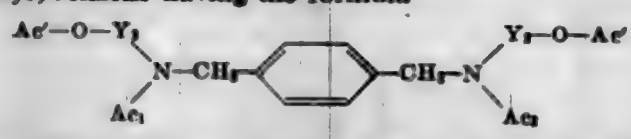
No Drawing. Filed Oct. 8, 1959, Ser. No. 845,102
38 Claims. (Cl. 260—490)

1. A di-(halogenated-alkanamide) having the formula



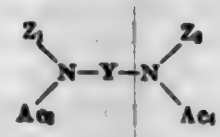
where Y_1 is lower-alklene; m is a number from 0 to 6 inclusive and C_mH_{2m} represents lower-alkylene when m is from 1 to 6; Ar is a lower-divalent-aromatic radical; Ac_1 and Ac_2 each are halogenated-(lower-alkanoyl); and, Z_1 and Z_2 are members selected from the group consisting of hydrocarbon radicals of the formula R, hydroxyalkyl radicals of the formula —Y_2—OH, hydrocarbonoxy-alkyl radicals of the formula —Y_2—O—R, acyloxyalkyl radicals of the formula —Y_2—O—Ac', cyanoalkyl radicals of the formula —Y_2—CN and carbamylalkyl radicals of the formula —Y_2—$CONH_2$, where Y_2 is alkylene having from two to six carbon atoms and having its two free valence bonds on different carbon atoms, R is a hydrocarbon radical having from one to eight carbon atoms and Ac' is carboxylic-acyl having from one to eight carbon atoms.

4. An N,N,N',N' - tetrasubstituted - 1,4 - bis(aminomethyl)benzene having the formula



where Y_2 is alkylene having from two to six carbon atoms and having its two free valence bonds on different carbon atoms, Ac' is a carboxylic acyl group having from one to eight carbon atoms, and Ac_1 and Ac_2 are each halogenated-(lower-alkanoyl).

17. A di-(halogenated-alkanamide) having the formula

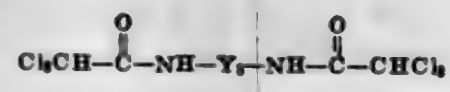


where Y is selected from the group consisting of

$$C_xH_{2x}(C_nH_{2n-2})C_yH_{2y}$$

and alkylene having tow to sixteen carbon atoms which can be interrupted by members selected from the group consisting of O, S, SO, SO_2, NH, N(lower alkyl), N(lower-alkenyl), N(lower alkynyl), N[halogenated-(lower-alkanoyl)], CH=CH and C≡C, where x and y each are numbers from 0 to 6 inclusive and n is an integer from 3 to 8 inclusive, C_xH_{2x} and C_yH_{2y} each representing lower-alkylene when x and y are each from 1 to 6 and C_nH_{2n-2} representing cycloalkylene; Ac_3 and AC_4 each are halogenated-(lower alkanoyl) having from two to three halogen atoms; and, Z_1 and Z_2 are members selected from the group consisting of hydrocarbon radicals of the formula R, hydroxyalkyl radicals of the formula —Y_2—OH, hydrocarbonoxyalkyl radicals of the formula —Y_2—O—R, acyloxyalkyl radicals of the formula —Y_2—O—Ac', cyanoalkyl radicals of the formula —Y_2—CN and carbamylalkyl radicals of the formula —Y_2—$CONH_2$, where Y_2 is alkylene having from two to six carbon atoms and having its two free valence bonds on different carbon atoms, R is a hydrocarbon radical having from one to eight carbon atoms and Ac' is carboxylic-acyl having from one to eight carbon atoms.

28. An N,N'-bis(dichloroacetyl)alkanediamine having the formula



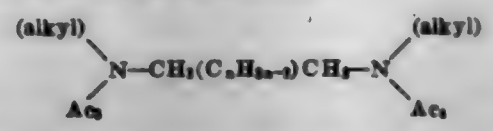
where Y_3 is alkylene having from seven to nine carbon atoms.

32. An N,N' - bis[polybrominated - (lower - alkanoyl)]-alkylenediamine having the formula

$$Ac_5—NH—Y—NH—Ac_6$$

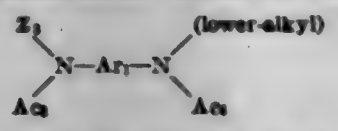
where is alkylene having from two to sixteen carbon atoms, and Ac_5 and Ac_6 are each polybrominated-(lower-alkanoyl).

34. An N,N,N',N' - tetrasubstituted - bis(aminomethyl)-cycloalkane having the formula



where alkyl in each instance has from one to eight carbon atoms, Ac_3 and Ac_4 are each halogenated-(lower-alkanoyl) having from two to three halogen atoms, n is an integer from 3 to 8 inclusive, and C_nH_{2n-2} represents cycloalkylene.

36. A phenylenediamine having the formula



wherein Ar_1 is a divalent-aromatic radical of the benzene series, Ac_3 and Ac_4 are each halogenated-(lower-alkanoyl) having from two to three halogen atoms, and Z_3 is a member selected from the group consisting of H and lower-alkyl.

3,143,567

PROCESS FOR PRODUCING AROMATIC CARBOXYLIC ACIDS AND ALKALI AND ALKALINE EARTH METAL SALTS THEREOF

David O. De Pree, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 21, 1960, Ser. No. 16,196
9 Claims. (Cl. 260—515)

1. A process for the preparation of a metallometallic salt of an aromatic monocarboxylic acid which process consists of reacting a metallating agent, selected from the group consisting of metal amides, metal hydrides and metals, with an alkyl substituted benzoic acid containing an alpha-hydrogen atom on said alkyl group and from 8 to about 36 carbon atoms in the molecule; said reaction being conducted under an inert atmosphere at a temperature ranging from about 90° C. to about 220° C.; the metallo and metallic substituents of said aromatic monocarboxylic acid and the metal of said metallating agent being selected from the group consisting of alkali and alkaline earth metals.

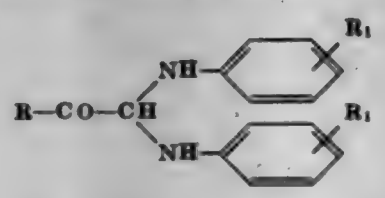
3,143,568

DIARYLAMINO-ACETYL-ARYL DERIVATIVES

Guido Cavallini and Elena Massarani, Milan, Italy, assignors to Francesco Vismara S.p.A., Casatenovo (Como), Italy, a firm

No Drawing. Filed Jan. 16, 1962, Ser. No. 166,715
Claims priority, application Italy Jan. 25, 1961
7 Claims. (Cl. 260—518)

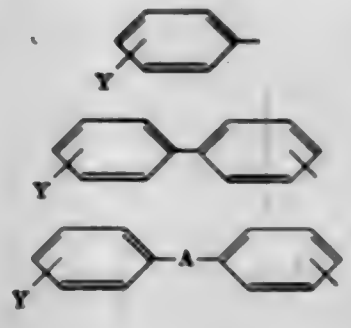
1. A chemical compound of the formula:



in which:

R_1 is a member selected from the group consisting of hydrogen, methyl, chlorine, bromine, nitro, methoxy. carboxy and carbethoxy; and

R is a member selected from the group consisting of the following formulas:

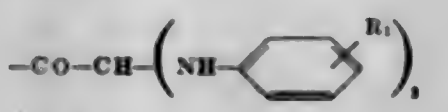


and



in which:

Y is a member selected from the group consisting of hydrogen, chlorine, bromine, nitro, hydroxy, methoxy and



where R_1 is as defined above;

A is a member selected from the group consisting of oxygen, sulfur, sulfinyl, sulfonyl, methylene, ethylene and vinylene; and

R_2 is a member selected from the group consisting of hydrogen, chlorine and bromine.

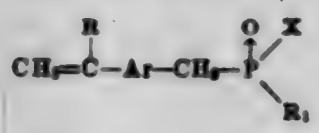
3,143,569

ETHYLENICALLY UNSATURATED AROMATIC PHOSPHORUS HALIDES

John G. Abramo, Wilmington, Del., Earl C. Chapin, Springfield, Mass., and Albert Y. Garner, Yellow Springs, Ohio, assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 6, 1963, Ser. No. 306,994
4 Claims. (Cl. 260—543)

1. An ethylenically unsaturated aromatic phosphorus acid halide corresponding to the general formula:



wherein R is a radical selected from the group consisting of hydrogen and methyl, Ar is selected from the class consisting of aromatic hydrocarbon radicals containing from 6 to 14 carbon atoms, X is a halogen radical and R_1 is a radical selected from the group consisting of halogen radicals and hydrocarbon radicals free of ethylenic and acetylenic unsaturation containing from 1 to 20 carbon atoms.

3,143,570

METHOD FOR PREPARING ALICYCLIC DIAMINES

John R. Caldwell and James E. Poe, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 1, 1960, Ser. No. 40,153
7 Claims. (Cl. 260—563)

1. A process for the preparation of cycloaliphatic diamines which comprises forming a solution consisting

essentially of ammonia and a cyano-methyleneimino compound selected from the group consisting of cyanocyclohexanemethyleneimine and cyanonorcamphanemethyleneimine in an inert organic solvent selected from the group consisting of the lower alcohols, dioxane, methoxy ethanol, and ethoxy ethanol, hydrogenating said cyano-methyleneimino compound at a temperature of from about 80° C. to about 150° C. and at a hydrogen pressure of at least about 500 p.s.i. in the presence of a catalyst selected from the group consisting of Raney nickel, Raney cobalt, nickel supported on clay, platinum, palladium, and ruthenium, whereby substantially all of said cyano-methyleneimino compound is converted to the corresponding diamine.

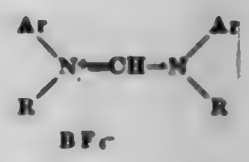
3,143,571

FORMAMIDINIUM SALTS

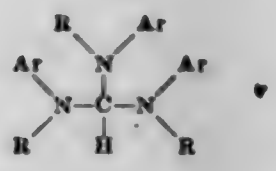
David H. Clemens, Willow Grove, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 17, 1961, Ser. No. 145,736
9 Claims. (Cl. 260—564)

1. A method for preparing formamidinium fluoborate of the formula



in which R is an alkyl group of 1 to 8 carbon atoms and Ar is an aryl group selected from the class consisting of phenyl, naphthyl and aralkyl, which comprises reacting a tri-N-aryl-N-alkylaminomethane of the formula



in which R and Ar are defined above with fluoboric acid.

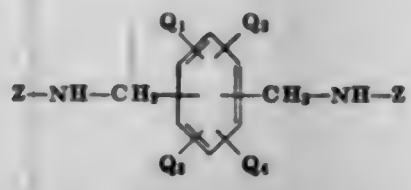
3,143,572

N,N'-DISUBSTITUTED-BIS(AMINOMETHYL) BENZENES

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 8, 1959, Ser. No. 845,102. Divided and this application Sept. 29, 1961, Ser. No. 141,647
5 Claims. (Cl. 260—570.9)

1. An N,N'-disubstituted-bis(aminomethyl)benzene of the formula



selected from the group consisting of 1,4-bis(Z-aminomethyl)benzenes and 1,3-bis(Z-aminomethyl)benzenes wherein Q_1, Q_2, Q_3 and Q_4 are each members selected from the group consisting of H, halogen and lower-alkoxy; and Z is a member selected from the group consisting of hydroxyalkyl radicals of the formula —Y—OH and hydrocarbonoxyalkyl radicals of the formula —Y—O—R where Y is alkylene having from two to six carbon atoms and having its two free valence bonds on different carbon atoms and R is a hydrocarbon radical having from one to eight carbon atoms.

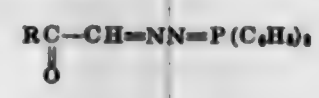
3,143,573

PROCESS FOR PREPARING α-KETOALDEHYDES

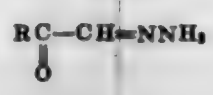
Hans Jürgen Bestmann, Munich, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 1, 1960, Ser. No. 66,421
Claims priority, application Germany Nov. 5, 1959
5 Claims. (Cl. 260—592)

1. A process for preparing α-ketoaldehydes which comprises contacting a compound having a formula selected from the group consisting of



and



wherein R is a member selected from the group consisting of alkyl, hydroxyalkyl, methoxyalkyl, ethoxyalkyl, phenyl, naphthyl, and nitrophenyl, with nitrous acid.

3,143,574

MANUFACTURE OF INDIVIDUAL DISULFIDES

Kenneth M. Brown, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 14, 1961, Ser. No. 152,227
7 Claims. (Cl. 260—608)

1. A method for recovering an individual alkyl disulfide from a mixture of alkyl disulfides which are not sufficiently stable to permit of separation thereof by high temperature fractionation, said method comprising subjecting said mixture to reduction to form a mixture of alkyl mercaptans of substantially lower boiling points than the corresponding disulfides, whereby the alkyl mercaptan mixture can be fractionated without decomposition at lower temperature than the disulfide mixture, fractionating the mercaptan mixture at the lower temperature to separate at least one individual alkyl mercaptan therefrom, oxidizing the thus separated alkyl mercaptan to convert the same to an individual alkyl disulfide and separately recovering the latter.

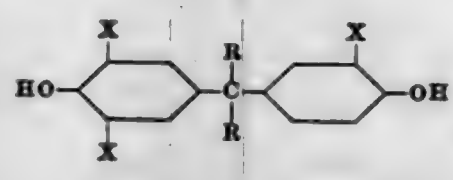
3,143,575

CHLORINATION OF BISPHENOLS

Fred Bryner and Andrew J. Dietzler, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 20, 1961, Ser. No. 104,208
6 Claims. (Cl. 260—619)

1. In a process for chlorinating a diphenol having the general formula



wherein each R represents a member selected from the group consisting of hydrogen, lower alkyl, and when joined together a cycloaliphatic ring having 5 to 6 carbon atoms, and each X represents a member selected from the group consisting of hydrogen, chlorine and lower alkyl radicals having from 1 to 4 carbon atoms wherein the diphenol is reacted with chlorine in the presence of a chlorinated aliphatic hydrocarbon solvent, the improvement of carrying out the reaction in the presence of about 0.5 to 5%, by weight, of water, based on the solvent.

3,143,576

PROCESS FOR MAKING TETRABROMO-HYDROQUINONE

Joseph E. Kovacic, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 30, 1962, Ser. No. 220,548
5 Claims. (Cl. 260—623)

1. A process for making tetrabromohydroquinone which comprises reacting by contacting about four moles of bromine with one mole of hydroquinone dissolved in about one to about 2.5 liters per gram mole of hydroquinone of a mixed solvent consisting of about 2 to about 15 parts by volume of a normally liquid inert chlorinated hydrocarbon and one part of methanol.

3,143,577

PREPARATION OF A HALOGEN CONTAINING ORGANO-MAGNESIUM MATERIAL

Derek Bryce-Smith and Ernest Thomson Blues, Reading, England, assignors to National Research Development Corporation, London, England, a British corporation

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,879
Claims priority, application Great Britain Apr. 29, 1959
5 Claims. (Cl. 260—665)

1. A process for the preparation of a halogen containing organo-magnesium material which process comprises contacting an organic halide selected from the class consisting of aryl-, alkaryl-, aralkyl- and primary and secondary alkyl- saturated hydrocarbon monohalides and saturated alkoxyaryl monohalides and metallic magnesium together in the presence of a metal alcoholate selected from the class consisting of magnesium and aluminum alcoholates of an alcohol selected from the group consisting of methanol, ethanol, isopropanol, tertiary butanol, lauryl alcohol, ethylene glycol, phenol, 2-ethoxy ethanol, 2-methoxy ethanol and diacetonyl alcohol, the amount of alcoholate present in the solution and the temperature being such that the alcobolate catalyses consumption of the halide by reaction with the magnesium to yield a halomagnesium derivative of the halide as a reaction product which is stable in the reaction mixture.

3,143,578

PREPARATION OF TRICYCLO [8.2.1.$0^{2,9}$] TRIDECA-5,11-DIENE

George L. O'Connor, Henry E. Fritz, and David W. Peck, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 28, 1962, Ser. No. 247,836
1 Claim. (Cl. 260—666)

Tricyclo[8.2.1.$0^{2,9}$]trideca-5,11-diene.

3,143,579

ISOMERIZATION PROCESS

Boyd N. Hill and David G. Walter, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed July 12, 1961, Ser. No. 123,439
4 Claims. (Cl. 260—683.76)

1. An improved hydrocarbon conversion process comprising:

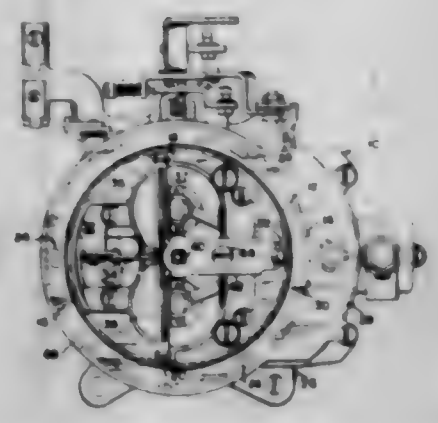
contacting in a reactor a straight chain paraffinic hydrocarbon feed stock with as a sole added catalyst phosphoric acid and an aluminum halide selected from the group consisting of aluminum bromide and aluminum chloride under isomerization conditions in the presence of a solutizer selected from the group consisting of phosphorous oxychloride and trifluoroacetic acid.

3,143,580

CARBURETOR

Melvin F. Sterner, Bloomfield Hills, and Richard R. Harroun, Orchard Lake, Mich., assignors to Holley Carburetor Company, Warren, Mich., a corporation of Michigan

Filed Mar. 6, 1961, Ser. No. 93,791
2 Claims. (Cl. 261—1)



1. A carburetor for use with internal combustion engines or similar devices, including an air horn and fuel bowl cover member having a horizontally extending substantially flat skirt portion, an air intake passage and a choke well extending through said skirt portion, a choke well flange around said choke well extending vertically upwardly from the skirt portion, choke valve mounting lugs secured to and extending vertically upwardly from the skirt portion of the carburetor air horn and fuel bowl cover member at opposite sides of the air intake passage and a power valve housing secured to and projecting vertically above said skirt portion, said choke well flange, choke valve mounting lugs, and power valve housing providing a plurality of arcuate surfaces angularly spaced about the air intake passage defining a first air filter mounting ring and a plurality of separate abutments secured to the skirt portion of said carburetor air horn and fuel bowl cover member in angularly spaced relation radially outwardly of the first defined air filter mounting ring, said separate abutments having arcuate radially outer surfaces thereon defining a second air filter mounting ring on said skirt portion.

3,143,581

LIQUID DISTRIBUTING APPARATUS

John F. Walter, Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Jan. 2, 1962, Ser. No. 163,662
1 Claim. (Cl. 261—97)



A contacting apparatus comprising in combination means forming a chamber, a fluid inlet at one end of

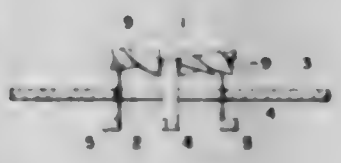
the chamber and a fluid outlet at the opposite end thereof, a horizontal perforated plate extending across the interior of the chamber between said inlet and outlet, nozzle means disposed adjacent one face of said plate centrally with respect to the plate and chamber for spraying liquid radially and uniformly in a full circular spray pattern substantially parallel to said plate, a liquid supply line connected to said nozzle means, and a plurality of concentric rows of deflector plates extending substantially vertically from said face of said horizontal plate in the path of liquid spray from said nozzle means, said rows being circumferentially spaced around the nozzle means, the deflector plates of each of said rows being in staggered relationship with respect to the deflector plates of an adjacent row and each of said deflector plates being positioned at substantially right angles to a radial line projecting to the center thereof from the center of the nozzle means.

3,143,582

CONTACTING TRAY WITH ROTATABLE VALVES

Michael C. Jones, Oakland, Calif., and Woldemar Tedder, The Hague, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Sept. 27, 1961, Ser. No. 141,851
Claims priority, application Netherlands Oct. 3, 1960
5 Claims. (Cl. 261—114)



1. A gas-liquid contacting apparatus comprising: a contacting tray adapted to be mounted horizontally within a contacting column to retain a body of liquid thereon and having a flow opening therethrough, and a valve mounted on said tray for vertical movement to control the passage through said opening by vertical movement due to upward gas flow, said valve comprising a valve plate situated above the tray engageable with the upper tray surface for support when the valve is in its lowest position, guide means extending vertically downwardly therefrom near the edge of said opening, the lower part of said guide means providing stops engageable with the under side of the tray to limit upward movement of the valve, said valve being rotatable about the vertical center line thereof, and spaced blades in a part of the valve which is situated above said contacting tray at least when the valve is in its uppermost position, said blade defining gas passages from which gas flowing is dispersed directly into said liquid, at least a portion of the blades including means which are inclined for rotating the valve coincidentally with vertical movement thereof.

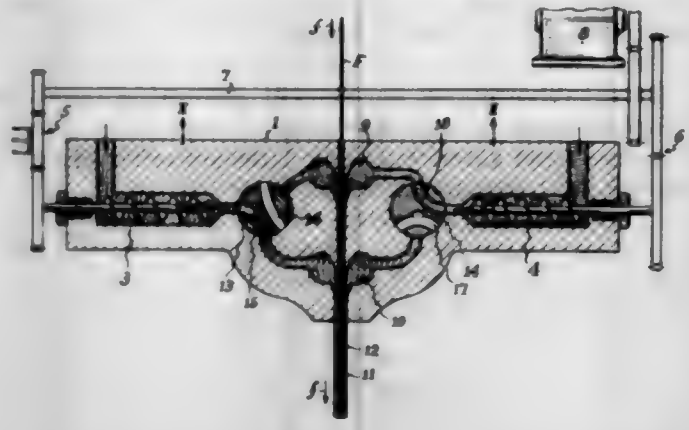
3,143,583

METHODS AND APPARATUS FOR APPLYING COVERINGS TO ELONGATED MEMBERS

Otto Haugwitz, La Celle-Saint-Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a company of France

Filed Sept. 26, 1961, Ser. No. 140,888
Claims priority, application France Sept. 29, 1960
7 Claims. (Cl. 264—174)

4. A method of applying successive coverings of different color to an elongated member comprising covering the member along a portion of the length thereof with inner and outer layers of material wherein the outer layer is substantially opaque and completely covers the inner layer, changing the color of the inner layer to that which it is desired to cover a further length of the elongated member with and while the outer layer is still being applied around the inner layer, and reversing the positions



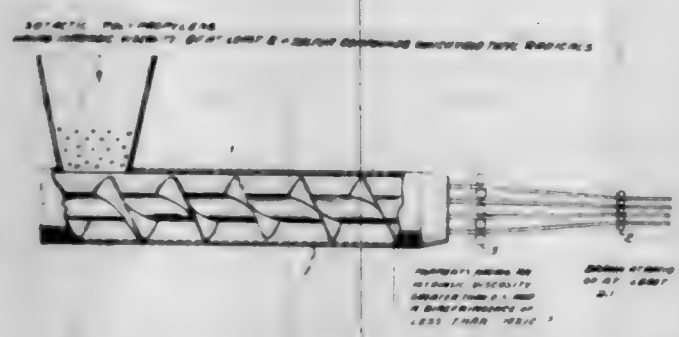
of the layers on said member for said further length so that the inner layer with the desired color is outermost on the member for said further length thereof.

3,143,584

SPINNING POLYPROPYLENES WHICH HAVE BEEN SUBJECTED TO THERMAL DEGRADATION PROMOTED BY THE PRESENCE OF SULFUR COMPOUNDS

John Francis Lloyd Roberts and Eric Walker, Harrogate, and Gerald Scott, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Mar. 15, 1962, Ser. No. 180,019
Claims priority, application Great Britain Mar. 28, 1961
4 Claims. (Cl. 264—210)



1. A process for the production of fibers and filaments of polypropylene having greatly improved tenacity which comprises subjecting isotactic polypropylene having an intrinsic viscosity greater than 2 to thermal degradation at a temperature above about 240° C. promoted by the presence of a sulfur compound which gives rise to thiyl radicals, melt spinning the resultant polymer to yield filaments having an intrinsic viscosity greater than 0.5 and a birefringence of less than 10×10^{-3} and drawing the filaments at a ratio of at least 2 to 1.

3,143,585

ELECTRIC ACCUMULATORS OF THE LEAD-ACID TYPE

John S. Ashworth, Swinton, Manchester, England, assignor to The Chloride Electrical Storage Company Limited, London, England, a British company

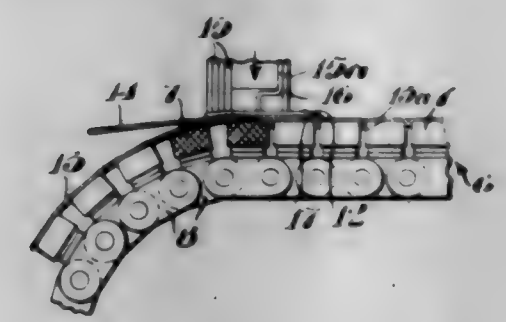
Filed May 12, 1961, Ser. No. 109,631
Claims priority, application Great Britain May 17, 1960
5 Claims. (Cl. 264—285)

1. In a method of producing ribbed separators for electric accumulators of the lead acid type wherein a resin-impregnated sheet material is conveyed on spaced

laths on an endless conveyor and ribs are formed in said sheet material as the laths pass along an element defining a curvilinear path and the distance between adjacent laths is decreased, the improvement which comprises:

providing a stationary member having a smooth planar surface facing the laths on said endless conveyor;

introducing said sheet material between said stationary member and said laths, at a point where the laths are supported by an element defining a curvilinear path, over and around which element the conveyor passes and along which the laths are relatively widely spaced from one another;



holding said sheet material firmly against the supporting faces of said laths without moving relatively thereto, by applying presure to said stationary member, the spaces between said laths decreasing as the laths enter a straight run portion of the conveyor whereby the stationary member causes the excess sheet material between the laths to fold itself into decreasing gaps and to be tightly trapped and squeezed between adjacent laths to form solid ribs; and

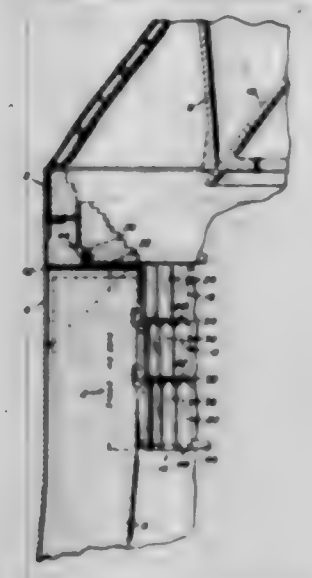
maintaining presure on said sheet material, by means of the smooth planar face of said stationary member, said pressure being maintained over a distance along the straight run portion of said lath conveyor, and embracing at least the trailing edge of one lath when the next following lath is fully entered onto the said straight run portion.

3,143,586

STOCKLINE CURTAIN FOR BLAST FURNACE

Edward M. Katchmar, 10909 Ave. C, Chicago, Ill., and William Stanford, 314 Cleveland St., Gary, Ind.

Filed Apr. 17, 1962, Ser. No. 188,127
4 Claims. (Cl. 266—31)



1. In a blast furnace having an outer shell, and a refractory lining in said shell having a stockline zone on its inner face, the improvement therewith of a protective wear-resistant curtain for the stockline zone of said refractory lining which comprises a plurality of angular-shaped metallic plates arranged in side-by-side relation circumferentially of the inner face of said refractory lining in said stockline zone, each of said plates having a horizontal leg imbedded in said refractory lining and a vertical leg depending from said horizontal leg and overlaying the inner face of said refractory lining in said stockline zone, each of said vertical legs having an opening therethrough adjacent the bottom thereof, an elongated metallic plate having an offset-tongue end attached to and depending from the vertical leg of each of said angular plates, the off-set tongue ends of said elongated plates being inserted in the openings of said vertical legs, and a ring surrounding said elongated plates adjacent the bottoms thereof, said elongated plates being attached to said ring.

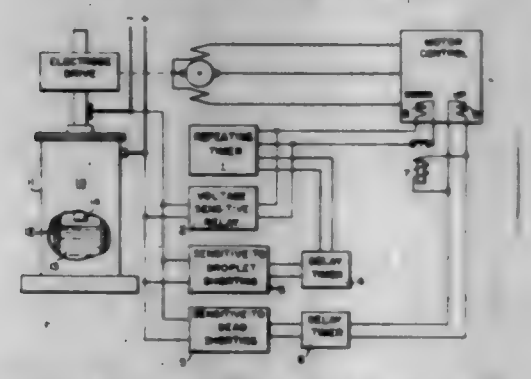
ELECTRICAL

3,143,587

ELECTRODE REGULATOR

Russell C. Buehl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed Nov. 30, 1959, Ser. No. 856,287
32 Claims. (Cl. 13—13)



1. Apparatus for controlling the position of an electrode to effect rapid, efficient melting thereof, said electrode having an electrical-current arc struck between said electrode and an electrical terminal positioned below said electrode in such manner that parts of said electrode become molten and fall as droplets between said electrode and said terminal and cause momentary short circuits when said electrode and said terminal are in close proximity, said apparatus comprising: drive means for lowering said electrode at a preselected rate of speed; sensing means responsive to arc voltage for determining whether or not said electrode and said terminal are in such close proximity that momentary short circuits are occurring, and control means connected to said drive means, responsive to said sensing means, and operable when said momentary short circuits are occurring to decrease, for a preselected period of time, the average rate of speed at which said drive means lowers said electrode.

3,143,588

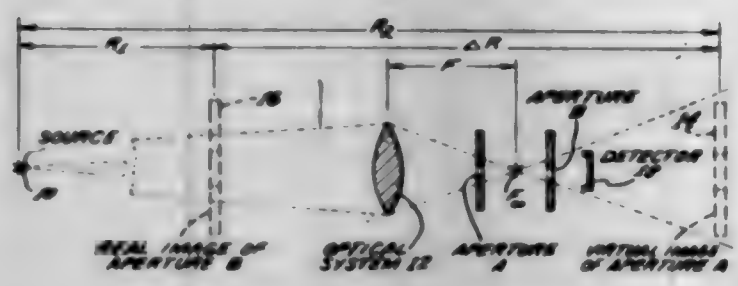
RANGE MEASURING SYSTEM

Philip J. Donald, Woodbury, and William E. Martin, Pennsauken, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed July 11, 1957, Ser. No. 671,331
1 Claim. (Cl. 88—1)

A system for determining the range of an object radiating energy, said system comprising an optical system having a prinicpal focus, means providing an aperture between said optical system and said principal focus which is imaged to provide an entrance pupil on the side of said principal focus away from said optical system, said

range determining system also having means providing as an image a second entrance pupil on the same side of said principal focus as said optical system, the distance between said two entrance pupils being ΔR, means for obtaining a measurement proportional to the energy P_1 passing through said second entrance pupil, and means for obtaining a measurement proportional to the energy P_2 effectively passing through said first mentioned entrance pupil whereby the ratio P_1/P_2 may be determined, and whereby said range may be determined from the relation



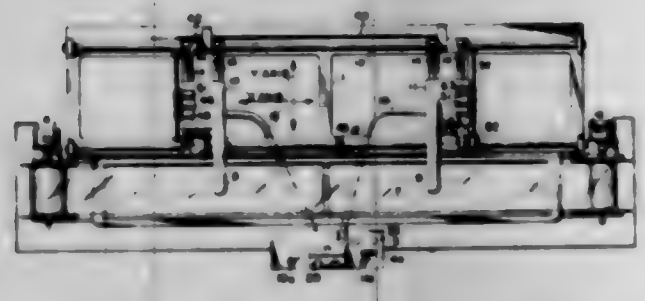
$$R=\frac{\Delta R}{\left(\sqrt{\frac{P_1}{P_2}}\right)K-1}$$

where R is the distance to the radiating object, and where K is a constant.

3,143,589
REMOTE FILM VIEWER

Andre R. Brault, North Merrick, and Anwar K. Chitayat, Plainview, N.Y., assignors to Optomechanisms, Inc., Mineola, N.Y.

Filed Mar. 22, 1961, Ser. No. 97,480
3 Claims. (Cl. 88—31)



1. Remote film scanning and viewing means for interpreting, viewing and measuring co-ordinate points on large film of the type used in aerial surveys said film consisting of individual frame pictures on a film strip said pictures being taken at left and right position for stereo viewing comprising:

a table having X and Y axes,

film transport means mounted on said table comprising a pair of spools one at either end thereof to move said film strip along said X axis of said table,

illumination sources on said table to illuminate said film,

said table being large enough to accommodate at least two of said frame pictures,

a pair of optical pickup devices to receive stero optical images from said left and right frame pictures,

means to movably mount a first of said optical pickup devices on said table for movement along X and Y axes of said table at a substantially large angle to each other, over a left frame picture, means to movably mount the second of said optical pickup devices on said table for movement along corresponding X and Y axes over a right frame picture, one of said axes being parallel to said axis of said table,

position measuring means to measure the position of said optical pickup devices along said X and Y axes,

a fiber optic cable connected to each of said optical pickup devices,

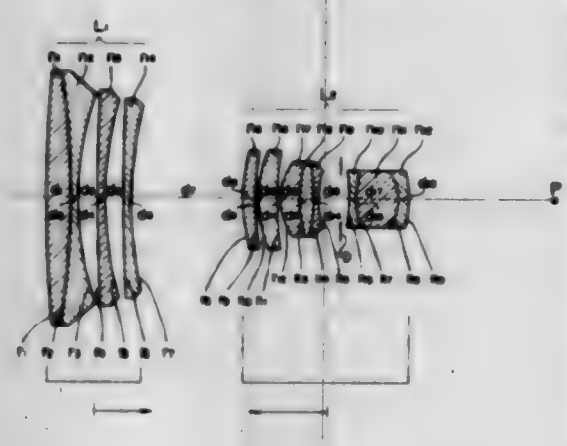
a pair of stationary eye pieces mounted on said table, one of the fiber optic cables being connected at its other end to one of said stationary eye pieces, and the other said cables being connected at its other end to the other of said stationary eye pieces,

and means to move said optical pickup means and position them with respect to said film on said table to view elemental areas of said film frame pictures.

3,143,590
ZOOM LENS

Takashi Higuchi, Hodogaya-ku, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan

Filed Feb. 14, 1962, Ser. No. 173,183
Claims priority, application Japan Feb. 28, 1961
2 Claims. (Cl. 88—57)



1. A zoom lens consisting of a first group of negative lenses having a focal length of f_1 and a second group of positive lenses having a focal length of f_2 satisfying the relations

$$f=\frac{f_1f_2}{f_1+f_2-a}$$

$$l_2=\frac{f_1f_2-f_2a}{f_1+f_2-a}$$

$$l_1=\frac{f_1f_2+f_1a-a^2}{f_1+f_2-a}$$

where f denotes the compound focal length, l_1 the distance from the fixed focal plane to the principal plane of the first lens group, l_2 the distance from the fixed focal plane to the principal plane of the second lens group, and a the distance between said principal planes, the lens groups being movable axially relative to each other, the first group of lenses comprising a cemented lens consisting of a positive lens and a negative lens joined together and at least one negative lens, the second group of lenses comprising at least one single positive lens, a first cemented lens of meniscus shape consisting of three lenses joined together with the positive side of the first cemented meniscus shaped lens facing the object, and a second cemented lens consisting of a negative lens, a positive lens and a meniscus lens joined together in that order with the positive side of the second

cemented lens facing the image, the individual lenses satisfying the following conditions:

$$r_3 \leq \tfrac{1}{2}|r_1|$$
$$0.3f_2 \leq r_{12} \leq 0.5f_2$$
$$0.8f_2 \leq r_{13} \leq 1.4f_2$$
$$0.2f_2 \leq r_{15} \leq 0.3f_2$$
$$0.5f_2 \leq r_{17} \leq 0.8f_2$$
$$0.2f_2 \leq -r_{18} \leq 0.4f_2$$
$$1.65 \leq n_7 \leq 1.74$$
$$1.43 \leq n_8 \leq 1.56$$
$$1.66 \leq n_9 \leq 1.77$$
$$1.50 \leq n_{10} \leq 1.58$$
$$1.64 \leq n_{11} \leq 1.73$$
$$1.51 \leq n_{12} \leq 1.64$$
$$0.1f \leq d_{13} \leq 0.3f$$

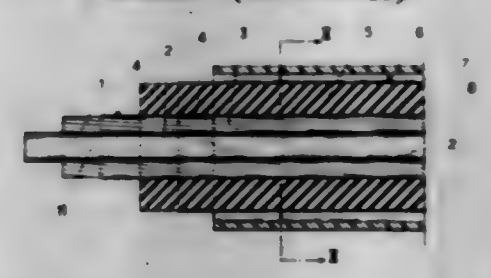
where r_1 is the radius of curvature of the free surface of the positive lens of the cemented lens of the first lens group, r_3 that of the free surface of the negative lens of the cemented lens of the first lens group, r_{12} that of the free surface of the meniscus lens of the first cemented lens of the second lens group, r_{13} that of the cemented surface of the meniscus lens of the first cemented lens of the second lens group, r_{15} that of the free surface of the negative lens of the first cemented lens of the second lens group, r_{17} that of the cemented surface of the negative lens of the second cemented lens of the second lens group, r_{18} that of the cemented surface of the positive lens of the second cemented lens of the second lens group, n_7 is the Abbe number of the glass of the meniscus lens of the first cemented lens of the second lens group, n_8 that of the positive lens of the first cemented lens of the second lens group, n_9 that of the negative lens of the first cemented lens of the second lens group, n_{10} that of the negative lens of the second cemented lens of the second lens group, n_{11} that of the positive lens of the second cemented lens of the second lens group, n_{12} that of the meniscus lens of the second cemented lens of the second lens group, and d_{13} is the distance along the optical axis of the air space between the first and second cemented lenses of the second lens group.

3,143,591

ELECTRIC CABLES UNDER PRESSURE

Charles André Flamand, Paris, France, assignor to Trefileries et Laminoirs du Havre, Paris, France, a corporation

Filed July 25, 1960, Ser. No. 44,913
Claims priority, application France Nov. 9, 1959
5 Claims. (Cl. 174—15)



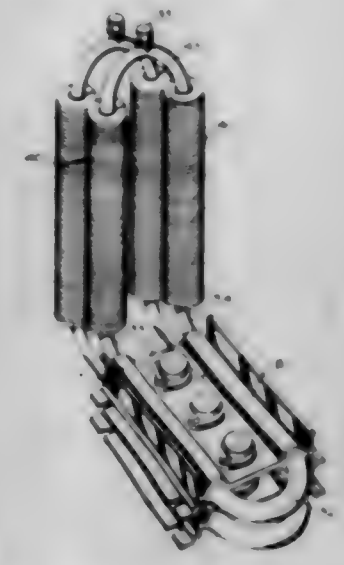
1. A high voltage electric cable under fluid pressure comprising within a fluid tight casing at least one core conductor and a solid insulating sheath of thermoplastic material surrounding said core, said material being selected from the group consisting of polyethylenes, polypropylenes, polyvinylchlorides, and copolymers thereof, with the inner surface of said sheath facing said core and the outer surface thereof facing said casing, an annular space located between said outer surface and said casing, an axial duct located within said core, pure water under a pressure substantially comprised between 1 and 25 kg./cm.^{2} housed within said annular space and said axial duct, said water having an electrical resistivity substantially ranging from 0.1 to 2 megohms·cm.^{2}/cm., and means affording a contact for said water with said inner and outer surfaces of said insulating sheath.

3,143,592

HEAT DISSIPATING MOUNTING STRUCTURE FOR SEMICONDUCTOR DEVICES

William S. August, Altadena, Calif., assignor to Inland Electronics Products Corporation, Pasadena, Calif., a corporation of California

Filed Nov. 14, 1961, Ser. No. 152,340
3 Claims. (Cl. 174—15)



1. A mounting structure adapted to support semiconductor devices and to dissipate the heat generated by the operation thereof, comprising at least two support plates, each of said support plates being adapted to support a semiconductor device; two substantially-parallel hollow extensions thermally coupled to each of said support plates adjacent the device supported thereon; hollow tubes individually associated with each of said plates and interconnecting the open ends of said extensions associated therewith to form a closed liquid-vapor system, said tubes including a portion disposed above said support plates; a material disposed in said tubes and extensions at a pressure so as to be liquid at room temperatures and to be a vapor at the operating temperature of the semiconductor device whereby any vapor of said material tends to collect in said tube portions and is condensed by heat exchange with the atmosphere; an individual side member secured to each of said hollow extensions associated with each of said support plates, means on said side members for interlocking the side members of adjacent ones of said plates, and a protuberance projecting from each of said extensions to engage the extensions associated with the adjacent plate.

3,143,593

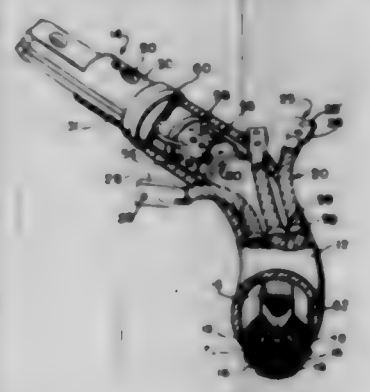
WELDING CABLE SEPARATORS, COOLANT PASSAGEWAYS, AND TERMINAL ATTACHING MEANS

William A. Toto, 3645 Warrensville Center Road, Cleveland 22, Ohio

Filed Jan. 28, 1963, Ser. No. 254,341
7 Claims. (Cl. 174—15)

1. A flexible, welding cable assembly comprising two groups of elongated cable conductors of opposite polarity wound in helical fashion along the cable length, said conductors each having a free end portion; a flexible insulator sheet element electrically separating each of

said groups of conductors from the other; cable conductor connector elements secured to each of said conductor free end portions; terminal elements at each end of said cable assembly, said terminal elements each comprising a pair of elongated, semicylindrical terminal conductor elements joined along inner, flat, mutually insulated, contiguous surfaces, each of said terminal conductor elements having a rearward portion thereof undercut so as to provide a plurality of axially extending cable connector element receiving surfaces, the forward edge of each of said surfaces intersecting the body of each of said terminal conductors at a substantially planar, radially extending surface of said terminal conductor; said connector elements having inner surfaces conforming to the shape of said connector element receiving surfaces of said terminal elements, and substantially planar forward end surfaces; each of said cable conductors of like polarity being secured at its opposite ends to a terminal conductor element of like polarity by means of said cable connector elements; each of said connector elements being conductively secured to a connector re-



ceiving surface of a terminal element by means of removable mechanical fastener means; the said forward end surfaces of each of said cable connector elements contacting a portion of said radially extending surface of each of said terminal elements; the radial thickness of said connector elements being such that when said last elements are secured to the terminal elements, the outer surface of each of said connector elements forms substantially a continuation of the outer surface of the respective terminal conductor element to which it is secured, whereby a relatively smooth, uniform, low resistance cable to terminal joint is obtained; and a tubular, removable, resilient sheath enclosing said cable conductors and extending over the rearward portion of each of said terminal elements at opposite ends of said cable assembly so as to also enclose the cable to terminal joints, whereby removal for repair or replacement of either terminal element may be effected simply by sliding back the outer cable sheath and removing the said mechanical fastener elements securing the cable to the terminal element.

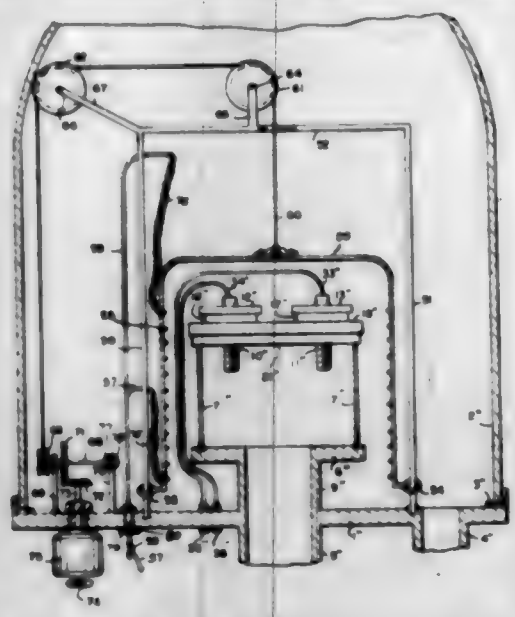
3,143,594

DEMOUNTABLE MULTIPLE STAGE ULTRA-HIGH VACUUM SYSTEM

Samuel E. Derby, 669 Marian Ave., Lima, Ohio

Filed July 13, 1960, Ser. No. 42,731
2 Claims. (Cl. 174—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A multiple stage apparatus that is easily demountable and that consists of a high vacuum compartment enclosing an ultra-high vacuum compartment that are both separately evacuated up to in the order of 10^{-9} mm. mercury, the high vacuum compartment comprising a high vacuum stage base, a high vacuum stage bell jar terminating downwardly in an open mouth defined by an edge that makes sealing engagement with the base to provide a high vacuum stage compartment within the bell jar, the ultra-high vacuum stage compartment within the high vacuum stage compartment comprising an ultra-high vacuum stage base provided with an upwardly opening groove extending continuously along and disposed inwardly from the peripheral edge of the ultra-high vacuum stage base, an ultra-high vacuum stage cylinder with its lower edge positioned in the ultra-high vacuum stage base groove to provide a gas particle arresting seal therewith, a cover plate overlying the top of said ultra-high vacuum stage cylinder and having a rib extending downwardly toward the cylinder from the lower side of the cover plate, a ring interposed between the



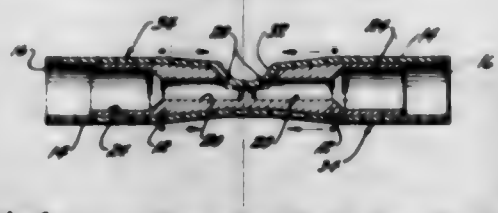
upper edge of the ultra-high vacuum stage compartment cylinder seated in a groove extending continuously of the lower side of the ring and the ring grooved along its upper side continuously to receive in sealing relation the downwardly extending rib on the lower surface of the cover plate, in gas particle sealing relation therewith, and a pair of electrical terminals accessible for experimentation within the ultra-high vacuum stage compartment and insulated from each other and in sealing relation with and extending through the cover plate, and electrical conducting means separately connecting the terminals to outside of the multiple stage high vacuum apparatus.

3,143,595

POLYTETRAFLUOROETHYLENE INSULATED SPLICE CONNECTOR

Harold B. Martin, Roselle, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

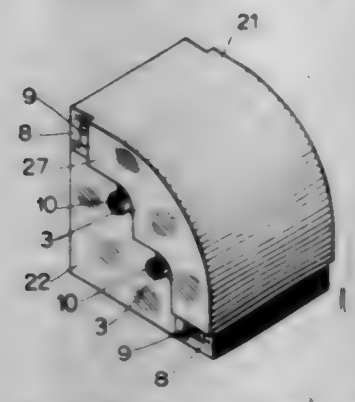
Filed Dec. 29, 1960, Ser. No. 79,379
1 Claim. (Cl. 174—84)



An electrical connector comprising a ferrule of ductile, conductive metal, an insulating plastic sleeve of polytetrafluoroethylene disposed on said ferrule with its opposite ends extending beyond the ends of said ferrule, said ferrule having a cut-out portion formed in the periphery thereof intermediate its length having diverging end walls and forming a V-notch in and across the periphery of said insulating sleeve when positioned in said notch, adapted for locating said connector in a crimping tool, said ferrule tapering outwardly, in opposite directions, from the diverging ends of said cut-out portion to a point short of its opposite ends, adapted for controlling cold plastic flow of said insulating sleeve from

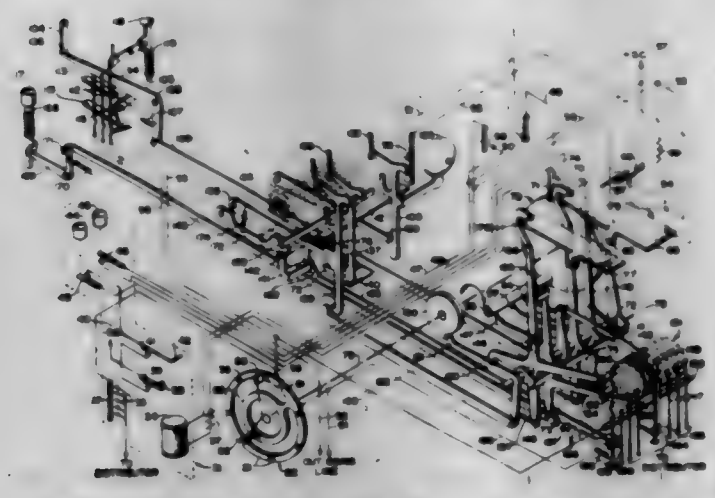
its opposite ends to said diverging end walls of said cut-out portion in response to a crimping operation through said insulating sleeve at a point therein between said V-notch and each end of said ferrule, whereby the wall thickness of said insulating sleeve is not substantially reduced in the region of said crimping operations.

3,143,596
ELECTRIC WIRE CONNECTION CLIP
Joseph P. Berdrow, 7453 Balcom, Reseda, Calif.
Filed Nov. 3, 1961, Ser. No. 150,076
3 Claims. (Cl. 174—92)



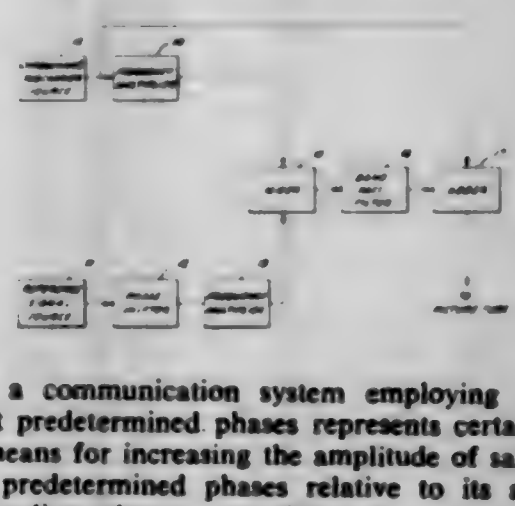
1. A wire clip assembly comprising: a plastic, electrically non-conducting upper part having a resilient, generally rectangular clamping receptacle thereon and an electrically non-conductive lower part having generally rectangular projections thereon, said projections being positioned in interfitting and clampable relation to said receptacle; said upper and said lower parts being separable; said lower part having at least one transverse wireway trough therein and a conductive electric contact plate contoured to fit in and inserted in said trough; said upper part having at least one projecting portion transversely positioned therein in juxtaposed relation to said trough, whereby when electric wires are inserted in said trough on said contact plate from either side of said wire clip and said upper and lower parts of said clip are assembled together and clamped in their interfitting relation, said wires are firmly clamped in place against said contact plate by said transverse projection in said trough and said wires make electrical contact with one another on said contact plate.

3,143,597
PRINTING TELEGRAPH AUTOMATIC STATION IDENTIFICATION APPARATUS
Arthur A. Hagstrom, Hoffman Estates, and Walter J. Zenner, Des Plaines, Ill., assignors to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Dec. 14, 1961, Ser. No. 159,279
14 Claims. (Cl. 178—4.1)



1. In a printing telegraph printer having a distributor for sequentially applying signals as set up in the printer to an outgoing line, keyboard operated contacts for permutatively setting up the signals to control the distributor, clutch means for driving said distributor, and means in said keyboard for initiating a single cycle of operation of said clutch means each time a key in the keyboard is operated; a fixed message signal generator, contacts in said generator connected to said distributor, additional means for initiating operation of said clutch means and starting the fixed message signal generator, means actuated by said additional means for holding said clutch operated to drive said generator step-by-step through a cycle of operation, means in said fixed message signal generator to actuate said contacts to represent a predetermined code combination at each step of the generator for controlling the output of the distributor, and means also actuated by said additional means for blinding said distributor to the code combination represented on the first step of said fixed message signal generator.

3,143,598
SYSTEM FOR SELECTIVELY MODIFYING AMPLITUDE OF TV CHROMINANCE SUBCARRIER TO OVERCOME COLOR DESATURATION BY SYNTHESIZING LIKE-FREQUENCY COMPENSATING SIGNAL WITH SUBCARRIER
David H. Brunner, Abington Township, Montgomery County, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 20, 1961, Ser. No. 96,937
10 Claims. (Cl. 178—5.4)



1. In a communication system employing a carrier which at predetermined phases represents certain intelligence, means for increasing the amplitude of said carrier at said predetermined phases relative to its amplitude at intermediate phases, comprising: means responsive to said carrier and to a signal of reference phase for said carrier to produce a signal of carrier frequency having the same phase as said carrier when said carrier is of one of said predetermined phases and having opposite phase to said carrier when said carrier is of an intermediate phase; and means for additively combining said carrier and said produced signal.

3,143,599
RECORDING DEVICES
Peter G. S. Mero, 830 Mount Pleasant, Winnetka, Ill.
Filed June 27, 1962, Ser. No. 285,574
6 Claims. (Cl. 178—18)

1. In a graphic communication transceiver, a recording pen assembly comprising:

a pen support mounted in spaced relation to a recording surface, said pen support being transversely movable relative to said recording surface to record data on said recording surface;

a lightweight, relatively delicate receiver pen;

means for mounting said receiver pen on said pen support for movement between a recording position in which said receiver pen engages said recording surface and an inactive position in which said receiver pen is displaced from said recording position;

a transmitter pen receptacle, mounted on said pen support, for releasably mounting a relatively large and rugged transmitter pen on said pen support with the writing tip of the transmitter pen disposed in a re-



cording position substantially corresponding to the recording position of the receiver pen;

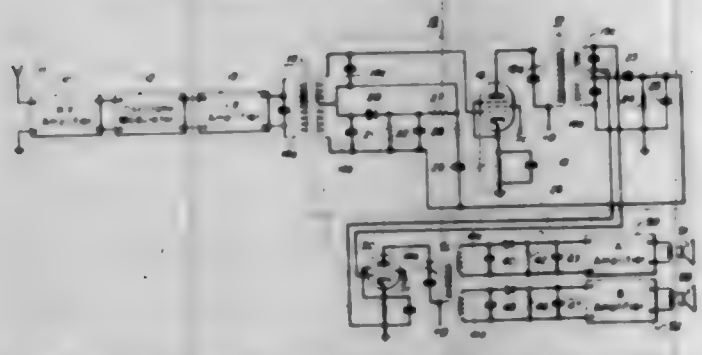
and means for moving said receiver pen to its inactive position whenever the transceiver is employed as a transmitter.

3,143,600

A.M. STEREO SYSTEM

Adrian J. De Vries, Elmhurst, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Feb. 15, 1962, Ser. No. 173,497
8 Claims. (Cl. 179—15)



1. In a stereophonic broadcasting system for utilizing a carrier signal having amplitude modulation and angular-velocity modulation of which one form of modulation represents the sum and the other represents the difference of a pair of audio program signals, a receiver comprising:

means for selecting said carrier signal;

means including a detector for demodulating said amplitude modulation and further including a discriminator for converting said angular-velocity modulation into amplitude modulation for demodulation by said detector;

means for effectively modifying the percentage of modulation of at least one of said forms of modulation on said carrier to obtain equal response in said demodulating means to both of said forms of modulation on said carrier;

and means for deriving an output signal from said demodulating means corresponding predominantly to one of said audio program signals.

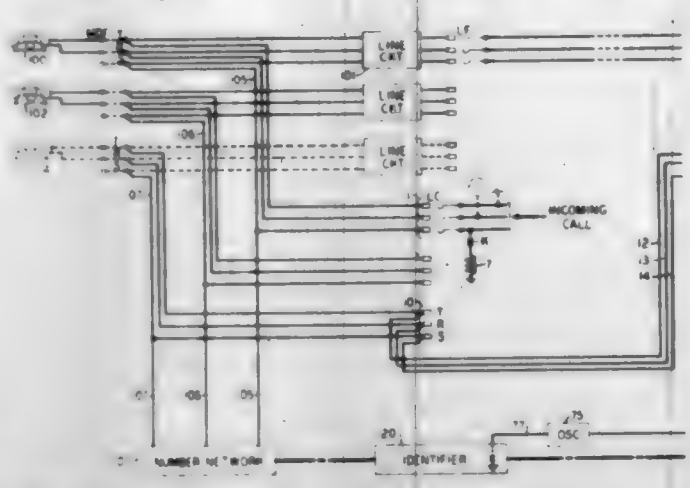
3,143,601

AUTOMATIC NUMBER INTERCEPT IDENTIFICATION SYSTEM

Amos E. Joel, Jr., South Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 20, 1962, Ser. No. 224,984
13 Claims. (Cl. 179—27)

1. A telephone switching system comprising a local office including a calling line and a called line each having distinct directory numbers, identification equipment at said local office operative to identify the directory number of said calling line, switching means responsive to the directory number of said called line for establishing connections to said called line, means for intercepting calls to said called line, and means under control of said



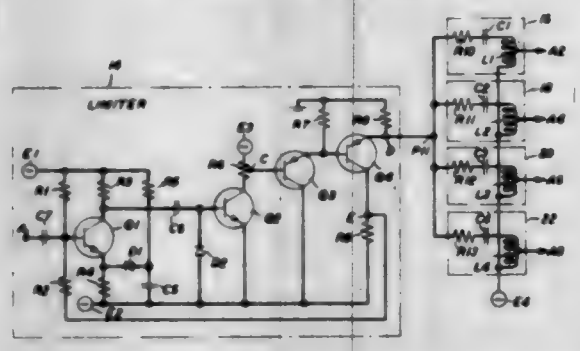
intercepting means for operating said identification equipment to identify the directory number of said called line instead of said calling line.

3,143,602

MULTIFREQUENCY SIGNAL RECEIVER

Charles G. Morrison, Livingston, and Douglas T. Seward, Avenel, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 19, 1961, Ser. No. 111,307
8 Claims. (Cl. 179—84)



1. In a multifrequency signal receiver including a signal input point and a plurality of tuned circuits, means including an input limiting stage and an output limiting stage for converting tone burst input signals applied to said input point to substantially symmetrical square waves and for applying said waves to said tuned circuits, and means for providing dual protection against false operation of said receiver by noise and speech, said last named means comprising means for applying a negative feedback signal from the output of said output stage to the input of said input stage, the amplitude of said feedback signal being determined jointly by the amplitude and frequency characteristics of said input signals and by the impedance characteristics of said tuned circuits, said feedback signal performing thereby a dual function in controlling the sensitivity of said receiver and in preemphasizing preselected nonsignaling frequencies.

3,143,603

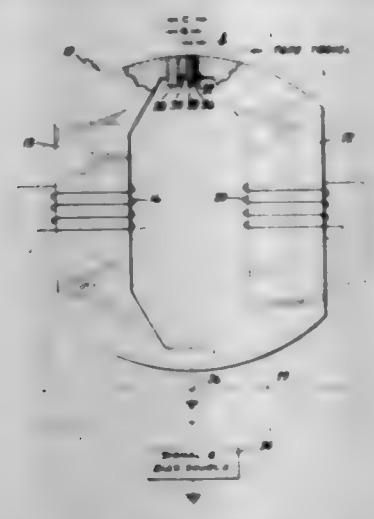
MAGNETIC RECORD HEAD ASSEMBLY

Maurice W. Widener, San Jose, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Aug. 29, 1960, Ser. No. 52,577
7 Claims. (Cl. 179—100.2)

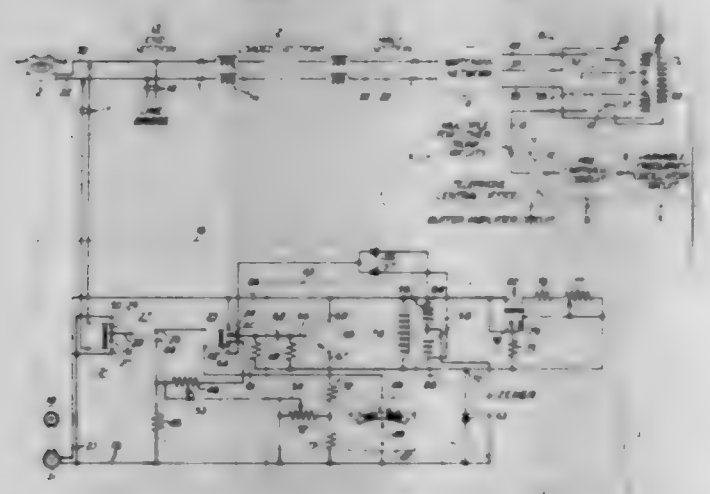
1. A magnetic record transducing assembly for recording an information signal on a movable medium comprising: a single magnetic core; at least one set of nonmagnetic gaps formed in said core, each set having three gaps disposed in series, said three gaps having diminishing

widths in the direction of travel of said magnetic medium; a single biasing means coupled to said core; and magnetic



spacers between each of said gaps, each of said spacers being at least as wide as the widest adjacent gap.

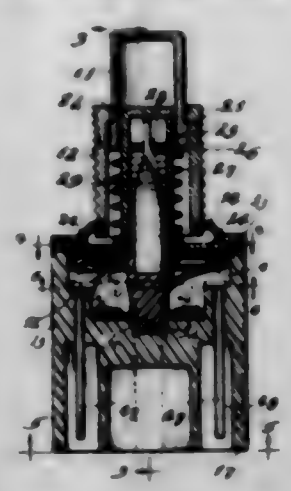
3,143,604
TRANSMISSION MEASURING SYSTEM
William T. Cochran, Chatham, George K. Helder, Plainfield, and James A. Mines, Middlesex, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 29, 1961, Ser. No. 113,330
15 Claims. (Cl. 179—175.3)



3. In combination, a communication line having a first and a second terminus, means applying to said first terminus an electrical signal which varies in frequency within a predetermined range and has a different amplitude at each frequency, variable gain translating means responsive to the reception of said signal at said second terminus for translating the received signal amplitudes directly into indications of whether the line transmission gain at each signal frequency within said range is equal to or other than a prescribed value, and means for varying the gain of said translating means in accordance with the resistance of said line to translate said received signal amplitudes.

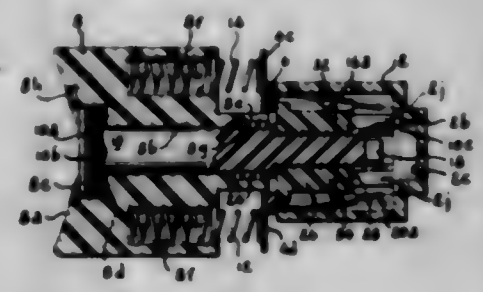
3,143,605
COMBINATION PUSH-PUSH AND MOMENTARY SWITCH
Edwin G. Gaynor, Bridgeport, Conn., assignor to Edwin S. Gaynor, Southport, Conn.
Filed Aug. 10, 1961, Ser. No. 130,520
12 Claims. (Cl. 200—5)

1. An electric switch for opening and closing a line circuit and momentarily closing an auxiliary circuit, comprising a switch case having a recess, line terminals, and auxiliary terminals secured in the case with the terminals exposed at separate levels within the recess, a starter brush in the recess and oscillated between an inactive position and a position contacting said auxiliary terminals, a line brush within the recess rotated incrementally between alternate inactive positions and active positions contacting said line terminals, a hub in said recess, a central projection on the hub, said line brush being mounted on said central projection for rotation relative thereto, and said starter brush being mounted on said central projection



for rotation therewith, first ratchet means including teeth on the undersurface of the hub for rotating the line brush in one direction, second ratchet means including teeth on a surface of the case within said recess for preventing rotation of the line brush in the opposite direction, a spiral element engaging said hub, means for oscillating said spiral element and said hub, and a manually-actuated button to actuate said last mentioned means.

3,143,606
DEPRESSIBLE TRIGGER SWITCH WITH MANUAL ADJUSTABLE CONTACT MEANS
Harry W. Brown, Mukwonago, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed May 15, 1962, Ser. No. 194,811
15 Claims. (Cl. 200—6)

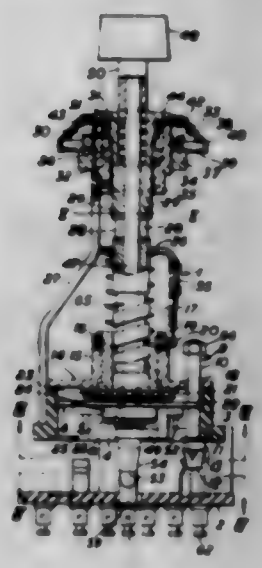


1. An electric switch comprising:
an insulating base having a cavity therein;
a plurality of stationary contacts supported by said base within said cavity;
a movable contact carrier confined within said cavity and having at least one contact mounted thereon;
a trigger member externally of said base;
a contact selector member having a portion extending into said cavity to which said contact carrier is coupled and having an external portion;
means coupling the external portion of said selector member to said trigger member including a portion of said selector member externally of said trigger member to afford movement of said contact carrier by said selector member relative to said trigger member and said base thereby to preselect one or another of said stationary contacts for engagement by said movable contact;
spring means between said trigger member and said base biasing said trigger member a limited extent in a direction away from said base to maintain said

movable contact separated from the selected stationary contact;

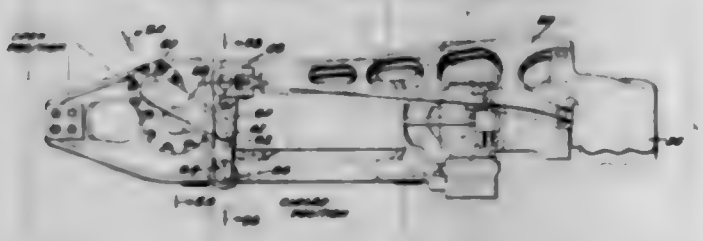
and said trigger member being movable against the force of said spring means to afford movement of said selector member and said contact carrier therewith to close the selected contacts.

3,143,607
MULTI-CONTACT ELECTRIC SWITCH CONTROLLER
Michael Rorke, 1 Briarbank Road, Ealing, London W–13, England
Filed Nov. 28, 1960, Ser. No. 72,188
7 Claims. (Cl. 200—43)



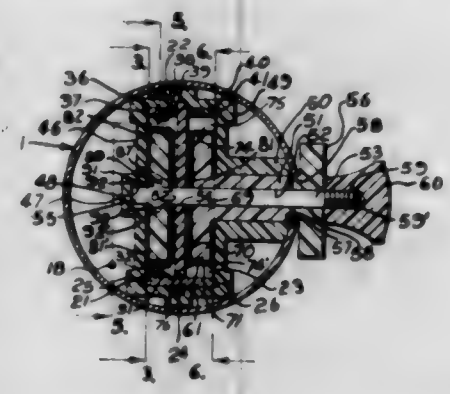
1. A multi-contact switch controller for an electric circuit comprising in combination a housing, a tubular guide forming part of said housing, a bearing collar located within the guide, a sleeve mounted in the collar for rotary movement relatively thereto, an operating rod freely passing centrally through the sleeve, a bearing in said housing supporting said sleeve for rotary movement, a driving connection between said operating rod and said sleeve for transmitting rotary movement of said rod to said sleeve and permitting axial movement of said rod relatively to said sleeve, a plurality of electric switches disposed concentrically around said rod, each switch having an operate and a reset position, a switch operate attachment secured to said rod, and a switch reset mechanism operable by rotation of said sleeve for moving simultaneously all said switches to said reset positions.

3,143,608
OPERATING MECHANISM FOR DISCONNECT SWITCHES
Joseph A. Turgeon, Toronto, Ontario, Canada, assignor to Eastern Power Devices Limited, Port Credit, Ontario, Canada, a limited-liability company of Canada
Filed Dec. 30, 1960, Ser. No. 79,889
8 Claims. (Cl. 200—48)



5. A blade operating mechanism for a disconnect switch; said disconnect switch comprising an extending blade, a pivotal support for pivotally receiving a first portion of said blade, and a contact jaw for receiving a second portion of said blade; said blade being rotatable about its own axis and being rotatable about said pivotal support; said blade operating mechanism including a connector rod and a driving means connected to said connector rod; one end of said connector rod being pivotally connected to a connecting portion of said blade located between said first and second portions of said blade; the other end of said connector rod being connected to said driving means; said driving means including a rotatable drive crank and connecting linkage means connected between said drive crank and said other end of said connector rod; said connecting linkage including a single guide link connected to said other end of said connector rod for translating rotation of said drive crank into continuous motion of said one end of said connector rod comprised of an arcuate motion portion followed by a straight line motion portion.

3,143,609
THREE-WAY LIGHT SWITCH
Jared G. Fouts, 1017 S. Pine Crest, Wichita 18, Kans.
Filed Apr. 23, 1962, Ser. No. 189,405
3 Claims. (Cl. 200—51.14)



1. A switch for a multiple intensity bulb receiving lamp socket having a conductive threaded shell for receiving the lamp bulb base and connected to one side of a power supply and a first and second bulb contact isolated from such shell, said switch comprising:

(*a*) a housing of non-conductive material, a shaft rotatably mounted in said housing and having one end protruding therefrom,

(*b*) a first spring contact element connected to said first bulb contact, a second spring contact element connected to said second bulb contact, third and fourth spring contact elements, a buss bar connecting said third and fourth contact elements to the other side of the power supply,

(*c*) a circular cam member fixed with respect to said shaft and rotatable within said housing, said cam member having a periphery divided into six equally spaced apart portions, a first two adjacent portions having connected conductive surfaces and a second two adjacent portions being oppositely disposed on said periphery from said first two adjacent portions and having connected conductive surfaces connected to said first named conductive surfaces, the remaining two portions having non-conductive surfaces and being oppositely disposed on said periphery between said first and second two portions,

(*d*) said first and second spring contact elements being positioned in said housing for respectively contacting adjacent portions as said cam member is rotated, said third and fourth contact elements being positioned in said housing for respectively contacting adjacent portions of said cam member and opposed to said first and second contact elements, whereby the rotation of said shaft produces variations in bulb intensity without turning said bulb to an off condition.

3,143,610

MOISTURE RESPONSIVE CONTROL APPARATUS

Gordon W. Gustafson, Mound, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Oct. 1, 1958, Ser. No. 764,620
18 Claims. (Cl. 200—61.06)



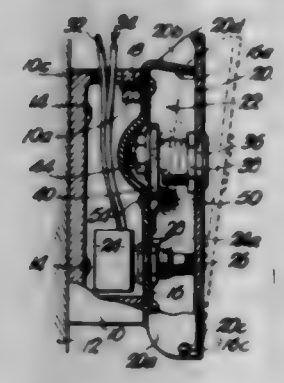
3. In a moisture responsive device, a base, an adjustable member attached at one end of said base, a switch mounted on said base, said switch having a member for actuating said switch, a lever attached to said base and engaging said member, said lever having a free end, a first member pivotally attached to said free end of said lever said first member being free to pivot about an axis and about a point between its ends in a plane of said axis, and a moisture responsive ribbon, said ribbon being wrapped over said first member and attached to said member whereby upon a change in the length of said ribbon as moisture level changes said lever pivots to actuate said switch, said first member providing for the equalization of tension between separate portions of said ribbon and said first member can rock to maintain the tension between opposite sides of said ribbon equal.

3,143,611

SWITCH OPERATING AND RESETTING MECHANISM FOR ALARM STATION

Harold K. Nansel, Waverly, Nebr., assignor to Notifier Corporation, Lincoln, Nebr., a corperation of Nebraska

Filed Mar. 12, 1962, Ser. No. 178,831
4 Claims. (Cl. 200—61.62)



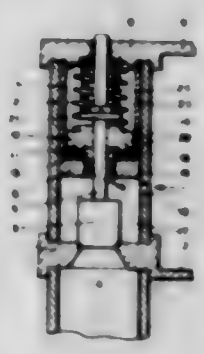
1. In a device of the character described, an enclosure having a normally closed cover and a stationary wall generally parallel to said cover when the cover is closed, a pair of stationary spaced apart supports within said enclosure, a helical spring coil having its opposite ends connected to the respective supports so that said spring is carried by and between said supports under axial tension, said coil being parallel to said stationary wall spaced therefrom by a distance less than the diameter of the coil, a member mounted on said cover in a position such that it is disposed crosswise of said spring in spaced relation thereto when said cover is closed, a latch carried by said member and having an end portion normally engaging the side of said spring nearest said stationary wall, means for applying manual force to said cover in a direction urging same away from said wall, said spring being effective to resist movement of said latch away from said wall but being distendable under the influence of said latch to permit said latch to pass thereover upon said application of force to the cover, said stationary wall preventing said latch from distending and passing over said spring in the opposite direction, whereby said latch cannot be forcibly restored to normal position after being forcibly removed therefrom, key controlled means for at times shifting said latch relative to said member so that said latch can pass freely over said spring without distending it, an electrical switch, an actuating member for said switch controlled by said cover to operate the switch responsive to opening of the cover.

3,143,612

ELECTRIC CIRCUIT BREAKERS OF THE TYPE WHICH ARE TEMPORARILY PNEUMATICALLY OPENED

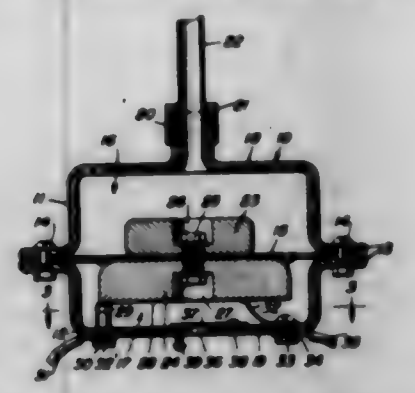
Hendrik A. Hidde Nijland, Laren, Netherlands; Elizabeth Hidde Nijland, executrix of said Hendrik A. Hidde Nijland, deceased, assignor to N.V. "CO2," Utrecht, Netherlands, a limited company of the Netherlands

Filed Jan. 18, 1962, Ser. No. 167,034
Claims priority, application Netherlands Jan. 24, 1961
6 Claims. (Cl. 200—82)



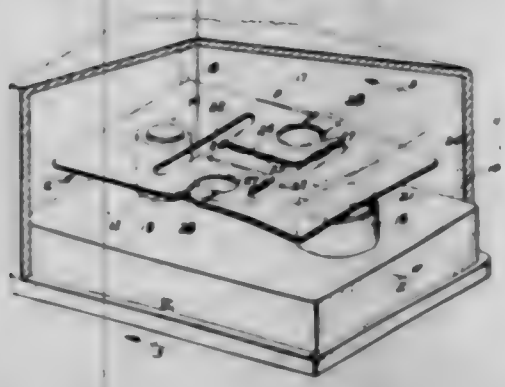
1. A pneumatically openable electric circuit breaker comprising a fixed contact, a movable contact, a spring tending to force said movable contact against said fixed contact, a cylinder, a piston mounted for reciprocation in said cylinder and dividing said cylinder into an active chamber and an inactive chamber, passages for leading gas under pressure into said active chamber and against an active face of said piston, a second spring tending to force said piston into a position of rest, means dividing the active cylinder chamber and the area of the active face of the piston each into two parts when the piston is in its position of rest and inoperative to so divide the piston and active chamber upon movement of the piston from its position of rest, the passages for supplying gas under pressure opening into one of said parts of the active cylinder chamber, and coupling means for connecting said piston with said movable contact to move the latter contact away from the fixed contact upon exposure of the active face of the piston to gas pressure exceeding a predetermined value, said piston having a lost motion between its position of rest and a coupling position in which it is connected to said movable contact by said coupling means, whereby the application of gas under pressure exceeding said predetermined value acts first on only part of the active face of the piston to slowly move the piston from its position of rest which movement takes up said lost motion and opens both said chamber and piston parts to gas pressure.

3,143,613
WEIGHT OPERATED ENGINE STARTING AND ANTI-STALLING SWITCH MEANS
Coy V. Jones, Sr., Greenville, S.C., assignor to Southern Machinery Company, Greenville, S.C., a corporation of South Carolina
Filed May 22, 1961, Ser. No. 120,833
2 Claims. (Cl. 200—83)



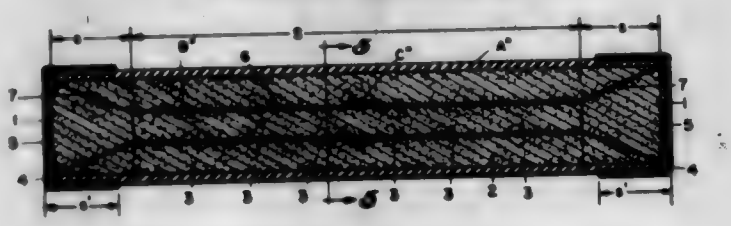
1. A switch device of the character described for use in an engine starting system or the like comprising a casing, a diaphragm dividing the casing into upper and lower chambers, means for connecting the upper chamber with a source of suction, air escape means for the lower chamber, a pair of spaced electrical terminals secured to the casing for connection in an engine starting circuit and projecting into the lower chamber, one of said terminals being a substantially rigid element and the other terminal being a resilient bimetallic element, and weighted electrical contact means secured to and bodily carried by said diaphragm for circuit closing engagement with said spaced electrical terminals under influence of gravity when suction in the upper chamber is interrupted, said resilient bimetallic element automatically disengaging said weighted electrical contact means after passage of current through the bimetallic element for a predetermined length of time.

3,143,614
BI-METALLIC CIRCUIT BREAKER SNAP REED
Hans Egt, Chicago, Ill., assignor to Underwriters Safety Device Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 7, 1961, Ser. No. 101,460
4 Claims. (Cl. 200—113)



1. A bi-metallic reed for use in a circuit breaker device, said reed being of generally rectangular outline and sub-divided along its major axis into an endmost mounting portion, a central snap action portion, and an opposite endmost contact portion, the sub-division of said reed being provided primarily by a generally H-shaped aperture located centrally thereof and confined well within the side and end margins of said reed, said H-shaped aperture having the paralleling slot portions thereof extending transversely of said reed and paralleling the end margins thereof, the connecting slot portion of said H-shaped aperture extending longitudinally of said reed along the major axis thereof, a pair of inwardly and oppositely directed juxtaposed panel portions defined by said H-shaped aperture inwardly of said side margins between said paralleling slot portions, a circular aperture confined within each of said panel portions and in transverse alignment on opposite sides of the connecting slot portion of said H-shaped aperture between the paralleling slot portions thereof, said circular apertures being dimensioned to define electrical conducting neck-like areas between the circular apertures and the side margins of said reed and adjacent portions of said H-shaped aperture, the neck-like areas between said circular apertures and the side margins of said reed being stretched out of the plane of said reed to tension said central snap action portion and provide said reed with a dished shape.

3,143,615
SPRINGLESS TIME-LAG FUSES FOR MOTOR CIRCUITS
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Apr. 6, 1962, Ser. No. 185,618
8 Claims. (Cl. 200—120)

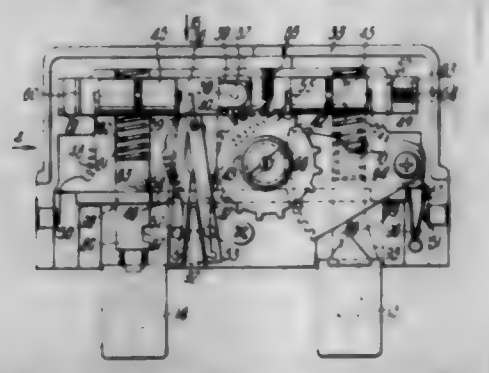


1. A time-lag fuse comprising in combination:
(*a*) a tubular cylindrical casing of insulating material;
(*b*) a pulverulent arc-quenching filler inside said casing;
(*c*) a pair of terminal caps each mounted upon one of the ends of said casing and closing said casing;
(*d*) a fuse link of sheet metal having a relatively high fusing point arranged inside said casing and submersed in said filler, said fuse link including a center portion situated in the center region of said casing and bent to form radially juxtaposed surface elements extending parallel to the generatrices of said casing, and said fuse link being fashioned to form outwardly flaring ends bent around the axially outer rims of said casing and turned upon the outer surface thereof and covered by said pair of caps, said ends on each end of said fuse link being smaller in aggregate cross-section than said center portion and the portion of said ends situated between said center portion and said axially outer rims having an aggregate length less than said center portion; and
(*e*) an overlay of a metal having a relatively low fusing point coextensive with the perimeter of said center portion and supported by said center portion for severing said center portion by a metallurgical reaction upon reaching of said relatively low fusing point by said overlay.

3,143,616
SPRING-DRIVEN TIME-DELAYED SWITCH-OPERATING DEVICE
Anthony Powell, London, England, assignor, by mesne assignments, to Seemark Switches Limited, Cardiff, England, a British company
Filed Feb. 13, 1961, Ser. No. 88,949
Claims priority, application Great Britain Feb. 12, 1960
11 Claims. (Cl. 200—122)

4. A timing device comprising a main controller having operative and inoperative conditions, a heat sensitive element that moves in one direction upon heating and in the opposite direction upon cooling, heating means positioned to apply heat to said heat sensitive element when operative, control means for said heating means, operative connections between said heat sensitive element and

said control means to render said heating means inoperative when said heat sensitive element has been heated to a predetermined extent and to render said heating means operative when said heat sensitive element has cooled down, a driving spring, manually operable means operatively connected to said driving spring for causing energy to be stored in said spring, a stepwise moving member coupled to said spring to be driven thereby disengageable detent means engaging said stepwise moving member to hold it against movement by said spring, an operative connection between said detent means and said heat sensitive element whereby said detent means is movable

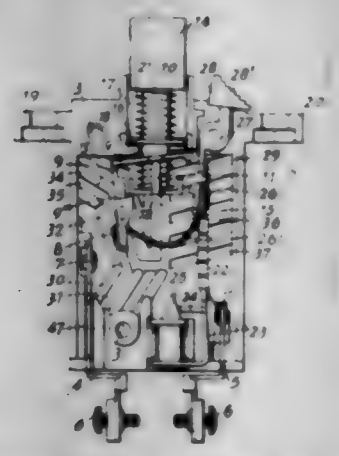


to and fro in cycles by said heat sensitive element upon alternate heating and cooling thereof to disengage briefly and then reengage said stepwise moving member in that sequence during each cycle of movement and permit said stepwise moving member to make a limited step movement under the effort of said driving springs during each brief disengagement by said detent means, and operative connections between said stepwise moving member and said main controller whereby said main controller is caused to changeover from one output condition to the other after a predetermined number of step movements of said stepwise moving member.

3,143,617
OVERLOAD CIRCUIT BREAKER FOR HIGH CURRENTS

Jakob Ellenberger, Altdorf, near Nurnberg, Germany, assignor to Ellenberger & Poensgen G.m.b.H., Altdorf, near Nurnberg, Germany

Filed Mar. 21, 1961, Ser. No. 97,389
Claims priority, application Germany Mar. 23, 1960
7 Claims. (Cl. 200—122)

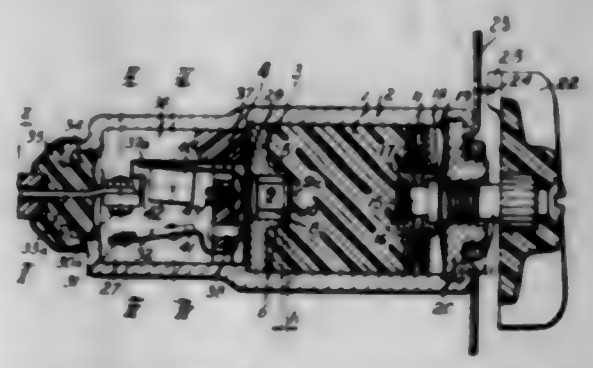


1. In an overload circuit breaker, in combination, a housing having parallel opposite inner walls, a fixed contact in said housing located between said inner walls, said housing further containing a contact bridge forming an angular lever having two arms, a contact on one of said arms, and a detent on said one arm, a control bridge having projections thereon engaging with the other arm of said contact bridge, said contact bridge being freely swingable upon said projections for moving the last-mentioned contact into engagement with said fixed contact, a pushbutton within and partly projecting outwardly of said housing, a return spring acting upon said pushbutton and tending to maintain said pushbutton in an outward released position, a control rod rigidly connecting said control bridge to said pushbutton, a spring supported on said control bridge and acting upon said contact bridge, said contact bridge being axially slidable along said control rod against the action of said last-mentioned spring, said housing having an inclined stop surface therein, said contact bridge being pressed by said projections against said inclined stop surface when said pushbutton is in its released position, said control bridge engaging said detent when said pushbutton is depressed whereby said contact bridge is moved away from said inclined surface, thermal releasing means comprising a bimetallic strip mounted at one end on said housing and having a free end, a flexible conductor connecting said free end to said contact bridge, a holding detent on said bimetallic strip near said free end for engaging with and arresting said contact bridge when said pushbutton is fully depressed whereby said contact bridge swings away from said control bridge and said contacts are connected with each other, and a plurality of ribs in each of the opposite inner walls of said housing, and recesses extending between said ribs, said ribs surrounding said fixed contact and being arranged substantially perpendicular to the electric flux lines between said fixed contact and said movable contact when said movable contact is disconnected from said fixed contact, and to the other conductors in said circuit breaker.

3,143,618
THERMALLY RESPONSIVE ELECTRIC CIRCUIT BREAKER

Baltzar Carl von Platen, Gotgatan 16, Stockholm, Sweden

Filed June 5, 1961, Ser. No. 114,867
Claims priority, application Sweden June 11, 1960
6 Claims. (Cl. 200—137)



1. An electric circuit breaker comprising, a housing containing a thermally-responsive material, a piston urged into contact with such material, a fixed electrical contact located within the housing, a leaf spring carrying a movable contact and also carrying a magnetic armature, a second leaf spring carrying a magnet, abutment means for limiting movement of the second leaf spring in a direction toward the first leaf spring, the second leaf spring having a part operative against the piston whereby said second leaf spring will be initially urged toward the abutment means by piston-pressure against said part of the leaf spring when the piston is moved under thermal expansion of the thermally-responsive material.

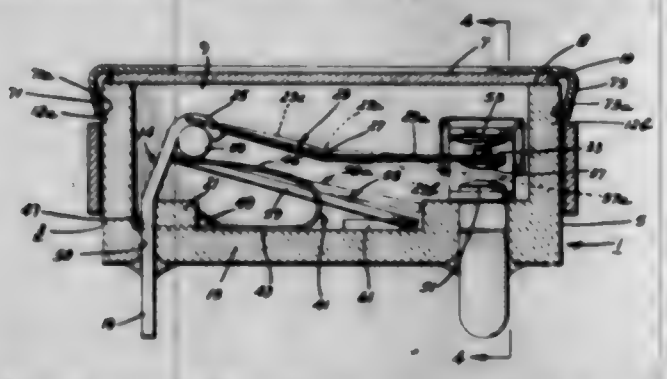
3,143,619
RADIATION SENSITIVE THERMALLY RESPONSIVE SWITCH

Wiley M. Hummel, Prophetstown, Ill., assignor to General Electric Company, a corporation of New York

Filed June 6, 1961, Ser. No. 115,207
4 Claims. (Cl. 200—138)

3. A thermally responsive flame detecting switch useable in close proximity to a flame, said switch comprising a box-shaped housing, said housing including a base with a hollow cavity therein and a translucent wall portion

having a peripheral area sealed into engagement with an open end of said base and covering said base for admitting radiant energy into said cavity, a thermally responsive member positioned within said cavity, contact means disposed within said cavity and operable in response to thermally responsive movement of said member, and a single plate having a reflective face perimetrically framing



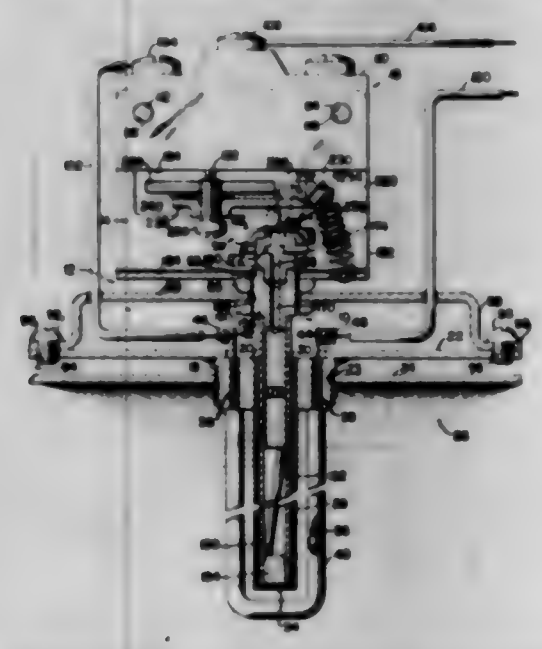
said translucent wall portion and arranged for disposition directly in the path of radiant energy emission between said flame and said switch, said face serving to protect parts of said switch from radiant energy while allowing the unrestricted impingement of radiant energy upon said thermally responsive member, thereby to enhance the efficiency and durability of the switch.

3,143,620

THERMOSTAT DEVICE WITH OVER TEMPERATURE SAFETY MEANS

Hugh J. Tyler, Jeannette, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corperation of Delaware

Filed Dec. 28, 1959, Ser. No. 862,153
2 Claims. (Cl. 200—140)



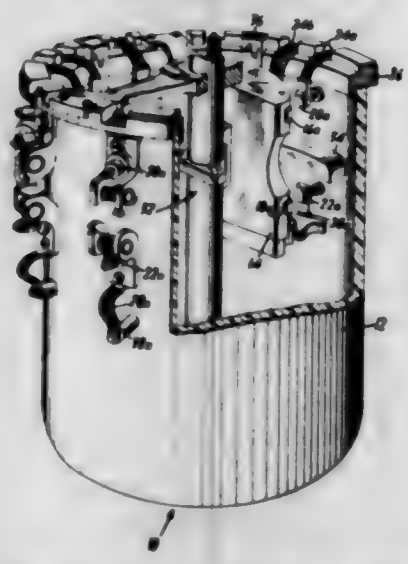
1. A temperature responsive control device comprising: a U-shaped frame member, a switch detachably mounted between the opposite legs of said member, said switch having an actuating button extending toward the connecting leg of said member, each of said opposite legs having an opening between said switch and said connecting leg, each opening including a portion defining a fulcrum point for a lever, a lever positioned between said legs for pivotal movement about said fulcrum points, means resiliently biasing said lever into engagement with said fulcrum points, a shaft threadedly mounted on said lever and arranged to actuate said switch button when said lever is pivoted about said fulcrum points, a disc secured to said shaft, said disc having a portion thereof extending through at least one of said openings whereby said disc may be rotated to adjust the position of said shaft with respect to said switch buttom, a liquid-filled thermostatic element having a portion thereof which moves with changes in temperature sensed by said thermostatic element, said element extending through said connecting leg with said portion engaging said lever intermediate said shaft and said fulcrum points to position said lever with respect to said switch button in response to the temperature sensed by said element, and means adjustably mounting said element in said connecting leg whereby said device is calibrated solely by adjustment of said element with respect to said connecting leg whereby said switch is actuated at a temperature corresponding to a selected position of said disc.

3,143,621

MULTI-CONTACT ELECTRICAL SWITCHES

René A. F. Pensis, Jumet, Belgium, assignor to Societe Anonyme Dite: Ateliers de Constructions Electriques de Charlerol (ACEC), Brussels, Belgium, a corporation of Belgium

Original application Oct. 21, 1958, Ser. No. 768,631, now Patent No. 3,014,999, dated Dec. 26, 1961. Divided and this application Sept. 29, 1961, Ser. No. 141,730
Claims priority, application France Oct. 24, 1957
3 Claims. (Cl. 200—144)



1. In an electrical switch having a plurality of fixed contacts arranged in two rows comprising an upper row and a lower row, a rotary bridge element having two rows of mobile contacts for engaging the contacts of said upper and lower rows sequentially and bridging pairs of contacts in the upper and lower rows, the improvement which comprises a hood disposed between said upper and lower rows of mobile and stationary contacts opening onto said lower rows of mobile and stationary contacts in common and having means to transport ionized gases from said lower contacts clear of the upper rows of contacts and externally of said switch, thereby to prevent said ionized gases from assisting in causing arcing at said upper rows of contacts.

3,143,622

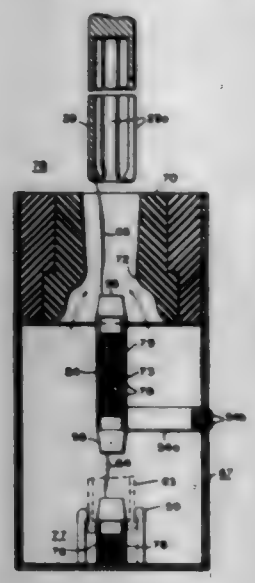
ARC-EXTINGUISHING UNIT AND CONTACT STRUCTURE FOR A CIRCUIT INTERRUPTER

William H. Fischer, Avalon, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 28, 1960, Ser. No. 65,653
5 Claims. (Cl. 200—145)

1. The combination in a fluid-blast circuit interrupter of means at least partially of insulating material defining a substantially enclosed interrupting chamber, said interrupting chamber being provided with an orifice opening, a relatively stationary contact disposed within said interrupting chamber, a relatively stationary intermediate contact spaced from said relatively stationary contact and

also disposed within said interrupting chamber, impedance means connected between the ends of the relatively stationary intermediate contact, a tubular movable contact sliding over the relatively stationary intermediate contact to engage the relatively stationary contact in the closed-circuit position of the interrupter, the tubular



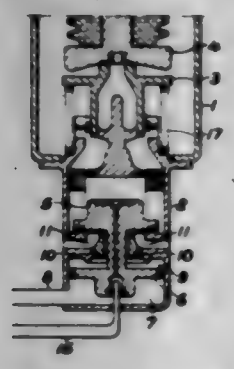
movable contact withdrawing through the orifice opening during the opening operation so that fluid under pressure may blast out of the orifice opening to effect circuit interruption, and the arrangement functioning to establish a pair of serially related arcs during the opening operation.

3,143,623

OPERATING MEANS FOR A MOVABLE CONTACT IN THE MAIN BREAKING GAP OF AN AIR BLAST CIRCUIT BREAKER

Tage Holm, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Oct. 30, 1961, Ser. No. 148,611
Claims priority, application Sweden Nov. 2, 1960
2 Claims. (Cl. 200—148)



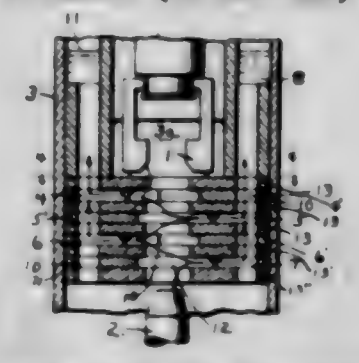
1. Air blast circuit breaker including a compressed air container, an operating housing secured to the container, a fixed contact within the container, a movable contact supported by said operating housing in the container, a blast valve for putting the compressed air container in communication with the open air, means to move the blast valve to open position, said movable contact being in the path of air escaping through said blast valve so that the pressure of such air moves the movable contact towards open position, said movable contact being provided with a plate engageable with the blast valve, said plate and blast valve when in contact forming a space between them, and a separate control pipe extending outside the container connected to said space and connectable to open air or compressed air, said blast valve opening means comprising a piston operated by compressed air, the connection from said control pipe to said space including a channel extending through said piston.

3,143,624

OIL-POOR SWITCH WITH OIL FLOW PERPENDICULAR TO DIRECTION OF MOVEMENT OF SWITCH CONTACT

Werner Hofmann, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Dec. 11, 1961, Ser. No. 158,222
Claims priority, application Switzerland Dec. 13, 1960
3 Claims. (Cl. 200—150)



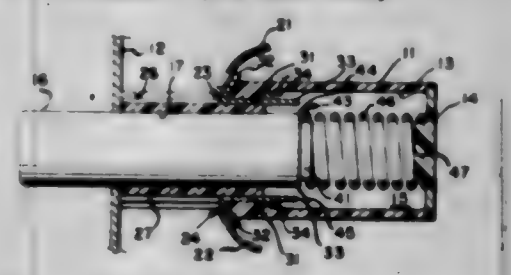
1. In an oil-poor switch, the combination comprising a housing including an oil-filled pressure generating chamber containing a stationary contact member and a pin contact member movable in a vertically downward direction to disengage itself from said stationary contact member, said pin contact member being arranged to pass downwardly through an arc extinguishing device in said pressure generating chamber and which is constituted by a stack of superposed discs including a central opening extending longitudinally therethrough in alignment with said stationary contact member and through which said pin contact member passes, said stack of discs including also a pair of oppositely disposed longitudinally extending feed-in channels for the oil and a pair of oppositely disposed longitudinally extending lead-off channels for the oil, said feed-in and lead-off channels being displaced relative to each other by 90°, said feed-in and lead-off channels being alternately connected with each other by transversely extending channels in said discs intersecting said central opening such that the arc drawn between said stationary and pin contact members is extended to the right and left in alternation in said transverse channels from said central opening, and an oil collection chamber located within said housing above said pressure generating chamber and which communicates with said lead-off channels.

3,143,625

ELECTRICAL PUSH BUTTON SWITCH ASSEMBLY

Frank Skrbina, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 8, 1960, Ser. No. 68,033
1 Claim. (Cl. 200—159)



In a switch assembly, a switch body constructed of a nonconducting material and having a cylindrical side wall having an outer periphery forming a substantially continuous cylinder of uniform diameter, said cylindrical side wall forming a first cylindrical chamber and a second cylindrical chamber with the diameter of said second cylindrical chamber being greater than the diameter of said first cylindrical chamber whereby the thickness of said cylindrical side wall is greater at said first chamber than at said second chamber, a plunger extending through

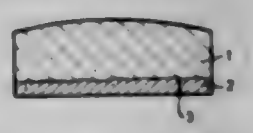
said first cylindrical chamber and into said second cylindrical chamber, a pair of slots positioned in the side wall at said first chamber and extending parallel to the axis of said cylindrical side wall and having a depth less than the thickness of the side wall at said first chamber but greater than the thickness of the side wall at said second chamber whereby said slots terminate as apertures in said second chamber, a first electrical lead, a first conducting terminal connected to said first electrical lead and slidably engaging one of said slots, said first conducting terminal having a resilient abutment which engages said side wall at the juncture of said first chamber and said second chamber when positioned in one of said slots, a second electrical lead, a second conducting terminal connected to said second electrical lead and slidably engaging the other of said slots, said second conducting terminal having a resilient abutment which engages said side wall at the juncture of said first and said second chambers when positioned in the other of said slots, a resilient electrical contactor carried by said plunger and positioned within said second chamber, and spring means positioned within said chamber and engaging said plunger for urging said resilient electrical contactor into slidable engagement with and betwen said first and said second conducting terminals thereby compressing said resilient electrical contactor.

3,143,626

SINTERED ELECTRIC CONTACT OF HIGH CONTACT-FUSING RESISTANCE

Horst Schreiner, Nurnberg, and Alfred Lehmann, Amberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Mar. 8, 1963, Ser. No. 263,815
Claims priority, application Germany Mar. 15, 1962
5 Claims. (Cl. 200—166)



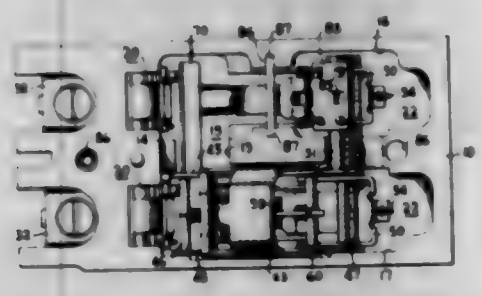
1. A sintered electric contact body of high welding resistance, comprising two layers sinter-bonded to each other, one of said layers forming an electric contact surface and consisting of a silver-lead composition and having a porosity between 5 and 20 volume percent, said other layer forming a solderable backing and consisting of metal selected from the group consisting of silver, copper and silver alloys having a predominant silver content, said backing layer being porous in its interior but dense at the surface remote from said one layer.

3,143,627

MULTIPOLE CIRCUIT BREAKER WITH THREE PART INSULATING CASING

George W. Kiesel, Bristol, and Emery M. Wegh, Terryville, Conn., assignors to General Electric Company, a corporation of New York

Filed Apr. 15, 1960, Ser. No. 22,483
7 Claims. (Cl. 200—168)



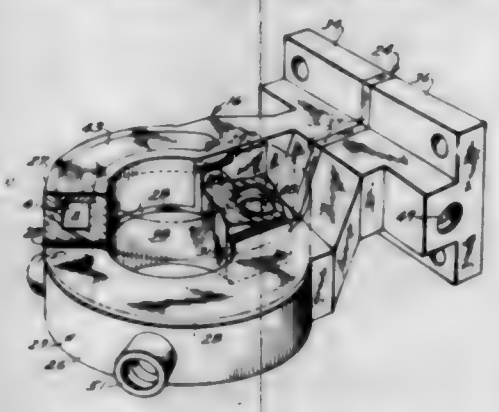
2. A multipole electric circuit breaker comprising a casing of molded insulating material, said casing including a main body portion having opposed parallel side and end walls respectively, and open top and bottom walls, an integral molded barrier of insulating material extending at least partly between said opposed end walls and parallel to said opposed side walls and dividing said main body portion into at least two pole chambers, a molded integral insulating barrier extending parallel to said top and bottom walls in each of said pole chambers and positioned intermediate said open top and bottom walls, a pair of relatively movable contacts in each of said pole chambers, current-responsive means in each of said pole chambers responsive to current passing through said corresponding relatively movable contacts, operating mechanism in at least one of said pole chambers for manually operating said relatively movable contacts between open and closed circuit position and for automatically moving said contacts to open circuit position upon actuation by at least one of said current-responsive means, said relatively movable contacts being positioned below said horizontally extending barrier and said operating mechanism being positioned above said horizontally extending integral barrier, and molded insulating cover means for closing said open top and bottom walls respectively.

3,143,628

TWO TURN INDUCTOR BLOCK WITH INTEGRAL QUENCH

Louis D. Golden, Mapleton, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Dec. 11, 1961, Ser. No. 158,201
2 Claims. (Cl. 219—10.49)



1. In an induction heating fixture for producing a flux field when supplied with electrical current the combination comprising;

a torodial metal coil member having an upper planar surface and a lower planar surface;

an annular shaped insulator forming less than a complete circle and thereby having two ends, said insulator disposed in a circumferential slot formed in said coil member and electrically separating said member into an upper and lower coil;

a first radial insulator having a width generally equal to the difference between the inner and outer diameter of said toroidal member, said insulator in a radial slot formed in said coil member between one end of said annular insulator and the upper plannar surface;

a second radial insulator having substantially the same width as said first radial insulator, said second insulator in a radial slot formed in said coil member between the other end of said annular insulator and the lower plannar surface;

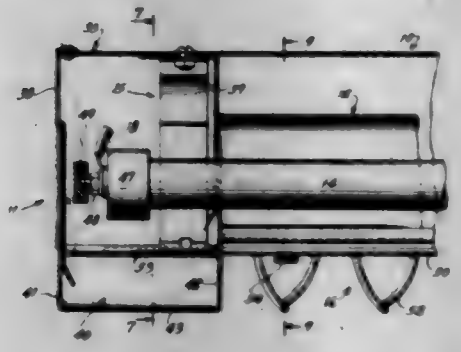
a metal bracket member integral with said toroidal member; and

a generally plannar insulator member disposed in a slot formed in said bracket member and electrically subdividing it into a first terminal and a second terminal, said first terminal electrically connected to the upper coil only, said second terminal electrically connected to the lower coil only.

3,143,629
HEATING LAMP

Mel Appel, Murray Hill, and Martin Schnur, West Orange, N.J., assignors to N.J. Thermex Company, Inc., Harrison, N.J., a corporation of New Jersey

Filed Mar. 5, 1962, Ser. No. 177,530
6 Claims. (Cl. 219—347)

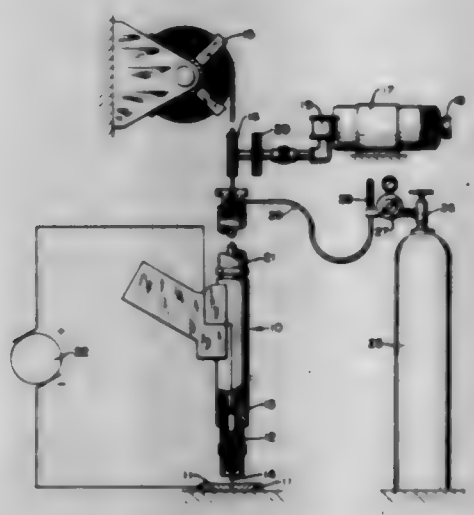


1. In a heating lamp, the combination of an elongated casing member having an open bottom and side edges at the bottom, an outer end plate secured to each end of said casing member, an inner end plate secured to said casing member inwardly of each outer end plate, tube clamping means mounted between each of said inner and outer end plates, guard structure for the open bottom of said casing member, hinge means pivotally connecting one side of said guard structure to one side edge of said casing member, latch means at the other side edge of said casing member for releasably locking the other side of said guard structure, and a closure member secured to each end of said guard structure for movement therewith for enclosing the bottom portion of said casing member between said inner and outer end plates.

3,143,630
ELECTRIC ARC WELDING

Jesse S. Sohn, Succasunna, and Harold Robinson, Cranford, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Original application Jan. 6, 1951, Ser. No. 204,722. Divided and this application Feb. 4, 1957, Ser. No. 637,997
12 Claims. (Cl. 219—74)

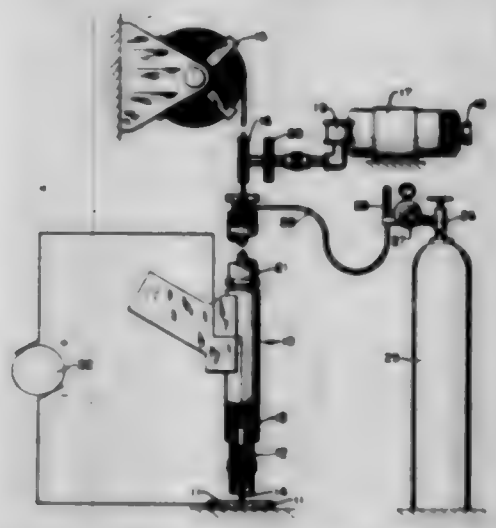


4. In a method of electric arc welding in which a welding arc is formed between an electrode and a workpiece and in which the arc end of said electrode, said arc, and the weld puddle formed by said arc on said workpiece are enveloped in a shielding gas stream, the improvement which comprises forming said shielding gas stream of a mixture of monatomic inert gas and carbon dioxide, said carbon dioxide comprising from 3% to 10% of the total volume of said mixture.

3,143,631
ELECTRIC ARC WELDING

Jesse S. Sohn, Succasunna, and Harold Robinson, Somerville, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 6, 1951, Ser. No. 204,722
4 Claims. (Cl. 219—74)

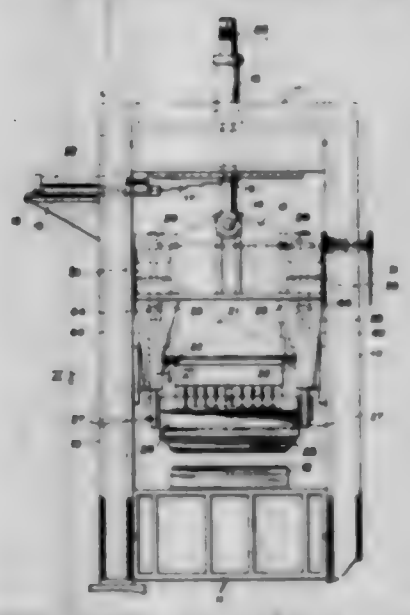


1. The method of joining material by arc welding said material with a consumable electrode, which comprises the steps of impressing a potential to produce an maintain an arc sufficient to melt said electrode between said electrode and said material, striking an arc between said electrode and said material while said potential is impressed therebetween, maintaining said arc sheathed in an atmosphere of commercially pure inert gas, and adding sufficient oxygen to the atmosphere to stablize the arc, the said method being characterized by the fact that the spacing between said electrode and said material and the magnitude of the arc current are maintained such that the arc burns in a nonturbulent atmosphere so that substantially the only gas in addition to the inert gas present in said shield is said oxygen and by the further fact that the quantity of said oxygen is maintained just sufficient to stabilize the arc without oxidizing the weld.

3,143,632
GRATING WELDER

Melvin M. Seeloff, Warren, Ohio, assignor to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio

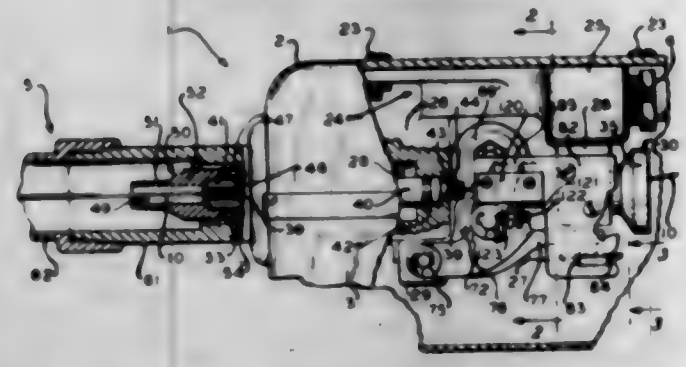
Filed Mar. 12, 1962, Ser. No. 178,845
11 Claims. (Cl. 219—78)



1. A welding machine comprising a vertically mounted frame having, rigidly secured thereto, a stationary lower welding die, a main slide slidably mounted for vertical

movement on said frame, means carried by said frame to move said main slide vertically, means to provide selective vertical adjustment thereof relative to the frame, a transformer rigidly supported by said slide, power actuated ram means mounted on said slide and vertically reciprocable therein, and a welding terminal secured to the bottom end of said ram means, a die secured thereto, whereby said last mentioned die is vertically reciprocable with respect to said stationary die to effect the welding operation without the necessity of reciprocating said transformer.

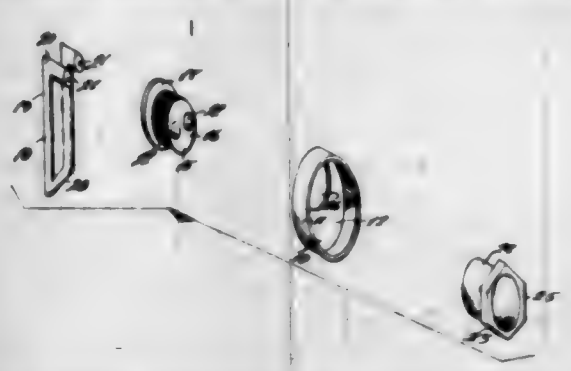
3,143,633
ARC BURN BACK PREVENTIVE SYSTEMS
Clifford H. Wadleigh, North Bergen, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 22, 1960, Ser. No. 77,534
2 Claims. (Cl. 219—130)



2. In arc-welding apparatus of the type from which an elongated electrode is fed to be projected onto a work electrode in an arc meanwhile maintained between the electrodes by power supplied thereto, the combination of an electrode-driving assembly through which said elongated electrode normally extends to be driven thereby, said assembly comprising two portions which occupy one mutual relationship when said elongated electrode extends, and which assume a different mutual relationship when that electrode ceases to extend, through that assembly; an electrical switch mechanically connected with and operated by said electrode-driving assembly to be in one electrical condition when said portions of that assembly occupy said one mutual relationship and to be operated to an opposite electrical condition upon the assumption by said portions of said different mutual relationship; means contacting said elongated electrode and disposed between said electrode-driving assembly and the region of the arc for supplying arc-maintaining power to said elongated electrode; and means, electrically connected with said switch and responsive thereto in the operation thereof from said one to said opposite electrical condition, for interrupting the supply of arc-maintaining power to one of the electrodes.

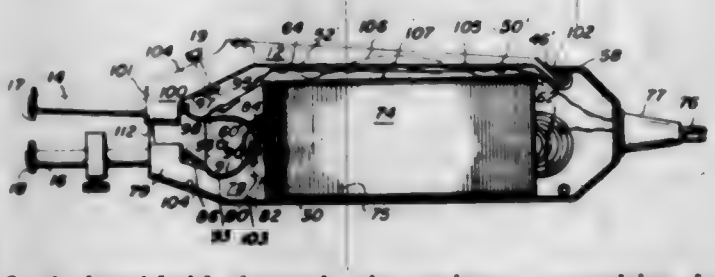
3,143,634
ENGINE HEATER
Lynne Everett Windsor, Winnipeg, Manitoba, Canada, assignor to James B. Carter Limited, Winnipeg, Manitoba, Canada
Filed May 8, 1961, Ser. No. 108,629
1 Claim. (Cl. 219—208)

For use in a coolant jacket of a combustion engine having a jacket wall provided with a circular opening, a variably positionable engine heater comprising in combination, a circular cup-shaped plug adapted to be frictionally pressed into and held in the stated circular opening of the jacket wall, said plug being provided with an eccentrically disposed circular aperture which by virtue of its eccentric disposition is located closer to one side edge portion of the plug than to its diametrically opposite side edge portion so that location of said aperture relative to the stated coolant jacket may be varied by rotative prepositioning of said plug in said opening, a cylindrical externally screw-threaded mounting member rotatably positioned in the aperture of said plug and provided at one end thereof with a flange abutting the plug at the inside of the coolant jacket, a substantially U-shaped electric heating element having a pair of angulated



terminal portions extending through and secured in said mounting member with the heating element projecting radially outwardly therefrom, and a nut provided on said mounting member in abutment with said plug at the outside of the coolant jacket for locking the mounting member against rotation in said aperture with said heating element oriented in a selected radial direction from the eccentrically disposed aperture in said plug.

3,143,635
THERMAL WIRE STRIPPER
James R. Hooker, 4357 Vetter Place, La Mesa, Calif.
Filed Nov. 13, 1962, Ser. No. 237,041
7 Claims. (Cl. 219—221)



3. A hand-held thermal wire stripper comprising in combination,

(*a*) an upper and a lower electrically conductive jaw member each having an anchored end and a working end,

(*b*) an elongated housing of channel cross sectional shape having a front portion, a middle portion and a rear portion, said front portion being truncated and hand grip wall members extending adjacent to and partially enclosing said jaw members,

(*c*) a resistance plate member having a working zone for severing insulation and having concentrated electrical resistance in the working zone, attached to the working end of each jaw member,

(*d*) first insulation block means having a length substantially equal to the length of the housing truncated front portion, means fixedly attaching the anchored end of the lower jaw member to said insulation block means, means fixedly supporting said insulation block means in the housing truncated front portion,

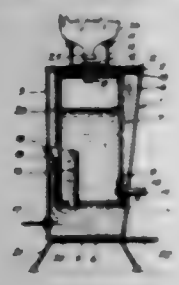
(*e*) an elongated manipulator bar of dielectric material, means pivotably supporting one end of the manipulator bar in said housing open side proximate the rear end thereof, said manipulator bar having a hand manipulating portion equal substantially to the length of the housing middle portion and having a lower elongated portion thereof confined within the adjacent walls of the housing to prevent lateral movement thereof and an upper elongated portion

extending outwardly of said housing along the length thereof and a front portion adjacent the case front truncated portion extending inwardly; means fixedly attaching the anchored end of the upper jaw member to said manipulator bar inwardly extending portion whereby said upper jaw member is movably supported for motion in a fixed plane toward and away from the fixed lower jaw,

(*f*) an elongated electrical transformer supported in the housing in the uniform cross section portion, said transformer having a magnetic core, a primary winding adapted to be connected to a power source, and two secondary windings, means electrically connecting one of said secondary windings in series with the lower jaw resistance plate member, and means for flexibly electrically connecting the other of said secondary windings to the movable jaw resistance plate member,

(*g*) resilient biassing means supported on said transformer magnetic core to support said transformer against movement in said housing and to urge said manipulator bar outwardly along the housing.

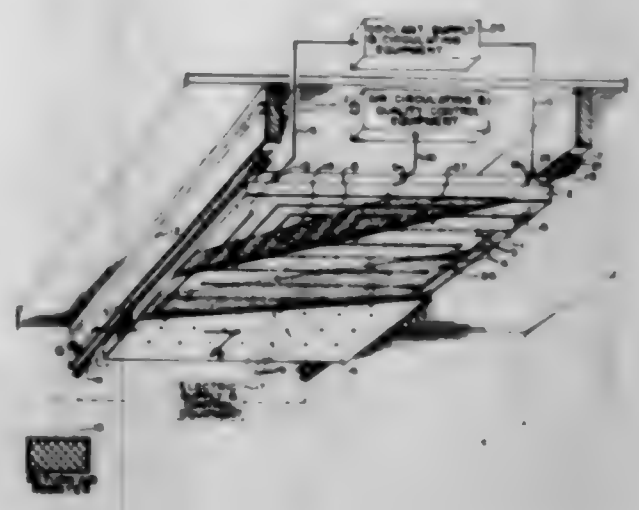
3,143,636
HOT LIQUID DISPENSER
David Lupovici, 7482 Spring Road, Cote St. Luc, Quebec, Canada
Filed May 29, 1963, Ser. No. 284,156
3 Claims. (Cl. 219—314)



1. A hot liquid dispenser comprising, in combination, an elongated liquid container, means to support said container in upright position, said container having a restricted liquid inlet at its top and a liquid outlet near its bottom, a discharge tap connected to said outlet, an electrical heating element within said container, a cup-shaped element mounted above said container and rigidly secured thereto and having its bottom in communication with said inlet, a narrow-mouth bottle removably supported by said cup-shaped element in inverted position with the mouth of said bottle spaced above the bottom of said cup-shaped element and in vertical alignment with said liquid inlet, and thermostatic means responsive to the temperature of the liquid inside of said container, electrically connected to said electric heating element for controlling the heating of the same, whereby heating of the liquid in said container causes, by convection, liquid circulation between said bottle, said cup-shaped element and said container.

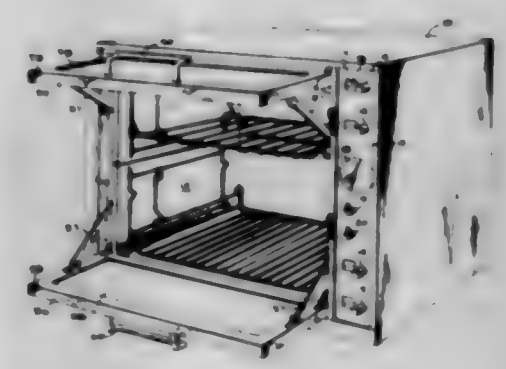
3,143,637
THERMAL CONTROL SYSTEM
Clare Morgan Rifenbergh, Chicago, Ill.; Elizabeth Margaret Rifenbergh, executrix of said Clare Morgan Rifenbergh, deceased; John J. Turner, administrator of said Elizabeth Margaret Rifenbergh, deceased, assignor of one-half to Isaac Hillock, Port Huron, one-sixth each to Sarah L. Rifenbergh and Florence Cleaver, Detroit, and one twenty-fourth each to Marilyn Hochkins, Livonia, Darlene Seescholtz, Wayne, Sandra Hayes, Detroit, and Lee M. Rifenbergh, Inkster, Mich.
Filed Oct. 12, 1960, Ser. No. 62,264
8 Claims. (Cl. 219—345)

1. A thermal panel unit comprising a block of thermo-insulating material having a side adapted to face an area to be thermally treated, said block having a first channel therein adjacent said side and a second channel, independent of the first channel, adjacent said side, a continuous relatively thin, narrow strip of metallic foil disposed on substantially the entire area of said side, a support sheet glued to said strip and to said side, said support sheet and strip having spaced perforations there-



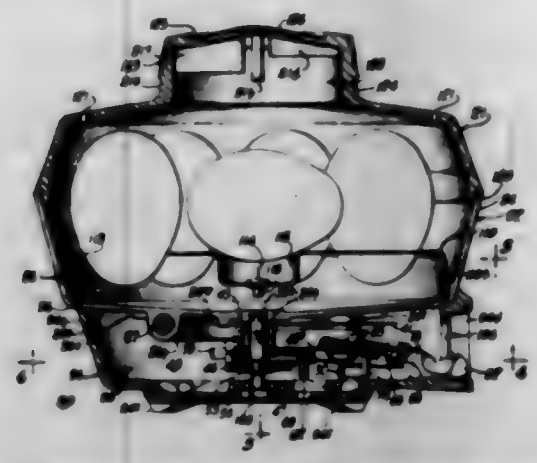
through between the said first channel and the exterior of the sheet, said block having a pair of openings therethrough as a fluid inlet and a fluid outlet, respectively, for the terminal ends of said second channel, the terminal ends of said strip of metallic foil being adapted for connection to a source of electrical energy.

3,143,638
CONVERTIBLE DRAWER OVEN
George A. Scott, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 27, 1962, Ser. No. 226,595
4 Claims. (Cl. 219—395)



2. A convertible drawer oven comprising a cabinet structure and a pair of upright drawer members each individually supported one above the other within the cabinet to form with the cabinet structure two small baking ovens, each drawer having a front wall formed by a fold-down door structure for gaining access thereto, and releasable locking means for holding each door closed, heating means provided for each drawer and separate control means governing the energization of the heating means of each drawer oven for independent operation, the top drawer being removable from the cabinet and replaceable in an inverted position to form with the lower drawer a single large roasting oven, and interlock switch means engageable by the upper drawer in its inverted position for disabling one of the control means and connecting the heating means of both drawers to the remaining control means.

3,143,639
AUTOMATIC HEATING DEVICE
Chester H. Wickenberg, Elgin, and Moises B. Lorenzana, Glen Ellyn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 22, 1961, Ser. No. 111,809
10 Claims. (Cl. 219—442)



1. An electric heating device comprising an open top vessel, an electric heating element in good heat exchange relationship with the bottom of said vessel, rigid terminals electrically connected to the ends of said heating element and depending from the bottom of said vessel but electrically insulated therefrom, a stud depending from the bottom of said vessel and having one end secured to the bottom of said vessel, temperature responsive means for controlling the flow of current to said heating element secured to the bottom of said vessel solely by said stud, said temperature responsive means comprising a bimetallic element having one end thereof in good heat exchange relationship with the bottom of said vessel, said temperature responsive means in addition to said bimetallic element including a terminal bracket and a pivot bracket, said stud securing said brackets and said bimetallic element to the bottom of said vessel in stacked relationship, cooperating means on said brackets for orientating them in fixed relationship to each other relative to movement about the longitudinal axis of said stud, means on one of said brackets cooperating with the bottom of said vessel for preventing relative rotation of said one bracket about said longitudinal axis of said stud thereby fixedly securing said brackets and said bimetallic elements to said vessel, an electrical circuit means including relatively movable contacts connected to said rigid terminals, at least part of said circuit means being supported by one of said brackets, means pivotally related to said pivot bracket and movable with a snap action relative thereto for causing opening of said contacts when in one predetermined position, and means on said last-mentioned means engageable by said bimetallic element for opening said contacts in response to deflection of said bimetallic element.

3,143,640
SHEET-TYPE HEATER AND OVERHEAT PROTECTION DEVICE
Frank E. Becker, Lexington, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1961, Ser. No. 142,615
4 Claims. (Cl. 219—494)



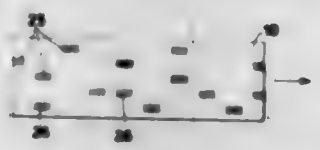
1. A flexible heating device comprising a sheet-like heating element arranged to produce heat over an area, a flexible sheet of thermosensitive material having a negative temperature-resistance coefficient and arranged in parallel adjacent relationship to said area, a pair of thin sheet-like electrodes respectively positioned over the surfaces of said sheet of thermosensitive material, in electrical conducting contact with said material, electrical circuit means including a switch connected to apply current to said heating element, a current-sensitive actuator for opening said switch, and means for connecting said current-sensitive actuator to a source of current in series with said electrodes.

3,143,641
WATERPROOF HEATING PAD
Robert Arthur Wise, Asheboro, N.C., assignor to General Electric Company, a corporation of New York
Filed Sept. 25, 1962, Ser. No. 226,056
6 Claims. (Cl. 219—549)



2. An electric heating pad having a flexible, waterproof, airtight surface material, a resistance heating element distributed within said cover, an unsealed heating pad control unit, a flexible waterproof power cord sealed to said pad, at one end and connected to said control unit at its other end, said cord including an air passage formed therein to provide air pressure relief means for the pad.

3,143,642
CODED RECORDS AND PRODUCING APPARATUS THEREFOR
Maurico Compare, Ivrea, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Jan. 12, 1962, Ser. No. 165,924
Claims priority, application Italy Jan. 16, 1961
4 Claims. (Cl. 235—61.12)



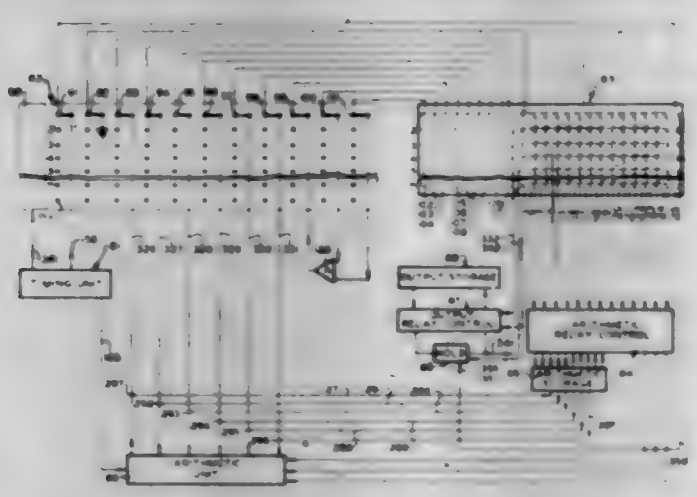
1. A machine controlling record member,
(*a*) bearing data-representative recordings at discrete recording points,
(*b*) the recordings being comprised of areas of grained texture indentations of different select directional grain,
(*c*) the recordings by reason of being made in different directional grain being capable of differentating analyzation in a subsequent employment of the record member for effecting selective automatic machinery control.

3,143,643
SEQUENTIAL ANALOG COMPUTING APPARATUS
Dale A. Fluegel and Paul R. Hinrichs, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 6, 1962, Ser. No. 185,597
6 Claims. (Cl. 235—150)

1. Computing apparatus comprising:
(1) a pin board having a plurality of channels; each channel having a plurality of input variable positions, a plurality of output capacitor positions, a plurality of input capacitor positions, a plurality of mode positions, and an output position;

(2) a stepping switch having a plurality of channels corresponding to said pin board plurality of channels, each channel of said stepping switch having a plurality of contacts corresponding to said plurality of input variable positions and said output position, and a solenoid;

(3) an arithmetic unit comprising a plurality of input terminals, first and second amplifiers, a plurality of function generators, first switching means for connecting a first group of said plurality of function generators between respective ones of a first group of said input terminals and inputs of said first amplifier, second switching means for connecting a second group of said function generators between respective ones of a second group of said input terminals and inputs of said second amplifier, a first plurality of resistors, third switching means for connecting a first group of said first plurality of resistors between respective ones of a third group of said input terminals and inputs of said first amplifier, fourth switching means for connecting a second group of said first plurality of resistors between respective ones of a fourth group of said input terminals and inputs of said second amplifier, a plurality of first feedback circuits adapted to be connected between the output and an input of said first amplifier, fifth switching means for selectively connecting one of said first feedback circuits between



the output and an input of said first amplifier, a plurality of second feedback circuits adapted to be connected between the output and an input of said second amplifier, sixth switching means for selectively connecting one of said second feedback circuits between the output and an input of said second amplifier, a second plurality of resistors, seventh switching means for connecting the output of said first amplifier through one of said second plurality of resistors to an input of said second amplifier; and means for actuating said first, second, third, fourth, fifth, sixth and seventh switching means in accordance with the occurrence and position of pins in said plurality of mode positions on said pin board;

(4) storage means comprising a plurality of capacitors, eighth switching means for selectively connecting one of said plurality of capacitors between the output of said second amplifier and ground, ninth switching means adapted to selectively connect at least one of said plurality of capacitors to respective ones of said plurality of input terminals, and tenth switching means for selectively connecting one of said plurality of capacitors to an output terminal, and timing means for relatively actuating said eighth switching means in accordance with the occurrence and positions of pins in said plurality of output capacitor positions, means for actuating said ninth switching means in accordance with the occurrence and position of pins in said plurality of input capacitor positions, and means for actuating said tenth switching means in accordance with the occurrence of a pin in said output position; and

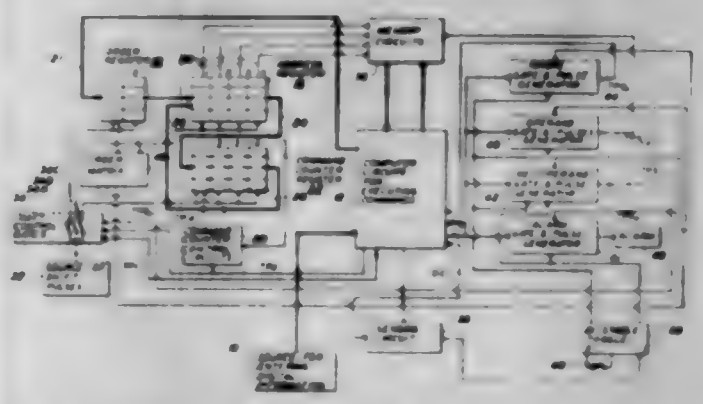
(5) timing means for actuating said stepping switch solenoid at predetermined intervals.

3,143,644

CONTROL APPARATUS FOR DIGITAL COMPUTERS

Ernst S. Selmer, Oslo, Norway, assignor, by mesne assignments, to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 9, 1954, Ser. No. 454,889
10 Claims. (Cl. 235—157)



1. In a digital computer including an internal storage means for storing a program comprising preselected commands and information to be operated on at predetermined addresses in the storage means, each command specifying an operation to be executed and an address in the storage means of the information to be fetched upon which the operation is to be executed, the operations to be executed including arithmetic operations having successive address portions and conditional transfer operations having an address portion for changing the sequence of the successive addresses of the commands being executed, the conditional transfer commands being arranged in the stored program after a command which it is anticipated will produce an overflow in a preselected register, an order-address register, means for successively fetching the commands at sequential addresses in said storage means and storing them in the order-address register, means coupled to said fetching means to be responsive to a completed fetching operation for executing the command in the order-address register and to initiate the next fetching operation, at least a single preselected storage register adapted to indicate an overflow indicative of a preselected condition within the computer of an executed command, an overflow control element switchable between a non-overflow and an overflow condition and normally arranged in the first condition, means for sensing said storage register indicating an overflow and coupled to said control element to place said control element in the overflow condition upon sensing an overflow, and control means coincidentally responsive to the two conditions of said control element and to a signal from said executing means representative of a fetched conditional transfer command and operative to cause the computer to ignore the conditional tranafer command or to next fetch the command at the address accompanying the conditional transfer command.

3,143,645

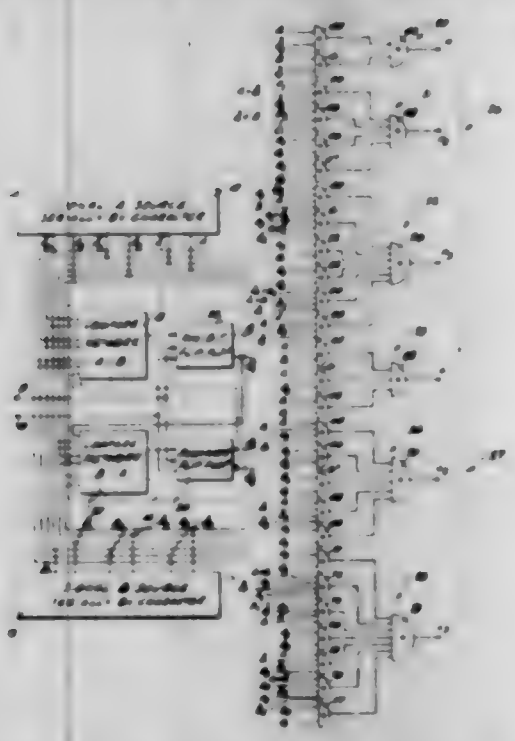
TWO-WAY DATA COMPARE-SORT APPARATUS

Philip N. Armstrong, Santa Ana, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Feb. 1, 1961, Ser. No. 86,368
7 Claims. (Cl. 235—177)

4. A digital computer apparatus comprising first, second, third and fourth sets of input terminals responsive,

respectively, to signals A, $\overline{A}$, B, $\overline{B}$, which signals appear serially by character, the respective characters of the signals A, $\overline{A}$ and B, $\overline{B}$ having bits A_1, A_2 . . . A_m, $\overline{A}_1$, $\overline{A}_2$ . . . $\overline{A}_m$, B_1, B_2 . . . B_m and $\overline{B}_1$, $\overline{B}_2$ . . . $\overline{B}_m$, which bits appear simultaneously and wherein the subscripts 1, 2, . . . *m* designate the most to the least significant digits, respectively; means for sampling at least two of said signals A, $\overline{A}$ and B, $\overline{B}$ for generating an electrical indication at a first terminal when the portion of said signal A which has appeared is for the first time representative of a number that is greater than and different from the number represented by the corresponding portion of signal B, and for generating an electrical indication at a second terminal when the portion of said signal B which has appeared is for the first time representative of a number that is greater than and different from the number represented by the corresponding portion of signal A; means connected to said first and second terminals for generating first and second bi-level control signals Q_1 and Q_2, said signal Q_1 changing from information to zero level in response to an electrical indication at said first terminal and said signal Q_2 changing from information to zero level in response to an electrical indication at said second terminal; and means coupled to said first, second, third and



fourth sets of input terminals and responsive to said control signals for producing signals H_1, H_2 . . . H_m representative of the digits of the greater of said signals A and B at a set of output terminals wherein said signal H_1 is representative of $A_1 \cdot Q_2 + B_1 \cdot Q_1$; said signal H_2 is representative of

$$A_2[(A_1+\overline{B}_1)Q_2+\overline{Q}_1]+B_2[(\overline{A}_1+B_1)Q_1+\overline{Q}_2]$$

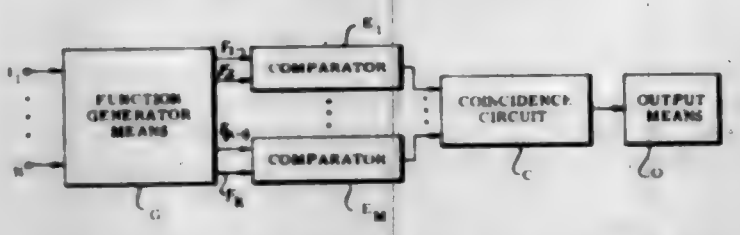
and signal H_n is representative of

$$A_n\left\{\left[A_1\cdot\overline{B}_1+\sum_{j=2}^{n-2}A_j\cdot\overline{B}_j\prod_{i=1}^{j-1}(A_i+\overline{B}_i)+\prod_{i=1}^{n-1}(A_i+\overline{B}_i)\right]Q_2+\overline{Q}_1\right\}$$

$$+B_n\left\{\left[\overline{A}_1\cdot B_1+\sum_{j=2}^{n-2}\overline{A}_j\cdot B_j\prod_{i=1}^{j-1}(\overline{A}_i+B_i)+\prod_{i=1}^{n-1}(\overline{A}_i+B_i)\right]Q_1+\overline{Q}_2\right\}$$

wherein *n* successively assumes integral values from 3 to *m*.

3,143,646
SIMULTANEOUS EQUATION SOLVER
Homer G. Tasker and Andrew W. Meyer, Los Angeles, Calif., assignors to Tasker Instruments Corporation, Hollywood, Calif.
Filed Mar. 30, 1959, Ser. No. 803,017
10 Claims. (Cl. 235—180)

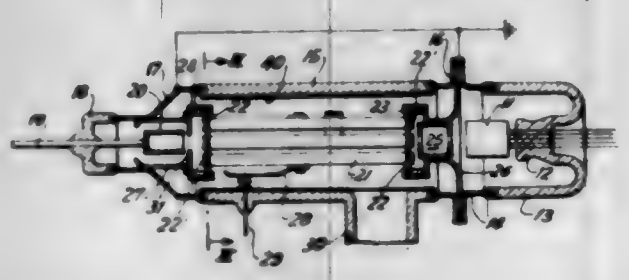


1. A computer for receiving first and second input signals X and Y representing two known quantities in a two equation relationship of the form:

$$Xf_1+Yf_2=0$$
$$Xf_3+Yf_4=0$$

where f_1, f_2, f_3, and f_4 are functions of two unknown variables W and Z, to be solved for, said computer comprising: first means for producing a variable signal W_v having an amplitude passing through the entire expected range for W; second means for varying the value of a signal Z_v corresponding to the value of Z to be solved for; third means for solving the first of said two equations, said third means including first and second amplitude comparators and a translating device for developing signals corresponding to f_1 to f_2 and being operative to produce pulses when each of said functions is solved; a coincidence circuit responsive to said pulses for sampling the values of W_v and Z_v upon coincidence of the solution to f_1 and f_2 to produce output signals representing the unknowns W and Z.

3,143,647
DEMOUNTABLE MASS-FILTER CELL FOR USE IN HIGH VACUUM
Karl-Georg Günther and Helmut Freller, Nurnberg, and Gunther Titze, Furth, Bavaria, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Mar. 7, 1961, Ser. No. 94,871
Claims priority, application Germany Mar. 9, 1960
13 Claims. (Cl. 250—41.9)



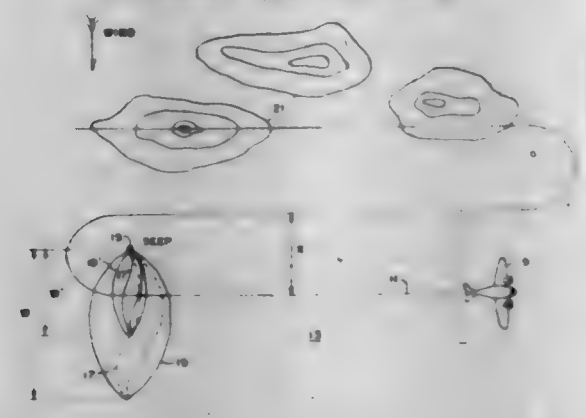
2. An electric mass filter comprising a tubular negative-pressure envelope for receiving a gas to be analyzed, an ion source and a collector electrode spaced from each other in said envelope and defining together an ion beam axis from said source to said collector electrode, an analyzer assembly having a group of ion-deflecting electrode rods parallel to and mutually spaced about said axis between said source and said axis, said tubular envelope having a middle portion of glass, two end portions of glass and two ring portions of metal fused together with said glass portions between said middle portion and said respective end portions, said analyzer assembly being mounted on and axially between said two ring portions.

3,143,648

EXPLORATION FOR HYDROCARBONS BY DETECTING GAS SEEPS IN THE ATMOSPHERE

John S. Bradley, William H. Luebrmann, and Carl A. Youngman, Dallas, Tex., and John R. Gunter, Caracas, Venezuela, assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 26, 1961, Ser. No. 85,081
9 Claims. (Cl. 250—43.5)



1. A method of surveying a large geographical area to determine the location of small volumes of seeping gases passing into the atmosphere from naturally-occurring, subsurface deposits of hydrocarbons, comprising:

(*a*) establishing the distribution pattern of a preselected, minimum volume of seeping gas passing into the atmosphere under the meteorological, cultural and topographical conditions existing in the area of survey,

(*b*) continuously crossing said area of survey by following a predetermined pattern of plural traverses,

(*c*) simultaneously with said crossing of said area of survey continuously isolating volumes of the atmosphere above said area of survey, which include at least a portion of the atmosphere within said established distribution pattern of seeping gas during at least two adjacent traverses,

(*d*) continuously examining said isolated volumes of the atmosphere for naturally-occurring indications of the presence of hydrocarbon gases therein, and

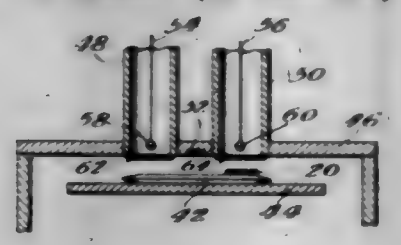
(*e*) recording detected indications of the presence of said hydrocarbon gases with relation to the geographical locations of said indications of hydrocarbon gases.

3,143,649

INFORMATION CODING AND SENSING BY MEANS OF BETA-RAY BACKSCATTERING

Thomas E. Mitchell, Park Ridge, Orear Kenton Neville, Elmhurst, and Ariel G. Schrodt, Wilmette, Ill., assignors to Nuclear-Chicago Corporation, Cook County, Ill., a corporation of Delaware

Filed Mar. 19, 1959, Ser. No. 800,554
17 Claims. (Cl. 250—83.3)



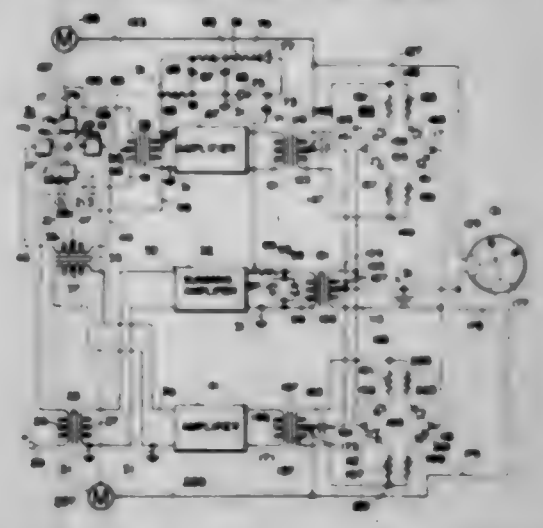
1. A method of producing an electrical signal indicative of the presence of a coating of a material of relatively higher average effective atomic number on a portion of the surface of a thin background layer of a material of lower effective average atomic number comprising scanning the surface with radiation and simultaneously detecting, at a location separated from said surface by a gap of atmospheric air, radiation back-scattered by the portions of the surface scanned, the radiation being of lesser energy than the energy required for substantial detection of radiation traversing and retraversing the layer but being of an energy sufficiently great to traverse the layer and to render a substantial portion of the thickness of the coating effective in back-scattering, and producing an electrical signal in accordance with such detection, whereby the indicated location of the coating is substantially independent of materials behind the layer and of spurious indications produced by coatings of lesser back-scattering effectiveness of materials on the surface.

3,143,650

RADIATION DETECTION APPARATUS WITH MEANS TO OBTAIN SUBSTANTIALLY CONSTANT OUTPUT SIGNAL WITH WIDELY VARYING INPUT SIGNALS

Carlton A. Mizen, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Apr. 16, 1962, Ser. No. 187,711
14 Claims. (Cl. 250—83.3)



14. A detecting circuit comprising in combination:

detecting means having first and second connection means;

means for supplying a voltage connected to said first connection means;

amplifier means connected to receive a signal from said detecting means indicative of current flowing therethrough and adapted to provide an output;

rectifying means connected to receive said output from said amplifier means and adapted to provide an output voltage indicative of said amplifier output;

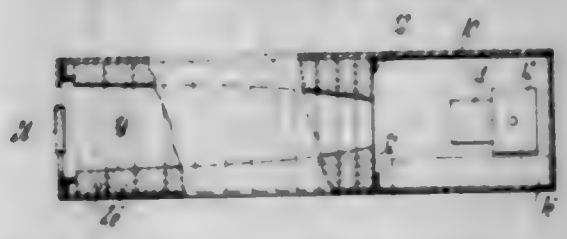
and means for supplying said output voltage to said second connection means, said detecting means thereby being supplied with varying voltages thereacross.

3,143,651

X-RAY REFLECTION COLLIMATOR ADAPTED TO FOCUS X-RADIATION DIRECTLY ON A DETECTOR

Riccardo Giacconi, Weston, and Bruno B. Rossi, Cambridge, Mass., assignors to American Science and Engineering, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Feb. 23, 1961, Ser. No. 91,180
16 Claims. (Cl. 250—105)



1. In an instrument for sensing X-radiation generated from a source located a great distance from the instrument, said instrument including an entrance aperture and

an X-ray detector having an area a small fraction of the area of said entrance aperture, a reflection collimator positioned between said entrance aperture and said detector comprising a series of optically smooth ruled surfaces each disposed at a grazing angle to radiation incident on said surface from said source, each said surface being disposed at a slightly different angle from all other surfaces in said collimator and being arranged to deflect impinging radiation from said source directly on to said detector.

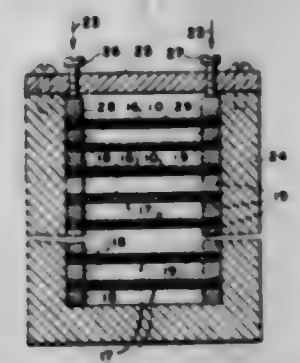
3,143,652

X-RAY COLLIMATOR COMPRISING A PLURALITY OF SPACED PLASTIC LAMINA WITH X-RAY ABSORBENT MATERIAL COATED THEREON

John E. Bigelow, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York

Original application May 31, 1960, Ser. No. 32,689. Divided and this application Mar. 29, 1962, Ser. No. 189,947

7 Claims. (Cl. 250—105)



3. A collimator for an X-ray beam, comprising: a plurality of sheets of polyethylene of generally rectangular form and having an X-ray absorbent metal coating thereon having a segment removed at each short edge from between the two long side edge corners, the sheets being arranged as superposed layers; elongated flat spacers between adjacent sheets and extending along the long edges of the sheets to hold them spaced apart along their side edges; and means clamping the sheets and spacers along the long edges to hold them in fixed position while leaving the narrow edges free.

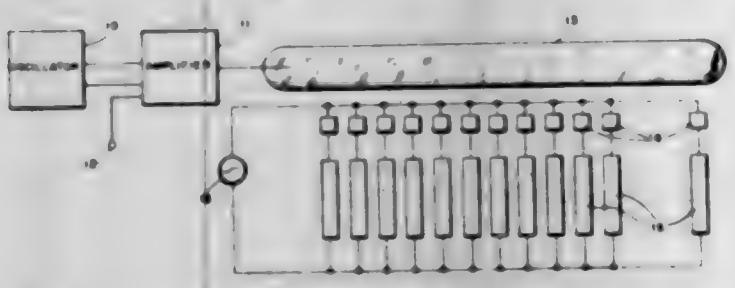
3,143,653

PHOTOSENSITIVE ELECTROLUMINESCENT INDICATING APPARATUS

John Wesley Adams, Canoga Park, Roy Matt Kilpinen, Inglewood, Edwin Shigeo Fukumoto, Los Angeles, William Henry Jones, Santa Monica, and George Wilcox Shreve, Menlo Park, Calif., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed June 1, 1961, Ser. No. 114,167

15 Claims. (Cl. 250—208)



5. An indicator comprising first circuit means providing alternating current, variable gain amplifier means connected and responsive to the output of said first circuit means, means connected to said amplifier to vary the gain thereof, a gaseous column connected and responsive to the output of the said variable gain amplifier whereby a portion of the said gaseous column is illuminated and the portion illuminated is proportional in length to the output of said variable gain amplifier, said gaseous column being confined in a transparent housing, a series of photoconductive cells arranged along said gaseous column and in visible range of said gaseous column such that as the illuminated portion of the gaseous column increases in length more of the said photoconductive cells are placed in the conducting state due to the illumination of the gaseous column falling on said photoconductive cells, a second source of electrical power, a series of electroluminescent strips equal in number to the number of said photoconductive cells arranged in a column and each individually connected in series to a respective photoconductive cell and also to said second source of electrical power such that successive electroluminescent strips are illuminated as their respective photoconductive cells are rendered conducting by illumination of said gaseous column.

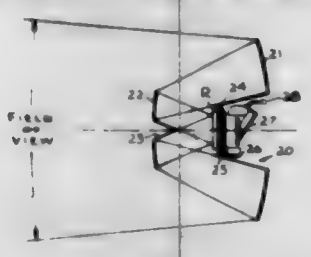
3,143,654

RADIANT ENERGY DETECTING DEVICE USING DISC SHAPED RETICLE

George F. Aroyan, Manhattan Beach, and Howard E. Williams, Torrance, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Maryland

Filed Aug. 25, 1958, Ser. No. 757,650

11 Claims. (Cl. 250—233)



5. In a system for detecting a predetermined type of energy in at least a portion of the electromagnetic energy spectrum, the combination comprising: apparatus having a field of view for collecting energy of said predetermined type within said field of view and focusing an image of said field of view at a predetermined image plane, said energy collection apparatus being constructed to focus radiation of said predetermined type of energy from any source in said field of view to a transverse dimension at said image plane no less than a predetermined blur circle diameter; and a reticle including an approximately disc-shaped body positioned to rotate about an axis approximately perpendicular to said image plane at the position thereof to intercept said imaged field of view, the transverse cross-sectional area of at least one material of said reticle being relatively opaque to said collected energy, said relatively opaque area curving to define an area relatively transparent to said collected energy between arcuate turns of said relatively opaque area, both of said areas having uniform equal widths throughout their lengths, said widths being substantially equal to said blur circle diameter, both of said areas also extending both radially and circumferentially from a center area of inception.

3,143,655

PHOTOSENSITIVE SWITCHING DEVICE IN A WAVEGUIDE

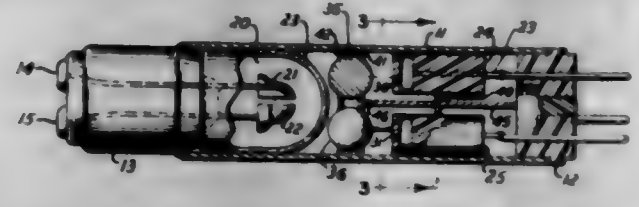
Malcolm W. P. Strandberg, Prospect St., Box 201, Marshfield Hills, Mass.

Filed Jan. 25, 1960, Ser. No. 4,241

5 Claims. (Cl. 250—239)

1. Electrical switching apparatus comprising, in combination, an electrically actuated device having a plurality of luminous sources, a like plurality of photoconductive elements spaced from said luminous sources, and optical means for concentrating luminous energy from each of said sources upon a respective one of said photoconductive elements, and a light-tight electrically conductive

waveguide beyond cutoff for substantially attenuating electric field radiations from said luminous sources in the transmission path to said photoconductive elements at fre-



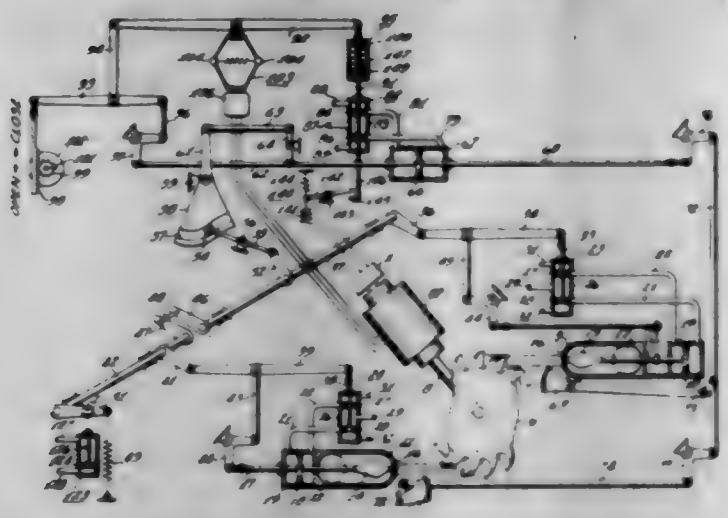
quencies below the cutoff frequency of said waveguide, said waveguide enclosing said luminous sources, said optical means and said photoconductive elements.

3,143,656

CONTROL SYSTEM FOR HYDRAULIC TURBINE

Beverly R. Nichols, Elm Grove, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Jan. 24, 1961, Ser. No. 84,724
11 Claims. (Cl. 290—40)



1. In a control system for a hydraulic turbine the combination comprising: governing means; a plurality of fluid flow devices capable of movement through a plurality of positions between open and closed positions; a plurality of actuating mechanisms connected to said devices, at least one of said mechanisms being connected to said governing means whereby predetermined movements of said governing means cause said one of said mechanisms to move one of said devices through said positions; motion transmitting means connected between said one of said actuating mechanisms and the remainder of said actuating mechanisms to maintain the same operative relationship between all actuating mechanisms; and an auxiliary actuating mechanism selectively engageable with said remainder of said mechanisms and capable of overriding said motion transmitting means to move said remainder of said mechanisms in a device closing direction.

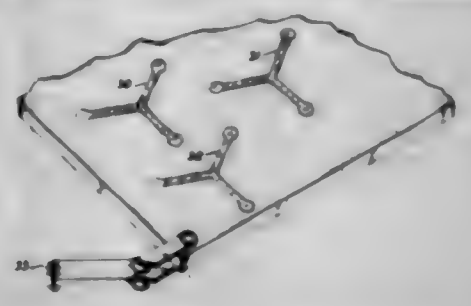
3,143,657

PARAMETRONS

Rolf William Landauer, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1959, Ser. No. 861,595
12 Claims. (Cl. 307—88)

6. A device for deriving an effect at frequency f from a stimulus at frequency $2f$ including a plurality of branches of transmission line radiating from a common point at which all said branches are connected in multiple, each said section of transmission line consisting of lines of conducting material laid upon the upper and lower surfaces of thin slab of ferroelectric material, said lines of each said branch being effectively connected together at their free ends and means for biasing the said ferroelectric material to bring the working thereof into a nonlinear region consisting of a thin coating of a moderately resistive conducting material applied over both the said ferroelectric material and the conducting lines



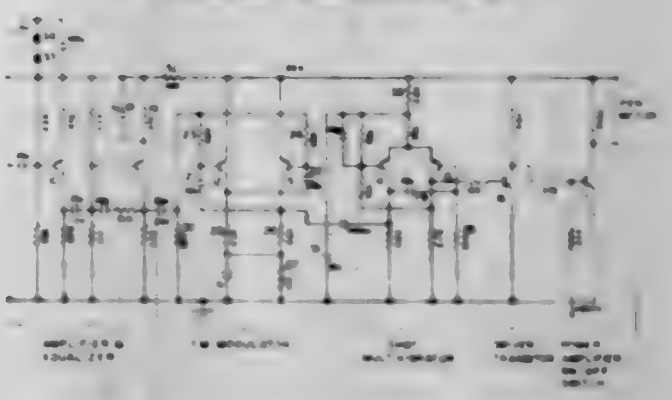
laid thereon and direct current battery means for applying a difference in potential to the said opposed faces of said device.

3,143,658

METHOD AND APPARATUS FOR PRODUCING AND RECORDING A PULSE FREQUENCY MODULATED SIGNAL

John P. Woods and Edwin B. Neltzel, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 28, 1958, Ser. No. 777,117
8 Claims. (Cl. 307—88.5)



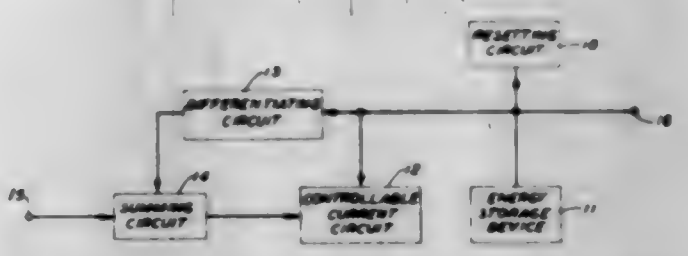
1. An improved amplifying and driving circuit for an electromechanical integrator comprising an amplifier, a one shot multivibrator, a frequency modulator connected to said amplifier and to said multivibrator, and an on-off switching means connected to said multivibrator.

3,143,659

CIRCUITS FOR PRODUCING RAMP WAVEFORMS

John W. Padalino, Cedar Knolls, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 6, 1959, Ser. No. 851,476
5 Claims. (Cl. 307—88.5)

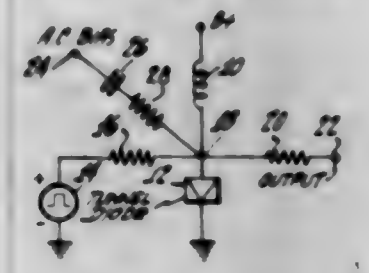


1. A combination comprising a capacitor for storing a predetermined amount of energy, controllable means for changing the energy in said capacitor to change the voltage across said capacitor, means for producing a signal proportionate to the rate of change of voltage across said capacitor, means for applying both said signal and an input signal to said controllable means, and means for placing said predetermined amount of energy in said capacitor whenever said controllable means is substantially not changing the energy in said capacitor.

3,143,660
STABILIZED NEGATIVE RESISTANCE DIODE CIRCUIT

Melvin M. Kaufman, Merchantville, and Frederick N. Weigel, Moorestown, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Aug. 29, 1960, Ser. No. 52,682
8 Claims. (Cl. 307—88.5)

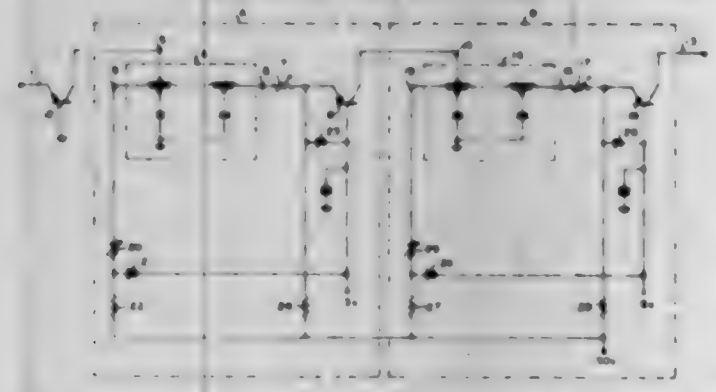


1. A circuit comprising a negative resistance diode, means to apply an input signal pulse across said diode, means to derive an output signal from across said diode, means to apply a forward direct current bias across said diode, and means to apply an alternating current bias across said diode, said alternating current bias having a frequency such that a half cycle thereof has a duration of the same order of magnitude as the rise time of the diode.

3,143,661
AMPLITUDE SENSITIVE TERMINATION

David M. Leakey, Eastcote, Ruislip, England, assignor to The General Electric Co., Ltd.

Filed Sept. 15, 1960, Ser. No. 56,268
Claims priority, application Great Britain Oct. 8, 1959
5 Claims. (Cl. 307—88.5)



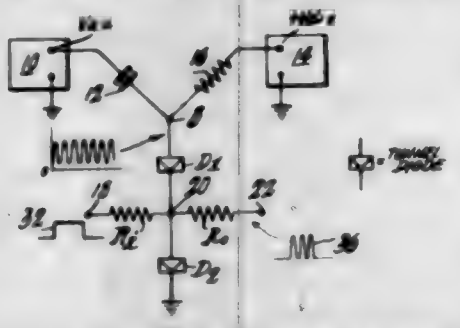
1. An amplitude sensitive termination for a delay line comprising: a terminating impedance effectively in two sections, one of which approximates the characteristic impedance of said delay line; and a normally conductive rectifier which effectively shorts out the other section of said terminating impedance but which becomes nonconductive in response to a signal having at least a predetermined amplitude, thereby presenting a terminating impedance greater than said characteristic impedance to such signals.

3,143,662
TUNNEL DIODE AMPLIFIER EMPLOYING ALTERNATING CURRENT BIAS

James J. Hill, Haddonfield, and Melvin M. Kaufman, Merchantville, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Nov. 2, 1960, Ser. No. 66,749
5 Claims. (Cl. 307—88.5)

1. An amplifier comprising two tunnel diodes connected in series, means to apply a direct current bias across said series connected diodes, means to apply an alternating current bias across said series connected diodes, means to apply an input signal to the junction between said diodes, and means to derive an output signal from the junction between said diodes, said diodes being selected to have characteristics such that when instantaneous peak bias voltage is applied, one of the diodes must be in its high voltage state and the other must be in its low voltage state, said diodes being further selected to have different characteristics so that in the absence of an input signal of one polarity the peak bias voltage

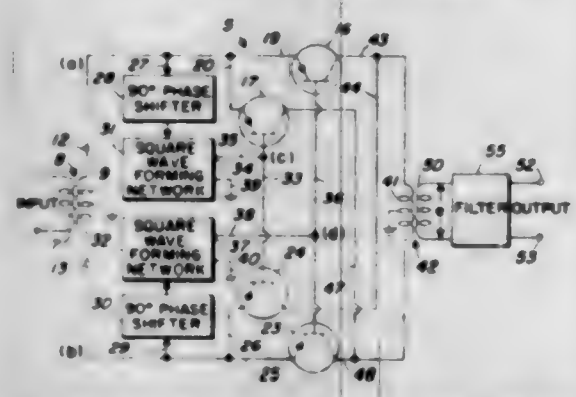


causes a particular one of the diodes to assume the high voltage state, and in the presence of said input signal the peak bias voltage causes the other one of the diodes to assume the high voltage state.

3,143,663
FREQUENCY DOUBLER

Frederick W. Johnson, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Sept. 21, 1961, Ser. No. 139,708
3 Claims. (Cl. 307—88.5)



3. A frequency doubler, comprising: first and second input terminal means adapted to be connected to a source of alternating current, the signal at said first input terminal means being 180° out of phase with the signal at said second input terminal means; a first plurality of electron control devices having input, control and output electrodes, said input electrodes receiving the signal from said first input terminal means; a second plurality of electron control devices having input, control and output electrodes, said input electrodes receiving the signal from said second input terminal means; phase shifting means connected to said input terminal means and to the control electrodes of said electron control devices for causing each of said devices to conduct only during a predetermined portion of each input cycle; output terminal means; and means connecting the output electrodes of said electron control devices with said output terminal means in a manner such that the outputs from said electron control devices appearing at said output terminal means are combined to produce an output signal having a frequency that is twice that of an input signal.

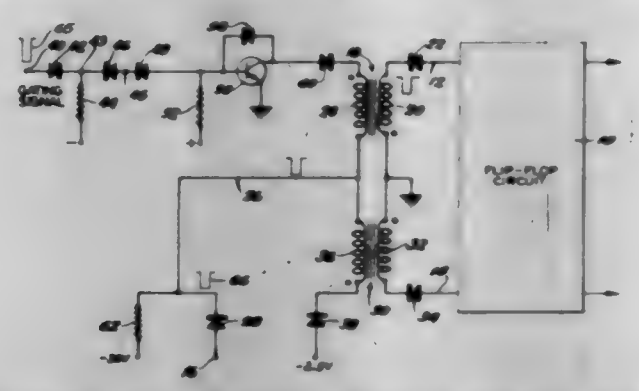
3,143,664
SELECTIVE GATE CIRCUIT UTILIZING TRANSFORMERS TO CONTROL THE OPERATION OF A BISTABLE CIRCUIT

Norman M. Lourie, Newton Center, Mass., and Walter Strohmeier, Riehen, near Basel, Switzerland, assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Nov. 13, 1961, Ser. No. 151,912
4 Claims. (Cl. 307—88.5)

1. A pulse signal manipulating circuit for controlling the condition of a bistable circuit in accordance with the

presence of gating and input pulse signals comprising a bistable circuit having a pair of inputs adapted to be selectively energized for placing the bistable circuit in a first or second operating state, a pair of transformers, each having primary and secondary windings, said transformer secondary windings being connected respectively to the bistable circuit inputs, and current steering means connected to said transformer primary windings for steering an input pulse signal into a selected bistable circuit input, said current steering means comprising a source of gating signals connected in series with a voltage responsive switch to one transformer primary winding, biasing means connected to the other transformer primary winding, and a source of input pulse signals connected to the junction of the primary windings in a manner such that when the voltage responsive switch is turned on by a gating signal, an input pulse signal is steered through the winding of one transformer to maintain the bistable circuit in a first operating state and when the voltage responsive switch is turned off due to the absence of a gating signal, an input pulse signal is steered through the winding of the other transformer to maintain the bistable circuit in a second operating state.

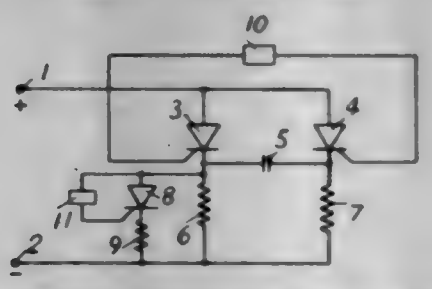


3,143,665

SILICON CONTROL RECTIFIER SWITCHING CIRCUIT HAVING VARIABLE DELAY

Sidney Basil Smith, Hemel Hempstead, England, assignor to Rotax Limited, London, England

Filed Apr. 2, 1962, Ser. No. 184,314
Claims priority, application Great Britain Apr. 17, 1961
1 Claim. (Cl. 307—88.5)



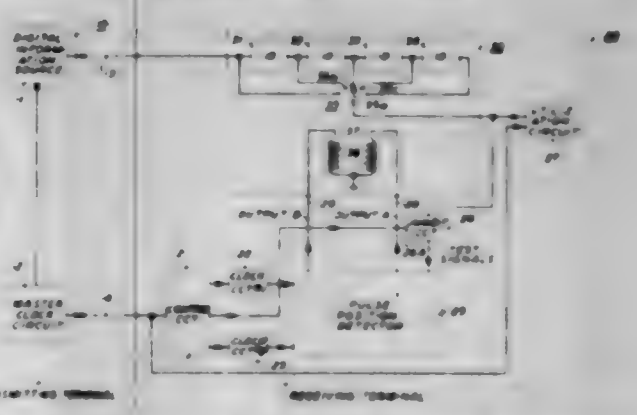
A circuit employing controlled rectifiers, including first and second terminals which in use are of relatively positive and negative polarity respectively, first and second controlled rectifiers having their anodes connected to the first terminal and their cathodes connected to the second terminal, first and second loads in the anode-cathode paths of the first and second controlled rectifiers respectively, a capacitor one side of which is connected to a point intermediate the first controlled rectifier and first load, and the other side of which is connected to a point intermediate the second controlled rectifier and second load, means for firing said controlled rectifiers in turn, said capacitor discharging on firing of a controlled rectifier to switch off the previously conducting controlled rectifier, a third controlled rectifier and a third load connected across the first load in series, said third controlled rectifier being switched off when the first controlled rectifier is switched off, and means operable by current flowing through the first controlled rectifier for firing the third controlled rectifier after a delay which is variable between extreme values in one of which no current flows through the third load whilst the first controlled rectifier is conducting and in the other of which current flows through the third load throughout the period when the first controlled rectifier is conducting.

3,143,666

SYSTEM FOR MAINTAINING PREDETERMINED TIME RELATIONSHIP BETWEEN REFERENCE SIGNALS AND INFORMATION SIGNALS

David A. Aaronson, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application Dec. 14, 1959, Ser. No. 859,258, now Patent No. 3,072,804, dated Jan. 8, 1963. Divided and this application Apr. 27, 1962, Ser. No. 190,698
5 Claims. (Cl. 307—88.5)



1. In combination in a digital information processing system, master clock circuit means, digital test signal source means responsive to the output of said master clock circuit means for supplying test signals during a predetermined word period, output circuit means, communication channel means including adjustable delay means interconnecting said source means and said output circuit means, pulse position detector means including two pnpn diode devices, means responsive to the output of said master clock circuit means and connected to said detector means for respectively applying to the diode devices of said detector means two sets of timing signals during said predetermined word period, means interconnecting said master clock circuit means and said output circuit means, means connected between the output of said adjustable delay means and an input of said detector for coupling digital test signals to each of the diode devices of said detector during said predetermined word period, and means interconnecting the output of said detector and said adjustable delay means for coupling to said delay means signals from the detector representative of the time relationship between said timing and said test signals, said adjustable delay means including means responsive to the signals from said detector for selectively controlling the number of digit periods of delay included in said delay means.

3,143,667

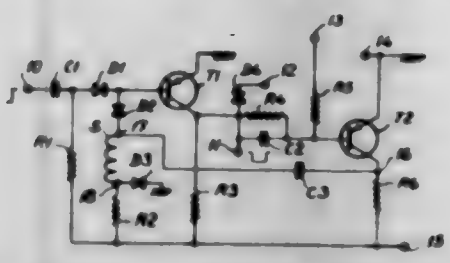
MONOSTABLE TRIGGER ARRANGEMENTS

David John Smithson, St. Germain, France, assignor to Compagnie des Machines Bull (Société Anonyme), Paris, France

Filed May 28, 1962, Ser. No. 197,982
Claims priority, application France June 16, 1961
6 Claims. (Cl. 307—88.5)

1. In a transistor monostable trigger circuit comprising a first and a second transistor, each having base, emitter and collector electrodes, voltage source means and resistors coupled to electrodes for maintaining said first transistor conducting and said second transistor non-conducting in the stable state of the circuit, resistor-capacitor coupling means connected between the collector of said first transistor and the base of said second transistor, and

input means connected to apply a trigger pulse to the base of said first transistor, the combination of a series-resonant circuit including an inductor and a capacitor series-connected, one plate of said capacitor being connected to the collector of said second transistor, the junction point of said capacitor and inductor being connected through a first unidirectionally conducting device to the



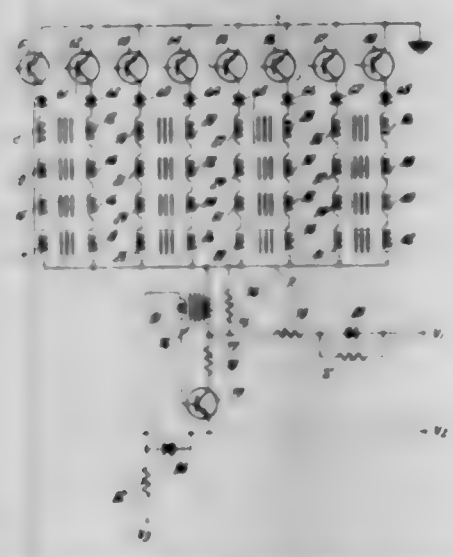
base of said first transistor, and the other end of said inductor being connected through a second unidirectionally conducting device to the emitter of said first transistor, the inductance and capacitance in said resonant circuit having values such that the duration of an output pulse substantially equals a quarter of the oscillating period of said resonant circuit.

3,143,668

POWER SAVING SWITCH DRIVER SYSTEM

Loy H. Bloodworth, Baltimore, and Kenneth E. Wood, Severna Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 12, 1962, Ser. No. 209,480
4 Claims. (Cl. 307—88.5)



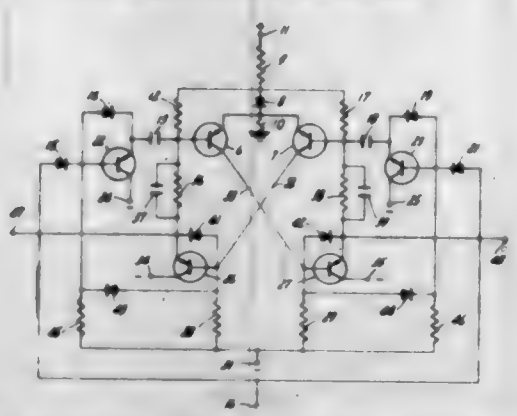
1. A power saving switch driver system comprising:
a plurality of switch drivers,
a bus bar,
a plurality of switch coils connected between each of said switch drivers and said bus bar,
a source of low voltage connected to said bus bar,
a source of high voltage, and
switching means for simultaneously connecting said source of high voltage to said bus bar and disconnecting said source of low voltage when any one of said switch drivers is energized, said switching means comprising a transformer having primary and secondary windings and an N-P-N transistor having base, emitter, and collector electrodes, one end of said primary winding being connected to said bus bar and the other end of said primary winding being connected through a resistance element to said collector electrode, one end of said secondary winding being connected to said base electrode and the other end of said secondary winding being connected to a biasing voltage source, and said emitter electrode being connected to said source of high voltage.

3,143,669

HIGH FREQUENCY TRANSISTOR BISTABLE MULTIVIBRATOR

Joseph J. Gavern, Odenton, and Frank H. Heissenbuttel III, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

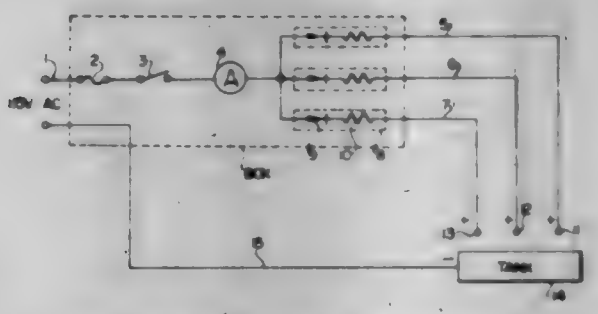
Filed Sept. 14, 1962, Ser. No. 223,856
2 Claims. (Cl. 307—88.5)



2. A high frequency, short input time constant, bistable transistor multivibrator circuit comprising:
first and second alternately conducting transistor switching means each having emitter, collector, and base electrodes, said emitter electrodes being coupled in common with each other through a small resistance means to a source of ground potential, and via a diode means and a resistance means in series to a source of positive direct current potential for providing a back bias to the emitter-base junctions of said switching means;
first and second electron controlling input means, each said input means including a capacitance means having one terminal means coupled to the respective base electrodes of said first and second transistor switching means, a transistor charging means for rapidly charging said capacitance means having its emitter electrode coupled to the other terminal of said capacitance means, its collector electrode coupled to a source of negative direct current potential, and its base electrode coupled via an input diode means to a common input terminal for receiving control signals to alternately switch the conduction levels of said first and second transistor switching means, and a diode means having its anode coupled to the base electrode of said transistor charging means and having its cathode coupled to said other terminal of said capacitance means for enabling said control signals to bypass said transistor charging means and be conveyed directly to said base electrode of said first and second transistor switching means via whichever of the respective said capacitance means is in a charged condition at that time; and
first and second output control means, said first output control means including a first transistor means having its collector electrode coupled to a source of negative direct current potential, its base electrode coupled to said collector electrode of said second transistor switching means and also via a resistance means to a negative direct current potential source, and its emitter electrode coupled via a parallel resistance-capacitance combination to the base electrode of said first transistor switching means, a diode means having its anode coupled to said base electrode and its cathode coupled to said emitter electrode of said first transistor means, a first output terminal coupled to said emitter electrode of said first transistor means, and a diode biasing means coupled from said collector electrode of said second transistor switching means to said base electrode of said transistor charging means in said first input means, and

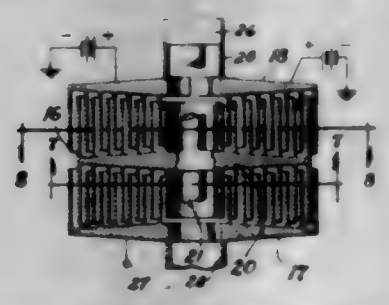
said second output control means including a second transistor means having its collector electrode coupled to a source of negative direct current potential, its base electrode coupled to said collector electrode of said first transistor switching means and also via a resistance means to a negative direct current potential source, and its emitter electrode coupled via a parallel resistance-capacitance combination to the base electrode of said second transistor switching means, a diode means having its anode coupled to said base electrode, and its cathode coupled to said emitter electrode, of said second transistor means, a second output terminal coupled to said emitter electrode of said second transistor means, and a diode biasing means coupled from said collector electrode of said first transistor switching means to said base electrode of said transistor charging means in said second input means, said first and second ouptut terminals providing a signal thereon indicative of the state of conduction of their associated respective switching means to an external load.

3,143,670
SELF-REGULATING CATHODIC PROTECTION SYSTEM
Bernard Husock, South Euclid, Ohio, assignor to Harco Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 11, 1962, Ser. No. 186,709
8 Claims. (Cl. 307—95)



1. A self-regulating cathodic protection system for underground metal storage tanks and the like comprising a plurality of corrosion-resistant anodes buried adjacent but out of contact with such tank, an alternating current source, individual lines in parallel connected to said anodes and said source, a line connected to such tank as the cathode and to said source, a readily removable plug-in can connected into each said individual parallel line containing a silicon diode rectifier and a resistor in series in said line, an ammeter in series between said source and all said parallel lines, and a switch in series between said source and all said parallel lines.

3,143,671
BRUSHLESS HIGH VOLTAGE D.C. ELECTROSTATIC MACHINE
Alfred J. Gale, Lexington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed July 27, 1959, Ser. No. 829,823
1 Claim. (Cl. 310—6)



In an electrostatic D.C. voltage generator having conductive members the capacitance between which is varied for purposes of voltage generation, the improvement which comprises a first shaft, a first radially tapered disk transversely supported upon said first shaft, a first series of circumferentially segmented conductive tubular members concentrically supported upon said first disk coaxial with said first shaft, a second shaft coaxial with said first shaft, a second radially tapered disk transversely supported upon said second shaft, a series of circumferentially segmented conductive tubular members concentrically supported upon each side of said second disk coaxial with said second shaft said last named series of circumferentially segmented conductive tubular members having segments similar to those of said first series of circumferentially segmented conductive tubular members but with alternate segments omitted, a third radially tapered disk transversely supported in coaxial relationship to said first shaft, a series of conductive tubular members concentrically supported upon said third disk coaxial with said first shaft, said series of circumferentially segmented conductive tubular members concentrically supported upon one side of said second disk being in interlocking relationship with said circumferentially segmented conductive tubular members of said first disk member and said series of circumferentially segmented conductive tubular members concentrically supported upon the other side of said second disk being in interlocking relationship with said series of conductive tubular members concentrically supported upon said third disk members, and means for rotating said second shaft, whereby the capacitance between said first series of circumferentially segmented conductive tubular members and said series of conductive tubular members is varied.

3,143,672
SINGLE CRYSTAL QUARTZ FILTER ELEMENTS, OSCILLATORS AND TRANSDUCERS
Warren P. Mason, West Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 14, 1962, Ser. No. 223,730
6 Claims. (Cl. 310—9.5)

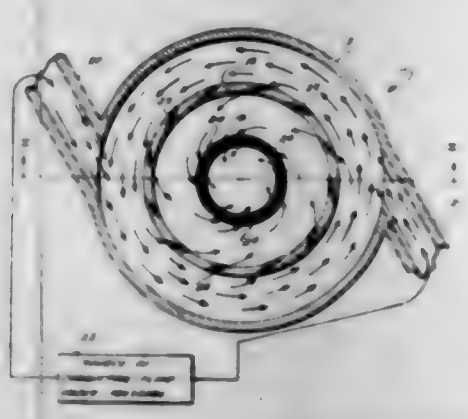


1. An elongated element cut from a single crystal of quartz adapted and arranged to vibrate in a principal high frequency thickness shear mode, the said mode having in an element of rectangular shape appreciable coupling to a particular longitudinal higher order even flexure mode and even flexure modes adjacent said particular mode, each of the ends of the element having the shape of an inwardly projecting V-shaped notch, the apex of the notch extending into the element for a depth of two wavelengths of the particular flexure mode, the base of the notch being equal to the width of the element and coincident with its associated end of the element.

3,143,673
HOMOPOLAR GENERATOR
Coleman du P. Donaldson, Princeton, N.J., assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 8, 1960, Ser. No. 47,997
1 Claim. (Cl. 310—11)

An electrical energy generator comprising a hollow cylindrical casing, means for establishing a magnetic field axially of said casing, a pair of concentric, electrically conductive rings of different diameters disposed in said casing.

means for introducing an electrically conductive fluid into said casing in a direction whereby said fluid has both tangential and radial components with respect to said rings, the outer of said pair of rings having a plurality of non-



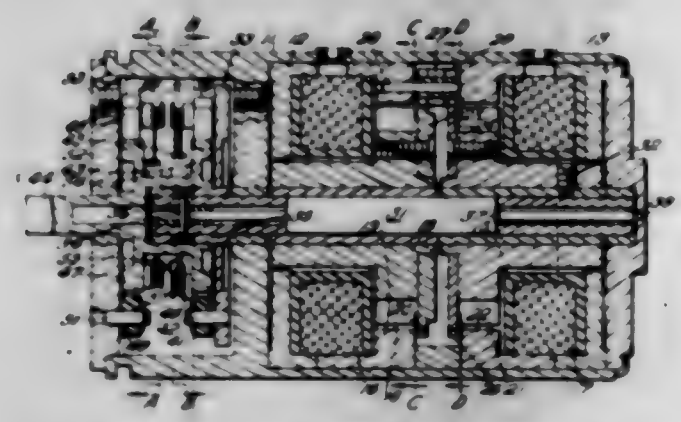
radial slots arranged to direct said fluid with tangential and radial components toward said inner ring, said inner ring also having non-radial slots extending therethrough for directing said fluid centrally thereof, and means for exhausting said fluid centrally of said inner ring.

3,143,674

ROTARY STEPPING MECHANISMS

Gordon Vallance Boad, Bracknell, England, assignor to Microcell Limited, London, England, a British company

Filed Nov. 24, 1961, Ser. No. 154,717
Claims priority, application Great Britain Nov. 25, 1960
10 Claims. (Cl. 310—37)



1. A rotary stepping mechanism comprising two similar co-axial electro-magnetic rotor-stator assemblies arranged so that on energising the two assemblies with an electric current the two rotors turn through limited angles in opposite directions, differential gearing connecting the two rotors so that their rotational movements are equal and opposite, restoring means coupled to one of the rotors to restore the rotors to a normal position on cessation of the energising current and a rotatable output member with a latching mechanism driven by a one-way drive from one of the rotors.

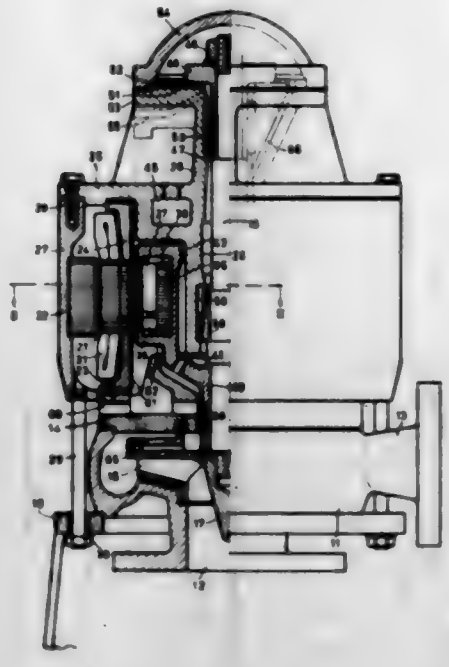
3,143,675

ELECTRIC MOTOR COOLING IN A CENTRIFUGAL PUMP UNIT

Ernst Hauenstein, Lauterbrunnen, Switzerland

Filed May 1, 1961, Ser. No. 106,932
Claims priority, application Switzerland May 3, 1960
4 Claims. (Cl. 310—54)

1. Electric motor particularly for driving an impeller of a pump, comprising a bearing sleeve, a vertically arranged shaft rotatably mounted in the sleeve, a stator having a magnet iron pack and a winding within the magnet-iron pack, a rotor mounted on the shaft, a magnet-iron pack having a short circuited winding mounted in the rotor as a part thereof, the space between the pack of the stator and the pack of the rotor forming an air gap, means to direct a cooling fluid to the rotor with the latter formed as an upwardly open bell to receive the cooling fluid, and a radially inwards directed circumferential bulge at the upper edge of the bell reaching



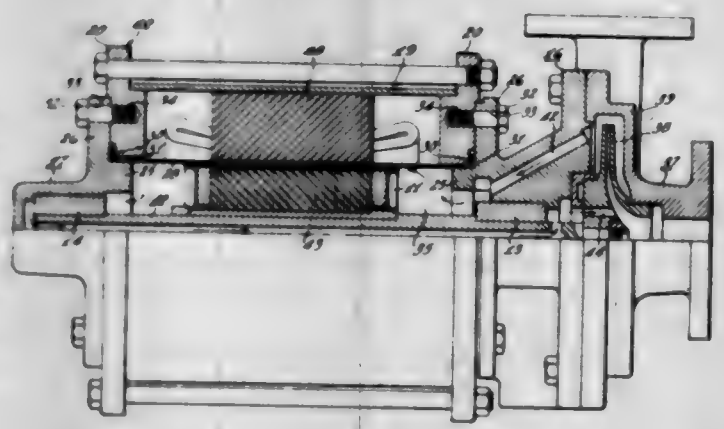
nearly to the bearing sleeve to prevent the exit of the cooling fluid and having a closed bottom end for the bell provided with at least one outlet opening in a bottom wall of the bell.

3,143,676

SEALING ARRANGEMENT FOR CANNED PUMPS

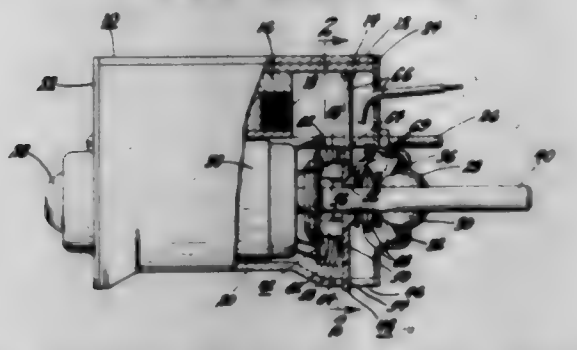
Ignatius J. Niemkiewicz, Cincinnati, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 17, 1960, Ser. No. 63,187
1 Claim. (Cl. 310—86)



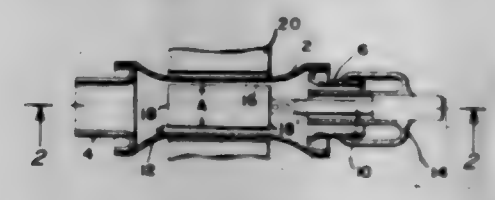
A canned motor comprising: a cylindrical housing; a pair of annular end members attached to said housing; a motor stator mounted within said housing; bearing means having an outwardly extending flange positioned adjacent an associated said end member and an axial flange extending inwardly within said associated end member; a shaft rotatably mounted in said bearing means; a motor rotor mounted on said shaft and positioned within said stator; a cylindrical can surrounding said rotor and said axial flanges, the radially inner portion of said end members adjacent said outwardly extending flanges being tapered to form with said flanges an annular space; and resilient sealing means surrounding each end of said can and compressively confined within said annular space to seal the interior of said can from said stator and atmosphere.

3,143,677
BRUSH HOLDER ASSEMBLY
Paul S. Heiler, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 185,920
6 Claims. (Cl. 310—239)



4. In a dynamoelectric machine having a frame and a pair of end caps enclosing the ends of said frame, an armature having a shaft journalled in said end caps and carrying a current collector member, an integral brush plate and brush box assembly of insulating material having radially extending lug means, a pair of brush boxes and a shaft receiving opening, said frame having an elongate axial slot means receiving said lug means for restraining rotation of said assembly relative to said frame, a brush disposed in each brush box for engagement with said current collector member, and a spring washer assembly reacting between one of said end caps and said assembly for biasing said assembly axially into engagement with said current collector member.

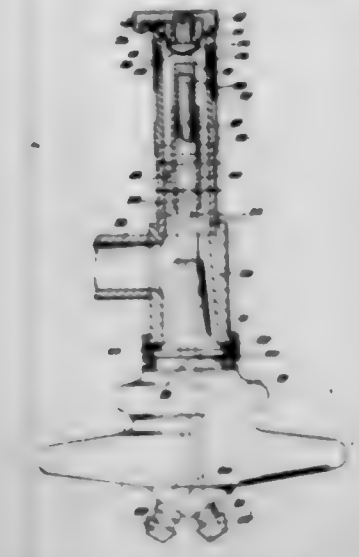
3,143,678
VACUUM ION GAUGE
Charles L. Giles, Carlsbad, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 5, 1961, Ser. No. 157,076
6 Claims. (Cl. 313—7)



2. Ionic vacuum apparatus comprising a tubular cathode member having substantially flattened opposed wall sections, spaced planar anode elements disposed within said cathode member and having a predetermined length and width, the edge portions of said anode elements nearest said opposed wall sections of said cathode member being substantially uniformly spaced therefrom, the ratio of the width of said anode elements between said edge portions thereof to the spacing between said anode elements being at least 2:3 and magnetic means disposed externally of said cathode member for establishing a magnetic field between said cathode member and said anode elements.

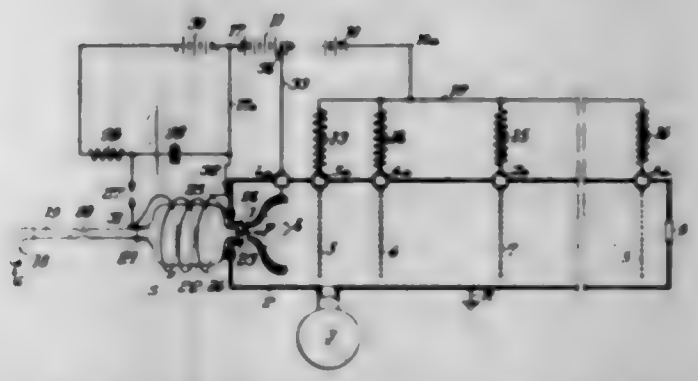
3,143,679
FOCUSSING ARRANGEMENT FOR X-RAY TUBES
James Richard Stansfield, London, England, assignor to Hilger & Watts Limited, London, England, a company of Great Britain and Northern Ireland
Filed June 6, 1960, Ser. No. 34,265
Claims priority, application Great Britain June 11, 1959
12 Claims. (Cl. 313—57)

1. A cathode assembly, for an X-ray tube of the kind in which the electron path from cathode to anode lies within an element which is maintained at a potential in the region of cathode potential, having a filament having an emission surface convex towards the intended direction of electron flow and a metal shield forming a focussing slot for the said filament and arranged so that it can be biassed at a negative potential relative to the



filament, the edges of the shield adjacent the filament also being convex towards the intended direction of electron flow, said shield being positioned with the slot aligned with the filament.

3,143,680
ION ACCELERATORS
Siegfried Klein, Paris, and Jacques Pottier, Orsay, France, assignors to the Commissariat a l'Energie Atomique, Paris, France, an organization of France
Filed Nov. 24, 1959, Ser. No. 855,176
Claims priority, application France Nov. 25, 1958
14 Claims. (Cl. 313—63)

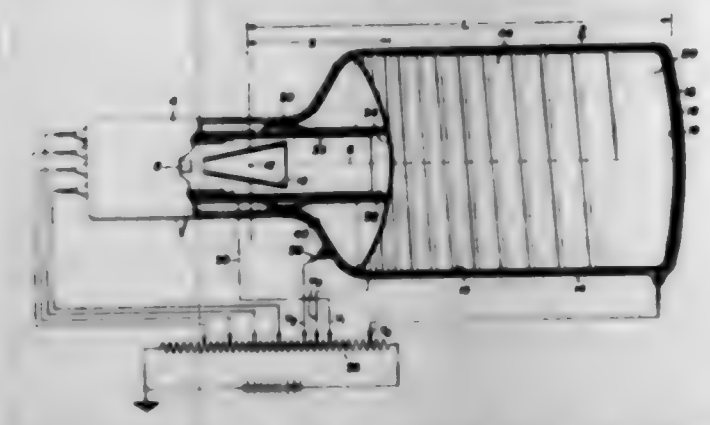


1. An ion accelerator, for accelerating bunches of ions supplied at a reference potential by a high intensity pulsating ion source, this accelerator comprising, in combination, an evacuated tubular chamber having one portion thereof connected with the outlet of said ion source so as to receive ions therefrom, a series of electrodes partly permeable to ions, said electrodes being disposed behind one another in said chamber transversely to the axis thereof, a high direct voltage source having a first terminal at said reference potential and a second terminal, a series of resistors of substantially identical high resistance and of negligible inductance having each one end connected to one of said electrodes, respectively, and conductor means for connecting said second terminal of said source to all the other ends of said resistors.

3,143,681
SPIRAL ELECTROSTATIC ELECTRON LENS
Kurt Schlesinger, Fayetteville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 7, 1959, Ser. No. 857,757
18 Claims. (Cl. 313—83)

10. In a cathode ray tube, means for generating an electron beam directed along a reference axis, means for

deflecting the electron beam in directions normal to the axis, electrode means surrounding the axis for generating an electrostatic field having equipotential surfaces which are cosymptotic hyperboloids symmetrical with the axis, said electrode means including a continuous spiral conductive strip symmetrical with the axis and having a non-uniform pitch, and an apertured electron beam conductive member having a substantially uniform surface potential disposed in the path of the electron beam between the



deflection means and said electrostatic field, said conductive member conforming in shape generally to the adjacent hyperboloidal equipotential surface of said electrostatic field whereby to serve as an electrically continuous boundary for said electrostatic field, the axial spacing of said conductive member from said effective deflection center being approximately in the range of 0.40 to 0.75 times the spacing of said effective deflection center from said target.

3,143,682
ELECTROLUMINESCENT DEVICES WITH A BARIUM TITANATE LAYER
Maurice G. Clarke and Cyril H. Walker, Rugby, England, assignors to The British Thomson-Houston Company Limited, a British company
Filed Dec. 20, 1954, Ser. No. 476,222
5 Claims. (Cl. 313—108)

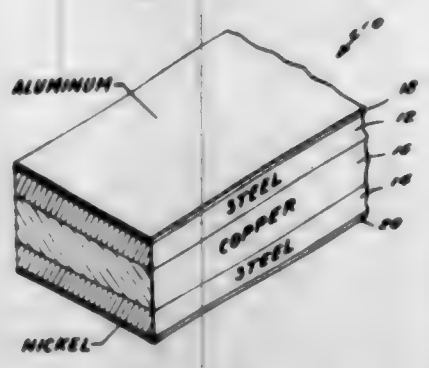


1. An electroluminescent device comprising an electrically conductive light-transmitting plate, a layer thereover of electroluminescent phosphor densely dispersed in an insulating resin, a layer thereover of a material of high dielectric constant and high light reflectance and comprising barium titanate densely dispersed in an insulating resin and serving to reflect light from said phosphor layer toward said light-transmitting plate, and a coating thereover of electrically conductive material.

3,143,683
TELEVISION TUBE WITH IMPROVED OPTICAL FILTER
James E. Duncan and John J. Smith, Natrona Heights, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 2, 1959, Ser. No. 784,450
4 Claims. (Cl. 313—110)

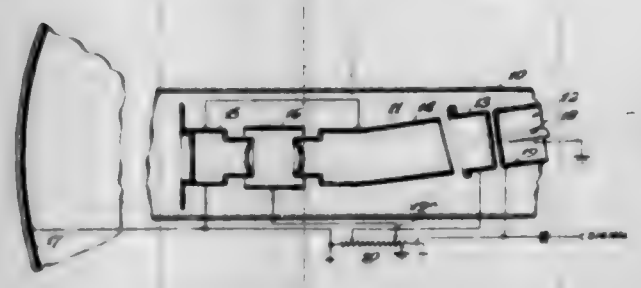
1. A color television tube having a face plate composed of a substantially neutral colored, transparent, lime-soda-silica glass favoring transmission in the red portion of the visible spectrum and absorption between the red and green portions of the visible spectrum including as essential ingredients in the following proportions by weight: 0.05 to 0.4 percent Fe_2O_3, 0.3 to 1.2 percent Nd_2O_3, 0.01 to 0.05 percent NiO, 0.002 to 0.006 percent CoO and 0.002 to 0.02 percent Se, and having a plurality of groups of blue, green and red color emitting phosphors supported on the inside surface of the face plate.

3,143,684
COMPOSITE METALLIC ELECTRODE MATERIAL AND ELECTRODES MADE THEREFROM
Edwin A. Miller, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 27, 1959, Ser. No. 848,939
15 Claims. (Cl. 313—355)



1. A five-layered composite electrode material having improved thermal emission, thermal conduction and thermal radiation properties comprising two layers of steel each metallurgically bonded to and sandwiching therebetween a layer of an electrically conductive material of high thermal conductivity, a first layer selected from the group consisting of aluminum and nickel metallurgically bonded to one of said layers of steel and a second layer selected from the group consisting of nickel and copper metallurgically bonded to the other of said layers of steel, said first layer being aluminum when said second layer is copper.

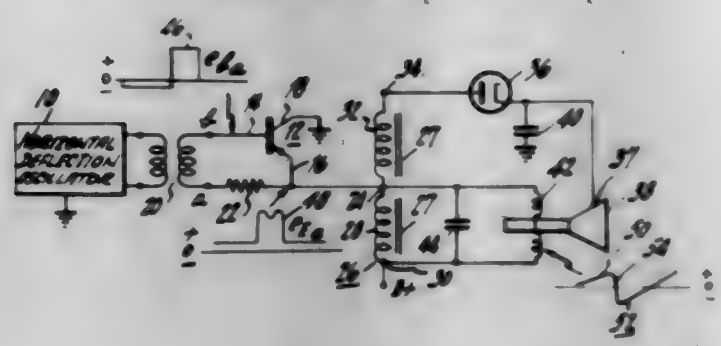
3,143,685
CHARACTER DISPLAY CATHODE RAY TUBE
Nicholas D. Glyptis, % Multi-Tron Laboratory, Inc., 9861 Derby Lane, Westchester, Ill.
Continuation of application Ser. No. 664,195, June 7, 1957. This application July 24, 1961, Ser. No. 127,089
8 Claims. (Cl. 315—15)

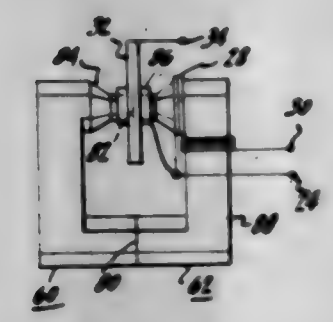


1. In a cathode-ray display tube, apparatus of the character described, comprising: a source of electrons including a cathode having an electron emissive surface; a grid having alternate solid portions and openings, said grid being located adjacent said cathode surface, the ratio of the width of the solid portions of the grid to the spacing therebetween being at least 0.05 and less than 0.5 and the ratio of the spacing between the solid portions of the grid to the spacing of the grid from the emissive cathode surface being at least 2.1 and less than 10, whereby a voltage applied between the grid and cathode establishes a varying voltage gradient across the emissive surface of the cathode to control the emission of electrons therefrom and to form said electrons into a plurality of discrete

beams which comprise a bundle of electron beams; and means for masking a portion of said bundle of electron beams to give the bundle a desired cross-sectional configuration.

3,143,686
FLYBACK TRANSFORMER AND TRANSISTORIZED DEFLECTION CIRCUIT
Bernard V. Vonderschmitt, New Hope, Pa., and Robert A. Daniel, Bellmawr, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Aug. 14, 1962, Ser. No. 216,881
3 Claims. (Cl. 315—27)





3. A transistorized horizontal deflection circuit of a television receiver including horizontal deflection windings and a flyback transformer, said circuit normally subject to undesirable oscillations during the trace portion of the deflection cycle of said circuit due to leakage reactances exhibited by said transformer, comprising the combination of:

a bi-part ferrite core including a pair of substantially identical C-shaped core sections juxtaposed with intervening air gaps to form a composite core of an apertured rectangular shape;

said core formed with one leg thereof having a portion, extending on either side of the air gap formed in said one leg at the junction of said core sections, which is constricted with respect to the remaining portion of said one leg;

a high voltage secondary coil having a plurality of turns wound in the configuration of a disc around the constricted portion of said one leg to exhibit a desired reduced stray capacitance between said secondary coil and said core;

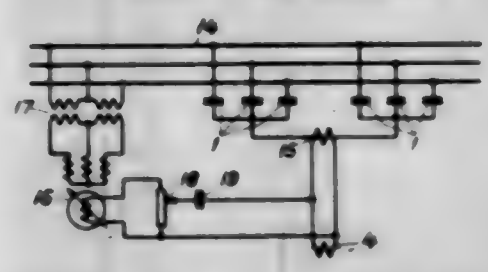
a low voltage primary coil wound partially around the remaining portion of said one leg and partially around an adjacent leg of said core to cause said transformer to exhibit a desired leakage inductance;

an output transistor coupled across said low voltage primary coil and alternately switched from a cut-off condition to a saturated conduction condition at the repetition rate of said deflection cycle; and

means couping said primary coil across said horizontal deflection windings;

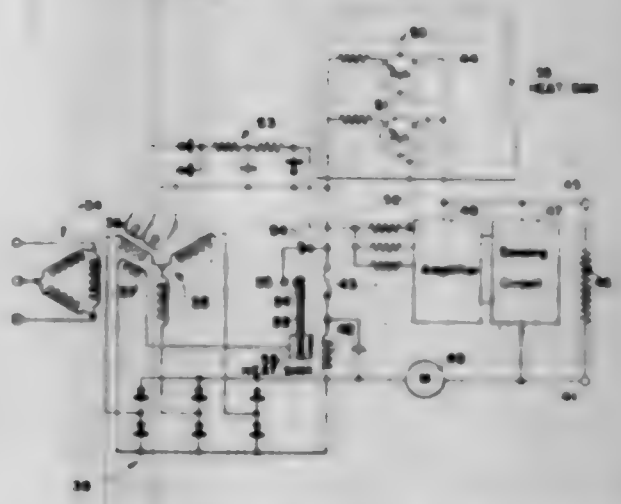
the inductance of said horizontal deflection windings, the leakage inductance of said flyback transformer and the stray capacitance of said high voltage secondary coil being selected to eliminate undesirable oscillations during the trace portion of the deflection cycle.

3,143,687
RELAY PROTECTION FOR CAPACITOR BANKS
Peter Gustav Hjertberg and Paul Skogby, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Apr. 18, 1957, Ser. No. 653,637
Claims priority, application Sweden Apr. 30, 1956
7 Claims. (Cl. 317—12)



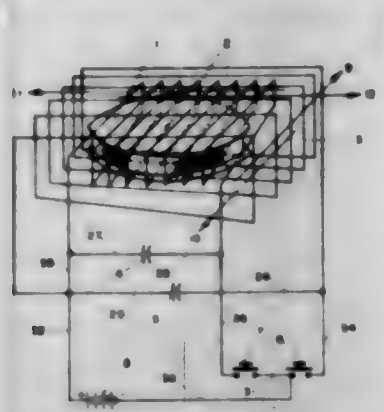
1. A capacitor bank adapted to be connected to an alternating current power line, said capacitor bank including two similar parallel branches, each of said branches comprising a plurality of series-connected groups and each group comprising a plurality of capacitor units connected in parallel, means for connecting the capacitor bank to said power line, a transformer connected between corresponding points on said branches, the impedances of said branches being different and an unbalance current normally flowing between said points, whereby an alternating current signal is developed by said transformer, phase shifting and magnitude varying means for deriving an alternating current signal equal in magnitude and opposite in phase to said signal developed by said transformer, means for vectorially adding said derived signal and said signal developed by said transformer, and relay means energized from the output of said last-named means.

3,143,688
PROTECTIVE DEVICE
Max Kunz, Norwalk, Conn., assignor to Raytheon Company, a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,445
5 Claims. (Cl. 317—40)



1. A protective device comprising, a plurality of circuit components which may be damaged by an elevated temperature above a predetermined value, said components secured to a common metal heat sink and in thermal contact therewith, a bimetallic temperature-sensitive strip also secured to said heat sink and having contact means for closing a circuit when the temperature exceeds said predetermined value; said circuit including in series connection, a first source of electrical power, said contact means, and a fuse; said fuse also connected in series with an electrical supply line which connects said circuit components to a second source of electrical power; whereby said fuse is melted when the contacts are closed and said second potential source is disconnected from the components.

3,143,689
MAGNETIC RECORDING TAPE ERASURE APPARATUS
John R. Hall, 1430 Bella Vista Drive, Dallas 18, Tex.
Filed Aug. 15, 1960, Ser. No. 49,701
10 Claims. (Cl. 317—157.5)



1. An eraser for magnetic tape on a reel which comprises:

(*a*) a first hollow core solenoid of rectangular configuration to receive said reel therein with the axis of said reel perpendicular to the axis of said solenoid,

(*b*) a second hollow core solenoid of configuration to receive said first solenoid and said reel therein with the axes of said reel and of said first solenoid mutually perpendicular to the axis of said second solenoid,

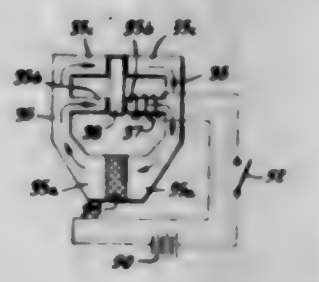
(*c*) a unidirectional voltage source,

(*d*) normally open switch means for connecting said source to said solenoids,

(*e*) control means for periodically closing and opening said switch means to initiate and to terminate flow of current through said solenoids for storage of energy therein, and

(*f*) capacitor means connected to said solenoids for producing sustained oscillatory currents in said solenoids of amplitude decreasing with time in dependence upon the losses in said solenoids, said reel and said capacitor means during the interval following each closure and opening of said switch means.

3,143,690
ELECTROMAGNETIC PINCH ROLLER ACTUATOR
Arthur E. Young, Menlo Park, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Jan. 25, 1962, Ser. No. 168,621
5 Claims. (Cl. 317—171)



1. An electromagnetic actuator suitable for high speed movement of a pinch roller in a magnetic tape transport, comprising:

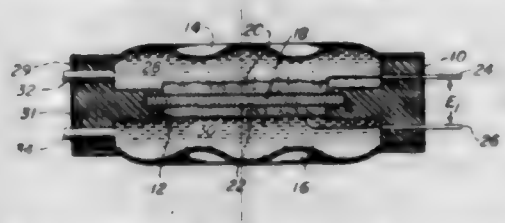
a symmetrical magnetic core structure including two halves each having a number of legs, the legs of the two halves being in opposed facing relation;

permanent magnet means positioned between a pair of the opposed legs and establishing a particular magnetic flux pattern in the core structure;

armature means rotatable about a selected axis between two other opposed pairs of legs of the two halves, the armature means normally being equidistant from each of the opposed legs;

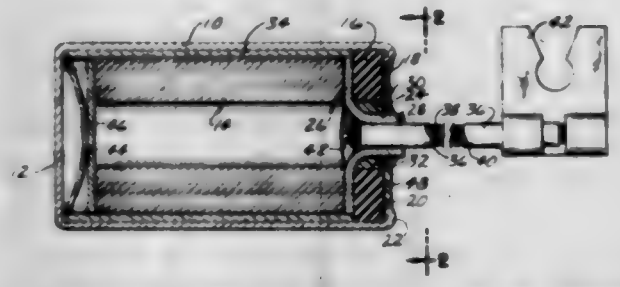
and means adjacent to but one selected leg of said two other pairs for increasing the flux density in said selected leg, thereby modifying the flux pattern in the core structure, thereby to rotate the armature.

3,143,691
ELECTRO-OSMOTIC CELL
Ray M. Hurd, Austin, Tex., assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 28, 1958, Ser. No. 777,068
2 Claims. (Cl. 317—231)



1. An electro-osmotic cell comprising a housing having flexible diaphragms on opposite sides thereof; a porous disc dividing said housing into a pair of chambers, one wall of each of which is defined by one of said diaphragms; a polar liquid in each of said chambers; and a pair of electrodes mounted one each in said chambers in close proximity to said disc, said electrodes being composed of a metal and metal ion selected from the group of metals and metal ions consisting of silver and silver ion, thallium and thallium ion, copper and copper ion and lead and lead ion, and being self-depolarizing upon the application of a voltage thereto.

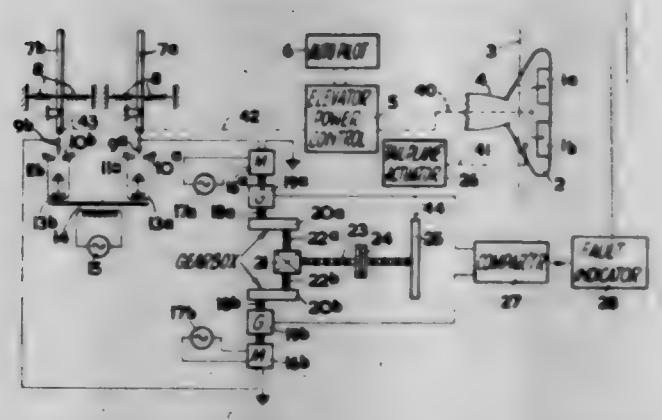
3,143,692
CAPACITOR WITH HOUSING END SEAL
Stanley M. Terry, Longmeadow, Mass., assignor, by mesne assignments, to Three Rivers Industries, Inc., Three Rivers, Mass., a corporation of Massachusetts
Filed Mar. 13, 1961, Ser. No. 95,210
7 Claims. (Cl. 317—260)



1. In an electrical condenser assembly the combination comprising a tubular case having an open end, an apertured insulating washer positioned in said open end of said case and arranged so that said case projects axially some distance beyond the outer surface of said washer, a metallic connector element having an annular radially extending portion disposed adjacent the inner surface of said insulating washer and also having an axially extending tubular portion which projects outwardly from said annular portion and through at least an axial portion of the opening in said insulating washer, a wire lead having one end positioned in said tubular portion of said connector element and soldered to said connector element in such a manner that the solder and wire completely close the bore of said tubular portion, and a quantity of sealing material disposed adjacent the outer surface of said insulating washer which sealing material covers the entire exposed outer surface of said washer and is adhered to said tubular portion of said connector element, to said outer surface of said insulating washer and to said portion of said case which projects beyond said outer washer surface to provide a moistureproof seal between said washer and said case and between said washer and said tubular portion of said connector element, said opening

in said insulating washer being of a substantially larger diameter than the outer surface of said tubular portion of said connector element so as to define an annular recess between said washer and said tubular portion, and said recess being filled with said sealing material so that said sealing material is adhered to the axially extending inner circumferential surface of said washer which surface defines said washer opening and to that part of the outer surface of said tubular portion located in said recess.

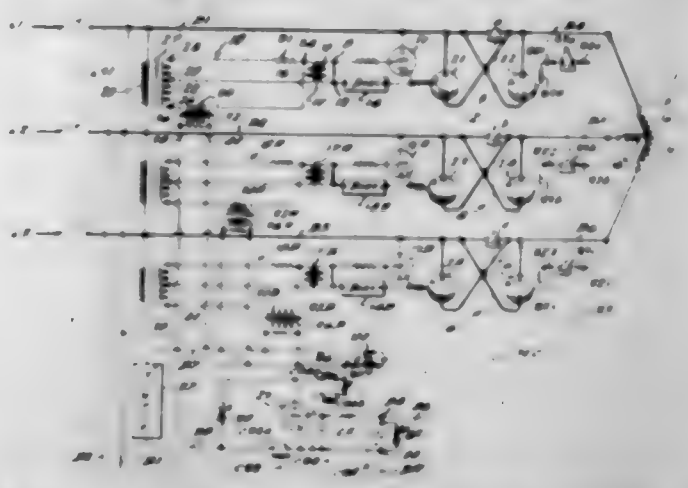
3,143,693
AUTOMATIC TRIMMING SYSTEMS FOR THE CONTROL SURFACES OF A MOVING CRAFT
Kenneth Fearnside, Bredon, near Tewkesbury, and David William Righton, Cheltenham, England, assignors to Smiths America Corporation, Lakeland, Fla.
Filed Feb. 26, 1960, Ser. No. 11,311
21 Claims. (Cl. 318—8)



1. An automatic trimming system for a control surface means of a moving craft comprising a detector responsive to out of trim conditions about the axis about which said control surface means cause rotation of the craft, the detector having a first state corresponding to no appreciable out of trim and second and third states respectively corresponding to appreciable out of trim of the craft in opposite senses about said axis, first and second similar independent channels with inputs controlled by the detector, the channels both producing zero output when the detector is in its first state and, when the detector is in either of its second and third states, outputs which are substantially equal in magnitude and of the same sense which sense changes according as to whether the detector is in its second or its third state, means for combining the outputs of the two channels algebraically to produce a combined output signal and positionable means associated with the control surface means to correct out of trim conditions about said axis, and means for applying said combined output signal to said positionable means to cause it to be moved at a rate proportional to the magnitude of the combined output signal and in a sense to correct any out of trim condition.

3,143,694
MOTOR CONTROLLING APPARATUS
Wilbert A. Chiasson, Walled Lake Township, Oakland County, Mich., assignor to Weltronic Company, a corporation of Michigan
Filed Sept. 16, 1957, Ser. No. 684,094
17 Claims. (Cl. 318—227)

1. In a control circuit for supplying power to a load device from a three-phase power line, said load device having a plurality of input terminals, the combination which comprises two banks of ignitron tubes connected between said line and said input terminals to provide going and return current paths for load current, adjustable phasing means connected in circuit with the ignitor electrodes of the nigitrons in one of said banks for initiating the conduction periods of such ignitrons in predetermined phase relation to the power-line voltage, and charge-responsive means connected in circuit respectively between said input terminals and the ignitor electrodes of the ignitrons in said other bank operative to initiate conduction



periods of said other ignitrons in automatic response to the accumulation of charge on said input terminals, whereby said other ignitrons provide timed return paths for load current flowing through said load device via the ignitrons in said first bank.

3,143,695
REVERSIBLE MOTOR SPEED CONTROL
Jack C. Holme, Jr., Tipp City, Ohio, and Kenneth E. Pope, Albuquerque, N. Mex., assignors to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 23, 1957, Ser. No. 654,537
7 Claims. (Cl. 318—257)



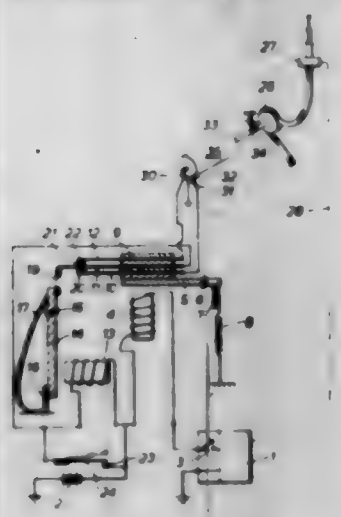
1. A speed governor system for a reversible electric motor having energizing windings and a motor shaft, a pair of governor contacts mounted on said motor shaft and being caused to be opened in accordance with a predetermined speed of said shaft; a first and a second transistor each having base, emitter and collector elements; a first control circuit including said contacts and two elements of said first transistor; a second control circuit including said contacts and two elements of said second transistor; an output circuit including said windings and another two of said elements of each of said transistors, one of the elements of each transistor being common to its control circuit and to said output circuit; said circuits being adapted to be connected to a source of power of reversible polarity; current direction limiting means in said circuits so arranged that for a given applied input polarity to said circuits current will flow through said output circuit and only one of said control circuits, whereby when said motor shaft rotates, said contacts will be caused to intermittently separate and engage as the shaft speed fluctuates about said predetermined speed, thereby turning one of said transistors on and off to control the power input to said windings and consequently the speed of the motor, regardless of the direction of current flow through said motor.

3,143,696

STALLED MOTOR THERMAL STOPPING CONTROL WITH PREPARATION FOR REVERSE

Royston Sydney Harris, Shepherds Bush, London, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company

Filed May 2, 1961, Ser. No. 107,167
Claims priority, application Great Britain May 5, 1960
10 Claims. (Cl. 318—266)



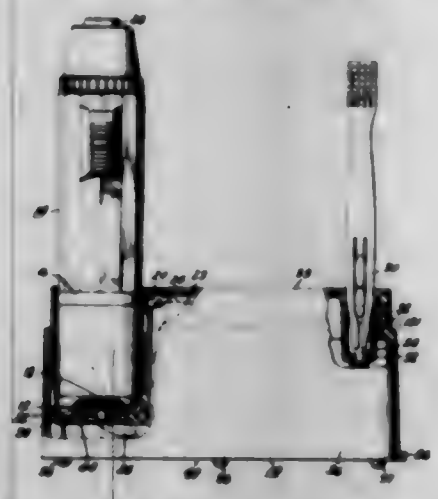
1. Electrical actuating apparatus comprising a reversible electric motor, a member drivable by said motor through a range determined by stop means which mechanically prevent motion of the member beyond the range thereby to stall said motor, current responsive means comprising a bi-metal element connected in series with said motor through normally closed contact means for energizing said motor, said bi-metal element being responsive to heat generated in it for opening said contact means when the current passing through it reaches a sustained value resulting from the stalling of said motor, whereby when said motor is stalled and the current drawn by said motor reaches said sustained value said current responsive means causes said contact means to de-energize the motor and causes said contact means to be set so that upon subsequent actuation the motor is energized in the opposite sense.

3,143,697

TOOTHBRUSH STORAGE CASE AND BATTERY CHARGER

Hans Springer, Ashland, Mass., assignor to General Electric Company, a corporation of New York

Filed May 31, 1962, Ser. No. 198,884
6 Claims. (Cl. 320—2)



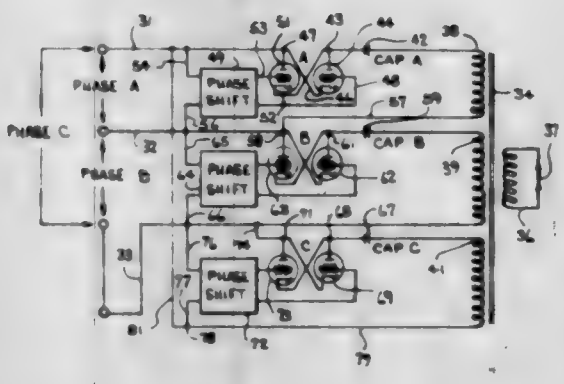
2. A storage case and battery charger for a motorized toothbrush comprising a housing formed of molded plastic insulating material, a socket integrally formed at one side of said housing for receiving a toothbrush power handle containing a rechargeable battery, battery charging means positioned in said housing, said toothbrush power handle being formed of molded plastic insulating material, said socket having a generally circular side wall and a bottom wall, vent means in said bottom wall, a charging contact fixed to said plastic circular side wall, a charging contact fixed to the bottom wall of said socket and spaced upwardly from said bottom wall and said vent means, said power handle having a generally circular side wall and an end bottom wall, a metal contact located on the end bottom wall of said power handle, a circular metal contact ring positioned upwardly from the contact formed on the end bottom wall of said plastic handle so that said power handle may be readily inserted into said socket for permitting the bottom contact on said handle to engage the contact fixed to the bottom wall of said socket and the circular metal contact ring to engage the contact fixed to the circular side wall of said plastic socket, a generally flat bottom plate positioned below said socket and battery charging means for closing said enlarged opening.

3,143,698

PULSE GENERATING FROM A SINGLE-PHASE OR MULTIPLE-PHASE A.C. SOURCE

Stuart C. Rockafellow, deceased, late of Plymouth, Mich., by Laura M. Rockafellow, executrix, Plymouth, Mich., assignor to Robotron Corporation, a corporation of Michigan

Filed Nov. 30, 1962, Ser. No. 242,577
12 Claims. (Cl. 323—18)



1. A circuit for supplying electrical pulses to a load comprising the combination:

a pair of source terminals and first conductive means for connecting same to a source of regularly reversing potential;

a switch;

a switch actuator for controlling said switch and operable to close same in desired relationship to reversals in polarity of said source, the switch being opened when current through said switch reaches a predetermined minimum level;

capacitive and inductive energy storage devices and a resistive device, at least one thereof constituting said load, and second conductive means for connecting said energy storage and resistive devices in series with each other and with said switch and said source terminals;

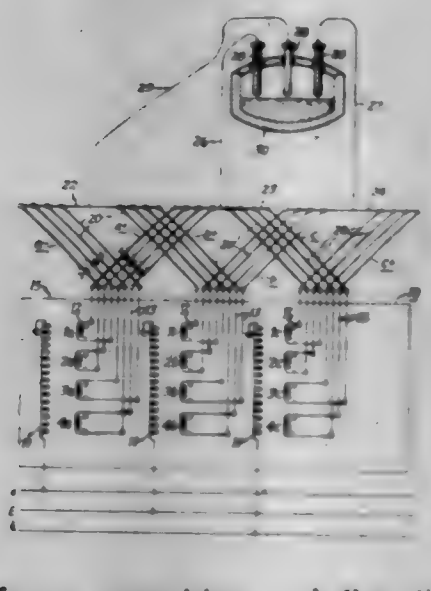
the parameters of said circuit conforming substantially to the formula:

$$K \cong 1 + e^{\left(-\frac{\pi}{2}R\sqrt{\frac{C}{L}}\right)}$$

wherein e equals the natural logarithmic base, R equals the total resistance in all resistive components of the above-designated circuit including especially that of said energy storage devices, said switch, said resistive device and said conductive means, C equals the total capacitance of all capactive components of the above designated circuit including at least that of said capacitive storage device, L equals the total

inductance in all inductive components of the above-designated circuit including at least that of said inductive storage device and wherein K is of value between the integer 1 and the integer 2.

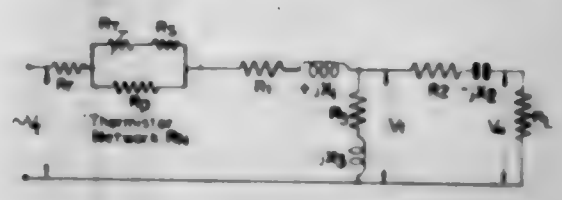
3,143,699
ELECTRICAL REACTANCE BALANCING APPARATUS
John C. Russ, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Aug. 25, 1961, Ser. No. 133,935
9 Claims. (Cl. 323—48)



6. A transformer comprising a winding divided into four parallel-connected winding sections, an enclosure containing said winding sections, the positive end of each winding section being connected to a lead, and the negative end of each winding section being connected to a different lead, the leads from each winding section being positioned adjacent each other and passing through said enclosure at one end of said transformer, physically adjacent leads carrying currents flowing in opposite directions, segregated groups of four conductors having the same length externally connected to the leads of like-polarity from each winding section, the conductors in each external group being aligned adjacent each other so that two conductors occupy outside positions and two conductors occupy interior positions between the two outside conductors, said conductors being linked by different amounts of flux so as to cause the conductors occupying the interior positions to have a higher reactance than the conductors occupying the outside positions, the connections between said winding sections and their associated leads being arranged so that each winding section that is connected at one end to a conductor having a high reactance interior position, and each winding section is connected at its other end to a conductor having a low reactance outside position.

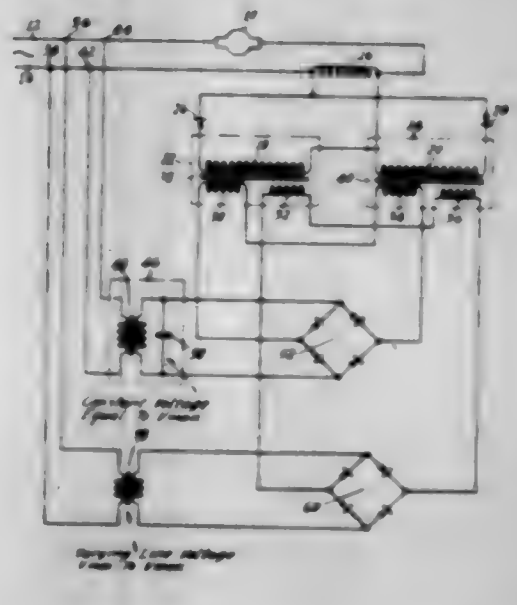
3,143,700
RESISTANCE NETWORKS FOR STABILIZING PHASE SHIFT IN RESOLVERS AND THE LIKE
William Jabez George Cox, Bletchingley, England, assignor to Computing Devices of Canada Limited, Ottawa, Ontario, Canada, a company of Canada
Filed Aug. 12, 1960, Ser. No. 49,274
6 Claims. (Cl. 323—69)

1. A compensating circuit for an inductive transfer device having input and output windings and a transfer function between a supply source of fixed frequency and voltage connected to the input and a high resistance load connected to the output such that the electrical analogue is representable by a first series portion having a real component of resistive impedance substantially equal to a function of said winding resistances and a series inductive reactance component, and a second series portion comprising substantially only an inductive reactance component, said compensating circuit being connected between said supply and an input winding and comprising a combination of shunt and series resistances including a



thermistor disposed for temperature equality with said windings and having a circuit resistance exhibiting a negatime temperature coefficient of resistance such that the sum of said resistive impedance and said compensating circuit resistance is approximately constant over a predetermined temperature range.

3,143,701
STABILIZATION CIRCUIT FOR ARC LAMPS
Lester F. Bird, Newark, N.J., assignor to Engelhard Hanovia, Inc., a corporation of New Jersey
Filed Apr. 28, 1959, Ser. No. 809,485
3 Claims. (Cl. 323—89)



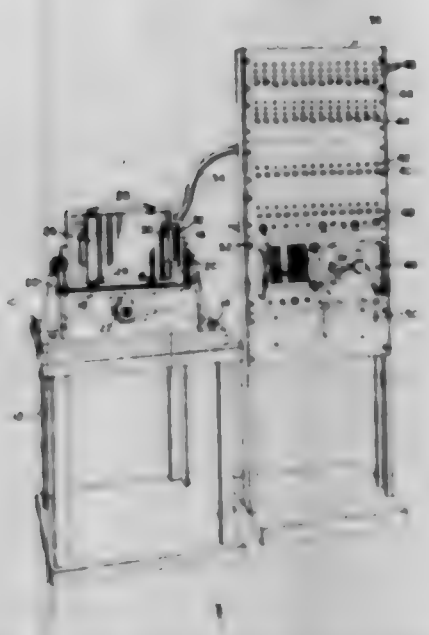
1. An automatically regulated ballast circuit comprising alternating current input means connectable to a current supply, a ballast connected in series in the input means, a pair of saturable reactors having power windings, the ballast including the power windings, means for directing one half-wave of the supply current through the power windings of one reactor, means for directing the other half-wave of the supply current through the power windings of the other reactor; each reactor having a core and first and second control windings; means for supplying a first, stabilized direct current signal to the first control winding of each reactor for magnetically biasing both cores equally and beyond the saturation degree required for optimum current supply conditions; means for deriving, from the alternating current supply, a second direct current signal which is a function of the supply voltage; and means for supplying said second signal to the second control winding of each reactor for opposing, equally in each core, the saturation produced by the first stabilized direct current signal in the first control winding with the second signal.

3,143,702

SHAKE TABLE TESTING APPARATUS AND ASSOCIATED ELECTRICAL SYSTEM FOR TESTING THE ELECTRICAL CHARACTERISTICS OF CIRCUIT BOARDS, LOGIC CARDS, AND THE LIKE

George F. Kohler, Burbank, Edmund D. Regan, Hollywood, and Lane L. Wolman, North Hollywood, Calif., assignors to General Precision, Inc., a corporation of Delaware

Filed June 27, 1960, Ser. No. 38,900
7 Claims. (Cl. 324—73)



2. Apparatus for testing circuitry and components supported on each of a multiplicity of circuit boards, and the like, including: a shake table fixture for supporting a circuit board to be tested, means coupled to the shake table fixture for imparting motion thereto, so as to subject the circuit board supported thereby to a moving action, input test network means for introducing input signals to the circuitry of the circuit board supported on said shake table fixture, record reading and signal reproducing means for reading a record of particular input test signals for the circuit board supported on said shake table fixture and for deriving a pattern of input test signals from said record and being coupled to the input test network means for introducing the pattern of input signals to said input test network means, error-detector network means for receiving output signals from the circuitry of the circuit board supported on said shake table fixture and for comparing the same with particular input test signals from input test network means, indicator means coupled to said error detector circuit means for indicating malfunctions in the circuitry and components of the circuit board supported on said shake table fixture, and means including electrical cable means for connecting the circuitry on the circuit board supported on said shake table fixture to said input test network means and to said error detector network means.

3,143,703

MICROWAVE CALORIMETER WATTMETER WITH A REFLECTIONLESS R.F. TERMINATION

Lincoln D. Kraeuter, Marblehead, Mass., assignor, by mesne assignments, to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Mar. 27, 1961, Ser. No. 98,578
3 Claims. (Cl. 324—95)

1. A wattmeter including, a length of hollow waveguide having an opening at a first end for receiving R.F. wave energy from a source of power to be measured and having an opening at a second end of said length of hollow waveguide, a dielectric member having a shape corresponding in cross-section to the internal cross-section of said hollow waveguide, said dielectric member being inserted within said hollow waveguide so as to close off and plug the second end thereof remote from said first end of said guide, an elongated portion of said dielectric plug member protruding outwardly from said waveguide from the plugged end thereof, the inside end of said dielectric plug member disposed within said waveguide having a tapered face to provide a gradual change in impedance to minimize wave reflections therefrom, a calorimeter having water therein, said outwardly protroducing elongated portion of said dielectric plug member being immersed in said water to form an inside wet wall of water surrounding said dielectric member whereby R.F. wave energy is transferred without undue reflection into said water along said wet outer wall of said elongated dielectric plug member, and means for measuring changes in the water temperature.

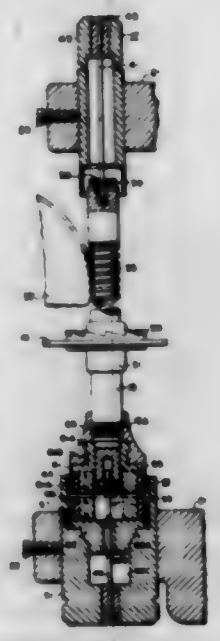


3,143,704

INDUCTION METER HAVING MAGNETICALLY-SUPPORTED ROTOR

David F. Wright, House Creek Township, Wake County, N.C., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 26, 1960, Ser. No. 11,335
14 Claims. (Cl. 324—155)



1. In an induction meter, a stator unit, a rotor unit, and means mounting the rotor unit for continuous rotation relative to the stator unit about a vertical axis, said rotor unit comprising a shaft concentric with said axis and an electroconductive armature disc mounted concentrically on said shaft, said stator unit including means effective when energized from an alternating circuit for

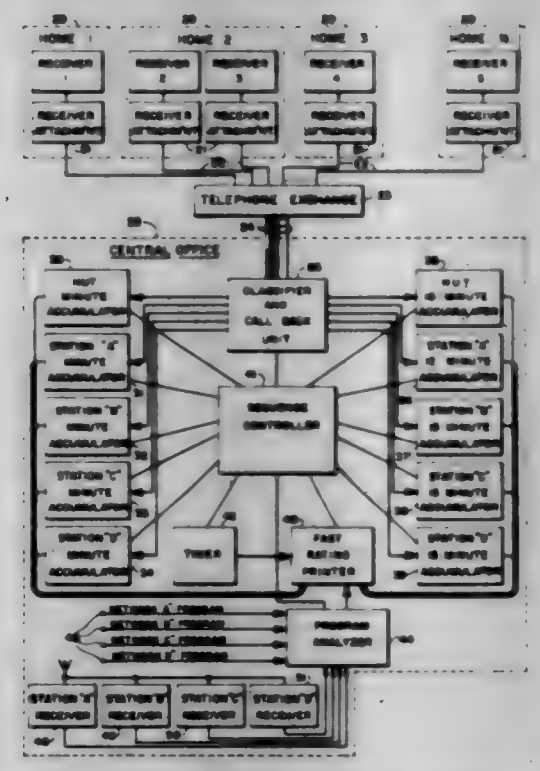
producing a shifting magnetic field within which a portion of said disc is located to develop a torque acting between said rotor and stator units about said axis for rotating the rotor unit relative to the stator unit, said mounting means comprising a first magnet having a horizontal first lower polar area symmetric relative to the axis and secured to the rotor unit for rotation therewith, a second magnet having a horizontal second upper polar area symmetric relative to the axis and secured to said stator unit below the first magnet, said polar areas being spaced by a vertical air gap, said two magnets being ferrite permanent magnets positioned below said disc and magnetically oriented in a direction parallel to the axis to present the same polarity on said two polar areas, whereby a magnetic force acts in a direction providing support for the weight of the rotor unit, said magnets providing the only force acting vertically between the motor unit and the stator unit to position the rotor unit vertically relative to the stator unit.

3,143,705

SYSTEM FOR DETERMINING WHETHER LOCAL STATIONS ARE TRANSMITTING NETWORK PROGRAMS

Charles H. Currey, Palatine, Arthur C. Lewis Brown, Evanston, Darrel W. Holbrook, Glenview, Gordon K. Truesdale, Morton Grove, and Robert L. Freeman, Glenview, Ill., assignors to A. C. Nielsen Company, a corporation of Delaware

Original application June 9, 1958, Ser. No. 740,639, now Patent No. 3,070,798, dated Dec. 25, 1962. Divided and this application Feb. 19, 1962, Ser. No. 176,851
2 Claims. (Cl. 325—31)



1. In a system for determining the listening habits of wave signal receiver users, first means for supplying a network signal representing at least a portion of a network program, second means for supplying a station signal representing at least a portion of a signal transmitted by a transmitting station, comparing means for comparing the signals supplied by the first and second means to determine whether the network signal is the same as the station signal, means for operating the comparing means a plurality of times within a given time interval, and indicating means controlled by the comparing means for providing an indication only when the comparing means determines that the network signal is the same as the station signal a given number of times greater than one during the given time interval.

3,143,766

RADIO RECEIVER INPUT PROTECTIVE SELF-ACTUATED VARIABLE ATTENUATOR

Harlan G. Michael, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed May 31, 1962, Ser. No. 198,784
8 Claims. (Cl. 325—362)



1. A radio frequency signal voltage attenuating system for attenuating RF input voltages to desired RF signal voltage input levels to the following equipment including: a transistor having an emitter, base and collector; RF signal input means connected to the collector of said transistor for providing an RF input signal voltage path to the collector of said transistor; output means connected to the emitter of said transistor for the feeding of RF signal voltages to the following equipment; voltage circuit means including a D.C. supply, and a voltage divider network between the D.C. supply and a voltage reference, with resistive means connected between the collector and the base of said transistor, and additional resistive means connected between the base of said transistor and said voltage reference for the applying of bias between the collector and the base of said transistor and for providing voltage bias between the emitter and the base of the transistor; a D.C. blocking capacitor providing a low A.C. impedance path to the voltage reference from the base of said transistor; said transistor being so connected and so biased in the circuit as to provide rectification of RF signals above predetermined input levels applied at the collector through the common junction of the collector and base of the transistor to thereby vary the D.C. voltage level at the base of the transistor, consistent with the relative strength of the RF signal above the predetermined level, and to thereby vary the emitter base bias of the transistor and provide resultant variable attenuation of RF signal transmission from transistor collector input to transistor emitter output.

3,143,787

GATED DUAL IDENTICAL CHANNEL A.G.C.

Jefferson H. Harman and Wayne L. Nickel, both of Richardson, Tex., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 23, 1961, Ser. No. 119,173
3 Claims. (Cl. 325—404)



1. An automatic-gain-control circuit having first and second filter capacitors to be charged to required control voltages for controlling the gain of a radio-frequency amplifier, an automatic-gain-control conductor connected to said amplifier to which control voltage is to be applied to control the gain of the amplifier, detector means having an input connected to the output of said amplifier and having a separate charging circuit connected to each of

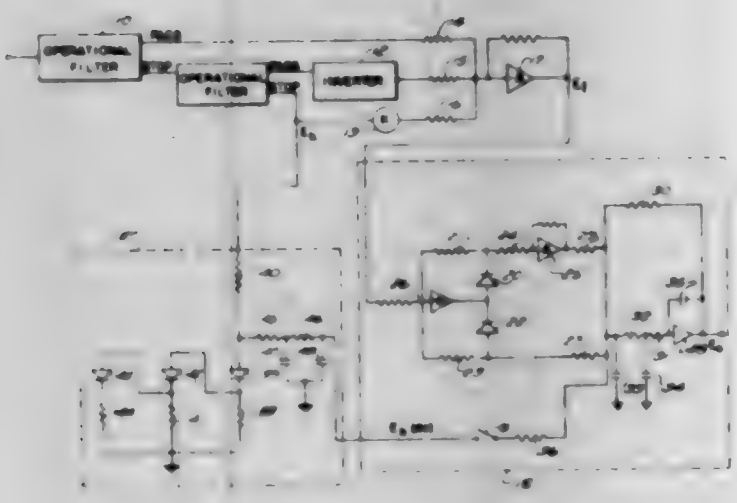
said filter capacitors, said detector means being responsive to the application of signal from the output of said amplifier to develope control voltages to charge said capacitors, first and second switching means, said first switching means being operable to short-circuit said first and second capacitors alternately, and said second switching means being operable to connect said automatic-gain-control conductor to that one of said filter capacitors which is not being short-circuited by said first switching means and which has been charged to the higher voltage by said detector means.

3,143,708

R.M.S. TO D.C. SIGNAL CONVERTER

Peter L. Richman, Boston, Mass., assignor to Epsco, Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed Oct. 22, 1959, Ser. No. 847,946
8 Claims. (Cl. 328—26)



1. Apparatus for extracting the fundamental component from an input signal having a complex waveform while preserving the amplitude of said fundamental component comprising, a first high gain wide band amplifier having two degenerative feedback paths connected in parallel, a first band pass filter in one of said feedback paths having its band pass characteristic centered on the frequency of said fundamental component, a first band stop filter in the other of said feedback paths having its band rejection characteristic centered on said fundamental component, a second high gain wide band amplifier having two degenerative feedback paths connected in parallel, a second band pass filter and a second band stop filter having their respective pass and stop characteristics centered on the frequency of said fundamental component, said second band pass filter and second band stop filter being arranged in different feedback paths of said second amplifier, means connecting the output of said first band stop filter to the input of said second amplifier, a summing device, and means connecting the outputs of said first and second band pass filters to said summing device.

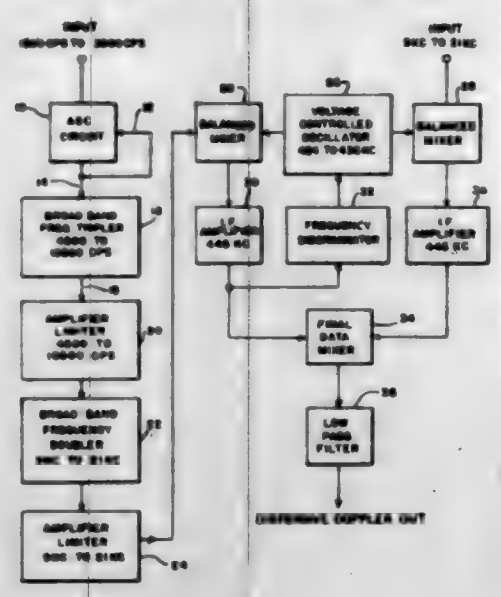
3,143,709

BROAD BAND FREQUENCY MULTIPLIER AND MIXER

Kenneth H. Patterson, Aberdeen, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 19, 1962, Ser. No. 224,876
20 Claims. (Cl. 328—133)
(Granted under Title 35, U.S. Code (1952), sec. 266)

19. A frequency measuring circuit comprising a pair of input signals, a gain control circuit responsive to one of said input signals consisting of attenuation means connected to said one input signal for controlling the amplitude thereof, amplifying means connected to said attenuation means, and a control loop connected to an output of said amplifying means for supplying a control voltage to said attenuation means, frequency multiplying means connected to the output of said amplifier and responsive



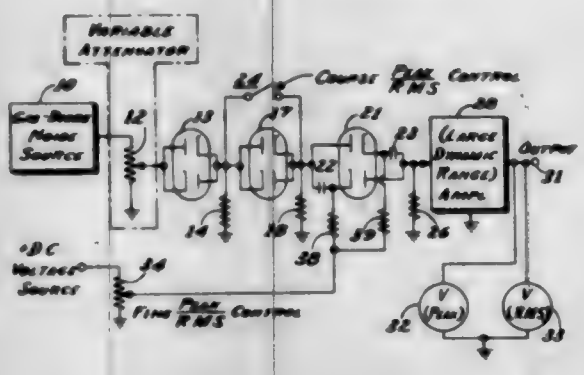
thereto, and means for mixing the output of said frequency multiplier and the other of said input signals to provide an output signal which is the difference of the frequencies of said frequency multiplier and said other input signal.

3,143,710

PEAK-TO-R.M.S. NOISE EXPANDER UTILIZING INVERSE PARALLEL CONNECTED DIODES

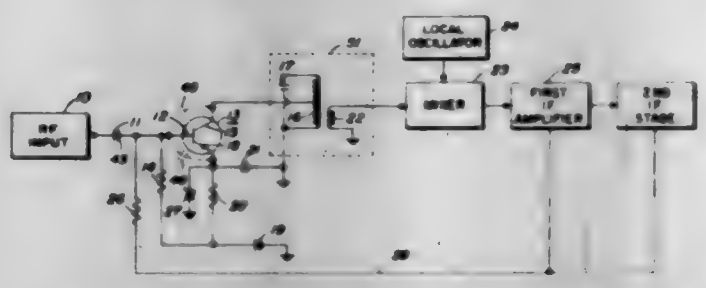
Howard D. Hern, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 3, 1960, Ser. No. 60,076
3 Claims. (Cl. 328—142)



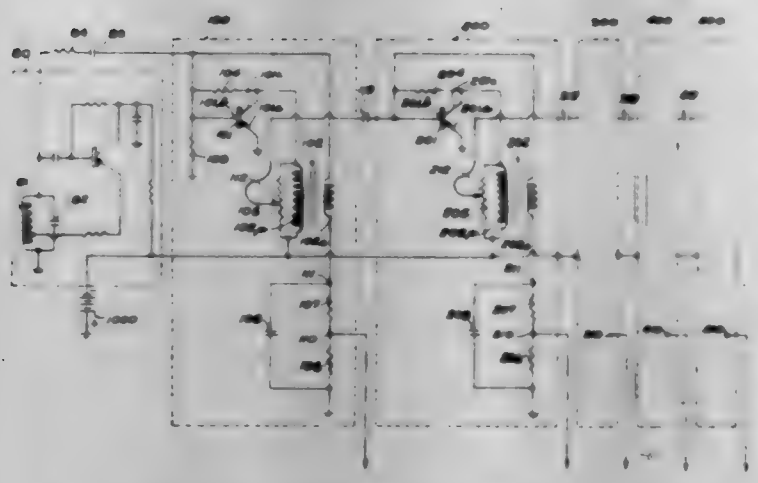
1. A noise ratio expander for increasing the peak-to-root-mean-square ratio of an input noise source having a Gaussian distribution whereby the greater portion of power lies in the low amplitude components thereof, comprising, a plurality of dual-diode stages connected in tandem, each dual-diode stage including a pair of diodes connected with opposite polarity between inputs and outputs of a respective stage, each diode having adjacent its zero conduction region a nonlinear resistance characteristic of decreasing resistance with increasing input level, said noise source being of a predetermined level whereby the low amplitude components thereof lie substantially in said nonlinear characteristic with the high amplitude peaks thereof being outside said region in one of substantial linearity, and switching means for bypassing at least one of said stages to provide a coarse control over the peak-to-root-mean-square ratio of an output noise from a last of said stages.

3,143,711
TRANSISTOR AMPLIFIER CUTOFF MEANS AT HIGH SIGNAL LEVELS
Emanuel F. Read, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 14, 1961, Ser. No. 103,117
3 Claims. (Cl. 330—24)



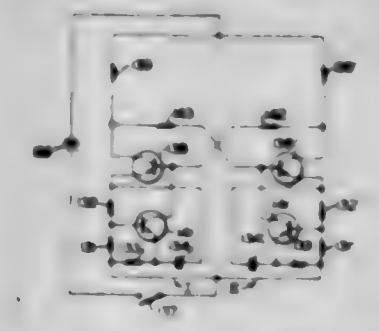
1. In a receiver having means for generating an AGC voltage, an amplifier comprising a transistor having a base electrode, an emitter electrode, and a collector electrode, means including first capacitor means for supplying an intelligence bearing signal to said base electrode, a D.C. power supply, first impedance means connecting a first terminal of said D.C. power supply to said emitter electrode, second impedance means connecting the collector electrode to the second terminal of said D.C. power supply, second capacitor means connecting said emitter electrode to a terminal of said D.C. power supply, a load resistor connected between said base electrode and a terminal of said D.C. power supply, and a Zener diode connected between the said emitter electrode and the second terminal of said D.C. voltage source, said Zener diode connected to have its high back impedance presented to the voltage appearing on said emitter electrode, said Zener diode constructed to break down in response to the voltage impressed thereacross when the magnitude of the direct current biasing potential supplied to said base crosses a predetermined threshold.

3,143,712
ELECTRONIC MUSICAL INSTRUMENT ENCLUDING CASCADED TRANSISTOR OSCILLATORS
Richard H. Peterson, 10108 Harnew Road E., Oaklawn, Ill.
Filed June 4, 1959, Ser. No. 818,056
2 Claims. (Cl. 331—52)



2. A cascade of transistor oscillators having high temperature and voltage stability comprising, in combination: a first, master oscillator of constant frequency; a second, slave oscillator operating at half the frequency of said master; a third, slave oscillator operating at half the frequency of the second, and so on; each slave oscillator including a transistor having a base, an emitter and a collector; each slave oscillator being a relaxation oscillator and having a feed-back transformer; said transformer having a primary winding in the collector-emitter circuit and a secondary winding in the base-emitter circuit; a low impedance potentiometere having a tap and connected across the primary winding of said transformer; a coupling capacitor, of impedance at the operating frequency much greater than said potentiometer and connected to said potentiometer tap; a connection from said coupling capacitor to the transistor of the next, successor oscillator; the transistor of each slave oscillator having a stabilizing resistor between its collector and its base; said stabilizing resistor having low impedance compared to the leakage resistance of the collector-base junction of its associated transistor.

3,143,713
SQUARE WAVE OSCILLATOR INDEPENDENT OF SUPPLY VOLTAGE VARIATIONS
Abund O. Wist, 60 Knight Bridge Road, Great Neck, N.Y.
Filed Oct. 16, 1961, Ser. No. 145,209
8 Claims. (Cl. 331—52)

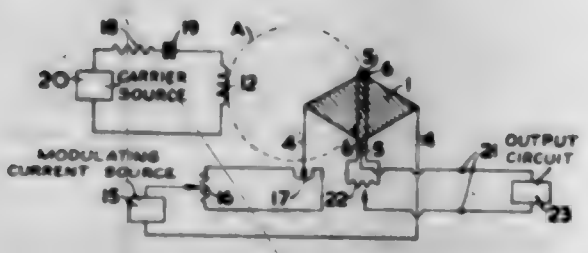


8. An astable square wave voltage generating circuit comprising a first four terminal bridge having four arms, one of which includes a condenser, first and second transistors each having an emitter, a base and a collector, means for connecting the base and the emitter of said first transistor to second and fourth terminals of said bridge, respectively, means for connecting the base and the emitter of said second transistor to the collector of said first transistor and the third terminal of said bridge, respectively, a pair of supply voltage terminals, means for connecting one of said supply voltage terminals to the first terminal of said bridge, a load for connecting the other of said supply voltage terminals to the collector of said second transistor, a second four terminal bridge having four arms, one of which includes a condenser therein, third and fourth transistors each having an emitter, a base and a collector, means for connecting the base and the emitter of said third transistor to second and fourth terminals of said second bridge, respectively, means for connecting the base and the emitter of said fourth transistor to the collector of said third transistor and third terminal of said second bridge, means for connecting said one of said supply voltage terminals to the first terminal of said second bridge, a second load for connecting the other of said supply voltage terminals to the collector of said fourth transistor, a resistor connecting the collector of said second transistor to the base of said fourth transistor, and a further resistor connecting the collector of said fourth transistor to the base of said second transistor.

3,143,714
HALL EFFECT DEVICES
John Fawcett Ogilvie Evans, Cheltenham, and John Brian Dunne, Charlton Kings, Cheltenham, England, assignors to Smiths America Corporation, Lakeland, Fla.
Filed Dec. 16, 1960, Ser. No. 76,169
Claims priority, application Great Britain Dec. 21, 1959
12 Claims. (Cl. 332—51)

7. A Hall effect device comprising a plate of material having an appreciable Hall constant, said plate be-

ing substantially in the shape of a rhombus having a pair of diagonals that differ in length, means for generating a magnetic field in a direction transverse to the plane of said plate, electrode means at the corners of said plate, said electrode means comprising a first pair



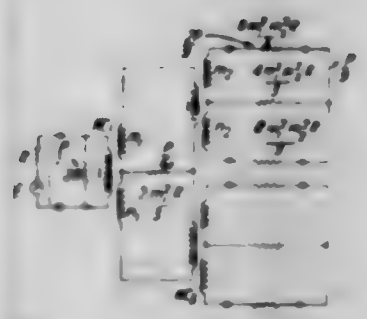
of electrodes located respectively at opposing ends of the longer one of said diagonals and a second pair of electrodes located respectively at the opposing ends of the shorter one of said diagonals, input means coupled across said first pair of electrodes, and output means coupled across said second pair of electrodes.

3,143,715

IMPEDANCE MATCHED HYBRID NETWORK

Jean Victor Marteau, Alfred Leo Maria Fettweis, and Karolus Ludovicus Deoms, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 11, 1962, Ser. No. 193,973
Claims priority, application Netherlands May 18, 1961
7 Claims. (Cl. 333—8)



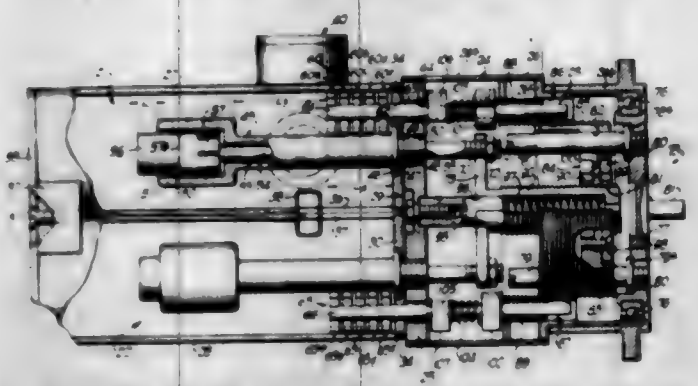
1. In an impedance matching network including hybrid circuit means comprising first, second, and third terminal pairs with substantially infinite loss between said first and said second terminal pairs, a first terminating impedance connected across said first terminal pair, a second terminating impedance connected across said second terminal pair, a third terminating impedance connected across said third terminal pair, and at least one compensating resistor associated with at least one of said terminal pairs for causing the impedance of said network at said third pair to match said third terminating impedance when said first terminating impedance has a certain value that matches the impedance of said network at said first terminal pair while said second terminating impedance has a predetermined value that does not match the impedance of said network at said second terminal pair and when said first terminating impedance has a predetermined value that does not match the impedance of said network at said first terminal pair while said second terminating impedance has a certain value that does match the impedance of said network at said second terminal pair whereby transmission losses between said first and said third terminal pairs and between said second and said third terminal pairs are minimized.

3,143,716

TWO-BAND CAVITY TUNER UTILIZING MOVABLE SHAPED PLUNGER FOR TUNING WITHIN BANDS AND CAVITY SHORTING SWITCH FOR BRIDGING BANDS

William A. Leet, Pittsford, and Robert F. Morrison, Jr., Rochester, N.Y., and Eric W. Moulton, Cincinnati, Ohio, assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Dec. 16, 1959, Ser. No. 859,912
10 Claims. (Cl. 333—73)



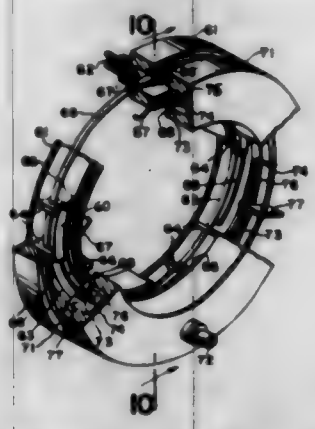
1. A cavity tunable through at least two discontinuous frequency bands comprising means defining the cavity, means including a movable tuning element within said cavity for continuously adjusting the resonant frequency of the cavity through both of the frequency bands, said frequency adjusting means comprising a fixed tuning post element extending into said cavity and having a movable tuning element on the inner end of the post, means within said cavity for shifting the resonant frequency of the cavity from one band to the other at a predetermined point in the movement of said tuning element, the shifting means comprising a shorting switch for electrically connecting said post to the cavity wall a predetermined distance from one end of said post in order to shift the resonant frequency of the cavity from one frequency band to the other, and means for operating said frequency shifting means in response to movement of said tuning element to said predetermined position of said tuning element.

3,143,717

RING AND BRUSH ROTARY ELECTRIC COUPLING

James F. Gordon, Santa Ana, Calif., assignor to Pacific Scientific Company, San Francisco, Calif., a corporation of California

Filed Apr. 19, 1962, Ser. No. 188,685
12 Claims. (Cl. 333—97)



1. A rotary coupling comprising a ring structure and a brush structure, said ring structure including a pair of electrically conducting rings, an electrical transmission line coupling for said ring structure including a two-conductor transmission line, a first one of the conductors in said two-conductor line being coupled to a first one of said pair of rings, a second one of the conductors in said two-conductor line being electrically connected with a second one of said rings at a plurality of points equally

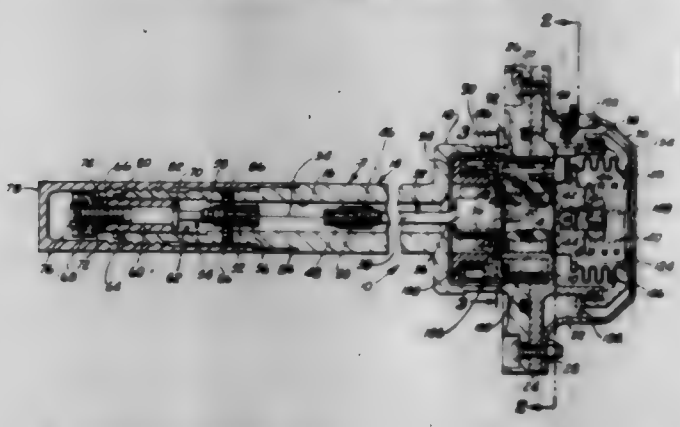
spaced around said second ring, said brush structure including two sets of electrically conducting brushes contacting said electrically conducting rings, an electrical transmission line coupling for said brush structure including a two-conductor transmission line, a first one of the conductors of said latter two-conductor line being coupled to a first set of brushes contacting said first ring, and a second one of the conductors of said latter two-conductor line being coupled to a second set of brushes contacting said second ring at a plurality of points equally spaced around said second ring.

3,143,718
MECHANICO-ELECTRIC TRANSDUCER
William S. Ernest, Lansdale, Pa., assignor to Brooks Instrument Company, Inc., a corporation of Pennsylvania
Filed Sept. 18, 1959, Ser. No. 840,896
7 Claims. (Cl. 336—30)



1. A position indicating transducer comprising primary coil means, first and second secondary coil means coaxial therewith, axial core means providing a ferro-magnetic flux path for a portion of the flux linking said primary and secondary coil means movable through a range including a position in which currents of equal amplitude are induced in said two secondary coil means and including another position in which the magnitude of the current induced in said first secondary coil means is greater than that induced in said second secondary coil means, a mechanical input element comprising a mass of ferro-magnetic material mounted for movement in a path transverse the axis of said coils and passing through a portion of the flux path linking said primary coil means with said second secondary coil means, successive cross-sections of said mass taken transverse the path of movement thereof being of different areas, and circuit means for opposing the voltage appearing at the terminals of one of said secondary coil means to the voltage appearing at the terminals of the other secondary coil means and said circuit including signal means responsive to the net voltage resulting from the opposition of the voltages appearing at the terminals of the two secondary coil means.

3,143,719
VERTICAL SENSING ELEMENT
Walter M. Carow, West Orange, and James W. Davies, Wayne, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Oct. 3, 1961, Ser. No. 142,619
15 Claims. (Cl. 336—30)



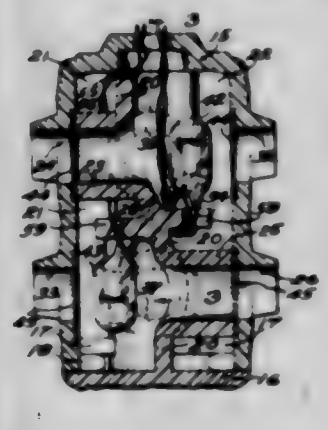
1. A vertical sensing element comprising a housing, two orthogonally mounted differential transformers positioned within said housing, and a wire suspended freely movable pendulum mounted within said housing, said pendulum having magnetic permeable material thereon positioned to act as the moving armature portion of the two transformers to provide two phase sensitive output signals proportional to the tilt angle of the pendulum about each of the two orthogonal axes, said differential transformers collectively having substantially constant permeance for all positions of the pendulum relative thereto whereby the total flux of the transformers remains substantially constant for all positions of the pendulum to insure that no magnetic reaction forces are exerted on the pendulum to oppose its movement.

3,143,720
SUPERCONDUCTIVE TRANSFORMER
John L. Rogers, Hermosa Beach, Calif., assignor to Space Technology Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Mar. 2, 1961, Ser. No. 92,953
12 Claims. (Cl. 336—155)



1. A superconductive transformer, comprising: a generally annular sheath of superconductive material, said sheath being continuous along its annular extent, said sheath being generally annular in cross section, with at least one discontinuity in the material along its cross sectional annular extent, input means coupled to said sheath for establishing magnetic flux within the volume surrounded by said sheath, and output means coupled to said sheath for extracting energy from said magnetic flux.

3,143,721
MODEL STOP-GO TRAFFIC LIGHT
Robert E. Davis, Jr., Wallingford, Conn., assignor to The A. C. Gilbert Company, New Haven, Conn., a corporation of Maryland
Filed June 18, 1962, Ser. No. 203,073
12 Claims. (Cl. 340—84)



6. A model stop-go changeable traffic light comprising a box having opaque side walls and an opaque partition extending upward and downward between two of said side walls in a manner to divide the interior of said box into two laterally adjacent chambers isolated by said partition against transmission of light therebetween, each of said chambers including and occupying both an upper

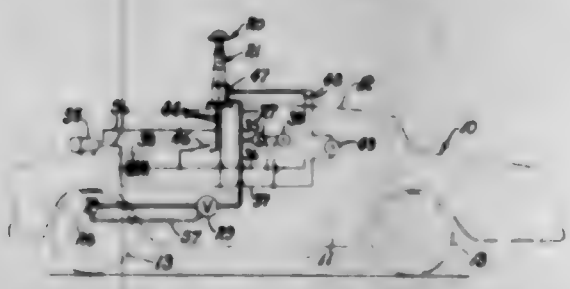
portion and a lower portion of the interior of said box, a separate electric lamp bulb in each of said chambers, at least two windows in side walls of said box which face in respectively different directions each of said windows opening outward from a different one of said chambers, means alternately to light said lamp bulbs only one at a time, two additional side walls bounding the said two chambers respectively one on each side of the said partition and containing the said windows respectively, together with a light transmitting conduit having light confining walls and an open end terminating at a first one of said windows, said conduit extending across a first one of said chambers and opening through said partition into the other of said chambers, whereby light from said other chamber is transmitted to said first window through said conduit while isolated from said first chamber.

3,143,722

VISUAL SIGNAL SYSTEM FOR AUTOMOTIVE VEHICLES

David H. Murch, 1129 N. Yosemite Ave., Fresno, Calif.

Filed Oct. 18, 1963, Ser. No. 317,365
3 Claims. (Cl. 340—84)



1. A visual signaling system adapted for use on automotive vehicles comprising a source of electrical energy; a signal light energizable by said source; circuit means, including an actuating switch, selectively connecting said source to said signal light to energize the same; a telescopic support cylinder having an outer end and being adapted to be moved by pressure fluid to an extended signaling position and biased toward a retracted stowing position; means connecting said signal light to the cylinder at said outer end; a mounting base secured to an automotive vehicle and adapted to support said telescopic cylinder; a source of pressure fluid; conduit means interconnecting said pressure fluid source and said cylinder, including valve means to control selective extension of the cylinder; an indicator lamp carried by the vehicle; circuit means interconnecting said indicator lamp with said source of electrical energy, including detecting switch means carried by the vehicle and adapted to be moved between operative and inoperative positions; and detecting switch control means carried by said telescopic cylinder and adapted to engage and move said detecting switch means to an inoperative position upon movement of the cylinder to a retracted stowing position.

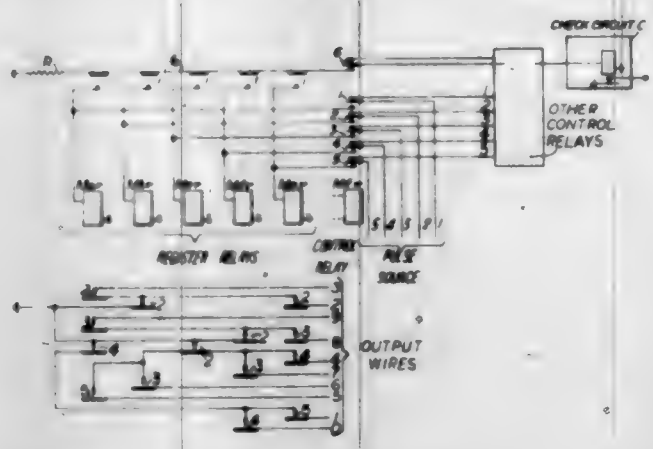
3,143,723

REGISTERING CIRCUIT

Egide Jacob Hendrik De Raedt and Henri Albert Julia Verhille, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 29, 1962, Ser. No. 198,563
Claims priority, application Netherlands May 31, 1961
2 Claims. (Cl. 340—146.1)

1. In a registering circuit for storing digital information in code form, a power source, a plurality of relays having one side of their winding connected to one pole of the said power source, a locking conductor having resistance means connected in series therewith and connected to the other pole of said source, means responsive to the operation of any said relay for connecting the other side of the relay winding to said locking conductor



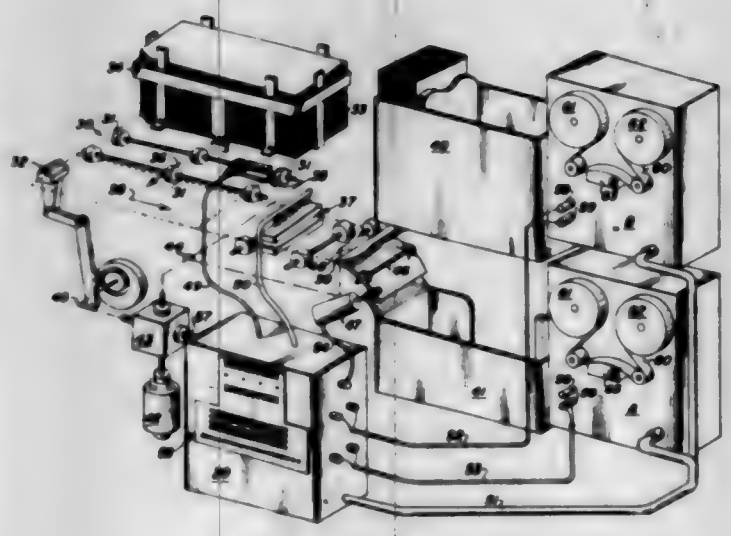
to form a potential divider with said resistance means, and indicating means for indicating a predetermined potential on said locking conductor.

3,143,724

CARD-TO-TAPE CONVERTER SELECTOR

Victor A. Willoughby and Gary I. Blair, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 13, 1960, Ser. No. 29,066
10 Claims. (Cl. 340—172.5)



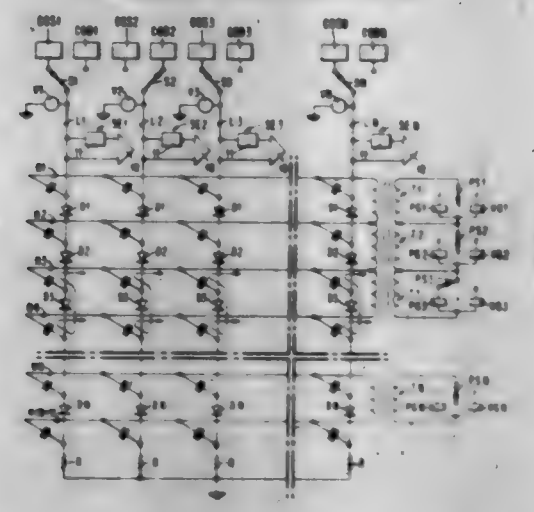
1. In a card-to-tape converter for recording data from a series of data-bearing cards including cards of two general classes identified respectively as header cards and detail cards, said cards of each class bearing distinctive code symbols, means for serially sensing the code symbols and data carried by said cards, means for cyclically feeding said cards in spaced relationship to one another past said sensing means, a recorder, a data-storage means, means responsive to and selectively controlled by the sensed code symbols carried by a header card for rendering said storage device operative to store the data sensed by said sensing means during each card cycle wherein a header card traverses said sensing means, means responsive to the sensed code symbols carried by a header card for conditioning said recorder, and means responsive to and selectively controlled by the sensed code symbols carried by a detail card for rendering said recorder operative during a card cycle wherein a detail card traverses said sensing means to record in sequence the data previously stored in said storage device and the data sensed directly from such detail card by said sensing means.

3,143,725

NEGATIVE RESISTANCE MEMORY SYSTEMS

Robert A. Heale, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 23, 1960, Ser. No. 17,187
2 Claims. (Cl. 340—173)



1. A memory system, comprising a plurality of first conductive lines, each of said lines including a plurality of bistable electrical elements connected in series relationship, said elements being further arranged in a plurality of rows, each row including a different one element from each said line, each said element having a voltage-current relationship which is characterized by a negative resistance region between two positive resistance regions, said positive resistance regions having different dynamic alternating-current resistance values, said element being stable in either of said positive resistance regions, read-in circuit means for switching preselected ones of said elements from one said stable state to the other, including means for applying a preselected biasing current to selected ones of said first lines to bias the elements in said lines, and switching means for applying a voltage pulse across the elements in selected ones of said rows, the value of said voltage pulse being such as to switch only the biased elements in said selected rows, said switching means including a plurality of second conductive lines arranged to form a matrix with said first conductive lines, an individual capacitive means bridging each crossing of a first and second conductive line, said crossings being arranged such that each adjacent pair of said second lines includes only the elements of a different one of said rows therebetween, and means for selectively applying a voltage pulse across each of said adjacent line pairs, and read-out circuit means for detecting which ones of said elements have been switched, including means for applying an alternating-current read-out voltage difference across selected ones of said adjacent line pairs, and an individual sensor means for each of said first conductive lines for providing an indication of the amplitude of the voltage appearing on its associated line in response to the application of said read-out voltage.

3,143,726

MAGNETIC COUNTER

Shih Chieh Chao, Palo Alto, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 12, 1957, Ser. No. 695,569
1 Claim. (Cl. 340—174)

A counter comprising an elongated magnetic core having a plurality of openings spaced longitudinally of the core to provide flux paths therebetween, said core being capable of retaining a bit of information by retaining a magnetic flux representative of said bit, a reset winding linking the core through a first of the openings for generating magnetic flux of a first polarity in each of the flux paths between the openings, a plurality of input windings each linking said core through a separate opening, means electrically connecting said input windings into two electrically separate circuits, the windings of each circuit linking alternate openings in the core, means for alternately supplying current pulses to said two circuits to generate pulses of magnetomotive force, the pulses of magnetomotive



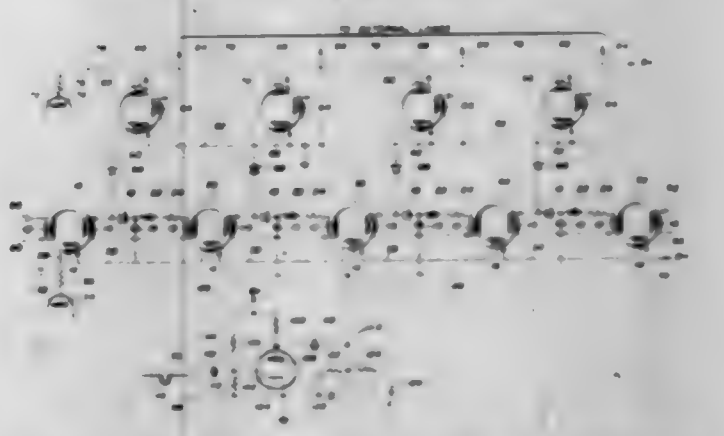
force thereby generated being operable to first reverse the flux polarity in the magnetic flux path adjacent to the reset winding and thence to reverse the flux polarity sequentially in the flux paths more remote from the reset winding, and an output winding linking with a terminal the flux path most remote from the reset winding for sensing the flux polarity reversal therein.

3,143,727

MAGNETIC MEMORY AND SWITCHING CIRCUIT

Walter L. Morgan II, Princeton, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 30, 1959, Ser. No. 843,688
6 Claims. (Cl. 340—174)



1. In a shift register which includes a plurality of memory elements each having an input circuit, an output circuit for driving the input circuit of the next memory element, and a shift circuit, the combination with said register of a plurality of output storage elements one for each of said memory elements, gating means between the output circuits of each of said memory elements and the corresponding output storage element, shifting means connected to said shift circuit for producing shift pulses to transfer information serially along said shift register, and selectively timed pulse means for raising the voltage level through said output windings to said gating means to allow said gating means to conduct and simultaneously transfer said information from said memory elements to said output storage elements at the same time that information is being sequentially shifted from one memory element to another.

3,143,728

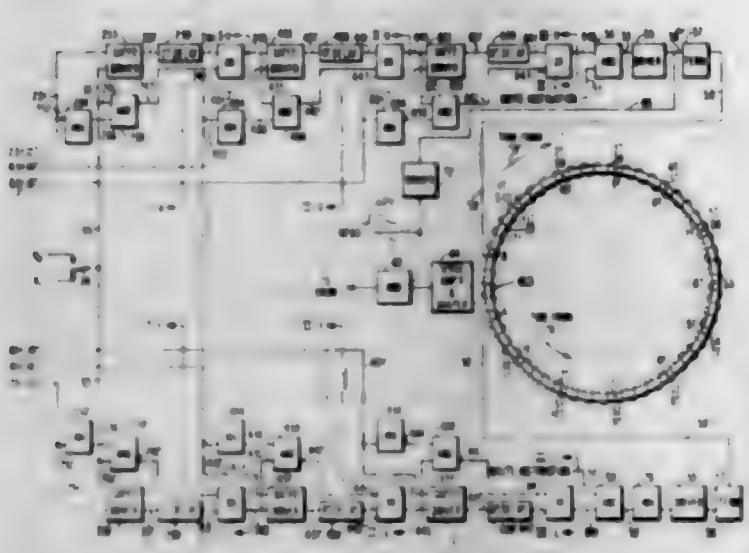
CORE STORAGE CONFIGURATION

Norman C. Loeber, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 17, 1961, Ser. No. 90,125
9 Claims. (Cl. 340—174)

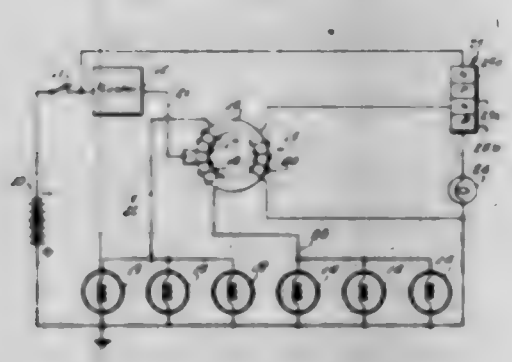
3. A magnetic storage arrangement, said storage having a plurality of incremental magnetizable portions arranged in a predetermined sequence, each of said portions being formed of material having substantially rectangular hys-

teresis characteristics with a switching threshold common conductive means coupled to said portions and arranged to tend to magnetize each of said portions to a predetermined magnetic state under application of a pulse thereto, means for applying a first and second pulse to opposite ends of said conductive means, each of said pulses supplying less than sufficient current to effect said predeter-



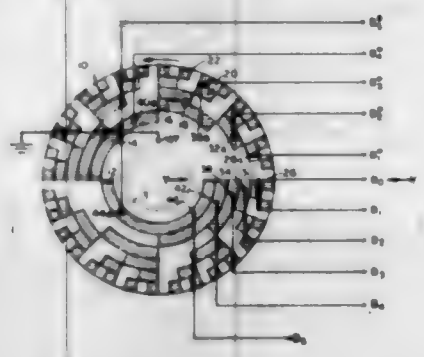
mined state of magnetization while supplying enough current therefor when both are combined, time delay means interposed between said portions and arranged to delay said pulses one unit measure of time in travelling from one said portion to the next, and means arranged to selectively delay one of said pulses with respect to the other said pulse to combine their respective magnetizing effects to selectively magnetize one of said portions.

3,143,729
PILOT SIGNAL CIRCUIT
Roy B. Power, Madison, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed Apr. 13, 1961, Ser. No. 102,774
4 Claims. (Cl. 340—253)



1. A pilot signal for showing the existence of unbalanced operating currents through a load circuit comprising, a pair of normally balanced lamp load circuits operated by a source of direct current electric power, modulating means for changing the current values applied to the loads, a ferromagnetic core carrying two opposed primary windings, each connected in series wtih one of said load circuits and each connected to the source of electric power, a secondary winding also on said core for providing a voltage pulse whenever the currents through the loads differ by a substantial amount, and a warning circuit connected to the source of power and including a signal lamp and a controllable impedance, said impedance coupled to the secondary winding and normally non-conductive but adapted to light the signal lamp when actuated by a pulse and to maintain the signal lamp lighted.

3,143,730
ANALOG-DIGITAL CONVERTER
Robert L. McIntyre, Glendale, Calif., assignor to General Precision, Inc., a corporation of Delaware
Filed Aug. 27, 1959, Ser. No. 836,537
13 Claims. (Cl. 340—347)

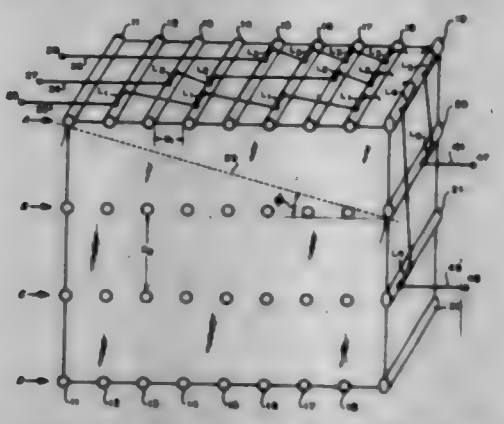


10. An analog-to-digital converter, including a first plurality of control elements arranged in groups of different digital significance, a second plurality of control elements also arranged in said groups of different digital significance, said groups including a group of least digital significance and a plurality of groups of progressively increasing digital significance, a first plurality of members each positioned in coupled relationship with the control elements in the first and second pluralities in a different one of the groups in the plurality, a second plurality of members each positioned in coupled relationship to the control elements of the first and second pluralities in a different one of the groups in the plurality, first control circuitry coupled to the members of the first plurality to provide a first digital indication upon the disposition of selected ones of the members in the first plurality in coupled relationship to the control elements of the first plurality and to provide a second digital indication upon the disposition of selected ones of the members in the first plurality in coupled relationship to the control elements of the second plurality, and to obtain a selection of the member in the second plurality and representing the next digit of increased significance and to obtain such selection upon the production of the first digital indication, and second control circuitry coupled to the members of the second plurality to provide said first digital indication upon the disposition of selected one of the members in the first plurality in coupled relationship to the control elements of the second plurality and to provide said second digital indication upon the disposition of selected ones of the members in the second plurality in coupled relationship to the control elements of the first plurality and to obtain a selection of the members in the first plurality and representing the next digit of increased significance and to obtain such selection upon the production of the second digital indication.

3,143,731
DIGITAL ENCODER
Charles L. Bossard, Perkasie, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 28, 1960, Ser. No. 79,086
5 Claims. (Cl. 340—347)
(Granted under Title 35, U.S. Code (1952), sec. 266)

5. A magnetic digital encoder for transforming the position of a movable body into a digital code, comprising in combination: a plurality of rows of magnetically permeable wires fixedly secured in parallel relationship to one another with adjacent ends of said wires forming a common planar face, each of said wires being twisted about the longitudinal axes thereof, a first plurality of continuous conductors, a first of said conductors incorporating a portion of alternate ones of said wires in each of said rows in the conductive path thereof, a second of said

conductors incorporating a portion of each one of alternate pairs of said wires in each of said rows in the conductive path thereof, a third of said conductors incorporating a portion of each one of alternate quadruplets of said wires in each of said rows in the conductive path thereof, each of said conductors having an output terminal at one end and a common connection at the other end, an additional wire in each of said rows forming a column, a second plurality of continuous conductors, a first of said second plurality of conductors incorporating a portion of alternate ones of said wires in said column in the conduc-

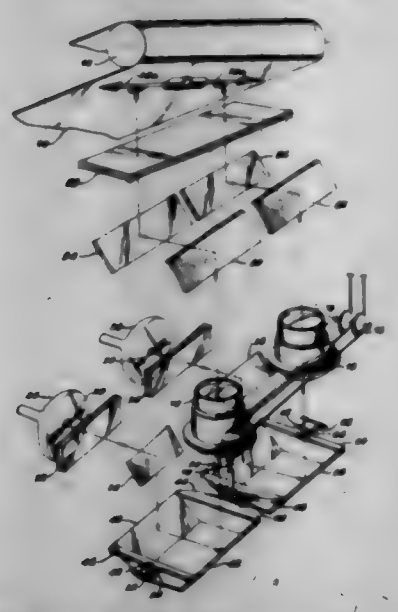


tive path thereof, a second of said second plurality of conductors incorporating a portion of each one of alternate pairs of said wires in the conductive path thereof, each of said second plurality of conductors having an output terminal at one end and a common connection at the other end, an armature having an elongated knife edge including means for producing a concentrated magnetic field about said knife edge, means connecting said armature to said body to sweep said knife edge across said face at a predetermined angle passing one wire at a time whereby a discrete series of pulses appear in said output terminals as each of said wires is swept by said knife edge.

3,143,732
IMAGE ROTATION SYSTEM

Thomas C. Leighton, South Pasadena, and Kermit L. Sandefur, Pasadena, Calif., assignors to Hycon Mfg. Company, Pasadena, Calif., a corporation of Delaware

Filed Sept. 29, 1958, Ser. No. 763,904
6 Claims. (Cl. 343—5)



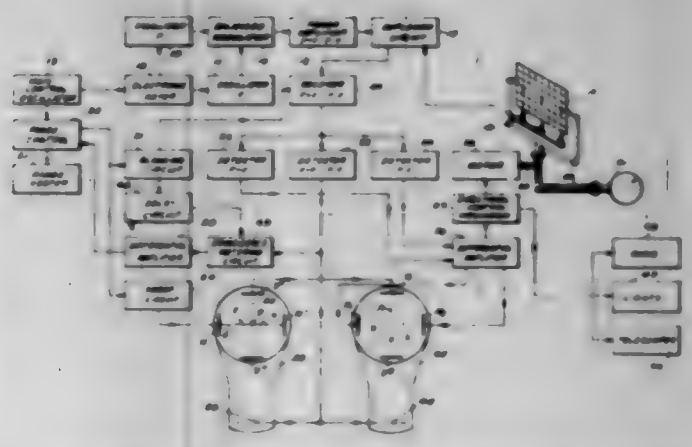
1. In an airborne radar strip recorder, a drift correcting image rotation system, comprising: means for providing simultaneous left and right radar-derived line images; a left mirror pair positioned to view the left line image and provide a reflected left line image to a film plane, and adjustable to rotate the reflected left line image on a left end pivot point in the film plane; a right mirror pair positioned to view the right line image and provide a reflected right line image to the film plane, and adjustable to rotate the reflected right line image on a right end pivot point in the film plane; and means for simultaneously adjusting said left and right mirror pairs to rotate the reflected left and right line images in the film plane an amount according to drift correction of an aircraft mounting the airborne radar strip recorder.

3. An image rotation system, comprising a pair of line objects, a first mirror pair positioned to view a first of said objects and to provide a reflected first line image to an image plane, said first mirror pair being adjustable to rotate said reflected first line image on a first end pivot point in said image plane, a second mirror pair positioned to view a second line object and to provide a reflected second line image to said image plane, said second mirror pair being adjustable to rotate said reflected second line image on a second end pivot point in said image plane, and means for simultaneously adjusting said first and said second mirror pairs to rotate said reflected first and second line images in the image plane.

3,143,733
AUTOMATIC RANGE AND BEARING FOLLOW-UP SYSTEMS

Robert M. Page, % U.S. Naval Research Laboratory, Anacostia Station, Washington, D.C., assignor, by mesne assignments, of eight percent to John Robert Page, sixteen percent to Grace Gowens Leaf, as trustee, twelve and five-sixths percent to La Verne R. Philpott, and thirty-seven and one-half percent to Lee C. Young

Filed Nov. 20, 1942, Ser. No. 466,291
34 Claims. (Cl. 343—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



8. An apparatus for continually determining range of a remote object comprising means intermittently transmitting energy toward the remote object, a receiver, means intermittently unblocking said receiver for a short time interval with respect to the time interval between transmitted energy at a rate determined by a timing wave of the same frequency as the repetition rate of said transmitted energy, means automatically varying the phase of said timing wave for unblocking said receiver at the proper time to continually receive energy reflected from said remote object, means indicating range of said remote object as a function of phase of said timing wave and means indicating rate of change of range of said remote object as a function rate of change of phase of said timing wave.

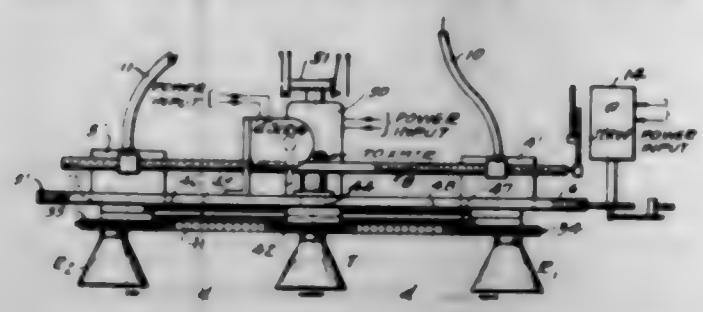
3,143,734
SPEED INDICATOR

Herbert F. Raabe, St. Paul, Minn., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 30, 1957, Ser. No. 637,335
3 Claims. (Cl. 343—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Apparatus on an aircraft for continuously indicating the magnitude and direction of the velocity vector of the

aircraft, comprising: a transmitting antenna having a downwardly directed wide angle conical pattern; means providing a pair of centers of rotation located at a distance *d* on either side of said transmitting antenna and on a horizontal axis passing through said transmitting antenna; a pair of receiving antennas, having downwardly directed wide angle conical patterns, mounted so as to have equal eccentricities relative to said centers of rotation; means for rotating said receiving antennas at the same speed and in the same direction about said centers of rotation, the phasing of the rotation being such that the receiving antennas are always equidistant from the transmitting antenna; means for feeding continuous high frequency energy to said transmitting antenna which radiates said energy earthward; means for delaying by an interval *t* the reflected signal received by one of said receiving antennas; means for subtracting the delayed signal from the reflected signal received by the other receiving antenna to produce a difference signal; means actuated by a first servo for adjusting the ratio *d/t*; means



actuated by a second servo for adjusting the direction of said horizontal axis; means synchronized with the rotation of said receiving antennas for comparing the values of said difference signal at the two instances in each rotational cycle of the receiving antennas when the antennas cross said horizontal axis and for energizing said first servo when the compared values are different for operation in such direction as to reduce the difference; means synchronized with the rotation of said receiving antennas for comparing the values of said difference signal at the two instances in each rotational cycle of the receiving antennas when the antennas have their maximum transverse displacement from said horizontal axis and for energizing said second servo when the compared values are different for operation in such direction as to reduce the difference; an indicator coupled to said means for adjusting the ratio *d/t* for continuously displaying the magnitude of the velocity vector as a quantity proportional to *d/t*; and an indicator coupled to said means for adjusting the direction of said horizontal axis for continuously displaying its direction relative to the longitudinal axis of said aircraft.

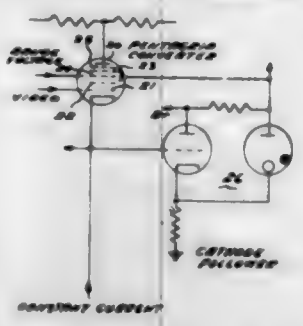
3,143,735

HEIGHT COMPUTER

George E. Martin, Crownsville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 23, 1957, Ser. No. 654,623
2 Claims. (Cl. 343—10)

1. A device for determining the height of a target comprising: a plurality of receivers having antennas connected thereto, with the main lobes of said antennas being fanned out and directed at different angles in a vertical plane, a detector connected to each of said receivers, a pentagrid converter tube having a cathode, an anode, a screen grid, a suppressor grid, a first and a second control grid in each of said detectors with the receiver output being connected to the first control grid, means for producing a voltage proportional to radar range, means for producing an earth's curvature correction voltage, means for applying said range voltage and said earth's curvature correction voltage to said second control grid, a constant current source connected to the cathode of all of said converter tubes, means for converting the output of said



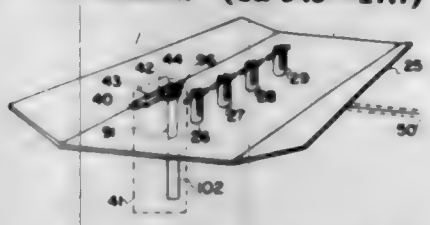
detectors to a sine function of the elevation angle of said target, an indicator and means for applying said sine function voltage to said indicator.

3,143,736

VEHICLE DETECTION APPARATUS

Bernard J. Midlock, Norwalk, Conn., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Feb. 16, 1961, Ser. No. 89,839
19 Claims. (Cl. 343—17.7)



1. In a detection apparatus having a high frequency transmitting and receiving antenna and an associated oscillator-detector circuit for transmitting high frequency radio signals in a confined beam and for receiving a Doppler modified signal reflected from a moving body passing through said beam and mixing said transmitted and said received signals in said oscillator-detector to provide a low frequency Doppler beat frequenicy and a low frequency signal output corresponding to said Doppler beat frequency; an auxiliary antenna adjacent the first mentioned antenna for providing reflection of part of said high frequency radio signals to said first mentioned antenna, and means for applying a low frequency signal to said auxiliary antenna for varying the reflection characteristic of said auxiliary antenna at the frequency of the applied said low frequency signal for providing an amplitude modulated reflected signal to said first mentioned antenna to provide a low frequency component in the said oscillator-detector circuit comparable to a Doppler beat frequency for test purposes.

3,143,737

FOLDED S-SHAPED DIPOLE ANTENNA

Virginia T. Norwood, Los Angeles, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 3, 1962, Ser. No. 214,777
7 Claims. (Cl. 343—797)



1. A radio frequency radiating antenna comprising a conductive element having a straight central portion, a

pair of elongated straight portions parallel to said central portion and on opposite sides thereof, one end of each of said pair being conductively joined to an opposite end of said central portion and the other end of said pair being adapted to be connected to the terminals of a source of radio frequency energy, said other ends being adjacent one another on opposite sides of said central portion.

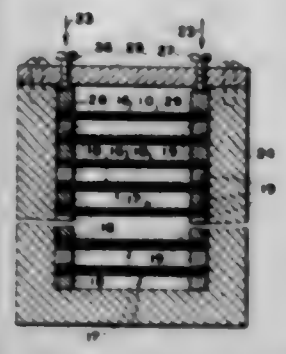
3,143,738

METHOD FOR MAKING A COLLIMATOR FOR AN X-RAY BEAM

John E. Bigelow, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York

Filed May 31, 1960, Ser. No. 32,689
7 Claims. (Cl. 29—155.5)

1. The method of forming a collimator for an X-ray beam, comprising the steps of: placing and adhering an X-ray absorbing film on thin laminas of a heat-shrinkable plastic with the thickness of said film less than the thickness of each of said thin plastic laminas; stacking said plastic laminas in parallel relation and supporting said laminas along two opposite edges under compression with small spacing between said laminas over the entire areas of said laminas; applying pressure to said stack in a direction perpendicular to the planes of said

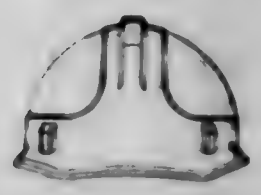


laminas and along said edges to compress said laminas; heating the stacked and spaced laminas to a temperature sufficient to shrink said plastic laminas; and cooling said stack of laminas.

DESIGNS

AUGUST 4, 1964

198,776
SAFETY CAP
Jack N. Simpson and William R. Bohner, Reading, Pa., assignors to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Jan. 16, 1964, Ser. No. 78,226
Term of patent 14 years
(Cl. D3—13)



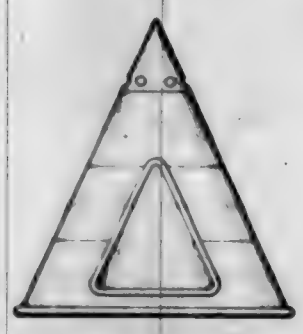
198,777
COMBINED TOOTHPASTE AND TOOTHBRUSH HOLDER
Robert Shelare, N. Entry Drive, Staten Island, N.Y., and Frank Makara, 29 Orange Drive, Jericho, N.Y.
Filed Aug. 21, 1963, Ser. No. 76,310
Term of patent 14 years
(Cl. D4—3)



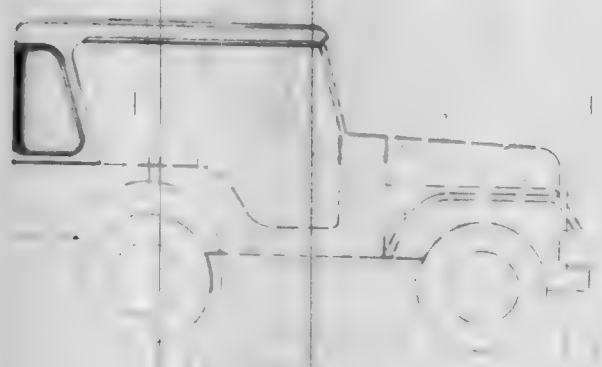
198,778
CABINET DOOR HANDLE
Anthony R. Costantini, 860 Thomas Road, Lafayette Hill, Pa., and Anthony Di Angelus, 1735 Westchester Pike, Manoa, Pa.
Filed Nov. 21, 1963, Ser. No. 77,524
Term of patent 14 years
(Cl. D10—8)



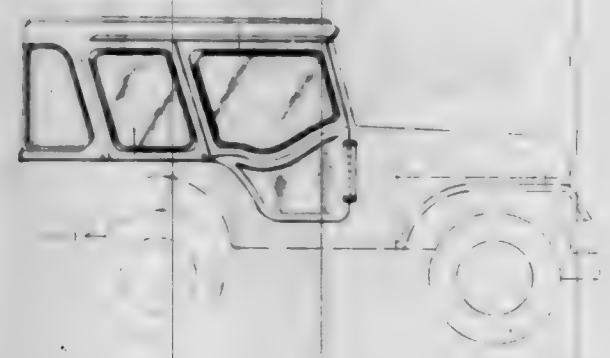
198,779
TEPEE
Pat M. Bredon, 3518 Crittenden, St. Louis 18, Mo.
Filed Oct. 16, 1963, Ser. No. 76,999
Term of patent 14 years
(Cl. D13—1)



198,780
PASSENGER VEHICLE
Bernardus A. Van De Pavert and Ray F. Hines, Fresno, Calif., assignors, by direct and mesne assignments, to Top King Manufacturing Co., Fresno, Calif., a partnership
Filed Nov. 18, 1963, Ser. No. 77,459
Term of patent 14 years
(Cl. D14—27)



198,781
PASSENGER VEHICLE
Bernardus A. Van De Pavert and Ray F. Hines, Fresno, Calif., assignors, by direct and mesne assignments, to Top King Manufacturing Co., Fresno, Calif., a partnership
Filed Nov. 18, 1963, Ser. No. 77,460
Term of patent 14 years
(Cl. D14—27)



198,782
BARBER CHAIR
Fred J. Piotraschke, 2 N. Tealbrook Drive, Creve Coeur, Mo.
Filed Sept. 30, 1963, Ser. No. 76,798
Term of patent 14 years
(Cl. D15—3)



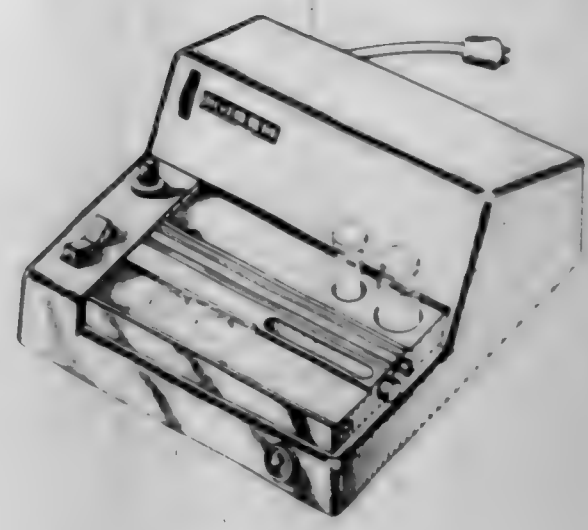
198,783
RECLINING CHAIR FOR VEHICLES
Chester J. Barecki, 901 Broadway Ave. NW., Grand Rapids, Mich.
Filed Dec. 31, 1962, Ser. No. 73,004
Term of patent 14 years
(Cl. D15—8)



198,784
VEHICLE SEAT
Chester J. Barecki, 901 Broadway Ave. NW., Grand Rapids, Mich.
Filed Mar. 20, 1963, Ser. No. 74,066
Term of patent 14 years
(Cl. D15—8)



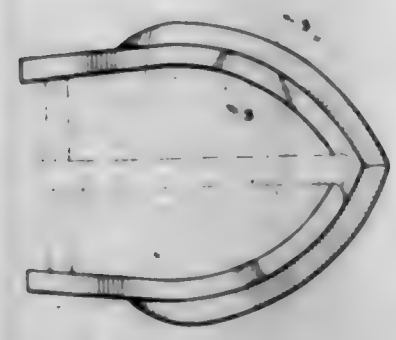
198,785
PROTHROMBIN TIME DETERMINING UNIT
Robert H. McKim, Palo Alto, Calif., assignor to Oxford Laboratories, San Mateo, Calif., a corporation of California
Filed Mar. 25, 1963, Ser. No. 74,115
Term of patent 14 years
(Cl. D16—3)



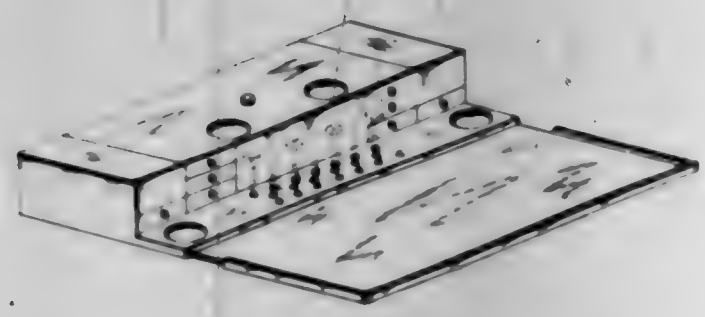
198,786
COMBINED REFRIGERATOR AIR FRESHENER AND DEODORIZER
Morris Friedman, New York, N.Y., and Andrey V. Mackey, Ambler, Pa., assignors to Minerware, Inc., New York, N.Y., a corporation of New York, and H.M.S. Associates Co., Willow Grove, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1963, Ser. No. 74,478
Term of patent 3½ years
(Cl. D16—2)



198,787
BUCKLE
Morris D. Gendelman, Fort Lee, N.J., assignor to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey
Filed June 6, 1963, Ser. No. 75,255
Term of patent 7 years
(Cl. D17—1)



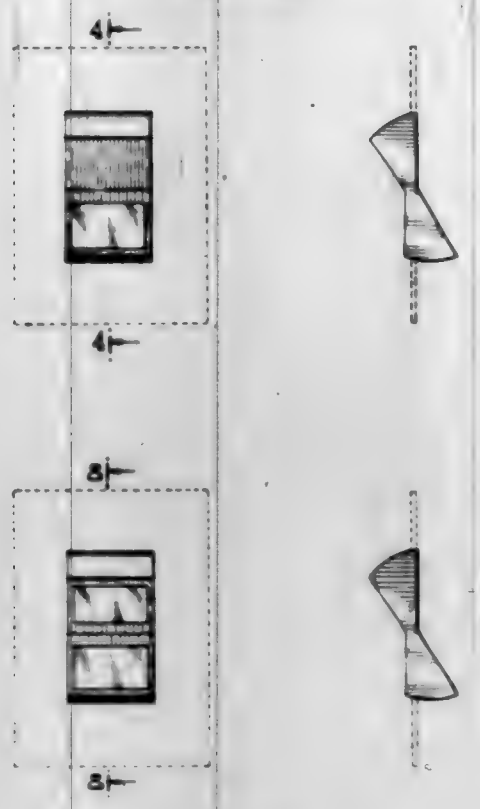
198,788
COMBINED DENTAL CABINET AND INSTRUMENT TRAY
Marvin Winter, 18 Brook Lane, Great Neck, N.Y.
Filed Apr. 18, 1963, Ser. No. 74,513
Term of patent 14 years
(Cl. D24—1)



198,789
INTER-DENTAL JET PROPHYLACTIC DISPENSER
Garrison Trupp, 4600 York Road, Baltimore 12, Md., and Bernard Trupp, 913 Lake Drive, Baltimore 17, Md.
Filed May 15, 1963, Ser. No. 74,886
Term of patent 14 years
(Cl. D24—1)



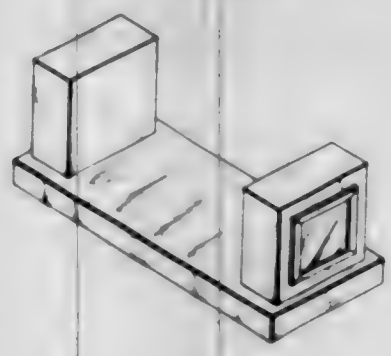
198,790
ELECTRIC SWITCH BUTTON
Wesley T. Sorenson, West Hartford, Conn., assignor to Sorenson Lighted Controls, Inc., West Hartford, Conn., a corporation of Connecticut
Continuation of design applications Ser. No. 71,502, Aug. 30, 1962, and Ser. No. 71,526, Sept. 4, 1962.
This application Dec. 11, 1963, Ser. No. 77,883
Term of patent 14 years
(Cl. D26—13)



198,791
MEDALLION OR SIMILAR ARTICLE
John S. Stephens, 60 Armour Road, Mahwah, N.J.
Filed June 12, 1961, Ser. No. 65,572
Term of patent 14 years
(Cl. D29—19)



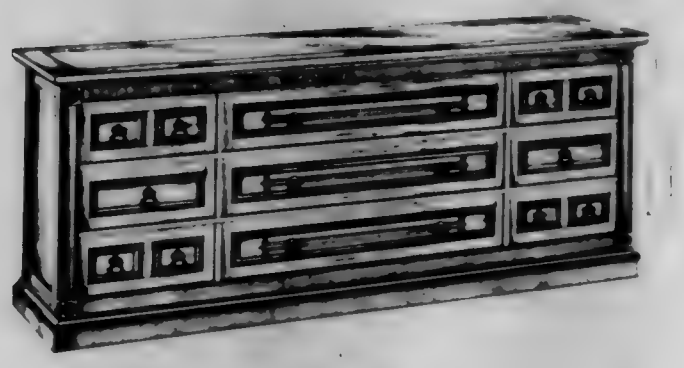
198,792
ILLUMINABLE BOOK-END STAND
Robert James Cooke, 50—27 213th St., Bayside 64, N.Y.
Filed Jan. 18, 1963, Ser. No. 73,225
Term of patent 14 years
(Cl. D33—3)



198,793
CHEST ON CHEST
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Original design application Nov. 27, 1962, Ser. No. 72,612. Divided and this application Mar. 26, 1963, Ser. No. 74,132
Term of patent 3½ years
(Cl. D33—6)



198,794
CHEST OF DRAWERS
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Original design application Nov. 27, 1962, Ser. No. 72,612. Divided and this application Mar. 26, 1963, Ser. No. 74,134
Term of patent 3½ years
(Cl. D33—6)



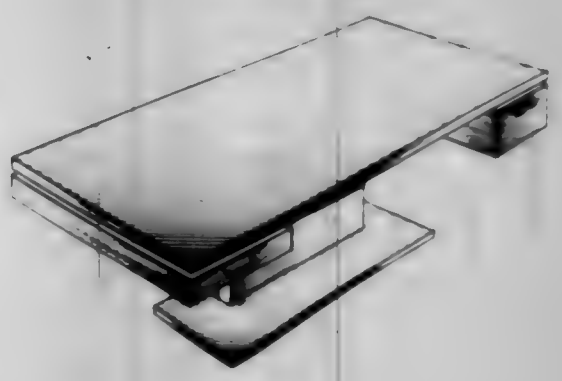
198,795
COMMODE
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Original design application Nov. 27, 1962, Ser. No. 72,612. Divided and this application Mar. 26, 1963, Ser. No. 74,137
Term of patent 3½ years
(Cl. D33—6)



198,796
DRESSER
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Original design application Nov. 27, 1962, Ser. No. 72,612. Divided and this application Mar. 26, 1963, Ser. No. 74,149
Term of patent 3½ years
(Cl. D33—6)



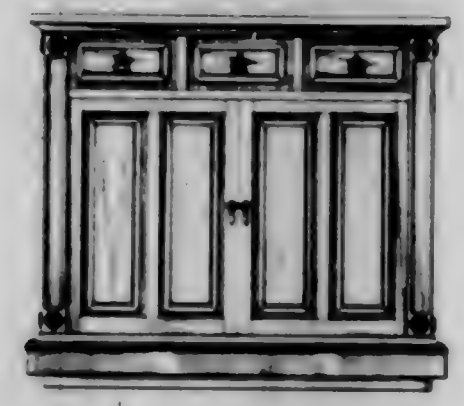
198,797
DESK
Warren Platner, 100 Mansfield Road, North Haven, Conn.
Filed Dec. 5, 1963, Ser. No. 77,683
Term of patent 14 years
(Cl. D33—7)



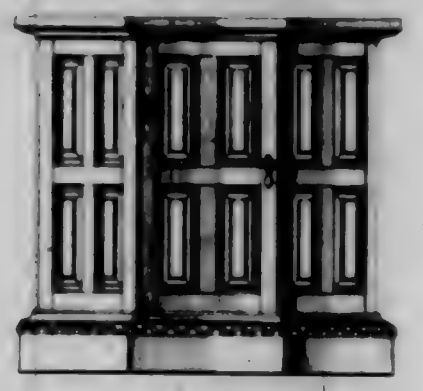
198,798
MIRROR
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Original design application Nov. 27, 1962, Ser. No. 72,612. Divided and this application Mar. 26, 1963, Ser. No. 74,135
Term of patent 3½ years
(Cl. D33—9)



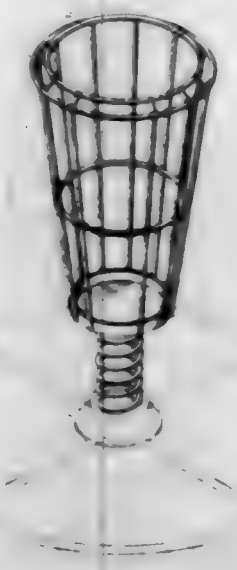
198,799
CHEST
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Filed Mar. 26, 1963, Ser. No. 74,136
Term of patent 3½ years
(Cl. D33—19)



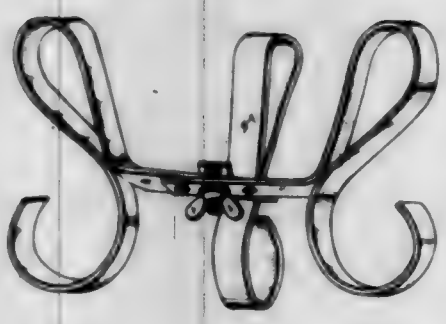
198,800
CABINET
Norman N. Hekler, High Point, N.C., assignor to Worth Furniture, a division of Gravely Furniture Co., Inc., Martinsville, Va., a corporation of Virginia
Filed Mar. 26, 1963, Ser. No. 74,138
Term of patent 3½ years
(Cl. D33—19)



198,801
EXERCISING DEVICE
Duane E. Mitchell, Shandon Rte., Paso Robles, Calif.
Filed Mar. 19, 1963, Ser. No. 74,035
Term of patent 14 years
(Cl. D34—5)



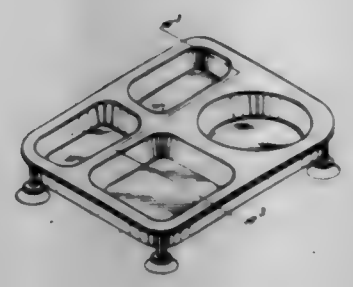
198,802
FOLDABLE AND ADJUSTABLE FLOWER POT SUPPORT OR THE LIKE
Ralph Cucullo, 118 Mount Joy Place, New Rochelle, N.Y.
Filed June 19, 1963, Ser. No. 75,422
Term of patent 14 years
(Cl. D35—3)



198,803
PIE CRUST ROLLING BOARD
Florentine Giard, 3845 Southwestern Blvd., Dallas, Tex.
Filed May 27, 1963, Ser. No. 75,069
Term of patent 14 years
(Cl. D44—1)



198,804
COMBINED INVALID SERVING TRAY AND SUPPORT THEREFOR
Stanford Shepley Stevens, 42 Scott St., Pawtucket, R.I.
Filed Mar. 23, 1962, Ser. No. 69,389
Term of patent 14 years
(Cl. D44—10)



198,805
INSULATED PITCHER
John L. Carroll, 1206 Buckland Ave., Robert W. Wingard, 742 3rd Ave., and Earl R. Baxter, 1762 Port Clinton Road, all of Fremont, Ohio
Filed Dec. 26, 1963, Ser. No. 77,922
Term of patent 14 years
(Cl. D44—21)



198,806
PERCOLATOR OR THE LIKE
Frank J. Chiappetta, Elmira, and George W. Richardson, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 24, 1964, Ser. No. 79,144
Term of patent 14 years
(Cl. D44—26)



198,807
DRIP COFFEE MAKER OR THE LIKE
Robert A. Bruce, Corning, Frank J. Chiappetta, Elmira, and George W. Richardson, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 24, 1964, Ser. No. 79,145
Term of patent 14 years
(Cl. D44—26)



198,808
ICE-CRACKING IMPLEMENT
Thomas B. Aldrich, West Nyack, N.Y., assignor to Frank W. Earnest, Jr., Wilkes-Barre, Pa.
Filed July 3, 1963, Ser. No. 75,648
Term of patent 14 years
(Cl. D44—39)



198,809
FINGER RING
Adolph Katz, Providence, R.I., assignor to Coro, Inc. of Rhode Island, Providence, R.I., a corporation of Rhode Island
Filed Jan. 13, 1964, Ser. No. 78,169
Term of patent 3½ years
(Cl. D45—10)



198,810
FLOOD LIGHT
Raymond J. Rice, 9 Lincoln Ave., North Irwin, Pa.
Filed Feb. 7, 1962, Ser. No. 68,706
Term of patent 14 years
(Cl. D48—20)



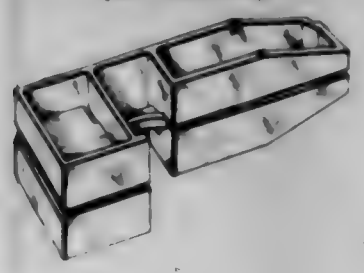
198,811
UNDERWATER DIVING LIGHT
Owsley H. Brigham, 6201 N. Delaware St., Indianapolis, Ind.
Filed Dec. 23, 1963, Ser. No. 77,911
Term of patent 7 years
(Cl. D48—24)



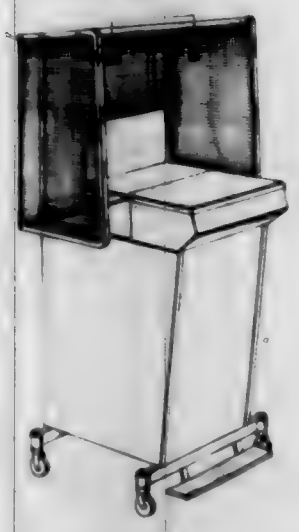
198,812
LUMINAIRE
Myron F. Pettengill, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Aug. 30, 1962, Ser. No. 71,500
Term of patent 14 years
(Cl. D48—31)



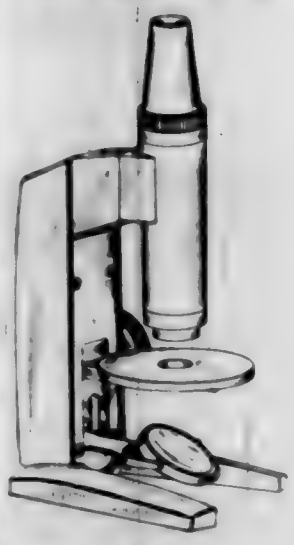
198,813
MASON'S GUIDE LINE HOLDER OR SIMILAR ARTICLE
Harry Donald Stone, Uniontown, Pa., assignor to Summit Products Company, Uniontown, Pa., a partnership
Filed Feb. 25, 1964, Ser. No. 78,771
Term of patent 14 years
(Cl. D51—1)



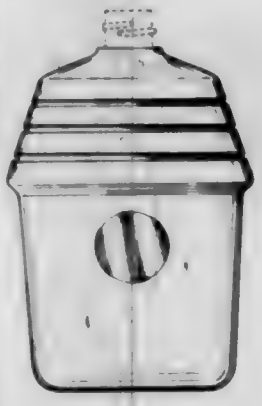
198,814
TYING MACHINE
Kim Yamasaki, Lombard, and Andrew L. Alger, Evanston, Ill., assignors to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 21, 1963, Ser. No. 77,052
Term of patent 14 years
(Cl. D55—1)



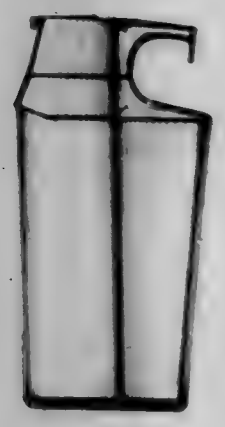
198,815
MICROSCOPE
Jacob W. Patla, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed July 22, 1963, Ser. No. 75,913
Term of patent 14 years
(Cl. D57—1)



198,816
BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 31, 1963, Ser. No. 76,046
Term of patent 14 years
(Cl. D58—6)



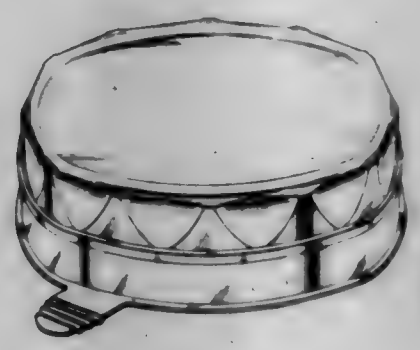
198,817
BOTTLE
George R. Stehl, Jackson Heights, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
Filed Oct. 21, 1963, Ser. No. 77,867
Term of patent 14 years
(Cl. D58—6)



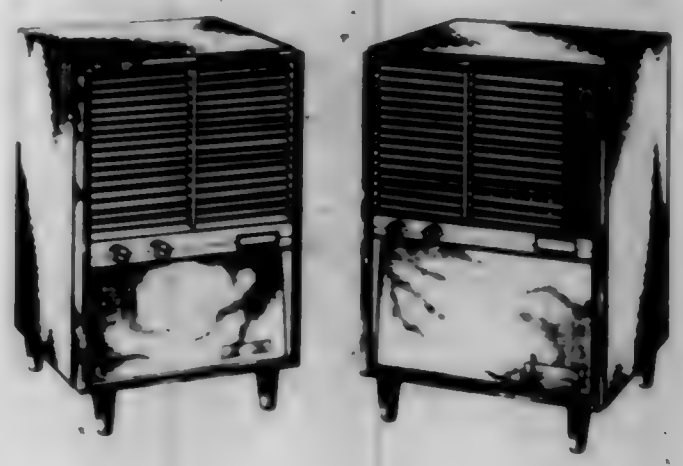
198,818
CAP FOR CONTAINERS
Morton B. Stull, Boonton, N.J. (% Stull Engraving Co., 221–223 Banta Ave., Garfield, N.J.)
Filed Jan. 28, 1963, Ser. No. 73,330
Term of patent 14 years
(Cl. D58—26)



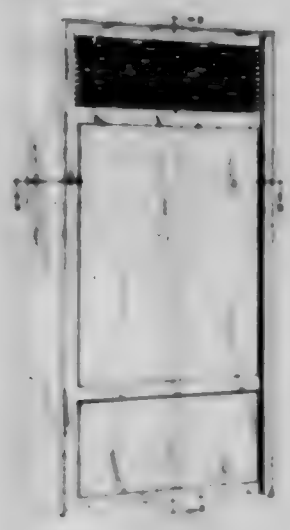
198,819
PACKAGE COVER
John Mathews Jackson, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 22, 1963, Ser. No. 74,553
Term of patent 14 years
(Cl. D58—26)



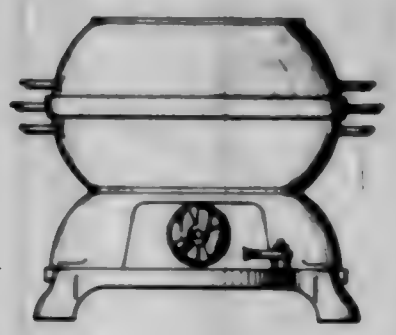
198,820
EVAPORATIVE COOLER
Robert L. Koble, Jr., Phoenix, Ariz., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Continuation of design applications Ser. Nos. 61,456 and 61,457, July 21, 1960. This application Nov. 23, 1962, Ser. No. 72,586
Term of patent 14 years
(Cl. D62—4)



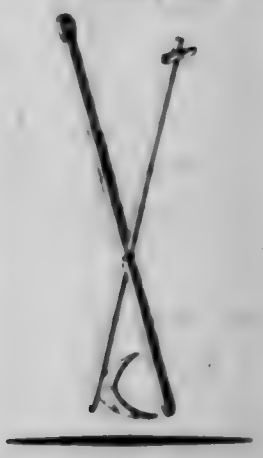
198,821
AIR CONDITIONER CABINET
Walter W. Hoyle, Fayetteville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Dec. 11, 1962, Ser. No. 72,807
Term of patent 3½ years
(Cl. D62—4)



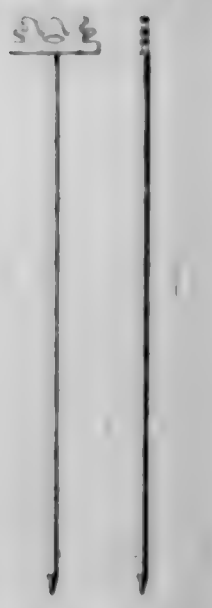
198,822
PORTABLE COOKER
Claude T. Lyemance, Rte. 4, Box 98, Selma, Ala.
Filed Sept. 24, 1962, Ser. No. 71,836
Term of patent 14 years
(Cl. D61—10)



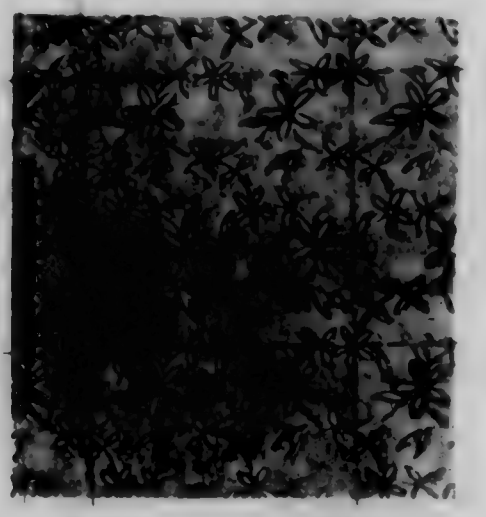
198,823
FIREPLACE TONGS
Alvin M. Cahan, 84 Carlton Road, Waban, Mass.
Filed Dec. 11, 1962, Ser. No. 72,808
Term of patent 14 years
(Cl. D81—24)



198,824
OUTDOOR SMOKER'S STAND
Thomas F. Murphy, P.O. Box 128, Furnace Creek, Death Valley, Calif.
Filed Jan. 25, 1962, Ser. No. 68,522
Term of patent 14 years
(Cl. D85—2)



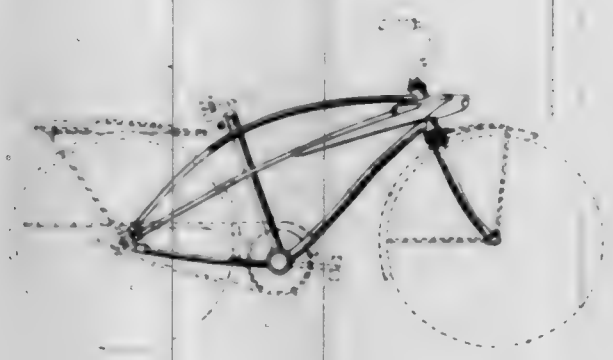
198,825
RUBBER SHEET MATERIAL
William J. Dorsey, Dover, Del., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware
Filed Apr. 12, 1961, Ser. No. 64,758
Term of patent 14 years
(Cl. D67—3)



198,826
JUICE EXTRACTOR
Austin H. Musson, Arlington Heights, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 78,865
Term of patent 14 years
(Cl. D89—1)



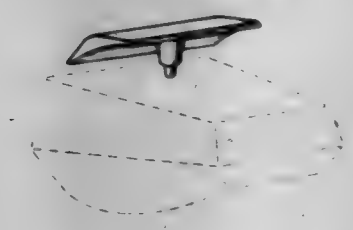
198,827
BICYCLE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Continuation of design applications Ser. Nos. 71,321, 71,322, 71,323, and 71,326, Aug. 16, 1962, and Ser. Nos. 71,668 and 71,669, Sept. 12, 1962. This application Jan. 17, 1964, Ser. No. 78,365
Term of patent 14 years
(Cl. D90—8)



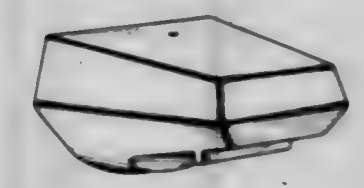
198,828
LAWN SPRINKLER
George L. Turner, Hickory Corners, Mich., assignor to H. B. Sherman Manufacturing Company, Battle Creek, Mich., a corporation of Michigan
Filed Oct. 5, 1962, Ser. No. 71,995
Term of patent 14 years
(Cl. D91—1)



198,829
FAUCET SPOUT HANDLE
William H. Armstrong, 5015 Brookdale, Birmingham, Mich.
Filed Mar. 12, 1964, Ser. No. 78,971
Term of patent 14 years
(Cl. D91—3)



198,830
FAUCET SPOUT
William H. Armstrong, 5015 Brookdale, Birmingham, Mich.
Filed Mar. 12, 1964, Ser. No. 78,972
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 4TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Cook, Newell C., to General Electric Co. Corrosion resistant coating. Re. 25,630, 8–4–64, Cl. 204—39.

General Electric Co.: *See*—
Cook, Newell C. Re. 25,630.

Kline, Henry: *See*—
Murphy, Frank P., and Kline. Re. 25,629.

Kruger, Michael H., to Smithcraft Corp. Ceiling illuminating system. Re. 25,628, 8–4–64, Cl. 240—9.

Murphy, Frank P., and H. Kline. Method of shrinking, dyeing and finishing Re. 25,629, 8–4–64, Cl. 8—18.

Overholt, Donald C., G. D. Roy, and R. R. Warren, to Union Carbide Corp. Refining of coal hydrogenation product. Re. 25,627, 8–4–64, Cl. 208—265.

Roy, Grover D.: *See*—
Overholt, Donald C., Roy, and Warren. Re. 25,627.

Smithcraft Corp.: *See*—
Kruger, Michael H. Re. 25,628.

Union Carbide Corp.: *See*—
Overholt, Donald C., Roy, and Warren. Re. 25,627.

LIST OF PLANT PATENTEES

Lewis, Helen H.: *See*—
Lewis, Hubert B. and H. H. 2,432.

Lewis, Hubert B. and H. H. Azalea plant. 2,432, 8–4–64, Cl. 56.

Staples, Mildred W. Red maple. 2,431, 8–4–64, Cl. 51.

LIST OF DESIGN PATENTEES

Aldrich, Thomas B., to F. W. Earnest, Jr. Ice-cracking implement. 198,808, 8–4–64, Cl. D44—29.

Alger, Andrew L.: *See*—
Yamasaki, Kim, and Alger. 198,814.

American Can Co.: *See*—
Jackson, John M. 198,819.

Armstrong, William H. Faucet spout handle. 198,829, 8–4–64, Cl. D91—3.

Armstrong, William H. Faucet spout. 198,830, 8–4–64, Cl. D91—3.

Barecki, Chester J. Reclining chair for vehicles. 198,783, 8–4–64, Cl. D15—8.

Barecki, Chester J. Vehicle seat. 198,784, 8–4–64, Cl. D15—8.

Baxter, Earl R.: *See*—
Carroll, John L., Wingard, and Baxter. 198,805.

Bausch & Lomb Inc.: *See*—
Patia, Jacob W. 198,815.

Bohner, William R.: *See*—
Simpson, Jack N., and Bohner. 198,776.

Bredon, Pat M. Tepee. 198,779, 8–4–64, Cl. D13—1.

Brigham, Owsley H. Underwater diving light. 198,881, 8–4–64, Cl. D48—24.

Bristol-Myers Co.: *See*—
Stehl, George R. 198,817.

Bruce, Robert A., F. J. Chiappetta, and G. W. Richardson, to Corning Glass Works. Drip coffee maker or the like. 198,807, 8–4–64, Cl. D44—26.

Bunn, B. H., Co.: *See*—
Yamasaki, Kim, and Alger. 198,814.

Cahan, Alvin M. Fireplace tongs. 198,823, 8–4–64, Cl. D81—24.

Carrier Corp.: *See*—
Hoyle, Walter W. 198,821.

Carroll, John L., R. W. Wingard, and E. R. Baxter. Insulated pitcher. 198,805, 8–4–64, Cl. D44—21.

Chiappetta, Frank J.: *See*—
Bruce, Robert A., Chiappetta, and Richardson. 198,807.

Chiappeta, Frank J., and G. W. Richardson, to Corning Glass Works. Percolator or the like. 198,806, 8–4–64, Cl. D44—26.

Cooke, Robert J. Illuminable book-end stand. 198,792, 8–4–64, Cl. D33—8.

Corning Glass Works: *See*—
Bruce, Robert A., Chiappetta, and Richardson. 198,807.
Chiappeta, Frank J., and Richardson. 198,806.

Coro, Inc. of Rhode Island: *See*—
Katz, Adolph. 198,809.

Costantini, Anthony R., and A. Di Angelus. Cabinet door handle. 198,778, 8–4–64, Cl. D10—8.

Cuculio, Ralph. Foldable and adjustable flower pot support or the like. 198,802, 8–4–64, Cl. D35—3.

Di Angelus, Anthony: *See*—
Costantini, Anthony. 198,778.

Dorsey, William J., to International Latex Corp. Rubber sheet material. 198,825, 8–4–64, Cl. D87—3.

Earnest, Frank W., Jr.: *See*—
Aldrich, Thomas B. 198,808.

Ekco Products Co.: *See*—
Munson, Austin H. 198,826.

Electric Storage Battery Co., The: *See*—
Simpson, Jack N., and Bohner. 198,776.

Friedman, Morris, and A. V. Mackey, to Minerware, Inc., and H.M.S. Associates Co. Combined refrigerator air freshener and deodorizer. 198,786, 8–4–64, Cl. D16—2.

Gandelman, Morris D., to Jacques Kreisler Mfg. Corp. Buckle. 198,787, 8–4–64, Cl. D17—1.

General Electric Co.: *See*—
Pettengill, Myron F. 198,812.

Giard, Florentine. Pie crust rolling board. 198,803, 8–4–64, Cl. D44—1.

Graveley Furniture Co., Inc.: *See*—
Hekler, Norman N. 198,793.
Hekler, Norman N. 198,794.
Hekler, Norman N. 198,795.
Hekler, Norman N. 198,796.
Hekler, Norman N. 198,798.
Hekler, Norman N. 198,799.
Hekler, Norman N. 198,800.

H.M.S. Associates Co.: *See*—
Friedman, Morris, and Mackey. 198,786.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Chest on chest. 198,793, 8–4–64, Cl. D33—6.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Chest of drawers. 198,794, 8–4–64, Cl. D33—6.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Commode. 198,795, 8–4–64, Cl. D33—6.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Dresser. 198,796, 8–4–64, Cl. D33—6.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Mirror. 198,798, 8–4–64, Cl. D33—9.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Chest. 198,799, 8–4–64, Cl. D33—19.

Hekler, Norman N., to Worth Furniture, A Division of Graveley Furniture Co., Inc. Cabinet. 198,800, 8–4–64, Cl. D33—19.

Hines, Ray F.: *See*—
Van De Pavert, and Hines. 198,780.
Van De Pavert, and Hines. 198,781.

Hoyle, Walter W., to Carrier Corp. Air conditioner cabinet. 198,821, 8–4–64, Cl. D62—4.

International Latex Corp.: *See*—
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Jackson, John M., to American Can Co. Package cover. 198,819, 8–4–64, Cl. D58—26.

Katz, Adolph, to Coro, Inc. of Rhode Island. Finger ring. 198,809, 8–4–64, Cl. D45—10.

Koble, Robert L., Jr., to McGraw-Edison Co. Evaporative cooler. 198,820, 8–4–64, Cl. D62—4.

Kreisler, Jacques, Mfg. Corp.: *See*—
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Mitchell, Duane E. Exercising device. 198,801, 8-4-64, Cl. D34—5.
Munson, Austin H., to Ekco Products Co. Juice extractor. 198,826, 8-4-64, Cl. D89—1.
Murphy, Thomas F. Outdoor smoker's stand. 198,824, 8-4-64, Cl. D85—2.
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Pettengill, Myron F., to General Electric Co. Luminaire. 198,812, 8-4-64, Cl. D48—31.
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Platner, Warren. Desk. 198,797, 8-4-64, Cl. D33—7.
Plummer, James E., to Owens-Illinois Glass Co. Bottle. 198,816, 8-4-64, Cl. D58—6.
Rice, Raymond J. Flood light. 198,810, 8-4-64, Cl. D48—20.
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Bruce, Robert A., Chiappetta, and Richardson. 198,807.
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Sherman, H. B., Mfg. Co.: *See*—
Turner, George L. 198,828.
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Sorenson, Wesley T., to Sorenson Lighted Controls, Inc. Electric switch button. 198,790, 8-4-64, Cl. D26—13.
Stehl, George R., to Bristol-Myers Co. Bottle. 198,817, 8-4-64, Cl. D58—6.
Stephens, John S. Medallion or similar article. 198,791, 8-4-64, Cl. D29—19.
Stevens, Stanford S. Combined invalid serving tray and support therefor. 198,804, 8-4-64, Cl. D44—10.
Stone, Harry D., to Summit Products Co. Mason's guide line holder or similar article. 198,813, 8-4-64, Cl. D51—1.
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Yamasaki, Kim, and A. L. Alger, to B. H. Bunn Co. Tying machine. 198,814, 8-4-64, Cl. D55—1.

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Abramo, John G., E. C. Chapin, and A. Y. Garner, to Monsanto Co. Ethylenically unsaturated aromatic phosphorus halides. 3,143,569, 8–4–64, Cl. 260—543.

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Adams, Francis A. Door stop. 3,143,360, 8–4–64, Cl. 292—288.

Adams, John W., R. M. Kilpinen, K. S. Fukumoto, W. H. Jones, and G. W. Shreve, to Lear Siegler, Inc. Photosensitive electroluminescent indicating apparatus. 3,143,653, 8–4–64, Cl. 250—208.

Adams, Morris E., and W. C. Crim, to General Motors Corp. Armature winder and staker. 3,142,890, 8–4–64, Cl. 29—155.5.

Adams, Robert. Fishing lures. 3,142,928, 8–4–64, Cl. 43—43.4.

Addin, Karl G. S., to W. R. Grace & Co. Apparatus for cutting thin limp foils or sheets. 3,143,023, 8–4–64, Cl. 83—472.

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Admos, Inc.: *See*—
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Wadleigh, Clifford H. 3,143,633.

Ajem Laboratories, Inc.: *See*—
Umbricht, Emil, and Arnold. 3,143,218.

Akerson, David W., to Wood Conversion Co. Tool for punching acoustic holes. 3,143,026, 8–4–64, Cl. 83—686.

Aldrich, Alvan C. Ceiling board jack. 3,143,219, 8–4–64, Cl. 214—1.

Alexander, Warren A., to Jersey Production Research Co. Seismic section correction device. 3,143,055, 8–4–64, Cl. 95—73.

Alexander, William I., to Mayday, Inc. Automatic vending machine. 3,143,198, 8–4–64, Cl. 194—15.

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American Cyanamid Co.: *See*—
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Andersen, Egil A., to United States Envelope Co. Rotary window cutter for envelope machines or the like. 3,143,022, 8–4–64, Cl. 83—341.

Andersen, George L., to Avis Industrial Corp. Transfer mechanism. 3,143,217, 8–4–64, Cl. 214—1.

Andersen, Kaj O. Distributor of liquid ammonia. 3,143,129, 8–4–64, Cl. 137—210.

Anderson, Donald A., to Canadian Ingersoll-Rand Co., Ltd. System and method for maintaining efficiency of screening particles under varying conditions of moisture content. 3,143,493, 8–4–64, Cl. 209—238.

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Annis, Martin, and E. C. Williams, Jr., to American Science and Engineering, Inc. Wave generating apparatus. 3,142,908, 8–4–64, Cl. 35—19.

Appel, Mel, and M. Schnur, to N. J. Thermex Co., Inc. Heating lamp. 3,143,629, 8–4–64, Cl. 219—347.

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Arnett, Boyd J. Carton loading apparatus. 3,142,948, 8–4–64, Cl. 53—55.

Arnold, Jack H., Jr., and H. J. Jaeger, to Special Devices, Inc. Self-armed and actuated bomb. 3,143,071, 8–4–64, Cl. 102—70.

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Aroyan, George F., and H. E. Williams, to The Bunker-Ramo Corp. Radiant energy detecting device using disc-shaped reticle. 3,143,654, 8–4–64, Cl. 250—233.

Arthur, Edwin P., and J. E. Leonard, to Beckman Instruments, Inc. Lithia-alumina-silica glass containing phosphorus. 3,143,488, 8–4–64, Cl. 204—165.

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Ballinger, Peter, to California Research Corp. Gasoline containing organolead compound. 3,143,400, 8–4–64, Cl. 44—69.

Bamberger, Eric N., and F. E. Spinelli, to General Electric Co. Means for preventing fretting erosion. 3,143,383, 8–4–64, Cl. 308—241.

Barber, Ronald J., and J. M. Lowe, to Dunlop Tire and Rubber Corp. Method for the manufacture of pneumatic tires. 3,143,450, 8–4–64, Cl. 156—126.

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Beck, Roland D., to Robertshaw Controls Co. Pneumatic control device. 3,143,141, 8–4–64, Cl. 137—625.2.

Becker, Frank E., to General Electric Co. Sheet-type heater and overheat protection device. 3,143,640, 8–4–64, Cl. 219—20.

Becker, Rudolf, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. System for conducting heat exchange operations in a gas separation apparatus incorporating periodically reversible regenerators. 3,143,406, 8–4–64, Cl. 62—13.

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Berger, Samuel. Shirt with improved adjustable collar button. 3,142,843, 8–4–64, Cl. 2—128.

Bergstrom, Eric V., to Socony Mobil Oil Co., Inc. Catalytic conversion of hydrocarbons with a silica-alumina and crystalline zeolite catalyst composite. 3,143,491, 8–4–64, Cl. 208—74.

Berlyn, Martin J. Method of cancelling gyro drift. 3,142,994, 8–4–64, Cl. 74—5.34.

Berman, Kurt, to General Electric Co. Propellant charge containing fluid encapsulations. 3,143,446, 8–4–64, Cl. 149—2.

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Bloodworth, Loy H., and K. E. Wood, to United States of America, Navy. Power saving switch driver system. 3,143,668, 8–4–64, Cl. 307—88.5.

Blount, Floyd E., to Socony Mobil Oil Co., Inc. Flanging tool. 3,142,868, 8–4–64, Cl. 15—19.

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Bosco, Charles G., to Northwestern Steel & Wire Co. Coiling device for hot rod. 3,143,314, 8–4–64, Cl. 242—83.

Bosomworth, George P., and A. M. Lancaster, to The Firestone & Rubber Co. Tubed innerliner for bagless cured tires. 3,143,449, 8–4–64, Cl. 156—126.

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Bowen, Gilbert C., to United States of America, Navy. Safe biological or chemical warfare projectile. 3,143,070, 8–4–64, Cl. 102—86.

Boyer, William A., to Dow Corning Corp. Catalytic polymerization of silazanes. 3,143,514, 8–4–64, Cl. 260—2.

Bradbury, Ernest J., D. W. Wakeman, and V. A. Tracey, to The International Nickel Co., Inc. Heterogeneous sintered alloys. 3,142,893, 8–4–64, Cl. 29—182.

Bradley, John S., W. H. Luehrmann, C. A. Youngman, and J. R. Gunter, to The Atlantic Refining Co. Exploration for hydrocarbons by detecting gas seeps in the atmosphere. 3,143,648, 8–4–64, Cl. 250—43.5.

Branda, Ronald A. Opener and spout for milk cartons and the like. 3,143,248, 8–4–64, Cl. 222—81.

Brault, Andre R., and A. K. Chitayat, to Optomechanisms, Inc. Remote film viewer. 3,143,589, 8–4–64, Cl. 88—31.

Brennan, Harry M., C. G. Frey, and H. S. Seelig, to Standard Oil Co. Hydrocarbon conversion process to produce isoparaffins from olefins. 3,143,490, 8–4–64, Cl. 208—49.

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Bristol, Franklin B., Sr. Liquid seal for differential pressure apparatus. 3,142,989, 8–4–64, Cl. 73—407.

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Tribe, Thomas F. 3,143,095.

British Thomson-Houston Co., Ltd., The: *See*—
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Bromer, Heinz, and N. L. Meinert, to Ernst Leitz, G.m.b.H. Optical glass. 3,143,432, 8–4–64, Cl. 106—54.

Bronson, Robert W., and N. D. Korbitz, to Texas Instruments Inc. Method of making glass encased electrolytic capacitor assembly and article resulting therefrom. 3,142,886, 8–4–64, Cl. 29—25.31.

Brooke, Norman E. Combined coat and trouser hanger having bent wire connecting member. 3,143,261, 8–4–64, Cl. 223—91.

Brooks Instrument Co., Inc.: *See*—
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Brown, Arthur C. L.: *See*—
Currey, Charles H., Brown, Holbrook, Truesdale, and Freeman. 3,143,705.

Brown, Boveri & Cie, Aktiengesellschaft: *See*—
Hofmann, Werner. 3,143,624.

Brown, Calvin O., to Set Screw & Mfg. Co. Set screw with center of gravity located to permit orientation. 3,143,029, 8–4–64, Cl. 85—1.

Brown, Graydon L.: *See*—
Baye, Marvin G., Brown, and Wakefield. 3,143,181.

Brown, Harry W., to Cutler-Hammer, Inc. Depressible trigger switch with manual adjustable contact means. 3,143,606, 8–4–64, Cl. 200—6.

Brown, John J., and S. Bernstein, to American Cyanamid Co. Substituted 19-norandrosta-5(10),9(11)-dienes and method of preparing same. 3,143,557, 8–4–64, Cl. 260—397.5.

Brown, Kenneth M., to Universal Oil Products Co. Manufacture of individual disulfides. 3,143,574, 8–4–64, Cl. 260—608.

Brown, Winthrop L. Laminated wood and slate structure. 3,143,455, 8–4–64, Cl. 161—56.

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Bruestle, Carl O., to Syncro Machine Co. Cooling means for a wire drawing block. 3,143,204, 8–4–64, Cl. 205—20.

Brunkan, Gus H. Boom means. 3,143,216, 8–4–64, Cl. 212—61.

Brunner, David H., to Philco Corp. System for selectively modifying amplitude of TV chrominance subcarrier to overcome color desaturation by synthesizing like-frequency compensating signal with subcarrier. 3,143,598, 8–4–64, Cl. 178—5.4.

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Harms, William J. 3,142,871.

Bryce-Smith, Derek, and E. T. Blues, to National Research Development Corp. Preparation of a halogen containing organo-magnesium material. 3,143,577, 8–4–64, Cl. 260—665.

Bryner, Fred, and A. J. Dietzler, to The Dow Chemical Co. Chlorination of bisphenols. 3,143,575, 8–4–64, Cl. 260—619

Buchanan, Perry P. to Brake mechanism. 3,143,192, 8–4–64, Cl. 188—65.1.

Buchanan, William E. Fabric for fourdrinier machines. 3,143,150, 8–4–64, Cl. 139—425.

Budd, Co., The: *See*—
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Buehl, Russell C., to Crucible Steel Co. of America. Electrode regulator. 3,143,587, 8–4–64, Cl. 13—13.

Bulgrin, Walter W.: *See*—
Luther, Karl, Parent, and Bulgrin. 3,143,015.

Bulgrin, Walter W., to The Firestone Tire & Rubber Co. Single walled metal containers. 3,143,238, 8–4–64, Cl. 220—5

Bulgrin, Walter W., and M. H. MacKusick, to The Firestone Tire & Rubber Co. Wheel disks and disk wheel assemblies. 3,143,377, 8–4–64, Cl. 301—63.

Bullock, Harry L., to Herbert Simpson Corp. Electrostatic separation. 3,143,492, 8–4–64, Cl. 209—127.

Bulow, Knut O. Device for regulating and stopping the removal of cable from a tow target cable storage means. 3,143,346, 8–4–64, Cl. 273—105.3.

Bundy Tubing Co.: *See*—
Payne, Arthur W. 3,143,008.

Bunker-Ramo Corp., The: *See*—
Aroyan, George F., and Williams. 3,143,654.

Bunting Brass and Bronze Co., The: *See*—
Spaulding, David C., Jr. 3,142,972.

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Butler, Roger M.: *See*—
Bichard, John A., Butler, and Gaspar. 3,143,511.

Byal, John M., to Libbey-Owens-Ford Glass Co. Grinding runner. 3,142,946, 8–4–64, Cl. 51—209.

Byberg, Jonas J. Metering improvement for feed mixers. 3,143,336, 8–4–64, Cl. 259—97.

Byrd, Emory: *See*—
Edge, Dewey S., Sr. 3,143,286.

C.A.V. Ltd.: *See*—
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"COO" N.V.: *See*—
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Cagin, Raymond, P. Chemin, J. Millot, and P. Mulot, to Commissariat a l' Energie Atomique. Reactor fuel handling hood. 3,143,226, 8–4–64, Cl. 214—18.

Caldo, Cornelio, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Stabilized crystalline polymeric olefins. 3,143,523, 8–4–64, Cl. 260—45.8.

Caldwell, John R., to Eastman Kodak Co. Polymeric cyclopentadiene coatings on polyethylene and other polymeric hydrocarbons. 3,143,422, 8–4–64, Cl. 96—87.

Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Linear polyesters of 1,4-cyclohexanedicarboxylic acid and aromatic diols. 3,143,526, 8–4–64, Cl. 260—47.

Caldwell, John R.: *See*—
Jackson, Winston J., Jr., Caldwell, and Hill. 3,143,535.

Caldwell, John R., and J. E. Poe, to Eastman Kodak Co. Method for preparing alicyclic diamines. 3,143,570, 8–4–64, Cl. 260—563.

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California Research Corp.: *See*—
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Ballinger, Peter. 3,143,400.
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Cameron, Peter M.: *See*—
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Campbell, George T. R., N. V. Laskey, and T. B. Hemsley, to International MacGregor Organization I.M.G.O. Apparatus for the loading and unloading of ships. 3,143,224, 8–4–64, Cl. 214—15.

Campbell, George T. R., N. V. Laskey, and T. B. Hemsley, to International MacGregor Organization (I.M.G.O.). Conveyor apparatus for the unloading of bulk cargoes from ships. 3,143,225, 8–4–64, Cl. 214—15.

Campbell, J. Allan, and J. C. Babcock, to The Upjohn Co. 6-methyl-6-hydroxy steroids and processes for the production thereof. 3,143,556, 8–4–64, Cl. 260—397.4.

Campbell, Mark, to West Virginia Pulp and Paper Co. Apparatus for coating web material. 3,143,438, 8–4–64, Cl. 118—104.

Campos, Emil, to Plastic Plants, Inc. Plant accessory. 3,142,935, 8–4–64, Cl. 47—48.5.

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Canadian Marconi Co.: *See*—
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Capel, A. Leon, & Sons, Inc.: *See*—
Capel, Jesse S. 3,142,885.

Capel, Jesse S., to A. Leon Capel & Sons, Inc. Method of manufacturing multi-color, chenille yarn, braid and fabrics, and products manufactured by said method. 3,142,885, 8–4–64, Cl. 28—72.

Carboni, Ralph J. Children's feeding tray. 3,143,374, 8–4–64, Cl. 297—188.

Cardani, Charles P., V. P. Romeo, G. F. C. Burke, and W. B. Hanson, to United Shoe Machinery Corp. Stringing machines. 3,142,896, 8–4–64, Cl. 29—241.

Carlisle, Denis R., to Rolls-Royce Ltd. Combustion chamber for a gas turbine engine. 3,142,961, 8–4–64, Cl. 60—39.74.

Carlson, George J., F. A. Cleland, and W. Dong, to Shell Oil Co. Conduit with clean-out device. 3,143,302, 8–4–64, Cl. 341—46.

Carlson, Rollin N.: *See*—
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Carner, James F. Reversible discharge flow and variable displacement pump. 3,143,079, 8–4–64, Cl. 103—120.

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Carpenter, John A. and A. D. 3,143,325.

Carpenter, John A. and A. D. Cable support. 3,143,325, 8–4–64, Cl. 248—68.

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Carrier Corp.: *See*—
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Hale, Harry T. 3,142,970.

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Carsen, Marx J. and R. A. 3,143,348.

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Carsen, Marx J. and R. A. 3,143,348.

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Cavallini, Guido, and E. Massarani, to Francesco Vismara, S.p.A. Diarylamino-acetyl-aryl derivatives. 3,143,568, 8–4–64, Cl. 260—518.

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Cecil, Robert D., and C. H. Cecil, Jr. Soil treating apparatus. 3,143,090, 8–4–64, Cl. 111—6.

Cednas, Karl L. E. Projection device for projectors with twin lens system. 3,143,032, 8–4–64, Cl. 88—16.6.

Celovsky, Michael J., to Industrial Tool Engineering Co. Braking device for indexing machine. 3,142,942, 8–4–64, Cl. 51—134.

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Chernick, Jack, K. W. Downes, J. M. Hastings, J. M. Hendrie, and H. J. C. Kouts, to United States of America, Atomic Energy Commission. High flux beam reactor. 3,143,478, 8–4–64, Cl. 176—18.

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Douglas, Edwin J. 3,143,178.

Chiasson, Wilbert A., to Weltronic Co. Motor controlling apparatus. 3,143,694, 8–4–64, Cl. 318—227.

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Chloride Eleterical Storage Co., Ltd., The: *See*—
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Christopher, Joseph A. Meat hanger. 3,143,329, 8–4–64, Cl. 248—317.

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Pengue, Joseph R. 3,143,250.

Clark, Wilbur: *See*—
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Clarke, Eric P. S., to Her Majesty's Postmaster General. Machinery for laying and recovering submarine cable. 3,143,309, 8–4–64, Cl. 242—47.9.

Clarke, Maurice G., and C. H. Walker, to The British Thomson-Houston Co., Ltd. Electroluminescent devices with a barium titanate layer. 3,143,682, 8–4–64, Cl. 313—108.

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Cochran, William T., G. K. Helder, and J. A. Mines, to Bell Telephone Laboratories, Inc. Transmission measuring system. 3,143,604, 8–4–64, Cl. 179—175.3.

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Cohen, Neal B., to Sperry Rand Corp. Single-edge guide for moving tape. 3,143,270, 8–4–64, Cl. 226—196.

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Coleman, Joseph J., M. E. Wilke, and C. J. Vander Yacht, to Servel Inc. Diaphragm valve for venting fluid. 3,143,441, 8–4–64, Cl. 136—178.

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Collins, Lawrence R., and R. S. Faidy, to General Electric Co. Automatic washing machine with improved cycle selection means. 3,142,976, 8–4–64, Cl. 68—12.

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Compare, Manrico, to Ing. C. Olivetti & C., S.p.A. Coded records and producing apparatus therefor. 3,143,642, 8–4–64, Cl. 235—61.12.

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Corey, John L. Television receiver support. 3,143,351, 8–4–64, Cl. 248—356.

Cornelius, Gail, to R. M. Wade & Co. Drain means for irrigation pipe. 3,143,135, 8–4–64, Cl. 137—494.

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Cummins, Clessie L., and C. L. Cummins, Jr; said Cummins Jr. assor. to C. L. Cummins. Fuel pump and distributing apparatus. 3,143,104, 8–4–64, Cl. 123—140.

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Cummins, Clessie L., and C. L. Cummins, Jr. 3,143,104.

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Currey, Charles H., A. C. L. Brown, D. W. Holbrook, G. K. Truesdale, and B. L. Freeman, to A. C. Nielson Co. System for determining whether local stations are transmitting network programs. 3,143,705, 8–4–64, Cl. 325—31.

Curtin, Frank M. Multiple reel magnetic tape transport. 3,143,311, 8–4–64, Cl. 242—55.11.

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Damgaard, Laurits G., to H. Struers Chemiske Laboratorium. Demineralization column. 3,143,500, 8–4–64, Cl. 210—190.

Damiano, Luigi. Scaffolding device. 3,143,328, 8–4–64, Cl. 248—228.

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Davis, Leo R. Safety device for tractors. 3,143,180, 8–4–64, Cl. 180—14.5.
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Davis, Walter T. Tool. 3,142,897, 8–4–64, Cl. 29—259.
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De Boer, Albert, to Knapp-Monarch Co. Inflator for CO_2 inflation device. 3,142,850, 8–4–64, Cl. 9—11.
De Boer, Geert, to Volma, N.V. Device for periodically filling cheese moulds with a metered lump of curd. 3,142,904, 8–4–64, Cl. 31—13.
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Wieman, Edward R. 3,143,227.
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Dehring, Paul E., and J. M. Burdick. Mobile silo hopper. 3,143,380, 8–4–64, Cl. 302—37.
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Denis, Roger L. J., to Chelle, Etablissements. Nose-pieces for isobaric liquid-drawers. 3,143,151, 8–4–64, Cl. 141—302.
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Derby, Samuel E. Demountable multiple stage ultra-high vacuum system. 3,143,594, 8–4–64, Cl. 174—17.
De Seguin des Hons, Luc D. Apparatus for automatically performing chemical operations and similar or related operations. 3,143,393, 8–4–64, Cl. 23—253.
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Döis, Heinrich. Electromagnetic oscillating drive, more particularly for plunger compressors. 3,143,281, 8–4–64, Cl. 230—55.
Donald, Philip J., and W. E. Martin, to Radio Corp. of America. Range measuring system. 3,143,586, 8–4–64, Cl. 88—1.
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Graves, Donald L. and P. Giuffrida, to Electronics Corp. of America. Self-checking condition responsive system. 3,143,162, 8–4–64, Cl. 155—28.
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Lupovici, David. Hot liquid dispenser. 3,143,636, 8-4-64, Cl. 219—314.

Luther, Karl, G. C. J. Parent, and W. W. Bulgrin, to The Firestone Tire & Rubber Co. Sheet feeding, punching and disk stacking equipment for the manufacture of wheel disks or the like. 3,143,016, 8-4-64, Cl. 83—91.

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MacIntyre, Wilfred J. Golf club head having two weight receiving recesses to individually vary the weight of the toe and heel portions. 3,143,349, 8-4-64, Cl. 273—171.

MacKusick, Meredith H.: *See*—
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Maier, Elmar. Miniature-type calculating machines. 3,143,291, 8–4–64, Cl. 235—63.
Mainwaring, Ralph G. Aircraft landing device. 3,143,322, 8–4–64, Cl. 244—114.
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Markowski, Wieslaw D., to Beloit Eastern Corp. Rotatable cutter tool pair with cutter disc angularly positioned. 3,143,024, 8–4–64, Cl. 83—497.
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Mazzoni, Mario, to G. Mazzoni, S.p.A. Presses, moldings and forming machines. 3,142,863, 8–4–64, Cl. 18—2.
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Merrill, Reginald D., and E. C. Hauser, to Stone Container Corp. Collapsible bulk fluid container. 3,143,249, 8–4–64, Cl. 222—105.
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Miller, Allen N. Double-barreled single-trigger firearm. 3,142,925, 8–4–64, Cl. 42—42.
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Miller, Francis A., to Key Equipment Co., Inc. Pod separator. 3,143,212, 8–4–64, Cl. 209—85.
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Mitchell, Thomas E., O. K. Neville, and A. G. Schrodt, to Nuclear-Chicago Corp. Information coding and sensing by means of beta-ray backscattering. 3,143,649, 8–4–64, Cl. 250—83.3.
Mitsen, Thomas. Scaling device. 3,142,906, 8–4–64, Cl. 33—111.
Mitsen, Carlton A., to Minneapolis-Honeywell Regulator Co. Radiation detection apparatus with means to obtain substantially constant output signal with widely varying input signals. 3,143,650, 8–4–64, Cl. 250—83.3.
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Sears, Garold D., and Sullivan. 3,143,183.
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Muller, Jacques. Quick-acting biased valved coupling for fluid pipe. 3,143,137, 8–4–64, Cl. 137—852.
Muller, Max E. A. Multiple pronged connector. 3,143,030, 8–4–64, Cl. 85—13.
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Nägele, Karl F. Control device by which the coupling lengths of slide fasteners and the intermediate spaces between adjacent coupling lengths of slide fasteners are determined. 3,142,895, 8–4–64, Cl. 29—208.
Namenyi-Kats, Laszlo, to Vectron Electro-Physics Ltd. Control for machine tool utilizing a vibrating crystal. 3,143,041, 8–4–64, Cl. 90—16.
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Nova Products Corp.: *See*—
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Okazaki, Hidehiro: *See*—
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Olin Mathieson Chemical Corp.: *See*—
Hurley, Thomas J., Jr., MacLaren, and Whitney. 3,143,391.
Krapcho, John. 3,143,555.
Laskin, Allen I. 3,143,480.
Morrow, Edward L. 3,142,926.
Riffkin, Charles, and Marcus. 3,143,464.
Saeman, Walter C. 3,143,392.
Thomas, Gordon H., and Fried. 3,143,559.
Vartanian, Edwin S., and Badali. 3,142,923.

Olin, Raymond G., and R. W. Richter, to General Electric Co. Method of making plated circuit boards. 3,143,484, 8-4-64, Cl. 204—15.

Olivetti, Ing. C., & C., S.p.A.: *See*—
Compare, Maurico. 3,143,642.

Olsen, Walter A.: *See*—
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Operhall, Theodore: *See*—
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Optomechanisms, Inc.: *See*—
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Ott, John B., to Monsanto Co. Preparation of polycarbonates by suspension polymerization. 3,143,525, 8-4-64, Cl. 260—47.

Otteman, Lloyd G., and J. A. Haeber, to Shell Oil Co. Underwater well guide system. 3,143,171, 8-4-64, Cl. 166—665.

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Krafft, Frederic B., Corrall, and Otto. 3,142,952.

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Wong, Robert. 3,143,405.

Owens-Illinois Glass Co.: *See*—
Mumford, George V. 3,143,257.
Richie, Carlton A., and Scalora. 3,142,865.

Paar, Thomas J. J., to Chicago Printed String Co. Method of forming a decorative bow or preassembly therefor. 3,143,259, 8-4-64, Cl. 223—46.

Pabo, Waldemar, to Eastman Kodak Co. Liquid cooled casting drums. 3,142,866, 8-4-64, Cl. 18—15.

Pacific Scientific Co.: *See*—
Gordon, James F. 3,143,717.

Padalino, John W., to Bell Telephone Laboratories, Inc. Circuits for producing ramp waveforms. 3,143,650, 8-4-64, Cl. 307—88.5.

Page, John R.: *See*—
Page, Robert M. 3,143,733.

Page, Robert M., 8% to J. R. Page, and 16% to G. G. Leaf, as trustee, and 12½% to L. R. Philpott, and 37½% to L. C. Young. Automatic range and bearing follow-up systems. 3,143,733, 8-4-64, Cl. 343—9.

Palmer, Berthold L. Pedal depressers for vehicle brakes. 3,143,002, 8-4-64, Cl. 74—532.

Palyi, Leslie, to Universal Milling and Machinery Ltd. High efficiency hammer mill. 3,143,303, 8-4-64, Cl. 241—51.

Pangburn, Thomas W., to Fisher Governor Co. Seal arrangement for a butterfly valve. 3,143,132, 8-4-64, Cl. 137—375.

Panny, Joseph H.: *See*—
Koester, Gordon H., and Panny. 3,143,025.

Pantasote Co., The: *See*—
Weiss, Hugh R. 3,143,227.

Parent, Gordon C. J.: *See*—
Luther, Karl, Parent, and Bulgrin. 3,143,015.

Park, Donald E.: *See*—
Croxton, Eugene L., and Park. 3,143,481.

Parker, Davis & Co.: *See*—
Wilner, Burton I. 3,143,470.

Parry, Frank, to The Singer Co. Lock stitch sewing machines. 3,143,093, 8-4-64, Cl. 112—181.

Patterson, Kenneth H., to United States of America, Army. Broad band frequency multiplier and mixer. 3,143,100, 8-4-64, Cl. 328—133.

Payer, John L. Single-axis autopilot for aircraft. 3,143,320, 8-4-64, Cl. 244—78.

Payne, Arthur W., to Bundy Tubing Co. Press for performing work on metal workpieces. 3,143,008, 8-4-64, Cl. 78—17.

Pearce, David A., to Chemagro Corp. Method for making pesticide composition of a pesticide-resin mixture coated on granules. 3,143,460, 8-4-64, Cl. 167—42.

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O'Connor, George L., Fritz, and Peck. 3,143,578.

Peet, William H. Accumulator. 3,143,144, 8-4-64, Cl. 138—30.

Pelley, Perry H., to Tru-Scale, Inc. Means and method for the formation of paneling having a foamed plastic core. 3,142,864, 8-4-64, Cl. 18—4.

Pengue, Joseph R., to Clark Metal Products Inc. Aerosol spray dispensers. 3,143,250, 8-4-64, Cl. 222—182.

Penn Controls, Inc.: *See*—
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Penngard, Per O. S.: *See*—
Lundin, Johan G., and Penngard. 3,143,294.

Pennock, John C., and C. A. Gregory, Jr., to Flight Research, Inc. Camera exposure control. 3,143,048, 8-4-64, Cl. 95—10.

Pennsylvania Sewing Research Corp.: *See*—
Glassman, Aaron, and Bonarrigo. 3,143,092.

Pensis, Rene A. F., to Ateliers de Constructions Electriques de Charleroi (ACEC). Multi-contact electrical switches. 3,143,621, 8-4-64, Cl. 200—144.

Performance Measurements Co.: *See*—
Gross, William H. 3,142,981.

Person, Herman R., to Dale Electronics, Inc. Antenna mast for airplanes. 3,143,387, 8-4-64, Cl. 339—273.

Peterson Mfg. Co.: *See*—
Trautner, Wagn, and Armacost. 3,143,301.

Peterson, Richard H. Electronic musical instrument including cascaded transistor oscillators. 3,143,712, 8-4-64, Cl. 331—52.

Peterson, Thomas G. Collapsible portable granary or like container. 3,143,271, 8-4-64, Cl. 229—4.5.

Petillat, Georges: *See*—
Guilloteau, René, and Petillat. 3,143,231.

Pfaff, G. M., AG.: *See*—
Aroter, Conrad. 3,143,091.

Pfeiffer, Joachim. Process and apparatus for drawing deformable stock. 3,143,009, 8-4-64, Cl. 80—18.

Phaneuf, Edgar A., and H. Springer, to General Electric Co. Automatic toothbrush. 3,142,852, 8-4-64, Cl. 15—22.

Philco Corp.: *See*—
Brunner, David H. 3,143,598.
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Fluegel, Dale A., and Hinrichs. 3,143,643.
Klein, Eugene L. 3,142,950.
McLeod, Norman F., and Carlson. 3,143,482.
Stoller, Frederick L. 3,142,969.
Warner, Paul F. 3,143,487.

Philpott, La Verne R.: *See*—
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Pickering, Ralph W., and E. Whayman, to Electrolytic Zinc Co. of Australasia Ltd. Recovery of zinc from zinc plant residue. 3,143,486, 8-4-64, Cl. 204—119.

Pickles, Joseph, to Ferro Stamping Co. Reversible drive transmission. 3,142,998, 8-4-64, Cl. 74—424.8.

Pilger, Roy S.: *See*—
Jagemann, Nicholas B., and Pilger. 3,142,849.

Pillsbury Co., The: *See*—
Swanson, Emery C., Sherck, and Cook. 3,143,429.

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Pines Engineering Co., Inc.: *See*—
Everett, Buford B. 3,143,018.

Piotrowski, Chester A.: *See*—
Gutowski, Joseph A., and Piotrowski. 3,143,196.

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Pittsburgh Plate Glass Co.: *See*—
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Plastic Plants, Inc.: *See*—
Campos, Emil. 3,142,935.

Plastilite Corp.: *See*—
Lambach, Frederick A. 3,142,930.

Pledger, Huey, Jr., to The Dow Chemical Co. Maleic anhydride copolymer. 3,143,533, 8-4-64, Cl. 260—78.5.

Ploke, Martin, and H. Thiele, to Zeiss Ikon Aktiengesellschaft. Device for adjusting light measuring instruments, particularly for photographic cameras with automatic diaphragm adjustment. 3,143,054, 8-4-64, Cl. 95—64.

Poe, James E.: *See*—
Caldwell, John R., and Poe. 3,143,570.

Poleshuk, Michael: *See*—
Dowling, Philip H., and Poleshuk. 3,142,987.

Pollock, Randolph R. Apparatus for recapping a vehicular tire. 3,142,867, 8-4-64, Cl. 18—18.

Poole, Alton B., and R. S. Brenneman, to Arthur D. Little, Inc. Apparatus and method for prevention of skin blister in fowl. 3,143,099, 8-4-64, Cl. 119—143.

Pope, Kenneth E.: *See*—
Hohne, Jack C., Jr., and Pope. 3,143,695.

Postmaster General, Her Majesty's: *See*—
Clarke, Eric F. S. 3,143,309.

Pottier, Jacques: *See*—
Klein, Siegfried, and Pottier. 3,143,680.

Pottier, Paul: *See*—
Le Bris, Jean, Mouret, and Pottier. 3,143,483.

Powell, Anthony, to Beemark Switches Ltd. Spring-driven time-delayed switch-operating device. 3,143,616, 8-4-64, Cl. 200—122.

Powell, Robert A., and F. I. Zaleski, to United States of America, Army. Production of metal powder compacts. 3,142,892, 8-4-64, Cl. 29—182.

Power, Roy B., to Tung-Sol Electric Inc. Pilot signal circuit. 3,143,729, 8-4-64, Cl. 340—253.

Pratt, Robert C., and C. H. Scott, to Babbitt Pipe Co., Inc. Method of making a multi-ply plastic tubular article. 3,143,451, 8-4-64, Cl. 156—194.

Pray, Percy E. Powerhead. 3,143,356, 8-4-64, Cl. 279—4.

Preload Corp.: *See*—
Dijkmans, Maximilian J., Magers, and Beiner. 3,143,506.

Pretti, Eugene D., to Jacuzzi Bros., Inc. Distributing valve. 3,143,139, 8-4-64, Cl. 137—590.

Priest, William J., and J. A. Van Allan, to Eastman Kodak Co. Vesicular image-forming coatings comprising a light-sensitive carbonido. 3,143,418, 8-4-64, Cl. 96—49.

Prober, Maurice: *See*—
Cooper, Glenn D., and Prober. 3,143,524.

Prochnow, Claus: *See*—
Weiss, Richard, and Prochnow.

Procter & Gamble Co., The: *See*—
Mills, Victor. 3,143,113.
Vanderhyde, Harold J. 3,143,254.

Proctor-Sliez Corp., The: *See*—
Turner, Charles R., and Hilldale. 3,143,056.

Pugin, André, and J. von der Crone, to J. R. Geigy, A.-G. Process for the production of pigments of the dioxazine series. 3,143,546, 8-4-64, Cl. 260—246.

Pullman Inc.: *See*—
Austgen, Kenneth J. 3,143,082.
Cross, Owen H. 3,142,884.
Gutridge, Jack E., and Borger. 3,143,063.

Pure Oil Co., The: *See*—
Klaus, Donald L. 3,142,978.
Klaus, Donald L., and Brosowski. 3,143,552.

Purse, Frank V., to Universal Oil Products Co. Variable-area nozzle. 3,143,293, 8-4-64, Cl. 239—75.

Purzycki, Alfred Z., to Teletype Corp. Molded separable reel. 3,143,313, 8-4-64, Cl. 242—71.8.

Pyle-National Co., The: *See*—
Nava, Joseph A., and Mercer. 3,143,386.

Pyritz, George L. Constant pressure, variable volume delivery pump. 3,143,076, 8-4-64, Cl. 103—37.

Raabe, Herbert P., to United States of America, Air Force. Speed indicator. 3,143,734, 8-4-64, Cl. 343—9.

Raborg, Jessie H.: *See*—
Waters, Harry F. 3,142,911.

Radiant Pen Corp.: *See*—
Hechtle, Emil. 3,143,101.

Radio Corp. of America: *See*—
Donald, Philip J., and Martin. 3,143,588.
Hill, James J., and Kaufman. 3,143,662.
Kaufman, Melvin M., and Weigel. 3,143,660.
Vonderschmitt, Bernard V., and Daniel. 3,143,686.

Rafael, Hans: *See*—
Heuberger, Hans, and Rafael. 3,143,390.

Rake, Dale W.: *See*—
Mitchell, Ellen M., Giguere, and Rake. 3,143,407.

Rampe, John F. Molded plastic pulley with heat conducting metal lining. 3,142,997, 8-4-64, Cl. 74—230.17.

Ramsden, Hugh E., to M & T Chemicals Inc. Thermally stable copolymers of venylin and ethylenically unsaturated compounds. 3,143,531, 8-4-64, Cl. 260—78.5.

Rand Corp., The: *See*—
Davies, Merton E. 3,143,048.

Randall, Wilbur W.: *See*—
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Herbenar, Edward J., and Rasmussen. 3,143,361.

Rasmussen, Robert F.: *See*—
Borgeson, Roger D., and Rasmussen. 3,143,042.

Raytheon Co.: *See*—
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Kuns, Max. 3,143,688.

Read, Emanuel F., to Collins Radio Co. Transistor amplifier cutoff means at high signals levels. 3,143,711, 8-4-64, Cl. 330—24.

Rebeski, Hans, to W. Ferd. Klingelnberg Sohne. Machine for lapping gears. 3,142,940, 8-4-64, Cl. 51—26.

Redmayne, Geoffrey. Timing devices. 3,142,954, 8-4-64, Cl. 58—22.9.

Reed, Ross C.: *See*—
Lazure, Frank S., and Reed. 3,143,256.

Reef, Jan. Checking gage. 3,142,907, 8-4-64, Cl. 33—147.

Rees, Henry A., and T. A. G. Shimeld, to Davy and United Engineering Co. Ltd. Bumpers. 3,143,337, 8-4-64, Cl. 267—1.

Reeves Brothers, Inc.: *See*—
Hurley, Roy T. 3,143,515.

Regan, Edmund D.: *See*—
Kohler, George F., Regan, and Wolman. 3,143,702.

Reichel, Maximilian K., and W. Neugebauer, to Azoplate Corp. Light sensitive coatings for screen printing comprising a light sensitive material with a condensate of a ω,ω'-diamine and a ω,ω'-dicarboxylic acid. 3,143,416, 8-4-64, Cl. 96—35.

Reichel, Maximilian K., and W. Neugebauer, to Azoplate Corp. Light sensitive coatings for screen printing containing N-alkoxymethylated poly-ε-caprolactams. 3,143,417, 8-4-64, Cl. 96—35.

Reid, John D.: *See*—
Vail, Sidney L., Frick, and Reid. 3,143,548.

Reid, Robert J.: *See*—
Conard, Wendell R., and Reid. 3,143,522.

Reimers, Frederick E., M. D. Miller, and E. Naborney, to American Sugar Co. Method and apparatus for agglomeration. 3,143,428, 8-4-64, Cl. 99—141.

Rejafix Ltd.: *See*—
Excell, Arthur W. 3,143,061.

Renner, Josef. Oil burner. 3,143,168, 8-4-64, Cl. 158—36.3.

Replex Proprietary Ltd.: *See*—
Watt, John. 3,143,327.

Republic Industries, Inc.: *See*—
Meyer, Allen T. 3,142,872.

Research Institute for Medicine and Chemistry, Inc.: *See*—
Cruickshank, Philip A., and Sheehan. 3,143,547.

Revere Copper and Brass Inc.: *See*—
Howell, Edwin D. 3,143,241.

Reynolds, George A., J. A. Van Allan, and D. G. Borden, to Eastman Kodak Co. New photo-resist benzoylazide compositions. 3,143,423, 8-4-64, Cl. 96—91.

Reynolds Metals Co.: *See*—
Swenck, George F., and McMullin. 3,142,898.

Rheinmetall G.m.b.H., Firma: *See*—
Rübsam, Hans J. 3,143,038.

Rhodes, Herbert C. Adjustable flexible dough molding assembly. 3,143,084, 8-4-64, Cl. 107—9.

Rice, Harold W., to Robertshaw Controls Co. Vacuum servo system and the like. 3,142,966, 8-4-64, Cl. 60—60.

Richardson, James A. Animated display. 3,142,919, 8-4-64, Cl. 40—106.41.

Richfield Oil Corp.: *See*—
Wakefield, Charles E., Jr. 3,143,172.

Richie, Carlton A., and A. J. Scalora, to Owens-Illinois Glass Co. Method and apparatus for producing thermoplastic tubing and sheeting. 3,142,865, 8-4-64, Cl. 18—14.

Richman, Peter L., to Epsco, Inc. R.M.S. to D.C. signal converter. 3,143,708, 8-4-64, Cl. 328—26.

Richter, Ralph W.: *See*—
Olin, Raymond G., and Richter. 3,143,484.

Riegler, Ernst, to Kalle Aktiengesellschaft. Apparatus for shirring sausage casings. 3,142,861, 8-4-64, Cl. 17—42.

Rifenbergh, Clare M., deceased; E. M. Rifenbergh, executrix, deceased; J. J. Turner, administrator, ⅛ to I. Hillock, ⅛ each to S. L. Rifenbergh and F. Cleaver, and ¼ each to M. Hochkins, D. Seescholtz, S. Hayes, and L. M. Rifenbergh. Thermal control system. 3,143,637, 8-4-64, Cl. 219—19.

Rifenbergh, Elizabeth M.: *See*—
Rifenbergh, Clare M. 3,143,637.

Rifenbergh, Lee M.: *See*—
Rifenbergh, Clare M. 3,143,637.

Rifenbergh, Sarah L.: *See*—
Rifenbergh, Clare M. 3,143,637.

Riffkin, Charles, and D. Marcus, to Olin Mathieson Chemical Corp. Method of sterilization. 3,143,464, 8-4-64, Cl. 167—58.

Righton, David W.: *See*—
Fearnside, Kenneth, and Righton. 3,143,693.

Riley, Jack M.: *See*—
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Roberts, Albert L., and J. P. O'Donnell, to Ordnance Associates, Inc. Barometrically responsive power control mechanism. 3,142,958, 8-4-64, Cl. 60—26.1.

Roberts, Bruce, to A. C. Body. Device for removably retaining miscellaneous articles in a pocket. 3,142,876, 8-4-64, Cl. 24—3.

Roberts, John F. L., E. Walker, and G. Scott, to Imperial Chemical Industries Ltd. Spinning polypropylenes which have been subjected to thermal degradation promoted by the presence of sulfur compounds. 3,143,584, 8-4-64, Cl. 264—210.

Robertshaw Controls Co.: *See*—
Beck, Roland D. 3,143,141.
Rice, Harold W. 3,142,966.
Tyler, Hugh J. 3,143,620.

Robertson, James J., to The Firestone Tire & Rubber Co. Polymerization of piperylene. 3,143,538, 8-4-64, Cl. 260—94.3.

Robertson, Thomas A.: *See*—
Robson, James J., and Robertson. 3,143,157.

Robinson, Harold: *See*—
Sohn, Jesse S., and Robinson. 3,143,630.
Sohn, Jesse S., and Robinson. 3,143,631.

Robinson, Melville W., Jr., and R. J. Allison, to Dravo Corp. Method of enriching the oxygen content of air supplied to blast furnaces. 3,143,412, 8-4-64, Cl. 75—41.

Robotron Corp.: *See*—
Rockafellow, Stuart C. 3,143,698.

Robson, James J., and T. A. Robertson, to The Firestone Tire & Rubber Co. Universal rim. 3,143,157, 8-4-64, Cl. 152—411.

Rockafellow, Laura M.: *See*—
Rockafellow, Stuart C. 3,143,698.

Rockafellow, Stuart C., deceased; by L. M. Rockafellow, to Robotron Corp. Pulse generating from a single-phase or multi-phase A.C. source. 3,143,698, 8-4-64, Cl. 328—18.

Rodder, Jerome A. Support. 3,143,087, 8-4-64, Cl. 108—116.

Roesling, Raymond E., to J. M. Riley. Engine supercharging apparatus. 3,142,957, 8-4-64, Cl. 60—13.

Rogers, John L., to Space Technology Laboratories. Superconductive transformer. 3,143,720, 8–4–64, Cl. 336—155.

Rogers, Theimer A. System for heating liquid in tanks. 3,143,108, 8–4–64, Cl. 126—343.5.

Rohm & Haas Co. : *See*—
Clemens, David H. 3,143,571.
Sims, Homer J. 3,143,563.
Smythe, Carl V., and Kraskin. 3,143,408.

Rohmann, Horst, to Franke & Heidecke, Fabrik Photographischer Prasisions-Apparate. Photographic slide projector. 3,143,086, 8–4–64, Cl. 88—28.

Rolls-Royce Ltd. : *See*—
Carlisle, Denis R. 3,142,961.

Romeo, Vincent P. : *See*—
Cardani, Charles P., Romeo, Burke, and Hanson. 3,142,896.

Ronson Corp. : *See*—
Tone, John W., Oberg, and Erickson. 3,142,902.

Rorke, Michael . Multi-contact electric switch controller. 3,143,607, 8–4–64, Cl. 200—43.

Rosenburgh, Norman J. : *See*—
Offensend, Glen W., and Rosenburgh. 3,142,918.

Ross, Gerhard : *See*—
Hennessen, Walter, Mauler, and Ross. 3,143,473.

Ross, Stuart T., W. E. Jominy, and F. A. Hagen, to Chrysler Corp. Sintered metal article and method of making same. 3,142,894, 8–4–64, Cl. 29—182.5.

Ross, William D. : *See*—
Searles, John J., and Ross. 3,142,999.

Rosset, Jean B., to Crylor. Treatment of polyacrylonitrile textile materials. 3,143,437, 8–4–64, Cl. 117—138.8.

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Rotax Ltd. : *See*—
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Royce, Harvey D. : *See*—
Morgan, Perry W., Jr., and Royce. 3,142,971.

Rowlands, Tom, to Molins Machine Co. Ltd. Apparatus for feeding cigarette mouthpiece components. 3,143,202, 8–4–64, Cl. 198—34.

Royce, Marjorie Baker : *See*—
Morgan, Perry W., Jr., and Royce. 3,142,971.

Rübsam, Hans J., to Rheinmetall G.m.b.H., Firma. Apparatus for feeding an ammunition belt to a rapid-fire cannon. 3,143,038, 8–4–64, Cl. 89—33.

Ruderian, Max J. Food carrier. 3,143,205, 8–4–64, Cl. 206—4.

Ruderian, Max J. Carrier for practice golf balls. 3,143,265, 8–4–64, Cl. 224—46.

Ruderian, Max J. Game top with transparent hemispherical spinning bearing containing a movable game element. 3,143,347, 8–4–64, Cl. 273—147.

Ruderian, Max J. Accessory for a top. 3,142,933, 8–4–64, Cl. 46—65.

Ruger, William B., to Sturm, Ruger and Co., Inc. Cartridge lifter mechanism for semi-automatic gun. 3,142,921, 8–4–64, Cl. 42—17.

Ruger, William B., to Sturm, Ruger and Co., Inc. Repeating firearm. 3,142,922, 8–4–64, Cl. 42—17.

Ruger, William B., and H. H. Sefried, to Sturm, Ruger and Co. Inc. Single-shot gun with laterally swinging breechblock. 3,142,924, 8–4–64, Cl. 42—32.

Ruple, Lewis H., to Abbey Etna Machine Co. Spring tensioned collet chuck for swaging machines. 3,143,189, 8–4–64, Cl. 185—40.

Ruschig, Heinrich, and E. Jürgens, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Butadiene carboxylic acids. 3,143,553, 8–4–64, Cl. 260—332.2.

Russ, John C., to General Electric Co. Electrical reactance balancing apparatus. 3,143,699, 8–4–64, Cl. 323—48.

Russell, Leonard B. : *See*—
Dolphin, John R. V., and Russell. 3,143,081.

Ruth, Byron E. : *See*—
Kort, Roman, and Ruth. 3,142,883.

Ruud, Donna E. Head cover for use in treating hair. 3,143,117, 8–4–64, Cl. 132—9.

Rydberg, John A., to Gustavsbergs Fabriker, Aktiebolaget. Furnace for intermittent combustion. 3,143,160, 8–4–64, Cl. 158—4.

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Saeman, Walter C., to Olin Mathieson Chemical Corp. Process for preparing aluminum sulfate. 3,143,302, 8–4–64, Cl. 23—123.

St. Regis Paper Co. : *See*—
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Digge, Willis L. 3,143,275.

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Matsui, Masanao, Saijo, Ohizumi, Nishida, Teruya, and Okano. 3,143,564.

Sandefur, Kermit L. : *See*—
Leighton, Thomas C., and Sandefur. 3,143,732.

Sanderson, John W. : *See*—
Lackenmaier, Frank B., and Sanderson. 3,142,846.

Sandoz Ltd. : *See*—
Hofmann, Albert, and Troxler. 3,143,551.

Sanford, Mabie M. Diaper holder. 3,143,112, 8–4–64, Cl. 128—287.

Santora, James V. Staple button fastener. 3,142,878, 8–4–64, Cl. 24—96.

Sapper, Wolfgang : *See*—
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Schweitzer, Paul H. Maximum power seeking automatic control system for power-producing machines. 3,142,967, 8–4–64, Cl. 60—105.

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Smithson, David J., to Compagnie des Machines Bull (Societé Anonyme). Monostable trigger arrangements. 3,143,667, 8–4–64, Cl. 307—88.5.

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Sohn, Jesse S., and H. Robinson, to Air Reduction Co., Inc. Electric arc welding. 3,143,631, 8–4–64, Cl. 219—74.

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Strandberg, Malcolm W. P. Photosensitive switching device in a waveguide. 3,143,655, 8-4-64, Cl. 250—239.

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Surrey, Alexander R., to Sterling Drug Inc. N,N'-di-[halogenated-(lower-alkanoyl)]-diamine compositions and their preparation. 3,143,566, 8-4-64, Cl. 260—490.

Surrey, Alexander R., to Sterling Drug Inc. N,N'-disubstituted-bis(aminoethyl) benzenes. 3,143,572, 8-4-64, Cl. 260—570.9.

Suska, Charles R., to The Stanley Works. Adjustable sliding door hanger assembly. 3,142,859, 8-4-64, Cl. 16—105.

Sutliff, Wayne N. Deep well pump for viscous oil. 3,143,080, 8-4-64, Cl. 103—179.

Swanson, Emery C., C. K. Sherck, and M. E. Cook, to The Pillsbury Co. Collapsible disposable container and nursing unit. 3,143,429, 8-4-64, Cl. 99—171.

Swarthout, Rassele E., to Challenge-Cook Bros. Sealed apparatus for drying, warming and aerating materials. 3,143,398, 8-4-64, Cl. 34—203.

Swenck, George F., and W. B. McMullin, to Reynolds Metals Co. Interlocking extrusions and means for unlocking the same. 3,142,898, 8-4-64, Cl. 29—270.

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Teletype Corp.: *See*—
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Terry, Charles M., to A. W. Cash Valve Mfg. Corp. Fuel control valve. 3,143,126, 8-4-64, Cl. 137—94.

Terry, Stanley M., to Three Rivers Industries, Inc. Capacitor with housing end seal. 3,143,092, 8-4-64, Cl. 317—260.

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Thomas, Gordon H., and J. Fried, to Olin Mathieson Chemical Corp. 12a-lower alkyl steroids and their method of preparation. 3,143,559, 8-4-64, Cl. 260—397.45.

Thompson, Donald F., and G. L. Christoffels, to W. R. Grace & Co. Process for graft-copolymerizing. 3,143,521, 8-4-64, Cl. 260—45.5.

Thompson, Earl A. Hydraulic assist for press. 3,143,007, 8-4-64, Cl. 78—13.

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348— 109: 3,143,385
3,143,388

CLASSIFICATION OF DESIGNS

D 3— 13: 198,776
D 4— 3: 198,777
D10— 8: 198,778
D13— 1: 198,779
D14— 27: 198,780
198,781
D15— 3: 198,782
8: 198,783
198,784
D16— 2: 198,785

D16— 198,786
D17— 1: 198,787
D24— 1: 198,788
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D26— 13: 198,790
D29— 19: 198,791
D33— 3: 198,792
6: 198,793
198,794

D33— 6: 198,795
198,796
7: 198,797
9: 198,798
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D34— 5: 198,801
D36— 3: 198,802
D44— 1: 198,803

D44— 10: 198,804
21: 198,805
26: 198,806
198,807
29: 198,808
10: 198,809
D45— 20: 198,810
D46— 24: 198,811
51: 198,812

D51— 1: 198,813
D55— 1: 198,814
D57— 1: 198,815
D58— 6: 198,816
198,817
28: 198,818
198,819
D62— 4: 198,820
198,821

D81— 10: 198,822
34: 198,823
D85— 3: 198,824
D87— 9: 198,825
D89— 1: 198,826
D90— 6: 198,827
D91— 1: 198,828
3: 198,829
198,830

CLASSIFICATION OF PLANTS

P.— 51: 2,431
P.— 56: 2,432

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 4, 1964 Volume 805 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 655,948 (FRIENDS), H. A. Friend & Co., Bond, parchment, and linen papers, filed Jan. 31, 1964, D.C., E.D. Ill. (Danville), Doc. 64c209, *H. A. Friend, Incorporated* v. *Friend Paper Company.*

Reg. No. 667,881 (SUNSHINE KRISPY), Sunshine Biscuits, Inc., Crackers, filed Feb. 7, 1964, D.C., E.D. Pa. (Philadelphia), Doc. 35044, *Sunshine Biscuits, Inc.* v. *R. Freis Company.*

Reg. No. 668,186 (KLIP-TIP), Ruthland Fire Clay Company, Caulking compound in cartridges for caulking guns, filed Feb. 13, 1964, D.C., District of Columbia, Doc. 372–64, *Ruthland Fire Clay Company* v. *Western Auto Supply Co.*

Reg. No. 691,000 (MOISTURE PLUS), Aloe Creme Laboratories, Inc., Moisturing skin cream, filed Mar. 30, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c722, *Aloe Creme Laboratories, Inc.* v. *Hart Beauty Supply Co. et al.* Final consent judgment; defendants enjoined Feb. 13, 1964.

Reg. No. 691,335 (FLO BALL AND DESIGN), Hydromatics, Inc., Manual, motor, and pressure operated ball valves; **Reg. No. 694,422** (FLO-BALL), same, filed Feb. 10, 1964, D.C.N.J. (Newark), Doc. 129–64, *Crane Co.* v. *Hydromatics, Inc. et al.*

Reg. No. 694,422. (See Reg. No. 691,335.)

Reg. No. 713,970 (AIRWAYS RENT-A-CAR SYSTEM AND DESIGN), Airways Rent-A-Car System, Car rental service; **Reg. No. 757,918** (AIRWAYS RENT-A-CAR SYSTEM), same, filed Feb. 25, 1964, D.C., W.D. Mo. (Kansas City), Doc. 14852–2, *Airways Rent-A-Car System, Inc.* v. *Crest Rental Systems, Inc. et al.*

Reg. No. 784,636 (JETREAD AND DESIGN), The Mansfield Tire & Rubber Company, Tread rubber, filed Dec. 24, 1963, D.C. Mass. (Boston), Doc. 63–1064–S, *Pennsylvania Tire Company* v. *Banner Tire Co., Inc.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,462
Date of oldest new application	Dec. 1, 1963
Date of oldest amended application	Nov. 18, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	1-3-64	12-3-63
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 106, 108, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	12-1-63	11-19-63
Renewals (All Classes)	6-4-64	6-26-64
Sec. 12 (c) Publications (All Classes)	6-8-64	

Applications filed during the month of June 1964—2,380

Registrations Issued	443—No. 774,310 to No. 774,752
Renewals Issued	60

For the quarter—April 1, 1964 through June 30, 1964

Applications filed	7062
Registrations issued	4782
Renewals issued	742
Cancellations under Sec. 8	992

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Reg. No. 737,018. (See Reg. No. 713,970.)

Reg. No. 761,490 ("GOLDEN LOCK"), Golden-Dipt-Meletio Corporation, Breading mix, filed Jan. 31, 1964, D.C., E.D. Mo. (St. Louis), Doc. 64C39(1), *Golden-Dipt-Meletio Corp.* v. *National Biscuit Company*. Stipulation of dismissal without prejudice May 25, 1964.

Interviews Involving Trademark Application

Interviews frequently result in a better understanding of the issues involved, shorten the prosecution and facilitate disposal of applications.

Interviews for discussion of registrability of the mark of a pending application will not be had before the first official Office action thereon and ordinarily not before filing the first response. Arrangements for an interview should be made in advance so that the Examiner may review the case and be familiar with the details involved.

Interviews on Friday will no longer be prohibited as a matter of policy but all interviews should be set at a time satisfactory to all parties concerned.

A memorandum summarizing the conclusions reached at the interview should be prepared by the Examiner and placed in the application file. The memorandum will be retained in the application file until the prosecution is completed. Such procedure will not, however, relieve the applicant of the responsibility of complying with the requirements of Trademark Rule 2.62.

HORACE B. FAY, Jr.,
July 6, 1964. *Assistant Commissioner.*

This supersedes the notice of February 10, 1955, 728 O.G. (TM 1).

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 180,638. The Atlantic Refining Company, Philadelphia, Pa. Filed Nov. 7, 1963.

ATLANTIC BI-POLY

For Polymeric Material in Film and Sheet Form.
First use Aug. 20, 1963.

SN 182,242. Cabot Corporation, Boston, Mass. Filed Dec. 3, 1963.

KALISTA

For Carbon Black.
First use January 1914.

SN 182,406. Crown-Monarch, Inc., Newark, N.J. Filed Dec. 5, 1963.

CROWN-MOIRE

For Fur Pelts.
First use Nov. 20, 1963.

SN 182,430. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 5, 1963.

SPRINT

For Plastic Sheet Material Having Adhesive Coating on One Side Thereof for General Use in the Industrial Arts.
First use July 15, 1963.

SN 182,606. East Texas Pulp and Paper Company, Silsbee, Tex. Filed Dec. 9, 1963.

SEM-E-TEX

For Semi-Bleached Sulphate Pulp for Use in Paper Making.
First use Nov. 2, 1963.

SN 182,703. Black Magic, Inc., Hermosa Beach, Calif. Filed Dec. 10, 1963.

ENVEE

For Potting Soil for African Violets and for Other Plants.
First use Apr. 13, 1962.

Class 2—Receptacles

SN 171,708. Solvit Chemical Company, Inc., Madison, Wis. Filed June 24, 1963.

"JR" RAT CAFE

For Poison Food Dispenser for the Control of Rats and Mice.
First use Dec. 15, 1950.

SN 171,709. Solvit Chemical Company, Inc., Madison, Wis. Filed June 24, 1963.

RAT CAFETERIA

For Poison Food Dispenser for the Control of Rats and Mice.
First use Dec. 15, 1950.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 161,982. Monte B. Foreman, Longmont, Colo. Filed Feb. 4, 1963.

BALANCED RIDE

For Saddles.
First use August 1954.

SN 171,066. Aetna Leather Novelty Co. Inc., West New York, N.J. Filed June 17, 1963.

catalina

For Ladies' Handbags.
First use Feb. 19, 1963.

Class 5—Adhesives

SN 187,001. The O'Donnell Rubber Products Company, Cincinnati, Ohio. Filed Feb. 27, 1964.

O'DONNELL

For Tapes, Bindings, and Die-Cut Shapes and Forms of Leather or Fabric, in Uncoated Condition, or Coated With Adhesive, for General Use in the Industrial Arts; and Pressure-Sensitive Adhesives, Thermoplastic Adhesives, and Solvent-Activated Adhesives.
First use on or about June 1, 1922.

Class 6—Chemicals and Chemical Compositions

SN 158,737. Schill & Seilacher Chemische Fabrik, Schoenaicher First, Boeblingen, Wurttemberg, Germany. Filed June 7, 1963.

LIMANOL

Owner of German Reg. No. 622,475, dated June 24, 1952.
For Softening and Oiling Agents for Rag Tearing Plants and Spinning Mills.

SN 181,051. Nease Chemical Company, Inc., State College, Pa. Filed Nov. 13, 1963.



For Organic Chemicals.
First use early part of 1957.

SN 183,600. Kelco Company, San Diego, Calif. Filed Dec. 26, 1963.

MARGEL

Owner of Reg. No. 604,553.
For Water Soluble Alginates.
First use May 22, 1942.

SN 183,642. Westport Chemical Company, Longview, Wash. Filed Dec. 26, 1963.

DEFOMEX

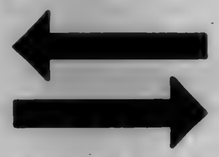
For Chemical Additives for the Suppression of Foam in Industrial Solutions.
First use on or about Dec. 13, 1963.

SN 183,643. Westport Chemical Company, Longview, Wash. Filed Dec. 26, 1963.

DEFROTHEX

For Chemical Additives for the Suppression of Foam in Industrial Solutions.
First use on or about Dec. 13, 1963.

SN 183,709. Sole Chemical Corporation, Chicago, Ill. Filed Dec. 27, 1963.



For Organic Surface-Active Agents—Namely, Wetting, Emulsifying, Spreading, Penetrating, and Dispersing Agents.
First use February 1957.

SN 183,859. Shell Oil Company, Wilmington, Del. Filed Dec. 31, 1963.

OXITOL

For Glycol Ether, Used as Prime Mutual Solvents, Hydraulic Fluid Components and Chemical Intermediates.
First use Dec. 13, 1963.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 182,172. Seymour M. Gluck, Far Rockaway, N.Y. Filed Dec. 2, 1963.

COZY COUGHIN'

For Ash Trays.
First use Dec. 8, 1961.

SN 182,722. Seymour M. Gluck, Far Rockaway, N.Y. Filed Dec. 10, 1963.

COUGHIN' NAILS

For Ash Trays
First use Oct 2, 1963

SN 185,205. Alfred Dunhill of London, Inc., New York, N.Y. Filed Jan. 23, 1964.



ROYAL COACH

For Pipes.
First use Nov. 27, 1963.

SN 186,085. Larus & Brother Company, Richmond, Va. Filed Feb. 5, 1964.

"Seal-Pak"

Owner of Reg. No. 409,625.
For Tobacco Pouches.
First use Feb. 8, 1943.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 177,564. Steyr-Daimler-Puch Aktiengesellschaft, Steyr, Austria. Filed Sept. 23, 1963.



Owner of Austrian Reg. No. 853, dated June 23, 1948.
For Firearms—Namely, Hand Guns and Shoulder Guns.
First use Feb. 13, 1919; in commerce Apr. 4, 1936.

Class 10—Fertilizers

SN 170,956. Societe Carbochimique S.A., Brussels, Belgium. Filed June 18, 1963.

flo|rea

For Urea for Use as Fertilizer.
First use on or about Mar. 23, 1963; in commerce Mar. 23, 1963.

SN 181,088. Wood Chemical Co., Inc., Lubbock, Tex. Filed Nov. 13, 1963.



Applicant disclaims the wording "Service Sells" and "Quality Tells."
For Fertilizer.
First use Feb. 15, 1952.

Class 12—Construction Materials

SN 172,428. Sommer & Maca Glass Machinery Company, Chicago, Ill. Filed July 3, 1963.

WIN-SEAL

For Sealing Compositions for Stopping Leaks and Drafts Around Windows, Windshields, and the Like.
First use July 1957.

SN 172,990. M. E. Grogan Co., Chicago, Ill. Filed July 15, 1963.

WALL KING

The word "Wall" is disclaimed apart from the mark as shown.
For Movable Metal Partitions and Structural Parts Therefor.
First use Dec. 5, 1958.

SN 172,992. M. E. Grogan Co., Chicago, Ill. Filed July 15, 1963.

RAIL-ETTE

For Movable Metal Partitions and Structural Parts Therefor.
First use Sept. 3, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 170,313. Gilbert Hamm, d.b.a. Willie Water Saver Company, St. Paul, Minn. Filed June 4, 1963.



For Counterweights for Flush Tanks.
First use Apr. 1, 1963.

SN 170,471. The Hartwell Corporation, Los Angeles, Calif. Filed June 6, 1963.

BAILATCH

For Electronic Chassis Handles.
First use Apr. 16, 1962.

SN 170,909. Hi-Shear Corporation, Torrance, Calif. Filed June 13, 1963.



The word "Bolt" is disclaimed apart from the mark.
For Fasteners.
First use Feb. 14, 1962.

SN 181,755. Continental Manufacturing Company, Cincinnati, Ohio. Filed Nov. 22, 1963.



For Valves.
First use Nov. 1, 1963.

SN 184,916. Grinnell Corporation, Providence, R.I. Filed Jan. 20, 1964.

SAUNDERS

Owner of Reg. No. 406,315.
For Diaphragm Valves.
First use July 1942.

SN 186,521. Ellis Engineering Co., Buena Park, Calif. Filed Feb. 12, 1964.

YELLOW JACK

For Irrigation Ditch Flow Control Valve.
First use Apr. 6, 1960.

SN 187,099. Federal Screw Works, Detroit, Mich. Filed Feb. 20, 1964.

PERMATAPER

For Fasteners Assemblies of the Type Incorporating a Nut, a Washer and a Male Threaded Member, and Parts Thereof.
First use Jan. 22, 1964.

SN 187,572. Ellison Products Co., Inc., Montclair, N.J. Filed Feb. 27, 1964.

DYNACROM

For Nuts, Bolts and Screws for Industrial and Automotive Uses.
First use June 25, 1962.

SN 187,660. The Gilbert & Bennett Manufacturing Company, Georgetown, Conn. Filed Feb. 28, 1964.

YARD

GARD

For Woven and Welded Wire Products, Such as Hardware Cloths, Wire Screening, Wire Netting, Welded and Woven Fencing and Welded Fabric.
First use Jan. 21, 1964.

Class 16—Protective and Decorative Coatings

SN 172,086. Pantone, Incorporated, New York, N.Y. Filed June 28, 1963.

PANTONE

For Artists' Paints and Water Colors.
First use May 24, 1963.

Class 17—Tobacco Products

SN 144,064. Garcia y Vega, Inc., New York, N.Y. Filed May 8, 1962.



The exclusive right to the following wording is disclaimed apart from the mark as shown: "Clear Havana"; "Made in Tampa"; and "Made in Bond."
For Cigars.
First use on or about Aug. 29, 1892.

SN 185,075. E. Regensburg & Sons, New York, N.Y. Filed Jan. 21, 1964.

NATURALES

For Cigars.
First use March 1959.

SN 185,125. General Cigar Co., Inc., New York, N.Y. Filed Jan. 22, 1964.

CHANGE OF PACE SMOKE

Owner of Reg. No. 667,223.
For Tobacco Products—Namely, Cigarillos.
First use May 15, 1956.

Class 18—Medicines and Pharmaceutical Preparations

SN 106,544. Sulray, Inc., Tuckahoe, N.Y. Filed Oct. 17, 1960.

SUL RAY

Owner of Reg. No. 409,311.
For Medicated Stick for Treating Acne and Like Skin Conditions.
First use Mar. 1, 1943.

SN 157,801. A. Allen Horton, d.b.a. Horton Pharmacy, Trion, Ga. Filed Nov. 23, 1962.

Acid-Eze

For Compounded Liquid Anti-Acid.
First use Sept. 1, 1962.

SN 177,439. M. D. Park Company, Inc., d.b.a. M. D. Park Co., Inc., Springfield, Mass. Filed Sept. 20, 1963.

SWISH

For Antiseptic Mouthwash in Tablet Form.
First use July 31, 1963.

SN 180,263. Allied Mills, Inc., Chicago, Ill. Filed Nov. 1, 1963.

HI-C_2

For Medicated Poultry Feed.
First use Aug. 6, 1962.

SN 184,336. Alberto-Culver Company, Melrose Park, Ill. Filed Jan. 10, 1964.

VIGIL

Owner of Reg. No. 758,352.
For Pharmaceutical Preparation Used as a Mouthwash and for the Temporary Relief of Minor Sore Throat.
First use Dec. 12, 1963.

SN 186,190. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Feb. 6, 1964.

AMOMYCIN

Owner of Reg. No. 615,181.
For Antibiotic Feed Supplement.
First use Jan. 22, 1964.

SN 186,241. Emser Werke A.G., Domat/Ems, Switzerland. Filed Feb. 7, 1964.

EPSAPUR

Owner of Swiss Reg. No. 192,657, dated June 25, 1962.
For Pharmaceutical Product for Intravenous Injection in the Treatment of Internal Hemorrhage, Shock, Allergies, Inflammation, Congestion, and the Alleviation of Pain.

SN 187,978. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Mar. 4, 1964.

MAXXIN

For Headache Tablets.
First use Feb. 20, 1964.

SN 187,979. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Mar. 4, 1964.

MAXDRIN

For Headache Tablets.
First use Feb. 20, 1964.

SN 188,942. American Home Products Corporation, New York, N.Y. Filed Mar. 18, 1964.

SIMECO

For Antacid Preparation.
First use Feb. 27, 1964.

SN 189,095. Organon Inc., West Orange, N.J. Filed Mar. 19, 1964.

FERROBOLIN

For Pharmaceutical Preparation for Use in Promoting Tissue Growth by Enhanced Protein Utilization, Supplemented by Dietary Additives.
First use Feb. 11, 1964.

SN 189,252. Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. Filed Mar. 23, 1964.

M-I-C

For Vitamin Preparation.
First use June 28, 1949.

SN 189,255. Bentex Pharmaceutical Company, Houston, Tex. Filed Mar. 23, 1964.

PRUCARA

For Laxative.
First use Mar. 11, 1964.

SN 189,421. American Dietaids Company, Inc., Yonkers, N.Y. Filed Mar. 24, 1964.

AMPLEX

For Vitamin Preparation.
First use July 1940.
Subj. to intf. with SN 170,799.

Class 19—Vehicles

SN 177,563. Steyr-Daimler-Puch Aktiengesellschaft, Steyr, Austria. Filed Sept. 23, 1963.

STEYR

Owner of Austrian Reg. No. 6,100, dated Mar. 30, 1949.
For Automobiles, Motorcycles, and Bicycles.
First use Feb. 5, 1930; in commerce Apr. 4, 1936.

SN 177,565. Steyr-Daimler-Puch Aktiengesellschaft, Steyr, Austria. Filed Sept. 23, 1963.



Owner of Austrian Reg. No. 853, dated June 23, 1948.
For Automobiles, Motorcycles, Bicycles and Tricycles, and Parts of Automobiles—Namely, Frames, Radiators, Axles, Springs, Wheels, and Pressed Metal Body Parts.
First use Feb. 13, 1919; in commerce Apr. 4, 1936.

SN 179,564. Steyr-Daimler-Puch Aktiengesellschaft, Steyr, Austria. Filed Oct. 22, 1963.



The drawing is lined for green. Owner of Austrian Reg. No. 8,097, dated Mar. 30, 1949.

For Motorcycles and Bicycles, and Their Components—Namely, Bicycle Saddles, Wheel Hubs, Brakes, Pedals, Spokes, and Chains.

First use Apr. 12, 1939; in commerce Mar. 8, 1948.

SN 182,986. Victor C. Schroeder, d.b.a. The Vicraft Company, Kalamazoo, Mich. Filed Dec. 13, 1963.

VICRAFT

For Small Boats, and Kits for Assembling the Same.

First use Mar. 12, 1958.

SN 182,987. Victor C. Schroeder, d.b.a. The Vicraft Company, Kalamazoo, Mich. Filed Dec. 13, 1963.

KIDDYAK

For Small Boats, and Kits for Assembling the Same.

First use Mar. 12, 1963.

Class 20 — Linoleum and Oiled Cloth

SN 168,782. MyerPax Industries, Inc., Ashland, Ohio, by change of name from Weirmar Products, Inc., Ashland, Ohio. Filed May 13, 1963.

VENMAR

For Resin Base Tile and Decorative Panel With Various Mineral, Shell, Glass, and Metal Chip Embedment for Use on Floors, Walls, and the Like.

First use Apr. 16, 1962.

SN 168,783. MyerPax Industries, Inc., Ashland, Ohio, by change of name from Weirmar Products, Inc., Ashland, Ohio. Filed May 13, 1963.

BRECMAR

For Resin Base Tile and Decorative Panel With Various Mineral, Metal, Glass or Shell Embedment for Use on Floors, Walls, and Other Like Uses.

First use Apr. 16, 1962.

SN 168,784. MyerPax Industries, Inc., Ashland, Ohio, by change of name from Weirmar Products, Inc., Ashland, Ohio. Filed May 13, 1963.

RUSMAR

For Resin Base Tile and Decorative Panel With Mineral, Metal, Shell and/or Glass Embedment for Use on Floors, Walls and the Like.

First use Apr. 16, 1962.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 155,554. Applied Microwave Laboratory, Inc., Wakefield, Mass. Filed Oct. 22, 1962.



No claim is made to the word "Strip" apart from the mark shown, for the purposes of this registration.

For Micro-Wave Circuit Components.

First use on or about Oct. 11, 1962.

SN 160,091. Westdeutsche Beleuchtungs-Gesellschaft Schellenbach Ohg, Duesseldorf, Germany. Filed May 16, 1963.

ALUX

Owner of German Reg. No. 631,190, dated Dec. 8, 1952.

For Reflectors for Electric Lights.

SN 176,448. Jenn Air Products Company, Inc., Indianapolis, Ind. Filed Sept. 6, 1963.

IMPERIAL

For Electric Ranges and Ovens.

First use Apr. 16, 1963.

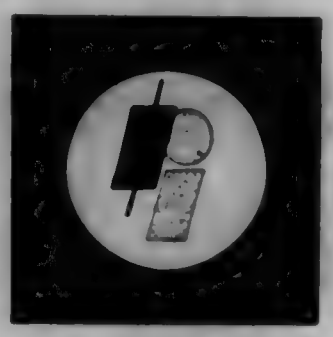
SN 180,287. Carbitron Development Ltd., Vancouver, British Columbia, Canada. Filed Nov. 1, 1963.

MINITRON

Priority claimed under Sec. 44(d) on Canadian application filed May 4, 1963; Reg. No. 134,917, dated Mar. 13, 1964.

For Spark Erosion Metal Cutting and Shaping Machines.

SN 187,963. Resistors, Inc., Chicago, Ill. Filed Mar. 4, 1964.



The resistor symbol, to the extent, if any, that it is descriptive, is disclaimed apart from the mark.

For Electrical Resistors.

First use Feb. 3, 1964.

Class 22 — Games, Toys, and Sporting Goods

SN 162,831. Eldon Industries Inc., Hawthorne, Calif. Filed Feb. 15, 1963.

BOWL-A-MATIC

For Equipment Sold as Units for Playing Toy Bowling Games.

First use Apr. 2, 1962.

SN 166,189. Harnell, Inc., Venice, Calif. Filed Apr. 5, 1963.

ULTIMATE

For Fishing Rods, and Fishing Rod Blanks.
First use March 1959.

SN 166,478. Earl Andrew Miller, Orem, Utah. Filed Apr. 10, 1963.

AUSTRO COMBI

For Skis, Poles, Ski Boots, and Bindings.
First use Jan. 17, 1947.

SN 168,192. Hawk Model Company, Inc., Chicago, Ill. Filed May 6, 1963.

Weird-ohs

For Toys—Namely, Constructional Hobby Kits for Making Caricature Models of Figures and Vehicles.
First use Feb. 19, 1963.

SN 172,445. A & C Toys & Games, Inc., Miami, Fla. Filed July 5, 1963.

APACHE

For Equipment (or Apparatus) Sold as a Unit for Playing a Checker-Type Board Game.
First use June 27, 1963.

SN 180,042. Trim Molded Products Co., Inc., Burlington, Wis. Filed Oct. 29, 1963.

Trim Toys

The word "Toys" is disclaimed apart from the mark as shown. Owner of Reg. No. 667,070.
For Toys Molded From Synthetic Resins and Particularly Sand Operated Toys, and Miniature Soft-Drink Dispensers.
First use Oct. 1, 1960.

SN 183,834. Gebrueder Fleischmann, Nurnberg, Germany. Filed Dec. 31, 1963.

Fleischmann

Owner of German Reg. No. 619,621, dated Apr. 28, 1952.
For Toys Particularly Mechanical Toys and Toy Trains, and Electrical Implements, Especially Transformers.
First use 1950; in commerce 1950.

SN 184,319. Whopper Stopper, Incorporated, Sherman, Tex. Filed Jan. 9, 1964.

HELLCAT

For Artificial Fishing Lures.
First use Dec. 1, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 149,318. Planet Instrument, Inc., Fort Wayne, Ind. Filed July 18, 1962.

planet

For Miniature Gear Heads and Speed Reducers; Servo Assemblies Sold Primarily to the Electronic Industry.
First use June 27, 1959.

SN 150,095. Pacific Gun Sight Company, Lincoln, Nebr. Filed July 30, 1962.

PACIFIC

For Metallic and Shot Shell Ammunition Reloading Tools and Accessories.
First use 1960.

SN 168,117. South Bend Lathe, Inc., South Bend, Ind. Filed May 3, 1963.

Johnson

For Power Presses and Parts Thereof.
First use 1940.

SN 168,422. Dri-Slide, Inc., Fremont, Mich., assignee of Mag-Craft Sales Corporation, Fremont, Mich. Filed May 8, 1963.

DRI-SLIDE

Owner of Reg. No. 708,947.
For Lubricant-Impregnated Bearing Pads and Bushings.
First use Apr. 10, 1963.

SN 169,446. Gerbing Manufacturing Corporation, Elgin, Ill. Filed May 22, 1963.

ROTO-MAG

Owner of Reg. No. 522,905.
For Clutches.
First use Apr. 30, 1963.

SN 170,840. Columbus McKinnon Corporation, Tonawanda, N.Y. Filed June 12, 1963.

RATIO

For Bulk Material Conveying and Feeding Machinery.
First use Dec. 27, 1962.

SN 171,070. The Amcodyne Corporation, Lorain, Ohio. Filed June 17, 1963.

DUAL-AERATION

For Sewage Treatment Plants.
First use Mar. 22, 1963.

SN 172,884. Ellis Fluid Dynamics Corporation, Skokie, Ill. Filed July 12, 1963.

EFDYN

For Shock Absorbers.
First use Sept. 1, 1961.

SN 174,157. Birch Brothers, Inc., Somerville, Mass. Filed Aug. 1, 1963.

BB

For Textile Machinery.
For use Nov. 6, 1929.

SN 177,566. Steyr-Daimler-Puch Aktiengesellschaft, Steyr, Austria. Filed Sept. 23, 1963.



Owner of Austrian Reg. No. 853, dated June 23, 1948.
For Parts Used in the Construction or Repair of Automobiles—Namely, Combustion Engines, Gears, Shafts, Ball Bearings, Roller Bearings and Balls, Rollers, Races, Ball and Roller Cages for Such Bearings.
First use Mar. 18, 1926; in commerce Apr. 4, 1936.

SN 185,683. J. B. Knight Company, d.b.a. J. B. Knight Distributing Company, Brownfield, Tex. Filed Jan. 30, 1964.

Multi-Matic

For Engine-Driven, Self-Propelled, Wheel-Mounted Sprinkler Irrigation Systems.
First use Jan. 8, 1963.

SN 186,547. Masten Corporation, Chicago, Ill. Filed Feb. 12, 1964.

MASTEN

For Sleeve Bearings.
First use July 8, 1955.

SN 187,589. Little Giant Corporation, Oklahoma City, Okla. Filed Feb. 27, 1964.



Owner of Reg. Nos. 393,561, 738,233, and others.
For Basement Bailer Kits Including a Rotary Vane-Type Fluid Impeller Having a Drive Motor of 200 Milli-Horsepower or Less, Portable Carrying Case, Automatic Switch, and Discharge Conduit.
First use December 1961.

SN 187,590. Little Giant Corporation, Oklahoma City, Okla. Filed Feb. 27, 1964.



Owner of Reg. Nos. 393,561, 738,233, and others.
For Boat Bailer Kits, Each Kit Including a Rotary Vane-Type Fluid Impeller Having a Drive Motor of 200 Milli-Horsepower or Less, Automatic and Manual Switches, and Discharge Hose.
First use December 1961.

SN 187,671. Kendrick & Davis Co., Lebanon, N.H. Filed Feb. 28, 1964.



For Watchmakers' Tools and Small Fractional H.P. Motors.
First use 1900.

SN 188,398. Eli Steinberg, d.b.a. Eli Steinberg Company, Brooklyn, N.Y. Filed Mar. 10, 1964.

ADAPTA WINDER

Applicant disclaims the word "Winder" apart from the mark.
For Textile Machinery and in Particular, Skein Winding and Cone Winding Machines.
First use Jan. 10, 1964.

SN 188,588. Simonds Saw and Steel Company, Fitchburg, Mass. Filed Mar. 12, 1964.

WELD-EDGE

For Saws.
First use since 1952.

SN 188,606. Airborne Accessories Corporation, Hillside, N.J. Filed Mar. 13, 1964.

ELECTROMISSION

Owner of Reg. No. 709,606.
For Transmissions.
First use June 14, 1963.

SN 188,632. Hanford Foundry Company, San Bernardino, Calif. Filed Mar. 13, 1964.

DAW-SPROK

For Segmental Sprocket Wheels and Parts Thereof.
First use on or about July 25, 1958.

SN 188,742. Florida Citrus Commission, Lakeland, Fla. Filed Mar. 16, 1964.

SQUEATER

For Fruit Juice Extractors.
First use Feb. 25, 1964.

SN 188,761. Household Mfg. Co., d.b.a. Admiral Razor Blade Co., Los Angeles, Calif. Filed Mar. 16, 1964.

ADMIRAL

For Razor Blades.
First use Mar. 9, 1964.

SN 189,257. Biggar Machinery Corporation, Hamburg, N.Y. Filed Mar. 23, 1964.

CONTROL-VAC

For Paper Refolding and Stacking Machinery.
First use Oct. 22, 1963.

SN 189,722. Nippon Seiko Kobushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed Mar. 26, 1964.

NSKK

For Ball Bearings, Roller Bearings, and Spindle Inserts.
First use Dec. 10, 1963; in commerce Feb. 24, 1964.

SN 189,725. Oneida Ltd., Oneida, N.Y. Filed Mar. 26, 1964.

TEXTURA

For Stainless Steel Flat Tableware.
First use Mar. 6, 1964.

Class 26—Measuring and Scientific Appliances

SN 167,511. Gevaert Photo-Producten N.V., Mortsel, Belgium. Filed Jan. 28, 1963.

ROTARGO

Priority claimed under Sec. 44(d) on Belgian Reg. No. 18,520, dated Sept. 7, 1962.
For Light-Sensitive Photographic Material—viz, Paper, Plates, and Films.

SN 180,153. Contour Comfort Contact Lenses, Inc., Waco, Tex. Filed Oct. 14, 1963.

UNI-CURVE

For Contact Lens Diagnostic Cases, and Bifocal Contact Lenses.
First use Oct. 1, 1963.

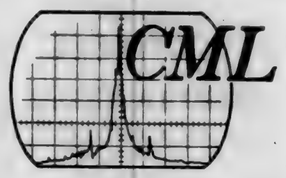
SN 180,297. Weston Instruments, Inc., Murray Hill, N.J., by change of name from Daystrom, Incorporated, d.b.a. Weston Instruments, Murray Hill, N.J. Filed Nov. 1, 1963.



WESTON

Owner of Reg. No. 703,925 and others.
For Electrical Measuring and Indicating Instruments; Electronic Counter and Timer Instruments; Instruments and Apparatus for Determining Humidity and the Moisture Content of Materials; Thermometers; Light-Measuring Instruments; Standard Cells; Electrical Circuit Analysers; Tachometers, Tachometer Generators, A.C., D.C. and Frequency Generators, Electrical Resistors and Potentiometers; Electrical Apparatus for Testing Radio and Television Equipment; and Instrument Calibrators.
First use September 1962; 1888 as to "Weston."

SN 182,785. Curry, McLaughlin & Len, Inc., Syracuse, N.Y. Filed Dec. 11, 1963.



For Instrument To Be Used in Electronic Laboratories or in Conjunction With Special Radio Receivers That Is Designed To Test and Measure Microwave Signals.
First use Oct. 31, 1963.

SN 183,746. Eastman Kodak Company, Rochester, N.Y. Filed Dec. 30, 1963.

EKTAFAX

Owner of Reg. No. 699,793.
For Thermal Copying Apparatus.
First use Nov. 22, 1963.

SN 183,894. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 2, 1964.

READYPRINT

Owner of Reg. Nos. 765,312, 765,467, and 765,510.
For Sensitized Photographic Paper and Photographic Copying Apparatus.
First use May 29, 1963.

SN 184,165. Millipore Filter Corporation, Bedford, Mass. Filed Jan. 7, 1964.

MICRO-SCAN

Owner of Reg. No. 700,967.
For Apparatus for Detecting Contamination in Fluids, Such as Fuels.
First use Sept. 12, 1963.

SN 185,919. Monroe Calculating Machine Company, Orange, N.J. Filed Feb. 3, 1964.

MONROBOT

Owner of Reg. Nos. 588,754 and 721,912.
First use on or about May 2, 1952.

SN 185,986. Conversion Chemical Corporation, Rockville, Conn. Filed Feb. 4, 1964.

KENVERT

Owner of Reg. No. 643,837.
For Electrolytic Test Cell for Simulating Conditions During Electroplating Operations, Test Panels and Parts Therefor.
First use on or before Jan. 28, 1964.

SN 186,141. The Bastian-Blessing Company, Chicago, Ill. Filed Feb. 6, 1964.

ROTOGAGE

Owner of Reg. No. 440,067.
For Liquid Level Gages for Use in Conjunction With Liquefied Gas Containers, and Parts or Accessories for Use Therewith.
First use Apr. 17, 1945.

SN 186,449. Eastman Kodak Company, Rochester, N.Y. Filed Feb. 11, 1964.

KODAMATIC

For Microfilm Indexing Equipment and Accessories.
First use August 1957.

SN 186,869. The Lufkin Rule Company, Saginaw, Mich. Filed Feb. 17, 1964.

MEZURTRON

Owner of Reg. Nos. 335,235 and 676,948.
For Electric Measuring Instruments for Measuring Linear Dimensions.
First use Apr. 15, 1963.

SN 187,323. Pentapco, Inc., Elizabeth, N.J. Filed Feb. 24, 1964.

PENN

The representation of the goods is hereby disclaimed apart from the mark as shown.
For Tape Measures.
First use in the year 1948.

Class 29 — Brooms, Brushes, and Dusters

SN 178,964. The Osborn Manufacturing Company, Cleveland, Ohio. Filed Oct. 14, 1963.

ROPOR

For Brush Bristle Material Incorporated as Bristles in Brushes, Particularly Plastic Beaded Wire Bristles.
First use Sept. 20, 1963.

Class 32 — Furniture and Upholstery

SN 185,815. Rusco Industries, Inc., Bedford Heights, Ohio. Filed Jan. 31, 1964.

HARVARDORM

For Beds, Cots, Stacking Beds, Divans, Tracked Divans, Headboards, Bed Frames, and Accessories Therefor Including Bolster Cabinets, Attachment Plates, Undercarriages, Vertical Uprights, Ladders, and Pillow Guards.
First use Nov. 1, 1963.

SN 186,443. Congoleum-Nairn Inc., Kearny, N.J. Filed Feb. 11, 1964.

MERSMAN

For Tables.
First use as early as 1906.

Class 33 — Glassware

SN 169,810. Architechnical Products, Inc., New York, N.Y. Filed May 28, 1963.

CHANNELITE

For Profiled Sheet Glass.
First use Sept. 20, 1962.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 164,494. Air Devices, Inc., New York, N.Y. Filed Mar. 13, 1963.

ASTRO-AIR

For Ceiling Diffusers.
First use June 1, 1962.

SN 164,622. Hydrotherm, Inc., Northvale, N.J. Filed Mar. 14, 1963.

DUO-SERVICE

For Gas Fired Cast Iron Hot Water Boilers and Parts Thereof.
First use in November 1959.

SN 179,482. Trade-Wind Motorfans, Inc., Pico Rivera, Calif. Filed Oct. 21, 1963.

CLASSIC COLLECTION

For Range Hoods.
First use Nov. 23, 1962.

SN 179,483. Trade-Wind Motorfans, Inc., Pico Rivera, Calif. Filed Oct. 21, 1963.

DECORATOR'S COLLECTION

For Range Hoods.
First use July 8, 1963.

SN 180,034. Southwest Manufacturing Company, Aurora, Mo. Filed Oct. 29, 1963.

Heatwave

Owner of Reg. No. 360,326.
For Heating, Ventilating and Air Conditioning Apparatus, More Specifically, Gas and Oil Fired Forced Air Furnaces, Electric Furnaces, Wall Heaters, Floor Furnaces, Air Conditioning Furnaces, Air Conditioners and Blowers, Evaporator Units, Heat Pumps and Similar Apparatus, for Residential, Commercial and Industrial Utilization.
First use Oct. 1, 1961.

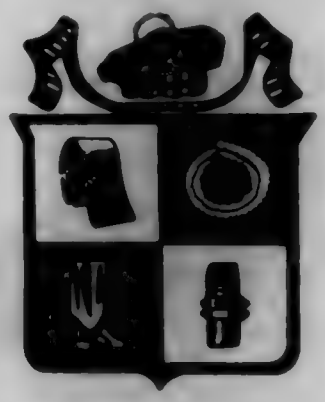
Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 175,043. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 14, 1963.

AMERON

For Tires and Tubes.
First use Apr. 23, 1963.

SN 183,461. The Rubber House, Inc., Atlanta, Ga. Filed Dec. 23, 1963.



The representations of the goods that are shown are disclaimed apart from the mark as shown.
For Conveyor Belts, Garden Hose and Camelback.
First use on or about Nov. 15, 1963.

SN 186,794. Vogue Tyre & Rubber Company, Chicago, Ill., by change of name from Vogue Rubber Company, Chicago, Ill. Filed Feb. 14, 1964.



Owner of Reg. No. 179,039.
For Automobile Tires.
First use October 1963; 1922 in a similar form.

SN 187,142. The Pep Boys, Manny, Moe & Jack, Philadelphia, Pa. Filed Feb. 20, 1964.

CORNELL FUTURA

Owner of Reg. No. 503,440.
For Pneumatic Tires For Automotive Vehicles.
First use Jan. 8, 1964.

SN 187,468. Buckner Process Company, Worcester, Mass. Filed Feb. 26, 1964.

LION PAW

For Textile Machinery Belting Treated With Mineral Oil, and Brake-Linings.
First use in March 1918.

Class 36 — Musical Instruments and Supplies

SN 181,995. Pembroke Records, Inc., New York, N.Y. Filed Nov. 27, 1963.



For Grooved Phonograph Records.
First use Sept. 28, 1963.

SN 184,173. Outlet Book Company, Inc., New York, N.Y. Filed Jan. 7, 1964.

MURRAY HILL

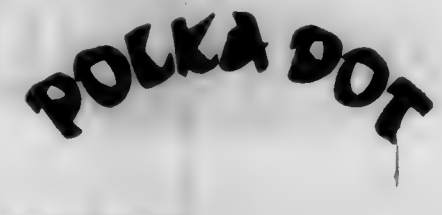
For Recordings (Phonograph Records) Reproducing Sound.
First use Dec. 27, 1963.

SN 184,651. Esther A. Rockowitz, Rochester, N.Y. Filed Jan. 15, 1964.

ROCKSTOP

For End Pin Holders for Bass Viols, Cellos, and Bass Drums.
First use Feb. 17, 1956.

SN 185,024. Cuca Record Corporation, Sauk City, Wis. Filed Jan. 21, 1964.



For Phonograph Records.
First use Dec. 16, 1963.

Class 37—Paper and Stationery

SN 169,282. Lakeside Central Company, Chicago, Ill. Filed May 20, 1963.



The representation of the goods (paper roll) is disclaimed apart from the mark as a whole.
For Paper Rolls for Use in Adding Machines.
First use February 1963.
Subj. to intf. with SN 172,582 and SN 184,965.

SN 172,088. Pantone, Incorporated, New York, N.Y. Filed June 28, 1963.

PANTONE

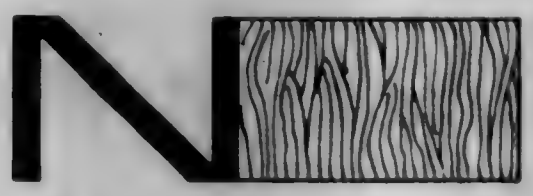
For Crayons, Pencils, and Chalk.
First use Oct. 15, 1940.

SN 172,582. Gilman Paper Company, New York, N.Y. Filed July 8, 1963.

ADD-RITE

For Paper Rolls for Adding Machines.
First use Apr. 22, 1963.
Subj. to intf. with SN 169,282 and SN 184,965.

SN 180,115. Nichols Paper Products Company, Green Bay, Wis. Filed Oct. 30, 1963.



The representation of the wrapping paper is disclaimed apart from the mark as a whole but the mark of applicant consists of the combined representation of the capital letter "N" and of the creped paper as shown in the drawing.
For Wrapping Paper, Including Creped Paper.
First use Mar. 15, 1957.

SN 184,965. Rite-Made Paper Converters, Inc., Kansas City, Mo. Filed Jan. 20, 1964.



For Adding Machine Paper.
First use on or about July 2, 1963.
Subj. to intf. with SN 169,282 and SN 172,582.

Class 38—Prints and Publications

SN 150,653. Union Wadding Company, Pawtucket, R.I. Filed Aug. 6, 1962.

STIXIE PIXIES

For Decorative Stickers—Namely, Holiday Ornaments, Party Ornaments, and the Like.
First use June 21, 1962.

SN 154,949. The Cal-Turf Handicapping Service, Las Vegas, Nev. Filed Oct. 11, 1962.

CAL-TURF HANDI CAPPER

Applicant disclaims the words "Handi" and "Capper" apart from the mark as shown.
For Weekly Racing Guide.
First use on or about Aug. 20, 1962.

SN 156,222. Dynamic-International, Inc., Buffalo, N.Y. Filed Oct. 30, 1962.



For Motion Picture Film and Sound Recordings for Use in Business, Advertising, and Education.
First use August 1962.

SN 157,050. The Billboard Publishing Company, Cincinnati, Ohio. Filed Nov. 13, 1962.

COIN COMMISSARY

For Column of a Magazine.
First use on or about Jan. 1, 1961.

SN 157,052. The Billboard Publishing Company, Cincinnati, Ohio. Filed Nov. 13, 1962.

AUTOMATIC LETTERBOX

For Column of a Magazine.
First use in or about November 1946.

SN 157,053. The Billboard Publishing Company, Cincinnati, Ohio. Filed Nov. 13, 1962.

PAGE ONE

For Column of a Magazine.
First use on or about Apr. 1, 1961.

SN 162,008. McCall Corporation, New York, N.Y. Filed Feb. 4, 1963.

THE MAGAZINE FOR YOUNG ADULTS

For Magazine.
First use June 1951.

SN 167,799. Chromalloy Corporation, West Nyack, N.Y. Filed Apr. 30, 1963.

FERRO-TIC DIGEST

For Trade Publication Which Is Published Quarterly, Such as a Technical Magazine Dealing With Applicant Company's Product.
First use October 1963.

SN 168,441. Putman Publishing Company, Chicago, Ill. Filed May 8, 1963.



The drawing is lined for red, but color is not an essential feature of the mark. No rights based on this mark and the use thereof are claimed in "Operating Management's" apart from the mark as shown. However, applicant is claiming rights in "Operating Management" as a separate mark in application Serial No. 172,411.
Owner of Reg. No. 647,859.
For Magazine.
First use Mar. 1, 1962.

SN 176,165. J. C. Crimmins, Inc., Philadelphia, Pa. Filed Sept. 3, 1963.

the national consensus

For Newsletter Published From Time to Time Concerning the Opinions of Nationally Known Personalities, Newspapers and Organizations.
First use July 26, 1963.

SN 176,467. Warner Press, Inc., Anderson, Ind. Filed Sept. 6, 1963.



For Periodic Trade Catalogs Dealing With Religious Goods and Supplements for Such Catalogs.
First use at least as early as Jan. 15, 1963.

SN 180,280. Rosaly M. Asarnow, d.b.a. Advance Publishing Company, Glen Riddle, Pa. Filed Nov. 1, 1963.

Advance

For Bi-Monthly Magazine Relating to New Products.
First use on or about Sept. 1, 1963.

SN 181,619. Devlieg Machine Company, Royal Oak, Mich. Filed Nov. 21, 1963.

SELECT'ABAR

For Slide Type Charts Used in Selecting Boring Bars in Accordance With the Diameter and Depth of the Bore To Be Machined.
First use Apr. 29, 1963.

SN 181,665. National Association of Residents and Interns, Inc., New York, N.Y. Filed Nov. 21, 1963.

NARI STETHOSCOPE

For Newsletter Issued Periodically Relating to the Medical Professions in Connection With Insurance and Financial Information.
First use October 1962.

SN 181,811. Triple-A Specialty Co., Chicago, Ill. Filed Nov. 22, 1963.

BEAT YESTERDAY

For Trade Magazine and House Organ.
First use January 1954.

SN 186,827. Thomas Publishing Company, New York, N.Y. Filed Jan. 31, 1964.

THOMAS MICRO-CATALOGS

Owner of Reg. No. 679,299.
For Microfilm Cards Bearing Copies of Catalog Pages.
First use Mar. 15, 1963.

Class 39 — Clothing

SN 157,399. Old Town Shoe Company, Boston, Mass. Filed Nov. 16, 1962.

UNIFOLD

For Women's Shoes.
First use December 1961.

SN 170,101. Patty Petite, Inc., New York, N.Y. Filed May 31, 1963.

McKettrick

For Women's Dresses, Suits, Coats, Skirts, Blouses, Slacks, and Beach Attire.
First use 1938.

SN 178,621. Blue Bell, Inc., Greenboro, N.C. Filed July 24, 1963.

WRANGLER

Owner of Reg. Nos. 532,851, 616,251, and others.
For Work and Casual Wear Socks.
First use June 1963.

SN 174,367. P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Aug. 5, 1963.

BLACK LABEL

For Men's, Boys', Girls', and Infants' Hosiery; and Men's and Children's Underwear, Sport Shirts, Sweat Shirts, and Sweaters.
First use Aug. 3, 1962.

SN 174,675. Mangel Stores Corporation, New York, N.Y. Filed Aug. 8, 1963.

MICHELE

For Women's Slips.
First use August 1962.

SN 177,060. Lansdale Clothes, Incorporated, New York, N.Y. Filed Sept. 16, 1963.

MICRON

Boys' and Men's Slacks.
First use Aug. 1, 1963.

SN 179,593. Sid Blumenstock Enterprises, Freeport, N.Y. Filed Oct. 23, 1963.

BLOW MY TOP

For Skull Caps.
First use Sept. 11, 1963.

SN 181,688. Shelburne Shirt Co., Inc., New York, N.Y. Filed Nov. 21, 1963.

LADY SHELBURNE

Owner of Reg. No. 660,372.
For Women's and Girls' Blouses and Shirts.
First use Mar. 1, 1959.

SN 182,155. Abe Birenbaum, d.b.a. Abram's Hardware Shoes, Philadelphia, Pa. Filed Dec. 2, 1963.

D'novia

For Shoes of Leather, Cloth, and Rubber and Combinations Thereof.
First use since Oct. 17, 1940.

SN 182,488. Kilbanon Corporation, Boston, Mass. Filed Dec. 6, 1963.

BANOGUE

For Ladies' Sportswear—Namely, Skirts, Blouses, Sweaters, Suits, Coats, Shorts, and Slacks.
First use Oct. 10, 1963.

SN 184,649. The Puritan Sportswear Corp., Altoona, Pa. Filed Jan. 15, 1964.

Capriseta

For Fine Gauge Full Fashion Knitwear Consisting of Sweaters and Knitted Full Fashion Skirts.
First use Dec. 12, 1963.

SN 184,743. Murphy, Brill and Sahner, Incorporated, New York, N.Y. Filed Jan. 16, 1964.

UP-RITE

For Hosiery for Men, Women and Children.
First use Dec. 6, 1963.
Subj. to intf. with SN 183,612.

SN 184,756. Bernardo Sandals, Inc., New York, N.Y. Filed Jan. 16, 1964.

BERNINI

For Sandals.
First use Jan. 3, 1964.

SN 184,761. Tacio, Inc., Kearny, N.J. Filed Jan. 16, 1964.

Tailorbrooke

For Women's and Misses' Coats, and Suits.
First use Jan. 1, 1936.

SN 184,975. Merrill Sharpe Ltd., New York, N.Y. Filed Jan. 20, 1964.

WYCKSTONE

For Men's Sport Shirts.
First use Jan. 13, 1964.

SN 185,005. Amco of Norvelt, Inc., New York, N.Y. Filed Jan. 21, 1964.

O.R.F.

For Ladies' Raincoats.
First use December 1963.

SN 185,010. Joseph Asch Co., Inc., New York, N.Y. Filed Jan. 21, 1964.

Maybelle

For Ladies' Hosiery and Leotards.
First use July 5, 1963.

SN 185,264. Camp and McInnes, Inc., Reading, Pa. Filed Jan. 24, 1964.

TWEEDLAND

For Men's Hosiery.
First use May 14, 1957.

SN 185,558. Cambridge Rubber Company, Cambridge, Mass. Filed Jan. 29, 1964.

SMOKE STACKS

For Boots and Shoes.
First use Oct. 29, 1963.

SN 185,559. The William Carter Company, Needham Heights, Mass. Filed Jan. 29, 1964.

SPANKY BRA

No claim is made to the exclusive right to the use of the word "Bra" apart from the mark as shown. Owner of Reg. No. 583,493.
For Bras.
First use Dec. 23, 1963.

SN 185,804. Mister Pants, Inc., New York, N.Y. Filed Jan. 31, 1964.

INVIS-A-STRETCH

For Women's Slacks.
First use Sept. 30, 1963.

SN 185,858. Ay Won Belt Manufacturing Corporation, New York, N.Y. Filed Feb. 3, 1964.

PRIME-FLESH

For Men's, Boys', and Women's Belts.
First use Dec. 23, 1963.

SN 186,092. Lucky Stride Shoes, Inc., Maysville, Ky. Filed Feb. 5, 1964.

JAM SESSION

For Shoes.
First use Jan. 7, 1964.

SN 188,612. Chas. Chipman's Sons Co., Inc., New York, N.Y. Filed Mar. 13, 1964.

UP-RITES

For Hosiery.
First use Dec. 1, 1962.
Subj. to intf. with SN 184,743.

Class 40—Fancy Goods, Furnishings, and Notions

SN 177,164. Erida Cosmetics Limited, Welwyn Garden City, England. Filed Sept. 17, 1963.

ERIDA

For False Eyelashes and False Fingernails.
First use July 1959; in commerce January 1962.

SN 187,149. Reid-Meredith, Inc., Lawrence, Mass. Filed Feb. 20, 1964.

R & M Living Wig

The word "Wig" is disclaimed apart from the mark as shown.
For Wigs, Wiglettes and Chignons.
First use May 25, 1963.

SN 187,150. Reid-Meredith, Inc., Lawrence, Mass. Filed Feb. 20, 1964.

Living Wig

The word "Wig" is disclaimed apart from the mark as shown.
For Wigs, Wiglettes and Chignons.
First use May 25, 1963.

SN 187,822. Pentapco, Inc., Elizabeth, N.J. Filed Feb. 24, 1964.

PENN

For Mending Tape Kits, Iron-On Patches, Iron-On Mending Fabric, Belt Backing, Kits for Making Belt and Buckle Sets, and Fabric Buckle Covers.
First use in the year 1958.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 173,610. Waumbec Mills Incorporated, New York, N.Y. Filed July 23, 1963.

WAUMBEC STRETCHES THE IMAGINATION

For Piece Goods of Wool and/or Synthetic Fibres and Blends and Combinations Thereof.
First use July 15, 1963.

SN 178,917. C. F. Hathaway Company, Waterville, Maine. Filed Oct. 14, 1963.

LOCHLANA

For Fabrics for Use in Men's Dress and Sports Shirts, and Ladies' Dress and Sports Shirts, and Blouses.
First use Aug. 23, 1963.

SN 179,225. C. F. Hathaway Company, Waterville, Maine. Filed Oct. 17, 1963.

HATHAWEAVE

For Fabrics for Use in Men's Dress and Sports Shirts, and Ladies' Dress and Sports Shirts, and Blouses.
First use Sept. 25, 1963.

SN 186,390. Parke, Davis & Company, Detroit, Mich. Filed Feb. 10, 1964.

PARKEDALE

Owner of Reg. No. 738,737.
For Underpads for Protection of Bed Linen or Like Use.
First use on or before Nov. 1, 1963.

Class 44 — Dental, Medical, and Surgical Appliances

SN 183,965. College of Physicians and Surgeons of San Francisco, San Francisco, Calif. Filed Jan. 3, 1964.

EXPECTO

For Dental Instruments—Namely, Funnels.
First use May 1, 1962.

Class 45 — Soft Drinks and Carbonated Waters

SN 183,958. The Big Rooty Corporation, Redondo Beach, Calif. Filed Jan. 3, 1964.

BIG ROOTY

For Soft Drinks—Namely, Root Beer Drink, Root Beer Concentrate, and Orange Drink.
First use June 12, 1962.

SN 184,943. Mayfair Markets, Los Angeles, Calif. Filed Jan. 20, 1964.

Mayfresh

For Nonalcoholic Beverages—Namely, Carbonated Soft Drinks; Frozen Lemonade Concentrate.
First use at least as early as April 1962, on soft drink items.

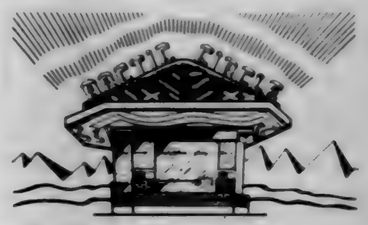
Class 46 — Foods and Ingredients of Foods

SN 150,329. Dorio Dori, d.b.a. Lee-Don Co., New York, N.Y. Filed Aug. 2, 1962.

LEE-DON

For Citrus Juice Concentrates, Soup Bases, Tomato Juice Concentrate and Apple Juice Concentrate.
First use July 19, 1962.

SN 152,192. Arctic Circle, Inc., Salt Lake City, Utah. Filed Aug. 30, 1962.



Owner of Reg. Nos. 608,057 and 627,469.
For Ice Cream, Ice Cream Sundaes, Ice Cream Floats and Ice Cream Sodas.
First use on or about May 1, 1950.

SN 166,783. Campbell Soup Company, Camden, N.J. Filed Apr. 16, 1963.

BOUNTY

Owner of Reg. No. 701,078.
For Canned Prepared Meat and Poultry Dishes—Namely, Beef Stew, Chicken Stew, Chili Con Carne and Beef Goulash.
First use Mar. 30, 1962, on chicken stew and chili con carne.

SN 168,847. O'Brien, Spotorno, Mitchell & Compagno Bros., Inc., d.b.a. O'Brien, Spotorno, Mitchell, San Francisco, Calif. Filed May 14, 1963.

GRAND TOUR

For Frozen Prepared Chicken Dish.
First use Apr. 5, 1963.

SN 175,295. Savio T. La Guardia, d.b.a. Savio T. La Guardia Co., Vineland, N.J. Filed Aug. 19, 1963.

Savio

For Canned Foods—Namely, Tomatoes, Purees, Sauces for Meats, Peppers, Vegetables, Spaghetti With Sauce, and Soups.
First use on or about June 1, 1960 on tomatoes.

SN 175,667. Martha White Mills, Inc., Nashville, Tenn. Filed Aug. 23, 1963.

Instant Delight

For Cake Mix.
First use July 29, 1963.

SN 180,628. Aksjeselskapet Freia, Oslo, Norway. Filed Nov. 7, 1963.

QUIPS

Owner of Norwegian Reg. No. 59,096, dated Mar. 29, 1962.
For Cooking and Baking Chocolate, Chocolate Candy and Sugar Confectionery—Namely, Liquorice and Other Candies.

SN 182,326. General Foods Corporation, White Plains, N.Y. Filed Dec. 4, 1963.

SUGAR CRISP

No claim of exclusive right is made to the word "Crisp."
Owner of Reg. No. 170,853.
For Cereal Breakfast Food.
First use Jan. 10, 1949.

SN 183,577. The R. T. French Company, Rochester, N.Y. Filed Dec. 26, 1963.

SPICE CUPBOARD

No claim is made to the exclusive use of the word "Spice" apart from the mark as shown.
For Food Seasoning of an Herb Nature.
First use Nov. 7, 1963.

SN 183,837. Gerber Products Company, Fremont, Mich. Filed Dec. 31, 1963.



The representation of the infant's head is an artistic drawing of Ann Turner Cook, prepared when an infant, whose consent is of record. Owner of Reg. Nos. 560,056, 658,323, and others.
For Modified Milk Products Prepared Especially for Infants, Comprising a Liquid Formula Made With Milk From Which the Butter Fat is Removed and to Which Has Been Added Dextrin-Maltose-Dextrose.
First use Apr. 24, 1959.

SN 186,885. J. J. Newberry Co., New York, N.Y. Filed Feb. 17, 1964.

PLAYMATE

For Bird Seed.
First use Oct. 18, 1963.

SN 188,702. Artco Distributors, Inc., Glendale, Ariz. Filed Mar. 16, 1964.

ARTCO

For Fresh Fruits and Vegetables: Fresh Melons and Fresh Grapes.
First use Oct. 18, 1957.

Class 47 — Wines

SN 179,529. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Oct. 22, 1963.

Ernest and Julio
GALLO

The names Ernest and Julio Gallo are names of living individuals whose consent is of record. Owner of Reg. Nos. 394,057, 640,782, and others.
For Wines.
First use Aug. 4, 1958; 1909 as to "Gallo."

Class 49 — Distilled Alcoholic Liquors

SN 174,886. Consolidated Distilled Products, Inc., d.b.a. Robert Bruce and Company, Chicago, Ill. Filed Aug. 12, 1963.

CAMELOT

Applicant claims use for the area comprising the entire United States with the exception of the District of Columbia, Maryland and Virginia.
For Scotch Whisky.
First use August 1961.
Subj. to concurrent use proceeding with SN 175,211.

SN 175,211. Stanley Rakusin, d.b.a. Sir Liquors, Washington, D.C. Filed Aug. 16, 1963.

CAMELOT

Applicant claims use for the area comprising the District of Columbia, Maryland and Virginia.
For Gin, Vodka, Bourbon, and Scotch Whisky.
First use May 8, 1961, on gin and vodka.
Subj. to concurrent use proceeding with SN 174,836.

SN 184,485. Merit House, Inc., New York, N.Y. Filed Jan. 13, 1964.

MAGIC ISLAND

For Rum.
First use Dec. 27, 1963.

SN 193,339. Coin Operated Equipment and Manufacturing Company, Ardmore, Okla. Filed May 13, 1964.



For Calf Feeders.
First use at least as early as Apr. 3, 1964.

Class 50 — Merchandise Not Otherwise Classified

SN 160,234. Tunlaw Corporation, Washington, D.C. Filed Jan. 4, 1963.

WILDLIFE SAVERS

For Bird Feeders Comprising a Feeder Structure Containing a Renewable Feed Cartridge.
First use on or about Sept. 1, 1962.

SN 188,711. Beagle Manufacturing Co., Inc., Pasadena, Calif. Filed Mar. 16, 1964.

GARDEN CLUB

Owner of Reg. No. 671,644.
For Flower Arranging Accessories—Namely, Florists' Tape, Florists' Wire, Base Concealment Accessories, Planter Moss, and Pebbles.
First use Nov. 14, 1963.

SN 192,976. Art Award Co., Inc., Brooklyn, N.Y. Filed May 8, 1964.

NEW AWARD

For Paint-by-the-Numbers Painting Kits, Containing Painting Panels, Liquid Paints, Ink, Brushes, Drawing Pens and Pen Holder.
First use on or about Mar. 10, 1964.

SN 192,978. Art Award Co., Inc., Brooklyn, N.Y. Filed May 8, 1964.

SILVER AWARD

For Paint-by-the-Numbers Painting Kits, Containing Painting Panels, Liquid Paints, Ink, Brushes, Drawing Pens and Pen Holder.
First use on or about Mar. 10, 1964.

SN 192,979. Art Award Co., Inc., Brooklyn, N.Y. Filed May 8, 1964.

GRAND AWARD

For Paint-by-the-Numbers Painting Kits, Containing Painting Panels, Liquid Paints, Ink, Brushes, Drawing Pens and Pen Holder.
First use on or about Mar. 10, 1964.

Class 51 — Cosmetics and Toilet Preparations

SN 165,761. Fleetwood Company, Chicago, Ill. Filed Apr. 1, 1963.

RINSA RAMA

For Hair Rinse.
First use Nov. 10, 1962.

SN 174,853. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Aug. 12, 1963.

LASH FULL

For Textured Mascara Containing Synthetic Fibers and Holder and Applicator Containing Same.
First use July 31, 1963.

SN 179,733. Paul H. Pollock, New York, N.Y. Filed Oct. 24, 1963.

ATTIRE

For Hair Conditioner or Tonic.
First use Sept. 26, 1963.

SN 180,537. John T. Stanley Co., Inc., New York, N.Y. Filed Nov. 5, 1963.

TROPICAL ORCHID

For Bath Oil.
First use Aug. 21, 1963.

SN 180,859. Joseph Del Russo, d.b.a. Del Russo, Miami, Fla. Filed Nov. 12, 1963.

MASQUERADE

For Temporary Wrinkle Remover Make-Up.
First use July 15, 1963.

SN 183,684. Kanaka, Ltd., Brooklyn, N.Y. Filed Dec. 27, 1963.

KANAKA

For Eau De Cologne.
First use on or about Dec. 2, 1963.

SN 183,969. Cut & Curl, Inc., Hempstead, N.Y. Filed Jan. 3, 1964.



Owner of Reg. No. 659,010.
For Oil Type Wave Compositions and Cream Type Wave Compositions.
First use on or about Oct. 28, 1963.

Class 52 — Detergents and Soaps

SN 172,513. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed July 5, 1963.

KAR-GLO

For Liquid Detergent Composition, Primarily for Automobiles.
First use Nov. 15, 1957.

SN 181,961. Commonwealth Research Laboratories Incorporated, Norfolk, Va. Filed Nov. 27, 1963.

SPOT MAGIC

Applicant disclaims the word "Spot" apart from the mark as shown.
For Cleaning Preparation for Removing Spots, Stains, and the Like.
First use Nov. 12, 1963.

SN 182,483. Leslie F. Hammond, d.b.a. Hammond & Hammond, Benton, Ill. Filed Dec. 6, 1963.

SEWER-MASTER

For Antiseptic and Sewer Cleaner (Fluid) and Septic Tank Cleaner.
First use Jan. 1, 1960.

SERVICE MARKS

Class 101 — Advertising and Business

SN 159,617. The Sperry and Hutchinson Company, New York, N.Y. Filed Dec. 21, 1962.



The drawing is lined for the colors blue and yellow, but no claim is made to color. Owner of Reg. Nos. 516,709 and 517,538.
For Promotion of the Sale of the Goods and Services of Others Through the Issuance and Redemption of Trading Stamps.
First use at least as early as fall, 1956.

SN 159,618. The Sperry and Hutchinson Company, New York, N.Y. Filed Dec. 21, 1962.



Owner of Reg. Nos. 516,709 and 517,538.
For Promotion of the Sale of the Goods and Services of Others Through the Issuance and redemption of Trading Stamps.
First use at least as early as fall, 1961.

SN 159,619. The Sperry and Hutchinson Company, New York, N.Y. Filed Dec. 21, 1962.



No claim is made herein, apart from the mark as shown, of the numeral "10" or of the notations "Discount for Cash" and "Value 1 Mill." The lining in the mark indicates shading and does not indicate any specific color. Owner of Reg. Nos. 515,278, 518,309, and 519,780.
For Promotion of the Sale of the Goods and Services of Others Through the Issuance and Redemption of Trading Stamps.
First use March 1957.

SN 159,620. The Sperry and Hutchinson Company, New York, N.Y. Filed Dec. 21, 1962.



The drawing is lined for red, but no claim is made to color. Owner of Reg. Nos. 516,709 and 517,538.
For Promotion of the Sale of the Goods and Services of Others Through the Issuance and Redemption of Trading Stamps.
First use at least as early as spring, 1957.

SN 176,149. Bi'Don, Inc., Washington, D.C. Filed Sept. 3, 1963.



For Retail Store Services Specializing in Imported Decorator and Gift Items.
First use Nov. 9, 1962.

Class 102 — Insurance and Financial

SN 156,219. Cash Credit Corporation, Des Moines, Iowa. Filed Oct. 30, 1962.



For Personal Loan Services.
First use Aug. 15, 1962.

SN 181,121. Citizens Mutual Insurance Company, Janesville, Wis. Filed Nov. 14, 1963.

CITIZENS MUTUAL

For Underwriting of Insurance.
First use March 1962.

Class 103 — Construction and Repair

SN 118,008. The Siegler Corporation, Anaheim, Calif. Filed Apr. 17, 1961.

DARB SYSTEM

Applicant disclaims exclusive rights to the word "System" apart from the mark as shown.
For Design and Development of Electronic Communication Systems for Locating Objects.
First use May 20, 1959.

Class 106 — Material Treatment

SN 181,050. Nease Chemical Company, Inc., State College, Pa. Filed Nov. 13, 1963.



For Custom Manufacturing of Chemicals.
First use in the early part of 1957.

CERTIFICATION MARKS

Class A — Goods

SN 182,057. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 29, 1963.



The mark certifies that the goods with which the mark is associated have been coated with material sold by applicant under its trademark "Teflon," and that the coating has been applied in accordance with standards imposed by applicant.
Owner of Reg. Nos. 418,698, 676,166, and others.
For Coated Cooking Utensils, Baking Equipment, Ovens, and Ovenware.
First use Oct. 4, 1963.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

774,310. PATTINA. E. I. du Pont de Nemours and Company. SN 141,714. Pub. 5-7-63. Filed 4-8-62.

774,311. CHEMLUX. Monsanto Company, by change of name from Monsanto Chemical Company. SN 174,526. Pub. 5-19-64. Filed 8-8-63.

Class 2 — Receptacles

774,312. KAN KAN AND DESIGN. Borg-Warner Corporation. SN 157,446. Pub. 5-19-64. Filed 11-19-62.

774,313. ZIP SERV. American Can Company. SN 158,501. Pub. 5-19-64. Filed 12-5-62.

774,314. PAUL'S POLYCOAT. Waldorf Paper Products Company. SN 159,314. Pub. 5-19-64. Filed 12-17-62.

774,315. REPRESENTATION OF PAUL BUNYAN AND DESIGN. Waldorf Paper Products Company. SN 159,315. Pub. 5-19-64. Filed 12-17-62.

774,316. DIAL-O-MATIC. Cleveland Container Corp. SN 165,749. Pub. 5-19-64. Filed 4-1-63.

774,317. TEMP-RITE. Aladdin Industries, Incorporated. SN 166,243. Pub. 5-19-64. Filed 4-8-63.

774,318. CROWN (DESIGN). Crown Cork & Seal Company, Inc. SN 169,228. Pub. 5-19-64. Filed 5-20-63.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

774,319. LEGENDARY. Legendary Leather Accessories, Inc., by assignment and change of name from The Original Rumpp Co., Inc. SN 184,500. Pub. 5-19-64. Filed 1-13-64.

Class 4 — Abrasives and Polishing Materials

774,320. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,941. Pub. 9-17-63. Filed 8-27-62.

774,321. FULLSPARKLE. The Fuller Brush Company. MULTIPLE CLASS (Classes 4 and 52). SN 168,920. Pub. 5-19-64. Filed 5-15-63.

774,322. PANEL LIFE. Byrne Plywood Company. SN 169,422. Pub. 5-19-64. Filed 5-22-63.

774,323. WORKEASE. Manufacturers' Marketing Co., U.S.A. Inc. SN 178,810. Pub. 5-19-64. Filed 10-11-63.

774,324. PREEN ETC. AND DESIGN. The Preen Company. SN 179,509. Pub. 5-19-64. Filed 10-21-63.

Class 5 — Adhesives

774,325. CITAX. Bohme Fettchemie GmbH. SN 160,359. Pub. 5-19-64. Filed 1-8-63.

774,326. DUPLOFOL. Lohmann K.G. SN 180,924. Pub. 5-19-64. Filed 11-12-63.

Class 6 — Chemicals and Chemical Compositions

774,327. BOLIDENSALT. Bolidens Gruvaktiebolag. SN 118,046. Pub. 5-19-64. Filed 4-18-61.

774,328. FOOD FAIR. Food Fair Stores, Inc. SN 146,612. CONCURRENT USE. Pub. 2-18-64. Filed 6-11-62.

774,329. FOOD FAIR IN MEDALLION DESIGN. Food Fair Stores, Inc. SN 146,614. CONCURRENT USE. Pub. 2-18-64. Filed 6-11-62.

774,330. F & M. F & M Scientific Corporation. SN 157,987. Pub. 5-19-64. Filed 11-27-62.

774,331. REDCO. Liquids, Inc. SN 165,795. Pub. 5-19-64. Filed 4-1-63.

774,332. LP GAS AND DESIGN. The Standard Oil Company. SN 176,581. Pub. 5-19-64. Filed 9-9-63.

774,333. SCM AND DESIGN. SCM Corporation. MULTIPLE CLASS (Classes 6, 11, 26, 37, and 50). SN 178,044. Pub. 5-19-64. Filed 9-30-63.

774,334. RHEUMA-FAX. Pentex Incorporated. SN 178,637. Pub. 5-19-64. Filed 10-9-63.

774,335. FOLI-GARD. A. E. Staley Manufacturing Company. SN 178,642. Pub. 5-19-64. Filed 10-9-63.

774,336. GROTESQUE DESIGN OF A DOG. Nuclear Products Company. SN 178,959. Pub. 5-19-64. Filed 10-14-63.

774,337. SNOOP AND DESIGN. Nuclear Products Company. SN 178,960. Pub. 5-19-64. Filed 10-14-63.

774,338. GOLD MEDALLION. Sea-Way Marketing Company. SN 178,982. Pub. 5-19-64. Filed 10-14-63.

774,339. VALSTATE. United Merchants and Manufacturers, Inc. SN 179,082. Pub. 5-19-64. Filed 10-15-63.

774,340. PHENIPLATE. Ames Company, Inc. SN 179,183. Pub. 5-19-64. Filed 10-17-63.

774,341. PITT-CONSOL 651-A. Pitt-Consol Chemical Company. SN 179,257. Pub. 5-19-64. Filed 10-17-63.

774,342. PITT-CONSOL 651. Pitt-Consol Chemical Company. SN 179,258. Pub. 5-19-64. Filed 10-17-63.

774,343. BENTEC. Wyandotte Chemicals Corporation. SN 179,291. Pub. 5-19-64. Filed 10-17-63.

774,344. FAIR LADY. Deltex Industries, Inc. SN 179,405. Pub. 5-19-64. Filed 10-21-63.

774,345. KELPRINT. Keleo Company. SN 179,428. Pub. 5-19-64. Filed 10-21-63.

Class 7 — Cordage

774,346. AMER-ANGLE. United States Steel Corporation. SN 185,170. Pub. 5-19-64. Filed 1-22-64.

Class 8 — Smokers' Articles, Not Including Tobacco Products

774,347. SHIELDS. Shields, Inc. of Attleboro, Mass. SN 170,955. Pub. 5-19-64. Filed 6-13-63.

Class 9—Explosives, Firearms, Equipments, and Projectiles

774,348. FOOD FAIR AND MEDALLION DESIGN. Food Fair Stores, Inc. SN 154,345. CONCURRENT USE. Pub. 2–18–64. Filed 10–2–62.

Class 10—Fertilizers

774,349. GRANDE VALLEY. Smith-Douglass Company, Inc. SN 183,336. Pub. 5–19–64. Filed 12–20–63.

774,350. VITAL EARTH. Vital Earth Products, Inc. SN 184,860. Pub. 5–19–64. Filed 1–17–64.

Class 11—Inks and Inking Materials

774,333. (See Class 6 for this trademark.)

774,351. MARHAR. Marhar Manufacturing Company. MULTIPLE CLASS (Classes 11 and 37). SN 166,475. Pub. 5–19–64. Filed 4–10–63.

774,352. "TMF." Standard Products Corporation. SN 177,196. Pub. 5–19–64. Filed 9–17–63.

774,353. TAKE-IT-EASY. Leedall Products Manufacturing Co., Inc. SN 179,547. Pub. 5–19–64. Filed 10–22–63.

774,354. DIAMOND DESIGN. The Parker Pen Company. SN 179,725. Pub. 5–19–64. Filed 10–24–63.

Class 12—Construction Materials

774,355. PRESTO PEG-BOARD. Masonite Corporation. SN 163,956. Pub. 5–19–64. Filed 3–5–63.

774,356. CONGOFOAM. Congoleum-Nairn Inc. SN 173,741. Pub. 5–19–64. Filed 7–25–63.

774,357. CAN-B-GONE. Herbert Daunt Jessop, d.b.a. Amenity Products Company. SN 175,659. Pub. 5–19–64. Filed 8–23–63.

774,358. ABACO. American Bitumuls & Asphalt Company. SN 176,475. Pub. 5–19–64. Filed 9–9–63.

774,359. A AMENITY PRODUCTS AND DESIGN. Herbert Daunt Jessop, d.b.a. Amenity Products Company. SN 177,887. Pub. 5–19–64. Filed 9–27–63.

774,360. TAMMS AND DESIGN. Tamms Industries Co. SN 178,834. Pub. 5–19–64. Filed 10–11–63.

774,361. UNIPRODUX. Unit Products Corporation. SN 179,171. Pub. 5–19–64. Filed 10–16–63.

774,362. PENDANT. Minnesota and Ontario Paper Company. SN 179,440. Pub. 5–19–64. Filed 10–21–63.

774,363. CHATEAU. Minnesota and Ontario Paper Company. SN 179,442. Pub. 5–19–64. Filed 10–21–63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

774,364. BEAUTE AND DESIGN. Cal-Royal, Inc. SN 150,519. Pub. 5–19–64. Filed 8–6–62.

774,365. HYDRA-SWEEP. Anthony Pools, Inc. SN 162,979. Pub. 5–19–64. Filed 2–18–63.

774,366. AMERICAN QUEEN. American Surgical Steel, Inc. SN 165,045. Pub. 5–19–64. Filed 3–20–63.

774,367. LJ. The Murray Corporation of America. SN 166,650. Pub. 5–19–64. Filed 4–12–63.

774,368. RIG-I-FLEX. Automatic Devices Company. SN 168,271. Pub. 5–19–64. Filed 5–7–63.

774,369. CURVIT-SURE. Automatic Devices Company. SN 168,272. Pub. 5–19–64. Filed 5–7–63.

774,370. HAYS-ERIE. Hays Manufacturing Company. SN 174,784. Pub. 5–19–64. Filed 7–17–63.

774,371. P-K PLUS. General American Transportaion Corporation. SN 177,248. Pub. 5–19–64. Filed 9–18–63.

774,372. PARKER-KALON PLUS. General American Transporation Corporation. SN 177,249. Pub. 5–19–64. Filed 9–18–63.

774,373. EASY GRIP. Swanson Sales, Inc. SN 179,827. Pub. 5–19–64. Filed 10–25–63.

Class 14—Metals and Metal Castings and Forgings

774,374. L AND DESIGN. Latrobe Steel Company. SN 143,745. Pub. 5–19–64. Filed 5–3–62.

774,375. SUPER J. Hoskins Manufacturing Company. SN 165,056. Pub. 5–19–64. Filed 3–20–63.

774,376. NICROCOAT. Wall Colmonoy Corporation. SN 166,505. Pub. 12–24–63. Filed 4–10–63.

774,377. SPEED STAR. The Carpenter Steel Company. SN 181,008. Pub. 5–19–64. Filed 11–13–63.

774,378. STENTOR. The Carpenter Steel Company. SN 181,009. Pub. 5–19–64. Filed 11–13–63.

774,379. ECONO-TIE. Continental Steel Corporation. SN 181,129. Pub. 5–19–64. Filed 11–14–63.

Class 15—Oils and Greases

774,380. ROTAROL. Quaker Chemical Corporation. SN 171,700. Pub. 1–14–64. Filed 6–24–63.

774,381. KRYSTAL 101. Reaction Laboratories, Inc. SN 176,835. Pub. 5–19–64. Filed 9–12–63.

774,382. META-THERM. Meta-Therm Corporation, assignee of Ward Chemical Company. SN 179,173. Pub. 5–19–64. Filed 10–16–63.

774,383. QUAKER STATE ENGINE LIFE PRESERVER AND DESIGN. Quaker State Oil Refining Corporation. SN 152,283. Pub. 5–19–64. Filed 12–3–63.

Class 16—Protective and Decorative Coatings

774,384. X-3000. Walter L. Krentler, d.b.a. X-3000 Products Co. SN 98,996. Pub. 5–19–64. Filed 6–14–60.

774,385. HERITAGE. West Paint & Varnish Company. SN 117,578. Pub. 10–31–61. Filed 4–11–61.

774,386. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,950. Pub. 9–17–63. Filed 8–27–62.

774,387. STRATHMORE OXI POXI AND DESIGN. Strathmore Products, Inc. SN 162,038. Pub. 5–19–64. Filed 2–4–63.

774,388. SEA-COAT 449. Continental Coatings Corp. SN 164,608. Pub. 5–19–64. Filed 3–14–63.

774,389. MAGNA FLO. Magnus Craft Materials, Inc. SN 164,983. Pub. 10–29–63. Filed 3–19–63.

774,390. BULLS EYE. William Zinsser & Co. Inc. SN 168,455. Pub. 5–19–64. Filed 5–8–63.

774,391. MISCELLANEOUS DESIGN. Conchemco Incorporated. SN 169,221. Pub. 5–19–64. Filed 5–20–63.

774,392. QUAKER STATE ETC. AND DESIGN. Quaker State Oil Refining Corporation. SN 170,215. Pub. 5–19–64. Filed 6–3–63.

774,393. PHELOX. Phelan-Faust Paint Mfg. Co. SN 173,593. Pub. 5–19–64. Filed 7–23–63.

774,394. PETER PAN PAINT AND DESIGN. Peter Pan Paint Manufacturing Corp., d.b.a. Peter Pan Paint Manufacturers. SN 176,015. Pub. 5–19–64. Filed 8–29–63.

774,395. BRAND X. Major Brands, Inc. SN 176,818. Pub. 5–19–64. Filed 9–12–63.

774,396. FI-RD-SIST. Dayton B. Skadden. SN 177,207. Pub. 5-19-64. Filed 9-10-63.

774,397. LITHOBLANC. Farbenfabriken Bayer Aktiengesellschaft. SN 177,620. Pub. 5-19-64. Filed 9-24-63.

774,398. WOODEX. Mobile Paint Mfg. Co., Inc. SN 181,259. Pub. 5-19-64. Filed 11-15-63.

774,399. STORMGARD. Sundure Paint Corporation. SN 182,974. Pub. 5-19-64. Filed 12-13-63.

774,400. MR. & MRS. AMERICA. Mr. and Mrs. America, Inc. SN 183,087. Pub. 5-19-64. Filed 12-16-63.

Class 17—Tobacco Products

774,401. DON SEVILLE. Regina Cigar Company, Inc. SN 174,441. Pub. 5-19-64. Filed 8-5-63.

774,402. MEDALIST NATURALES. E. Regensburg & Sons. SN 180,608. Pub. 5-19-64. Filed 11-6-63.

Class 18—Medicines and Pharmaceutical Preparations

774,403. 3 MINUTE BALM AND DESIGN. Mallard C. Hunt, d.b.a. Hunt Brothers Products. SN 126,342. Pub. 5-19-64. Filed 8-21-61.

774,404. FOOD FAIR. Food Fair Stores, Inc. SN 146,613. CONCURRENT USE. Pub. 2-18-64. Filed 6-11-62.

774,405. FOOD FAIR IN MEDALLION DESIGN. Food Fair Stores, Inc. SN 146,615. CONCURRENT USE. Pub. 2-18-64. Filed 6-11-62.

774,406. MEDI-PREP COSMETIC DERMACEUTICALS. Medical Precision Products Co. SN 176,668. Pub. 5-19-64. Filed 9-10-63.

774,407. ORTHO-CREME. Ortho Pharmaceutical Corporation. SN 176,941. Pub. 5-19-64. Filed 9-13-63.

774,408. SYNERGEN. Armour Pharmaceutical Company. SN 177,837. Pub. 5-19-64. Filed 9-27-63.

774,409. EROGEN. Armour Pharmaceutical Company. SN 177,839. Pub. 5-19-64. Filed 9-27-63.

774,410. SYNERGEN-P. Armour Pharmaceutical Company. SN 177,841. Pub. 5-19-64. Filed 9-27-63.

774,411. SPIROGEN. Armour Pharmaceutical Company. SN 177,842. Pub. 5-19-64. Filed 9-27-63.

774,412. BON-EVAC. Armour Pharmaceutical Company. SN 177,846. Pub. 5-19-64. Filed 9-27-63.

774,413. FORMULA 21. Allen Products Co., Inc. SN 179,380. Pub. 5-19-64. Filed 10-18-63.

774,414. D-J'S. Wampach & Maltbie. SN 179,569. Pub. 5-19-64. Filed 10-22-63.

774,415. DIAPER DAN. American Home Products Corporation. SN 179,580. Pub. 5-19-64. Filed 10-23-63.

774,416. PERMALIFE. Sterneo Industries, Inc. SN 179,822. Pub. 5-19-64. Filed 10-25-63.

774,417. ANTHRA-DERM. Dermik Pharmacal Co., Inc. SN 180,075. Pub. 5-19-64. Filed 10-30-63.

774,418. KLARON-HC. Dermik Pharmacal Co., Inc. SN 180,076. Pub. 5-19-64. Filed 10-30-63.

774,419. REPRIEVE. Frederick S. Mayer, d.b.a. Mayer Labs. SN 180,104. Pub. 5-19-64. Filed 10-30-63.

774,420. DECOPAL. Philadelphia Laboratories, Inc. SN 181,173. Pub. 5-19-64. Filed 1-14-63.

774,421. LIQUIFILM. Allergan Pharmaceuticals. SN 181,526. Pub. 5-19-64. Filed 11-26-63.

774,422. SURRECTAN. L'Equilibre Biologique (Association Technique Pharmaceutique et Equilibre Biologique Reunis) Societe Anonyme. SN 181,986. Pub. 5-19-64. Filed 11-27-63.

774,423. CYANOCO-C. Marion Laboratories, Inc. SN 182,341. Pub. 5-19-64. Filed 12-4-63.

774,424. GENADOX. Marion Laboratories, Inc. SN 182,349. Pub. 5-19-64. Filed 12-4-63.

774,425. BON-A-LAX. The Purdue Frederick Company. SN 182,503. Pub. 5-19-64. Filed 12-6-63.

774,426. CIS TRI-F. California Institutional Supply Co. Inc. SN 183,564. Pub. 5-19-64. Filed 12-26-63.

774,427. VISCULOSE AND DESIGN. Professional Pharmacal Co., Inc. SN 183,790. Pub. 5-19-64. Filed 12-30-63.

Class 19—Vehicles

774,428. BIKE PALS. Columbus Cycle & Supply Co., d.b.a. Dorcy Industries. MULTIPLE CLASS (Classes 19 and 21). SN 139,041. Pub. 5-19-64. Filed 3-5-62.

774,429. RICHARDSON. Richardson Homes Corporation. SN 164,391. Pub. 5-19-64. Filed 3-11-63.

774,430. LAKE LINER. Adventure Line Mfg. Co., Inc. SN 164,782. Pub. 5-19-64. Filed 3-18-63.

774,431. VACATION LINER. Adventure Line Mfg. Co., Inc. SN 164,783. Pub. 5-19-64. Filed 3-18-63.

774,432. MANATEE. Champion Home Builders Co. SN 170,294. Pub. 5-19-64. Filed 6-4-63.

774,433. PARALLELOGRAM. Pullman Incorporated. SN 172,843. Pub. 5-19-64. Filed 7-11-63.

774,434. FIELD AND STREAM. Vacation Industries, Inc. SN 178,067. Pub. 5-19-64. Filed 9-30-63.

774,435. TURTLE WAX. Turtle Wax, Inc. SN 179,485. Pub. 5-19-64. Filed 10-21-63.

774,436. A (FANCIFUL LETTER). Atwood Vacuum Machine Company. SN 179,990. Pub. 5-19-64. Filed 10-29-63.

774,437. MONITUBE. Girling Limited. SN 181,470. Pub. 5-19-64. Filed 11-19-63.

Class 21—Electrical Apparatus, Machines, and Supplies

774,438. (See Class 19 for this trademark.)

774,438. SKINTONE COOLIGHT. New Trends Associates, Inc. SN 136,579. Pub. 5-19-64. Filed 1-25-62.

774,439. MCS. Photocircuits Corporation. SN 143,666. Pub. 5-19-64. Filed 5-2-62.

774,440. LITE ALERT AND DESIGN. Lite Alert, Inc. SN 145,571. Pub. 5-19-64. Filed 5-28-62.

774,441. DUCRETET-THOMSON. Compagnie Francaise Thomson-Houston. MULTIPLE CLASS (Classes 21 and 36). SN 149,800. Pub. 5-19-64. Filed 5-31-62.

774,442. BROILITIZER. Shoup Engineering Corp. SN 155,656. Pub. 5-19-64. Filed 10-22-62.

774,443. R AND BOLT OF LIGHTNING (DESIGN). Rodale Mfg. Co., Inc., d.b.a. Rodale Manufacturing Company, Inc., and Rodale Manufacturing Co., Inc. SN 156,167. Pub. 5-19-64. Filed 10-29-62.

774,444. EVER-GRIND. Cavitron Ultrasonics, Inc. SN 166,528. Pub. 5-19-64. Filed 4-11-63.

774,445. NASCO AND DESIGN. Nu-Age Systems, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 166,745. Pub. 5-19-64. Filed 4-15-63.

774,446. DURCO-CAST. The Durlron Company, Inc. SN 166,983. Pub. 5-19-64. Filed 4-18-63.

774,447. FEATHERWEIGHT. The Singer Company. SN 170,568. Pub. 5-19-64. Filed 6-7-63.

774,448. PENNCREST. J. C. Penney Company. MULTIPLE CLASS (Classes 21 and 44). SN 178,489. Pub. 5-19-64. Filed 7-22-63.

774,449. CELOC. Whirlpool Corporation. SN 181,584. Pub. 5-19-64. Filed 11-20-63.

774,450. FENCE RITE. Minneapolis Scientific Controls Corp., d.b.a. Fence Rite Company. SN 181,656. Pub. 5-19-64. Filed 11-21-63.

774,451. AIR-STRIP. Micro-Radionics, Inc. SN 182,100. Pub. 5-19-64. Filed 11-29-63.

774,452. K-DYNE. KDI Corporation. SN 182,800. Pub. 5–19–64. Filed 12–11–63.

Class 22 — Games, Toys, and Sporting Goods

774,453. CATFISH HARLEY'S ETC. AND DESIGN. W. B. Binns, Jr., d.b.a. Specialty Products Co. SN 159,464. Pub. 5–19–64. Filed 12–20–62.

774,454. FUZZY-FELT. Allan Industries Limited. SN 159,800. Pub. 5–19–64. Filed 12–28–62.

774,455. NARRAGANSETT. Narragansett Gymnasium Equipment Company. MULTIPLE CLASS (Classes 22 and 32). SN 162,650. Pub. 5–19–64. Filed 2–13–63.

774,456. GUERRILLA. Mattel, Inc. SN 165,936. Pub. 2–11–64. Filed 4–2–63.

774,457. TRADE. Joseph L. De Maria. SN 170,993. Pub. 5–19–64. Filed 6–14–63.

774,458. KUSAN AND DESIGN. Kusan, Inc. SN 176,307. Pub. 5–19–64. Filed 9–4–63.

774,459. TARGET: THE MOON. Eugenia Doughtie. SN 176,504. Pub. 5–19–64. Filed 9–9–63.

774,460. "MOM-SAVER." Basic Wire Products, Inc. SN 176,619. Pub. 5–19–64. Filed 9–10–63.

774,461. U.S. TELSTAR. United States Rubber Company. SN 177,199. Pub. 5–19–64. Filed 9–17–63.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

774,462. REPRESENTATION OF PURPLE ROLL END. United Engineering and Foundry Company. SN 112,926. Pub. 5–19–64. Filed 2–1–61.

774,463. UNIPRESS. J. K. Smit & Sons Diamond Products Ltd., assignee of J. K. Smit & Sons (Canada) Limited. SN 118,731. Pub. 8–14–62. Filed 4–26–61.

774,464. SAFE-HED. Jas. H. Matthews & Co. SN 155,268. Pub. 5–19–64. Filed 10–16–62.

774,465. ROOFE. Elmer L. Roofe, d.b.a. Roofe Precision Products. SN 165,379. Pub. 5–19–64. Filed 3–25–63.

774,466. CF SERVICE AND DESIGN. Societe Francaise des Coussinets Minces. SN 165,714. Pub. 5–19–64. Filed 3–29–63.

774,467. MAN-HIVO. Raybestos-Manhattan, Inc. SN 165,953. Pub. 5–19–64. Filed 4–2–63.

774,468. WYOTT. The Wyott Manufacturing Company. SN 166,053. Pub. 5–19–64. Filed 4–3–63.

774,469. EVER-GRIND. Cavitron Ultrasonics, Inc. SN 166,527. Pub. 5–19–64. Filed 4–11–63.

774,470. FIBRE-KING. Bolton-Emerson, Inc. SN 166,691. Pub. 5–19–64. Filed 4–15–63.

774,471. ROTOSCAN. FMC Corporation. SN 166,988. Pub. 5–19–64. Filed 4–18–63.

774,472. NOVEYOR. Wolverine Equipment Co. SN 168,124. Pub. 5–19–64. Filed 5–3–63.

774,473. LOAD-EVATOR. Hercules Galion Products, Inc., d.b.a. Galion Allsteel Body Co. SN 169,412. Pub. 8–3–64. Filed 5–21–63.

774,474. DYMO AND DESIGN. Dymo Industries, Inc. SN 170,528. Pub. 5–19–64. Filed 6–7–63.

774,475. STAPLE-EATER. MacKay & Associates, Inc. SN 170,654. Pub. 11–5–63. Filed 6–10–63.

774,476. SPEECO AND DESIGN. Rawlen T. Smith, d.b.a. Special Products Company. SN 174,126. Pub. 5–19–64. Filed 7–31–63.

774,477. WESTEC. Westec, d.b.a. Sweetland Company. SN 174,550. Pub. 5–19–64. Filed 8–6–63.

774,478. STOCK CENSOR. Bryant Chucking Grinder Company. SN 176,261. Pub. 5–19–64. Filed 8–30–63.

774,479. ROTANGLE. Oxford Precision, Inc. SN 176,314. Pub. 5–19–64. Filed 9–4–63.

774,480. PASTRY PAL. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 176,397. Pub. 5–19–64. Filed 9–5–63.

774,481. KITCHEN KUT-UP. Eldon E. Radtke, d.b.a. Kitchen Kut-Up. SN 176,572. Pub. 5–19–64. Filed 9–9–63.

774,482. C AND DESIGN. Crescent Niagara Corporation. SN 177,232. Pub. 5–19–64. Filed 9–18–63.

774,483. SILENT HOIST KARRI-GO. Silent Hoist & Crane Co., Inc. SN 179,360. Pub. 5–19–64. Filed 10–18–63.

774,484. VANE-CHEM. Eco Engineering Company. SN 179,702. Pub. 5–12–64. Filed 10–24–63.

774,485. CANOLI-ETTE. Bonley Industries Inc. SN 180,174. Pub. 5–19–64. Filed 10–31–63.

774,486. DC STAMP CO. Dale Christian, d.b.a. D.C. Stamp Co. SN 181,120. Pub. 5–19–64. Filed 11–14–63.

774,487. YODER FEED-O-MATIC MILL AND DESIGN. Yoder Feeds, Inc., d.b.a. Yoder Feed-O-Matic Systems Co. SN 181,586. Pub. 5–19–64. Filed 11–20–63.

774,488. LUCKY LANE KING AND DESIGN. Automatic Buffers, Inc. SN 181,606. Pub. 5–19–64. Filed 11–21–63.

774,489. FEED-O-MATIC AND DESIGN. Yoder Feeds, Inc., d.b.a. Yoder Feed-O-Matic Systems Co. SN 181,725. Pub. 5–19–64. Filed 11–21–63.

774,490. TEMPLAMATIC. Wiedemann Machine Company. SN 181,938. Pub. 5–19–64. Filed 11–26–63.

Class 24 — Laundry Appliances and Machines

774,491. MANOR MAID. Cook Machinery Co., Inc. SN 180,293. Pub. 5–19–64. Filed 11–1–63.

774,492. H AND DESIGN. Hydraxtor Company. SN 180,398. Pub. 5–19–64. Filed 11–4–63.

774,493. BUT-N-SAVR. Resilio Press Pad Co. SN 180,956. Pub. 5–19–64. Filed 11–12–63.

774,494. SLEEV-O-MATIC. Ametek, Inc. SN 181,741. Pub. 5–19–64. Filed 11–22–63.

Class 25 — Locks and Safes

774,495. S AND DESIGN CONFIGURATION OF A KEY. Schlage Lock Company. SN 152,340. Pub. 5–5–64. Filed 8–31–62.

Class 26 — Measuring and Scientific Appliances

774,383. (See Class 9 for this trademark.)

774,445. (See Class 21 for this trademark.)

774,496. GAME GETTER. Bell & Gossett Company, assignee of Marble Electric Corporation. SN 140,963. Pub. 5–19–64. Filed 3–28–62.

774,497. TIMETER. Prescott Manufacturing, Inc. SN 152,243. Pub. 5–19–64. Filed 3–30–62.

774,498. DYNAMATION. Dynamation, Inc. SN 162,633. Pub. 5–19–64. Filed 2–13–63.

774,499. DDC. Adams, Inc. SN 164,205. Pub. 5–19–64. Filed 3–8–63.

774,500. WESTEC. Westec, d.b.a. Sweetland Company. SN 174,551. Pub. 5–19–64. Filed 8–6–63.

774,501. MICROGON. United Aircraft Corporation. SN 179,745. Pub. 5–19–64. Filed 10–24–63.

774,502. HYDROSITE. Barber-Greene Company. SN 180,062. Pub. 5–19–64. Filed 10–30–63.

774,503. DIAL-A-MATIC AND DESIGN. FMC Corporation. SN 181,972. Pub. 5–19–64. Filed 11–27–63.

Class 27 — Horological Instruments

774,504. AGON AND DESIGN. Agon Uhrenfabrik Robert Triebold AG. (Agon Watch-Factory Robert Triebold Ltd.) (Agon Fabrique d'Horlogerie Robert Triebold S.A.) SN 183,453. Pub. 5–19–64. Filed 2–26–63.

774,505. SOLTRONIC. Fabrique des Montres Solvil et Titus S.A. SN 178,077. Pub. 5–19–64. Filed 7–15–63.

774,506. DATE QUEEN. Bulova Watch Company, Inc. SN 183,246. Pub. 5–19–64. Filed 12–19–63.

774,507. DATE KING. Bulova Watch Company, Inc. SN 183,247. Pub. 5–19–64. Filed 12–19–63.

Class 28 — Jewelry and Precious-Metal Ware

774,508. CHRIS. Horne International Distributing Corporation. SN 180,885. Pub. 5–19–64. Filed 11–12–63.

774,509. SAMARRIA. McGrath-Hamin, Inc. SN 180,935. Pub. 5–19–64. Filed 11–12–63.

774,510. JAYLEN. Jay Freudenheim, Inc. SN 182,477. Pub. 5–19–64. Filed 12–6–63.

774,511. W AND DESIGN. Weyhing Brothers Mfg. Co. SN 184,119. Pub. 5–19–64. Filed 1–6–64.

774,512. PK. P. P. Kishore & Co. SN 184,477. Pub. 5–19–64. Filed 1–13–64.

Class 29 — Brooms, Brushes, and Dusters

774,513. COPPER LITE. Vining Broom Company. SN 181,580. Pub. 5–19–64. Filed 11–20–63.

Class 30 — Crockery, Earthenware, and Porcelain

774,514. CENTURA BY CORNING AND DESIGN. Corning Glass Works. CONSOLIDATED CERTIFICATE. SN 156,728, pub. 5–12–64, filed 11–6–62, Cl. 30; SN 156,380, pub. 5–12–64, filed 11–1–62, Cl. 33.

Class 31 — Filters and Refrigerators

774,515. CAPACI-TROL. Bruner Corporation. SN 147,794. Pub. 5–19–64. Filed 6–27–62.

774,516. POWDEX. Union Tank Car Company. SN 162,373. Pub. 5–19–64. Filed 2–8–63.

774,517. CMB–II. Clack Water Treatment, Inc. SN 162,415. Pub. 5–19–64. Filed 2–11–63.

Class 32 — Furniture and Upholstery

774,455. (See Class 22 for this trademark.)

774,518. ATOMICA. Philocraft Company. SN 155,181. Pub. 5–19–64. Filed 10–15–62.

774,519. CHESTERFIELD FIVE STAR LINE AND DESIGN. Chesterfield Furniture Manufacturing Co. Inc. SN 157,066. Pub. 5–19–64. Filed 11–13–62.

774,520. POLYPEDIC. International Foam Corporation. SN 168,284. Pub. 5–19–64. Filed 4–8–63.

774,521. SCOTSMAN. Oldberg Manufacturing Company, assignee of Heckethorn Manufacturing & Supply Co., d.b.a. Mitchell Division. SN 170,194. Pub. 5–19–64. Filed 6–5–63.

774,522. KING ARTHUR AND DESIGN. Institutional Products, Inc. SN 171,990. Pub. 5–19–64. Filed 6–27–63.

774,523. VERSATILITY. Lester S. Pearl, d.b.a. Gateway Furniture Manufacturing Co. SN 173,869. Pub. 5–19–64. Filed 7–19–63.

774,524. VIVA! The Safegard Corporation. SN 173,703. Pub. 5–19–64. Filed 7–24–63.

774,525. STYLUME. Stylume Products, Inc. SN 180,337. Pub. 5–19–64. Filed 11–1–63.

Class 33 — Glassware

774,514. CONSOLIDATED CERTIFICATE. See Class 30.

Class 34 — Heating, Lighting, and Ventilating Apparatus

774,526. NICROBRAZ. Wall Colmonoy Corporation. SN 180,253. Pub. 4–14–64. Filed 10–31–63.

774,527. OMARK AND DESIGN. Omark Industries, Inc. SN 182,201. Pub. 5–19–64. Filed 12–2–63.

774,528. SR AND DESIGN. Sun-Rey Engineering Co. SN 182,228. Pub. 5–19–64. Filed 12–2–63.

774,529. GROTESQUE HUMAN FIGURE (DESIGN). Suntemp Industries, Inc. SN 182,301. Pub. 5–19–64. Filed 12–3–63.

774,530. SILENT SAM-SUN. Suntemp Industries, Inc. SN 182,302. Pub. 5–19–64. Filed 12–3–63.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

774,531. SUPER GRIP. The B. F. Goodrich Company. SN 153,479. Pub. 5–19–64. Filed 9–19–62.

774,532. SHOCK ABSORBER. Aeroquip Corporation, assignee of Lee Rubber & Tire Corporation, d.b.a. Republic Rubber Division. SN 160,787. Pub. 5–19–64. Filed 1–16–63.

774,533. PERMA LIFE. Sternco Industries, Inc. SN 178,744. Pub. 5–19–64. Filed 10–10–63.

774,534. POSIFLEX. Bowes "Seal Fast" Corporation. SN 178,772. Pub. 5–19–64. Filed 10–11–63.

774,535. STARLITE. American Biltrite Rubber Co., Inc. SN 180,550. Pub. 5–19–64. Filed 11–6–63.

774,536. K-M AND DESIGN. Nicolet Industries, Inc. SN 181,054. Pub. 5–19–64. Filed 11–13–63.

774,537. RELIABILT. The Goodyear Tire & Rubber Company. SN 181,352. Pub. 5–19–64. Filed 11–18–63.

774,538. HALLMARK. The Kelly-Springfield Tire Company. SN 181,364. Pub. 5–19–64. Filed 11–18–63.

774,539. SUMMIT. The General Tire & Rubber Company. SN 181,469. Pub. 5–19–64. Filed 11–19–63.

Class 36 — Musical Instruments and Supplies

774,441. (See Class 21 for this trademark.)

Class 37 — Paper and Stationery

774,333. (See Class 6 for this trademark.)

774,351. (See Class 11 for this trademark.)

774,540. VOGUE. American Greetings Corporation. SN 81,531. Pub. 3–22–60. Filed 9–17–59.

774,541. SOF STRENGTH. Hudson Pulp & Paper Corp., assignee of Angel Soft Tissue Mills, Inc. SN 151,460. Pub. 5–19–64. Filed 8–20–62.

774,542. BROCKWAY. George A. Whiting Paper Company. SN 160,351. Pub. 5–19–64. Filed 1–7–63.

774,543. APEX AND DESIGN. A. Pomerantz and Company. SN 160,799. Pub. 5-19-64. Filed 1-16-63.

774,544. FLYING DOVE (DESIGN). Swanee Paper Corporation, assignee of The Sanitary Paper Mills, Incorporated. SN 162,871. Pub. 5-19-64. Filed 2-15-63.

774,545. ARROW. The Parker Pen Company. SN 163,168. Pub. 5-19-64. Filed 2-20-63.

774,546. MICRO JET. Arkell Safety Bag Company. SN 163,516. Pub. 5-19-64. Filed 2-27-63.

774,547. TUF-RED. Riegel Paper Corporation. SN 163,662. Pub. 5-19-64. Filed 2-28-63.

774,548. EASTPAC AND DESIGN. Eastpac Paper Converting Company. SN 164,120. Pub. 5-19-64. Filed 3-7-63.

774,549. SHIPWRIGHT. Paper Service Co., Inc. SN 164,155. Pub. 5-19-64. Filed 3-7-63.

774,550. SWINGLINE 60. Swingline Inc. SN 165,858. Pub. 5-19-64. Filed 4-1-63.

774,551. COLORMATCH. The Craftint Manufacturing Company. SN 166,365. Pub. 5-19-64. Filed 4-9-63.

774,552. KAYDRY. Kimberly-Clark Corporation. SN 179,238. Pub. 5-19-64. Filed 10-17-63.

774,553. CARTERFOTO. The Carter's Ink Company. SN 180,649. Pub. 5-19-64. Filed 11-7-63.

Class 38 — Prints and Publications

774,554. METALWORKING NEWS ETC. Fairchild Publications, Inc. SN 105,636. Pub. 12-18-62. Filed 10-3-60.

774,555. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,969. Pub. 9-17-63. Filed 8-27-62.

774,556. MPSM MEAT PROCESSING SAUSAGE MANUFACTURING. Davies Publishing Company. SN 156,572. Pub. 5-19-64. Filed 11-5-62.

774,557. LOOKING THROUGH. Hehr Manufacturing Company. SN 170,908. Pub. 5-19-64. Filed 6-13-63.

774,558. ASSOCIATION MANAGEMENT. American Society of Association Executives. SN 171,521. Pub. 5-19-64. Filed 6-21-63.

774,559. STATIC-CAL. Multi-Color Process Company. SN 174,903. Pub. 5-19-64. Filed 8-12-63.

774,560. PRINTING PLATES MAGAZINE. International Association of Electrotypers & Stereotypers, Inc. SN 175,923. Pub. 5-19-64. Filed 8-28-63.

774,561. SUNNY SIDE OF THE STREET AND DESIGN. Alpha Publications, Inc. SN 178,398. Pub. 5-19-64. Filed 10-7-63.

774,562. EVERGREEN. Grove Press, Inc. SN 178,802. Pub. 5-19-64. Filed 10-11-63.

774,563. SILHOUETTE OF A BOY AND GIRL. SOS-Kinderdorf. SN 179,278. Pub. 5-19-64. Filed 10-17-63.

774,564. THE WYANDOTTE EXTRACTOR. Wyandotte Chemicals Corporation. SN 179,287. Pub. 5-19-64. Filed 10-17-63.

774,565. OVER THE COUNTER. B. Altman & Co. SN 179,307. Pub. 5-19-64. Filed 10-18-63.

774,566. ARCTURUS BOOKS AND DESIGN. Board of Trustees of Southern Illinois University, d.b.a. Southern Illinois University Press. SN 179,394. Pub. 5-19-64. Filed 10-21-63.

774,567. MONEY WELL SPENT. The Register and Tribune Syndicate, Inc. SN 179,459. Pub. 5-19-64. Filed 10-21-63.

774,568. HOLD ON! The Register and Tribune Syndicate, Inc. SN 179,460. Pub. 5-19-64. Filed 10-21-63.

774,569. ANS AND DESIGN. American Nuclear Society Incorporated. SN 179,512. Pub. 5-19-64. Filed 10-22-63.

774,570. ANDY CAPP. The Hall Syndicate, Inc. SN 179,790. Pub. 5-19-64. Filed 10-25-63.

774,571. ROYAL. Royal Publishers, Inc. SN 179,936. Pub. 5-19-64. Filed 10-28-63.

774,572. CALCHEM NEWS. California Chemical Company. SN 180,067. Pub. 5-19-64. Filed 10-30-63.

774,573. SPACE DIMENSIONS. The Canaveral Council of Technical Societies. SN 180,801. Pub. 5-19-64. Filed 10-7-63.

774,574. M-TONE P/R. American Can Company. SN 182,854. Pub. 5-19-64. Filed 12-12-63.

Class 39 — Clothing

774,575. STANDWEAR. J J Newberry Co. SN 96,350. Pub. 8-14-62. Filed 5-3-60.

774,576. DOUBLE DIAMOND (DESIGN). Spartans Industries, Inc. SN 102,432. Pub. 5-19-64. Filed 8-10-60.

774,577. SHERRY HILL. Sherry Hill, Inc. SN 133,063. Pub. 5-19-64. Filed 11-15-61.

774,578. S-T-R-E-T-C-H EASE. Host Pajamas, Inc. SN 133,384. Pub. 5-19-64. Filed 12-5-61.

774,579. PIC-A-PAIR. Shoemarket, Inc. SN 136,005. Pub. 5-19-64. Filed 1-17-62.

774,580. 701 EAST. Greentree's, Incorporated. SN 142,707. Pub. 5-19-64. Filed 4-20-62.

774,581. MICHEL DANIEL. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes. SN 142,947. Pub. 5-19-64. Filed 4-24-62.

774,582. TRIPLE-INSULAIRE. Atlas Underwear Corporation. SN 144,921. Pub. 5-19-64. Filed 5-18-62.

774,583. CORDOSHEEN. Brown Shoe Company, Inc. SN 145,240. Pub. 3-17-64. Filed 5-23-62.

774,584. MAINELINER ORIGINALS. Globe Knitwear Company, Inc. SN 145,825. Pub. 5-19-64. Filed 5-31-62.

774,585. ROYAL DECREE. City Stores Company. SN 147,801. Pub. 5-19-64. Filed 6-27-62.

774,586. MR. CAPEZIOS. Capezio, Inc. SN 155,235. Pub. 5-19-64. Filed 10-16-62.

774,587. JOHN WHITCOMB LTD. F. Jacobson & Sons, Inc., by mesne assignments and change of name from John Whitcomb Ltd. SN 156,348. Pub. 5-19-64. Filed 10-31-62.

774,588. UNIVERSITY-VII. The Kaynee Co. SN 157,879. Pub. 10-1-63. Filed 11-16-62.

774,589. HUGWAIST. Youthcraft Creations, Inc. SN 158,590. Pub. 5-19-64. Filed 12-5-62.

774,590. MARTHA'S MINIATURES. Diaper Jeans, Inc. SN 158,608. Pub. 5-19-64. Filed 12-6-62.

774,591. ALL AMERICAN PIVOTS. Allied Hampshire Footwear Corp. SN 159,452. Pub. 5-19-64. Filed 12-20-62.

774,592. THE ADAM ROOM. Saks & Company. SN 160,721. Pub. 5-19-64. Filed 1-15-63.

774,593. NOB HILL. Karoll's, Inc. SN 161,063. Pub. 5-19-64. Filed 1-21-63.

774,594. REFLA-C-T-I-O-N. Thomson Company. SN 161,427. Pub. 5-19-64. Filed 1-25-63.

774,595. GALLIANO FERILLI. J. Maimon & Sons, Inc. SN 161,444. Pub. 5-19-64. Filed 1-25-63.

774,596. MAN-A-BOUTS. Man-Abouts, Inc. SN 161,532. Pub. 5-19-64. Filed 1-28-63.

774,597. GO STEADY WITH FIANCEES. Clark Shoe Company, Inc. SN 161,685. Pub. 5-19-64. Filed 1-30-63.

774,598. FIGURE FAIR. Genesco Inc. SN 162,742. Pub. 8-27-63. Filed 2-14-63.

774,599. GINO SAVINA. Joy Imports Inc. SN 162,954. Pub. 5-19-64. Filed 2-18-63.

774,600. FRANCHETTI IMPERIALS AND DESIGN. Thomas R. Callahan. SN 163,113. Pub. 5-19-64. Filed 2-20-63.

774,601. CAPE COD. Chas. Porder Mfg., Inc. SN 163,581. Pub. 5-19-64. Filed 2-27-63.

774,602. MR. MANLY. Freeman Shoe Corporation, d.b.a. Freeman Shoe Corp. SN 163,623. Pub. 5-19-64. Filed 2-28-63.

774,603. STORMALONG AND DESIGN. Picariello & Singer, Inc. SN 163,961. Pub. 5-19-64. Filed 3-5-63.

774,604. BETMAR. Betmar Hats, Inc. SN 164,502. Pub. 5-19-64. Filed 3-13-63.

774,605. SHETLEE-LASS. Cardinal Knitting Mills, Inc. SN 164,507. Pub. 5-19-64. Filed 3-13-63.

774,606. SATURNS. Given Brothers, Incorporated. SN 164,521. Pub. 5-19-64. Filed 3-13-63.

774,607. LIZETTE. Herbert Levine, Inc. SN 164,733. Pub. 5-19-64. Filed 3-15-63.

774,608. BELLECREST AND DESIGN. National Bellas Hess, Inc. SN 165,152. Pub. 5-19-64. Filed 3-21-63.

774,609. FANCIFUL FIGURE (DESIGN). Norman Shuman, d.b.a. Coquette. SN 165,464. Pub. 5-19-64. Filed 3-26-63.

774,610. SONNET. James Southall & Company Limited. SN 165,467. Pub. 5-19-64. Filed 3-26-63.

774,611. PATCHES BY SCHIFFI. Ilene B. Schiffman, d.b.a. Tweed. SN 165,536. Pub. 5-19-64. Filed 3-27-63.

774,612. THE WOODBRIAR COLLECTION. Hickey-Freeman Company. SN 166,384. Pub. 5-19-64. Filed 4-9-63.

774,613. QUAKER WELTS. Quaker Shoe Corporation. SN 166,486. Pub. 5-19-64. Filed 4-10-63.

774,614. SLIM-PORT. Joseph M. Klein, Inc. SN 166,808. Pub. 5-19-64. Filed 4-16-63.

774,615. TURTLE-MATE. Savada Bros., Inc. SN 168,962. Pub. 5-19-64. Filed 5-15-63.

774,616. HIDE-A-WAY. Super-Form Brassiere, Inc. SN 169,323. Pub. 5-19-64. Filed 5-20-63.

774,617. WINDSOR SHOP AND DESIGN. Selber Bros., Inc. SN 169,573. Pub. 5-19-64. Filed 5-23-63.

774,618. AUBURN. Tam O'Shanter, Inc. SN 170,122. Pub. 5-19-64. Filed 5-31-63.

774,619. HATHERLY. Tam O'Shanter, Inc. SN 170,123. Pub. 5-19-64. Filed 5-31-63.

774,620. DEL-TEX. Superba Cravats, Inc. SN 170,236. Pub. 5-19-64. Filed 6-3-63.

774,621. SPORT TREDS. Gold Seal Rubber Company. SN 170,402. Pub. 5-19-64. Filed 6-5-63.

774,622. YOUNG 'N HEART. Super-Form Brassiere, Inc. SN 170,776. Pub. 5-19-64. Filed 6-11-63.

774,623. MARK OF 8TH AVE. AND DESIGN. Mark Trouser Mfg. Corp. SN 170,845. Pub. 5-19-64. Filed 6-12-63.

774,624. KIKI SATINETTE. Kiki Undies Corporation. SN 171,888. Pub. 5-19-64. Filed 6-26-63.

774,625. TAB DESIGN. Levi Strauss & Co. SN 171,283. Pub. 6-9-64. Filed 6-18-63.

774,626. HI-WIRE. Maidenform, Inc. SN 172,925. Pub. 5-19-64. Filed 7-12-63.

774,627. ASHBROOK. Ashbrook Hosiery Company. SN 172,965. Pub. 5-19-64. Filed 7-15-63.

774,628. AIR-FILM. The Dorsey Company. SN 173,437. Pub. 5-19-64. Filed 7-22-63.

774,629. KIMBERLY AND DESIGN. Kimberly Knitwear, Inc. SN 173,581. Pub. 5-19-64. Filed 7-23-63.

774,630. BLUE BELL. Blue Bell, Inc. SN 173,622. Pub. 5-19-64. Filed 7-24-63.

774,631. QUALITAG AND DESIGN. Blue Bell, Inc. SN 173,623. Pub. 5-19-64. Filed 7-24-63.

774,632. COLUMBRET. Columbus Corporation, Council 531. SN 173,899. Pub. 5-19-64. Filed 7-29-63.

774,633. MELLO-MATES. Phyllis Shoe Company, Inc. SN 173,953. Pub. 5-19-64. Filed 7-29-63.

774,634. CONSENT. Patrick Industries, Inc. SN 174,121. Pub. 5-19-64. Filed 7-31-63.

774,635. SOPHISTI QUETTES. Marylene Hosiery Co. SN 174,278. Pub. 5-19-64. Filed 8-2-63.

774,636. CARLTON DEB. Lady Carlton Coat Company, Incorporated. SN 174,511. Pub. 5-19-64. Filed 8-6-63.

774,637. TARLETON. The May Department Stores Company. SN 174,522. Pub. 5-19-64. Filed 8-6-63.

774,638. TARLETON TOTS. The May Department Stores Company. SN 174,523. Pub. 5-19-64. Filed 8-6-63.

774,639. WM. F AND DESIGN. Federated Department Stores Inc., d.b.a. Wm. Filene's Sons Company. SN 174,555. Pub. 5-19-64. Filed 8-12-63.

774,640. TRIKINI. Janie Originals, Inc. SN 174,963. Pub. 5-19-64. Filed 8-13-63.

774,641. IMPERIA. The Joseph & Feiss Company. SN 175,856. Pub. 5-19-64. Filed 8-27-63.

774,642. BERKSHIRE B. Berkshire International Corporation. SN 176,480. Pub. 5-19-64. Filed 9-9-63.

774,643. WORLD TRAVELER. Hat Corporation of America. SN 176,732. Pub. 5-19-64. Filed 9-11-63.

774,644. CAMP. Camp and McInnes, Inc. SN 179,866. Pub. 5-19-64. Filed 10-28-63.

Class 40 — Fancy Goods, Furnishings, and Notions

774,645. CLEOPATRA. H. Goodman & Sons, Inc. SN 141,066. Pub. 5-19-64. Filed 3-29-62.

774,646. SHELDON. John P. Sheldon, Inc., d.b.a. The Sheldon Company. SN 146,674. Pub. 5-19-64. Filed 6-11-62.

774,647. ARDEE. Ardee Merchandise Corp., assignee of R.D. Merchandising Corp. SN 165,526. Pub. 5-19-64. Filed 3-27-63.

774,648. ARTISAN. Amerace Corporation. SN 183,723. Pub. 5-19-64. Filed 12-30-63.

Class 41 — Canes, Parasols, and Umbrellas

774,649. PRIMUS. Kortenbach & Rauh Kommanditgesellschaft. SN 174,104. Pub. 5-19-64. Filed 7-31-63.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

774,650. SUWIDE. N.V. Helmondsche Textiel Maatschappij (N.V. Helmond Textile Company). SN 156,750. Pub. 5-19-64. Filed 11-6-62.

774,651. STROOCK AMERICA'S MOST DISTINGUISHED WOOLENS. Ramco Enterprises, Inc. SN 167,163. Pub. 5-19-64. Filed 4-19-63.

774,652. BLENDS INC. Blends, Inc. SN 169,206. Pub. 5-19-64. Filed 5-20-63.

774,653. PERMA-FAB. Herbert Glatt, d.b.a. Magla Products. SN 172,740. Pub. 5-19-64. Filed 7-10-63.

774,654. KOMFY-KOVER. Hi-Command Products, Inc. SN 173,842. Pub. 5-19-64. Filed 7-26-63.

774,655. SUN & SUDS. Courtaulds (Canada) Limited. SN 173,901. Pub. 5-19-64. Filed 7-29-63.

774,656. ANDIAMEAU. Fieldcrest Mills, Inc. SN 173,904. Pub. 5-19-64. Filed 7-29-63.

774,657. MRS. INSIDE. The Buxbaum Company. SN 174,338. Pub. 5-19-64. Filed 8-5-63.

774,658. NOUVELLA. J. P. Stevens & Co., Inc. SN 179,370. Pub. 5-19-64. Filed 10-18-63.

774,659. AMPO. Amos-Thompson Corporation. SN 179,585. Pub. 5-19-64. Filed 10-23-63.

774,660. DURASEC. The United Piece Dye Works. SN 179,965. Pub. 5-19-64. Filed 10-28-63.

Class 43 — Thread and Yarn

774,661. KRISPGLO. American Enka Corporation. SN 179,101. Pub. 5-19-64. Filed 10-16-63.

774,662. PURELOK. American Enka Corporation. SN 179,383. Pub. 5-19-64. Filed 10-21-63.

774,663. FILCOT. The American Thread Company. SN 179,583. Pub. 5-19-64. Filed 10-23-63.

774,664. FILCO. The American Thread Company. SN 179,584. Pub. 5-19-64. Filed 10-23-63.

774,665. COLORON. United Yarn Products Company, Inc. SN 179,673. Pub. 5-19-64. Filed 10-23-63.

Class 44 — Dental, Medical, and Surgical Appliances

774,448. (See Class 21 for this trademark.)

774,666. AIR-BAND. Jobst Institute, Inc. SN 173,005. Pub. 5-19-64. Filed 7-15-63.

774,667. TRAINEAR. Maico Electronics, Inc. SN 173,772. Pub. 5-19-64. Filed 7-25-63.

774,668. PRECISION EAR. Maico Electronics, Inc. SN 173,773. Pub. 5-19-64. Filed 7-25-63.

774,669. DENTURFIT. The Dental Products Corporation. SN 176,783. Pub. 5-19-64. Filed 9-12-63.

774,670. PLIA-STOR. Abbott Laboratories. SN 177,672. Pub. 5-19-64. Filed 9-25-63.

774,671. TRUSONIC. Jacob A. Saffir. SN 178,225. Pub. 5-19-64. Filed 10-2-63.

774,672. VINACRYL. George J. Taub, d.b.a. George Taub Products. SN 178,376. Pub. 5-19-64. Filed 10-4-63.

774,673. JOHNSON & JOHNSON. Johnson & Johnson. SN 179,138. Pub. 5-19-64. Filed 10-16-63.

774,674. MIRACLE MASSAGE AND DESIGN. Melvin Parker, d.b.a. Miracle Massage Co. SN 180,952. Pub. 5-19-64. Filed 11-12-63.

774,675. NONZINCOMAT. Firma Dr. Walter U. Schmitt GmbH. SN 182,442. Pub. 5-19-64. Filed 12-5-63.

774,676. HALL. The Aro Corporation. SN 182,565. Pub. 5-19-64. Filed 12-9-63.

Class 45 — Soft Drinks and Carbonated Waters

774,677. BRIMFULL. Red Owl Stores, Inc., d.b.a. Lakeland Grocery Co. SN 179,179. Pub. 5-19-64. Filed 10-14-63.

Class 46 — Foods and Ingredients of Foods

774,678. FOOD FAIR AND DESIGN. Food Fair Stores, Inc. SN 111,596. CONCURRENT USE. Pub. 2-18-64. Filed 1-10-61.

774,679. MEL-FRY. The Glidden Company, d.b.a. Durkee Famous Foods. SN 158,701. Pub. 5-19-64. Filed 12-7-62.

774,680. KING FROST AND DESIGN. John Hawks Tasker, d.b.a. Chef's Kitchen. SN 163,429. Pub. 5-19-64. Filed 2-25-63.

774,681. FLAVOR MATE. New England Food Sales Incorporated. SN 166,576. Pub. 5-19-64. Filed 4-11-63.

774,682. TIDY PAK. William J. Law, d.b.a. National Distributors Company. SN 166,813. Pub. 5-19-64. Filed 4-16-63.

774,683. CHEEZ NUGGETS. Old London Foods, Inc. SN 176,671. Pub. 5-19-64. Filed 9-10-63.

774,684. SWEET PEPPERELL. Sweet Pepperell, Inc. SN 176,758. Pub. 5-19-64. Filed 9-11-63.

774,685. MR C TURNS INTO 3 AND DESIGN. Charles Schaumburger, Inc. SN 176,964. Pub. 5-19-64. Filed 9-13-63.

774,686. WOMAN'S HEAD AND LACE OVAL (DESIGN). Chesterton Candy Company, d.b.a. Mrs. Leland's Kitchens. SN 177,399. Pub. 5-19-64. Filed 9-20-63.

774,687. MAGIC SLICE. Armour and Company, d.b.a. Armour Creameries. SN 179,764. Pub. 5-19-64. Filed 10-25-63.

774,688. COUNTRY CORNER. Good Humor Corporation. SN 183,054. Pub. 5-19-64. Filed 12-16-63.

774,689. HORSE PERKIES. Corn Products Company. SN 183,160. Pub. 5-19-64. Filed 12-17-63.

774,690. PALM TREET. Richard C. Dunkelberger. SN 183,162. Pub. 5-19-64. Filed 12-17-63.

774,691. FERMAZYME. Bowman Feed Products, Inc. SN 183,492. Pub. 5-19-64. Filed 12-24-63.

774,692. COAT OF ARMS ETC. AND DESIGN. W. B. Camp & Sons, Inc. SN 183,493. Pub. 5-19-64. Filed 12-24-63.

774,693. DRAGO. Bison Canning Co., Inc. SN 183,728. Pub. 5-19-64. Filed 12-30-63.

774,694. MINTOSYNTH. Florasynth Laboratories, Incorporated. SN 183,905. Pub. 5-19-64. Filed 1-3-64.

Class 47 — Wines

774,695. GROTESQUE HUMAN (DESIGN). S. F. & O. Hallgarten. SN 173,355. Pub. 5-19-64. Filed 7-19-63.

774,696. DELOR. Societe Anonyme A. Delor & Cie, d.b.a. A. Delor & Co. SN 173,871. Pub. 5-19-64. Filed 7-26-63.

Class 49 — Distilled Alcoholic Liquors

774,697. THISTLE SCOTCH. Slater, Rodger & Company, Limited. SN 159,364. Pub. 5-19-64. Filed 12-18-62.

774,698. SPUDKA AND DESIGN. Hood River Distillers, Inc., d.b.a. Northwestern Distillers. SN 161,994. Pub. 5-19-64. Filed 2-4-63.

774,699. SEGUIN AND DESIGN. Maison E. Remy Martin & Co. SN 174,597. Pub. 5-19-64. Filed 8-7-63.

Class 50 — Merchandise Not Otherwise Classified

774,333. (See Class 6 for this trademark.)

774,700. BOBSON. W. Goebel Porzellanfabrik Oeslau und Wilhelmsfeld. SN 106,254. Pub. 7-10-63. Filed 10-12-60.

774,701. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,974. Pub. 9-17-63. Filed 8-27-62.

774,702. RIWI. Douglas Equipment & Supply Co. Inc. SN 169,708. Pub. 5-19-64. Filed 5-27-63.

774,703. DYMO AND DESIGN. Dymo Industries, Inc. SN 170,527. Pub. 5-19-64. Filed 6-7-63.

774,704. B AND DESIGN. Owens-Illinois Glass Corporation. SN 175,508. Pub. 5-19-64. Filed 8-21-63.

774,705. THERMO-CUSHION-GRIP. Ohio Table Pad Company. SN 183,331. Pub. 5-19-64. Filed 12-20-63.

774,706. ROWLUX. Rowland Products Incorporated. SN 183,460. Pub. 5-19-64. Filed 12-23-63.

Class 51 — Cosmetics and Toilet Preparations

774,707. TINTETTE. Caryl Richards, Inc. SN 86,064. Pub. 2-7-61. Filed 11-25-59.

774,708. SIR-O-LENE. Siroil Laboratories, Inc. SN 87,078. Pub. 2-6-62. Filed 12-10-59.

774,709. BUBBLE CLUB. Parex Corporation, Ltd. SN 172,099. Pub. 3-10-64. Filed 6-28-63.

774,710. BEACON. Dartmouth Marketing Co., Inc. SN 177,161. Pub. 5-19-64. Filed 9-17-63.

774,711. WOOD SMOKE. Harbour Islanders, Ltd. SN 178,609. Pub. 5-19-64. Filed 10-9-63.

774,712. NIFTY DOGGIE. Payne Products Company. SN 178,721. Pub. 5-19-64. Filed 10-10-63.

774,713. NETWORK. Turner Hall Corporation. SN 178,748. Pub. 5-19-64. Filed 10-10-63.

Class 52 — Detergents and Soaps

774,321. (See Class 4 for this trademark.)

774,714. HYDROFIL. Dr. Robert J. Morrison, d.b.a. Morrison Laboratories. SN 129,516. Pub. 5-19-64. Filed 10-9-61.

774,715. KEM-KLEEN. The Chemical Cleaning Products Company. SN 132,123. Pub. 7-17-62. Filed 11-16-61.

774,716. SHOPPER'S FAIR. Mangel Stores Corporation. SN 151,975. Pub. 9-17-63. Filed 8-27-62.

774,717. SPEED KING AND DESIGN. Paul C. Vasel, d.b.a. Schmidt Sales Company. SN 154,871. Pub. 6-11-63. Filed 5-25-62.

774,718. UDDERDINE. Britex Corporation. SN 170,286. Pub. 5-19-64. Filed 6-4-63.

774,719. HOME SALON. Avon Products, Inc. SN 176,875. Pub. 5-19-64. Filed 9-13-63.

774,720. KILTY. Kilty Products, Inc., assignee of Peterberg, Inc. SN 178,813. Pub. 5-19-64. Filed 10-11-63.

774,721. DEXET. The Dow Chemical Company. SN 179,126. Pub. 5-19-64. Filed 10-16-63.

Service Marks

Class 101 — Advertising and Business

774,722. FOUR STAR AND DESIGN. Four Star Television. SN 97,195. Pub. 7-4-61. Filed 5-16-60.

774,723. FOOD FAIR. Food Fair Stores, Inc. SN 111,968. CONCURRENT USE. Pub. 2-18-64. Filed 1-17-61.

774,724. SI SENOR ETC. AND DESIGN. Thomas Harrison, d.b.a. Al Harrison Company, Distributors. SN 154,851. Pub. 5-19-64. Filed 10-2-62.

774,725. TRADE ROUTES AND DESIGN. Sheridan P. Gorman, d.b.a. Trade Routes. SN 171,250. Pub. 5-19-64. Filed 6-18-63.

Class 102 — Insurance and Financial

774,726. WASHINGTON MONUMENT AND CAPITOL BUILDING IN CIRCLE DESIGN. District of Columbia National Bank. SN 175,561. Pub. 5-19-64. Filed 8-22-63.

Class 104 — Communication

774,727. TELTEX AND DESIGN. The Western Union Telegraph Company. SN 154,185. Pub. 4-23-63. Filed 9-28-62.

Class 106 — Material Treatment

774,728. ALL AMERICAN AND EAGLE DESIGN. Cher-O-Kee Photofinishers, Inc., d.b.a. All American Film Service. SN 174,574. Pub. 5-19-64. Filed 8-7-63.

Collective Membership Mark

Class 200

774,729. ANS AND DESIGN. American Nuclear Society Incorporated. SN 179,513. Pub. 5-19-64. Filed 10-22-63.

Certification Mark

Class A — Goods

774,730. IIA ETC. AND DESIGN. Incinerator Institute of America. SN 182,183. Pub. 5-19-64. Filed 12-2-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 10 — Fertilizers

774,731. Smith-Douglas Company, Inc., Norfolk, Va. SN 175,807. Filed P.R. 8-26-63; Am. S.R. 6-5-64.

BEAN BOOSTER

For Fertilizer.
First use Dec. 21, 1962.

Class 14 — Metals and Metal Castings and Forgings

774,732. Anaconda Aluminum Company, Louisville, Ky. SN 166,058. Filed P.R. 4-4-63; Am. S.R. 4-30-64.

"THE BEST THING NEXT TO FOOD!"

For Aluminum Foil.
First use Mar. 5, 1963.

Class 19 — Vehicles

774,733. Anchor Plastics, Inc., Gatesville, Tex. SN 126,901. Filed P.R. 8-30-61; Am. S.R. 5-27-64.

DECK BOAT

For Boats and Parts Thereof.
First use on or about June 20, 1960.

Class 22 — Games, Toys, and Sporting Goods

774,734. Star Manufacturing Company, Leominster, Mass. SN 166,642. Filed P.R. 5-10-63; Am. S.R. 6-9-64.

TOY GO ROUND

For Child's Toy.
First use Apr. 18, 1963.

774,735. Warren D. Hubbard, Jr., d.b.a. Hubs Lures, Indianapolis, Ind. SN 180,396. Filed P.R. 11-4-63; Am. S.R. 6-5-64.

SPARKLE TAIL

For Fishing Lures.
First use on or about Jan. 22, 1962.

Class 26—Measuring and Scientific Appliances

774,736. Trippensee Planetarium Co., Inc., Saginaw, Mich. SN 148,438. Filed P.R. 7-5-62; Am. S.R. 4-27-64.

ELEMENTARY

For Planetariums and Parts Thereof.
First use Dec. 27, 1961.

Class 27—Horological Instruments

774,737. Benrus Watch Company, Inc., New York, N.Y. SN 169,004. Filed P.R. 5-16-63; Am. S.R. 6-3-64.

DEMING

For Watches.
First use Apr. 22, 1963.

Class 28—Jewelry and Precious-Metal Ware

774,738. M. Weingrod Company, Milwaukee, Wis. SN 151,550. Filed P.R. 8-20-62; Am. S.R. 6-5-64.

Fine Design

For Jewelry.
First use July 1, 1961.

Class 38—Prints and Publications

774,739. W. F. Straub & Company, Chicago, Ill. SN 156,178. Filed P.R. 10-29-62; Am. S.R. 11-12-63.

HONEY DIGEST

For Trade News Letter.
First use Sept. 17, 1962.

774,740. Cadle-Larned Publishing Corporation, Greenwich, Conn. SN 163,526. Filed P.R. 2-27-63; Am. S.R. 6-5-64.

HOSPITAL & SCHOOL FEEDING

For Magazine Published Periodically.
First use Jan. 14, 1963.

774,741. Bee Chemical Company, Lansing, Ill. SN 169,606. Filed P.R. 5-24-63; Am. S.R. 5-27-64.

FINISHING news METALS & PLASTICS

For Company Magazine.
First use Mar. 18, 1963.

774,742. Union Carbide Corporation, New York, N.Y. SN 173,069. Filed P.R. 7-15-63; Am. S.R. 6-4-64.

SILICOLOGY

For Trade Journal.
First use on or about May 24, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

774,743. Henry C. Levy, Brooklyn, N.Y. SN 160,492. Filed P.R. 1-10-63; Am. S.R. 11-7-63.

Treeko

For Knitted Fabrics in the Piece of Cotton, Rayon, Polyester Fibres and Combinations Thereof.
First use Oct. 31, 1962.

Class 46—Foods and Ingredients of Foods

774,744. Floyd C. Ford, d.b.a. F & F Sales Company and as Korn Dog Co., Dallas, Tex. SN 144,482. Filed P.R. 5-14-62; Am. S.R. 6-5-64.



The drawing is lined to indicate the color red.
For Corn Meal Mix for Special Use on Frankfurters.
First use Sept. 7, 1948.

774,745. Clement Bros., Louisville, Idaho. SN 165,268. Filed P.R. 3-22-63; Am. S.R. 3-4-64.

IDAHO'S BEST—THE NATION'S FINEST

For Fresh and Dehydrated Potato Products.
First use 1947.

774,746. Continental Confections, Inc., Westbury, N.Y. SN 176,781. Filed P.R. 9-12-63; Am. S.R. 5-18-64.

RAINBOW TORTE

For Baked Goods of the Nature of Tortes.
First use Apr. 18, 1963.

Class 51—Cosmetics and Toilet Preparations

774,747. Helene Curtis Industries, Inc., Chicago, Ill. SN 119,683. Filed P.R. 5-10-61; Am. S.R. 6-5-64.

COLOR ESSENCE

For Hair Coloring Preparation.
First use on or about Feb. 2, 1961.

774,748. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 143,540. Filed P.R. 5-1-62; Am. S.R. 6-5-64.

ORANGE ORBIT

For Lipstick.
First use Mar. 19, 1962.

774,749. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,719. Filed P.R. 5-29-62; Am. S.R. 6-5-64.

EXTRA RED

For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

774,750. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,720. Filed P.R. 5-29-62; Am. S.R. 6-5-64.

ROVING RED

For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

774,751. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 146,520. Filed P.R. 7-3-62; Am. S.R. 6-5-64.

ROSE CARNATION

For Nail Enamel.
First use May 28, 1962.

Service Mark

Class 102—Insurance and Financial

774,752. Cash Credit Corporation, Des Moines, Iowa. SN 192,154. Filed 4-28-64.



For Personal Loan Services.
First use Aug. 15, 1962.

TRADEMARK REGISTRATIONS RENEWED

180,302. PEEK-IN. Cl. 46. 2-26-24.
183,124. NUN-X-L. Cl. 37. 4-22-24.
185,461. HYPOWER. Cl. 22. 4-29-24.
185,220. LITTLE WIZARD. Cl. 34. 6-10-24.
186,088. ROYAL SEAL. Cl. 46. 7-1-24.
186,569. SOLE MATE AND DESIGN. Cl. 39. 7-22-24.
187,181. HANDY-ROLL AND DESIGN. Cl. 37. 7-29-24.
187,879. DUXPAR. Cl. 16. 8-12-24.
188,117. PREMIER. Cl. 46. 8-19-24.
190,013. SNUGFIT AND DESIGN. Cl. 39. 9-30-24.
191,464. SOPEX. Cl. 52. 11-11-24.
191,516. DUX-BAK. Cl. 50. 11-11-24.
191,594. CONDEX. Cl. 21. 11-11-24.
192,086. BRILLOX. Cl. 51. 11-25-24.
192,285. GENERAL RADIO CO. GR AND DESIGN. Cl. 26. 12-2-24.
407,046. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 3. 5-16-44.
407,120. NAVAJO ARTS & CRAFTS GUIILD. Cl. 22. 5-16-44.
407,184. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 42. 5-23-44.
407,185. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 39. 5-23-44.
407,255. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 3. 5-23-44.
407,256. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 39. 5-23-44.
407,257. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 40. 5-23-44.
407,263. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 42. 5-23-44.
407,342. NAVAJO ARTS AND CRAFTS GUILD AND DESIGN. Cl. 3. 5-30-44.
407,344. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 28. 5-30-44.
407,345. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 42. 5-30-44.
407,347. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 2. 5-30-44.
407,348. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 22. 5-30-44.
407,350. R & H AND DESIGN. Cl. 21. 5-30-44.
407,393. MOTOR LIFE. Cl. 15. 6-6-44.
407,449. KITCHEN MAID. Cl. 32. 6-6-44.
407,502. NAVAJO ARTS & CRAFTS GUILD AND DESIGN. Cl. 38. 6-6-44.
407,507. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 28. 6-6-44.
407,508. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 50. 6-6-44.
407,531. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 22. 6-6-44.
407,532. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 2. 6-6-44.
407,533. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 32. 6-6-44.
407,583. VULNOFIX. Cl. 44. 6-13-44.
407,595. TESTMASTER. Cl. 26. 6-13-44.
407,613. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 23. 6-13-44.
407,662. CAL-WISA AND DESIGN. Cl. 47. 6-20-44.
407,678. REP. Cl. 6. 6-20-44.

407,718. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 38. 6-20-44.
407,720. NANTEX AND DESIGN. Cl. 39. 6-20-44.
407,722. OLD BLUE RIBBON. Cl. 49. 6-20-44.
407,902. SEMINOLE ARTS AND CRAFTS AND DESIGN. Cl. 19. 7-4-44.
408,004. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 40. 7-11-44.
408,488. CLEANAMEL. Cl. 52. 8-15-44.
408,752. FURNITURE DOCTOR. Cl. 52. 8-29-44.
408,776. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 39. 8-29-44.
409,093. NEOVICAPS. Cl. 18. 9-12-44.
409,156. CONDUCOTE. Cl. 21. 9-19-44.
409,156. GRIP-TEX. Cl. 4. 9-19-44.
409,157. GRIP-TEX. Cl. 4. 9-19-44.
409,243. NORTHERN PLAINS INDIANS CRAFTS ASSOCIATION AND DESIGN OF BUFFALO. Cl. 28. 9-26-44.
409,659. LINCOLNWELD. Cl. 34. 10-17-44.
410,351. JIMINY. Cl. 42. 11-21-44.
410,352. KAJAK. Cl. 42. 11-21-44.
410,353. SUNTEGRA. Cl. 42. 11-21-44.
410,493. LINCOLNWELD. Cl. 34. 11-28-44.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

564,477. KNOTTY PINE. Cl. 46. 9-23-52.
763,467. MONACO. Cl. 27. 1-21-64.

Section 8

657,203. DARI. Cl. 46. 1-14-58.

The following registrations issued June 17, 1958

662,933. BELEMAR FARM. Cl. 1.
662,941. DISPENSETTE. Cl. 2.
662,950. 3-A-T AND DESIGN. Cl. 6.
662,955. CLOREGAL. Cl. 6.
662,961. HEX-O-BUNT. Cl. 6.
662,963. CITROMULS. Cl. 6.
662,965. COPPERMYCIN. Cl. 6.
662,966. BLUEMYCIN. Cl. 6.
662,970. KYLOMUL. Cl. 6.
662,971. FOAM-PACK. Cl. 6.
662,972. SABLE. Cl. 9.
662,973. ROLANDSHUTTE. Cl. 12.
662,975. DURALITH. Cl. 12.
662,987. HYDRACRETE. Cl. 12.
662,989. CAMARGE AND DESIGN. Cl. 13.
662,991. DEW-O-MATIC. Cl. 13.
662,992. CB AND DESIGN. Cl. 13.
662,998. LAKER. Cl. 13.
663,011. KYLOVIS. Cl. 15.
663,012. KYLOPOUR. Cl. 15.
663,013. KYLOKEM. Cl. 15.
663,019. PERMA-PLATE. Cl. 16.
663,031. ORBACINE. Cl. 18.
663,039. ORPHENADRINE. Cl. 18.
663,044. DECAPRYN. Cl. 18.
663,045. PARENCILLIN. Cl. 18.
663,049. RELSOR. Cl. 18.
663,052. ROLL-IT. Cl. 19.
663,053. BASSICK BEAVER. Cl. 19.
663,061. W MONOGRAM AND DESIGN. Cl. 21.
663,062. CENSOR. Cl. 21.
663,063. PIXTUBE. Cl. 21.
663,068. AGENDASCOPE. Cl. 21.
663,069. POLYCLAD. Cl. 21.
663,070. CONTROL PAC AND DESIGN. Cl. 21.
663,075. ADD-A-PART. Cl. 21.
663,079. DOUBLE DECKER. Cl. 21.
663,082. KIM. Cl. 22.
663,086. GOODY-GOODY. Cl. 22.
663,087. FISH HOUSE BAITS AND DESIGN. Cl. 22.
663,095. BLUE TEMPER. Cl. 23.
663,102. PORTOMATIC. Cl. 23.
663,107. O'BRIEN DICE-O-MATIC. Cl. 23.
663,110. VIBROFLEX. Cl. 23.
663,113. AMERICAN GIRL. Cl. 23.
663,114. MADEMOISELLE. Cl. 23.
663,115. MISS UNIVERSE. Cl. 23.
663,122. EMES. Cl. 26.
663,123. NK AND DESIGN. Cl. 26.
663,126. PATWIN. Cl. 26.
663,139. NOSPRINGCO. Cl. 32.
663,140. BOCRA. Cl. 32.
663,141. CONSTANT COMFORT. Cl. 32.
663,142. TOP BRASS. Cl. 32.
663,143. TOYKEEPER. Cl. 32.
663,144. DESIGN OF PLAYING CARD. Cl. 32.
663,145. SADDLETONE. Cl. 32.
663,149. COOK-BOY. Cl. 34.
663,151. SCARFOGRAPH. Cl. 34.
663,152. EUREKA WILLIAMS GAS-O-MATIC AND DESIGN. Cl. 34.
663,153. 'BRAZE-O-MATIC.' Cl. 34.
663,154. COOL-PAK. Cl. 35.
663,158. CORRO-TRIM. Cl. 37.
663,164. "SENTIMENTALLY YOURS." Cl. 38.
663,166. BY DOCCO CAMPUS CARDS AND DESIGN. Cl. 38.
663,171. AMUSEMENT VARIETY. Cl. 38.
663,172. ENVY. Cl. 39.
663,174. CO-ED SPORTS. Cl. 39.
663,179. BERKELEY SQUARE. Cl. 39.
663,186. DINACURL. Cl. 39.
663,194. SKERMUDA. Cl. 39.
663,195. MINNYS. Cl. 39.
663,196. WOOLYNELLA. Cl. 39.
663,200. MR. HALLOWE'EN. Cl. 39.
663,202. GULLIVER'S TRAVELS. Cl. 39.
663,203. THE WESTERN PRINCE. Cl. 39.
663,208. TINY TOTS. Cl. 42.
663,210. FILT-RITE. Cl. 42.
663,211. VISIONAIRE. Cl. 42.
663,214. NU-LOOK. Cl. 42.
663,215. PILLAR OF FASHION AND DESIGN. Cl. 42.
663,216. WINK. Cl. 42.
663,223. GUIDE-O-MATIC AND DESIGN. Cl. 44.
663,226. VIMETS. Cl. 46.
663,229. JUNE IN JANUARY. Cl. 46.
663,231. CORVETTE. Cl. 47.
663,237. FORTIFICATION AND DESIGN. Cl. 49.
663,239. SOLOTEX. Cl. 50.
663,240. COLOTEX. Cl. 50.
663,241. BOURGES TEX. Cl. 50.
663,242. BI. Cl. 50.
663,244. SLOTAN. Cl. 51.
663,245. PASSPORT TO PARIS. Cl. 51.
663,251. PHYOTRICHINE. Cl. 51.
663,252. CLORONITE. Cl. 52.
663,254. PRESTO-BRITE. Cl. 52.
663,266. NTA AND DESIGN. Cl. 200.
663,267. CHICAGO TRUCK DRIVERS ETC. Cl. 200.
663,273. A GLOVER PRODUCT AND DESIGN. Cl. 32.

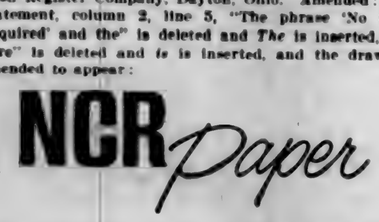
TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

407,714. Z. Cl. 21. 6-20-44. Zenith Radio Corporation, Chicago, Ill. Amended to appear:



608,048. HILTONE. Cl. 11. 7-19-55. Sterling Drug Inc., New York, N.Y. Corrected: In the certificate, lines 4 and 15 and in the statement, column 1, line 1, ", Inc." should be deleted and *Inc.* should be inserted.

614,432. NCR PAPER. Cl. 37. 10-18-55. The National Cash Register Company, Dayton, Ohio. Amended: In the statement, column 2, line 5, "The phrase 'No Carbon Required' and the" is deleted and *The* is inserted, line 6 "are" is deleted and *is* is inserted, and the drawing is amended to appear:



678,052. ELECTRO. Cl. 26. 5-5-59. Electro Products Laboratories, Inc., Chicago, Ill. Amended: In the statement, column 2, line 5, "and kits con-" is deleted, lines 6 and 7 are deleted and in line 8, "power supplies." is deleted.

678,179. SAFEWAY S AND DESIGN. Cl. 46. 5-5-59. Safeway Stores, Incorporated, Oakland, Calif. Amended to appear:



682,236. SOFT WALKS. Cl. 39. 7-21-59. Knipe Bros.-Ward Hill Shoes, Inc., Gardiner, Me. Amended to appear:



755,194. GLEN MIST. Cl. 49. 8-20-63. Savermo Limited, London, England. Amended: In the statement, column 1, after line 1, *trading and doing business as The Glen Mist Liqueur Company* is inserted.

765,225. LONG JOHN ETC. AND DESIGN. Cl. 49. 2-18-64. Long John Distilleries, Limited, doing business as Long John Distilleries, London, England. Corrected: There is substituted for the original copy in the registration file, the corrected reprint, and in column 2, line 14, "577,850" should be deleted and *577,805* should be inserted.

770,476. ZOOM. Cl. 47. 5-26-64. Danforth Wines Limited, Toronto, Canada. Corrected: In the statement, column 2, lines 1 and 2, the description of goods should be deleted and *wine* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(e), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

432,728. SIR BARTON'S AND DESIGN. Cl. 6. Sir Barton's, Inc. 9-9-47. New Cert. Sec. 7(e) to Pro-Capa Products, Inc., Brooklyn, N.Y.

536,989. SONNETT CRAFT BUILT AND DESIGN. Cl. 22. Ohio-Kentucky Manufacturing Co. 1-23-51. New Cert. Sec. 7(e) to Wilson Sporting Goods Co., River Grove, Ill.

588,844. SONNETT. Cl. 22. Ohio-Kentucky Manufacturing Co. 4-20-54. New Cert. Sec. 7(e) to Wilson Sporting Goods Co., River Grove, Ill.

657,397. OK. Cl. 22. Ohio-Kentucky Manufacturing Company. 1-21-58. New Cert. Sec. 7(e) to Wilson Sporting Goods Co., River Grove, Ill.

752,340. OVEN-GARD. Cl. 6. Afta Solvents Corp. 7-9-63. New Cert. Sec. 7(e) to The Drackett Company, Cincinnati, Ohio.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 6—Chemicals and Chemical Compositions

300,602. Jan. 24, 1933. Carbide and Carbon Chemicals Corporation, New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

SYNASOL

For Denatured Alcohol and Alcohol Other Than Pure Ethyl Alcohol for Various Uses in the Industrial Arts.

329,716. Nov. 5, 1935. Niacet Chemicals Corporation, Niagara Falls, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

SOA

For Sugar Esters for Various Uses in the Industrial Arts.

367,605. May 23, 1939. Carbide and Carbon Chemicals Corporation, New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

KROMFAX

For Solvents for Dyestuffs.

393,239. Jan. 27, 1942. Carbide and Carbon Chemicals Corporation, New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

MORLEX

For Chemical Preparations for Inhibiting Corrosion.

Class 16—Protective and Decorative Coatings

408,342. Aug. 8, 1944. United Gilsonite Laboratories, Scranton, Pa. Pub. by registrant.

LASTIDECK

For Roof Paints.

Class 21—Electrical Apparatus, Machines, and Supplies

348,178. July 20, 1937. The Prosperity Company, Inc., Syracuse, N.Y. Pub. by Ametek, Inc., New York, N.Y.

FORMATROL

For Motor Driven Timing Device for Effecting a "Make and Break" of One or More Electric Circuits for Automatically Controlling Washing Machines, Dry Cleaning Machines, and the Like.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

181,087. Mar. 11, 1924. Henry Disston & Sons, Incorporated, Tacony, Philadelphia, Pa. Pub. by H. K. Porter Company, Inc., Pittsburgh, Pa.

DURAFLEX

For Saws.

182,468. Apr. 8, 1924. Lidgerwood Manufacturing Company, New York, N.Y. Pub. by registrant.

LIDGERWOOD

For Hoisting, Digging, and Conveying Machinery and Parts Appurtenant Thereto.

348,241. Feb. 16, 1937. The Linde Air Products Company, New York, N.Y. Pub. by Union Carbide Corporation, New York, N.Y.

LIN-DE-SURFACER

For Machines Employing High Temperatures for the Elimination of Defects in the Surfaces of Metal Bodies.

406,291. Mar. 21, 1944. Henry Disston & Sons, Incorporated, Philadelphia, Pa. Pub. by H. K. Porter Company, Inc., Pittsburgh, Pa.

GREAT AMERICAN

For Hand Files.

406,701. Apr. 18, 1944. Mixermobile Manufacturers, Portland, Oreg. Pub. by Mixermobile Manufacturers, Inc., Portland, Oreg.

SCOOPMOBILE

For Vehicle Mounted Bulk Material Handling and Loading Apparatus.

Class 24—Laundry Appliances and Machines

308,594. Dec. 12, 1933. The Prosperity Company, Inc., Syracuse, N.Y. Pub. by Ametek, Inc., New York, N.Y.

PROSPERITY

For Garment Presses, Ironing Presses, Clothes Washing Machines, Drying Tumblers, and Dry Cleaning Wahers.

388,840. July 15, 1941. The Prosperity Company, Inc., Syracuse, N.Y. Pub. by Ametek, Inc., New York, N.Y.

PROSPERITY

For Hydro Extractors as Centrifugal Laundry Extractors.

Class 27—Horological Instruments

429,250. Apr. 29, 1947. Ulysse Nardin S.A., Le Locle, Switzerland. Pub. by registrant.

ULYSSE NARDIN

For Marine and Pocket Chronometers, Pocket Watches and Wrist Watches, Including Alarm and Calendar Watches.

Class 37—Paper and Stationery

67,090. Jan. 14, 1908. Bleistiftfabrik vormals Johann Faber Actien-Gesellschaft, Nuremberg, Germany. Pub. by A. W. Faber-Castell Pencil Co., Inc., Newark, N.J.

"JUPITER"

For Lead-Pencils, Colored Pencils, Copying-Pencils, Slate-Pencils, Pencils With Movable Leads.

183,022. Apr. 22, 1924. Societe Anonyme Crayons Conte, Regny and Paris, France. Pub. by Blansy-Conté-Gilbert S.A., Paris, France.

CONTE

For Crayons, Pencils and Rubber Erasers and Crayon Holders.

183,023. Apr. 22, 1924. Societe Anonyme Crayons Conte, Regny and Paris, France. Pub. by Blansy-Conté-Gilbert S.A., Paris, France.

CONTÉ À PARIS

For Crayons, Pencils and Rubber Erasers and Crayon Holders.

407,587. June 13, 1944. D. L. Dyer, Kansas City, Mo. Pub. by Western Art, Inc., Colorado Springs, Colo.

CHITTER-CHAT

For Stationary—Namely, Writing Paper, Note Paper, and Envelopes.

Class 39—Clothing

188,058. Aug. 19, 1924. Regal Knitting Company, New York, N.Y. Pub. by Regal Knitwear Co., Inc., New York, N.Y.

Regal KNIT-WEAR

For Sweaters, Bonnets, Booties and Bootie Sets.

Class 44—Dental, Medical, and Surgical Appliances

248,532. Oct. 23, 1928. J. Sklar Manufacturing Co., Long Island City, N.Y. Pub. by registrant.

RALKS'

For Surgical and Dental Instruments—Namely, Forceps.

Class 45—Soft Drinks and Carbonated Waters

160,457. Oct. 24, 1922. Duffy-Mott Company, Inc., New York, N.Y. Pub. by registrant.

GOLD SEAL

For Ciders.

244,276. July 17, 1928. Virginia Dare Extract Co. Inc., Brooklyn, N.Y.

VIRGINIA DARE

For Syrups, Concentrates, and Emulsions for the Preparation of Soft Drinks.

Class 46—Foods and Ingredients of Foods

162,358. Apr. 8, 1924. New England Fish Company, Seattle, Wash. Pub. by registrant.

GOLD STANDARD

For Canned Salmon.

188,122. Aug. 19, 1924. City Mills Company, Columbus, Ga. Pub. by registrant.

CIMCO

For Wheat Shorts, Wheat Bran, Fancy Feed and Chicken Feed.

188,144. Aug. 19, 1924. New England Fish Company, Seattle, Wash. Pub. by registrant.

PACKED WITH THE WIGGLE IN IT'S TAIL

For Canned Fish.

404,726. Dec. 21, 1943. R. F. Allen, d.b.a. Bob Allen Vegetable Co., Raymondville, Tex. Pub. by Alexander Marketing Company, San Benito, Tex.

GIM-ME-MOR

For Fresh Vegetables.

Class 48 — Malt Beverages and Liquors

307,268. Oct. 24, 1933. Aktieselskabet de Forenede Bryggerier, Copenhagen, Denmark. Pub. by registrant.

Tuborg

For Malt Beverages With Not More Than the Legal Alcoholic Content.

331,856. Jan. 21, 1936. Premier-Pabst Corporation, Peoria Heights, Ill. Pub. by Pabst Brewing Company, Chicago, Ill.

Old Tankard

For Ale.

Class 51 — Cosmetics and Toilet Preparations

438,537. Apr. 27, 1948. La Maur Products, Inc., Minneapolis, Minn. Pub. by La Maur, Inc., Minneapolis, Minn.

Modart

For Shampoo, Hair Spray and Creme Rinse.

INDEX OF REGISTRANTS

AUGUST 4, 1964

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 774,670, pub. 5-19-64. Cl. 44.
Adams, Inc., Greenville, S.C. 774,499, pub. 5-19-64. Cl. 26.
Adhesive Paper Products, The: *See*—
Casterline & Brien.
Adventure Line Mfg. Co., Inc., Parsons, Kans. 774,430-1, pub. 5-19-64. Cl. 19.
Aeroquip Corp., Jackson, Mich., from Lee Rubber & Tire Corp., d.b.a. Republic Rubber Division, Youngstown, Ohio. 774,532, pub. 5-19-64. Cl. 35.
Afta Solvents Corp., to The Drackett Co., Cincinnati, Ohio. 752,340, new cert. Cl. 6.
Agon Uhrenfabrik Robert Triebold Ag. (Agon Watch-Factory Robert Triebold Ltd.) (Agon Fabrique d'Horlogerie Robert Triebold S.A.), Mumpf, (Argovie), Switzerland. 774,504, pub. 5-19-64. Cl. 27.
Air Reduction Co., Inc., New York, N.Y. 663,151, canc. Cl. 34.
Aktieselskabet De Forenede Bryggerier, Copenhagen, Denmark. 307,268, 12(c) pub. 8-4-64. Cl. 48.
Aladdin Industries, Inc., Chicago, Ill. 774,317, pub. 5-19-64. Cl. 2.
Alexander Marketing Co.: *See*—
Allen, R. F.
All American Film Service: *See*—
Cher-O-Kee Photofinishers, Inc.
Allan Industries Ltd., Farnham Common, near Slough, England. 774,454, pub. 5-19-64. Cl. 22.
Allen, Bob, Vegetable Co.: *See*—
Allen, R. F.
Allen Products Co., Inc., Allentown, Pa. 774,413, pub. 5-19-64. Cl. 18.
Allen, R. F., d.b.a. Bob Allen Vegetable Co., Raymondville, Tex., by Alexander Marketing Co., San Benito, Tex. 404,726, 12(c) pub. 8-4-64. Cl. 46.
Allergan Pharmaceuticals, Santa Ana, Calif. 774,421, pub. 5-19-64. Cl. 18.
Allied Hampshire Footwear Corp., Saco, Maine. 774,591, pub. 5-19-64. Cl. 39.
Alpha Publications, Inc., Dallas, Tex. 774,561, pub. 5-19-64. Cl. 38.
Altman, B., & Co., New York, N.Y. 774,565, pub. 5-19-64. Cl. 38.
Aluminum Cooking Utensil Co., Inc., The, New Kensington, Pa. 663,107, canc. Cl. 23.
Amerace Corp., New York, N.Y. 774,648, pub. 5-19-64. Cl. 40.
American Biltrite Rubber Co., Inc., Chelsea, Mass. 774,535, pub. 5-19-64. Cl. 35.
American Bitumuls & Asphalt Co., San Francisco, Calif. 774,358, pub. 5-19-64. Cl. 12.
American Can Co., New York, N.Y. 774,313, pub. 5-19-64. Cl. 2.
American Can Co., New York, N.Y. 774,374, pub. 5-19-64. Cl. 38.
American Cyanamid Co., New York, N.Y. 662,950, canc. Cl. 6.
American Greetings Corp., Cleveland, Ohio. 774,540, pub. 3-22-60. Cl. 37.
American Enka Corp., Enka, N.C. 774,661-2, pub. 5-19-64. Cl. 43.
American Home Products Corp., New York, N.Y. 774,415, pub. 5-19-64. Cl. 18.
American Nuclear Society Inc., Hinsdale, Ill. 774,560, pub. 5-19-64. Cl. 38.
American Society of Association Executives, Washington, D.C. 774,558, pub. 5-19-64. Cl. 38.
American Nuclear Society Inc., Hinsdale, Ill. 774,729, pub. 5-19-64. Cl. 200.
American Surgical Steel, Inc., Metairie, La. 774,366, pub. 5-19-64. Cl. 18.
American Thread Co., The, New York, N.Y. 774,663-4, pub. 5-19-64. Cl. 43.
Ames Co., Inc., Elkhart, Ind. 774,340, pub. 5-19-64. Cl. 6.
Ametek, Inc.: *See*—
Prosperity Co., Inc., The.
Ametek, Inc., New York, N.Y. 774,494, pub. 5-19-64. Cl. 24.
Amos-Thompson Corp., Edinburg, Ind. 774,650, pub. 5-19-64. Cl. 42.
Anaconda Aluminum Co., Louisville, Ky. 774,732. Cl. 14.
Anchor Plastics, Inc., Gatesville, Tex. 774,733. Cl. 19.
Angel Soft Tissue Mills, Inc.: *See*—
Hudson Pulp & Paper Corp.
Apex Molded Products Co., Philadelphia, Pa. 663,110, canc. Cl. 23.
Ardee Merchandise Corp., South Hackensack, N.J., from R.D. Merchandise Corp., New York, N.Y. 774,647, pub. 5-19-64. Cl. 40.
Arkell Safety Bag Co., New York, N.Y. 774,546, pub. 5-19-64. Cl. 37.
Armour and Co., d.b.a. Armour Creameries, Chicago, Ill. 774,687, pub. 5-19-64. Cl. 46.
Armour Creameries: *See*—
Armour and Co.
Armour Pharmaceutical Co., Chicago, Ill. 774,408-12, pub. 5-19-64. Cl. 18.
Aro Corp., The, Bryan, Ohio. 774,676, pub. 5-19-64. Cl. 44.
Ashbrook Hosiery Co., Carlinville, Ill. 774,627, pub. 5-19-64. Cl. 39.
Ashtabula Printing Co., The, Ashtabula, Ohio. 663,171, canc. Cl. 38.
Atlas Underwear Corp., Piqua, Ohio. 774,582, pub. 5-19-64. Cl. 39.
Atwood Vacuum Machine Co., Rockford, Ill. 774,436, pub. 5-19-64. Cl. 19.
Automatic Buffers, Inc., Seattle, Wash. 774,488, pub. 5-19-64. Cl. 23.
Automatic Devices Co., Allentown, Pa. 774,368-9, pub. 5-19-64. Cl. 13.
Avon Products, Inc., New York, N.Y. 774,719, pub. 5-19-64. Cl. 52.
Baker, J. M., Pattern Co., Inc., Providence, R.I. 662,998, canc. Cl. 13.
Barber-Greene Co., Aurora, Ill. 774,502, pub. 5-19-64. Cl. 26.
Basic Wire Products, Inc., Columbus, Ohio. 774,460, pub. 5-19-64. Cl. 22.
Bassick Co., The, Bridgeport, Conn. 663,053, canc. Cl. 19.
Bee Chemical Co., Lansing, Ill. 774,741. Cl. 38.
Beehler Arts Ltd., New York, N.Y. 663,082, canc. Cl. 22.
Bell & Gossett Co., Morton Grove, Ill., from Marble Electric Corp., Gladstone, Mich. 774,496, pub. 5-19-64. Cl. 26.
Benrus Watch Co., Inc., New York, N.Y. 774,737. Cl. 27.
Berger, Herman, d.b.a. Standard Pharmaceutical Co., to Standard Pharmaceutical Co., Inc., New York, N.Y. 407,583, ren. 8-4-64. Cl. 44.
Berkshire International Corp., Wyomissing, Pa. 774,642, pub. 5-19-64. Cl. 39.
Bernheim Distilling Co., Louisville, Ky., to Schenley Distillers, Inc., New York, N.Y. 407,722, ren. 8-4-64. Cl. 49.
Besrest Bedding Co.: *See*—
Lashua, Harry A.
Betmar Hats, Inc., New York, N.Y. 774,604, pub. 5-19-64. Cl. 39.
Binns, W. B., Jr., d.b.a. Specialty Products Co., Roswell, N. Mex. 774,453, pub. 5-19-64. Cl. 22.
Bison Canning Co., Inc., Angola, N.Y. 774,693, pub. 5-19-64. Cl. 46.
Blanzy-Conte-Gilbert S.A.: *See*—
Crayons Conte, Societe Anonyme.
Bleistiftfabrik vormals Johann Faber Actien- Gesellschaft, Nuremberg, Germany, by A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. 67,090, 12(c) pub. 8-4-64. Cl. 37.
Blends, Inc., New York, N.Y. 774,652, pub. 5-19-64. Cl. 42.
Blue Bell, Inc., Greensboro, N.C. 774,630-1, pub. 5-19-64. Cl. 39.
Board of Trustees of Southern Illinois University, d.b.a. Southern Illinois University Press, Carbondale, Ill. 774,566, pub. 5-19-64. Cl. 38.
Bohme Fettchemie GmbH, Dusseldorf-Holthausen, Germany. 774,325, pub. 5-19-64. Cl. 5.
Bolidens Gruvaktiebolag, Stockholm, Sweden. 774,327, pub. 5-19-64. Cl. 6.
Bolton-Emerson, Inc., Lawrence, Mass. 774,470, pub. 5-19-64. Cl. 23.
Bonley Industries, Inc., Chicago, Ill. 774,485, pub. 5-19-64. Cl. 23.
Borg-Warner Corp., Chicago, Ill. 774,312, pub. 5-19-64. Cl. 2.
Bourges Color Corp., New York, N.Y. 663,239-41, canc. Cl. 50.
Bowes "Seal Fast" Corp., Indianapolis, Ind. 774,534, pub. 5-19-64. Cl. 35.
Bowman Feed Products, Inc., Holland, Mich. 774,691, pub. 5-19-64. Cl. 46.
Britex Corp., Boston, Mass. 774,718, pub. 5-19-64. Cl. 52.
Brown Shoe Co., Inc., St. Louis, Mo. 774,583, pub. 3-17-64. Cl. 39.
Bruner Corp., Milwaukee, Wis. 774,515, pub. 5-19-64. Cl. 31.
Bryant Chucking Grinder Co., Springfield, Vt. 774,478, pub. 5-19-64. Cl. 23.
Bulova Watch Co., Inc., Flushing, N.Y. 663,113-15, canc. Cl. 23.
Bulova Watch Co., Inc., Flushing, N.Y. 774,506-7, pub. 5-19-64. Cl. 27.
Buxbaum Co., The, Canton, Ohio. 774,657, pub. 5-19-64. Cl. 42.
Burnham Industries, Watertown, Conn. 663,242, canc. Cl. 50.
Byrne Plywood Co., Royal Oak, Mich. 774,322, pub. 5-19-64. Cl. 4.
Cadle-Larned Publishing Corp., Greenwich, Conn. 774,740. Cl. 38.
Calcium Aluminate Cement Corp., New York, N.Y. 662,973, canc. Cl. 12.
California Chemical Co., San Francisco, Calif. 774,572, pub. 5-19-64. Cl. 38.
California Institutional Supply Co. Inc., Hollywood, Calif. 774,426, pub. 5-19-64. Cl. 18.
California Wine Sales, Inc., to Guild Wine Co., Lodi, Calif. 407,662, ren. 8-4-64. Cl. 47.

Callahan, Thomas R., New York, N.Y. 774,600, pub. 5–19–64. Cl. 39.
Cal-Made Mfg. Co., Los Angeles, Calif. 663,196, canc. Cl. 39.
Cal°Royal, Inc., City of Industry, Calif. 774,364, pub. 5–19–64. Cl. 13.
Camarge Trading Co., Philadelphia, Pa. 662,989, canc. Cl. 13.
Camp and McInnes, Inc., Reading, Pa. 774,644, pub. 5–19–64. Cl. 39.
Campbell, Alexander, d.b.a. Campbell's Mfg. Co., Pasadena, Calif. 662,991, canc. Cl. 13.
Campbell's Mfg. Co.: *See*—
Campbell, Alexander.
Campus Cards: *See*—
Cogan, Howard S.
Camp, W. B., & Sons, Inc., Bakersfield, Calif. 774,692, pub. 5–19–64. Cl. 46.
Canaveral Council of Technical Societies, The, Cape Canaveral, Fla. 774,573, pub. 5–19–64. Cl. 38.
Cantor Greenspan Co. Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 410,351–3, ren. 8–4–64. Cl. 42.
Capezio, Inc., New York, N.Y. 774,586, pub. 5–19–64. Cl. 39.
Carbide and Carbon Chemicals Corp., by Union Carbide Corp., New York, N.Y. 393,239, 12(c) pub. 8–4–64. Cl. 6.
Carbide and Carbon Chemicals Corp., by Union Carbide Corp., New York, N.Y. 367,605, 12(c) pub. 8–4–64. Cl. 6.
Carbide and Carbon Chemicals Corp., by Union Carbide Corp., New York, N.Y. 300,602, 12(c) pub. 8–4–64. Cl. 6.
Cardinal Knitting Mills, Inc., New York, N.Y. 774,605, pub. 5–19–64. Cl. 39.
Carpenter Steel Co., The, Reading, Pa. 774,377–8, pub. 5–19–64. Cl. 14.
Carter's Ink Co., The, Cambridge, Mass. 774,553, pub. 5–19–64. Cl. 37.
Cash Credit Corp., Des Moines, Iowa. 774,752. Cl. 102.
Casterline & Brien, to The Adhesive Paper Products, San Francisco, Calif., to The Handy Roll Co., South Gate, Calif. 187,131, ren. 8–4–64. Cl. 37.
Castle Machines, Inc., Erie, Pa. 663,153, canc. Cl. 34.
Cavitron Ultrasonics, Inc., Long Island City, N.Y. 774,444, pub. 5–19–64. Cl. 21.
Cavitron Ultransonics, Inc., Long Island City, N.Y. 774,469, pub. 5–19–64. Cl. 23.
Cement Marketing Co., Ltd., The, London, England. 662,987. canc. Cl. 12.
Censor Co., The: *See*—
Martin, John P., Jr.
Champion Home Builders Co., Dryden, Mich. 774,432, pub. 5–19–64. Cl. 19.
Chapman & Sons, Shreveport, La. 663,172, canc. Cl. 39.
Chef's Kitchen: *See*—
Tasker, John H.
Chemical Cleaning Products Co., The, Brentwood, Md. 774,715, pub. 7–17–62. Cl. 52.
Cher-O-Kee Photofinishers, Inc., d.b.a. All American Film Service, Knoxville, Tenn. 774,728, pub. 5–19–64. Cl. 106.
Chesterfield Furniture Mfg. Co. Inc., Fort Smith, Ark. 774,519, pub. 5–19–64. Cl. 32.
Chesterton Candy Co., d.b.a. Mrs. Leland's Kitchens, Chicago, Ill. 774,686, pub. 5–19–64. Cl. 46.
Chicago Truck Drivers, Chauffeurs and Helpers Union of Chicago and Vicinity, Chicago, Ill. 663,267, canc. Cl. 200.
Christian, Dale, d.b.a. D.C. Stamp Co., Omaha, Nebr. 774,486, pub. 5–19–64. Cl. 23.
City Mills Co., Columbus, Ga. 188,122, 12(c) pub. 8–4–64. Cl. 46.
City Stores Co., New York, N.Y. 774,585, pub. 5–19–64. Cl. 39.
Clack Water Treatment, Inc., Madison, Wis. 774,517, pub. 5–19–64. Cl. 31.
Clark Shoe Co., Inc., Auburn, Maine. 774,597, pub. 5–19–64. Cl. 39.
Clement Bros., Louisville, Idaho. 774,745. Cl. 46.
Cleveland Container Corp., Cleveland, Ohio. 774,316, pub. 5–19–64. Cl. 2.
Co-Ed Shoe Mfg. Co. Inc., Wakefield, Mass. 663,174, canc. Cl. 39.
Cogan, Howard S., d.b.a. Campus Cards, Ithaca, N.Y. 663,166, canc. Cl. 38.
Collins & Aikman Corp., New York, N.Y. 663,216, canc. Cl. 42.
Columbus Corp., Madison, Wis. 774,632, pub. 5–19–64. Cl. 39.
Columbus Cycle & Supply Co., d.b.a. Dorcy Industries, Columbus, Ohio. 774,428, pub. 5–19–64. Multiple Class (Classes 19 and 21).
Compagnie Francaise Thomson-Houston, Paris, France. 774,441, pub. 5–19–64. Multiple Class (Classes 21 and 36).
Conchemco Inc., Kansas City, Mo. 774,391, pub. 5–19–64. Cl. 16.
Congoleum-Nairn Inc., Kearny, N.J. 774,356, pub. 5–19–64. Cl. 12.
Consolidated Dairy Products Co., Seattle, Wash. 657,203, canc. Cl. 46.
Continental Coatings Corp., New York, N.Y. 774,388, pub. 5–19–64. Cl. 16.
Continental Confections, Inc., Westbury, Long Island, N.Y. 774,746. Cl. 46.
Continental Steel Corp., Kokomo, Ind. 774,379, pub. 5–19–64. Cl. 14.
Cook Machinery Co., Inc., Dallas, Tex. 774,491, pub. 5–19–64. Cl. 24.
Cooper, Ben, Inc., Brooklyn, N.Y. 663,200, canc. Cl. 39.
Coquette: *See*—
Shuman, Norman.
Corcon, Inc., New York, N.Y. 663,068, canc. Cl. 21.
Corn Products Co., New York, N.Y. 774,689, pub. 5–19–64. Cl. 46.
Cornair, Jack D., Costa Mesa, Calif. 662,975, canc. Cl. 12.
Corning Glass Works, Corning, N.Y. 774,514, pub. 5–12–64. Multiple Class (Classes 30 and 33).
Cosgenic Labs: *See*—
Nethercutt Laboratories.
Cosmos Drugs, Inc., New York, N.Y. 663,049, canc. Cl. 18.
Coty, Inc., New York, N.Y. 663,244–5, canc. Cl. 51.
Counter Balance, Inc., Stoughton, Wis. 662,992, canc. Cl. 13.
Courtaulds (Canada) Ltd., Cornwall, Ontario, Canada. 774,655, pub. 5–19–64. Cl. 42.
Crafting Mfg. Co., The, Cleveland, Ohio. 774,551, pub. 5–19–64. Cl. 37.
Craig Mfg. Co., Inc., New York, N.Y. 663,141, canc. Cl. 32.
Crawford-Austin Mfg. Co., Waco, Tex., to San Antonio Tent & Awning Co., San Antonio, Tex. 191,516, ren. 8–4–64. Cl. 50.
Crayons Conte, Societe Anonyme, Regny & Paris, France, by Blansy-Conte-Gilbert S.A., Paris, France. 153,022–3, 12(c) pub. 8–4–64. Cl. 37.
Crescent Niagara Corp., Buffalo, N.Y. 774,482, pub. 5–19–64. Cl. 23.
Crompton Co., New York, N.Y. 663,215, canc. Cl. 42.
Crown Cork & Seal Co., Inc., Philadelphia, Pa. 774,318, pub. 5–19–64. Cl. 2.
Curtis, Helene, Industries, Inc., Chicago, Ill. 774,747. Cl. 51.
D.C. Stamp Co.: *See*—
Christian, Dale.
Danforth Wines Ltd., Toronto, Canada. 770,476, cor. Cl. 47.
Dartmouth Marketing Co., Inc., Skokie, Ill. 774,710, pub. 5–19–64. Cl. 51.
Davies Publishing Co., Chicago, Ill. 774,556, pub. 5–19–64. Cl. 38.
De Grasso, Sarah M., d.b.a. Fish House Baits, Kansas City, Mo. 663,087, canc. Cl. 22.
Delor & Co.: *See*—
Delor, A., & Cie, Societe Anonyme.
Delor, A., & Cie, Societe Anonyme, d.b.a. Delor & Co., Bordeaux, France. 774,696, pub. 5–19–64. Cl. 47.
Deltex Industries, Inc., New York, N.Y. 774,344, pub. 5–19–64. Cl. 6.
De Maria, Joseph L., Enfield, Conn. 774,457, pub. 5–19–64. Cl. 22.
Dental Products Corp., The, Manheim, Pa. 774,669, pub. 5–19–64. Cl. 44.
Dermik Pharmacal Co., Inc., Syosset, N.Y. 774,417–18, pub. 5–19–64. Cl. 18.
Diaper Jeans, Inc., Denison, Tex. 774,590, pub. 5–19–64. Cl. 39.
Dietz, R. E., Co., Syracuse, N.Y. 185,220, ren. 8–4–64. Cl. 34.
Disston, Henry, & Sons, Inc., Philadelphia, Pa., by H. K. Porter Co., Inc., Pittsburgh, Pa. 406,291, 12(c) pub. 8–4–64. Cl. 23.
Disston, Henry, & Sons, Inc., Philadelphia, Pa., by H. K. Porter Co., Inc., Pittsburgh, Pa. 181,087, 12(c) pub. 8–4–64. Cl. 23.
District of Columbia National Bank, Washington, D.C. 774,726, pub. 5–19–64. Cl. 102.
Dorcy Industries: *See*—
Columbus Cycle & Supply Co.
Dorsey Co., The, Los Angeles, Calif. 774,628, pub. 5–19–64. Cl. 39.
Doughtie, Eugenia, Houston, Tex. 774,450, pub. 5–19–64. Cl. 22.
Douglas Equipment & Supply Co., Inc., Washington, D.C. 774,702 pub. 5–19–64. Cl. 50.
Dow Chemical Co., The, Midland, Mich. 774,721, pub. 5–19–64. Cl. 52.
Drackett Co., The: *See*—
Afta Solvents Corp.
Duffy-Mott Co., Inc., New York, N.Y. 160,457, 12(c) pub. 8–4–64. Cl. 45.
Dunkelberger, Richard C., Shoemakersville, Pa. 774,690, pub. 5–19–64. Cl. 46.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 774,310, pub. 5–7–63. Cl. 1.
Duriron Co., Inc., The, Dayton, Ohio. 774,446, pub. 5–19–64. Cl. 21.
Durkee Famous Foods: *See*—
Glidden Co., The.
Dyer, D. L., Kansas City, Mo., by Western Art, Inc., Colorado Springs, Colo. 407,587, 12(c) pub. 8–4–64. Cl. 37.
Dymo Industries, Inc., Emeryville, Calif. 774,703, pub. 5–19–64. Cl. 50.
Dymo Industries, Inc., Emeryville, Calif. 774,474, pub. 5–19–64. Cl. 23.
Dynamation, Inc., Narberth, Pa. 774,408, pub. 5–19–64. Cl. 26.
Eagle Signal Corp., Moline, Ill. 663,070, canc. Cl. 21.
Eastpac Paper Converting Co., San Francisco, Calif. 774,548, pub. 5–19–64. Cl. 37.
Eco Engineering Co., Newark, N.J. 774,484, pub. 5–12–64. Cl. 23.
Ehniger Mills, Inc., New York, N.Y. 663,211, canc. Cl. 42.
Electro Products Laboratories, Inc., Chicago, Ill. 618,062. Am. 7(d). Cl. 26.
Escalon Packers, Inc., Escalon, Calif. 663,229, canc. Cl. 46.
F & F Sales Co.: *See*—
Ford, Floyd C.
F & M Scientific Corp., near Avondale, Pa. 774,330, pub. 5–19–64. Cl. 6.
FMC Corp., San Jose, Calif. 774,471, pub. 5–19–64. Cl. 23.
FMC Corp., San Jose, Calif. 774,503, pub. 5–19–64. Cl. 26.

Faber-Castell, A. W., Pencil Co., Inc.: *See*—
Bleistiftfabrik vormals Johann Faber Actien-Gesellschaft.
Fabrique des Montres Solvil et Titus S.A., Verrier, Geneva, Switzerland. 774,505, pub. 5–19–64. Cl. 27.
Factor, Max, d.b.a. Max Factor & Co., to Max Factor & Co., Hollywood, Calif. 192,086, ren. 8–4–64. Cl. 51.
Factor, Max, & Co.: *See*—
Factor, Max.
Fairchild Publications, Inc., New York, N.Y. 774,554, pub. 12–18–62. Cl. 38.
Famous Lubricants, Inc., Chicago, Ill. 407,393, ren. 8–4–64. Cl. 15.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 774,397, pub. 5–19–64. Cl. 16.
Federal Products Corp., Providence, R.I. 407,595, ren. 8–4–64. Cl. 26.
Federated Department Stores Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 774,639, pub. 5–19–64. Cl. 39.
Fence Rite Co.: *See*—
Minneapolis Scientific Controls Corp.
Fieldcrest Mills, Inc., Spray, N.C. 774,656, pub. 5–19–64. Cl. 42.
Filene's Wm., Sons Co.: *See*—
Federated Department Stores Inc.
First Texas Chemical Mfg. Co., to First Texas Pharmaceuticals, Inc., Dallas, Tex. 409,093, ren. 8–4–64. Cl. 18.
First Texas Pharmaceuticals, Inc.: *See*—
First Texas Chemical Mfg. Co.
Fish House Baits: *See*—
De Grasso, Sarah M.
Florasynth Laboratories, Inc., New York, N.Y. 774,094, pub. 5–19–64. Cl. 46.
Food Fair Stores, Inc., Philadelphia, Pa. 774,328–9, pub. 2–18–64. Cl. 9.
Food Fair Stores, Inc., Philadelphia, Pa. 774,348, pub. 2–18–64. Cl. 9.
Food Fair Stores, Inc., Philadelphia, Pa. 774,678, pub. 2–18–64. Cl. 46.
Food Fair Stores, Inc., Philadelphia, Pa. 774,723, pub. 2–18–64. Cl. 101.
Food Fair Stores, Inc., Philadelphia, Pa. 774,404–5, pub. 2–18–64. Cl. 18.
Ford, Floyd C., d.b.a. F & F Sales Co. and as Korn Dog Co., Dallas, Tex. 774,744. Cl. 46.
Fort Howard Paper Co., Green Bay, Wis. 183,124, ren. 8–4–64. Cl. 37.
Four Star Television, North Hollywood, Calif. 774,722, pub. 7–4–61. Cl. 101.
Francaise des Coussinets Minces, Societe, Saint-Jean-de-la-Ruelle (Loiret), France. 774,466, pub. 5–19–64. Cl. 23.
Freeman Shoe Corp., d.b.a. Freeman Shoe Corp., Beloit, Wis. 774,602, pub. 5–19–64. Cl. 39.
Freudenheim, Jay, Inc., New York, N.Y. 774,510, pub. 5–19–64. Cl. 28.
Fuller Brush Co., The, East Hartford, Conn. 774,321, pub. 5–19–64. Consolidated certificate (Classes 4 and 52).
Galef, J. L., & Son, Inc., New York, N.Y. 662,972, canc. Cl. 9.
Gallon Allsteel Body Co.: *See*—
Hercules Gallon Products, Inc.
Gallo, E. & J., Winery, Modesto, Calif. 663,231, canc. Cl. 47.
Gateway Furniture Mfg. Co.: *See*—
Pearl, Lester S.
Geigy Chemical Corp., Ardsley, N.Y. 662,955, canc. Cl. 6.
General American Transportation Corp., Chicago, Ill. 774,371–2, pub. 5–19–64. Cl. 13.
General Radio Co., West Concord, Mass. 192,385, ren. 8–4–64. Cl. 26.
General Time Corp., New York, N.Y. 763,467, canc. Cl. 27.
General Tire & Rubber Co., The, Akron, Ohio. 774,539, pub. 5–19–64. Cl. 35.
Genesco Inc., Nashville, Tenn. 774,598, pub. 8–27–63. Cl. 39.
Gibraltar Corrugated Paper Co., Inc., Jersey City, N.J. 663,158, canc. Cl. 37.
Giring Ltd., Birmingham, England. 774,427, pub. 5–19–64. Cl. 19.
Given Brothers, Inc., El Paso, Tex. 774,606, pub. 5–19–64. Cl. 39.
Glatt, Herbert, d.b.a. Magla Products, Newark, N.J. 774,653, pub. 5–19–64. Cl. 42.
Glidden Co., The, d.b.a. Durkee Famous Foods, Cleveland, Ohio. 774,679, pub. 5–19–64. Cl. 46.
Globe Knitwear Co., Inc., Philadelphia, Pa. 774,584, pub. 5–19–64. Cl. 39.
Glover, Anthony D., Austin, Tex. 663,273, canc. Cl. 32.
Gold Seal Rubber Co., Boston, Mass. 774,621, pub. 5–19–64. Cl. 39.
Goldye, Harry, d.b.a. Padi Clothes, Altoona, Pa. 663,179, canc. Cl. 39.
Goodman, H., & Sons, Inc., New York, N.Y. 774,645, pub. 5–19–64. Cl. 40.
Good Humor Corp., Brooklyn, N.Y. 774,686, pub. 5–19–64. Cl. 46.
Gorman, Sheridan P., d.b.a. Trade Routes, Baltimore, Md. 774,725, pub. 5–19–64. Cl. 101.
Goodrich, B. F., Co., The, Akron, Ohio. 774,531, pub. 5–19–64. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 774,537, pub. 5–19–64. Cl. 35.
Guild Wine Co.: *See*—
California Wine Sales, Inc.
Greentree's, Inc., Richmond, Va. 774,580, pub. 5–19–64. Cl. 39.
Grove Press, Inc., New York, N.Y. 774,562, pub. 5–19–64. Cl. 38.
Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 668,262, canc. Cl. 52.
Hall Syndicate, Inc., The, New York, N.Y. 774,570, pub. 5–19–64. Cl. 38.
Hagy, John T., Swissvale, Pittsburgh, Pa. 663,154, canc. Cl. 35.
Hall, Robert, Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. 774,581, pub. 5–19–64. Cl. 39.
Hall, Robert, Clothes: *See*—
Hall, Robert, Clothes, Inc.
Hallgarten, S. F., & O., London, England. 774,695, pub. 5–19–64. Cl. 47.
Handy Roll Co., The: *See*—
Casterline & Brien.
Harbour Islanders, Ltd., New York, N.Y. 774,711, pub. 5–19–64. Cl. 51.
Harrison, Thomas, d.b.a. Al Harrison Co., Distributors, Nogales, Ariz. 774,724, pub. 5–19–64. Cl. 101.
Harrison, Al, Co., Distributors: *See*—
Harrison, Thomas.
Hat Corp. of America, New York, N.Y. 774,643, pub. 5–19–64. Cl. 39.
Hays Mfg. Co., Erie, Pa. 774,370, pub. 5–19–64. Cl. 13.
Heckethorn Mfg. & Supply Co.: *See*—
Oldberg Mfg. Co.
Hehr Mfg. Co., Los Angeles, Calif. 774,557, pub. 5–19–64. Cl. 38.
Hercules Gallon Products, Inc., d.b.a. Gallon Allsteel Body Co., Gallon, Ohio. 774,473, pub. 3–3–64. Cl. 23.
Hespenheide & Thompson, to Hespenheide and Thompson, Inc., York, Pa. 188,117, ren. 8–4–64. Cl. 46.
Hespenheide and Thompson, Inc.: *See*—
Hespenheide & Thompson.
Hickey-Freeman Co., Rochester, N.Y. 774,612, pub. 5–19–64. Cl. 39.
Hicks, James M., d.b.a. Marin-E-Products, Sausalito, Calif. 663,052, canc. Cl. 19.
Hi-Command Products, Inc., Los Altos, Calif. 774,654, pub. 5–19–64. Cl. 42.
Hi-Test Twist Drill Works, Inc., New York, N.Y. 663,095, canc. Cl. 23.
Hollins, William, & Co. Ltd., Nottingham, England. 663,208, canc. Cl. 42.
Hood River Distillers, Inc., d.b.a. Northwestern Distillers, Portland, Oreg. 774,698, pub. 5–19–64. Cl. 49.
Horne International Distributing Corp., Mamaroneck, N.Y. 774,508, pub. 5–19–64. Cl. 28.
Hoskins Mfg. Co., Detroit, Mich. 774,375, pub. 5–19–64. Cl. 14.
Host Pajamas, Inc., New York, N.Y. 774,578, pub. 5–19–64. Cl. 39.
Hubbard, Warren D., Jr., d.b.a. Hubs Lures, Indianapolis, Ind. 774,735. Cl. 22.
Hubbs and Howe Co., Buffalo, N.Y. 663,254, canc. Cl. 52.
Hubs Lures: *See*—
Hubbard, Warren D., Jr.
Hudson Pulp & Paper Corp., from Angel Soft Tissue Mills, Inc., New York, N.Y. 774,541, pub. 5–19–64. Cl. 37.
Hugh Nelson-Columbia Carpet Mills, Inc., Philadelphia, Pa. 663,214, canc. Cl. 42.
Hunt Brothers Products: *See*—
Hunt, Mallard C.
Hunt, Mallard C., d.b.a. Hunt Brothers Products, Detroit, Mich. 774,403, pub. 5–19–64. Cl. 18.
Hydraxtor Co., Chicago, Ill. 774,492, pub. 5–19–64. Cl. 24.
Incinerator Institute of America, New York, N.Y. 774,730, pub. 5–19–64. Cl. A.
Indian Arts and Crafts Board, Washington, D.C. 407,120, ren. 8–4–64. Cl. 22.
Indian Arts and Crafts Board, Washington, D.C. 407,046, ren. 8–4–64. Cl. 3.
Indian Arts and Crafts Board, Washington, D.C. 407,531–3, ren. 8–4–64. Cl. 22.
Indian Arts and Crafts Board, Washington, D.C. 407,255–7, ren. 8–4–64. Cl. 8.
Indian Arts and Crafts Board, Washington, D.C. 407,343–5, ren. 8–4–64. Cl. 3.
Indian Arts and Crafts Board, Washington, D.C. 407,184–5, ren. 8–4–64. Cl. 42.
Indian Arts and Crafts Board, Washington, D.C. 407,263, ren. 8–4–64. Cl. 42.
Indian Arts and Crafts Board, Washington, D.C. 409,243, ren. 8–4–64. Cl. 28.
Indian Arts and Crafts Board, Washington, D.C. 407,507–8, ren. 8–4–64. Cl. 28.
Indian Arts and Crafts Board, Washington, D.C. 407,502, ren. 8–4–64. Cl. 38.
Indian Arts and Crafts Board, Washington, D.C. 407,347–8, ren. 8–4–64. Cl. 2.
Indian Arts and Crafts Board, Washington, D.C. 407,613, ren. 8–4–64. Cl. 23.
Indian Arts and Crafts Board, Washington, D.C. 407,902, ren. 8–4–64. Cl. 19.
Indian Arts and Crafts Board, Washington, D.C. 408,004, ren. 8–4–64. Cl. 40.
Indian Arts and Crafts Board, Washington, D.C. 407,716, ren. 8–4–64. Cl. 38.
Indian Arts and Crafts Board, Washington, D.C. 408,776, ren. 8–4–64. Cl. 39.
Institutional Products, Inc., Philadelphia, Pa. 774,522, pub. 5–19–64. Cl. 32.
International Association of Electrotypers & Stereotypers, Inc., Cleveland, Ohio. 774,560, pub. 5–19–64. Cl. 38.
International Foam Corp., Chicago, Ill. 774,520, pub. 5–19–64. Cl. 32.
JNT Mfg. Co. Inc., New York, N.Y., to JNT Mfg. Co., Inc., Stormville, N.Y. 408,752, ren. 8–4–64. Cl. 52.
JNT Mfg. Co. Inc., New York, N.Y., to JNT Mfg. Co., Inc., Stormville, N.Y. 408,488, ren. 8–4–64. Cl. 52.

Jacobson, F. & Sons, Inc., from John Whitcomb Ltd., New York, N.Y. 774,587, pub. 5–19–64. Cl. 39.
Janie Originals, Inc., New York, N.Y. 774,640, pub. 5–19–64. Cl. 39.
Jessop, Herbert D., d.b.a. Amenity Products Co., Glendora, Calif. 774,357, pub. 5–19–64. Cl. 12.
Jessop, Herbert D., d.b.a. Amenity Products Co., Glendora, Calif. 774,359, pub. 5–19–64. Cl. 12.
Jobst Institute, Inc., Toledo, Ohio. 774,666, pub. 5–19–64. Cl. 44.
Johnson & Johnson, New Brunswick, N.J. 774,673, pub. 5–19–64. Cl. 44.
Joseph & Feiss Co., The, Cleveland, Ohio. 774,641, pub. 5–19–64. Cl. 39.
Joy Imports Inc., New York, N.Y. 774,599, pub. 5–19–64. Cl. 39.
KDI Corp., Cincinnati, Ohio. 774,452, pub. 5–19–64. Cl. 21.
Kalogris, Sofia M., Oceanside, N.Y. 663,226, canc. Cl. 46.
Kamkap, Inc., New York, N.Y. 663,140, canc. Cl. 34.
Karoll's, Inc., Chicago, Ill. 774,593, pub. 5–19–64. Cl. 39.
Kaufman, Wynne, d.b.a. Sentimentally Yours, New York, N.Y. 663,164, canc. Cl. 38.
Kaynee Co., The, Greenville, S.C. 774,588, pub. 10–1–63. Cl. 39.
Kelco Co., San Diego, Calif. 774,345, pub. 5–19–64. Cl. 6.
Kelly-Springfield Tire Co., The, Cumberland, Md. 774,538, pub. 5–19–64. Cl. 35.
Kiki Undies Corp., New York, N.Y. 774,624, pub. 5–19–64. Cl. 39.
Kilty Products, Inc., Rye, N.Y., from Peterberg, Inc., Elizabeth, N.J. 774,720, pub. 5–19–64. Cl. 52.
Kimberly-Clark Corp., Neenah, Wis. 774,552, pub. 5–19–64. Cl. 37.
Kimberly Knitwear, Inc., New York, N.Y. 774,629, pub. 5–19–64. Cl. 39.
King, Geo. W., Ltd., Stevenage, England. 663,144, canc. Cl. 32.
Kitchen Maid Corp., The, Andrews, Ind. 407,449, ren. 8–4–64. Cl. 32.
Kishore, P. P., & Co., New York, N.Y. 774,512, pub. 5–19–64. Cl. 28.
Kitchen Kut-Up: *See*—
Radtke, Eldon E.
Klein, Joseph M., Inc., New York, N.Y. 774,614, pub. 5–19–64. Cl. 39.
Knipe Bros.-Ward Hill Shoes, Inc., Gardiner, Maine. 682,236. Am. 7(d). Cl. 39.
Knotty Pine Food Products, Centerville, Iowa. 564,477, canc. Cl. 46.
Kommel, A., & Sons, New York, N.Y. 190,013, ren. 8–4–64. Cl. 39.
Korn Dog Co.: *See*—
Ford, Floyd C.
Kortenbach & Rauh Kommanditgesellschaft, Solingen-Weyer, Germany. 774,649, pub. 5–19–64. Cl. 41.
Krentler, Walter L., d.b.a. X–3000 Products Co., Detroit, Mich. 774,384, pub. 5–19–64. Cl. 16.
Kroydon Co., The, Newark, N.J., to Kroydon Co., Inc., Boston, Mass. 183,461, ren. 8–4–64. Cl. 22.
Kroydon Co., Inc.: *See*—
Kroydon Co., The.
Krueger, Richard G., Inc., New York, N.Y. 663,086, canc. Cl. 22.
Kusan, Inc., Nashville, Tenn. 774,458, pub. 5–19–64. Cl. 22.
"Laboratoires des Produits Cosmetiques Jean-Marie," Societe Congolaise a Responsabilite Limitee, Vilvorde, Belgium. 663,251, canc. Cl. 51.
Lady Carlton Coat Co., Inc., Stamford, Conn. 774,636, pub. 5–19–64. Cl. 39.
Lakeland Grocery Co.: *See*—
Red Owl Stores, Inc.
La Maur, Inc.: *See*—
La Maur Products, Inc.
La Maur Products, Inc., by La Maur, Inc., Minneapolis, Minn. 438,537, 12(c) pub. 8–4–64. Cl. 51.
Lashua, Harry A., d.b.a. Bearest Bedding Co., St. Petersburg, Fla. 663,139, canc. Cl. 32.
Latrobe Steel Corp., Latrobe, Pa. 774,374, pub. 5–19–64. Cl. 14.
Law, William J., d.b.a. National Distributors Co., Palo Alto, Calif. 774,682, pub. 5–19–64. Cl. 46.
Leedall Products Mfg. Co., Inc., Milltown, N.J. 774,353, pub. 5–19–64. Cl. 11.
Legendary Leather Accessories, Inc., from The Original Rumpp Co., Inc., Gloucester City, N.J. 774,319, pub. 5–19–64. Cl. 3.
Legge, Walter G., Co., Inc., New York, N.Y. 409,155–7, canc. Cl. 21.
Lee Rubber & Tire Corp.: *See*—
Aeroquip Corp.
L'equilibre Biologique (Association Technique Pharmaceutique et Equilibre Biologique Reunis) Societe Anonyme, Amilly, Loiret, France. 774,422, pub. 5–19–64. Cl. 18.
Leto, Franklin, & Co., Inc., New York, N.Y. 663,186, canc. Cl. 39.
Levine, Herbert, Inc., New York, N.Y. 774,607, pub. 5–19–64. Cl. 39.
Levy, Henry C., Brooklyn, N.Y. 774,743. Cl. 42.
Lidgerwood Mfg. Co., New York, N.Y. 182,468, 12(c) pub. 8–4–64. Cl. 23.
Lincoln Electric Co., The, Cleveland, Ohio. 409,659, ren. 8–4–64. Cl. 34.
Lincoln Electric Co., The, Cleveland, Ohio. 410,493, ren. 8–4–64. Cl. 34.
Linde Air Products Co., The, by Union Carbide Corp., New York, N.Y. 343,241, 12(c) pub. 8–4–64. Cl. 23.
Liquids, Inc., Greensboro, N.C. 774,331, pub. 5–19–64. Cl. 6.
Lite Alert, Inc., Dallas, Tex. 774,440, pub. 5–19–64. Cl. 21.
Lohmann K.G., Fahr/Rheinland, Germany. 774,326, pub. 5–19–64. Cl. 5.
Long John Distilleries, Ltd., d.b.a. Long John Distilleries, London, England. 765,225, cor. Cl. 49.
Long John Distilleries: *See*—
Long John Distilleries, Ltd.
MacKay & Associates, Inc., Haddonfield, N.J. 774,475, pub. 11–5–63. Cl. 23.
Magla Products: *See*—
Glatt, Herbert.
Magnus Craft Materials, Inc., New York, N.Y. 774,389, pub. 10–29–63. Cl. 16.
Maico Electronics, Inc., Minneapolis, Minn. 774,667–8, pub. 5–19–64. Cl. 44.
Maidenform, Inc., New York, N.Y. 774,626, pub. 5–19–64. Cl. 39.
Maimon, J., & Sons, Inc., Philadelphia, Pa. 774,595, pub. 5–19–64. Cl. 39.
Major Brands, Inc., Seattle, Wash. 774,395, pub. 5–19–64. Cl. 16.
Man-Abouts, Inc., New York, N.Y. 774,596, pub. 5–19–64. Cl. 39.
Mangel Stores Corp., New York, N.Y. 774,320, pub. 9–17–63. Cl. 4.
Mangel Stores Corp., New York, N.Y. 774,386, pub. 9–17–63. Cl. 16.
Mangel Stores Corp., New York, N.Y. 774,555, pub. 9–17–63. Cl. 38.
Mangel Stores Corp., New York, N.Y. 774,701, pub. 9–17–63. Cl. 50.
Mangel Stores Corp., New York, N.Y. 774,716, pub. 9–17–63. Cl. 52.
Manufacturers' Marketing Co., U.S.A. Inc., New York, N.Y. 774,323, pub. 5–19–64. Cl. 4.
Marble Electric Corp.: *See*—
Bell & Gossett Co.
Marhar Mfg. Co., Bloomfield, N.J. 774,351, pub. 5–19–64. Multiple Class (Classes 11 and 37).
Marin-E-Products: *See*—
Hicks, James M.
Marion Laboratories, Inc., Kansas City, Mo. 774,423–4, pub. 5–19–64. Cl. 18.
Mark Trouser Mfg. Corp., New York, N.Y. 774,623, pub. 5–19–64. Cl. 39.
Martin, John P., Jr., d.b.a. The Censor Co., Los Angeles, Calif. 663,062, canc. Cl. 21.
Martin, Maison E. Remy, & Co., Cognac, Charente, France. 774,699, pub. 5–19–64. Cl. 49.
Marylene Hosiery Co., New York, N.Y. 774,635, pub. 5–19–64. Cl. 39.
Masonite Corp., Chicago, Ill. 774,355, pub. 5–19–64. Cl. 12.
Master Metal Products, Inc., Buffalo, N.Y. 662,941, canc. Cl. 2.
Mattel, Inc., Hawthorne, Calif. 774,456, pub. 2–11–64. Cl. 22.
Matthews, Jas. H., & Co., Pittsburgh, Pa. 774,464, pub. 5–19–64. Cl. 23.
May Department Stores Co., The, St. Louis, Mo. 774,637–8, pub. 5–19–64. Cl. 39.
Mayer, Frederick S., d.b.a. Mayer Labs, San Rafael, Calif. 774,419, pub. 5–19–64. Cl. 18.
Mayer Labs: *See*—
Mayer, Frederick S.
McGrath-Hamin Inc., Providence, R.I. 774,509, pub. 5–19–64. Cl. 28.
Medical Appliance Corp., Boonton, N.J. 663,223, canc. Cl. 44.
Medical Precision Products Co., Beverly Hills, Calif. 774,406, pub. 5–19–64. Cl. 18.
Merrell, Wm. S., Co., The, Cincinnati, Ohio. 663,044–5, canc. Cl. 18.
Meta-Therm Corp., from Ward Chemical Co., New York, N.Y. 774,382, pub. 5–19–64. Cl. 15.
Micro-Radionics, Inc., Van Nuys, Calif. 774,451, pub. 5–19–64. Cl. 21.
Miller-Smith Hosiery Mills: *See*—
United Hosiery Mills Corp.
Minneapolis Scientific Controls Corp., d.b.a. Fence Rite Co., Minneapolis, Minn. 774,450, pub. 5–19–64. Cl. 21.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 662,970, canc. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 663,011–3, canc. Cl. 15.
Minnesota and Ontario Paper Co., Minneapolis, Minn. 774,362–3, pub. 5–19–64. Cl. 12.
Miracle Massage Co.: *See*—
Parker, Melvin.
Mr. and Mrs. America, Inc., Billings, Mont. 774,400, pub. 5–19–64. Cl. 16.
Mitchell Division: *See*—
Oldberg Mfg. Co.
Mixermobile Manufacturers, Inc.: *See*—
Mixermobile Manufacturer.
Mixermobile Manufacturer, by Mixermobile Manufacturers, Inc., Portland, Oreg. 406,701, 12(c) pub. 8–4–64. Cl. 23.
Mobile Paint Mfg. Co., Inc., Mobile, Ala. 774,398, pub. 5–19–64. Cl. 16.
Monitor Furniture Co., Inc., Jamestown, N.Y. 663,145, canc. Cl. 32.
Monsanto Chemical Co., St. Louis, Mo. 774,311, pub. 5–19–64. Cl. 1.
Morrison, Dr. Robert J., d.b.a. Morrison Laboratories, Harrisburg, Pa. 774,714, pub. 5–19–64. Cl. 52.
Morton Chemical Co.: *See*—
Panogen, Inc.
Mrs. Leland's Kitchens: *See*—
Chesterton Candy Co.

Muller-Schlenker, Schwenningen am Neckar, Germany. 663,-122, canc. Cl. 26.
Multi-Color Process Co., Tulsa, Okla. 774,559, pub. 5-19-64. Cl. 38.
Murray Corp. of America, The, Pittsburgh, Pa. 774,367, pub. 5-19-64. Cl. 13.
N.V. Helmondsche Textiel Maatschappij (N.V. Helmond Textile Co.), Helmond, Netherlands. 774,660, pub. 5-19-64. Cl. 42.
N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands. 663,-039, canc. Cl. 18.
Nantex Mfg. Co., to Nantex-Riviera Corp., New York, N.Y. 407,720, ren. 8-4-64. Cl. 39.
Nantex-Riviera Corp.: *See*—
Nantex Mfg. Co.
Nardin, Ulysse, S.A., Le Locle, Switzerland. 429,250, 12(c) pub. 8-4-64. Cl. 27.
Narragansett Gymnasium Equipment Co., Moberly, Mo. 774,-455, pub. 5-19-64. Consolidated certificate (Classes 22 and 32).
National Bellas Hess, Inc., North Kansas City, Mo. 774,-608, pub. 5-19-64. Cl. 39.
National Cash Register Co., The, Dayton, Ohio. 614,432. Am. 7(d). Cl. 37.
National Distributors Co.: *See*—
Law, William J.
National Foam System, Inc., West Chester, Pa. 662,971, canc. Cl. 6.
National Travelers Association, Monroe, N.Y. 663,266, canc. Cl. 200.
Nethercutt Laboratories, d.b.a. Cosgenic Labs, Los Angeles, Calif. 774,748-50. Cl. 51.
Newberry, J J, Co., New York, N.Y. 774,575, pub. 8-14-62. Cl. 39.
New England Fish Co., Seattle, Wash. 182,358, 12(c) pub. 8-4-64. Cl. 46.
New England Fish Co., Seattle, Wash. 188,144, 12(c) pub. 8-4-64. Cl. 46.
New England Food Sales Inc., Belmont, Mass. 774,681, pub. 5-19-64. Cl. 46.
New Trends Associates, Inc., New York, N.Y. 774,438, pub. 5-19-64. Cl. 21.
Niacet Chemicals Corp., Niagara Falls, N.Y., by Union Carbide Corp., New York, N.Y. 329,716, 12(c) pub. 8-4-64. Cl. 6.
Nicolet Industries, Inc., Ambler, Pa. 774,536, pub. 5-19-64. Cl. 35.
Norden-Ketay Corp., Stamford, Conn. 663,123, canc. Cl. 26.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 774,-751. Cl. 51.
Northwestern Distillers: *See*—
Hood River Distillers, Inc.
Nu-Age Systems, Inc., Detroit, Mich. 774,445, pub. 5-19-64. Consolidated certificate (Classes 21 and 26).
Nuclear Products Co., Cleveland, Ohio. 774,336-7, pub. 5-19-64. Cl. 6.
Ohio Table Pad Co., Toledo, Ohio. 774,705, pub. 5-19-64. Cl. 50.
Ohio-Kentucky Mfg. Co., to Wilson Sporting Goods Co., River Grove, Ill. 536,980, new certificate. Cl. 22.
Ohio-Kentucky Mfg. Co., to Wilson Sporting Goods Co., River Grove, Ill. 588,844, new certificate. Cl. 22.
Ohio-Kentucky Mfg. Co., to Wilson Sporting Goods Co., River Grove, Ill. 657,397, new certificate. Cl. 22.
Old London Foods, Inc., New York, N.Y. 774,683, pub. 5-19-64. Cl. 46.
Oldberg Mfg. Co., Grand Haven, Mich., from Heckethorn Mfg. & Supply Co., d.b.a. Mitchell Division, Dyersburg, Tenn. 774,521, pub. 5-19-64. Cl. 32.
Omark Industries, Inc., Portland, Oreg. 774,527, pub. 5-19-64. Cl. 34.
Ortho Pharmaceutical Corp., Raritan, N.J. 774,407, pub. 5-19-64. Cl. 18.
O'Shanter, Tam, Inc., Manchester, N.H. 774,618, pub. 5-19-64. Cl. 39.
O'Shanter, Tam, Inc., Manchester, N.H. 774,619, pub. 5-19-64. Cl. 39.
Owens-Illinois Glass Corp., Toledo, Ohio. 774,704, pub. 5-19-64. Cl. 50.
Oxford Precision, Inc., West Springfield, Mass. 774,479, pub. 5-19-64. Cl. 23.
Pabst Brewing Co.: *See*—
Premier-Pabst Corp.
Panogen, Inc., Ringwood, Ill., to Morton Chemical Co., Chicago, Ill. 662,961, canc. Cl. 6.
Paper Service Co., Inc., Kansas City, Kans. 774,549, pub. 5-19-64. Cl. 37.
Parker, Melvin, d.b.a. Miracle Massage Co., Loveland, Ohio. 774,674, pub. 5-19-64. Cl. 44.
Parker Pen Co., The, Janesville, Wis. 774,354, pub. 5-19-64. Cl. 11.
Parker Pen Co., The, Janesville, Wis. 774,545, pub. 5-19-64. Cl. 37.
Parnes, Samuel, & Sons, Inc., New York, N.Y. 663,194, canc. Cl. 39.
Patent Button Co., The, Waterbury, Conn. 663,126, canc. Cl. 26.
Patrick Industries, Inc., New York, N.Y. 774,634, pub. 5-19-64. Cl. 39.
Payne Products Co., Charlotte, N.C. 774,712, pub. 5-19-64. Cl. 51.
Pearl, Lester S., d.b.a. Gateway Furniture Mfg. Co., St. Louis, Mo. 774,523, pub. 5-19-64. Cl. 32.
Penney, J. C., Co., New York, N.Y. 774,448, pub. 5-19-64. Consolidated certificate (Classes 21 and 44).
Pentex Inc., Kankakee, Ill. 774,334, pub. 5-19-64. Cl. 6.
Pet Milk Co.: *See*—
Whitman, Stephen F., & Son.
Peter Pan Paint Manufacturers: *See*—
Peter Pan Paint Mfg. Corp.
Peter Pan Paint Mfg. Corp., d.b.a. Peter Pan Paint Manufacturers, Brooklyn, N.Y. 774,394, pub. 5-19-64. Cl. 16.
Peterberg, Inc.: *See*—
Kilty Products, Inc.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 662,963, canc. Cl. 6.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 662,965-6, canc. Cl. 6.
Phelan-Faust Paint Mfg. Co., to Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 187,879, ren. 8-4-64. Cl. 16.
Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 774,393, pub. 5-19-64. Cl. 16.
Philadelphia Laboratories, Inc., Philadelphia, Pa. 774,420, pub. 5-19-64. Cl. 18.
Phillocraft Co., Philadelphia, Pa. 774,518, pub. 5-19-64. Cl. 32.
Photocircuits Corp., Glen Cove, N.Y. 774,439, pub. 5-19-64. Cl. 21.
Phyllis Shoe Co., Inc., Lowell, Mass. 774,633, pub. 5-19-64. Cl. 39.
Picariello & Singer, Inc., East Boston, Mass. 774,603, pub. 5-19-64. Cl. 39.
Picture Tube Center Corp., Los Angeles, Calif. 663,063, canc. Cl. 21.
Pitt-Consol Chemical Co., Newark, N.J. 774,341-2, pub. 5-19-64. Cl. 6.
Pomerantz, A., and Co., Philadelphia, Pa. 774,543, pub. 5-19-64. Cl. 37.
Pools, Anthony, Inc., South Gate, Calif. 774,365, pub. 5-19-64. Cl. 18.
Porder, Chas., Mfg., Inc., Lowell, Mass. 774,601, pub. 5-19-64. Cl. 39.
Portable Air Cooler & Heater, Inc., San Francisco, Calif. 663,102, canc. Cl. 23.
Porter, H. K., Co., Inc.: *See*—
Disston, Henry, & Sons, Inc.
Porzellanfabrik, W. Goebel, Oeslau und Wilhelmfeld, Bavaria, Germany. 774,700, pub. 7-16-63. Cl. 50.
Powell Paint Co., Compton, Calif. 663,019, canc. Cl. 16.
Preen Co., The, South Norwalk, Conn. 774,324, pub. 5-19-64. Cl. 4.
Premier-Pabst Corp., Peoria Heights, Ill., by Pabst Brewing Co., Chicago, Ill. 331,856, 12(c) pub. 8-4-64. Cl. 48.
Prescott Mfg., Inc., Excelsior, Minn. 774,497, pub. 5-19-64. Cl. 26.
Pro-Caps Products, Inc.: *See*—
Sir Barton's, Inc.
Professional Pharmacal Co., Inc., San Antonio, Tex. 774,-427, pub. 5-19-64. Cl. 18.
Prosperity Co., Inc., The, Syracuse, N.Y., by Ametek, Inc., New York, N.Y. 308,594, 12(c) pub. 8-4-64. Cl. 24.
Prosperity Co., Inc., The, Syracuse, N.Y., by Ametek, Inc., New York, N.Y. 348,178, 12(c) pub. 8-4-64. Cl. 21.
Prosperity Co., Inc., The, Syracuse, N.Y., by Ametek, Inc., New York, N.Y. 388,840, 12(c) pub. 8-4-64. Cl. 24.
Pullman Inc., Cincinnati, Ohio. 774,433, pub. 5-19-64. Cl. 19.
Purdue Frederick Co., The, Yonkers, N.Y. 774,425, pub. 5-19-64. Cl. 18.
Purex Corp., Ltd., Lakewood, Calif. 774,709, pub. 8-10-64. Cl. 51.
Quaker Chemical Corp., Conshohocken, Pa. 774,380, pub. 1-14-64. Cl. 15.
Quaker Oats Co., The, Chicago, Ill. 186,088, ren. 8-4-64. Cl. 46.
Quaker Shoe Corp., Allentown, Pa. 774,613, pub. 5-19-64. Cl. 39.
Quaker State Oil Refining Corp., Oil City, Pa. 774,388, pub. 5-19-64. Cl. 15.
Quaker State Oil Refining Corp., Oil City, Pa. 774,392, pub. 5-19-64. Cl. 16.
R.D. Merchandise Corp.: *See*—
Ardee Merchandise Corp.
Radtke, Eldon E., d.b.a. Kitchen Kut-Up, San Diego, Calif. 774,481, pub. 5-19-64. Cl. 23.
Ramco Enterprises, Inc., New York, N.Y. 774,651, pub. 5-19-64. Cl. 42.
Raybestos-Manhattan, Inc., Passaic, N.J. 774,467, pub. 5-19-64. Cl. 23.
Reaction Laboratories, Inc., Tonawanda, N.Y. 774,381, pub. 5-19-64. Cl. 15.
Red Owl Stores, Inc., d.b.a. Lakeland Grocery Co., Hopkins, Minn. 774,677, pub. 5-19-64. Cl. 45.
Regal Knitwear Co., Inc.: *See*—
Regal Knitting Co.
Regal Knitting Co., by Regal Knitwear Co., Inc., New York, N.Y. 188,058, 12(c) pub. 8-4-64. Cl. 39.
Regensburg, E., & Sons, New York, N.Y. 774,402, pub. 5-19-64. Cl. 17.
Regina Cigar Co., Inc., Philadelphia, Pa. 774,401, pub. 5-19-64. Cl. 17.
Register and Tribune Syndicate, Inc., The, Des Moines, Iowa. 774,567-8, pub. 5-19-64. Cl. 38.
Republic Rubber Division: *See*—
Aeroquip Corp.
Resillo Press Pad Co., Chicago, Ill. 774,493, pub. 5-19-64. Cl. 24.
Rexall Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 774,480, pub. 5-19-64. Cl. 23.
Richards, Caryl, Inc., New York, N.Y. 774,707, pub. 2-7-61. Cl. 51.
Richardson Homes Corp., Elkhart, Ind. 774,429, pub. 5-19-64. Cl. 19.
Riegel Paper Corp., New York, N.Y. 774,547, pub. 5-19-64. Cl. 37.

Rodale Mfg. Co., Inc., d.b.a. Rodale Mfg. Co., Inc., and Rodale Mfg. Co., Inc., Emmaus, Pa. 774,443, pub. 5–19–64. Cl. 21.
Rohm & Haas Co., Philadelphia, Pa. 407,350, ren. 8–4–64. Cl. 21.
Roofe, Elmer L., d.b.a. Roofe Precision Products, Houston, Tex. 774,465, pub. 5–19–64. Cl. 23.
Roofe Precision Products: *See*—
Roofe, Elmer L.
Rowland Products Inc., Kensington, Conn. 774,706, pub. 5–19–64. Cl. 50.
Royal Publishers, Inc., Johnson City, Tenn. 774,571, pub. 5–19–64. Cl. 38.
S.A.F.A. Soc. An. Fabbrica Accumulatori, Milan, Italy. 663,069, canc. Cl. 21.
SCM Corp., New York, N.Y. 774,333, pub. 5–19–64. Consolidated certificate (Classes 6, 11, 20, 37, and 50).
SOS-Kinderdorf, Innsbruck, Gold. Dachl., Austria. 774,563, pub. 5–19–64. Cl. 38.
Sack, Minnie, Weehawken, N.J. 663,195, canc. Cl. 39.
Safegard Corp., The, Cincinnati, Ohio. 774,524, pub. 5–19–64. Cl. 32.
Safeway Stores, Inc., Oakland, Calif. 678,179. Am. 7(d). Cl. 46.
Saffir, Jacob A., Los Angeles, Calif. 774,671, pub. 5–19–64. Cl. 44.
Saks & Co., New York, N.Y. 774,592, pub. 5–19–64. Cl. 39.
San Antonio Tent & Awning Co.: *See*—
Crawford-Austin Mfg. Co.
Sanitary Paper Mills, Inc., The: *See*—
Swanee Paper Corp.
Savada Bros., Inc., New York, N.Y. 774,615, pub. 5–19–64. Cl. 39.
Savermo Ltd., London, England. 755,194. Am. 7(d). Cl. 49.
Schaumburger, Charles, Inc., Englewood, N.J. 774,685, pub. 5–19–64. Cl. 46.
Schenley Distillers, Inc.: *See*—
Bernheim Distilling Co.
Schiffman, Ilene B., d.b.a. Tweed, Philadelphia, Pa. 774,611, pub. 5–19–64. Cl. 39.
Schlage Lock Co., San Francisco, Calif. 774,495, pub. 5–5–64. Cl. 25.
Schmidt Sales Co.: *See*—
Vasel, Paul C.
Schmitt, Dr. Walter U., Firma, GmbH, Schwabisch Gmund, Germany. 774,675, pub. 5–19–64. Cl. 44.
Sea-Way Marketing Co., Crown Point, Ind. 774,338, pub. 5–19–64. Cl. 6.
Seiber Bros., Inc., Shreveport, La. 774,617, pub. 5–19–64. Cl. 39.
Sentimentally Yours: *See*—
Kaufman, Wynne.
Sheldon Co., The: *See*—
Sheldon, John P., Inc.
Sheldon, John P., Inc., d.b.a. The Sheldon Co., Los Angeles, Calif. 774,646, pub. 5–19–64. Cl. 40.
Shepherd, Simpson, & Sons Ltd., London, England. 663,237, canc. Cl. 49.
Sherry Hill, Inc., Boston, Mass. 774,577, pub. 5–19–64. Cl. 39.
Shields, Inc., of Attleboro, Mass., New York, N.Y. 774,347, pub. 5–19–64. Cl. 8.
Shoemarket, Inc., Baltimore, Md. 774,579, pub. 5–19–64. Cl. 39.
Shoup Engineering Corp., East Troy, Wis. 774,442, pub. 5–19–64. Cl. 21.
Shuman, Norman, d.b.a. Coquette, Brooklyn, N.Y. 774,609, pub. 5–19–64. Cl. 39.
Silent Hoist & Crane Co., Inc., Brooklyn, N.Y. 774,483, pub. 5–19–64. Cl. 23.
Simplex Wire & Cable Co., Cambridge, Mass. 191,594, ren. 8–4–64. Cl. 21.
Singer Co., The, New York, N.Y. 774,447, pub. 5–19–64. Cl. 21.
Sir Barton's, Inc., to Pro-Capa Products, Inc., Brooklyn, N.Y. 432,728, new certificate. Cl. 6.
Siroll Laboratories, Inc., Santa Monica, Calif. 774,708, pub. 2–6–62. Cl. 51.
Skadden, Dayton B., Baltimore, Md. 774,396, pub. 5–19–64. Cl. 16.
Skinner, William, & Sons, New York, N.Y. 663,210, canc. Cl. 42.
Sklar, J., Mfg. Co., Long Island City, N.Y. 248,532, 12(c) pub. 8–4–64. Cl. 44.
Slater, Rodger & Co., Ltd., Glasgow, Scotland. 774,697, pub. 5–19–64. Cl. 49.
Smit, J. K., & Sons (Canada) Ltd.: *See*—
Smit, J. K., & Sons Diamond Products Ltd.
Smit, J. K., & Sons Diamond Products Ltd., from J. K. Smit & Sons (Canada) Ltd., Toronto, Ontario, Canada. 774,463, pub. 8–14–62. Cl. 23.
Smith, Rawlen T., d.b.a. Special Products Co., Golden, Colo. 774,476, pub. 5–19–64. Cl. 23.
Smith-Douglass Co., Inc., Norfolk, Va. 774,349, pub. 5–19–64. Cl. 10.
Smith-Douglass Co., Inc., Norfolk, Va. 774,731. Cl. 10.
Southall, James & Co. Ltd., Norwich, Norfolk, England. 774,610, pub. 5–19–64. Cl. 39.
Southern Illinois University Press: *See*—
Board of Trustees of Southern Illinois.
Spartans Industries, Inc., New York, N.Y. 774,576, pub. 5–19–64. Cl. 39.
Special Products Co.: *See*—
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Specialty Products Co.: *See*—
Binns, W. B., Jr.
Spectator, Inc., Chicago, Ill. 663,202, canc. Cl. 39.
Splinter Engineer Co., Silver Spring, Md. 663,140, canc. Cl. 32.
Sprouil, E. T., Bristolville, Ohio. 662,933, canc. Cl. 1.
Staley, A. E., Mfg. Co., Decatur, Ill. 774,335, pub. 5–19–64. Cl. 6.
Standard Oil Co., The, Cleveland, Ohio. 774,332, pub. 5–19–64. Cl. 4.
Standard Pharmaceutical Co.: *See*—
Berger, Herman.
Standard Pharmaceutical Co., Inc.: *See*—
Berger, Herman.
Standard Products Corp., New York, N.Y. 774,352, pub. 5–19–64. Cl. 11.
Stanley, John T., Co., Inc., New York, N.Y. 191,464, ren. 8–4–64. Cl. 52.
Star Mfg. Co., Leominster, Mass. 774,734. Cl. 22.
Stembridge Mfg. Co., Chicago, Ill. 663,142, canc. Cl. 32.
Sterling Drug Inc., New York, N.Y. 608,948, cor. Cl. 11.
Sterneo Industries, Inc., Allendale, N.J. 774,416, pub. 5–19–64. Cl. 18.
Sterneo Industries, Inc., Allendale, N.J. 774,533, pub. 5–19–64. Cl. 35.
Stevens, J. P., & Co., Inc.: *See*—
Cantor Greenspan Co. Inc.
Stevens, J. P., & Co., Inc., New York, N.Y. 774,666, pub. 5–19–64. Cl. 42.
Strathmore Products, Inc., Syracuse, N.Y. 774,357, pub. 5–19–64. Cl. 16.
Strauss, Levi, & Co., San Francisco, Calif. 774,625, pub. 6–9–64. Cl. 39.
Straub, W. F., & Co., Chicago, Ill. 774,739. Cl. 38.
Stylume Products, Inc., Hialeah, Fla. 774,525, pub. 5–19–64. Cl. 32.
Sundure Paint Corp., Syracuse, N.Y. 774,399, pub. 5–19–64. Cl. 16.
Sun-Rey Engineering Co., Chicago, Ill. 774,528, pub. 5–19–64. Cl. 34.
Suntemp Industries, Inc., Blackwood, N.J. 774,529–30, pub. 5–19–64. Cl. 34.
Superba Cravats, Inc., Rochester, N.Y. 774,620, pub. 5–19–64. Cl. 39.
Super-Form Brassiere, Inc., Orange, N.J. 774,616, pub. 5–19–64. Cl. 39.
Super-Form Brassiere, Inc., Orange, N.J. 774,622, pub. 5–19–64. Cl. 39.
Swanee Paper Corp., New York, N.Y., from The Sanitary Paper Mills, Inc., East Hartford, Conn. 774,544, pub. 5–19–64. Cl. 37.
Swanson Sales, Inc., West Hartford, Conn. 774,373, pub. 5–19–64. Cl. 13.
Sweet Pepperell, Inc., San Rafael, Calif. 774,684, pub. 5–19–64. Cl. 46.
Street, R. R., & Co., Inc., Chicago, Ill. 407,673, ren. 8–4–64. Cl. 6.
Sweetland Co.: *See*—
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Swingline Inc., Long Island City, N.Y. 774,550, pub. 5–19–64. Cl. 37.
Tamms Industries Co., Chicago, Ill. 774,360, pub. 5–19–64. Cl. 12.
Tasker, John H., d.b.a. Chef's Kitchen, Greensboro, N.C. 774,680, pub. 5–19–64. Cl. 46.
Taub, George J., d.b.a. George Taub Products, Jersey City, N.J. 774,672, pub. 5–19–64. Cl. 44.
Taub, George, Products: *See*—
Taub, George J.
Texas Harvest Hat Co., Laredo, Tex. 663,203, canc. Cl. 39.
Thomson Co., Thomson, Ga. 774,504, pub. 5–19–64. Cl. 39.
Trade Routes: *See*—
Gorman, Sheridan P.
Trico Nonferrous Metal Products, Inc., Ambler, Pa. 663,079, canc. Cl. 21.
Trippensee Planetarium Co., Inc., Saginaw, Mich. 774,736. Cl. 26.
Tupperware: *See*—
Rexall Drug and Chemical Co.
Turner, Hall, Corp., New York, N.Y. 774,713, pub. 5–19–64. Cl. 51.
Turtle Wax, Inc., Chicago, Ill. 774,435, pub. 5–19–64. Cl. 10.
Tweed: *See*—
Schiffman, Ilene B.
Union Carbide Corp.: *See*—
Carbide and Carbon Chemicals Corp.
Linde Air Products Co., The.
Niacet Chemicals Corp.
Union Carbide Corp., New York, N.Y. 774,742. Cl. 38.
Union Tank Car Co., Chicago, Ill. 774,516, pub. 5–19–64. Cl. 31.
Unit Products Corp., Detroit, Mich. 774,361, pub. 5–19–64. Cl. 12.
United Aircraft Corp., East Hartford, Conn. 774,501, pub. 5–19–64. Cl. 26.
United Engineering and Foundry Co., Pittsburgh, Pa. 774,462, pub. 5–19–64. Cl. 23.
United Gilsonite Laboratories, Scranton, Pa. 408,842, 12(c) pub. 8–4–64. Cl. 16.
United Hosiery Mills Corp., to Miller-Smith Hosiery Mills, Chattanooga, Tenn. 186,869, ren. 8–4–64. Cl. 39.
United Merchants and Manufacturers, Inc., New York, N.Y. 774,339, pub. 5–19–64. Cl. 6.
United Piece Dye Works, The, Lodi, N.J. 774,000, pub. 5–19–64. Cl. 42.
United States Rubber Co., New York, N.Y. 774,461, pub. 5–19–64. Cl. 22.
United States Steel Corp., Pittsburgh, Pa. 774,346, pub. 5–19–64. Cl. 7.
United Yarn Products Co., Inc., Paterson, N.J. 774,665, pub. 5–19–64. Cl. 43.

Vacation Industries, Inc., Redondo Beach, Calif. 774,434, pub. 5–19–64. Cl. 19.
Vasel, Paul C., d.b.a. Schmidt Sales Co., New York, N.Y. 774,717, pub. 6–11–64. Cl. 52.
Vining Broom Co., Springfield, Ohio. 774,518, pub. 5–19–64. Cl. 20.
Virginia Dare Extract Co, Inc., Brooklyn, N.Y. 244,276, 12(c) pub. 8–4–64. Cl. 45.
Vital Earth Products, Inc., Washington, D.C. 774,350, pub. 5–19–64. Cl. 10.
Waldorf Paper Products Co., St. Paul, Minn. 774,314–5, pub. 5–19–64. Cl. 2.
Wall Colmonoy Corp., Detroit, Mich. 774,376, pub. 12–24–63. Cl. 14.
Wall Colmonoy Corp., Detroit, Mich. 774,526, pub. 4–14–64. Cl. 34.
Wampach & Maithie, Wichita, Kans. 774,414, pub. 5–19–64. Cl. 18.
Ward Chemical Co.: *See*—
Meta-Therm Corp.
Waters Mfg., Inc., South Sudbury, Mass. 663,061, canc. Cl. 21.
Weingrod, M., Co., Milwaukee, Wis. 774,738. Cl. 28.
West Paint & Varnish Co., Everett, Mass. 774,385, pub. 10–31–61. Cl. 16.
Westec, d.b.a. Sweetland Co., San Francisco, Calif. 774,477, pub. 5–19–64. Cl. 23.
Westec, d.b.a. Sweetland Co., San Francisco, Calif. 774,500, pub. 5–19–64. Cl. 26.
Western Art, Inc.: *See*—
Dyer, D. L.
Western Union Telegraph Co., The, New York, N.Y. 774,727, pub. 4–23–63. Cl. 104.
Westinghouse Electric Corp., Pittsburgh, Pa. 663,075, canc. Cl. 21.
Weyhing Brothers Mfg. Co., Detroit, Mich. 774,511, pub. 5–19–64. Cl. 28.
Whirlpool Corp., Benton Harbor, Mich. 774,449, pub. 5–19–64. Cl. 21.
Whitcomb, John, Ltd.: *See*—
Jacobson, F., & Sons, Inc.
Whiting, George A., Paper Co., Menasha, Wis. 774,542, pub. 5–19–64. Cl. 37.
Whitman, Stephen F., & Son, Philadelphia, Pa., to Pet Milk Co., St. Louis, Mo. 180,302, ren. 8–4–64. Cl. 46.
Wiedemann Machine Co., King of Prussia, Pa. 774,490, pub. 5–19–64. Cl. 23.
Williams, Eureka, Corp., Bloomington, Ill. 663,152, canc. Cl. 34.
Wilson Sporting Goods Co.: *See*—
Ohio-Kentucky Mfg. Co.
Winters, John, Co.: *See*—
Winters, John H.
Winters, John H., d.b.a. John Winters Co., New York, N.Y. 663,031, canc. Cl. 18.
Wolverine Equipment Co., Cambridge, Mass. 774,472, pub. 5–19–64. Cl. 23.
Wonder Furniture Corp., Brooklyn, N.Y. 668,143, canc. Cl. 32.
Wyandotte Chemicals Corp., Wyandotte, Mich. 774,343, pub. 5–19–64. Cl. 6.
Wyandotte Chemicals Corp., Wyandotte, Mich. 774,564, pub. 5–19–64. Cl. 38.
Wyott Mfg. Co., The, Cheyenne, Wyo. 774,468, pub. 5–19–64. Cl. 23.
X-3000 Products Co.: *See*—
Krentler, Walter L.
Yoder Feed-O-Matic Systems Co.: *See*—
Yoder Feeds, Inc.
Yoder Feeds, Inc., d.b.a. Yoder Feed-O-Matic Systems Co., Kalona, Iowa. 774,487, pub. 5–19–64. Cl. 23.
Yoder Feeds, Inc., d.b.a. Yoder Feed-O-Matic Systems Co., Kalona, Iowa. 774,489, pub. 5–19–64. Cl. 23.
Youthcraft Creations, Inc., New York, N.Y. 774,589, pub. 5–19–64. Cl. 39.
Zenith Radio Corp., Chicago, Ill. 407,714. Am. 7(d). Cl. 21.
Zinsser, William, & Co. Inc., New York, N.Y. 774,390, pub. 5–19–64. Cl. 16.

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U.S. Department of Commerce

LUTHER H. HODGES, *Secretary*

Patent Office

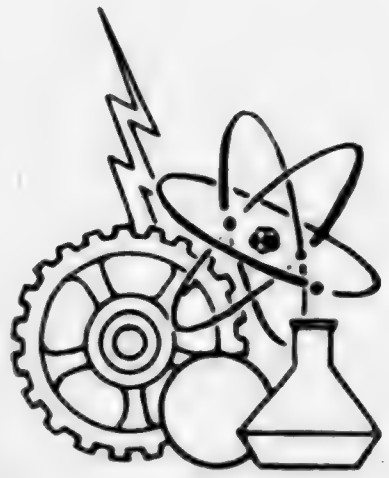
EDWARD J. BRENNER, *Commissioner*

Official Gazette

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

August 11, 1964 • Volume 805 • Number 2



PUBLISHED WEEKLY BY AUTHORITY OF CONGRESS

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 11, 1964 Volume 805 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1964

Examiner affirmed	290
Examiner affirmed in part	61
Examiner reversed	87
Total	438

Publication of Portions of Applications

The Patent Office has decided to resume the publication of portions of applications under the following conditions:

(1) Upon the written request of the owner of a pending application for patent which is not under final rejection, that a portion of the disclosure of the application be published in the OFFICIAL GAZETTE and that the application simultaneously be made available to the public, such request also indicating that he intends to abandon the application, such disclosure together with the serial number and date of filing, a representative claim and figure of the drawing which may be designated by the owner, will be published in the OFFICIAL GAZETTE. The Office reserves the right to refuse or refrain from publication of any particular application.

(2) Upon publication, the entire application will be available to the public for inspection and obtaining of copies, and the publication will so state.

(3) The publications will be used as references against other applications in which they may be applicable.

EDWARD J. BRENNER,
Commissioner of Patents.

July 14, 1964.

Photoprints as Drawings—Filing Date Only

Effective September 1, 1964 the Application Branch is authorized and directed to accept all applications in which photoprints have been submitted in lieu of formal drawings, and to forward them to the Examiner, who will notify the applicant immediately that the application has been accepted *for filing only*, and that to be entitled to examination, the applicant must file formal drawings complying with Rule 84 within 60 days, and pay the cost of comparing the photoprints with the formal drawings.

A comparison charge of $10.00 per hour, with a minimum charge of $10.00 per application is hereby established. This charge may be applied against deposit accounts and authorization to charge such accounts should be included when the formal drawings are filed. For those who have no deposit account acceptance of the formal drawings will be contingent upon payment of the comparison charge within the period set.

This notice supersedes the notice of April 24, 1964, published May 26, 1964, in 802 O.G. 871.

EDWARD J. BRENNER,
Commissioner.

July 16, 1964.

Dedications

2,671,515.—*Jesse E. Hall*, Weatherford, Tex. WELL BORE CLEANING SCRATCHER. Patent dated Mar. 9, 1954. Dedication filed May 11, 1964, by the assignee, *David N. Barry III*.

Hereby dedicates to the public the remaining term of said patent.

2,731,816.—*Jesse E. Hall, Sr.*, Weatherford, Tex. PROCESS FOR CONDITIONING WELLS FOR CEMENTING. Patent dated Jan. 24, 1956. Dedication filed May 11, 1964, by the assignee, *David N. Barry III*.

Hereby dedicates to the public the remaining term of said patent.

Adjudicated Patents

(C.A. Mich.) Bain Patent No. 2,667,750 (61—40), for method and apparatus for sinking mine shafts. Claims 1, 2, and 3 *Held* invalid and not infringed. *Bain* v. *M. A. Hanna Co.*, 331 F.2d 974; 141 USPQ 559.

(D.C. Kans.) McIntyre Patent No. 2,546,038 (188—88), for shock absorber construction, *Held* valid and infringed. *Monroe Auto Equipment Co.* v. *Precision Rebuilders Inc.*, 229 F. Supp. 347; 141 USPQ 627.

(D.C. Calif.) La Landre Patent No. 3,032,375 (297—440), for molded plastic seat of bucket shape and rigid tubular legs, *Held* invalid. *Jerrold Stephens Co.* v. *Aladin Plastics Inc.*, 229 F. Supp. 536; — USPQ —.

(D.C. Calif.) Avedon Patent No. 3,034,830 (297—445), for molded plastic seat of bucket shape and tubular plastic legs, *Held* invalid. *Id.*

(D.C.N.Y.) Marks Patent No. 2,742,327 (300—2), for fully automatic machine for making brushes. Claims 2, 6, 13, 16, and 17 *Held* valid but not infringed. *American Technical Machinery Corp.* v. *Caparotta*, 229 F. Supp. 479; 141 USPQ 387.

(D.C. Kans.) Whisler Reissue Patent No. 23,421 (188—88), for shock absorber, *Held* valid and infringed. *Monroe Auto Equipment Co.* v. *Precision Rebuilders, Inc.*, 229 F. Supp. 347; 141 USPQ 627.

New Applications Received During June 1964

Patents	8,168
Designs	447
Plant Patents	6
Reissues	27
Total	8,648

Issue—August 11, 1964

Patents	914—No.	3,143,739 to No.	3,144,652, incl.
Designs	65—No.	196,831 to No.	196,895, incl.
Plant Patents	4—No.	2,433 to No.	2,436, incl.
Total	983		

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
Commissioner of Patents.

July 16, 1964.

Classification Order No. 360

Classification Order No. 360, dated June 29, 1964, incorporates changes in the following classes:

92, EXPANSIBLE CHAMBER DEVICES

262, MINING, QUARRYING AND ICE HARVESTING—Abolished (Bulletin No. 339)

299, MINING OR IN SITU DISINTEGRATION OF HARD MATERIAL—Established (Bulletin No. 460)

The above changes will be incorporated in the Manual of Classification replacement pages dated July 1964.

H. B. WHITMORE,
Superintendent, Examining Corps.

July 24, 1964.

Classification Order No. 361

The following transfer is hereby ordered to take effect on Friday, July 17, 1964:

From Group 240 to Group 230
Class 178, TELEGRAPHY
Subclass 26

N. H. EVANS,
Acting Superintendent, Examining Corps.

Citation of Prior Art

It is found that citations of prior art pursuant to the notices dated December 10, 1963 (797 O.G. 733), and April 24, 1964 (802 O.G. 601), in some instances have comprised lists of more than fifty patents without any indication as to their supposed pertinence. Such citations are not helpful to the Patent Office and serve only to encumber the records without producing any useful result. It was the object of the notices referred to, to elicit citations which would be helpful to the Examiner in considering the application, and that result is not obtained by voluminous citations unaccompanied by explanation. Since such citations, similarly, are not helpful to the public, it has been concluded not to publish extensive lists of citations in the manner set forth in the notice dated June 22, 1964 (804 O.G. 521), and the publication of such citations will be limited to cases in which not more than ten references have been cited.

EDWARD J. BRENNER,
Commissioner of Patents.

July 24, 1964.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	7-12-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	11-30-62	12- 6-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1-22-63	1-25-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-24-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-18-62	10-29-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-31-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	9-12-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11-23-62	11-15-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 5-62	9-11-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-18-62	11-23-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	9-19-62	10- 9-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	7- 3-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	8- 9-62	9-24-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9-10-62	9-13-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	1-10-63	1-10-63

CONDITION OF PATENT APPLICATIONS AS OF JUNE 30, 1964

Total number of pending applications (excluding Designs)	211,565
Total number of Design applications pending	6,014
Total number of applications awaiting action (excluding Designs)	127,154
Total number of Design applications awaiting action	1,997
Date of oldest new application awaiting action	June 19, 1962
Date of oldest amended application awaiting action	July 3, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,424,966 to 2,426,560, inclusive
Plant Patents	Numbers 751 to 755, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6- 6-62	7- 2-62
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	12-18-62	1-21-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10-23-62	10-1-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-20-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	10-19-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner Fluid Handling; Valves; Pipes and Tubular Conduits; Fluid Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	1-28-63	8- 6-62
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GARRAU, Supervisory Examiner Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	1-29-63	8- 6-62
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	4-15-63	4- 8-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	5-31-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 1-63	3-16-63
PHYSICS, GROUP 430—R. L. EVANS, Supervisory Examiner Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11-14-62	11-26-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-31-63	4-11-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-26-63	3-11-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	1-19-63	4-15-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner Printing; Typewriters; Stationery; Material Treatment.	1- 1-63	12-13-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	4- 1-63	3-29-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner Industrial Arts; Household, Personal and Fine Arts.	2- 3-64	2- 3-64

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE MAURICE SOULAL

No. 7151. Decided March 12, 1964

[51 CCPA —; 328 F.2d 914; 140 USPQ 607]

1. PATENTABILITY—PROCESS—APPLICATION OF PRIOR ART PROCESS TO PRODUCE OTHER COMPOUND.

"It is clear that the question whether there is anything patentable in applying or adapting a prior art process of producing a chemical substance to the production of other chemical substances is one which must be determined on the basis of the particular circumstances of the individual case involved."

2. SAME—SAME—OBVIOUSNESS—APPLICATION OF PRIOR ART PROCESS TO PRODUCE OTHER COMPOUND.

"Appellant's process is analogous to that of the French patent as is demonstrated by the facts that in both processes the two halogens attached to the carbon atoms of the dihalo reactants become part of the halogen acid product, 2HX, and a pyrrolidine is formed. Moreover, in the process of the French patent, as in appellant's process, an excess of the amine reactant may be used as well as an additional quantity of inorganic alkali. We think those circumstances would make the production of appellant's N-substituted prolinols obvious to one of ordinary skill in the art when the specific 1,4-dihalo compound, viz. appellant's carboxylic acid ester, is employed in the process of the French patent."

3. SAME—PARTICULAR SUBJECT MATTER—"PRODUCTION OF N-SUBSTITUTED 2-HYDROXYMETHYL PYRROLIDINES."

The refusal of three claims in an application entitled "Production of N-Substituted 2-Hydroxymethyl Pyrrolidines," as unpatentable over the prior art, is affirmed as to two claims and reversed as to the third.

APPEAL from the Patent Office. Serial No. 715,498.

MODIFIED.

Albert L. Jacobs, James W. Dent, for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

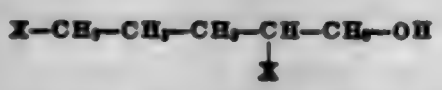
MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 10, 12 and 17 of appellant's application Serial No. 715,498, filed February 16, 1958, for "Production of N-Substituted 2-Hydroxymethyl Pyrrolidines." No claim has been allowed.

The appealed claims read:

10. A process for the preparation of N-methylprolinol which comprises reacting 2:5-dibromoamyl acetate with methylamine.

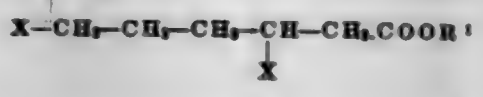
12. A process for the preparation of N-substituted prolinols which comprises reacting a carboxylic acid ester, whereof the carboxylic acid is selected from the group consisting of alkyl carboxylic acids having 1 to 6 carbon atoms in the alkyl group and aryl carboxylic acids, of a 2:5-dihalogeno-amyl alcohol of the general formula:



in which X is a halogen having an atomic weight greater than 30 and less than 90, with an alkylamine in which the alkyl group contains from 1 to 4

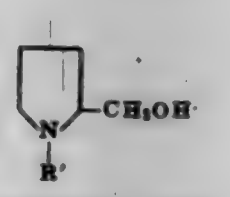
carbon atoms inclusive, selected from the group consisting of primary alkylamines and hydroxy alkylamines, to produce a mixture of N-substituted prolinols and an isomeric N-substituted-3-hydroxy-piperidine.

17. A process for the preparation of N-substituted prolinols which comprises reacting a carboxylic acid ester of a 2:5-dihalogenoamyl alcohol of the general formula:

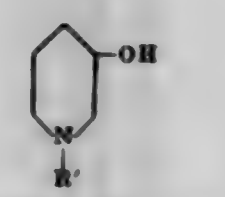


in which X is a halogen selected from the group consisting of chlorine and bromine and R is selected from the group consisting of alkyl having 1 to 6 carbon atoms and aryl with a 1 to 4 carbon atom alkylamine selected from the group consisting of primary alkylamines and hydroxy alkylamines.

Appellant's application describes the production of N-substituted 2-hydroxymethyl pyrrolidines, referred to as N-substituted prolinols, and N-substituted-3-hydroxy-piperidines. The prolinols and piperidines produced by appellant's process have the structural formulae:



N-substituted prolinols



N-substituted-3-hydroxy-piperidines

wherein R′ is an alkyl or hydroxyalkyl radical containing from one to four carbon atoms. Appellant's process comprises reacting a 1,4-halo compound with a primary alkylamine or a hydroxyalkyl amine. Appellant in his application states that the process "usually provides, in addition to the desired N-substituted prolinol, a quantity of an isomeric N-substituted-3-hydroxy-piperidine which can be separated from the N-substituted prolinol by fractional distillation." No contention has been made that the N-substituted prolinols produced are new, appellant stating that his invention resides "only in the production of N-substituted prolinols by a new, economical and efficient process."

The reference relied on is:

French patent, 1,000,310, October 10, 1951.

The French patent discloses a process for producing derivatives of pyrrolidine which comprises reacting a 1,4-dihalo compound and a hydroxyalkyl amine such as ethanol amine.

The Examiner rejected the claims as "lacking invention" over the French patent. Although the French patent does not disclose the specific 1,4-dihalo compound of appellant's process, he stated that no "invention can be seen in substituting a specific 1,4-dihalo entity in the process of the reference to obtain the expected result—cyclization to a pyrrolidine." The production of the 3-hydroxy-piperidines was not considered relevant, "since ascertaining the products of an obvious process is not a patentably inventive act." The Board found no reversible error in the Examiner's position.

Appellant contends that while it is true that the N-substituted proli-

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[1] The Examiner has called attention to an error in claim 17 as to the terminal "CH_2COOR" in the formula set forth therein. As the Board has stated, apparently that terminal grouping should be CH_2OOCR. We agree with the Board and will so read the claim.

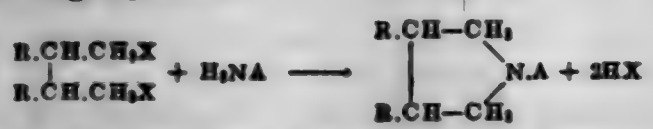
nols can also be designated as pyrrolidines, the term "pyrrolidines" is a very broad and general one,[2] and argues that there are many pyrrolidines which are not prolinols. Appellant urges that the French patent makes no specific mention of any prolinol. Although appellant concedes that the French patent does involve in a general way the cyclization of the starting material to a pyrrolidine, it is contended that there is not apparent possible combination of reactants in the French patent which would inherently result in the production of N-substituted prolinols.

Appellant argues that his invention relates to a process for preparing N-substituted prolinols which can result in the concurrent production of isomeric N-substituted 3-hydroxy-piperidines. That phase of the invention which involves claiming the simultaneous production of both five-membered ring compounds (the N-substituted prolinols) and the six-membered ring compounds (the N-substituted-3-hydroxy-piperidines) is said to be exemplified by Example 11 of the application wherein N-methyl prolinol and N-methyl-3-hydroxy-piperidine are both produced by the same reaction and in approximately equal amounts. Appellant contends that the French patent has no teaching or suggestion as to the simultaneous production of a five-membered ring compound and a six-membered ring compound.

The issue here is whether it would have been obvious to one of ordinary skill in the relevant art, at the time the invention was made, to make the N-substituted prolinols with or without the concurrent production of the isomeric N-substituted-3-hydroxy-piperidines by a method such as that shown in the French patent for producing derivatives of pyrrolidine.

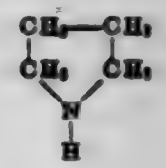
[1] It is clear that the question whether there is anything patentable in applying or adapting a prior art process of producing a chemical substance to the production of other chemical substances is one which must be determined on the basis of the particular circumstances of the individual case involved. *In re Magat*, 44 CCPA 735, 240 F.2d 351, 112 USPQ 317. Having considered all the circumstances, as here afforded us by the record and briefs, we see no error in the finding below of unpatentability as to claims 10 and 17 which do not specify the concurrent production of the isomeric N-substituted-3-hydroxy-piperidine.

The reaction in the French patent is stated to take place in accord with the following equation:



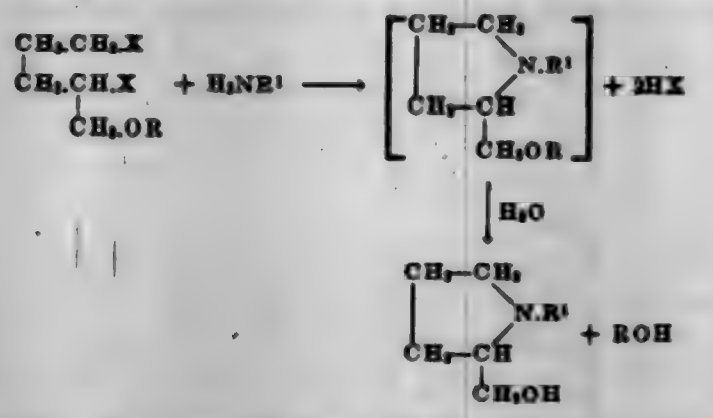
In that equation R indicates "H, OH or other indifferent substituent," X a halogen such as chlorine, while A may be a hydroxyalkyl group such as the hydroxyethyl group. The reaction is said to be effected quite rapidly at ordinary temperatures and heating is said to be necessary occasionally. An excess of the amino compound is considered necessary and a corresponding quantity of an alkali lye such as caustic potash lye may also be employed. It is stated in the French patent

[2] Hackh's Chemical Dictionary (1944) shows that the compound, pyrrolidine, has the formula



that in the above reaction between two bifunctional compounds there are obtained almost "exclusively" materials of the pyrrolidine series.

The reaction in appellant's process is stated to be as follows:



wherein R is an acyl group, R^1 is an alkyl or hydroxyethyl group and X is a halogen such as chlorine. When no solvent is used in carrying out the reaction, appellant states that "it has been found preferable to use the primary alkylamine in excess." Also appellant employs a sodium hydroxide solution in his examples.

[2] Appellant's process is analogous to that of the French patent as is demonstrated by the facts that in both processes the two halogens attached to the carbon atoms of the dihalo reactants become part of the halogen acid product, 2HX, and a pyrrolidine is formed. Moreover, in the process of the French patent, as in appellant's process, an excess of the amine reactant may be used as well as an additional quantity of inorganic alkali. We think those circumstances would make the production of appellant's N-substituted prolinols obvious to one of ordinary skill in the art when the specific 1,4-dihalo compound, viz. appellant's carboxylic acid ester, is employed in the process of the French patent. See *In re Norman, Lesuer and Mastin*, 50 CCPA 817, 309 F.2d 517, 135 USPQ 328.

However, we are unable to agree that the process in claim 12, which specifies the concurrent production of the isomeric piperidine, is obvious in view of the French patent. That phase of appellant's invention is said to be illustrated by his Example 11 wherein N-methyl prolinol and N-methyl-3-hydroxy-piperidine are both produced by the same process in approximately equal amounts. Example 11 is distinguishable from appellant's other examples in that the dihalo compound is added to the amine reactant cooled to −5° C. That temperature is not specified in appellant's other examples where the amine is mixed with the dihalo compound at a temperature of 30° C. to 40° C. or at an unspecified temperature.

Such reaction conditions as recited in appellant's Example 11 are not found in the French patent nor are we convinced from the record that the conditions recited for the process in the French patent would inherently result in the production of the isomeric piperidine. There is certainly no further suggestion in the French patent of any "interaction" of the 1,4-dihalo reactant to produce a piperidine compound concurrently with the production of the pyrrolidine. On the contrary the French patent specifically indicates that in the reaction therein, there are obtained almost "exclusively" materials of the pyrrolidine series.

[3] For the foregoing reasons the decision of the Board is affirmed as to claims 10 and 17 but reversed as to claim 12.

MODIFIED.

U.S. Court of Customs and Patent Appeals

IN RE DAVID POLLAN

No. 7118. Decided March 12, 1964

[51 CCPA —; 328 F.2d 899; 140 USPQ 591]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"AUTOMATIC SLIDE PROJECTOR."
The refusal of the claim in an application entitled "Automatic Slide Projector," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 552,428.

AFFIRMED.

James P. Malone for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claim 15, the only remaining claim, in appellant's application Serial No. 552,428, filed December 12, 1955, for "Automatic Slide Projector."

The appealed claim reads as follows:

15. A magazine slide projector comprising a housing adapted to receive a removable magazine, projection means including a light source, a lens system mounted in said housing, an internal slide magazine track mounted in said housing parallel to and at the same horizontal level as the optical axis of said projection means, positive control means mounted in said housing to move slides horizontally to and from a magazine on said track to a position in front of said lens system, indexing means connected to said slide moving means and adapted to advance a magazine on said track each time a slide is moved, said slide moving means comprising a pusher member mounted perpendicular said magazine track, a shutter pivotally mounted on said housing in front of said lens system, and means connected to said pusher member to open said shutter as a slide is placed in front of said lens system.

The references relied on by the Examiner and Board are:

Roebuck, 998,305, July 18, 1911.
Tuck, 2,579,281, December 18, 1951.
Goldberg, 2,756,630, July 31, 1956.

The application discloses a slide projector, a side view of which is shown in FIG. 1A of the drawings reproduced below:

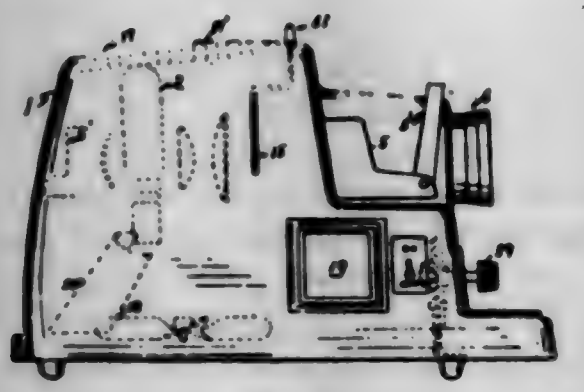


FIG 1A

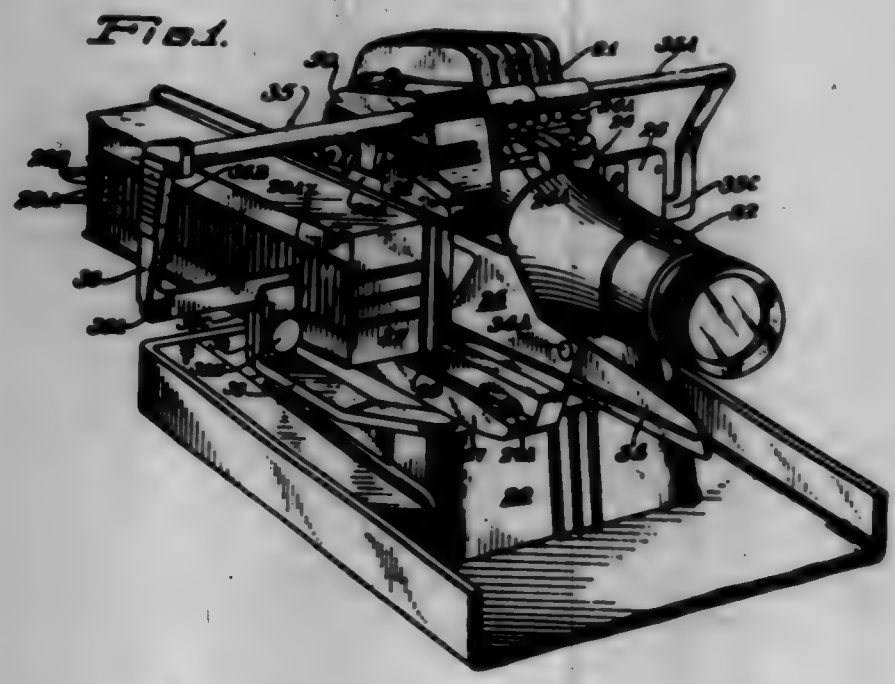
The projector includes a housing 1, a lamp 2, a lens system in front of the lamp, a focusing lens 4, and an internal slide magazine track 5. The track is in the form of a straight channel member which is disposed "parallel to the optical path" and "extends the full length of the projector so that a slide magazine may be inserted through the

back of the projector and removed from the front of the projector after it has been automatically advanced." Rotatable extension wings 5′ at each end of the track, which can be lowered down to extended position, are said to serve to keep the slides in place in the magazine. The magazine itself is provided with a plurality of compartments for receiving the slides in parallel relationship.

A slide changing pusher member 15 extending from the side of the projector is operable through a lever and gear arrangement to index the compartmented magazine forward, one compartment at a time, and includes an arm portion which advances a compartment of the magazine to push a slide horizontally inwardly into viewing position in alignment with the lamp 2 and lens 4. As the pusher arm is moved inwardly a tip thereon engages a shutter on the optical axis and pivots it upward from a position in alignment with the slide to expose the slide for display on the screen. Return movement of the pusher results in return of the shutter to its former position and return of the slide to the magazine, placing the apparatus in condition for exhibiting the next slide.

The Goldberg patent discloses a slide projector which is also provided with a slide changer of the automatic magazine advancing type. FIG. 1, reproduced below, is a perspective view (with the base tray partly cut away) of the Goldberg slide projector.

FIG. 1.



The projector includes a removable magazine 29, projection means including a light source, lens system 22, a slide magazine track comprised of a long bottom section 27 and upper short track sections 30 and being parallel to and in the horizontal plane of the lens axis, a step by step magazine advancing means 50, and slide pusher member 35, 35A, 36A positioned perpendicular to the magazine track, the pusher member including a leg 36 which serves as a handle. Actuation of the slide assembly serves to index the slide magazine one compartment forward, move the slide to be projected into position for projection while *sliding* a shutter on the optical axis to inoperative position, and then move the shutter back to operative position and return the slide to the magazine.

The Tuck patent discloses a slide projector for displaying in sequence slides arranged in a column in a tray or magazine. A horizontally disposed support or carriage receives the tray, and a housing

comprised of a body portion and cover encloses the projector parts including the tray and its support.

Roebuck discloses a projector where, as in appellant's device and the Goldberg reference, slides are individually moved horizontally from a straight magazine or track into projecting position. The shutter plates are mounted on *pivots* about which they swing to an inoperative position to expose a slide in projecting position for display.

The Board sustained the Examiner's rejection of the claim as unpatentable over Goldberg in view of Roebuck and Tuck. That rejection was on the basis that it would not be patentable to provide Goldberg's projector with a pivotally mounted shutter as in Roebuck in place of the sliding shutter present in the Goldberg structure and that it would be obvious to enclose the elements of Goldberg's projector in a housing as suggested by Tuck. Noting that appellant questioned the operativeness of Goldberg in connection with the stop means for locking the parts of the pusher member together, the Board noted that the claim does not recite details of that member and ruled that it would be obvious to one skilled in the art to provide a proper coupling in the tube and rod arrangement used by Goldberg.

The Board further held that an affidavit filed by appellant under the provisions of Rule 131 was insufficient to overcome the Goldberg patent as a reference. That ruling was based on the view that the exhibit projector constituting the subject matter of the affidavit does not show essential features of the claimed projector structure.

Before us, appellant stresses as Point 1 of his argument the contention that the affidavit under Rule 131 overcomes the Goldberg patent as a reference and we consider the question raised thereby to be the controlling issue. Appellant also argues, as Points 2 and 3, that Goldberg is inoperative and that the claim is otherwise patentable over Goldberg "singly or in combination" irrespective of the Rule 131 affidavit. The Solicitor points out, however, that appellant's Notice of Appeal, although asserting generally that the Board "erred in denying a patent on the subject application," specifically alleges error as the matters involved only in the holding that the Rule 131 affidavit is insufficient.

Concerning Points 2 and 3, we find no error in the Board's view of the rejection expressed as follows:

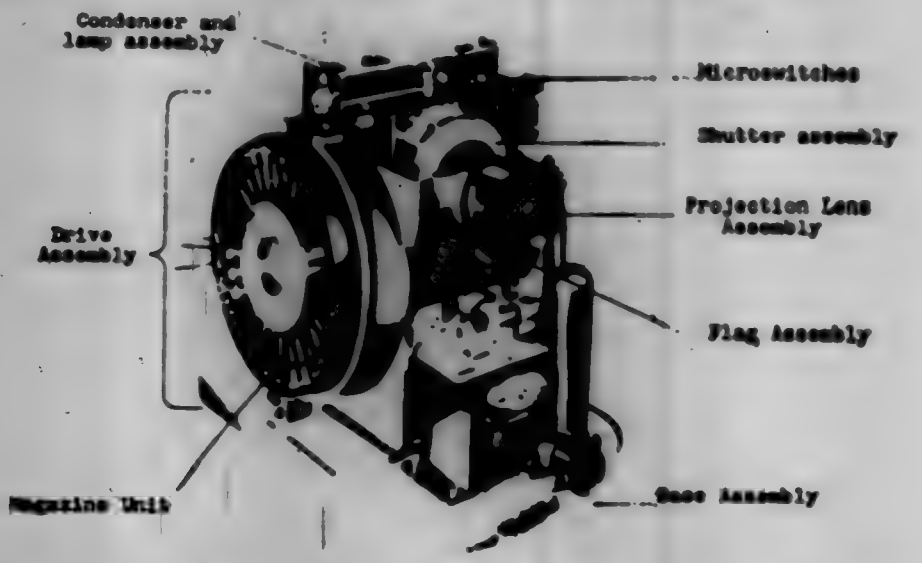
> The Examiner held that the slide projector of Goldberg was the patentable equivalent of the projector as claimed. He held that it would not be patentable to provide Goldberg's projector with a pivotally mounted shutter as in Roebuck. Appellant does not traverse that holding. The Examiner also held that it would not be patentable to use the housing to enclose the elements of Goldberg's projector as suggested by Tuck since it would be an obvious variation.
>
> Appellant urges that he has combined the good feature of Tuck, namely the integral construction, together with the good feature of Goldberg, namely the horisontal motion and control. The claim does not set forth an "integral construction." We must assume, however, that the limitation "an internal slide magazine track mounted in said housing" is intended to provide the integral construction argued by appellant. However, appellant in his reply brief states "Whether or not the magazine or track is internal or external is not of patentable significance." We agree with appellant as to this conclusion and we also agree with the Examiner that mounting Goldberg's magazine track internally of a housing is not a patentable variation. We are in full agreement with the position taken by the Examiner in his holding that claim 15 does not define a patentable improvement over the prior art. * * *

Although appellant now urges that "Roebuck has no connection whatsoever with the modern removable slide magazine," we think that

one skilled in the art would clearly derive from Roebuck a suggestion for the use of a *pivoted* shutter.

We also agree fully with the Board that one skilled in the art would find it a very simple and obvious matter to provide a proper coupling in the Goldberg tube and rod arrangement so that its slide transfer means will operate satisfactorily in the manner clearly described in the patent.

Review of the remaining and controlling issue, the sufficiency of the Rule 131 affidavit, involves consideration of the projector which that affidavit purports to show was reduced to practice prior to Goldberg's filing date.[1] The following sketch, although itself taken from a publication dated subsequent to Goldberg's filing date, illustrates the subject matter of the exhibit on which appellant relies:



As is apparent from the sketch, the projector has a circular shell receiving a circular magazine unit for carrying the slides. The magazine is indexed by rotating it in increments to bring each slide in turn to the uppermost position. The slide in such uppermost position is then moved horizontally inwardly to projecting position on the optical axis of the projector, projected on the screen, and then returned to the magazine before the latter is indexed to bring the next slide into the uppermost position.

The Examiner held and the Board agreed that appellant's affidavit under Rule 131 is ineffective to antedate the Goldberg patent because it does not show completion of the invention of a slide projector satisfying the limitations of claim 15. Claim 15 reads in part as follows:

> A magazine slide projector comprising a housing adapted to receive a removable magazine, projection means including a light source, a lens system mounted in said housing, an internal slide magazine track mounted in said housing parallel to and at the same horizontal level as the optical axis of said projection means, * * *

It is the Board's position that the projector disclosed in the affidavit and attached exhibits which employs a drum-type magazine for circular movement, does not provide support for "an internal slide magazine track mounted in said housing parallel to and at the same

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[1] At oral hearing, counsel, referring to *In re Palmquist*, 51 CCPA —, 319 F.2d 547, 138 USPQ 234, commented that since the rejection on Goldberg is under § 103, it would appear that the effective date of the Goldberg patent should be its date of issuance and that if that is the case, the Goldberg patent is not applicable at all. While it was held in the *Palmquist* case that an applicant was not barred by the statute from overcoming a reference used in a rejection under 35 U.S.C. 103, by a showing of an invention prior to the effective date of a cited periodical, no question of statutory bar is involved here but only the sufficiency of the showing in the Rule 131 affidavit is questioned. We do not see that the *Palmquist* case is authority for a ruling that the Goldberg patent is effective only as to its publication date.

horizontal level as the optical axis of said projection means. * * *"

More specifically the Board stated in its original decision:

After due consideration of all the arguments presented by appellant, we find that we are in full agreement with the Examiner with respect to the affidavit. The rotary magazine and the shell in which it rotates does not provide a "slide magazine track mounted in said housing *parallel* to and at the same horizontal level as the optical axis of said projection means * * *." [Emphasis added.] The track which follows a circular path is not parallel to the optical axis. The disclosure of the projector relied upon in the affidavit is substantially different from the projector claimed herein and disclosed in Goldberg. While the horizontal movement of the slides from the magazine to the optical axis may be similar to that claimed or shown in Goldberg, the particular slide magazine track which is an essential element of the claim, is not supported by the affidavit.

On reconsideration, it commented further:

Appellant does not agree with our holding that the track which follows a circular path is not parallel to the optical axis. Appellant contends that our holding involves merely a question of semantics and is incorrect.

Considering the substantial differences between the disclosure in the exhibits and the disclosure and claims in the instant application, it is apparent to us that the parallel relationship claimed is not disclosed in the exhibits. We do not agree with appellant's interpretation of the claims.

The fact that planes containing the optical axis and the circular track may have a parallel relationship does not justify the conclusion that the track is parallel to the optical axis which is a straight line. The track and the axis do not extend in the same direction and everywhere equidistant.

Appellant urges that the circular magazine track of the exhibits supports the claim language. It is contended that there is no particular slide magazine track recited in claim 15 and that accordingly the crux of the Board's position that "the particular magazine track which is an essential element of the claim is not supported by the affidavit" fails.

The recitation of the claim which must be considered here, is as follows:

* * * an internal slide magazine track mounted in said housing parallel to and at the same horizontal level as the optical axis * * *

It seems to us that that language, when interpreted in light of appellant's application, reads on an internal slide magazine track parallel to the optical path and extending the full length of the projector so that a slide magazine may be inserted through the back of the projector and removed from the front of the projector.

The application states that slide magazines are generally rectangular plastic members, and that the present invention incorporates the slide magazine inside the projector housing, the projector also providing storage space for at least one additional slide magazine. In referring to his drawings, appellant states that an internal slide magazine track is parallel to the optical path and extends the full length of the projector so that a slide magazine may be inserted through the back of the projector and removed from the front of the projector.

On the other hand, the drum-type magazine in the affidavit is mounted on a shaft in a round cavity on the outside of the projector casing. To the extent that the exhibit projector's shell receiving the slide magazine provides a "track," that track is circular and extends in a circular direction. It thus does not extend in the same direction as the axis of the projector. While it is true that a plane taken through the circular slide magazine perpendicular to the axis of rotation is parallel to the optical axis, as is a line tangent to the circular

magazine at its lowermost point, we do not think the language of the claim contemplates such subtle geometric equivalents. Rather we think the plain meaning of the above limitation in the claim is that it calls for an internal slide magazine track which extends longitudinally in a direction parallel to and at the same horizontal level as the optical axis.

[1] For the foregoing reasons the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE ALAN H. NATHAN, JOHN A. HOGG AND WILLIAM P. SCHNEIDER

No. 7145. Decided March 12, 1964

[51 CGPA —; 328 F.2d 1005; 140 USPQ 001]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—ALPHA ORIENTATION IN 2-HALO STEROIDS.

"It seems to us that the issue here is whether appellants' identification of their 2-halo steroids in their original disclosure is adequate to identify the claimed subject matter and whether there is sufficient evidence in the record to show the alpha orientation to be an inherent characteristic of the subject matter so identified. If the answers are in the affirmative then appellants' amendment specifying the alpha orientation for the 2-halo substituent is not new matter but rather is merely a statement of an inherent property of the steroids as disclosed in appellants' original disclosure."

2. SAME—SAME—SAME—CHANGE IN ORIGINAL DISCLOSURE.

"A subsequent clarification of or a change in an original disclosure does not necessarily make that original disclosure fatally defective."

3. SAME—SAME—SAME—ALPHA ORIENTATION IN 2-HALO STEROIDS.

"We think appellants' identification of their 2-halo steroids in their original disclosure sufficiently identifies the claimed subject matter. Appellants' original disclosure was specifically directed to a generic class of 2-halo steroids which steroids were chemically named, no question being presented as to their nomenclature aside from the orientation of the halogen at the 2-position of the steroid nucleus. Appellants' Example 1, which is stated in the application to be illustrative of the 'products of the present invention,' gave a definite melting point range, optical rotation, ultraviolet spectral analysis and chemical analysis for the product obtained therein. Appellants have further shown through an affidavit that the hydrolysis of the product of their Example 1 of their application yields a 2-fluoro hydrocortisone which has physical constants consistent with a product designated in the art as 2α-fluoro hydrocortisone. Such evidence, we think, is adequate to demonstrate an inherent characteristic (the alpha orientation) of appellants' claimed subject matter."

APPEAL from the Patent Office. Serial No. 759,400.

REVERSED.

Eugene O. Retter, A. Blaufarb, for appellants.

Clarence W. Moore (*J. E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

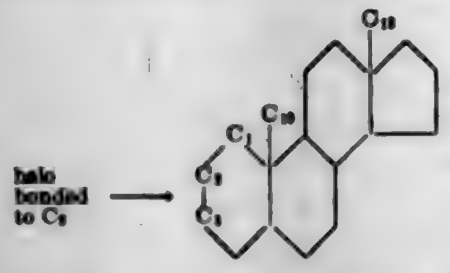
MARTIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1 through 16 of appellants' application Serial No. 759, 400, filed September 8, 1958, for "Steroids." No claim has been allowed.

The appealed claims are directed to certain 2-halo (fluorine or chlorine) steroids, the compound 2-halo (fluoro- or chloro-)-17α,21-dihydroxy-4-pregnene-3,20-dione being representative of the claimed compounds. All the claims further, as the result of an amendment

entered during prosecution of the application before the Patent Office, specify the alpha (α) orientation for the 2-halo substituent.

The relationship of the 2-halo atom to the steroid nucleus of the claimed steroids can be represented diagrammatically as:



The 2-position of the molecule of appellants' steroids is represented by saturated carbon atom C_2. Saturated carbon atom C_2 is bonded to saturated carbon atoms C_1 and C_3, to the hydrogen substituent and to the fluorine or chlorine substituent.

Appellants point out that because of the relation of the valence bond angles of the saturated carbon atoms of the steroid, one of the two substituents attached to saturated carbon atom C_2 will project toward one side of the approximate plane of the steroid nucleus and the other substituent toward the other side of that plane. The substituent which projects toward the opposite side from the angular methyl groups (carbon atoms C_{18} and C_{19}) is said to have the alpha orientation, whereas the substituent projecting toward the same side from the angular methyl group is said to have the beta orientation.

The record shows that on June 15, 1959 appellants amended their specification and claims to indicate that the 2-halo steroids of their invention had the alpha orientation. This amendment was in response to the Examiner's first action on the claims. That action, according to the Examiner's answer, "merely rejected the claims as unduly broad and indefinite in failing to give the configuration (alpha or beta) of the 2-halo atoms." On June 2, 1960 appellants submitted an affidavit under Rule 132 in support of the propriety of their amendment, which affidavit reads in part:

> THAT, the synthesis of the steroid compounds accomplished in the course of completing the invention described and claimed in the above-identified application involved, in the case of the 2-fluoro compounds, the introduction of a fluorine atom in the 2-position of a certain Δ^4-3-keto steroid of the pregnane [sic] series; namely, an alkali metal enolate of 2-alkoxyoxalyl-11β,21-dihydroxy-4,17(20)-[cis]-pregnadien-3-one (Preparation 6 of the specification) by reaction with perchloryl fluoride to produce 2-fluoro-2-alkoxyoxalyl-11β,21-dihydroxy-4,17(20)-[cis]-pregnadien-3-one;
>
> THAT, this latter compound was then converted to a 2-fluorinated-11β,21-dihydroxy-4,17(20)-[cis]-pregnadien-3-one (the product of Preparation 6 of the specification);
>
> THAT, we are aware of the work of others wherein a fluorine substituent has been introduced by the reaction of perchloryl fluoride upon the 2-alkoxyoxalyl substituted Δ^4-3-keto steroid (Kissman et al., J.A.C.S. 81:1262); * * * and we are moreover aware that in * * * [that work] the stereoconfiguration of the 2-fluorine substituent is designated as the α-configuration based, * * * upon physical evidence consistent with such a configuration; and moreover we are unaware of any facts inconsistent therewith;
>
> THAT, we converted the product of Preparation 6 of the specification to 2-fluoro hydrocortisone acetate by the process of Preparation 7 and Example 1 and that we hydrolyzed the product of Example 1 by the process of Example 6 thus producing 2-fluoro hydrocortisone;
>
> THAT, in the case of the Kissman et al. work, we have made a comparison and found that our 2-fluoro hydrocortisone, prepared by the hydrolysis of the product of Example 1 of the specification and have found physical character-

istics consistent with and no physical characteristics inconsistent with the identity thereof;

THAT, these physical constants are:

For the 2-fluoro hydrocortisone prepared by hydrolysis of our Example 1 by the process of Example 6 of the specification:

Conjugated ketone band at 5.97μ.
λ_{max} at 242mμ, E 14,200 (in ethanol).
α_D plus 185 degrees (methanol).
Melting point 212–221 degrees centigrade.

The physical characteristics reported by Kiseman et al. are:

Conjugated ketone band at 5.87μ.
λ_{max} 241 mμ, E 14,800.
α_D plus 190 degrees (methanol).
Melting point 216–220 degrees centigrade.

THAT, the product of our Example 6 is identical with the product designated as 2α-fluoro hydrocortisone of Kiseman et al.;

THAT, the subsequent chemical conversions to which the compounds disclosed and claimed in the above-identified application for patent are subjected do not alter the stereoconfiguration of the 2-fluoro substituent;

* * * * * * *

In rejecting the claims, the Examiner took the position that the alpha configuration of the 2-halo substituent is not inherent in the compounds disclosed in the case as originally filed and since the configuration of the 2-halo substituent was not included in the application as filed, it may not be entered at a later date.

The Board held that amendatory material, designating the 2-halo substituent as alpha oriented, has no basis in the original disclosure and thus is in violation of the last sentence of 35 U.S.C. 132 [1] which prohibits the introduction of new matter. The Board was not convinced of any error in the Examiner's rejection and stated that it was "not satisfied that extraneous evidence discovered after the filing of the application can be used as support for a stereoconfiguration not originally disclosed." Regarding the Rule 132 affidavit the Board stated:

> The difficulty with the Rule 132 affidavit is that appellants attempt to identify their compounds on the basis of the knowledge of others acquired after the filing date of the instant application. * * *

Appelants urge that the application as filed taught those skilled in the steroid art how to prepare and identify the claimed 2-halo steroids and that accordingly the amendatory material does not constitute new matter. It is contended that the amendment merely defines more precisely for those skilled in the art the 2-halo steroids inherently produced by the process of the application as filed and identified therein by physical characteristics.

[1] It seems to us that the issue here is whether appellants' identification of their 2-halo steroids in their original disclosure is adequate to identify the claimed subject matter and whether there is sufficient evidence in the record to show the alpha orientation to be an inherent characteristic of the subject matter so identified. If the answers are in the affirmative then appellants' amendment specifying the alpha orientation for the 2-halo substituent is not new matter but rather

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[1] 35 U.S.C. 132 reads:

> Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Commissioner shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application; and if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be reexamined. No amendment shall introduce new matter into the disclosure of the invention.

is merely a statement of an inherent property of the steroids as disclosed in appellants' original disclosure.

[2] A subsequent clarification of or a change in an original disclosure does not necessarily make that original disclosure fatally defective. This court in *Riester* v. *Kendall*, 34 CCPA 859, 159 F.2d 732, 72 USPQ 481, dealt with an interference in which a count was directed to certain dyestuffs. Appellee relied on a British provisional specification for constructive reduction to practice although the structural formulae given for the identification of the respective products of the reaction in appellee's British specification *differed* from the corrected formulae for the same products recited in his U.S. application. The Board nevertheless, in finding for appellee, held that his British specification disclosed the dyestuffs and the means for identifying them irrespective of the wrong formulae and thus was a sufficient disclosure of the patentable subject matter. This court found no error in the Board's decision.

[3] We think appellants' identification of their 2-halo steroids in their original disclosure sufficiently identifies the claimed subject matter. Appellants' original disclosure was specifically directed to a generic class of 2-halo steroids which steroids were chemically named, no question being presented as to their nomenclature aside from the orientation of the halogen at the 2-position of the steroid nucleus. Appellants' Example 1, which is stated in the application to be illustrative of the "products of the present invention," gave a definite melting point range, optical rotation, ultraviolet spectral analysis and chemical analysis for the product obtained therein. Appellants have further shown through an affidavit that the hydrolysis [1] of the product of their Example 1 of their application yields a 2-fluoro hydrocortisone which has physical constants consistent with a product designated in the art as 2α-fluoro hydrocortisone. Such evidence, we think, is adequate to demonstrate an inherent characteristic (the alpha orientation) of appellants' claimed subject matter.

Thus, we consider that the amendatory material of June 15, 1959 is concerned with an inherent characteristic of an illustrative product of appellants' invention already sufficiently identified in appellants' original disclosure as filed. Such amendment is not prohibited by the statute. In *Ex parte Davisson and Finlay*, 133 USPQ 400, 402, for example, the Board noted that the Examiner had entered an amendment reciting the optical rotation data and elemental analysis of the sulfate of a claimed substance as well as the spectroscopic characteristics of the claimed substance "apparently regarding them as a statement of inherent properties of the material adequately disclosed" in an original disclosure and stated that it saw no reason for "taking a different view of the matter." We think the case at bar presents an analogous situation.

For the foregoing reasons, the decision of the Board is reversed.

REVERSED.

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[1] Appellants have stated in their affidavit that the subsequent chemical conversions of their Example 1 compound do not alter the stereoconfiguration of the 2-fluoro substituent and there is nothing in the record to controvert that statement.

U.S. Court of Customs and Patent Appeals

IN RE DAVID GOTTLIEB AND ALFRED AMMANN

No. 7103. Decided March 19, 1964

[51 CCPA —; 328 F.2d 1016; 140 USPQ 665]

1. PATENTABILITY—UTILITY—DISCLOSURE OF PLURALITY OF USES.

"We are of the opinion that the disclosure of utility in treating a variety of fungi is sufficient to satisfy the statutory requirements of 35 U.S.C. 101. * * * The Examiner apparently accepted the statements concerning plant fungi, but found them not sufficient to prove 'all utilities alleged in the specification.' The Board affirmed without any detailed analysis or comment on the plant utility disclosure in the specification. * * * The Board's opinion * * * indicates a consideration only of the *human* aspects of the alleged utility, and appears to ignore the primary allegation of utility as a plant fungicide."

2. SAME—SAME—SAME.

On review of the rejection of claims to a new antibiotic called filipin predicated on lack of utility, *Held* that "* * * even if the proof of utility in human beings or animals is not adequate, there remains the alleged utility as a plant fungicide"; that "The allegation of utility as a plant fungicide would not normally appear 'to be incredible in the light of the knowledge of the art, or factually misleading'"; that "Nevertheless, appellants have submitted evidence tending to prove the utility of filipin as a plant fungicide * * *"; and that "We consider this evidence sufficient to prove that filipin is useful."

3. SAME—SAME—SAME.

"We emphasize the fact that the issue here is whether the record shows the claimed antibiotic to be *useful* under 35 U.S.C. 101 and *not* whether superior or unexpected results were obtained bearing on an issue of patentability under section 103 of the statute. Having found that the antibiotic is useful for *some* purpose, it becomes unnecessary to decide whether it is in fact useful for the other purposes 'indicated' in the specification as possibly useful."

4. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—EFFECT OF DECISION.

"Appellants' argument seems to acknowledge that there may be a question as to the propriety of statements in their application concerning uses other than the control of fungal diseases. Our present holding is not to be construed as precluding the Patent Office from making such requirements as to correction or cancellation of those statements as may be appropriate."

APPEAL from the Patent Office. Serial No. 471,811.

REVERSED.

George T. Johannesen (*Eugene O. Retter* of counsel) for appellants.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

Gottlieb and Ammann appeal from the decision of the Board of Appeals affirming the Examiner's rejection of claims 7, 10, 12 and 14 through 17 of appellants' application [1] for a "Chemical Compound." No claims have been allowed. The rejection was predicated on "lack of utility."

There is no issue here relating to the form or the substance of the appealed claims, thus obviating the necessity for their reproduction.

The claimed invention is for a new antibiotic called filipin, derived from a soil sample taken in the Philippine Islands, containing *Streptomyces filipinensis*. The antibiotic is allegedly "characterized by anti-fungal activity."

Claims 7 and 10 relate to the antibiotic compound and describe it in

[1] Serial No. 471,811, filed November 29, 1954.

terms of its physical properties. Claims 12 and 14 through 17 recite the process used to produce filipin.

The specification states:

> Because of its low phyto toxicity, filipin is useful in the treatmnet of gray leaf spot in tomato plants caused by *Stemphylium solani*. The antibiotic is useful also in the treatment of other plant and fruit diseases caused by fungi which includes black mold in onion plants, corn leaf blight, collar rot in tomatoes, bitter rot in apples, tomato wilt, and the like. Further, its use in the treatment of skin and deep-seated infections is likewise indicated. Still further, because of its marked inhibition of tritrichomonas foetus, in concentrations as low as one microgram per milliliter, its use in the treatment of abortion in cattle is likewise indicated.

It is apparent from this quotation that three separate areas of use are suggested: (1) as a plant fungicide; (2) for treatment of human "skin and deep-seated infections," and (3) for "treatment of abortion in cattle."

In the use of the antibiotic for treatment of the skin and deep-seated infections, it is stated that filipin may be combined with other antibiotics, antifungal agents, steroids, or other antibacterial or medicinal agents. The specification recites the results of tests showing the inhibitory effect of filipin against certain fungi as well as composition tests of the inhibitory effects of filipin and ethanol against certain fungi. It is noted that the tests were performed *in vitro*.

During the prosecution before the Patent Office, appellants referred to an article by M. L. Gattani [2] showing tests of filipin against root-rotting fungi *in vitro*. These studies are said to prove the effectiveness of filipin as a plant fungicide. The Examiner's only comment was "The tests on damping-off disease for safflower in Gattani's article * * * are obviously not convincing of all utilities alleged in the specification."

In addition, an affidavit of Tucker was submitted concerning the use of filipin in the treatment of human infection in an effort to prove the utility of filipin in humans.

All grounds of rejection advanced by the Examiner were reversed except the rejection for lack of utility. In affirming this rejection, the Board stated:

> The appealed claims stand rejected for lack of utility in the absence of clear and convincing proof that the compositions are safe, effective and reliable for the purpose alleged. Appellants' specification states that the use of their antibiotics "in the treatment of skin and deep-seated infections is indicated." The specification states that it can be used in topical or oral preparations. Under the circumstances of this case we consider that the therapeutic utility has not been proven. We agree with the Examiner that the evidence submitted is insufficient. For the reasons that the Examiner has set forth the affidavit is not convincing to us of all the therapeutic utilities alleged in the specification. The Examiner points out that the affidavit is hearsay as it is not by the individuals doing the work. Further, the statistical results do not appear significant. The rejection of the appealed claims for lack of utility will be sustained.

On reconsideration, the Board said:

> Appellants urge that there is adequate disclosure of nonhuman utility at the bottom of page 13 of the specification. The Examiner in his answer, stated in regard to the rejection of the claims for lack of utility that appellants have failed to prove that filipin *per se* is an effective therapeutic in animals. We affirmed this rejection. No showing was made as to proof of nonhuman therapeutic utility. Furthermore, the specification merely "indicates" that filipin may be useful for the purpose now relied on by appellants.

The evidence and the arguments concerning the alleged utilities

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[2] "Studies on the Control of Damping-off of Safflower with Antibiotic," in Plant Disease Reporter, vol. 4, No. 3.

"in the treatment of abortion in cattle" and in the treatment of human "skin and deep-seated infections" need not be analyzed in detail under the view we take of the case inasmuch as we consider the first branch of the case concerning utility as a plant fungicide to be dispositive.

It is appellants' contention that the disclosed utility for the control of fungal diseases of plants is sufficient for statutory utility and that no issue was raised below about this disclosure. They reason, therefore, that the real issue is the propriety of certain statements in the specification and not the patentability of the claims, and that the cancellation or correction of the additional statements of utility is a matter for petition to the Commissioner rather than appeal to this court.

The Solicitor maintains "that neither the Examiner nor the Board conceded that filipin has been shown to be useful for any of the purposes alleged in the specification." He argues that the Board's finding of lack of "proof of non-human therapeutic utility" refers to the allegation of utility as a plant pesticide as well as to the "indicated" utility in the treatment of abortion in cattle. The *in vitro* tests conducted by appellant and by Gattani were not sufficient, according to the Solicitor, to prove that the product is useful, because there is "no assurance that an antibiotic is not toxic when used *in vivo*." Moreover, the Gattani studies do not provide adequate proof of effectiveness as a plant fungicide, because only specific fungi are discussed in the instant specification and Gattani did not treat these fungi, and the safflower involved in the Gattani tests finds no support in the specification.

[1] We are of the opinion that the disclosure of utility in treating a variety of fungi is sufficient to satisfy the statutory requirements of 35 U.S.C. 101. It does not appear from the abbreviated record before us that the utility as a plant fungicide was questioned below. The Examiner apparently accepted the statements concerning plant fungi, but found them not sufficient to prove "all utilities alleged in the specification." The Board affirmed without any detailed analysis or comment on the plant utility disclosure in the specification. Certainly no justification was given below for challenging the alleged utility as a plant fungicide. The Board's opinion, quoted supra, indicates a consideration only of the *human* aspects of the alleged utility, and appears to ignore the primary allegation of utility as a plant fungicide. Even on reconsideration, the Board failed to mention the use as a plant fungicide. It seems unlikely that the words "non-human therapeutic utility" in the Board's opinion are a reference to the utility as a plant fungicide, particularly in view of the next sentence, which refers to the fact that the specification merely "indicates" utility "for the purpose now relied on." The specification states that utility in humans and animals is "indicated," but the allegation of utility against a variety of plant fungi is set forth without equivocation.

The Solicitor relies heavily on the case of *In re Novak et al.*, 49 CCPA 1283, 306 F.2d 924, 134 USPQ 335. In that case the only utility alleged was in human beings. The Patent Office required proof of the alleged utility which appellants failed to provide. In the absence of proof of *any* utility, this court said:

> In our opinion, when an applicant bases utility for a claimed invention on allegations of the sort made by appellants here, unless one with ordinary skill in the art would accept those allegations as obviously valid and correct, it is proper for the Examiner to ask for evidence which substantiates them. Here we find no indication that one skilled in this art would accept without question

statements that carboxymethyl dextran has the alleged effects on the functioning of *any* base, physiologically active or not, and no evidence has been presented to demonstrate that the claimed products do have those effects.

[2] In the instant case, even if the proof of utility in human beings or animals is not adequate, there remains the alleged utility as a plant fungicide.

The allegation of utility as a plant fungicide would not normally appear "to be incredible in the light of the knowledge of the art, or factually misleading" *In re Citron*, 51 CCPA ——, 325 F.2d 248, 139 USPQ 516. Nevertheless, appellants have submitted evidence tending to prove the utility of filipin as a plant fungicide in the Gattani studies. The report of Gattani states:

It is evident that the application of filipin solution for 3 days effectively reduced damping-off of safflower.

* * * * * * *

Filipin, an antifungi agent, has been reported to be inhibitive against a wide variety of fungi and to give partial protection to tomato plants against *Stemphylium solani*. Our *in vitro* investigations show that filipin is inhibitive against *Helminthosporium sativum*, *Fusarium culmorum*, *Rhizoctonia solani*, *Phoma betae*, and *Pythium* sp. pathogenic to safflower.

We consider this evidence sufficient to prove that filipin is useful. The fact that the fungus causing damping-off of safflower is not specifically disclosed in appellants' specification does not detract from the efficacy of the article as proof that filipin is useful as a plant fungicide. Damping-off of safflower presumably falls within "other plant and fruit diseases caused by fungi" encompassed by the disclosure. [3] We emphasize the fact that the issue here is whether the record shows the claimed antibiotic to be *useful* under 35 U.S.C. 101 and *not* whether superior or unexpected results were obtained bearing on an issue of patentability under section 103 of the statute. Having found that the antibiotic is useful for *some* purpose, it becomes unnecessary to decide whether it is in fact useful for the other purposes "indicated" in the specification as possibly useful.

[4] Appellants' argument seems to acknowledge that there may be a question as to the propriety of statements in their application concerning uses other than the control of fungal diseases. Our present holding is not to be construed as precluding the Patent Office from making such requirements as to correction or cancellation of those statements as may be appropriate.

For the foregoing reasons, the decision of the Board is reversed.

REVERSED.

SMITH, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

IN RE HENRY I. BURR

No. 7114. Decided March 19, 1964

[51 CCPA —; 328 F.2d 1009; 140 USPQ 668]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—RECORD AND MEMORANDUM BOOK.

The decision of the Board of Appeals, refusing a claim to a record and memorandum book as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 839,697.

AFFIRMED.

Henry L. Shenier (*Francis M. O'Connor* of counsel) for appellant.
Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Burr appeals from the Board's affirmance of the rejection of his patent application.[1]

The invention relates to a memorandum book whose pages have a vertical line of perforations divided into a "record page portion" and an "appointment panel portion." The latter is divided by a horizontal line of perforations into "two appointment memorandum panels." Those bear respective legends indicating two successive dates. The book has a front cover with a hinge dividing it into two sections which are coextensive in area with the record and appointment panel portions of the pages. The axis of the hinge coincides with the vertical line of perforations. The section of the cover corresponding to the appointment panel portion of the pages can be folded along the hinge to expose the appointment panel while leaving the record portion of the page concealed. Because of the perforations, the two memorandum panels comprising the appointment panel are separately removable. Two allegedly advantageous features of the book are: the two memorandum panels permit a simultaneous glimpse of appointments for "today and tomorrow"; and the hinged cover permits exposure of a portion of the page while concealing the remainder from the view of a bystander.

Claim 5 reads:

5. A record and memorandum book including in combination a cover, a plurality of leaves each forming a page, means for holding said leaves and said cover in assembled relationship to form said book, each of said leaves formed with a first line of perforations dividing each page into a permanent section and a removable section, a hinge in said cover for dividing the cover into first and second sections substantially coextensive in area with the respective page sections, said hinge having an axis which registers with said first line of perforations when the cover is closed, each of said leaves provided with a second line of perforations extending inwardly from the edge of the leaf to said first line of perforations to divide the removable page portion into a pair of separable memorandum panels and respective legends indicating successive dates on the memorandum panels of each page, the legends of successive pages indicating a sequence of dates, the construction being such that the first cover section may be folded along the auxiliary hinge to expose removable page sections while concealing permanent page sections, the arrangement of said panels being such that legends corresponding to successive dates are exposed when the first cover section is folded.

The references relied on are:

Weber (German), 893,639, October 19, 1953.
Brandt, 361,122, April 12, 1887.
Smith, 1,307,708 June 24, 1919.

Weber, the primary reference, discloses a record and memorandum book wherein each page is divided by a vertical perforated line into a removable memorandum portion and a permanent record portion. The front cover is coextensive in area with the permanent record portions of each page thereby exposing only the removable memorandum portions of each page to view.

Brandt discloses a tablet having a hinged cover "so that the written

[1] Serial No. 839,697, filed September 14, 1959.

matter on the upper portion will be hidden from the view of prying persons who may be standing close by."

Smith is relied on to show that it is old in the art to divide and subdivide pages of a memorandum book by perforation. Smith discloses a checkbook whose pages are divided by horizontal perforations. The permanent section is used to keep records of checks written.

The Board sustained the Examiner's holding that it would be obvious to one of ordinary skill in the art to modify Weber's record and memorandum book by providing it with a hinged cover to permit exposure of the removable section while concealing the permanent section from view as disclosed by Brandt. The Board also held that it would be obvious to modify the removable memorandum panel of Weber by dividing it with horizontally perforated lines, a technique known to the makers of record and memorandum books as evidenced by the Smith patent. It also regarded the successive dating of the vertical subdivision of Weber's memorandum panel as obvious.

Appellant contends that his memorandum book embodies a novel concept; that the Board's modifications of Weber's memorandum book would not be obvious from the prior art but are the result of hindsight; and that even if Weber were so modified one does not obtain appellant's memorandum book having a unique "today and tomorrow feature."

We see no error in the Board's holding. Brandt clearly suggests the desirability of a hinged cover to expose part of a page while concealing the balance. The central idea of a memorandum book having a plurality of pages divided by a vertical line of perforations into temporary removable portions and permanent record portions is disclosed by Weber. At the top of the removable panel of Weber is a statement reminding the user that the items of business noted on the removable panel relate not to a particular day but to matters to be settled that week. The suggestion to divide the removable portions of the pages of Weber's book by horizontal perforated lines is clear from the disclosure of Smith. It seems to us that the successive dating feature of appellant's book would be a matter of common sense and would be particularly obvious to makers of memorandum books. Indeed, the designation of the removable panel of Weber as covering a week's activities would make obvious the alternative of providing separately vertically distinct areas for each day of the week or for two or some other number of consecutive days, and Smith would suggest that such distinct areas be separated by horizontal perforations. Rather than being a case of hindsight, we are convinced that one of ordinary skill in this art, with the teachings of Weber, Brandt and Smith before him, would find it obvious to do what has been done.

[1] The decision is affirmed.

AFFIRMED.

RICH, *J.* (dissenting):

I join in Judge Smith's dissent.

A brief review of the references shows how far from suggesting the claimed invention they are, taken separately or together.

Brandt is a tablet of *writing paper*, unperforated, with a hinged cover carrying a blotter. The paper is blank.

Smith is a 3-check-to-a-page *checkbook*, usual in every way except that the left-hand common stub portions of the pages are joined at their *top* edges.

Weber, the principal reference, is an appointment calendar with left-edge binding, the entire right-hand portion of each sheet being removable *as a single unit* by virtue of a single vertical line of perforations. The partial cover ends on the line of the underlying perforations. The removable portion is provided as a place to write memos of "things to be done this week."

Put all of these disclosures together in any desired combination and nowhere will be the underlying concept of appellant's invention either appear or be suggested.

The majority conclusion that "The suggestion to divide the removable [weekly memo] portions of the pages of Weber's [weekly appointment] book by horizontal perforated lines is clear from the [checkbook] disclosure of Smith" is utterly unfounded. Everyone knows about checkbooks with three checks to a page. *Why* should such a book suggest to anyone horizontally perforating a page-edge portion entitled "things to be done this week," especially when it is attached to pages showing all the days of the week! A sheet of postage stamps would carry as much suggestion as the Smith checkbook, but perforations are not made without reason and the *reason* here is appellant's invention.

As to the thought of the majority that the successive dating feature of appellant's book would be obvious to makers of memorandum books, it becomes obvious by hindsight only *after* the concept of splitting the right edge into *two* sections for the very purpose of being *able* to date them successively. Thus the majority puts the cart before the horse since it is appellant's invention, not the prior art, which makes it obvious "to do what has been done."

SMITH, *J.* (dissenting):

This dissent is predicated on my belief that the apparent *simplicity* of the physical embodiment of the claimed invention has been mistaken for *obviousness*, both in the Patent Office and in the majority opinion of this court.

It is true that each of the elements of appellant's claimed invention, save one, is disclosed by the references. But the missing element, the successive dating of the horizontally perforated memorandum panels, is an essential feature of appellant's invention. In my opinion, the absence of any suggestion of this feature in the prior art should lead to the conclusion that appellant has claimed a *patentable* invention. The hinged cover, the hidden record portion, the vertical perforations separating the permanent portion from the disposable portion, and the horizontal perforations are, individually, old concepts. Appellant, however, has assembled them into a new combination by the addition of the new feature which is not shown in the prior art.

The majority opinion states, "the successive dating feature of appellant's book would be *a matter of common sense* and would be particularly obvious to makers of memorandum books." [Emphasis added.] It seems to me the emphasized words point up the precise difficulty which is frequently encountered in dealing with relatively simple inventions: that is to dismiss the act of conception as merely "a matter of common sense" when viewed after the fact. As was said by Mr. Justice Story in *Ryan* v. *Goodwin*, 21 Fed. Cas. 110, 111 (No. 12186) (C.C.D. Mass. 1839):

> • • • The combination is apparently very simple; but the simplicity of the invention, so far from being an objection to it, may constitute its great excellence and value. • • •

These words, written so long ago, have continuing validity today, e.g., *In re Sporck*, 49 CCPA 1039, 301 F.2d 686, 133 USPQ 360.

I feel that, notwithstanding the fact that what appellant did seems simple when viewed after the event and perhaps may even be "a matter of common sense" *now that he has done it*, it cannot be fairly said that appellant's claimed invention would have been obvious in view of what had been done *prior to the time he made it*. It appears to me that the treatment of this case by the Patent Office and by the majority is not unlike that decried by this court in *In re Rothermel and Waddell*, 47 CCPA 866, 870–71, 276 F.2d 393, 125 USPQ 328, where we said:

> The Examiner and the Board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. • • •
>
> It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill of the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalise a rejection of claims, it is not the type of rejection which the statute authorizes. 35 U.S.C. 103 is very specific in requiring that a rejection on the grounds the invention "would have been obvious" must be based on a comparison between the prior art and the subject matter as a whole at the time the invention was made.

I would, therefore, reverse the decision of the Board.

PLANT PATENTS

GRANTED AUGUST 11, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,433
APPLE TREE

Gilbert Miller, Spring Gap, Md., assignor to Consolidated Orchard Company, Paw Paw, W. Va., a corporation of Virginia

Filed Jan. 7, 1963, Ser. No. 249,965
1 Claim. (Cl. Plt.—35)

A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a true semi-dwarf habit of growth, exceptionally large and lush Dark Green leaves which are one or two shades darker than the leaves of all other so-called "Delicious" type apple varieties; early, heavy and true spur-type fruit bearing habits, relatively large fruit size, early and uniform coloring habit of fruit throughout the tree irrespective of uniform exposure to sun and proximity of fruit, an attractive and distinct full Dark Red fruit color which is free of stripping and markings at maturity, an outstanding and true "Delicious" type fruit flavor, and good keeping and shipping qualities of the fruit.

2,434
ILEX (HOLLY) PLANT

Kathleen K. Meserve, St. James, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed July 12, 1963, Ser. No. 294,780
1 Claim. (Cl. Plt.—65)

A new and distinct variety of Ilex (holly) plant of the evergreen shrub type, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, upright and highly decorative shrub-like growth, attractive red berries, unusually angled branches of Perilla Purple color, giving to the entire plant an over-all purple cast, and a very hardy habit comparable to that of the species *"Ilex crenata."*

2,435
ILEX (HOLLY) PLANT

Kathleen K. Meserve, St. James, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed July 12, 1963, Ser. No. 294,781
1 Claim. (Cl. Plt.—65)

A new and distinct variety of Ilex (holly) plant of the evergreen shrub type, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, upright and highly decorative shrub-like growth, unusually angled branches of Perilla Purple color, giving to the entire plant an over-all purple cast, and a very hardy habit comparable to that of the species botanically known as *"Ilex crenata."*

2,436
ROSE PLANT

Herbert C. Swim, 1329 College Way, Ontario, Calif., and O. L. Weeks, 4759 Philadelphia, Chino, Calif.

Filed Sept. 26, 1963, Ser. No. 311,929
1 Claim. (Cl. Plt.—29)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous habit of plant growth, large dark green foliage of heavy and leathery texture, relatively straight flower stems of good length, good flower production, flower buds of long-pointed to urn-shaped form, good flower petalage and double form of the flowers, and a distinctive and attractive general color tonality of the flowers from the bud to the fully open stage corresponding from Dark Red to Dark Purplish Red, with brighter pencil line margins about the petals.

PATENTS

GRANTED AUGUST 11, 1964

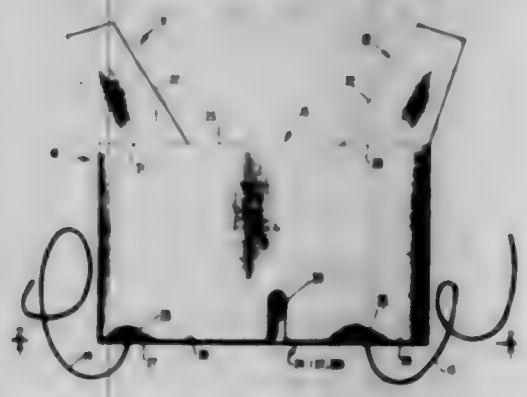
GENERAL AND MECHANICAL

3,143,739
FACE MASK FOR DIVERS
George Beuchat, Marseille, France, assignor, by mesne assignments, to Sports Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 17, 1962, Ser. No. 188,138
2 Claims. (Cl. 2—14)



1. A face mask for divers having a hollow mask body having openings at opposite ends, said mask body having a flange extending entirely about one of the openings; said flange having an endless groove accessible interiorly of the corresponding opening; a face plate accommodated in said opening and having peripheral edges seated in said groove; said face plate having a top and a bottom; there being a single exhaust opening in said face plate and adjacent the bottom thereof immediately above said flange; and a flexible valve member having a base attached to said flange, said valve member extending upwardly over the exterior of said face plate normally to cover said exhaust opening, said valve member having free edges extending from the base on one side of the valve member upwardly about the exhaust opening and thence downwardly to the base on the opposite side of the valve member; said valve member having an interior surface exposed via the exhaust opening to the interior of the mask, and an exterior surface adapted to be exposed to the ambient fluid; said valve member flexing about its base in response to a preponderance of fluid pressure on its inner surface to open said exhaust opening to the ambient fluid.

3,143,740
WRAP-AROUND GARMENT
Asgerd Netland Spiegelberg, 36 Sutton Place S., New York, N.Y.
Filed June 5, 1961, Ser. No. 114,919
4 Claims. (Cl. 2—105)



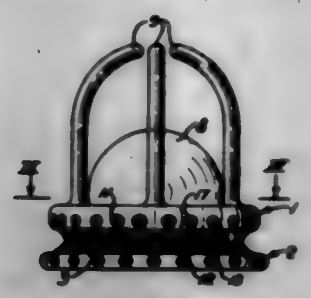
1. A wrap-around garment comprising a tube of elastically yieldable material having an open end with an extensible edge and a partially closed opposite end with an edge opposite to said extensible edge, said open end adapted to be spread for placing the interior of the tube against the body of a wearer, said opposite edge having contiguous edge portions bound together along a central portion of the tube to partially close said opposite tube end between unbound portions of said opposite edge which border armholes at either ends of the bound contiguous edge portions, said opposite edge being normally substantially perpendicular to the axis of the tube when the tube is flattened and the material is unstretched, sleeves having inner margins stitched to the material of said tube along said armholes, the inner margin of each sleeve cut along straight lines intersecting one another in an obtuse angle at the longitudinal centerline of a sleeve, each of said sleeves having tapering lengthwise edges at opposite sides of said longitudinal centerline of a sleeve, said lengthwise edges of a sleeve meeting the inner margin in an acute angle, stitching joining the lengthwise edges of each sleeve, said centerline and said lengthwise edges of each sleeve forming obtuse angles with said opposite edge of said tube, said lengthwise edges making an obtuse angle with said opposite edge which is greater than the obtuse angle between said centerline of a sleeve and said opposite edge of the tube when said tube and said sleeves are flattened in a plane with said opposite edge, said lengthwise edges and said centerlines of said sleeves lying in said plane, the material within the angular area of each of said sleeves adjoining said lengthwise edges and said inner margin of a sleeve providing an expansible gusset for the sleeve, and means attached to said extensible edge of the tube for holding said garment stable with said extensible edge extended about the body of a wearer.

3,143,741
CLOTHING CONSTRUCTION
Elsé E. Tyroler, Los Angeles, Calif., assignor to Elsé, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 28, 1963, Ser. No. 254,236
4 Claims. (Cl. 2—227)



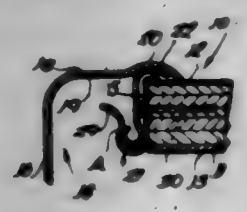
1. An improved trouser construction comprising: a front leg panel, a back leg panel, said panels having mated inner seam lines and mated side seam lines, said front panel being foreshortened relative to the back panel and stretched at said inner and side seams to the length of the back panel and sewed thereto.

3,143,742
PROSTHETIC SUTURELESS HEART VALVE
Harry W. Cromie, Pittsburgh, Pa., assignor to Surgitool Incorporated, a corporation of Pennsylvania
Filed Mar. 19, 1963, Ser. No. 266,272
7 Claims. (Cl. 3—1)



1. A heart valve comprising a pair of coaxial and relatively movable rings, a valve supported by the rings, the outer portion of a ring being provided with a plurality of circumferentially spaced radial passages therethrough, and a plurality of curved pins having pointed outer end portions slidably disposed in said passages, the inner ends of the pins being pivotally mounted on transverse axes in the other ring, whereby when the rings are moved in a predetermined direction relative to each other the pins are projected from said passages into tissue-piercing position.

3,143,743
SNAP-IN SINK BOWL CLAMPING ARRANGEMENT
Matyas J. Just, Chicago, Ill., assignor to Just Manufacturing Company, a corporation of Illinois
Filed Jan. 21, 1963, Ser. No. 252,708
1 Claim. (Cl. 4—187)



In a snap-in sink structure including a drainboard having an opening defined by a vertical peripherally extending facing edge, a sink bowl positionable within said opening, said sink bowl including a bowl portion, a horizontal rim projecting from said bowl portion, said rim having an underneath edge portion seated on said drainboard, and said bowl portion being spaced inwardly from said facing edge to provide a space therebetween;

(*a*) a clamping structure in said space for securing said bowl in said drainboard comprising,

(*b*) a plurality of drainboard spring clips, each clip having,

(*c*) a vertical portion engaging said facing edge,

(*d*) said vertical portion having a resilient free end portion rebent upon itself to form a depending resilient bulbous loop having an upward facing opening and providing on each clip a resilient pocket, said pocket having a larger horizontal cross sectional dimension than the width of said upward opening,

(*e*) a resilient tongue connected to said end portion and extending arcuately upwardly and away with respect to said facing edge,

(*f*) means connecting each said vertical portion and said facing edge of the drainboard whereby said spring clips are disposed in said space adjacent said facing edge,

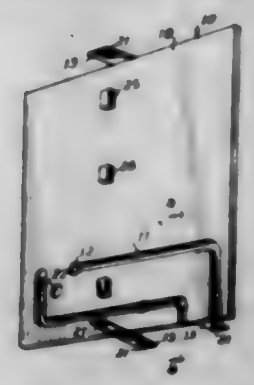
(*g*) connecting means on said sink bowl including

(*h*) at least one vertical support connected to said rim and projecting downwardly into said space for a vertical aligning and interlocking relation,

(*i*) said support having at its lower free end an enlarged horizontally extending bulbous projecting portion conforming generally to said pocket and of greater cross sectional dimension than the upward opening of said clips,

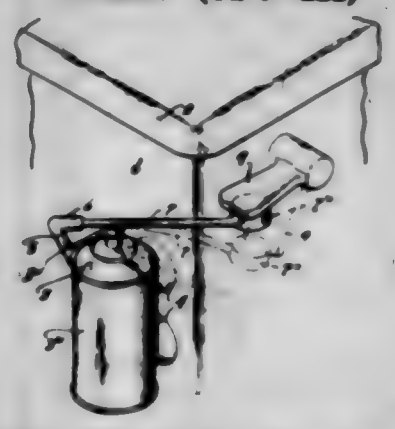
(*j*) whereby while assembling said clips with said connecting means during downward pressure on said sink, said cylindrical portions are snapped through the upward facing openings into the pockets of said clips and retained therein for securely clamping said bowl in fixed position.

3,143,744
PLUMBING AID
Henry R. Greer, 690 Juniper St. NE., Atlanta, Ga.
Filed Feb. 8, 1963, Ser. No. 257,194
6 Claims. (Cl. 4—192)



3. A plumbing aid for installing a plumbing installation in the wall of a building, said wall having studs to which wall board can be attached; said plumbing installation to have a water pipe within and extending through the wall and a drain pipe with a vertical segment within the wall; and said plumbing aid having a back surface which will fit flush against the studs, a front surface resembling the wall board customarily used in buildings, indicia on its back surface whose positions on said surface correspond to the position of the water pipe relative to the back surface of the panel when it is installed in the wall and the panel is flush against the studs, tabs extending from and perpendicular to its back surface with holes whose centers correspond in position with reference to the panel to the position of the centerline of the vertical segment of the drain pipe within the wall with reference to the panel when the said segment is installed in the wall and the panel is flush against the studs, and holes passing through it at those locations in which the water pipe will pass through it when it is installed and the panel is flush against the studs.

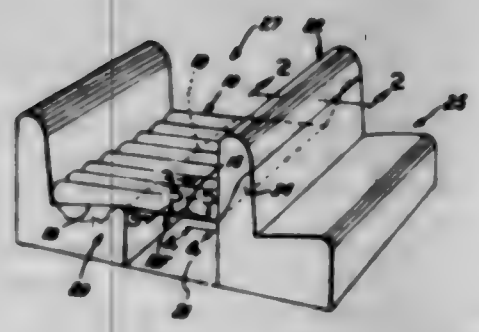
3,143,745
FLUSH TANK ATTACHMENT FOR LEVER OPERATION OF ATOMIZER DEODORANT CANS
Nathaniel W. Price, 193 Main St., White Plains, N.Y.
Filed Oct. 25, 1961, Ser. No. 147,548
1 Claim. (Cl. 4—222)



In combination with a flush tank having side walls with a first wall at substantially right angles to a second wall,

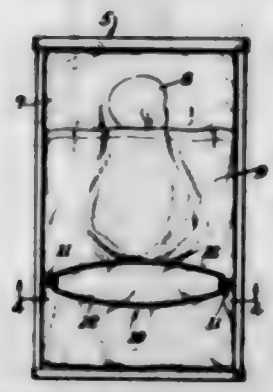
at operating lever on said second wall leading to a flush valve in the tank, a flush tank attachment for lever operation of the valve of an atomizer deodorant can, consisting of a container for receiving and supporting an atomizer can exterior the flush tank, and means for supporting the container upon the exterior surface of the flush tank in various vertical adjusted positions, a rigid arm rising from and above the top of the container, a lever rod extension carried by said rigid arm and extending at an angle substantially horizontally across the vertical axis of said means for supporting the deodorant can, said rod being springy throughout and integrally adapted to spring upward after downward action by the said lever, the container with its rigid arm and springy rod being positioned on the flush tank first wall with the rod angularly crossing the jointure of said first and second walls of the tank and in position for co-action with said lever.

3,143,746
CONTROLLABLY EFFECTIVELY COLLAPSIBLE AND FOLDABLE CHILD SUPPORT PLATFORM FOR A SEAT AREA OF A VEHICLE
Robert G. Spear, Canoga Park, Calif.
(1648 Cochran, Simi, Calif.)
Filed Oct. 25, 1961, Ser. No. 147,623
6 Claims. (Cl. 5—94)



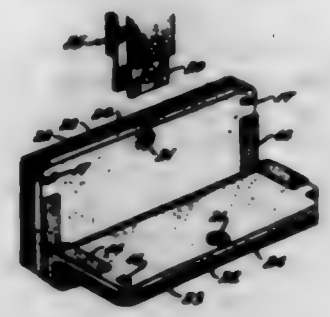
1. A controllably effectively collapsible and foldable child support platform for a rear seat area of a motor vehicle, comprising: controllably inflatable and deflatable hollow platform means comprising thin-sheet enclosing means of flexible air-impervious thin-sheet material defining a hollow interior chamber means within said platform means capable of holding air under pressure, said platform means being of substantially rectangular configuration as seen in top plan view and having a rear downwardly facing seat-abutment surface portion adapted to rest upon and abut the upper surface of the rear seat of an automobile, said platform means having a forward portion extending forwardly of said rear downwardly facing seat-abutment surface portion to an extent such as to be adapted to be positioned forwardly of said upper surface of said automobile rear seat over an open region forwardly of said automobile rear seat and normally adapted to receive the lower legs and feet portions of persons sitting on said rear seat, said forward portion of said platform means being provided along the front edge thereof with forward support and engaging means comprising upwardly directed tensile support means taking the form of an effective slip-cover engaging means of thin-sheet flexible material defining an effectively downwardly concave receiving means effectively comprising a downwardly directed receiving recess shaped in a manner corresponding to the upwardly directed shape of a corresponding top portion of an automobile front seat for slip-over engagement therewith whereby to effectively support said forward portion of said platform means over said open region, said thin-sheet enclosing means comprising said hollow inflatable platform means being provided with controllably operable valve means for introducing a fluid under pressure into said interior chamber means for inflating said platform means and for removing said fluid from said interior chamber means for effectively collapsing said hollow platform means.

3,143,747
BEDCLOTHES CLAMP
Malcolm S. McSorley, 614 Rosemary Lane, Burbank, Calif., and Karlis Rutenberg, 4860 Continela Ave., Los Angeles, Calif.
Filed Sept. 24, 1962, Ser. No. 225,747
3 Claims. (Cl. 5—328)



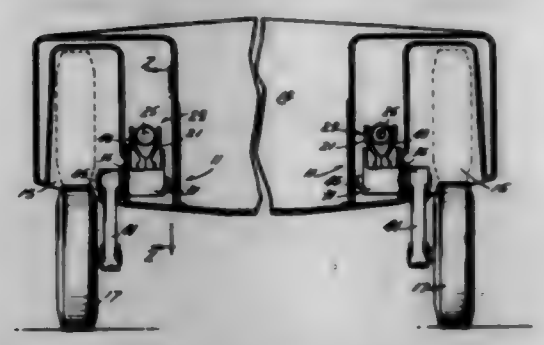
1. A bedclothes clamp comprising
(*a*) an elongated and resilient frame provided with elongated side portions and shorter connecting end portions, said frame having longitudinal curvature and adapted to be disposed across a bed over a mattress and covers tucked around the sides of the mattress with the mid portion of the frame in contact with said covers intermediate the sides of the mattress and the end portions raised above the covers,
(*b*) a strap connected to each frame end and adapted to be trained around the opposite sides of the covered mattress and to be attached to rigid portions of the bed, and
(*c*) the elongated side portions of the frame being oppositely bowed.

3,143,748
COMBINATION CONTAINER AND CUSHION
Charles H. Manning, 115 Main St., Troy, N.C.
Filed Mar. 24, 1961, Ser. No. 98,050
3 Claims. (Cl. 5—344)



1. A combination container and cushion comprising relatively thick cushioning material including a flexible backing having a relatively long pile, said material being of a flexibility permitting the material to be folded upon itself, an attaching tape located along at least two contiguous edges of said folded material for fastening said contiguous portions to each other, interengaging means located adjacent to said contiguous edges, an elongated handle-forming strap, means for connecting the opposite ends of said strap to said material, at least one end of said strap being removable, whereby said cushioning material may be folded and fastening along at least two contiguous edges to form a container.

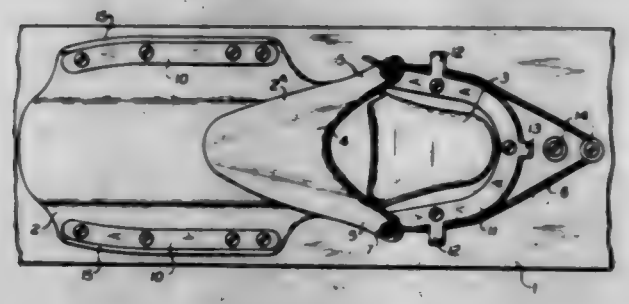
3,143,749
RETRACTABLE WHEEL INSTALLATION AND ACTUATING MECHANISM THEREFOR
Albert E. Buchholz, deceased, late of Kenosha, Wis., by Robert K. Gerling, special administrator, Des Plaines, Ill., and Kenneth E. Claussen, Waukegan, Ill., assignors to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Apr. 4, 1962, Ser. No. 185,166
14 Claims. (Cl. 9—1)



1. In a boat including a hull, a wheel, means mounting said wheel on said hull for selective disposition of said wheel in a first position in generally extending relation to said hull and in a second position in relatively less extending relation to said hull, the improvement comprising
a bell crank lever pivotally mounted on said hull, said lever having one end including means rotatably supporting said wheel,
a movable element,
means mounting said element on said hull for linear movement, and
resilient means connecting said element and the other end of said bell crank lever for actuating pivotal movement of said bell crank lever to selectively locate said wheel in said first and second positions, and for absorption of shock loads, said connecting means being resilient in a direction along the path of linear movement of said element.

14. The combination of a screw, means for rotating said screw, a nut threaded on the screw and including a seat for a spring, means for preventing rotation of said nut with said screw whereby said nut is displaced axially of said screw in response to rotation thereof, a nut actuated member including a seat for a spring, and a spring interposed between said spring seats on said nut and said member.

3,143,750
BINDING FOR WATER SKIS
Anthony M. Kluge, 62—24 78th St., Rego Park, N.Y.
Filed Apr. 22, 1963, Ser. No. 274,660
12 Claims. (Cl. 9—310)



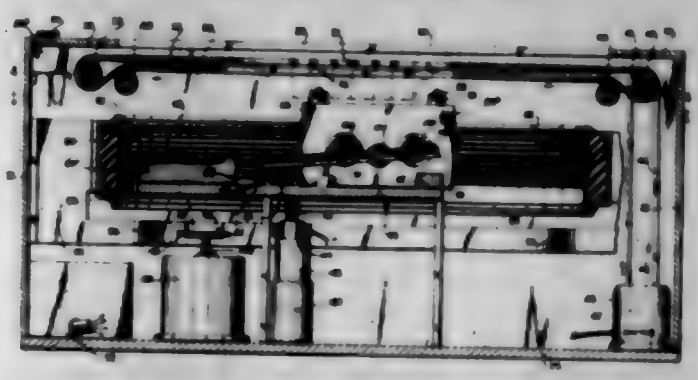
1. A binding for water skis comprising
an elastic flexible vamp member,
a counter disposed behind said vamp member,
both, said vamp and said counter being adapted to be mounted on a ski board,
first clamping means securing the lateral edges of said vamp member to a ski board,
second clamping means securing the lower edges of said counter to a ski board,
said vamp member having at its rear end oppositely disposed tension projections, adapted to engage the instep of the foot of the user, and
non-resilient cord means adjustably secured to the rearmost end of said tension projections and extending behind said counter.

3,143,751
COVERED LIFE PRESERVER WITH AUTOMATIC COVER DISCHARGING SELF-INFLATION
Frank L. Davis, 30 Mariners Lane, Northport, Long Island, N.Y.
Filed Oct. 18, 1963, Ser. No. 317,285
3 Claims. (Cl. 9—318)



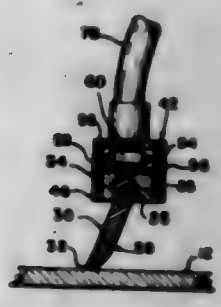
3. A life preserver to be worn attached to a person in compactly folded wearable condition and to automatically unfold and inflate to full body and head supporting condition on contact with water, comprising
an envelope of flexible waterproof gas tight material, open at the center to pass over the head,
means for securing the same about the body of a wearer,
an enclosing cover confining said envelope in closely folded formation for wearing about the neck and removably engageable about said envelope,
pressure releasable means for securing said cover about said envelope, and
water releasable means for effecting inflation of said envelope and the release of said cover from the envelope.

3,143,752
AUTOMATIC SHOE SHINING DEVICE
Bela Loebl, 109 Park Place, Passaic, N.J.
Filed Dec. 9, 1963, Ser. No. 328,936
12 Claims. (Cl. 15—31)



1. Automatic shoe shining apparatus, comprising a cabinet, a horizontal endless rail in said cabinet, a carriage mounted on said rail, means for moving the carriage continuously around the rail, a treadle in the cabinet disposed for supporting a shoe to be shined, a plurality of brushes carried by the carriage and facing the treadle for respectively cleaning the shoe, applying polish thereto, and for polishing the shoe; means in the carriage for extending and retracting the brushes in a predetermined timed sequence, and circuit means in the cabinet operatively connected to the brush extension and retraction means for controlling the same.

3,143,753
WINDSHIELD WIPER AND WASHER ASSEMBLY
Tore Samuel Rune Torelv, Kungsholmsstrand 181, Stockholm, Sweden
Filed Feb. 18, 1963, Ser. No. 259,267
1 Claim. (Cl. 15—250.04)



A cleaning and wiping apparatus for an automotive windshield comprising:

(*a*) a rockably mounted wiper arm,

(*b*) means for operating said wiper arm,

(*c*) wiper blade holding means carried by said arm and having a channel opening inwardly toward said windshield,

(*d*) a flexible wiper blade secured to said holding means and extending longitudinally through said channel for oscillatory wiping engagement with said windshield,

(*e*) means providing an elongated fluid chamber in said holding means, said chamber overlying said channel and extending longitudinally of said wiper blade,

(*f*) a plurality of axially spaced nozzle openings formed in said holding means on each side of said blade in fluid communication with said chamber, each nozzle opening on one side of said blade facing oppositely from and axially aligning with a nozzle opening on the opposite side of said blade along a common axis extending transversely of said blade,

(*g*) each nozzle opening being formed with a seat substantially contained in a conical envelope,

(*h*) means for furnishing a supply of liquid to said chamber,

(*i*) a plurality of valve closure members carried by said holding means and each being disposed in said chamber for limited axial displacement between a pair of aligned nozzle openings and having conical end sections co-operating with the seats of aligned nozzle openings,

(*j*) each valve closure member being shiftable by its own inertia along the common axis of the associated pair of aligned nozzle openings in response to oscillatory movement of said arm to close only a predetermined one of the associated pair of aligned openings at a time for permitting liquid from said chamber to be discharged only in the direction of movement of said wiper blade,

(*k*) said holding means having transverse apertured partitions separating aligned pairs of said nozzle openings, and each closure member having a cylindrical section joining said end sections and being slidably received in the compartments formed by said partition.

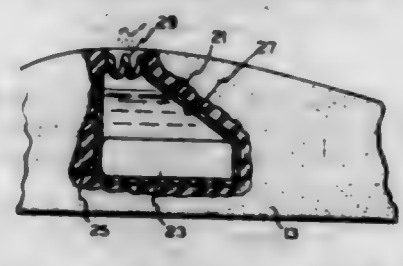
3,143,754
WINDOW CLEANING MECHANISM
Gilbert H. Wolf, Milford, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 15, 1962, Ser. No. 230,419
2 Claims. (Cl. 15—250.23)

1. Vehicle window cleaning mechanism including, a window, an oscillatable shaft disposed substantially centrally of said window along an edge thereof, a first wiper arm connected to said shaft and having a pair of telescopically arranged sections capable of relative longitudinal movement, a wiper blade attached to the outer end of the longitudinally adjustable section of said first wiper arm, a second wiper arm including spring hinge connected parts pivoted off-center from said shaft, drive means operable to oscillate said second wiper arm throughout a stroke of predetermined angular extent, and means pivotally interconnecting the outer ends of said second wiper



arm and the longitudinally adjustable section of said first wiper arm for oscillating said first wiper arm throughout a stroke having a greater angular extent than the stroke of said second wiper arm and concurrently adjusting the length of said first wiper arm so as to fully extend said first wiper arm adjacent its stroke ends and fully retract said first wiper arm at its mid-stroke position.

3,143,755
BATHING AID
Dale W. Rowley, Firesteel, S. Dak.
Filed Mar. 5, 1963, Ser. No. 262,969
5 Claims. (Cl. 15—523)



1. An article of manufacture comprising, in combination, a flexible body internally partly hollowed with a plurality of openings thereto; one of said openings adapted to admit a bar of soap; a further opening being in spaced apart relation to said one; the internal walls of the hollow characterized by being less permeable to water than the body whereby exposure of the body to water with subequent pressure applied to the body to collapse the hollow results in soapy water being spouted from the further opening.

3,143,756
FOUNTAIN-FED COATING APPARATUS ADAPTED FOR USE WITH STANDARD COATING MATERIAL CONTAINERS
Frank E. Sisko, 1012 Forest Ave., Chattanooga 5, Tenn.
Filed May 27, 1963, Ser. No. 283,313
1 Claim. (Cl. 15—553)

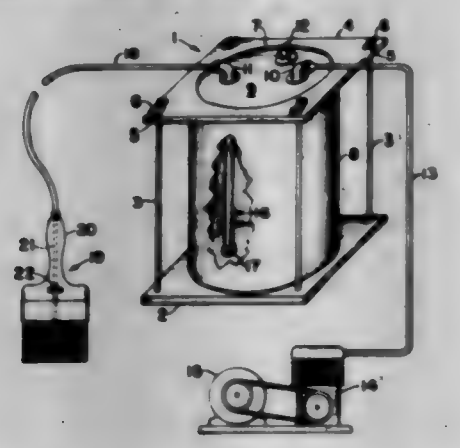
A coating apparatus comprising

a supporting frame including

a base,

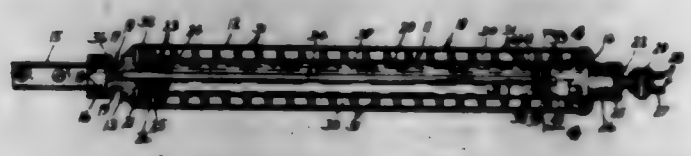
a plurality of elongated bolts attached to and upstanding from the base,

a top plate having
small openings for the bolts to pass through and
a large central opening defined by its periphery,
and nuts on the bolts for securing the top plate thereon;
a standard coating liquid container having
a tightly fitting lid thereon,
the container being supported on the base of the frame and the lid being clamped tightly onto the container by the periphery of the large central opening in the top plate,



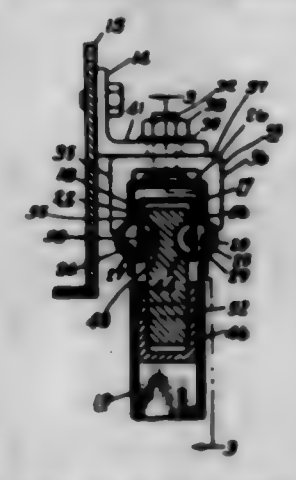
the lid having attached thereto in a pressure-tight manner
a supply conduit fitting,
a discharge conduit fitting and
a safety valve;
an air compressor;
a motor for driving the compressor;
conduit means connecting the compressor to the supply conduit fitting and maintaining continuous pressure in the container;
a coating liquid applicator having
a control valve therein; and
flexible tubing connecting the discharge conduit fitting on the container to the valve in the applicator.

3,143,757
HYDRAULIC DOOR CLOSER
Bert A. Quinn, St. Paul, Minn., assignor, by mesne assignments, to Ideal Brass Works, Incorporated, St. Paul, Minn., a corporation of Minnesota
Filed May 12, 1961, Ser. No. 109,702
4 Claims. (Cl. 16—57)



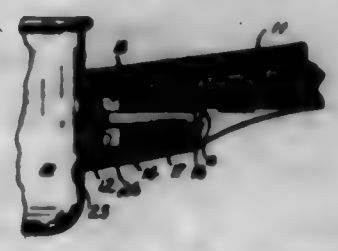
1. In a hydraulic door closer, a pair of concentric telescoping inner and outer cylinders having closed fluid tight outer ends, each of said cylinders having a portion axially slidably engaging the other of said cylinders, means on the closed outer ends of said cylinders for connecting said closed outer ends one to a door frame and the other to a cooperating door hinged to said door frame, the inner end of said cylinder having an axial opening therethrough, a piston in said inner cylinder, a piston rod extending slidably through said axial opening and secured at one end to said piston and at its other end to the closed outer end portion of said outer cylinder, and yielding means biasing one of said cylinders in one direction of axial movement relative to the other of said cylinders, whereby to impart relative axial movements to said piston and inner cylinder, said inner cylinder containing liquid, and valve means operatively associated with said piston for controlling flow of said liquid from one end portion of said inner cylinder to the other end portion thereof responsive to relative axial movements of said inner cylinder and piston.

3,143,758
SLIDING DOOR HANGER
Frederick Stanley Dunham, East Orange, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 9, 1960, Ser. No. 7,593
1 Claim. (Cl. 16—88)



A linear type ball supported sliding door hanger for movably suspending a vertically disposed horizontally sliding door, said hanger comprising a pair of straight track members one of which is centrally located and movable longitudinally with respect to the other and when so located is adapted for suspending said sliding door forming a load, the other track member being stationary and having substantially an inverted U cross sectional shape with its downwardly depending legs substantially parallel to the opposed vertically disposed sides of said centrally located movable track member, the adjacent surfaces of said fixed and movable track members having formed in their oppositely disposed areas ball receiving troughs or races substantially throughout their lengths and constituting ball raceways between said track members when one is encompassed within the other, a plurality of ball elements positioned in longitudinal alignment in said raceways for facilitating longitudinal travel of said movable track relative to said stationary track and when so arranged constituting supporting means between said track surfaces for the suspension of said door, a ball retaining member having ball carrying portions extending into said raceways between said tracks and being adapted to maintain adjacent ones of said ball elements separated from each other, each and all of said load supporting ball elements being composed of polytetrafluoroethylene.

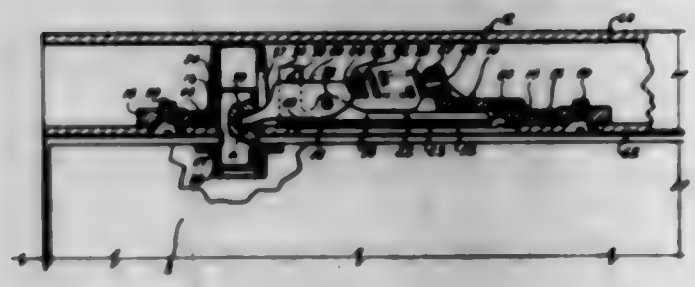
3,143,759
FLAME SHIELD FOR HANDLE
Richard T. Kennedy, Oak Lawn, Ill., assignor to Rico Products Company, Chicago, Ill., a corporation of Delaware
Filed June 7, 1962, Ser. No. 200,863
1 Claim. (Cl. 16—116)



A flame shield for use with a culinary receptacle handle mounting, wherein said mounting includes a handle

and fastening means rigidly joining said handle to the outer wall of said receptacle, including a screw having passage through a bore in the handle extending lengthwise of a line along which the handle projects from said receptacle, said shield comprising a metal body having a pair of upright side walls joined by a base wall to define a channel of such width as to have snug fit with the underside of said handle and opposite side walls thereof extending upwardly from said underside along lines extending lengthwise of the line along which the handle projects from said receptacle, and means effective to secure said shield in fixed relation to said handle including a flange integral with and extending upwardly from said base wall of the shield and engaged between a head at the rear end of said screw and the surface of the handle surrounding said bore and facing said head of the screw and a second tab integral with and extending upwardly from said base wall of the shield and overlapping an end portion of the handle facing said receptacle, said end portion of the handle so overlapped by said second tab being recessed to receive and have interlocking engagement with said second tab and to allow said end portion of the handle bordering said recess to have snug engagement with the surface of the receptacle opposite thereto.

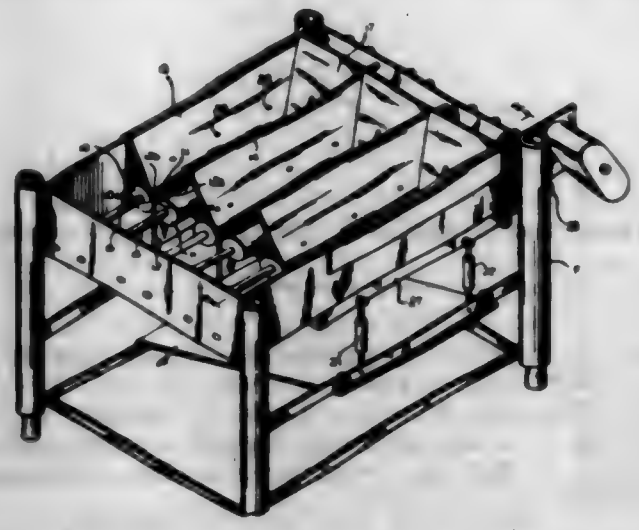
3,143,760
RETRACTABLE DOOR PIVOT ASSEMBLY
Harold W. Ferguson, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 28, 1961, Ser. No. 92,210
3 Claims. (Cl. 16—176)



1. A retractable door pivot assembly comprising a frame, a pivot plunger mounted on the frame for axial reciprocal movement between a retracted and an extended operating position, a pivot on said frame, a link pivotally mounted on said pivot and connected to the plunger to reciprocate the same, an operating lever mounted on said pivot for movement between a first position extending away from the frame and a retracted position, and a disengageable catch for securing the link to the lever for simultaneous pivoting movement thereof, said catch being engageable when the lever is moved to said first position and the plunger is in retracted position.

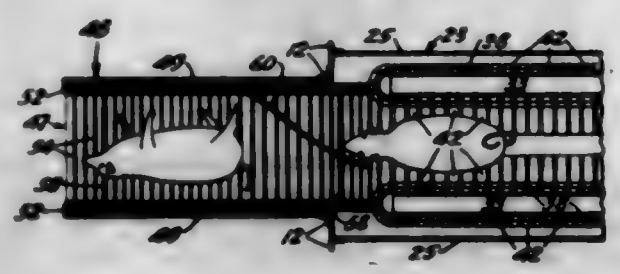
3,143,761
APPARATUS FOR PROCESSING SHRIMP AND THE LIKE
Clyde J. Welcker and Roland L. Welcker, New Orleans, La., assignors to Welcker Corporation, a corporation of Louisiana
Filed July 9, 1962, Ser. No. 208,241
16 Claims. (Cl. 17—2)

1. A machine for processing shrimp comprising in combination a pair of side members generally defining an elongated nip therebetween, at least one of which side members having an inwardly and outwardly inclined surface sloping towards said nip, a center plate having at least one generally vertical side surface facing and coextensive with the aforesaid sloping surface, said plate and said surface being separated by a first space at one location along the nip and by a second wider space at a different location so that shrimp which will not pass between the center plate and said surface at the first location will pass therebetween at the second location, and means



effecting relative motion between said side members and said plate to advance shrimp through the first location and to the second location.

3,143,762
PROCESS FOR FACILITATING THE IMMOBILIZATION AND SLAUGHTERING OF ANIMALS
Lawrence W. Murphy, Austin, Minn., assignor to Geo. A. Hormel & Company, Austin, Minn., a corporation of Delaware
Filed Sept. 18, 1961, Ser. No. 138,630
17 Claims. (Cl. 17—45)

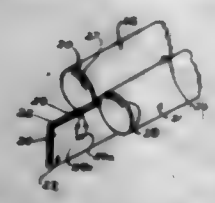


1. The process of slaughtering animals which consists in engaging and applying inward pressure against opposite sides of the animals throughout substantially the length of the animals to confine the animals against voluntary lateral, vertical and longitudinal movement and to support the animals in predetermined position such as upright while moving the animals in single file order through a gas chamber, subjecting them to an immobilizing gas in said chamber while maintaining the animals in said predetermined position for a period of time sufficient to immobilize the vountary processes of the animals without affecting the involuntary processes of the animals, releasing the immobilized animals from said confined predetermined position and mechanically turning the released animals to dispose each animal upon his side in a predetermined position.

3,143,763
SHRIMP PROCESSING METHOD
Clyde J. Welcker and Roland Welcker, New Orleans, La., assignors to Welcker Corporation, New Orleans, La., a corporation of Louisiana
Original application Feb. 6, 1961, Ser. No. 87,425, now Patent No. 3,080,605, dated Mar. 12, 1963. Divided and this application June 19, 1962, Ser. No. 203,552
6 Claims. (Cl. 17—45)

1. A method of processing shrimp positioned at a nip between an upwardly extending surface and a downwardly sloping surface, which comprises moving the upwardly

extending surface through a cycle, first, downwardly to apply peeling pressure to the shrimp in the nip and then



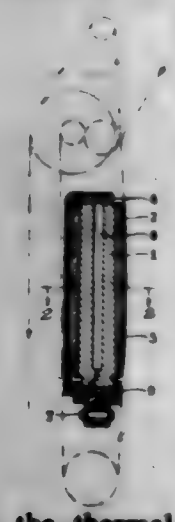
upwardly and forwardly to move the shrimp forwardly in the nip.

3,143,764

DEVICE FOR THE THERMAL TREATMENT OF SYNTHETIC FIBERS AND FILAMENTS

Hans Wildegger, Bobingen, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

Filed July 6, 1962, Ser. No. 208,013
Claims priority, application Germany July 12, 1961
9 Claims. (Cl. 18—1)



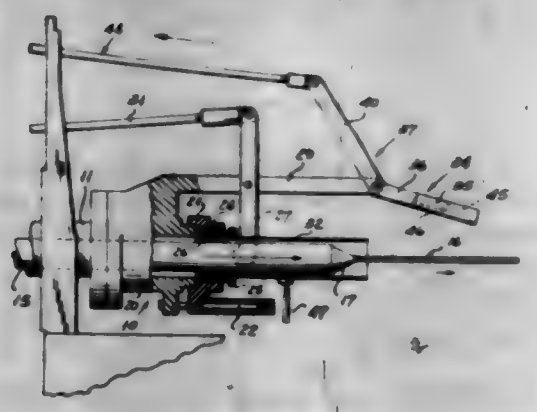
1. A device for the thermal treatment of synthetic fibers and filaments comprising a pivotable supported metal core, heating means connected with said core for heating said core, a removable metal sleeve member which is supported around said metal core being rotatable around said core and whose surface serves as running surface for the filaments, a cap surrounding said metal sleeve member in which cap said sleeve member is rotatable, and a longitudinal slit in said cap which provides a running surface on said portion of the sleeve member exposed by said slit against and over which said filaments travel.

3,143,765

FULL-THROUGH LEADER SEAL

Edward Tanis, 20 Heights Road, Midland Park, N.J., and Harold H. Ramsey, 381 Godwin Ave., Wyckoff, N.J.

Filed Mar. 25, 1963, Ser. No. 267,416
11 Claims. (Cl. 18—6)



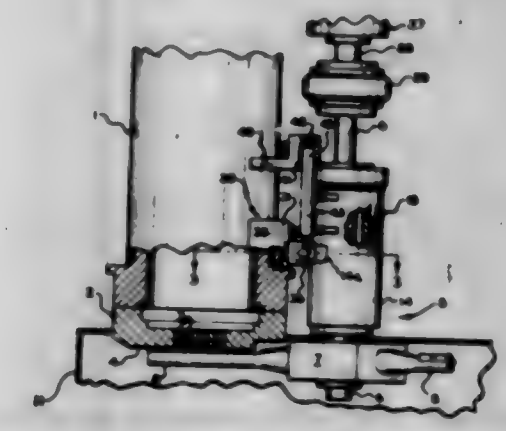
2. Apparatus for subjecting elongated material to fluid under pressure which comprises a fluid-containing chamber through which the material travels in extended form, a main seal near an end of the chamber having a passage therethrough and adapted to cooperate with the material as it passes therethrough, means for introducing fluid under pressure into the chamber, and a retractable auxiliary sealing means at the end of the chamber in tandem with and spaced substantially outwardly of the main seal, said auxiliary sealing means having an opening therethrough of a size sufficient to receive and to establish a substantial seal, when the auxiliary sealing means is closed, with a leader attached to an end of the material, said leader having a cross section substantially smaller than that of the material, means for selectively moving the auxiliary sealing means into closed position, in the path of the material, and into open position, out of the path of the material, and means responsive to a change in the pressure of the fluid in the portion of the chamber between the main seal and the auxiliary sealing means for actuating the means for moving the auxiliary sealing means.

3,143,766

PELLETIZING APPARATUS

Owen W. Rohn, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York

Filed Apr. 17, 1961, Ser. No. 103,311
5 Claims. (Cl. 18—12)



3. Pelletizing apparatus comprising rotary cutter means having at least one blade; universally adjustable means mounting said cutter means for rotation about three normal axes; an extruding die through which material to be pelletized may pass into the path of rotation of said blade; and actuating means connected to said mounting means and operable at all times to adjust the latter relatively to any or all of said axes and maintain said mounting means in adjusted position.

3,143,767

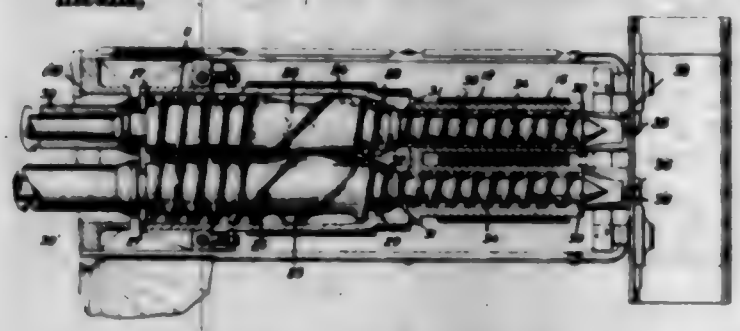
MULTIPLE SCREW MIXING AND EXTRUSION APPARATUS

Thomas Wirth, Dachau, Munich, and Wilhelm Ellermann and Kurt Hartmann, Munich, Germany, assignors to Krauss-Maffei Aktiengesellschaft, Munich-Allach, Germany

Filed July 6, 1961, Ser. No. 122,200
7 Claims. (Cl. 18—12)

1. An extrusion apparatus comprising in combination a plurality of adjacent screw conveyer shafts,
said screw conveyer shafts having each an inner screw conveyer portion and an outer screw conveyer portion,
said inner screw conveyer portion having a larger diameter than said outer screw conveyer portion,
common casing means for said inner screw conveyer portions,
separate casing means for said outer screw conveyer portions,

said separate casing means extending in spaced relationship over at least a portion of their axial length to provide a space between adjacent separate casing means,



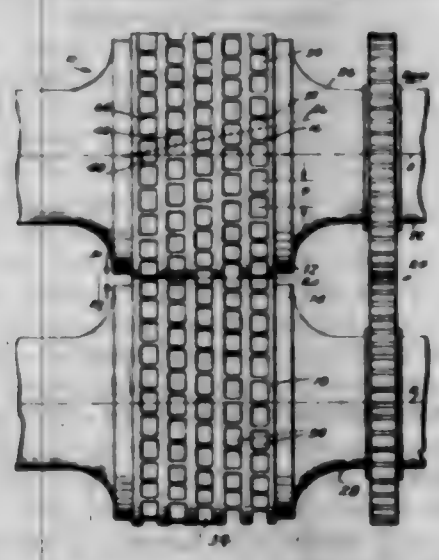
and individual heating and cooling means on each said separate casing means and partly disposed in the space between adjacent separate casing means.

3,143,768
FLIGHTED TEMPERATURE CONTROLLED MIXER SHAFT
Clarence K. Scherping, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed Sept. 28, 1961, Ser. No. 139,464
9 Claims. (Cl. 18—12)



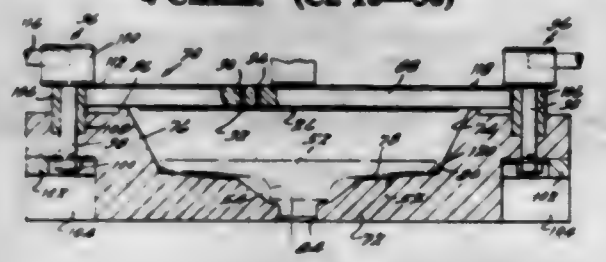
1. A temperature controlled mixer shaft comprising; an elongate, hollow shaft having relatively narrow, interrupted integral flights thereon; at least one flight having at least one radial opening extending from its radially outer end to the open interior of said shaft; and means including weld material closing the opening at the outer periphery of said flight.

3,143,769
BRIQUETTING ROLL POCKETS
Gustav Komarek and Karl R. Komarek, Chicago, Ill., assignors to Komarek-Greaves and Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 15, 1963, Ser. No. 303,720
1 Claim. (Cl. 18—21)



A machine for compressing material into briquettes comprising: a pair of cooperating cylindrical roll members mounted for rotation in opposite directions about their respective axes; a plurality of circumferentially uniformly spaced generally rectangular shaped pockets formed in the face of each roll member in successive parallel circumferential rows, two opposed sides of each of said rectangular shaped pockets being parallel to the axis of rotation of said roll member, each successive circumferential row equally offset in a direction perpendicular to the axis of rotation of said roll member from the preceding adjacent circumferential row so as to form transverse rows extending across the face of said roll member at an angle to the axis of rotation of said roll member, and wherein the offset between adjacent pockets in each transverse row is substantially equal to the circumferential distance between the centers of adjacent pockets in one of said circumferential rows divided by the number of said circumferential rows formed on said roll member such that pockets on one of said roll members successively and progressively enter into operative compressing alignment with the mating pockets on the other of said roll members.

3,143,770
MOLDING APPARATUS FOR SANDING PAD ASSEMBLY
Bernard G. Jeske, Dearborn, Mich., assignor to Formax Manufacturing Corp., Detroit, Mich., a corporation of Michigan
Original application July 21, 1960, Ser. No. 44,402, now Patent No. 3,082,582, dated Mar. 26, 1963. Divided and this application Dec. 5, 1962, Ser. No. 248,173
4 Claims. (Cl. 18—36)

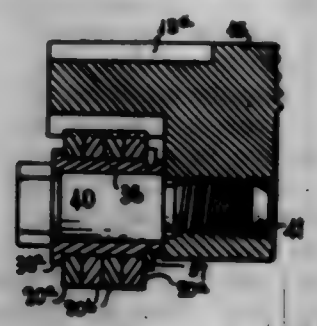


4. Molding apparatus for forming a product by molding a plastic material onto a backing member on one end, said apparatus comprising: a base having a mold cavity in the top thereof, said cavity having a side wall with a periphery larger than that of the backing member and a bottom wall which has formed at its radially outer extremity a raised, peripheral sealing lip, said sealing lip being of a size to engage and support the backing member away from the remainder of said bottom wall and having a plurality of radially extending vent slots therein, passage means in said bottom wall including said vent slots for communicating said cavity with the atmosphere, a cover for said base adapted to be clamped to said top thereof so as to close said mold cavity, said cover having vent openings therein communicating with the atmosphere.

3,143,771
TEXTILE CARD FLAT CHAINS
Walter A. Klattz and David W. Yoder, Gastonia, N.C., assignors to Klattz Machine & Foundry Co., Gastonia, N.C., a partnership
Filed Mar. 12, 1962, Ser. No. 179,044
2 Claims. (Cl. 19—102)

1. A card flat chain joint comprising, the combination of at least two successive metallic links of said chain arranged to overlap one another at their ends, said overlapped ends having a bore extending therethrough, a metallic bushing having a heat-treated outer periphery impregnated with sulphides, said periphery being relatively harder than and rotatably engaging the inner periphery of said bore, one end of said bushing having integral therewith an abutment portion for preventing movement

of said link ends longitudinally of the bushing in one direction, means detachably secured to the other end portion of said bushing for preventing movement of said link ends longitudinally of the bushing in the opposite direction, said bushing having a bore extending therethrough concentric with said first-named bore, and a metallic bolt rotatably mounted in the bushing bore, one end of said bolt being threadably secured in the end of a card flat of said chain and the other bolt end having integral there-



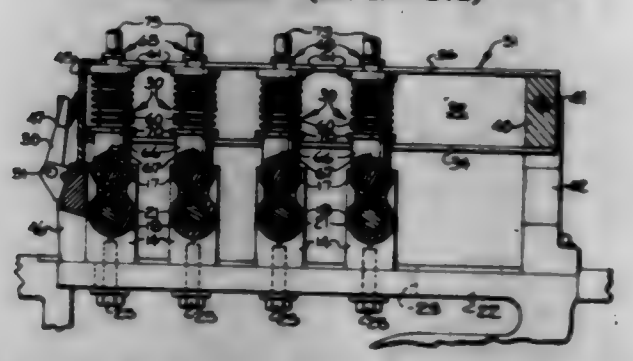
with an enlargement engageable with said abutment portion to confine the bushing on said bolt, the inner periphery of said bushing bore being heat-treated, impregnated with sulphides and relatively harder than the outer periphery of said bolt, whereby the differential hardness of the respective relatively rotatable interengaging surfaces of the bushing, link ends and bolt will reduce galling and metal-to-metal fusion during operation, and whereby the bushing, links and card flat are detachably secured to one another.

3,143,772

TEXTILE DRAFTING ROLL PRESSURE APPLYING MEANS

Joe R. Whitehurst, Bessemer City, N.C., assignor to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina

Filed Apr. 8, 1963, Ser. No. 271,275
11 Claims. (Cl. 19—272)



1. In a textile drafting mechanism having a series of top and bottom drafting rolls, apparatus for applying pressure to opposed ends of the top rolls comprising

(*a*) bracket means overlying said top roll ends,

(*b*) means positioned between said bracket means and said top roll ends for applying a downward pressure to the corresponding top roll ends and including an expansible chamber disposed between each top roll end and said bracket means, and

(*c*) means including a check valve communicating with the interior of each expansible chamber for directing fluid pressure into and maintaining fluid pressure in each chamber independently of the other chambers.

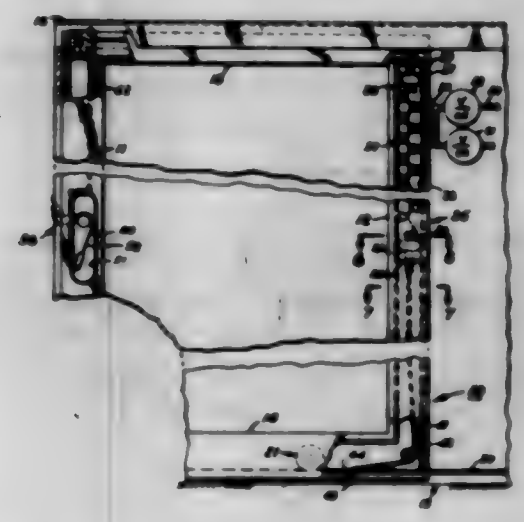
3,143,773

SLIDING DOOR ACCESSORY

Edward R. Glenn, 1651 Casa Grande St., Pasadena, Calif.

Filed Mar. 5, 1962, Ser. No. 177,363
8 Claims. (Cl. 20—19)

1. In combination with a sliding door member which slides within a frame member: closer means comprising a cylinder attached to one of said members and having an axial length closed at one end, a piston making a fluid sealing, sliding fit in the cylinder, spring means connected to the piston which tends to force the piston toward the closed end of the cylinder, fluid flow restrictor means limiting the rate of fluid flow out of the cylinder when the piston moves toward the closed end, and interconnecting means connecting the other of said members to the piston, and so disposed and arranged that sliding movement of the door member changes the position of the piston in the cylinder, the piston's closest approach to the closed end occurring when the door member closes the frame; and lock means for said door member com-



prising an actuating means mounted to the door member, a hook member adapted to engage a complementary member mounted to the frame, the hook member being movable to and away from an engaged position by the actuating means, a push rod shiftable by actuating the actuating means, a wedge member mounted to the push rod, and a lateral member engageable by the wedge member to be moved against the frame to restrain the door member from movement when the actuating means is moved to a lock position, to thereby move the push rod to press the wedge against the lateral member, and force the lateral member against the frame.

3,143,774

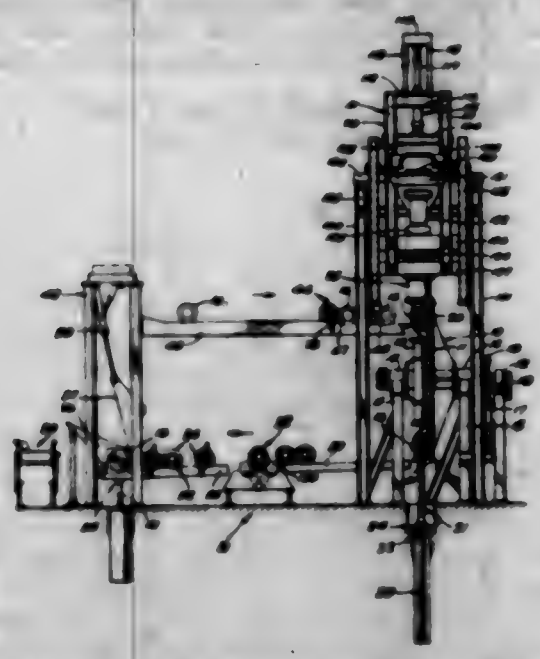
APPARATUS FOR LINING CYLINDRICAL FLASKS

Paul E. Ewing, Huntington Park, Calif., assignor to Rich Manufacturing Company of California, Los Angeles, Calif., a corporation of California

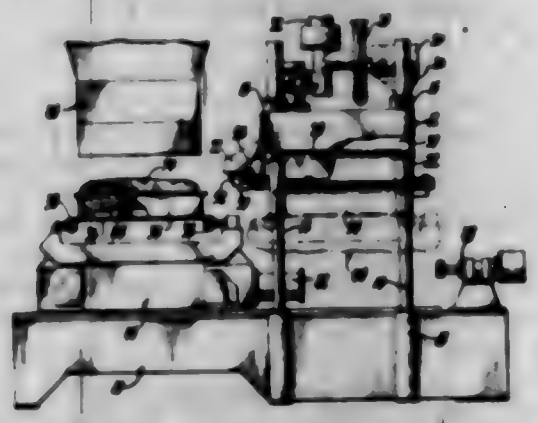
Original application Apr. 11, 1960, Ser. No. 21,180, now Patent No. 3,072,966, dated Jan. 15, 1963. Divided and this application May 8, 1961, Ser. No. 113,984
3 Claims. (Cl. 22—36)

1. Apparatus for lining cylindrical flasks with sand to form molds for centrifugal castings, comprising in combination: means for supporting a flask in vertical position, a retractable pattern mounted for upward movement into the interior of said vertical flask, a sand-delivery device mounted for downward movement to contact the upper end of said vertical flask, a pair of vertical support members positioned on either side of said flask, a crossbeam mounted on and connecting the upper ends of said support members, support means mounted on said crossbeam, a power cylinder assembly vertically mounted on said support means on the axis of said flask, a plurality of stationary guide members mounted on said support members and extending vertically above the position of said flask, crossframe means guided for vertical movement along said guide members, a plurality of vertical members mounted on said crossframe means, framework means connecting the upper ends of said vertical members, means mounted on said framework means and having the piston rod of said power cylinder assembly fixedly connected

thereto, and means for supporting said sand-delivery device on said crossframe means, said power cylinder assembly operable for pendantly raising and lowering said crossframe means and said sand-delivery device.



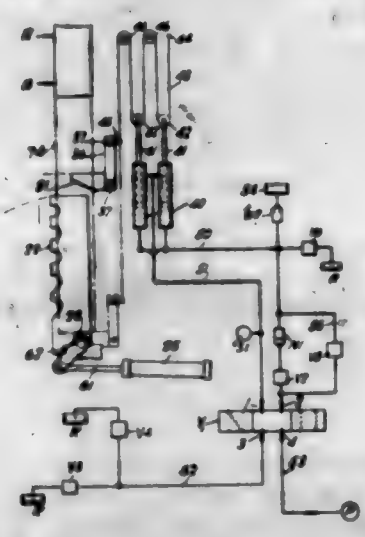
3,143,775
FOUNDRY MOLDING MACHINE
Arthur R. Jones, Danville, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 17, 1961, Ser. No. 110,772
5 Claims. (Cl. 22—40)



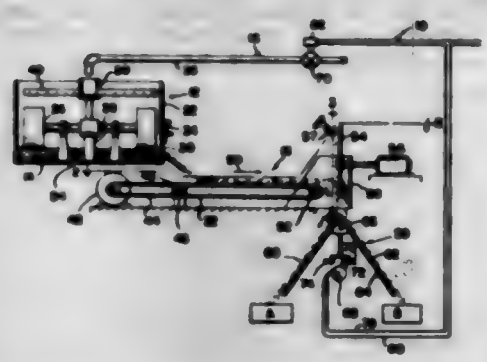
1. A sand molding apparatus comprising means for supporting a flask containing sand heaped above its upper its upper edges, an elongated roller supported adjacent said means, said roller having axially extending cleats affixed to its generally cylindrical outer surfaces, means for moving said sand-filled flask horizontally beneath said roller and into a position in which sand in said flask above said edges contacts said cleats on lower surfaces of said roller, means for rotating said roller so that its cleats are moving in the same general direction as said flask when in contact with said sand, said roller being rotatable at a rate sufficient to provide said cleats with a tangential speed exceeding the linear speed of the flask when said cleats are in contact with sand in said flask.

3,143,776
CONTINUOUS CASTING
Eric Ball, Walton-on-Thames, Surrey, England, assignor to Continuous Casting Company Limited, Surrey, England, a company of Great Britain
Filed Oct. 5, 1961, Ser. No. 143,212
Claims priority, application Great Britain Oct. 6, 1960
11 Claims. (Cl. 22—57.2)

1. A method of operating a vertical continuous casting plant having a receiver spaced vertically below the mould to receive severed sections of the casting, which comprises severing a section from the lower end of the casting whilst holding a vertically-movable buffer foot lightly in contact with the lower end of the section, and after severing is complete allowing the severed section to accelerate substantially freely under gravity pushing the foot downwardly beneath it without substantial restraint to the descent of the section until it reaches a predetermined speed, and thereupon causing the foot to apply a substantial upward braking force greater than the said light contacting force to the severed section.



3,143,777
MOLDABILITY CONTROLLER
Harry W. Dietert, Kerrville, Tex., assignor to Harry W. Dietert Co., Detroit, Mich., a corporation of Michigan
Filed Aug. 21, 1961, Ser. No. 132,901
15 Claims. (Cl. 22—59)

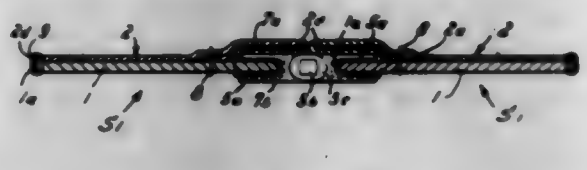


1. Apparatus for separating granular material comprising a conveyer for receiving a sample of granular material, means for rapidly moving the conveyer for throwing the sample of the granular material from an end of the conveyer, a substantially flat vertically extending rotatable perforated plate positioned adjacent the end of the conveyer and extending transversely thereof against which the sample of granular material is thrown for separating the sample of granular material in accordance with the moldability thereof and means for rotating the perforated plate.

3,143,778
COVERED SLIDE FASTENER
Carlos Salomon Abrahom, Republica de Chile 43–46A, Mexico City, Mexico
Filed June 11, 1959, Ser. No. 819,600
Claims priority, application Mexico June 18, 1958
3 Claims. (Cl. 24—205.1)

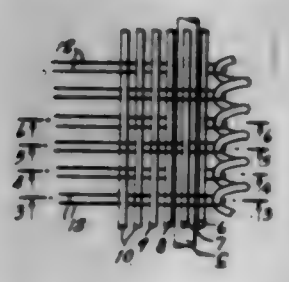
1. A stringer for a slide fastener comprising, in combination: a tape having an edge; a row of spaced scoops each having a rear portion of a thickness greater than that of said tape and being applied over and connected to the

edge of said tape so as to project in transverse direction beyond opposite faces of said tape and each of said scoops having a forward portion extending beyond said edge of said tape; a cover member adjacent to one side of the tape, said cover member being formed from a strip of material cut along the bias, the cover member overlapping and substantially concealing one side of the scoops and said cover member being folded over itself to form a fold extending along and adjacent to the forward portions at one side of said scoops, the cover member comprising an inner layer extending along one side and having a free edge adjacent to and rearwardly of the rear portions of said scoops and an outer layer adjacent to and extending



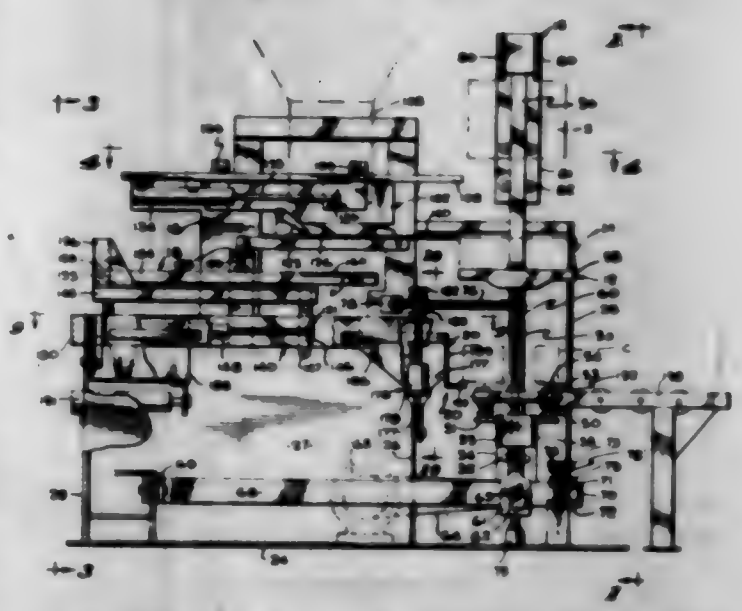
beyond the free edge of said inner layer; and stitch means including at least one row of stitches passing through the spaces between the forward portions of said scoops for holding the inner layer of the cover member against the sides of said scoops, said row of stitches being covered by said outer layer of said cover member, at least one row of stitches located rearwardly of and adjacent to the rear portions of said scoops for securing the inner layer of the cover member to the tape, said latter row of stitches being also covered by said outer layer, and at least one row of stitches for securing at least the outer layer of said cover member to the tape adjacent to said latter row of stitches.

3,143,779
SLIDE FASTENER STRINGER
James A. Hendley, Stanley, N.C., assignor to Talon, Inc., a corporation of Pennsylvania
Filed Mar. 23, 1961, Ser. No. 97,856
10 Claims. (Cl. 24—205.16)



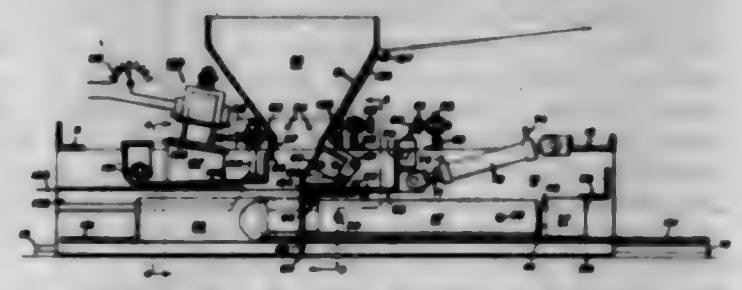
1. In a stringer for a slide fastener, a plurality of longitudinally extending warp threads, a continuous weft thread interwoven back and forth through and between said warp threads so as to provide a woven web, a beaded edge arranged along one edge of said web consisting of a longitudinally extending cord having a plurality of longitudinally extending warp threads disposed therearound, a continuous filament arranged along said web at the outer side of said cord having one side only in contact therewith coextensive throughout the length thereof, said filament being deformed so as to provide spaced interlocking means therealong, said weft thread also being interwoven with said last mentioned longitudinally extending warp threads and extending around both said cord and said filament between said interlocking means, the weft thread passing through the web, over and between the last mentioned warp threads on one side of the cord at the edge of the tape, over and around the cord and filament at said edge, then back over and between the last mentioned warp threads on the opposite side of the cord, and back through the web to complete one weaving cycle.

3,143,780
MACHINE FOR MOLDING CONCRETE BLOCKS
Albert R. Clanton, 9260 Dorrington Place, Pacoima, Calif., and Hollis L. Clanton, 8527 Remick, Sun Valley, Calif., assignors of one-third to Raymond W. Clanton, Sun Valley, Calif.
Filed Dec. 5, 1960, Ser. No. 73,903
8 Claims. (Cl. 25—41)



1. In a machine for molding concrete blocks, a frame, a mold mounted on the frame, said mold being open at the top and at the bottom, a pallet-supporting table beneath the mold mounted for movement toward and away from the mold, a normally retracted forwardly projecting tine structure mounted on said frame rearwardly of said mold and adapted to hold a pallet, means for moving said tine structure forward to position a pallet below the mold in spaced relation thereto, and vertically movable tine structure-raising means engageable with said tine structure, when extended, to raise the same and position a pallet thereon in firm engagement with the underside of the mold, said tine structure and said table freely interfitting in the forward position of said tine structure and upper position of said table whereby to enable said table to engage and support a pallet held against the mold by the tine structure and permit the subsequent withdrawal of said tine structure.

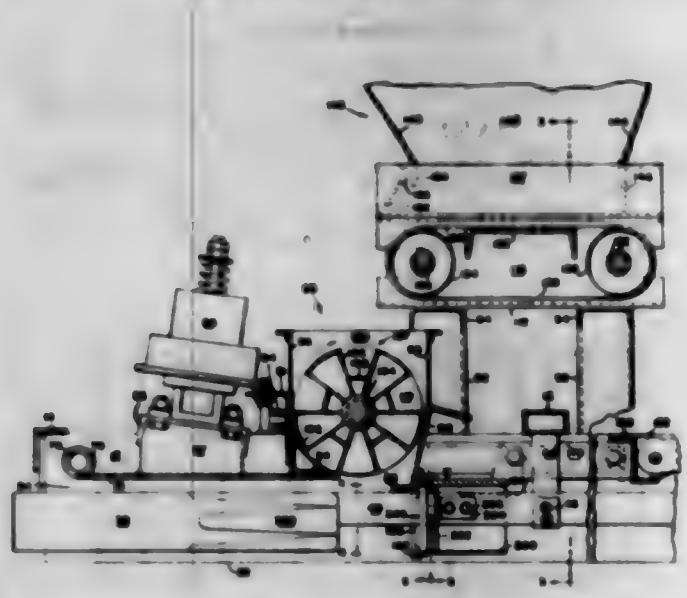
3,143,781
CONCRETE SLAB FORMING MACHINE
Arvids Kalns, 1319 Court St., Syracuse, N.Y.
Filed Feb. 13, 1961, Ser. No. 88,885
1 Claim. (Cl. 25—41)



A concrete slab forming machine for continuously forming cored concrete slabs comprising a carriage mounted for movement over a flat surface, said carriage having a pair of spaced apart depending side members, the lower edges of said side members terminating in spaced proximity to said flat surface, a top plate carried by said carriage between said side members a spaced distance upwardly from said flat surface, said side members and top plate forming in conjunction with said flat surface a mold cavity, a plurality of axially extending, parallel, spaced apart, core members carried by said carriage and extending into said mold cavity, said core members being spaced from

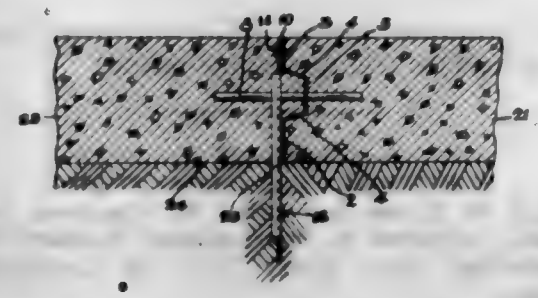
said flat surface, side members, and top plate, a hopper for cementitious material mounted on said carriage and having a discharge passage adjacent the rear ends of said core members to discharge said cementitious materials in said mold cavity around the rear ends of the core members, a reciprocating ram plate normally located rearwardly of said discharge passage, said ram plate being formed with a plurality of oversize clearance apertures for said core members, power means for advancing and retracting said ram plate toward and away from said core members to compact cementitious material deposited in said mold cavity from said hopper about said core members, excessive cementitious material passing through said apertures during the advance of said ram plate, said ram plate terminating a spaced distance above said surface whereby to pre-lay said cementitious material on said surface during the advance movement of said arm plate, power vibrating means for vibrating said top plate and power vibrating means for vibrating said core members to compact said cementitious material in said mold cavity during the advance stroke of said ram plate, said carriage being moved rearwardly solely in response to the reactive force applied to said ram plate during said advance stroke by the compacting of said cementitious material, and means for varying the stroke of said ram plate and means on each of the vibrating means for varying the magnitude of said power vibrating means.

3,143,782
CONCRETE SLAB FORMING MACHINE
Arvid Kalsa, 1319 Court St., Syracuse, N.Y.
Filed Nov. 1, 1962, Ser. No. 234,712
10 Claims. (Cl. 25—41)



1. A concrete slab forming machine comprising a carriage adapted for movement along a track over a flat surface, said carriage having a top plate spaced upwardly from said surface and a pair of side members, the lower edges of said side members terminating in close proximity to said surface, said top plate, side members and surface forming a mold cavity, a plurality of core members mounted in spaced parallel relation in said cavity, said core members extending lengthwise of said cavity and spaced from said surface, top plate and side members, and being carried by support arms extending rearwardly of said carriage, a hopper for cementitious material mounted on said carriage, a discharge passage for discharging cementitious material between said side members and about the rear portions of said core members, a ram plate located a spaced distance rearwardly of said core members and normally positioned rearwardly of said discharge passage, said ram plate being formed with clearance apertures for said core members, a collection sleeve carried on the rearward side of said plate around each of said apertures, power means for moving said ram plate toward said core members subsequent to the discharge of cementitious material through said discharge passage to compact said material about said cores, the overflow of said material being collected in said sleeves, each of said support arms having a stripper plate affixed thereto of a shape complemental to said sleeves and located in said sleeves, said stripper plates stripping said excess cementitious material out of said sleeves upon rearward movement of said ram plate, and power means for vibrating said top plate and cores, respectively.

3,143,783
CONCRETE SLAB KEY JOINT FORMING STRIP
George O. Gaetke, San Francisco, Calif., assignor to Burke Concrete Accessories, Inc., a corporation of California
Filed Nov. 27, 1962, Ser. No. 240,272
2 Claims. (Cl. 25—118)

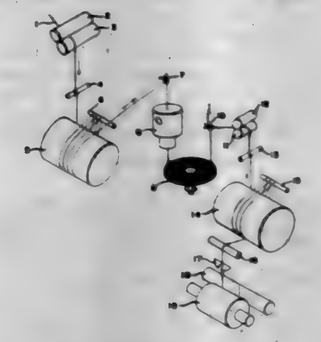


1. A concrete form of the type used in forming a key contraction joint between adjacent concrete slabs comprising in combination with a plurality of aligned substantially vertical stakes set with their upper ends uniformly below grade level, an elongated sheet metal strip supported on the stakes and having longitudinal upper and lower co-planar portions abutting the stakes and also having a key deformation portion interposed between and connected to the upper and lower planar portions, the upper planar portion having a folded-over portion at the upper edge thereof extending in a direction opposite to the direction of the key deformation portion, such folded-over portion extending downwardly against the upper planar portion to form a narrow longitudinal straight edge extending at grade level, and such bent-over portion extending outwardly in a direction opposite to the direction of the key deformation portion and thence downwardly to form a longitudinal inverted L-shaped flange positioned well below grade level, said flange embracing and being supported on the upper ends of the stakes.

3,143,784
PROCESS OF DRAWING FOR BULKY YARN
Paul T. Scott, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 5, 1962, Ser. No. 207,654
5 Claims. (Cl. 28—72)

1. In the production of bulky yarn from continuous filaments of synthetic linear condensation polymer by drawing the filaments, crimping the filaments in a turbulent stream of heated compressible fluid to impart a random, three-dimensional, curvilinear, extensible configuration, and cooling the filaments to set the crimp, the improvement of conducting said process to provide bulky, crimped yarn having an elongation at break greater than 40%, based on elongation occurring after the yarn has been extended to a length just sufficient to remove the crimp, and redrawing the yarn at temperatures between

0° C. and 130° C. to 1.10 to 1.50 times said extended length to provide a yarn having the appearance and mechanical processing properties of uncrimped yarn but which recovers the crimp when hot-relaxed.

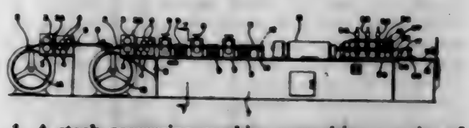


3,143,785
ELECTROLYTIC CAPACITORS
William E. R. Evans and Brian W. Kingston, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 12, 1963, Ser. No. 257,946
Claims priority, application Great Britain Feb. 22, 1962
9 Claims. (Cl. 29—25.31)



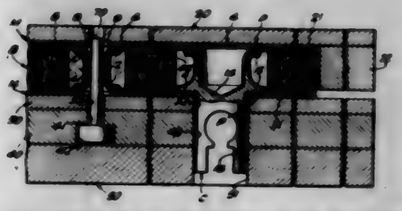
8. A method of sealing an electrolytic capacitor by means of a hot-thermosetting resin including the steps of:
providing a cylindrical container having an open end and containing a necked-down portion spaced from said open end a predetermined distance;
filling said container with an electrolyte;
placing a disc in said open end to seat on said necked-down portion, said disc carrying one of the capacitor leads;
placing said resin in said open end in a sealing relation with said disc, said container and said lead;
placing said container containing said electrolyte and said resin in a hermetically sealed region;
injecting an inert gas into said region;
heating said region from a given temperature to the curing temperature of said resin over a predetermined period of time;
maintaining said curing temperature for a predetermined length of time;
varying the pressure of said inert gas with time during said heating step to counteract the effect of the vapor pressure of said electrolyte on said resin during the heating step; and
maintaining the pressure of said inert gas during the curing period to counteract the vapor pressure of said electrolyte on said resin during the curing period.

3,143,786
BAR AND WIRE PROCESSING MACHINE
Carl B. Jones, Hudson, and Vincent F. Sukle, Oakwood, Bedford, Ohio, assignors to The Vaughn Machinery Company, Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Jan. 27, 1961, Ser. No. 85,336
15 Claims. (Cl. 29—33)



1. A stock processing machine comprising a series of roll stands having power-driven rolls in the nip of which elongated stock is adapted to be lineally fed, the rolls of successive stands being formed with peripheral grooves operative, in the case of round stock, first to squeeze opposite sides of the stock to reduced cross-section area of generally oval shape and then to squeeze the oval stock across the major axis thereby effecting further reduction in the cross-section area and restoring it to substantially round shape; an extrusion die adjacent to said series of roll stands through which the stock is forced endwise by said rolls and thereby further reduced in cross section area; caterpillar feed means following said die operative, when energized, to pull the tail end of the stock through said die; and control means responsive to approach of the tail end of the stock toward said die effective to energize said draw means as aforesaid so as to frictionally grip the reduced stock with sufficient force to draw the tail end of the stock through said die.

3,143,787
PRINTED CIRCUIT BOARD AND METHOD OF MAKING THE SAME
Arnold O. Babbe, Rancho Santa Fe, Calif., assignor to Air Logistics Corporation, a corporation of California
Filed Oct. 3, 1960, Ser. No. 59,872
10 Claims. (Cl. 29—155.5)



7. The method of manufacturing printed electrical circuit boards comprising: disposing an uncured plastic board between a pair of plates at least one of which has a circuit pattern of electro-conductive material thereon; soldering a circuit element to said electro-conductive material while applying heat to said plates to cure said plastic board; and transferring said circuit pattern to said board.

3,143,788
COLUMBIUM ADDITION AGENT
Thomas F. Kaveney, Cleveland, Ohio, and Rodney F. Merkert, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 10, 1961, Ser. No. 81,683
1 Claim. (Cl. 29—183)

A product of manufacture comprising a sintered, columbium-containing, low-carbon ferrochromium alloy addition agent having an apparent density ranging from 6.5 to 7.5 grams per cubic centimeter and being characterized by its ability to float on molten steel melts and consisting essentially of 5 to 20 weight percent columbium, 45 to 65 weight percent chromium, less than 2.0 weight percent silicon, less than 0.5 weight percent carbon, less than 0.10 weight percent tin, less than 0.03 weight percent sulfur and the remainder iron and incidental impurities.

3,143,789
DISPERSION STRENGTHENED METAL COMPOSITION
Ralph K. Iler, Brandywine Hundred, Del., William H. Fankuchen, Sayville, N.Y., and Paul C. Yates, Brandywine Hundred, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 31, 1962, Ser. No. 220,894
5 Claims. (Cl. 29—182.5)

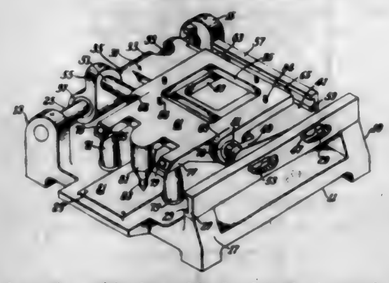
1. A sintered, solid, worked composition having an apparent density which is from 90 to 100% of its absolute density, the composition consisting essentially of a uniform dispersion, in metallic copper, of a water-insoluble refractory filler, the filler being in the form of particles, insoluble in copper, having an average size in the range below 1000 millimicrons and a melting point above 1000° C. and being a metal oxide having a free energy of formation at 1000° C. of from 30 to 150 kcal. per mole per oxygen atom present, the volume loading of filler in the composition being from 0.05 to 40%, the filler particles being substantially as uniformly scattered in the copper in the direction of working as in the direction transverse thereto.

3,143,790
ELECTRICAL CONNECTING TOOL
William R. Over, Union Deposit, Pa., Herbert Rosengren, Woodcliff Lake, N.J., and John R. Vickery, Jr., York, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed June 4, 1959, Ser. No. 818,175
3 Claims. (Cl. 29—203)



1. A tool for assembling and disassembling separable connectors including a pair of bifurcated handles, means pivoting said handles together, a yoke-shaped head member rigidly secured to one of said handles, a carriage pivotally secured to one arm of said yoke, means on said carriage adapted to grasp said electrical connector, a second head member disposed on said other handle so as to bisect the angle formed by the yoke, means on the second head member also adapted to grasp a part of said connector, said means on the head member and said means on the carriage being disposed a distance less than the length of the connector in closed position, a second carriage on the other arm of the yoke, means on said second carriage adapted to bear against the connector, a second means on said other head member also capable of bearing against the connector, said second means and said means on said second carriage being normally disposed a distance greater than the length of a connector in open position, whereby the tool is adapted to disassemble the connector when the connector is assembled, or to assemble the connector when the connector is disassembled.

3,143,791
WORK POSITIONING TABLE
John H. Lanahan, Whitesboro, and Robert I. Leach, Clinton, N.Y., assignors, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 21, 1962, Ser. No. 181,353
8 Claims. (Cl. 29—203)

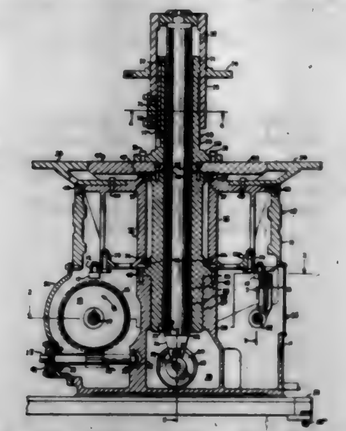


1. A work positioning table for locating a work piece under a work performing device for successive operations in cooperation with a table-mounted template, said table comprising: a base upon which the template is secured, a carriage rod mounted at one side of the base and a carriage rail mounted in parallel relation to the rod at the other side of the base, a carriage supported by the rod and the rail for front and rear movement with respect to the base, roller bearing means for thus supporting the carriage on the rod and the rail, a platform rod perpendicular to the carriage rod and having one end mounted in the carriage, roller bearing means supporting the other end of the platform rod on said carriage rail, a platform rail secured to the rear of the carriage in parallel relation to the platform rod, a platform having roller bearing mounting on the platform rod and the platform rail, the platform being adapted fixedly to support a work piece thereon for positioning movement relatively to the carriage at the will of an operator, and locating means projecting from a central part of the platform for cooperating with selected portions of the base-mounted template.

3,143,792
ASSEMBLY MACHINE
Douglas L. Swanson and Chester O. Merchant, Erie, Pa., assignors to Swanson-Erie Corporation, Erie, Pa., a corporation of Pennsylvania
Filed May 28, 1962, Ser. No. 198,350
22 Claims. (Cl. 29—208)

1. A machine of the class described comprising a frame, a hollow upwardly extending core member on said frame, said core member having vertically spaced bearing means thereon, a fixed inner table circular in shape supported at its center on the upper end of said core member, said inner table adapted to hold tools for processing work or articles to be processed having an annular outside peripheral surface, an annular outer table, a support member, said support member being supported on bearing means, said annular table being supported on said frame and disposed around said inner table with said core member at the center of said tables, a vertically extending shaft, said shaft extending through said core member and slidable vertically therein, a cam at the lower end of said shaft engaging said shaft to move it up and down, spaced rollers attached to said support member, and a cross-over

cam having a spiral groove on its outside peripheral surface, said spiral groove advancing each said roller there-



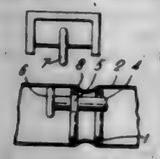
through moving said outer table, said shaft and said outer table being movable in synchronism with each other.

3,143,793
METHOD OF FORMING A LANCET
James J. Griffitts, Miami Shores, and James C. Hobbs II, Miami, Fla., assignors to Dade Reagents, Inc., Miami, Fla., a corporation of Florida
Filed June 8, 1962, Ser. No. 201,156
6 Claims. (Cl. 29—417)



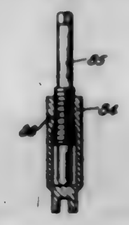
1. In a method of forming a plurality of lancets from sheet metal, the steps of forming at least one sharpened edge on a single thin sheet of metal, and thereafter die-cutting said sheet along oblique lines intersecting the sharpened edge thereof to define a plurality of acutely-tapered lancet points each having as its cutting edge a portion of said sharpened edge of said sheet.

3,143,794
METHOD OF MAKING FLEXIBLE METALLIC BELLOWS
William F. F. Martin-Hurst, Hen, Bersondy, Scethrog, near Brecon, South Wales, assignor to Teddington Aircraft Controls Limited, Cefn Coed, near Merthyr Tydfil, South Wales
Filed Aug. 18, 1960, Ser. No. 50,479
Claims priority, application Great Britain Aug. 18, 1959
4 Claims. (Cl. 29—454)



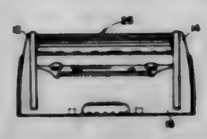
1. The method of manufacturing an internally reinforced flexible metallic bellows which comprises the steps of inserting axially into a straight-walled tube of thin metal a rigid continuous ring having an outer diameter corresponding to the inner diameter of said tube, supporting said tube wall and inserted ring on axially spaced mandrel rollers, transversely deforming the tube wall between said rollers to externally groove the tube therebetween, axially inserting a second similar rigid continuous ring into said tube and against the wall of said groove in the bore of said tube on the side of said groove opposite said first ring, supporting the tube wall on the side of said groove opposite said first ring and said second ring on said axially spaced mandrel rollers, transversely deforming said tube wall between said rollers to externally groove said tube therebetween and thereby form a second external groove in said tube wall and secure said second ring axially between said grooves, and repeating the foregoing steps until a desired number of axially spaced reinforcing rings have been mounted within said tube and secured between said grooves.

3,143,795
METHOD OF MAKING A PIVOT NUT FOR A BRAKE ADJUSTER
Robert J. Dubuc, John K. Nice, and Francis A. Horning, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Apr. 7, 1961, Ser. No. 101,406
1 Claim. (Cl. 29—543)



A process for producing a pivot nut of a brake adjuster comprising the steps of: upsetting metal from a slug to form a member including a tubular portion which is closed at one end by a solid portion of said member which has a slot at its outermost end thereof, open at the other end, and has an inner wall of generally uniform diameter, and an outer wall of generally uniform diameter except at its open end portion which is of a larger diameter; upsetting the open end portion of the tubular member to decrease the diameter of the outer wall of said open end portion to said generally uniform diameter of said outer wall and decrease the diameter of the inner wall of said open end portion; and upsetting metal from the inner wall of said end portion to form threads thereon.

3,143,796
ELECTRIC HEAD CONSTRUCTION WITH MOVABLE SLIDE COVER
Beverly Bond, South Norwalk, Conn., assignor to Ronson Corporation, Woodbridge, N.J.
Filed Feb. 8, 1963, Ser. No. 257,182
1 Claim. (Cl. 30—34)



A razor head construction comprising a pair of oppositely disposed side members each having a groove defined therein adjacent its respective periphery in corresponding laterally aligned locations, a curved cutting member held between said side members with a curved peripheral surface disposed uppermost,

a flexible cover member having side edges confined in respective grooves of said side members for sliding movement therein, said cover member being of a size to completely overly said cutting member, and the side member grooves extending from a location at one end adjacent an edge of said cutting member and thence around the side of said cutting member to a location spaced away from said cutting member by an amount at least sufficient to accommodate the full length of said cover member at a location out of alignment with said cutting member, the grooves of said side members having a first widened area adjacent an edge of said cutting member permitting expansion of the adjacent edge of said cover member thereinto when said cover member is in a position completely overlying said curve cutting member, the side members at the location of the first widened area of said groove forming a first abutment preventing the sliding of said cover member off said cutting member, the grooves at said side member having a second widened area at a location spaced away from said cutting member with the side members forming a second abutment at a location preventing the sliding of said cover out of a fully open position disposed out of alignment with said cover member.

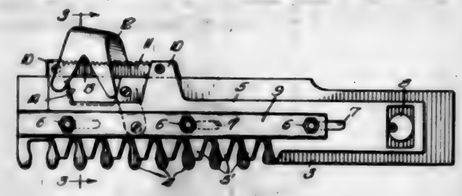
3,143,797
DRY SHAVER HAVING A ROTATABLE SHEARING ELEMENT AND A RECIPROCABLE BLADE MEMBER
Alvin H. Shoemaker, 3106 100th Ave. NE., Bellevue, Wash.
Filed Jan. 2, 1962, Ser. No. 163,794
3 Claims. (Cl. 30—43.5)



1. In a dry shaver for shaving skin from which beard protrudes, a rotatively driven cylindrical shearing element having narrow annular grooves therein capable of receiving beard and narrow enough to exclude the skin when the shearing element is pressed against the skin; annular lands between said annular grooves, said lands having smooth peripheral surfaces; an external tubular blade member of thin material movably supported on said shearing element and having therein openings of substantial size through which skin enters and contacts the lands of the shearing element when the shaver is pressed against the skin, parts of said blade member between said openings functioning as blades and being capable of movement between the shearing element and the skin without injury to the skin; and means operable in longitudinally reciprocating said blade member on said shearing element when said shearing element is rotatively driven.

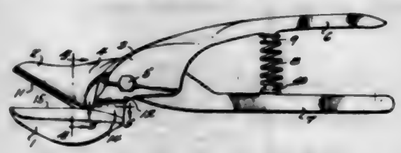
3,143,798
SHRUBBERY TRIMMER
Roy W. Lundquist, R.R. 1, Davenport, Iowa
Filed May 4, 1962, Ser. No. 192,524
6 Claims. (Cl. 30—166)

1. A device of the class described, comprising:
an elongated base plate;
an elongated blade mounted upon said plate for longitudinal reciprocation with respect thereto;
spaced apart ears projecting laterally adjacent one end of said blade and extending beyond one longitudinal edge of said plate;
a saw blade fixed to said ears and extending therebetween; a guard fixed to said plate and extending upwardly therefrom and terminating in a distal end



spaced from said plate and blade and disposed substantially parallel thereto and above said blades;
and power means for reciprocating said blades.

3,143,799
HAND SHEARS
Russell D. Gover, 97 Wise Ave., Baltimore 22, Md., assignor of one-third to John K. Smith, Dundalk, Md., and one-third to Matilda M. Wilson, Baltimore, Md.
Filed July 23, 1962, Ser. No. 211,739
5 Claims. (Cl. 30—259)



1. Shears comprising a lower shear blade having inner and outer side surfaces and a shear cutting edge formed on the upper forward portion of the blade at the juncture with the inner side surface thereof, a blade carrying member fixed to the inner side of the blade rearwardly of said cutting edge and extending upwardly from said blade, an upper shear blade having inner and outer side surfaces and a shear cutting edge formed on the lower forward portion of the blade at the juncture with the inner side surface thereof, a blade carrying member fixed to the upper blade rearwardly of its cutting edge and extending upwardly therefrom, a pivot pivotally connecting the blade carrying members together at a position rearwardly of and above the cutting edges of both blades with the inner surfaces of said blades facing each other and with their cutting edges disposed in cooperating shearing relation, the blade carrying member of the lower blade having an offset portion projecting laterally from the inner surface of the blade defining a channel-like recess in the outer side thereof extending rearwardly from the cutting edge with the forward portion of the recess spaced laterally inwardly from the cutting edge of the lower blade and with the depth of the recess increasing rearwardly of the blade, and actuating means on the blade carrying members.

3,143,800
DESTAPLING DEVICE
Felix B. Vizzi, 615 Beverly Drive, Magnolia, N.J.
Filed Oct. 19, 1962, Ser. No. 231,759
4 Claims. (Cl. 30—261)

1. A destapling device comprising a pair of elongate channel-shaped arms each having a pair of side walls and a back and facing toward each other with the side walls of one arm entering between the side walls of the other arm, pivot means extending through the side walls of both arms adjacent to and spaced inward from one end thereof to connect the arms for limited relative swinging movement about said pivot means, resilient means inter-

connected between said arms and urging the latter in one direction of relative movement to move the other ends of said arms away from each other, said one ends of said arms being formed with slots extending laterally through the side walls of said arms and facing outward from said



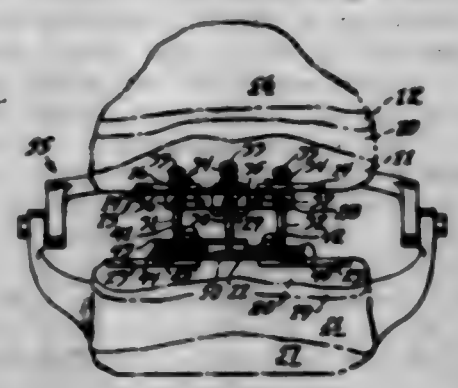
one ends of said arms, said slots all being in alignment with each other when said arms are in their limiting position of movement in said one direction for receiving the bight portion of a staple, whereby relative movement of said arms against the action of said resilient means is adapted to effect gripping of the staple.

3,143,801
SHEARING APPARATUS FOR CUTTING A FABRIC
Chil Deacygier, 28 Rue du Docteur Blanche, Paris, France
Filed Apr. 11, 1962, Ser. No. 186,680
Claims priority, application France Apr. 28, 1961
1 Claim. (Cl. 30—275)



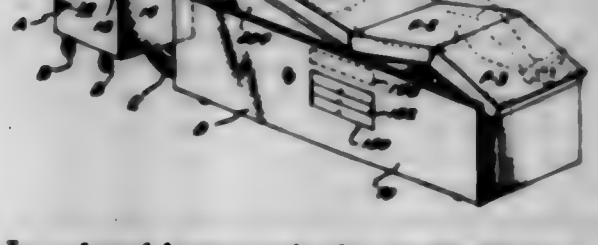
A shearing apparatus for cutting a fabric comprising a small electromotor enclosed in a case through which extends the motor shaft, a cutter mounted on the shaft end projecting from said case, said cutter consisting of a rotary disc carrying on its outer peripheral edge a series of cutting teeth having a suitable inclination, a supporting member secured by means of distance-pieces under said case, and a presser-foot consisting of a rigid thin plate having a triangular notch formed in its edge and divided into two half-plates by a slash extending from the bottom of said notch, said two half-plates being mounted the one fixed and the other pivoting under said supporting member and said supporting member being formed on the one hand with a central hole adapted to receive said cutter, so that the latter overlies the presser-foot very close thereto and sweeps the bottom of said notch when said motor is running, and on the other hand with a notch registering with and wider than the notch of said presser-foot which is variable, as a consequence of the possibility of pivoting one of the half plates from a minimum corresponding to the junction of said half plates to a maximum determined by an adjustable stop.

3,143,861
DENTAL DEVICE FOR OBTAINING THE CENTRIC RELATION OF THE JAWS
Grover C. Reynolds, 4401 Charlotte Ave., Nashville, Tenn.
Filed Jan. 22, 1962, Ser. No. 167,623
7 Claims. (Cl. 32—19)



1. A dental device for obtaining the centric relation of jaws comprising:
(*a*) a first plate for receiving an impression of one of the gums of the jaws,
(*b*) a second plate for receiving an impression of the other gum,
(*c*) three styli,
(*d*) means on said first plate mounting said styli in a spaced apart triangular pattern normal to said first plate for axial reciprocation therethrough,
(*e*) means on said first plate for locking each stylus in an adjusted axial position,
(*f*) means mounted on said second plate movable toward engagement with each of said depending styli for locating the laterally adjusted positions of said styli relative to said second plate when said plates are assembled and the jaws are closed.

3,143,903
DENTAL LOUNGE UNIT
Joseph F. Lenn, 3827 Long Beach Blvd., Long Beach 7, Calif.
Filed May 11, 1962, Ser. No. 195,663
14 Claims. (Cl. 32—22)



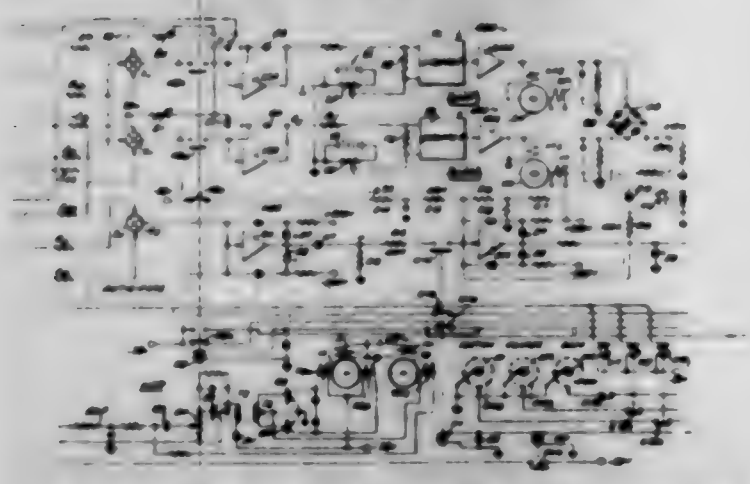
1. In a dental lounge unit, the combination of:
(*a*) a first cabinet;
(*b*) a plurality of flow control first means for dispensing air, gas and water, which flow control means is normally positioned adjacent said cabinet;
(*c*) a plurality of flexible hoses for supplying air, gas and water to said flow control means;
(*d*) second means for movably supporting said hoses in said cabinet to permit said flow control means to be selectively moved outwardly away from said cabinet;
(*e*) third means for supplying air, gas and water to said hoses;
(*f*) fourth means for movably supporting said cabinet on a floor surface to permit said first cabinet to be moved to a desired location thereon;

(*g*) a second cabinet supported on said floor, with the interior of said second cabinet being of greater volume than that of said first cabinet, which second cabinet has an opening formed in one side thereof to permit said first cabinet to be telescoped within the interior thereof;

(*h*) a plurality of upholstered rectangular supporting members disposed on the upper portion of said second cabinet; and

(*i*) fifth means for so adjustably maintaining said supporting members on the top of said second cabinet that a patient may rest thereon in any desired position ranging from the fully prone to a substantially upright seated position, with said first cabinet when said unit is in an operative condition being withdrawn from said second cabinet and moved to said desired position relative to said second cabinet.

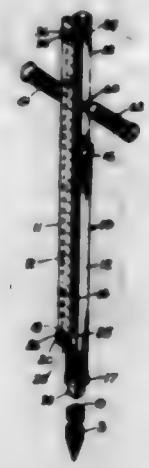
3,143,804
INTERRUPTED LINE DRAWING SYSTEM
William J. Muldoon, Palos Verdes, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,357
11 Claims. (Cl. 33—18)



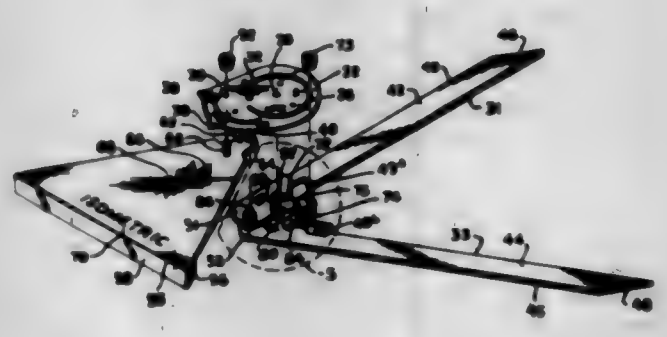
1. A system for drawing broken lines of a selected pattern of line segments and spaces in a system having a pen control device controllable by a cosine voltage, the pen having a pen control means for holding the pen down on a drawing surface in response to a pen down signal and for lifting the pen from the drawing surface when the pen down signal is inhibited, comprising: a source of sine voltage having a similar frequency to the cosine voltage, chopping means coupled to said source of sine voltage for chopping said sine voltage at a predetermined frequency, velocity servo means coupled to said chopping means for rotating at a sinusoidally varying velocity, commutator means coupled to said velocity servo means and driven thereby, said commutator means including means for applying an inhibiting signal to said pen control means in the selected pattern of line segments and spaces for inhibiting said pen down signal to raise said pen in said pattern.

3,143,805
STAKE SETTER
Marvin D. Clausen, 646 Mabelle Ave., Palo Alto, Calif., assignor of one-third to Paul M. Jilbert, Los Gatos, Calif., and one-third to Donald C. Kjolstrup, Sunnyvale, Calif.
Filed July 17, 1961, Ser. No. 124,531
7 Claims. (Cl. 33—74)

1. A stake setter comprising a main body, a hammer rod mounted in said body for manual up and down movement therein, means at the lower end of said sleeve body for supporting a stake in alignment with said hammer rod to receive impactive blows therefrom, and a surveyor's rod connected to said hammer rod for movement therewith and coordinated with the upper end of a stake engaged by the lower end of said hammer rod for indicating the elevation of the upper end of said stake.



3,143,806
ELLIPSE PROTRACTORS FOR MECHANICAL DRAWINGS
Floyd R. Sharp, 2849 Brunswick Ave., St. Louis Park, Minn.
Filed Oct. 9, 1962, Ser. No. 229,389
13 Claims. (Cl. 33—91)



1. An elliptical protractor for use in drawing rotated projections, comprising a protractor plate having its periphery divided into three scales of graduations spaced equal elliptical degrees apart, said plate having a circular slot formed therein, a pair of arms pivotally secured together near their ends and engaged pivotally with the plate, and a pair of spreader links of equal length pivotally joined together at one end thereof and pivotally attached at their other ends to the respective arms, the pivot joint of the links extending through said slot and slidable along the slot so that the arms are movable in like direction at dissimilar ratios past graduations on the plate.

3,143,807
PENDULUM DRAWING DEVICE
George L. Christie, 661 Island Park Drive, Ottawa 3, Ontario, Canada
Filed Apr. 2, 1962, Ser. No. 184,437
7 Claims. (Cl. 33—27)

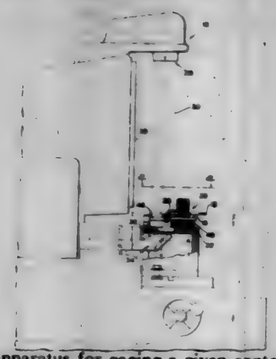
1. In a toy for producing a variety of pleasing designs comprising a board, at least two pendulums adapted to be swingably mounted on said board with their upper ends disposed above the board, and controllable means adapted to be connected with said pendulums for control thereby, the improvement comprising flexible connecting means to connect each of said pendulums with said controllable means, and tensioning means connectible with said con-

trollable means, to apply a counterforce thereto, the arrangement being such that each of said flexible connect-



ing means is maintained in tension when the toy is operated.

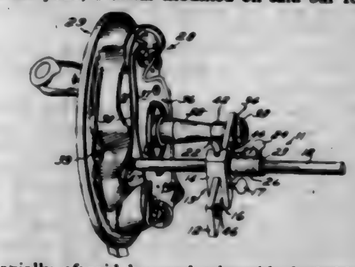
3,143,808
APPARATUS FOR OPTICAL GAGING
Frank S. Haluska, 14 Tipton Drive, Loudonville, N.N.Y., and Frank X. Connolly, 714 3rd Ave., Troy, N.Y.
Filed Nov. 16, 1960, Ser. No. 69,781
7 Claims. (Cl. 33—174)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for gaging a given contour of a workpiece by comparing the contour with predetermined standards, said apparatus including a light source for producing a light beam, an optical system with a given focal distance and depth of focus, said optical system being adapted for projecting the light beam under magnification onto a screen, a stylus mounted against lateral movement on a horizontally disposed platform, said stylus being disposed for sliding contact by the contour when the workpiece is placed on said platform and designed for representationally extending the contour into the depth of focus of said optical system, and a reticled master fixedly indexed to the workpiece for free displacement therewith on said platform within the depth of focus, and said reticled master and the workpiece being so related that the projected stylus and reticled master can be meaningfully compared on said screen.

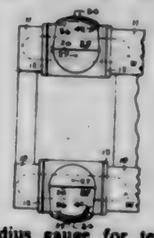
3,143,809
BRAKE SHOE SETTING GAUGE
Warren H. Parker, 2851 Morgan Ave., Oakland, Calif., assignor of one-fourth to Charles W. Butler, one-fourth to Charles Bork, Oakland, Calif., and one-fourth to Norris O. Knutson, Danville, Calif.
Filed Sept. 27, 1960, Ser. No. 58,676
4 Claims. (Cl. 33—180)

1. A depth gauge comprising an arm adapted to be connected adjacent one end in substantially transverse relation to a spindle, a yoke carried upon said arm, a gauging bar mounted for translation relative to said yoke in right angular relation to said arm and selectively removable from the yoke, a collar mounted on said bar for transla-



tion axially of said bar and releasably lockable thereon, and at least one gauging element removably mounted for axial translation on said bar intermediate said collar and yoke.

3,143,810
TURNING RADIUS GAUGE
Gerald O. McClendon, 12810 10th Ave. NE., Seattle, Wash.
Filed Aug. 13, 1962, Ser. No. 216,624
3 Claims. (Cl. 33—203.12)



1. A turning radius gauge for testing steering axis inclination of vehicle wheels comprising a fixed base plate having a slot of substantial length therein; a wheel-supporting swing plate positioned in spaced parallel relation above said base plate and having on its upper side a mark indicating correct positioning of a wheel thereon, said mark extending substantially at right angles to the direction of the slot in said base plate; balls movably supporting said swing plate from said base plate; retainer means positioning said balls; a downwardly extending pivot member rigid with and perpendicular to said swing plate and offset to one side of the wheel position defined by said mark on said swing plate, whereby when a wheel is correctly positioned on the swing plate the steering axis of the wheel will coincide substantially with the axis of said pivot member, said pivot member extending through the slot in said base plate compelling lineal movement of said swing plate in a direction lengthwise of said slot; and scale and indicator means capable of indicating the amount of angular movement of said swing plate.

3,143,811
WEAPON AND TARGET SIMULATOR
Anthony E. Tucci, Philadelphia, Samuel E. Torrey, Feasterville, and Warren D. Hallenmaier, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Dec. 14, 1962, Ser. No. 244,842
2 Claims. (Cl. 35—25)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a weapon and target simulating system, the combination of

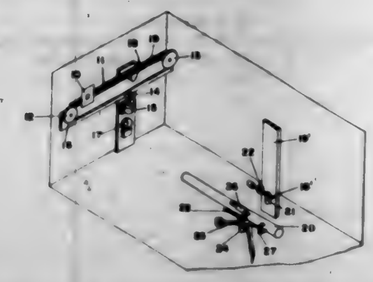
a movable simulated target,

means connected with the target for guiding and moving said target along different courses,

a simulated gun having a trigger and a sight for aligning with said target,

means connected with said gun for directing and moving said gun in azimuth and elevation to follow and align with said target,

a target spotter assembly including a source of light and means for projecting light from said source on said target in the form of a spot representative of a projectile burst, said spotter assembly being movable in azimuth and elevation and located in predetermined spaced relation to said gun,

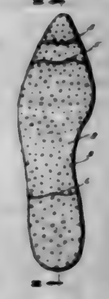


electrical means interconnecting the spotter assembly and the gun and including movable control elements connected to move in azimuth and elevation therewith and operable upon movement of said gun to move and conform the movement of said spotter assembly to that of said gun,

a control switch operable to a closed position upon the pulling of said trigger,

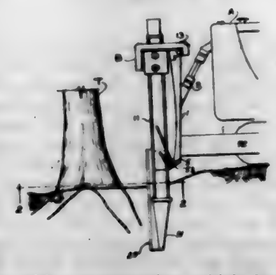
and control means including a series of relay elements and circuit connections therethrough operable upon the closure of said switch successively to disrupt the spotter assembly and gun interconnection and arrest movement of said spotter assembly, to energize said light source after a time delay representative of the time required for a projectile to travel from said gun to said target, and to deenergize said light source after an additional time delay representative of the duration of a projectile burst.

3,143,812
INSOLES FOR FOOTWEAR
Ernst Bittner, Frankfurt am Main, Germany, assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Sept. 22, 1961, Ser. No. 139,961
Claims priority, application Germany Mar. 11, 1961
2 Claims. (Cl. 36—44)



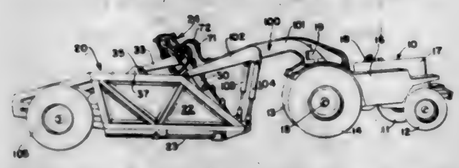
1. In a full insole for articles of footwear, a thermoplastic cover sheet, a thicker sheet of thermoplastic foam material of equal area as and underlying said cover sheet, a heat seal seam joining said sheets around the bounding edge of the insole, said insole having a long pointed toe portion, a pair of spaced heat and tear seal seams extending substantially transversely across the toe portion of the insole and joining said sheets, and a transverse heat and tear seal seam joining said sheets forward of the heel portion, said tear seal seams functional as tear lines, whereby said full insole may be reduced in size as desired by tearing off a portion thereof along any transverse tear seam line without breaking the union between said sheets along that seam.

3,143,813
MEANS FOR FELLING TREES
Dewey C. Wells, R.R. 2, Perry, Mo.
Filed Oct. 16, 1961, Ser. No. 145,361
4 Claims. (Cl. 37—2)



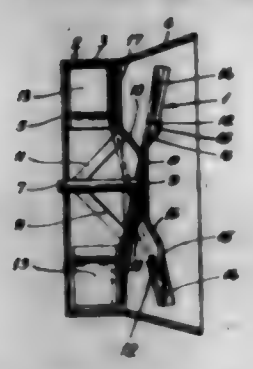
1. For use with a construction vehicle having a vertically movable member, a root cutting attachment comprising an elongated vertically projecting beam, blade means secured to one end of said beam and projecting forwardly outwardly therefrom, supporting means secured to the blade and the lower end of the beam, said supporting means having the shape of a frustum of a cone with the smaller portion thereof being downwardly presented, and means for removably securing said beam to said member.

3,143,814
SCRAPERS
Francis M. Brinkmeyer, Rock Island, Ill., and John H. Creighton, Davenport, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 23, 1962, Ser. No. 175,219
8 Claims. (Cl. 37—8)



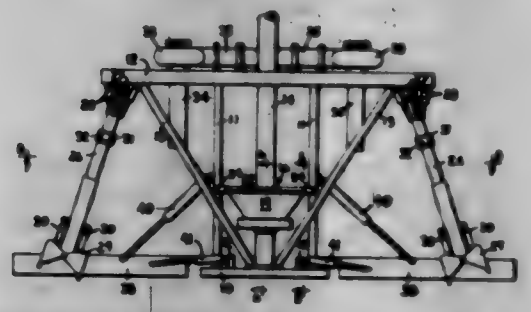
7. In a tractor implement assembly in which the implement is a material scraper having a bowl with a forward cutting edge and a flight type elevator having an elevator frame and extending from a lower end adjacent the cutting edge to an upper end, the improvement comprising: an elevator drive shaft supported on the frame having a plurality of eccentrics thereon angularly spaced relative to one another at least two of which are asymmetrical; a plurality of hydraulic motors having advance and return strokes supported on the frame and connected to the eccentrics and effective upon operation to rotate the shaft; valve means for operating the hydraulic motors; a fluid source connected to the valve means for operating the motors; and valve operating means operatively connected to the shaft and associated with the valve means to effect advance and return strokes of the motors upon rotation of the shaft.

3,143,815
ROTOR FOR SNOW REMOVING MACHINES
Harvey Kane, 625 St. Philippe St., Montreal, Quebec, Canada
Filed Jan. 11, 1963, Ser. No. 250,898
4 Claims. (Cl. 37—43)



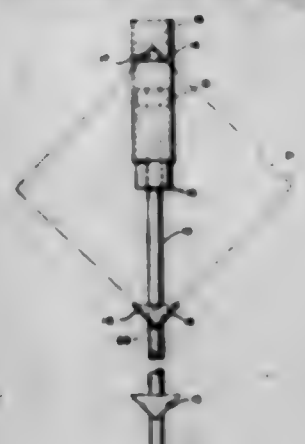
1. A rotor for snow removers comprising a shaft, arcuate snow engaging and feeding blades concentric with and circumscribing said shaft, each feeding blade having a leading end and a trailing end, an impeller plate mounted at substantially right angles to the trailing end of each of said feeding blades and contiguous to the same, said impeller plate disposed in a substantially radial plane passing through said shaft, a radially inwardly directed leg depending at an angle from said leading end of said feeding blade and forming an inward extension of said feeding blade providing a substantial snow engaging surface coplanar with said feeding blade, means for supporting said blades, legs and impeller plates on said shaft, an elongated curved snow guiding flange for each feeding blade, having a longitudinal edge secured to the back face of said feeding blade, said guiding flange extending at an angle to said feeding blade with its transverse extent substantially parallel to the axis of said shaft, said guiding flange having a leading edge disposed opposite the radially outermost portion of the leading edge of said feeding blade, said guiding flange gradually approaching said shaft in the direction of its trailing portion and having its trailing end terminating short of said shaft and of the associated impeller plate.

3,143,816
UNDERSEA MINING APPARATUS WITH MEANS TO ESTABLISH A PRESSURE BALANCE ACROSS THE INLET TO THE CONVEYOR TUBE
Percy S. Gardner, Jr., 3651 Apollo Drive, Salt Lake City, Utah
Filed Aug. 2, 1962, Ser. No. 214,349
6 Claims. (Cl. 37—71)



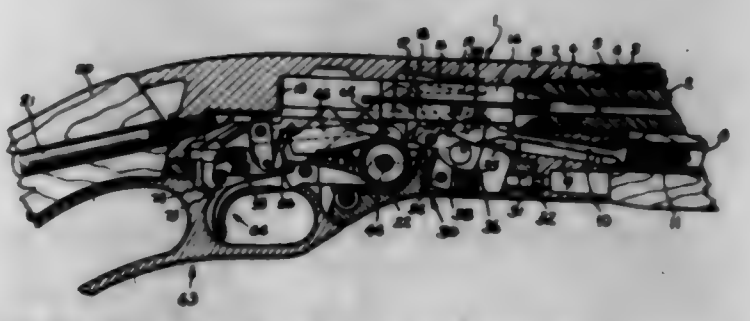
1. An undersea mining apparatus comprising:
a supporting framework having a base adapted to rest upon the sea floor;
a conveyor tube having a lower portion fixed to said framework and extending upwardly therefrom to the water surface, said tube being provided with a side opening located adjacent said framework, said tube being of substantially constant cross section upwardly adjacent to said opening;
a hopper mounted on said framework adjacent said tube, said hopper having converging sides leading to the opening of said tube;
means on said framework adapted to transfer material from the sea bottom to the hopper;
and means on said framework operatively connected to said tube for maintaining a stream of sea water across said opening in hydrostatic balance with the water outside of said opening, said stream of sea water having sufficient velocity to counteract gravitational forces on material within the tube and to carry such material to the water surface.

3,143,817
SIGN HOLDERS
Paul G. Pankow, 256 N. State St., Mondovi, Wis.
Filed July 18, 1962, Ser. No. 210,707
4 Claims. (Cl. 40—125)



1. A holder for a removable sign comprising, an upright post having a lower end adapted to be driven into the ground and having a sign-holding bracket intermediate its length and spaced above said lower end a sufficient distance to be exposed when said post is driven into the ground a normal distance, said post having an impact head rigid with its upper end, a sleeve associated with the upper end of said post slidably engaging over said impact head having an opposed sign-holding bracket thereon and having a rigid impact member positioned to engage the impact head on said post when no sign is being held whereby the post may be driven into the ground by means of a driving force from said impact member to said head, said sleeve being of such length that it is thereafter slidable upwardly to a selected position with its impact member spaced above the impact head of the post to accommodate and hold a sign between the bracket on the sleeve and the bracket on the post, the sleeve and its impact member having sufficient weight so that the sleeve is urged by gravity into sign-retaining position.

3,143,818
BOLT-LOCK-RECEIVER AND BARREL ASSEMBLY
Edwin S. Vartanian, North Haven, and Joseph A. Bodnik, Branford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed May 1, 1962, Ser. No. 191,531
10 Claims. (Cl. 42—31)



9. In a firearm, a receiver, a bolt assembly mounted in said receiver for sliding movement from a firing posi-

tion in the front of said receiver to an ejecting position in the rear of said receiver, a locking plate mounted on said bolt and movable from a locking position wherein said locking plate simultaneously engages said bolt assembly and a recess in said receiver to an unlocked position in which said locking plate is generally flush with the upper surface of said bolt, a finger lever pivotally secured to said receiver, a rigid arm on said finger lever extending toward said locking plate, cam means formed in said rigid arm operatively connected to said locking plate so that the rotation of said lever about the pivotal connection in one direction is effective to move said locking plate to its unlocked position and to move said bolt through the locking plate from its firing position to its ejecting position and return movement of said lever about its pivot being effective to move said bolt from its ejecting position to its firing position and to move said locking plate into its locking position.

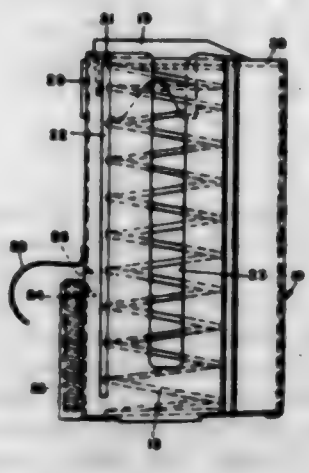
3,143,819
MAGAZINE FOR PISTOL
Frederick F. Stevens, Jr., Lane's Pond Road, Northford, Conn.
Original application Dec. 6, 1957, Ser. No. 701,835, now Patent No. 3,069,976, dated Dec. 25, 1962. Divided and this application Dec. 10, 1962, Ser. No. 243,599
4 Claims. (Cl. 42—50)



1. A magazine for firearms of the class described, said magazine comprising a tubular casing, an elevator movable in said casing for control and delivery of cartridges to the firearm, in connection with which the magazine is assembled, a coil spring for actuating said elevator, said elevator supporting a button axially movable in said elevator, means on said button engaging means on one side wall of the casing for guiding said button upwardly and angularly with respect to opposed end walls of said casing, said opposed end walls of the casing being flared to the upper end of the casing, said elevator including an upwardly projecting tongue at one end forming a seat operatively engaging an inner end of a cartridge supported on said elevator throughout full movement of said elevator, said tongue operating on one end wall of the casing, and the other end of the elevator being rounded to operate on the other end wall of the casing.

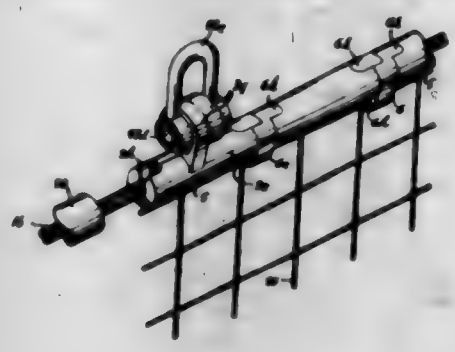
3,143,820
RIFLE MAGAZINE ASSEMBLY
John J. Luciametti, Edward R. Hirschorn, and Herbert R. Burgess, Jr., Philadelphia, Pa., and William J. Rose, Cumberland, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed June 14, 1963, Ser. No. 288,059
1 Claim. (Cl. 42—50)
(Granted under Title 35, U.S. Code (1952), sec. 266)

In a rifle magazine assembly, the combination of
a magazine having first pair of slots extending its opposite sides and closed at both their ends, a second pair of slots extending along said opposite sides and open at one of the ends, a follower spring contractable and expandable between and along said pairs of slots, a follower movable inwardly of said magazine against the tension of said spring, and stop means movable in and along said first pair of slots and fixed to said follower for limiting the outward movement thereof,
a cartridge clip insertable into said magazine and having a base recessed along its opposite side to receive a plurality of cartridge base flanges and having at



one end a pair of cartridge retaining ears, a pair of cartridge retaining lips fixed to the other end of said recessed base, and a pair of cartridge alinement bars supported upon said lips and extensible into said second pair of slots upon the insertion of said clip into said magazine,
means for interlocking said clip and said magazine upon the completion of said insertion, and
means for ejecting said clip upon its release from said magazine.

3,143,821
LINES FOR TRAWL NETS
Frank J. Luketa, 5567 Greenwood Ave., Seattle 3, Wash.
Filed Dec. 26, 1961, Ser. No. 162,043
11 Claims. (Cl. 43—9)



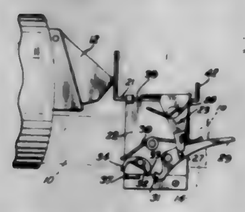
9. In combination with a trawl net panel of mesh, a line extending along an edge of said panel and comprising a core and a flexible, sectional casing surrounding said core, a collar disposed between two adjacent sections of said casing and comprising two substantially complemental halves each having shoulder means at one side to interfit with the shoulder means of the other half, and formed at its opposite side with apertured ears which when the collar embraces the core and the shoulders interengage have their apertures in alignment, and means engaging portions of said net panel and insertable through said aligned apertures in said ears, to suspend the panel from said line.

3,143,822
BITE SIGNAL FOR FISHING RODS
Marvin R. Schooley, 907 W. Montcalm St., Greenville, Mich.
Filed Mar. 13, 1962, Ser. No. 179,333
2 Claims. (Cl. 43—17)



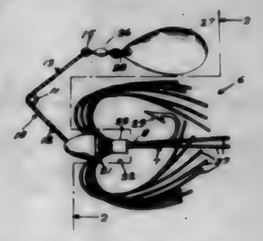
1. In combination, a fishing rod having a handle at its inner end and line-guide eye fixed in place at its outer end, a readily attachable bite-signalling attachment for an outer end portion of said fishing rod comprising a relatively short leaf spring proportional in width and cross-section to that portion of the rod with which it is cooperable, said leaf spring having a rearward end portion which is laterally bent to provide a relatively short rigid tang, said tang residing lengthwise atop a cooperating surface of said fishing rod and being securely fastened in place on said rod by tightly wound wrapping cord, a collar-like thimble providing a line responsive signalling eye, said leaf spring having a forward terminal end rigidly secured to a cooperating surface of and supporting said thimble, the forward end of said thimble terminating in an endless outstanding flange flared outwardly, encompassing said forward end and constituting an anti-chafing line guide, said thimble being brightly colored so that when it is actively bobbing and otherwise moving the desired bite signalling result is thus achieved, and a vividly colored easy-to-see bead slidingly mounted on a median portion of said leaf spring.

3,143,823
FISHING ROD AND REEL ATTACHMENT
Walter M. Brown, 275 Clearmont Drive, Elk Grove Village, Ill., and Sam Trombatore, 1716 N. Hudson Ave., and Bruno Brown, 5222 S. Ridgeway Ave., both of Chicago, Ill.
Filed May 16, 1962, Ser. No. 195,233
7 Claims. (Cl. 43—19)



1, In combination with a resilient fishing rod having a handle portion and a spin cast reel having a line and a line-braking control member adapted to be actuated,
(*a*) a flexible cord attached at one end to said rod intermediate the length thereof,
(*b*) an attachment mounted on the handle portion of said rod for actuating said control member to effect release or braking of said line,
(*c*) said attachment including moveable means engageable with said control member for holding said control member actuated to prevent release of said line,
(*d*) releasable means for locking said moveable means in engagement with said control member,
(*e*) said cord being attached to said releasable means,
(*f*) means for releasably securing said cord at a point intermediate its ends after the cord has been tensioned by the operator to bow said rod,
(*g*) means for releasing said securing means to permit said rod to swing back from its bowed to its normal position,
(*h*) the movement of said rod applying tension on said cord to effect release of said moveable means and release of said control member to permit the line to pay out from said reel.

3,143,824
FISH LURE
John W. Thomas, 402 Marrietta St., Haynesville, La.
Filed Sept. 27, 1963, Ser. No. 312,071
5 Claims. (Cl. 43—42.11)



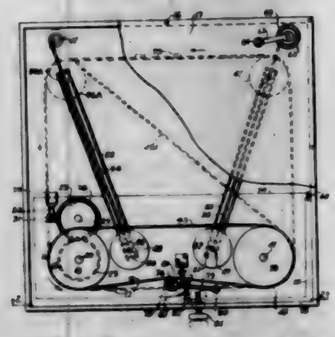
1. A fish lure comprising a bridle having a forward apex portion defining a line or leader engaging eye, a first arm extending downwardly and rearwardly from said eye, a second arm extending upwardly and rearwardly from the eye, a fishhook having a shank terminating in an eye, said first arm terminating in an eye connected to the eye of the fishhook shank and forming a loose joint therewith, a molded head enclosing said joint and fixed to a part of the fishhook, means encasing said joint and embedded in said head for maintaining a loose connection between the head and bridle to permit oscillating movement only of the bridle relative to the head, a spinner, and means swivelly connecting said spinner to said second arm of the bridle.

3,143,825
SPOONS FOR FISHING BAITS
Göte I. Borgström, Marieberg, Svangsta, Sweden
Filed July 14, 1958, Ser. No. 748,307
Claims priority, application Sweden July 13, 1957
4 Claims. (Cl. 43—42.17)



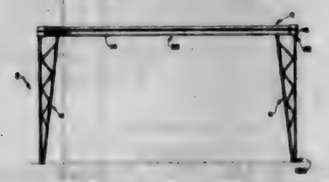
1. A lure having a bait body connectable at its forward end to a line and at its rearward end to a hook, a spoon-like blade mounted forwardly of said bait body for free rotation thereabout, said blade being formed with a convex surface portion and a concave surface portion, cup shaped protuberances extending from at least one of said surface portions and disposed along the outer edge of said blade, said blade having apertures formed therein contiguous to said protuberances and on the side of said protuberances nearest the outer edge of said blade to cause vibration when said lure is drawn through water.

3,143,826
FIGURINE AND MEANS FOR ANIMATING SAME
Robert Ellis, 350 E. Plaza, Solana Beach, Calif.
Filed Oct. 15, 1962, Ser. No. 230,579
7 Claims. (Cl. 46—240)



1. An amusement device for simulating animative walking creatures comprising a thin unbroken non-magnetizable platform, a plurality of pulleys rotatable closely underneath said platform, two endless belts one superimposed over the other and looped around said pulleys, means for rotating said pulleys and belts in one direction alternately and intermittently, a permanent magnet attached to each of said belts, said magnets spaced apart a maximum distance of one ordinary walking step of an associated legged figurine and contacting the underside of said thin unbroken non-magnetizable platform, and a legged figurine adapted to traverse the upper surface of said platform immediately above said permanent magnets, the legs of said figurine being pivoted thereto, said legged figurine having an armature at the bottom of each foot thereof and being adapted to "walk" in unison with the alternate forward movements of said magnets underneath said platform.

3,143,827
CANOPY ASSEMBLIES
Dennis J. Showalter, Sr., 1000 Winter St., Jackson, Miss.
Filed Apr. 15, 1960, Ser. No. 22,571
4 Claims. (Cl. 50—67)



1. A canopy assembly comprising a plurality of elongated roof sections positioned side by side and locked together at their adjacent edges by cooperating connecting means carried thereby to form a roof; a frame surrounding and supporting said roof, said frame comprising a plurality of elongated channeled members and a plurality of channel-type corner members receiving said channeled members and coupling said channeled members together to form said frame with said corner members forming the outer corner portions thereof; each of said channeled members having a side wall, spaced apart end walls projecting inwardly from said side wall, and upstanding wall extending in spaced parallel relation to said side wall and projecting from the edge of one of said end walls remote from side wall, said upstanding wall terminating intermediate said end walls of said channeled member and carrying at the terminal end thereof a first flange extending inwardly toward said side wall, and a second flange extending from said side wall toward said upstanding wall in spaced parallel relation to said first flange; said first and second flanges forming means for supporting respectively the bottom and top surfaces of the periphery of said roof intermediate the longitudinal edges of said side wall, whereby the side walls of said channeled members and said corner members extend along and below said roof and form a facia therearound, at least two of said channeled members extending in spaced parallel relation to each other; and wherein said assembly further includes opposed supporting leg members, each leg member comprising a triangular pyramidal assembly with the apex thereof disposed at the bottom of said leg member, and carrying between two corners of the base of the pyramidal assembly an angle bracket, said angle bracket having a base wall, an upstanding wall extending from one side of said base wall and a flange projecting from said upstanding wall in overlying parallel relation to said base wall, said base wall, upstanding wall and flange of said bracket engaging respectively said one of said end walls, said upstanding wall and said first flange of said channel member, said angle bracket having a coupling collar projecting from the upstanding wall thereof toward the other corner of the base of the pyramidal assembly, and a beam extending between said opposed leg members, said beam being coupled at either end to said coupling collars, said beam carrying further coupling collars depending therefrom and coupling said other corner of the base of each of said pyramidal assemblies to said beam.

3,143,828
WALL PANELING JOINT SEAL
Hamilton B. Bowman, Pittsburgh, Pa., assignor to Bowman Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1962, Ser. No. 175,524
2 Claims. (Cl. 50—220)

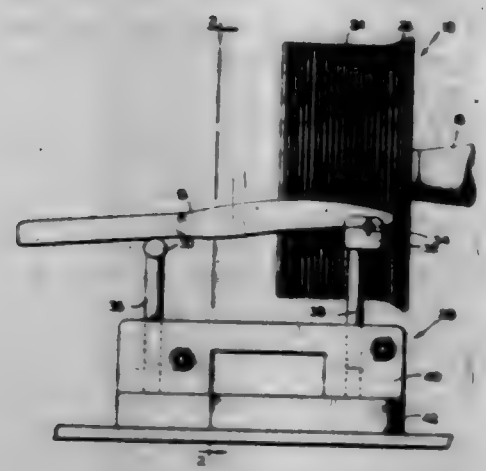


1. Wall paneling comprising a plurality of sheet metal panels disposed side by side in overlapping relation, each panel having upper and lower ends and vertical side portions, the overlapping side portions of each pair of adjoining panels being formed with a pair of vertical nesting channels spaced apart slightly, the outer side wall of the inner one of said pair of channels being narrower than the inner side wall thereof, a sealing strip having a body seated in said inner channel in engagement with both side walls thereof and extending therefrom laterally across the longitudinal edge of said outer side wall from side to side of the space between said pair of panels, the strip having an integral thin sealing lip projecting from said body and disposed in the space between said nesting channels, and fasteners extending through the nesting channel bases and sealing lip and into said body to connect the panels together, the sealing strip concealing said fasteners inside the channels.

3,143,829
CUTLERY SERRATING APPARATUS
Edwin J. Brauchle, 718 NW. 114th St., Miami, Fla.
Filed June 25, 1962, Ser. No. 204,987
2 Claims. (Cl. 51—98)

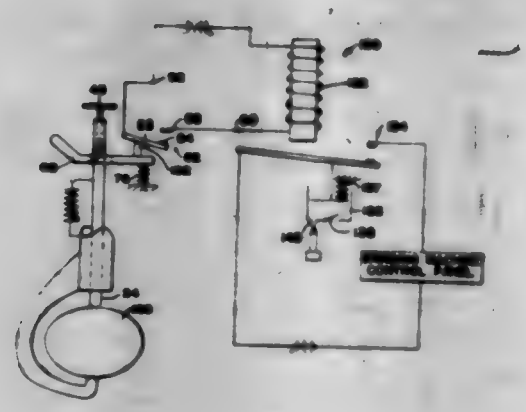
1. Cutlery serrating apparatus which comprises, a grinding wheel, drive means for rotating said wheel, the

said wheel having on its periphery a series of circumferential alternate ridges and grooves forming a serrating cutting surface, an end portion of said wheel being flared outwardly so that the ridges and grooves thereof are of progressively increasing diameter relative to the other



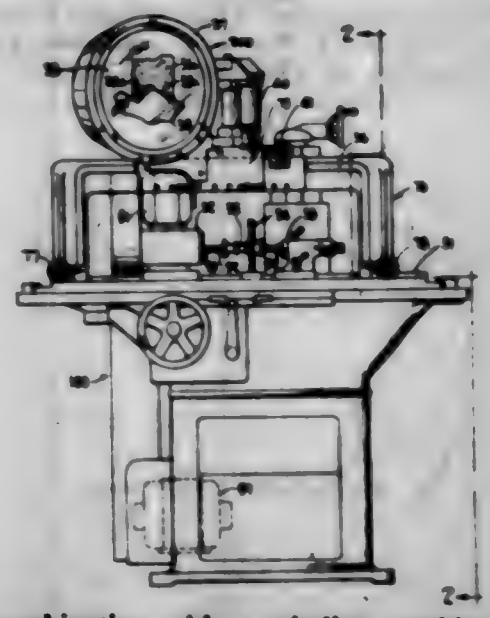
ridges and grooves on the wheel and adjustable guide means for positioning a cutlery blade in grinding contact with said serrating cutting surface, the said guide means including supports for the blade and blade handle and the said blade support including adjustable means to hold the blade in contact with said serrating cutting surface.

3,143,830
GAUGING APPARATUS FOR CONTROLLING A GRINDING MACHINE
Kent B. Arnold and Philip S. Arnold, 3321 E. Court St., Flint 1, Mich.
Filed Apr. 3, 1961, Ser. No. 111,119
10 Claims. (Cl. 51—165)



1. In a grinding machine having an electrical circuit and a grinding gauge including a movable element in continuous contact with a workpiece, an electrical control for controlling operation of said machine including an electrical switch, said switch being arranged to permit electrical current to flow in said circuit when a cross-section axis of said workpiece of greater than a preselected size is in contact with said plunger and to interrupt said flow of current when a cross-sectional axis of said workpiece of less than said preselected size is in contact with said plunger, and a time delay relay arranged to be energized by said flow of current and when thus energized to permit a flow of current in said circuit external to said switch while cross-sectional axes of said workpiece of less than said preselected size are in contact with said plunger, until the greatest cross-sectional axis of said workpiece has been reduced to said preselected size.

3,143,831
OPTICAL VIEWER AND GRINDING WHEEL DRESSER
George Banke, 1834 E. 223rd St., Euclid, Ohio
Filed Nov. 24, 1961, Ser. No. 154,411
2 Claims. (Cl. 51—165)

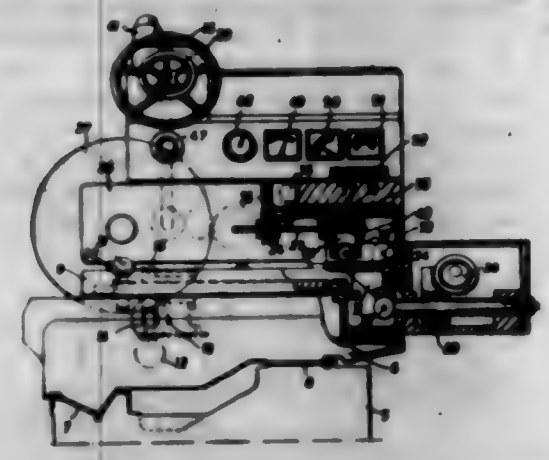


1. In combination with a grinding machine having a table, a grinding wheel, and work-piece holding and rotating centers positioned on the table in front of the grinding wheel, an optical viewer, comprising, a frame member mounted on the table having a rail portion extending longitudinally of the table and spaced vertically of the work-piece holding and rotating centers; a light-tight housing slidably mounted on the said rail portion; an objective lens system mounted in association with the housing in a dependent position and faced toward the work-piece holding and rotating centers and grinding wheel; the housing having a viewing screen in its front wall and an image projecting system, optically aligned with the objective lens system; a reflecting mirror mounted on the table, below the work-piece holding and rotating centers, in optical alignment with the objective lens system and faced toward the rear of the table; and a light source mounted to the rear of the table in optical alignment with the reflecting mirror, comprising a vertically elongated high intensity gas discharge lamp, a collimator lens, spaced from said lamp, two opaque blades, movable toward and away from each other, positioned between the lamp and the collimator lens, the blades having opposed edges that are tapered away from the blade surface faced toward the lamp so they present two razor thin parallel straight edges faced toward the lamp, and means for varying the distance between the opposed blades to provide critical and collimation of the projected beam in a vertical plane between a point wherein Fresnel diffraction occurs on the viewing screen, and a point whereat the percentage of collimation no longer produces a penumbra-free shadow image on the viewing screen.

3,143,832
DEVICE FOR ADJUSTING GRINDING DISKS
Oskar Waldrich, Hohler Weg 1, Siegen, Westphalia, Germany
Filed Sept. 14, 1962, Ser. No. 223,766
Claims priority, application Germany Feb. 13, 1962
1 Claim. (Cl. 51—165)

In a roller grinding machine having a movable upper support, a feed spindle actuating said upper support, a grinding disk and a carrier carrying said grinding disk; an apparatus for compensating the wear of the grinding disk, said apparatus comprising a shaft carried by said upper support and carrying said carrier, said carrier being swingable about said shaft, a lever pivoted to said upper support and having a horizontal sliding surface, a roller

carried by said lever, a ram engaging said roller, a rotary spindle carried by said carrier, another support engaging said spindle and movable thereby, another roller carried by said other support and rolling upon said horizontal sliding surface of the lever to swing said carrier for the fine setting of the grinding disk, a hand wheel, a threaded



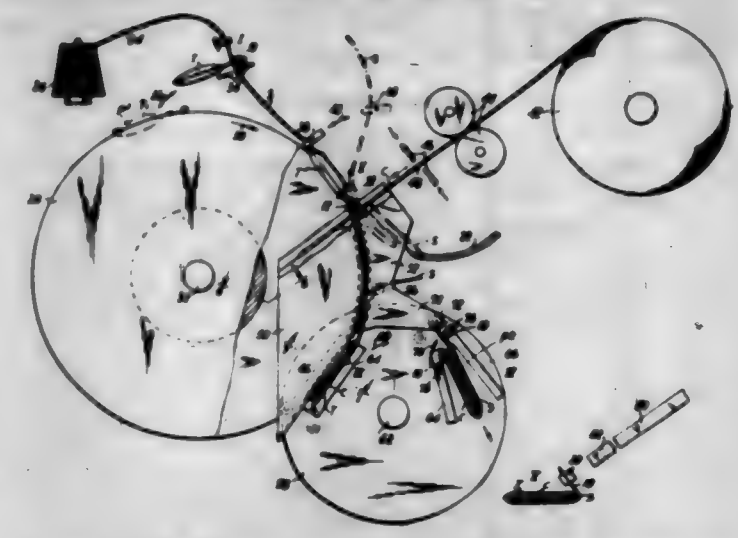
fine adjustment shaft, means operatively connecting said hand wheel with said threaded fine adjustment shaft, a wedge piece movable by said threaded fine adjustment shaft, and a counter wedge carried by said other support and engaging said wedge piece, whereby said other support is actuated by the turning of said hand wheel.

3,143,833
AUTOMATIC SIZE CONTROL FOR HONING MACHINES
Yoshitaka Kosuto, Sunto-gun, Shizuoka-ken, Japan, assignor to Fuji Seiki Machine Works, Ltd., Shizuoka-ken, Japan, a corporation of Japan
Filed Mar. 5, 1963, Ser. No. 262,974
Claims priority, application Japan Oct. 9, 1962
7 Claims. (Cl. 51—165)



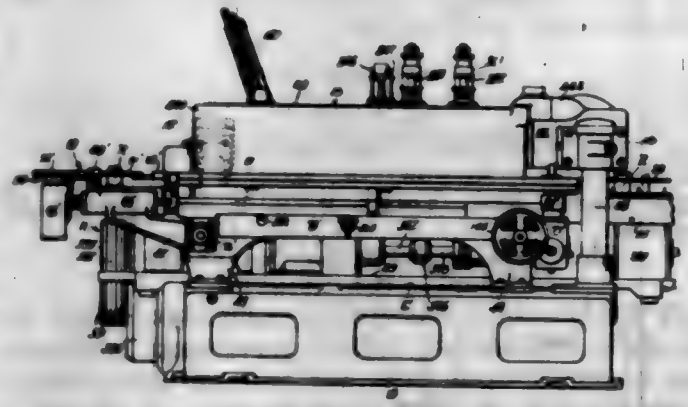
1. A honing machine for honing a circular aperture in a workpiece comprising, in part, at least one rotary driven expandable hone, first drive means for rotating said hone, means for mounting a workpiece on said honing machine in a position permitting the honing of an aperture by said expandable hone, an automatic control system for suspending the operation of the honing machine in response to the maximum permissible expansion of said hone in said aperture, said control consisting of; a control fluid, a storage tank for containing said fluid, a presure pump having an inlet and an outlet, second drive means actuating said pump, means operatively connecting the inlet of said pump to said storage tank to provide a source of control fluid under pressure for said control system, means for maintaining a constant pump outlet pressure, a rotary gauging device mounted adjacent said workpiece and said hone during the honing operation, means resisting rotation of said gauging device, contact means on said gauging device for operatively contacting said expandable hone at the maximum desired expansion of said hone to provide a torque tending to rotate the gauging device against the resisting means, mechanical means for detecting the rotation of said gauging means, means for variably venting said control fluid from a line connected to the outlet of said pump at a point downstream of the pump outlet, said venting means being operatively connected to said mechanical detecting means, means connected to said line for sensing a change in the pressure of said control fluid and converting the pressure change into an intermediate mechanical and then into a final electrical signal whereby the operation of said honing machine may be suspended in response to the electrical signal.

3,143,834
COMPRESSIBLE INFUSION PACKAGE
Hans O. Iruecher, Elmont, N.Y., assignor to National Tea Packing Company, Inc., Long Island City, N.Y., a corporation of New York
Original application May 24, 1961, Ser. No. 112,250, now Patent No. 3,092,242, dated June 4, 1963. Divided and this application Aug. 9, 1962, Ser. No. 215,934
9 Claims. (Cl. 53—14)



7. The method of making a compressible infusion package which comprises the steps of attaching a suspending string to one end of an infusion bag, threading the free end of the string through an orifice in a flexible member, folding said member at its orifice over the said end of the infusion bag and forming two wings of a cover engaging the faces of the infusion bag, winding the said string about and encircling the assembly of said cover member and infusion bag, and then drawing the end portion of said string through a slit in the fold of said cover member thereby firmly tying the cover member to the bag and detachably anchoring the string in said cover member.

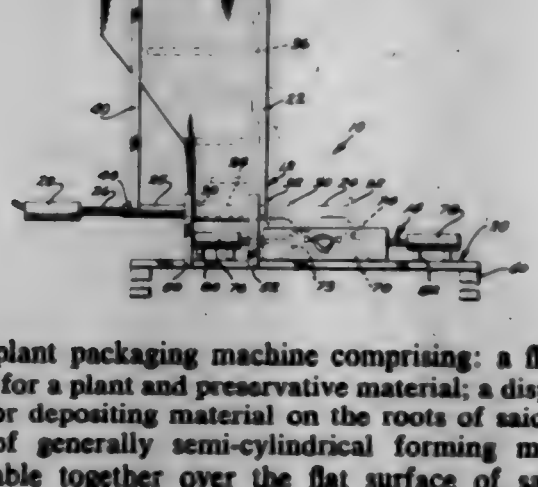
3,143,835
HIGH SPEED CAPPING MACHINE
Robert K. McElroy and Ray M. Smith, Elmhurst, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 28, 1961, Ser. No. 96,934
40 Claims. (Cl. 53—53)



28. In a machine for rapidly feeding and applying rotatable closure caps to a rapidly moving file of upright containers, the caps and containers having telescoping por-

tions with cooperating thread-like members which interlock upon rotation of the cap on the mouth of the container and force the cap down onto the container, means for feeding each successive cap into a position where it encompasses the top of a container, means for leveling the caps as they are moved by said feeding means into said container top encompassing position so that each cap is substantially level thereby to permit movement downwardly on the mouth of the container, means for holding the caps on the containers in leveled position for further advance with the containers, means for preliminarily turning each cap to proper sealing position irrespective of the initial relative position of the thread-like members on a cap and its associated container, sealing means for thereafter rotating the caps downwardly to fully seated and sealed position on the containers and a cocked cap sensing member in the path of the containers between the cap applying and leveling means and said sealing means, which sensing member is connected to a control switch for actuating a mechanism to remove from the machine a container on which the cap is cocked.

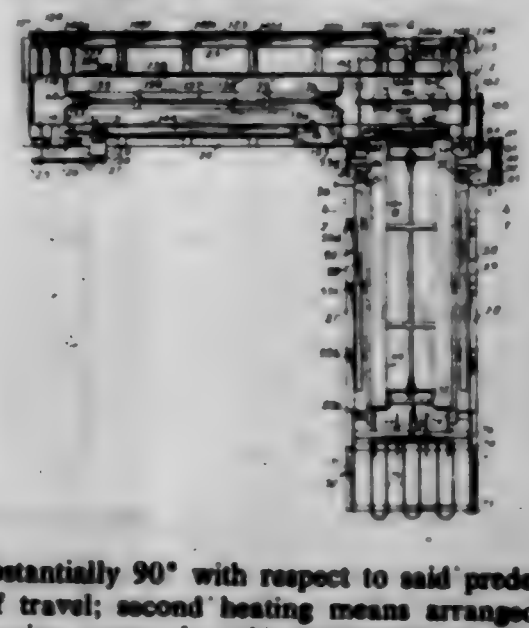
3,143,836
POTTING AND PACKAGING MACHINE
John A. Weller, P.O. Box 1111, Holland, Mich.
Filed Aug. 17, 1961, Ser. No. 132,188
2 Claims. (Cl. 53—124)



1. A plant packaging machine comprising: a flat support bed for a plant and preservative material; a dispensing means for depositing material on the roots of said plant; a pair of generally semi-cylindrical forming members reciprocable together over the flat surface of said bed to scoop said material up, propel it around the roots of said plant, form it and compact it; power motor means to operate said reciprocating members; plunger means shiftable through said contacted forming members to push said compacted material and plant out from between said members; power motor means for operating said plunger means; a guide means positioned opposite said plunger means for receiving and passing said material and plant; said guide means comprising a normally closed hollow, split cone structure; and said cone being capable of receiving a container thereover, and of opening to allow the passage of a plant therethrough into a container; and reciprocable clamping means to hold said container on said guide means.

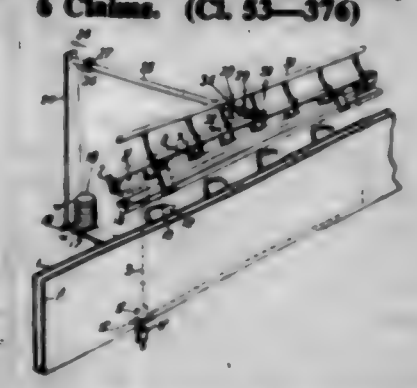
3,143,837
CONTAINER SEALING MACHINE
Chalmers W. Barr, Atlanta, Ga., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1960, Ser. No. 58,259
9 Claims. (Cl. 53—373)

2. A machine for successively sealing three edges of substantially rectangular, folded paperboard container blanks, having integral front and rear walls with three heat sealable edge portions, to form relatively flat two-walled bacon packages or the like, comprising a supporting frame means; means supplying container blanks with said front and rear walls folded into a face-to-face relation and with said heat sealable edge portions in substantial registry; main conveyor means, having infeed and outfeed portions mounted on said frame means, for transporting successively said folded container blanks along a predetermined path in a predetermined direction; first heating means carried by said frame means adjacent said conveyor infeed portions for heating the registered edge portions of said folded container blanks; first sealing means carried by said frame means and arranged beyond said first heating means in the direction of travel of said infeed conveyor portions and in alignment with said first heating means; turning means beyond said first sealing means in said direction of travel for re-orienting said pack-



age substantially 90° with respect to said predetermined path of travel; second heating means arranged beyond said turning means in said predetermined direction of travel and adjacent said outfeed conveyor portions for heating the registered edge portions of said re-oriented container blanks; second sealing means carried by said frame means adjacent said conveyor outfeed portions beyond said second heating means in said direction of travel for sealing said second heated edge portions, one of said first and second heating means including a pair of opposed heating elements and the other of said heating means including at least one heating element, said elements being adapted to heat each of said heat sealable edge portions of said paperboard blanks.

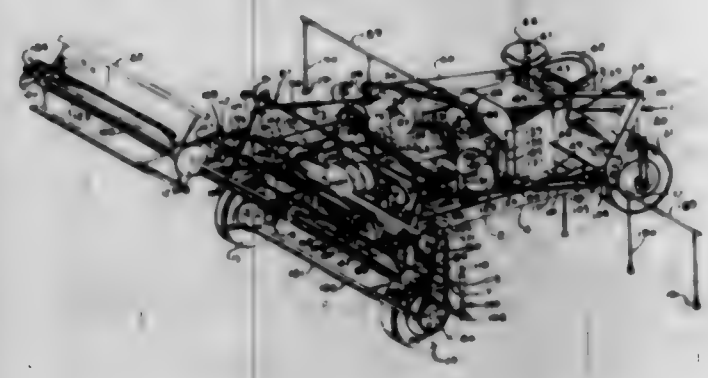
3,143,838
EDGE CLOSURE MECHANISM FOR A DOCUMENT CARRIER
Willy Hortense Prosper Poullart, Antwerp, Belgium, assignor to International Standard Electric, New York, N.Y., a corporation of Delaware
Filed July 12, 1961, Ser. No. 123,585
Claims priority, application Belgium July 15, 1960
6 Claims. (Cl. 53—376)



1. A document carrier control mechanism for a document carrier having one wall higher than another and having a folded edge extending beyond the edge on one side of the other wall, said mechanism including guide means for guiding said carrier, means for stopping and

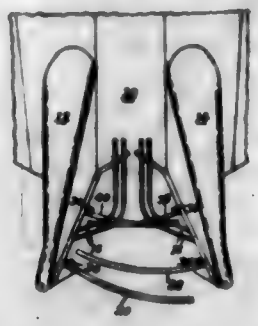
holding said carrier at a predetermined position along said guide, means passing through holes in said one wall to press said other wall outwardly so that the edge of said other wall is made lower than and is separated from said folded edge and means urging said folded edge away from said other wall so that upon release of said other wall said folded edge extends beyond the edge on the other side of said other wall.

3,143,839
MILO TOPPING MACHINE
Carl W. Johnson, 517 N. Court, Ulysses, Kans.
Filed Sept. 18, 1961, Ser. No. 138,785
4 Claims. (Cl. 56—23)



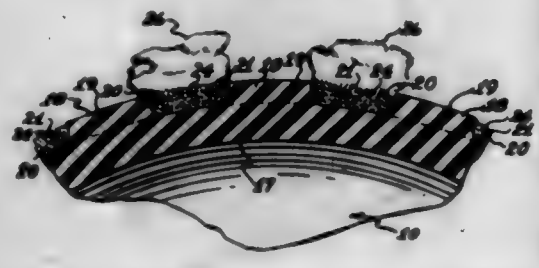
1. A machine for use in the growing of hybrid milo in spaced rows wherein non-hybrid milo grows, by cutting off non-hybrid milo heads above the level of hybrid milo heads comprising, an elongated generally horizontally extending platform structure having a front, a pair of laterally spaced elongated front columns and an elongated rear column secured to and extending downwardly from said platform structure, a wheel rotatably mounted on the lower ends of each of said columns, said columns and wheels having lateral spacing relative to the direction of travel for positioning between rows of milo and supporting said platform structure above the ground a height at least equal to a nearly mature crop of milo, a steering wheel mechanism extending upwardly from said platform structure, means operatively connecting said steering wheel mechanism with the rear column wheel for steering said platform structure with the wheels between the rows, an internal combustion engine supported by said platform structure, power transmission means operatively connecting said engine to at least one of the front column wheels for propelling said machine, a first frame having end portions forwardly of said platform structure front, pivot means for supporting said first frame on said platform structure front for pivotal movement about a horizontal axis extending laterally of said machine, means supporting said pivot means and secured relative to said platform structure at selected spaced positions for selected spaced relation of said first frame above the ground, an elongated laterally extending sickle bar cutter support beam fixed to said first frame forwardly extending end portions, forwardly extending cutting blades on said cutter support beam, extensible means carried by the platform and connected to said first frame for pivoting said first frame to position said sickle bar cutter at a level above the hybrid milo heads to cut off taller non-hybrid milo heads, a plurality of upwardly extending posts secured in laterally spaced relation to said cutter support beam, a second frame supported by said posts and longitudinally adjustable thereon, said second frame including a plurality of arms projecting forwardly of said cutting blades, a reel rotatably supported between said second frame arms for moving milo into engagement with said cutting blades, and means operatively connected to said engine for driving said cutting blades and rotating said reel.

3,143,840
GRASS KNOCKER FOR COTTON PICKER
Edwin R. Weatherall, Tutwiler, Miss., assignor of one-tenth to C. Sidney Carlton, and of one-tenth to R. H. Henderson, both of Sumner, Miss.
Filed May 31, 1961, Ser. No. 113,899
7 Claims. (Cl. 56—28)



1. In a cotton treating machine including the usual picking mechanism, said machine having a pair of shields, means comprising a pair of flexible hoses, each hose having a free end and means mounting the opposite end of each hose on one of said shields, said last named means comprising an adjustable plate located beneath said shield.

3,143,841
COTTON PICK-UP TIRE
William Kirtland, 5737 N. 4th St., Mesa, Ariz.
Filed Jan. 28, 1963, Ser. No. 254,197
4 Claims. (Cl. 56—28)



1. A pick-up tire tread construction comprising in combination:

(*a*) a tire carcass

(*b*) a series of tread projections formed on said carcass,

(*c*) smooth solid ground contacting and load bearing surfaces formed on the outer ends of said tread projections providing the sole means to support the weight of the towing frame and associated apparatus carried by the frame,

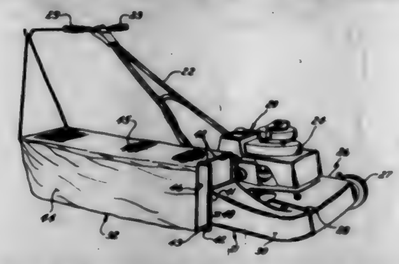
(*d*) tread cavity surfaces formed between said tread projections,

(*e*) and snaring and pick-up material fixedly attached to and projecting from said tread cavity surface and limited thereto with the outer active pick-up surface of said pick-up material recessed below the surface of road contact defined by said smooth solid load bearing surfaces.

3,143,842
GRASS CATCHER FOR ROTARY LAWN MOWER
Charles A. Mattson, Oak Park, and George W. Schleicher, Niles, Ill., and Fredrick O. Ottosen, deceased, late of Chicago, Ill., by Harriet Ottosen, executor, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 26, 1962, Ser. No. 247,401
4 Claims. (Cl. 56—202)

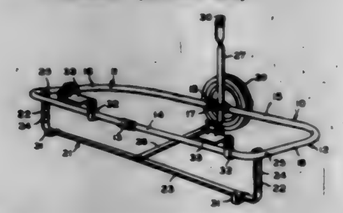
1. An attachment for a lawn mower comprising an elongated flexible bag having an unrestricted opening at one end and having a substantially uniform cross-sectional area transverse to its length, a rigid frame member secured to said bag to hold said mouth fully open, means supporting the closed end of said bag from the

handle of a lawn mower, a pair of resilient U-shaped brackets supporting said frame member spaced from a grass discharge opening with said bag aligned to receive grass clippings from said mower, said brackets being



secured to said mower with the free ends thereof extending toward said bag, said ends being resilient and formed to clamp said frame member between the legs of each bracket for detachably mounting said bag on said mower.

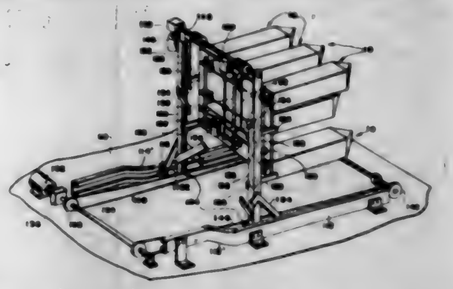
3,143,843
GRASS CATCHER CONSTRUCTION
Stanley F. Allins, St. Louis, Mo., assignor to The Perfection Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed June 3, 1963, Ser. No. 285,854
6 Claims. (Cl. 56—202)



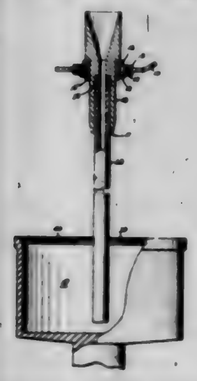
3. A frame for a grass catcher comprising:
(*a*) a peripheral frame member including an elongate inside bar adapted to be attached to a mower, an outside bar and interconnecting end bars, the peripheral frame member providing a catcher compartment therebetween,
(*b*) a ground wheel rotatively mounted to the outside bar,
(*c*) means carried by the peripheral frame member seating a catcher in the compartment between the bars, and
(*d*) an upstanding post connected to the outside bar and connectable with the rear side of the catcher to hold the collapsible catcher in an expanded operative position while in the compartment.

3,143,844
FRUIT HARVESTER
Ralph Polk, Jr., % The Polk Co., P.O. Box 3268, Tampa, Fla.
Filed Mar. 6, 1961, Ser. No. 93,645
12 Claims. (Cl. 56—328)

1. Apparatus for harvesting stem-supported fruit comprising: a generally vertical support frame; means mounting said vertical support frame for reciprocal movement in a horizontal plane; a plurality of fruit-harvester units, each of said units including a horizontally elongated casing of sufficient dimension to surround a plurality of stem-supported fruit, and means within said casing for engaging the fruit and picking the same from its stem, said casing having an aperture in its top of sufficient dimension to permit the stems of stem-supported fruit in the casing to extend upwardly from said casing whereby fruit still attached to a branch may be contained in said casing; means mounting one end of said units on said vertical support frame so that said units extend horizontally from said frame.



3,143,845
SPINNING FUNNEL
Jack C. Binford, Shelby, N.C., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 18, 1962, Ser. No. 195,826
2 Claims. (Cl. 57—76)

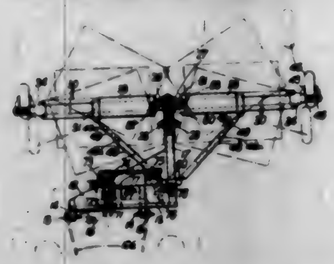


1. A rayon spinning funnel comprising a top portion adapted to be engaged with the traverse mechanism of a spinning machine, a bottom tubular portion adapted to extend into a spinning box, said tubular portion being considerably longer than said top portion, and resilient means releasably connecting the tubular portion of the funnel to the top portion, said means being so constructed and arranged that a pull exerted longitudinally of the funnel will separate the top and bottom portions thereof.

3,143,846
AGRICULTURAL APPARATUS INCLUDING ROTARY TINE-CARRYING MEMBERS
William Lawrence Savage, Stamford, England, assignor to Blackstone & Company Limited, Stamford, England, a British company
Filed Nov. 28, 1962, Ser. No. 240,687
Claims priority, application Great Britain Nov. 28, 1961
10 Claims. (Cl. 56—366)

1. For use with a tractor vehicle having hitch links and a power take-off, agricultural apparatus for tedding, windrowing, splitting a windrow, side-delivery raking and like operations comprising,
(*a*) a main frame adapted for mounting on said hitch links;

(*b*) a pair of arch frames, each said arch frame having,
(*b*1) a universal connection connecting the arch frame at one end to said main frame, whereby said arch frames are capable of independent movement relative to the main frame, and
(*b*2) a ground-engaging wheel at its other end;
(*c*) a pair of rotary members, one associated with each arch frame, each said rotary member having,
(*c*1) a shaft rotatively supported in the associated arch frame with one end adjacent said universal connection and with its other end adjacent the ground-engaging wheel, the axis of the shaft passing through the centre of said universal connection,
(*c*2) a plurality of tines mounted on said shaft in rows parallel to said shaft and extending outwardly from said shaft;



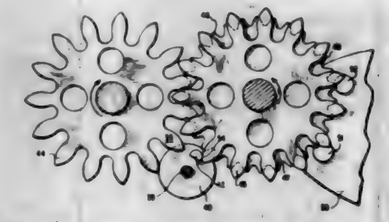
(*d*) separate adjustable means for each arch frame connecting the arch frame to the main frame, adjustment of said adjustable means varying the position of the arch frame and its associated rotary member relative to the main frame; and
(*e*) driving means for the rotary members, said driving means including
(*e*1) a rotatable input member mounted on the main frame adapted for connection to the power-take-off of the tractor vehicle,
(*e*2) a cross shaft mounted in the main frame and having its ends projecting therefrom adjacent the universal connections of the arch frames respectively,
(*e*3) a drive transmission housed at least in part within the main frame and drivingly connecting the input member and the cross-shaft, and
(*e*4) universal couplings drivingly connecting the ends of the cross-shaft respectively to the adjacent ends of the shafts of the pair of rotary members.

3,143,847
TIME REGISTERING MECHANISM
James L. Lee, Jr., First National Bank Bldg., Tampa, Fla.
Filed June 15, 1961, Ser. No. 117,230
2 Claims. (Cl. 58—22.9)



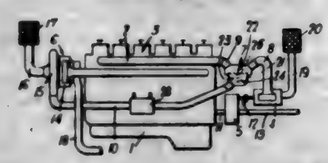
1. A lapsed time indicator, including a chronometer, a shaft driven by said chronometer, a bevel gear on said shaft, a longitudinally slidable second shaft right angularly disposed with respect to said first mentioned shaft, a bevel gear on said second shaft engageable upon slidable movement of said second shaft toward said first mentioned shaft with the bevel gear of said first mentioned shaft, whereby said first mentioned shaft will rotate said second mentioned shaft, a timing mechanism, a bevel gear on said timing mechanism, a second bevel gear on said second shaft, said second bevel gear on said second shaft being engageable with the bevel gear of said timing mechanism when said second shaft is moved to engage its bevel gear with the bevel gear of said first mentioned shaft together with a third shaft parallel with said second mentioned shaft longitudinally slidable with respect thereto, a bevel gear on said third shaft, and a second bevel gear on said timing mechanism engageable by the bevel gear of said third shaft upon slidable movement of said third shaft.

3,143,848
INDEXING MECHANISM
Philip E. Blemiller, Landisville, and Kenneth H. Schoenrock, Rheems, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Original application Jan. 2, 1957, Ser. No. 632,176. Divided and this application May 18, 1960, Ser. No. 33,874
1 Claim. (Cl. 58—28)



In a battery operated electric watch, an indexing mechanism comprising an oscillating balance staff, an indexing pin carried by said balance staff, a pair of meshed indexing wheels mounted on spaced rotatable parallel shafts, said indexing wheels having the same number of teeth, said teeth of said indexing wheels when rotated passing alternately through the path of movement of said indexing pin, a positioning wheel mounted on one of said shafts, said positioning wheel having twice as many teeth as one of said indexing wheels, and a permanent magnet for detenting the successive teeth of said positioning wheel, said permanent magnet having its flux path perpendicular to the plane of rotation of said positioning wheel.

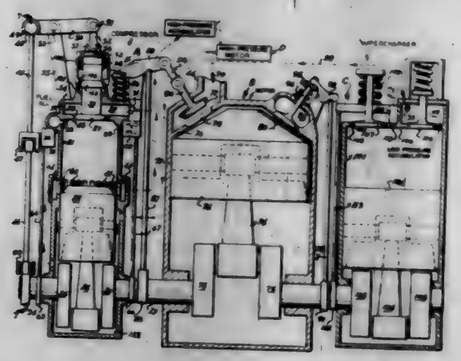
3,143,849
INTERNAL COMBUSTION ENGINES
Wilhelm Glasmann, 8 Lehmbacher Weg, Forsbach, Bezirk Cologne, Germany
Filed Feb. 28, 1962, Ser. No. 176,329
4 Claims. (Cl. 60—13)



1. In combination with an internal combustion engine having an air intake manifold and an exhaust gas manifold, a transmission shaft, and a differential gear driven

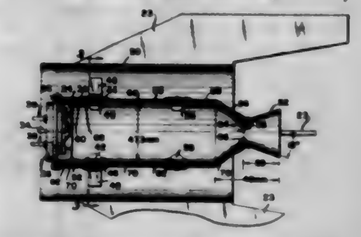
by the engine and in driving connection with the transmission shaft, a system for supercharging the engine with compressed air comprising a first air compressor connected to be driven by said differential gear whereby the amount of compressed air supplied by said first compressor increases with decreasing engine speed and increasing load on said transmission shaft, a second air compressor connected to be driven by the exhaust gases from said exhaust gas manifold whereby the amount of compressed air supplied by said second compressor increases with increasing engine speed, first conduit means for conducting compressed air from said first compressor to said air intake manifold, second conduit means for conducting compressed air from said second compressor to said air intake manifold, and valve means responsive to the pressure of the air in said first conduit means for closing said second conduit means when the air pressure in said first conduit means is above a predetermined level and for opening said second conduit means when the air pressure in said first conduit means falls below said predetermined level.

3,143,850
SUPERCHARGED INTEGRAL COMPRESSION ENGINE
Berry W. Foster, 1147 10th St., Santa Monica, Calif.
Filed Feb. 13, 1961, Ser. No. 89,056
18 Claims. (Cl. 60—15)



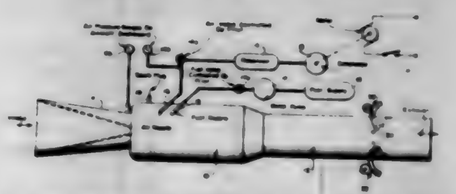
1. A power plant comprising
a supercharger having a cylinder with an outlet for supercharged air and a piston;
a high-pressure compressor-engine having a second cylinder with an inlet connected to said supercharger outlet for scavenging and supercharging said compressor-engine and having an exhaust and a piston, a chamber adjacent one end of said second cylinder and connected to said second cylinder by a port, means for closing said port to separate engine air in said second cylinder from compressor air in said chamber near the end of the compression stroke and while under high pressure, combustion means for burning fuel in said high-pressure engine air in said second cylinder after said separation, so that the heated product expands in said second cylinder and drives said piston;
a motor having a piston, a cylinder with an intake connected to said exhaust, for expanding the exhaust gases from said compressor-engine, the inlet gas pressure to said motor being equal to or less than the discharge pressure from said piston supercharger;
and a common crankshaft to which the pistons for said supercharger, said compressor-engine, and said motor are all connected.

3,143,851
METHOD AND APPARATUS FOR MIXING COMBUSTIBLE FLUIDS
Bo Carl Göta Nyman, Tyresö, Sweden, assignor to Alwac International, Inc., Bahamas, a corporation of Panama
Filed Mar. 23, 1960, Ser. No. 17,296
16 Claims. (Cl. 60—35.6)



8. Apparatus for increasing the efficiency of reaction of a fluid mixture comprising in combination a fluid combustion chamber having inlet and outlet ends, means for supplying the fluid elements to be mixed to the inlet end, ionizing means for said mixture in the form of electrodes spaced axially along the chamber in the direction of gas flow from said inlet end to said outlet end, and means for applying an ionizing voltage to said electrodes, said ionizing voltage being sufficiently low to prevent arcing between said electrodes, said electrodes comprising four ring shaped members of conductive material arranged to lie in a plane perpendicular to the direction of fluid flow therethrough with a positive voltage applied to one pair of adjacent rings to provide a region of positive potential and a voltage applied to the other pair of adjacent rings to provide a region of negative potential.

3,143,852
RAM JET ENGINE
John M. Alderson, 22592 Alessandro Blvd., Savannah, Ga.
Filed Sept. 8, 1961, Ser. No. 136,908
12 Claims. (Cl. 60—35.6)

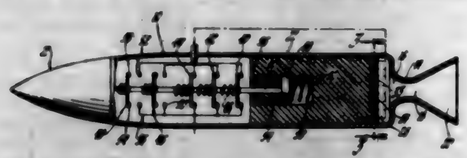


5. A ram jet engine comprising a combustion chamber, means for feeding fuel to said chamber, funnel means at the forward end of said chamber for scooping air into said chamber, said funnel means having a large end for scooping air and a small end communicating with said combustion chamber said funnel means being in two parts, and supporting means for said parts to permit them to separate under pressure of the scooped air to enlarge the opening at the small end of the funnel means to thus increase the air flow into the combustion chamber.

3,143,853
SOLID PROPELLANT BURN AREA CONTROL
Albert J. Sobey, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 28, 1961, Ser. No. 162,750
7 Claims. (Cl. 60—35.6)

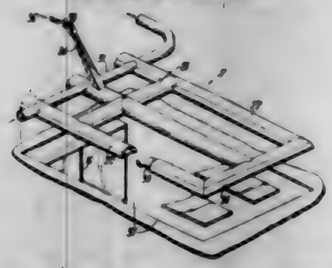
1. A solid propellant reaction motor comprising a hollow casing formed with a fluid jet exhaust nozzle at one

end and containing a solid propellant grain spaced from said nozzle to define a combustion chamber between, said grain burning regressively from its surface exposed to the combustion chamber generating a gas under pressure in said chamber, and control means to maintain constant



the volume of gas to be generated upon ignition of said surface, said control means including means connected to said grain surface and movable to different positions conditioning different total areas of said grain surface for burning.

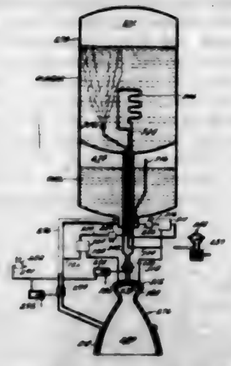
3,143,854
POWER PLANT INLET ADAPTED FOR USE ON A SUPERSONIC AIRCRAFT
Peter Arthur Ward, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England
Filed Jan. 9, 1962, Ser. No. 165,183
Claims priority, application Great Britain Jan. 10, 1961
9 Claims. (Cl. 60—35.6)



1. Power plant adapted for use on a supersonic aircraft and comprising a jet propulsion engine, an air intake passage therefor having a sharp lipped forward edge, and a unitary structure of trough-like elements which is movable into an operative situation in which each element overlies the correspondingly positioned sharp lipped forward edge, the structure elements being so shaped that when in the operative position they provide the air intake passage with a rounded forward edge, and means to move said structure entirely away from said passage.

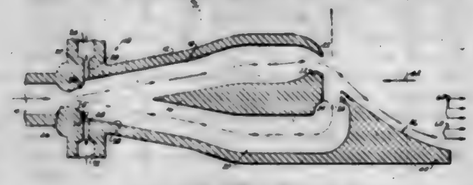
3,143,855
PRESSURE FED PROPELLANT SYSTEM FOR STORABLE LIQUID ROCKET
Robert N. Abild, New Britain, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Original application June 30, 1959, Ser. No. 824,131, now Patent No. 3,102,388, dated Sept. 3, 1963. Divided and this application Sept. 27, 1962, Ser. No. 226,636
2 Claims. (Cl. 60—35.6)

1. A rocket engine propellant flow and control system including a fuel tank, an oxidizer tank, at least one thrust chamber, conduit means connecting each of said tanks to said thrust chamber, valve means in each of said conduit means, actuator means for said valves, a gas generator for generating gaseous products, means for piping said gaseous products to said fuel tank, said piping means including heat exchange means submerged in oxidizer in said oxidizer tank for cooling said gaseous products in said oxidizer tank prior to delivery to said fuel tank, means for regulating the flow of said gaseous products in response to a pressure in the fuel conduit means, burner means in said oxidizer tank, and means for admitting a quantity of fuel to said burner means for combustion



with oxidizer in said oxidizer tank, including means for regulating the flow of said fuel quantity in response to a pressure in the oxidizer conduit means.

3,143,856
DIRECTIONAL CONTROL MEANS FOR ROCKETS OR THE LIKE
George F. Hausmann, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation of application Ser. No. 115,696, June 8, 1961. This application July 30, 1963, Ser. No. 298,791
10 Claims. (Cl. 60—35.54)

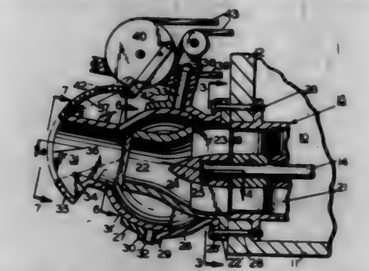


10. A valve and nozzle arrangement including means defining a fluid inlet passageway, first and second branch fluid passageways communicating with the discharge end of said fluid inlet passageway, control means for selectively directing a fluid stream in said inlet passageway to one or the other of said first and second branch fluid passageways, first and second discharge means connected respectively to said first and second branch passageways to emit first and second fluid streams as determined by said control means, said first and second discharge means being arranged angularly with respect to each other, and means downstream of at least one of said discharge means forming an expansion surface for the stream from said one discharge means.

3,143,857
COMBINED FORWARD AND REVERSE STEERING DEVICE FOR JET PROPELLED AQUATIC VEHICLES
Harry J. Eaton, Boise, Idaho, assignor, by mesne assignments, to Star-Fire Marine Jet Company, Spokane, Wash., a corporation of Washington
Filed May 2, 1960, Ser. No. 26,158
4 Claims. (Cl. 60—35.55)

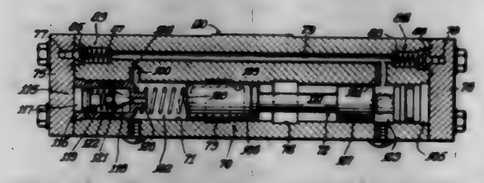
1. In a ship propulsion mechanism including a water conduit having an outlet through the rear wall of the ship and an inlet located in the ship forwardly of the rear wall with pumping means in the conduit for producing a rapid flow of water therethrough, the combination of a

jet-forming nozzle on the outside of the rear wall of the ship over the conduit outlet, said nozzle terminating in a discharging tip, a jet-directing member, said member having a forward portion extending around and spaced from the outside of said nozzle tip and a rear portion having a channel, the front entrance to said channel spaced rearwardly beyond said nozzle tip for receiving and directing the jet from said nozzle, a shutter pivotally mounted on the rear end of said rear portion of said member to swing up and down over the rear end of said channel, means for operating said shutter, the bottom of said channel having an opening at the rear discharging end of said channel, a nozzle on the bottom side of the rear portion of said member leading downwardly and



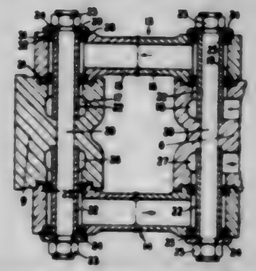
forwardly from said bottom opening in said channel, whereby, when said shutter is in lowered position, the jet from said nozzle received in said channel will be forced to pass through said opening and thereby produce a force for rearward propulsion of the ship, pivotal mounting means for said jet-directing member supporting said member for limited lateral swing with respect to said nozzle while maintaining the axis of said channel of said jet-directing member in the same plane with the axis of said nozzle tip, and steering means connected with said jet-directing member controlling the directional position of said channel with respect to said nozzle, whereby said steering means will serve to steer the ship during forward travel when said shutter is in raised position, and during rearward travel when said shutter is lowered.

3,143,858
HYDROSTATIC TRANSMISSION
Eugene A. Roeske, Des Plaines, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 19, 1963, Ser. No. 259,499
4 Claims. (Cl. 60—53)



1. In a hydrostatic transmission including a fluid pump hydraulically connected to a fluid motor wherein the pump is adapted to be connected to a power source and the motor is adapted to be connected to a drive a load, at least two fluid passageways interconnecting said pump and motor, one of said passageways being a high pressure passageway and the other a low pressure passageway, a pressure relief valve operative to prevent pressures beyond a predetermined maximum from being developed in said passageways comprising a body having a bore therein and a valve spool slidable within said bore, a pair of fluid passages each communicating with one of said passageways and with said bore, biasing means in said bore urging said valve spool to a position in which fluid flow between said pair of passages is blocked, a fluid passage connected to said two passageways to supply fluid pressure from the high pressure passageway to both ends of said bore, means adapted to exhaust fluid from said one end of said bore when a predetermined fluid pressure is reached within said one end, means to restrict fluid flow from said fluid passage into one end of said bore, said flow restricting means producing a pressure unbalance between the ends of said bore when fluid is exhausted from said one end of the bore and thereby moving said valve spool to interconnect said pair of fluid passages and regulate the fluid pressure developed to a predetermined maximum, said fluid exhausting means and said flow restricting means providing fluid pressure regulation with substantially less fluid flow than existing in said two passageways.

3,143,859
HYDRAULIC APPARATUS
Oswald Thomas, Charlton Kings, Cheltenham, England, assignor to Dowty Hydraulic Units Limited, Ashchurch, England, a British company, and Unipat A.G., Glarus, Switzerland, a Swiss company
Filed Mar. 7, 1963, Ser. No. 263,455
Claims priority, application Great Britain Mar. 7, 1962
5 Claims. (Cl. 60—53)

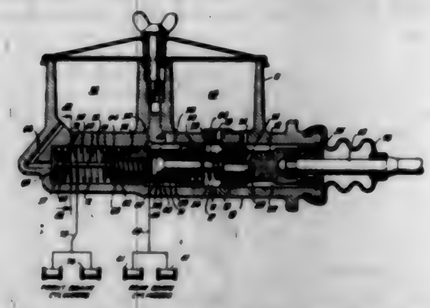


1. A hydrostatic transmission including a piston pump unit, a piston motor unit, a main link pivotally connected to each unit in such a manner as to control movement of one unit as a result of movement of the other unit, and at least one slave link pivotally connected to each unit in such a manner that substantially no force is transmitted from one unit to the other unit by the slave link, each slave link including a passage for transferring liquid from one unit to the other unit.

3,143,860
DIVIDED OUTPUT MASTER CYLINDER
William Steiner, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,690
14 Claims. (Cl. 60—54.6)

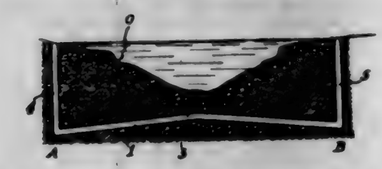
1. In a braking system for a motor vehicle having different sets of wheel cylinders, a fluid pressure generating device comprising a plurality of pressure chambers a first of which is connected to one set of wheel cylinders and the others of which are connected to the remaining wheel cylinders, said other chambers including a chamber substantially smaller than said first chamber, movable members for generating pressures in the respective chambers to displace fluid into said sets of wheel cylinders, means for applying a force to one of said movable members to actuate it, fluid in the system transmitting such force between all of said movable members to simultaneously actuate all of such members upon actuation of said one movable member, and means responsive to the building

up of pressure to a predetermined point in said other wheel cylinders for disconnecting all but said small chamber from said remaining wheel cylinders whereby operation



of said pressure generating means builds up pressure in said one set of wheel cylinders at a relatively rapid rate and in said other set of wheel cylinders at a relatively slower rate.

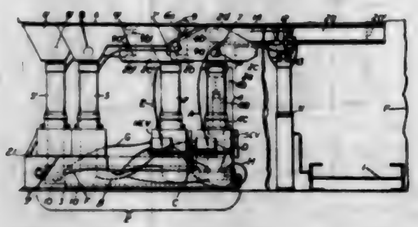
3,143,861
SYSTEM FOR PIPING FLUIDS ACROSS A BODY OF WATER
Lucien Jean-Marie Baptiste Dumas, Paris, France, assignor to Geopetrole, Société Géotechnique pour la Production du Pétrole, Paris, France, a French society
Filed July 10, 1961, Ser. No. 123,402
Claims priority, application France July 12, 1960
2 Claims. (Cl. 61—42)



1. A structure for passing a conduit across a body of water, comprising: a tunnel, of greater diameter than said conduit, extending through the earth substantially below the bottom of said body of water, said conduit extending through the tunnel and being spaced from the walls thereof and supported therein for free transverse movement in said tunnel; and an open passageway connecting the interior of the tunnel with the body of water to fill said tunnel with water and establish natural hydrostatic pressure in the tunnel around the conduit; said conduit being closed against fluid communication between the water in said tunnel and the inside of said conduit.

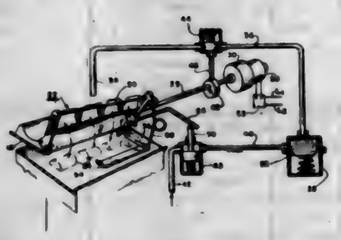
3,143,862
SUPPORT OF ROOFS IN MINES
Frank Cowlishaw, Linby, England, assignor to W. E. & F. Dobson Limited, New Basford, Nottingham, England
Filed Aug. 10, 1959, Ser. No. 832,696
Claims priority, application Great Britain Aug. 11, 1958
14 Claims. (Cl. 61—45)

1. Mine roof support means comprising a pair of hydraulically extendable and contractable support units each having a pair of spaced hydraulically extendable and contractable props mounted on a common base and having a common head, a hydraulically operable cylinder and ram interconnecting the two support units for advance of each in turn in side-by-side relationship when contracted using the other support unit in extended roof supporting condition as a stationary abutment, first hydraulic control means associated with said unit for controlling said movements, a cantilever roof girder projecting from at least one of said roof bars in continuation thereof and having lower laterally projecting webs, and an auxiliary prop of hydraulically extendable and contractable construction cooperating with said cantilever roof girder, said auxiliary prop comprising a cylinder and ram disposed under said cantilever roof girder, and a channel-shaped head pivotally mounted on said cylinder and ram and through which said cantilever roof girder extends, said auxiliary prop including a tiltable portion pivoted with relation to said head, and said head being of greater depth



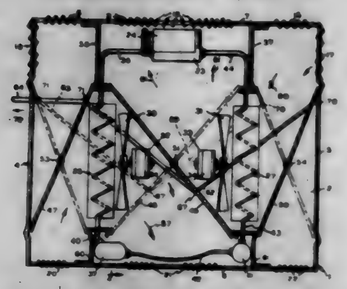
than that of the cantilever roof girder and having inwardly directed projections overlying said lower webs of said cantilever roof girder and of small size compared with the depth of the cantilever roof girder, and second hydraulic control means associated with said auxiliary prop, whereby freedom of movement is provided for between said cantilever roof girder and said head and said first and second hydraulic control means relatively are operable for both said unit having the cantilever roof girder and said auxiliary prop to be extended into roof supporting conditions in turn independently of the other while said other is contracted and advanced.

3,143,863
ICE MAKER APPARATUS
James K. Nelson, Grove City, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 21, 1960, Ser. No. 23,714
8 Claims. (Cl. 62—72)



1. A method of controlling the production of ice by an ice maker, comprising continuously and alternately performing the two steps of: first, subjecting a mold to water freezing conditions for a period long enough to freeze a predetermined quantity of water in the mold; and second, effecting operation of means for transferring any frozen contents in said mold to a storage container, and sensing periodically the quantity of ice in said container, and charging the mold with said predetermined quantity of water following said second step only when less than a predetermined quantity of ice is sensed in said container, said first step and the movement of said transferring means being repeated continuously regardless of the quantity of said frozen ice in said container.

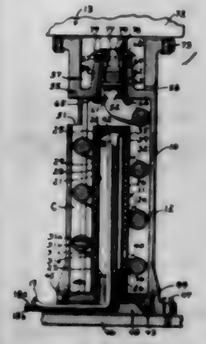
3,143,864
HOT AND COLD AIR CONDITIONERS
Fred J. Schordine, 134 Waverly Ave., Patchogue, N.Y.
Filed Jan. 4, 1963, Ser. No. 249,399
2 Claims. (Cl. 62—325)



1. A device of the character described comprising a casing having a bottom, a top, and perforated wall portions of which one is adapted to be extended into a room and another wall portion is to be extended outside of a room, a condenser mounted in said casing, an evaporator mounted in said casing, a compressor mounted in said casing being connected to said condenser and said evaporator, fans for blowing air through said condenser and through said evaporator being mounted within said casing adjacent said condenser and said evaporator, a first damper blade movably mounted between said condenser and said evaporator, a second damper blade movably mounted between said condenser and a first one of said wall portions of said casing, a third damper blade movably mounted between said evaporator and a second one of said wall portions of said casing, means for moving said damper blades in unison from one end position to another end position, and two pairs of opposite intermediate wall sections extending into said casing from wall portions thereof to those portions of the interior of said casing in which are located opposite edge portions of said damper blades when the damper blades are in one of their extreme end positions, said damper blades in cooperation with said intermediate wall sections being adapted for alternatingly forcing room air blown through said condenser back into the room, and outside air blown through said evaporator back to the outside; or for forcing outside air blown through said condenser back to the outside, and for forcing room air through said evaporator and back into the room.

3,143,865
LIQUID FREEZING APPARATUS WITH RENEWABLE FREEZING WALL
Anthony J. Ross, 116 Myrtle Ave., Elmhurst, Ill.
Filed Dec. 6, 1961, Ser. No. 157,519
14 Claims. (Cl. 62—354)

8. In combination with a refrigerating apparatus including a compressor; condenser; refrigerant expansion control; and refrigerant supply and return lines, an evaporator having a drum shaped outer shell and an inner evaporator means, said inner evaporator means defining an enclosed refrigerant expansion vessel connected to said supply and return lines to form a closed refrigeration system with said refrigerating apparatus, said evaporator means having a generally drum shaped external configuration, said outer shell being separate from said inner evaporator means and extending around said inner evaporator means and having an opening at least at one end to enable axial insertion and removal of the outer shell from around the inner evaporator means, the outer shell being removable from said inner evaporator means without opening the enclosed refrigerant expansion vessel defined by said inner evaporator means, a soft solder bonding the outer shell to the inner evaporator means in heat transmitting relation therewith, said soft solder being of a type having a melting point below the boiling point of water to enable softening of the solder for removal of the outer shell from the inner



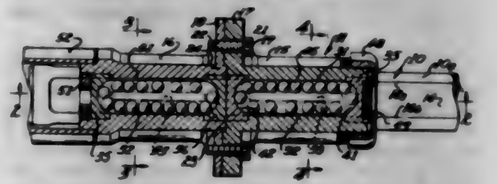
evaporator means by the application of hot water to the outer shell, a water jacket surrounding the outer shell for maintaining a quantity of water in contact therewith, and means including a rotary ice removing device disposed between the outer shell and jacket for removing frozen liquid from the outer shell.

3,143,866
ICE CUBE MOLD
Edwin H. Frohbieter, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed June 12, 1961, Ser. No. 116,491
2 Claims. (Cl. 62—355)



1. A mold for use in an ice body maker arranged for automatic freeing of the ice body from the mold upon completion of the freezing of an ice body therein, said mold comprising a wall of thermal insulating material defining a freezing cavity, said wall including an upper inwardly arcuately concave, downwardly narrowing annular portion, and a small central bottom arcuately concave tip portion having a radius of curvature substantially smaller than the radius of curvature of said upper portion.

3,143,867
ANTI-BACKLASH SLIP JOINT
Edmund B. Anderson, 2135 10th St., Rockford, Ill., assignor of one-half to said Anderson and one-half to Walter H. Stark, Rockford, Ill.
Filed June 15, 1960, Ser. No. 36,336
6 Claims. (Cl. 64—23)



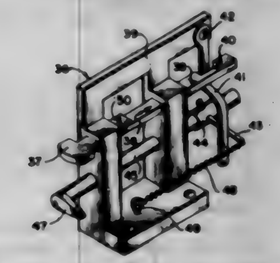
1. A slip joint comprising a shaft member, a sleeve member extending around said shaft member having at least one longitudinally extending groove therein defining spaced apart splines, said sleeve member including first and second axially aligned sections, first and second key means on said first and second sections extending into said groove, and means for angularly adjusting said sleeve sections relative to each other whereby said first and second key means engage the splines at relatively opposite sides of the groove to reduce backlash between said members, said adjusting means including flange means on the adjacent ends of said sleeve sections, fasteners extending through said flange means for non-rotatably securing the sections together, and means on said flange means for turning one flange relative to the other.

3,143,868
KNITTING MACHINE
Walter Palange, 35A Moddermanstraat, Tilburg, Netherlands
Filed Sept. 15, 1961, Ser. No. 138,334
Claims priority, application Netherlands Sept. 16, 1960
2 Claims. (Cl. 66—1)



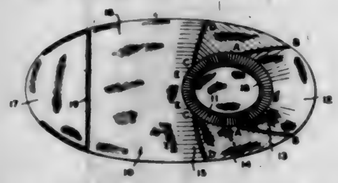
1. In a machine for automatically knitting fabrics, the combination of two needle beds mounted for swinging movement along arcs which curve toward each other, a plurality of needles on each bed each comprising a body portion having an upwardly open U-shaped cross-section with upright spaced side walls and a rounded bottom connecting portion connecting the side walls and through which threads are adapted to be guided, each needle having a single side wall extension extending from the end of one of the side walls, the extensions on the needles on one needle bed being on the sides of the needles toward one end of the needle beds and the extensions on the needles on the other needle bed being on the sides of the needles toward the other end of the needle beds, and the needles on each bed being spaced a distance only slightly greater than the thickness of the side wall extension, the needles being sufficiently long that the ends of the needles move along arcs and the ends of the extensions cross each other, and each extension having an eye in the end thereof.

3,143,869
SOCKS AND APPARATUS AND METHOD FOR PRODUCING THE SAME
Charlie T. Smith, Nashville, Tenn., assignor to May Hosiery Mills, Nashville, Tenn.
Filed June 1, 1962, Ser. No. 199,537
11 Claims. (Cl. 66—48)



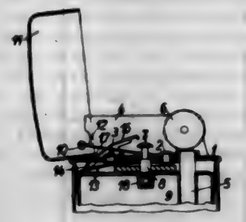
2. Apparatus for knitting seamless hosiery having a plurality of gores including a circular knitting machine having a cylinder which can be rotated or oscillated selectively and multiple independent needles, a series of cams for causing said needles to engage a feed yarn and form loops, cam means for moving certain of said needles to inactive position, a pair of selectively operable narrowing picks for moving terminal active needles to inactive position, a pair of selectively operable widening picks for moving terminal inactive needles to active position, a pair of wing cam brackets mounted on said machine in cooperative relation with said needles for permitting said needles to form only one stitch on each oscillation of said cylinder when said cylinder is oscillated, each wing cam bracket comprising a body, a cam plate slidably mounted in said body, a lever pivotally mounted on said body and engageable with said cam plate, a rod slidably and rotatably mounted in said body, a wing mounted on one end of said rod and a pin adjustably mounted on the opposite end, spring means connected at one end to said body and at the other end to said pin for urging said pin into engagement with said lever whereby said cam plate and said wing are urged outwardly of said body in one direction.

3,143,870
SEAMLESS SUN SOCK
Charlie T. Smith, Nashville, Tenn., assignor to May Hosiery Mills, Nashville, Tenn.
Filed Oct. 21, 1963, Ser. No. 317,727
5 Claims. (Cl. 66—170)



1. A sock to be worn with and substantially hidden by low-cut shoes comprising an upper portion, a heel portion, multiple gore portions connected to said upper portion and to each other along knitted seamless suture lines, one of said gore portions being connected to said heel portion along a knitted seamless suture line whereby a low-cut sock is provided without ridges.

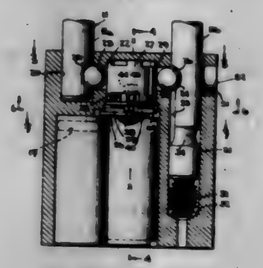
3,143,871
GAS-FUELED LIGHTER
Heinrich Schmitz, Vienna, Austria, assignor to Frank G. Dobbs and Stephan H. Dobbs, both of New York, N.Y.
Filed May 14, 1962, Ser. No. 195,042
Claims priority, application Austria May 15, 1961
3 Claims. (Cl. 67—7.1)



1. A gas-fueled lighter comprising a burner support, a burner carried by said support, a valve stem arranged to control the flow of gas through said burner, a valve-opening spring arranged in said burner and urging said stem toward an open position, a lighter cover connected to said support for pivotal movement about a pivotal axis between open and closed positions and having an edge

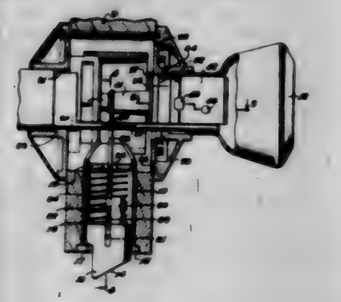
portion next to said pivotal axis, a rigid lever having first and second arms, means supporting said lever between said arms for pivotal movement with respect to said support such that as the lever undergoes pivotal movement the arms respectively undergo angular movement of equal magnitude, said first arm being operable to engage said valve stem and to depress the same to a closed position against the action of said valve-opening spring, and a valve-closing spring secured to said support and engaging said second arm of said lever and tending to urge said first arm into engagement with said valve stem with a force sufficient to overcome the action of said valve-opening spring, said second arm of said lever being arranged to be engaged by the edge portion of said cover to be moved by the same against the action of said valve-closing spring during the final phase of said movement of said cover to the said open position thereof whereby said valve-opening spring is released to move said stem to its open position.

3,143,872
PADLOCK
Mathias M. Check, Strafford, Pa., assignor, by mesne assignments, to Yale & Towne, Inc., New York, N.Y., a company of Ohio
Filed June 28, 1962, Ser. No. 205,956
7 Claims. (Cl. 70—38)



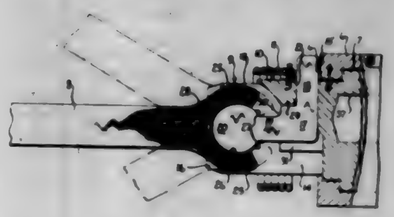
6. A padlock comprising,
a body part having a pair of spaced bores extending inwardly from one side thereof,
a shackle having a short leg and a long leg slidably received in said pair of bores,
a transverse bore in said body part extending between and communicating at each end with said pair of bores,
a notch in each leg of said shackle adapted to align with the ends of said transverse bore when said legs of said shackle are both inserted in said pair of bores,
a pair of locking members disposed in said transverse bore with one member at each end thereof in a position to engage with said notches in said legs of said shackle to lock said shackle to said body part,
a cylindrical chamber in said body part intersecting said transverse bore between said locking members,
a solid cylindrical bolt rotatably mounted in said cylindrical chamber, said cylindrical bolt in a first rotated position presenting surfaces for holding said locking members engaged in said notches in said legs of said shackle and in a second rotated position presenting recesses for releasing said locking members from said notches to allow outward movement of said shackle relatively to said body part,
a spiral torsion spring on the outer end of said cylindrical bolt connected at the inner end to said bolt and connected at the outer end to said body part for rotating said bolt to locking position, and
means for rotating said bolt to a releasing position.

3,143,873
DOOR LOCK
Carl A. Hillgren, Balboa Island, Calif.; Carl C. Hillgren, executor of said Carl A. Hillgren, deceased, assignor to Parkway Magnetics, a corporation of California
Filed Nov. 19, 1962, Ser. No. 238,596
2 Claims. (Cl. 70—147)



1. A door lock comprising a projectable and retractable latch bolt, rotary spindle means adapted upon rotation to retract the latch bolt, means at one end of the spindle by which it may be rotated, axially movable means at the other end of the spindle means having a non-rotatable but axially movable connection with the spindle means by which the spindle means may also be rotated, and means for locking the axially movable means against rotation to thus lock the spindle means against rotation when the axially movable means is caused to assume one axial position and to free the axially movable means for rotation and consequently the spindle means for rotation when the axially movable means is caused to assume another axial position, a lock controlled secondary spindle means operable to retract the latch bolt upon rotation when the mentioned spindle means is locked against rotation by the axially movable means.

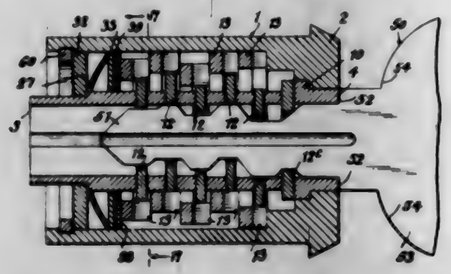
3,143,874
AUTOMOBILE LOCK HAVING SWINGABLE SHAFT
Edward N. Jacobi, Milwaukee, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 17, 1962, Ser. No. 217,563
8 Claims. (Cl. 70—379)



3. In a lock of the type having a bored casing and a key actuated lock cylinder rotatable in the casing and accessible at the front thereof for insertion of a key:
(A) an extension on the cylinder projecting rearwardly beyond the casing and the rear portion of which is bifurcated;
(B) a coupling member
(1) having one arm that extends substantially coaxially rearwardly between the bifurcations of the extension and which terminates at its rear end in an enlarged head providing rounded substantially forwardly facing shoulders,

(2) having another arm extending radially through a snugly fitting hole in the extension by which the coupling member is held against displacement relative to the extension; and
(C) a shaft having a bifurcated front end portion defining arms having rounded forwardly converging inner surfaces between which the head on the coupling member is received, said arms having a thickness less than the distance between the bifurcations of the extension so that the rear end of the shaft is swingable in all directions, but being thick enough so that the bifurcations of the extension confine the arms against displacement off of the head.

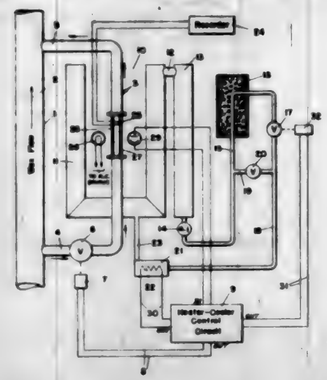
3,143,875
LOCKS
John F. Welbekens, New York, N.Y., assignor to Hotel Security Systems Corporation, New York, N.Y., a corporation of New York
Filed Jan. 28, 1963, Ser. No. 254,104
9 Claims. (Cl. 70—382)



8. In a lock, a housing, a latch-controlling plug mounted for rotative movement in the housing, a plurality of buttresses encircling the plug and adjustable in a direction transversely of the housing, said buttresses having wafer-type tumblers movable through the plug, the buttresses having interengaging irregularities on opposing faces, spring means for pressing the buttresses together to maintain their irregularities in engagement to thereby hold the buttresses against movement relatively to one another after the same have been set to permit the acceptance of a specific key by their tumblers, and releasing means effective on the spring means to thereby relieve the pressure of said spring means on the buttresses whereby the buttresses become free to adapt themselves and their tumblers to the contour of a different key then inserted through the tumblers.

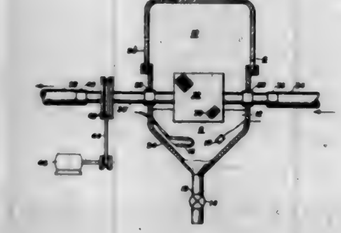
3,143,876
APPARATUS FOR DETERMINING MELTING POINT
Charles W. Wallgren, Ridley Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Jan. 11, 1961, Ser. No. 82,013
1 Claim. (Cl. 73—17)

Apparatus for determining the melting point of a fusible material flowing in a liquid state in a main line, comprising a branch line for abstracting a sample from said main line, a controllable valve in said branch line, controllable means for cooling at least a portion of said branch line, controllable means for heating said portion of said branch line, means for operating said valve to the closed position and simultaneously rendering effective said cooling means, thereby to close off said branch line from said main line and to thereafter cause solidification of the material in said branch line portion, said operating means acting automatically in response to the presence of liquid sample in said branch line; said operating means also acting automatically, in response to the solidification of said last-mentioned material, to operate said valve to the open position and simultaneously render effective said heating



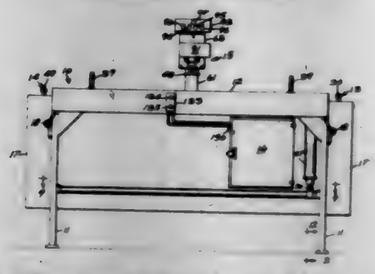
means, thereby to open said branch line to said main line and to thereafter cause liquefaction of said last-mentioned material; and means for indicating the temperature of said last-mentioned material.

3,143,877
LUBRICANT TESTING APPARATUS
Robert G. Moyer, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed July 22, 1960, Ser. No. 44,620
7 Claims. (Cl. 73—64)



1. An apparatus for evaluting the cold-sludging properties of lubricants comprising a vessel internally shaped to define a lubricant chamber and a gas chamber communicating therewith, inlet and outlet means communicating with said gas chamber for the circulating of a test atmosphere therethrough, a body having a hollow interior movably supported within said vessel for movement between said chambers, means for cyclically moving said body from one chamber to the other, whereby a film of lubricant being evaluated is deposited on said body in said lubricant chamber and the film of lubricant is exposed to the test atmosphere in said gas chamber, said body being supported such that the film of lubricant on the entire outer surface of said body in said gas chamber is exposed to the test atmosphere in said gas chamber, inlet and outlet means communicating with the interior of said body for the circulation of cooling fluid therethrough and means for maintaining said lubricating chamber at a temperature higher than said cooling liquid.

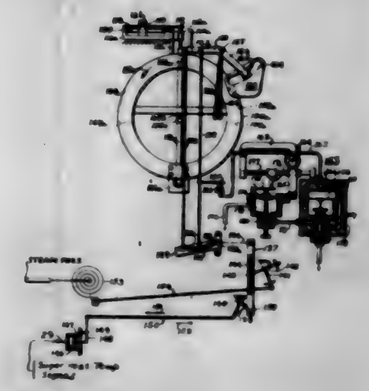
3,143,878
STIFFNESS TESTER FOR LUMBER
Robert J. Hoyle, Jr., and Herbert B. McKean, Lewiston, Idaho, and Gerald F. Schoelke, Clarkston, Wash., assignors to Potlatch Forests Inc., Lewistown, Idaho, a corporation of Delaware
Filed Sept. 16, 1960, Ser. No. 56,388
11 Claims. (Cl. 73—100)



1. A stiffness tester for lumber, comprising:
a rigid supporting frame;
deflection means mounted on said frame, said deflection means including spaced supports adapted to contact a first surface of a test length of lumber and intermediate means located between said supports and opposed thereto, the intermediate means being adapted to contact the surface of a test length of lumber opposite to said first surface;
motion producing means mounted on said frame operatively connected to said deflection means adapted to effect relative motion of said supports and said intermediate means toward one another to thereby cause deflection of a test length of lumber contacted thereby;
force sensing means mounted on said frame operatively connected to said deflection means adapted to indicate the reactive force exerted by a test length of lumber due to its deflection;
and motion limiting means mounted on said frame and said deflection means operatively connected to said motion producing means and to said force sensing means adapted to limit the relative motion of said supports and said intermediate means to a pre-selected value beyond an initial amount of motion required to effect a pre-selected indication of reactive force by said force sensing means.

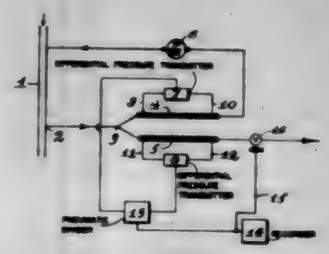
3,143,879
METHOD OF AND APPARATUS FOR CORRECTING HEAD TYPE STEAM FLOW METERS FROM STEAM PRESSURE AND SUPERHEAT REFERRED TO SUPERHEAT BASE
George R. Anderson, Mount Lebanon Township, Allegheny County, and Donald M. Stough, Penn Hills Township, Allegheny County, Pa., assignors, by mesne assignments, to Hagan Controls Corporation, a corporation of Delaware
Filed Nov. 3, 1959, Ser. No. 850,559
4 Claims. (Cl. 73—205)

2. In combination with a steam generating boiler having a superheater connected to a steam flow line and steam consuming devices supplied by said boiler, means in said line for developing a pressure difference, a steam flow meter having means responsive to said pressure difference for producing a motion proportional thereto, an uncorrected flow indicator, a square root extractor actuated by said pressure difference responsive means for imparting a motion thereto and to said indicator that is proportional to the square root of said pressure difference, a corrected flow indicator adjustably connected to said uncorrected indicator and adapted to be actuated thereby, means responsive to the difference between the saturated and the superheat temperatures of the steam for providing a motion related thereto, means responsive to the steam pressure and provided with means for producing a motion related thereto and means responsive to the motions of



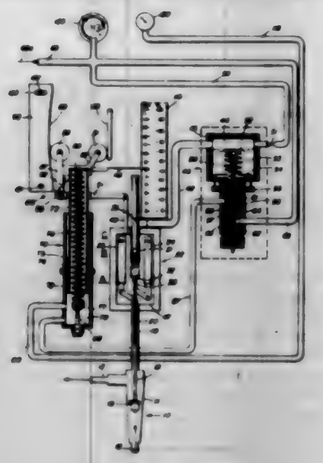
said superheat temperature and pressure-responsive means for causing said corrected flow indicating means to be actuated with reference to the uncorrected indicator to show steam flow corrected for pressure and superheat.

3,143,880
VISCOSITY COMPENSATED FLOWMETER
David John Goldstein, Ville de Lemoyne, Quebec, and Samuel Slater Grimley, Beloeil Station, Quebec, Canada, assignors to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed June 20, 1960, Ser. No. 37,143
Claims priority, application Canada Sept. 10, 1959
2 Claims. (Cl. 73—205)



1. An apparatus for measuring the flow rate of a fluid whose viscosity and temperature change rapidly, which comprises two substantially identical capillary tubes, a fluid flow dividing means to the downstream arms of which said capillary tubes are connected, a constant volume pump connected to the first of said capillary tubes and pressure difference measuring means connected across each of said capillary tubes, said apparatus being so constructed and arranged that the fluid passes through both of said capillary tubes in streamline flow and in substantially identical physical condition, and that the fluid flow to be measured passes only through the second of said capillary tubes and the flow rate thereof equals the ratio of the pressure drop across the second capillary tube to that across the first capillary tube multiplied by the flow rate through the constant volume pump.

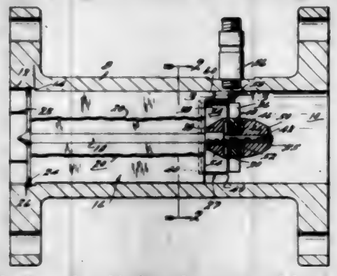
3,143,881
PNEUMATIC TRANSMITTING MEANS FOR FLOWMETERS
George M. Booth, Westfield, N.J., assignor to Wallace & Tiernan Inc., Belleville, N.J., a corporation of Delaware
Filed Sept. 7, 1961, Ser. No. 136,478
29 Claims. (Cl. 73—209)



29. In apparatus for transmitting the measurements of a variable-area flowmeter, the combination with an upright flowmeter tube and a float vertically movable in accordance with changes in flow through the tube, of a member of magnetic material carried by the float and sensing means arranged adjacent to the vertical path of the member, said sensing means comprising a plurality of magnets disposed with respective regions of like polarity in mutually opposed relation at different sides of said path of the member, said magnets being mounted for movement of said regions thereof in opposite directions, toward and away from each other, and said magnets being disposed for predetermined mutual repulsion of said regions when said member is vertically remote from said sensing means, and for less repulsion of said regions of the magnets when the member is interposed in a locality between said regions, and means controlled by said magnets and responsive to change of the force of repulsion between said regions thereof, for signaling change of position of said member, in its path, into and away from the aforesaid locality.

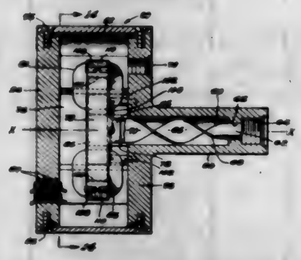
3,143,882
FLUID TRANSDUCER
Alexander W. Brueckner, Farmington, Mich., assignor, by mesne assignments, to Lynch Corporation, Anderson, Ind., a corporation of Indiana
Filed Oct. 27, 1960, Ser. No. 68,433
3 Claims. (Cl. 73—231)

1. A flowmeter comprising a wall forming a housing having a fluid passageway therein, rotor means rotatably mounted in said fluid passageway having a central body portion and a plurality of blades thereon, diverter means upstream of said rotor means for diverting a substantial portion of the fluid in said fluid passageway to include diverting the fluid flow from said body portion, annular, thin walled shroud means having at least a portion thereof upstream of said rotor means and downstream of at least a portion of said diverter means for redirecting the fluid flow from said diverter means in a direction primarily parallel to the longitudinal axis of said fluid passageway in the vicinity of said rotor means and means supporting said shroud means adjacent an extremity of said blades and radially spaced from said wall whereby fluid



flows both through said shroud means and between said shroud means and the wall of said housing.

3,143,883
VIBRATION DAMPING MEANS FOR TRANSDUCERS
Robert T. Nakasone, Tujunga, Calif., assignor, by mesne assignments, to Tamar Electronics, Inc., a corporation of California
Filed July 5, 1960, Ser. No. 40,736
9 Claims. (Cl. 73—414)



1. In a transducer having a sensing element of mass M_1 movable in response to a change in a physical phenomenon to be detected, and also having a transducing element responsive to the movement of said sensing element for producing an output signal indicative of the magnitude of said physical phenomenon, said transducer being subject to vibration liable to produce spurious signals in the output of said transducing element, the combination therewith of a damping tab of cantilever configuration secured to one of said elements, said damping tab having a mass M_2 and being composed of anelastic material, said masses M_1 and M_2 having relative magnitudes whereby the relationship

$$1+\frac{2}{\left(\frac{M_2}{M_1}\right)}$$

is approximately 3.

3,143,884
SAMPLING DEVICE
John E. Brekke, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
Filed Jan. 30, 1962, Ser. No. 169,980
2 Claims. (Cl. 73—425.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

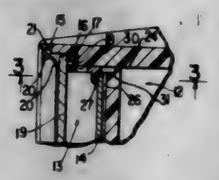
1. A sampling instrument adapted for withdrawing a sample from a mass of objects generally of a given size, comprising, in combination, a hub tapering to a point at its lower end, a series of blunt-tipped, freestanding rods joined to said hub and spaced uniformly about the

axis of the hub, said rods extending upwardly and outwardly from the top of said hub, the minimum space between individual rods being correlated with the size



of said objects, said rods and hub defining an upwardly-flaring, conical, open basket, and an elongated handle fastened to the top of said hub.

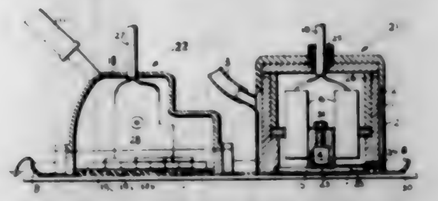
3,143,885
OPEN FACE GAUGE CONSTRUCTION
Ralph D. Waite, Sellersville, and Harry W. Hoff, Jr., Quakertown, Pa., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 6, 1961, Ser. No. 157,441
9 Claims. (Cl. 73—431)



9. In a gauge having a case with an open end, said open end having an undercut groove, a glass means for said gauge insertable in said open end; abutment means for limiting the inward movement of said glass means; and a plastic bezel outwardly of said glass comprising an annular member having an external flange thereon of slightly greater diameter than that of said undercut groove and an internally extending frustoconical skirt portion, said external flange and skirt being of resilient material so as to allow it to be snapped into the undercut groove of said case and said skirt portion resiliently engaging said glass means, whereby said glass means is held in place by the inward pressure of the skirt portion of said bezel.

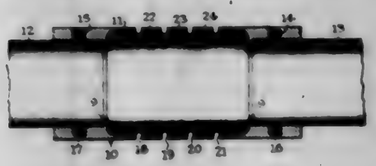
3,143,886
INSTRUMENT FOR MEASURING THE FLAT WEIGHT OF SHEET MATERIAL
Paul Lippke, Augustastrasse 17, Neuwied (Rhine), Germany
Filed Nov. 7, 1960, Ser. No. 67,846
Claims priority, application Germany Nov. 18, 1959
17 Claims. (Cl. 73—432)

14. A system for continuously checking the quality of a moving web of sheet material, comprising a supporting base, mounting means suspending said base above the path of said web for engagement of the latter from above with light contact pressure, a first instrument on said base adapted to measure the flat weight of said sheet material, a second instrument on said base adjacent said first instrument for measuring the moisture content of said sheet material, and drive means for reciprocating said base across said path; said first instrument including a source of radiation reflectable by said sheet material, said base being provided with a window for passing the radiation from said source to said sheet material, receiving



means for reflected radiation in alignment with said window, and first indicator means connected to said receiving means for ascertaining the rate of reflection of said radiation by said sheet material; said second instrument including condenser means at said base adapted to contact said web, and second indicator means connected to said condenser means for ascertaining changes in the capacitance of said condenser means.

3,143,887
DENSITY METERS
Don H. Hathorn and Forrest C. Pittman, Duncan, Okla., assignors to Halliburton Company, a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,394
1 Claim. (Cl. 73—434)



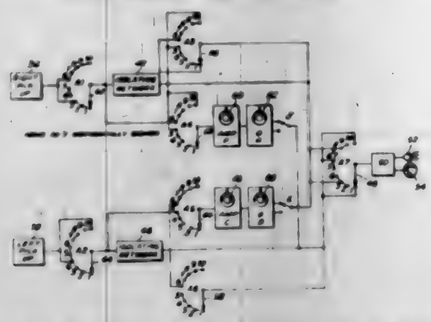
In a densometer, the combination with a tubular conduit which is deflected in response to the weight of a fluid being pumped therethrough, flexible coupling means for attaching said conduit to a fixed conduit which supplies fluid to be tested, said flexible coupling means consisting of a plurality of normally aligned rings spaced axially from each other;

a resilient tube rigidly attached to the inner surfaces of each of said rings, the internal diameter of the flexible coupling means being exactly the same as the internal diameters of said conduits;

the outer rings of said flexible coupling means having an internal diameter less than the internal diameter of the inner rings to provide shoulders at the ends of the resilient tube so as to prevent extrusion of the resilient tube and so that a smooth path of flow is defined through the flexible coupling means;

and two pairs of flat leaf springs positioned on opposite sides of said coupling means, opposite ends of each pair being connected to the deflectable and fixed conduits, the springs of each pair being adjacent and at right angles to each other and the pairs being so located that a line defined by the intersection of two planes, each established by corresponding springs at each pair, passes through the center of said flexible coupling means.

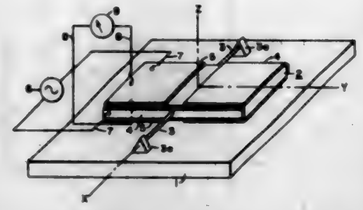
3,143,888
PLANE RESOLVERS
Glen H. Thomas and Theodore Ongaro, Columbus, and Eugene R. Locke, Hilliard, Ohio, assignors to International Research & Development Corp., Worthington, Ohio, a corporation of Ohio
Filed May 6, 1960, Ser. No. 27,305
18 Claims. (Cl. 73—462)



8. In a balancing machine associated with an unbalanced rotor having a known unbalance weight attached thereto in a first plane and including a first transducer mounted for response to vibration of said rotor in said first plane, a second transducer mounted for response to vibration of said rotor in a second plane, and an analyzing means actuatable by said transducers to provide an amplitude and phase indication of the vibration actuating the transducers, the improvement comprising, a first operator means capable of varying the phase and amplitude of an alternating current signal, and a second operator means capable of varying the phase and amplitude of an alternating current signal, said first operator means receiving an input from said second transducer and being so adjusted as to produce an output signal equal to the output signal which would be produced by said first transducer by said known weight, said second operator means receiving said output of said first operator means and being so adjusted as to produce an output signal equal and opposite to the cross effect signal which would be produced by said second transducer by said known weight, said output of said second operator means being connected to the output of said second transducer and said summed outputs being connected to said analyzer means, said output of said second operator means being connected to the output of said second transducer through means preventing said output of said second operator means from substantially affecting the output of said first operator means.

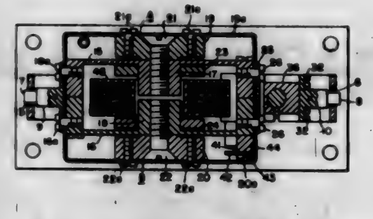
3,143,889
ANGULAR VELOCITY MEASURING DEVICE
Arthur L. Simmons, Baltimore, and David W. Roese and John W. Dziuniaski, Catonsville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 23, 1960, Ser. No. 51,328
7 Claims. (Cl. 73—505)

7. In a vibratory gyro device, a symmetrical element of uniform cross-sectional mass distribution and of a material exhibiting an internal vibratory strain reaction to an alternating electrical excitation and exhibiting an alternating electrical characteristic responsively to an alternating strain, said element being constructed and arranged for internal vibration in a driven mode normal to and in opposed relationship at opposite sides of an axis of symmetry of said element and for internal vibration in an output mode in opposed relationship at opposite sides of said axis of symmetry responsively to being turned about said axis while vibrating in said driven mode, said output mode being a vibratory mode different than said driven mode, a mounting member supporting said element in a nodal region of vibration in both input and output modes, and means for introducing said electrical



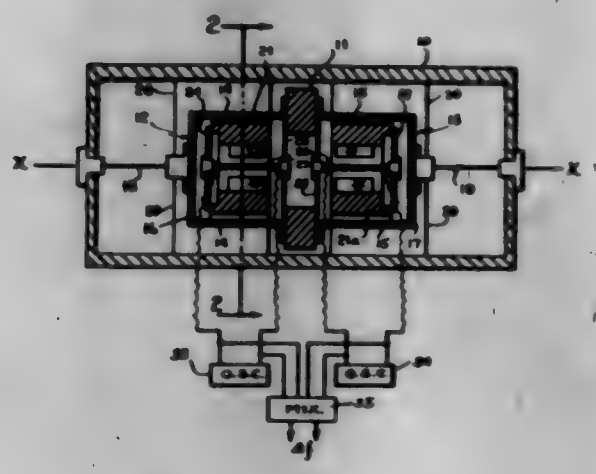
excitation to vibrate said element in its driven mode and for sensing of said electrical characteristic as exhibited responsively to strain produced by vibration in said output mode, without disturbance to the uniform cross-sectional mass distribution of said element as supported by said mounting member.

3,143,890
RATE-OF-CHANGE DEVICE
George R. Douglas, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 625,547, Nov. 30, 1956. This application Mar. 16, 1961, Ser. No. 96,331
4 Claims. (Cl. 73—505)



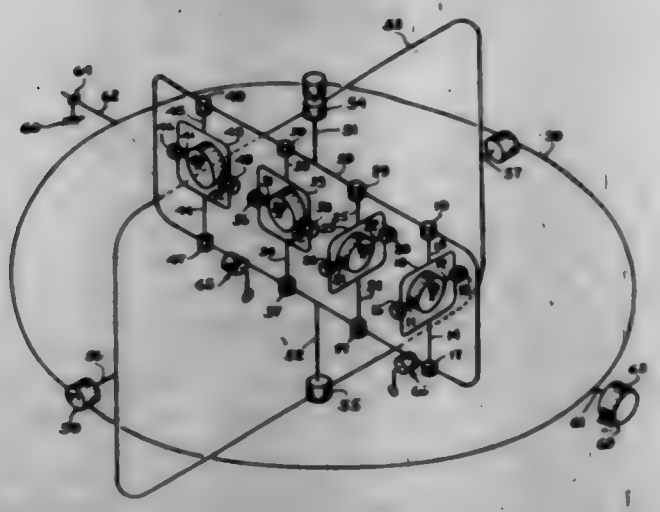
1. A device for measuring rate of turning of aircraft, comprising a frame adapted to be mounted on such craft, and electrically-driven vibratory mass assemblage including a pair of spaced-apart balanced masses symmetrically positioned about an axis for alternate movement toward and away one with respect to the other, said vibratory mass assemblage having an oscillatory precessional torque reaction to an input turning effort applied thereto, a dead weight rotary reaction mass having a torsionally-resilient rotary connection with said vibratory mass assemblage, transducer means having relatively moving parts carried by said vibratory mass assemblage and said dead weight reaction mass, respectively, responsive to relative rotary movement therebetween to derive an electrical signal proportionate to the degree of such relative rotary movement, and omni-directional resilient shock mount means supportedly connecting said vibratory mass assemblage, said dead weight rotary reaction mass and said transducer means to said frame, said omni-directional resilient shock mount means acting to transmit turning effort from said frame to said vibratory mass assemblage while permitting rotary oscillatory movement of such assemblage, of said dead weight reaction mass and of said transducer means while substantially isolating same from shock forces transmitted to said frame irrespective of the direction of such forces.

3,143,891
ANGULAR ACCELEROMETER
Alexander M. Vostrez, Schenectady, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Filed Nov. 6, 1961, Ser. No. 150,335
6 Claims. (Cl. 73—517)



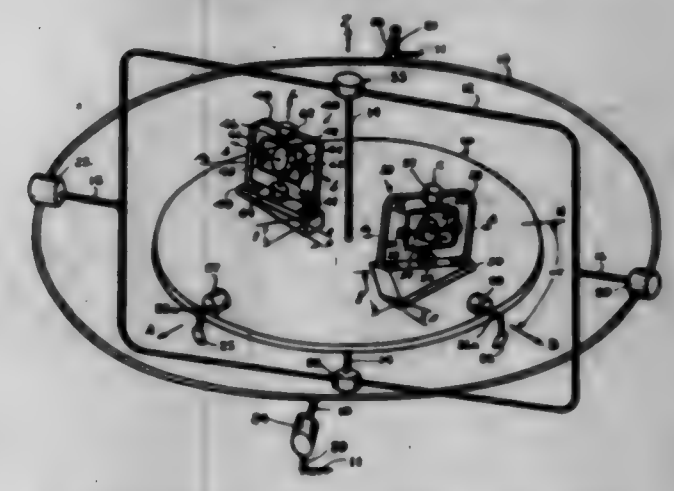
1. In an angular accelerometer, a frame, a mass supported in said frame for rotation about an axis with respect to said frame, a member connected between said mass and said frame and adapted to be twisted during relative displacement between said mass and said frame thereby to vary substantially the natural frequency of vibration of said member, means for maintaining said member in vibration at its natural frequency, and means responsive to vibration of said member to derive indications of changes in said natural frequency.

3,143,892
INERTIAL PLATFORM
Philip W. Chapman, Massapequa, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Filed Mar. 12, 1958, Ser. No. 721,040
5 Claims. (Cl. 74—5.34)



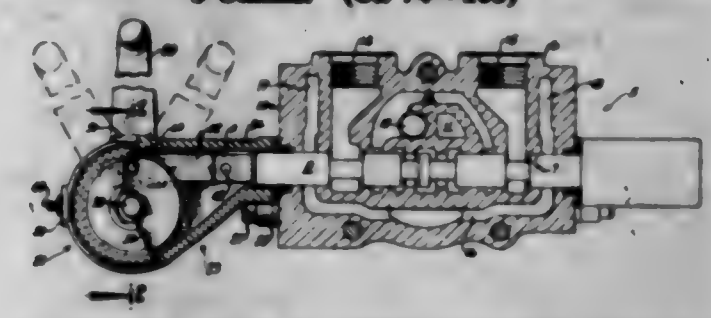
1. In a device of the character described, a frame mounted on an unstable support, a plurality of gyroscopes having substantially parallel spin axes, said gyroscopes being mounted for universal rotation in said frame, pickoff means for detecting relative displacement between said gyroscopes and said frame, means for combining the outputs of said pickoff means to produce signals proportional to the sum and differences therebetween, torquing means for controlling said gyroscopes according to said differences and motive means for driving said frame with respect to said support according to said sum.

3,143,893
ALIGNMENT SYSTEM FOR INERTIAL PLATFORM
Paul S. Jorgensen, Westbury, and Joseph Stutzinger, Syosset, N.Y., assignors to American Bosch Arma Corporation, a corporation of New York
Filed Oct. 24, 1955, Ser. No. 542,437
8 Claims. (Cl. 74—5.34)



1. In an inertial platform device, a platform, a pair of two degree of freedom gyroscopes, means for mounting said pair of gyroscopes on said platform gimbal means for one of said gyroscopes for supporting said gyroscope about a pair of orthogonal axes, said mounting means being adapted to incline said orthogonal axes relative to said platform.

3,143,894
OPERATING LEVER FOR HYDRAULIC CONTROL VALVE
Francis H. Tennis, Milwaukee, Wis., assignor to Hydraulic Unit Specialties Company, Pewaukee, Wis., a corporation of Wisconsin
Filed July 17, 1962, Ser. No. 210,315
3 Claims. (Cl. 74—105)



1. Actuating means for shifting the valve spool of a hydraulic control valve endwise in opposite directions from a predetermined neutral position of the spool, comprising:

(A) a housing having a substantially tubular forward portion that defines a forwardly facing opening at the front of the housing, which opening is adapted to receive an end portion of the valve spool of a hydraulic control valve, and having a rear portion which has holes opening to opposite sides thereof and disposed on a common transverse axis;

(B) means on the front of the housing providing for attachment thereof to the body of a hydraulic control valve;

(C) an operating lever having an end portion disposed wholly to one side of the housing at its rear;

(D) means on said end portion of the operating lever defining a hub which serves to mount the lever on the housing for back and forth rocking motion about an axis fixed with respect to the housing, said hub extending laterally from said portion of the lever through said holes and continuously across the interior of the housing, and comprising

(1) a plurality of axially contiguous hub members that are relatively movable axially and rotatively,

(2) hub retaining means on the axially endmost hub members overlying the opposite sides of the housing to normally prevent axial displacement of the hub from the housing, said hub members serving as spacer means to prevent binding engagement between the hub retaining means and the sides of the housing,

(3) cylindrical bearing means on said hub members rotatably journalled in said holes to support the lever for rocking motion about their common axis,

(4) and a single screw threaded fastening element, coaxially of the hub, to detachably maintain the hub in place on the lever and against axial displacement from the housing, said fastening element releasably holding the hub members against relative axial movement out of contiguous relation;

(E) a link in the housing having a front portion extending forwardly toward said opening and adapted for connection to an end portion of the valve spool of a hydraulic control valve, and having its rear end connected eccentrically to one of said hub members at a location thereon such that the rear of the link is carried either forwardly or rearwardly of the hub axis to move the link lengthwise in opposite directions from a normal position in consequence of rotary movement of said one hub member in opposite directions;

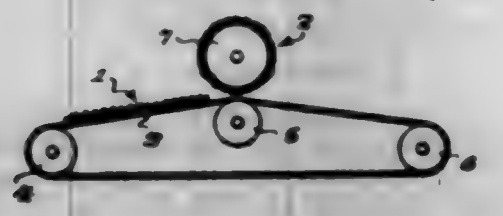
(F) and drive means on said hub members drivingly connecting said link connected hub member with the lever with the latter in any one of a number of different angular positions of adjustment relative to the link connected hub member, said drive means being maintained operative as long as said hub members are held in axially contiguous relation but being rendered inoperative in consequence of the axial separation of the hub members permitted when the single fastening element is loosened, to enable rotational adjustment of the lever relative to the link connected hub member without removal of the hub from the housing and without disturbing the connection between the link and its hub member or the eccentricity of said connection relative to the hub axis.

3,143,895

DEVICE FOR TRANSMITTING MOTION

Norman P. Robie, Hamburg, N.Y., assignor to Electro Refractories & Abrasives Corporation, Buffalo, N.Y.

Filed July 16, 1962, Ser. No. 209,992
8 Claims. (Cl. 74—229)



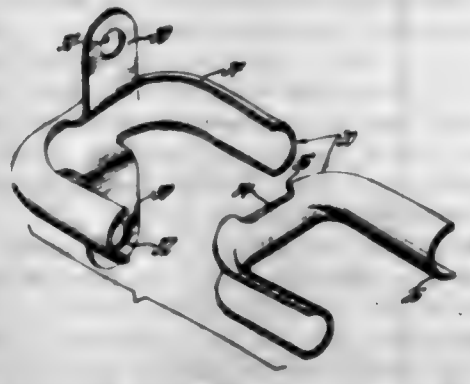
1. A device for transmission of motion from one component to another, one of said components having a surface with a hook fabric adhered thereto and the other component having a surface faced with a material capable of interengaging with said hook fabric, one of said components transmitting power to the other component by intermittently engaging and disconnecting portions of said fabric and material with each other.

3,143,896

BALL NUT RETURN GUIDE

George A. Edwards, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 20, 1962, Ser. No. 181,066
2 Claims. (Cl. 74—459)



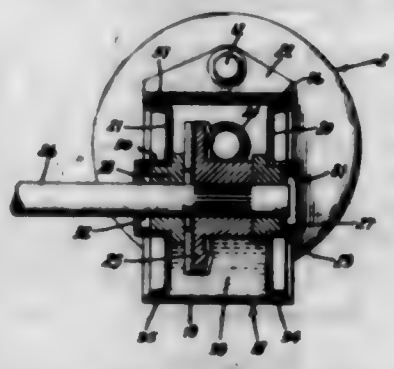
1. An assembly comprising a screw carrying a nut interconnected to the screw through a train of balls utilizing the helical groove of the screw and the internal helical groove of the nut as a race, said race being made endless by a return tube extending diagonally across the body of the nut and having legs accommodated by spaced bores in the nut and opening to said race, said tube being constituted of inner and outer mating elements, the inner element forming an inner portion of the tube, the outer element forming an outer portion of the tube, the outer element being flanged for the accommodation of fastening means, fastening means for securing the tube to the nut, the inner element being retained against radial outward displacemnt solely by said outer element and extending further into said bores thereby to provide deflecting fingers facilitating movement of the balls into and out of said race and the inner and outer mating elements having interlock means operatively engaged to interlock the inner and outer mating elements to prevent relative movement therebetween in directions parallel and transverse to the diagonally extending portion of the return tube.

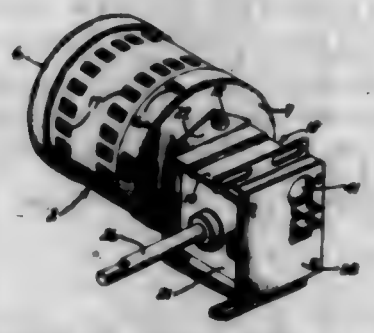
3,143,897

GEAR MECHANISMS AND METHOD OF MAKING THE SAME

Julius A. Kohn, Waldwick, N.J., assignor to General Electric Company, a corporation of New York

Filed May 29, 1962, Ser. No. 198,638
15 Claims. (Cl. 74—606)



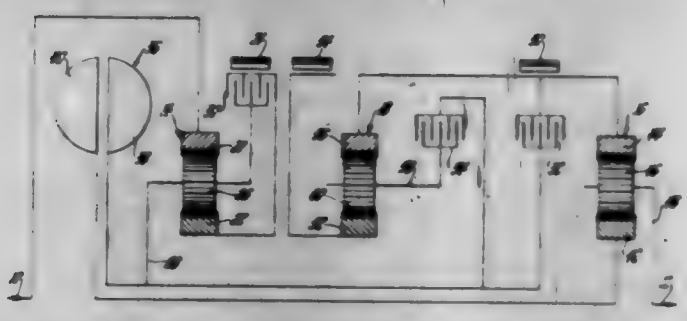


1. The method of manufacturing a gear motor comprising, attaching an open ended gear casing to one end

shield of an electric motor, with the motor shaft extending through a side wall of said casing into the interior thereof and carrying a pinion within said casing, placing an output gear and shaft in said casing with said output shaft extending out of said casing, placing end covers over the open ends of said casing with an unhardened adhesive being applied between said end covers and said casing, and assembling bearings carried by said end covers onto said output shaft, adjusting said end covers and said output gear to place said output gear into proper meshing relation with said pinion and with said bearings aligned by said output shaft, and hardening said adhesive while said end covers are held in the adjusted position, thereby to fix said end covers to said casing in the adjusted position and complete the assembly of said gear motor.

11. In a gear motor including an electric motor having a shaft and at least one end shield, an open ended gear casing secured to said one end shield, bearing means for supporting said motor shaft including a bearing mounted by said one end shield, a drive gear on said motor shaft within said casing, an output gear meshing with said drive gear, an output shaft carrying said output gear, and means closing the open ends of said casing and mounting bearings for supporting said output shaft, said means including end covers carrying said bearings and a layer of non-shrinking structural adhesive material disposed between unmachined surfaces of each end cover and said casing, the layers of adhesive material securing said end covers to said casing and acting as lubricant seals to prevent the leakage of lubricant between said end covers and said casing.

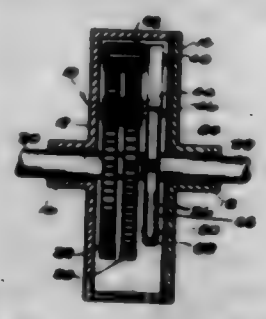
3,143,898
TRANSMISSION
Harold Ivan F. Evernden, Wistaston, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 18, 1961, Ser. No. 140,634
Claims priority, application Great Britain Dec. 1, 1960
12 Claims. (Cl. 74—688)



1. In combination, a plural input gear unit having an output connected to a load, an overdrive gear unit having a predetermined overdrive ratio output and means selectively establishing drive from the output of the overdrive gear unit to one of the inputs so as to cause the load output to be overdriven relative to said other inputs in a ratio that is different from the predetermined overdrive ratio output provided by the overdrive gear unit alone.

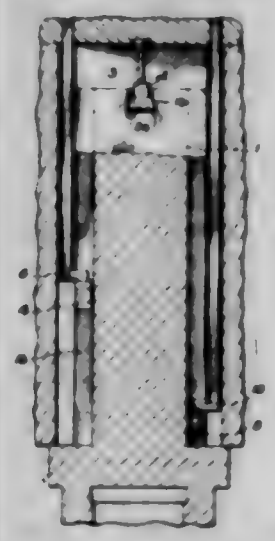
3,143,899
SPEED REDUCER UNIT OR DRIVE
Thomas Roland York, Kloofzicht, Pretoria, Transvaal, Republic of South Africa, assignor to South African Council for Scientific and Industrial Research, Scientia, Pretoria, Transvaal, Republic of South Africa
Filed Jan. 16, 1962, Ser. No. 166,561
4 Claims. (Cl. 74—781)

1. A speed reducer unit which includes a first gear wheel mounted to rotate about an axis; a second gear wheel coaxial with said first gear wheel and having a pitch circle diameter slightly different from that of said first gear wheel and having teeth differing in number from that of said first gear wheel; anchoring means to anchor said second gear wheel; a carrier coaxial with both said gear wheels and mounted to rotate about its axis; and at least one set of toothed planet wheels comprising a first planet wheel connected to said carrier having its teeth simultaneously in mesh with the teeth of said first and second gear wheels and mounted to rotate about



an axis parallel with the carrier axis, and a second planet wheel connected to said carrier circumferentially spaced from said first planet wheel, and bias mounting means urging the second planet wheel and its teeth resiliently into simultaneous engagement with the teeth of both said gear wheels.

3,143,900
TOOL FOR AUTOMATICALLY OPERATED MACHINE TOOLS
Otto Oeckl and Richard Purschke, Munich, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg A.G., Munich, Germany
Filed Mar. 8, 1963, Ser. No. 263,798
Claims priority, application Germany Mar. 27, 1962
4 Claims. (Cl. 77—1)

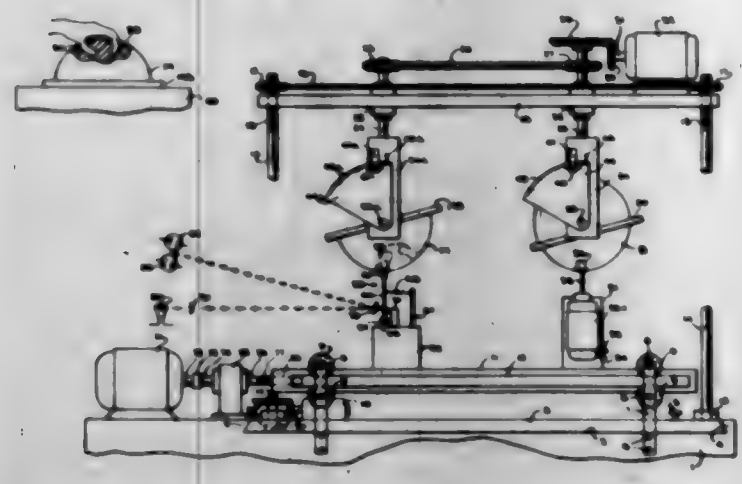


1. A tool for an automatically actuated machine tool such as a drilling machine, milling machine or shaping machine, comprising a tool body, and control contacts on said body for engaging corresponding contacts in a machine tool by which the operating functions of the machine tool are set, such as machine speed, rate of tool feed to the workpiece and depth of cut.

3,143,901
METHOD OF FORMING WORKPIECES
Charles E. Bowtinheimer, 2905 Roman St., Midland, Mich.
Original application July 18, 1958, Ser. No. 749,496, now Patent No. 3,023,647, dated Mar. 6, 1962. Divided and this application Sept. 27, 1961, Ser. No. 141,126
3 Claims. (Cl. 77—32.2)

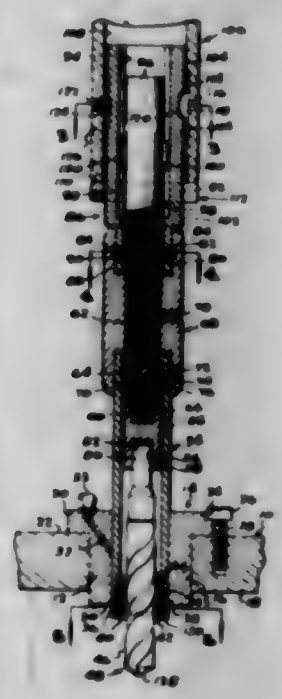
1. The method of cutting curved finger openings in a bowling ball blank in accordance with the natural span and curvature of the prospective user's fingers, said method comprising the steps of forming a mass of material in a semiplastic state to simulate a bowling ball; inserting the prospective user's fingers in said material to form curved finger openings therein; mounting said material

and said blank for conjoint universal movements relative to a cutting tool associated with said blank and to a follower associated with said material moving said blank and said material relatively to said tool and to said follower to cause the latter to enter a finger opening in said



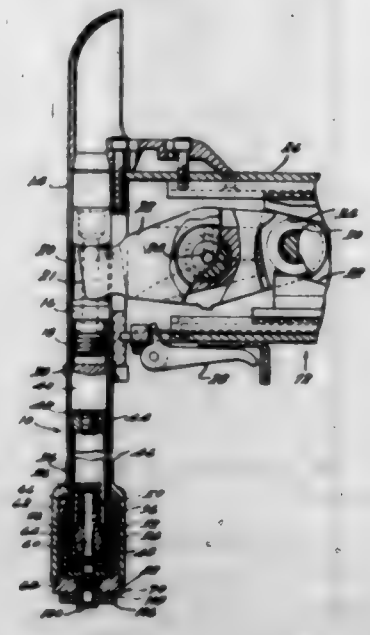
material; and controlling the relative movements of said cutting tool and said blank in accordance with the curvature of the openings formed in said material to cut openings in said blank according to the openings in said material.

3,143,902
DRILLING ASSEMBLY
Gary F. Turner, 8067 Sheridan Road, Kenosha, Wis.
Filed Mar. 1, 1963, Ser. No. 262,152
12 Claims. (Cl. 77—55)



6. A drilling assembly comprising a support, a fixed bushing extending through and fixed to the support, the fixed bushing having near and far ends and a smooth bore extending therethrough, an open-ended tubular shield slidably and rotatably journalled through the bore of the fixed bushing and extending beyond the near and far ends of the bushing, and shield having a tubular bushing fixed therein adjacent to its far end, the tubular bushing having an axial bore extending therethrough, a cutting bit extending slidably and non-rotatably through the bore of the tubular bushing and reaching beyond the far end of the shield and into the shield, and means for rotating the shield and the bit together relative to the fixed bushing.

3,143,903
CRIMP LOCK PULL NOSE ASSEMBLY
George J. Van Hecke, Detroit, Mich., assignor to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 19, 1961, Ser. No. 146,212
8 Claims. (Cl. 78—46)

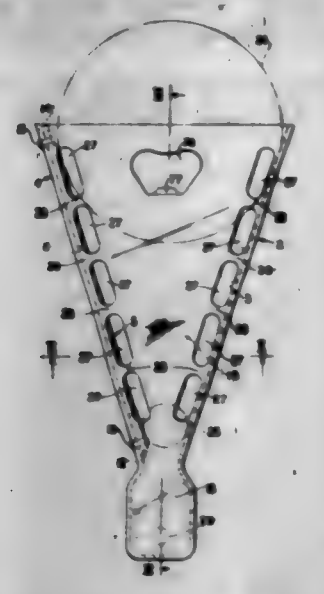


1. Apparatus for applying a fastener which includes a pin having a head and a shank and locking grooves formed in the shank at a position spaced from the head and a collar disposed on the shank at a position radially about the locking grooves, said apparatus comprising an outer shell member having a bore at one end terminating in an axially outwardly radially outwardly tapered surface, a crimping member axially movably disposed in said bore comprising a plurality of circumferentially disposed axially outwardly extending resilient fingers each having at one end a radially inwardly extending crimping portion, said plurality of fingers defining at said one end a frusto-conically shaped, radially outwardly disposed surface matable with said tapered surface of said outer shell member during axial movement of said crimping member in said bore in said outer shell member and being movable radially responsively to axial movement of said crimping member in said bore in said outer shell member, jaw means disposed within said outer shell member for grippingly engaging the shank of the pin of the fastener, means for applying a relative axial force between said jaw means and said outer shell member for effectuating an axial pull on the pin and for effectuating movement of said crimping member axially within said bore in said outer shell member, a collar retainer member disposed within said bore in said outer shell member and having a portion engageable with the collar of the fastener, and spring means disposed within said bore of said outer shell member for urging said collar retainer axially outwardly for engagement with the collar of the fastener.

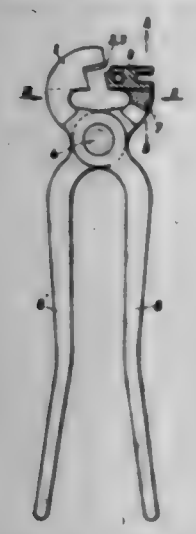
3,143,904
CONTAINER OPENER
John A. Yerkes, New York, N.Y.; Gulda Morrison Yerkes, executrix of John A. Yerkes, deceased, assignor to Gulda Morrison Yerkes
Filed Feb. 27, 1961, Ser. No. 92,010
5 Claims. (Cl. 81—3.4)

1. In a device for gripping and turning screw caps of threaded containers, the combination including a body member having a leading jaw and a trailing jaw mutually disposed to form a crotch defining an angle between 33 and 38 degrees, a smooth cap-gripping surface on said leading jaw, sharp file-like cap-gripping teeth inclined

toward the narrow end of said crotch on said trailing jaw, and a flat portion on said body member above and between said jaws and providing a flat overhead abutment surface for screw caps.



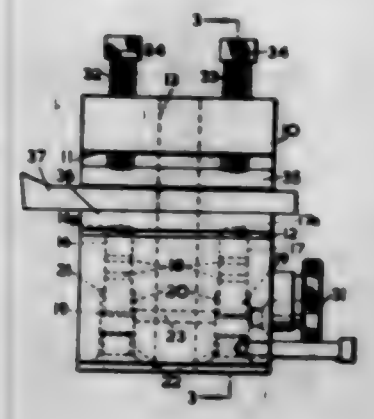
3,143,905
METAL CUTTING TOOL
Walter Ramseier and Pasquale Personeni, Schlieren, Switzerland, assignors to H. A. Schlatter Aktiengesellschaft, Zurich, Switzerland
Filed Nov. 17, 1960, Ser. No. 69,944
5 Claims. (Cl. 82—4)



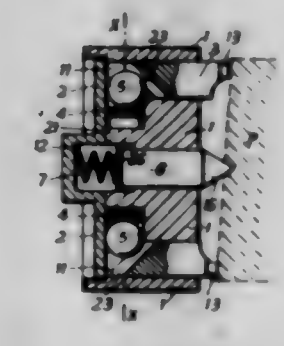
1. A tool for trimming the flash of cylindrical work pieces consisting of a first handle member, a gripping jaw on said first handle member, said gripping jaw having spaced walls defining a recess therebetween, said walls having substantially V-shaped gripping surfaces, a second handle member, pivot means for pivotally connecting said first and second handle members to each other, a cutting jaw on said second handle member confronting said gripping jaw, and cutting means on said cutting jaw adjustable relative to said aligned gripping surfaces, said cutting means having a cutting surface disposed substantially parallel to the opposed gripping surfaces and confronting said recess.

3,143,906
TOOL POST FOR A MACHINE TOOL
Alfred Smith, Bulkington, near Nuneaton, England, assignor to Comet Appliances Limited, Bulkington, near Nuneaton, England
Filed Apr. 15, 1963, Ser. No. 273,996
10 Claims. (Cl. 82—37)

1. A tool post adapted to be held in position in a machine tool for supporting a cutting tool relatively to a workpiece mounted in the machine tool, the tool post comprising a body formed with spaced parallel surfaces between which the shank of the cutting tool is adapted to be mounted, a pair of posts for engaging one side of the tool shank, each said post having an independent screw-threaded engagement with said body and adapted to extend through one of said parallel surfaces, said body provided with a pair of parallel bores extending through the other of said pair of parallel surfaces, respective plungers in said bores, and means for applying fluid pressure to said plungers for urging them into engagement with the shank of the tool whereby to clamp the said shank against the opposed ends of said posts.

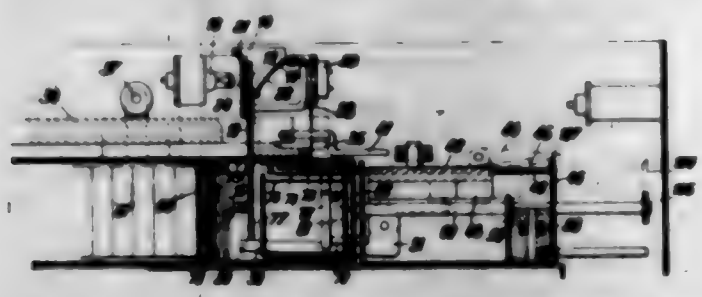


3,143,907
FACE DRIVING CHUCKS FOR MACHINE TOOLS
Giovanni Ulrich, 14 Via Forcellini, Padua, Italy
Filed July 14, 1959, Ser. No. 826,951
Claims priority, application Italy July 25, 1958
3 Claims. (Cl. 82—40)



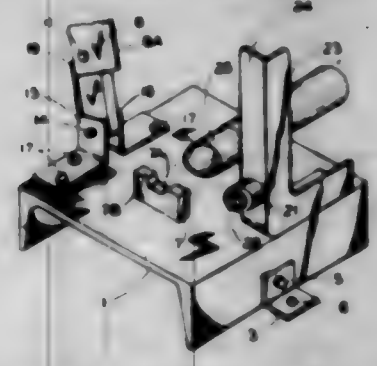
2. A driving chuck, comprising a cylindrical body having a rear central boss, an axial hole and a cylindrical recess enclosing said boss, said boss having a circular shoulder in said hole; a cover closing said recess and engaging said boss, said body further having a plurality of holes equidistant from and parallel to said axial hole and angularly disposed relatively to each other, driving pins in the last-mentioned holes, each of said pins having a front chisel-shaped end displaced in relation to the pin axle and a rear angular end with two plane walls forming an inclined dihedral; a ring freely mounted in said recess and having an inner diameter which is larger than that of said boss, balls mounted in said recess externally of said ring in correspondence with said pins, said balls being located between the rear dihedrals of said pins, said cover and the outer surface of said ring, a centering pin slidable in said axial hole and having a workpiece-centering front tip and a rear end having a projection adapted to engage said shoulder, and a coiled spring engaging said cover and the rear end of said centering pin.

3,143,908
CASH BOX HAVING INSERTION SLOT FOR A MULTI-PART SALES RECORD SLIP
Josef Schildt, Ruderich, near Duesseldorf, and Wilhelm Fischer, Durach, near Kempten, Allgau, Germany, assignors to C. & A. Brenninkmeyer G.m.b.H., Duesseldorf, Germany
Filed May 17, 1961, Ser. No. 110,737
Claims priority, application Germany Dec. 15, 1960
16 Claims. (Cl. 83—96)



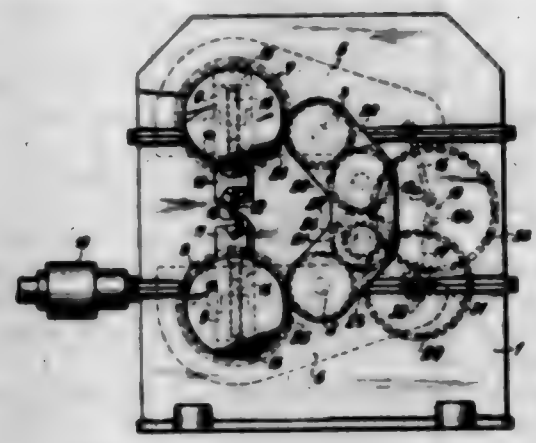
1. Cash box of the type having an insertion slot for multi-part sales slips or labels in the form of cards or the like having an actuating marking in an off-center location, said cash box comprising a cutting device arranged in a housing for severing a stub, a collection container in said housing disposed in receiving relationship to said slot, stub stacking means extending into said container, and control means in said slot operative to initiate a sequence of operations of the components in said housing, said control means including circuit means having a first control device associated with said slot and operative in response to the insertion of one said card in said slot, and a second control device operatively associated with said slot and responsive to said actuating marking being located in a predetermined one of different possible positions to permit the continued operation of said circuit means to actuate said cutting device.

3,143,909
CUTTING DEVICE
Arthur W. Ehlert, Box 181, Acworth, Ga.
Continuation of application Ser. No. 26,342, May 2, 1960. This application Mar. 11, 1963, Ser. No. 265,810
1 Claim. (Cl. 83—167)



A wire cutting device for simultaneously measuring, cutting and accumulating a plurality of straight strands of wire, said device comprising a support base, a fixed cutter element mounted on said base, an indented cutting surface of a length several times the diameter of the wires to be cut and formed on the edge of said fixed cutter element remote from said base, a pair of brackets having oversize holes therein for receiving mounting bolts whereby said brackets are adjustably mounted on said base, a movable cutter element pivotally supported by said brackets and movable alongside said indented cutting surface of said fixed cutter in shearing relation, a guide elements secured to said base and disposed generally alongside the plane of movement of said movable cutter element and on the side thereof opposite from said fixed cutter element, said guide element having a guiding surface disposed at a slight angle to the plane of movement of said movable cutter element whereby collision therebetween is avoided and whereby a gentle and positive guiding action of said movable cutter is effected to insure that movement of said movable cutter alongside said fixed cutter is sufficiently close to effect positive and efficient cutting, said guide element being provided with a plurality of oversized holes for receiving mounting bolts whereby said guide element is adjustably mounted on said base, collector means on said base adjacent said fixed cutter element, said collector means being of hollow tubular configuration with its axis disposed in a direction generaly normal to the direction of movement of said movable cutter element and having an internal diameter somewhat greater than the length of said cutting edge to render said collector effective to receive and to retain the wires cut during a plurality of cutting operations, and hollow tubular abutment means slidably mounted within said collector means in adjustable telescopic relation and having a transverse abutment surface therein for engaging the ends of wires inserted into said collector means from the end thereof adjacent said cutter elements so as to determine the length of wires to be cut.

3,143,910
ROTATING SHEARS FOR CUTTING CONTINUOUSLY MOVING ROLLED MATERIAL
Karl Greis, St. Ingbert, Saar, Germany, assignor to Moeller & Neumann, St. Ingbert, Saar, Germany
Filed Apr. 11, 1963, Ser. No. 272,432
Claims priority, application Germany Apr. 12, 1962
4 Claims. (Cl. 83—311)



1. In metal shears having rotating shear knives the combination of a housing, support means oppositely mounted in said housing for swinging movement relative to each other, knife means rotatably mounted on said support means and adjustable in length to provide varying cutting circles during rotation of said knife means, first drive means for rotating said knife means at a continuous adjustable speed, second drive means connected to said first drive means for moving said support means, said second drive means including connecting means secured to said support means and adapted to vary the stroke of said support means in reference to variations in the length of said rotatable knife means.

3,143,911
ROTARY NIBBLER
Frank K. Dickerson, Wichita, Kans., assignor to The Boeing Company, Wichita, Kans., a corporation of Delaware
Filed July 28, 1961, Ser. No. 127,566
10 Claims. (Cl. 83—350)

1. A rotary nibbler operative to shape metal sheets and parts, comprising:

an elongated nibbler body;

support means rotatably supporting said body at least at one end;

a stationary bushing supported and secured in position by said support means and receiving a portion of said nibbler body;

said bushing having a flat work receiving face disposed in a plane substantially at right angles to the axis of said nibbler body forming a surface for supporting such metal sheets and parts as they are fed to said nibbler body;

said bushing having a sharpened cutting interior edge bordering said work receiving face;

said nibbler body having a portion thereof formed with a helical thread generally like a single buttress thread, forming land surfaces separated by spiral flutes;



said helical thread partly being disposed in said bushing and partly being disposed at the end of said bushing having said work receiving face whereby as the nibbler body is rotated such metal sheets and parts are cut as they are supported on said work receiving face and fed to said nibbler body;

said thread having a sharpened cutting edge on its side toward said work receiving face of said bushing, said cutting edges on said thread and said bushing having only operating clearance, said thread and said bushing having radial clearances back from said cutting edges; and

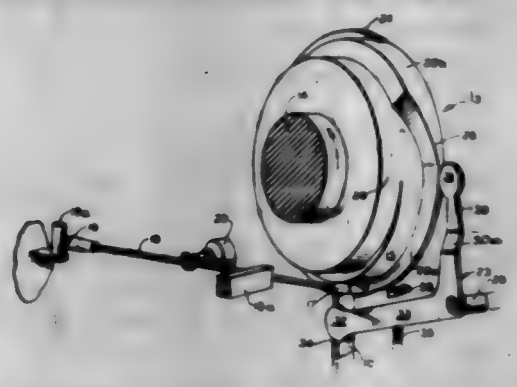
power means connected with said nibbler body operative to rotate said body in a direction so that said cutting edge of said thread moves toward said work receiving face of said bushing.

3,143,912

VERY HIGH SPEED CAM ACTUATED PUNCH WITH INTERPOSER BETWEEN PUNCH AND CAM

Norman A. Vogel, Saratoga, and William W. Woodbury, Palo Alto, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,673
6 Claims. (Cl. 83—572)



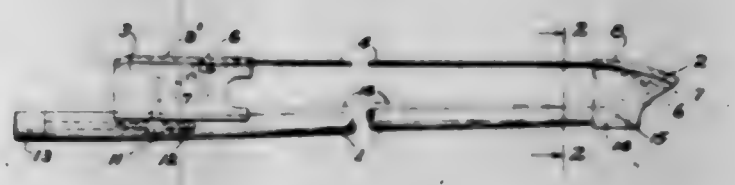
1. In a punch mechanism wherein a punch element is movable into a die; punch actuating mechanism comprising a rotating cam having a rise-fall cam face thereon opposite to and spaced endwise clear of the punch element, an interposer guide surface rotating with the cam and laterally adjacent the rise-fall cam face, and an interposer movable from the guide surface laterally transversely of the direction of movement of the rise-fall cam face past the interposer onto the rise-fall cam face to a position between the punch element and the rise-fall cam face, the interposer being of a height radially of the cam, when on the high point of the rise-fall cam face, to move the punch element into the die.

3,143,913

VIOLIN-BOW

Julien A. Bried, P.O. Box 739, Berkeley 1, Calif.

Filed May 28, 1962, Ser. No. 198,285
10 Claims. (Cl. 84—282)



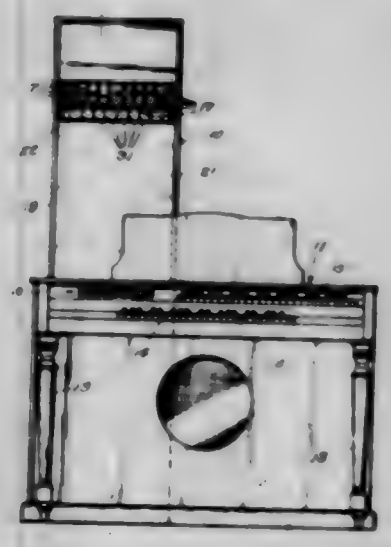
1. A violin bow in which the playing strands are impregnated with a solution of a normally slightly tacky pitch-like substance.

3,143,914

ORGAN DRAWBAR DEMONSTRATOR DEVICE

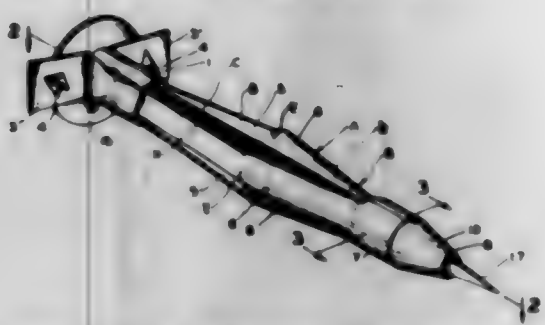
Charles S. Gamble, 564 N. Henderson St., Galesburg, Ill.

Filed Dec. 11, 1961, Ser. No. 158,346
7 Claims. (Cl. 84—343)



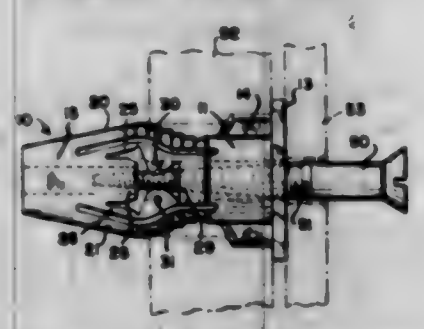
1. For use in conjunction with an organ having drawbars adjacent the keyboard thereof mechanism for remote indication of organ drawbar positioning, comprising: an upright frame adapted to be positioned adjacent an organ; a plurality of demonstrator drawbars movably mounted on said frame in viewing position, said demonstrator drawbars corresponding in number and positioned to the drawbars adjacent the keyboard of the organ; and connecting means on said frame adapted to join each of the organ drawbars to its corresponding demonstrator drawbar whereby movement of each of the drawbars on the organ is transferred through said connecting means to its corresponding demonstrator drawbar in viewing position.

3,143,915
ANCHOR BOLTS
Helen E. Tendler, St. Louis County, Mo., assignor to Anton Tendler, doing business as Vic-Ten Tool & Machine Co., St. Louis, Mo.
Filed Oct. 27, 1961, Ser. No. 148,074
3 Claims. (Cl. 85—71)



1. An anchor bolt comprising an elongated tubular sleeve formed of malleable metal and including first and second axially spaced collars which are integrally connected by a plurality of axially extending bands, said first collar having a plurality of outwardly extending wall-engaging flanges, wall penetrating prong means integrally formed on each of said flanges and extending toward said second collar, each of said axially extending bands consisting of two angularly inclined relatively straight sections, one of said sections connected to said first collar and the other of said sections connected to said second collar, the point of connection of said two band sections forming a common apex section having a preformed indentation, the band section connected to the second collar having a longer axial length than the band section connected to the first collar, the band section connected to the second collar also having a minimum circumferential width which is greater than the maximum circumferential width of the band section connected to the first collar, an internally threaded nut rigidly and permanently secured within one end of the second collar, said nut having an external convergently tapered end portion projecting axially from the second collar in a direction away from the first collar, and a bolt axially extending through the sleeve, said bolt having a threaded portion adapted for removable engagement with the nut, said bolt being integrally formed with a piercing point having a plurality of flat surfaces so arranged that the lines of intersection between adjacent flat surfaces are approximately continuations of the tapered end portions of the nut, said piercing point being adapted to extend through and project beyond the nut, whereby the bolt, nut and sleeve can be driven as a single unit through an initially imperforate wall-forming element such as wall-board, plaster, plywood or the like.

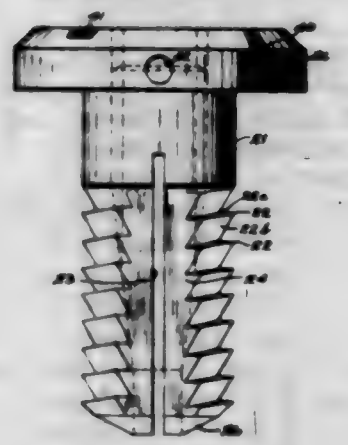
3,143,916
COLLAPSIBLE SELF-ANCHORING DEVICE
Arthur A. Rice, Herricks, New Hyde Park, N.Y., assignor to A. A. Rice, Inc., Bayside, N.Y., a corporation of New York
Filed Apr. 3, 1962, Ser. No. 184,693
2 Claims. (Cl. 85—71)



1. A self-anchoring fastening device fabricated of a substantially resilient plastic material comprising:

(*a*) a substantially annular head portion having an axially extending bore therethrough;
(*b*) a substantially annular body portion having an axially extending bore therethrough; said bore being in alignment with the bore of said head portion and generally narrower than the bore through said head portion;
(*c*) a pair of outer rib members integrally formed with said head portion at one end thereof and with said body portion at the other end thereof;
(*d*) a pair of inner rib members integrally formed with said head portion at one end thereof and with said body portion at the other end thereof, said outer and inner rib member being in overlying spaced juxtaposed relationship;
(*e*) a protuberance on each of said inner rib members along the inner surface thereof;
(*f*) said inner rib members extending from said head portion at the forward end thereof to said body portion medially therealong to form a shank portion in said body portion, said shank portion being dimensioned in relation to and in cooperation with said protuberances to be seated upon and locked against said head portion; and
(*g*) a central orifice form between said head portion and said body portion whereby said shank portion is seated upon the forward end of said head portion and said inner and outer ribs are outwardly flared upon the application of compression upon said fastening device.

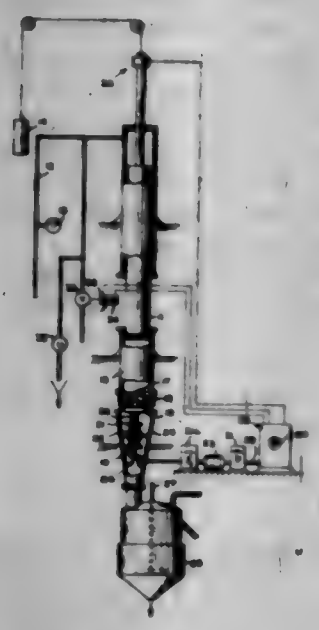
3,143,917
EXPANSIBLE STUD MEMBER FOR AN UNTHREADED HOLE
Guy O. Conner, 1118 Mount Vernon Blvd., Cleveland Heights 12, Ohio
Filed Oct. 3, 1960, Ser. No. 60,142
3 Claims. (Cl. 85—83)



1. A fastening device to be received within a smooth cylindrical opening comprising, a generally cylindrical body having a holding portion at one end and a head portion at the other end, said body having a longitudinally extending central bore, said bore having an inwardly tapered portion at said one end and being threaded at the other end, said holding portion being provided with at least two radial slots extending radially outwardly from the bore and longitudinally from said one end of the body to provide a plurality of circumferentially spaced segments having semicylindrical gripping surfaces, said gripping surfaces being provided with a plurality of outwardly projecting arcuate ridges for deforming engagement with the interior surface of said opening, that portion of the surface of said segments adjacent each of said slots being defined generally by a plane normal to the radius disposed in the plane of each slot of the fastener body and passing below

the roots of the arcuate ridges such that the ridges are circumferentially shorter than the flats formed by the planes, the ends of said arcuate ridges being also defined by said plane, and longitudinally movable expander means contained within said bore, said expander means having a tapered portion co-acting with said tapered portion of the bore and a threaded portion co-acting with the threads in the bore for moving said segments radially outward.

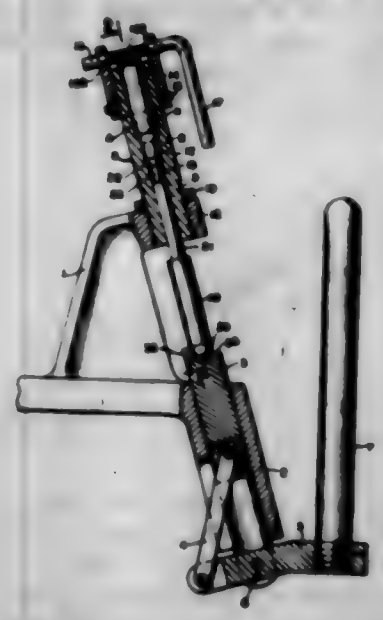
3,143,918
POWDER FORMING APPARATUS
Nicolas de Maksy, Rio de Janeiro, Brazil
Filed June 28, 1961, Ser. No. 120,209
3 Claims. (Cl. 86—1)



1. Apparatus for producing disc shaped powder elements of uniform size from a colloided mass of powder and solvent comprising a reciprocable piston, a die cylinder containing the colloided mass, a die having a plurality of openings therein located at one end of said die cylinder, hydraulic means for urging said piston into said die cylinder to cause the colloided mass to be extruded through said openings, a plurality of revolving blades adjacent the bottom of said die which cut the extruded powder into thin discs, means for controlling said hydraulic urging means in response to the speed of the stroke of the piston and the rotational speed of said blades, said controlling means including speed difference responsive means which receives information as to any variation in a predetermined ratio between the speed of the stroke of the piston and the blade speed, speed adjusting means for the piston, and means for transmitting information relative to said variation from the speed difference responsive means to the speed adjusting means so as to change the speed of the stroke of the piston to conform said piston speed to said predetermined ratio relative to the blade speed.

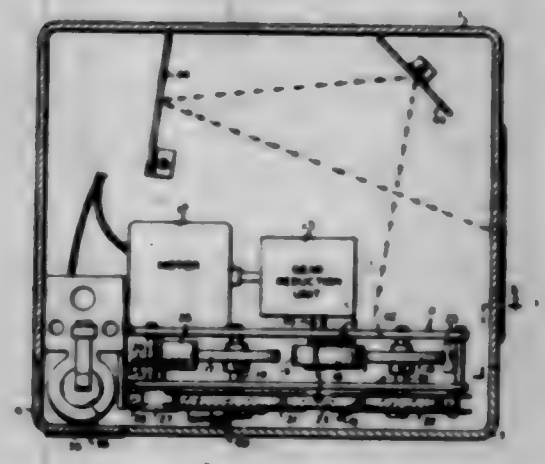
3,143,919
APPARATUS FOR RESHAPING THE NECKS OF CARTRIDGE CASES
Walter E. Estes, 211 W. Kansas St., Midland, Tex.
Filed Jan. 29, 1963, Ser. No. 254,767
4 Claims. (Cl. 86—23)

2. Apparatus for reshaping and aligning the necks of cartridge cases comprising a cartridge case holder having a body receiving chamber, a neck receiving chamber and a bore in alignment with said chambers, means for maintaining said holder rigidly stationary, an elongated reshaping tool mounted for reciprocation relative to and snugly fitting said bore throughout the major portion of the length of said tool, said tool having a neck-reshaping end portion, and means for forcing said end portion through said bore and into the cartridge case neck to align the



same with said bore while said neck is confined within said neck-receiving chamber.

3,143,920
MOTION PICTURE VIEWER
Jerry D. Hawkins, 16 Lake Shore Drive, Massapequa, N.Y.
Filed Apr. 7, 1958, Ser. No. 726,952
11 Claims. (Cl. 88—24)

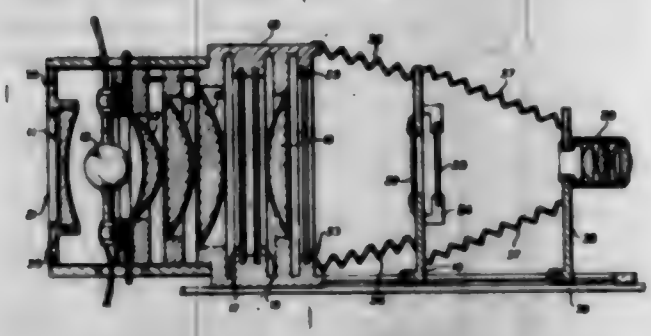


1. A portable motion picture viewer comprising a carrying case having a projection screen, in its front wall, reel holding and projecting mechanism adjacent a side wall of the case and projecting a beam along an axis extending substantially parallel to the side wall and adjacent the same, a mirror toward the front of the case and reflecting the said beam across the said case to its opposite side wall, a mirror also toward the front of the case and adjacent the said opposite side wall reflecting the beam rearwardly of the case, and a third mirror toward the rear of the case again reflecting the said beam onto the projection screen.

3,143,921
PHOTOGRAPHIC ENLARGER SYSTEM
John W. Russell, 57 Fremont Road, North Tarrytown, N.Y.
Filed Mar. 30, 1960, Ser. No. 18,729
6 Claims. (Cl. 88—24)

1. A photographic enlarger system adapted for use with low-speed photosensitive material comprising a lamp, a condenser system comprising a plurality of condenser lenses, a dichroic rear mirror having a concave first surface positioned to reflect a substantial percentage of that portion of the spectrum, about 1000 A. wide centered

at about 3800 A., to which the said material is sensitive, through said lamp and into said condenser system, means for filtering out a substantial percentage of the non-usable portion of the spectrum, at least a majority of the lens



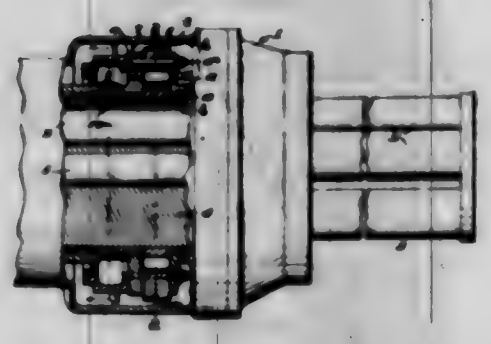
and filter surfaces being coated for low reflection and for maximum admittance of said portion of the spectrum to which the said material is sensitive, and an enlarger lens positioned to receive the light band transmitted by both said condenser system and said means for filtering.

3,143,922

VANE TYPE ROTARY MOTOR FOR GUN

Samuel Altschuler, Woodland Hills, Calif., and Wayne F. Ridenour, Chicago, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed May 31, 1962, Ser. No. 199,581
4 Claims. (Cl. 89—12)



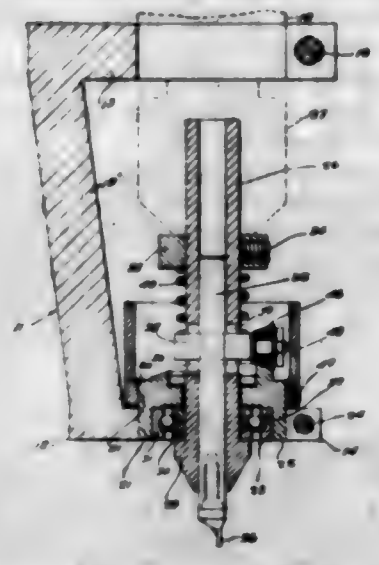
1. In combination, a powder gas motor for an automatic gun comprising an outer housing, a stationary housing within said outer housing, there being an annular manifold in said stationary housing, a fixed housing in said stationary housing, a rotor mounted for rotation within said inner housing, there being an annular chamber formed between the outer peripheral surface of said rotor and the inner peripheral surface of said fixed housing, a cluster of circularly arranged gun barrels supported in said rotor for rotation therewith, there being a radially disposed port in each said gun barrel and communicating with said manifold and a series of symmetrically disposed ports communicating between said manifold and said annular chamber, means dividing said annular chamber into a series of segmented chambers comprising a series of symmetrically spaced bosses integral to the outer peripheral surface of said rotor, each said boss having inclined edges, sealing means between the outer face of each said boss and said inner peripheral surface of said fixed housing comprising a recess in each said boss and a wiper housed in each recess and normally wiping said inner peripheral surface of said fixed housing and means housed in said fixed housing for opening and closing said ports between said manifold and said annular chamber, said last named means being operated by said bosses.

3,143,923

TURBINE BLADE CUTTING TOOL ATTACHMENT

Edward Krzysczak, 1352 N. St. Louis Ave., Chicago, Ill.

Filed May 17, 1963, Ser. No. 281,186
5 Claims. (Cl. 90—31)



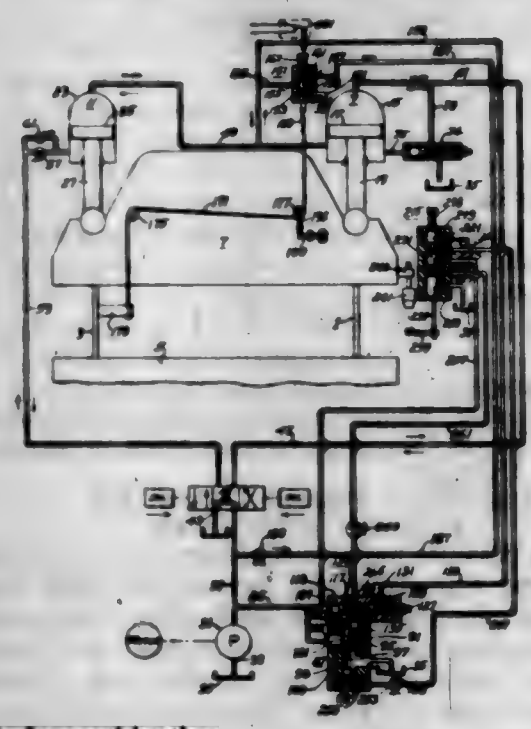
1. A turbine blade cutting tool comprising a bracket member having top and bottom arms and means rigidly connecting said arms, means to clamp the top arm to the spindle guide of a milling machine, a bushing member mounted in said bottom arm, a shaft guide sleeve extending rotatably through said bushing member and adapted to be clamped in the chuck of the milling machine, a cutter shaft slidably mounted in said sleeve and being provided at its end with an offset cutting blade, means preventing rotation of said shaft relative to said sleeve, said bushing member having a cam-shaped top edge comprising a relatively low portion and a relatively high portion opposite said low portion, follower means on the cutter shaft engaging said top edge, and spring means biasing said follower means into continuous engagement with said top edge.

3,143,924

CONTROL MEANS FOR SERIES CONNECTED CYLINDER DRIVE ASSEMBLIES

Eugene W. Pearson, Orinda, and Rolland A. Richardson, Alameda, Calif., assignors to Pacific Industrial Manufacturing Co., a corporation of California

Filed July 17, 1962, Ser. No. 210,489
16 Claims. (Cl. 91—171)



10. In combination
a press brake having a series hydraulic drive system for

the ram of said press brake, said system comprising a pair of cylinder drive assemblies including

a master drive assembly,

a slave drive assembly,

a supply line to said master drive assembly,

a flow line from said master drive assembly to said slave drive assembly,

means for supplying liquid to said series hydraulic drive system to simultaneously drive the pistons of said cylinder drive assemblies, and

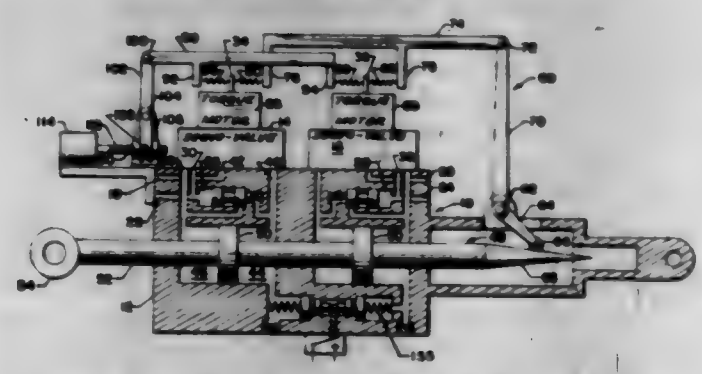
means for developing full load rating force intermediate said series connected cylinder drive assemblies while limiting maximum force to each of the pistons of said series connected cylinder drive assemblies to a value substantially less than the full load rating of said press brake.

3,143,925

SERVO MECHANISM

Martin P. Wolpin, Tonawanda, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.

Filed Oct. 11, 1961, Ser. No. 144,474
1 Claim. (Cl. 91—367)



A servo mechanism comprising a body having an actuator reciprocally mounted therein, said actuator having at least one piston portion and said body presenting chambers on either side thereof for effecting movement of said actuator, a servo valve associated with said body and having fluid pressure passages connected to said chambers, said servo valve also including a movable flapper for effecting differential pressure in said passages and a torque motor for moving said flapper, a feedback link spring connected to said flapper and connected to said actuator for movement in coordination therewith, secondary control means spring-connected to said flapper for biasing the same, said secondary control means including an electric motor and irreversible mechanism driven thereby for maintaining secondary control effect regardless of power interruption, and auxiliary secondary control means including irreversible mechanism spring-connected to said flapper, the spring constants of the two spring connections between the secondary control means and the finger and the auxiliary control means and the flapper being different to permit full trim authority to be achieved by either regardless of failure of either of such secondary control means.

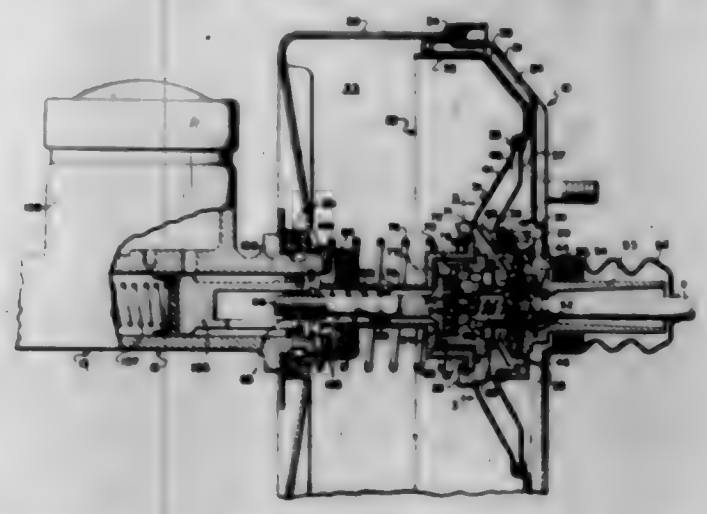
3,143,926

BOOSTER BRAKE MECHANISM

William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware

Filed Oct. 7, 1960, Ser. No. 61,220
10 Claims. (Cl. 91—369)

1. A fluid pressure motor mechanism comprising a casing, a pressure responsive unit forming therewith a variable pressure chamber, a valve mechanism, comprising a manually operable member, movable upon initial movement of said manually operable member from a normal off position to connect said variable pressure chamber to a source of pressure to operate said pressure responsive unit, a push rod projecting from said pressure responsive unit and forming a member to be operated, a spring surrounding said rod and engaging at opposite ends against said rod and said pressure responsive unit and forming means for transmitting forces from said pressure responsive unit to said rod when resistance to movement of said rod is below a predetermined point, said spring being yieldable when said resistance increases above said predetermined point, said rod being axially movable relative to said



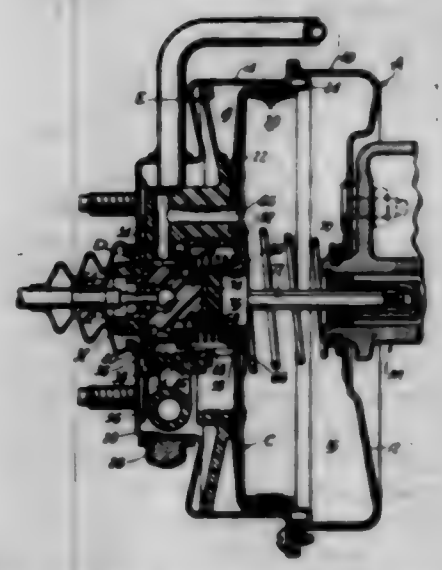
pressure responsive unit, and a deformable body engaging at one side against said push rod and at its opposite side against said manually operable member and said pressure responsive unit for the transmission of forces from said unit and said manually operable member to said push rod independently of said spring when said spring yields when resistance to movement of said rod increases above said predetermined point.

3,143,927

PLASTIC GUIDE FOR DIAPHRAGM

Charlie N. French and Richard H. Reeback, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

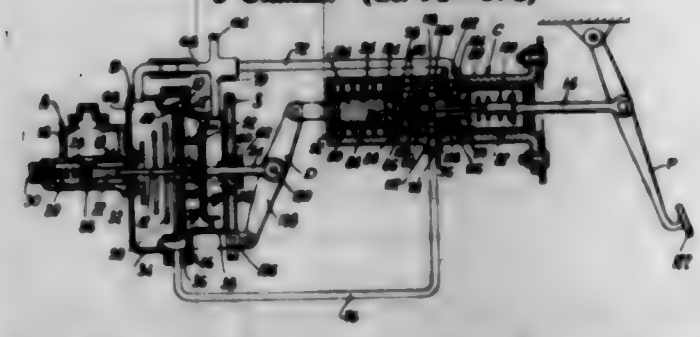
Filed June 4, 1962, Ser. No. 199,827
3 Claims. (Cl. 91—376)



1. A fluid pressure servomotor for driving an axially guided driven member comprising: a housing having an axially extending chamber, said driven member being positioned axially of one end of said housing; a flexible movable wall in said chamber dividing said chamber into opposing power chambers, said flexible movable wall having a driven portion which pivotally abuts said driven member and is nonpivotally connected to said flexible movable wall; valve structure carried by said flexible movable wall for controlling the differential pressure across said flexible movable wall, said valve structure having a force transmitting control element projecting out of the opposite end of said housing from said driven member and whereby

actuating force is applied to said driven member; and a plastic guide ring fixed to said flexible movable wall on its side opposite to said driven member and bearing against the sidewalls of said axially extending chamber to overcome lateral forces that are produced on said flexible movable wall by said force transmitting control element.

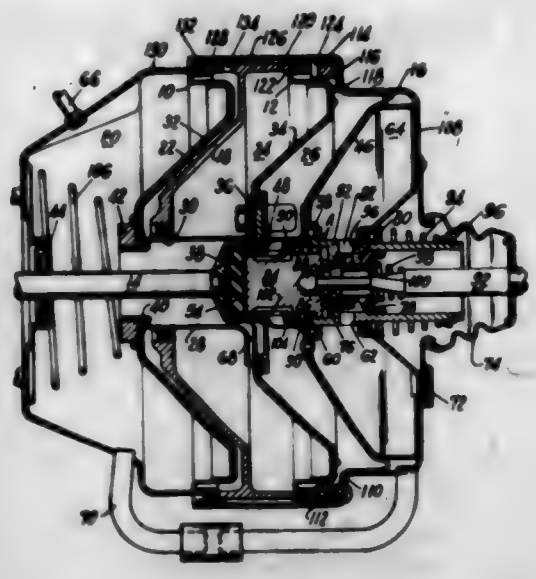
3,143,928
SERVOMOTOR CONTROL SYSTEM
Dale S. Wahlstrom, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Nov. 30, 1961, Ser. No. 156,058
3 Claims. (Cl. 91—391)



1. In a servomotor control system: a fluid pressure motor housing adapted to be fixed to a stationary support, opposing movable walls in said housing defining a variable pressure chamber therebetween, a control valve housing adapted to be spaced apart from said fluid pressure motor housing, said valve housing having a control port for communication with said variable pressure chamber, means for attaching said valve housing to a stationary support, said valve housing having a normal position in said means from which it is movable in a forward direction, said valve housing having valve means therein including a control member having a normal position therein from which it is moved forwardly to increase the pressure in said control port, said valve housing having a forwardly extending reaction chamber with a rear end wall, said rear end wall having an opening communicating with said control member, a block of pressurizable elastomeric material positioned in said reaction chamber against said end wall, a reaction member positioned against the front surface of said block of pressurizable material, a reactionary leverage system transferring force from one of said movable walls in a rearward direction upon said reaction member to oppose actuating movement of said control member, and abutment means for limiting rearward movement of said valve housing.

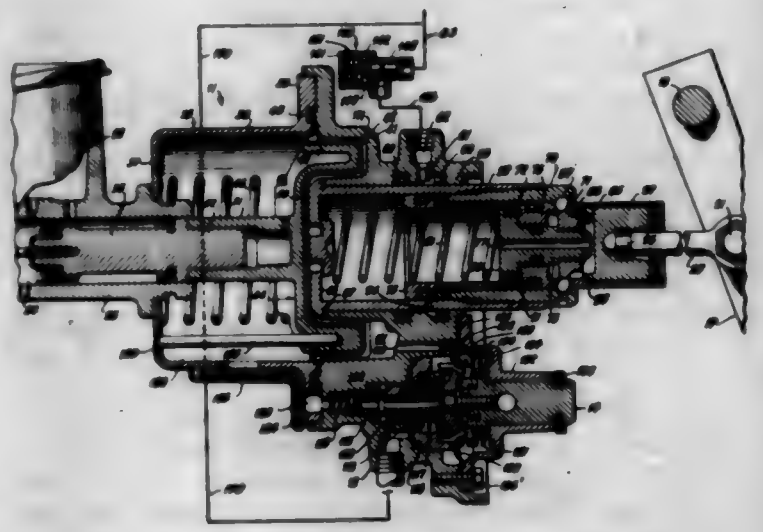
3,143,929
FULL POWER FLUID PRESSURE SERVOMOTOR CONSTRUCTION
Robert R. Hager, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,481
3 Claims. (Cl. 91—391)

1. In a fluid pressure servomotor: a servovotor housing having a forwardly and rearwardly extending chamber therein, a tubular control valve housing in said chamber, said control valve housing having an internal control chamber opening out of its forward end, a structure the internal sidewalls of which surround the forward end of said tubular control valve housing with the internal bottom surface of said structure spaced forwardly of said tubular control valve housing, a control member positioned in said control chamber, said structure having a generally radially extending flange spaced radially outwardly of said tubular valve housing, a diaphragm having a radially inner section fastened to said tubular valve housing, an intermediate section fastened to said flange of said structure, and an outer section fastened to said servomotor housing in such manner as to allow forward and rearward relative movement between said tubular



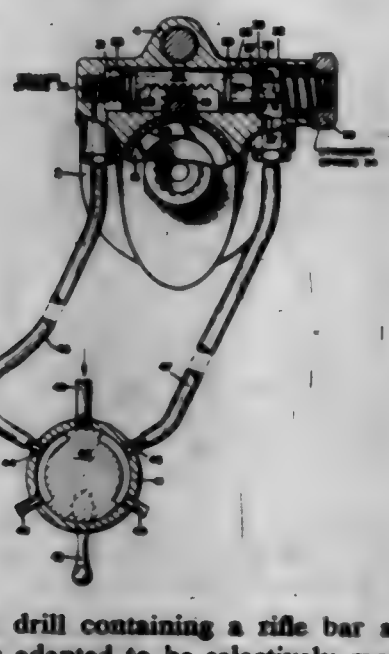
valve housing, said structure and said servomotor housing to which said diaphragm is fastened, and valve means operated upon forward motion of said control member.

3,143,930
FLUID PRESSURE MOTOR MECHANISM
David T. Ayers, Jr., Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Apr. 30, 1962, Ser. No. 191,143
10 Claims. (Cl. 91—391)



1. A fluid pressure motor mechanism comprising a pressure responsive unit having a pressure chamber at one side thereof, a valve mechanism connected between said pressure chamber and a source of pressure and operable for supplying fluid pressure to said pressure chamber to move said pressure responsive unit, a pedal having a first normal position engaging said valve mechanism and movable from such position to operate said valve mechanism, pedal control means including force generating means operable for moving said pedal to a second normal position disengaged from said valve mechanism and for mechanically connecting said pedal to said pressure responsive unit, said force generating means including movable means having a surface exposed to pressure in said source to normally maintain said force generating means inoperative, and means exposed to pressure in said source and operative when said pressure drops to a predetermined point for exposing said surface to atmospheric pressure.

3,143,931
ROCK DRILL ROTATION SELECTION MECHANISM
Martin Wormsen, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 5, 1962, Ser. No. 242,397
4 Claims. (Cl. 91—467)



1. In a rock drill containing a rifle bar and rotation selection means adapted to be selectively moved to various positions for causing the rifle bar to rotate the drill bit in either rotary direction or to stop the rifle bar from rotating the drill bit, the combination comprising:

(*a*) a fluid-operated motor operatively connected to said rotation selection means for moving said means to its various selective positions, said motor being movable to three positions including two end positions and an intermediate position;

(*b*) fluid means connected to the opposite ends of said motor for selectively applying fluid pressure to either of said ends to move the motor to its end position remote from the motor end receiving fluid pressure;

(*c*) spring means in said motor arranged to return said motor exactly to its intermediate position when the fluid pressure is shut off to both ends of the motor and both ends are vented;

(*d*) said motor including a reciprocating piston slidably movable in a cylinder;

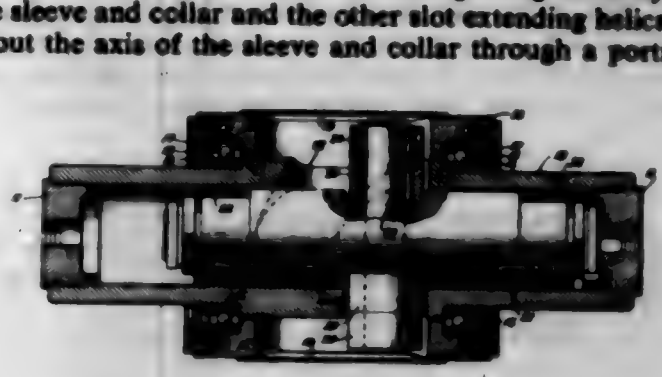
(*e*) said spring means including a spring positioned in each end of said cylinder between the adjacent ends of the piston and the cylinder for urging the piston inwardly toward the other end of said cylinder;

(*f*) abutment means in said cylinder positioned to engage and stop the further expansion of one of said springs when said piston is in its intermediate position; and

(*g*) said one spring being stronger than the other spring at the opposite end of said cylinder.

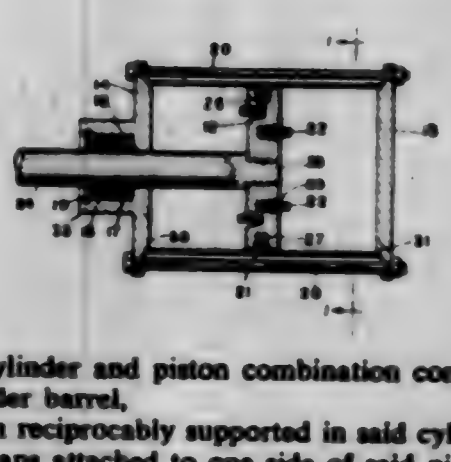
3,143,932
ROTARY ACTUATOR
Robert W. Lanman, Hammond, Ind., assignor to Carter Controls, Inc., Lansing, Ill., a corporation of Illinois
Filed Oct. 16, 1961, Ser. No. 145,285
4 Claims. (Cl. 92—31)

1. A rotary actuator comprising an elongated cylindrical sleeve, a collar rotatably surrounding the sleeve, an elongated piston slidable in the sleeve, fluid pressure connections to the ends of the sleeve to supply and exhaust fluid to and from opposite ends of the sleeve to move the piston axially therein, the sleeve and collar being formed with slots extending generally axially thereof and which cross each other at an angle, the length of the slot in the sleeve being less than half the axial length of the piston whereby the ends of the piston will never cross the slot, one of the slots extending straight axially of the sleeve and collar and the other slot extending helically about the axis of the sleeve and collar through a portion



only of the circumference thereof and a follower extending radially from the piston and extending into the crossing portions of the slots to cause relative rotation of the sleeve and collar as the piston moves.

3,143,933
CYLINDER AND SEALING RING COMBINATION
Orlo Clair Norton, Erie, Pa., assignor to Norton Engineering, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1962, Ser. No. 241,870
5 Claims. (Cl. 92—85)

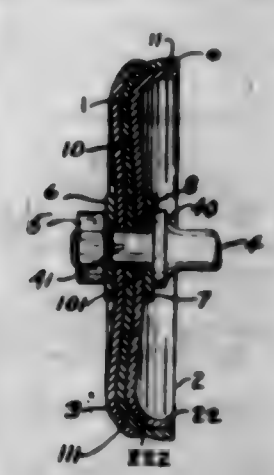


1. A cylinder and piston combination comprising
a cylinder barrel,
a piston reciprocably supported in said cylinder barrel,
rod means attached to one side of said piston,
a head on said barrel,
recesses in said piston defining openings,
resilient members between said head and said piston in said recesses and attached to said piston,
said resilient members extending out of said recesses toward said head,
said recesses being larger in lateral dimension than said resilient members,
said piston being adapted to come into proximate relation with said head,
said recesses having a volume which will substantially accommodate the entire volume of said resilient members whereby said resilient members will be distorted into said recesses when said piston comes into proximate relation with said head.

3,143,934
SEAL ASSEMBLY FOR A BORE
Robert E. Nelson, Rte. 1, Box 215, Willow Springs, Rosamond, Calif.
Filed July 3, 1963, Ser. No. 292,539
6 Claims. (Cl. 92—250)

1. A seal assembly for sealing a bore, comprising a cup-type seal member of flexible elastomeric material having a higher temperature coefficient of expansion than that of the bore, an inner retaining cup on the cup side of the seal member, an outer retaining cup on the opposite side of the seal member, said seal member being

bound tightly between the retaining cups at the region near the center of the seal member and being bound less tightly at outer regions of the seal member so that the material of the seal member can creep between the retaining cups when undergoing a temperature change, said inner retaining cup having a toroidal curvature at its outer



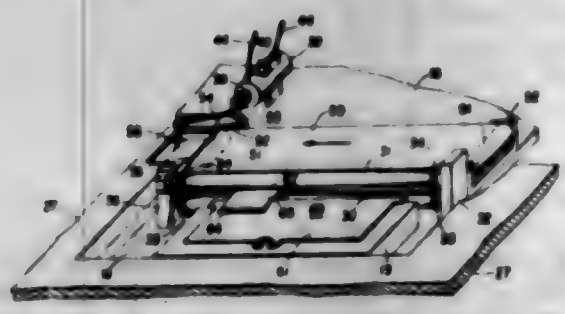
periphery with a different radius of curvature from the radius of curvature of the cup of the seal member, the seal member being urged by the outer retaining cup against the inner retaining cup and thus deformed to conform to the curvature of the inner retaining cup, whereby the edge of the seal member tends to maintain firm contact with the bore even when the temperature drops.

3,143,935

APPARATUS FOR MANUFACTURE OF INDEX GUIDES

Robert L. Clark, Marion, Iowa, assignor to Le Febure Corporation, Cedar Rapids, Iowa, a corporation of Delaware

Filed Sept. 9, 1963, Ser. No. 307,397
7 Claims. (Cl. 93—1)



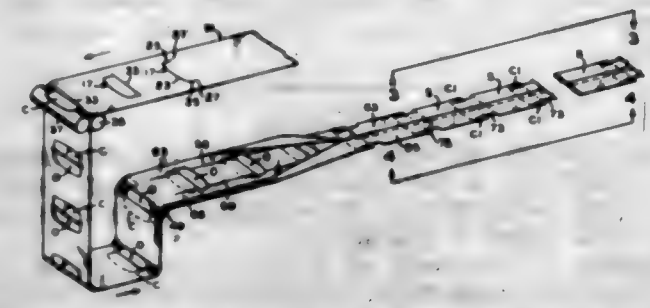
1. Apparatus for annealingly or weldingly securing a pair of tab envelopes to an index guide, such envelopes being formed from an integral preshaped piece of transparent sheet material folded over an edge of said guide to straddle same and thereafter secured by said apparatus to each face of said guide along a prepared marginal area of said material generally parallel to and spaced inwardly from said edge in order to define together with the opposite faces of said guide a pair of oppositely disposed, open ended tab envelopes, said apparatus comprising: a press having a pair of opposed planar pressure exerting members, said members opening to receive said guide and said folded material therebetween and effective upon closing to compress said guide and said areas of said material between said members and secure said areas to said guide, means operable to grasp said guide along the folded edge of said material upon insertion of said guide between said members when open, said means being operably controlled by opening movement of said members to automatically remove said guide and envelopes from between said members upon release of pressure thereon.

3,143,936

MANUFACTURE OF BAGS

Arnold F. Becker, San Pedro, Calif., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri

Original application Sept. 26, 1961, Ser. No. 140,810. Divided and this application Sept. 18, 1962, Ser. No. 222,277
4 Claims. (Cl. 93—35)



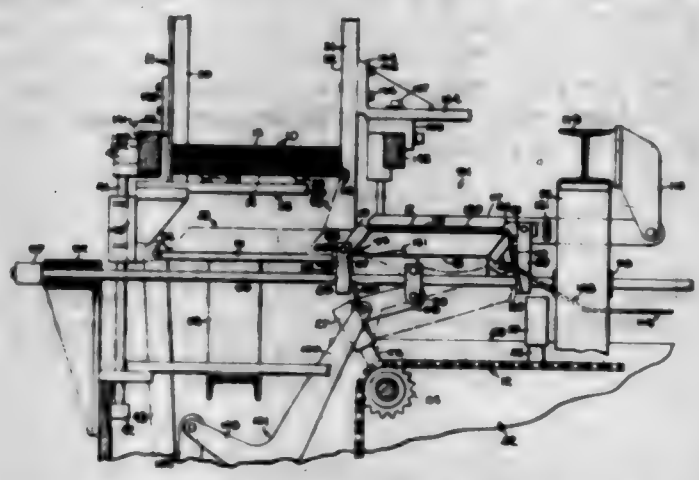
1. The method of forming cuffed valve sleeves for application to bags fed through a bottomer, comprising feeding a continuous web of valve sleeve material in a predetermined path, forming cuff-defining cuts in the web at sleeve length intervals in the web, each cuff-defining cut including a base cut extending transversely of the web and side cuts extending in trailing direction from the ends of the base cut, folding back the cuffs defined by the cuts, folding over side portions of the web on lines located inward of the side cuts to bring the side margins of the web into overlapping relation and adhering said side margins together thereby to form a continuous string of integrally connected flat tubular valve sleeves each having a folded-back cuff at one end, and segmenting each individual valve sleeve from the string for application to a bag by forming a line of weakness across the string at the trailing end of the leading sleeve of the string and snapping off the leading sleeve at said line of weakness by accelerating it relative to the speed of web feed.

3,143,937

MACHINE FOR ERECTING CARTONS

Le Roy L. Martin, Dixon, Ill., assignor to Bartelt Engineering Company, Inc., Rockford, Ill., a corporation of Delaware

Filed July 20, 1962, Ser. No. 211,222
8 Claims. (Cl. 93—53)



3. In a machine for erecting at least partially collapsed cartons including two separable side panels disposed face to face with one panel offset laterally relative to the other and with the offset edges hingedly joined together by two edge panels, the combination of, a frame, a chute on said frame formed by two guides spaced apart at one end of said chute to receive said cartons sidewise in the collapsed condition, said guides being arcuately curved and converging toward each other from said one end toward the other end to a spacing less than the collapsed width of the cartons, an arm fulcrumed at one end on said frame with its

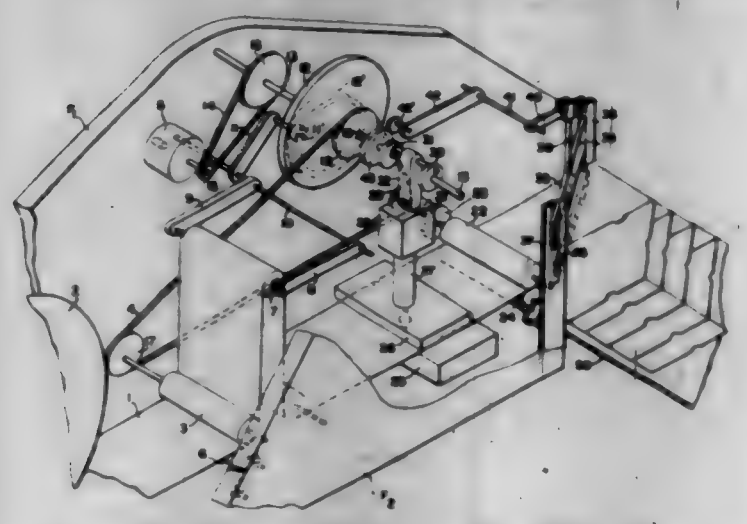
free end extending across said one end and swingable inwardly along said chute, mechanism on said frame for delivering cartons one by one to a position between said arm and said one chute end, and means for swinging said arm into and along said chute in timed relation with the delivery of cartons to said position whereby the arm engages the carton in said position and shifts the carton sidewise down the chute to compress the carton laterally between said guides and thereby further separate the side panels while at the same time frictionally engaging the cartons.

3,143,938

ENVELOPE BLANK FORMING MEANS COMPRISING A RECIPROCATING HEAD HAVING NOTCHING, PUNCHING AND CREASING TOOLS THEREON

Theodore F. Aronson, 60 Crescent Beach Road, Glen Cove, N.Y., and Floyd A. Lyon, Brookville, N.Y.; said Lyon assignor to Haim Instrument Co., Inc., Glen Head, N.Y.

Original application Sept. 16, 1959, Ser. No. 840,397, now Patent No. 3,025,770, dated Mar. 20, 1962. Divided and this application July 6, 1961, Ser. No. 122,306
5 Claims. (Cl. 93—63)



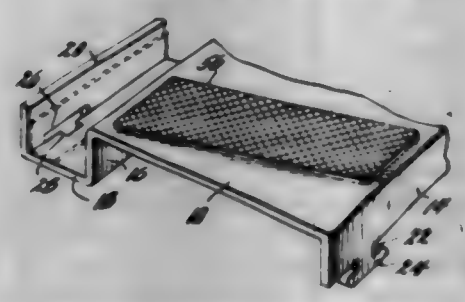
1. Die means for prescoring fold lines in a paper comprising a lower stationary die having slots, prescoring knives mounted in said slots, a first upper die plate connected to be reciprocated, a second upper die plate movably connected to and below said first upper die plate, spring means connected to spring load said second upper die plate away from said first upper die plate, said second upper die plate being notched to receive said prescoring knife edges with sufficient clearance so that said web is not cut by said knife.

3,143,939

LANDING MAT STRUCTURE

Resta S. Gregoire, Washington, D.C., assignor to Gregoire Engineering and Development Company

Filed Aug. 14, 1961, Ser. No. 131,123
7 Claims. (Cl. 94—13)



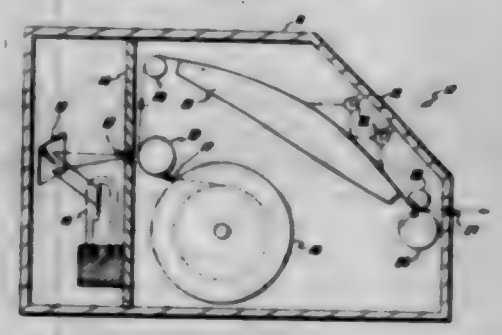
6. A unit for assembly in multiple to form a mat, comprising a generally S-form panel, with oppositely opening channel sections having a common inner wall, said channel sections having outer walls extending normally from the outer corners thereof respectively, and complementary interlocking means at opposite sides of the panel comprising an inverted T-form extension on the outer wall edge of one of said sections and a T-form slot across the outer corner of the other of said sections, the cross part of the T-form slot being in the outer wall side of said corner and the leg part thereof in the channel bottom side of said corner, said slot being adapted for interlocking engagement with the extension on the outer wall of an adjacent panel.

3,143,940

RECORDER

Richard F. Brown, Monrovia, and John H. Jacobs, Altadena, Calif., assignors to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Original application Sept. 14, 1959, Ser. No. 839,617. Divided and this application Nov. 15, 1960, Ser. No. 69,363
10 Claims. (Cl. 95—1)



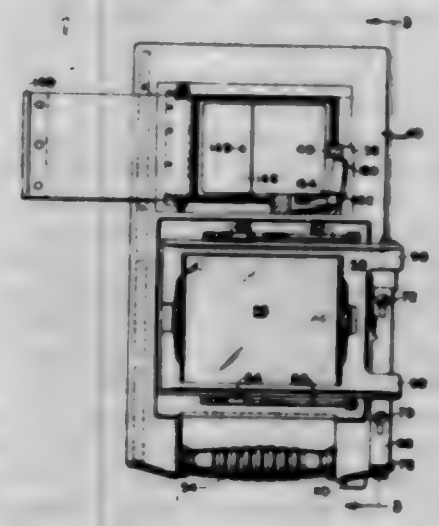
1. A device for rapidly latensifying images which have been recorded on printout material, comprising a source of heat, means for applying heat from said heat source to the printout material so as to heat the printout material to a temperature which substantially inactivates its original recording sensitivity without fogging the printout material, a source of latensifying electromagnetic radiations having wave lengths within the range of from about 2500 Angstrom units to that wave length at which the Herschel effect becomes significant for the printout material and means for exposing the printout material to the latensifying radiations while the original recording sensitivity of the printout material is substantially inactive.

3,143,941

PHOTOGRAPHIC APPARATUS

Paul B. Mason, Magnolia, Leon Rabinstein, Natick, and Arthur J. Sable, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

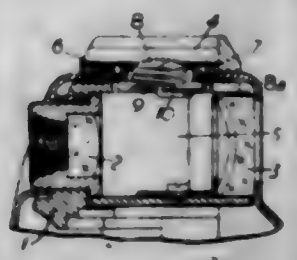
Filed Nov. 24, 1961, Ser. No. 154,655
16 Claims. (Cl. 95—11)



1. Photographic apparatus comprising, in combination: (*a*) a camera back having a first opening therein;

(*b*) a carrier having second and third openings therein and mounted upon said back for movement between a first position, wherein said second opening is in registration with said first opening, and a second position, wherein said third opening is in registration with said first opening;
(*c*) means for mounting a first sensitized material holder in covering relation to said second opening;
(*d*) means for mounting a second sensitized material holder in covering relation to said third opening;
(*e*) a light barrier movable between open and closed positions with respect to said first opening;
(*f*) means preventing mounting of said first sensitized material holder while said carrier is in said first position and said light barrier is in said open position; and
(*g*) means preventing movement of said carrier away from said first position while said light barrier is in said open position.

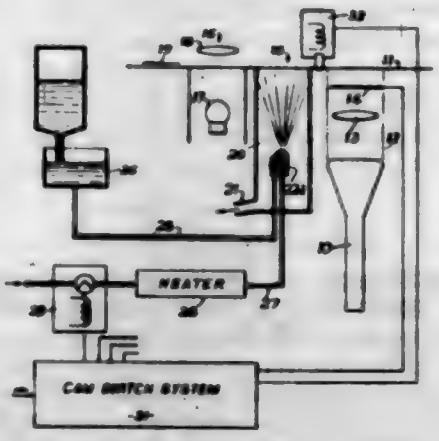
3,143,942
ADAPTOR SOCKET
Walter Hennig and Herbert Welzel, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden, Dresden, Germany
Filed Aug. 11, 1960, Ser. No. 48,930
2 Claims. (Cl. 95—11.5)



1. In a camera casing having a viewfinder housing provided therein, lens members disposed in said viewfinder housing in spaced relationship, an adaptor socket disposed in said viewfinder housing externally of said lens members for receiving and supporting therein an auxiliary apparatus such as a flash attachment, said adaptor socket having an aperture therein disposed between said lens members, a movable cap member disposed snugly in said aperture and having flange means which engage the interior of said viewfinder housing adjacent said aperture to prevent the cap member from passing through the aperture and a dome-shaped portion that extends a short distance into said adaptor socket, electrical means connected to said cap member, and spring means engaging said cap member to normally maintain said flange means in abutting engagement with the interior of said viewfinder housing, the snugness of the cap member in said aperture and said flange means engaging the interior of the viewfinder housing providing a tight sealing relationship, said cap member, upon an auxiliary apparatus being disposed in said adaptor socket, engaging said auxiliary apparatus to maintain same securely therein and to provide electrical contact thereto.

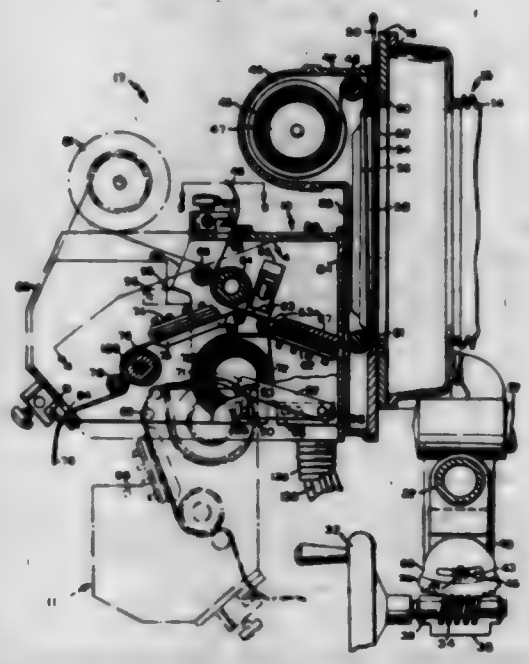
3,143,943
PROCESSING OF PHOTOGRAPHIC MATERIAL
Eustace R. Townley and Harold L. Frost, Barkingside, England, assignors, by mesne assignments, to S. Smith & Sons (England) Ltd., London, England
Original application Feb. 27, 1957, Ser. No. 642,698, now Patent No. 2,961,938, dated Nov. 29, 1960. Divided and this application May 10, 1960, Ser. No. 30,698
Claims priority, application Great Britain Mar. 2, 1956
11 Claims. (Cl. 95—14)

1. In combination in apparatus for photographing, rapid processing of the exposed photographic material and the projection of the photographed image, all within a very short time, an image source, photographing means comprising a lens and shutter between said source and said material, means for supporting said material, a plurality of liquid delivering jets operated by compressed air disposed to direct liquid in a spray upon said material, a plurality of reservoirs for processing liquid, a source of compressed air, liquid and air supply lines coupling each said reservoir and said air source respectively to one of said jets, the compressed air expelling liquid from each



said reservoir through its respective jet upon said material, an electromagnetically-operated normally closed fail safe valve in each said air supply line, each said liquid supply line carrying only one liquid and benig free from said valves whereby interaction between different liquids and the formation of contamination deposits and valve corrosion in a liquid supply line are substantially eliminated, and means to project the processed image on said processed photographic material.

3,143,944
ULTRA-RAPID PROCESSING CAMERA
Zoltan Takats, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1961, Ser. No. 86,968
4 Claims. (Cl. 95—14)



1. In a rapid processing camera for producing developed negatives and positive photographic prints comprising, a support assembly, a camera assembly adjustably supported on said support assembly with a plurality of adjustments, a rapid processing assembly adapted to be detachably secured to the camera assembly to provide a single integral unit, the rapid processing assembly including a film web supply, an applicator for applying solution to develop said film web after exposure by said

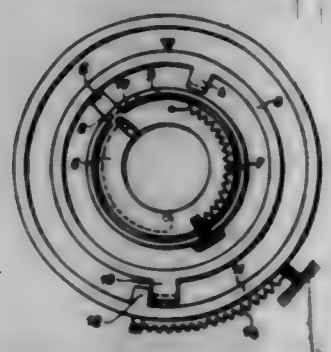
camera assembly, a photoprint paper supply, a printing lamp assembly directed to expose the developed image on the negative film web to the positive print paper, a positive print processing applicator, and means for driving both the positive print paper and negative web through the processor assembly, said processing attachment being divided into two separable hinged units, a negative web processing unit including the process applicator, the printing lamp means, the metered drive means and cut-off means for the negative web and a positive print processing unit including the print paper supply, the process applicator, the metered drive means and the cut-off means for the print paper, means hingedly connecting the two units together and means latching said units in position to simultaneously process the negative web and produce positive processed prints therefrom.

3,143,945

PHOTOGRAPHIC CAMERAS PROVIDED WITH EXCHANGEABLE OBJECTIVES

Christian Ludwig, Oberkochen, Wurttemberg, and Otto Weiss, Aufhausen, Wurttemberg, Germany, assignors to Carl Zeiss, Oberkochen, Wurttemberg, Germany

Filed Sept. 30, 1960, Ser. No. 59,568
Claims priority, application Germany Oct. 2, 1959
3 Claims. (Cl. 95—64)



1. A photographic camera designed to have attached to its casing any one of a plurality of exchangeable objectives, each of which includes an objective mount, a spring diaphragm therein, a diaphragm adjusting ring (3) on said mount, a diaphragm groove ring (5) in said mount having an axial projection (8) extending outwardly of said mount, and coupling means on said mount for detachably securing said objective to said casing, the latter having rotatably mounted therein about the optical axis of said objective a diaphragm closure ring (9) having an axial projection (10) which when the objective is attached to said casing abuts one side of said axial projection (8) on said diaphragm groove ring (5) and moves the diaphragm to its fully open position, manually operable means within said camera for engaging a projection (13) on said diaphragm adjusting ring (3) for moving the latter to a position indicating a preselected diaphragm aperture, said diaphragm adjusting ring (3) having thereon a further radial projection (4) for stopping said diaphragm groove ring (5) when the latter is released by the camera shutter, whereby the diaphragm is adjusted to an aperture which corresponds to said preselected aperture indicated by the position of said diaphragm adjusting ring.

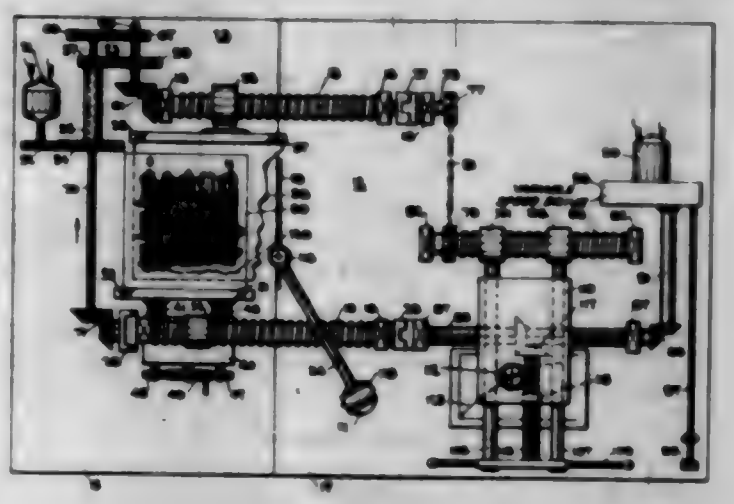
3,143,946

METHOD FOR FORMING SEISMIC AND OTHER RECORDS

Eugen Merten, Houston, Tex., assignor to Shell Oil Company, a corporation of Delaware

Original application Sept. 30, 1952, Ser. No. 312,266, now Patent No. 2,821,892, dated Feb. 4, 1958. Divided and this application Oct. 14, 1957, Ser. No. 689,963
2 Claims. (Cl. 95—73)

1. As a visual aid in seismic exploration, the method comprising the steps of obtaining a plurality of seismograms along a survey line, determining and exhibiting in the form of a graph at least one seismic property affecting the velocity of seismic waves, forming a composite seismogram by reproducing said seismograms side by side on a transparent sheet in their natural order along the survey line, placing the composite seismogram sheet



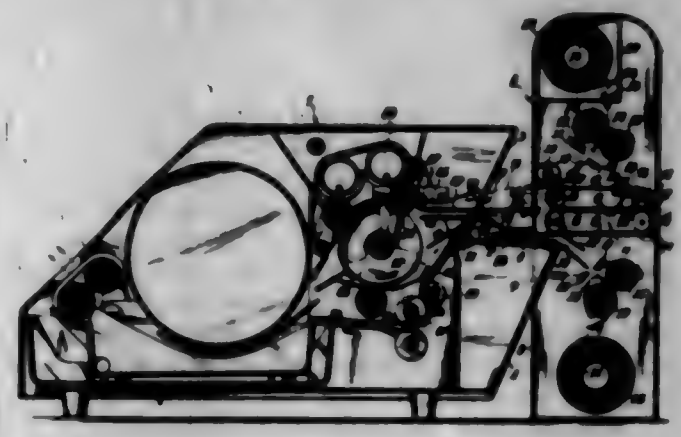
adjacent a photo-sensitized sheet, jointly moving said sheets, illuminating said photo-sensitized sheet through said transparent sheet, and controlling the displacement of said two sheets relative to each other proportionally to said graph.

3,143,947

ACCESSORY APPARATUS FOR COPYING DEVICES AND A COPYING DEVICE THEREFOR

Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG., Hamburg, Germany

Filed Nov. 6, 1961, Ser. No. 150,411
Claims priority, application Germany Nov. 18, 1960
12 Claims. (Cl. 95—75)



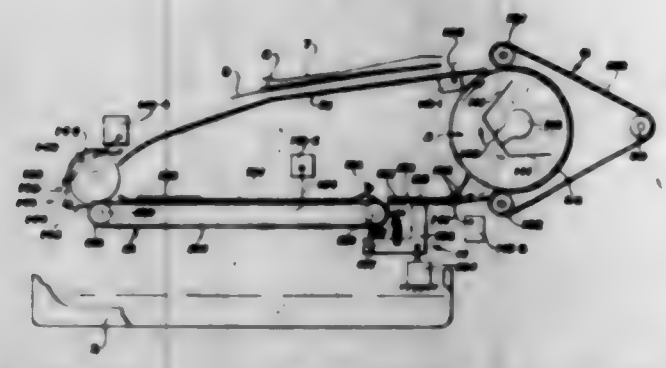
1. A removable attachment unit for feeding copying sheet material into a copying machine having an inlet aperture for said material, said attachment unit comprising a housing, a pair of oppositely disposed walls in said housing with a feed opening for an original in one of said walls and an outlet opening in the other wall on a level with and facing said inlet aperture of the copying machine, means in said housing for conveying the original from said feed opening to said outlet opening for introduction into said copying machine through said inlet aperture thereof, drive means for said conveying means, means in said housing rotatably supporting at least one roll of layer carrier web, means in said housing for unwinding said web from said roll, guide means in said housing for guiding the unwound web portion to said outlet opening for introduction into the copying machine through said inlet aperture thereof, cutting means in the path of said web from said unwinding means to said outlet opening for severing a length of said web, drive means for said unwinding means and cutting means, and actuator means in the path of said original through the housing for con-

trolling the starting and stopping of said last mentioned drive means, the arrangement being such as to cause the leading edge of said original and the leading edge of said severed length of web to enter the copying machine substantially simultaneously.

3,143,948
AUTOMATIC COPYING DEVICE

Howard T. Hodges, Charles E. Swing, and Clarence R. Taylor, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 17, 1961, Ser. No. 103,612
13 Claims. (Cl. 95—77.5)

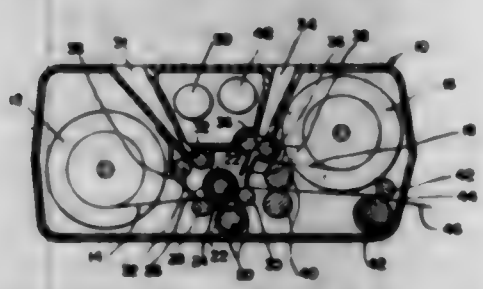


1. In a photographic document copying device of the type in which a sensitized photographic matrix and an original document which is to be copied are arranged in superposed relation, exposed, and the exposed matrix developed and pressed into intimate face to face contact with an image receiving sheet which is separable from the matrix, the combination comprising: a receiving station for an original; exposing means; a matrix developing station; means for advancing a sensitized photographic matrix and an original arranged in superposed relation through said exposing means for exposing said matrix; means movable between a first position for directing said original to said receiving station, and a second position for directing said matrix to said developing station; and means for separating said original and matrix after said exposure and sequentially transporting the original and matrix to said directing means.

3,143,949
PHOTOGRAPHIC EXPOSURE APPARATUS

Dexter P. Cooper, Jr., Lexington, and Arthur J. Sable, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Nov. 29, 1961, Ser. No. 155,678
4 Claims. (Cl. 95—77.5)

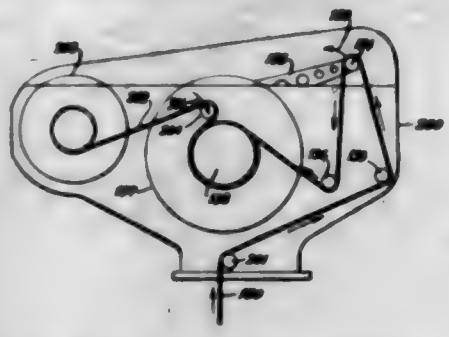


1. Photographic apparatus comprising, in combination, an electric lamp having a brightness which is an exponential function of the voltage applied to said lamp; an alternating current generator coupled with said lamp for supplying current to said lamp at a frequency and voltage proportional to the rate at which said generator is operated; drive means for moving photographic image-recording material through said apparatus relative to said lamp to effect the exposure of said material by light from said lamp and for operating said generator; speed governing means coupled with said drive means for regulating the speed of movement of said material and operation of said generator within a predetermined range of speeds; and frequency responsive impedance means electrically coupled with said lamp and said generator for so varying the impedance to flow of current from said generator to said lamp as to linearize the relationship between the brightness of said lamp and the voltage impressed across said lamp throughout a predetermined range of alternating current frequencies whereby variations in lamp brightness and rate of movement of said image-recording material compensate for one another to insure a substantially constant exposure of said material during movement of said material relative to said lamp at a rate within said predetermined range of speeds.

3,143,950
CASSETTE MECHANISM

Eugene W. Elliott, Barrington, Ill., and Kenneth E. Schaefer, Bristol, Wis., assignors to Chicago Aerial Industries, Inc., Barrington, Ill., a corporation of Delaware

Filed Mar. 30, 1961, Ser. No. 99,495
12 Claims. (Cl. 95—89)



8. In a device for processing chemically developable radiation sensitive material, the combination comprising a strip of carrier web material, chemical agents applied to said carrier web material for carrying out a process operation on said radiation sensitive material, a rotatable spool for receiving said radiation sensitive material and said carrier web material, web guide means for bringing said carrier web material and said chemical agents into sandwiching engagement with the radiation sensitive surface of said radiation sensitive material at said spool, an electric motor driving said spool, sensing means for determining the size of a loop in the radiation sensitive material approaching said spool, signal generator means associated with said sensing means and adapted to propagate a control signal, said control signal having a characteristic related to the size of said film loop, and control circuit means connected between said signal generator means and said motor and responsive to said control signal to cause said motor to drive said spool at a rate related by an exponential function to the size of said loop.

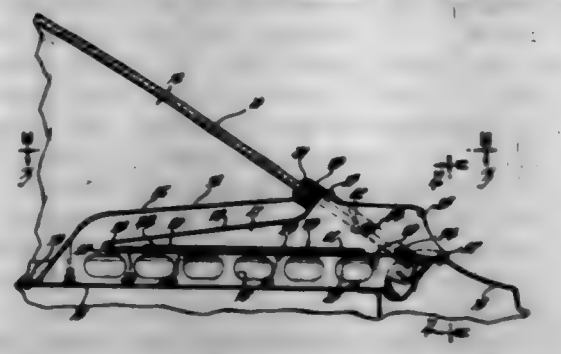
3,143,951
AIR VENT VALVE STRUCTURES FOR PASSENGER VEHICLES

Andrew K. Watt, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 17, 1961, Ser. No. 132,198
3 Claims. (Cl. 98—2)

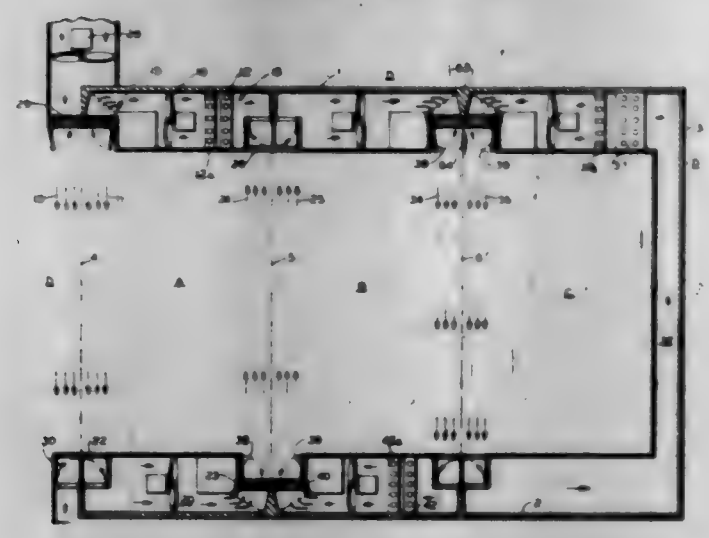
1. An air vent valve structure in an automobile body having a package shelf and a rear window above said shelf, said valve structure including a perforated cover member mounted on said shelf, a baffle housing extending from outside said body and between said shelf and cover member and defining a chamber connected to the interior of said cover member above said shelf by an inlet port and to the ambient air by an outlet opening,

a frame covered with an impermeable sheet to constitute a unitary damper valve member of sufficiently light weight to be actuated by the differential air pressure exertable



thereon, and said valve member being movably mounted and extending substantially horizontally within said chamber and in registry with said inlet port.

3,143,952
METHOD AND APPARATUS FOR CONDITIONING GAS
Edward W. Simons, San Francisco, Calif., assignor, by direct and mesne assignments, to Dualjet Corporation, a corporation of California
Filed Aug. 24, 1960, Ser. No. 51,717
8 Claims. (Cl. 98—36)



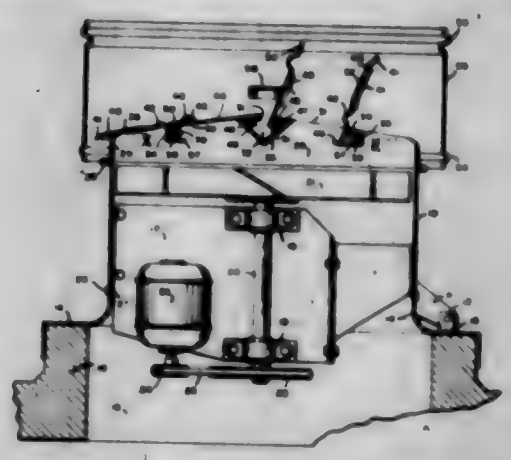
1. The method of conditioning the gaseous content of a pair of adjoining areas that comprises the steps of;

(*a*) Simultaneously moving a first gas and a second gas in a pair of separate endless paths that extend away from each other enclosing said adjoining areas with the gas in one of the sides of said paths being in planar layers in parallel, engaging, opposed relation whereby a characteristic of the gas in one path of said pair will be transmitted to the gas in the other path and the gaseous content of the areas enclosed by said paths will partake of such characteristic;

(*b*) conditioning said first gas to have a predetermined characteristic that is of a greater intensity than that of any corresponding characteristic of said second gas whereby gaseous content of the area enclosed by the gas of said second path will have said last-mentioned characteristic but to a lesser degree of intensity than the gaseous content of the area enclosed by said first path.

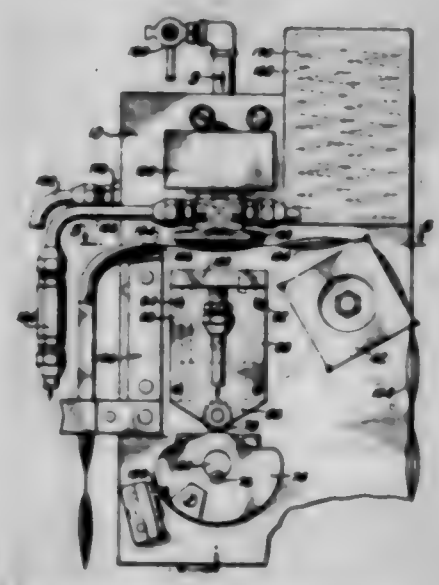
3,143,953
FAN
Billy L. Bristol, Silvis, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed June 29, 1962, Ser. No. 206,404
3 Claims. (Cl. 98—116)

1. In a vertical discharge ventilator, a vertical housing means adapted to be mounted on the roof or the like, said housing means having open ends; a fan mounted in said housing means in a horizontal plane and extending substantially across the opening therein; means for rotating said fan; a horizontal trough shaped median member mounted on said housing means and extending across said opening above said fan; support members mounted on said housing means extending across said opening above said fan on either side of said median member, said members being parallel to and spaced from said median member and the wall of said housing means and defining a plurality of passageways; outer damper means; means



for pivoting said outer damper means adjacent said support members; a pair of damper means pivoted adjacent to said median member, said damper means pivoted to said median member overlapping the other damper means when in closed positions, the outer edges of said damper means extending over the upper edges of said housing means, one of said outer damper means and the adjacent damper of said pair of dampers facing in one direction when opened and the other two dampers facing in the opposite direction when opened, and means on said damper means coacting when in closed damper positions to provide a seal.

3,143,954
AUTOMATIC COFFEE BREWING DEVICE
James A. Nesmith, Riverside, Calif.
(1926 E. La Veta Ave., Orange, Calif.)
Filed Sept. 5, 1961, Ser. No. 135,946
6 Claims. (Cl. 99—289)



1. A rapid brewing device, comprising:

a tape;

a plurality of filter packages each containing a dry beverage mixture supported by said tape in spaced apart relationship to each other;

a hot water injector above said tape;

a tape guide disposed below said injector and on one side thereof;

a plural sided tape mover disposed below said injector and on the other side thereof, said tape being suspended between said guide and said tape mover, and advanced intermittently below said injector by said tape mover;

a brewing plate below said tape and injector;

means for moving said brewing plate upwardly against said tape; and

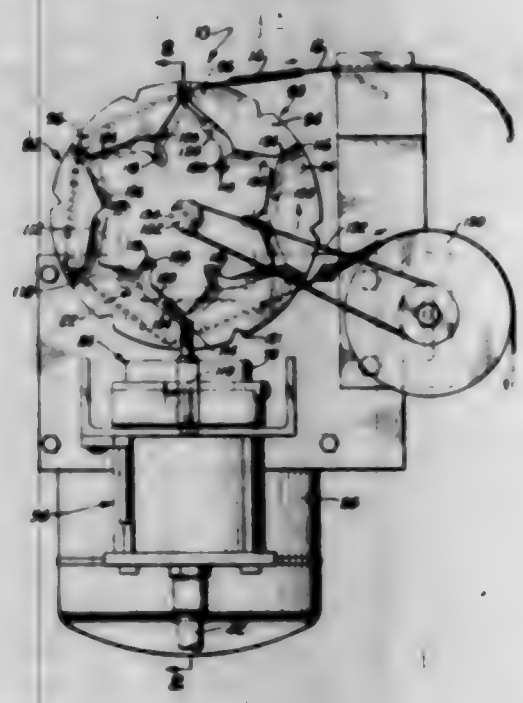
actuating means engageable by said brewing plate and pushed upwardly thereby as the brewing plate approaches the end of its upward travel, for actuating said injector to cause hot water to be injected through said beverage mixture and said brewing plate.

3,143,955

BEVERAGE BREWING MACHINE

Ernest B. Rockwell, Rolling Hills, Calif. (77—985 Michigan Drive, Palm Desert Country Club Estates, Palm Desert, Calif.)

Filed Dec. 3, 1962, Ser. No. 241,664
8 Claims. (Cl. 99—289)



8. In a machine for brewing successive portions of a beverage from a ribbon having longitudinally spaced, water pervious compartments containing the material from which the beverage is to be extracted, by flowing water through successive ones of said compartments at a brewing station, the combination of:

(*a*) a first head in said brewing station and engageable with one side of said ribbon around a said compartment in said brewing station, said first head being provided with a first water passage adapted to communicate with a said compartment in said brewing station;

(*b*) a second head in said brewing station and engageable with the other side of said ribbon around a said compartment in said brewing station, said second head being axially movable toward said first head to clamp said ribbon between said heads around a said compartment in said brewing station, said second head being provided with a second water passage therethrough adapted to communicate with a said compartment in said brewing station;

(*c*) means for axially moving said second head toward and away from said first head and into clamping engagement with said ribbon around a said compartment therebetween;

(*d*) rotary ribbon advancing means angularly displaceable in a step-by-step manner for advancing successive ones of said compartments into said brewing station and between said heads;

(*e*) means for rotating said advancing means one step for each reciprocatory movement of said second head;

(*f*) water heating means connected to said first passage;

(*g*) valve means carried by said first head for controlling flow through said first passage and movable to an open position in response to clamping of said ribbon between said first and second heads for flowing water from said first passage through a said compartment clamped between said heads into said second passage to extract the beverage from the material in such compartment; and

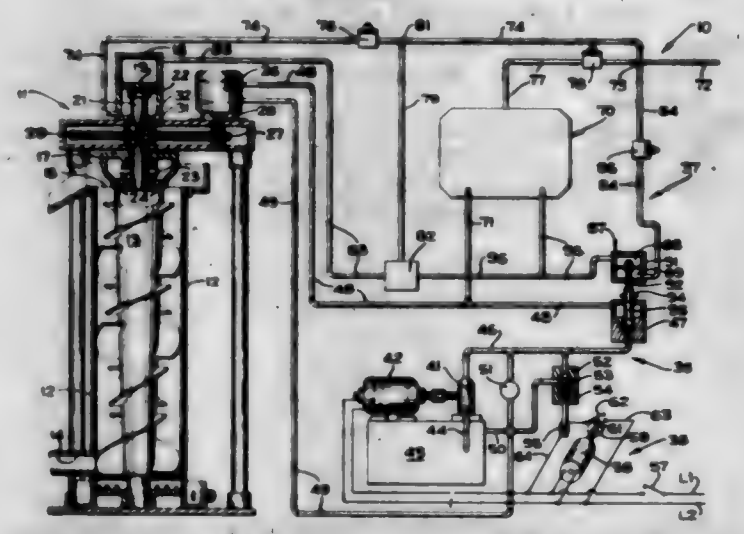
(*h*) said first head being mounted on said water heating means so that said first head is maintained at an elevated temperature by conduction of heat from said water heating means.

3,143,956

CONTROL SYSTEM FOR A PRESS

Roy E. Hartig, Monte Sereno, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed June 13, 1962, Ser. No. 202,187
9 Claims. (Cl. 100—43)



1. In a press of the type having perforate wall means having an inlet passage and defining a compression chamber which leads to a discharge opening, means in said chamber for advancing material from said inlet passage under pressure toward said opening, said means developing a reaction pressure which varies in accordance with the density of the advancing material, and a choke movable in said discharge opening for varying the size of the opening; a control system for maintaining a constant density of the expressed material comprising first drive means for actuating said material advancing means, second drive means for moving the choke in said opening, and means responsive to changes in said reaction pressure for actuating said first and second drive means and thereby to vary the speed at which said material advancing means moves the material toward said opening in direct relation to the change in said reaction pressure and also to change the size of said opening in direct relation to the change in said reaction pressure.

3,143,957

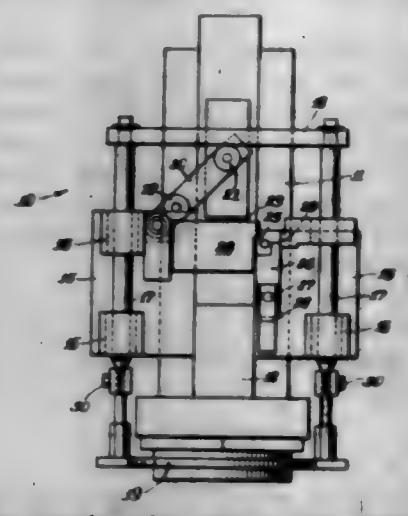
GUARD

Edward L. Cornell, Jr., Wilmette, Ill., assignor to Wm. H. Welsh Co., Inc., a corporation of Illinois

Filed July 18, 1962, Ser. No. 210,718
4 Claims. (Cl. 100—53)

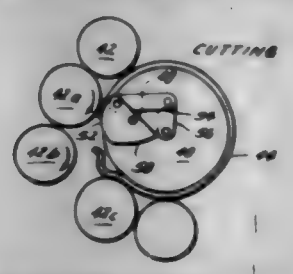
1. In a press having a ram adapted to be reciprocated toward and away from a work piece, a guard comprising a stop for arresting movement of the ram toward the work piece, means for normally maintaining said stop in movement-arresting position, means for moving the stop to a

non-arresting position, a feeler movable toward the work piece in advance of the ram along a path outside the path of reciprocation of the ram, and means associated with



the feeler for moving the stop to non-arresting position when the feeler nears the end of its movement toward the work piece.

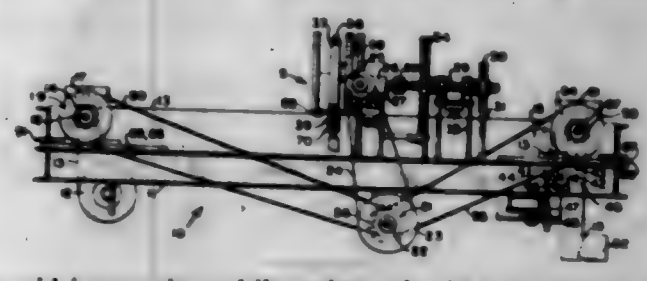
3,143,958
ROTARY PRESS AND LINT SAMPLER
Stuart W. Sinclair, Houston, Tex., assignor to Anderson, Clayton & Co., Houston, Tex., a corporation of Delaware
Original application May 16, 1961, Ser. No. 110,478, now Patent No. 3,122,089, dated Feb. 25, 1964. Divided and this application July 19, 1963, Ser. No. 311,932
5 Claims. (Cl. 100—89)



1. In a batt compressing rotary press, a rotatable non-adhesive batt winding drum, a series of rotatable compression rollers surrounding and spaced in fixed relationship from the periphery of said drum, means for rotating said drum and rollers in the same rotary direction at substantially the same peripheral speed, batt forming means for forming cotton into a loose batt and introducing it between one of said rollers and said drum, whereby rotation of said drum and rollers winds said batt upon the periphery of said drum and compresses said batt between said drum and rollers, a pivotable cutter mounted in a sector of the periphery of said drum, said cutter including a circular surface and a bulging surface, means for pivoting said cutter to expose said circular surface when winding and compressing a batt and for pivoting said cutter to expose said bulging surface when cutting said batt for ejection after compression, and means for rotating said compression rollers and drum to eject said compressed batt after cutting.

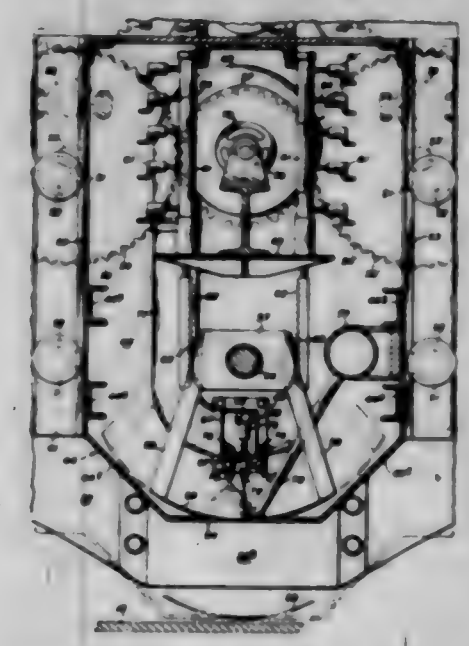
3,143,959
MARKING APPARATUS
Harvey Barr, New Rochelle, John J. Leone, Harrison, and John L. Olyha, Hastings on Hudson, N.Y., assignors, by mesne assignments, to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Aug. 4, 1961, Ser. No. 129,469
8 Claims. (Cl. 101—6)

1. Apparatus for marking an elongated article comprising means for continuously advancing said article, means for supporting a printing tape between fixed stations, means for advancing said tape in a fixed path between said stations transversely of said article, means for recurrently impressing indicia against said tape onto said article thereby transferring a mark onto said article, said indicia and the portion of said tape in contact therewith advancing with said article laterally out of said path dur-



ing said impressing while points of said tape spaced from said portion remain in said path, means for applying tension to said tape, said tape snapping back laterally to position in said path for another impression under the compulsion of said tension upon the removal of said indicia.

3,143,960
APPARATUS FOR STENCILING MOVING PLATE
Stanley J. Naczynski, Pittsburgh, Pa., assignor, by mesne assignments, to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 30, 1962, Ser. No. 234,152
9 Claims. (Cl. 101—121)

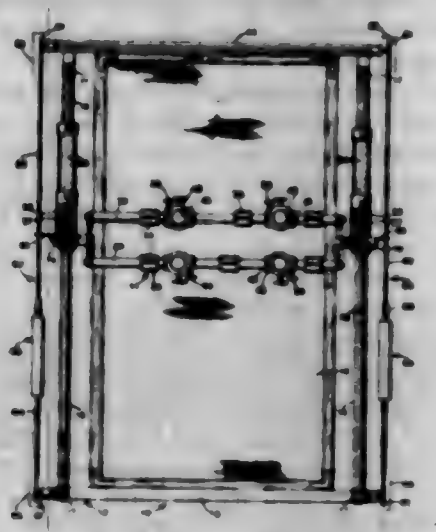


1. Apparatus for marking an elongated product as it moves along a predetermined path, comprising a housing, crank means mounting the housing adjacent said path for planetary travel through an orbit a portion of which closely approaches said path, a shaft mounted in said housing normal to the plane of said orbit, a plurality of arcuate stencil strips journaled side-by-side on said shaft for limited angular movement thereabout, power means in said housing adapted to turn each of said strips to selected positions, a nozzle-supporting bridge member extending across said housing between said strips and said shaft and parallel to the latter, and a plurality of nozzles mounted on said member, each adapted to discharge marking liquid through one of said strips onto the product.

3,143,961
SCREEN PRINTING HEAD AND IMPROVED SQUEEGEE ASSEMBLY THEREFOR
Matthew L. Jaffa, 92 Clark St., Rutherford, N.J., and David Jaffa, 38—26 Allwood Place, Fair Lawn, N.J.
Filed July 16, 1962, Ser. No. 210,002
5 Claims. (Cl. 101—123)

1. A printing head for use on a screen printing machine comprising a frame for holding a printing screen, said

frame being mounted for movement between operative and inoperative positions, a guide rail extending along opposed sides of said frame, a guide support slidably mounted on each of said guide rails, a rocker pivotally mounted to each of said guide supports, each rocker including a T-shaped member having a cross-head and an integrally connected stem portion, each rocker being fulcrumed to its respective guide support about a point intermediate the end of said cross-head, a pair of spaced apart rods interconnecting said rockers, each of said rods being connected to and between corresponding opposed end portion of said cross-heads, a pair of squeegee holding means connected in laterally spaced relationship to each of said rods, a pair of squeegee blades, means for detachably securing one of said squeegee blades to each pair of said holding means, each of said holding means including means for adjusting said squeegee blades, means connected

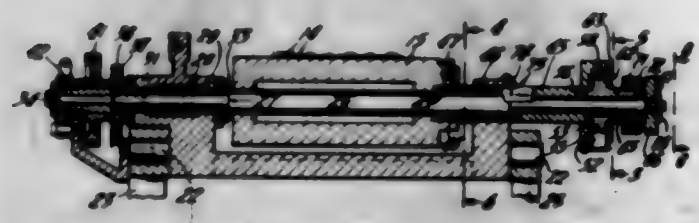


to each of said guide supports for oscillating its associated rocker for alternately raising one of said pairs of squeegee blades while lowering the other, and means for reciprocating said guide supports and squeegee blades connected thereto back and forth across a printing screen supported within said frame, each of said holding means including a rider slidably connected to said rod, a slide member connected to said rider for vertical adjustment relative thereto, an adjusting screw threaded to the upper end of said slide member for effecting relative adjustment of said slide member relative to said rider, a lock nut threaded to said adjusting screw, an extension integrally connected to said slide member depending below said rider, said extension being disposed at an angle relative to said slide member, means for pivotally connecting a squeegee blade to said extension, and means for angularly adjusting said squeegee blade about its pivot.

3,143,962
MOUNTING MEANS FOR ROLLERS AND THE LIKE

Frank Egremont Dobson, Groton, and De Witt Martin Brownson, West Acton, Mass., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 3, 1962, Ser. No. 228,160
6 Claims. (Cl. 101—348)

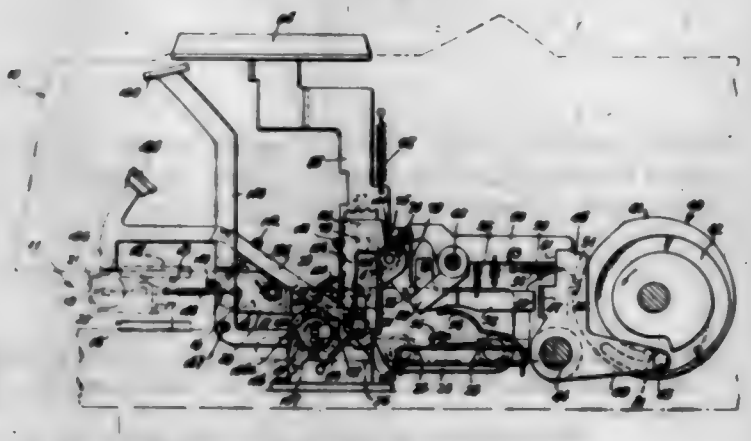


1. In a printing press, a demountable printing roller and a mounting for said roller, said mounting comprising fixed bearings positioned on opposite ends of said roller, rotatable sleeves journaled in said bearings, a shaft extending through said roller and into said sleeves, said shaft being releasably connected with said sleeves for rotation in unison therewith, driving means connected with one of said sleeves for imparting rotation through said one sleeve to said shaft, locking means on said roller releasably connected with said other sleeve for imparting rotation from said shaft through said other sleeve to said roller, and adjustment means carried on one of said sleeves and engageable with said shaft for effecting relative angular and axial movement between said sleeve and said shaft to selectively position said roller with respect to the articles to be printed.

3,143,963
INKING CONTROL MEANS FOR PRINTING DEVICES

Ernst Schrempp, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Jan. 18, 1963, Ser. No. 252,503
11 Claims. (Cl. 101—351)



1. In a printing machine having
a drive means, and
a consumable supply unit;
the improvement comprising
control means for controlling the actuation of said drive means for a predetermined period,
means operable at the end of said period for preventing operation of said control means, and
means operable after said drive means is prevented from being operated for effectively destroying said consumable supply item and for permitting operation of said drive means.

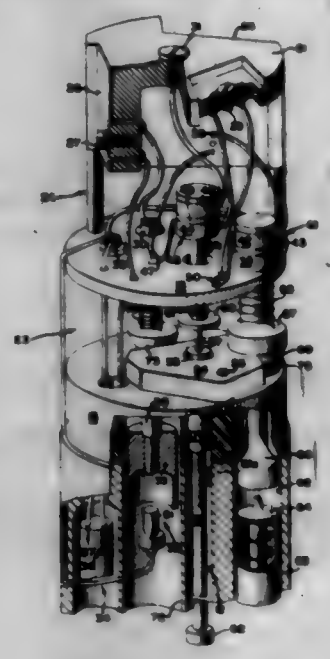
3,143,964
ARMING AND FIRING MECHANISM

Charles Young, Jr., Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 27, 1957, Ser. No. 705,721
11 Claims. (Cl. 102—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

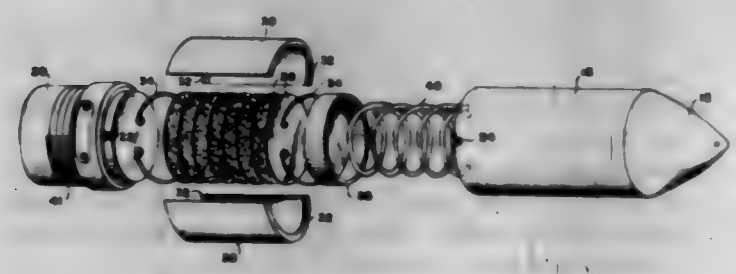
3. A device for arming and firing an ordnance weapon which comprises; at least one firing switch, a first normally safe arming switch, a second normally safe arming switch serially connected to said first arming switch, whereby the weapon is armed only when both arming switches are armed, actuating means for arming said first arming switch, independent actuating means for arming said second switch, rotatable means operatively connected to each of said actuating means and normally disposed in a position to permit facile movement of said actuating means, biasing means urging said rotatable means to an actuating means blocking position, said rotatable means being normally restrained from movement to the actuating means blocking position by each of said actuating means when the respective arming switches are in the

safe position, whereby said rotatable means is permitted to move to the actuating means blocking position only upon arming of both of said arming switches, locking



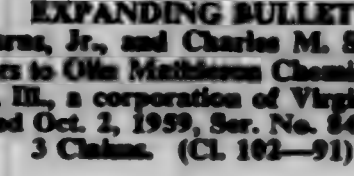
means restraining said rotatable means in the actuating means blocking position thereby to prevent disarming of the weapon subsequent to the arming thereof.

3,143,965
CHAFF DISPENSER
Andre E. La Pointe, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 6, 1959, Ser. No. 851,483
8 Claims. (Cl. 102—34.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



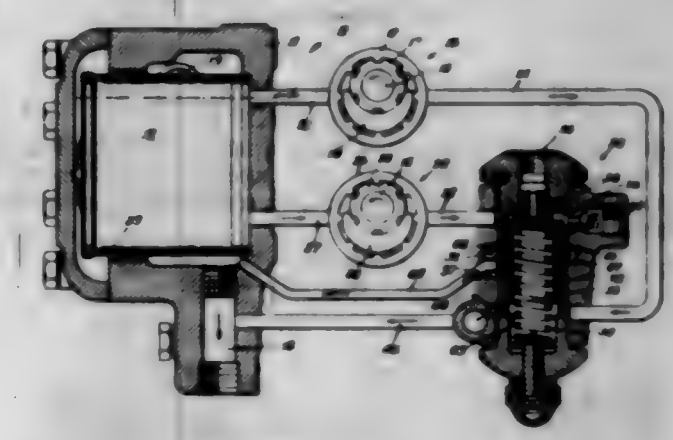
1. A rocket head comprising means for substantially uniform distribution of filamentary material at high altitude, said means including, a forward hollow portion, a rear casing removably connected to said forward portion, a quantity of filamentary material within said forward portion, means tending to eject said filamentary material from said forward portion upon removal therefrom of said rear casing, said rear casing including, a slidable latch means adapted to removably lock said rear casing to said forward portion, a slidable plate connected to said slidable latch means, said slidable plate having a cam means thereon, a cam follower on said latch means and in engagement with the cam on said plate, plate actuating means for sliding said slidable plate relative to said rear casing to remove said latch means from engagement with said forward portion, a timing mechanism in said rear casing adapted to actuate said plate actuating means at a predetermined interval of time after launching of the rocket head, whereby the rear casing is disconnected from said forward portion at a predetermined time following launching of the rocket head, thereby allowing ejection of said filamentary material from said forward portion.

3,143,965
EXPANDING BULLET
Arthur H. Burns, Jr., and Charles M. Schreiber, Alton, Ill., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Oct. 2, 1959, Ser. No. 844,962
3 Claims. (Cl. 102—91)



1. In an expanding bullet, the combination of a relatively hard jacket having a closed base and a thinned nose edge remote from said base, said jacket at said nose edge forming at least 5 but not more than 7 ogivally converging and circumferentially abutting staves and between adjacent staves an intervening folded web at least partially joining adjacent staves and forming on said staves substantially radially extending marginal flanges for abutting adjacent staves in contiguity with each other at said flanges to define an equal number of uniformly circumferentially distributed longitudinal ribs on the interior of said jacket adjacent said edge, said staves at any given transverse cross sectional plane being of substantially uniform thickness radially and said web of about the same thickness in said given plane transverse to the bullet axis such that said ribs have a circumferential thickness about twice the thickness of said staves measured in said plane and extend inwardly from said staves most deeply at said edge to a depth in excess of the thickness of said staves at said edge but not substantially more than five times the thickness of said staves at said edge, thereby providing in said web and equal number of uniformly circumferentially spaced sharp bends fractured partially down their length between contiguous flanges and defining predetermined lines of splitting from said edge, and a relatively soft metal core held in said jacket interior and having a portion of said core projecting forwardly beyond said edge.

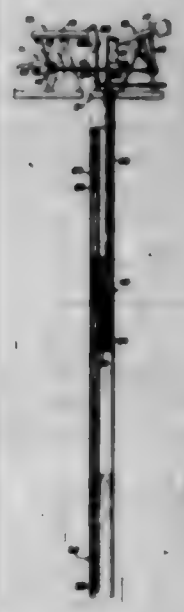
3,143,967
FUEL UNIT
Charles W. Lang and Robert W. Erikson, Rockford, Ill., assignors to Sundstrand Corporation, a corporation of Illinois
Filed Nov. 23, 1962, Ser. No. 239,631
8 Claims. (Cl. 103—4)



1. An oil burner pump having, in combination, a casing, a pumping means in the casing, a reservoir in the casing to which the inlet of the pumping means is connected, said reservoir having an inlet thereto and said casing having an outlet therefrom adapted to be con-

nected to a source of oil, a cylindrical bore in the casing closed at one end to form a valve chamber, an inlet port opening to said chamber and connected to the outlet of the pumping means, an outlet port leading from said chamber, a cylindrical sleeve fixed in the bore, a hollow piston valve slidable in said sleeve and controlling the outlet port, said valve having a closed end and generally cylindrical side walls to define in said bore a spring chamber separated by the piston valve from the valve chamber and said valve being movable in response to the pressure in the valve chamber toward open position, a spring in the spring chamber and contacting the valve to bias the valve toward closed position, bypass means including a bypass port opening through the valve to the spring chamber at a point spaced from the closed end of the valve, a bypass passage opening at one end to the valve chamber and constantly communicating with said bypass port, a return passage connecting the spring chamber with the outlet from the casing, a return port opening into the sleeve at a point remote from the valve chamber, an annular groove in the piston spaced from the closed end thereof and adapted upon movement of the valve to establish communication between the bypass passage and the return port, and means connecting the return port to said reservoir.

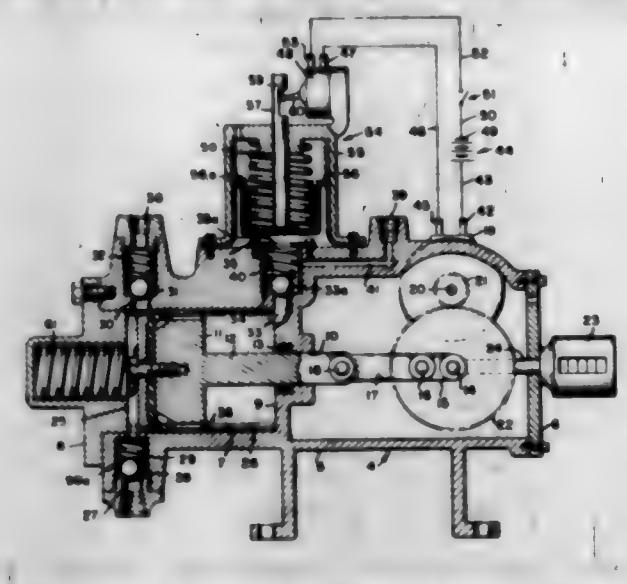
3,143,968
MULTIPLE STAGE PUMPING UNIT
Norris W. Galloway and John Edward Lott, Fort Worth, Tex., assignors to American Manufacturing Company of Texas, Fort Worth, Tex., a corporation of Texas
Filed Oct. 25, 1963, Ser. No. 318,957
10 Claims. (Cl. 103—5)



1. Multiple stage pumping apparatus comprising: first and second tubing strings in a well, said first tubing string extending from the earth's surface to the bottom of the well and said second tubing string extending downwardly in the well to a distance substantially above the bottom of the well, reciprocating pumps on the lower ends of said tubing strings, a well packer around said first tubing string below the lower end of said second tubing string and the pump thereon, sucker rod strings within said tubing strings and operatively connected with said pumps, means reciprocating said sucker strings, at least one opening in said first tubing string above said packer, means providing a reservoir in the well above said packer and receiving the lower end of the pump on said second tubing string therein, and means extending through said packer communicating the upper and lower portions of said well.

3,143,969
LIQUID PUMP AND METER
James Owen Eames, Washington, and Roy S. Sanford, Woodbury, Conn., assignors to Roy S. Sanford & Company, Oxford, Conn., a partnership
Filed May 11, 1961, Ser. No. 109,406
11 Claims. (Cl. 103—42)

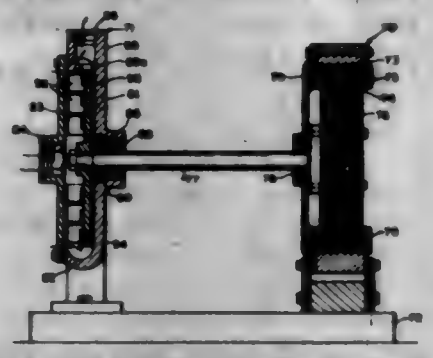
1. A pump for liquid including a suction chamber having an inlet valve and a return valve, said chamber being adapted to receive liquid from a liquid supply through the inlet valve and to return a portion of the liquid to the supply through the return valve, a pumping chamber having a discharge valve, means connecting said chambers including a one-way valve for conducting liquid from the suction chamber to the pumping chamber, movable differential liquid displacing means associated with said chambers movable in one direction to draw liquid into said suction chamber from a supply and to discharge liquid from the pumping chamber through said discharge valve and movable in the opposite direction to transfer a portion of the liquid drawn into the suction chamber to said pumping chamber through said connecting means and to return the rest of the liquid so drawn in to the liquid supply through said return valve, said displacing means being so constituted with respect to said chambers that on movement of the displacing means a given distance the change in volume effected thereby in the suction chamber exceeds the change in volume effected thereby in the pumping chamber by a predetermined amount, and means for biasing said intake, return and exhaust valves toward closed position, the biasing means being so constituted as to prevent opening of the discharge valve by the pressure in the pumping chamber and to permit opening of the return valve by the pressure in the suction chamber when the liquid displacing means is moving in said opposite direction.



3,143,970
METHOD AND APPARATUS FOR PUMPING FLUIDS BY OSCILLATORY IMPELLER ACTION
Albert G. Bodine, Jr., Los Angeles, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)
Filed May 25, 1959, Ser. No. 815,519
36 Claims. (Cl. 103—89)

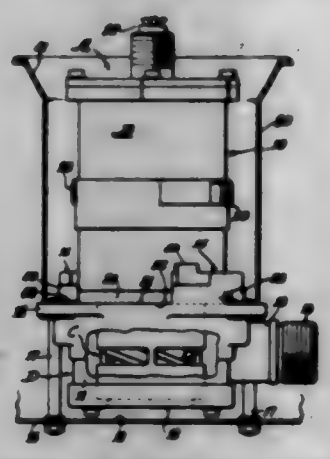
1. In a fluid pump, the combination of: a torsionally elastic energy storage system having mass and torsional elastic stiffness adapted for torsional elastic oscillation about an axis, said system having longitudinally adjacent portions simultaneously torsionally elastically deformable in reverse directions about and with reference to an intermediate neutral portion, a cyclic torque generator drivingly coupled to one of said torsionally elastically deformable portions for applying a cyclic torque thereto at a frequency such that said adjacent portions of said energy storage system torsionally oscillate in reverse di-

rections by elastic deformation about said neutral portion, and fluid impelling means coupled to and angularly



oscillated by one of said torsionally elastically deformable portions of said energy storage system.

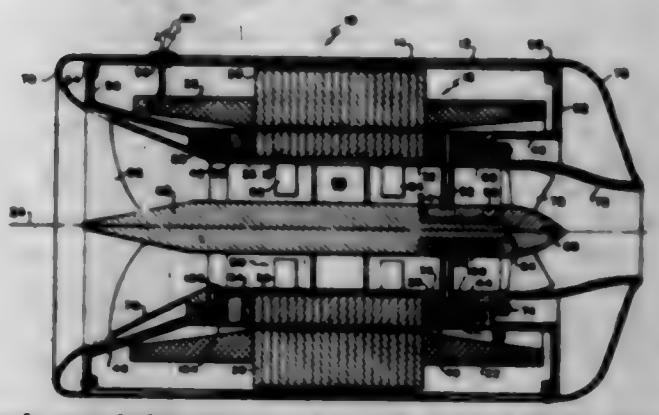
3,143,971
PLUG-IN TYPE IMMERSIBLE PUMP
John A. Green, Venice, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Dec. 23, 1957, Ser. No. 704,626, now Patent No. 3,064,340, dated Nov. 20, 1962. Divided and this application Aug. 24, 1962, Ser. No. 225,953
2 Claims. (Cl. 103—87)



1. A fluid pump assembly comprising: a motor and impeller assembly; a plurality of tongue portions formed on said motor and impeller assembly; a hollow scroll member, said scroll member being adapted to telescopically receive said motor and impeller assembly whereby said impeller is disposed within said hollow scroll member; means defining a plurality of grooved portions formed on said scroll member, said grooved portions adapted to complementarily receive said tongue portions when said motor and impeller assembly is telescopically received in said scroll member in a predetermined position thereof; and a plurality of detent means carried by said scroll member, each of said detent means being positioned adjacent each of said grooved portions and adapted to retain the respective tongue portions within the respective grooved portions whereby said motor and impeller assembly is fastened to said scroll member.

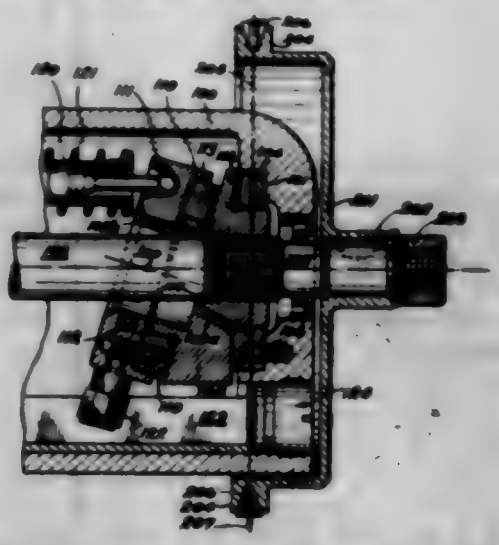
3,143,972
AXIAL FLOW UNIT
Watt V. Smith, 315 Old County Road, Severna Park, Md., and Robert J. Flaherty, Jr., 632 Binsted Road, Glen Burnie, Md.
Filed Feb. 6, 1963, Ser. No. 256,773
11 Claims. (Cl. 103—87)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An axial flow unit comprising:
a casing having an inlet end and an outlet end;
motor means mounted within said casing means and including a rotor member and a stator member;
said rotor member having a central bore therethrough concentric about the unit axis which extends between said inlet and outlet ends of said casing;
said central bore in said rotor member defining an inner peripheral wall therein;
a central shaft extending along the unit axis and being connected to said casing means to prevent relative rotation therebetween;
a plurality of sets of impeller blades longitudinally spaced within and connected to said inner peripheral wall of said rotor member;
each blade extending radially inwardly from said inner peripheral wall and terminating adjacent to, but spaced from, said central shaft;
at least one set of straightening vanes disposed on the outlet side of each set of impeller blades;



each vane being connected to said central shaft, extending radially outwardly therefrom, and terminating adjacent to, but spaced from, the inner peripheral wall of said rotor member;
each set of impeller blades and straightening vanes defining a transfer stage;
electrical means for energizing said motor means to cause rotor rotation which in turn causes impeller rotation;
whereby, when the unit is immersed in or placed adjacent a body of fluid, and the electrical means are energized causing rotor rotation, the fluid will be drawn through the unit in a plurality of stages, each set of impeller blades imparting additional velocity to said fluid and each set of straightening vanes transforming any rotational velocity of said fluid into translational velocity.

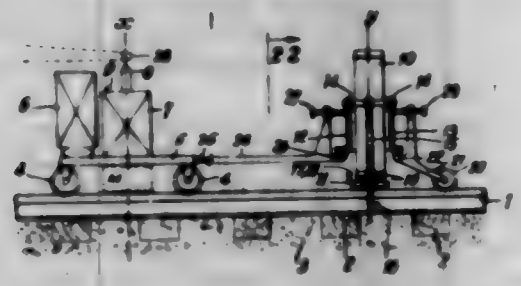
3,143,973
AXIAL PISTON PUMP DRIVE
Tadeusz Budzich, Shaker Heights, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 28, 1960, Ser. No. 17,832
3 Claims. (Cl. 103—162)



1. A pump comprising a housing having an inlet and an outlet, a cylinder block mounted in the housing, said cylinder block having a plurality of axial cylinders therein, a pumping piston mounted in each of said cylinders

to move fluid to said outlet, spring means normally biasing said pistons to one end of the stroke to fill the cylinder with fluid, means to overcome said piston spring bias comprising a driving shaft journaled in the housing, a driving cam in said housing coaxial with said driving shaft, an annular fluid film bearing interposed between one side of said cam and said housing, piston rods operatively connected to said pistons, a reaction member interposed between said piston rods and said driving cam, an annular fluid film bearing interposed between said driving cam and said reaction member, means on said housing and on said reaction member to prevent rotation of the reaction member in response to rotation of the driving cam to permit said reaction member to be progressively tilted and reciprocate the pistons during rotation of the driving cam, and means drivingly connecting said driving cam to said driving shaft for rotation therewith while allowing limited universal rocking motion of said driving cam relative to said shaft and said bearings to permit the differential reaction forces exerted on said reaction member to cause a progressive rocking action of said driving cam with respect to said fluid film bearings to create a rotating wedge shaped oil film at said bearings.

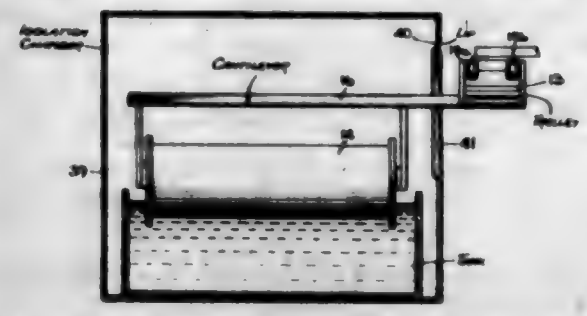
3,143,974
DEVICE FOR LIFTING RAILWAY TRACKS
Eugène Ovilla, Lausanne, Switzerland, assignor to Matériel Industriel S.A., Lausanne, and Constructions Mécaniques S.A. Renens, Renens, Switzerland
Filed May 20, 1959, Ser. No. 814,615
Claims priority, application Switzerland May 23, 1958
5 Claims. (Cl. 104—12)



1. A device for the automatic shifting of a railway track to a predetermined position and for maintaining the track in said position, said device comprising: hydraulically actuated shifting means for shifting the track, means supporting said shifting means and in turn supported on said track and movable with said track as the latter is shifted, means for establishing the position to which said track is to be shifted, control means for said shifting means, said control means comprising a casing supported in fixed relation on said means supported on said track, sensing finger means supported on the latter means for sensing the position of the means which establishes the position to which the track is to be shifted, and pressure fluid distribution means within said casing and controlled by said sensing finger means for in turn controlling fluid distribution to said shifting means to stop the flow of pressure fluid to and from said shifting means to cause shifting of the track in opposite directions in response to the respective direction of actual deviation of the track with respect to said predetermined position.

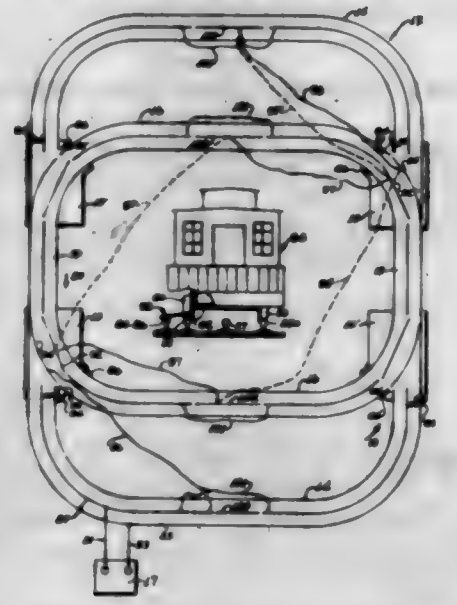
3,143,975
CANTILEVERED WORK CARRIERS FOR CONVEYOR SYSTEMS
Harold G. Abbey, 189—10 Aberdeen Road, Jamaica 23, N.Y.
Filed Sept. 5, 1962, Ser. No. 221,473
8 Claims. (Cl. 104—128)

1. A conveyor structure comprising a track constituted by a pair of parallel channel members having horizontally extending lower and upper flanges, carriers movable along said track and provided with two sets of wheels each riding in a respective channel member, each carrier including a cantilever arm and means to suspend a work load



on said arm at a position displaced outwardly from said track and to produce a torque causing one set of wheels to engage the upper flange of one member and the other set to engage the lower flange of the other member.

3,143,976
MODEL TRAIN SWITCHING MECHANISM
William F. Wherry, 1212 Stanley, Detroit, Mich.
Filed Apr. 10, 1961, Ser. No. 120,810
8 Claims. (Cl. 104—153)

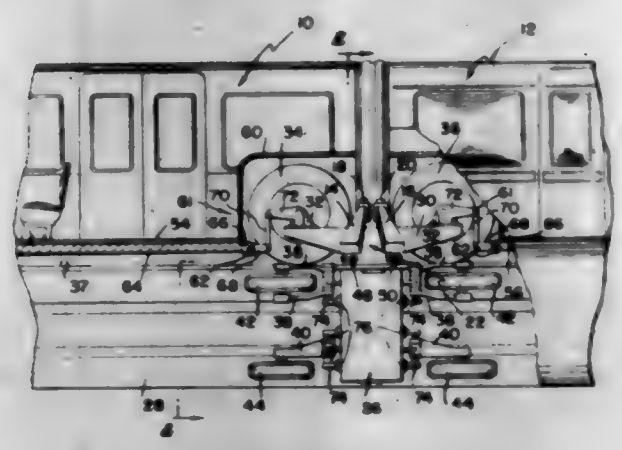


1. In an electrically operated model railroad system on which three or more trains may be run simultaneously in the same direction, the combination comprising at least two loops of model railroad track; leading and trailing switches interconnecting the loops to form main line track sections each common to a pair of loops; said leading switches having means operable by oncoming trains to direct oncoming trains onto the main line track sections; said trailing switches having means operable by a departing train to direct the next succeeding deparing train from a main line track section to an alternate loop section; an insulated power rail section in each loop section intermediate a leading and trailing switch; power lines leading from said trailing switches to said insulated rail sections; switching means in said trailing switches adapted to de-energize the insulated power rail section in the loop section ahead of a train which passes over the switch and to energize an insulated power rail section in the alternate loop section.

3,143,977
BOGIES FOR MONORAIL VEHICLES
Konrad Doller, Cologne-Deutz, Germany, assignor to Alweg-Forschung, G.m.b.H., Cologne, Germany, a corporation of Germany
Filed Mar. 15, 1961, Ser. No. 95,914
Claims priority, application Germany Mar. 23, 1960
8 Claims. (Cl. 105—144)

1. In combination a monobeam straddling bogie, a monorail vehicle body, spring suspension means opera-

tively interposed between said bogie and said body and acting vertically for resiliently supporting said body on said bogie, additional suspension means independent of said spring suspension means interposed between said bogie and said body for preventing tilting movement of the vehicle about its longitudinal axis with respect to said bogie.

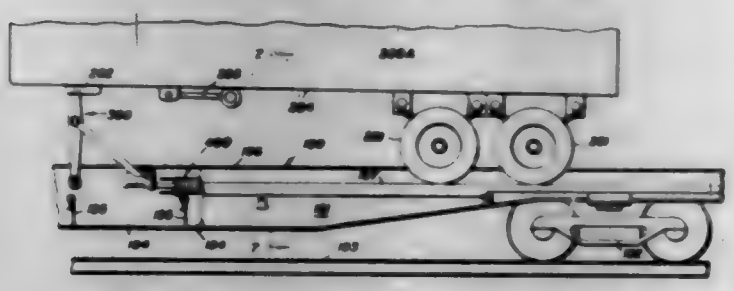


3,143,978

FREIGHT TRANSPORTATION SYSTEMS AND METHODS

Deodat Clejan, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Nov. 13, 1962, Ser. No. 237,201
24 Claims. (Cl. 105—368)



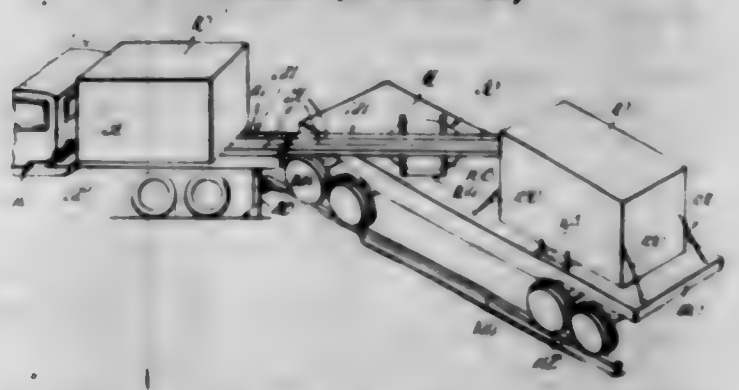
1. A multi-purpose railway car for transporting indiscriminately a road semi-trailer of the type including a rear end carrying road wheels and a front end carrying a king pin and a freight carrier of the type including an underframe carrying low rollers; said railway car comprising a longitudinally extending hollow frame, a pair of trucks supporting the opposite ends of said frame, structure carried by said frame for supporting either a semi-trailer or a freight carrier mounted upon the top thereof and for accommodating limited movements of the mounted semi-trailer or freight carrier longitudinally of said frame, a shock-absorbing device carried by said frame, first and second independent hitches carried by said frame in corresponding longitudinally spaced-apart positions and independently selectively cooperating with said shock-absorbing device, said first hitch being selectively movable between a storage position disposed closely adjacent to the top of said frame and an erected position disposed well above the top of said frame, said first hitch in its storage position being disposed in non-interfering relation with the underframe of a freight carrier mounted upon the top of said frame, means including said first hitch in its erected position for interconnecting said shock-absorbing device and the king pin of a semi-trailer mounted upon the top of said frame so as to afford shock absorption between said frame and the mounted semi-trailer, said second hitch being selectively movable between a storage position disposed closely adjacent to the top of said frame and an erected position disposed well above the top of said frame, said second hitch in its storage position being disposed in non-interfering relation with the underframe of a freight carrier mounted upon the top of said frame, and means including said second hitch in its erected position for interconnecting said shock-absorbing device and the underframe of a freight carrier mounted upon the top of said frame so as to afford shock absorption between said frame and the mounted freight carrier.

3,143,979

CUSHIONED TURNTABLE ARRANGEMENT FOR RAILROAD CARS

Raymond A. Echarmill, 1636 Rascher Ave., Chicago 40, Ill.

Original application Apr. 2, 1958, Ser. No. 725,968, now Patent No. 3,028,823, dated Apr. 3, 1962. Divided and this application Nov. 20, 1961, Ser. No. 153,621
4 Claims. (Cl. 105—455)



4. In a railroad flatcar including a bed mounted on wheels adapted to ride on the rails of a track, the improvement wherein said flatcar includes a cushioned turntable for carrying freight containers in rail transit, said improvement comprising:

an upright turntable center pivot structure secured to the car bed adjacent the longitudinal axis thereof,

a turntable carried by the flatcar bed in circumambient relation with said center pivot structure,

said turntable being mounted on said car bed for movement longitudinally thereof with respect to said center pivot structure,

means for releasably securing freight containers to said turntable for rail transit,

a pair of cushion device abutment members secured to said turntable and positioned in spaced relation longitudinally of the car and on either side of said center pivot structure,

and cushioning means operatively interposed between said abutment members and said center pivot structure for protecting freight containers carried by said turntable against buff and draft forces applied to the ends of the car.

3,143,584

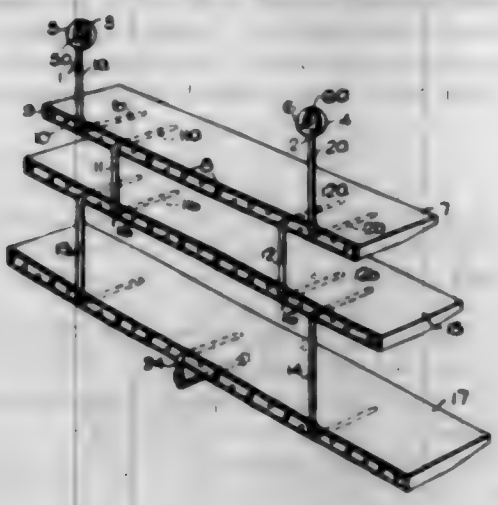
WALL-SUPPORTED ADJUSTABLE SHELVING

Ernest Dudley Sperring, Top Flat, 195 Eltham High St., London SE. 9, England

Filed May 1, 1961, Ser. No. 108,455
5 Claims. (Cl. 108—108)

1. Adjustable shelving comprising a plurality of L-shaped brackets, attaching means at one end of one limb of each of said L-shaped brackets for securing said L-shaped brackets to a vertical surface so that the other limb of each of said L-shaped brackets is substantially horizontal and below the point of attachment to the vertical surface, a first shelf means having at least four sockets in the edge portion which is directed toward the vertical surface, a plurality of U-shaped brackets having two horizontally extending limbs each, said sockets holding the horizontally extending limbs of said L-shaped brackets and the upper horizontally extending limbs of

said U-shaped brackets, respectively, and a second shelf means having a plurality of sockets in the edge portion which is directed toward the vertical surface, said second



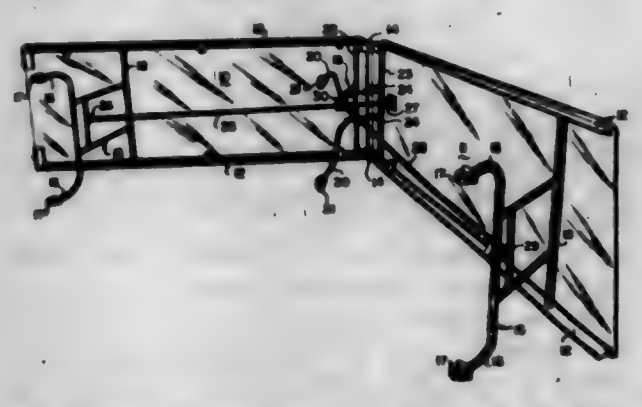
shelf means being held at a spaced distance below said first shelf means by the lower limbs of said U-shaped brackets extending into a corresponding number of sockets in the second shelf.

3,143,981
DEMOUNTABLE PARTITION
Leslie E. Tassell, Grand Rapids, Mich., assignor to Tassell Hardware Company, Grand Rapids, Mich.
Filed Mar. 23, 1962, Ser. No. 181,868
11 Claims. (Cl. 108—108)



1. Demountable partition and shelf structure comprising, three upright posts in right triangular relation and having vertically slotted and shouldered side walls with longitudinal recesses overhung by the side walls, a horizontal beam of the same cross section as said posts disposed between two of said posts, a pair of first brackets connecting the ends of said beam to the sides of the adjacent posts and including right angularly bent clips of a width fitting within the shoulders of the adjacent side walls, outwardly offset central ribs formed in said clips and around the bends thereof and extending into the slots of the adjacent beam and posts, a flat reinforcing plate arranged perpendicularly to the outside surface of said clips and having right angularly disposed inner edges abutted against the ribs in the center of the arms of said clips, ears on said inner edges projecting through slots provided therefor in said clips and secured thereon by staking on the inner sides of said clips, holes formed through the sides of said clips at the ends of said plates, stop prongs struck angularly outwardly from the centers of the arms of said clips at points spaced outwardly along the arms from said holes, screws passed outwardly through said holes, oblong nuts of a width to pass through said slots engaged with said screws and disposed in the recesses of said beam and adjacent posts in angled crossing relation to said slots to clamp said clips to said side walls, the ends of said plate and said stop prongs being spaced less than the length of said nuts and acting as rotation limiting stops for the nuts, a horizontal shelf panel arranged in lapped relation to said beam, a vertical partition panel arranged in lapped relation to two of said posts, other angled clips having elongated flanges joined along their longer edges, first flanges of said other clips having an outwardly offset outer edge fitting within the shouldered side walls of said beam and said posts, the other flanges of said other clips lying in the plane of the adjacent side walls of the beam and posts and being secured by screws to said panels, other stop prongs struck angularly outwardly from said first flanges on opposite sides of a screw hole formed in the flanges, other nuts and screws the same as said first nuts and screws engaged with said first flanges of said other clips and the slotted side walls of said beam and said posts, a pair of shelf bracket arms of flat stock arranged vertically on edge and having T-shaped slots opening to their inner ends, spaced prongs projecting from the inner ends of said bracket arms on opposite sides of said T-shaped slot and therebelow, clamp strips abutted crosswise to the inner ends of said bracket arms and having slots passing through said prongs, vertically spaced portions of said prongs being staked on the inner sides of said clamp strips, a thumb screw having a knurled head positioned in the wide part of said T-slot with a shank extending through a hole provided therefor in said clamp strip, and an oblong nut like said other nuts on said screws clamped against the inside of the recesses of said posts and clamping said clamp strip in said shouldered side walls.

3,143,982
TORSION BAR LEG STRUCTURES FOR FOLDING TABLES
Peter Blink and Robert O. Blink, Milwaukee, Wis., assignors to Mitchell Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 15, 1963, Ser. No. 258,728
4 Claims. (Cl. 108—113)

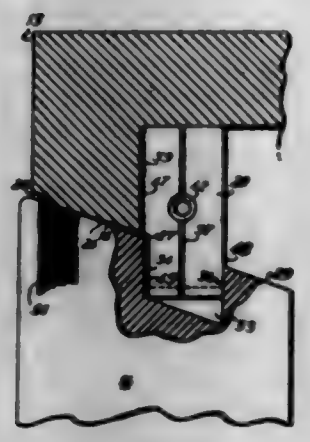


1. In a folding table assemblage wherein the table includes a pair of endwise adjacent, hingedly connected top sections with a leg structure foldably connected to an undersurface portion of a top section, said leg structure having an integral transverse tube member, the improvement which comprises a rectilinear torsion member housed within the tube member of said leg structure and anchored at one end to a top section to react directly thereagainst and at its other end to said leg structure whereby an unfolding movement of said leg structure relative to said top section will place said torsion member under tension and decelerate folding movement of said top section.

3,143,983
SAFE DOOR CONSTRUCTION
Robert W. Maynard, Cincinnati, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Original application July 18, 1961, Ser. No. 122,804. Divided and this application Oct. 16, 1962, Ser. No. 239,389
4 Claims. (Cl. 109—64)

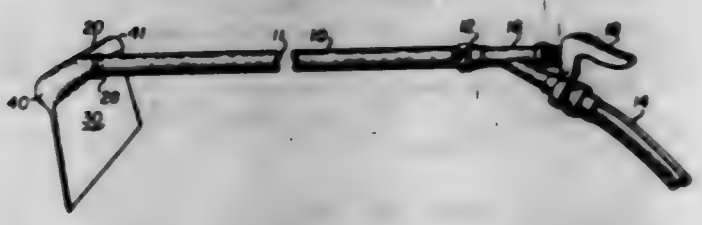
1. A safe door construction comprising, a body, said body having a circular opening therethrough, said opening having a tapered edge, a door for closing said opening,

said door having a tapered edge which facially engages the tapered edge of said opening when said door is in closing position in said opening, one of said edges being provided



with a series of shallow grooves knurled therein, said grooves acting as wipers to prevent particles of grit from causing said door to stick in said opening.

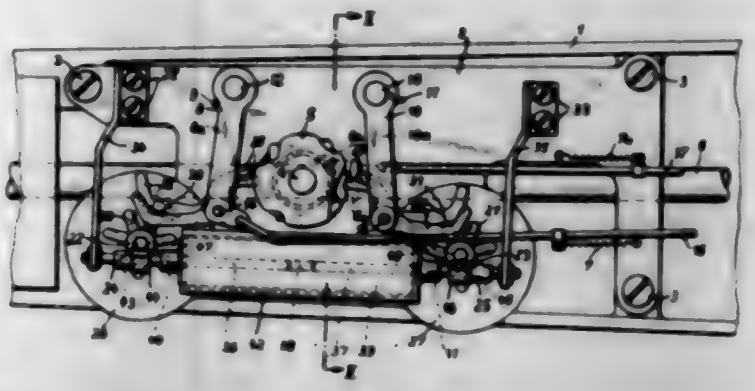
3,143,984
GARDEN TOOL
Henry Morasch, 2383 Lawrence Station Road, Santa Clara, Calif.
Filed Oct. 22, 1962, Ser. No. 232,233
2 Claims. (Cl. 111—7.1)



2. A garden tool comprising:
(*a*) a long tubular body;
(*b*) a hand operated valve means mounted to one end of said long tubular body, said valve means being connectable with a hose;
(*c*) a short tubular body disposed at right angles with and affixed at its midpoint across the other end of said long tubular body, said short tubular body having an opening in its wall for communicating the inner bore of said long tubular body with inner bore of said short tubular body, opposite ends of said short tubular body being sealed;
(*d*) a hoe blade means formed integrally with and extending parallel to the length of said short tubular body, the surface of said blade means being substantially at right angles to said long tubular body; and
(*e*) a plurality of discharge openings in the wall of said short tubular body and disposed to form a row substantially parallel to and extending along the inner side of said blade means, said openings being formed and arranged to direct a stream of the fluid against the inner surface of said blade means.

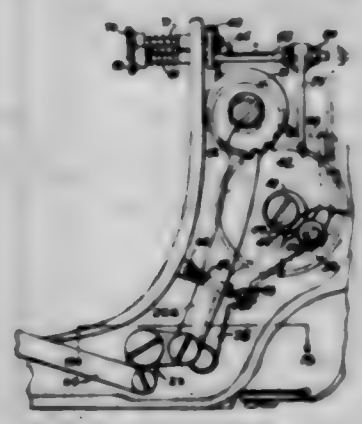
3,143,985
ORNAMENTAL SEAM DEVICES FOR SEWING MACHINES
Rudolf Reiber and Herbert Wenz, Kaiserslautern, Pfalz, Germany, assignors to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany, a joint-stock company of Germany
Filed Mar. 18, 1959, Ser. No. 800,278
Claims priority, application Germany Mar. 19, 1958
9 Claims. (Cl. 112—158)

1. An ornamental stitch sewing device for a sewing machine, comprising, in combination, stationary supporting means, a drive shaft rotatable relative to said supporting means and a plurality of cams mounted on said drive shaft, a spring biased rocker arm having a pivot support on said supporting means, a plurality of cam followers each having a free end and a follower portion movable into engagement with one of said cams and each having a pivot joint with said rocker arm for movement inde-



pendently relative to any other one of said plurality of cam followers, and a setting device presenting a plurality of supporting fingers each corresponding to a respective one of said cam followers and movable into engagement with the free end of its respective cam follower to provide a fixed support for said follower during transmission of deflections from the associated cam to said rocker arm.

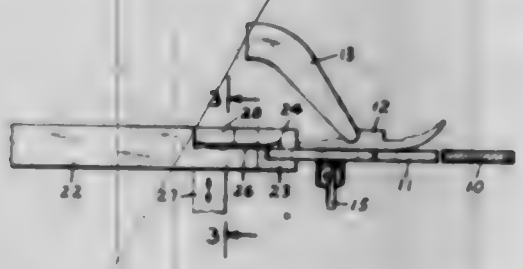
3,143,986
STITCH CONTROL MECHANISM FOR BLIND-STITCH SEWING MACHINES
Frank Greco, Hasbrouck Heights, N.J., assignor, by mesne assignments, to Singer Company of Canada Ltd., Montreal, Quebec, Canada, a corporation of Quebec
Filed Mar. 12, 1962, Ser. No. 178,906
1 Claim. (Cl. 112—178)



In a blindstitch sewing machine having main driving means, a reciprocatingly projecting ridge forming member, stitch forming means including needle means, cloth feeding means, and a selectively upwardly movable turning longitudinal shaft for actuating said ridge forming member, all operatively connected to said main driving means; the improvement which comprises a longitudinal dished support disposed beneath said longitudinal shaft, a pivotally movable lifting bar operatively related to said dished support, a rocker shaft secured to said lifting bar, an eccentric disposed against said rocker shaft, a first gear secured to said eccentric, and a second gear meshing with said first gear and also secured to said main driving means, means operatively connected with said lifting bar normally causing upward movement of said support during alternate periods of reciprocation of said ridge forming member so that a "skip stitch" is produced, said means operatively connected with said lifting bar also adapted to lock said lifting bar in upward position so

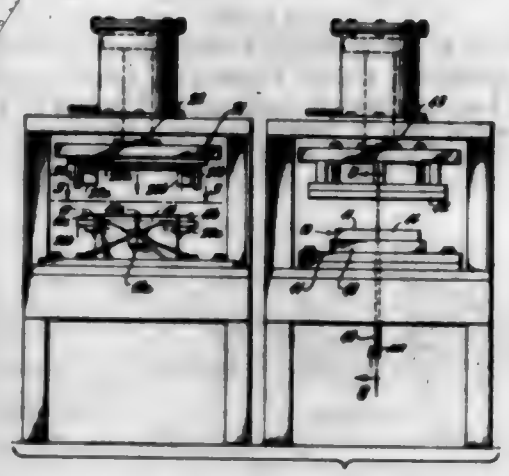
that a "single stitch" is produced, said means operatively connected with said lifting bar comprising a forwardly movable first actuator having a projecting member secured thereto and normally in spaced relationship with said rocker shaft, a recess within an intermediate portion of said first actuator, first push-button means carried by said supporting frame operatively connected with said first actuator, first spring means upon said first actuator adapted to hold said first actuator in normal position, a pivotally movable holding member in abutting relationship with said first actuator, second spring means operatively connected with said holding member and normally maintaining said holding member against said first actuator, a forwardly movable second actuator having a shaft portion having a portion of reduced cross-sectional area at its forward end, second push-button means carried by said supporting frame and at the rearward end of said second actuator, second spring means upon said second actuator normally adapted to hold said second actuator in rearward position, said holding member being adapted to be disposed within the recess within said first actuator when said first actuator is moved forwardly, said holding member being also adapted to clear said recess when said second actuator is moved forwardly.

3,143,987
THREAD CHAIN SEVERING DEVICE FOR SEWING MACHINES
Hermann Ferdinand Denkel, Stuttgart, and Willi Ferdinand Wolfgang Nitsa, Belmstein, Kreis Waiblingen, Germany, assignors to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Germany
Filed Oct. 25, 1962, Ser. No. 233,085
Claims priority, application Germany Oct. 26, 1961
10 Claims. (Cl. 112—252)



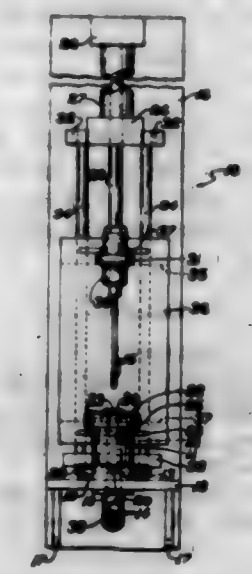
1. In a sewing machine, means adapted to form a chain of thread between successive work pieces fed through the stitch forming mechanism of the machine, an enclosed tubular member in alinement with the chain of thread as the latter is formed by said means adapted to have a suction created in its interior and adapted to have the chains of thread formed between successive work pieces drawn into the member by suction, closure means at the inlet end of said member provided with an obliquely inclined surface, the inclined surface merging into a surface extending longitudinally of said member, said closure means having an opening extending therethrough in alinement with said chain forming means and said chain of thread as the latter is formed, said opening being of sufficient size to permit the chain of thread to pass therethrough into said member, a narrow passageway extending from said opening in said closure means to said surface extending longitudinally of said member and for a limited distance along said member, thereby enabling a portion of a thread chain attached to a work piece to travel along said passageway, and thread severing means disposed between said surface extending longitudinally of said member and the longitudinal axis of said member for severing the thread chain at a point adjacent that at which the thread chain extends from the work piece toward the longitudinal axis of said member as a result of the suction within said member.

3,143,988
APPARATUS FOR MAKING ROLLED EDGE METAL CONTAINERS
Patrick H. Reardon, Hagerstown, Md., assignor, by mesne assignments, to The Lionel Corporation
Original application Sept. 29, 1959, Ser. No. 843,220, now Patent No. 3,019,833, dated Feb. 6, 1962. Divided and this application June 30, 1961, Ser. No. 128,924
6 Claims. (Cl. 113—7)



1. Apparatus for forming rolled edge metal boxes from a sheet-metal blank comprising a first press and a second press, said first press comprising a reciprocating upper die member and a lower die member, said lower die member having a forming block for supporting said blank and having vertically movable members located at two sides of said forming block, said upper die member having a plurality of staggered sets of punch members for sequentially striking and bending portions of said blank and having a set of plungers for depressing said vertically movable members, and said second press comprising a reciprocating upper die member and a fixed lower die member, said upper die member of the second press having a horizontally disposed flat plate for pushing the unfinished metal box into the lower die member and the lower die member of the second press having a rectangular curling die and having four hinged positioning members disposed inside the rectangle formed by said curling die and forming a smaller rectangle with sides parallel and adjacent to the inner face of the curling die.

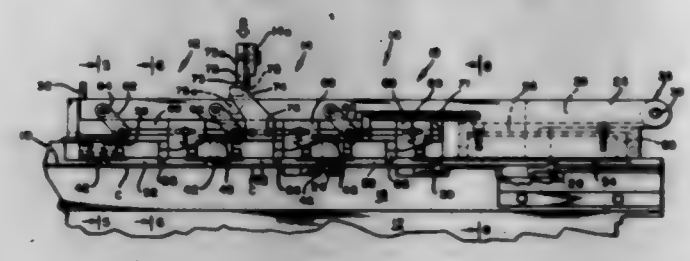
3,143,989
METAL TUBE SIZING APPARATUS
Otto E. Hermanns, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Aug. 4, 1961, Ser. No. 129,355
10 Claims. (Cl. 113—44)



1. An apparatus for drawing thin walled cylindrical metallic tubing, comprising a unitary die having a cylin-

drical uninterrupted passageway for supporting said tubing, means mounting said die on said apparatus, a tube drawing tool engageable with the inner surface of tubing supported in said die, means to force the tool through said tubing, and tube withdrawing means movable relative to said die and cooperable therewith to retract the drawn tubing from said die.

3,143,998
CAN BODY BLANK REGISTRATION APPARATUS
Ed Laxo, Hayward, Calif.; Thelma E. Laxo, executrix of said Ed Laxo, deceased, assignor to Thelma E. Laxo
Filed May 3, 1962, Ser. No. 192,269
5 Claims. (Cl. 113—115)



1. In a machine for feeding can body blanks or the like intermittently along a feed rail to present said blanks to successive machine stations, work on said can body blanks at at least one of said stations being performed as a machine element moves through a reciprocatory working stroke, registration apparatus for said can body blanks comprising:

a back stop finger along the path traveled by can body blanks,

said back stop finger having a trailing stop surface disposed normal to said path and a leading cam surface disposed at an angle to said path,

yieldable means biasing said back stop finger into the path of can body blanks,

said yieldable means being adapted to be overcome by the engagement of a can body blank against said cam surface,

a carrier member mounted in a parallel linkage along and above said path,

a back pusher finger on said carrier member,

resilient means biasing said carrier member forward of and above said path to hold said pusher finger out of said path,

a first cam member on said carrier member, and

a complementary cam member on said machine element normally displaced from said first cam member,

said complementary cam member being adapted during a reciprocatory stroke thereof to engage said first cam member and move said carrier member rearwardly of and toward said path to cause said pusher finger to engage the leading edge of a can body blank and push said can body blank rearward until the trailing edge thereof engages the stop surface of said back stop finger and to hold said carrier member in such position until said machine element returns toward its normal position.

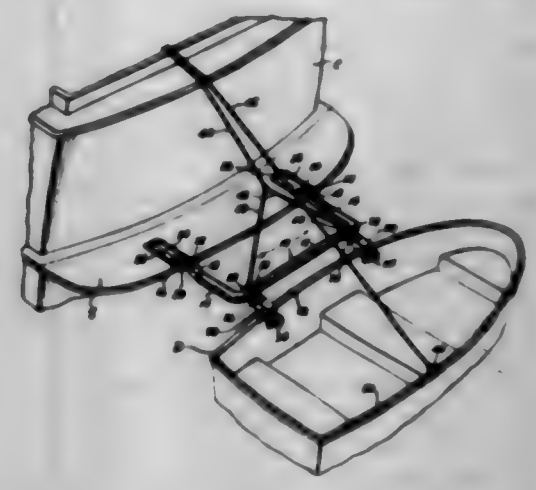
3,143,991
METHOD AND MECHANISM FOR HOISTING AND STOWING SMALL BOATS
Rudolph C. Anderson, 2010 NW. Blue Ridge Drive, Seattle, Wash.
Filed July 20, 1962, Ser. No. 211,367
21 Claims. (Cl. 114—43.5)

6. In combination:

(*a*) a small boat;

(*b*) an above-water substantially horizontal shelf area to which the small boat is hoisted and stowed;

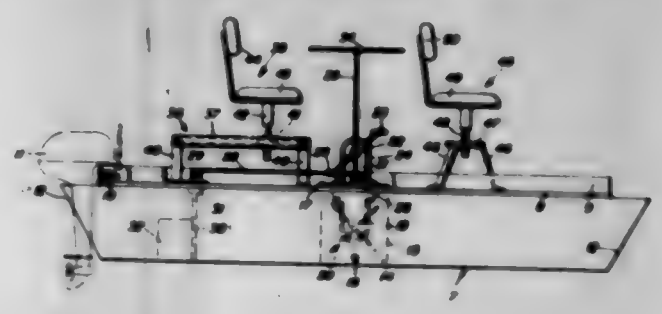
(*c*) linkage means including a frame articulately connected to said shelf area at one side, and articulately and releasably coupled on the other side to a side of the small boat, said frame being movable to unfold from and to fold back on said shelf area;

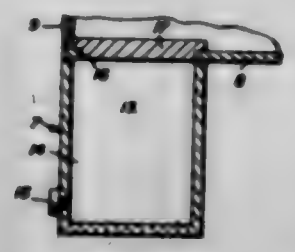


(*d*) means for hoisting the side of said frame next to the small boat while leaving the far side of the small boat in the water; and

(*e*) means for thereafter laterally tilting the small boat onto the shelf area while the near side thereof is at least partially supported by said linkage means and shelf area.

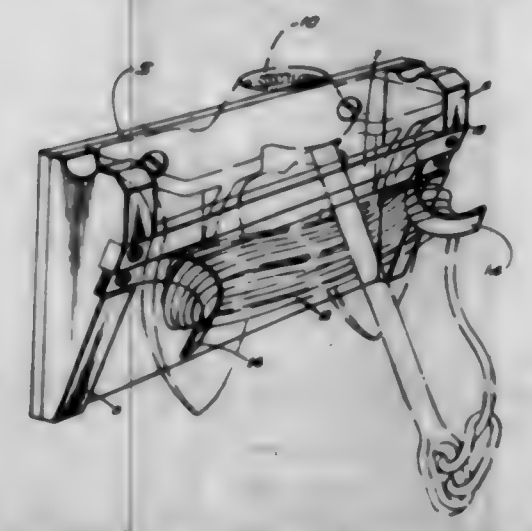
3,143,992
PONTOON BOAT
Jessie T. Beams, 3200 3rd Ave., Tuscaloosa, Ala.
Filed June 29, 1962, Ser. No. 206,448
4 Claims. (Cl. 114—61)





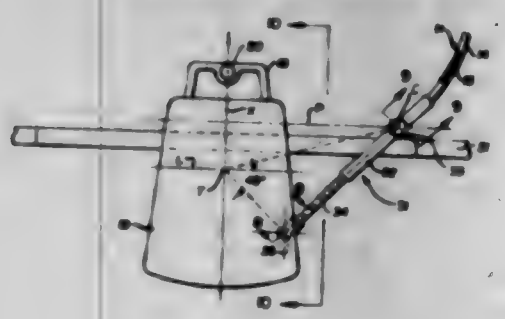
1. A catamaran comprising a pair of spaced, parallel and upwardly opening open top pontoons, a deck mounted from and extending across at least portions of the open tops of and between said pontoons and constituting the tops of said portions thereof, said deck having openings therein communicating with the interior of said pontoons for providing access thereto, propulsion means mounted on the deck, said pontoons including spaced bulkheads extending between the sides of said pontoons and providing live bait boxes communicating with the access openings, removable hatches on the deck closing said access openings, said pontoons having openings therein communicating the lower portions of the bait boxes with the atmosphere, and removable closures on the pontoons for the last-named openings.

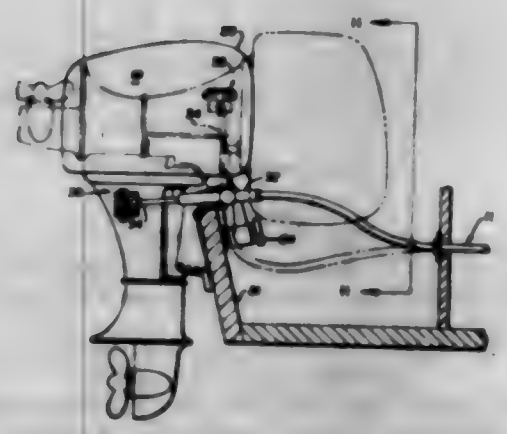
3,143,993
PORTABLE BOAT ANCHOR AND ROPE STOWAGE DEVICE
Gaspare Salerno, 12531 Flanders, Detroit 5, Mich.
Filed Sept. 24, 1962, Ser. No. 225,473
1 Claim. (Cl. 114—210)



A portable boat anchor and rope stowage device comprising means adapted to be secured to a backboard and defining an anchor-receiving opening with the backboard to accommodate the flukes of an anchor, the anchor stowed in said opening by inserting its flukes thereinto from above the same, said means including structure spaced apart at opposite sides of said opening, and cleat means including a cleat on each such structure, said anchor in its stowed position extending from above said opening, through said means, and out on the other side below said opening, the anchor rope belayed on the pair of cleats when the anchor is in its stowed position in said opening.

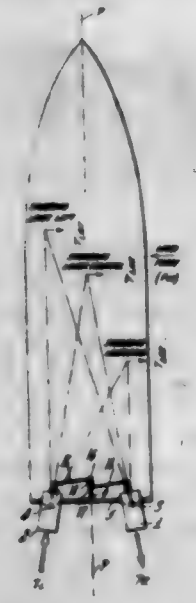
3,143,994
STEERING CONNECTION FOR OUTBOARD MOTORS
John F. Morse, 21 Clinton St., Hudson, Ohio
Filed Jan. 9, 1963, Ser. No. 250,269
2 Claims. (Cl. 115—18)





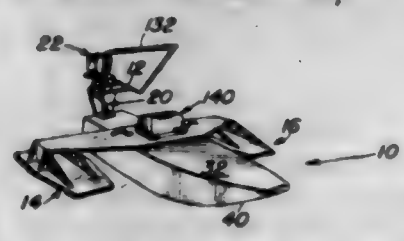
1. An outboard motor steering connection for a steering system employing a push-pull cable to transmit steering forces to an outboard motor having a tilting axis and a turning axis about which said motor turns to either side of a dead ahead position for steering comprising, a connector assembly, said connector assembly having a guiding member and a rigid ram member telescopically reciprocable in said guiding member, said ram operatively connected to be telescopically reciprocated by said push-pull cable, a terminal assembly on said ram, said terminal assembly attached to said motor rearwardly of said turning axis, a mounting assembly pivotally attached to said guiding member, said mounting assembly constructed and arranged to fixedly position the pivot point of said guiding member in close proximity to the tilting axis of said motor and such that a line through said turning axis and said terminal assembly intersects a line through the pivotal attachment of said guiding member to said mounting assembly and said terminal assembly at approximately 90° when the motor is in dead ahead position.

3,143,995
POWERBOAT STEERING CONTROL
Otto C. Koppen, 29 Woodcliff Road, Wellesley, Mass.
Filed May 4, 1962, Ser. No. 192,550
9 Claims. (Cl. 115—37)



1. In a powerboat having a pair of transversely spaced thrust means independently controllable simultaneously to provide steerable forward and reverse thrust forces each acting along an independent line of thrust, linkage means interconnecting said thrust means for selectively controlling each of said thrust means simultaneously for effective intersection of said lines of thrust within the length of said boat to provide a transversely acting thrust force component upon simultaneous establishment of a forward thrust component of one of said thrust means and a rearward thrust component of the other of said thrust means.

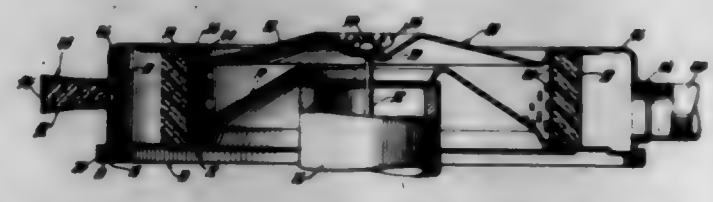
3,143,996
WATERCRAFT
William R. Chapman, 6715 S. Karlov Ave., Chicago 29, Ill.
Filed July 16, 1963, Ser. No. 295,384
8 Claims. (Cl. 115—70)



1. A watercraft comprising:
a pontoon member,
a crossboard carried by said pontoon member and extending transversely of said pontoon member,

said crossboard including oppositely projecting end portions extending away from the respective sides of said pontoon member,
a ski member secured to each of said crossboard end portions and spaced from said pontoon member,
a pair of foot pockets positioned on said crossboard member on either side of said pontoon member,
motor means carried by said pontoon member for propelling said craft along the water,
and handle means secured to said motor means for steering said craft,
said handle means including a handle portion disposed for hand gripping when the operator stands in said pockets.

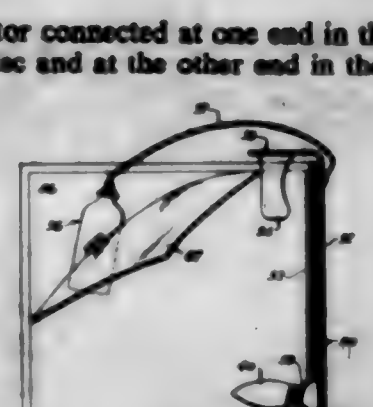
3,143,997
FILTER CAPACITY INDICATOR
Carl W. Norberg and William D. Pittsley, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 18, 1962, Ser. No. 231,530
2 Claims. (Cl. 116—114)



1. In a filter unit designed to separate entrained solid particles from a gaseous medium moving therethrough,
a housing having inlet and outlet openings,
a filter element in the housing separating said openings and having an upstream side adjacent the inlet and a downstream side adjacent the outlet so that contaminants are drawn into the filter element on the upstream side by the gas moving in the filter unit on its way to the outlet, the combination comprising,
an indicator device including tubular casing means having an inlet and outlet opening, a filter media within the casing means separating the inlet and outlet openings thereof and being formed of a material substantially the same as the material of said filter element, the outlet opening of said casing means being received in said housing and communicating with the gas moving within the filter unit, the inlet opening of said casing means being exposed to the contaminated gaseous medium entering said filter unit and being of larger area than said outlet opening whereby said filter media has a contaminate penetration rate proportional to that of the filter element to indicate the filtering condition thereof.

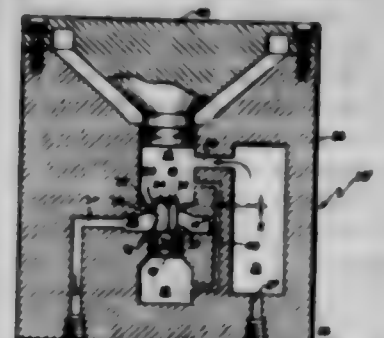
3,143,998
BOOK MARK
Thomas J. Madden, 119 Westover Ave., West Caldwell, N.J.
Filed June 11, 1963, Ser. No. 287,823
2 Claims. (Cl. 116—119)

1. A book mark comprising a substantially rigid clip member having a flat elongated main body, a flange firmly connected with said main body at one end and extending at substantially a right angle thereto, said main body having a pair of parallel arranged slots located therein adjacent said flange, a hook member firmly connected with said flange and extending centrally therefrom and parallel spaced from said main body in the direction of the other end of said main body for supporting said clip member on the back of the cover of a book with said flange extending over the top of the book cover and said hook downwardly in between the pages in the book, at least one substantially flat page marker disc, said page marker disc having a slot therein near the periphery of said disc, and an elongated flexible connector connected at one end in the slot in said page marker disc and at the other end in the slots in said



clip member, said page marker disc having a centrally located indicia bearing space thereon.

3,143,999
HYDROACOUSTIC OSCILLATOR TECHNIQUES
John V. Beuyeucos, 10 Blossom Circle E., Rochester 10, N.Y.
Filed May 3, 1962, Ser. No. 192,274
5 Claims. (Cl. 116—137)

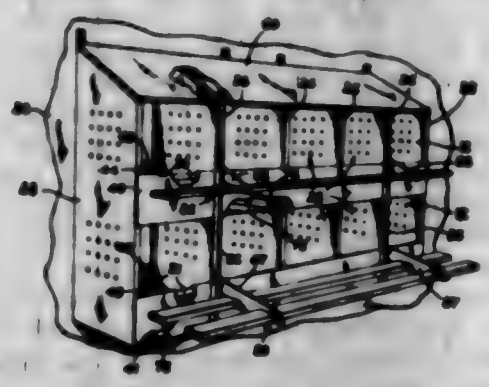


1. In an acoustic vibration generator comprising a port structure partially bounding a pair of chambers containing a fluid under pressure, said port structure further containing a discharge chamber connected externally to the low pressure side of a fluid source, a fluid control valve movable in response to pressure variations within said chambers to provide variable orifice means for modulating the flow of fluid through said chambers and to produce pressure variations therein, said valve being driven relative to said port structure in consequence of said pressure variations to sustain the flow modulation, said valve having means projecting therefrom for at least partinually defining a discharge region intermediate said discharge chamber and said orifice means for conveying fluid passing through said orifice means into said discharge chamber, the movement of fluid within said discharge region providing a pressure gradient within said discharge region producing a net force upon said projecting means aiding the movement of said valve.

3,144,000
FOLDING NEST
Thomas E. Garrety, Springfield, Ohio, assignor to Buckeye Manufacturing Company, Kansas City, Mo., a corporation of Delaware
Filed Jan. 31, 1962, Ser. No. 170,136
7 Claims. (Cl. 119—45)

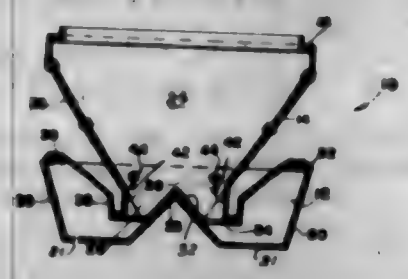
1. A laying nest adapted for rapid erection free of removable fastening devices, comprising a divider assembly consisting of a plurality of vertically extending partitions, a plurality of straps extending in pairs between and pivoted at adjacent said partitions providing for opening movement of said assembly from a folded compact position into an operative position with said separators in spaced apart relation as defined by said straps,

nest front and back members extending the length of said opened assembly and each having means engageable with said assembly at said straps and each having bendable portions engageable with said partitions to hold



said assembly rigid in said extended position, and a top extending the length of said opened assembly and having means engageable with said partitions adjacent the upper edge thereof for holding said partitions and said top in assembled relation.

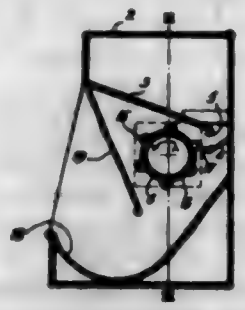
3,144,001
HOG-TYPE BROILER FEEDER
William W. Robinson, Jr., Signal Mountain, and Dempsie C. Camp, Dunlap, Tenn., assignors to Cumberland Case Company, Chattanooga, Tenn., a corporation of Tennessee
Filed Jan. 4, 1962, Ser. No. 164,263
6 Claims. (Cl. 119—53)



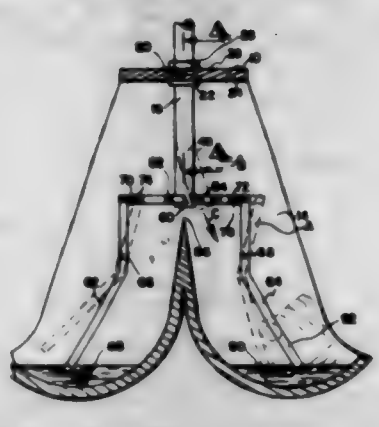
1. A poultry feeder comprising in combination at least one lower feed trough having integral end walls and upwardly diverging side walls, a feeding hopper having integral end walls and upwardly diverging side walls defining a discharge opening at their lower portions, said feeding hopper being spaced above and overlying said lower feed trough, means for adjusting the height of said feed hopper relative to said lower feed trough, and bracket means formed of a single piece of material extending transversely of said lower feed trough from one side wall thereof to the other side wall thereof and connected thereto, said bracket means also underlying and slidingly engaging the side walls of said feeding hopper at their lower portions so that said bracket means maintains the spaced relationship between the side walls of said lower feed trough and the side walls of said feeding hopper throughout adjustment of said feeding hopper.

3,144,002
DEVICE FOR FEEDING GRANULATED MATERIAL TO FARM ANIMALS
Pierre Villain, 5 Rue Diderot, Houilles Lieferd, France
Filed May 13, 1963, Ser. No. 279,832
Claims priority, application France May 14, 1962
6 Claims. (Cl. 119—56)

1. A device for feeding granulated material to farm animals, especially pigs, comprising, in combination, a feed trough; a container mounted above said trough and adapted to contain granulated material to be fed to the animals, said container having a pair of bottom walls inclined toward each other and having a pair of adjacent edge portions offset in vertical and transverse direction with respect to each other so that said bottom walls overlap each other in the region of said edge portions and define between the latter an offset passage having an elongated outlet opening formed between said edge portions, whereby the weight of granulated materials in said container will rest on said inclined bottom walls; a cylinder mounted in said trough turnable about an axis substantially parallel to said edge portions, extending closely adjacent alongside said elongated outlet opening and having at any instant a peripheral surface portion located at a higher elevation than the lower one of said edge portions and at a higher elevation than said outlet opening, said cylinder being formed with projections on its cylindrical surface; and means operatively connected to said cylinder for rotating the same about its axis in a direction in which said peripheral surface portion of said cylinder moves upward from said lower edge portion to a point higher than said outlet opening and then moves downward so that granulated material passing through said outlet opening onto said cylinder is first transported on one side of said cylinder in upward direction to said point to fall subsequently on the other side of said cylinder downwardly into said trough.

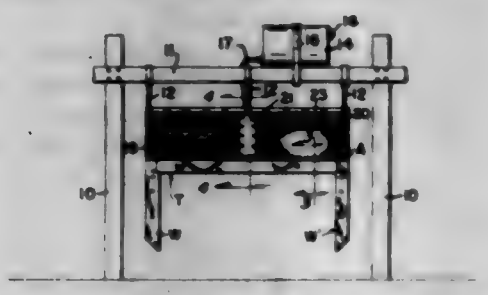


3,144,003
ANIMAL WATERING FOUNTAIN
Gordon L. Jacobs, Box 51, Cochise, Ariz.
Filed May 31, 1963, Ser. No. 284,678
6 Claims. (Cl. 119—75)



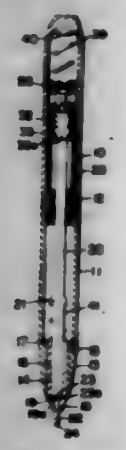
1. In an animal drinking fountain the combination of: a frame; a water receiving receptacle thereon; a member pivoted on said frame above said receptacle and adapted to be engaged by the nose of an animal when said animal is drinking from said receptacle; an elongated hollow resilient valve body supported on said frame and disposed to be deflected by said member when pivoted relative to said frame; a substantially rigid elongated valve actuating member in said valve body; a poppet valve member in said valve body disposed to be axially tilted and opened by said elongated actuating member during deflection of said valve body; the length of said actuating member being a multiple of the diameter of said poppet valve; and an open delivery end of said hollow valve body directed toward said receptacle.

3,144,004
INSECTICIDE APPLICATOR FOR ANIMALS
Royal V. Ness, 1519 Westminster Place, Westminster, Colo.
Filed June 21, 1962, Ser. No. 204,199
10 Claims. (Cl. 119—157)



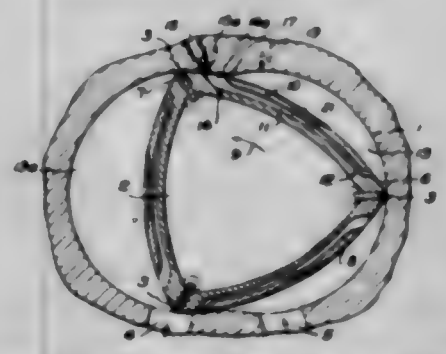
1. An applicator for applying insecticide to animals, including a rectangular body having an upper and lower border; means attached to said upper border for supporting said body so that said lower border is horizontally disposed and spaced above the ground so as to be engaged and lifted upwardly at the center by the backs of said animals passing thereunder; wick means within said lower border and extending therealong for applying insecticide to the backs of said animals; means communicating with said wick means intermediate the ends thereof for supplying insecticide thereto; a pair of wipers depending from said lower border and spaced a substantially equal distance on opposite sides of said insecticide supplying means and are separated a distance substantially equal to the width of the back of said animals; a wick in at least the upper portion of each said wiper in communication with said border wick means for supplying insecticide to said wipers and so that said lower ends will move inwardly and engage the sides and undersides of said animal upon the upward movement of the center of said lower border for uniformly applying insecticide thereto as said animals walk under said applicator.

3,144,005
RETRACTION-PROTRACTION MECHANISM FOR WRITING INSTRUMENTS
Frank T. Johnsons, 49 Hampton Drive, Berkeley Heights, N.J.
Filed Apr. 14, 1960, Ser. No. 22,162
11 Claims. (Cl. 120—42.03)



1. A writing instrument having a retractable writing point comprising: a barrel having an open lower end; a hood carried by said barrel having an outer end normally extending past said lower end of said barrel, said outer end of said hood being inwardly movable relative to said barrel; a cartridge unit including a point, said cartridge unit being longitudinally movable within said barrel between a point-protracted position wherein said point extends through the outer end of said hood and a point-retracted position wherein said point is concealed within said hood; a first compression spring urging said cartridge unit inwardly relative to said barrel; a latch receiver having longitudinally spaced first and second abutments respectively defining point-retracted and point-protracted positions; a latch selectively abuttingly engageable with said first and second abutments of said latch receiver; a latch actuator longitudinally movable relative to said latch receiver and said latch but non-rotatable relative to said latch receiver, said latch actuator abutting said latch; said cartridge unit having an upper end abutting one of said latch actuator and said latch receiver, and a second compression spring, stronger than said first spring, having an end seating against said latch and urging said latch into abutting engagement with said latch actuator and said latch receiver; said latch actuator being adapted to alternatingly direct said latch into abutting engagement with said first and second abutments upon succeeding sequences of longitudinal movements of said cartridge unit obtained by pressing said point and said hood outer end into contact with a rigid surface to move said point and hood outer end inwardly relative to said barrel and then releasing said point and said hood outer end from said contact, said latch when abuttingly engaged with said first abutment being operable to maintain said second spring in a compressed position whereby said first spring will urge said cartridge unit to its retracted position, said latch when abuttingly engaged with said second abutment being operable to allow said second spring to expand whereby said cartridge unit is forced to a protracted position against the pressure of said first spring.

3,144,006
METHOD AND APPARATUS FOR FORMING COMBUSTION GAS MIXTURES FOR ROTARY PISTON ENGINES
Siegfried Meurer, Nurnberg, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg A.G., Nurnberg, Germany
Filed Apr. 21, 1961, Ser. No. 104,621
Claims priority, application Germany Apr. 30, 1960
14 Claims. (Cl. 123—8)

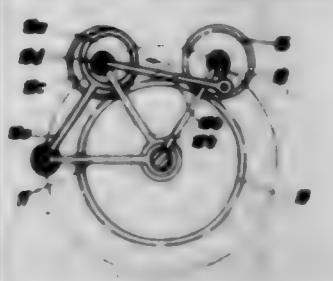


1. In a rotary piston engine having an equilateral arc triangular piston mounted for rotation in a trocboid shaped piston cylinder, said piston having a combustion gas forming structure comprising a gas permeable surface area means on said piston facing into said cylinder, channel means beneath said surface area means, and nozzle means for injecting fuel into said channel means for vaporizing the fuel in conjunction with said surface area means and forcing the vaporized fuel through said surface area means and through said channel means to mix the vaporized fuel and air into the combustion gas.

3,144,007
ROTARY RADIAL-PISTON MACHINE
Eugen Kaucrtz, Krabeck, Germany, assignor to Kaucrtz (Proprietary) Limited, Transvaal Province, Republic of South Africa, a limited-liability company of the Republic of South Africa
Filed June 28, 1961, Ser. No. 120,431
Claims priority, application Germany June 29, 1960
6 Claims. (Cl. 123—11)

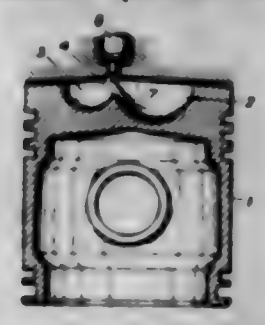
1. In a machine operable with a compressible fluid, in combination, a generally cylindrical housing provided with

an inlet for said fluid and an outlet for said fluid angularly offset from said inlet, a pair of radial pistons journaled within said housing on the axis thereof for relative angular displacement about said axis, said radial pistons defining a working chamber within said housing successively registrable with said inlet and said outlet, and linkage means interconnecting said pistons for angularly reciprocating at least one of them relatively to the other, thereby periodically enlarging and contracting said chamber, said linkage means includes a sun gear secured to said housing coaxially with said pistons, a planet gear meshing with said sun gear rotatably connected to one of



said pistons, connecting-rod means articulated eccentrically to said planet gear for pivoted motion about an axis offset from the axis of said planet gear by a distance less than the radius thereof and to the other of said pistons, and adjustment means for varying the effective length of said connecting-rod means, said adjustment means including a further planet gear meshing with said sun gear for periodically varying the effective length of said connecting-rod means, said connecting-rod means including a pair of rod members articulated to said arms and an eccentric carried by said further gear interposed between said rod members.

3,144,006
INTERNAL COMBUSTION ENGINE WITH COMPRESSION IGNITION
Hans List, 126 Heinrichstrasse, Graz, Austria
Filed Dec. 22, 1961, Ser. No. 161,507
4 Claims. (Cl. 123—32)



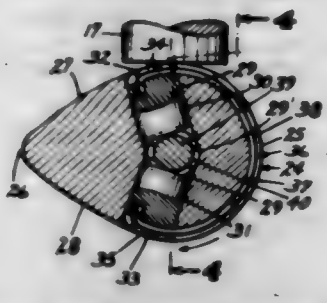
1. An internal combustion engine of the liquid fuel injection compression type, comprising a piston, a cylinder and a cylinder head, at least two recesses of essentially different sizes between the cylinder and cylinder head in the form of rotary members to take up for the most part, the compressed air at the end of each compression stroke, whereby the combustion air before entry into the said recesses are subjected to a rotary motion, and a fuel injection nozzle in the cylinder head to inject the fuel by individual jets into said recesses with means to alter at times the progress of combustion in the recesses.

3,144,009
VARIABLE VALVE TIMING MECHANISM
Homer S. Goodfellow and Everett S. Goodfellow, both of 1207 Washington Ave. N., Minneapolis, Minn., assignors of one-half to Dick Schoep, Minneapolis, Minn.
Filed May 14, 1962, Ser. No. 194,688
3 Claims. (Cl. 123—90)

1. Valve operating mechanism for an internal combustion engine involving, a cylinder, a cooperating piston, and a valve for said cylinder, said valve operating mechanism comprising:

(*a*) a rotary cam shaft and connections including a cam follower between said cam shaft and valve,

(*b*) a primary cam element on said cam shaft and having diametrically opposed arcuate peripheral heel and toe surfaces, a lifting surface tangentially connecting one end of said toe surface to the adjacent end portion of said heel surface, and a lowering surface tangentially connecting the other end portion of said toe surface to the adjacent end of said heel surface, said surfaces engaging said follower in succession responsive to rotation of said cam shaft, engagement of said lifting surface with said follower imparting opening movements to said valve, engagement of said lowering surface with said follower permitting the valve to close, said valve remaining closed during engagement of said follower by said heel surface;



(*c*) said primary cam element having a passage extending therethrough transversely of the axis of said cam shaft and communicating at its opposite ends with said lifting and lowering surfaces;

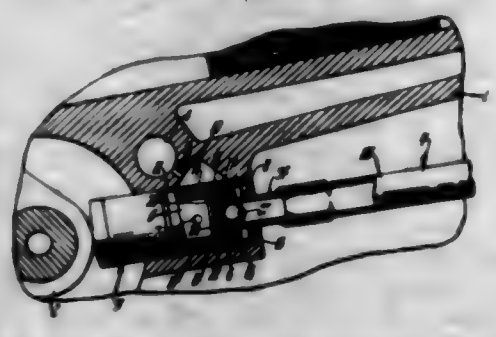
(*d*) a pair of auxiliary cam elements each having an operative cam face and each mounted in a different end portion of said passage for movements longitudinally of said passage between retracted positions, wherein said cam faces do not project outwardly beyond their respective primary cam element surface portions, and extended positions wherein said cam faces are disposed laterally outwardly of their respective primary cam element surface portions;

(*e*) yielding means urging said auxiliary cam elements toward their retracted positions;

(*f*) and a shiftable actuator for moving said auxiliary cam elements simultaneously toward their extended positions against bias of said yielding means;

(*g*) said auxiliary cam elements in their extended positions engaging said follower independently of said heel surface and said lifting and lowering surfaces to vary the timing of opening and closing movements of said valve.

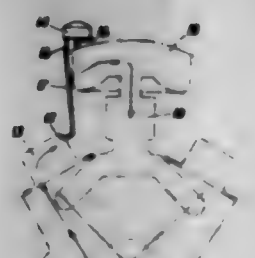
3,144,010
PUSH ROD WITH BALL CHECK VALVE
Louis J. Van Sloeten, West Olive, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 17, 1962, Ser. No. 217,596
5 Claims. (Cl. 123—90)



1. The combination with a hydraulic valve lifter having a chamber with a single inlet for reception of externally

supplied hydraulic fluid and a push rod seat at one end of said chamber having an aperture defining the sole outlet for passage of said fluid from the chamber to the exterior of the lifter, of a hollow push rod in longitudinal thrust transmitting engagement with said rod seat adjacent said outlet, said rod having an opening in its rod seat engaging end communicating with said outlet, a fluid outlet remote from said end, a valve seat interiorly of the rod adjacent said opening, and a check valve engageable with said valve seat to block communication between said chamber and the interior of the rod, said valve being movable away from said valve seat in response to fluid pressure in the chamber to accommodate flow therefrom into the rod.

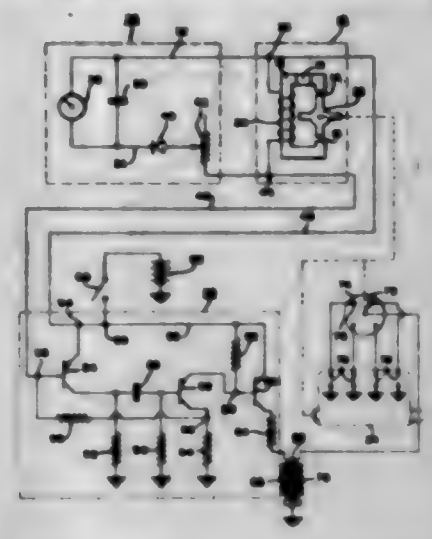
3,144,011
METHOD AND APPARATUS FOR PROVIDING CLOSED VENTILATION CIRCUIT FOR AUTOMOTIVE CRANKCASES
Clifford C. Anthes, Union, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 1, 1961, Ser. No. 149,250
5 Claims. (Cl. 123—119)



1. In the method of operating an internal combusting engine wherein exhaust products are blown by the pistons in the cylinders of the engine into the crankcase and a conduit is established between the air space above the oil in the crankcase and the induction system of the engine, and wherein the vacuum in the induction system and the pressures and flow rates in the crankcase of blowby gases in the crankcase are used to cause gases to flow from the crankcase into the induction system for recombustion, said vacuums, pressures and flow rates varying with the work output of the engine, the improvement comprising continuously regulating the flow of gases from the crankcase to the induction system to a volume of gases substantially equal to the volume of gases blown into the crankcase from the engine by maintaining in the crankcase a substantially unvarying preselected pressure.

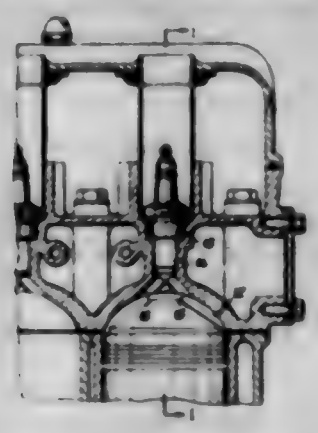
3,144,012
INTERNAL COMBUSTION ENGINE IGNITION SYSTEM AND TACHOMETER
Ralph E. Tarter, Chesterfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 29, 1962, Ser. No. 220,277
5 Claims. (Cl. 123—148)

1. In combination, an internal combustion engine, magnetic pick-up means including a coil winding and rotor means driven by said engine, an ignition coil having a primary winding and a secondary winding, means connecting said secondary winding with a spark plug on said engine, a source of direct current, semiconductor switch means connected between said source of direct current and said primary winding of said ignition coil for controlling current flow through said primary winding, an electrical tachometer, and means connecting said pick-up coil with said electrical tachometer and with said semiconductor switch means whereby the output voltage of said pick-up coil controls both the conduction of said



semiconductor switch means and said electrical tachometer.

3,144,013
INTERNAL COMBUSTION ENGINES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Apr. 8, 1963, Ser. No. 271,327
Claims priority, application France Apr. 18, 1962
1 Claim. (Cl. 123—191)

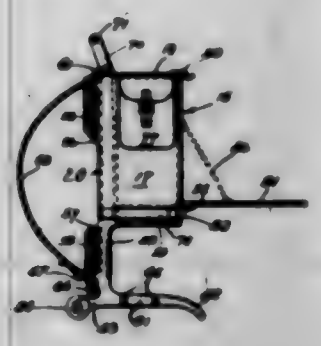


An internal combustion engine having a cylinder with a hemispherically shaped combustion chamber adjacent one end, a pair of valve opening means in said shaped chamber disposed at an inclined angle with each other forming valve seats, the upper edges of said seats being spaced closely adjacent each other, a pair of oblique diverging ducts disposed in the space between said upper edges of said seats and communicating with said chamber between said valves, a spark plug disposed in said engine above said ducts and in communication with the upper ends of said ducts, said spark plug being disposed vertically in alignment with said ducts and in the space between said upper edges of said valve seats.

3,144,014
HIKING AND SURVIVAL BACK PACK
Cornelius Mantell, Jr., 10123 Variel Ave., Canoga Park, Calif.
Filed Feb. 20, 1962, Ser. No. 174,577
8 Claims. (Cl. 126—38)

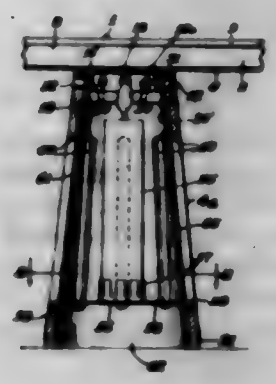
1. A hiking pack provided with a walled cabinet, comprising a flat bottom wall, a flat horizontal top wall, two vertical side walls, a concave rear wall, a rigid lateral vertical front panel extending a short distance upwardly between the side walls and adjacent the front edge portion of the bottom wall thereby enclosing the lowermost portion of said cabinet, a flat solid shelf arranged horizontally between the said flat top and bottom wall dividing the cabinet into a pair of vertically arranged forwardly-fac-

ing open front compartments, a single front closure panel dimensioned and hingedly secured at its bottom edge portion to the upper edge portion of said rigid lateral front panel for closing and sealing both of said open-front compartments when arranged in a vertical position and in contact with the forward edges of said side walls, a pair of flexible chain means attached at the side walls and to said front closure panel for supporting said closure panel in a horizontal position extending forwardly and outwardly from said lateral front panel leaving said compartments in open condition, the lower of said compartments having heating means secured therein and a grill arranged above said heating means and parallel to the bottom wall of said



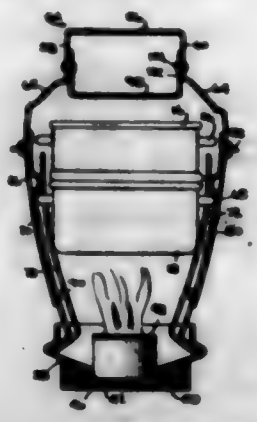
cabinet, the flat solid shelf between said compartments being formed of material with suitable insulation preventing any heat within said lower compartment from being conducted into said upper compartment, said side walls formed with integral depending supporting members adapted to contact the ground to support the cabinet in an upright position when so positioned relative to the ground, a single strap fastener secured to said top wall midway between said side walls and adjacent said concave rear wall, a pair of shoulder straps, the upper ends of said straps attached to said single strap fastener, the lower ends of said straps attached by suitable means to the lowermost end portions of said integral depending supporting members of said side walls.

3,144,015
PIZZA BRACER AND SUPPORT
John J. Jankowski, 2621 W. Attrill, Chicago, Ill.
Filed July 17, 1962, Ser. No. 210,473
6 Claims. (Cl. 126—261)



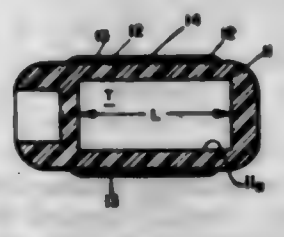
1. In a hot viand holder, a plate portion, a base portion therebeneath, means interlocking said portions, and means within the base portion for heating said interlocking means, said interlocking means being thermally responsive for locking said portions upon application of heat and releasable upon cooling and said means comprising interthreaded elements, and said elements having registering openings providing vents, and combustible means within the base portion having an exhaust through said vents.

3,144,016
STACKED VESSELS
Joseph Rosci, % All Electronics, 1312 39th St., Brooklyn, N.Y.
Filed May 12, 1961, Ser. No. 109,684
3 Claims. (Cl. 126—265)



1. In combination, a stack of vessels, at least each of the vessels above the bottom vessel having a lower portion of reduced diameter which is telescopically received in the mouth of the vessel beneath it, at least the bottom vessel including a pair of diametrically opposed individual fixed bail-type handles protruding from the side walls thereof, a compression-coupling carrying handle, said last named handle comprising a carrying member, a pair of legs pendent from the carrying member and terminating in a pair of upwardly extending posts, a pair of outwardly extending members at the bottom ends of the legs, at least one vessel above the bottom vessel having outwardly extending opposed bail-type handles, said legs and posts being resiliently flexible, a cover on the uppermost vessel, said cover having an internal groove dimensioned and shaped to receive the outwardly extending members on the handle, said handle further including a compression-coupling member pivoted to the handle and adapted to be swung against the cover to compress the stack of vessels between the compression member and the lower ends of the legs, the interior of said cover being shaped to receive a heating means, whereby upon removal of the cover the lower ends of the legs can be flexed toward one another to introduce the outwardly extending members into the groove in the cover when the latter is inverted and the bottom vessel can have its handles threaded over the posts to enable the contents thereof to be heated by a heating member disposed in the cover while the bottom vessel is maintained elevated above the cover.

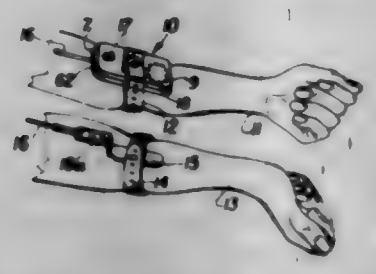
3,144,017
PILL-TYPE SWALLOWABLE TRANSMITTER
Herbert Muth, Neu-Ulm, Offenhausen, Germany, assignor to Telefunken Aktiengesellschaft, Berlin, Germany
Filed Jan. 3, 1961, Ser. No. 80,236
Claims priority, application Germany Jan. 7, 1960
11 Claims. (Cl. 128—2.1)



1. A pill-type swallowable transmitter for transmitting to an external receiver having a receiving coil electrical signals which are indicative of a condition to be measured in the digestive system of a patient, said transmitter comprising, in combination: a casing having an interior cavity;

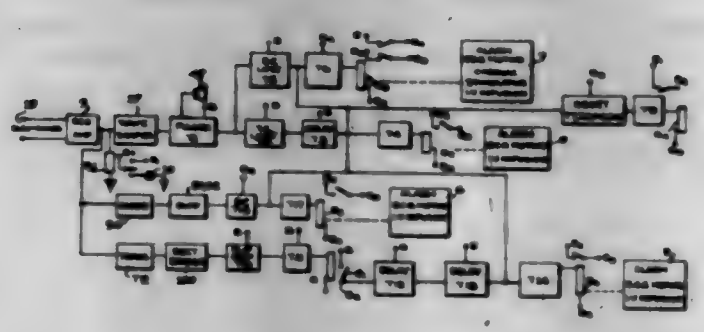
transmitter circuit means located within said interior cavity; transmitter circuit means located within said interior cavity; and a transmitting coil connected to said transmitter circuit means, said transmitting coil being carried by said casing and located outside of said interior cavity, whereby the coupling between said coils is greater than if said transmitting coil were located within said interior cavity.

3,144,018
CARDIAC MONITOR APPARATUS
Eugene R. Head, Geneva, Ill., assignor, by mesne assignments, to Chemetron Corporation, a corporation of Delaware
Filed Mar. 23, 1961, Ser. No. 97,804
8 Claims. (Cl. 128—2.1)



1. In a cardiac monitor, the combination comprising: a pair of terminals adapted for connection to spaced portions of the body of a patient, a case adapted for attachment to the forearm of a human patient connected to one of said terminals, a circuit in said case connected to said terminals comprising an amplifier for amplifying electrical potentials associated with cardiac action between said terminals, said amplifier including first, second, and third amplifier stages, said first and said second stages being relatively high gain stages, a power supply connected in said circuit to provide operating voltage for said amplifier, means in said circuit for producing signals including audible signals representative of cardiac action between said terminals in response to the output of said amplifier, de-coupling means for substantially preventing voltage load surges from reaching said power supply, and means including a resistor-capacitor network connected to said second stage for preventing power supply voltage surges under audio load from being reflected into said first and said second stages.

3,144,019
CARDIAC MONITORING DEVICE
Edgar Haber, 4890 Battery Lane, Bethesda, Md.
Filed Aug. 8, 1960, Ser. No. 48,311
18 Claims. (Cl. 128—2.06)



1. A system for monitoring cardiac action, comprising means for receiving a cardiac complex in the form of *p*, *qrs* and *t* electrical waves, means for half wave rectifying said cardiac complex, means for differentiating the half wave rectified cardiac complex to provide a signal representative of the slope of said cardiac complex, and means responsive to increase of said slope beyond a predetermined value for indicating such increase.

3,144,020
RESECTOSCOPE SHEATH
Frank G. Zingale, 9761 Old Warson Road, St. Louis, Mo.
Filed Aug. 9, 1960, Ser. No. 48,549
3 Claims. (Cl. 128—4)



3. A resectoscope sheath having a front end that is open and flexible, and a removable obturating means insertable in the sheath to facilitate introduction of the sheath through a restricted channel, said sheath comprising a thin-walled metal tube, a thin-walled Teflon tube covering the metal tube and extending beyond the front end of the metal tube, the part of the Teflon tube that extends beyond the front end of the metal tube being flexible, the obturating means having an obturating tip projecting beyond the flexible extension of the Teflon tube, a metal hub on the sheath adjacent the back end of the metal tube, a shield of insulating material on the sheath, the shield comprising a wall mounted on the Teflon tube and extending radially outward therefrom, the hub being between the shield and the back end of the sheath.

3,144,021
SYRINGE
Edmundo Solorzano Diaz, 174 19th Ave., San Francisco, Calif.
Filed Nov. 10, 1960, Ser. No. 68,541
2 Claims. (Cl. 128—227)

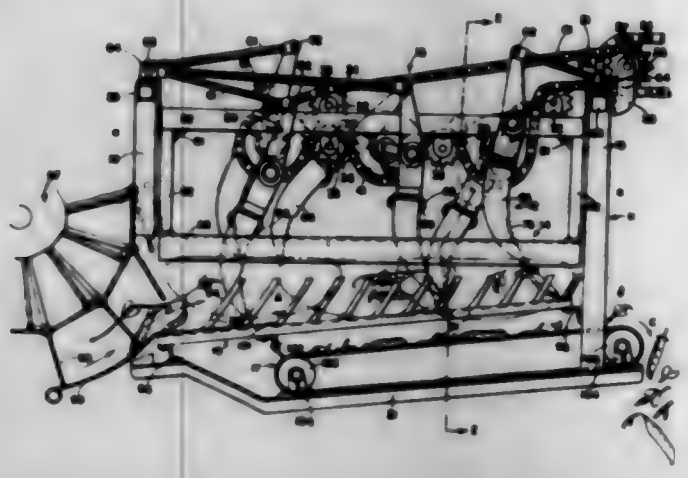


1. A syringe comprising a reservoir, a flexible tube and a nozzle, said reservoir adapted to provide gravity feed of fluid through said tube to the nozzle, and non-collapsible coupling means interposed between said tube and said nozzle, said coupling means comprising an elbow coupling threadedly received by both said tube and said nozzle whereby the coupling is manually separable from both the tube and the nozzle.

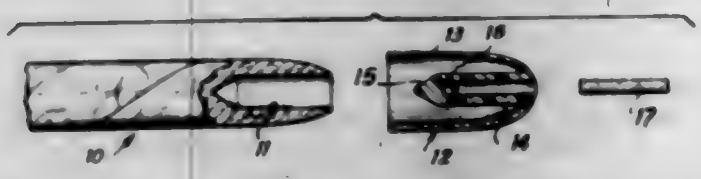
3,144,022
CUTTER BANK FOR HARVESTERS FOR POD TYPE VEGETABLES
Eben H. Carruthers, Warrenton, Oreg., assignor to Chisholm-Ryder Co., Inc., Niagara Falls, N.Y., a corporation of New York
Filed Jan. 11, 1962, Ser. No. 165,517
21 Claims. (Cl. 130—30)

1. A cutter bed for removing vines and leaves from the pods of pod type vegetables comprising, in combination,

a bed for supporting a mass of vines, leaves and pods fed to the bed, a multiplicity of knives mounted above the bed, means for mounting said knives for movement, said knives having at least three components of movement, an upward component, a downward component, and a reciprocating component, said knives extending downward toward the bed and being arranged in a plurality of rows with the rows extending longitudinally of the bed, means for actuating said knives and means having a plurality of slots mounted above the bed through which the knives extend, the margins of said slots providing edges cooperating with said knives as the knives are drawn upward through the slots to sever the vines.



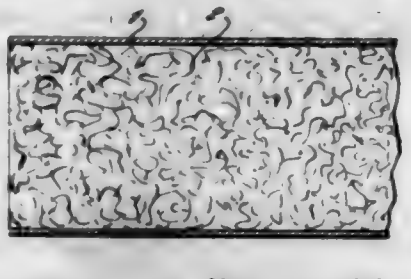
3,144,023
CIGAR FILTER
Marcel E. Morcom, 111—39 76th Road, Forest Hills, N.Y.
Filed Feb. 6, 1963, Ser. No. 256,561
2 Claims. (Cl. 131—189)



1. An integral mouthpiece for a cigar having a hole in the mouth end thereof comprising a relatively long flexible outer relatively thin plastic sheath portion adapted to snugly embrace the mouth end of said cigar, an inner relatively short inner thick walled cylindrical tubular portion integral with said sheath and disposed interiorly thereof and adapted to be snugly inserted in said hole of said cigar, said tubular portion having a conical apex adapted to receive the mouth pressure of a smoker and having at least one aperture at the inner end thereof, said tubular portion being open to the atmosphere to selectively receive a cylindrical filter therein.

3,144,024
IMPREGNATED FILTER MEANS FOR TOBACCO ARTICLES
Eric Eichwald and John P. Coan, New York, N.Y., assignors to Darby Food Corporation, New York, N.Y.
Filed Apr. 11, 1960, Ser. No. 21,287
2 Claims. (Cl. 131—208)

1. A cylindrical tobacco smoke filter essentially consisting of an integral homogeneous mass of cellulose ester filter material, a flavoring substance and a solvent selected from the group consisting of triacetin and glycerol triacetate, said filter being made by first completely dissolving the flavoring substance in said solvent selected from the group consisting of triacetin and glycerol triacetate and then utilizing the solution thus obtained to impregnate said filter material consisting of said cellulose ester,



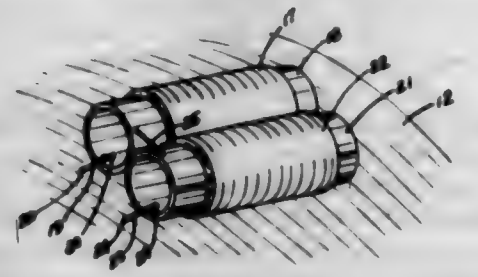
whereby said cellulose ester filter material reacts with said solvent and said flavoring substance so as to form therewith an integral homogeneous filter mass.

3,144,025
TOBACCO SMOKE FILTERS
Victor L. Erlich, New York, N.Y., assignor to Reeves Brothers, Inc., New York, N.Y., a corporation of New York
Filed Apr. 25, 1960, Ser. No. 24,328
20 Claims. (Cl. 131—208)



12. A rod-like coherent filter body comprising a plurality of polyolefin fibers of two types extending along the body, one type having a melting point lower than that of the other type, the fibers of the two types being mixed for substantial uniform distribution of the fibers of one type among the fibers of the other type, the fibers of lower melting point being bonded to the fibers of higher melting point by the compacting of the body while the fibers of lower melting point are soft and the fibers of higher melting point are unsoftened, and by the cooling of the compacted body, said body having voids therein imparting to the body an air permeability in the direction of its length.

3,144,026
METHOD OF WAVING HAIR AND APPARATUS FOR PERFORMING THE SAME
Walter M. Fisher, Skokie, Ill., assignor to Ace Fastener Corporation, Chicago, Ill.
Filed Feb. 11, 1960, Ser. No. 8,149
1 Claim. (Cl. 132—7)

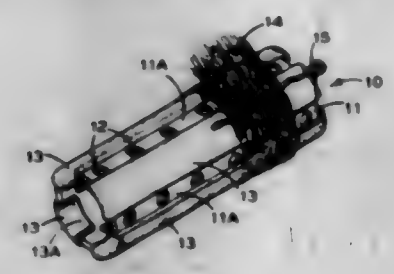


A method of waving hair comprising wetting said hair, curling said hair about a first support, passing a leg portion of a staple having crown and a pair of leg portions through said first support and the adajcent hair beneath said support, partially bending said leg portions towards one another beneath said first support, curling additional hair about a second support, passing a leg portion of an additional staple having crown and a pair of leg portions through said second support and the adjacent hair beneath said second support, partially bending the leg portions of said additional staple towards one another beneath said second support, stapling said first and second supports to one another, treating said hair to wave the same, and thence removing said staples and said supports from said hair.

3,144,027
HAIR CURLER

William L. Chalfin, Brooklyn, and David Friedwald, Bronx, N.Y., assignors to Chalfen Products Co. Inc., a corporation of New York

Filed Apr. 26, 1961, Ser. No. 105,583
4 Claims. (Cl. 132—40)



1. A hair curler comprising an elongated tubular body having open end portions and having a plurality of apertures extending through the surface of the body, a strip of porous cellular material adhesively secured to the outer surface of said body between adjacent apertures, said strip extending the length of said body and having its end portion turned under the open ends of said body, said strip having a thickness which permits the hair curled thereabout to be spaced from said tubular body and apertures formed therein to permit the free circulation of air through the hair curls so as to hasten the drying thereof during a setting operation.

3,144,028
HAIRPIN

Alice C. Sawyer, 305 Highland Ave., Leominster, Mass.

Filed Jan. 22, 1963, Ser. No. 253,131
1 Claim. (Cl. 132—50)

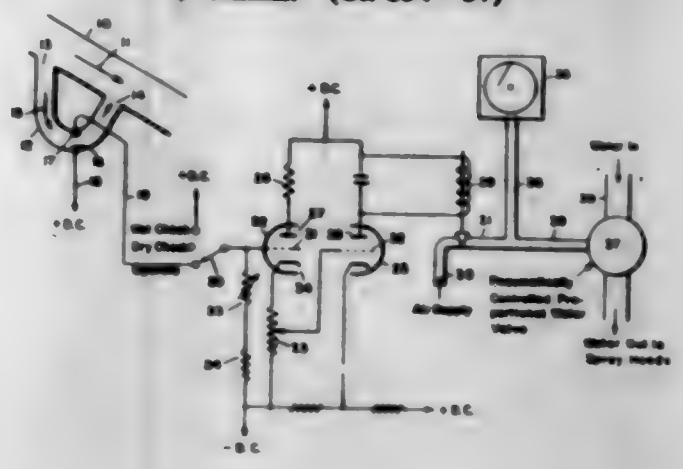


A onepiece hairpin of resilient plastic material comprising an open head and a pair of connected elongated legs, said legs joining the head in close proximity to each other so that the head forms an openable but normally closed lock for holding the hair, said legs comprising a pair of elongated spring bars extending from the head and being substantially straight at the inner aspects thereof and being normally in contacting relationship substantially from end to end thereof, said spring bars extending for a major portion of the length of the hairpin, said legs including a pair of backing up members one for each of the elongated spring bars, said backing up members being interconnected with respect to the respective elongated spring bars at a plurality of spaced points along the spring bars and terminating in points which extend beyond the outer ends of the spring bars remote from the head, said backing up members being connected to said spring bars adjacent the head, adjacent the outer ends of the spring bars, and at points intermediate the lengths thereof, the spring bars terminating at the outer ends thereof in diverging portions connected to the backing up members, the backing up members presenting elongated points beyond the outer ends of the spring bars, said points forming the entry point of the hairpin into the hair.

3,144,029
AUTOMATIC GRAIN MOISTURE CONTROL

Charles F. Strandberg, Jr., Greensboro, N.C., assignor to Strandberg Engineering Laboratories, Inc., Greensboro, N.C., a corporation of North Carolina

Filed Nov. 5, 1962, Ser. No. 235,357
5 Claims. (Cl. 134—57)

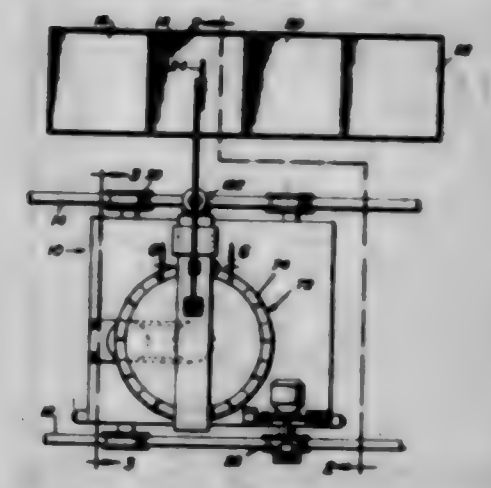


3. In an apparatus for automatically controlling the moisture content of grain, the combination of a conduit having a stream of grain flowing therethrough, a set of electrically insulated contacts provided in said conduit and adapted to be bridged by the grain therein, resistance responsive means in circuit with said contacts and operable to provide a voltage which varies with variation in the resistance of the grain bridging said contacts, a water supply conduit for supplying water to said stream of grain at a point spaced downstream from said set of electrically insulated contacts with respect to the direction of flow of said stream of grain, a pneumatically actuated proportional valve positioned in said water supply conduit for regulating flow of water to the grain, and means for regulating pneumatic pressure supplied to said valve, said last mentioned means being responsive to the voltage provided by said resistance responsive means.

3,144,030
AUTOMATIC FILM DEVELOPING APPARATUS

Joseph J. Donovan, 1690 Wilson, San Luis Obispo, Calif.

Filed Aug. 30, 1963, Ser. No. 305,444
14 Claims. (Cl. 134—58)



1. Apparatus for handling articles sequentially positioned at a plurality of stations comprising, a carriage, propelling drive means mounted on the carriage for propulsion thereof past said plurality of stations, continuously driven programming means operatively mounted on said carriage for controlling energization and de-energization of said drive means to propel and stop said carriage at each of said stations, article carrying means movably mounted on said carriage for displacement of an article to a retracted position, retraction means operatively connected to said article carrying means for

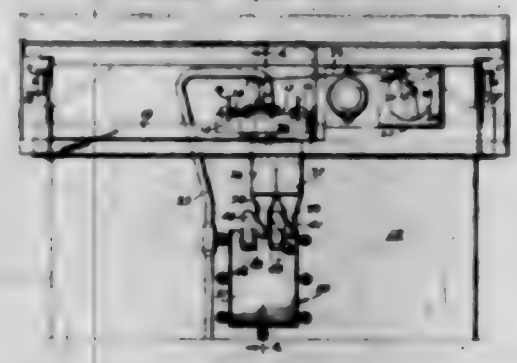
retraction thereof simultaneously with the energization of the propelling drive means, and agitator means operatively mounted on the article carrying means for engagement with the programming means upon deenergization of the drive means to vibrate the article carrying means in response to movement of the programming means.

3,144,031

DETERGENT DISPENSING APPARATUS FOR AUTOMATIC WASHING MACHINES

Olan L. Long, Hilliard, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 17, 1962, Ser. No. 188,108
3 Claims. (Cl. 134—93)



3. Charge dispensing apparatus for dishwashers and the like, comprising in combination with the tub of the washer,

a washing cycle timer having a rotary shaft,

a plurality of charge-material holding container compartments,

a shiftable liquid supply nozzle for selectively supplying liquid to said compartments to wash material therefrom into the tub,

energy storing means arranged in biasing relationship with said shiftable nozzle,

means on said timer shaft for shifting said nozzle and storing energy in said energy-storing means when the timer shaft is turned manually from an off position to a starting position, and

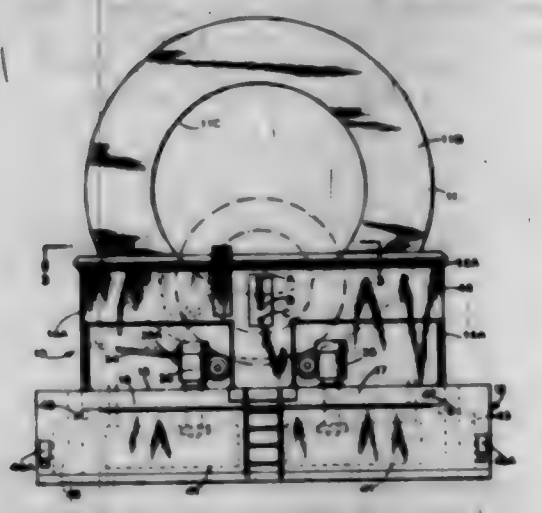
means on said timer shaft arranged to subsequently release said nozzle for movement by said energy-storing means during movement of said timer shaft from said starting position to said off position.

3,144,032

APPARATUS FOR DEGREASING CABLE REELS

Sutemi Murayama, East Brunswick, N.J., assignor to Ramco Equipment Corp., Hillside, N.J., a corporation

Filed Jan. 17, 1963, Ser. No. 252,248
1 Claim. (Cl. 134—96)



A washing machine for degreasing flanged cable reels of varying sizes and comprising:

(*a*) a frame structure,

(*b*) a cleaning tank supported on said frame structure,

(*c*) a pair of spaced rollers rotatably journaled between the walls of said cleaning tank for supporting a reel thereon,

(*d*) guide flanges connected to each of said rollers for receiving a reel flange to predetermine the position of the reel in said tank,

(*e*) means for rotating said rollers to effect rotation of a reel supporting thereon during a cleaning operation,

(*f*) means for spraying a cleaning solution over the surfaces to be cleaned,

(*g*) said spray means including retractable spray lance which is adapted to extend through the hub of said reel,

(*h*) means for adjusting the elevation of said lance for accommodating reels of varying sizes,

(*i*) a spray head mounting tube extending transversely of said tank,

(*j*) means for rotatably journalling said tube with said tank,

(*k*) a spray head mounted on said tube adjacent each end thereof,

(*l*) each of said spray heads including an inlet conduit disposed within said tube and extending beyond the adjacent end of said tube,

(*m*) a pair of spaced spray arms connected to each of said inlet conduits, said spray arms extending radially through said mounting tube,

(*n*) a handle means connected to the mounting tube to effect angular displacement of the mounting tube and spray heads connected thereto to accommodate reels of various sizes,

(*o*) means for effecting lateral adjustment of one of said spray heads relative to the other,

(*p*) said latter means including a slot formed in said tube whereby the inlet conduit of one of said spray heads may be laterally shifted along said tube,

(*q*) a source of solution supply,

(*r*) said source including a wash tank for containing a wash solution, and a rinse tank for containing a rinse solution,

(*s*) means defining a passageway for connecting said cleaning tank in communication with each of said wash tank and rinse tank whereby the spent solution collected in said cleaning tank is returned to its respective wash or rinse tank,

(*t*) valve means in said passageway for connecting said cleaning tank in communication with either the wash tank or rinse tank to control the return of the spent solution to its respective tank,

(*u*) pump means for sequentially circulating the solution in said wash tank and rinse tank through said spray means during a cleaning operation,

(*v*) and means for separating the soil from the respective spent solutions.

3,144,033

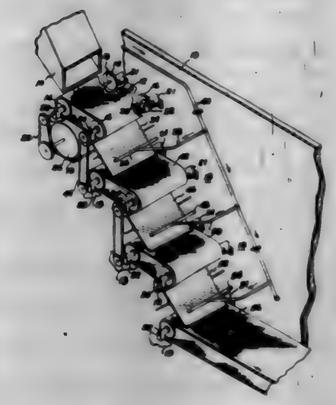
WASHER FOR WASTE PAPER STOCK

Harold T. Stalberg, 17503 Prairie, and James T. Slevin, 14449 Tracey, both of Detroit, Mich.

Filed Nov. 13, 1962, Ser. No. 237,167
7 Claims. (Cl. 134—104)

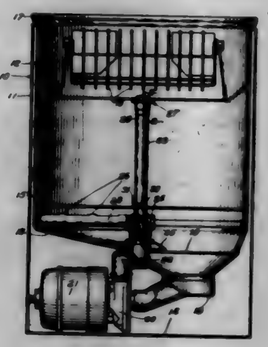
1. Apparatus for washing cellulose pulp, comprising: a plurality of elongated horizontal screens disposed in a generally end to end relationship with succeeding screens occupying lower elevations in a staircase manner; means for moving said screens; a plurality of inclined imperforate plates connecting the contiguous ends of adjacent screens, said plates being so positioned that a mass removed from the terminal end of one screen will pass along

a plate by gravity to the initial end of the adjacent lower screen; pressurized fluid means operative to direct a fluid



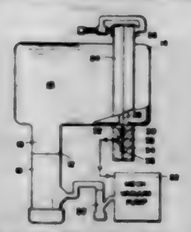
flow across the width of such plates; and means for depositing a cellulose slurry at one end of the highest of said screens.

3,144,834
LIQUID SPRAY APPARATUS
John B. Lyman, Minneapolis, and Wallace E. Lind, Anoka, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 19, 1961, Ser. No. 139,114
7 Claims. (Cl. 134—176)



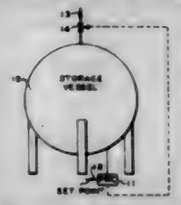
1. In a washer apparatus having means defining a washing space including a lower and an upper portion, and means in the lower portion for forcibly distributing washing liquid through said space to wash elements such as dishes and the like therein, means for forcibly distributing washing liquid through said upper portion comprising: a fixed duct having an outlet end at the bottom of the upper space portion for delivering washing liquid under pressure upwardly thereto; deflecting means movably carried by said duct end; and means for directing washing liquid delivered through said duct against both the top and the bottom of the deflecting means to support the deflecting means on the liquid being delivered, said deflecting means directing the washing liquid delivered through said duct end onto the top thereof into a path vertically reciprocating through said upper space portion.

3,144,835
HIGH VACUUM SYSTEM
Marshed Habiblan, Waltham, and Robert J. Powers, Natick, Mass., assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 1, 1963, Ser. No. 255,524
12 Claims. (Cl. 137—1)



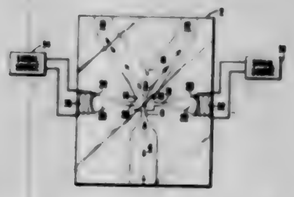
10. A method of sealing the leakage path through a demountable closure of an ultra high vacuum system comprising the steps of providing a flexible gasket in said leakage path, said gasket being made of an organic material having a characteristic vapor pressure less than 10^{-4} mm. Hg at 20° C., and double pumping the gasket.

3,144,836
METHOD AND SYSTEM FOR CONTROLLING PRESSURE IN STORAGE VESSELS
Frederic L. Rice, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 25, 1962, Ser. No. 190,867
4 Claims. (Cl. 137—12)



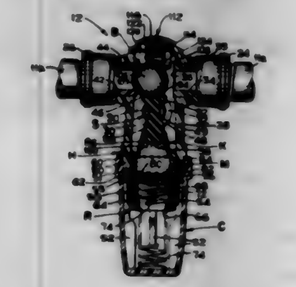
1. A method of control which comprises measuring a pressure within a storage zone representative of the total liquid head and vapor pressure within said storage zone, and relieving the vapor pressure within said storage zone responsive to a predetermined total liquid head and vapor pressure.

3,144,837
ELECTRO-SONIC FLUID AMPLIFIER
Norman Allen Cargill, Audubon, N.J., and Trevor Drake Reader, Wayne, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1961, Ser. No. 89,863
2 Claims. (Cl. 137—81.5)



1. A tristable device comprising: a fluid amplifier of the type having interconnected fluid passageways whereby a fluid power stream may flow from an input chamber to any one of three output passageways; first, second, and third control signal input chambers each having an orifice adjacent the flow path of said fluid power stream for deflecting said fluid stream to one of said output passageways; a diaphragm for each of said fluid control signal input chambers for generating compressional wave control signals therein; and means for selectively and simultaneously vibrating said diaphragms in pairs to thereby deflect said fluid power stream to one of said output passageways.

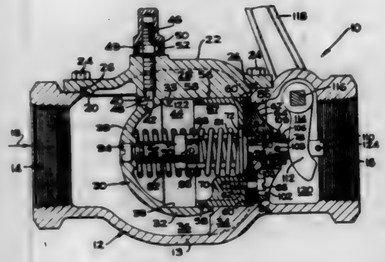
3,144,838
SEQUENTIAL IRRIGATION VALVE
Robert E. Stilwell, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 20, 1962, Ser. No. 225,063
5 Claims. (Cl. 137—119)



1. A fluid pressure operated sequence irrigation valve comprising a housing having a conduit inlet port, a conduit outlet port and a sprinkler outlet port below said conduit ports, a valve ball freely movable in said housing for alternatively closing one of said outlet ports under force of water pressure in the housing while simultaneously opening the other outlet port, and water pressure responsive valve actuating means in said housing; said actuating means including a hydraulic chamber having a movable upper wall, a stool projecting upwardly from the upper wall of said chamber for supporting said valve ball, and resilient means associated with said chamber for extending said stool and lifting said valve ball into position opposite said conduit outlet port, said valve actuating means being cocked upon application of water under pressure to said valve to move said chamber wall against the force of said resilient means and lower said stool to a position below said sprinkler outlet port while the water under pressure in said housing maintains said valve ball sealed against said conduit outlet port, temporary reduction of water pressure in said housing releasing said valve ball from its position at said conduit outlet port whereupon said valve ball drops by gravity back onto said stool and in front of said sprinkler outlet port, resumption of full water pressure in said housing sealing said valve ball against said sprinkler outlet port while water flows without obstruction through said conduit ports for entering the next sequence valve.

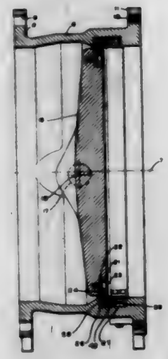
3,144,839
HYDRAULIC VALVE
George W. Bloomquist, Long Beach, Calif., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 18, 1961, Ser. No. 145,915
2 Claims. (Cl. 137—222)

2. A hydraulic valve comprising a housing having an inlet, an outlet and means forming a control chamber opening toward said outlet; a piston valve in sliding, sealing engagement with the wall of said chamber for substantially closing the chamber, said piston valve having a plurality of circumferentially spaced, smooth, concave outer faces, a generally axial turbulence-creating cavity formed in said piston valve at the spaces between said faces, and terminating axially inward of the faces,



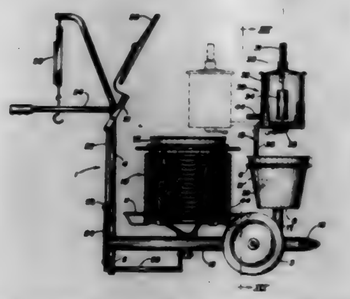
bleeder ports in said piston valve establishing communication between the axially inner end of each cavity and said control chamber, a pilot valve in said piston valve for closing said bleeder ports in the piston valve, spring means for closing said valves, a metering liquid inlet port between said housing inlet and the control chamber, and manually operable means for first opening said pilot valve and then said piston valve.

3,144,840
BUTTERFLY VALVE
Ira Morgan White, Berkeley, Calif., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania
Filed Feb. 11, 1958, Ser. No. 714,586
9 Claims. (Cl. 137—315)



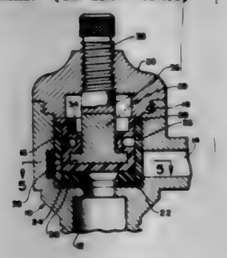
1. A butterfly valve comprising a cylindrical housing having a continuous interior circumferential groove substantially rectangular in axial cross-section, a multi-part retaining ring in said groove, a deformable packing ring in said groove adjacent said retaining ring, a multi-part pressure ring in said groove adjacent said packing ring, jack screws engaging said pressure ring and abutting one wall of said groove, a split closure band overlying said jack screws and extending substantially from said wall to said pressure ring, and means for expanding said closure band into engagement with said housing and said pressure ring.

3,144,841
MILK HANDLING CART
Charles R. Werner and Frank Charles Werner, Grand Rapids, Mich., assignors to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Mar. 13, 1958, Ser. No. 721,257
8 Claims. (Cl. 137—355.12)



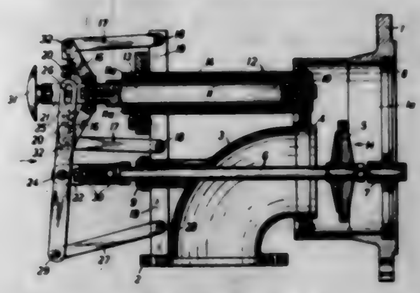
1. In a milking apparatus cleaning device: a tank; a releaser unit; a hose interconnecting said tank and said releaser unit; at least one receptacle; a first support for said releaser unit; a second support for said receptacle, said second support positioned below said first support; and means for selectively positioning said first support and said releaser unit above said receptacle and said tank in dumping relationship therewith.

3,144,842
COLLAPSIBLE TYPE CARTRIDGE VALVE
Myron J. Glauber, 6399 Wilshire Blvd., Los Angeles 48, Calif.
Filed May 1, 1961, Ser. No. 106,831
4 Claims. (Cl. 137—454.6)



1. A valve comprising: a housing having a bore therein and both an inlet and an outlet communicating with said bore, said inlet being at one end of said bore, and the other end of said bore being open, a resilient valve seat insertable into said bore surrounding said inlet, a cage received within said bore and in engagement with said valve seat, said cage having one or more openings therein permitting flow therethrough, a collapsible, resilient valve element received within said cage, and having a seating surface on one end, said seating surface being engageable with said seat when said valve element is in a relaxed condition, said valve element having a peripheral flange on the end thereof opposite said seating surface, said flange overlapping said cage, said valve element further having fold means therein to facilitate collapsing thereof in response to inlet flow pressure acting on said seating surface, a member detachably secured within the other end of said bore, said member engaging said flange and clamping said cage, said valve element and said seat in position, whereby to form a sealed unit closed except for said inlet and said one or more flow openings, and means projecting through said member and engageable with the said valve element on the back side of said seating surface, and operable to secure said seating surface on said valve element in engagement with said seat.

3,144,843
SAFETY VALVE FOR GASEOUS MEDIA
Jörg Arnold, 12 Beethovenstrasse, Bensberg-Frankenforst, Germany, and Gerhard Temke, 1 Damaschke Strasse, Ennepetal-Voerde, Germany
Filed Sept. 29, 1961, Ser. No. 141,678
3 Claims. (Cl. 137—461)

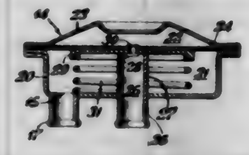


1. A safety valve for closing an air inlet immediately upon the impingement of a shock wave comprising a housing having an air inlet to the atmosphere, and an air outlet in communication with ventilating apparatus, an inwardly movable valve disc positioned between said inlet and said outlet and movable towards said outlet to close the same, a linearly movable rod connected to said disc, a fixed plate positioned inwardly of said housing, a bushing carried by said plate through which said rod extends, a lever pivoted at an intermediate point to said rod, a link pivoted at one of its ends to one end of said lever and at its other end to said plate at a point spaced from said bushing, a piston cylinder extending between said plate and said housing and opening at one end into said housing, said cylinder being parallel to said rod and spaced therefrom, a pressure responsive piston in said cylinder having one end exposed in said housing adjacent said disc and its other end extending out of and beyond the other end of said cylinder, a pin and slot connection between said other end of said piston and the other end of said lever, oppositely disposed pairs of aligned guide arms pivotally secured at one of their ends to said piston adjacent said other end of said piston between said pin and slot connection and said other end of said cylinder, additional links pivotally mounted at each end between the other ends of said guide arms and said fixed plate on opposite sides of said piston, and tension springs extending between said other end of each guide arm of one pair and said other end of the guide arm of the opposite pair, said springs extending on opposite sides of said piston to impart a snap action to said rod and hence said valve disc when said piston moves to a position wherein said one end of said guide rods are over center relative to said tension springs.

3,144,844
APPARATUS FOR PROVIDING CLOSED VENTILATION OF AUTOMOTIVE CRANKCASES
Clifford C. Anthes, Union, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 6, 1962, Ser. No. 242,784
11 Claims. (Cl. 137—483)

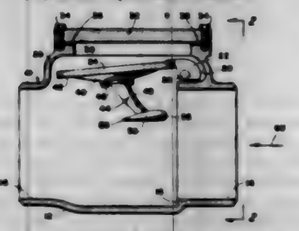
1. A flow regulator for use in a crankcase ventilating passage between the crankcase and the intake manifold of an internal combustion engine, said flow regulator comprising a casing, a flexible diaphragm within the casing dividing the casing into a first chamber and a second

chamber, a vent hole in the casing wall above the second chamber to provide for atmospheric loading of the diaphragm, a gas inlet into said first chamber, said gas inlet having an engine crankcase connector, a gas outlet from said first chamber, said gas outlet having an engine intake manifold connector, a valve nozzle inside the first chamber, one end of said valve nozzle communicating with the gas outlet, the other end of said valve nozzle teminating in an open end adjacent the flexible diaphragm, the open



end of the valve nozzle being at least partially blocked to the passage of gases therethrough by the flexible diaphragm when the flexible diaphragm is drawn to the open end by engine intake manifold negative pressures in the valve nozzle, and a spring in said casing between a wall of said casing and the flexible diaphragm, said spring biasing the flexible diaphragm away from the valve nozzle to keep open said valve nozzle open end for outlet gas pressures equal to and more positive than a preselected outlet gas pressure.

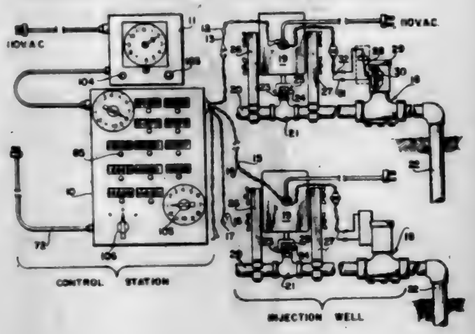
3,144,845
INTERNAL COUNTERBALANCED CHECK VALVE
John R. Fitzpatrick, Tulsa, Okla., assignor to Charles Wheatley Company, Tulsa, Okla., a corporation of Oklahoma
Filed May 23, 1963, Ser. No. 282,652
7 Claims. (Cl. 137—527.8)



1. A check valve comprising a body having opposed inlet and outlet ports, a valve seat provided in the proximity of said inlet port, a closure member pivotally secured in the body in the proximity of the valve seat for cooperation therewith to provide alternate opened and closed positions for the valve, a counterbalance member secured to the closure member on the face thereof associated with the inlet port during the closed position of the valve, said counterbalance member comprising an angularly disposed arm member having a counterbalance vane member secured adjacent the outer extremity thereof, said counterbalance vane member being so arranged with respect to the closure member as to reduce the effective weight of the closure member whereby fluid pressure required for opening thereof is reduced during operation of the valve.

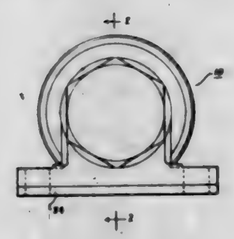
3,144,846
WATERFLOOD MONITOR AND CONTROL SYSTEM
Henry A. Seesselberg, South Plainfield, N.J., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Feb. 25, 1963, Ser. No. 260,469
10 Claims. (Cl. 137—551)

4. A device for remotely monitoring and controlling fluid flow through a plurality of independent pipelines comprising, a flow valve in each pipeline adjustable to regulate flow rate, a flowmeter in each pipeline metering the quantity of fluid passing therethrough, a switch on each said flowmeter and actuated by the flowmeter on each passage of a measured quantity of fluid, a motor



connecting with said flow valve and operative to adjust the valve, a flow indicator circuit coupled to said switch and registering each actuation of the switch, a motor control circuit, and switch means selectively coupling the motor to said motor control circuit through said indicator circuit for regulating the flow rate.

3,144,847
SOLENOID OPERATED VALVE
James S. Tjaden, Vandalia, Mich., assignor to Koontz-Wagner Electric Company, Inc., South Bend, Ind., a corporation of Indiana
Filed Dec. 19, 1961, Ser. No. 160,535
8 Claims. (Cl. 137—625.48)



3. In a solenoid valve: a valve body, an element in said body controlling the flow of fluid through said valve, said body having a chamber at one end of said element, an armature in said chamber connected to said element, a cup-shaped member of nonmagnetic material secured to said body and having a bottom forming a wall of said chamber, the outside of said bottom being positioned adjacent said armature, an electromagnetic coil disposed in said cup-shaped member with one pole thereof adjacent the inside of said bottom, means securing said coil in said cup-shaped member, and a plurality of relatively small inserts of magnetic material in said bottom, one group of said inserts being annularly arranged near but spaced from the center of the bottom and extending therethrough and another group of said inserts being annularly arranged near the periphery of the bottom and extending therethrough.

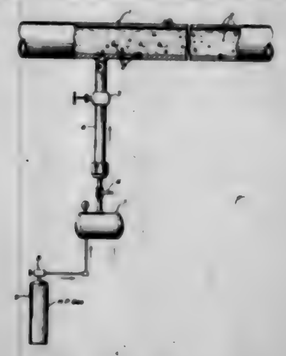
3,144,048
SINGLE HANDLE CONTROL VALVE FOR COLD AND HOT WATER OR A MIXTURE THEREOF
Josef Acker and Hans-Heinrich Classen, Lobberich, Rhineland, Germany, assignors to Rokal G.m.b.H., Lobberich, Rhineland, Germany, a firm
Filed Feb. 2, 1962, Ser. No. 170,763
Claims priority, application Germany Nov. 14, 1961
6 Claims. (Cl. 137—637.4)



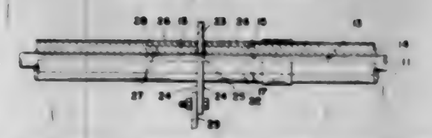
1. A mixing valve for cold and hot water having a single valve operating handle, a valve housing forming a first valve seat at its inner end, a hollow handle shaft journalled in said valve housing and having a conical end extending into proximity of said first valve seat, inlet canals for cold and hot water in said valve housing and having outlet openings in said first valve seat, a sealing disc lodged in said first valve seat and having apertures registering with the outlet openings in said first valve seat, an insert member disposed in the inner end of said handle shaft, said insert member having a lower conical end journalled in the conical end of said handle shaft, a discharge opening in the conical end of said handle shaft, a corresponding recess in the conical end of said insert member, said hollow handle shaft constituting a mixing chamber, a passageway between the inner wall of said hollow handle shaft and said insert member to provide a passage from said mixing chamber to said discharge opening, slide means at the conical end of said insert member and having passageways for communicating with the apertures in said sealing disc, said insert member having an upper tubular extension projecting into said mixing chamber and forming a second valve seat at its upper end, said insert member having axially directed flow canals provided with inlet openings in its conical end for communication with said passageways in said slide means and with outlet openings in said second valve seat, gripping means on the inner wall of said hollow handle shaft for engaging said tubular extension and adapted to transmit the movement of said handle shaft to said insert member, and a handle knob rotatably mounted on said operating handle, said handle knob having a valve cone fixed to its inner end projecting into said mixing chamber, said valve cone being movable relative to said second valve seat upon rotation of said handle knob to control the flow of water through said discharge opening.

3,144,049
METHOD FOR SEALING LEAKS AND LEAK SEALANT
Irwin Glasburgh, Morton Grove, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed June 28, 1962, Ser. No. 206,042
4 Claims. (Cl. 138—97)

3. The method of sealing leaks in liquid carrying conduits with porous, deformable neoprene plugs which method comprises: impregnating said plugs with a liquid to impart to said plugs a bulk density substantially equal to the density of the liquid flowing in the conduit; introducing said plugs to said conduit upstream of said leak so that said plugs will be randomly distributed in and carried downstream by the flow of the liquid and there become lodged in the opening causing the leak.



3,144,050
INSULATED CONDUIT SYSTEM
James E. Maloney, Rte. 3, Madison, Wis.
Filed May 3, 1961, Ser. No. 107,525
8 Claims. (Cl. 138—106)



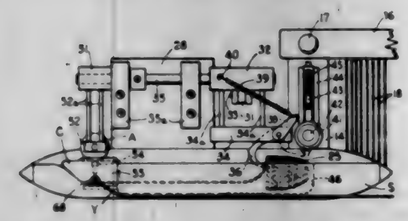
1. An insulated conduit system comprising, a pipe adapted for the conduction of fluids, a tubular casing composed of a structurally rigid insulation material enclosing said pipe in slidable relation, a protective envelope of heat resistant sheeting material enclosing said tubular casing, an anchor plate intersecting said protective envelope and tubular casing, said anchor plate having a pair of sides and an alignment hole which engages said pipe in fixed relation, a cylindrical anchor sleeve attached to each of said sides in supporting relation, said anchor sleeves being engaged by the abutting portions of the intersected tubular casing in fixed relation and being sealed within said protective envelope, said anchor plate being connected to stationary anchor means to maintain said anchor plate in fixed alignment.

3,144,051
NEEDLE FOR WEAVING MACHINES OF THE CONTINUOUS WEFT-FEED TYPE
Raymond Dewas, 120 Blvd. de St.-Quentin, Amiens, France
Filed Nov. 24, 1962, Ser. No. 240,072
Claims priority, application France Dec. 1, 1961
4 Claims. (Cl. 139—123)



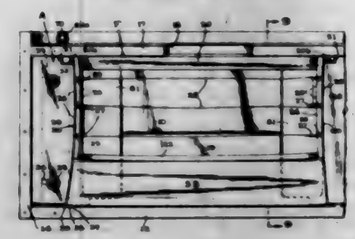
1. A weft inserting mechanism for a loom comprising a flexible band having a longitudinal middle zone and two edges, perforations along said longitudinal middle zone, two spaced slideways in which the two edges of the band are respectively slidably mounted for reciprocal sliding movement, a reciprocating driving toothed wheel having teeth engaged in said perforations, a weft inserting needle having a body with a flat base applied against one face of said band and having a front portion and a rear portion, the width of said front portion being less than the width of the band and being substantially equal to the distance between said slideways, said rear portion being narrower than the distance between said slideways and exposing at least one longitudinal portion of said band located between the edges and the perforations, and a retaining member mounted upon at least one of said slideways and extending lengthwise in the vicinity of the teeth of said driving wheel and crosswise toward the longitudinal middle zone of said band close to said perforations.

3,144,053
FILLING MANIPULATING DEVICE
Albert G. Klock, Pipersville, Pa., assignor to Steel Heddle Manufacturing Company, Paris, S.C., a corporation of Pennsylvania
Filed Feb. 28, 1961, Ser. No. 92,352
1 Claim. (Cl. 139—224)



A filling manipulating device for a loom having a hook ejecting from a shuttle the butt of an exhausted cop and means automatically operating said hook including, an open vertical channel for said hook extending longitudinally of said shuttle, a shuttle eye mounted substantially on the yarn delivery side of said channel, yarn tensioning means carried by said eye, a yarn cutting mechanism carried by said eye in alignment with the yarn delivery, means actuating said cutting mechanism responsive to said means automatically operating said hook, said eye having a forwardly projecting portion of diminishing cross-section, and a downwardly and rearwardly inclined yarn guiding surface defined by said forwardly projecting portion, whereby yarn is guided on threading by the downwardly and rearwardly inclined surface into said tensioning means.

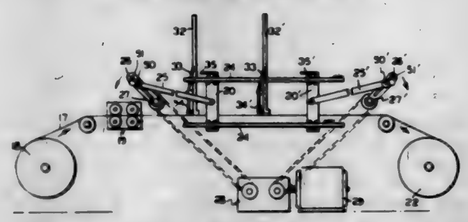
3,144,053
DEVICE FOR WIRING BEEHIVE FRAMES
Carl F. Felts, Sr., Forest City, Fla.
(Rte. 2, Box 568, Maitland, Fla.)
Filed Sept. 13, 1962, Ser. No. 223,383
14 Claims. (Cl. 140—93)



1. A device of the character described for wiring different size beehive frames comprising:

(a) a frame-supporting base adaptable to orient and receive any one of a given size range of beehive frame or the like having semi-flexible, spaced end frame bars,
(b) adjustment means carried near one end of said base and adaptable for selectively receiving and bowing end bars of frames of varying sizes,
(c) camming means carried on said base near the end opposite said adjustment means,
(d) said camming means and adjustment means being operatively co-related for effecting a substantially uniform, predetermined bowing of said end frame bars inwardly toward each other for facilitating the interconnection of the bowed end bars with strands of wire or the like.

3,144,054
MACHINES FOR MAKING WIRE MESH
Sam Larkin, 254 Beach 140th St., Belle Harbor, N.Y.
Filed Nov. 2, 1962, Ser. No. 235,694
9 Claims. (Cl. 140—112)

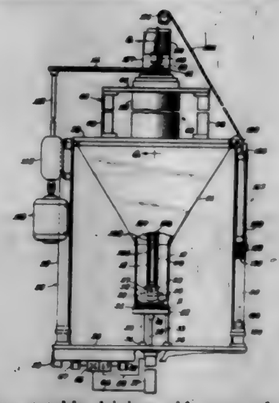


1. In a machine for making wire mesh in which transverse wires are laid across a series of spaced warp wires and secured thereto, a frame, means on the frame for supporting a series of wires coming to the front end of the machine from off sources of supply, in a predetermined spaced parallel relation along said frame, to the rear end of the machine, to constitute the warp for the mesh to be made, two carriages, each positioned across said frame and arranged thereon for movement along the warp, means for continuously reciprocating said carriages along said frame so that said carriages move always in opposite directions from prescribed locations on the frame where said carriages are closest to each other, to prescribed locations on the frame respectively, where said carriages are furthest apart between the front and rear ends of the machine, means on each of the carriages respectively, which when actuated will secure a transverse wire to the warp wires, means on each of the carriages respectively to support the warp wires for longitudinal sliding movement when warp wires are set on the machine to extend constantly across both said carriages, means on each carriage respectively, operating to clamp thereto, wire from amongst the wire on said carriage, so that the warp wires are moved by and only during the movement of each carriage respectively towards the rear end of the machine and means to operate the respective transverse wire securing means in a predetermined timed relation with respect to the relative positions of the carriages, to secure a transverse wire to the warp wires only during at least part of the movement of each carriage respectively towards the rear end of the machine.

3,144,055
APPARATUS FOR MAKING A FILTER ELEMENT
Wilmer J. Hergenrader and Gerald W. Colby, Seymour, Ind., assignors to Cummins Engine Company, Inc., Columbus, Ind., a corporation of Indiana
Filed Jan. 30, 1961, Ser. No. 85,733
10 Claims. (Cl. 141—73)

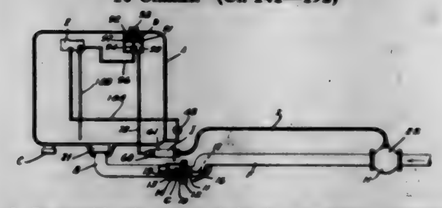
5. A machine for filling a container of a filter with discrete filtering material and packing such material there-

in, comprising a vertically movable table for supporting said container, a funnel mounted over said table for supplying said material to said container, means for moving said table vertically for shifting the container into and out of operative relation with said funnel, a feed screw, means for supporting said screw for vertical movement relative to said funnel and into and out of said container,



and means for rotatably driving said screw when in said container for feeding said material toward the bottom of said container and for packing the material therein, said screw being movable into said container after said table is shifted into operative relation with said funnel, and said screw driving means being energized in response to movement of the screw into said container.

3,144,056
APPARATUS FOR LOADING AND UNLOADING A FUEL TANK
James K. Mosher, Pasadena, Calif., assignor to Schulz Tool and Manufacturing Co., San Gabriel, Calif., a corporation of California
Filed Feb. 2, 1960, Ser. No. 6,277
10 Claims. (Cl. 141—192)



1. In combination: a tank having an inlet; a pressure operated control valve for controlling the flow of liquid through said inlet; means connected between said control valve and said tank for preventing the opening of said control valve except when it is connected to supply fluid through said inlet into said tank; and vent means for said tank connected to said last means by conduit means, said vent means being automatically operable by a predetermined fluid pressure to vent said tank whenever said control valve is open.

3,144,057
PRESSURE-FILL VALVE CONSTRUCTION
William R. O'Donnell, Trumbull, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed June 5, 1962, Ser. No. 200,090
1 Claim. (Cl. 141—354)

In a pressure-fill valve construction, in combination:

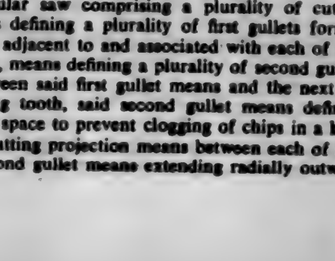
(*a*) a mounting cup having a raised, inverted cup-like center portion provided with a central aperture,

(*b*) a tubular valve housing extending through and carried by said center portion of the mounting cup and having at one end a filling nozzle portion provided with a bore which is exposed at the end of the nozzle portion,

(*c*) said valve housing having below its nozzle portion an elongate body portion of larger diameter, a lower half of said body portion being wholly contained in the inverted cup-like center portion of the mounting cup and the upper half of said body portion extending above the cup-like center portion,

(*d*) a longitudinally movable valve stem having its outer end slidably bearing in said nozzle portion and having a longitudinal groove in said outer end to provide for passage of fluid past the stem and in said bore,

(*e*) the remainder of said valve stem being disposed in and movable in said housing body portion,



(*f*) cooperable valve means in the housing body portion and on an intermediate portion of said stem, said valve means being adjacent the said nozzle portion, closing the passage through the housing for one position of the stem and opening said passage for another position of the stem,

(*g*) spring means within the valve housing, biasing the valve stem to the said one position,

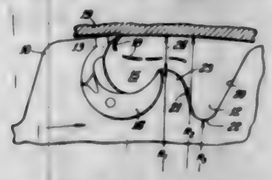
(*h*) a substantially flat spring stop washer constituted as a piece separate from the valve housing, secured across the other end of the valve housing and engaged with one end of the spring means, a center portion of said washer which borders the center opening being engageable by the inner end of the valve stem when the latter is in its other, open position, and having on its surface substantially radial ribs preventing the stem from closing its center opening when engaged thereby,

(*i*) said washer being located wholly within the confines of the inverted, cup-like center portion of the mounting cup, and

(*j*) guide means on the said nozzle portion, engageable with a prong on a device to be pressure filled, to guide the prong into engagement with the other end of the valve stem for the purpose of shifting the latter to its other, open position.

3,144,058
CHIP PRODUCING SAW
Cecil P. Carter, Ocala, Fla., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 10, 1961, Ser. No. 94,746
3 Claims. (Cl. 143—133)

1. A circular saw comprising a plurality of cutting teeth, means defining a plurality of first gullets formed immediately adjacent to and associated with each of said cutting teeth, means defining a plurality of second gullets formed between said first gullet means and the next adjacent cutting tooth, said second gullet means defining chip storage space to prevent clogging of chips in a kerf, and a non-cutting projection means between each of said first and second gullet means extending radially outward not more than substantially three-fifths the depth of the second gullet and terminating a substantial distance short of the periphery of the saw blade to form a separation



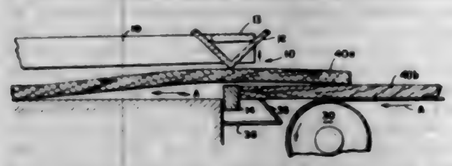
between said first and second gullet means and defining an access between said first and second gullet means when the saw is engaged in cutting.

3,144,059
SAW CHAIN HAVING DISSIMILAR TEETH
John W. Oehrli, Pacific Palisades, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed July 19, 1960, Ser. No. 43,857
7 Claims. (Cl. 143—135)



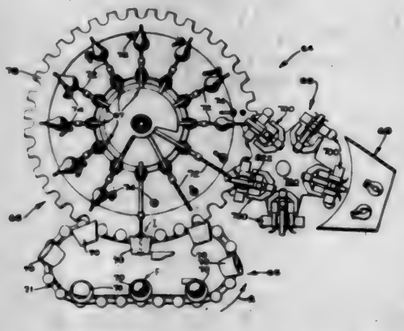
1. In a saw chain: side links and center links disposed along a vertical median plane of the chain and alternately connected by hinge means disposed on transverse hinge axes; center cutter elements for cutting a groove in the material to be sawed extending outwardly from selected links, said center cutter elements each having a flat blade portion with a forward transverse cutting edge in a horizontal plane which is normal to the vertical median plane of the chain; and side cutter elements positioned on opposite sides of the chain for cutting a kerf in the material to be sawed, said side cutter elements comprising shank portions which extend outwardly from selected side links and toe portions which extend from the outer edge of said shank portions, and said cutting edge on said center cutter elements extending farther outwardly than said toe portions.

3,144,060
LUMBER FEED GUIDE
Robert G. Jorgensen, Memphis, Tenn., assignor to Jorgensen-Wellford, Inc., Memphis, Tenn., a corporation of Tennessee
Filed Mar. 22, 1962, Ser. No. 181,761
4 Claims. (Cl. 144—242)



1. A guide for individually feeding lumber boards or similar articles of predetermined cross-section carried by conveyor means to the infeed of a work tool, said conveyor traveling at a faster rate than said infeed, said guide comprising, a split-yoke having separated upper and lower portions defining a gate across said infeed for lumber being fed to said work tool, said gate having an opening therein of height greater than one time, but less than two times, the thickness of said lumber boards and of width greater than the wide dimension of said boards, a pair of arm members connected to respective sides of said split-yoke and to said work tool in a manner permitting said gate to be freely moveable only in a substantially vertical direction perpendicular to the plane of travel of said lumber being fed through said guide by said conveyor means, and a fixed stop cooperating with said arm members for preventing said vertically-moveable gate from dropping below said plane.

3,144,061
FRUIT SPLITTING MACHINE
Sherman H. Creed, San Jose, and Sandor Csimma, Sunnyvale, Calif., assignors to FMC Corporation, a corporation of Delaware
Original application Nov. 30, 1956, Ser. No. 625,368, now Patent No. 2,979,093, dated Apr. 11, 1961. Divided and this application Nov. 20, 1959, Ser. No. 854,334
10 Claims. (Cl. 146—72)

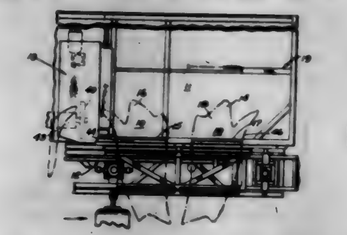


1. In a fruit preparation machine, a turret mounted for rotation about a vertical axis, an impaling tube mounted on said turret and projecting radially outwardly therefrom, said impaling tube being adapted to support a pear impaled thereon, a splitting blade mounted for movement along a predetermined curved path and adapted to be positioned in alignment with the axis of said impaling tube during a portion of said movement, drive means for moving said turret and said splitting blade in timed relation, said drive means being arranged to bring said splitting blade closely adjacent the free end of said tube and into alignment with said impaling tube at a predetermined point in their respective paths of movement, a pusher member mounted on said turret and having a portion movable along said impaling tube upon actuation of said pusher member to engage the pear on said tube and move it toward the free end of said tube and across said splitting blade when said tube and blade are in aligned relation, and means responsive to the movement of said turret and connected to said pusher member to actuate said pusher member when said blade and tube are in aligned relation.

3,144,062
MACHINE FOR SEVERING END PORTIONS FROM ANIMAL CARCASSES
Norman H. Vogt, Clawson, Mich., Harry W. Weprin, Chicago, Ill., and Samuel Paustin, Royal Oak, Mich., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 2, 1961, Ser. No. 128,733
4 Claims. (Cl. 146—81)

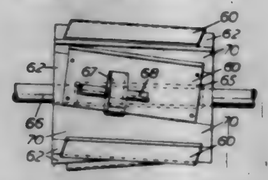
1. In apparatus for severing end portions from an elongated mass, conveyor means for supporting said mass, power-operated cutting means for severing end portions of said mass, and means for moving said cutting means in a generally horizontal and rectangular path of travel having a portion thereof extending laterally of said conveyor

means and in which the cutting operation is performed in the direction of movement of said mass and in a single



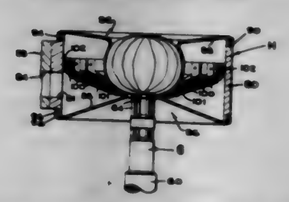
line of said rectangular path adjacent said conveyor means.

3,144,863
CUTTING MACHINE
Alfred Schmermund, 62 Kornerstrasse, Gevelsberg, Westphalia, Germany
Filed Jan. 18, 1961, Ser. No. 83,572
5 Claims. (Cl. 146—117)



1. A cutting machine comprising the combination of a support, a frame in the form of a right regular prism having a plurality of inclined faces, means mounting said frame in said support for rotation about the prism axis, and flat type cutter blades mounted on the faces of the prism parallel to the planes of said faces, each blade having an operating cutting edge which is straight and arranged obliquely to the prism axis whereby to scribe a conical hyperboloid of revolution during the rotation of the prism.

3,144,864
FRUIT HOLDER FOR SECTIONIZER
Ralph Polk, Jr., Box 3208, Tampa, Fla.
Filed Mar. 9, 1961, Ser. No. 109,800
9 Claims. (Cl. 146—216)



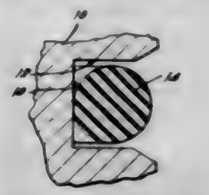
1. In a fruit processing machine, a fruit support member, a rigid ring adapted to encircle a fruit on said support member, an annular inflatable fruit gripper mounted within said ring and disposed close against the inner surface of the ring when said gripper is deflated, and means for directing air under constant pressure to said gripper to inflate said gripper and move its inner surface into contact with the fruit on said fruit support, said air directing means including a contractible air reservoir, conduit means connecting the interior of said reservoir to the interior of said gripper, and an adjustable weighted member freely movable into engagement with said reservoir to contract it and force air into said gripper to expand it into contact with the fruit.

3,144,865
POCKETBOOK CONSTRUCTION
Raymond A. Bargio, Jr., 2005 Palisade Ave., Union City, N.J.
Filed Oct. 29, 1962, Ser. No. 233,525
5 Claims. (Cl. 150—35)



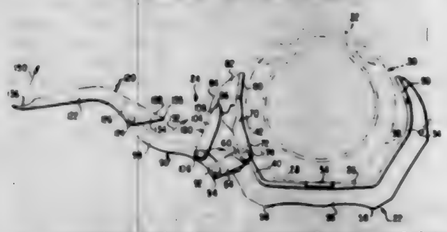
1. In a pocketbook having an opening in one side; a support frame for supporting a pocket radio and the like, comprising spaced top and bottom frame members, a pair of side frame members integral with said top and bottom members and extending between the ends thereof, said frame members extending around the perimeter of the pocketbook opening, flap pieces integral with an inner edge of each of said side members and extending in substantially parallel spaced relation to the side members in a direction away from the inner edges thereof for engaging inner surfaces of the pocketbook, shoulder pieces firmly connected at one end to the top and bottom frame members and extending inwardly thereof into the pocketbook, each of said shoulder pieces having an integral back portion at the other end and extending normal thereto in the direction of the other shoulder piece, and resilient clip members carried by the back portion of each of said shoulder pieces.

3,144,866
SELF-LOCKING FASTENER
Christine Mae Van Hecke, 7746 Faust, Detroit, Mich.
Filed Dec. 9, 1960, Ser. No. 74,982
1 Claim. (Cl. 151—7)



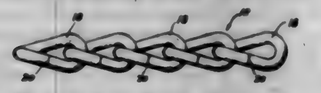
In a locking device of the prevailing torque type for providing a pneumatic and hydraulic seal, the combination comprising a uniformly threaded female member, a male member having a portion uniformly threaded for engagement with the threaded female member and having an annular groove of generally rectangular cross-section intermediate the ends of said portion, said annular groove having a root portion being circumferentially knurled, and a ring-shaped resilient and deformable locking and sealing member having an inside diameter in its relaxed condition less than the root diameter of said groove and having a generally circular cross-section of a diameter less than the axial distance between the radial side walls of said groove and being disposed in said annular groove under a circumferential tensile pre-load and having a volume substantially equal to the enclosed volume enclosed by said annular groove and by the threaded female member in the region of said annular groove for substantially completely filling said enclosed volume upon engagement of said female member with said locking and sealing member and with said male member on opposite axial sides of said groove.

3,144,867
VEHICLE TRACTION DEVICE
Louis Lombardi, 62 Tilt St., Haledon, Paterson 2, N.J.
Filed July 24, 1963, Ser. No. 297,453
7 Claims. (Cl. 152—228)



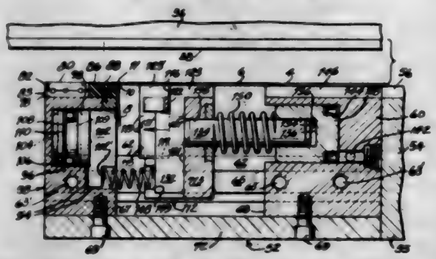
1. A traction device for easy mounting on, and detachment from, a wheel having a tire with a tread portion and two sidewalls, said traction device comprising a main portion and elements pivotally connected to said main portion, said main portion having surfaces engageable with the tread and one sidewall of a tire, said pivotally-connected elements including means engageable with the other sidewall of a tire and pivotally-connected to said main portion, a link pivotally-connected to said main portion, locking means pivotally-connected to said link, said pivotally-connected tire-wall-engaging means having stop means thereon for engaging one end of said locking means; said main portion and said pivotally-connected elements being so proportioned and dimensioned that said traction device is movable to an open position in which the device is placed on a tire with said main portion engaging one sidewall and the tread of the tire, said pivotal connection of said locking means to said link being located, at said open position, at a position outwardly from an imaginary line connecting the point of engagement of said stop means and said locking means with the axis of said pivotal connection of said link and said main portion, said link is pivotable inwardly whereby said locking means, by its engagement with said stop means, pivots said pivotally-connected tire-wall-engaging means inwardly to move said traction device to a tire-clamping closed position where said pivotal connection of said locking means to said link is located at a position inwardly from an imaginary line connecting the point of engagement of said stop means and said locking means with the axis of said pivotal connection of said link and said main portion, the distance between the tire-clamping surfaces of said device, at said closed position, being less than the uncompressed width of the tire at their points of engagement therewith, said tire being compressed, and, by its resiliency, reactively exerting an outward thrust that is transmitted through said locking means to said link to exert a torque on said link tending to move said link and said traction device to closed position and resisting movement of said device to open position, and said device is movable from closed position to open position by an outward pivoting of said link.

3,144,868
LUGGED CROSS-CHAIN FOR VEHICLE TIRES
George J. Campbell, Jr., York, Pa., assignor to Campbell Chain Company, York, Pa., a corporation of Pennsylvania
Filed Apr. 17, 1963, Ser. No. 273,680
5 Claims. (Cl. 152—245)



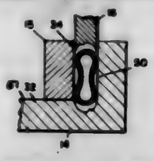
1. An anti-skid cross-chain for use with vehicle tires comprising a plurality of connected links each similarly formed from similar lengths of wire-like stock and having substantially a half-twist in each link and also having complementary ends abutting substantially midway of the ends of each link, and a cross lug positioned substantially transversely across each link approximately midway between the ends of each link and of sufficient thickness to project above one surface of said link when lying in flat condition upon a supporting surface, said cross lugs being permanently connected to opposite sides of said links by being spot welded thereto and one of said spot welded connections being compound and comprising superposed weldments respectively connecting said abutting ends of each link together and connecting one end of a lug to said abutting ends.

3,144,869
METAL SHEATHED INSULATING BLANKET
Donald P. Rutter, Bernardsville, and Anthony E. Cimochowski, South Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Original application Nov. 12, 1953, Ser. No. 391,472, now Patent No. 2,975,821, dated Mar. 21, 1961. Divided and this application Jan. 18, 1961, Ser. No. 83,452
6 Claims. (Cl. 153—2)



1. The method of forming corrugations in a strip of sheet metal having first and second walls extending angularly from each other on a line of junction to form a relatively clearly demarked outside and inside corner thereat, said method comprising forming a corrugation in said first wall transversely thereof and generally perpendicular to said line of junction, and with the corrugation land extending inwardly from the inside face of said first wall, and with the corrugation groove opening at one end through said second wall at said corner, and shaping a portion of said second wall to form a saddle straddling at least a portion of said corrugation land adjacent said corner while forming at least a portion of the length of a corrugation in said second wall transversely thereof and generally perpendicular to said line of junction, and with its land extending inwardly from the inside face of the second wall and terminating at one end in a fold line of junction with said saddle.

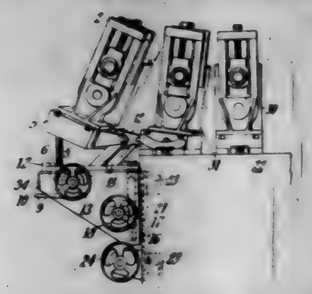
3,144,870
PROCESS FOR FORMING ENDS OF TUBING
William A. Miesenzak, 1922 E. 2nd St., Erie, Pa.
Filed Nov. 10, 1961, Ser. No. 151,502
5 Claims. (Cl. 153—34)



1. A method of forming a tube comprising providing a generally L-shaped die having a cavity generally hemi-cylindrical in shape in one leg thereof adjacent the other

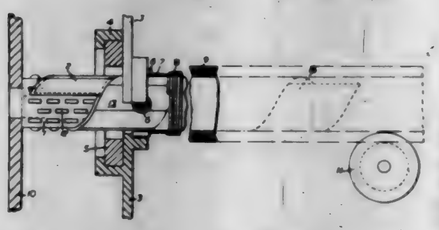
leg, forcing the end of a pipe toward said leg adjacent said leg having said cavity to form said pipe end into a modified ellipse with the sides of said ellipse extending inwardly toward each other, and restraining said pipe end to the width of said ellipse and exerting a second force thereon, causing said sides of said ellipse to engage each other along a substantial length thereof and containing said force to compress a part of said pipe end into said cavity.

3,144,071
MACHINES FOR FORMING METAL SECTIONS OR TUBES
Leonard James Nash, Llanrumney, Cardiff, Wales, assignor to Godins "The Rollers of Steel Sections" Limited, Newport, England
Filed June 15, 1961, Ser. No. 117,221
Claims priority, application Great Britain, Aug. 10, 1960
10 Claims. (Cl. 153—54)



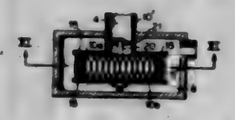
1. In a contouring machine for elongated metal workpieces having a plurality of pairs of parallel cooperating rolls supported on the base of the machine, said base including a longitudinally extending bracket and means mounting the bracket on the base for angular adjustments relative to the direction of feed of the workpiece about a first axis which is substantially horizontal, a table mounted on the bracket for angular adjustments about a second axis which is substantially normal to the first axis, a sub-base mounted on the table for tiltable adjustments about a third axis which is substantially normal to the second axis, and means mounting one of said pairs of rolls on said sub-base.

3,144,072
MANUFACTURE OF LONG HAUL WAVEGUIDE
Antoni Emil Karbowiak, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 24, 1959, Ser. No. 822,564
Claims priority, application Great Britain July 15, 1958
4 Claims. (Cl. 153—67)



1. Apparatus for use in the continuous manufacture in situ, of a circular waveguide formed of a wire helix comprising a cylindrical core, a plurality of ball-races mounted in the wall of said core so that they project slightly from the outer surface of said core, winding means mounted in a fixed axial relation to said core and a collapsible mandrel adapted to be carried on said ball-races, said ball-races and said mandrel movable axially with respect to one another proportionately to the formation of said waveguide without disturbance of the thus-far formed waveguide by virtue of the collapse of said segments of said mandrel at the forward end thereof, and the extraction of said collapsed segments.

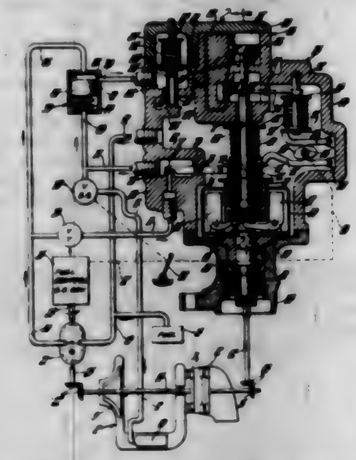
3,144,073
BURNERS
Ronald D. Corey, R.D. 1, Box 293, Cortland, N.Y.
Filed Feb. 28, 1961, Ser. No. 92,308
7 Claims. (Cl. 158—7)



1. A burner assembly comprising a burner housing having a combustion chamber and a fuel mixing chamber therein; a partition between said chambers having a burner orifice therein; a perforate burner grid disposed across said orifice; said mixing chamber conducting a supply of fluid combustible mixture to said grid; means for marginally securing said grid in place for partitioning said combustion chamber from said fuel mixing chamber; said grid comprising a perforate ribbon of heat resistant material formed by flattening two interlaced wire coils; said ribbon having openings distributed lengthwise along its middle area in regular pattern, the margins of said openings being concavo-concave and the axis through the pointed ends thereof being disposed transverse to the longitudinal axis of the ribbon; openings at the pointed ends of said margins which have three sided margins, two sides of which are convex and meet in a point directed transversely to said longitudinal axis and in line with the points of said concavo-concave margins, the third side of said three sided openings being convex and bulging away from said axis; and a plurality of four sided openings above and below each point of the margins of said concavo-concave openings, said four sided openings having two meeting concave margins bulging outwardly from said longitudinal axis and two convex margins forming a point which is directed inwardly and transverse to said longitudinal axis, all of said openings being arranged in a regular repetitive pattern throughout the length of said ribbon.

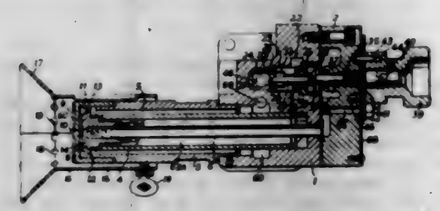
3,144,074
FUEL CONTROL
Howard R. Kast, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 50,918
5 Claims. (Cl. 158—36.4)

4. A fuel supply and control system comprising, in combination, a source of fuel, a pump supplied therefrom, a fuel metering valve supplied by the pump, a metering head regulating valve responsive to the pressure head across the metering valve connecting the outlet of the pump to the inlet of the pump operative to regulate the said pressure head, a servo fuel pressure control valve interposed between the head regulating valve and the pump inlet, the servo fuel pressure control valve being responsive to the inlet and outlet pressures thereof and being effective to maintain a constant difference between the said pressures, and hydraulic servomechanism con-



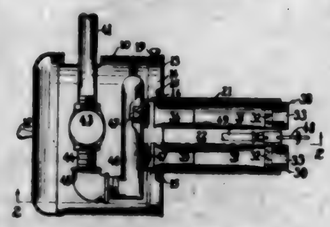
nected in parallel with the servo fuel pressure control valve.

3,144,075
OIL BURNER ASSEMBLY WITH AIR/OIL RATE ADJUSTING MEANS
Harold Ernest Jackson, Devon, England, assignor to Tecalemit Limited, Devon, England
Filed Mar. 22, 1961, Ser. No. 97,668
Claims priority, application Great Britain Mar. 25, 1960
17 Claims. (Cl. 158—76)



2. A fuel burner assembly which comprises, a burner nozzle, oil supply means through which oil under pressure is supplied to said nozzle, air supply means through which a constant supply of air under pressure is fed to said nozzle, mixing means defining a space in the burner assembly upstream of the said nozzle with which said oil and air supply means communicate and in which the oil and air are mixed, air outlet means in said burner assembly defining an excess air outlet and communicating with said air supply means for conveying excess aid from said air supply means, a fuel jet orifice in said burner nozzle extending from said space through said burner nozzle, the fuel being atomised in said space before the mixture is discharged from the said jet orifice, means for giving the air a rotary turbulence as it enters said space so as to ensure the correct atomisation of the fuel, a combined air and fuel control means for controlling the supply of air and fuel to said space by means of which said burner assembly has a predetermined maximum/minimum air/fuel ratio, said air and fuel control means simultaneously proportioning the supply of air and fuel to said nozzle by simultaneously adjusting the quantity of fuel fed to said nozzle and controlling the discharge of any excess of air fed to said nozzle through said outlet means in order to proportion the air/fuel mixture, and means for ensuring a desired flow of fuel irrespective of variation of back pressure on the fuel as it flows to the said jet orifice and variations in the fuel pressure.

3,144,076
FLAME RETAINING GAS BURNER
Robert W. Imaes, New Hartford, and William L. Riehl, Utica, N.Y., assignors to International Heater Company, Utica, N.Y., a corporation of New York
Filed Oct. 21, 1957, Ser. No. 691,393
4 Claims. (Cl. 158—113)

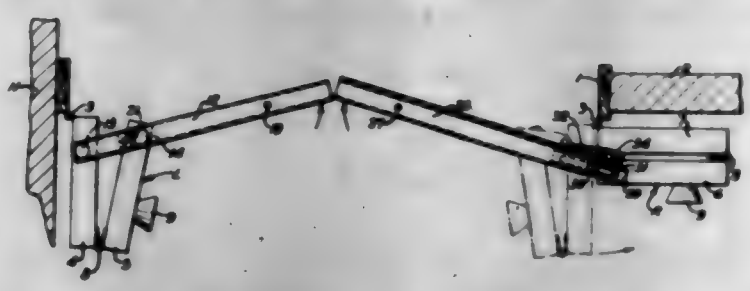


1. In a burner for gaseous fuel, a pilot burner for igniting said fuel, a burner tube receiving gaseous fuel from an orifice through a mixer tube mounted slidable inwardly and outwardly therein for regulating the primary air entering therein, and a burner head having an inner sleeve of reduced diameter with respect to said tube placed concentrically therein and a corrugated ribbon sleeve disposed between said inner sleeve and said burner tube, said sleeves being positioned at the outer end of said burner head, said inner sleeve being longitudinally shorter than said corrugated sleeve; said burner tube maintained rigidly in position in a secondary air conduit, said inner sleeve in said burner tube defining a first opening therethrough for the issuance of the principal volume of a fuel mixture, second openings being defined between said inner sleeve and said corrugated sleeve for the issuance of said fuel mixture at a reduced velocity with respect to the velocity of said principal volume of said mixture, third openings being defined between said corrugated sleeve and said burner tube for the issuance of said fuel mixture at a reduced velocity with respect to the velocity of said mixture issuing through said second openings, said fuel mixture issuing from said first opening being piloted by said mixture issuing at a reduced velocity from said second openings, and said mixture issuing from said second openings being piloted by said mixture issuing at a further reduced velocity from said third openings; said mixture being ignited by said pilot burner and the resultant flame being supported by secondary air traveling through the secondary air conduit.

3,144,077
FOLDING DOOR CONTROLLING HARDWARE
Lloyd R. Dickinson and William V. Vessalo, Pittsburgh, Pa., assignors to McKinney Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 12, 1962, Ser. No. 244,111
6 Claims. (Cl. 160—386)

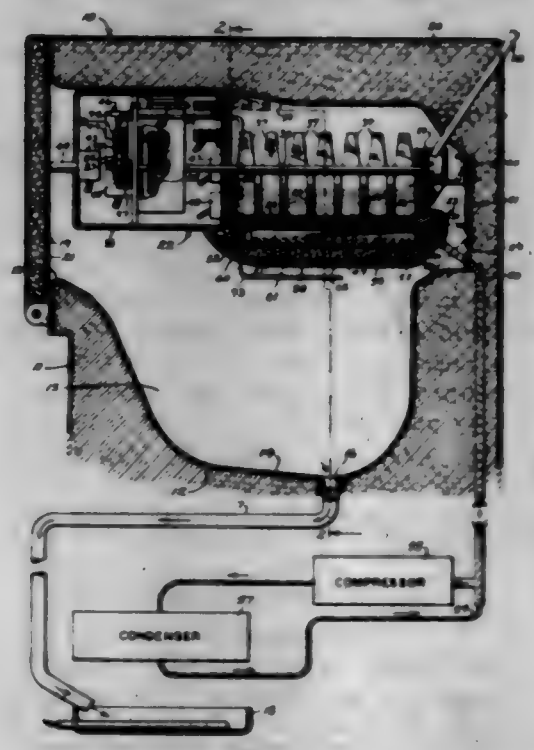
1. The combination with a pair of vertical door panels in the same plane hinged together edge to edge and adapted to be disposed in a door frame with the outer edge of one panel hinged to one side of the frame so that the panels can be folded toward each other and simultaneously swung forward out of the frame, of a longitudinally stationary horizontal track extending along the tops of the panels, a pivot pin extending upward from said one panel near its outer edge, a guide member supported by the track adjacent one end and slidable lengthwise thereof, said member being provided with a vertical open-

ing receiving the upper end of said pivot pin, a slide supported by the opposite end of the track and slidable lengthwise thereof along a path parallel to the path of movement of said guide member, the slide being provided with a vertical slot extending lengthwise of the track, and a pivot pin extending upward from the other panel near its free edge and into the outer end of said slot, the last-mentioned pivot pin being movable by said



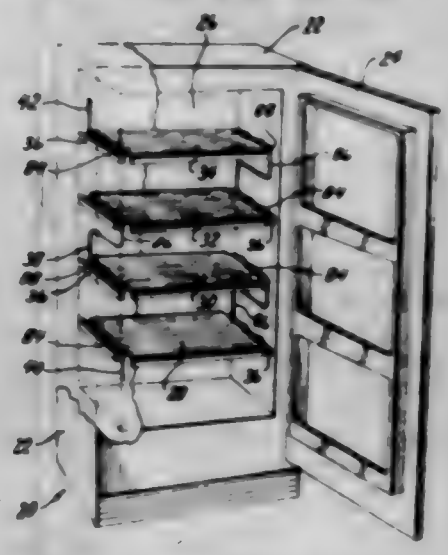
other panel to the opposite end of said slot as the door is opened, said opposite end of the track being provided with a vertical hole adapted to receive a stationary fastener for pivoting the track to the top of the door frame to permit the other end of the track to be swung forward by said guide member as the door is opened, the guide member and slot being long enough to project lengthwise from said other end of the track when the door is opened about 180°.

3,144,878
ICE CUBE MAKER AND STORAGE APPARATUS
Evans Thomas Merton, Bayside, and Clarence A. Tondreau, Milwaukee, Wis., assignors to H. H. Ulbricht Corp., River Hills, Wis., a corporation of Wisconsin
Filed Mar. 5, 1962, Ser. No. 177,532
5 Claims. (Cl. 165—30)



1. An ice cube maker and storage apparatus comprising: an enclosed, insulated tank including a storage area, an ice maker assembly mounted within said tank and including an ice cube mold having surfaces exposed to the interior of said tank and means for ejecting formed ice cubes from said mold into said storage area, a refrigeration system including an evaporator within said tank and attached directly to said mold, said evaporator constituting the sole cooling element for the mold and the tank, means insulating said evaporator from the interior of said tank, said means comprising a housing surrounding the exposed surfaces of said evaporator and spaced therefrom, a temperature balancing heater disposed within said housing and along the inner surface of said housing, and insulation within said housing between said evaporator and said balancing heater, and unitary control means for said refrigeration system and said ice maker assembly, said control means responsive to the temperature of said mold to control the temperature of said mold and thereby maintain the temperature within said tank at substantially the freezing point of water, said balancing heater adapted to maintain the surface of said tank at substantially the freezing point of water, whereby heat transfer from the interior of said tank to said evaporator will be directed through said mold.

3,144,879
SHELF STRUCTURE INCLUDING A CONDUIT
Grant V. Mack, Valley Station, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 23, 1960, Ser. No. 17,116
13 Claims. (Cl. 165—67)



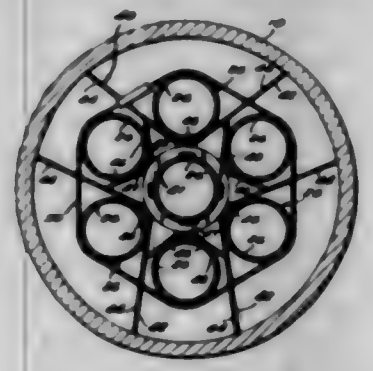
1. In combination: an enclosing structure having opposed vertical walls respectively carrying inwardly directed and aligned supports; a flat sheet having linear rib means homogeneous with said sheet and having width means extending transversely to said sheet; and a heat exchanger tube secured to said sheet by said rib means, said rib means having a depth greater than the depth of said heat exchanger tube, said sheet having only said rib means resting on said supports to cause said sheet to provide a shelf in said enclosing structure with said rib means acting as a beam between said supports to reinforce said shelf from sagging.

3,144,880
HEAT EXCHANGER FOR THE COOLING OF FRESHLY CRACKED GASES OR THE LIKE
Fromet Vollhardt, Gottingen, Germany, assignor to Firma Schmidt'sche Heissdampf-Gesellschaft m.b.H., Kassel-Wilhelmshohe, Germany
Filed Feb. 27, 1962, Ser. No. 175,992
Claims priority, application Germany Mar. 2, 1961
4 Claims. (Cl. 165—159)

1. Heat exchanger particularly for cooling cracked gases or the like comprising a gas input head having a gas inlet port, a gas discharge head having an exhaust port, cooling chambers located in said heads in stepwise ascending relationship from the outside toward the center, filling means, said chambers being located in conjunction with said filling means to form a bottom wall of said gas input head and a top wall of said gas discharge head, cooling pipes extending between said chambers in said gas input head and said gas discharge head, flue pipes located in said cooling pipes extending through said chambers connecting said gas input head to said

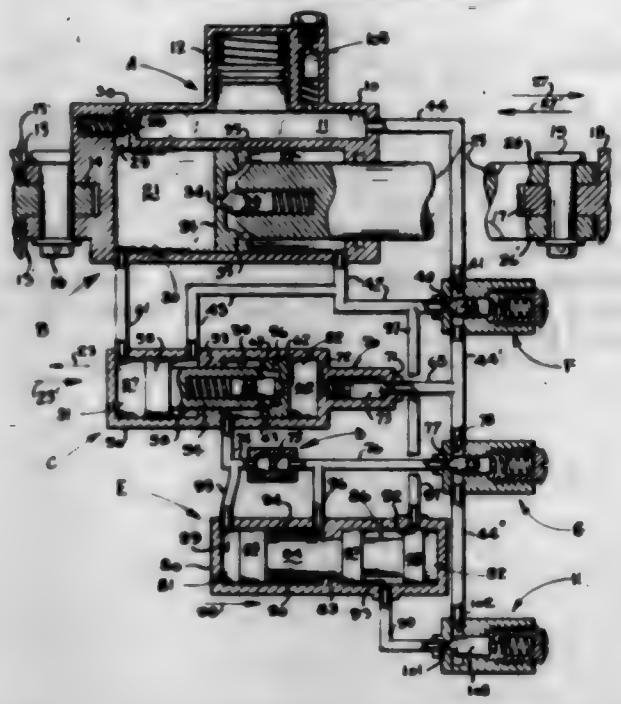
gas discharge head, a gas guiding hood located in the interior of said gas input head, said hood extending from said gas inlet port over said flue pipes to the lowermost chamber with said hood forming an acute angle with the central ascending plane of the stepwise chamber arrangement, thus forming a wedge-shaped gas guiding chamber in said gas input head.

3,144,851
HEAT EXCHANGER TUBE SUPPORTS
Edward J. Skiba, Rocky River, Ohio, assignor to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Filed Mar. 9, 1962, Ser. No. 178,646
7 Claims. (Cl. 165—162)



1. A heat exchanger comprising an elongated shell; a bundle of elongated heat exchange tubes located in said shell, said tubes being spaced from each other and disposed substantially parallel to each other and to said shell and substantially equiangularly spaced around a central axis; and a spacer engaging said tubes and said shell to locate said tubes with respect to said shell and to each other, comprising a first set of outwardly opening channel members of substantially identical cross section extending longitudinally along and spaced substantially equiangularly about said axis, each of said channel members having outwardly diverging sidewalls, a second set of channel members alternately disposed between the channel members of said first set and extending longitudinally along and disposed substantially equiangularly around said axis, each of said channel members of said second set being of substantially identical cross section and having outwardly diverging sidewalls, the sidewalls of the channel members of said second set terminating adjacent to sidewalls of adjacent channel members of said first set, and means for locating said channel members with respect to each other, each channel member receiving and supporting one of said heat exchange tubes to locate said tubes substantially equiangularly about said axis, and the sidewalls of said channel members in said first set engaging said shell to locate said spacer and said tubes with respect to said shell.

3,144,682
VIBRATION DAMPING MECHANISM
David Grant, Los Angeles, and Leland V. Hall, Culver City, Calif., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Nov. 13, 1962, Ser. No. 237,243
14 Claims. (Cl. 170—160.55)



1. An aircraft sustaining rotor including a rotor hub, a thrust-producing rotor blade disposed in a generally radial position with respect to the axis of the hub, hinging means interconnecting the blade and hub such that rotation of the hub causes the blade to travel in a circular path around the hub axis and such that oscillating movements of the blade relative to the hub can occur in the circular path during hub rotation, and a damping mechanism of a character such that any oscillating blade movements occurring during hub rotation produce damping forces effecting attenuation of said oscillating blade movements and such that said damping forces are inversely affected by the oscillating frequency of said oscillating movements, said damping mechanism comprising:

a source of pressurized liquid;

energy-dissipating means characterized by first and second liquid-filled variable-volume compartments, said means being interconnected between the rotor hub and rotor blade such that oscillating blade movements cause compartment volume variations effecting pressurization of the liquid in said compartments;

first liquid-conducting means responsive to the unit pressure of the liquid in said source for conducting liquid from said source into the first compartment of the energy-dissipating means when the unit pressure of the source liquid exceeds the unit pressure of the first compartment liquid;

second liquid-conducting means responsive to the unit pressure of the liquid in said first compartment for conducting liquid from said first compartment into the second compartment of the energy-dissipating means when the unit pressure of the first compartment liquid exceeds the unit pressure of the second compartment liquid;

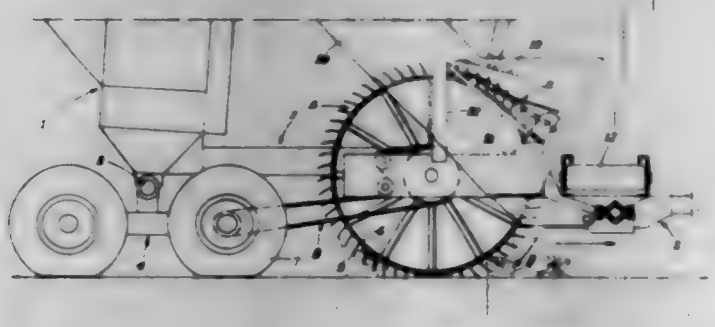
third liquid-conducting means for conducting liquid from said second compartment into the source of liquid when the unit pressure of the second compartment liquid attains a preselected maximum magnitude; and

means responsive to oscillating blade movements for by-passing said third means for conducting liquid from the second compartment of the energy-dissipating means into the source of liquid at unit pressures below said maximum magnitude and above a preselected minimum magnitude such that liquid pressurization in said energy-dissipating means is reduced when the oscillation frequency of said oscillating blade movements exceeds a preselected frequency magnitude.

3,144,883
PICK-UP WHEEL AND STRIPPER BAR UNIT FOR BEET HARVESTERS

Lewis Wallace Schmidt, Rio Vista, Calif., assignor of sixteen percent to Lloyd K. Schmidt, sixteen percent to Albert M. Jongeneel, ten percent to George C. Gordon, ten percent to Ernest F. Blackwelder, sixteen percent to Lewis W. Schmidt, sixteen percent to Claude A. Loucks, eight percent to Jessie Newell, and one and one-third percent each to Pliny G. Holt, Frank H. Holt, Richard E. Holt, Harriet H. Shelton, Frank A. Guernsey and Darius A. Guernsey

Filed Jan. 21, 1963, Ser. No. 252,635
1 Claim. (Cl. 171—39)

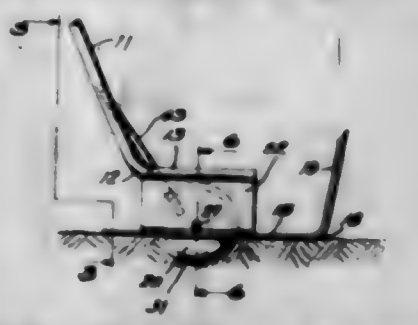


In a beet harvester adapted to be drawn along the ground, a beet pick-up wheel having a rim band and elongated beet impaling spikes projecting from said rim band, the spikes having a longitudinal curvature concave, when at the bottom of the wheel, to the front; and means to rotate the wheel, as the harvester advances, in a direction to turn said rim band rearwardly at the bottom of the wheel at a predetermined speed lower than the linear speed of movement of the harvester along the ground, the harvester including a beet topping member at the top of the wheel above the spikes, the latter being disposed in transversely spaced rows, and a stripper unit to disengage the beet tops from the spikes and cooperating therewith; said unit including stripper bars projecting forwardly and downwardly from adjacent the top of the wheel between the rows of spikes, each bar including at its rear end a transversely flat rearwardly projecting finger which at its free end rides on the rim band, means mounting the bars as a unit on the harvester and comprising a bracket mounted on the harvester at the front of the wheel below the top level thereof, transversely spaced elongated standards mounted in the bracket and projecting upwardly and rearwardly generally tangentially of the wheel but spaced radially out from the rim band; the stripper bars at their forward ends being connected to the upper ends of the standards and curving downwardly toward the rim band so that the fingers contact the latter adjacent the top of the wheel; the connection of each bar with the related standard comprising a saddle rigid with and projecting forwardly from the forward end of the bar and into which saddle the upper end of the standard projects with a clearance fit, a transverse pivot connecting the saddle and standard, and a spring mounted on the standard ahead of the pivot and engaging the saddle and tending to swing the same upwardly at its forward end about said pivot as an axis.

3,144,884
LAWN EDGE TRIMMER

Albert L. Smith, 5265 S. Menard Drive, Hales Corners, Wis.

Filed May 24, 1963, Ser. No. 282,959
3 Claims. (Cl. 172—15)

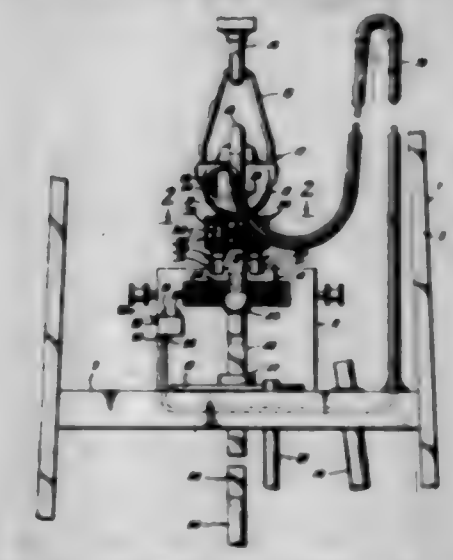


1. A sod-edging and trimming tool comprising a shoe for sliding on the sod to be trimmed and having a slot longitudinally therein, angle irons mounted on the shoe and extending in spaced relation along the opposite longitudinal sides of the slot, an axis pin extending between the angle irons and across the slot, a sharp-edged cutter disc revoluble on the pin and extending through the slot and into the space between the angle irons, and a rod-like handle secured to the top edges of the angle irons for co-action therewith in forming a partial housing for the cutter disc.

3,144,885
POWER SPINNER UNIT FOR WELL SWIVELS

Malvern M. Hasha, 643 W. Forest Drive, Houston, Tex.

Original application Apr. 12, 1962, Ser. No. 187,059. Divided and this application Mar. 9, 1964, Ser. No. 350,164
17 Claims. (Cl. 173—164)



1. A device for rotating the spindle of a swivel including:

(*a*) support means adapted to be carried by a swivel having a spindle,

(*b*) motor means mounted on said support for imparting rotation to the spindle of the swivel,

(*c*) gear means between the spindle and said motor means, and

(*d*) means to move said gear means to disconnect said motor means from the spindle.

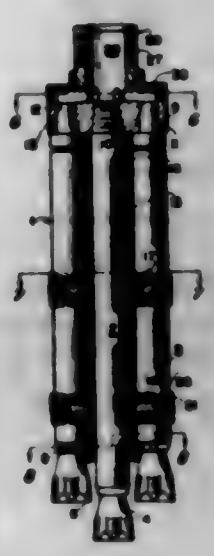
3,144,886
GANG DRILL

Ewald H. Kurt and John W. Adams, Phillipsburg, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 9, 1962, Ser. No. 186,248
7 Claims. (Cl. 175—96)

1. A gang drill comprising: a body composed of a cluster of conventional down-the-hole fluid-powered per-

cussive drills located in parallel relationship, each of said drills including a separate casing having a slidably mounted drill bit at the front end of said body for independent reciprocating movement relative to the bits of the other drills and a fluid-operated percussive impact mechanism in said casing adapted to strike successive axial impacts to the drill bit; said drills being arranged so that their bits cooperate with each other to drill a large hollow cylindrical hole during the operation of the gang drill; a head located at the rear end of said body and containing a central fluid supply passage and a plurality of branch passages for feeding fluid pressure from said central supply passage to each of said down-the-hole drills; said separate drill casings being substantially rigid-



ly attached at their rear ends to said head; connection means on said head for attaching said head to a hollow drill rod which supports the gang drill, conveys fluid pressure to said central supply fluid passage and rotates said gang drill about a rotation axis; an elongate support member separate from said conventional drills and located within said cluster of conventional drills, said elongate support member being fixed to said head and projecting forward of said head with its axis extending along substantially the central axis of the gang drill; and means spaced forward of said head for rigidly attaching said down-the-hole drill casings to the periphery of said elongate member to hold them together in fixed angular relationship to each other.

3,144,067

DRILL BIT WITH TANGENTIAL JET

Edward B. Williams, Jr., Greenville, Tex., assignor of one-third to Edward B. Williams III, one-third to Joseph W. Williams, and one-third to David B. Williams, all of Greenville, Tex.

Filed Jan. 8, 1961, Ser. No. 80,230
3 Claims. (Cl. 175—339)

1. A rotary drill bit for drilling bore holes into earth formations and the like, including

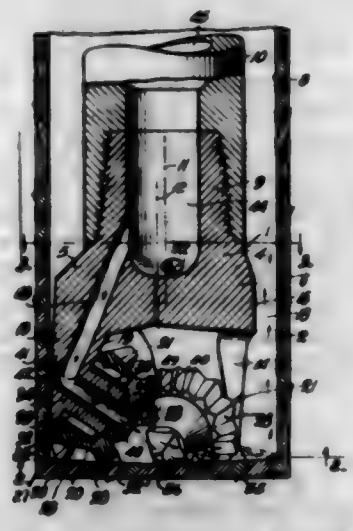
a body member having a drill stem connection by which the drill bit is rotated and having a passageway means within said body member and drill stem connection through which a drilling fluid is supplied when the drill bit is in use,

arms depending from the body member one of which is on the side of an offset axis from the rotational axis of the drill stem connection and the other of said arms being circumferentially spaced from said one arm and from each other,

spindles carried by said arms and extending downwardly and inwardly toward said offset axis, and

conical cutters on said spindles to roll in circular paths about the offset axis and in gyratory motion about the axis of the drill stem connection to maintain an open space between said cutters and the wall of the bore hole that is opposite the conical cutter carried by said one arm and which travels progressively around the wall of the bore hole with the gyratory movement of the cutters to maintain an unobstructed upflow passageway from the bottom of the bore hole upwardly at the side of the drill bit,

said one arm and spindle carried thereby having a flow passageway connected with said passageway means



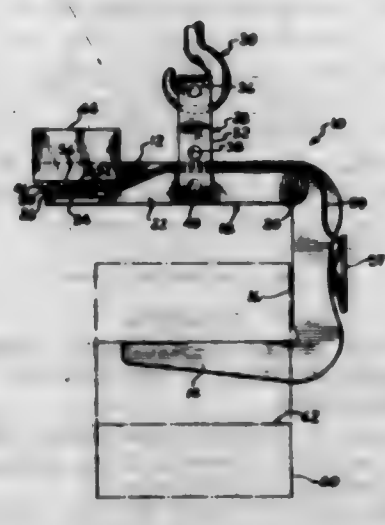
for discharging a jet of drilling fluid through said spindle to wash cuttings substantially radially across the bottom of the bore hole and into said open space and one of the other of said arms having a flow passageway also connected with said passageway means for discharging a jet of drilling fluid from the lower end of said arm tangentially into said open space to sweep away the cuttings washed into said space by the radial jet of drilling fluid to clear the bottom of said space of cuttings whereby the cutters roll upon a bottom hole substantially free of cuttings as they are gyrated about the rotary axis.

3,144,088

COMBINED LIFTING AND WEIGHING DEVICE

Louis G. Kaplan, 306 Darrow St., Evanston, Ill.

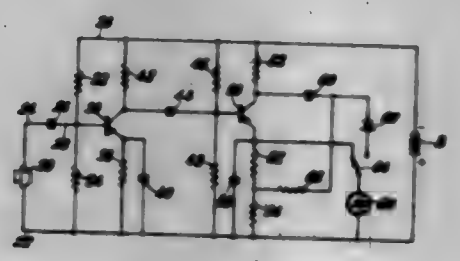
Filed Apr. 23, 1962, Ser. No. 189,535
5 Claims. (Cl. 177—147)



1. A combined lifting and weighing device comprising in combination a framework including an upper member

and a lower load-engaging member spaced from and underlying the upper member, a lever having one end pivotally connected to the upper member adjacent one end thereof, a lifting bail designed for connection to an overhead hoist and connected to the lever at an intermediate point thereon, the free end region of said lever normally underlying a portion of the upper member, a weight-sensing device interposed between said upper member and said free end region of the lever and responsive to compressional forces exerted thereon by the free end region of the lever and the upper member when the lifting bail is pulled upwardly, and a weight-indicating device operatively connected to the weight-sensing device for rendering an indication of the degree of compressional force to which the weight-sensing device is subjected when the lifting bail is pulled upwardly, said lifting bail being pivotally connected to the lever to allow for tilting movements of the framework under the influence of different positioning of the load upon the lower member to the end that the downward thrust exerted by the load through the framework upon the point of pivotal connection between the upper member and the lever, and the downward thrust exerted by the load through the framework upon the weight sensing device will remain substantially unaffected by slight variations in positioning of the load on the lower member.

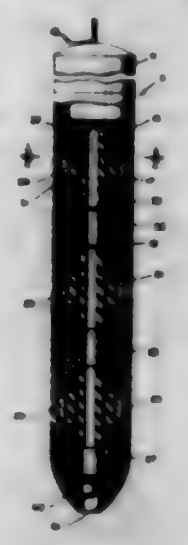
3,144,889
EXPOSURE METER
Richard N. Lane and James J. Moore, Austin, Tex., assignors, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York
Filed Feb. 26, 1958, Ser. No. 717,676
7 Claims. (Cl. 181—.5)



1. A device indicating accumulated exposure to a signal, which device comprises in combination a transducer for converting such signal to electrical energy; a rectifier for passing current of desired polarity from said transducer; and an electrochemical integrator, said integrator comprising a vessel separated into two compartments, one of which compartments contains a solution of a species of a reversible redox system and the other of said compartments containing a solution of another species of said system, said integrator receiving current passed by said rectifier which current causes one of said species to be transferred from one compartment to the other, thereby producing an observable indication of the integral of the signal received by said transducer.

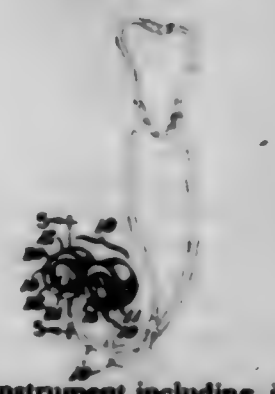
3,144,890
ACOUSTICAL WELL LOGGING TOOL HAVING LOW ACOUSTICAL VELOCITY BETWEEN TRANSDUCERS
Roy P. Mazzagatti, Bellaire, and Kerry D. Savage and Donald J. Dowling, Houston, Tex., assignors to Texaco Inc., a corporation of Delaware
Filed Feb. 10, 1959, Ser. No. 792,391
6 Claims. (Cl. 181—.5)

1. An acoustical well logging tool comprising axially aligned supersonic receiving and transmitting transducers spaced from one another longitudinally of said tool, and a connecting member between said transmitting transducer and said receiving transducer of polymerized tetra-



fluoroethylene resin characterized by an acoustical velocity less than 5000 feet per second.

3,144,891
STETHOSCOPE
Jacob Bodenger, 660 Meetinghouse Road, Elkins Park 17, Pa.
Filed Dec. 13, 1961, Ser. No. 160,969
9 Claims. (Cl. 181—24)

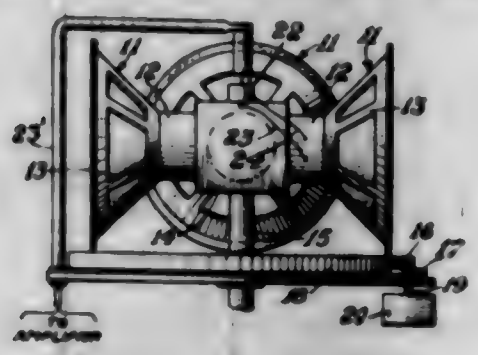


1. A stethoscopic instrument including, in combination, a pair of stethoscopic chest pieces, each chest piece having an operative diaphragm means associated therewith and a stem portion extending therefrom; barrier means for preventing dissipation of sound energy comprising a pair of body portions composed of solid dense material, each of said body portions having an integral chest piece receiving cavity portion formed therein, which cavity portion is complementary to the outer configuration of one of said chest pieces, each chest piece being disposed within a complementary cavity portion whereby said chest pieces are substantially encased in close fitting relationship by said solid dense material, except for the exposure of said diaphragm means and said stem portions; connecting means formed mediately of said body portions, said connecting portion being adapted to juxtaposed the planes of the diaphragm means of said chest pieces at an obtuse angle to each other.

3,144,892
SOUND SYSTEM
Michael J. Loudon and William Denney, both of Old Glen Road, Morristown, N.J.
Filed Apr. 4, 1962, Ser. No. 185,096
3 Claims. (Cl. 181—27)

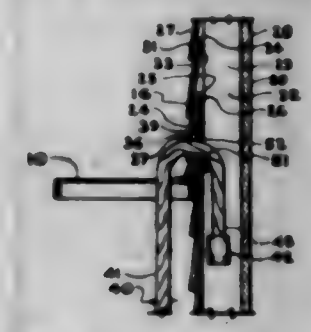
1. A sound system comprising:
(*a*) a rotatable mounting for a transducer,
(*b*) a transducer attached to the mounting,
(*c*) means connected to the mounting for a transducer to rotate continuously the mounting at a speed sufficient to make pulsing imperceptible,

(*d*) means connected to the transducer to conduct electrical impulses corresponding to sound to the transducer as it revolves, said means comprising



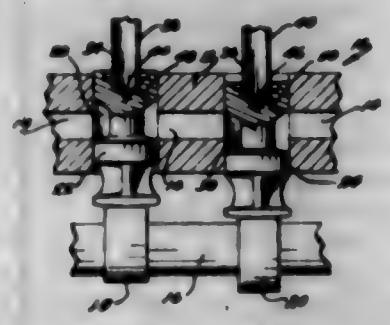
(*e*) a cup attached to the mounting and electrically connected to the transducer,
(*f*) an electrically conductive fluid in the cup,
(*g*) a stationary electrically conductive lead in contact with the fluid in the cup.

3,144,093
FIRE ESCAPE EQUIPMENT
Edward Augustus Proctor, 2888 Meadowbrook Blvd., Cleveland Heights, Ohio
Filed Mar. 5, 1962, Ser. No. 177,480
3 Claims. (Cl. 182—92)



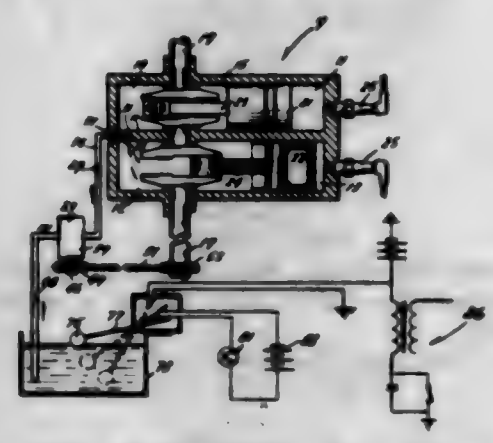
1. A ladder rung having a rung end, a self-attachment means thereof in combination with a rope, the self-attachment means comprising a plate perpendicularly attached to the rung end, the plate having an edge portion folded over at a single crease to fashion an acutely projecting resilient flap, the plate having a hole having a first diameter, the rope having a central portion between first and second end portions, the central portion having a second diameter smaller than the first diameter, the central portion threading through the first hole, the first and second end portions being larger than the first diameter.

3,144,094
ROCKER ARM OILING SYSTEM
Paul F. Bergmann, North Muskegon, Mich., assignor to Johnson Products, Inc., Muskegon, Mich., a corporation of Michigan
Filed Feb. 14, 1962, Ser. No. 173,301
6 Claims. (Cl. 184—6)



1. In a valve operating mechanism of an internal combustion engine, the combination of the following components: a tappet adapted to ride on a cam surface and including a push rod seat on one end thereof; a hollow push rod having one end interfitting with said push rod seat and in at least one position of said tappet providing a clearance between said push rod seat and said one end of said push rod; said push rod having a lubricant entrance port in said one end; said tappet having a lubricant passageway communicating with a lubricant gallery; each of said tappet and push rod components having a central axis, and at least one of said push rod port and tappet passageway being off the central axis of its respective component, with said passageway communicating with said push rod seat at a position offset from said lubricant entrance port whereby lubricant flowing from said passageway to said port must flow through said clearance between said push rod seat and said push rod end to thereby regulate the flow to said hollow push rod.

3,144,095
OILING SYSTEM
Robert L. Trapp and Gerald Haft, Milwaukee, Wis., assignors to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Apr. 27, 1962, Ser. No. 190,661
6 Claims. (Cl. 184—6)

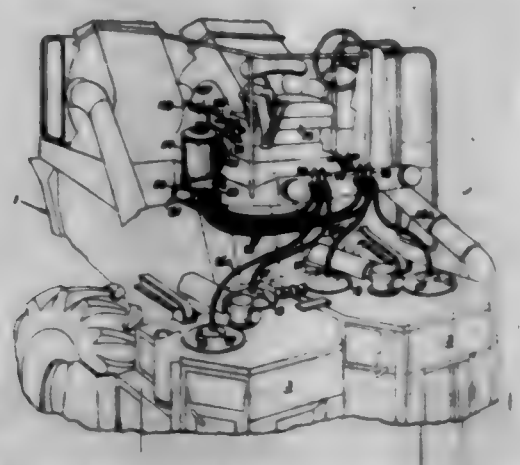


1. In a device for lubricating the bearings of an internal combustion engine having cylinders, separate crank cases, a crankshaft in the crank cases provided with exposed cranks and pistons operatively connected with the cranks and reciprocable in the respective cylinders to develop alternating pressure differentials on gas in said crank cases, the improvement which consists of a duct communicating with each of said crank cases at a point in spaced relation to said crankshaft, an oil pressure line communicating with said duct and thereby with the respective crank cases, and means for supplying oil through said line to said duct for direct delivery alternately to the respective crank cases by reason of said pressure differentials.

3,144,096
LUBRICATING APPARATUS
Lutwin C. Rotter, Ladue, Mo., assignor to The McNeil Machine & Engineering Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 12, 1962, Ser. No. 179,133
5 Claims. (Cl. 184—7)

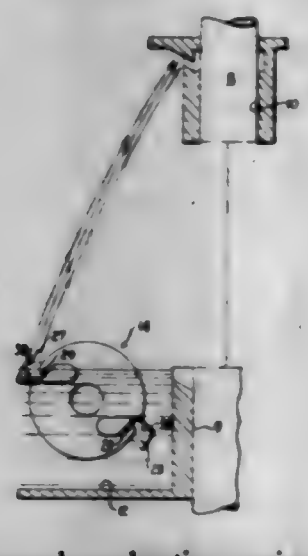
3. In a cotton picker having a vertical rotary drum carrying a plurality of vertically extending tubular picker bars therearound, each picker bar being oscillable on its vertical axis and having spindles journalled therein and extending outward therefrom, and drive means in each picker bar for the respective spindles, a force feed lubricating system for the picker bars comprising a lubricant manifold carried by and rotatable with the drum, flexible lubricant distribution lines each connected at one end to the manifold and each connected at its other end to a respective picker bar for delivery of lubricant under pressure from the manifold to the picker bars, means on the cotton picker for holding a supply of lubricant, a lubricant metering pump on the cotton picker having an inlet connected

to said supply and an outlet connected to said manifold, the connection from said pump to said manifold including means permitting rotation of the drum, and means for intermittently operating the pump through a cycle for forcing a metered charge of lubricant into the manifold, said charge being sufficient for lubrication of all the picker bars,



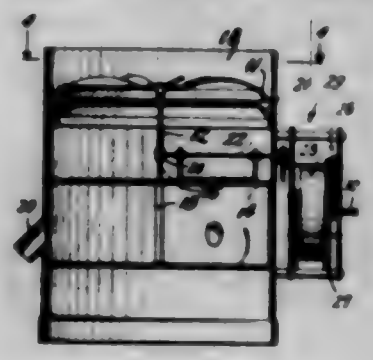
lubricant being forced out from the manifold through said flexible distribution lines to the picker bars and apportioned among the picker bars upon forcing of said metered charge of lubricant into the manifold, said drum comprising a vertical cylindrical barrel having upper and lower heads, the manifold surrounding said barrel at the lower end thereof.

3,144,097
OIL SLINGER
Paul J. Ebert, Milwaukee, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 30, 1962, Ser. No. 220,397
4 Claims. (Cl. 184—13)



3. In an internal combustion engine having a crankcase in which a supply of oil may be held with its surface at varying levels, an oil slinger of the rotary type mounted in the lower portion of the crankcase and rotatably driven in one direction about a fixed axis which is so offset from the vertical that as the slinger rotates a point on its periphery has alternate upward and downward components of orbital motion by which such point is alternately carried above and below the surface of oil in the crankcase, said slinger being characterized by: a first paddle on the slinger, spaced from the slinger axis and having a leading face which is so disposed with respect to a plane radial to the slinger axis and intersecting a portion of the first paddle that said leading face has a predetermined upwardly facing attitude at a point in the orbit of the first paddle near the top of its upward component of orbital motion, so that said first paddle is effective to throw oil to a part at a fixed location in the upper part of the crankcase when the supply of oil in the crankcase is at a high level; and a second paddle on the slinger, circumferentially spaced from the first paddle and having a leading face which is differently disposed with respect to a plane radial to the slinger axis and which intersects a corresponding portion of the second paddle, so that the leading face of the second paddle has substantially the same upwardly facing attitude at a point in the orbit of the second paddle near the bottom of its upward component of orbital motion, so that the second paddle is effective to throw oil to said part when the supply of oil in the crankcase is at a low level.

3,144,098
DRAFT-OPERATED DRIVE MEANS FOR CLOCKS AND THE LIKE
Domenick F. Mingrone, 37 Elizabeth St., Derby, Conn.
Filed May 2, 1963, Ser. No. 277,582
1 Claim. (Cl. 185—40)

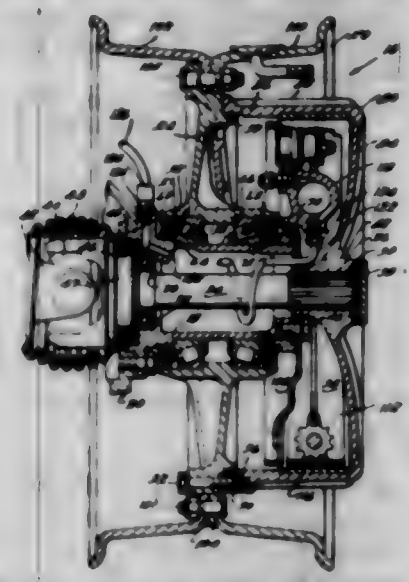


A draft functioning unit to be connected to a chimney flue by a pipe coupling, said unit comprising a section having cylindrical side walls and an open top and bottom, bearing means disposed within the section and secured to the side walls, a first shaft rotatably carried by said bearing means and disposed axially of said section, a vane rotatably mounted on the upper end of said shaft and disposed within the section to extend transversely of the cylindrical side walls to be driven by a draft of air passing through the bottom and out of the top of the section, said cylindrical side walls having a plurality of spaced upwardly inclined vent tubes projecting outwardly therefrom and disposed below the vane to augment the draft in said section, a second shaft extending transversely of and carried by the cylindrical side walls and having one end drivingly connected to said first shaft and the other end projecting from the side walls, a spring motor mounted on the outside of the cylindrical side walls, means connecting the projecting end of the second shaft to the spring motor to wind the same in response to rotation of said vane, and a flexible cable connected to the spring motor to be driven thereby, said cable being adapted to be connected to a remotely disposed clock or the like to maintain the same in a wound condition.

3,144,099
PRESSURIZED WHEEL AND BRAKE ASSEMBLY
Lamont A. Cadmus, Toledo, Ohio, assignor to Willys Motors, Inc., Toledo, Ohio, a corporation of Nevada
Filed Aug. 14, 1962, Ser. No. 216,840
2 Claims. (Cl. 188—2)

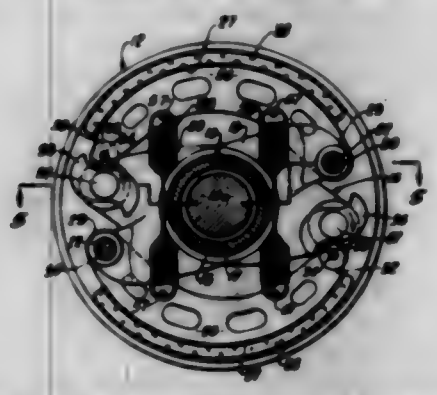
1. Apparatus for a motor vehicle comprising a wheel assembly including a nonrotatable spindle housing, a spindle member extending axially through said housing, a wheel member rotatably disposed on said spindle housing, a brake drum having an annular flange extending axially toward said wheel member and having a hub releasably connected to said spindle for rotation therewith, means connecting said brake drum to said wheel member to provide for rotation of said wheel member in response to rotation of said brake drum, said spindle housing having a fluid path extending therethrough in fluid

communication with said chamber, said brake drum being of a shape to form with said wheel member and said spindle housing a closed annular chamber, sealing means for sealing said chamber disposed between pairs of a plurality of members comprising said wheel member, said spindle housing, said spindle and said brake drum, said sealing means being of the type for maintaining a seal under pressure and including seal assembly means between said spindle housing and said wheel member for providing an increased sealing effect responsively to an increase in pressure in said chamber, said spindle housing having a fluid path extending therethrough in fluid communication with said chamber, braking means mounted on said spindle housing and extending into said cham-



ber for selective engagement with said brake drum, and means permanently connected to said fluid path and being continuously in fluid communication with said chamber for maintaining said chamber under a pressure higher than atmospheric pressure, said braking means comprising an air compressor member for providing an output of air under pressure for said chamber and a pressure regulator member connected to said compressor for maintaining the pressure to said chamber substantially constant and at a sufficiently low magnitude whereby in the event of a slight leak of said sealing means air is moved from said chamber to the atmosphere through the slight leak thereby impeding the ingress of foreign matter into said chamber.

3,144,100
VEHICLE BRAKING SYSTEM
Lloyd D. Kay, San Marino, Calif., assignor to Kay-Brunner Steel Products, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Feb. 27, 1963, Ser. No. 261,266
13 Claims. (Cl. 188—2)



1. A wheel braking assembly comprising an axle having a brake drum for a wheel, a stationary housing for said axle, an anchor member rigidly fixed to the exterior of said axle housing and located interiorly of said brake drum, said anchor member being generally X-shaped with its two legs lying in parallel planes and each having

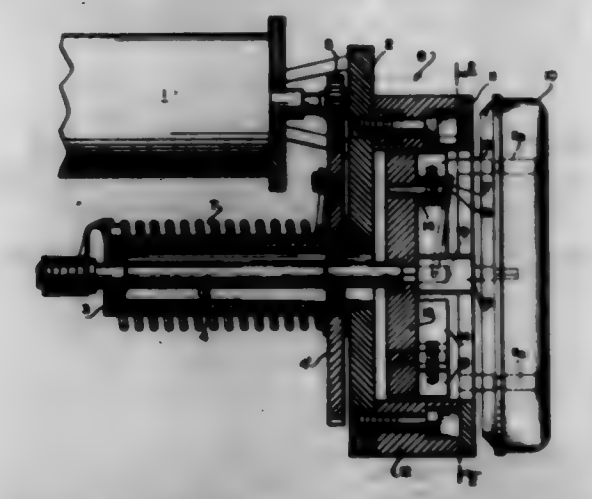
journal openings through the opposite ends thereof, a pair of brake shoes having one end pivoted to a separate pair of said openings, a pair of cam actuators for said brake shoes journalled in the other pair of said openings and positioned to engage the nonpivoted ends of said shoes, and separate power actuated means operatively connected to and effective to rotate said cam actuators to pivot said shoes into engagement with said brake drum.

3,144,101
INERTIA TRAILER BRAKE ACTUATOR
Pierre Hahn, Paris, France, assignor to Le Rapide, Societe a Responsabilite Limitee, Rheims, France
Filed Mar. 7, 1961, Ser. No. 94,017
Claims priority, application France Mar. 9, 1960
7 Claims. (Cl. 188—112)



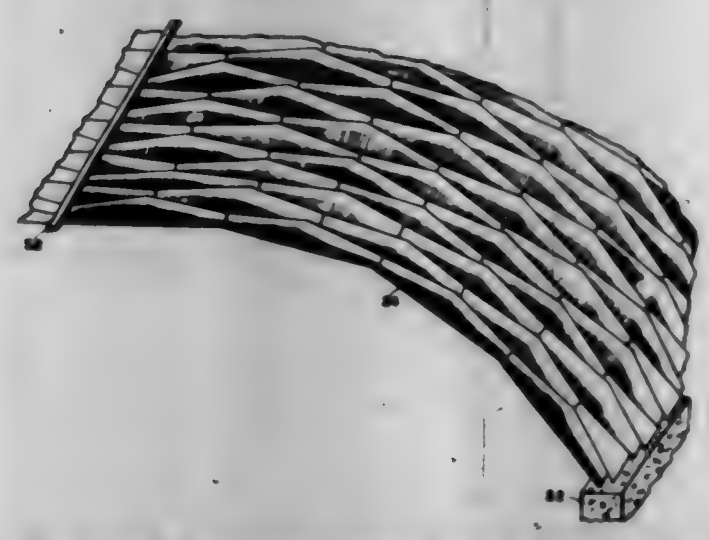
1. An automatic device for applying the brakes of a trailer equipped with a braking system and with means for controlling said braking system and coupled to a tractor vehicle, said device comprising a cylindrical case secured on the front end of the trailer, a sleeve member secured on the front end of said cylindrical case to constitute a cylindrical inlet directed inwards of said cylindrical case, a ring secured in said cylindrical case and constituting a cylindrical passage therein, a coupling member comprising a front portion attached to said tractor and a tubular rear portion extending coaxially in said case so as to slide in said sleeve member and in the ring secured on said case, a collar secured on said coupling member and housed with clearance in said cylindrical case, a driving ring of resilient material slidably engaging the outer surface of said coupling member and enclosed in said cylindrical case between said sleeve member secured thereto and said collar solid with said coupling member, a bumper socket of resilient material slidably engaging the outer surface of said coupling member and enclosed in said cylindrical case between said collar solid with the coupling member and the ring secured in said cylindrical case, a moderator spring housed with radial play in the rear tubular portion of said coupling member, said spring having a front end bearing against the front portion of said coupling member and an operative rear end, a brake actuating member having a tubular front portion slidably engaging said tubular rear portion of said coupling member and surrounding the front end of said moderator spring, and a rear portion, a hydraulic shock-absorber secured in said cylindrical case behind said brake actuating member and connected to the rear portion of said brake actuating member, a pair of trunnions extending laterally from the rear portion of said brake actuating member, a pair of inertia control levers pivotally mounted on a transverse pin carried externally by said cylindrical case, said levers having driven ends and driving ends, the driven ends engaging said casing through an aperture formed therein and having the shape of forks engaging the trunnions of said rear portion brake actuating member, said driving ends being disposed externally of said casing, a bracing member rigidly interconnecting said driving ends, a two-armed loop engaging said bracing member and a yoke connecting the arms of said loop for positively operating said control means for actuating the wheel brakes of the trailer braking system.

3,144,102
TORQUE CONTROL FOR CONSTANT SPEED DRIVE
Arthur B. Nomamo, La Habra, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 15, 1960, Ser. No. 76,869
1 Claim. (Cl. 188—180)



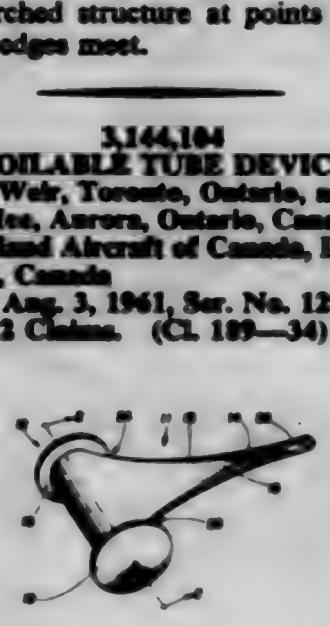
A torque control device comprising a first shaft to which a variable torque is applied, a rotor plate attached to said shaft for rotation therewith, a pair of L-shaped arms each pivotally mounted at one end on said rotor plate, the free ends of said L normally lying in substantially parallel spaced relation to each other and adjacent the axis of rotation of said shaft, nylon friction surfaces attached to said arms adjacent said pivot, a cylindrical member surrounding said rotor plate and L-shaped arms and adapted to be engaged by said friction surfaces, means normally restraining said friction surfaces from contact with the cylindrical member a cam disposed between the free ends of said arms, and an output shaft integral with said cam whereby upon rotation of said cam relative to said rotor plate said friction surfaces are caused to engage said cylindrical member.

3,144,103
ARCHED STRUCTURE
Theodore H. Kraeger, Jr., Mapledale Road, Orange, Conn.
Filed June 20, 1960, Ser. No. 37,395
4 Claims. (Cl. 189—1)



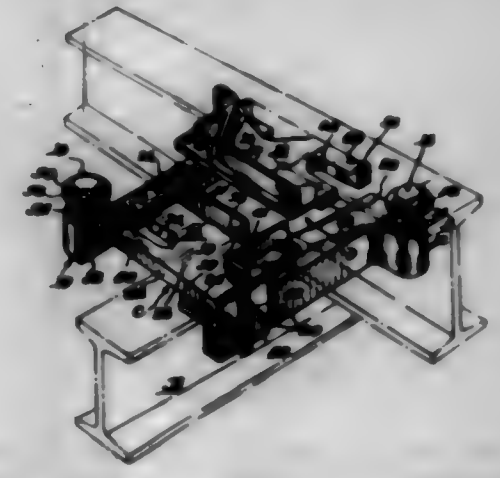
2. An arched structure formed of interleaved series of elements, the elements being formed of plates shaped to form dihedral angles about the longitudinal axes of the plates, each plate having two longitudinal diagonal edges at each side of the longitudinal axis, the edges being reversely inclined from the middle towards the ends of the plate, the plate being narrower at the ends than in the middle, the ends of the plates in each series being of the same width as the ends of the plates, in the adjoining series, and having short angular end edges arranged to form a re-entrant angle at each end of the plate, the apices of the re-entrant angles lying in the longitudinal axes of the plates, the matching re-entrant angles at the ends of the adjacent plates being of such angularity in respect to the longitudinal axes of the plates that the adjoining short angular edges between any two plates will lie in a plane corresponding with the radius of curvature of the arched structure at points where such re-entrant angular edges meet.

3,144,104
COILABLE TUBE DEVICE
Edward Arthur Weir, Toronto, Ontario, and Francis Herbert Arthur Mee, Aurora, Ontario, Canada, assignors to The De Havilland Aircraft of Canada, Limited, Downsview, Ontario, Canada
Filed Aug. 3, 1961, Ser. No. 129,184
2 Claims. (Cl. 189—34)



1. A self-supporting tube device comprising: an elongate resilient strip permanently deformed into a hollow tube about the longitudinal axis; a tube guide supported in a frame; a rotatably mounted reel in said frame; said reel consisting of a coil storage drum and a pair of inwardly depending conical discs secured to each end and concentric therewith; said tube being inserted in said guide and coiled about said drum with the seam facing outwardly, whereby said tube is temporarily opened flat while coiled; and the flattened width of said tube being greater than the distance between the rims of said discs, whereby upon release of said reel, said tube will uncoil from said drum and project through said guide in a straight line, reforming into a tubular shape.

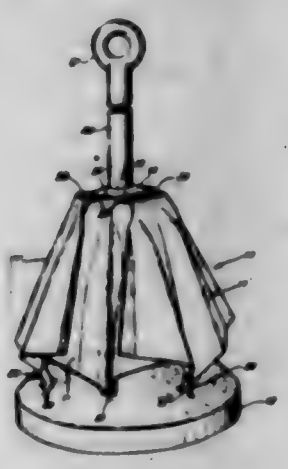
3,144,105
SEPARABLE TWO-PART I-BEAM CONNECTOR
Richard C. Capek, Downers Grove, Ill., assignor to Symons Mfg. Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 26, 1962, Ser. No. 240,824
8 Claims. (Cl. 189—35)



1. A composite separable two-part I-beam connector comprising two identical connector parts, each part being in the form of a generally L-shaped casting and including

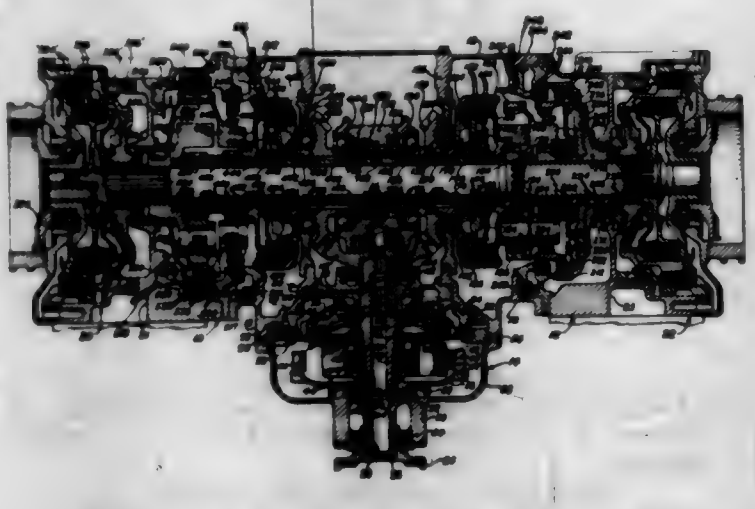
an elongated horizontal leg portion and a horizontal foot portion projecting laterally from said leg portion at a right angle thereto and spaced upwardly therefrom a slight distance, the proximate end region of said foot portion overlying the proximate end region of the leg portion, each part also including a narrow web extending between the proximate end edge of the foot portion and one side edge of the leg portion and serving to maintain the leg portion and foot portion in their slightly spaced relationship, the underneath face of said foot portion and the upper face of the leg portion, in combination with the web, establishing a guide slot therebetween, the distal end of said foot portion being formed with a void therethrough, said connector parts being juxtapositioned, each upon the other, with the two foot portions and the two leg portions respectively extending in parallelism and projecting in opposite directions so as to define a closed generally rectangular loop, and with the distal end of the foot portion of each part overlying the distal end of the leg portion of the other part, and a clamping bolt projecting through the void in the foot portion of each part and threadedly received in the distal end region of the leg portion of the other part.

3,144,186
EXPANDING GROUND ANCHOR DESIGN
Gene A. Jacobson, Caledonia, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Apr. 15, 1960, Ser. No. 22,509
4 Claims. (Cl. 189—92)



1. An expansible anchor assembly comprising, in combination, a spreader member, an anchor rod secured to said spreader member, an anchor body integrally formed of an equilateral polygonal blank having a central opening through which said anchor rod extends and a central polygonal pounding area surrounding said opening and provided with the same number of sides as said blank, said anchor body having a plurality of slits therein extending outward from the apices of said polygonal pounding area to the sides of said blank and defining a plurality of flukes equal in number to said sides, each of said flukes having turned substantially radial edges and at least one downwardly recessed, radially extending reinforcing rib portion extending transversely a substantial distance from the neutral axis of the cross section of said fluke for increasing the section modulus of said cross section and increasing the flexural strength of said fluke, said flukes being bent downward into a folded generally frusto-conical configuration, said anchor body resting on said spreader member so that tamping on said pounding portion will expand said flukes outward along said spreader member and into undisturbed earth with each fluke having at least three surfaces, including surfaces presented by said turned substantially radial edge portions, bearing against said spreader member, alternate flukes in folded position overlaying flukes adjacent thereto a substantial distance on both edges, whereby said anchor body will have maximum expanded area and maximum holding power for a predetermined diameter of said generally conical configuration.

3,144,107
MULTIPLE SPEED TRANSMISSION
Edward R. Davies, Oak Park, and Glenn L. Bowen and Robert W. Lemon, Detroit, Mich., assignors to Jered Industries, Inc., Hazel Park, Mich., a corporation of Michigan
Filed July 25, 1955, Ser. No. 524,188
23 Claims. (Cl. 192—13)

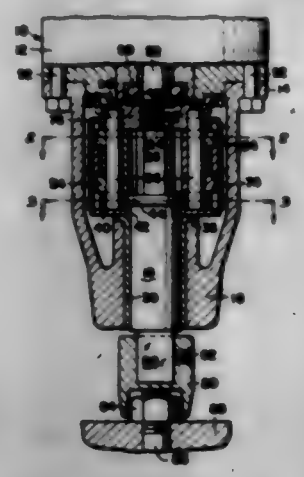


1. In a multiple speed transmission for a traction vehicle, a housing, a power output shaft transversely disposed within said housing, driven members rotatably mounted in separate portions of said housing at either end of said power output shaft, said driven members being adapted to be connected to vehicle traction members, separate friction clutch means for clutching each of said driven members to the associated end of said power output shaft, separate friction brake means for braking each of said driven members to said housing portions, each of said brake means being effective to brake the forward and reverse motion of said vehicle and each of said friction clutch means being effective to selectively and individually clutch said driven members to said output shaft, each of said brake means and each of said clutch means having a fluid pressure operated servo including a piston member adapted to transmit an energizing force thereto, a fluid pressure source, conduit structure communicating with said pressure source and including a separate portion extending to each servo, valve means in each of said separate portions of said conduit structure for controlling the distribution of fluid pressure to each servo, and manually operated means for actuating each valve means, a movable portion of each valve means for the clutch and brake means associated with each driven member being operatively connected to separate portions of said manually operated means.

3,144,108
IMPACT WRENCH WITH SEPARATE INERTIA MEANS
Harold C. Reynolds, Athens, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 19, 1961, Ser. No. 111,198
7 Claims. (Cl. 192—30.5)

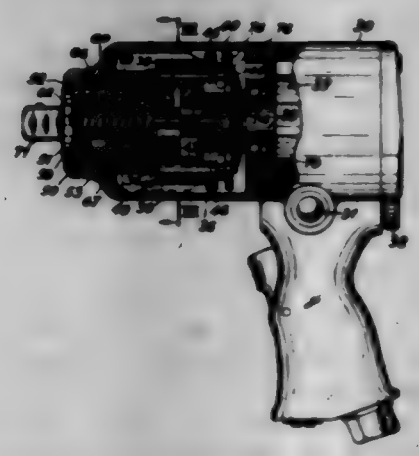
1. An impact wrench comprising:
(*a*) a casing,
(*b*) an impact hammer mechanism rotatably disposed within said casing,
(*c*) an anvil rotatably disposed within said casing and within said impact hammer mechanism,

(*d*) cam means disposed on said anvil and operatively associated with said impact hammer mechanism to positively move said hammer mechanism in clutching and declutching directions with said anvil, and



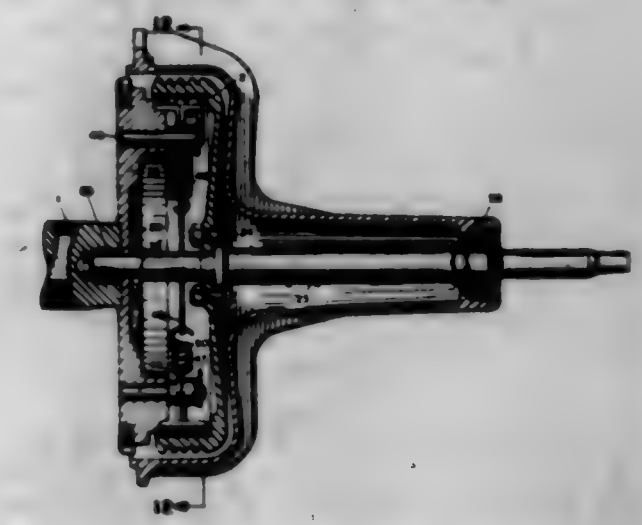
(*e*) separate inertia means disposed on said impact hammer mechanism to delay the motion of said impact hammer mechanism into said declutching direction.

3,144,109
IMPACT WRENCHES
Rémi Alajouanine, Clamart, France, assignor to Forges et Ateliers de Meudon, Meudon, France, a societe anonyme
Filed Feb. 5, 1963, Ser. No. 256,444
Claims priority, application France Apr. 27, 1962
7 Claims. (Cl. 192—39.5)



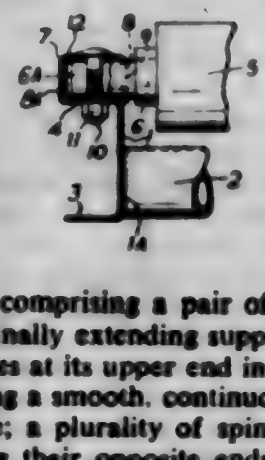
1. A wrench of the impact type for tightening or releasing by rotation screws or nuts comprising a tool holder mounted for free rotation and having a front end shaped to engage the socket of the screw or nut to be rotated for screwing or unscrewing and a pair of diametrally opposite anvil elements, a hammer carrier mounted behind the rear end of said tool holder and between said anvil elements of said tool holder, said hammer carrier having formed therethrough a diametral passage and being formed with a rear end portion constituting a drive shaft, a pair of hammers mounted for radial sliding movement in said diametral passage of said hammer carrier and formed externally with two striking faces adapted to strike simultaneously said two anvil elements during one revolution of said hammer carrier, a power shaft rigidly connected to said drive shaft of said hammer carrier for rotatably driving said hammer carrier, resilient return means constantly urging said hammers to a central released position in which their striking faces are retracted in relation to said anvil elements of said tool holder, and locking means mounted in said hammer carrier and co-acting with said tool holder for keeping said hammers in their released position against the centrifugal force during more than a half-revolution of said hammer carrier subsequent to the retraction of said hammers by said resilient means after each blow struck by said striking faces of said hammers on said anvil elements of said tool holder.

3,144,110
CENTRIFUGAL CLUTCH WITH LEADING AND TRAILING SHOE
Hubertus Josephus van Doorne, A54a Stationsstraat, Deurne, Netherlands
Filed June 11, 1962, Ser. No. 201,550
Claims priority, application Netherlands Jun. 21, 1959
1 Claim. (Cl. 192—105)



An automatic clutch comprising a driving shaft, a plate secured to said driving shaft, a plurality of pivots secured to said plate, a leading clutch shoe and a trailing clutch shoe pivoted on said pivots, a driven shaft, a drum mounted on said driven shaft to be driven by said driving shaft, a plurality of springs each having one end connected to a clutch shoe to retract it away from said drum against centrifugal force acting on said clutch shoe when said driving shaft is rotated, said springs connected to said leading clutch shoes applying a force different from the force applied by said springs connected to said trailing clutch shoes, and a floating member located about said driven shaft to which the other ends of said springs are connected so that first said trailing shoes engage said drum at a predetermined speed of said driving shaft and then said leading shoes at a greater speed of said driving shaft.

3,144,111
CONVEYORS
Douglas Graeme Ferdyce Andersen, London, England, assignor to Baker Perkins, Inc., Saginaw, Mich., a United States corporation
Filed Mar. 24, 1961, Ser. No. 98,131
4 Claims. (Cl. 193—35)



1. A conveyor comprising a pair of spaced apart, upstanding, longitudinally extending supporting frames each of which terminates at its upper end in a laterally extending flange providing a smooth, continuous, planar, spindle supporting surface; a plurality of spindles spanning said frames and having their opposite ends supported on the supporting surfaces of the respective flanges; a clamping member for each of said frames, each of said clamping members comprising an elongated, walled member having one wall overlying and engaging the adjacent

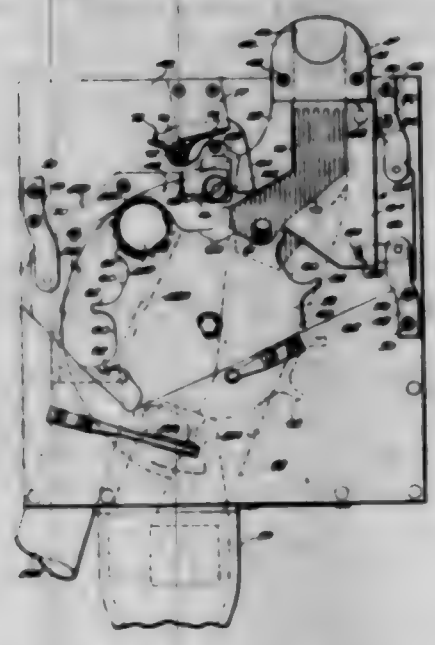
spindles, a second wall of each of said clamping members having openings spaced longitudinally thereof and receiving the ends of said spindles and spacing said spindles longitudinally of said frames; and means anchoring said clamping members to the flanges of the respective frames, the width of each of said flanges being such as to accommodate its associated anchoring means between its edges.

3,144,112

FARE COLLECTING APPARATUS

Howard A. Powers, Medfield, and Everett V. Thomas, Fall River, Mass., assignors to Universal Controls, Inc., New York, N.Y., a corporation of Maryland

Filed Sept. 12, 1960, Ser. No. 55,256
19 Claims. (Cl. 194—9)



1. In fare collecting apparatus for use in controlling access through a barrier, a rotor having pockets for receiving individual coins therein, means for driving said rotor, a coin inlet for directing said coins toward said rotor, switch means adapted to be actuated by said coins after entry into said coin inlet for actuating said driving means, means for gauging the diameter of said coins, said gauging means including a gauging blade for contacting said coins to be gauged, a selector contact blade responsive to movement of said gauging blade and a selector contact plate having a plurality of spaced contacts secured thereto, said contacts being spaced in a predetermined relation and in accordance with the diameters of said coins, wherein when an acceptable coin is engaged by said gauging blade, said selector contact blade will make contact with the corresponding contact on said selector contact plate, means responsive to engagement of said selector contact blade with a corresponding contact for actuating a reject device, a reject door operatively connected to said reject device and being adaped to open in response to the energization thereof for rejecting invalid coins through said reject door, means for totalizing the values of the acceptable coins, and means responsive to said totalizing means for energizing a control device that is actuated to allow access through said barrier when a predetermined fare is deposited in said apparatus and totalized by said totalizing means.

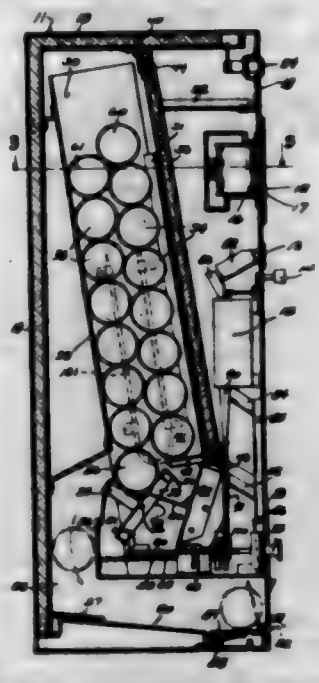
3,144,113

CAN DISPENSER

Lawrence W. Peterson, Horicon, Wis., assignor to Gardner Manufacturing Company, Horicon, Wis., a corporation of Wisconsin

Filed Nov. 2, 1959, Ser. No. 850,420
13 Claims. (Cl. 194—37)

1. A can vending device comprising an inclined hopper of dimensions to receive side by side tiers of cans of circular cross section to be dispensed, said hopper having an opening at its top to receive said cans into both of said tiers and its inclination being in a plane parallel to the diameters of the cans, means at the bottom of the inclined hopper for supporting said tiers, the supporting means including an escapement mechanism for discharging the lowermost can from one of said tiers, the inclination of the hopper being such that the cans of the other



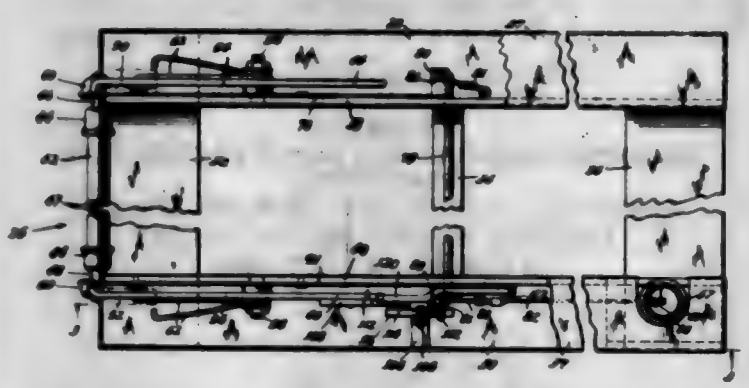
tier are inclined over the cans of said one tier, said escapement mechanism supporting said lowermost can at a level lower than the cans of the adjacent other tier, and the inclination of the hopper being such that as cans are discharged by the escapement mechanism, successive uppermost cans roll from the adjacent other tier onto the top of the said one tier from which cans have been dispensed.

3,144,114

AUTOMOBILE PARKING METER

John J. Sullivan, 3920 Granby St., Norfolk 4, Va.

Filed July 13, 1961, Ser. No. 123,826
9 Claims. (Cl. 194—84)



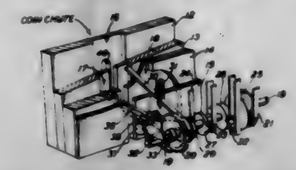
1. A releasable barrier device for automobiles, comprising a locking bar; means mounting said bar horizontally for reciprocative movement between a raised locking position and a lowered releasing position; releasable locking means for retaining said bar in raised position, said means comprising a track adapted to extend horizontally along the ground, and comprising a slide bar supported on the track and movable under the locking bar to positively block downward movement of the same and to directly bear, by solely compressive stresses reacting on the track, all downward forces applied to the locking bar; actuatable means for rendering said locking means inoperative; and semi-automatic means actuated by the locking bar and adapted for operation after actuation of said immediately preceding means for rendering operative the

locking means only in response to a predetermined successive complete lowering-and-raising movement of the locking bar.

3,144,115
COIN TELEPHONE TOTALIZER COIN ARM MECHANISM

David W. Peat and Lawrence A. Strommen, Indianapolis, Ind.; said Peat assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York, and said Strommen assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 29, 1962, Ser. No. 206,265
10 Claims. (Cl. 194—94)

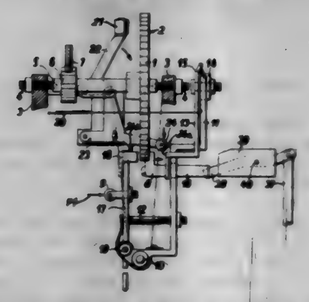


1. In a coin telephone including a coin chute and a totalizer shaft for indicating by its rotational position the value of a deposited coin, apparatus responsive to the fall of a coin in said chute for rotating said shaft through an angle corresponding to the value of said coin comprising, in combination, a first coin arm mounted for pivotal movement about said shaft, said pivotal movement being responsive to the fall of a quarter in said chute and having an angular magnitude with a preselected proportional relation to the value of a quarter, a second coin arm mounted for pivotal movement about said shaft, said pivotal movement being responsive to the fall of a nickel or a dime in said chute and having an angular magnitude with a preselected respective proportional relation to the value of said nickel or dime, means responsive to the pivotal movement of said first arm for rotating said shaft, means responsive to the pivotal movement of said second arm for pivotally moving said first arm thereby to rotate said shaft, said arms being disposed in their index or nonpivoted position at different angles with respect to their common pivot point thereby to allow nickels and dimes to traverse a substantially greater free fall distance before striking said second arm than traversed by a quarter in striking said first arm.

3,144,116
FEEDING MECHANISM FOR TYPEWRITING MACHINES

Andor Goy, 23 Dobsinai-ut, Budapest, Hungary

Filed May 19, 1961, Ser. No. 111,365
5 Claims. (Cl. 197—84)

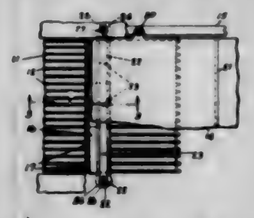


1. In a typewriter with keys for letters and spaces disposed in a frame, an escapement wheel provided with teeth of predetermined pitch, a shaft mounted in said frame and on which said escapement wheel is fixedly mounted, a pawl carrier, means pivotally mounting said carrier in said frame adjacent to and independent from said escapement wheel for movement toward and from said escapement wheel, a pawl member, means pivotally mounting said pawl member on said pawl carrier for engaging the teeth of said escapement wheel, means biasing said pawl carrier toward said escapement wheel to hold said pawl member in engagement therewith whereby and only during said engagement will said pawl member pivot means be substantially aligned with said shaft, a dog carrier, means pivotally disposing said dog carrier in said frame adjacent to said pawl carrier, a spacing member disposed between said pawl carrier and dog carrier, a dog member disposed on said dog carrier, selectable stop members disposed adjacent said pawl member against which said pawl member abuts, means to maintain said pawl member against said stop members, selectable means operatively connected to said stop members to select same for appropriate stopping of said pawl member, and means for pivoting said dog carrier so that said dog carrier engages said spacing member, thereby to free said pawl member from said escapement wheel.

3,144,117
COMB PLATE FOR BELT TYPE MOVING SIDEWALK

Andrew Fabula, Hoboken, and Herman Rudolph Yost, Lincoln Park, N.J., assignors to Otis Elevator Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 12, 1958, Ser. No. 754,679
4 Claims. (Cl. 198—16)



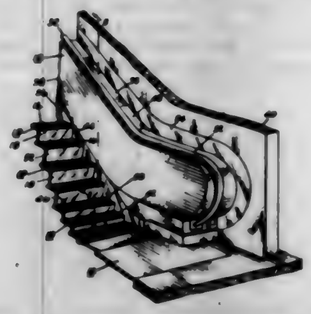
1. A conveyor comprising, an endless belt having a plurality of longitudinal ribs forming the load carrying surface, a comb plate at an end of travel of the conveyor, said comb plate having an immovably affixed load supporting portion and a movable comb portion, said comb portion having teeth intermeshing with said ribs, means for supporting said movable comb portion on and beneath said immovable load supporting portion for lateral movement thereof with respect to said supporting portion, said means comprising a laterally extending slot in one of said portions, and a cooperatingly shaped laterally extending bar formed on the other of said portions and slidable in said slot and positioning said comb member beneath and partially covered by said immovable load supporting portion, and positioning means responsive to lateral shifting of said belt at said comb plate for laterally shifting said comb portion to maintain the desired intermeshing relationship of said comb teeth with said ribs.

3,144,118
COATED SURFACES FOR MOVING STAIRWAYS

Andrew Fabula, Hoboken, N.J., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 14, 1960, Ser. No. 2,448
7 Claims. (Cl. 198—16)

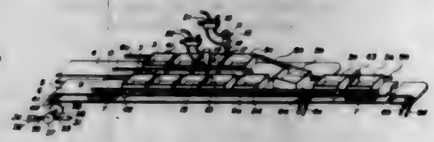
1. A moving stairway comprising, an endless series of steps adapted for carrying passengers from one landing to another in ascending and descending directions, each of said steps including a tread portion and a riser portion and each running on tracks arranged between balustrading, said tracks being arranged so that said steps emerge from under the landing at the stairway entrance in platform formation, change to step formation on the incline and back to platform formation at their exit end, said balustrading including a skirt panel adjacent the right and left edges of said steps, characterized in that the surface of the skirt panels adjacent said step edges and the outer surface of said riser of each step are coated with a solid material having a static coefficient of friction of substantially .04 for a 20 pound load against polished steel, ASTM method.



3,144,119
CONVEYOR SYSTEM

Bingio J. Nigrelli, Northbrook, Wendell E. Standley, Lake Forest, and Richard B. Wittmann, Chicago, Ill., assignors, by mesne assignments, to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois

Filed Dec. 15, 1961, Ser. No. 159,576
3 Claims. (Cl. 198—32)

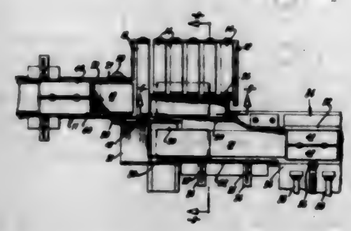


1. A conveyor system for converting two rows of conveyed, open-top trays of uniform size to a single row, comprising, in combination, first and second conveyors, means for continuously operating the conveyors at uniform speed, transfer means for delivering trays from one conveyor to the other, movable stop-pins arranged in operative relation to each conveyor whereby a free end of each pin is arranged to enter open top trays on each conveyor and receive contact by the trailing wall of a tray to restrain its forward movement on the conveyor, individual operating means for moving each pin to take its free end out of tray holding position and release a tray for advancement upon its conveyor, control means for each of such pin operating means, including first and second solenoid valves of the type which, when energized, will assume a condition to effect retraction of the pin which it controls and thereafter will assume its original condition to effect the return of the pin to tray-wall engaging position, a conducting circuit for connecting the solenoid of each solenoid valve to a source of electric current, first and second photocell units arranged respectively at the sides of the first and second conveyors at locations upstream from the transfer means and in positions where trays passing along the conveyors will interrupt the light beams of the photocells, each photocell unit including a switch, the switch to the first unit being included in the circuit of the second solenoid and the switch to the second unit being included in the circuit to the first solenoid, means included in each photocell unit for closing its switch after a predetermined time delay following interruption of its beam, whereby a tray moving past the first photocell unit on the first conveyor to interrupt its light beam will effect the release of a tray on the second conveyor and the released tray on the second conveyor in moving past the second photocell will release a tray on the first conveyor.

3,144,120
ARTICLE INVERTER

John E. Nelleisel, Leetonia, Ohio, assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Sept. 7, 1961, Ser. No. 136,602
6 Claims. (Cl. 198—33)



1. Device for turning an article comprising a first generally horizontal conveyor means supporting an article of generally rectangular cross section, a plurality of rollers in series with said conveyor means to receive said article, said rollers terminating in a vertical plane offset from the center of gravity of said article whereby said article falls from said rollers, a horizontally extending bar disposed beneath said rollers to engage the leading edge of said article as it falls, and a second generally horizontal conveyor disposed beneath said bar.

3,144,121
PEAR FEEDER

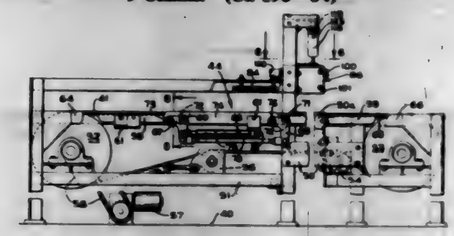
Lawrence H. Smith, Walnut Creek, Calif., assignor to Atlas Pacific Engineering Company, a corporation of California

Filed July 2, 1962, Ser. No. 208,668
41 Claims. (Cl. 198—33)



1. A device for turning a pear into a predetermined position of alignment compriaing a pair of worms, each worm having a continuous thread varying in diameter along the longitudinal axis of the worm to provide a pear supporting surface approximating the inverse of the configuration of a pear supported on the worms with the major axis of the pear parallel to the major axis of the worms, means supporting the worms for rotation about spaced parallel axes extending in a horizontal plane with the worms closely adjacent one another to provide cooperative support for a pear placed on the worms, and means for rotating the worms in the same direction.

3,144,122
APPARATUS FOR CONTROLLING THE MOVEMENT OF CONTAINERS
John F. French, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Nov. 21, 1958, Ser. No. 775,435, now Patent No. 3,067,858, dated Dec. 11, 1962. Divided and this application Feb. 9, 1962, Ser. No. 172,316
9 Claims. (Cl. 198—34)



1. In an apparatus for processing comestibles in containers, a frame, a container feed conveyor supported on said frame, a pair of rails extending longitudinally of said feed conveyor, one rail being disposed on each side of said feed conveyor and below the containers carried on said feed conveyor, crank arms pivotally connecting said rails to said frame, a resilient pad secured to said frame and disposed above said conveyor, and actuating means connected to said crank arms for periodically actuating said arms to raise said rails and the containers supported thereon to a position above the surface of said feed conveyor and against said pad to temporarily arrest the movement of the raised containers and all following containers on said feed conveyor.

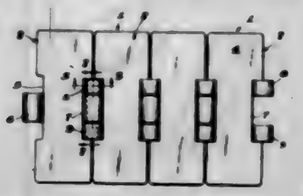
3,144,123
BUCKET ELEVATOR
Hans-Holger Wiese, Schmiedestrasse 24, Hannover, Germany
Filed Sept. 20, 1962, Ser. No. 225,067
Claims priority, application Germany Sept. 25, 1961
5 Claims. (Cl. 198—149)



1. In a bucket elevator having two endless toothed belts of yielding material adapted to be guided over toothed pulleys, transverse studs carried by said belts and buckets swingably supported by said studs; elastic members between adjacent buckets, each elastic member having the shape of a strip comprising cylindrical end sides and a flat middle part, said cylindrical end sides fitting into cylindrical openings formed in said buckets to yieldably connect the elastic member to a transverse side of one bucket and to the transverse side of the next bucket.

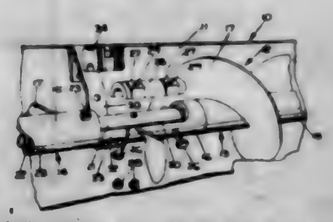
3,144,124
TABLE TOP CHAIN LINK CONVEYOR CONSTRUCTION
August E. Hein, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed June 21, 1961, Ser. No. 118,698
4 Claims. (Cl. 198—189)

1. A chain link construction comprising a body member formed of resilient material and having a flat upper surface; a pair of spaced apart flanges projecting from one side of said body member and being downwardly rolled from said upper surface to form a pair of spaced apart, aligned, substantially cylindrical but incomplete loops; a similar third loop projecting from the opposite side of said body member, the loops of said pair of loops being spaced from one another a distance corresponding substantially to the length of said third loop so as to enable the third loop of a similar, adjacent body member to be received therebetween; and a cylindrical coupling pin having its opposite ends removably received in said pair of loops and spanning the distance therebetween, one loop only of said pair of loops having a



threaded bore the threads of which are formed in a direction opposite to the direction in which said one loop is rolled, the remaining loops having smooth bores, said coupling member having a threaded portion at one end only of the latter, said portion of said pin being in threaded engagement with the threads of the bore in said one loop, whereby said one loop exerts a frictional force on said coupling member tending to restrain relative rotation of said coupling member and said one loop in a direction to unthread the said coupling member from said one loop.

3,144,125
SPIRAL CONVEYOR INCLUDING DISASSEMBLY MEANS
Harold C. Medley, New Albany, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Dec. 26, 1961, Ser. No. 162,101
1 Claim. (Cl. 198—213)



In a spiral conveyor formed of at least two aligned conveyor sections each comprising a shaft and a spiral flight wound around the shaft, a connecting shaft element for joining adjacent ends of a pair of shafts to each other, one of said shafts including a seat for said connecting shaft element, said seat being open in a diametral plane, a cap overlying said connecting shaft element and said seat, said one shaft including a first radially disposed junction surface at each side of said connecting shaft element, said cap being formed with a second radially disposed junction surface at each side of said connecting shaft element, said first and second radially disposed junction surfaces being aligned with each other for bearing engagement of the first and second junction surfaces, said seat, said connecting shaft element and said cap being formed with a pair of bores extending therethrough on diametral lines which are crossed with respect to each other, a pair of bolts extending through said bores of said seat, the connecting shaft element and the cap for fixedly securing said connecting shaft element to said one shaft and for fixedly securing said cap to said one shaft with said first and second junction surfaces at each side bearing on each other, said bolts being disposed on diametral lines which are crossed with respect to each other, and said bolts being releasable for separation of said conveyor sections by removal of said cap and removal of said connecting shaft element from said seat.

3,144,126
KLYSTRON TUBE GRID SHIPPING CONTAINER
Herbert L. James, Attleboro, Mass., assignor to Chomerics, Incorporated, Plainville, Mass., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,258
1 Claim. (Cl. 206—1)



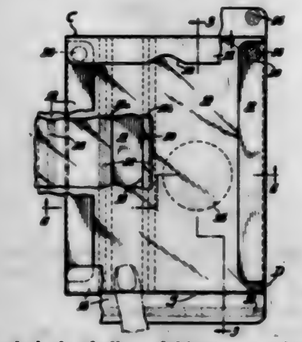
A klystron tube grid shipping container comprising a rigid flat circular opaque base, the upper surface thereof being provided with a plurality of compartment recesses having a size and shape corresponding to and receiving klystron tube grids therein, and a mating rigid transparent cover fitting tightly against said upper surface of said base closing said recesses and secured to said base with a centrally located hand demountable means, said cover permitting visual inspection of said klystron tube grids therethrough.

3,144,127
TWO-IN-ONE EYEGLASS CASE
William Fogel, 330 W. 28th St., New York, N.Y.
Filed Feb. 6, 1962, Ser. No. 171,401
3 Claims. (Cl. 206—5)



1. An eyeglass case comprising a pair of side panels, a divider panel disposed between the side panels connected at one end only to one of the side panels and at the other opposite end only to the other of the side panels, a flexible tubular gusset encircling the divider panel and being connected to the divider panel ends and to the pair of side panels, to provide an area in the case divided into two compartments by the divider panel, the tubular gusset having cut-outs at its ends, each end providing separate entrance for each one of the compartments at only the ends of the eyeglass case, and slide fastener means connected to the tubular gusset for opening and closing each of the compartment entrances and both of such entrances at the same time.

3,144,128
PAPERBOARD AND PLASTIC FILM HOSIERY PACKAGE
Peter C. Colburn, Waltham, Mass., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Nov. 13, 1962, Ser. No. 237,256
4 Claims. (Cl. 206—45.34)

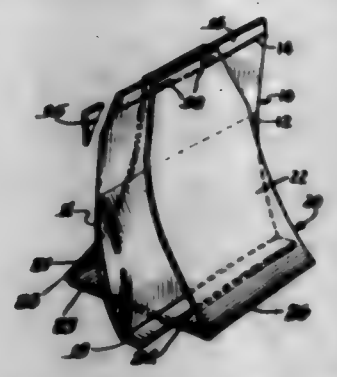


1. A relatively shallow, folder-type package, comprising:
(*a*) a carton base formed from a unitary blank of foldable paperboard; and
(*b*) a sleeve, open at at least one end, formed from a relatively thin transparent sheet of plastic film characterized by a tendency to cohere to itself;
(*c*) said base including a generally rectangular main panel having pairs of relatively narrow side and end panels hinged to its opposite side and end edges, respectively;
(*d*) said sleeve having a girth approximately equal to twice the width of said main panel;
(*e*) said sleeve overlying one surface of said main panel and being in a collapsed condition to present a pair of generally parallel inner and outer walls interconnected at their side edges;
(*f*) said sleeve inner wall being interrupted and including a pair of co-planer sections adhesively secured to said one surface of the main panel and separated from each other and having a portion of said panel surface adjacent an open end of the sleeve exposed and in direct facing relation with an equivalent portion of the plastic sleeve outer wall to facilitate opening of the sleeve and the insertion of an object between the main panel and the sleeve outer wall;
(*g*) said side panels being folded approximately 180 degrees back over marginal portions of the sides of the sleeve outer wall and adhesively secured thereto, so that the main panel and the sleeve outer wall serve as the front and rear walls, respectively, of the package;
(*h*) said end wall panels being folded approximately 180 degrees back over marginal portions of the ends of said sleeve outer wall and end portions of respective side panels and being adhesively secured to said side panel portions.

3,144,129
CONTAINER AND STAND ASSEMBLY
Sydney R. Weinberg, 1715 Halsted St., Chicago, Ill.
Filed Dec. 3, 1962, Ser. No. 241,969
8 Claims. (Cl. 206—56)

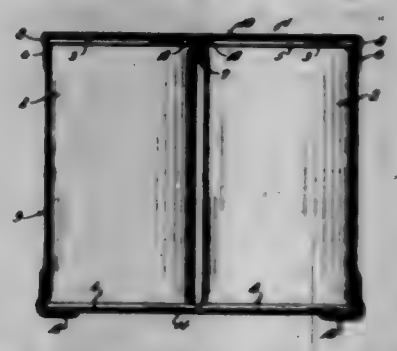
1. The combination comprising a partially filled, non-self-supporting, flexible bag having relatively closely spaced confronting walls which sealingly engage each other on all sides thereof to form a flat bag having a

material holding compartment therein and a spout forming section at the top of the bag from which the contents of the bag can be poured, a stand supporting the bag in an upright position above a bag contacting surface, said stand including means at the top thereof engaging the top of the bag at least at two horizontally spaced points wherein the bag cannot tilt with respect to the



stand in the plane of the bag, said bag being unsupported at the sides thereof and spaced from the stand and the bottom thereof resting on said surface which causes the bag to tilt and form a crease above the level of the bag content where the walls of the bag are pressed together in self-sealing relation below said spout forming section thereof.

3,144,130
PACKAGE ASSEMBLY
Bruce G. Copping, Akron, Ohio, assignor to Athron, Inc., Akron, Ohio, a corporation of Ohio
Filed Oct. 5, 1962, Ser. No. 228,611
9 Claims. (Cl. 206—65)



1. A package assembly for a plurality of cylindrical articles having top chines or beads formed thereon and comprising

a cardboard top unit having a pair of dependent slotted flanges thereon, which unit overlies a row of abutted articles with the top chines thereof received in said slots of said flanges, and

an open end heat shrunk plastic band extending tightly around said articles and retaining said flanges tightly against the sides of said articles with said top chines in said slots,

said plastic band being made from a pair of plastic film strips overlapped and secured together at a pair of parallel spaced portions thereof engaging the lower laterally outer corners of said articles.

3,144,131
PACKAGES FORMED OF COHESIVE CORRUGATED PAPER
Edgar W. Pitt, Weston, and Kermit Greene, Newton, Mass., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Jan. 4, 1963, Ser. No. 249,363
3 Claims. (Cl. 206—65)

3. A package containing a plurality of objects in side-by-side relation and each having substantial three-dimensional bulk, said package comprising an area of single-faced corrugated laminate material embodying a corrugated sheet with corrugations thereon facing inwardly of the package and resiliently engaging the objects and coated throughout the surfaces of such inwardly facing corrugations with a coating cohesive to like coating material, but substantially non-tacky and non-sticky with respect to said objects, although having a high coefficient of friction in respect thereto when thus resiliently engaging same, a backing sheet being adhered to the raised areas of the non-coated surface of the corrugated sheet and forming the outer surface of the package, said area of laminate being creased to form a plurality of interconnected panels, including a back panel covering and extending up beyond the height of the backs of the objects,



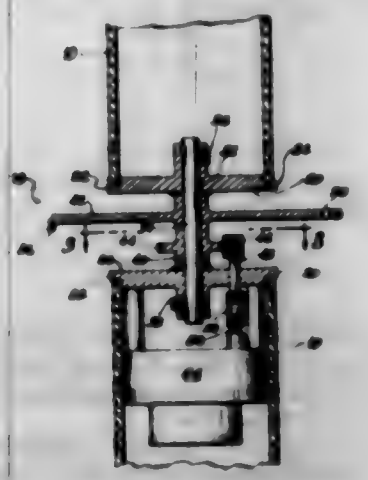
a bottom panel on which the objects rest, a front portion contacting the front of the objects and constituted of at least two panels extending upwardly from the bottom panel and diagonally to the back panel respectively, and an additional and upstanding panel connected at a crease line with the front portion, such additional panel being cohered to the portion of the back panel which extends above the objects, said panels being of dimensions whereby same cooperate in substantially embracing the back, bottom and front portions of the objects with the corrugated sheet protectively cushioning the objects and retaining same against sidewise displacement in the package by reason of resilient frictional engagement therewith.

3,144,132
PRODUCTION OF EXTRUDED METAL PRODUCTS
Archibald Claude Bridge, Colwick, near Nottingham, England, assignor, by mesne assignments, to Anglo-American Extrusion Company, a corporation of Delaware
Filed Dec. 5, 1955, Ser. No. 551,153
Claims priority, application Great Britain Mar. 3, 1950
6 Claims. (Cl. 207—10)

1. In the production by a single extrusion stroke of an extrusion complete article from a billet of a given strain hardenable metal under temperatures which continue the metal in strain hardenable condition throughout the stroke, which billet, if plastically worked within the die cavity under the extrusion ratio necessary to complete the extrusion of the article in the single stroke but under a velocity substantially less than the critical minimum velocity applicable to the metal when so extruded for a time greater than the delay time before setting in of strain hardening applicable thereto, will become consequentially strain hardened within the cavity, said critical minimum velocity being the lowest velocity which when maintained throughout a single extrusion stroke in the extrusion of a billet of a particular metal in strain hardenable condition at a predetermined extrusion ratio, will result in continuously expressing the successive plastically deformed portions of the billet from the extrusion die without causing a rise in resistance to forcing the metal

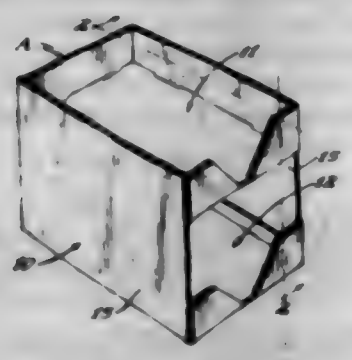
out of the die cavity when the total time for performing the single stroke extrusion operation is greater than the time delay before setting in of strain hardening of each such successive portion of the billet brought adjacent the die aperture; the method which consists in initiating the single stroke and continuing it to the completion of the extrusion under a substantially uniform velocity at least substantially as high as and so related to the said critical minimum velocity that the resulting article is highly strain hardened and endowed with substantially uniform physical properties irrespective of the length of the article and the total time required for the extrusion.

3,144,133
DISPLAY APPARATUS
George Poulos, 3020 Pearl St., Franklin Park, Ill.
Filed June 20, 1961, Ser. No. 118,312
17 Claims. (Cl. 211—1.5)



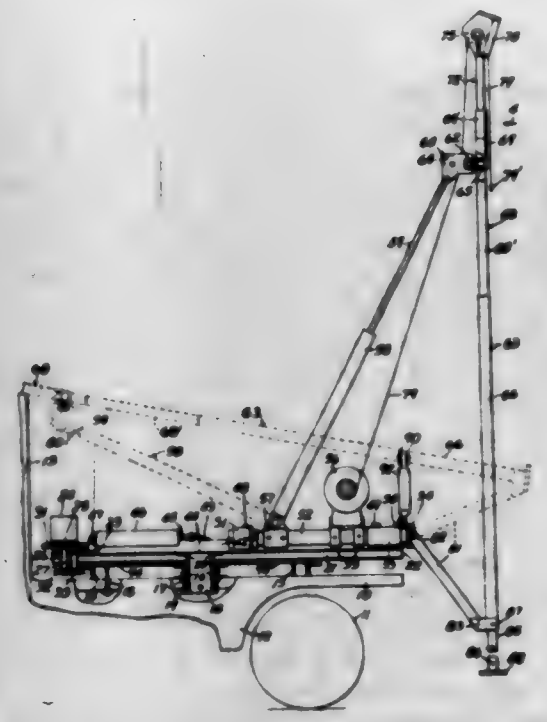
1. An apparatus adapted for display purposes comprising a pair of axially aligned pole sections, means for holding said sections in spaced-apart relationship whereby an open space is defined therebetween, a display holding element, means connecting said holding element to at least one of said pole sections whereby said holding element is supported in said open space, means rotatably mounting said holding element in said open space and driving means for rotating said display holding element located in said open space.

3,144,134
LETTER TRAY
Fred W. Frommgen, Watertown, Wis., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Dec. 26, 1962, Ser. No. 246,950
9 Claims. (Cl. 211—126)



1. A letter tray including,
a wall portion including a back panel, a pair of side panels hinged to opposite edges of said back panel, and two pairs of vertically spaced front flaps folded into a common plane from the forward edges of said side panels,
a bottom platform including a bottom panel of proper width extended between said side panels, and platform flaps foldably connected to the forward edge of said bottom panel folded outwardly of the lower pair of said front flaps and including extensions foldably connected to said platform flaps and lying inwardly of said front flaps,
means securing the rear of said platform to said back panel,
an upper platform including a bottom panel of a width fitting between said side panels and including top platform flaps hinged to the forward edge thereof folded upwardly outwardly of the upper pair of front flaps, and flap extensions folded over and inwardly of these front flaps, and
means securing the rear edge of said top platform to said back panel.

3,144,135
COMBINATION DERRICK AND PORTABLE DIGGER SUPPORT FOR TRUCKS
Howard D. Brown, Star Rte., Atlantic, Iowa
Filed May 7, 1962, Ser. No. 192,821
12 Claims. (Cl. 212—35)



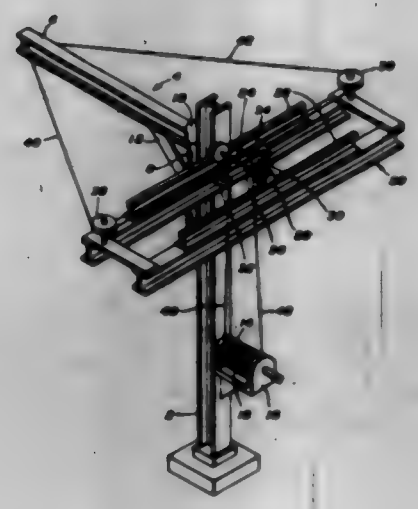
1. A combination derrick digger structure for vehicles, said structure comprising a derrick frame, a digger supporting frame, means pivotally supporting the digger frame on a chassis of the vehicle, said derrick frame having side columns mounted in side columns of the digger frame, means pivotally supported in connection with said first named means for support and guide of the lower ends of said side columns of the digger frame, said first named means including a hydraulic cylinder pivotally supported in connection with said digger frame, said first named means including a winch, a cable extending from said winch over a pulley on the derrick frame, said derrick and digger frames being collapsible upon the upper portion of the chassis of the vehicle, a support ring mounted in connection with the vehicle chassis, a swinging frame rotatable on said ring, said swinging frame supporting said first named means, and means supported on the swinging frame and operatively engaging said ring for movement of the swinging frame and the derrick and digger frames supported thereby through an arc of at least 200° with respect to the chassis of the vehicle.

3,144,136

ROPE DRIVE FOR SWINGING BOOM OF A JIB CRANE

Richard J. McAfee, Rankin, and Charles Steckle, McCandless Township, Allegheny County, Pa., assignors to United States Steel Corporation

Filed May 6, 1963, Ser. No. 278,825
2 Claims. (Cl. 212—66)



2. The combination with a jib crane having a boom pivoted at one end for swinging movement in a horizontal arcuate path radially of said crane of a rope drive for swinging said boom which comprises a rotatable drum journaled in a vertical plane adjacent the vertical plane containing the pivoted end of said boom, a length of rope laid about said drum, an elevated way adjacent the pivoted end of said boom, said way extending in a horizontal plane transversely of an extension of the longitudinal axis of said boom when said boom is positioned in the center of its path, a carriage mounted for movement along said way, a tiltable lever carried by said carriage, said lever being tiltable about a horizontal axis extending transversely of said way, a first sheave journaled on one end of said lever and a second sheave journaled on the other end thereof, a third sheave journaled at a fixed point adjacent the end of said way toward said first sheave, and a fourth sheave journaled at a fixed point adjacent the opposite end of said way, one end of said length of rope extending from said drum and first passing around said first sheave and then around said third sheave to a point of connection with the free end of said boom, and the other end of said length of rope extending from said drum and first passing around said second sheave and then around said fourth sheave to a point of connection with the free end of said boom.

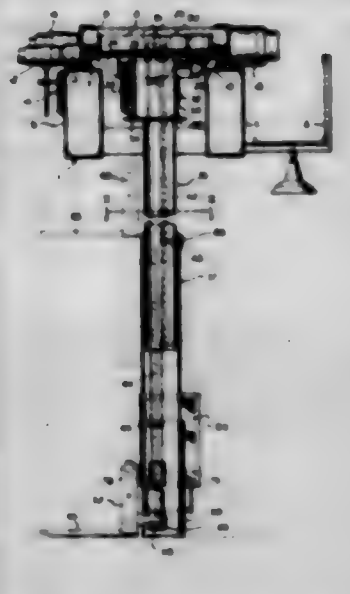
3,144,137

STACKER CRANE

Robert L. Vaillere, Roosevelt Park, and Walter A. Paulsen, Spring Lake, Mich., assignors to Manning, Maxwell & Moore, Incorporated, Muskegon, Mich., a corporation of New Jersey

Filed Jan. 30, 1962, Ser. No. 169,872
8 Claims. (Cl. 212—128)

1. In a stacker crane,
a travelling bridge,
a trolley to traverse said bridge,
a mast depending from said trolley and comprising a plurality of hollow telescoping sections,
load engaging means on the lower section of said mast,
a hoist drum on said trolley,
a lift rope between said drum and said load engaging means and extending through the sections of said mast, and



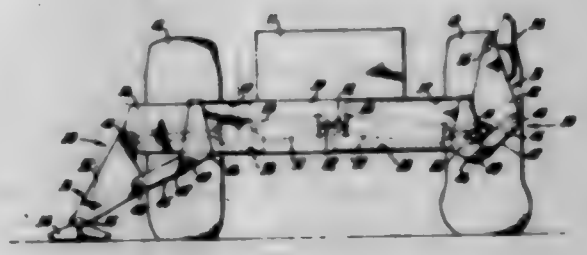
actuating means for said hoist drum also carried by said trolley.

3,144,138

OUTRIGGER MECHANISM

Edwin C. Brown and Roy D. Brownell, Aurora, Ill., assignors to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania

Filed Apr. 2, 1962, Ser. No. 184,336
16 Claims. (Cl. 212—145)



1. An outrigger mechanism for a vehicle comprising, in combination, a frame on said vehicle defining a pair of generally horizontally disposed surfaces, a member slidably mounted for transverse movement between said surfaces, said member being extensible from a transport position to a laterally extending support position, a leg pivoted to the extending end of said member for vertically swinging movement, a link coupling said leg and said frame so that the leg is swung upwardly when said member is in transport position and the leg is swung downwardly into ground engaging contact when said member is in support position, and means for shifting said member between transport and support positions.

3,144,139

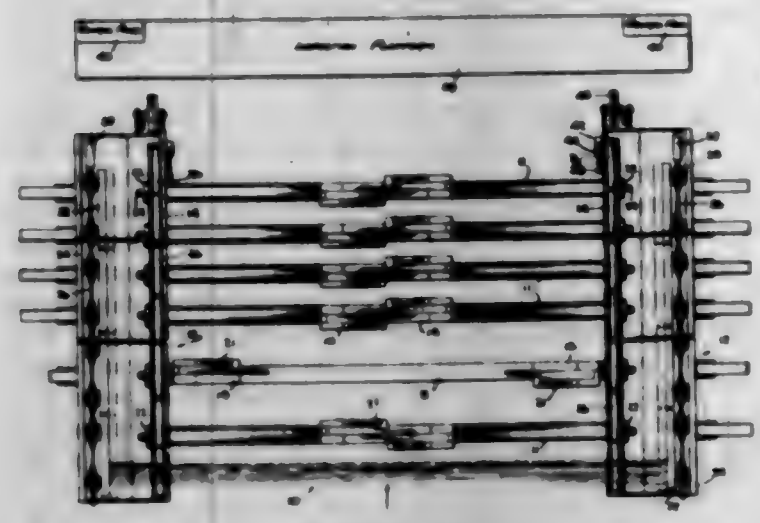
BILLET HANDLING APPARATUS

Robert A. Chapeller, Whitestone, N.Y., assignor to Burns and Roe, Inc., New York, N.Y., a corporation of New Jersey

Filed Aug. 9, 1961, Ser. No. 130,436
15 Claims. (Cl. 214—1)

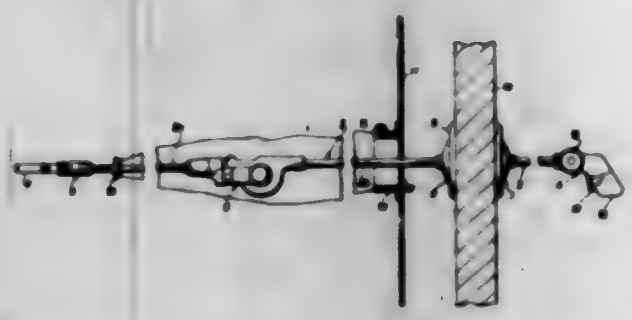
1. In apparatus of the class described, spaced support means for supporting thereacross billets to be handled, at least one pair of combing means piercing a bundle of billets supported on said support means, means shifting said piercing means longitudinally of said billets while said piercing means are maintained in bundle piercing

disposition to split said bundle into smaller bundles, means transporting said smaller bundles in a direction parallel to the length of said support means, and means



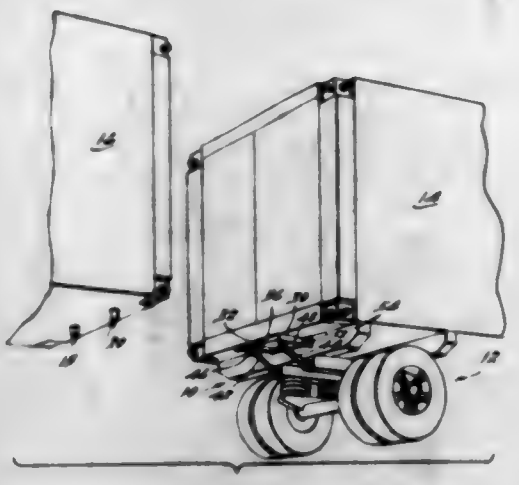
repeatedly piercing and longitudinally splitting said bundles into progressively smaller bundles as necessary to separate the billets ultimately into single billets.

3,144,140
MANIPULATING DEVICE
Alan Ainsworth, Thurso, Caithness, Scotland, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Aug. 23, 1961, Ser. No. 133,494
Claims priority, application Great Britain Sept. 1, 1960
6 Claims. (Cl. 214—1)



1. A manipulator comprising a rigid arm, a ball mounting for slidably supporting the arm, operating mechanism at one end of the arm, manipulating mechanism under the control of the operating mechanism, an arm extension by which the manipulating mechanism is carried, a joint between the arm and the arm extension having an axis about which the arm extension may be pivoted with respect to the arm, a yoke in the joint which is mounted for pivotal movement about the joint axis and in which the arm extension is journalled, a first gear mounted on the joint axis and connected to the yoke so that rotation of the first gear causes pivotal movement of the arm extension with respect to the arm, a second gear mounted on the joint axis and connected to the arm extension so that rotation of the second gear causes rotation of the arm extension with respect to the arm, two concentric shafts in the arm which are rotatable by the operating mechanism, gear means including worm drives interconnecting the two shafts with the first and second gears respectively whereby the arm extension can be pivoted or rotated with respect to the arm under the control of the operating mechanism, and a compensating mechanism to restrain interference between rotational and pivotal movements of the arm extension with respect to the arm.

3,144,141
ALIGNMENT RAMP
Keith W. Tantlinger, Grosse Pointe Shores, and Robert G. Flagan, Grosse Pointe Park, Mich., assignors to Fruehauf Corporation, a corporation of Michigan
Filed Nov. 27, 1961, Ser. No. 154,987
1 Claim. (Cl. 214—10.5)

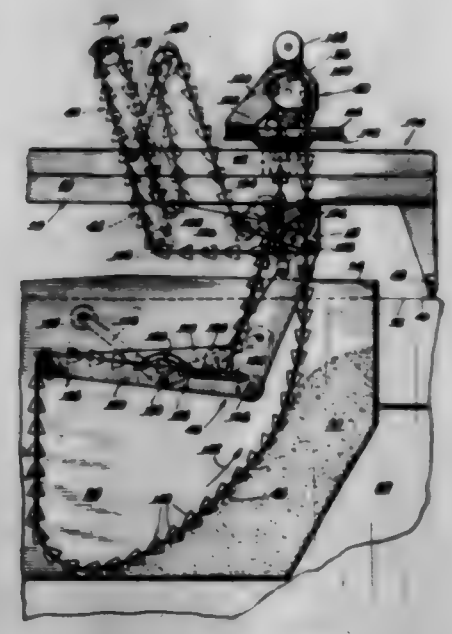


Shipping apparatus comprising a pair of shipping containers of generally rectangular horizontal cross section, means for coupling said shipping containers to one another in end to end abutting relationship for shipment in the coupled condition, an alignment ramp normally disposed entirely within the rectangular horizontal cross section of one of said containers, means supporting said alignment ramp for pivotal movement relative to said one container between said position entirely within the horizontal cross section thereof and a position wherein said ramp extends generally horizontally outwardly of the horizontal cross section of said one container, said alignment ramp having an angularly downwardly extending upwardly facing surface and a pair of laterally spaced convergent vertically extending surfaces, the other of said containers having a horizontal downwardly facing surface complementary to and engageable with the angularly downwardly extending surface on said one container to effect vertical gathering of said one container upon movement thereof towards said other container, and a pair of laterally spaced vertically extending surfaces complementary to and engageable with the vertically extending convergent surfaces on said one container to effect lateral gathering of said one container upon movement thereof towards said other container.

3,144,142
SELF-UNLOADING CARGO SHIP
Walter J. Wallace, Jr., Batavia, Ill., assignor to W. J. Wallace Systems, Inc., Batavia, Ill., a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 227,474
15 Claims. (Cl. 214—15)

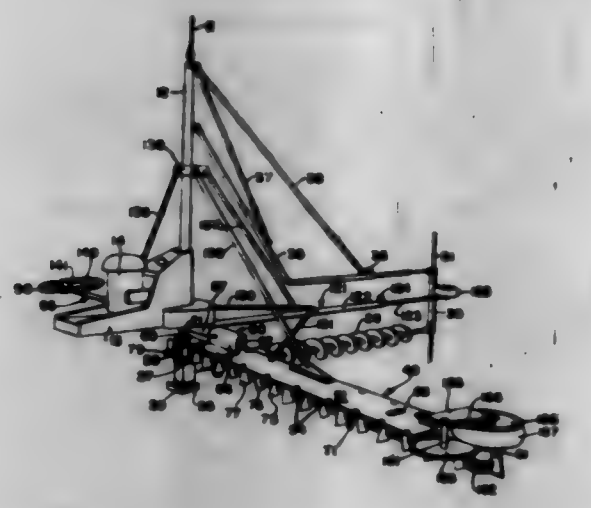
1. A self-unloading cargo ship comprising: a ship structure including a cargo-storing hold, a hatchway over a portion of said hold, and permanent decking over other portions of said hold radially outwardly from said hatchway; crane means mounted on said decking, including rail means adapted to project over said hatchway; turret means including a first turret member engaging said rail means, a second turret member rotatably supported by said first turret member, and first guide means on said second turret member defining an inflection point for a flexible conveyor; a deflected arm pivotally connected adjacent one end to said second turret member to be swingable in a vertical arc passing through said hatchway whereby to be raisable and lowerable relative to said hatchway, rotation of said second turret member swinging

said arm in a horizontal arc whereby to direct the other end of said arm beneath said permanent decking when said arm is in a lowered position; second and third guide means on said arm and disposed respectively adjacent said other end and adjacent the deflection point thereof; a flexible endless conveyor partly trained about said guide means to follow a predetermined upper path defined by said guide means and partly suspended from said guide means to follow a freely flexing lower path adapted to intersect an



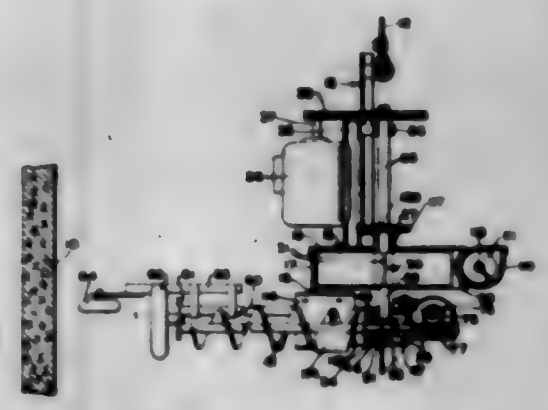
underlying mass of particulate bulk cargo in said hold, said conveyor including a series of buckets opening in a common direction running generally from said second guide means, through said lower path and toward said first guide means; and drive means engaging said conveyor to circulate said conveyor in said direction whereby said buckets collect quantities of said particulate bulk cargo upon traversing said lower path and whereby said buckets are inverted to dump said quantities of cargo upon traversing said inflection point.

3,144,143
SILO UNLOADER
Raymond S. Wilkes, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,265
14 Claims. (Cl. 214—17)



1. A silo unloader comprising: a central upright drive shaft; an auger disposed in a trench beneath the level of the silage and connected to said drive shaft; radial structure extending between the drive shaft and the silo wall; a horizontal drive wheel supported on the outer end of the radial structure engaging the silo wall; drive means between the central shaft and wheel for driving the latter; sweep mechanism on said radial structure effective to sweep over the silage and move silage into the trench; a first guide arm extending radially from the center of the silo; means mounting the inner end of the guide arm on the radial structure whereby the guide arm and radial structure are disposed diametrically across the silo; a guide wheel mounted on the outer end of the guide arm; means on the guide arm biasing the guide wheel into engagement with the wall and for maintaining pressure on the drive wheel and guide wheel relative to the wall; a second guide arm connected to and extending substantially at right angles to the first guide arm and radial structure and disposed in front of the drive wheel and behind the first guide wheel; a second guide wheel supported on the outer end of the second guide arm closely but spacedly adjacent the silo wall and effective to contact the wall upon said first guide wheel contacting a wall obstruction which temporarily prevents passage of the first guide wheel.

3,144,144
SILO UNLOADER
Sylvan H. Sims, Kiester, Minn.
Filed Jan. 18, 1962, Ser. No. 165,394
12 Claims. (Cl. 214—17)



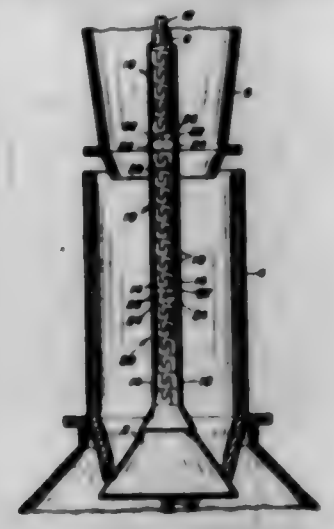
1. A material unloader for use in a silo having an upright silo wall with a series of openings in one side thereof comprising: a main frame structure including an inverted cup-shaped impeller chamber having an upright wall with a lower terminal edge and a side discharge opening in the wall; means supporting the frame structure substantially at the center of the silo; a vertical drive shaft extending through and concentric with the axis of the chamber with a lower end below the chamber; an impeller including at least one laterally extending and vertically disposed impeller blade fixed to the shaft with an outer upright edge closely adjacent the wall and a lower edge substantially coplanar with the lower edge of the wall; sweep means disposed radially in the silo beneath the chamber and extending substantially from the center to the wall of the silo and including a laterally extending auger drive shaft, an auger flighting on the shaft outboard of the chamber and terminating adjacent the wall of the chamber; a flipper fixed to and extending radially from the auger shaft beneath and inboard of the chamber and adapted to flip material upwardly in the path of the impeller blade; drive means between the lower end of the drive shaft and the auger drive shaft; an auger discharge housing having one end connected to the chamber adjacent to and for receiving material through the side discharge opening, and extending therefrom through an opening in the silo wall, an auger within the auger housing for discharging material through the opening; and a drive mechanism for effecting rotation of the sweep means over the surface of the silage.

3,144,145
WEAR RING MOUNTING ON BLAST-FURNACE BELL ROD

Charles Stockle, McCandless Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Mar. 20, 1963, Ser. No. 266,681
2 Claims. (Cl. 214—36)

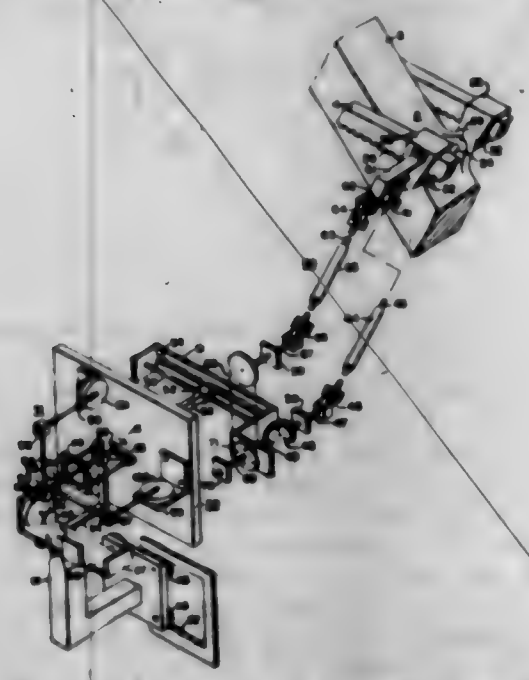
1. The combination with a blast-furnace bell rod of an upper and lower series of wear rings fitted around said rod, each of said rings including at least two detachably interlocked segments, a supporting ring rigidly fastened to said rod between said upper and lower series of wear rings, and a split locking ring detachably fitted around said rod between said supporting ring and said lower series of wear rings, said locking ring being adapted, when removed from said rod, to provide an annular space between said supporting ring and said lower series of wear rings whereby the segments of the wear rings of said lower series can be removed from said rod in consecutive order from the top to the bottom of said lower series.



3,144,146
MIMIC POSITIONING CONTROLLER

William A. Strickland, Jr., Columbus, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 17, 1960, Ser. No. 70,068
11 Claims. (Cl. 214—135)

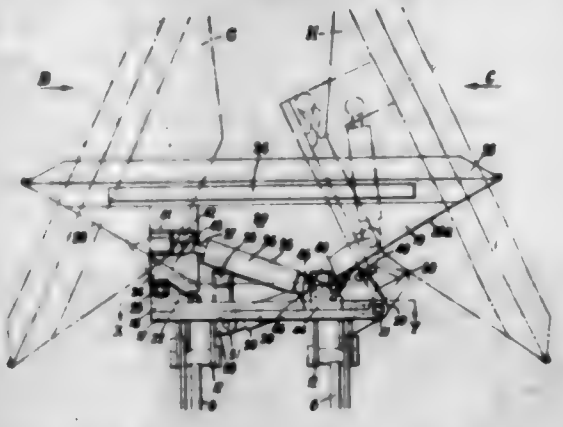


1. A controller for a shovel including a dipper and a dipper handle comprising, means for sensing the dipper handle hoist angle; means for sensing the dipper handle extension; movable means operably connected to said first and second means for mimicking the movements of said dipper; a controlling member adapted to be moved relative to said movable means and provide a signal for changing the position of said dipper as a function of the position of said controlling member with respect to said movable means; and power means responsive to said signal for changing the hoist angle and extension of said dipper handle.

3,144,147
SIDE DUMP BUCKETS

John Henry Boughton, Amersham Commons, Buckinghamshire, England

Filed Feb. 13, 1961, Ser. No. 88,955
Claims priority, application Great Britain Feb. 17, 1960
9 Claims. (Cl. 214—140)



9. A load-handling vehicle comprising in combination, on a chassis; a lifting arm unit pivoted at one end to the said chassis, a first frame mounted on the other end of said lifting arm unit for pivotal movement about a first pivot axis normal to the longitudinal axis of said lifting arm unit; a second frame rested upon said first frame and having a perimeter including two sides disposed laterally relative to the said lifting arm unit; a hinge pin hingedly connecting one of the two opposite lateral sides of said second frame to a corresponding side of the said first frame and defining a second pivot axis about which said second frame is pivotable uni-laterally relative to the longitudinal axis of the lifting arm unit; a bucket; a hinge pin hingedly connecting the other of the said opposite sides of the said second frame to said bucket and defining a third pivot axis about which said bucket is pivotable uni-laterally oppositely to the aforesaid pivotal movement of the second frame; said second and third pivot axes converging forwardly relative to the longitudinal axis of the lifting arm unit, and pivot means connecting the underneath of the first frame to the lifting arm unit and forming the said first pivot axis.

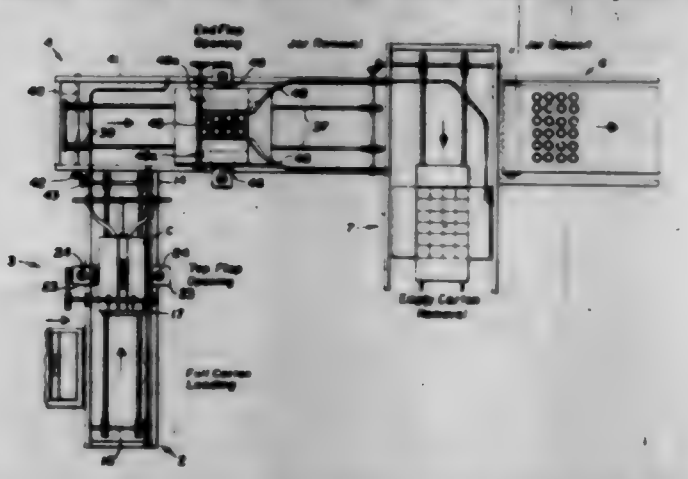
3,144,148
CONTAINER HANDLING APPARATUS

Albert H. Merkner, Pittsburgh, Pa., and Chester Gutowski, 2903 May St., Pittsburgh 34, Pa.; said Merkner assignor to H. J. Heinz Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 26, 1961, Ser. No. 127,000
13 Claims. (Cl. 214—304)

7. Apparatus for lifting jars from the cells of shipping cartons and transporting them comprising a first carton-carrying endless conveyor having a receiving end and a discharge end, means intermediate said ends for lifting and opening out flaps at each side of the carton, a second carton conveyor at right angles to the first at the discharge end of the first for receiving cartons from the first carton conveyor and moving them in a horizontal direction at right angles to said first conveyor, means intermediate the ends of the second carton conveyor for opening the end flaps of a carton moving therealong, an empty carton-receiving conveyor at the end of the second conveyor and positioned at right angles thereto and positioned for re-

ceiving cartons from the second conveyor and carrying them to one side of the apparatus, a jar-receiving conveyor in line with the second carton conveyor and positioned at the opposite side of the empty carton-receiving conveyor, an endless chain conveyor positioned above the second carton conveyor, the empty carton-receiving conveyor and the jar-receiving conveyor, said endless chain conveyor having groups of transversely-elongated mounting plates thereon, the number of plates in a group corresponding to the number of rows of cells in a carton which are crosswise of the direction of travel of a carton moving along the second carton conveyor with the center-to-center spacing of the plates of the groups equal to the center-to-center spacing of said rows, each plate having a number of push rods passing therethrough along its center line and slidable in a direction normal to the plane of the plates, said push rods being centered from one another a distance corresponding to the center-to-center spacing of the carton cells, the chain conveyor having a lower jar-lifting and transporting and depositing reach above the second carton conveyor and jar-receiving conveyor and an upper return reach above the lower one, each plate having a generally spherical resilient deformable ball attached to the surface which faces downwardly on the lower reach of the chain conveyor, the balls being centered about the push rods with one rod projecting into each ball, the upper end of each rod in this position extending upwardly above the plate on which it is carried, said lower reach of the chain conveyor being guided on a downward slope toward a low point above the second carton conveyor, then upwardly on an incline from the first low point and over the empty carton-receiving conveyor at an elevation and then on a downward slope to a second low point located above the jar-receiving conveyor, and finally up a second incline, the second carton conveyor and the chain conveyor being synchronized to center the carton cells under the balls of a group of mounting plates as such balls move toward the first low point, means engaging the push rods to depress them and elongate the balls as they approach the first low point and release them after they pass such low point and before they move upwardly on an incline from said low point, and means over the second low point for depressing them to again elongate the balls and gradually release them as the lower reach moves up said second incline.



3,144,149

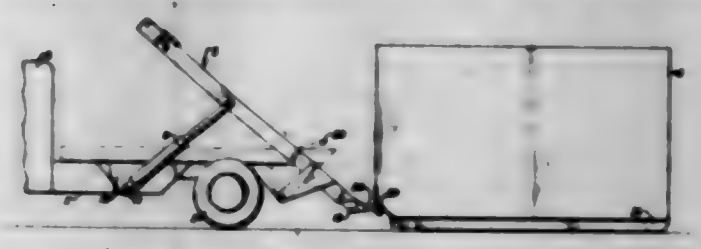
TRANSPORTING EQUIPMENT FOR CONTAINERS

George R. Dempster, Box 3127, Knoxville, Tenn., William A. Herpich, Galion, Ohio, and Samuel E. Harvey, Knoxville, Tenn.; said Herpich and said Harvey assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee

Continuation of application Ser. No. 744,107, June 24, 1958. This application Apr. 20, 1961, Ser. No. 106,427

11 Claims. (Cl. 214—505)

9. In equipment mounted on a vehicle, the combination of a supporting frame mounted on the vehicle for swinging movement to raised and lowered positions about an axis spaced rearwardly thereof, a container mounted on the frame, said container having a plurality of hook devices spaced along the bottom thereof lengthwise of the supporting frame, said hook devices having open throats toward the rear of the vehicle, a carriage mounted on the frame for movement back and forth therealong, said carriage having a bail thereon including a portion disposed in embracing relation around one of the hook



devices and in the throat thereof, power means for moving the carriage inwardly along the supporting frame with the bail in one position for engagement with one hook device of said plurality to move the container inwardly of the vehicle one step along the supporting frame and thereafter moving the bail outwardly and into engagement with a second hook device of said plurality for moving the container inwardly in a second step, and means for lifting the inner end portion of the supporting frame for discharging the container therefrom.

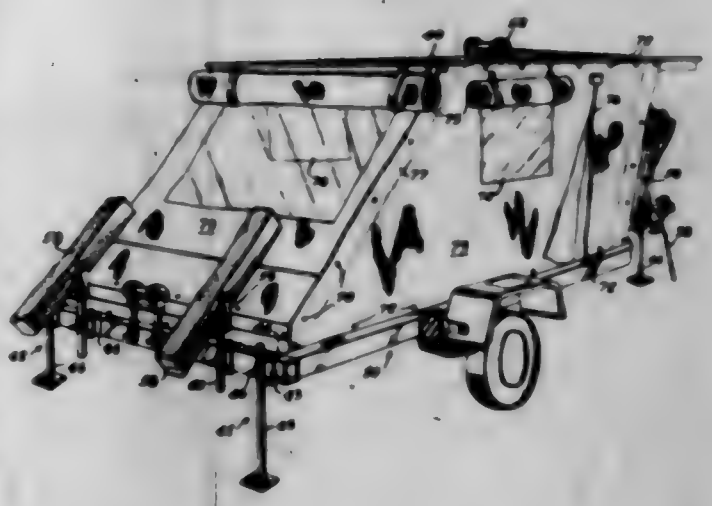
3,144,150

BOAT TRAILER INCORPORATING COLLAPSIBLE SLEEPING QUARTER

Frederick L. Cox, Grifton, N.C.

Filed Mar. 12, 1962, Ser. No. 179,038

7 Claims. (Cl. 214—505)



1. A camping and boat transporting trailer comprising a horizontal wheeled frame, tongue means fixed to one end of said frame for attachment to a towing vehicle, a shallow box structure including a bottom portion fixedly mounted on said frame, said bottom portion defining a bed for a mattress and including rigid upstanding side and end walls, a rigid boat receiving cover portion normally resting upon said upstanding walls, pairs of rigid linkages, each linkage pivotally interconnecting said cover and bottom portions at spaced points, said linkages in the closed condition of said box structure being upwardly inclined at an acute angle, and pull means on said tongue above the level of said cover portion and connected by cable to the center area of said cover portion, whereby said cover portion, on operation of said pull means, will be swung upwardly to a position above and parallel with said bed and supported by said linkages.

3,144,151
CLOSURE ASSEMBLY
Joseph J. Gram, Lake Bluff, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
Filed Jan. 25, 1962, Ser. No. 168,601
1 Claim. (Cl. 215—6)



A closure assembly for a container having a tubular neck, comprising: a piston plug having a piston portion slidably fitted for inward and outward movement along said tubular neck and an enlarged head portion, the underside of said enlarged head portion providing a stop face, a ring having a central hole which receives said piston plug, and a plurality of embossments on said ring projecting outwardly from said ring and abuttable against said stop face for both limiting the inward movement of said enlarged head of said piston plug with respect to said ring and for structurally strengthening said ring.

3,144,152
INDIVIDUAL DIVISIONAL JAR FOR COFFEE AND OTHER FOOD PRODUCTS
Herman Kopp, 2910 Bruner Ave., New York 69, N.Y.
Filed Dec. 30, 1963, Ser. No. 334,119
1 Claim. (Cl. 215—6)



A compartmented jar comprising a hollow cylindrical body open at both ends and exteriorly threaded on both ends, a transverse wall partition dividing the interior of the body into two halves, a plurality of partitions in each half dividing the interior of the half into a plurality of compartments, the outer edges of the rims of the body and the outer edges of the partitions forming continuous surface areas, a detachable sealing disc seated on said surface areas at each end sealing off the compartments, reverted integral lugs on said disc overlying each compartment, score lines on each disc adjacent each lug whereby a portion of the disc may be lifted to expose an individual compartment, and an internally threaded cap overlying each disc and its associated lugs and engaged with the adjacent external threads of the body.

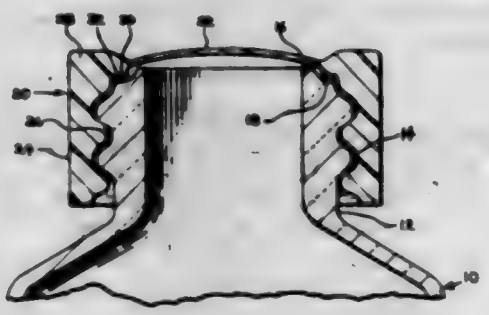
3,144,153
CLOSURE FOR A VESSEL
George W. Fuller, Hampton, Conn., and Vernon D. Bell, Westerly, R.I., assignors to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Nov. 27, 1962, Ser. No. 240,231
23 Claims. (Cl. 215—13)

1. In combination, a container the interior whereof is subject to above-atmospheric and sub-atmospheric condition, said container having a filler opening provided with a seat, a closure for said opening threadably engaged in said opening, and a composite between the closure and the seat, said seal having a first portion of resilient material having a relatively high coefficient of friction and a second portion having a relatively low coefficient of friction, both said portions being disposed to bear against said seat when the closure is threaded into place



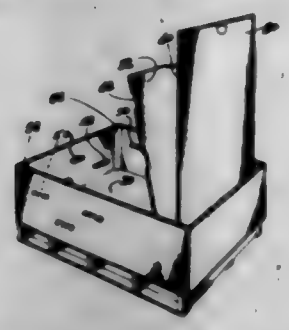
in the opening, said first portion forming when said closure is in place a frictional bond with the seat which substantially resists unseating rotation of the closure under the influence of above-atmospheric pressure conditions within the container, and the second portion forming a relatively low friction rotative connection between the closure and the seat to facilitate unseating rotation of the closure by externally applied force when subatmospheric conditions exist within the container.

3,144,154
VENTING CLOSURE
Owen D. Puse, Toledo, Ohio, and Ralph H. Whitney, Glassboro, N.J., assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 10, 1962, Ser. No. 243,535
5 Claims. (Cl. 215—56)



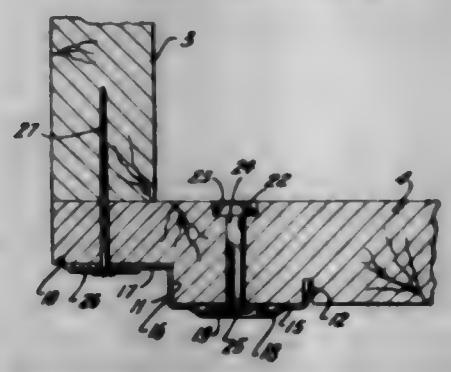
3. The combination of a container having a threaded neck portion terminating with an annular rim defining the periphery of an open mouth and having an externally disposed annular step shoulder forming a bearing surface in a plane lower than that defined by said rim; and a closure comprising a resilient top panel and an annular skirt formed integral therewith, said skirt being formed with threads on the inside surface thereof, an annular convex surface above said threads in the included angle at the juncture of the skirt and the top panel, said annular convex surface having at least one vent slot extending radially thereof and adapted to engage said annular step shoulder when the closure is secured to said neck, the axial distance between a point on the annular step shoulder and the rim being at least as great as the distance between a corresponding point on the annular convex surface and the underneath surface of said top panel.

3,144,155
FRUIT LUG
Adrian C. Westing II, Muskegon, and William D. Makinen, Kaleva, Mich., assignors to Westing Building and Manufacturing Company, Muskegon, Mich., a partnership of Michigan
Filed Dec. 24, 1962, Ser. No. 246,791
3 Claims. (Cl. 217—40)



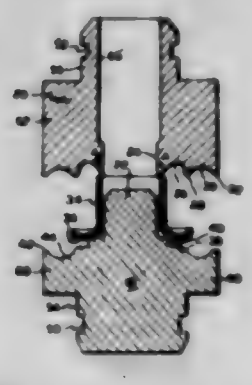
1. A fruit lug comprising: a fruit retaining casing including a bottom, fruit retention side walls; a plurality of vertically spaced fruit supporting shelves in said casing, the lowermost shelf being vertically spaced from said bottom; each of said shelves substantially filling the entire area between the walls and cooperative with the surrounding walls to form a fruit retention zone; each of said shelves having pivot means on one end of the shelf extending between oppositely positioned casing walls to be pivotally mounted to said casing; shelf support means in said casing under the end of each of said shelves opposite its pivotal mount to support articles on the shelf without applying pressure to the fruit therebeneath; each of said shelves being configurated to pivot freely past the support means for the shelves thereabove for exposing the space thereunder; all of said shelves being pivotal upon rotation and inversion of the casing to enable fruit in the lug to be dumped; a support base joined to said casing beneath said casing bottom; said support base having dumper receiving and retaining means to allow said casing to be rotated and inverted for dumping, including openings to receive the fork of a dumping lift; said openings being parallel to the pivotal axis of said shelves and having side wall elements to control against sideways sliding of the casing on the fork when rotated and inverted, and having bottom means attached to said elements to prevent said casing from falling off the fork when inverted.

3,144,156
BOX WITH REINFORCING PROTECTING SHOE
Peter A. Opromolla, 48 Columbine Ave., Merrick, N.Y.
Filed Apr. 26, 1963, Ser. No. 275,946
1 Claim. (Cl. 217—69)



A rectangular wooden carrier box comprising side walls, end walls and a bottom, the bottom being rebated at its ends for a distance somewhat greater than the thickness of the end walls and having slots parallel to and spaced from the said rebated ends, the slotting being to a less depth than the rebating, and reinforcing protecting shoes, comprising channel members, each such shoe having a web portion secured to the box bottom, a narrow flange received in the said slot, a wider flange covering the box end adjacent the rebating and lying inwardly of the plane of the inner surface of the box end, and a flange parallel to its web portion substantially covering the rebated end of the box bottom, the web portion of the shoe having centrally recessed domes providing sliding surfaces, and riveting through the box bottom and recesses of the said domes, securing the shoe to the box bottom, the last mentioned flange having a plurality of apertures, nails accommodated by said apertures and securing the box bottom to the adjacent end wall, and metal strapping around the ends of the box, overlying the last mentioned flange and secured to the box bottom and end by said nails.

3,144,157
MECHANICAL DEVICE
Arthur Dritz, 171 Beach at 125th St., Rockaway Park, N.Y.
Filed Oct. 2, 1962, Ser. No. 227,860
3 Claims. (Cl. 218—25)



1. In the known combination of an eyelet applying means comprising jaw members provided with upper and lower cooperating die members, at least one of said die members being adapted to receive and support an eyelet, and means permitting movement of said jaw members and die members toward and away from each other, the improvement which comprises:

(*a*) said upper die member being defined by a central axial recess, a lower outer edge, a uniformly shallow concave surface inwardly of said edge, a deeper non-uniform concave surface located inwardly of said shallow concave surface and outwardly of said central axial recess,

(*b*) said lower die member comprising a center axial extension which is adapted to extend at least some distance into the said central axial recess located in said upper die member, an upper outer edge, a concave surface located inwardly of said upper outer edge, a convex lower shoulder located inwardly from and adjacent to said concave surface, and a second shoulder located inwardly and above said convex lower shoulder and outwardly of said central axial extension.

3,144,158
DEVICE FOR SETTING RIVETS IN A WALL WHICH IS ACCESSIBLE ON ONE SIDE ONLY
Félix M. E. Neuveist, Paris, France, assignor to Goble Daude, Paris, France, a joint-stock company
Filed June 6, 1962, Ser. No. 200,483
Claims priority, application France June 13, 1961
6 Claims. (Cl. 218—43)

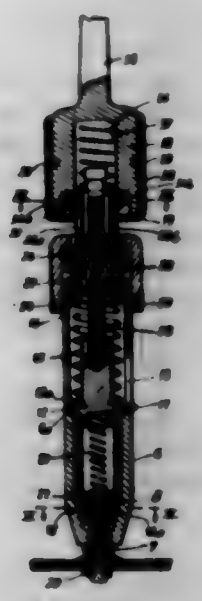
1. Device for setting tubular rivets by pulling into the interior of the rivet a deforming member having an elongated shank and a deforming head, comprising, in combination,

(*a*) tubular body means terminating at its forward end in a hollow nose portion adapted to be pressed against the rivet while accommodating at least a portion of the shank of the deforming member, and having an open rear end;

(*b*) a combined clamping and pulling member longitudinally movable inside said tubular body means from an idle forward position toward a more rearward operative position, and comprising jaw means near said nose portion adapted to accommodate a portion of said shank of said deforming member when said combined member is in said idle position and automatically clamping said shank portion when said combined member is moved toward said operative position, and first biasing means for urging normally said combined member into said idle position;

(*c*) rotary drive means including a head member coaxial with said tubular body means and rotatable in one predetermined direction;

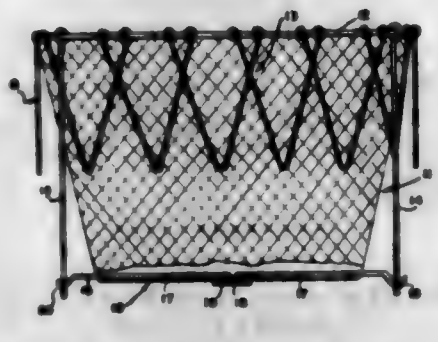
(*d*) nut-and-screw drive transmission means connecting said rotatable head member with said combined clamping and pulling member, said drive transmission means including a threaded spindle rigidly attached in axial position to one of said members, and nut means mounted in the other one of said members, said nut means being composed of a plurality of threaded nut portions each movable between an operative position in which said threaded nut portions are in threaded engagement with said threaded



spindle, and an inoperative position in which said nut portions are out of engagement with said spindle, and second biasing means for normally urging said nut portions into said inoperative position; and

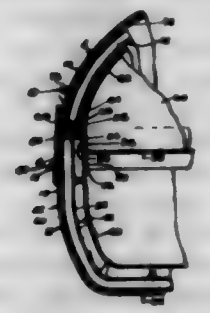
(*e*) transmission control means arranged in operative connection with said nut means for moving said nut portions into said operative position thereof whenever pressure in axial direction is applied to said rotary drive means while said nose portion is being pressed against the rivet, so that when the shank of a deforming member of a rivet is engaged in said hollow nose portion and pressure is applied in axial direction to said rotary drive means while said rotary head member is being rotated, first said drive transmission control means cause said nut portions to engage said spindle and thereby said clamping and pulling member is moved from its idle toward its operative position whereby first said shank of the deforming member is gripped by said clamping means and thereafter said shank is pulled until the rivet is sufficiently deformed and thus set, and said shank is severed from the deforming member whereafter said combined member and said nut portions automatically return to their respective inoperative or idle positions.

3,144,159
COLLAPSIBLE BASKET
Joseph C. Varkala, 131 Llewellyn Road, Montclair, N.J.
Filed June 4, 1962, Ser. No. 199,878
2 Claims. (Cl. 220—6)



1. A collapsible basket of the type described having a bottom, collapsible side walls extending upwardly and outwardly from the outer periphery of said bottom, loop-like handles secured to the side walls adjacent the upper edge of the side walls so that said handles are pivotable about a horizontal axis which passes through the points of securement of said handles to said basket, said handles being of such a length that they extend beneath said bottom when said handles are pivoted to their most downward position, keeper portions formed in said handles intermediate the ends thereof, a rod-like latch member secured adjacent the bottom of the basket having latches which are engageable with said keeper portions to rigidly and removably secure the collapsible wire basket in an uncollapsed position, said rod-like latch member being mounted adjacent the interior of the bottom of the basket by a dimple which is formed in the latch member, extends through a hole formed in the bottom of the basket and is secured to a button-like member that is larger than said hole, said button-like member being positioned exteriorly against the bottom of the basket.

3,144,160
RECEPTACLES WITH VACUUM CELL UNITS OR THE LIKE
John E. Johnson, 4918 Del Monte St., San Diego 7, Calif., and Adolph F. Graf von Soden, 4929 Noyes St. (Pacific Beach), San Diego 9, Calif.; said Von Soden assignor of ten percent to Leon R. Lopez, San Diego, Calif.
Filed Nov. 3, 1961, Ser. No. 150,007
7 Claims. (Cl. 220—9)



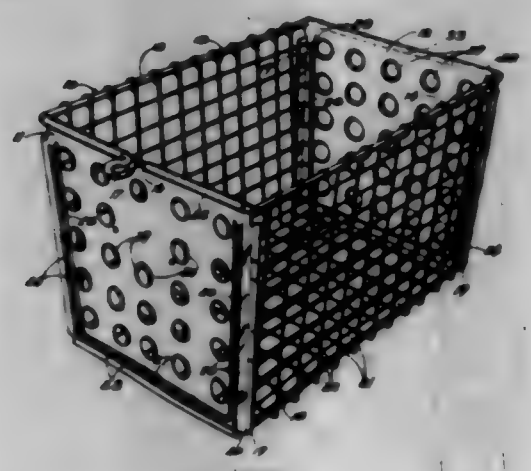
1. In a receptacle of the class described comprising in combination a lower container and a cover therefor, said lower container having an outer wall and a base blending with said wall, an upper rim section in said wall, an interior lining plate in said lower container, a rim closure covering connecting said upper rim section and extending the entire edge length thereof and also connecting to the upper edge of said interior lining plate, a flexible seal on said rim closure, said cover having a roof plate blending with said cover wall and having the rounded edge section thereof terminating with a rounded

ridge for engaging said flexible seal on said rim closure of said lower container, a roof plate internally positioned in said cover, a pair of binding straps on said cover extending from said rounded ridge and terminating at the edge thereof, a plurality of spring locks at the side edges of said upper rim section of said lower container for engaging said binding straps in said cover wall thereby holding said lower container and said cover in sealed position, and a plurality of U-shaped vacuous cell means within said wall of said lower container and said cover wall for maintaining food temperature unchanged when deposited in said lower container and sealed by said cover of said receptacle.

3,144,161
BASKETS OF WIRE AND SHEET METAL CONSTRUCTION

Clarence S. Glenny, deceased, late of Rockford, Ill., by Margaret Glenny, administratrix, Rockford, Ill., assignor to The Washburn Company, Worcester, Mass., a corporation of Massachusetts

Filed Aug. 23, 1961, Ser. No. 135,704
2 Claims. (Cl. 220—19)

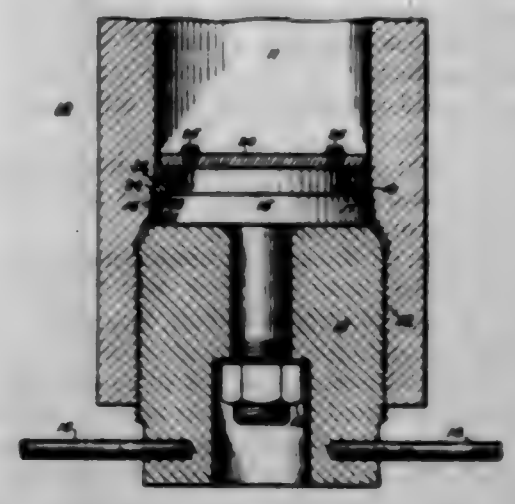


1. A generally rectangular basket having opposed substantially vertical sheet metal end walls, a horizontal bottom wall of wire construction and opposed upwardly bent side walls of wire construction integral therewith, said wire walls including longitudinally extending wires that are disposed horizontally in the bottom and side walls, and transversely extending wires that are disposed vertically in the side walls, and a generally rectangular horizontal wire top frame, the opposed ends of which have the upper ends of the sheet metal end walls secured thereto, and the opposed sides of which have the upper ends of vertically extending wires of said side walls secured thereto, said sheet metal end walls having flanges bent inwardly substantially at right angles thereto on the bottom and side edges thereof for reinforcement and also to provide attaching portions that are secured in abutment with the outer side of the end portions of the horizontally extending wires of the bottom and side walls, these end portions being bent into inwardly offset relation to the bottom and side walls enough to make the outer surfaces of said flanges flush with the outside of the bottom and side walls for smooth non-snag sliding of the basket, and these end portions also having their ends bent substantially at right angles and secured in abutment with the inner side of marginal portions of said sheet metal end walls adjacent said flanges, the said marginal portions of said end walls being offset outwardly enough to make the inner side of said end walls adjacent said marginal portions flush with the right angle bent ends of the wires to provide relatively smooth inner surfaces on said end walls despite the right angle bent ends of the end portions of said horizontal wires.

3,144,161
CLOSURE FOR A PRESSURE VESSEL

Richard E. Morris, Bethlehem, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania

Filed Aug. 14, 1961, Ser. No. 131,199
8 Claims. (Cl. 220—46)



1. Closure means for a pressure vessel having an opening therein provided with a seat therein, said means including:

(*a*) a closure member extending into said opening,

(*b*) an anti-extrusion ring having one side in contact with said closure member and the other side exposed to the pressure of said pressure vessel,

(*c*) the outer face of said anti-extrusion ring being in contact with said seat and that part of the inner face of said anti-extrusion ring which is adjacent the closure member being exposed to the pressure of said pressure vessel,

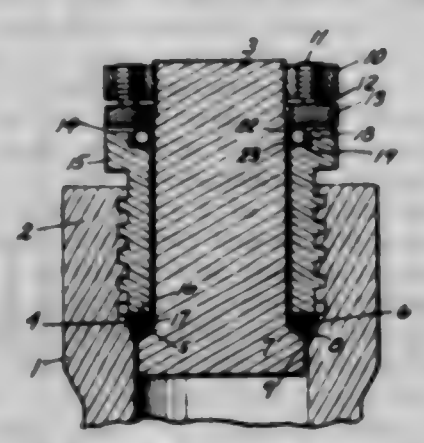
(*d*) a first sealing ring of yieldable material in contact with said seat and the side of said anti-extrusion ring exposed to the pressure of said pressure vessel, and

(*e*) a second sealing ring exposed to the pressure of said pressure vessel and in contact with said closure member and said part of said inner face of said anti-extrusion ring.

3,144,163
SEAL

Fred Gasche, Erie, Pa., assignor to Autoclave Engineers, Inc., Erie, Pa., a corporation of Pennsylvania

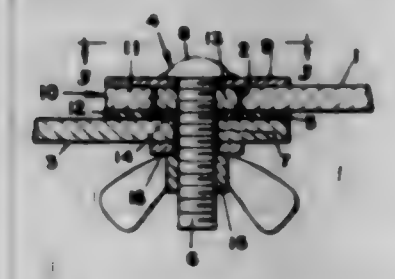
Filed May 18, 1962, Ser. No. 195,716
3 Claims. (Cl. 220—46)



1. A seal for pressure vessels and the like having a body with an axially presented inwardly tapered seat within one end, a cover telescoped within said one end of the body and having an axially presented outwardly tapered seat, said seats being radially spaced apart and converging toward each other, an annular gasket having tapered

surfaces presented toward and engaging said seats, a pressure sleeve fixed to said one end of the body and having a shoulder engaging said gasket remote from said seats, a pressure ring on the cover having a thrust surface presented toward said sleeve, and a coil spring arranged between the sleeve and said thrust surface with the axes of the coils crosswise of the thrust and with opposite sides of the individual coils in thrust relation respectively to the sleeve and to said thrust surface.

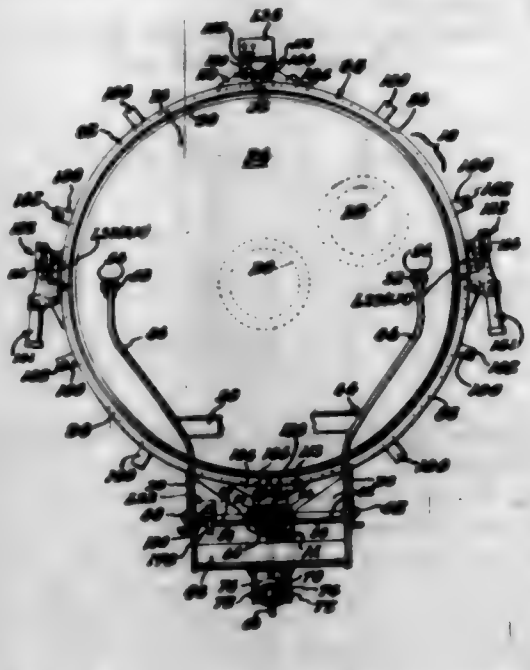
3,144,164
CLOSURE AND LATCH CONSTRUCTION
Earl W. Malmberg, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Mar. 26, 1963, Ser. No. 268,285
9 Claims. (Cl. 220—55)



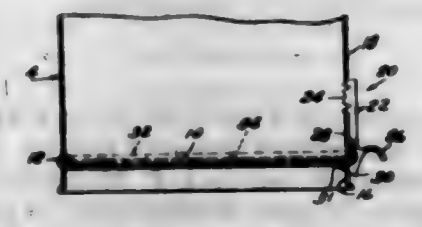
1. For a receptacle having an access opening: a closure and latch construction for sealing said opening comprising a closure member covering said opening and having a portion overlying the wall of the receptacle adjacent said opening, a gasket positioned between the overlying portion of said closure member and the receptacle wall, a counterwall assembly secured to the inner face of said closure member and positioned inwardly of said closure member within said opening in spaced opposed relationship to said receptacle wall, the outer configuration of that portion of said assembly facing said wall matching the configuration of said opening and said assembly having a thickness equal to that of said wall plus that of said gasket, whereby the inner face of said assembly and the inner surface of said wall adjacent said opening lie in a common plane; an elongated member passing through an opening in said closure member and through the space between said wall and said assembly, a latch member secured to said elongated member and having two oppositely-disposed wall-contacting portions for engaging respectively the inner face of said assembly and the inner surface of said wall adjacent said opening, and means associated with said elongated member for bringing said latch member into tight engagement with said assembly and said wall.

3,144,165
LOCKING MEANS FOR PRESSURE VESSEL
Alexander A. Pegon, Norristown, Gordon P. Franklin, Lansdale, and Russell B. Rosander, Wayne, Pa., assignors to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania
Filed Aug. 29, 1962, Ser. No. 220,341
7 Claims. (Cl. 220—55.3)

1. In combination with a pressure vessel having an annular flange extending radially outwardly from and all around an access opening, and a lid fitted over said access opening and flange, a locking ring assembly adapted to contract from an expanded condition in which said lid may move freely therethrough to a condition in which the peripheries of said flange and lid are releasably locked together including a plurality of ring segments, a pair of toggle linkages each interposed between and connecting opposed end portions of said ring segments, a pair of fluid pressure motors respectively mounted directly upon and carried by said linkages, and controlled means for supplying fluid pressure to said motors for actuating the same thereby to operate said toggle linkages.



3,144,166
CATCH MECHANISM
Eason Cross, Jr., 901 20th St. NW., Washington, D.C., and Edward K. Mills, Jr., Cherry Lane, Mendham, N.J.
Filed Jan. 5, 1962, Ser. No. 164,491
3 Claims. (Cl. 220—60)



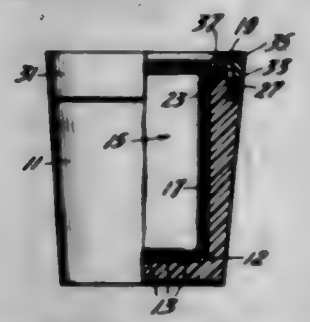
1. In combination with a container having a tubular side wall of flexible springy plastic material and an edge at one end thereof, a closure plate pivoted to one side of said side wall adjacent said end and having a peripheral edge, the improvement which comprises: a latch having an elongate stiff shank with the length thereof extending in the axial direction of said side wall, said shank having a fixed end portion, an intermediate portion, and a free end portion, all of said portions being integral with one another, means fixedly attaching the fixed end portion against the exterior of said side wall at a location axially spaced from said edge and on the outer side of the side wall opposite that to which the closure plate is pivoted, said intermediate portion and the free end portions being free of said side wall, and a finger piece on one of said intermediate and free end portions, said free end portion extending beyond said end edge and overlapping the peripheral edge of said closure plate in the closed position of the latter, said free end portion having a notch engaging over said peripheral edge for holding the plate closed, whereby when said free end portion is lifted outwardly from said peripheral edge, the side wall of said container flexes adjacent the location of attachment of the fixed end portion and constitutes a spring hinge for said latch, said container wall having a convex head surrounding the side wall adjacent the end edge, the peripheral edge of said closure plate comprising an outwardly convex, concavo convex lip, the concave side of said lip engaging over said head.

3,144,167

FOAMED PLASTIC CONTAINER

Robert Stephen Schultz, Somerville, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed July 19, 1961, Ser. No. 125,187
3 Claims. (Cl. 220—63)



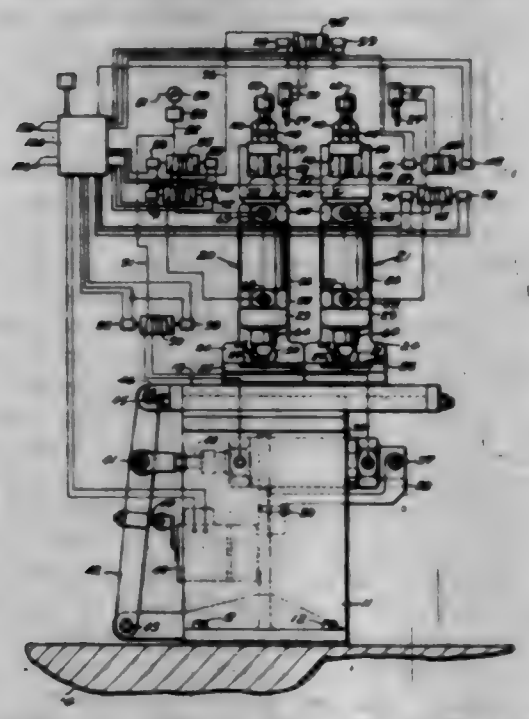
1. A lightweight three-piece nestable container for cosmetics and the like, comprising a generally cup-shaped preformed foamed plastic outer body having an internal recess of predetermined axial extent and an externally threaded neck portion provided along its top surface with a relatively shallow annular recess immediately surrounding the mouth of said body, a substantially cup-shaped thin impervious preformed plastic liner having a radially outwardly directed flange along its open end received in said annular recess and flush with said top surface, said liner having an axial length less than said predetermined axial extent of the internal recess in said outer body whereby said liner may be snapped in place within said body in frictional assembly and close hugging contact therewith, and a molded plastic cap having a central body portion, an internally threaded depending skirt portion and an upstanding collar portion, said cap body portion firmly seating against said liner flange in said recess when the cap internal threads are fully engaged with the external threads on the body neck portion.

3,144,168

APPARATUS FOR CONTINUOUSLY FEEDING ARTICLES TO MACHINES

Hobart T. Campbell and Jack J. Monahan, Allentown, and Joseph A. Roeder, Quakertown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 8, 1961, Ser. No. 158,000
2 Claims. (Cl. 221—11)



1. An apparatus for continuouly feeding articles successively to nests moved intermittently into a feeding station comprising:

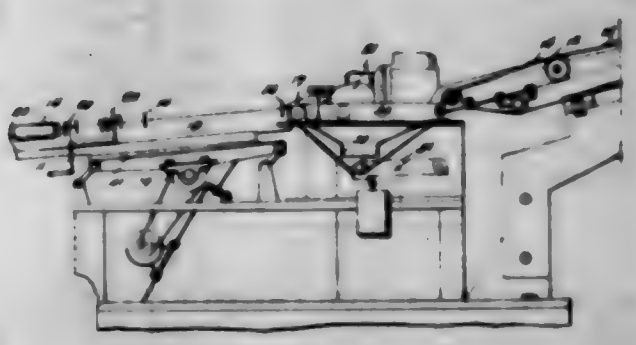
a support fixedly mounted at the feeding station,
a carriage disposed for movement between given positions on the support,
holders loaded with supplies of articles,
like spaced units, adapted to receive and support the holders singly, mounted on the carriage and operable alternately in a feeding position to feed articles successively to the nests until the holder for articles at the feeding position is empty,
each empty holder being removable from its unit when away from the feeding position and replaced by a loaded holder,
means operable alternately to move the carriage in reverse directions to move each unit out of the feeding position when its holder for articles is empty and move the other unit with its loaded holder into the feeding position to continuously feed articles successively to the nests,
a transfer element for each unit mounted in the carriage for movement therein relative to its unit,
means for each transfer element operable when in the feeding position to cause movement of the transfer element between a normal position and a projected position to receive articles successively from the holder at the normal position and locate the articles successively beneath the unit at the projected position.
the holders having outer parts with outlets for the articles open to their transfer elements,
inner parts movably disposed in the outer parts and having outlets for the articles,
tubes for holding the articles in stacked formation having their lower end mounted in the inner parts in registration with the outlets thereof, and
means to locate the inner parts in first positions with the tubes and outlets of the inner parts out of registration with the outlets of the outer parts and in second positions with the respective tubes and outlets aligned.

3,144,169

APPARATUS FOR POSITIONING, STACKING, AND DISPENSING COTTON TIE BUCKLES

Joseph J. Boyd, Fairburn, Ga., assignor to Atlantic Steel Company, Atlanta, Ga., a corporation of Delaware

Filed May 2, 1961, Ser. No. 107,214
4 Claims. (Cl. 221—175)



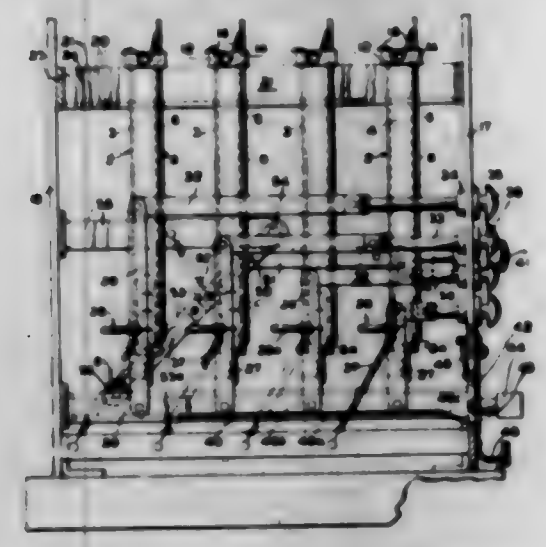
1. Apparatus for positioning tie buckles of the side-opening type having a protrusion extending partially across said opening, comprising:

(*a*) a buckle turner, including at least two parallel belts moved at different speeds throughout a substantially horizontal plane so as to turn buckles resting thereon in one direction;
(*b*) conveyor means flatly introducing said buckles, side opening leading, upon said belts;
(*c*) guide means positioned on both sides of said belts so as to position said side opening of said buckles by limiting turning of said buckles;

(*d*) a vertical flipper disc positioned medially of said belts and aligned with said side openings and rotated adjacent an end of said turner, said disc having an annular groove in one face thereof near the outer edge to be aligned with said protrusion, and complementally engagable therewith, said buckle frictionally gripping said disc to be flipped thereby from a horizontal position on the turner to a vertical position; and

(*e*) a vibrating blade juxtaposed and aligned with said disc and said side openings to receive buckles from said disc in said vertical position and to remove said buckles.

3,144,170
DISPENSING DEVICE WITH ARTICLE RELEASING MEANS
Byard C. Peer, 125 Mountain Way, Morris Plains, N.J.
Filed Oct. 24, 1963, Ser. No. 318,548
8 Claims. (Cl. 221—287)



1. In an article dispensing device: a magazine assembly for holding a stack of articles to be dispensed from a discharge exit of said magazine assembly; said articles being adapted to be urged to partake of dispensing movement toward said discharge exit; means for blocking the leading article of said stack against dispensing movement thereof; and dispensing control means including a first member movable to and from an operated position disabling said blocking means to release said leading article for dispensing movement, and a second member movable to and from an operated position restraining a trailing article of said stack against dispensing movement, said first and second members being rigidly connected together for unitary conjoint operating movement in the same direction, said magazine assembly including two opposed back and front vertical wall portions, one of which is mounted for movement toward and away from the other; said blocking means comprising a ledge portion of said movable wall portion, said ledge portion extending inwardly into said magazine assembly.

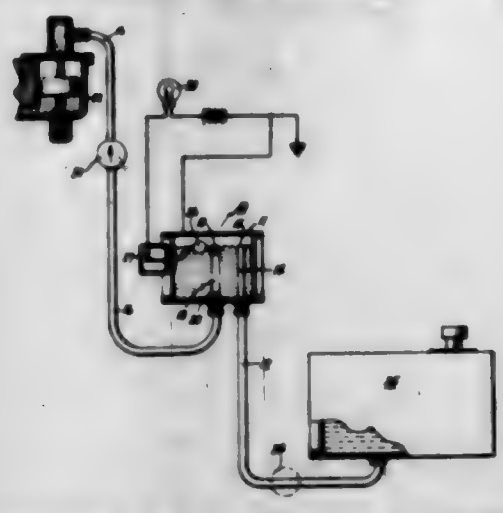
3,144,171
ACOUSTIC WARNING ASSEMBLY FOR SKIN DIVING APPARATUS
Emile Gagnan, Montreal, Quebec, Canada, and Jacques Yves Cousteau, Monaco, Monaco, assignors to La Spirotechnique
Filed May 2, 1962, Ser. No. 191,814
Claims priority, application France May 19, 1961
13 Claims. (Cl. 222—3)

1. An acoustic warning device for skin diving apparatus comprising at least one container containing a breathable gas under pressure and a mechanical vibrations emitter, means sensitive to the pressure in said container for allowing said emitter to operate when said pressure falls below a predetermined value, and means accessible to the diver when under water for manually controlling



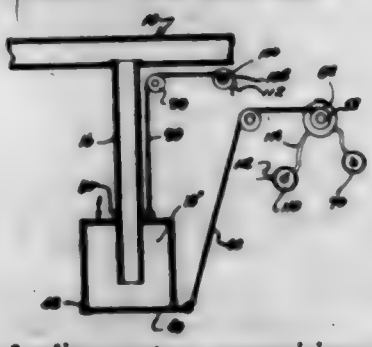
said emitter at any gas pressure above said predetermined value.

3,144,172
EMERGENCY FUEL SUPPLY SYSTEM
William C. Mason, Slingerlands, N.Y.
Filed Apr. 25, 1961, Ser. No. 105,454
2 Claims. (Cl. 222—51)



1. An emergency fuel supply system comprising an emergency tank, means for supplying fuel into said emergency tank, adjacent the upper portion thereof, from a main supply tank, a discharge conduit extending from the lower portion of said emergency tank, a sender responsive to the level of fuel in said emergency tank, an indicating receiver adapted to be located at a position remote from said emergency tank, and a transmission connecting said sender and receiver.

3,144,173
FEEDING APPARATUS
George E. Franco and Jack Parker, Holland, Mich., assignors to Automatic Poultry Feeder Company, Zeeland, Mich., a corporation of Michigan
Filed Nov. 23, 1962, Ser. No. 239,612
2 Claims. (Cl. 222—76)



1. An animal feeding system comprising: an elevated feed conduit and endless conveyor means for transferring feed; a plurality of spaced, gravity fed, open end downspouts from said conduit; a plurality of feed quantity control means, one around the open lower end of each downspout, and each including a receptacle beneath said lower end for supporting feed from the spout and retaining it to cause feed to build up to the level of said lower

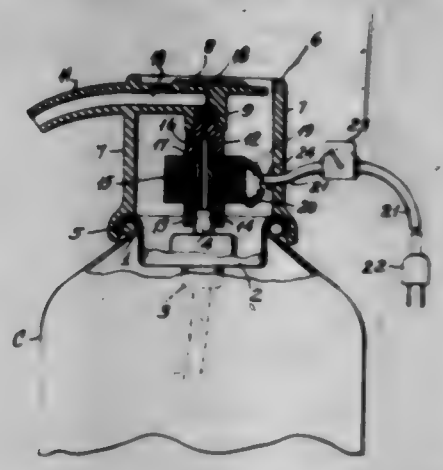
end where it is stopped by the feed itself; and remote control means to telescopically adjust the relative spacing of said receptacle and said lower end from each other to vary the depth of feed therebetween before the flow is stopped; said remote control means including an actuating member attached to each of said receptacles and extending vertically thereabove, and extending to and operably connected to a remote control operating and holding means for remote simultaneous actuation of said receptacles to regulate quantity.

3,144,174

MEANS FOR DISPENSING HEATED AEROSOLS

Robert Henry Abplanalp, 10 Hewitt Ave., Bronxville, N.Y.

Filed Nov. 17, 1961, Ser. No. 152,997
1 Claim. (Cl. 222—146)



A heating device for attachment to an aerosol container with a discharge valve having at its top an upwardly extending tubular valve stem, said heating device comprising a cap having an upstanding peripheral wall provided at its lower edge with means for rigidly attaching said cap to the container and at its top with a pivoted valve operating tab having a discharge passage to the atmosphere and provided on its under side with a socket communicating with said passage, a tubular heat conductive sleeve with a socket at its lower end to receive the tubular valve stem of the container and having a connection at its upper end extending into the socket of the valve operating tab, said connection having a duct connecting the interior of the sleeve with the discharge passage of the valve operating member, said duct being of lesser cross sectional area than the cross sectional areas of both the sleeve and discharge passages to preclude expansion of liquid delivered from the container when the valve of the latter is opened until such material enters the discharge passage of the valve operating tab, and an electrical heating element embracing said sleeve intermediate the socket of the sleeve and said connection, with means for supplying electrical energy to said heating element.

3,144,175

AEROSOL ACTUATOR CAP CONSTRUCTION

William R. O'Donnell, Trumbull, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware

Filed Nov. 21, 1962, Ser. No. 239,270
4 Claims. (Cl. 222—182)

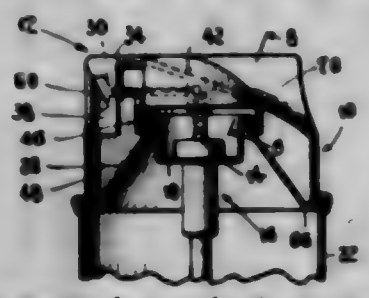
1. A closure and actuator construction for an aerosol dispenser comprising, in combination:

(*a*) a hollow body structure adapted for side discharge of the aerosol substance and having spaced inner and outer vertically extending tubular walls and an expansive, transverse top wall connecting the upper portions of said inner and outer walls to each other, said tubular walls being disposed with their axes upright, the lower portion of the outer wall being characterized by a thin-walled upright section at the discharge side of the body structure, said upright section being spaced and separated from an opposite portion of the inner wall by a substantial distance whereby there is an appreciable intervening air space therebetween, said thin-walled upright section being located generally at an appreciably lower level than that of the opposite portion of the inner wall,

(*b*) said top wall having an access opening communicating with the bore of the said inner wall, to accommodate a valve actuator button,

(*c*) said top wall, inner and outer walls having adjoining communicating openings which together constitute a notch extending from the bore of the inner wall to the outer periphery of the body structure,

(*d*) a valve actuator button movable in the bore of the inner wall and having a top wall engageable by a finger to depress the button, said top wall of the button being accessible through the access opening in the top wall of the body structure,



(*e*) said actuator button having a laterally-projecting discharge orifice portion disposed and movable in the said notch of the body structure, the end of the projecting orifice portion having a discharge orifice to provide for lateral discharge of aerosol substance with respect to the body structure, and further having a depending guard apron located below the discharge orifice and extending a substantial distance downward from innermost parts of the laterally-projecting orifice portion whereby the latter has high and low under surfaces, said guard apron being located radially outward of said opposite inner wall portion and being movable along the inside of the said upright section of the outer body wall and in the said intervening air space, in closely spaced relation to the said upright outer wall section, said guard apron having a width commensurate with the width of said notch and preventing free access from the exterior to the said interventing air space, the said apron and outermost part of the orifice portion providing an outer face the upper half of which substantially wholly contains said discharge orifice, the said high undersurface of the orifice portion being above the said opposite portion of the inner wall to provide clearance therefor when the button is depressed,

(*f*) said actuator button and orifice portion being removable as a unit from the body structure upward past the said top wall of the structure.

3,144,176

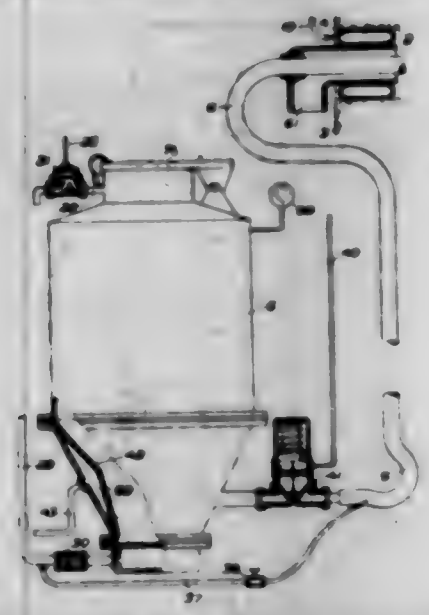
APPARATUS FOR REMOTE CONTROL OF A NUMBER OF OPERATIONS

Ernst Gunnar Grönkvist, Stockholm, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Mar. 7, 1961, Ser. No. 93,955
Claims priority, application Sweden Mar. 8, 1960
10 Claims. (Cl. 222—195)

1. A fluid pressure remote control apparatus for controlling and operating a plurality of operating means actuated by fluid pressure and each of which is adapted

to provide a separate operating function selectively concurrently or sequentially as controlled by said fluid pressure arrangement, which comprises in combination a plurality of operating means actuated by fluid pressure for providing said separate operating functions, a source of fluid pressure for actuating said operating means, conduit means for individually connecting said operating means to said source of fluid pressure, a plurality of fluid pressure control means connected into said individual conduit means between said operating means and



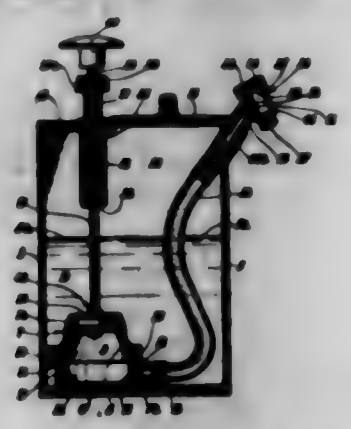
said source of fluid pressure for selectively controlling flow of fluid pressure from said source thereof individually to said operating means, said fluid pressure control means also being actuated by fluid pressure, means for supplying fluid pressure individually to each of said fluid pressure control means, and a single manual control means for controlling said supply of fluid pressure selectively to each of said fluid pressure control means for actuation thereof to control actuation of each of said operating means by fluid pressure from said source thereof.

3,144,177

DISPENSERS FOR SYRUPS AND LIKE COMMODITIES

Maynard Charles Scott Cookson, 3 Vautier St., Elwood, Victoria, Australia

Filed June 1, 1962, Ser. No. 199,492
Claims priority, application Australia June 7, 1961
7 Claims. (Cl. 222—309)



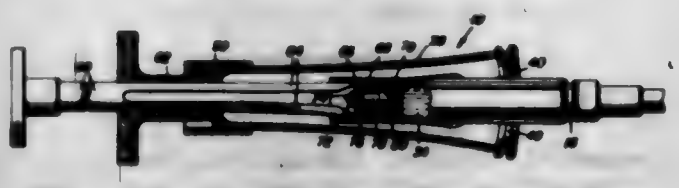
2. A liquid dispenser of the kind indicated comprising a container for liquid the interior of which is subject to atmospheric pressure, a diaphragm housing including a base portion and a head portion, an inlet port in said base portion communicating with the interior of said container for reception of liquid therefrom, an outlet port in said base portion, a dispensing head, conduit means connecting said outlet port of said dispensing head, a restricted outlet orifice located in said dispensing head above the maximum liquid level in the container, a flexible diaphragm unit including a substantially hemispherical diaphragm with a radially outwardly extending continuous locating flange clamped between said head and base portions, the diaphragm defining with said base portion a discharge chamber the volume of which increases and decreases upon expansion and contraction respectively of the diaphragm, said diaphragm unit further including a flexible flap valve depending from said diaphragm locating flange to overlie said inlet port, said flap valve yielding under pressure of liquid in said container when said diaphragm is expanded to permit passage of liquid into said diaphragm housing through the inlet port, but closing said inlet port under pressure of liquid in the diaphragm housing upon contraction of said diaphragm to prevent backflow of liquid from the discharge chamber to the container, pressure controlled means to move said diaphragm between expanded and contracted positions, means for limiting movement of said diaphragm to provide a selected constant, predetermined change of volume of the discharge chamber between said expanded and contracted positions of the diaphragm, spring means urging said control means to retain said diaphragm in its expanded position corresponding to the maximum volume of the discharge chamber, said dispensing head including an inlet opening having an associated valve seating and communicating with said conduit means, non-return valve means in the form of a valve unit of flexible material having a body portion secured within the dispensing head and a displaceable portion integral with the body portion and cooperating with said valve seating, whereby upon operation of said pressure control means to contract the diaphragm, the displaceable portion of the valve unit in the dispensing head is unseated to permit ejection of said predetermined volume of liquid through said restricted opening and upon removal of pressure from said control means, the displaceable portion of the valve unit is caused, by virtue of the pressure difference set up on opposite sides thereof, to seat on said valve seating to minimize back flow to liquid to the discharge chamber.

3,144,178

CARTRIDGE HOLDER

Stanley J. Sarnoff, 3 Pooks Hill Road, Bethesda, Md.

Filed Mar. 12, 1962, Ser. No. 179,084
2 Claims. (Cl. 222—327)



1. A medical holder comprising:

a body portion having a bore therethrough,

a plunger having normally divergent arms slidable in said bore, the bore being of a diameter to snugly embrace the arms when they are parallel to one another and functioning to draw the arms together when they are drawn into said bore,

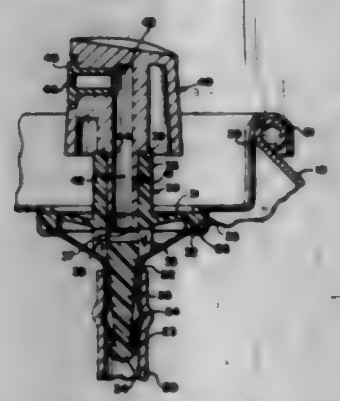
said plunger having coupling means at the free ends of the arms for coupling with a piston located within one end of a cartridge and which cartridge at its other end has a hub portion,

said body portion having spaced apart resilient legs extending therefrom, each leg terminating in a jaw directed toward the jaw on the other leg, each jaw having a bevelled outer face,

said bevelled faces facilitating the positioning of the cartridge in the holder between the legs and engaging the hub portion of the cartridge when the resilient legs are brought together, and

a sleeve slidable along the legs adapted when moved toward the jaws to cause the jaws to firmly engage the hub portion of the cartridge, the plunger coupling means automatically coupling with the piston.

3,144,179
AEROSOL VALVE
Anthony Michael Gildone, 26580 Oriole Ave., Cleveland 32, Ohio
Filed May 5, 1961, Ser. No. 108,870
3 Claims. (Cl. 222—394)



1. A valve assembly for a pressure container having a circular opening comprising,

(*a*) an annular cup having an outer lip adapted to engage the rim of the container opening fluid tightly;

(*b*) said cup including a depending tubular portion terminating at a lower valve seat opening;

(*c*) said cup including wall portions defining an annular recess between the lip and the tubular portion;

(*d*) a valve member including an annular resilient diaphragm projecting into the recess and having a hole therethrough;

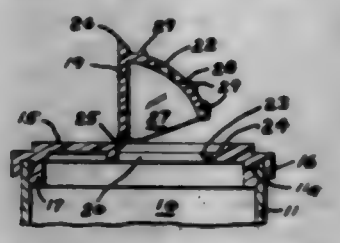
(*e*) some of said wall portions overlying the diaphragm to maintain the diaphragm therein;

(*f*) the valve member including a stem projecting through the tubular portion in spaced relationship therewith and terminating at a head overlying the valve seat;

(*g*) the valve member including circumferentially spaced webs connecting the stem and diaphragm and affording dispensing communication between the hole in the diaphragm and the space between the stem and the tubular portion; and,

(*h*) said diaphragm normally biasing the valve head into sealing engagement with the valve seat.

3,144,180
DISPENSING CLOSURE
Leonard G. Phillipps, Toledo, Ohio, and Ira H. Miller, Lambertville, Mich., assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 13, 1961, Ser. No. 123,703
1 Claim. (Cl. 222—480)



A dispensing closure comprising a body portion having upper and lower relatively flat surfaces and having two dispensing openings therethrough, a cover for each of said openings, said body portion and said covers being molded as a unitary structure from a plastic material capable of withstanding repeated flexing; a depending generally triangular end wall at each end of each of said covers, a sidewall arcuate in cross section connecting each pair of end walls, one of said sidewalls having a single dispensing aperture therein and the other of said sidewalls having a plurality of dispensing apertures therein; said sidewalls being provided with protuberances engageable with said openings to hold each of the covers completely or only partially closed; said covers being hinged to a wall of each of said openings and each hinge being formed by a groove provided in the lower side of the body along the hinge zone to reduce the body thickness in that zone.

3,144,181
PARTICLE DISPENSER
John C. Setecka, 1931 S. Austin Ave., Cicero, Ill.
Filed Jan. 23, 1963, Ser. No. 253,333
5 Claims. (Cl. 222—480)



3. A dispenser for discrete particles comprising a casing, a removable cover on said casing;

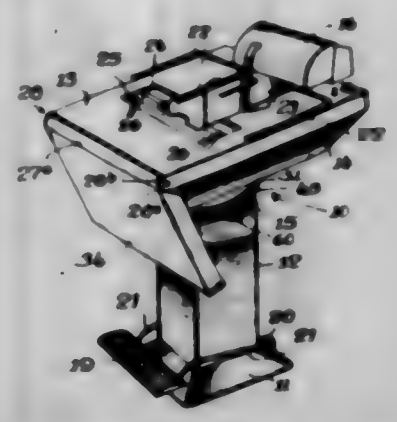
a plurality of aligned openings in said cover;

an elongated spout integrally formed with said cover and arranged in limited spaced relation to said openings,

said spout having a plurality of channels each in register with one of said openings and having angularly bent end portions adapted to retain particles within said spout,

whereby the particles may be discharged from said casing and may flow through said channels in separate visible streams of successive particles, said casing having an opening providing access for filling said casing.

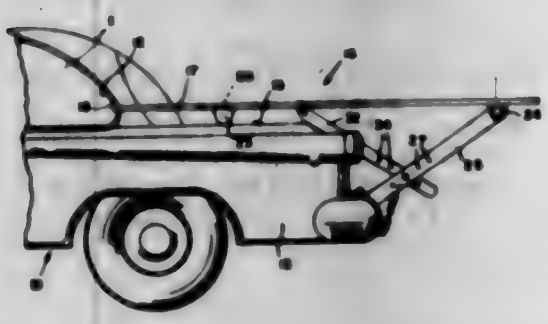
3,144,183
GARMENT FOLDING TABLE
David A. Freeman, 1550 Lake Shore Drive, Chicago, Ill.
Filed Mar. 7, 1961, Ser. No. 94,024
8 Claims. (Cl. 223—37)



1. A table structure for use by an operator for folding shirts and similar garments and convertible for use by an operator either at a side of the table or at the front of the table, comprising a base, an upright post secured to said base, a second post telescopingly arranged with the upright post whereby the combined length of said posts is adjustable, means to clamp said posts together

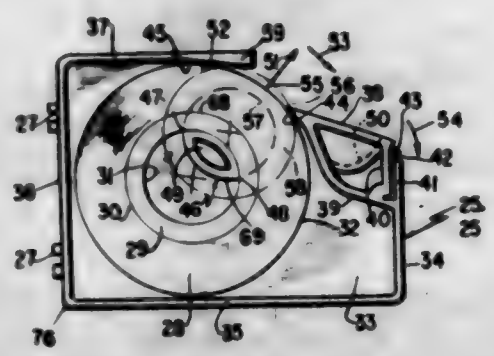
in any relative position thereof to form an upright structure of any adjustable height, a bearing plate adjustably angularly secured to said second post at the upper end thereof, a bearing ring mounted on said bearing plate for plane rotation with respect thereto through an angle of about 90°, stop means to limit rotation of said ring with respect to said plate to about 90°, clamp means to clamp said bearing ring to said bearing plate, a table bed mounted on said bearing ring and secured thereto, a table surface member mounted on said table bed, a collar forming mechanism disposed in said table bed under said table surface member, an aperture in said table surface member to expose said collar forming mechanism, a drop-leaf extension secured to one end of said table surface member, and a hinged lever secured to said drop-leaf extension and to said table bed to support said drop-leaf extension coplanar with said table surface member and to permit retraction of said drop-leaf extension, means to hold the drop-leaf extension in a retracted position, and a shirt folding mechanism mounted on said table surface member at an end thereof and adjacent to said aperture.

3,144,183
COLLAPSIBLE BAGGAGE CARRIERS FOR AUTOMOBILES
Martin Joseph Lamberti, 116—02 232nd St., Cambria Heights, N.Y.
Filed Jan. 25, 1962, Ser. No. 168,752
2 Claims. (Cl. 224—42.07)



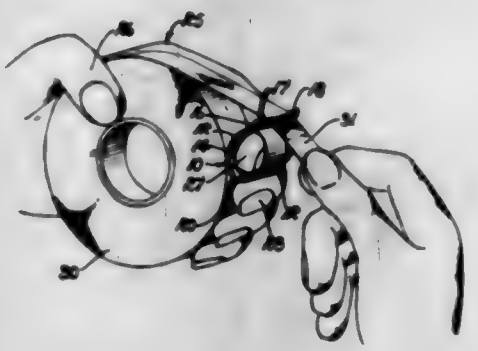
1. A baggage platform for an automobile which includes a rear deck provided with a cover and a rear bumper and two rear side windows each provided with a molding with an approximately upright portion at the rear of the window opening, the platform being adapted to be mounted above said deck cover in substantially horizontal position, the platform having a length sufficient to include a rearward extension beyond the rear bumper, a rigid depending leg pivotally secured at one end thereof to the rear portion of each side of the platform and provided with a foot positiond in a position of rest upon the bumper, said leg extending in a forward and downward direction, means for securing said foot in said position of rest, and resilient forwardly extending fingers on the sides of the platform having means on their extremities for engaging said upright portions of the rear window moldings, the legs having a length such as to position the platform substantially in the horizontal plane of said extremities of said forward extensions, said means on said fingers comprising curved hooks extending inward toward each other and in which said portions of said moldings register and releasable means for urging said fingers and hence said hooks toward each other, said platform being rectangular in outline and consisting of two transversely divided separate portions positioned edge to edge and having means for interlocking the same, one of said separate portions having links pivoted to the longitudinal edges thereof, the other of said separate portions having notches therein, said links having noses projecting from the ends thereof remote from the pivotal axes thereof and engageable in said notches, and means for normally urging said links into position to engage said noses in said notches.

3,144,184
DISPENSER
John A. Yerkes, New York, N.Y.; Gulda Morrison Yerkes, executrix of said John A. Yerkes, deceased, assignor to Gulda Morrison Yerkes
Filed June 8, 1962, Ser. No. 201,135
4 Claims. (Cl. 225—26)



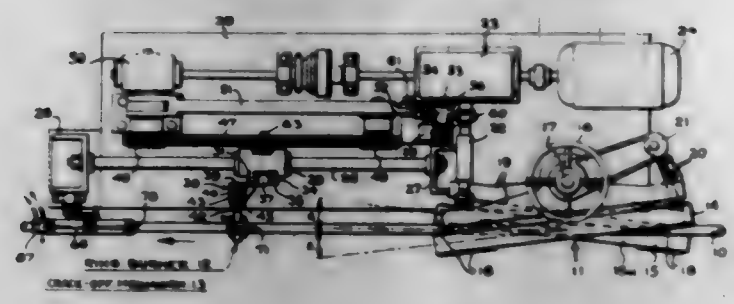
1. In a tape dispenser for pressure sensitive tape, the combination including a container adapted to house a roll of pressure sensitive tape, said container having an opening through which a tape tail may extend to the exterior of said container, a bearing surface adjacent one edge of said opening, an adhesion surface on the exterior of said container in close proximity to said bearing surface, the plane of said adhesion surface being substantially tangential to the periphery of said roll, knife edge means at the outer edge of said adhesion surface, and means in said container for holding said roll so that when said tape tail is manually pulled through said opening, said roll will rotate around its axis and also will move by translation until its periphery bears against said bearing surface, whereby when said tape tail is swung toward said knife edge means for severing, substantially all of said tape from said roll to said knife edge will adhere to said adhesion surface before severing of the tape.

3,144,185
TAPE CUTTER
Jacob Shirejian, P.O. Box 524, Fowler, Calif.
Filed Apr. 30, 1962, Ser. No. 191,940
4 Claims. (Cl. 225—56)



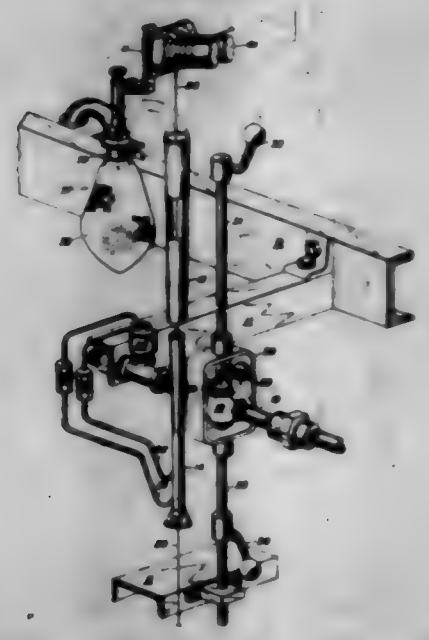
1. A tape cutter comprising an annular body portion providing an opening adapted to receive a user's finger therethrough having a predetermined longitudinally axis of reference and an externally disposed convex rocker surface longitudinally substantially parallel to said axis and transversely curved in a direction about said axis, a blade integral with the body portion outwardly extended therefrom having an outer edge substantially in a plane common to the axis, and a combined rocker stop and finger lever integral with the body portion outwardly extended therefrom oppositely from the blade and substantially in the plane of the blade and the axis.

3,144,186
APPARATUS FOR CUTTING OFF LENGTHS OF TUBING
Ralph C. Fuerhoff, Bay Village, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 15, 1962, Ser. No. 202,894
10 Claims. (Cl. 225—93.5)



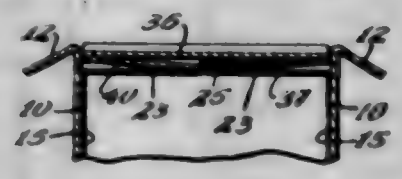
1. An apparatus for severing lengths of vitreous tubing, comprising belts disposed at an angle to and in contact with vitreous tubing for rotating and advancing said tubing in a straight path, a burner for heating said tubing in transit at a given location on said tubing where severing is to be effected, a carriage on which said burner is mounted, said carriage having a path of movement parallel to said tubing for advancing said burner in parallelism to and with said tubing, a continuous chain drive for said carriage with sprocket wheels therefor, one of said sprocket wheels being laterally movable to vary the angle of the said chain with respect to said path of movement of the carriage for synchronizing rate of movement of the carriage to that of the tubing.

3,144,187
THREAD CONVEYOR
Herbert O. Naumann, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Mar. 1, 1962, Ser. No. 176,647
9 Claims. (Cl. 226—95)



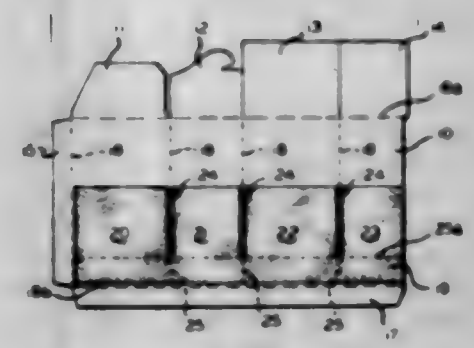
1. Thread-conveying apparatus comprising an elongated tube having a lower open inlet end and an upper open outlet end and jet means for introducing gas at high velocity into said tube near said inlet end directed upwardly toward said outlet end to thereby induce a suction at the inlet end of said tube, said tube flaring outwardly from a region on the side of said jet means remote from said inlet end to said outlet end.

3,144,188
REINFORCING PAD FOR CONTAINER LINER
Albert F. Gallistel, Minneapolis, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Aug. 22, 1962, Ser. No. 218,647
5 Claims. (Cl. 229—14)



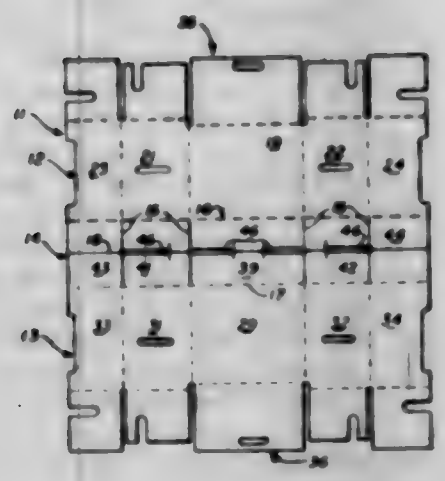
1. A reinforcing pad for use with a rectangular container liner having two similar sides connected together along a marginal seam extending centrally across two parallel ends and an adjoining side wall, the ends and side walls being connected by generally triangular ears at the corners of the liner, the pad including,
- a rectangular central panel substantially equal in size and shape to the ends of the liner,
- a flange hingedly connected to one edge of said central panel and adapted to overlie one-half of a liner end and between the marginal seam and the liner end wall, and
- a flange hingedly connected to the edge of said central panel opposite said one edge and adapted to overlie the remaining area of said liner end wall.

3,144,189
FOLDABLE EJECTOR INSERT FOR FOOD CARTONS
Fred H. Bartz, Hales Corners, Wis. (9380 Loomis Road, Franklin, Wis.)
Filed July 6, 1962, Ser. No. 207,936
2 Claims. (Cl. 229—23)



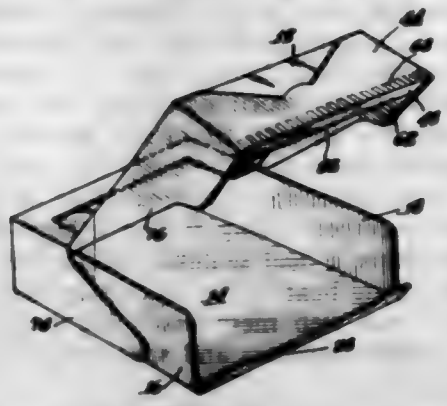
1. A carton blank assembly for ice cream and the like including a sheet creased along parallel lines to define plural sides of a carton and creased along another line extending transversely to said first named lines to define top flaps of the carton with the top flaps adjacent to the portions of the sheet defining the sides, means at one side of said sheet defining securing means for the carton, a crease extending transversely to said parallel lines so as to define a bottom holding tab adjacent to said portions defining said sides but on the other sides of said sheets from said top flaps, and a bottom defining blank positioned over the portions of said sheet defining said sides, said bottom defining blank having slots formed therein at positions such that said slots overlie the creased portions of said sheet defining said sides, the bottom edge of said blank being positioned alongside the crease defining said bottom holding tab whereby upon folding of the sheet along said lines into carton form, portions of said blank divided by said slots may be folded over one another to define a movable bottom of said carton with portions thereof positioned between said sides and said bottom holding tab.

3,144,190
DIVIDED CARTON STRUCTURE
George W. Holt, San Francisco, and George Benson, Sausalito, Calif., assignors to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware
Filed Jan. 14, 1963, Ser. No. 251,275
5 Claims. (Cl. 229—27)



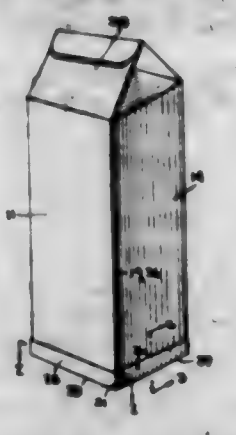
1. In a carton having an integral divider the combination comprising:
a first bottom wall;
a second bottom wall;
a first divider forming section integrally connected to said first and second bottom walls, said divider forming section disposed between said bottom walls and generally perpendicular thereto;
a first side wall;
a second side wall;
a second divider forming section integrally connected to said first divider forming section and integrally connected to said first and second side walls, said second divider forming section disposed between said side walls and generally perpendicular thereto, said second divider forming section generally perpendicular to said first divider forming section as well;
a third side wall in spaced opposition to said first side wall;
a fourth side wall in spaced opposition to said second side wall;
a third divider forming section integrally connected to said first divider forming section and integrally connected to said third and fourth side walls, said third divider section disposed between said third and fourth side walls and generally perpendicular thereto, said third divider section generally perpendicular to said first divider section as well;
a first top wall in spaced opposition to said first bottom wall;
a second top wall in spaced opposition to said second bottom wall;
a fourth divider forming section integrally connected to said second divider forming section and integrally connected to said first and second top walls, said fourth divider section disposed between said top walls and generally perpendicular thereto;
a third top wall in spaced opposition to said bottom wall;
a fourth top wall in spaced opposition to said second bottom wall; and
a fifth divider section integrally connected to said third divider section and integrally connected to said third and fourth top walls, said fifth divider section disposed between said third and fourth top walls and generally perpendicular thereto.

3,144,191
RECLOSABLE CARTON
William R. Saidel, Park Forest, Ill., assignor to Integral Packaging Company, Chicago Heights, Ill., a corporation of Illinois
Filed Oct. 6, 1961, Ser. No. 143,514
3 Claims. (Cl. 229—36)



3. A carton for bakery products and other goods comprising a generally rectangular bottom panel having first and second opposite side edges and front and back edges, a back side panel connected to and extending upwardly from said back edge, a top panel connected to and extending forwardly from said back panel and overlying said bottom panel, a front panel connected to and depending from a forward margin of said top panel, first and second inner opposite side panels respectively connected with and extending upwardly from said first and second side edges of said bottom panel, flaps respectively connected to and extending from opposite ends of said back panel forwardly along outer surfaces of said first and second inner side panels, additional flaps respectively connected to and extending rearwardly from opposite ends of said front panel along outer surfaces of inner side panels and being free of any connection with said inner side panels, first and second outer side panels connected with and depending from opposite side margins of said top panel and overlying and secured to said flaps, another flap articulated along a bend line to said front edge of said bottom panel and extending upwardly therefrom and overlying an outer surface of a lower marginal portion of said front panel, means comprising adhesive material releasably securing said lower marginal portion of the front panel with said last mentioned flap, said last mentioned flap having free opposite ends and being foldable toward a flattened and opened position substantially coplanar with said bottom panel when it is released from said front panel during opening of the carton for facilitating removal of the goods from the carton.

3,144,192
CONTAINER AND METHOD OF MAKING SAME
Seaver A. Seline, Jr., 1304 N. 56th St., Omaha, Nebr.
Filed Nov. 4, 1960, Ser. No. 67,342
2 Claims. (Cl. 229—37)



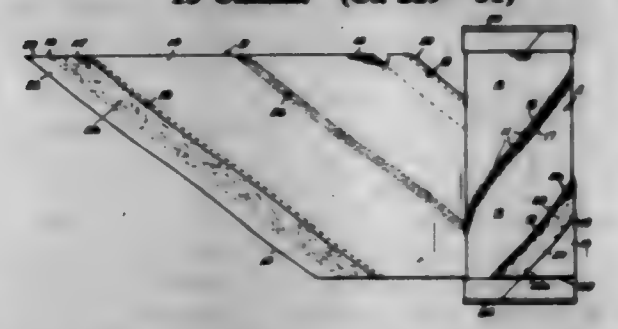
1. In a fluid container having a plurality of integrally formed sidewall panel members folded to provide a body

portion having a polygonal cross-section, a base integrally formed with said body and being folded to close the bottom of said container comprising a pair of substantially equally dimensioned superimposed bottom plies having a polygonal shape corresponding to said cross-section, each of said plies having a common folded edge with a respective one of a pair of opposed sidewall panel members, the outer bottom ply having a plurality of edge flaps along its other edges folded upwardly against the adjacent outer bottom edge portions of said sidewall panel members, integrally formed triangular members interconnecting adjacent ends of said edge flaps and having outer edges interconnecting the outer edges of said edge flaps, said web members being folded against themselves and said edge flaps, a heat sealable coating on said container, said plies being heat sealed to one another and said edge flaps and said web members being heat sealed to said sidewall panel members and said ends of said edge flaps, respectively.

3,144,193
MERCHANDISE CONTAINER

William L. Geist, St. Louis, Mo., Hamilton W. Putnam, Jeffersonville, Ind., and Ross A. Easter, Minneapolis, Minn., assignors, by direct and mesne assignments, to RC Can Company, St. Louis, Mo., a corporation of Missouri

Continuation of application Ser. No. 360,658, June 10, 1953. This application Apr. 13, 1959, Ser. No. 805,858
13 Claims. (Cl. 229—51)

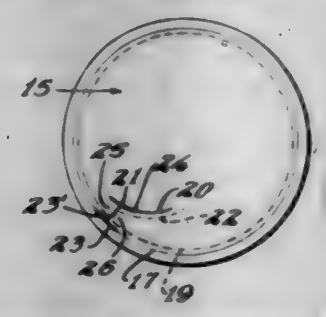


1. A merchandise container particularly designed to permit easy substantially full length opening thereof, said container comprising inner and outer body walls of fibrous material detachably bonded together, each wall having opposed helical abutting edges respectively forming inner and outer separation lines, an outer wrapping surrounding said outer body wall and adhesively connected thereto, said wrapping and said outer body wall having a circumferential cut therein in closely spaced relation to one end of the container, said outer wrapping having a free edge portion to provide a pull flap to facilitate removal of the outer wrapping and the outer body wall as a unit from the inner body wall.

3,144,194
POPCORN PACKAGE

Robert B. Cartwright, La Grange, Ill., assignor to Chicago Carton Company, Cook County, Ill., a corporation of Illinois

Filed Nov. 6, 1961, Ser. No. 150,347
7 Claims. (Cl. 229—51)

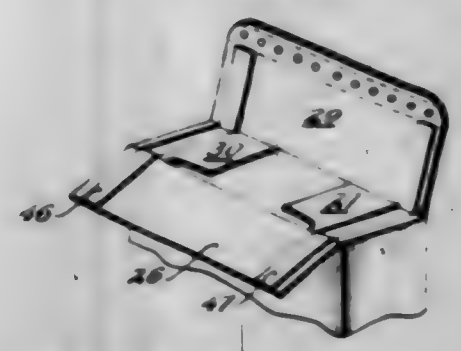


1. In combination, a pan and a removable pan cover, the cover comprising a disk of paperboard, and the pan including a bottom, upwardly extending side walls, an outwardly extending peripheral flange at the top of said walls on which said cover rests, and an inturned flange marginally secured to said outwardly extending flange and overlying the marginal edge of said cover, the cover including a weakened line of separation inwardly of said marginal edge including a circular cut score line extending partially through the paperboard from the upper surface thereof inwardly of said marginal edge of said cover, and a concentric circular cut score line of slightly shorter radius extending partially through said paperboard from the under surface thereof, a second relatively short cut score line in the upper surface of the paperboard terminating at one end in closely spaced relation to said concentric cut score lines and diverging inwardly toward the center of the cover and terminating in a more widely spaced relation to said concentric score lines, and a cut score line in the under surface of the paperboard running parallel to said second score line and between said second cut score line and said concentric cut score lines, said relatively short cut score lines extending but a relatively short angular distance as compared to the concentric cut score lines, and a cut line connecting said outer concentric cut score line to said one end of said second cut score line.

3,144,195
RECLOSABLE CARTON

Russell J. Hennessey, St. Paul, Minn., assignor to Waldorf Paper Products Company, Ramsey, Minn., a corporation of Minnesota

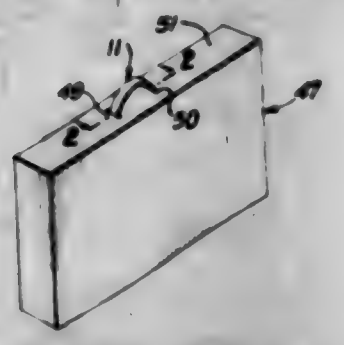
Filed Aug. 9, 1962, Ser. No. 215,944
2 Claims. (Cl. 229—51)



1. A carton including,
rectangularly arranged side and end walls connected in tubular relation,
side and end wall closure flaps hinged to an end of the side and end walls,
elongated strips extending across said end wall closure flaps generally parallel to the lines of fold connecting these flaps to their end walls and being defined by spaced parallel cut score lines extending partially through said flaps from the outer surfaces thereof,
one of said side wall closure flaps being adhered to said end wall closure flaps only within the confines of said strips,
a pair of elongated strips extending across said one side wall closure flap in parallel relation and located generally outwardly of the strips in said end wall closure flaps, the strips of the pair being defined by parallel cut score lines extending partially through said one side wall closure flap from the outer surface thereof,
the other of said side wall closure flaps being adhered to said one side wall closure flap only within the confines of the strips of said pair,
whereby as said other side wall closure flap is hinged open, a portion of the strips of the pair is progressively detached from the remainder of said one side wall closure flap in a direction longitudinally of these strips, and

as said one side wall closure flap is hinged open, a portion of the strips in said end wall closure flaps is progressively detached from the remainder of the end wall closure flaps in a direction longitudinally of these strips.

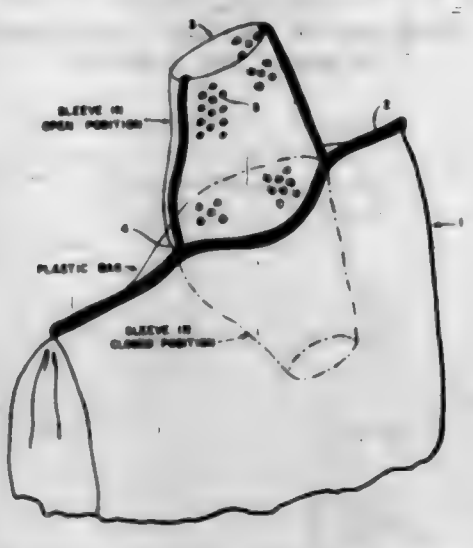
3,144,196
BOX CARRYING HANDLE
Fred E. Sinders, 357 E. Alondra St., Gardena, Calif.
Filed July 26, 1962, Ser. No. 212,675
6 Claims. (Cl. 229—52)



1. In combination with a box having a top face with two spaced slots therethrough transverse to an axis connecting the centers of the slots, each slot being bounded by continuous peripheral walls of said top face maintaining the peripheries of said slots substantially in the plane of said top face, the ends of said slots forming hinge areas, a box-carrying handle having enlarged ends insertable respectively into said slots when disposed laterally of said axis with said handle tipped sidewardly, said enlarged ends locking beneath said top face when said handle is swung to an upright position, said handle comprising a strip of plastic material having a body portion and two enlargements at its respective ends forming said enlarged ends, each enlargement providing two lobes respectively on opposite sides of said body portion and meeting same at an angle with the apex of said angle forming a hinge socket engageable with a hinge area of a corresponding slot when said handle is tipped sidewardly and the lobe adjacent said hinge socket is inserted into such slot, the maximum distance between each hinge socket and the peripheral edge of the lobe on the opposite side of said body portion being substantially equal to the length of the corresponding slot to permit swinging of said handle about the engaged hinge area and hinge socket to upright position to thereby swing the opposite lobe into such corresponding slot to a position beneath said top wall, the maximum width of each enlargement measured along a line through said hinge sockets transverse to the longitudinal axis of said body portion being substantially greater than the length of the corresponding slot.

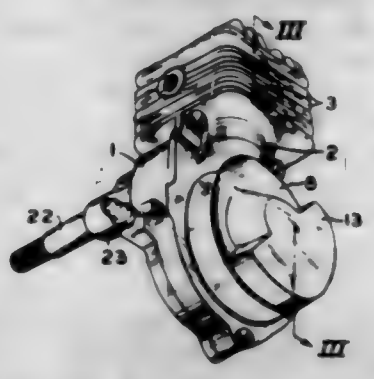
3,144,197
PLASTIC BAG
Richard H. Milner, Knutsford, and Harold G. Lightfoot, Ashton-upon-Mersey, Sale, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1963, Ser. No. 260,872
Claims priority, application Great Britain Feb. 26, 1962
1 Claim. (Cl. 229—62.5)

A bag for the storage of particulate solids in which access to the interior of the bag for filling and emptying purposes comprises: a rectangular bag, a flexible, inwardconing sleeve formed from thermoplastic polymer sheet material and attached at the normally top end of the bag and enclosing an aperture in said bag, the arrangement being such that after the bag has been filled with a predetermined quantity of a particulate solid said sleeve can be easily inserted through said aperture into the bag and flattened against the inner wall surface of the bag in which position said sleeve is held by the contents of the bag to seal the bag during subsequent handling, the surface of said sleeve which is its outer surface when in position



outside said bag being provided with slightly raised portions, whereby an air passage is defined when said sleeve is held in position inside said bag.

3,144,198
HIGH SPEED COMPRESSOR FOR LIGHTWEIGHT VEHICLES REQUIRING PNEUMATIC SERVICE
Jean-Claude Debray, Sarcelles, France, assignor to Compagnie des Freins et Signaux Westinghouse, Paris, France
Filed July 26, 1961, Ser. No. 127,029
Claims priority, application France Sept. 7, 1960
1 Claim. (Cl. 230—38)

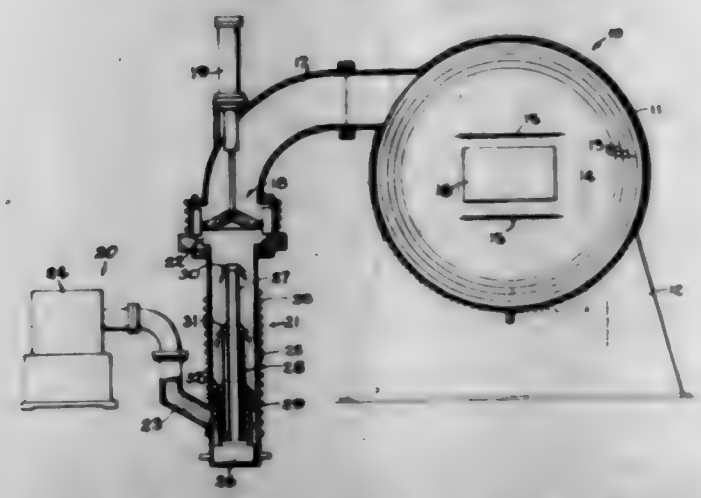


A reciprocating compressor for attachment to an engine and adapted to be belt driven by the engine and comprising a cylinder having a bore therein, a piston reciprocable in said bore and forming a compression chamber therein, intake and discharge means in said cylinder communicating with said bore and cooperating with said piston to effect an intake operation in said compression chamber when the piston is in the bottom dead center position and to effect a discharge operation from said compression chamber when the piston is in the upper dead center position, supporting means attached to the cylinder, shaft means on said supporting means, an engine belt-driven pulley and eccentric drive means on said shaft means, means connecting said eccentric drive means to said piston for reciprocating said piston in said bore in response to rotation of said pulley and eccentric drive means, a single stud on said supporting means in a position displaced from said pulley and extending parallel to the axis of said shaft for pivotally mounting the supporting means on the engine block, said stud being disposed laterally of a vertical line through the center of gravity of the compressor when the cylinder thereof is disposed axially parallel with said vertical line, whereby the weight of the compressor acting through the center of gravity pivots the supporting means about said stud to provide tension upon the belt.

3,144,199
METHOD OF EVACUATING TREATING CHAMBERS

Harold N. Ipsen, % Ipsen Industries, Inc., P.O. Box 500, Rockford, Ill.

Filed July 28, 1961, Ser. No. 125,554
2 Claims. (Cl. 230—45)

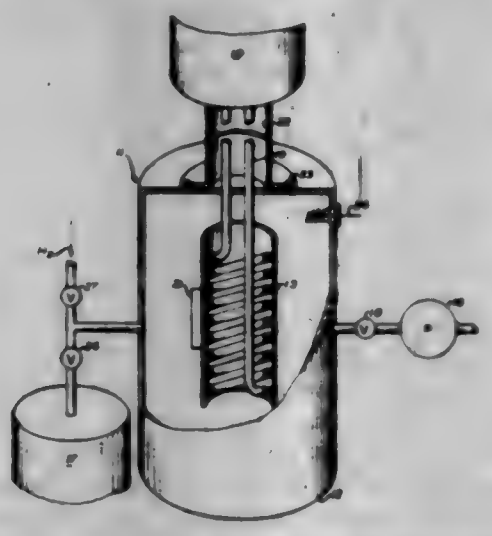


1. The method of repeatedly evacuating a chamber using a mechanical pump and an oil diffusion vapor pump in the latter of which oil is heated to vaporize and the oil vapor issues in jet streams to impel gas molecules away from the chamber, said pumps being connected in series with the diffusion pump communicating directly with the chamber, said method comprising the steps of initiating operation of said mechanical pump to draw gas out of the chamber through said oil diffusion vapor pump while the temperature of the oil is substantially below its boiling point, simultaneously heating the oil in said vapor pump whereby initial evacuation of the chamber is effected by the mechanical pump through the diffusion pump until the oil begins to vaporize and thereafter the vapor pump assists the mechanical pump in the final evacuation of the chamber, and then cooling the oil to a temperature substantially below its boiling point before again initiating operation of said mechanical pump to re-evacuate said chamber.

3,144,200
PROCESS AND DEVICE FOR CRYOGENIC ADSORPTION PUMPING

Clyde E. Taylor, Livermore, Angus L. Hunt, Alamo, and John E. Omohundro, San Jose, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 17, 1962, Ser. No. 231,311
17 Claims. (Cl. 230—69)



1. In a cryogenic adsorption pump of the class described herein, gas adsorption means disposed in an evacuated chamber and comprising

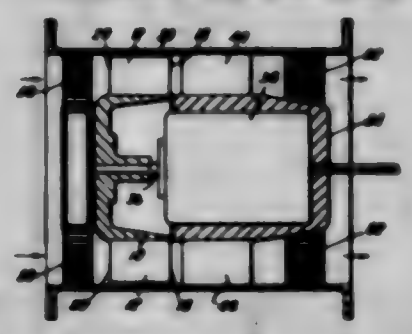
(*a*) a surface cooled to a temperature of approximately 11° K., and

(*b*) a solidified layer of gas having a vapor pressure at approximately 11° K. less than the pressure of said evacuated chamber, said solidified layer being adhered to said surface.

3,144,201
BLOWERS AND ROTARY COMPRESSORS

Eric William Ruddle, Leatherhead, England, assignor to Plessey Limited, Surrey, England, a British company

Filed May 7, 1962, Ser. No. 193,369
Claims priority, application Great Britain May 9, 1961
2 Claims. (Cl. 230—120)



1. A rotary compressor comprising an axial flow rotor having a central hub, driving means drivingly connected to said hub, a plurality of radially-extending rotor blades peripherally spaced about said hub so as to overlap each other to a substantial extent and having their inner ends extending from said hub, a plurality of stator blades, separate from said rotor blades, arranged downstream of said rotor blades in the direction of fluid flow, a curved forward flow-surface and a curved rear flow-surface on each of said rotor blades, and flow-surfaces being curved in one direction from the leading edge of each of said rotor blades to a transition point at least half-way towards the trailing edge of each of said blades, and being curved in an opposite direction to said first-mentioned direction over the part of each rotor blade adjacent said trailing edge, said blades being fixed relatively to each other on said hub so that the width of the gap between adjacent rotor blades measured at right angles to the direction of fluid flow therebetween is less at the leading edge of one of said blades and at the trailing edge of the other of said blades than in the central portion of said gap, whereby fluid flowing through said gap is compressed, expanded and then re-compressed by said adjacent rotor blades, and flow-surfaces on said rotor blades being at a substantial angle to the rotational axis of said rotor at all points between said leading edges and said trailing edges of said rotor blades, the thickness of said rotor blades along their opposite-curved portions adjacent their trailing edges being no greater at any point than the thickness of said blades at said transition point on each rotor blade; the adjacent rotor blades overlapping each other by between 15 and 40% of their area as viewed along the rotational axis of said rotor; and a honeycomb flow-guiding grille having only axially extending flow passages on the inlet side of said compressor immediately adjacent the leading edges of the rotor blades to guide the incoming fluid in an axial direction and to counteract any tendency of the incoming air to flow in a non-axial direction.

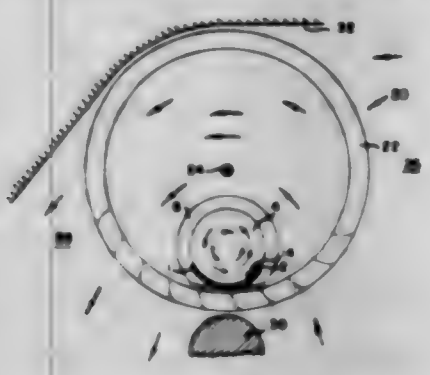
3,144,202
STABILIZING DEVICES FOR GENERATING AND GUIDING POTENTIAL WELLS

Theodor Heimbold, Hedwigstrasse 4, Munich, Germany

Filed Apr. 5, 1961, Ser. No. 102,999
Claims priority, application Germany Nov. 19, 1960
8 Claims. (Cl. 230—125)

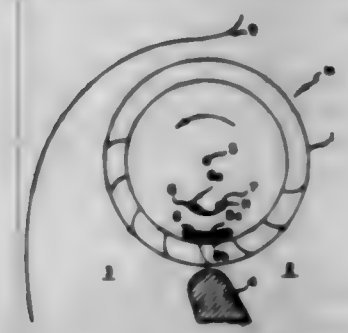
1. In combination with a fluid transfer device for conducting a fluid stream from one region to another, and

having means for producing a potential whirl entirely within the device, vortex guide means in said transfer device for guiding and stabilizing the position of said potential whirl to control the direction of said fluid stream through said device, said vortex guide means comprising a body having a concave inner surface for supporting and guiding said potential whirl, said concave surface corresponding in size and shape to a substantial portion of the periphery of said whirl and located adja-



cent thereto, and fluid passage means providing at least one uninterrupted fluid passage in said body extending from the region of said inner concave surface to the rearward part of said body with regard to the flow direction of the potential whirl supported thereby, said passage means being operable in co-operation with said whirl and the fluid flow through the device to produce a suction effect for continuously removing fluid boundary layers forming between said whirl and said surface.

3,144,303
TRANSVERSE FLOW TYPE BLOWERS
Theodor Helmbold, Hedwigstrasse 4, Munich 2, Germany
Filed Mar. 20, 1962, Ser. No. 181,135
Claims priority, application Germany Mar. 23, 1961
6 Claims. (Cl. 230—125)



1. A transverse flow type blower comprising a peripherally bladed rotor, fluid guide means disposed within the interior of said rotor for generating and stabilizing a fluid vortex wholly within the rotor, and means disposed radially between the blades of said rotor and said fluid guide means for protecting said vortex against disturbance by said rotor.

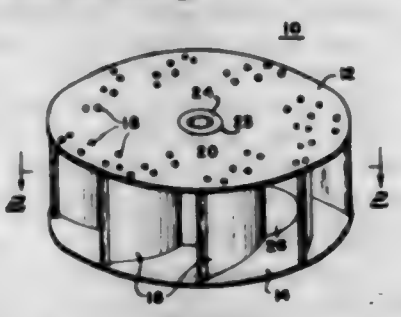
3,144,304
CENTRIFUGAL BLOWER WHEEL
Hey R. Bohanon, Muskogee, Okla., assignor to Acme Engineering and Manufacturing Corporation, Muskogee, Okla., a corporation of Oklahoma
Filed Aug. 24, 1962, Ser. No. 219,233
1 Claim. (Cl. 230—134)

A medium specific speed centrifugal blower wheel for use in roof exhausters comprising:

(A) a first circular sheet metal plate having a central opening therein and a plurality of slots arranged in a first set of groups at respective stations between the periphery of said plate and said opening;

(B) a second circular sheet metal plate spaced from said first plate and lying in a plane parallel thereto, said second plate having a central aperture which together with said central opening of said first circular plate define the axis of rotation of said centrifugal blower wheel, a cylindrical sleeve received in said central aperture and secured to said second plate at the periphery of said central aperture, said second plate having a plurality of slots arranged in a second set of groups at respective stations corresponding to said slots of said first set of groups of said first plate;

(C) a plurality of sheet metal blades extending between the periphery of said first and second plates and said central opening and said central aperture respectively, said plurality of blades being arranged in continuous sequence around the peripheries of said first and second plates at pre-determined angles thereto, said blades including

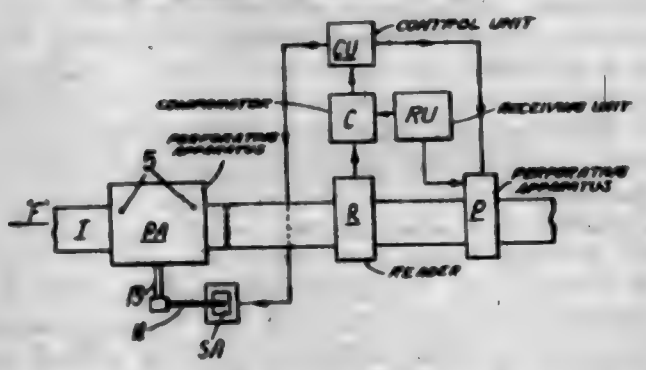


(1) substantially rectangular sheets folded near their mid portions thus defining side portions which are displaced from each other at points intermediate the trailing ends thereof, said side portions further being displaced from each other so as to define cross-sectional areas being equal at successive points between said first and second plates thus providing said blades with a hollow air-foil configuration;

(2) said trailing ends of said blades including first edges that are folded over to form lap joints and second edges contained securely therein; and

(3) said side portions of said blades further including a plurality of tabs, said tabs corresponding to and being inserted through said slots of said first and second groups of first and second plates respectively, said tabs further being bent adjacent said first and second plates to rest in engaging relation therewith.

3,144,285
PERFORATING APPARATUS
Frederick James Leslie Turner, Croydon, England, assignor to Creed & Company Limited, Croydon, England, a British company
Filed Oct. 25, 1962, Ser. No. 232,971.
Claims priority, application Great Britain Nov. 3, 1961
10 Claims. (Cl. 234—34)



1. In equipment for perforating a tape in accordance with received information, the combination of:

(*a*) means for receiving information;

(*b*) first perforating means operatively associated with said receiving means and adapted to perforate the tape in transverse rows in accordance with the received information, said first perforating means including means for feeding the tape through said first perforating means in a first direction;

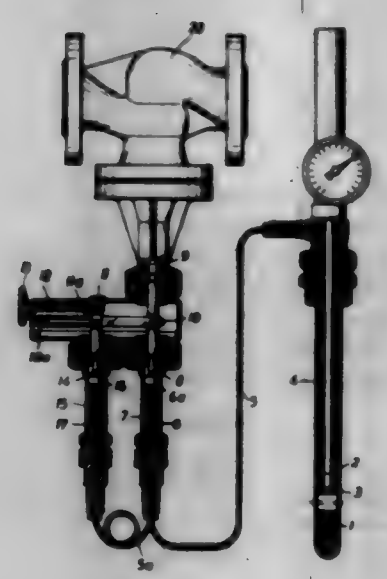
(*c*) means for reading the perforated tape, said reading means being disposed adjacent said tape beyond said first perforating means in said first direction;

(*d*) means operatively associated with said receiving means and said reading means for comparing the incoming information with the information read by said reading means;

(*e*) second perforating means for overpunching a desired amount of information contained on said tape while said tape is being fed in said first direction, said second perforating means being disposed adjacent said tape beyond said reading means in said first direction; and

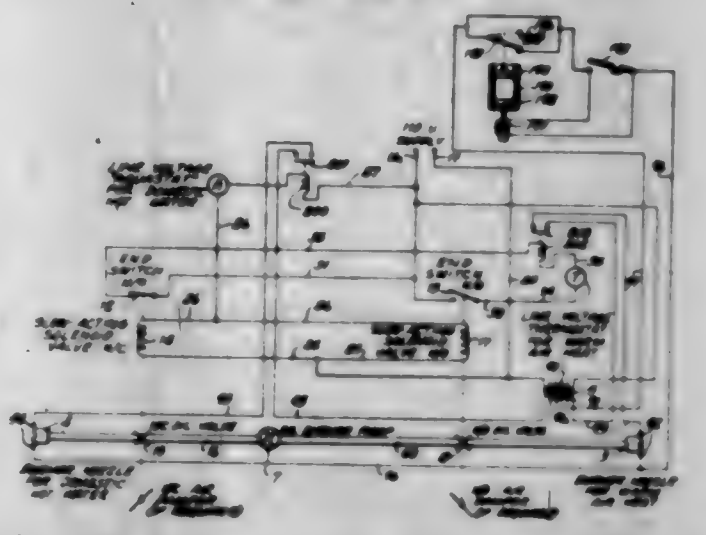
(*f*) control means operatively associated with said comparing means and said first and second perforating means for disabling said first perforating means and operating said second perforating means for a predetermined time after the receipt of incoming information which differs from the information contained on said tape whereby said desired amount of information is overpunched.

3,144,206
THERMOSTATIC TEMPERATURE REGULATOR
Günther Seiffert, Rodderweg 9, Surth Bezirk, Cologne, Germany
Filed Apr. 10, 1962, Ser. No. 186,415
Claims priority, application Germany Apr. 12, 1961
7 Claims. (Cl. 236—99)



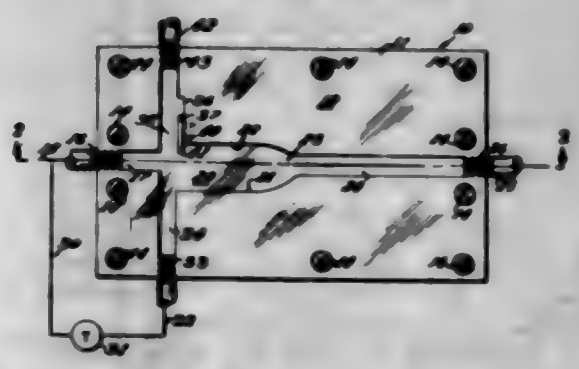
1. A thermostatic temperature regulator comprising a temperature sensing device adapted to be filled with a heat expansible fluid, a working bellows, an auxiliary bellows, means enclosing said two bellows, a pipe connecting said temperature sensing device with the first-mentioned means for supplying said fluid from said temperature sensing device to ends of said two bellows, members connected to opposite ends of said two bellows and movable along with the two bellows when the bellows are actuated by said fluid, leverage means connected with said two members and swingable by the movement of at least one of said members, means connected with said leverage means for varying the leverage thereof to vary the ratio of movement of said two members, and a regulating device coupled with said working bellows for regulating the heating medium to be controlled.

3,144,207
COMBINED HOT WATER AND WARM AIR HEATING SYSTEM FOR HOUSEHOLD USE
Carl P. Sahler, 8 Lone Oak Road, Basking Ridge, N.J.
Filed July 3, 1962, Ser. No. 207,355
4 Claims. (Cl. 237—2)



4. A dual oil burner system comprising a warm air heater burner nozzle, a water heater burner nozzle, a single integral unit for supplying oil and air to either of said nozzles, a line voltage thermostat responsive to the temperature of the air heated by the warm air burner nozzle and means controlled by said thermostat for starting and stopping the flow of oil and air to the air heater nozzle, a line voltage Aquastat responsive to the temperature of the water heated by the water heater burner nozzle and means controlled by said Aquastat for starting and stopping the flow of oil and air to the water heater nozzle, said first means comprising an end switch and oil valve having means for holding it normally open, said second means comprising an end switch and oil valve having means for holding it normally closed, slow-acting solenoids for said end switches, said Aquastat being connected through the aforesaid slow-acting solenoid actuated end switches whereby when the Aquastat is closed the normally closed end switch and the normally closed oil valve are both open and at the same time the normally open oil valve and the normally open end switch are both closed, and means for disconnecting said thermostat, whereby it is rendered inoperative, whenever the water heater valve and end switch are open.

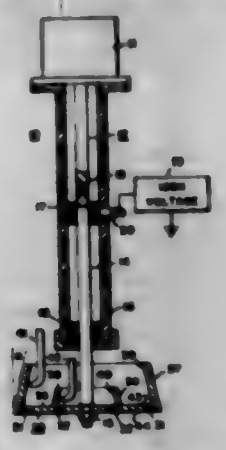
3,144,208
CONTROLLED FLUID UNIT
Asbjorn M. Severson, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 12, 1962, Ser. No. 230,876
3 Claims. (Cl. 237—8)



3. A fluid control device having a fluid flow, including: a fluid amplifier having a main inlet in line with a main outlet and connected by a control chamber in a fluid circuit to provide a continuous fluid flow path at all times for said fluid; a control inlet for said amplifier at a side of said main inlet means to divert said fluid within said

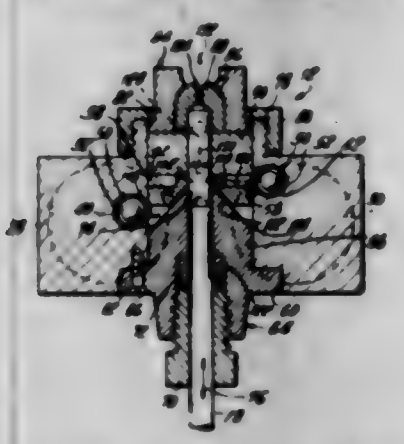
control chamber; said fluid amplifier further including a baffle projecting into said chamber at right angles to said inlet and main outlet; and a bypass outlet from said control chamber means connected to a load to divert a portion of said fluid through said load when said fluid in said control chamber strikes said baffle.

3,144,209
ROTATABLE SPRAY APPARATUS
Edward H. Griffiths, Penn Hills, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1961, Ser. No. 146,527
9 Claims. (Cl. 239—15)



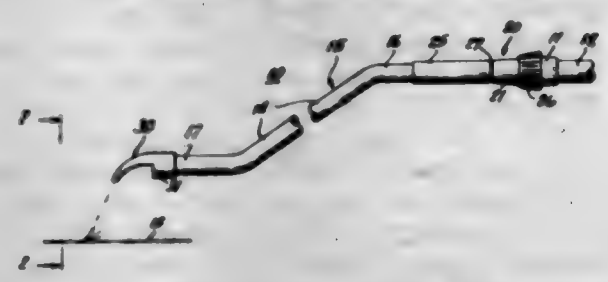
1. A rotatable spray head adapted for rotation about an axis comprising a plate having a rearward surface and an external forward surface and at least one series of discharge holes extending through the plate from said rearward to said forward surface, at least one circular flange having an annular feed surface, the annular surface joining said rearward surface to form a juncture therewith, the annular surface flaring inwardly from said juncture at an angle of from about 15° to about 45° to the axis of rotation, a series of the discharge holes being disposed radially inwardly from said juncture.

3,144,210
SPRAY GUN
Sidney Levy, 145 W. Cuthbert Blvd., Oaklyn, N.J.
Filed Sept. 28, 1962, Ser. No. 227,011
4 Claims. (Cl. 239—415)



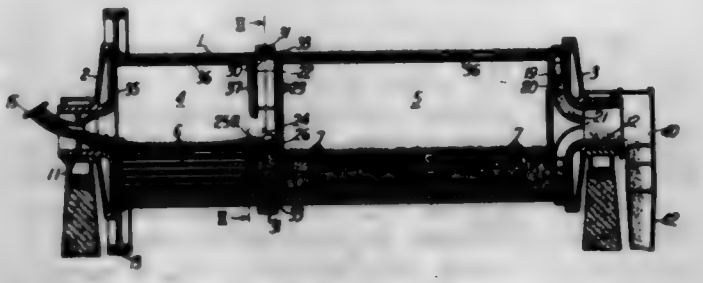
1. A spray assembly comprising a body member provided with a bore extending therethrough, discharge nozzle means at one end of said bore, a guide member at the other end of said bore, a disk positioned between said nozzle means and said guide member to define a material-receiving chamber in said bore at each of the opposite sides of said disk, means defining an elongated passageway extending through said guide member and disk to said discharge nozzle, fluid flow passages between each chamber and said passageway, said passages from one chamber opening into said passageway closer to said nozzle than the passages from the other chamber, and a control member operable in said passageway from a retracted position within said guide member to a projected position adjacent said nozzle, said control member having provision to close off said passages from said passageway during movement thereof toward said nozzle whereby to close said closer passages after said other passages so that the material entering the passageway from said closer passages will purge the mixture of any materials within said passageway.

3,144,211
WATER SWEEPER ATTACHMENT FOR GARDEN HOSE
Percy Goldman, 411 E. 57th St., New York, N.Y.
Filed Aug. 6, 1962, Ser. No. 215,022
3 Claims. (Cl. 239—532)



1. In a water sweeper attachment, for a garden hose or the like, of the type including a relatively elongated substantially circular cross section tube of relatively rigid material having a handle end and a discharge end, a female coupling on said handle end effective to couple said tube to the male coupling of a garden hose, and a water deflector and spreader secured to and extending in communicating relation from said discharge end and arranged to discharge water in a substantially flat sheet; the improvement comprising said deflector comprising a generally cylindrical socket portion arranged to have a close telescoping fit over the discharge end of said tube, and having a transverse partition engaging the outer end surface of said discharge end, the partition having a relatively small diameter and eccentrically located aperture communicating with said tube adjacent the inner cylindrical surface thereof; said deflector further comprising a wall integral with and extending axially outwardly from said partition and curved longitudinally to extend radially inwardly, the inner end of said wall being substantially semi-circular and substantially centered transversely relative to said aperture, with the inner surface of said wall being substantially tangent to said aperture, and the edges of said wall diverging axially outwardly from said partition.

3,144,212
COMBINATION ROD AND BALL GRINDING MILL
Ervin J. Klovers, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 31, 1961, Ser. No. 148,933
8 Claims. (Cl. 241—70)



1. A grinding mill comprising:
a casing supported for rotation about a central axis;
inlet means connected to one end of said casing for delivering materials to be ground to the interior of said casing and discharge means connected to other end of said casing;

a perforated bulkhead within said casing intermediate the ends thereof and transverse thereto;

a charge of fine grinding media within said casing on the side of said bulkhead facing said discharge means;

a charge of coarse grinding media within said casing on the side of said bulkhead facing said inlet means;

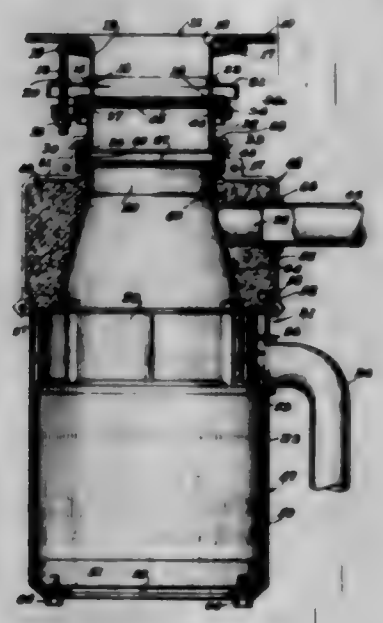
an annular wall within said casing and transverse thereto, said annular wall being axially spaced away from the side of said perforated bulkhead facing said inlet means, said wall and said bulkhead defining therebetween an intermediate chamber between an inlet end chamber and a discharge end chamber within said casing, said fine grinding media being confined to said discharge end chamber by said bulkhead and said coarse grinding media being confined to said feed end portion by said annular wall which provides a barrier thereto, said annular wall also defining a central opening for coarse ground material and pieces of broken coarse grinding media to flow from said inlet end chamber into said intermediate chamber with the coarse ground material flowing from said intermediate chamber into said discharge end chamber through said perforated bulkhead for further grinding by said fine grinding media but said pieces of broken coarse grinding media being trapped within said intermediate chamber.

3,144,213

WASTE DISPOSER MOUNT AND HOUSING

Walter T. Hedlund, Beverly Hills, Calif., assignor to W. T. Hedlund Company, Los Angeles, Calif., a corporation of California

Filed July 17, 1961, Ser. No. 124,462
10 Claims. (Cl. 241—100.5)



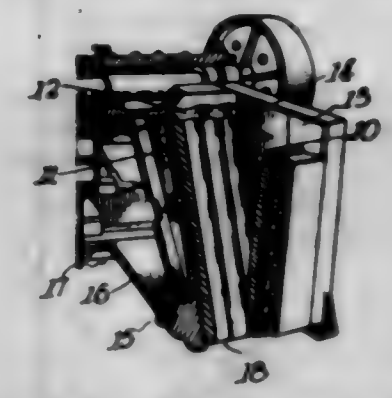
1. In a waste disposer structure, downwardly extending waste-passing means terminating in an open lower end, a waste disposer beneath said end and having an upper end to receive waste from the mentioned means, said ends being each provided with an outturned flange, a vibration-absorbing ring having inner annular grooves into which said flanges are disposed to connect said ends and space the same longitudinally, and a non-metallic housing enclosing said waste disposer and provided with an upper portion engaging around and enclosing said ring to provide a confining chamber therefor and annularly spaced from the mentioned lower end of the waste passing means and the upper end of the waste disposer.

3,144,214

ROCK CRUSHER

Benton L. Perdue, Portland, Oreg., assignor to Ecco Corporation, Portland, Oreg., a corporation of Oregon

Filed Mar. 8, 1962, Ser. No. 178,361
9 Claims. (Cl. 241—291)



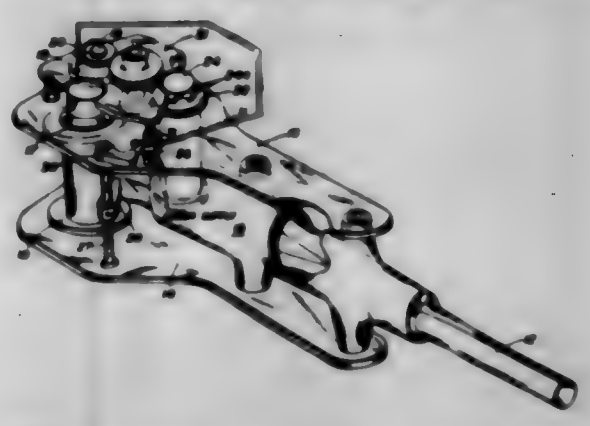
8. In a crusher jaw for rock, and the like, the improved replaceable jaw die comprising a plate-like body having a vertically corrugated working face, said face being characterized by elongated, vertically-extending, spaced-apart, substantially identical valleys defining respectively adjacent crowns and roots with the spacing between corresponding points on adjacent teeth constituting the pitch dimension, each of said teeth at the point of greatest tooth height having upstanding side walls includable within an angle of from about 30° to about 40° and a root-to-crown dimension from about 50% to about 85% of said pitch dimension.

3,144,215

COILABLE EXTENSIBLE APPARATUS

George J. Klein, Ottawa, Ontario, Canada, assignor, by mesne assignments, to The De Havilland Aircraft of Canada Limited, Downsview, Ontario, Canada

Filed Apr. 27, 1961, Ser. No. 106,124
Claims priority, application Canada Jan. 19, 1961
1 Claim. (Cl. 242—54)



A coilable extensible antenna comprising a thin strip of metal of much greater length than width which has been pre-formed to assume, whenever free to do so, a tubular formation extending in the direction of the longitudinal axis of the strip with substantial overlap of the longitudinal edges of the strip, a frame, a stowage reel rotatably mounted within said frame and adapted to stow the strip by winding it on the reel at right angles to the longitudinal axis of the strip, a guide means mounted within said frame, said guide means having a base which is disposed at a tangent to said reel and a guiding section which is generally tubular and decreases in internal width with distance away from said reel, a pull-out reel rotatably mounted within said frame, a pull-out tape anchored at one of its ends to said pull-out reel and partially wound thereon, said pull-out tape being anchored at its other end, together with said strip of metal, to said stowage reel, whereby said metal strip and pull-out tape may both be interwound and stored on said stowage reel, and means for positively driving said pull-out reel mounted within

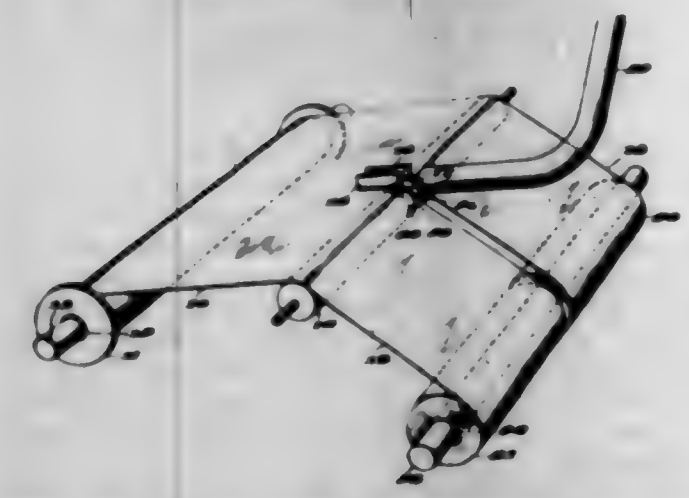
said frame whereby said pull-out tape may be caused to draw the strip, when stowed on the stowage reel, off said stowage reel, whereupon the unwound part of said strip will be projected through said guide sleeve and will assume a tubular formation extending in the direction of the longitudinal axis of the strip with substantial overlap of the longitudinal edges of the strip, said pull-out reel being mounted on a rotatable shaft, said means for driving the pull-out reel being an electric motor having a drive shaft, said apparatus including means for operatively connecting the drive shaft of said motor to said rotatable shaft, said last-mentioned means including a gear wheel freely mounted on said last-mentioned shaft and a clutching member attached to said shaft and engageable with said gear wheel to bring about rotation of said pull-out reel whenever said gear wheel is rotated with said clutching member engaged with said gear wheel, and means normally biasing said gear wheel and clutching member into the engaged position.

3,144,216

APPARATUS FOR SLITTING FILM AND REMOVING THE STRIPS FROM THE CUTTING ZONE UNDER UNEQUAL TENSION

John George Selby Billingsley, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 12, 1961, Ser. No. 137,583
5 Claims. (Cl. 242—56.4)



1. An apparatus for slitting and trimming a continuous tensioned web into wide and interior narrow strips comprising, in combination, a source of supply for the web; a wind-up mandrel on which said wide strips are wound; a grooved support roll in which the raised portion between adjacent grooves is under one-inch in width and the same width as said narrow strip, said roll being transversely disposed to said web and over which said web is passed under tension; adjacent cutting knives the cutting edges of which project into the path of travel of the web and into the adjacent grooves of said support roll in close proximity to said raised portion so as to form a cutting zone, said knives inclined away from each other to form an angle of at least 0.5 degree between their adjacent cutting planes, and means other than said wind-up mandrel for removing the narrow strip of web passing between said adjacent knives under a tension lower than the tension applied to said wide strips.

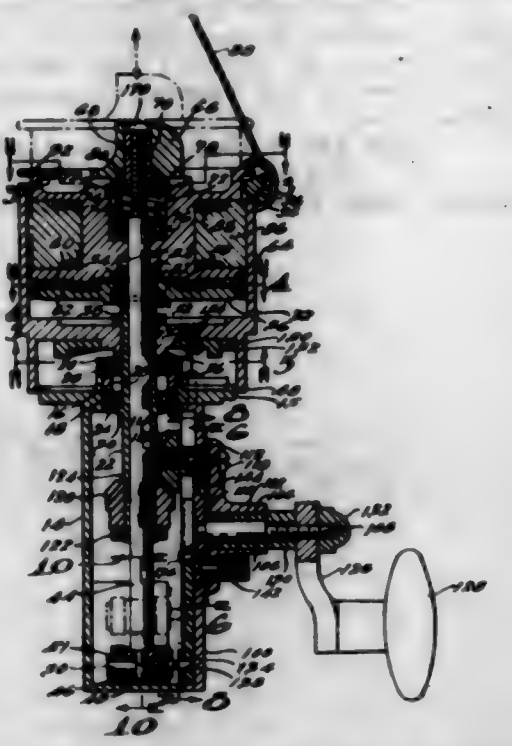
3,144,217

FISHING REEL

Garfield A. Wood, Jr., 785 NE. 83rd Terrace, Miami, Fla.

Filed Aug. 12, 1957, Ser. No. 677,427
2 Claims. (Cl. 242—84.21)

1. A fishing reel comprising a housing, a rotatable hollow shaft on said housing, an axially movable shaft within said hollow shaft, a tubular body on said hollow shaft for rotation therewith, a spool on said axially movable shaft for reciprocation within said body, gear means for rotating said hollow shaft and body, linking means connected between said gear means and axially movable shaft and operated by the former for reciprocating the axially movable shaft and moving the spool in and out of the body, said spool having a cylindrical recessed portion adapted to have a fishing line wound thereon and a radially flanged portion extending outwardly at the exposed end, a finger mounted on said tubular body having one end thereof adapted to closely overlie said flanged portion of the spool when said spool is retracted within said body, ratchet means for automatically preventing the rotation of said tubular body in one direction when the spool is furthest removed from said body, and manually adjustable ratchet means for preventing the reverse rotation of the body when the line is drawn from the spool.

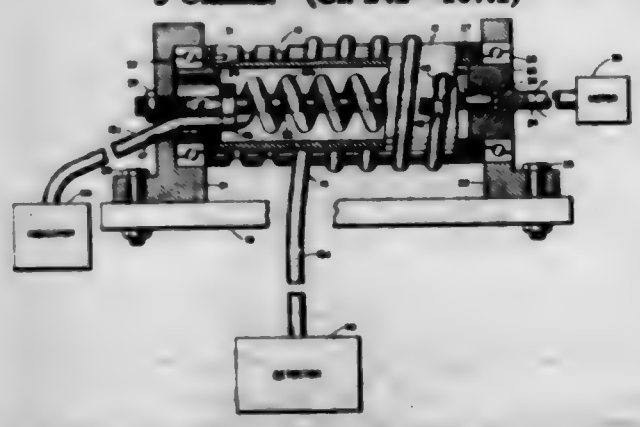


3,144,218

TRANSMISSION CABLE STORING AND POSITIONING MECHANISM

Charles F. Tepe, Fairport, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

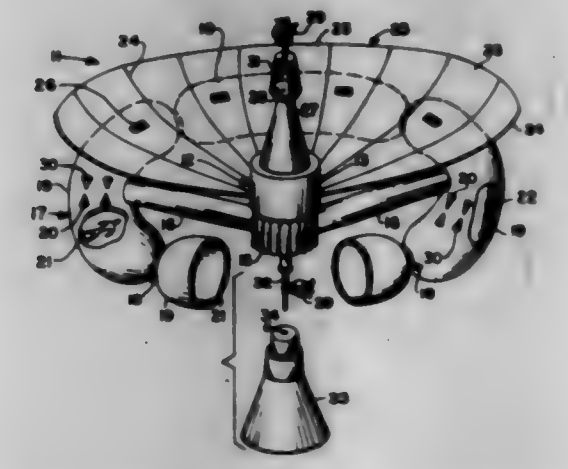
Filed June 26, 1961, Ser. No. 119,638
3 Claims. (Cl. 242—107.1)



1. In combination,, a continuous elongated flexible member, a rotating drum for receiving on the outer periphery thereof a first portion of said member, means for fixedly attaching said member to the outer periphery of said drum near one end of said drum, said member extending into the interior of said drum adjacent said attaching means, the portion of said member disposed within said drum being preformed into a helical configuration, said preformed portion forming a continuation of said first portion and disposed coextensive with

said first portion, a stationary rod coaxial with said drum and surrounded by said preformed portion of said member, and means for clamping said preformed portion of said member to said rod adjacent the end of said preformed portion remote from its confluence with said first portion.

3,144,219
MANNED SPACE STATION
Emanuel Schnitzer, Newport News, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Apr. 5, 1961, Ser. No. 101,029
18 Claims. (Cl. 244—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



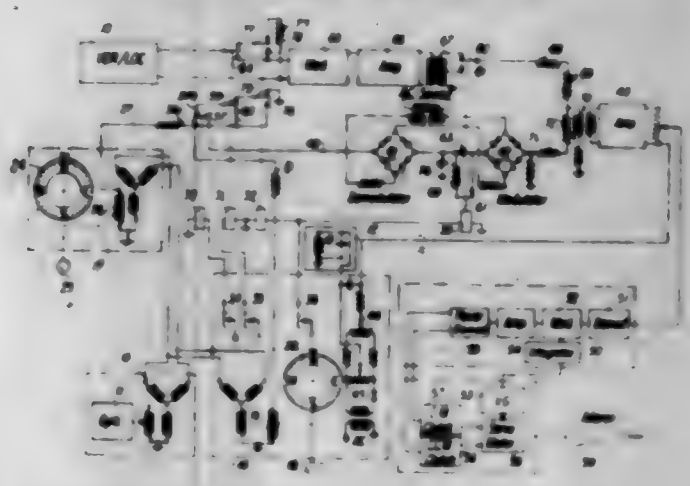
1. A space station capable of being foldably disposed as the payload of a launch vehicle and thereby launched from a planetary surface into an extraplanetary spatial vacuum and habitable by living occupants, comprising: a habitable center section, a habitable flexible inflatable toroidal section operationally concentrically disposed around said habitable center section, flexible tubular passageway sections interconnected between said habitable center section and said habitable toroidal section at radially spaced intervals operationally adapted to provide access between said center section and said toroidal section for occupants of said space station, means for collecting the radiant energy of sunlight and converting said radiant energy into energy usable in the operation of said space station, said radiant energy collecting means being concentrically positioned with respect to an axis centrally passing through said center section and about which said toroidal section is concentrically disposed.

3,144,220
CONTROL APPARATUS
Mathias H. Kittelson, 4606 Casco Ave., Minneapolis, Minn.
Filed Feb. 23, 1962, Ser. No. 174,963
6 Claims. (Cl. 244—42)



1. In apparatus of the class above described, a fluid outlet comprising a cover member hingedly fastened to the forward edge of an opening in a fluidfoil and movable between a normally inoperative retracted position and an operative extended position above the upper surface of said fluidfoil; and a substantially V-shaped fluid deflector positioned on the lower surface of said member with the apex thereof positioned in a forwardly extending direction whereby the flow of fluid through said opening tends to flow in directions parallel to the longitudinal axis of said fluidfoil.

3,144,221
AIRCRAFT CONTROL SYSTEM
Samuel H. Auld, Jr., Woodland Hills, Calif., assignor, by mesne assignments, to The Bendix Corporation, Baltimore, Md., a corporation of Maryland
Filed Mar. 6, 1961, Ser. No. 93,503
10 Claims. (Cl. 244—77)

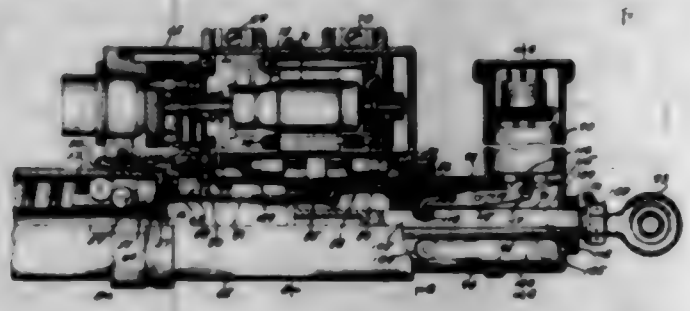


1. An automatic pilot system for an aircraft including gyro means providing a signal representing the direction of movement of the aircraft with respect to a fixed direction, said system including in combination, reference means connected to the gyro means and producing a predetermined control signal when the direction of movement of the aircraft corresponds to a particular direction, radio means responsive to a radio beam and producing a control signal which varies with the position of the aircraft with respect to the path of the beam, and control means responsive to said control signals from said reference means and from said radio means and including means for directing the movement of the aircraft, said control means including capacitor means coupled to said reference means through which said control signal from said reference means is applied, said capacitor means charging from a control signal which continues for a predetermined time to oppose said control signal from said reference means and substantially remove the effect thereof on said control means, whereby said control means directs the aircraft in acordance with said control signal from said radio means and with said control signal from said reference means which is applied through said capacitor means.

3,144,222
FEEL TRIM UNIT
Thomas Gardner Hill, Glen Cove, N.Y., assignor to Lundy Electronics and Systems, Inc., Glen Head, N.Y.
Filed June 21, 1962, Ser. No. 204,122
6 Claims. (Cl. 244—83)

1. A feel trim unit for use in adding linear resistance to an aircraft control linkage, comprising: a resilient cartridge element, first linking means interconnected to said resilient cartridge element, said linking means being resiliently urged to a predetermined location by said resilient cartridge element, a housing connected to said resilient cartridge element, a second linking means slidably disposed within said housing, and means for selectively fixing the relative position of said second linking

means and said housing, said last-mentioned means including said linking means having a recess therein, and



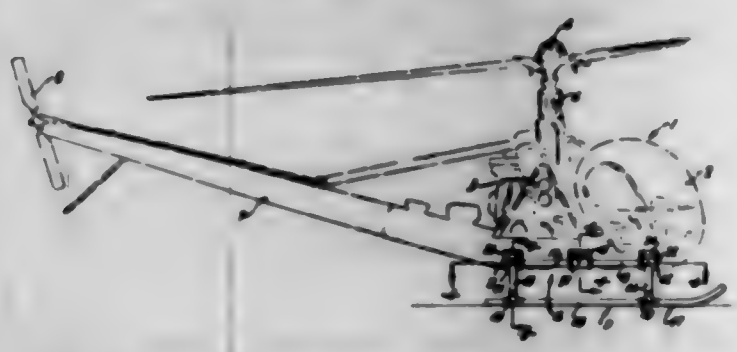
a locking dog pivotally mounted upon said housing and selectively projectable into said recess.

3,144,223

AIRCRAFT LANDING GEAR

John B. Nichols, Atherton, Calif., assignor, by mesne assignments, to Hiller Aircraft Company, Inc., Menlo Park, Calif., a corporation of Delaware

Filed Apr. 11, 1962, Ser. No. 186,723
21 Claims. (Cl. 244—100)



2. A helicopter comprising a chassis, and torsional shock-absorbing landing gear normally depending from said chassis for absorbing landing shock and for supporting said helicopter on a landing surface; said landing gear comprising a torsion rod structure secured to said chassis, said structure comprising a pair of operatively distinct torsion rod sections extending generally longitudinally of said chassis, each of said rod sections being non-rotatably secured at a predetermined location therealong in mounting bracket means which in turn is fixedly secured to said chassis, an end portion of each rod section spaced from such predetermined location thereof being journalled for torsional twisting in bearing bracket means which in turn is fixedly secured to said chassis, each rod section thereby being mounted for twisting about its axis independently of the other section, a strut fixedly and non-rotatably connected with each of said rod sections, said struts extending generally laterally of said respective rod sections in generally the same direction relative thereto, and means on the lower ends of said struts for engaging a landing surface when said helicopter is landed on such surface.

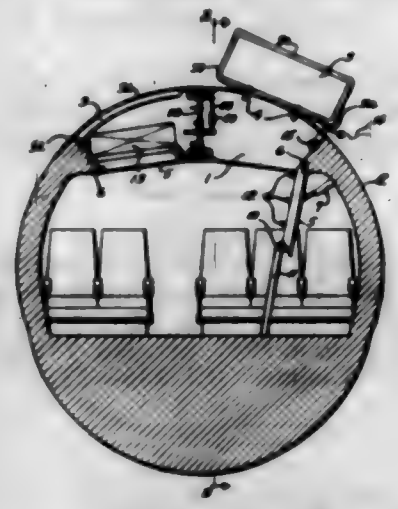
3,144,224

ESCAPE HATCHES FOR PASSENGER AIRLINER

Dee B. Carroll, 7332 38th St. NE., Seattle 15, Wash.

Filed Sept. 28, 1962, Ser. No. 226,909
13 Claims. (Cl. 244—129)

1. An airliner fuselage escape hatch structure comprising a passage between the fuselage passenger cabin ceiling and the dorsal portion of the fuselage, an upper door closing the outer end of said passage, a lower door closing the inner end of said passage, and common operating means operatively connected to both of said doors to effect opening of said two doors and including two manipulating elements on opposite sides of said two doors, respectively, one of said manipulating elements being operable from within the fuselage to effect movement of said operating means to open both of said doors and the other of said manipulating elements being operable from the exterior of the airliner to effect movement of said operating means to open both of said doors.

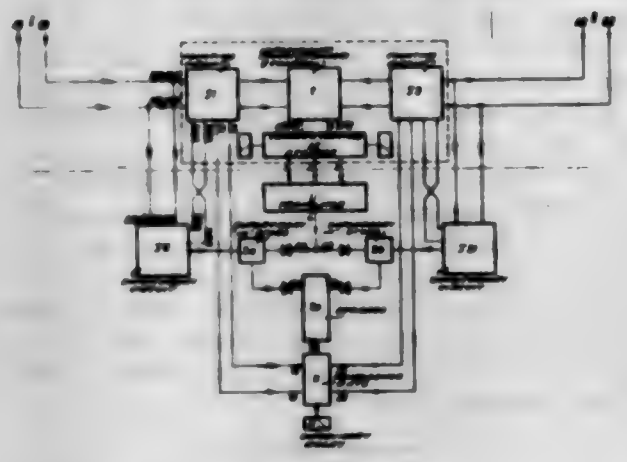


3,144,225

ARRANGEMENT FOR EVALUATING THE PULSES IN RAILWAY AXLE-COUNTING SYSTEMS

Wilhelm Suerkemper, Ditzingen, and Herbert Zech, Constance (Bodensee), Germany, assignors, by mesne assignments, to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1961, Ser. No. 97,652
Claims priority, application Germany Mar. 25, 1960
8 Claims. (Cl. 246—77)



1. In a railway-axle counting system having a pair of axle-pulse producing means at each end of a track section, each pair producing two pulses which at least partially overlap in time for each passing axle, means for supervising and evaluating the pulses produced by said axle-pulse producing means and reducing the possibility of error comprising in combination:

(*a*) means, connected to each pair of axle-pulse producing means, for converting each pair of axle pulses, produced at one end of the track section, into a direction-dependent counting pulse;

(*b*) supervisory means, connected in parallel to each said converting means for simultaneously converting each pair of axle pulses produced at one end of the track section into a direction-dependent supervisory pulse;

(*c*) a common counting storage device, coupled to the first of said converting means, for storing said counting pulses in accordance with their direction;

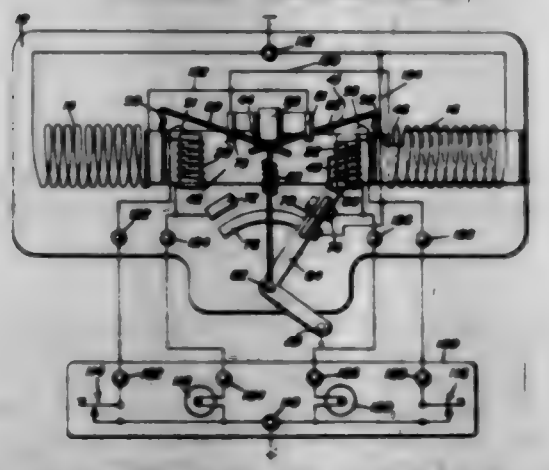
(*d*) translator means connected to said common counting storage device and responsive to an information modification therein for producing a reference pulse;

(*e*) supervisory storage means connected to said supervisory means for storing an inward-direction supervisory pulse;

(*f*) means responsive to the state of said supervisory storage means and the non-production of a reference pulse for indicating a malfunction of the system; and

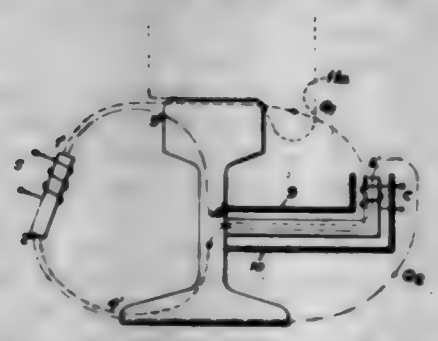
(*g*) means for preventing the production of a reference pulse when said information modification exceeds the capacity of said common counting storage device.

3,144,226
SELF-LOCKING SWITCH MOTOR
William G. Noble, Larchmont, N.Y.
(44 Meadow Place, Rye, N.Y.)
Filed Feb. 6, 1959, Ser. No. 791,690
12 Claims. (Cl. 246—232)



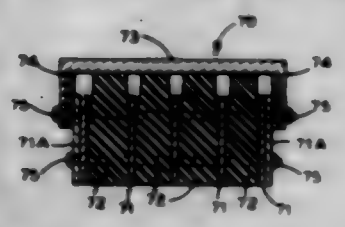
3. A self-locking switch for switching systems comprising an arm for controlling switch blades and electromechanical operating apparatus for moving said arm into one of two selective positions and locking said arm in said selected position, said apparatus including a pair of spaced solenoid coils, an armature extending between said solenoid coils and slidably movable within said solenoid coils, locking means including a pivotally mounted locking bar for engaging said armature to prevent slidable movement of said armature, releasing means for rendering said locking means ineffective to prevent said slidable movement of the armature, said releasing means including a pair of auxiliary coils and a pair of pivotally mounted conductive levers pivotable into engagement with said bar for displacement thereof out of locking engagement with the armature in response to the energization of said auxiliary coils.

3,144,227
ELECTROMAGNETIC TRACK APPARATUS, PARTICULARLY FOR AXLE-COUNTING SYSTEMS IN RAILWAY SAFETY INSTALLATIONS
Wilhelm Suerkemper, Baden-Wurttemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1960, Ser. No. 49,226
Claims priority, application Germany Aug. 14, 1959
7 Claims. (Cl. 246—249)



1. Electromagnetic track apparatus for railroad-car axle-counting systems comprising a transmitting coil positioned on one side of one of the rails of the track, a receiving coil positioned on the other side of said rail, said transmitting coil being adapted to generate an alternating magnetic field, whereby a voltage is induced in said receiving coil the magnitude of which is altered by the presence of a railroad car wheel in the region of said field, means for mounting said receiving coil so as to form a magnetic bridge, said means comprising a low reluctance arm extending at a right angle free from the lower part of the core of which it is an integral part and attached to said rail at a point between the rail head and the rail foot, a house of magnetically non-conductive material surrounding said mounting means and said receiving coil so that the flux lines of said field follow predetermined paths in said magnetic bridge, and adjustable means for mounting said transmitting coil at such an angle with respect to said rail that the presence of a flange of a railroad car wheel in the gap between said rail head and said receiving coil will alter the alternating magnetic field acting upon said receiving coil.

3,144,228
VIBRATION ISOLATOR
Bernard H. Kunz, 49 Chester Lane, Hicksville, Long Island, N.Y.
Filed June 8, 1961, Ser. No. 115,626
4 Claims. (Cl. 248—21)

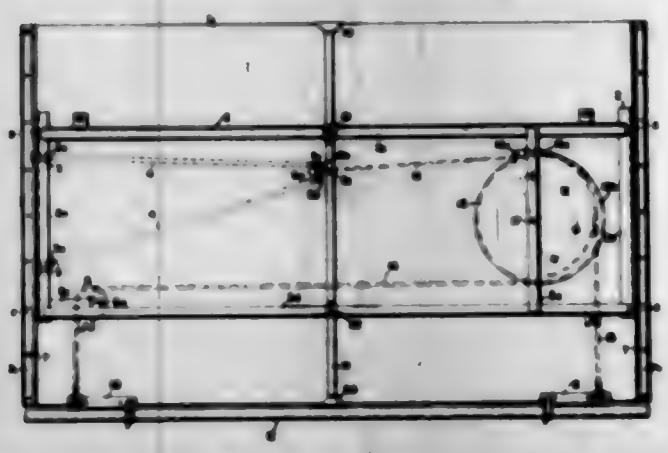


1. A vibration isolator comprising a pair of spaced flat spring means, and a block of resilient plastic-like material having a flowable characteristic when subjected to high compressive loads, said block being sandwiched between said spring means so as to permit relative movement therebetween, said block having a portion thereof extending beyond said spring means, a load distributing plate positioned on the upper end of said block whereby a load transmitted to said plate is distributed parallel to the plane of said flat spring means, said plate having depending flanges overlying said spring means, and a fastening means extended transversely of the flanges of said distributor plate, said spring means, and resilient block disposed therebetween for securing the same together.

3,144,229
SUPPORTING CONSTRUCTIONS FOR A BLACKBOARD, PROJECTION SCREEN OR LIKE ARTICLE
Hendrik Wolters, Rapenburgerstraat 38–42, Amsterdam, Netherlands
Filed May 28, 1962, Ser. No. 198,089
3 Claims. (Cl. 248—31)

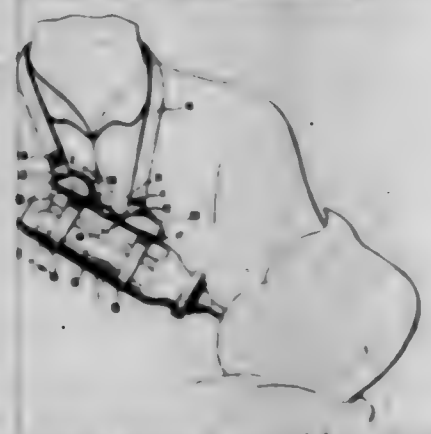
1. A supporting construction for balancing a blackboard or like article which can be shifted up and down, comprising a stationary frame, tension springs connected at one end of said frame, said springs connected at their other ends to one end of a first flexible transmission member, said first flexible transmission member secured at its other end to a first circumferential part of a composite body rotatably secured to the frame and on which the last-named end of the first transmission member can be wound or from which it can be unwound in response to movement of the blackboard, said composite body further including mutually equal arcuate second and third circumferential parts, second and third flexible transmission members having one of the ends of each secured to said second and third circumferential parts respectively, the other ends of

each of said second and third flexible transmission members secured to the blackboard, said first, second and third circumferential parts of the rotatable composite body being eccentric half circular discs, means connecting said eccentric discs relative to each other for unwinding the second and third flexible transmission members from



their eccentric half circles from the point with the smallest distance from the axis to the point with the greatest distance from the axis as the first flexible transmission member is wound on the first eccentric half circle from the point with the greatest distance from the axis to the point with the smallest distance from the axis.

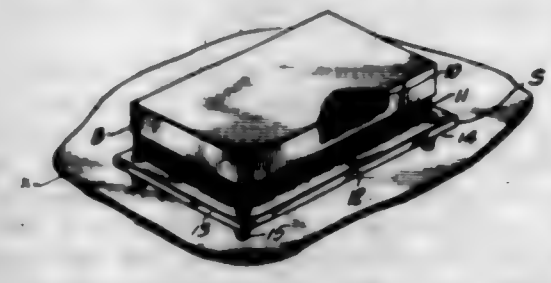
3,144,230
NURSING BOTTLE SUPPORT
Durward L. Brooks, P.O. Box 467, Pensacola, Fla.
Filed Apr. 15, 1963, Ser. No. 273,051
7 Claims. (Cl. 248—102)



1. A nursing bottle support comprising a pair of separate elastic bands to embace and hold a nursing bottle in spaced relation and each having a loop projecting from a corresponding side thereof, a neck encircling suspension strap having loops at opposite ends thereof, and in intermediate rigid connector element for said bands and strap and having a straight bar portion slidably and rotatably receiving the loops of said bands and having a pair of separated approximately semi-circular portions lying in a common plane with the straight bar portion and spaced laterally from one side thereof and receiving the loops of the strap slidably and rotatably.

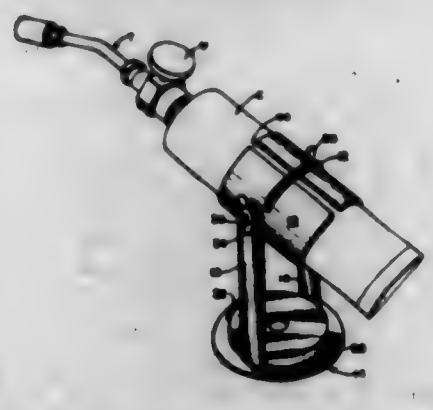
3,144,231
BRUSH-DRYING STANDS
John T. Scully, 235 W. 76th St., New York 23, N.Y.
Continuation of application Ser. No. 808,694, Apr. 24, 1959. This application Nov. 2, 1960, Ser. No. 66,883
3 Claims. (Cl. 248—110)

1. In toilet articles, the combination including a bristle brush air-drying stand having a plate provided with top and bottom surfaces and a plurality of spaced air-admitting openings extending from the top surface of the plate down through the bottom surface thereof, the top surface of the material of the plate adjacent and spacing said openings presenting a supporting surface to engage against the point ends of the bristles of a hand scrub brush, a hand scrub bristle brush having a formation of bristles with point ends, said brush adapted to detachably rest on said plate and with the point ends of said bristles engaged against said top supporting surface of the plate and with said formation of bristles simultaneously disposed opposite the tops of said air-admitting openings of the plate and with all the bristles of said formation



disposed in a plane, or planes, at least as high at all times as said top supporting surface of the plate as said brush is wholly supported by said plate and resting thereon bristles down, the combined area of the openings at their tops being greater than the combined area of the material spacing said openings at the top surface of the plate, and support means on said plate projecting downwardly of the bottom surface thereof for supporting said plate standing on an external support and spaced above the top surface thereof.

3,144,232
TORCH HOLDER
Harry O. Smootz, 326 E. Liberty St.,
Charles Town, W. Va.
Filed May 31, 1963, Ser. No. 284,490
5 Claims. (Cl. 248—141)



1. A torch holder for torches having fuel-containing cylinders, said holder comprising a base member, arms fixed to said base member, a collar rotatably mounted between said arms, said collar being in the form of a thin-walled cylinder with open ends and with a split running through the wall of said collar from one end thereof to the other, the axis of rotation of said collar passing substantially diametrically therethrough and extending through said arms, an elastic tension member partially encircling said collar and exerting thereon a substantially constant force tending to bring together the edges of said split, and means for selectively exerting a variable force augmenting said constant force, said means also selectively exerting a variable frictional force between said arms and said collar.

3,144,233
RETAINER FOR REFUSE RECEPTACLES
Joseph A. Polley, 9462 SW. 39th St., Miami, Fla.
Filed Jan. 9, 1962, Ser. No. 165,099
1 Claim. (Cl. 248—154)

A retainer for a receptacle comprising three weighted foot members of substantially equal size and height posi-

tioned substantially radially equidistant from a vertical axis and substantially equidistant from each other,

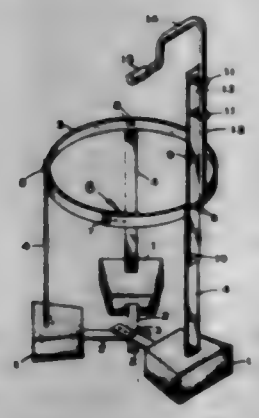
a tie bar secured in each of said members extending from one side thereof normal to and intersecting said axis,

adjustable fastening means connecting each of said tie bars together for securing each of said members in predetermined radial distance from said axis,

an upright bar secured in each of said members extending upward a predetermined distance from the upper side thereof and substantially equidistant from said axis,

a circular band positioned in coaxial relation to said axis secured to the upper end of each of said upright bars whereby the bottom of a cylindrical receptacle in said retainer will rest by gravity upon a common planar portion of each of the upper sides of said members and be retained thereon by the proximity of said band to the outer wall of said receptacle,

adjustment means associated with said band for adjusting the diameter thereof to each of a plurality of predetermined fixed diameters,



a resilient linear extension of one of said upright bars extending a predetermined distance above said band for holding a cover holder for resilient movement normal said axis,

a pair of bearing means in coaxial spaced relation on said extension positioned and adapted for retaining a shaft of predetermined diameter for rotation and axial reciprocation parallel said extension,

said cover holder consisting of said shaft journalled in said bearing means including an integral offset arm laterally formed with respect to the axis of said shaft whereby said offset will engage and hold a cover on said receptacle when manually swung from a position adjacent to a position over said cover and urged downward thereon against the restraining flexure of said extension and into holding frictional contact of said shaft in said bearing means.

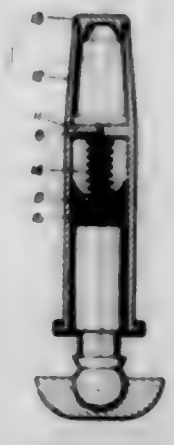
3,144,234

SUPPORT STRUCTURE FOR FURNITURE AND THE LIKE

Kurt Artmann, Liebenstrasse 48, Vienna XII, Austria

Filed Sept. 10, 1962, Ser. No. 222,305
Claims priority, application Austria Sept. 8, 1961
6 Claims. (Cl. 248—188.2)

1. A device for increasing the stability of an article of furniture comprising, in combination, a cylinder adapted to be fixed to an article of furniture to form at least part of a leg thereof, and said cylinder when fixed to the article of furniture having a bottom open end; a piston slidable in said cylinder and extending downwardly through and beyond said bottom open end thereof; floor-engaging means connected to said piston at a portion thereof located beyond said cylinder; and hydraulic means in said cylinder cooperating with said piston for hydraulically damping the movement of said cylinder with respect to said piston, said hydraulic means including a perforated member extending across the interior of said cylinder above the piston therein and a hydraulic liquid located in said cylinder on both sides of said perforated member and extending only partially into the space in said cylinder above said perforated member, said hydraulic means also



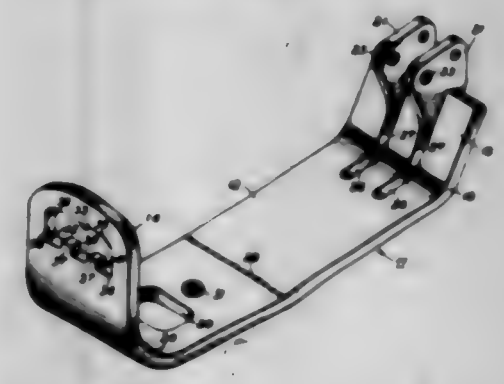
including an elastic sealing member engaging the end of said piston in said cylinder, extending across the interior of said cylinder, and fluid-tightly and slidably engaging the inner surface thereof, said sealing member preventing the hydraulic liquid from moving to said piston.

3,144,335

WING ROLLER SUPPORTING BRACKET

Donald C. Reilly, Downers Grove, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 28, 1963, Ser. No. 319,484
6 Claims. (Cl. 248—251)



6. A supporting bracket adapted to support the inner and outer opposite ends of a wing roller in a flexible troughing idler assembly comprising:

an elongated base plate adapted to underlie a wing roller and having inner and outer upwardly inclined end walls extending therefrom and corresponding to the inner and outer ends of such wing roller;

the inner end wall being upwardly inclined from the base plate and having on the top side thereof a pair of upstanding plates spaced apart on opposite sides of and parallel to a longitudinal centerline of said base plate;

said pair of upstanding plates having supporting means for the inner end of a wing roller shaft;

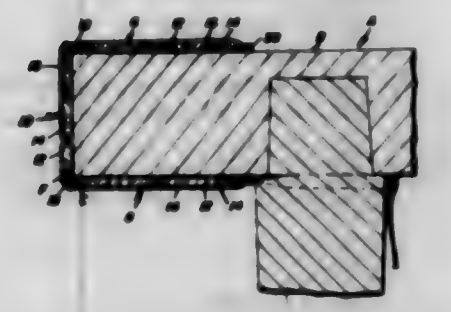
rib means depending from the underside of said inner end wall and extending parallel to said centerline into the adjacent underside portion of said base plate;

reinforcing rib means for said inner end wall and for the inner end portion of the base plate including means forming said upstanding plates with their bottom edges integral with the topside of said inner end wall and inner end portion of the base plate; and

said outer end wall having means for supporting the outer end of a wing roller shaft.

3,144,236
PROTECTOR-TYPE COVER FOR FURNITURE CORNERS

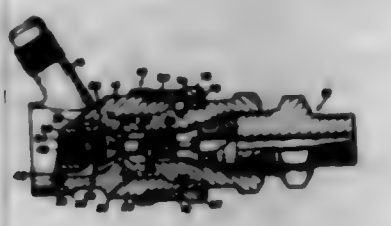
Alta L. Clanin, Box 134, Toluca, Ill.
Filed June 1, 1962, Ser. No. 199,351
1 Claim. (Cl. 248—346.1)



An accident preventing safety-type guard for ready application to and removal from a right angled sharp corner on the top structure of an end table, coffee table, card table, kitchen table or the like comprising: a conformable snug-fitting corner enclosing surface capping cover, said cover comprising a padded top wall triangular in plan, a padded bottom wall also triangular in plan and approximately the same size as the top wall, said top and bottom walls being provided with and connected by an intervening elongated web, said web having portions thereof at right angles to each other and having upper and lower marginal edge portions secured to cooperating marginal edge portions of said top and bottom walls, said cover thus constructed constituting a triangular corner enclosing cap wherein the top and bottom walls cooperate in assuring that when the cap is in place it becomes substantially self-retaining, and a pair of individual tying tapes having outer ends secured to opposite end portions of said bottom wall where the marginal edge of the latter is joined with marginal ends of said web, the opposite ends of said tapes being free and thus designed and adapted to be drawn around an adjacent table leg and then tied together thus securing the bottom wall in place and utilizing the latter to insure the retention of the top wall and said web.

3,144,237
ANGULAR DISCONNECT COUPLING

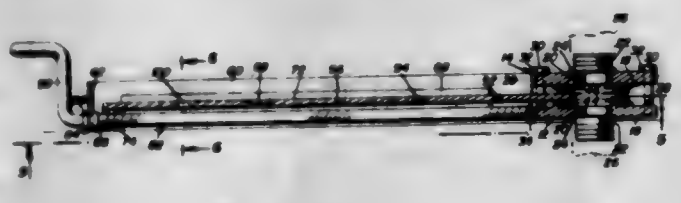
David Zurit, Teaneck, and Michael J. Parisi, Paramus, N.J., assignors to Tap-Rite Products Corp., Hackensack, N.J., a corporation of New Jersey
Filed Feb. 7, 1962, Ser. No. 171,691
1 Claim. (Cl. 251—149.6)



In a connector assembly for one side of a connector that is adapted to be disconnected while under pressure, the assembly including a sleeve, a valve seat intermediate the ends of the sleeve and having a frusto-conical surface at an acute angle to the longitudinal axis of the sleeve, the portion of the sleeve in front of the seat forming a socket for receiving a complementary assembly of the connector, a valve chamber in the sleeve behind the seat, and a valve element in the chamber, the improvement which comprises a branch extending from the sleeve and having a passage therethrough extending in a direction at an acute angle to the longitudinal axis of the sleeve and sloping in a similar direction as the acute angle of the seat, the branch passage opening into the valve chamber at a location which is rearward of the valve element when the valve element is in open position, a valve stem extending from the valve element in a direction away from the valve seat, a guide in which the valve stem slides, the guide including a wall extending inwardly from one end of the valve chamber and the outside surface of the wall having at least its inner end portion converging as it extends toward the valve element, and characterized by the valve element including a packing ring extending beyond the other parts of the valve element and constituting a surface of the valve element that contacts with the seat, there being a washer surrounding a stem of the valve element in position to clamp the packing ring against a confronting surface of the valve element immediately ahead of the ring, the ring having a generally dumb-bell cross section in a radial plane when said ring is clamped between the washer and valve element, and the washer and confronting face of the valve element having grooves therein which confine one end of the dumb-bell cross section to hold the ring against radial displacement away from the axis of the stem.

3,144,238
AUTOMATIC ORIFICE PLATE CHANGER

Joe M. Williams, Refugio, Tex.
Filed Sept. 25, 1961, Ser. No. 140,556
5 Claims. (Cl. 251—206)



1. A sliding gate-type orifice changer adapted to be inserted in the fluid line and for selectively varying the flow of fluid through said line, said orifice changer comprising generally parallel first and second plate-like base members having aligned openings extending transversely therethrough including means adapted to secure adjacent fluid line sections to said plates in fluid-tight sealed engagement with the portions of said plates defining the remote ends of said openings, the confronting surfaces of said base members each defining an annular seat extending about the corresponding opening, said annular seats each having an annular seal seated therein and projecting outwardly of the corresponding one of said confronting surfaces, support means carried by one of said base members and defining elongated guideway means generally paralleling the planes in which said plates are disposed and extending outwardly away from one pair of corresponding edge portions of said base members, an elongated sliding gate-type plate slidingly supported from said guideway means for guided longitudinal movement in a plane passing between said seals and with the latter disposed in tight sliding engagement with the opposite side faces of said plate, said gate-type plate having a plurality of orifices formed therethrough of different sizes, spaced along said plate in the direction of movement of said plate relative to said base members and selectively registerable with said openings, and elongated tension members extending between said base members and spaced circumferentially about said seals outwardly of the latter and adjustably urging said base members toward each other, said guideway means terminating at the end thereof adjacent said base members at a point spaced from said seals whereby said plate may be slightly laterally deflected by said seals in the event the medial plane of said plate does not perfectly coincide with a plane disposed halfway between said seals.

3,144,239
LIFT TRUCK
Harry L. Henry, 629 W. Hunting Park Ave., Philadelphia, Pa.
Filed Nov. 19, 1962, Ser. No. 238,374
2 Claims. (Cl. 254—4)

1. A lift truck for raising and lowering a table, or the like relative to a supporting floor, said truck including

a center post,

at least two radially extending arms secured to said center post in angularly spaced relation to each other,

fixed uprights secured to each of said arms respectively,

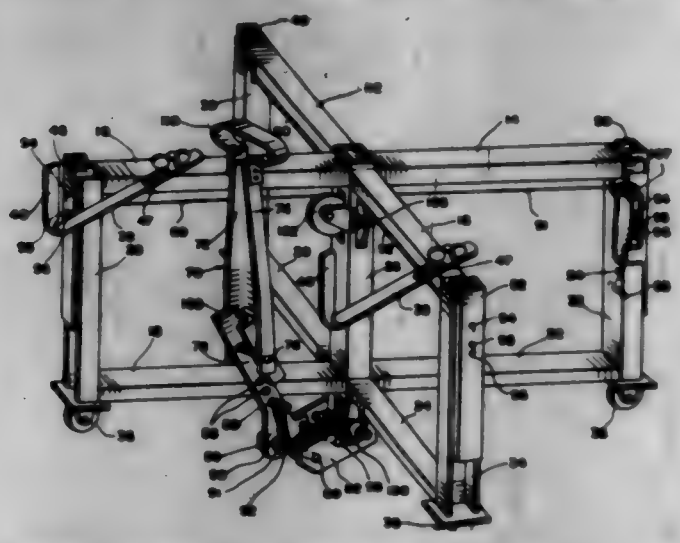
vertically movable uprights associated with said fixed uprights,

pulleys carried by said center post,

cables passing over said pulleys, respectively and connected at one end thereof to said movable uprights respectively,

an operating lever,

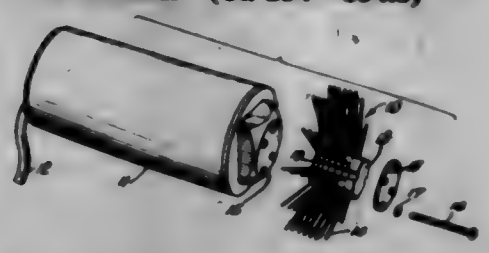
mounting means pivotally mounting said lever, intermediate its ends to a support adjacent said post,



the other ends of said cables being connected to said lever, and

a guide element carried by the portion of said lever between said mounting means and said post and engageable with said cables whereby rotation of said lever in one direction moves said guide element in a direction to exert a pull on said cables to raise said movable uprights and whereby opposite movement of said lever moves said guide element in the opposite direction to relieve said pull.

3,144,240
TRACTOR FOR DUCT CRAWLER
Edwin L. Connell, Utica, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 610,354, Sept. 17, 1956. This application July 16, 1962, Ser. No. 211,934
19 Claims. (Cl. 254—134.5)



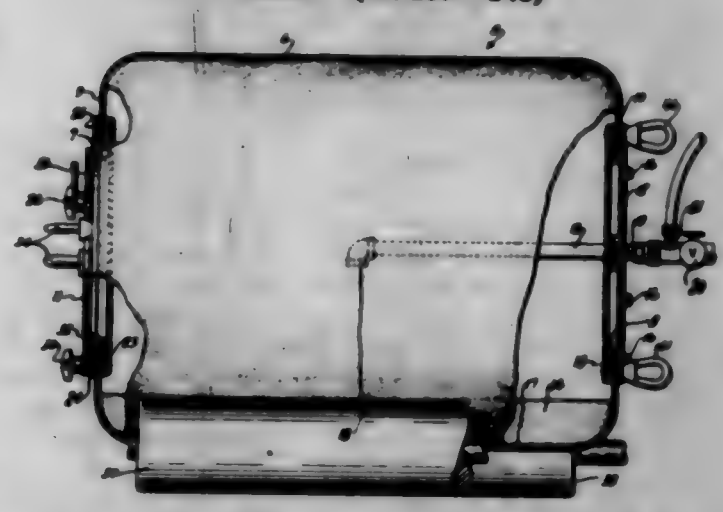
6. In a self-propelled duct crawler, a tractor comprising a core, a plurality of pairs of flexible tines extending outwardly and rearwardly from said core, each pair of tines being of approximately hairpin shape and comprising two arms connected by a curved bight portion, the extremities of the arms being engageable with the inner wall of the duct, the core having an arcuate groove associated with each pair of tines, said groove fitting the bight portion of the pair of tines to provide a saddle to sustain inward thrust on the tines.

3,144,241
EGG BEATER
Henry Harrison, Frost Creek Drive, Locust Valley, N.Y., and Henry C. Harrison, 94 Bayview Ave., Port Washington, N.Y.
Filed May 8, 1962, Ser. No. 193,119
20 Claims. (Cl. 259—128)



1. Apparatus of the character described for beating, mixing, and the like comprising: a drive shaft, carriage means at one free end of said shaft; a plurality of mixing wheels rotatably joined to said carriage means in transverse relationship to the axis of said drive shaft, whereby rotation of said drive shaft rotates said carriage means and said wheels about the shaft axis, and said wheels are operative for rolling rotation about their respective axes when abutting a container surface or the like at least one of said wheels carrying a plurality of spaced mixing fingers extending generally longitudinally from one transverse end surface thereof, and handle means operatively joined to the opposite end of said drive shaft for imparting rotation thereto.

3,144,242
METHOD AND MEANS FOR STORING, TRANSPORTING AND FINAL MIXING OF CEMENTITIOUS MATERIAL
William A. Retzlaff, 9633 Harding Blvd., Wauwatosa, Wis.
Filed Jan. 10, 1963, Ser. No. 250,571
7 Claims. (Cl. 259—148)



7. A mixer for cementitious material comprising: (A) a cylindrical container of waterproof supple ma-

terial having an opening at one end thereof through which dry cementitious mix can be charged into the container and wet cementitious mix can be discharged therefrom;

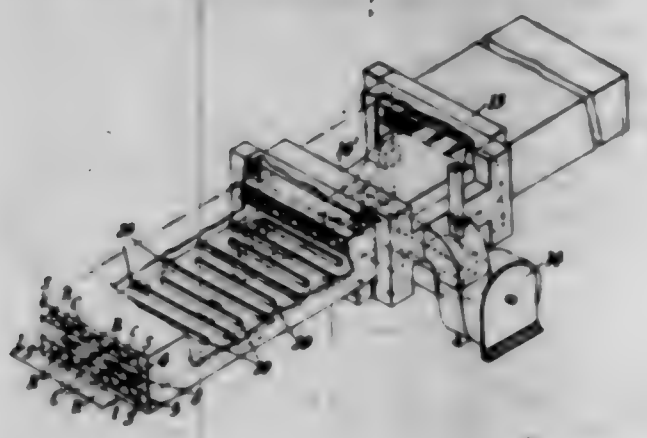
(B) a readily removable closure for said opening;

(C) means for filling water into the container to be mixed with dry cementitious material therein;

(D) means for charging air under pressure into the container so that the container will hold its form even though only partially filled with cementitious mix; and

(E) agitator means projecting into the interior of the container from the side wall thereof and by which the contents of the container can be agitated in consequence of rotation of the container about its axis.

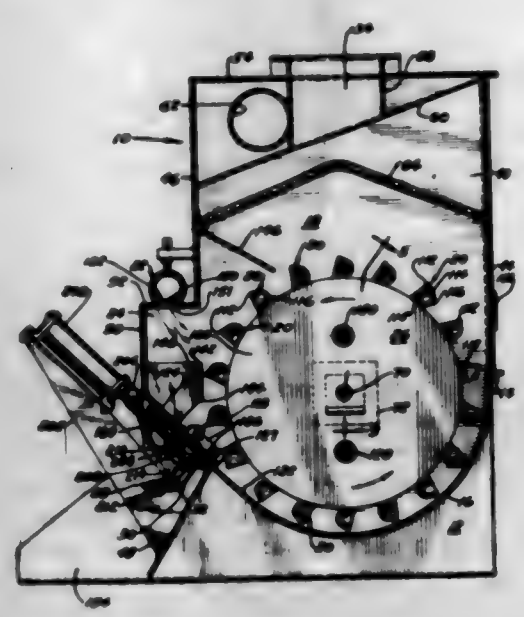
3,144,243
OVENS
Thomas Leslie Henson, Peterborough, England, assignor to Baker Perkins Incorporated, Saginaw, Mich.
Filed Sept. 11, 1961, Ser. No. 137,196
Claims priority, application Great Britain Sept. 12, 1960
10 Claims. (Cl. 263—6)



8. An oven comprising a baking chamber containing a movable conveyor defining a path along which articles may be moved through said chamber; wall members supported within said chamber and joining one another along juxtaposed edges to form a plurality of closed, adjacent ducts spaced from said path, each of said ducts having an imperforate wall member that is common to itself and to the next adjacent duct; and means in communication with each of said ducts for supplying a heating medium thereto, at least one remaining wall member of each of a selected number of said ducts being perforated to provide communication with said chamber, the remaining wall members of the other ducts being imperforate to prevent communication between said other ducts and said chamber.

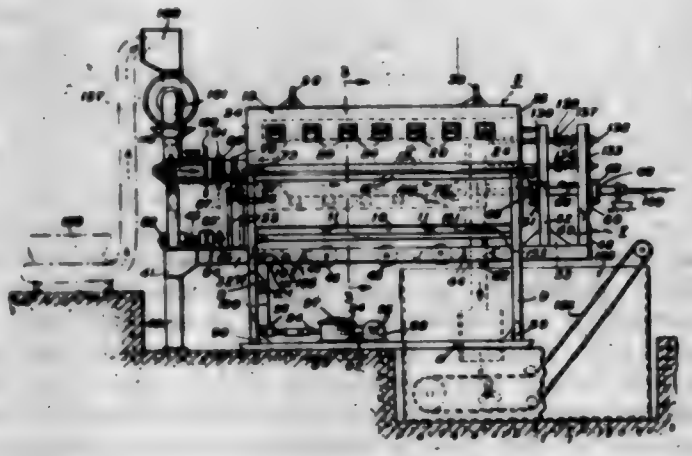
3,144,344
APPARATUS FOR HEATING FOUNDRY SAND OR SIMILAR GRANULAR MATERIAL
William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 1, 1963, Ser. No. 255,455
17 Claims. (Cl. 263—28)

1. An apparatus adapted to heat foundry sand or the like and comprising a housing defining an internal sand circulating and heating chamber and having an upstanding front wall therein, there being a filling opening in the upper regions of said housing defining a sand inlet for the chamber, a rotor mounted for rotation about a horizontal axis within the chamber and spaced rearwardly from said front wall, a series of scoops fixedly disposed in circumferentially spaced relationship on the periphery of said rotor, said scoops being operable upon rotation of the rotor in one direction at a predetermined speed of rotation to elevate sand at the rear side of the rotor, carry the same forwardly over the upper region of the rotor, and discharge the same in an approximate tangential trajectory passing generally downwardly through the intervening space existing between said front wall and the rotor, said front wall being provided with a burner opening in register with said intervening space, a burner positioned to deliver a flame through said burner opening in



heat exchange relation with the sand in said trajectory, means for rotating said rotor at said predetermined speed and in said one direction, said front wall being provided with a sand-discharge opening therein below the level of said burner opening and in register with said intervening space and for discharging sand issuing from the terminal end of the trajectory, and a gate movable between open and closed positions with respect to said sand-discharge opening.

3,144,345
HEAT TREATING FURNACES
Joseph E. Martin, 19256 John R, Detroit, Mich.
Filed Oct. 5, 1961, Ser. No. 143,080
8 Claims. (Cl. 263—34)



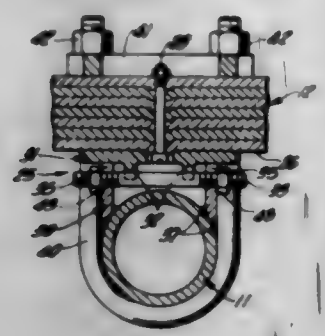
1. In a heat treating furnace for metal workpieces, a stationary furnace housing, a source of heat in said housing, a retort having a heat treating chamber extending through an end wall of said housing, means for reciprocating said retort longitudinally within said housing, and independent means for oscillating said retort to and fro during reciprocation thereof.

3,144,246

SPRING SUSPENSION ASSEMBLY WITH ADJUSTABLE SEAT FOR RADIUS LEAF

Buck C. Hamlet, La Habra, Calif., assignor to Western Unit Corporation, City of Industry, Calif., a corporation of California

Filed July 25, 1963, Ser. No. 297,496
2 Claims. (Cl. 267—52)



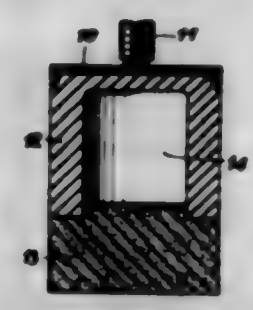
1. A unitary carriage spring suspension assembly preadjusted and in readiness to be rigidly secured to a chassis frame in the field by semiskilled workmen unlikely to be familiar with the importance of alignment between components of such spring suspension components, said assembly having a carriage axle, a pair of spring beams extending parallel to one another transversely of the opposite ends of said carriage axle, hanger means having a floating connection with the opposite ends of said spring beams, and each having mounting surfaces adapted to be rigidly secured to the opposite sides of a vehicle frame, the forward ones of said hanger means including as a unitary rigid part thereof rigid spacer tube means extending transversely of said assembly, a pair of radius members underlying and extending lengthwise of the forward ends of said spring beams, means pivotally connecting the forward ends of said radius members to the forward ones of said hanger means at points underlying the forward ends of said spring beams and providing a draft connection between said hanger means and said radius members, separate coupling means for rigidly connecting the opposite ends of said carriage axle to the midportions of said spring beams and to the rear ends of the associated radius members, at least one of said coupling means including adjustable means operable to align the forward one of said spacer tubes to lie parallel to said carriage axle before said coupling means is tightened to clamp said spring beams and carriage axle fixedly assembled to one another, said adjustable means comprising two parts in sliding contact with one another and sandwiched between said carriage axle and overlying contacting portions of one spring beam and the rear end of one radius member, means for adjusting said two parts crosswise of their contacting surfaces as necessary to bring said spacer tube means into parallelism with said carriage axle, and both of said coupling means then being rigidly clampable to hold said carriage axle rigidly clamped to said spring beams and to the rear ends of said radius members, one of the two parts of said adjustable means being welded to said carriage axle, the other of said parts being slidable transversely of said one part and of said axle, an elongated member threaded at its opposite ends and having its midportion welded to the underside of the other of said parts, said threaded ends being seated loosely in openings in the forward and rear sides of said one part, and nut means on the exposed outer threaded ends of said elongated member adapted to be adjusted as necessary to hold said two parts in a desired adjusted position with said spacer tube means parallel to said carriage axle.

3,144,247

RESILIENT ELEMENT CONSISTING OF RUBBER OR RUBBER-ELASTIC SYNTHETIC RESIN

Reinhold Ehrenfried Sroan, Kreis Grafsch. Diepholz, and Franz Gottfried Reuter, Lemforde, Hannover, Germany, assignors to Firma Lemforder Metallwarengesellschaft m.b.H., Lemforde, Hannover, Germany

Filed June 14, 1961, Ser. No. 117,145
Claims priority, application Germany June 23, 1960
1 Claim. (Cl. 267—63)



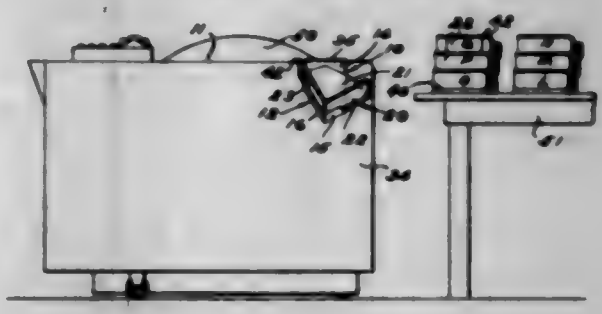
Resilient element particularly for vehicle suspension systems comprising a resilient member composed of a hard homogeneous elastic tubular member which is hollow to absorb high compressive forces closed at one end and open at the other end and a soft cellular elastic part closing the other end of the tubular member and defining therewith a pressure chamber and connected to said homogeneous elastic member to absorb the low initial forces, the cellular elastic part having a short plug portion extending and fitting into the hollow space of the homogeneous elastic part and is secured by means of a shoulder surface in front of a counter surface on the homogeneous elastic part.

3,144,248

TRAY AND BRACKET FOR PAPER SORTING

Bertil Soren Fornell, 19633 Brady Ave., and Richard G. Lowe, 19200 Westbrook Ave., both of Detroit, Mich.

Filed Nov. 14, 1962, Ser. No. 237,495
1 Claim. (Cl. 270—58)



In combination,
an easily mounted and easily dismounted bracket for supporting a tray on a machine such as paper sorting and collating machines, and
a carrier tray easily restably supportable on said bracket for handling sheets and stacks of paper conveniently at the machine and easily removable from said bracket for handling sheets and stacks of paper conveniently remote from the machine;
said bracket comprising
a hanger portion engageable with a machine for supporting said bracket, a positioner brace on said bracket for abutting a machine to properly locate said bracket,
a base portion on said bracket lying in a first inclined plane,
a first side flange normal to said base portion lying in a second inclined plane, and a second side flange normal to said base portion and normal to said first flange lying in a third inclined plane;

said bracket base portion, said first side flange, and said second side flange creating an upwardly facing triangular socket converging downwardly inwardly in three planes;

said tray comprising a bottom member for overlying said bracket base portion,

a first side member normal to said bottom member for abutting said bracket first side flange, and

a second side member normal to said bottom member and said first side member for abutting said bracket second side flange;

said tray bottom and side members creating an upwardly facing three sided pocket converging downwardly in three planes when positioned on said bracket;

said tray when so positioned receiving sheets and stacks of paper with the body of the sheets and stacks lying parallel to and on said tray bottom member with two adjacent edges of the sheets and stacks abutting said tray side members in opposed planes aligning the edges of the sheets and stacks on opposed planes so that the sheets and stacks are positioned accurately over and relative to one another;

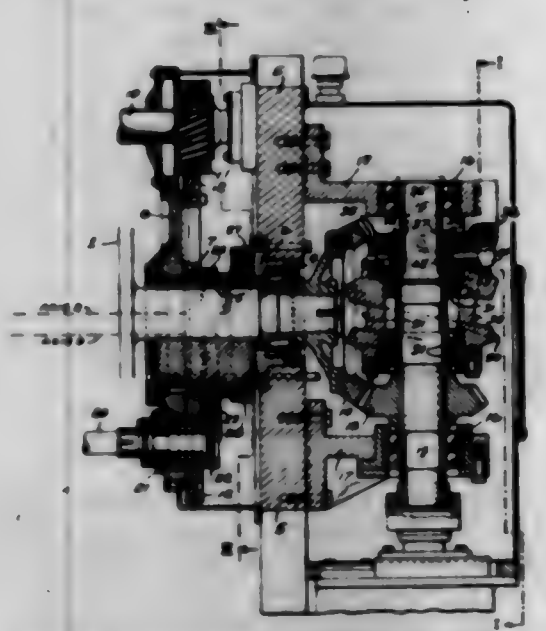
said tray when loaded with sheets being easily removable from said bracket with the sheets contained therein with said tray acting as a carrier for the sheets and a storage bin for the sheets; like trays being easily mountable on said bracket and loaded, removed, carried, and stored as desired by the operator; said tray when removed carried, and stored maintaining the sheets in the organized condition and providing means for identifying sets of sheets.

3,144,249

ROTARY FOLDING MECHANISM DRIVE MEANS

Jack Bryer, Paramus, N.J., assignor to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York

Filed Oct. 25, 1962, Ser. No. 232,974
3 Claims. (Cl. 270—77)



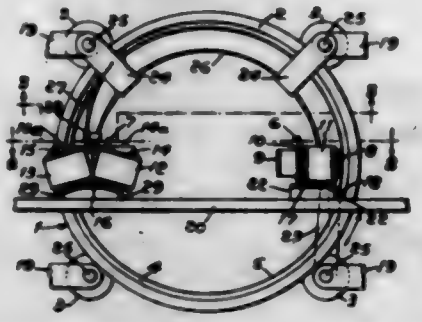
1. In a folding mechanism comprising a folding cylinder body, an eccentric folding blade carrier rotatable therewith, folding blades having shafts rotatably mounted in the carrier, means for driving the carrier and cylinder body in timed relation and at equal angular speeds, a rotatable sun gear concentric with the carrier and planet gearing carried by the carrier for driving the folding blade shafts from the sun gear, means for holding the sun gear stationary for straight run operation of the mechanism and means for rotating the sun gear for a collect run operation, the last said means comprising a uni-directional indexing drive having a periodically varying speed in timed relation to the cylinder and carrier, the cycle of the said speed variation being one-third of two complete rotations of the cylinder and carrier, the said indexing drive having a substantial dwell timed to a rotational position of the carrier where a folding blade shaft is in a straight run folding position, whereby a folding blade operative folding movement substantially like the straight run movement is obtained, but takes place only during alternate rotations of the cylinder and carrier.

3,144,250

ARRANGEMENT FOR THE TURNING-OVER OF FLAT DISPATCH ARTICLES

Willi Lanto, Berlin-Lichterfelde, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 27, 1961, Ser. No. 141,106
Claims priority, application Germany Oct. 3, 1960
5 Claims. (Cl. 271—2)



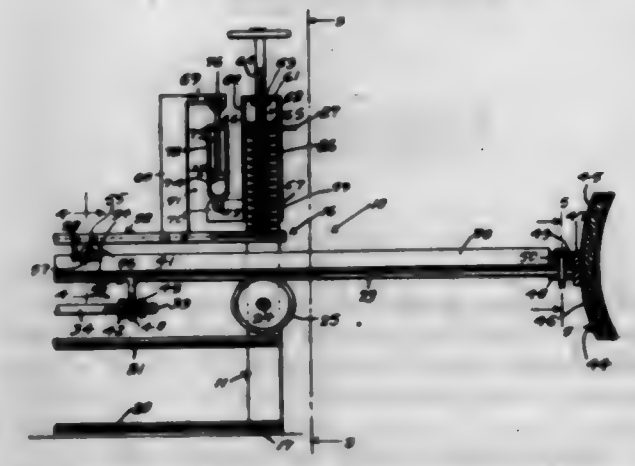
1. Apparatus for turning over flat articles by 180° about an axis extending in the conveying direction comprising: a drum, means for rotating said drum about a horizontal axis, an input edgewise conveying system for delivering the flat articles in a vertical position adjacent to the interior wall of said drum, means for retaining said articles against said interior wall, and an output edgewise conveying system for removing said articles from said interior wall of said drum in a vertical position at a point on the circumference of said drum 180° distant from the input position of said articles.

3,144,251

MACHINE FOR USE IN PRACTICING FOOTBALL BLOCKING

John T. Gainey, Plainfield, Ind. (1421 N. 7th St., Terre Haute, Ind.), and Walter B. Gainey, Terre Haute, Ind.; said Walter B. Gainey assignor to said John T. Gainey

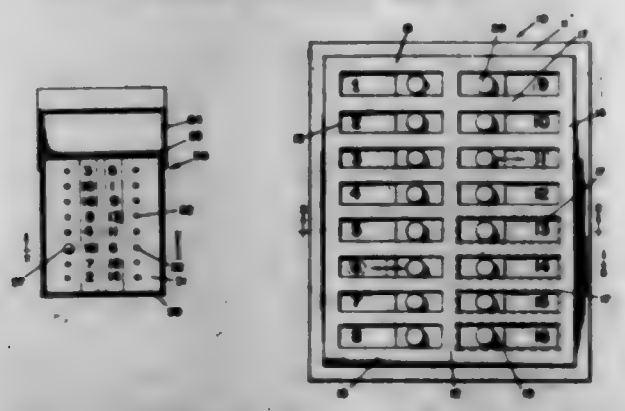
Filed Feb. 28, 1963, Ser. No. 259,898
8 Claims. (Cl. 273—55)



1. A football training machine comprising an elongated rigid frame having a forward end and a rear end, a beam extending longitudinally through said frame and reciprocably mounted therein, an impact receiving member supported by a forward end of said beam and beyond the forward end of said frame, a bar extending longitudinally through said frame above the beam, means pivotally connecting the bar to the rear frame end for vertical

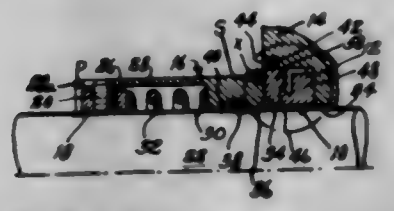
swinging movement, a spring mounted in the forward frame end and urging said bar to swing downwardly, and means releasably latching said beam to the bar when the beam is in a forward position, said latching means including interengaging parts carried by the beam and bar, one of said parts including a cam surface engageable by the other part when the beam is thrust rearwardly with a predetermined force to cause said parts to be cammed out of engagement with one another for forcing the bar to swing upward against the pressure of the spring to effect unlatching of the beam from the bar.

3,144,252
GAME APPARATUS COMPRISING A SELECTOR BOARD AND SELECTOR BOX
Robert C. Saunders, Rte. 7, Box 519, Roanoke, Va.
Filed Feb. 19, 1963, Ser. No. 259,646
4 Claims. (Cl. 273—130)



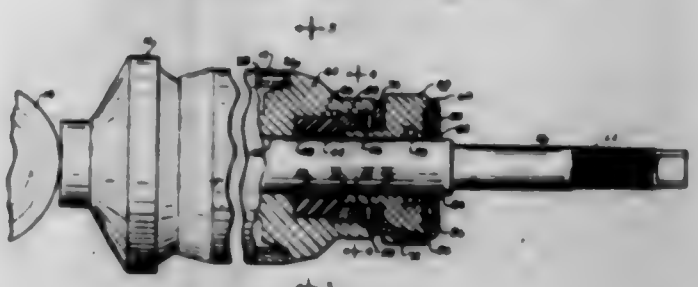
1. A game construction characterized by a selector board having a plurality of boxes formed thereon, a number in each box with the numbers arranged sequentially, a slide member in each box movable to cover its associated number, and a selector box having a plurality of numbers imprinted in columns thereon, with the numbers corresponding numerically to the numbers of the selector board but randomly arranged, an opening aligned with each number of the selector box, a pin having a colored head insertable in a selected opening, and means for concealing the pin and numbers in the selector box.

3,144,253
BALANCED MECHANICAL SEAL
Alfred F. Schirmer, Rochester, N.Y., assignor to Garlock Inc., Palmyra, N.Y., a corporation of New York
Filed Nov. 6, 1961, Ser. No. 150,293
14 Claims. (Cl. 277—27)



1. A mechanical seal for effecting a seal against the passing of a pressurized fluid between two relatively rotatable machine elements, said seal comprising a non-rotatable sealing ring sealed with respect to one of said elements, and a rotary sealing ring sealed with respect to the other of said elements; said rings having opposed annular sealing surfaces which are in sliding sealing association, and said rings being subject to the pressure of said fluid, tending to urge them toward each other and thereby tending to maintain said opposed sealing surfaces in intimate sliding engagement over their entire areas; said sealing surface of one of said rings being on a distortable portion of the latter ring which is capable of being so distorted as to cant its said sealing surface at all points therearound relatively to said opposed sealing surface of the other of said rings to form an annular wedge-shaped space between said opposed sealing surfaces and in communication with an ambient area adapted for occupancy by the sealed, pressurized fluid, said distortable portion having a circular, fluid-pressure receptive surface, additional to said opposed sealing surfaces, and so exposed to the sealed, pressurized fluid and located on said distortable portion as to render the latter responsive to the pressure of the sealed fluid to cause it thus to be distorted and to cant its said sealing surface and admit the pressure of the sealed fluid into the wedge-shaped space formed by such canting whereby to enable the thus admitted pressure to oppose the tendency of the sealed-fluid pressure to urge the said sealing rings toward each other.

3,144,254
SEAL CONSTRUCTION FOR POWER CYLINDER
Steve Krizman, South Bend, Ind., assignor to Krizman Manufacturing Co., Inc., South Bend, Ind., a corporation of Indiana
Filed July 3, 1961, Ser. No. 121,604
9 Claims. (Cl. 277—111)



1. A hydraulic cylinder comprising a wall forming a chamber, a piston in said chamber, a rod connected to the piston and extending beyond the end of the cylinder, an end member for said cylinder having a bore for receiving said rod and a cylindrical recess surrounding said bore and extending inwardly from the outer end and terminating in an annular shoulder around said bore, a Teflon sealing band around the rod and seated in said recess against said shoulder, a gasket of rubber around said band in said recess, an anchor ring seated in said recess against said gasket and having a central threaded hole spaced from said rod and a flat portion on the periphery, a ball disposed on said portion within said recess, a snap-ring for retaining said ring in said recess, a nut having a bore for said rod and an externally threaded stem for threading into said anchor ring and abutting against said band and gasket, a washer on said stem between said nut and said end member, and a set screw in said nut adapted to engage said washer.

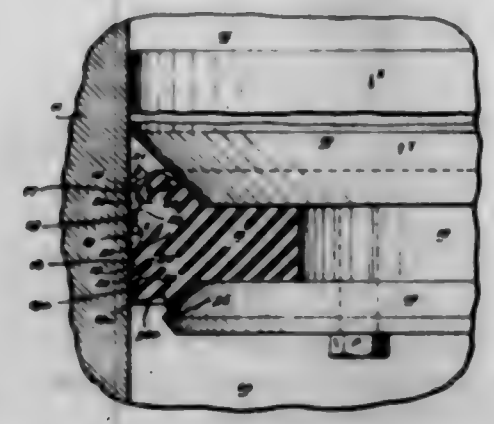
3,144,255
SEALING MEANS UTILIZING LEAF MEMBERS
Robert B. Therne, Johnson City, N.Y., and William Gall, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed July 14, 1961, Ser. No. 124,222
5 Claims. (Cl. 277—173)



1. For use in sealing a wall opening against fluid leakage therethrough due to higher fluid pressure on one side

of the wall than on the other, fluid seal structure comprising wall means defining said opening and further defining seal seating surfaces disposed in surrounding relation to said opening and facing in the direction of the higher fluid pressure, a plurality of leaf members each being of length sufficient to span said opening and engage said seal seating surfaces and being of breadth such that the edge portions of adjoining leaf members contact to form a substantially continuous seal member, and a plurality of support members carried by said wall means adjacent said seal seating surfaces each independently mounting one of said leaf members for sliding movement bodily into engagement with said seal seating surfaces responsive to the fluid pressure on opposite sides of the wall.

3,144,256
FREE PISTON SEAL
Clarence E. Wright, St. Louis County, Mo.
(1326 Breezeridge, St. Louis 31, Mo.)
Filed Aug. 6, 1962, Ser. No. 215,177
5 Claims. (Cl. 277—208)



1. A free piston seal comprising a series of spaced annular lips having peripheral essentially sharp pointed edges and defining spaced annular grooves therebetween, one of said lips being an oil control lip having oppositely inclined surfaces which intersect to define the peripheral edge, said oil control lip adapted to meter lubricating fluid from behind the piston to said annular grooves during the intake stroke of the piston, and a plurality of seal lips spaced outwardly from said oil control lip, each of said seal lips having upper and bottom surfaces which intersect at the peripheral edges, said surfaces being angled so as to pass minute quantities of lubricating fluid by the outer peripheral edges of said lips during the intake stroke of the piston and to preclude the passing of the pumped fluid during the exhaust stroke of the piston, the seal lip nearest to the pumped fluid having a greater diameter than the other seal lips.

3,144,257
ARROW CRESTING CHUCK
Bosby G. Walker, 131 N. Nicholson,
Monterey Park, Calif.
Filed May 8, 1961, Ser. No. 108,422
4 Claims. (Cl. 279—1)



1. A device for chucking an article for relatively low speed rotation, comprising:

a first member, to rotate said first member about a driving axis,

said first member having a portion thereof defining a face disposed generally radially outwardly from said driving axis;

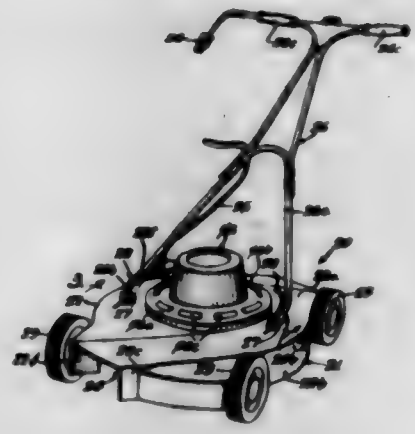
a second member defining a chucking axis and further having a portion thereof defining a face disposed generally radially outwardly from said chucking axis; and

a third member of elongate flexible material having one end secured to said second member and adapted thereby to rotate about said chucking axis,

the other end of said third member being arranged to have said article removably secured thereto;

said first and second members including means for coupling said first and second members with said faces adjacent each other in driving and driven relationship, respectively, regardless of lack of coincidence of said driving and chucking axes.

3,144,258
ROTARY ELECTRIC LAWN MOWER
Frederick O. Ottosen, Chicago, Charles A. Mattson, Oak Park, and Vello Lanma, Lombard, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 28, 1961, Ser. No. 134,511
5 Claims. (Cl. 280—47.37)

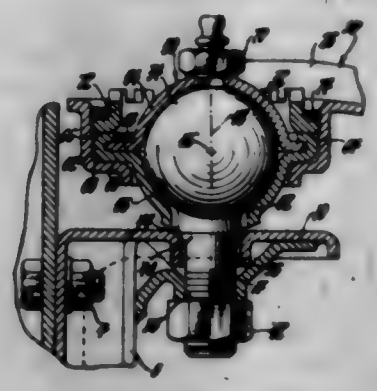


1. A lawn mower comprising a housing, a handle having handle grips and spaced end portions, means pivotally connecting said end portions to said housing, a latch slidably secured to at least one of said lower end portions, said latch being slidable between upper and lower positions, means on said latch engaging said housing when said latch is in the upper position to restrain downward movement of said handle in two angularly spaced drive positions, and means on said latch engaging said housing in the lower position of said latch to lock said handle against pivotal movement.

3,144,259
BALL JOINT CONNECTING MEANS FOR WHEEL SUSPENSIONS
Wolbert De Haan, Farmington, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 16, 1962, Ser. No. 166,564
1 Claim. (Cl. 280—96.1)

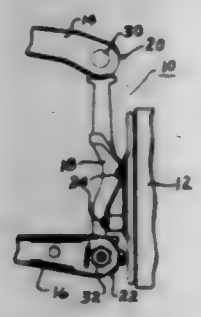
In a vehicle suspension, a fixed support having longitudinally spaced portions formed with axially aligned apertures, a wheel control arm having longitudinally spaced inner end portions straddling said fixed support, said inner ends being formed with a shouldered circular opening aligned with said apertures, a ball joint assembly connecting each inner end of said arm to the adjacent longitudinally spaced portion of said support, each of said

joints including a colinear ball stud having a shank portion fixedly secured in the adjacent aperture, a casing surrounding the ball portion of said ball stud, a circular flange on said casing nesting in said shouldered opening,



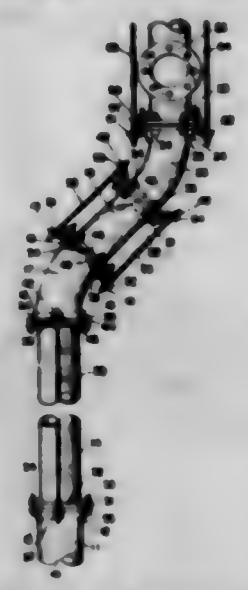
said flange being generated eccentric to the axis of said ball stud, means on said casing for rotatably adjusting said casing in said shouldered opening, and means associated with the shouldered portion of said opening for retaining said flange in an adjusted position.

3,144,260
TRUNNION FOR FRONT WHEEL SUSPENSION
Steve Krizman, South Bend, Ind., assignor to Krizman Manufacturing Co., Inc., South Bend, Ind., a corporation of Indiana
Filed Apr. 16, 1963, Ser. No. 273,521
7 Claims. (Cl. 280—96.1)



1. A trunnion for a front wheel suspension having a trunnion pin with a threaded lower end and a pair of arms forming an A arm and having holes therethrough, comprising a sleeve nut having a cylindrical external surface with a shoulder near its upper edge and a threaded internal surface for engagement with the threads on the trunnion pin, said sleeve nut having a threaded reduced diameter portion on the end opposite said shoulder, a shoulder on said sleeve nut between said reduced diameter portion and cylindrical surface, a set screw extending through said sleeve nut for locking said nut on the trunnion pin, a body member with a cylindrical bore therethrough and an annular groove at each end disposed around said sleeve nut and seated against said first mentioned shoulder and having two diametrically disposed, radially extending threaded bosses, gaskets seated in said grooves, a nut threaded onto said reduced diameter portion for retaining said body member on said sleeve nut, a bearing sleeve disposed between said cylindrical surface and said body member in said bore, a nut having a closed end threaded onto each boss and having a threaded external surface for extending through the hole in the respective arm and retaining said arms on said bosses, a washer disposed between the nut on the reduced diameter portion and the adjacent portion of said body member, a lubricating fixture in the closed end of each said nuts on said bosses, and a lubricating fixture in said body member communicating with said bore.

3,144,261
PLUMBING EQUIPMENT HAVING EYE-BOLT SECURING MEANS
Charles S. Stephens, Delaware, Ohio, assignor to Star Industrial Supply Corporation, Columbus, Ohio, a corporation of Ohio
Filed June 28, 1960, Ser. No. 39,382
3 Claims. (Cl. 285—114)



1. In combination, three lengths of pipe elements, consisting of two separated pipe elements, and a third intermediate pipe element interposed between said two separated pipe elements in which two of said three pipe elements each has a bell end formed integrally with a perforated flange, said flange having a plurality of holes extending therethrough and in which the other pipe element has at least one spigot end;

said three pipe elements having at least two bell ends and at least two spigot ends;

the joints between one of said pipe elements and a second said pipe element being a joint between a bell end and a spigot end and the joint between said second pipe element and the third pipe element being also a joint between a bell end and a spigot end, one of said spigot ends being inserted in the bell end of one of said pair of bell end pipe elements, and the other spigot end being inserted in the bell end of the other of said pair of bell end pipe elements;

a plurality of threaded rods extending along the length of said intermediate pipe element, provided for connecting said pair of separated flanged pipe elements together;

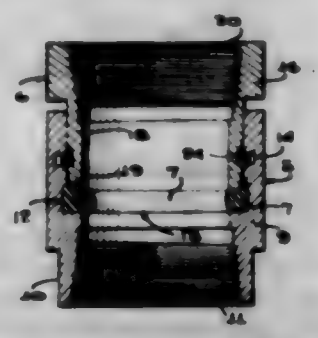
a plurality of eye-bolts for the flange of each of said flanged elements, each said eye-bolt having a threaded portion and an eye portion and each having the eye portion bent at right angles to the threaded portion, and the threaded portion of each eye-bolt extending through one of the holes of the associated flange and the eye portion of each having one end of one of said rods extending through it; and

means comprising nuts secured onto said threaded rods for adjustably holding said eye-bolts from movement away from each other and thereby joining said flanges and said flanged pipe elements together.

3,144,262
QUICK CONNECTION FOR MALE-FEMALE COUPLING
Frank J. Reynolds, Rte. 30, North Brunswick, N.J.
Filed July 20, 1961, Ser. No. 126,804
4 Claims. (Cl. 285—311)

1. A quick couple for conduits of the character described comprising a female tubular element having provision for attachment of a conduit thereto, an annular opening in a portion of said female tubular element defining upper and lower spaced walls, one of said walls

being provided with a radial slot adapted for reception of a pivot pin, a male tubular element having a portion for telescoping attachment to the female element, said elements having grooves therein, said grooves including a groove formed in the male element having at least one innermost beveled wall and a mating groove in the female element opposite said male element groove when the elements are telescoped, a split ring normally disposed within the female element groove and including an innermost rounded camming surface thereon engageable with the one beveled wall of the male element groove, said male element having a rounded extremity, said female element including an annular shoulder opposing the rounded extremity of said male element, a sealing gasket seated on said annular shoulder in a position for engagement by said rounded extremity of the male element, a toggle lever and link means connected with opposing ends of the ring for contracting the ring and wherein the connection between the toggle lever and link means includes a pivot pin and at least one portion of said pin being confined in the radial slot for holding one end of the ring against movement about the coupling axis.

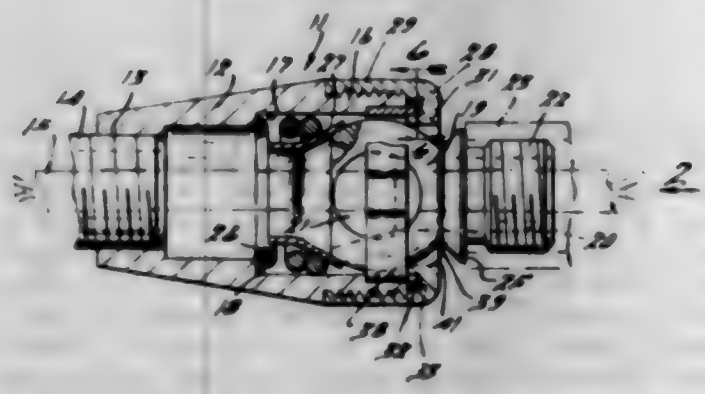


3,144,263

LAMP SWIVEL ASSEMBLY WITH ROTATIONAL LIMITING MEANS

Robert A. Gray, Jr., Port Huron, Mich., assignor to Mueller Brass Co., Port Huron, Mich., a corporation of Michigan

Filed Dec. 9, 1960, Ser. No. 74,799
1 Claim. (Cl. 285—269)



In a lamp swivel assembly or the like, a body of generally tubular shape, a swivel having a generally spherical portion disposed within one end of said body and a mounting portion extending outwardly therefrom, retaining means fixed to said one body end and having an annular groove between said retaining means and said body, a stop ring fixedly disposed within one portion of said groove and having a radially extending projection extending into the other portion of said groove, a compression coil spring within said body, an annular seat engaged by said spring and having a flared portion receiving said spherical swivel portion, a swivel ring separate from said fixed retaining means mounted on said spherical swivel portion and rotatable therewith, a pair of oppositely disposed flat surfaces on said spherical swivel portion, a pair of indented portions on said swivel ring engageable with said flat surfaces, an annular shoulder in said body engageable by one edge of said swivel ring, and a projection extending from the other edge of said swivel ring and disposed within said groove, said projections coacting to limit the rotational movement of said swivel.

3,144,264

BAND TYPE COUPLING FOR FLANGED PIPE

William D. Lewis, Wilmington, and William D. Webb, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 10, 1961, Ser. No. 109,223
2 Claims. (Cl. 285—367)



1. A pipe coupling assembly comprising in combination two pipes provided with opposed flanges in abutment with a gasket interposed therebetween, each flange having positioned thereagainst on the side opposite said gasket, a split metal ring made up of lengths of a first and a second wire formed circularly to extend around the entire circumference of each of said pipes adjacent said flanges, said first wire being of smaller diameter than said second wire and formed to a larger circumference than said second wire, said second wire being adapted to abut adjacent the fillet joinder between said flanges and the cylindrical runs of said pipes, and said first wire and said second wire being joined one to another so as to present extreme boundaries disposed against said flanges in substantially a common plane radial of said pipes while presenting on the side opposite said flanges a common tangent inclined outward radially of said pipes toward said flanges, a clamp adapted to encircle said flanges having interior surfaces conforming approximately to each said common tangent, and means to draw said clamp tight circumferentially in abutment with said first wire and said second wire of each of said metal ring at points lying on said common tangent.

3,144,265

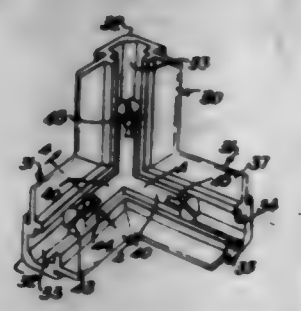
RIGID FRAMEWORKS FOR USE IN CONSTRUCTING RACKS, CABINETS, BOXES OR LIKE STRUCTURES

Francis Edward Humble, Ashendon Walk, Farnham Common, England, assignor to Alfred Imhof Limited, London, England, a company of the United Kingdom

Filed Feb. 27, 1961, Ser. No. 92,873
Claims priority, application Great Britain Mar. 1, 1960
2 Claims. (Cl. 287—54)

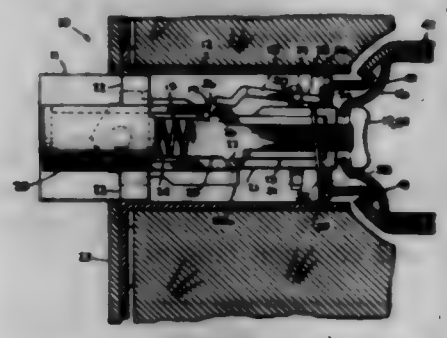
1. A framework structure comprising frame members each having in cross section a pair of inwardly extending spaced apart legs arranged substantially normal to each other, each leg having an inwardly offset shoulder which is joined to an outer angle shaped member, the arrangement providing a channel member having a longitudinal recess providing an internal cavity extending the full length of said member, connector members each of which has at least two arms arranged perpendicular to one another, said arms being received within said cavities in said frame members to provide positive interengagement of said

frame members with said connector members, locking means for locking said frame members in position on said connector members, wherein each of said arms is bifurcated and is formed with two diagonally opposite external seating portions disposed to either side of the slit of the bifurcation and each comprising two intersecting seating portion faces at right angles to one another, and wherein said legs and said shoulders of each of said frame members form two diagonally opposite intersecting internal seating faces at right angles to one another, said internal seating faces corresponding to and receiving said external seating



portions, the joining means between the shoulder and the outer angle member spacing the inner portion of said connector members from said outer angle member, and said intersecting internal seating faces having less lateral extent than the corresponding external seating portions of said locking means, and means extending into the slit of each bifurcation to force said corresponding seating faces and seating portions into mutual engagement, the above parts being so constructed and arranged that a clearance is provided between the inner seating portions and said outer angle member.

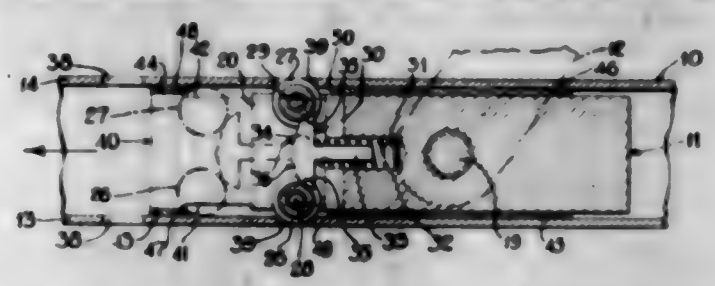
3,144,266
DEADLOCKING LATCH CONSTRUCTION
Raymond W. Schmid, Havertown, and Raymond Wells, Norristown, Pa., assignors, by mesne assignments, to Yale and Towne, Inc., New York, N.Y., a company of Ohio
Filed June 9, 1961, Ser. No. 115,994
5 Claims. (Cl. 292—169)



4. In a lock of the class described, a dog for deadlocking a latchbolt, a trigger bolt for controlling the position of the deadlocking dog, said trigger bolt including a head and a tail extending longitudinally from said head, a pair of cams formed each in a different longitudinal position on the tail of the trigger bolt, and a surface on each of the cams on the trigger bolt tail for coacting with the deadlocking dog when the dog and trigger bolt are in a particular relation to one another.

3,144,267
DOOR HOLDER
Raymond W. Schmid, Havertown, Pa., assignor, by mesne assignments, to Yale and Towne, Inc., New York, N.Y., a company of Ohio
Filed Apr. 30, 1963, Ser. No. 276,962
12 Claims. (Cl. 292—275)

1. In a door holder of the class described, a track member, a slider moving longitudinally on said track member as the door moves between opened and closed positions, a spring pressed detent mounted on the slider and engaging said track member as the slider moves on said track member, said detent moving into an opening in said track member to hold the slider yieldingly against movement relatively to said track member, a control member in lost motion relation to the slider and frictionally



engaging the track member, a part of said control member engageable by said spring pressed detent to cause said control member to be moved with said slider and detent while holding said detent against holding entry into said opening, said detent entering said opeing upon relief of pressure between said detent and said control member incidental to reversal of the direction of movement of said slider.

3,144,268
PIVOTALLY MOUNTED AUXILIARY DOOR OPENING DEVICE
Robert W. Rowe, Rte. 4, Box 112, Hastings, Minn.
Filed Apr. 24, 1961, Ser. No. 105,180
3 Claims. (Cl. 292—336.3)

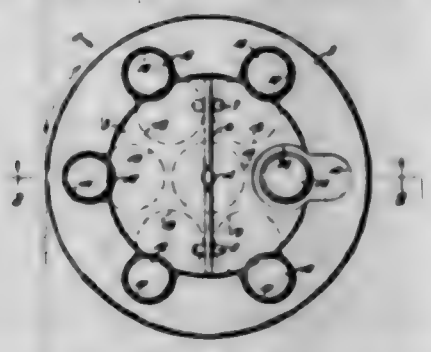


1. An auxiliary door latch operating mechanism for use in conjunction with a door latch pivotally connected to a door for rotative movement about a vertical axis, the door latch having a handle extending laterally from its axis of rotation, the mechanism including an elongated rod, means mounting said rod to said door for rotation about a second vertical axis parallel to said first axis, a handle integral with said rod and extending laterally from the lower end of the said rod, and door handle operating means on the other end of the said rod extending angularly from the said elongated rod abuttingly engageable and operable with said door latch handle.

3,144,269
BOTTLE CARRIER
Dale T. Orr, 715 Nome Ave., Akron, Ohio
Filed May 29, 1962, Ser. No. 198,547
7 Claims. (Cl. 294—87.28)

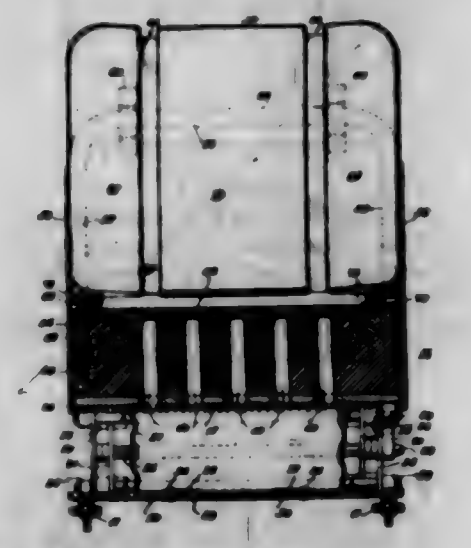
1. A bottle carrier comprising
a pair of superimposed substantially flat members the lower one being larger than the other,
said upper member being a disk,
means securing said members together for relative rotation therebetween, and
handle means secured to said upper member to facilitate transport of said members,

said lower member having a plurality of key-shaped slots therein with enlarged end portions below said upper member for passing bottle necks and caps therethrough and with connecting slot sections extending radially beyond said upper member and terminating at points inwardly in the lower member for engaging bottle caps or any neck bead on a bottle to support a bottle on the margins thereof,



said upper member having an edge slot therein of a size to pass a bottle cap therethrough and positioned to be vertically aligned with any selected one of said key-shaped slot's end portions whereby rotation of said upper member relative to said lower member will bring one of said portions of said slots into register with said edge slot to permit bottles to be individually engaged by and released from the bottle carrier.

3,144,270
VENTILATED VEHICLE SEAT
Raymond A. Bitaccia, Rolling Meadows, Ill., assignor to Coach & Car Equipment Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 1, 1961, Ser. No. 149,458
12 Claims. (Cl. 297—180)



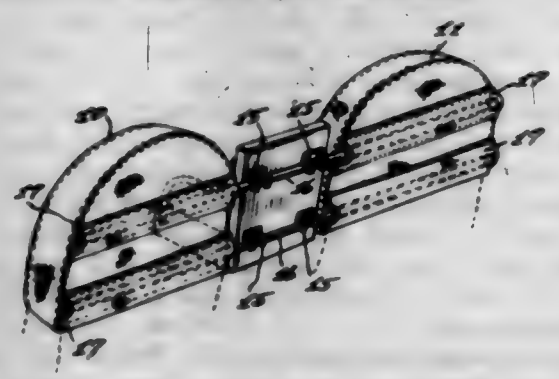
1. A ventilated seat comprising:
cushion means;
a plate spaced below said cushion means;
means for resiliently supporting said cushion means on said plate;
bellows located between the cushion means and the plate and compressible in response to downward movement of said resiliently supported cushion means and expandable in response to upward movement of the resiliently supported cushion means;
an upper opening in said bellows;
the area of said upper opening in said bellows being only a portion of the area of the bottom of said cushion means, whereby only a portion of said cushion means overlies the upper opening in the bellows;
means for admitting air into the bellows in response to expansion thereof;
openings located along substantially the entire area of the cushion means bottom, said openings extending through said cushion means;
and air confining means having lower air entrance means communicating with said upper opening in the bellows and upper air exit means in communication with all of said openings in said cushion means bottom.

3,144,271
CHAIR CONSTRUCTION
Edgar M. Lieberman, David Maslan, and Norman Polsky, Kansas City, Mo., assignors to Fixtures Manufacturing Corporation, Kansas City, Mo., a corporation of Missouri
Filed Oct. 23, 1961, Ser. No. 146,928
1 Claim. (Cl. 297—248)



Structure for releasably interconnecting a pair of side-by-side chairs of the kind having opposed pairs of legs at the sides thereof with each pair of legs diverging as the lower ends thereof are approached, said structure coupling one pair of legs of one chair with the proximal pair of legs of the other chair and comprising a hook for each of said one pair of legs respectively, each hook having an inner face and an outer face, and each hook having a pair of spaced ends, the outer face of each hook adjacent one of its ends engaging the outermost surface of the corresponding leg and being rigidly attached thereto, the inner faces of the hooks being in looped engagement with the front and rear surfaces respectively of corresponding proximal legs, whereby the distance between the interconnected legs is equal to the thickness of the hooks at said one end thereof.

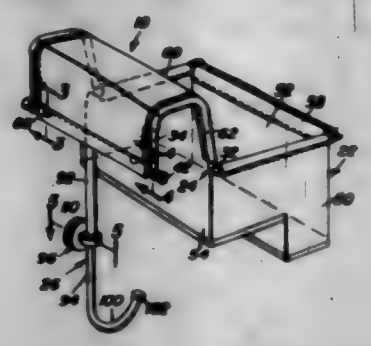
3,144,272
BABY SEAT BETWEEN SEPARATE SEATS
Arthur Yadven, Bronx, N.Y. (% Kamlet Laboratories, 300 Park Ave. S., New York 10, N.Y.)
Filed Dec. 4, 1961, Ser. No. 156,639
4 Claims. (Cl. 297—248)



1. In combination with an automobile having first and second bucket seats, first and second seat covers covering said first and second seats respectively, a car seat having a back disposed between said seats, said car seat having at least one horizontally extending straight member centrally secured to the back of said car seat with the end portions of said straight member extending laterally beyond each side of said back, and elongated horizontal pocket means carried by the rear of each said seat covers

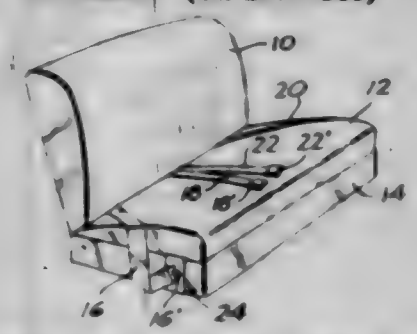
to receive a lateral extension of said straight member to horizontally support the same and hold said car seat in position.

3,144,273
CAR SEAT FOR INFANTS
George P'Simer and James E. Blackburn, both of Tampa, Fla., assignors to Safety Auto Baby Seat Company, Inc., Tampa, Fla., a corporation of Florida
Filed Nov. 22, 1961, Ser. No. 154,278
1 Claim. (Cl. 297—254)



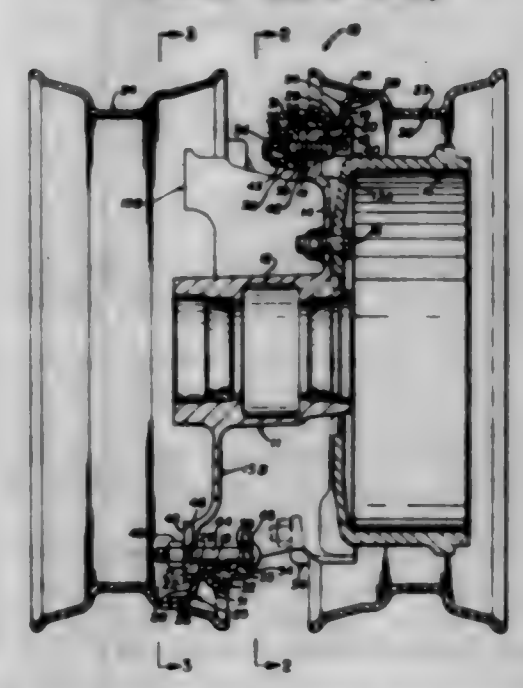
A car seat for infants for mounting on a pivotal segment of a split back vehicle seat comprising a supporting frame including rearwardly disposed downwardly opening hook-shaped members engaging over the top edge of the pivotal segment of the seat back and a forwardly extending portion projecting from the front surface of the seat back, a flexible supporting assembly for an infant attached to said frame, an anchor means attached to the rear portion of the frame and adapted to extend downwardly for engagement with a stationary part of the vehicle to prevent forward pivotal movement of the pivotal segment of the seat back thereby preventing forward swinging movement of the car seat in the event of a sudden deceleration of the vehicle, said anchor means including a rigid longitudinally telescopic member, clamp means releasably retaining the telescopic member in longitudinally adjusted relation thereby enabling the anchor means to be rendered ineffective for permitting normal pivotal movement of the pivotal segment of the seat back for providing normal access to the rear of the passenger compartment of the vehicle, said clamp means for the telescopic member including a manually operated member disposed towards the operator's side of the vehicle whereby the operator may easily have access to the same for actuation of the clamp means for rendering the anchor means telescopically extensible for enabling the pivotal segment to pivot about its pivot axis, said frame including a pair of side rails, a transverse bar interconnecting the forward end of said side rails, said transverse bar being of shape sustaining plastic material and of rectangular cross-sectional configuration with a major dimension thereof disposed vertically thereby providing flexibility in a horizontal and rearward direction while providing vertical rigidity thereby cushioning any impact of an infant against the transverse bar but yet providing substantial vertical rigidity, said frame also including a rear transverse bar interconnecting the rear end portions of said rails, the rear end portions of said rails being hollow, and screw-threaded members extending transversely of the rear transverse bar and into the hollow interior of the rear end portions of the rails, anchor members disposed within the rear end portions of the rails for engagement by the screw-threaded members thereby rigidly and detachably securing the rear transverse bar to the rear end portion of the side rails, said support suspended from the frame including a fabric member having side panels, a front panel, a rear panel and a bottom panel all suspended from the frame with the front panel being suspended from the front transverse bar and the rear panel being attached to the rear transverse bar, said bottom panel having a seat forming area and a foot receiving area spaced vertically from each other with the foot receiving area being disposed forwardly of the seat forming area, the seat forming area and the feet receiving area each including a rigid board and padding material thereon for defining the areas and forming means for sustaining the shape of the areas, the feet receiving area defining means for receiving the major portion of a child disposed in said seat in the event of sudden deceleration of the vehicle and in the event the child moves forwardly in relation to the seat, a strap extending across the seat forming area for retaining a child in seated position on the board, said rear panel being detachably connected to said rear transverse bar for enabling removal of the rear transverse bar, said clamp means including a ring encircling the sections defining the telescopic member with the outer section of the telescopic member being split, and a pressure ring engaging the split section of the telescopic member and providing a substantially equalization of clamping pressure.

3,144,274
MAGNETIC ANCHOR FOR SEAT BELT BUCKLES
Norvin J. Harris, 1925 N. 17th St., Salem, Oreg.
Filed Aug. 8, 1962, Ser. No. 215,672
5 Claims. (Cl. 297—385)



1. A magnetic anchor for automobile seat belts, comprising a flexible base of non-magnetic material, a magnet enclosed within the base and automobile seat attaching means on the base for securing the latter detachably on an automobile seat.

3,144,275
RIM AND WHEEL ASSEMBLIES
William D. Walther, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 13, 1962, Ser. No. 216,465
6 Claims. (Cl. 301—13)



6. In a rim and wheel assembly for mounting interchangeable dual rims, a wheel having a plurality of spoke

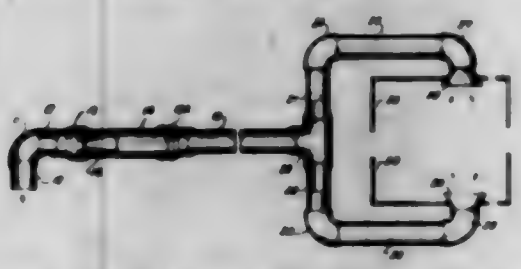
members, said spoke members provided with an axially oriented load bearing felly surface, said felly surface terminating in a radially oriented aligning surface on a shoulder at the radially outermost portion of each spoke member, the felly surface on some of said spoke members lying axially inwardly of the felly surface on the other of said spoke members and adapted for mounting inner rims, the felly surfaces on the other of said spoke members lying axially outwardly of the felly surface on some of said spoke members and adapted for mounting interchangeable outer rims, clamp lugs each having an axially inclined engaging portion for individually mounting said inner and outer rims, a plurality of mounting extensions on each said interchangeable rim, each said mounting extension having a radially oriented aligning portion adapted to engage the aligning surface on the radially outermost shoulder of said spoke members, a mounting portion adapted slidingly to engage said load bearing felly surface and an axially inclined lug engaging portion.

3,144,276

APPARATUS FOR UNIFORMLY MIXING AND DISTRIBUTING DRY POWDER FIRE EXTINGUISHING CHEMICALS

John Ortiz, Elmsford, N.Y., assignor to Safety First Products Corporation, Elmsford, N.Y.

Filed Apr. 23, 1962, Ser. No. 189,381
1 Claim. (Cl. 302—64)



A compact piping system for uniformly distributing dry powder fire extinguishing chemicals by means of a gas over the surface of an oil bath comprising opposed inwardly directed nozzles on opposite sides of said oil bath, said nozzles being jointly connected with a source of dry powder fire extinguisher chemicals by pipe means comprising a length of pipe having a downstream T-fitting and an upstream L-fitting, said length of pipe having a press fitted venturi insert adjacent said L-fitting whereby rapid mixing of solids particles and gas is effected immediately beyond the L-fitting to provide equal discharge from the two arms of the T-fitting to said nozzles disposed on each side of the oil bath.

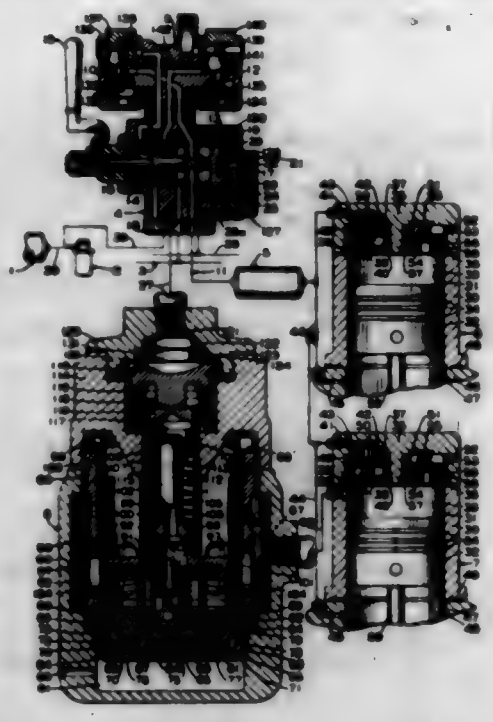
3,144,277

VACUUM BRAKE SYSTEM FOR RAILWAY TRAINS

William H. Glass, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Original application Feb. 15, 1960, Ser. No. 8,679, now Patent No. 3,114,498, dated Dec. 17, 1963. Divided and this application Oct. 24, 1962, Ser. No. 232,698
7 Claims. (Cl. 303—12)

1. In a railway train vacuum brake system, in combination, a vacuum train pipe for controlling the application and the release of brakes according to the degree of vacuum in said vacuum train pipe, a vacuum reservoir, a multi-position brake control valve device for, in one position, establishing a communication between said vacuum train pipe and said vacuum reservoir to effect a release of brakes and for, in another position, establishing a communication through which fluid at atmospheric pressure is admitted to said vacuum train pipe to reduce the degree of vacuum therein to effect an application of brakes, a fluid exhauster comprising an exhausting cylinder, a piston reciprocable in said exhausting cylinder to effect evacuation of fluid from said vacuum reservoir, and a passageway opening into said exhausting cylinder above the top dead center position of said piston, a fluid pressure operated unloading valve device comprising valve means normally closing a communication between said passageway and atmosphere to effect loading of said fluid exhauster, and operable to open the communication for the admission of fluid at atmospheric pressure through said passageway into said exhausting cylinder to effect unload-



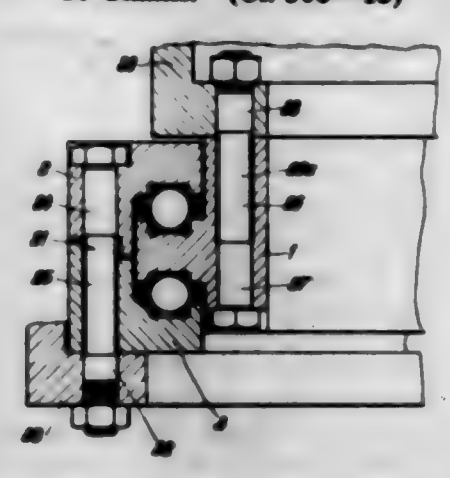
ing of said fluid exhauster, and a source of fluid under pressure, said multi-position brake control valve device being effective in said one position to release fluid under pressure from said fluid pressure operated unloading valve device and being effective in said another position to supply fluid under pressure from said source of fluid under pressure to said fluid pressure operated unloading valve device.

3,144,278

BEARING ASSEMBLY

Heinz Pöhler, Westhofen, Westphalia, and Wolfgang Schmude, Duesseldorf, Germany, assignors to Eisenwerk Rothe Erde G.m.b.H., Dortmund, Germany

Original application Dec. 9, 1960, Ser. No. 74,864. Divided and this application Nov. 10, 1961, Ser. No. 151,495
Claims priority, application Germany Dec. 12, 1959
10 Claims. (Cl. 308—15)



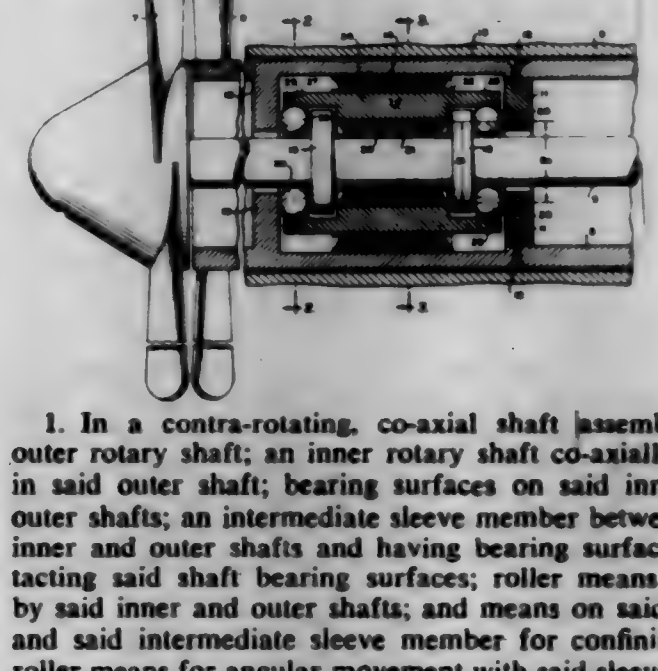
1. In a bearing assembly, in combination, a light metal alloy bearing race; a support for said race, said support having a coefficient of thermal expansion substantially smaller than that of said race; and connecting means connecting said race to said support so that said race is carried by said support, said connecting means connecting said race to said support for limited movement with respect to said support so that during temperature changes

said race can move with respect to said support to compensate for the different rates of expansion and contraction of said support and race resulting from temperature changes, said connecting means including a resiliently deformable portion and being arranged in such a manner that, when said race moves relative to said support under the influence of temperature changes, said portion is resiliently deformed so as to exert a resilient force tending to maintain the relative position of race and support during any temperature change.

3,144,279
SLIDING CONTACT BEARING FOR CONTRA-ROTATING SHAFTS

Watt V. Smith, Severna Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 22, 1960, Ser. No. 57,854
14 Claims. (Cl. 308—35)
(Granted under Title 35, U.S. Code (1952), sec. 266)

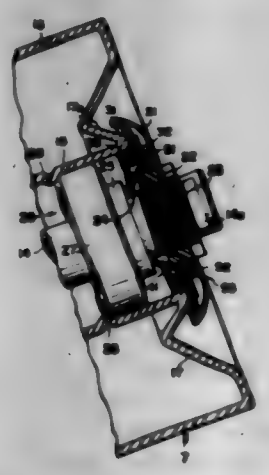


1. In a contra-rotating, co-axial shaft assembly; an outer rotary shaft; an inner rotary shaft co-axially within said outer shaft; bearing surfaces on said inner and outer shafts; an intermediate sleeve member between said inner and outer shafts and having bearing surfaces contacting said shaft bearing surfaces; roller means driven by said inner and outer shafts; and means on said shafts and said intermediate sleeve member for confining said roller means for angular movement with said sleeve member with respect to the axis of said shafts.

3,144,280
SEAL ASSEMBLY IN COMBINATION WITH A SHAFT MOUNTED ROLLER

Gerald T. Sorenson, Louisville, Ky., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin

Filed June 6, 1962, Ser. No. 200,425
6 Claims. (Cl. 308—36.1)



1. In combination with a rotatable roller or the like having a bearing opening and a supporting shaft having means for securing a bearing therein, a circular concave shield having a base mounted on said means and spaced from said end of the roller with the concave side of the shield facing and overlying the bearing opening, and opposite annular, normally flat, resilient, flexible wiping elements having intermediate supporting means mounted in the bearing opening and supported by the roller within the shield with the outer periphery of the outer element engaging the concave side of the shield at or near the periphery thereof and the opposite inner element engaging the base of the shield, said elements being flexed in the same direction by said first named means whereby the inner element serves to retain lubricant in the bearing opening and the outer element serves to close the bearing opening, the axial adjustment of said shield and its base on said shaft in said direction in effecting the compression of the outer element and expansion of the inner element also providing the desired wiping pressures of the respective seals.

3,144,281
JOURNAL BOX LID WITH SEALING AND VENTING MEANS

Charles L. Klasing, Jr., New Lenox, Ill., and William H. Sale, Hampton, Va., assignors to Klasing Hand Brake Co., Joliet, Ill., a corporation of Illinois

Filed Aug. 15, 1962, Ser. No. 217,039
2 Claims. (Cl. 308—50)



1. The combination with a railway car journal box having an access opening surrounded by an outwardly facing rim, of a shallow dished closure plate hinged to said journal box and having a marginal rim flange and a continuous inwardly opening marginal recess conforming in outline to the outline of said rim and disposed immediately inside the rim flange so that the flange constitutes the outer boundary of the recess, said closure plate being movable bodily between an open position wherein it is remote from and out of register with said access opening and a closed position wherein it extends across said access opening with said marginal rim flange encompassing the rim of the access opening and the recess in register with said rim, a continuous flat marginal sealing gasket in the form of a loop, formed or resilient material, removably disposed in and coextensive with the marginal recess and lying, for the most part, within the confines of the latter, said rim flange being formed with a series of slots therethrough lying substantially in the plane of the bottom wall of the recess, and a series of tongues, one for each slot, formed on the outer edge of said gasket and extending through said slots and serving, in combination with said slots, to retain the gasket in position within the recess and hold it against transverse shifting, a hinge arm for said closure plate of generally channel shape cross section and presenting generally parallel side walls which abut edgewise against the closure plate, and an interconnecting bottom wall provided with a hinge-enclosing pocket therein, means securing the hinge arm in position

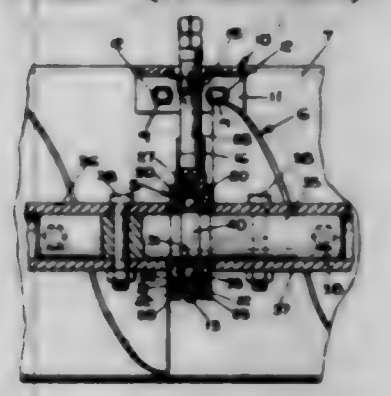
on the closure plate, said side walls having aligned openings therein, a hinge pin extending between said side walls and having its ends secured in said aligned openings and serving to pivotally connect the hinge arm to the journal box, a spring interposed between the hinge arm and the closure plate and having a helix portion nested within the hinge-enclosing pocket, said closure plate being provided with a hole therethrough within the confines of said loop, a vent tube projecting through said hole and secured at one end to the bottom wall of the hinge arm, said vent tube being formed with a pair of diametrically disposed openings in the wall thereof in communication with the space existing within the channel-shaped hinge arm, said gasket being formed with an inwardly extending flap having formed therein a hole through which said vent tube sealingly projects.

3,144,282

AIR PURGED BEARING FOR SPIRAL CONVEYOR

Harold C. Medley, New Albany, Ohio, assignor, by mesne assignments, to Jeffrey Galion Manufacturing Company, a corporation of Ohio

Filed Apr. 3, 1961, Ser. No. 100,381
1 Claim. (Cl. 308—187.1)



In combination, a shaft, an antifriction bearing for said shaft, a housing for enclosing said antifriction bearing, said bearing including an inner race and an outer race, said inner race being secured to said shaft, said outer race being secured to said housing, antifriction means between said inner race and said outer race for rotation of said shaft relatively to said housing, said housing including walls disposed one at each side of said antifriction bearing, each of said walls being disposed adjacent to and spaced a small distance from said antifriction bearing to provide an annular restricted passage at each side of said antifriction bearing, each of said walls being spaced a small distance around said shaft to form a restricted orifice opening around the shaft surface at each side of said antifriction bearing, each said annular restricted passage being connected to an orifice opening, a port in said housing connected to said annular restricted passages for supplying purging fluid to said housing and flowing through said annular restricted passages to sweep the opposite sides of said antifriction bearing, and said fluid exhausting from said housing through said restricted orifice openings and thereby preventing contamination of said antifriction bearing.

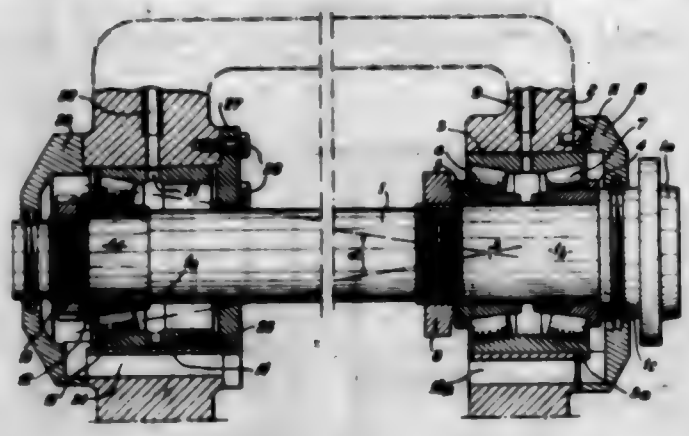
3,144,283

MACHINE TOOL SPINDLE BEARING ASSEMBLIES

Louis J.-M. Garnet, Bougival, France, assignor to La Precision Industrielle, Rueil-Malmaison, Seine et Oise, France, a company of France

Filed June 13, 1962, Ser. No. 202,148
Claims priority, application France June 17, 1961
6 Claims. (Cl. 308—207)

1. In a machine tool a spindle bearing assembly comprising a stationary outer race internally provided with a first frusto-conical internal race surface; an axially slidable hollow substantially cylindrical member having a tapered expansible part internally provided with a second frusto-conical internal race surface oppositely flaring with respect to said first race surface, a cylindrical part turned towards said stationary outer race and formed with circumferentially spaced axially directed recesses and an intermediate part of reduced mechanical strength interconnecting said tapered part and said cylindrical part; a spindle coaxially arranged in said outer race and said



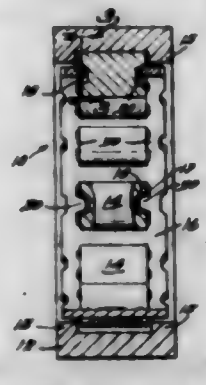
hollow member; an inner race externally provided with a frusto-conical external race surface fixedly secured on said spindle opposite each internal race surface; a set of tapered rollers between each pair of opposite race surfaces, each roller cooperating with both external and internal surfaces; and a pressure coil spring located in each of said recesses for axially urging said slidable hollow member away from said stationary outer race and expanding said tapered expansible part.

3,144,284

RETAINER RING AND ROLLER BEARING ASSEMBLY

Herman A. Ortegren, Grosse Pointe, Mich., assignor to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan

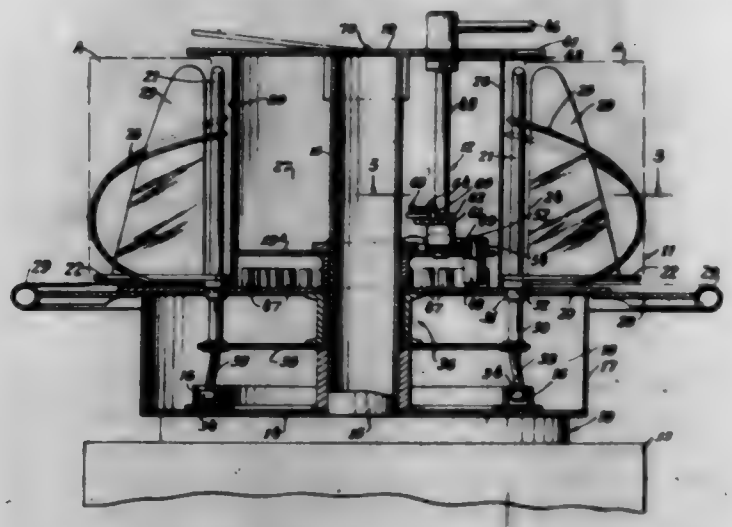
Original application Aug. 17, 1959, Ser. No. 834,888, now Patent No. 3,028,658, dated Apr. 10, 1962. Divided and this application Dec. 13, 1961, Ser. No. 164,638
7 Claims. (Cl. 308—217)



1. A roller bearing and outer race assembly comprising a plurality of identical roller members having axially extending end cavities each of which is of a circular shape in transverse section, a retainer ring formed of a material having a thickness equal to about one-half the maximum diameter of said cavities, said ring having longitudinally extending slots formed therein parallel to the axis thereof and corresponding to said rollers, each slot being of a length slightly greater than the length of a roller and of a decreasing width in a direction radially outwardly of the retainer ring and at the outer surface of the ring being slightly less than the diameter of the roller so that a roller in its radially outermost position in a slot has its axis in substantial alignment with the inner surface of the ring, an outer race member surrounding said ring and engageable with said rollers, said outer race member having radially inwardly extending flanges positioned opposite the

ends of said rollers, and integral projections formed on said retainer ring and extending into said cavities for retaining the rollers on the ring.

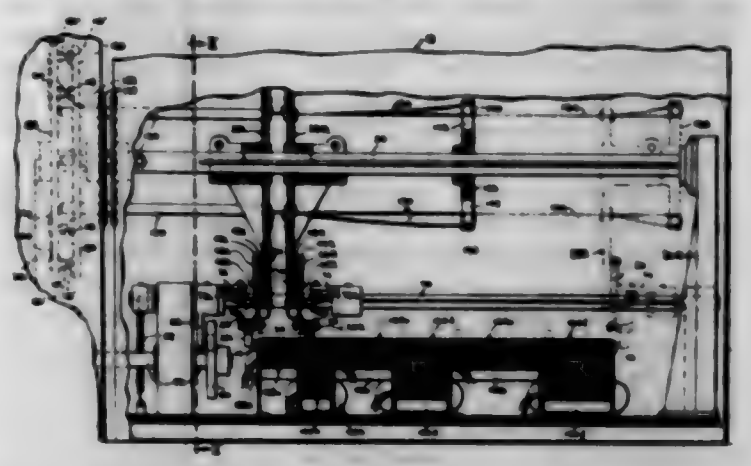
3,144,285
VENDING MACHINE
Oscar Barnach Davis, London, England, assignor to H.V. Developments Limited, London, England
Filed Sept. 28, 1961, Ser. No. 141,355
Claims priority, application Great Britain Sept. 29, 1960
14 Claims. (Cl. 312—97.1)



1. A coin-controlled vending machine comprising a supporting means, a movable member rotatably mounted on the supporting means and on which a plurality of objects are displayed, said movable member being movable by an operator to bring a selected object to a vending position, a plurality of pivotable supports vertically disposed around the periphery of said movable member to support said objects on said movable member, cam means disposed below said movable member, each of said plurality of pivotable supports having a portion engaging said cam means so that when said movable member is moved said plurality of pivotable supports move with respect to said movable member to display said objects at one or more predetermined positions, a plate member located above said supports so as to prevent the removal of said objects therefrom, said plate member having a slot formed therein at said vending position so that said selected object can be removed therethrough, retaining means normally closing said slot to prevent removal of said selected object, and a coin-operated mechanism operatively connected to said retaining means which upon actuation by a coin renders said retaining means inoperative at said vending position to permit the removal of the selected object.

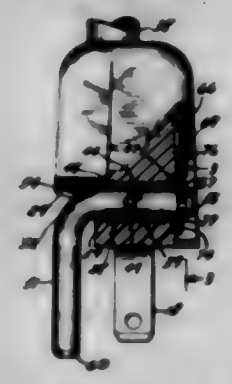
3,144,286
METHOD FOR FLASHING LAMP FILAMENTS
Gordon E. Childs, Pompton Plains, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Original application Feb. 14, 1961, Ser. No. 99,331. Divided and this application Mar. 30, 1962, Ser. No. 185,788
11 Claims. (Cl. 316—1)

1. The method of flashing an unrecrystallized filament having a substantial unsupported length, in order to recrystallize said filament, which method comprises, maintaining said filament under non-oxidizing conditions, placing said filament in predetermined position and substantially transverse to a magnetic field of predetermined strength, and simultaneously passing through said filament an electric current having both a predetermined direction with respect to the direction of said magnetic field and a predetermined magnitude to raise said filament to its temperature of recrystallization and also to exert upon said filament an upward force sufficient to substantially offset the force of gravity on said filament



during recrystallization to maintain said filament in predetermined position and prevent filament sagging.

3,144,287
GROUNDED ELECTRICAL PLUG CONSTRUCTION
Milton Morse, 41 Hoseck St., Englewood, N.J.
Filed July 3, 1962, Ser. No. 207,270
4 Claims. (Cl. 339—14)

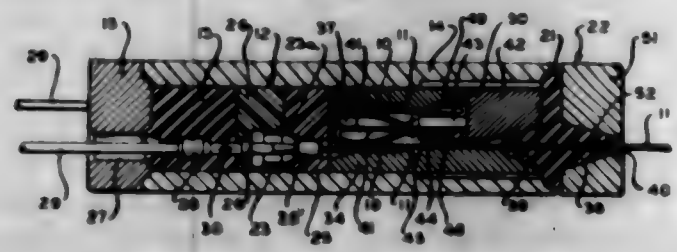


1. In a grounded electrical plug having a plug body, at least one power prong secured within said body and projecting outwardly thereof, and a grounding prong pivotally mounted upon said plug body, the improvement comprising: said plug body having a hollow bore therein, the axis of which is substantially perpendicular to the axis of said power prong, said grounding prong having a first elongated rectilinear portion arranged for rotation within said bore, and a second elongated portion disposed at an angle with respect to said first portion, and extending in a direction generally parallel to the axis of said power prong; said plug body having a recess in an outer surface thereof, a free end of said first portion of said grounding prong extending into said recess, said free end having a surface thereon lying in a plane parallel to the axis of said first portion, and resilient means disposed within said recess and bearing upon said surface to urge said grounding prong to a predetermined position.

3,144,288
ELONGATED WIRE TO FLAT CABLE CONNECTOR
Richard T. Grant, Clifton, N.J., assignor, by mesne assignments, to The Kent Manufacturing Co., Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 21, 1962, Ser. No. 175,398
8 Claims. (Cl. 339—17)

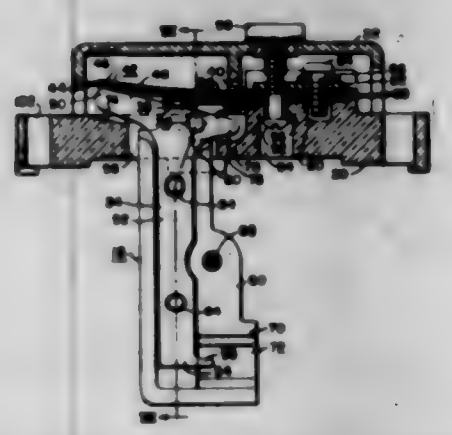
1. In a device for connection of elongated wire terminals to a flat cable conductor, a hollow casing having an opening therethrough, a first assembly disposed within the lower portion of the casing, a back cover positioned on and closing the lower end of the casing, said first assembly comprising sealing gasket means proportioned for disposition on the back cover and within the casing

in sealing relation thereto, wire terminal retainer means positioned on the gasket means, said back cover, sealing gasket means and retainer means having aligned apertures therein to receive the elongated wire terminals therein for extension thereabove within the casing, a second assembly for disposition within the casing over the first assembly, said second assembly comprising a flexible sealing gasket proportioned for disposition in the upper portion of the casing in sealing relation thereto, said flexible sealing gasket having a single elongated longitudinal slot therein for tightly receiving the flat cable therethrough for extension therebelow in the casing, an



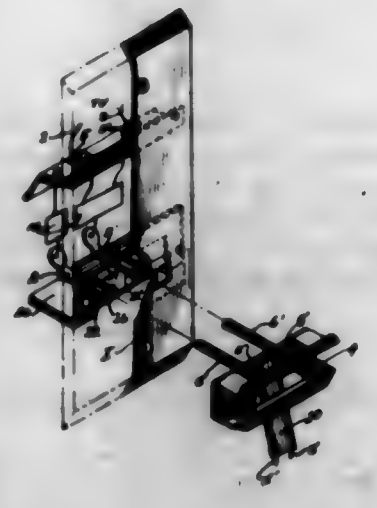
elongated longitudinal rib depending from the flexible gasket, a blade plate assembly disposed in the casing below the flexible gasket, said blade plate assembly having an elongated longitudinal slot for tightly receiving the dependent rib on the flexible gasket to thus assemble the flexible gasket and blade plate assembly, and means to secure said flat cable to said blade plate assembly in said opening to position said flat cable relative to said blade plate assembly when said second assembly is positioned in the casing so that the portion of the wire terminals of the first assembly are received in the longitudinal opening of said blade plate assembly and frictionally engaged against said flat cable in side-by-side relation.

3,144,289
LAMPHOLDER
Stuart A. Mason, Shelton, Conn., assignor, by mesne assignments, to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed June 5, 1962, Ser. No. 200,252
11 Claims. (Cl. 339—56)



1. A wiring device for supporting an elongated lamp and the like, said wiring device comprising an elongated electrically insulative housing, means for pivotally supporting an elongated lamp supporting member relative to said housing, said lamp supporting member including a generally planar conductive terminal having an elongated arm extending outwardly of one side of said housing and having an end portion for electrical engagement with a contact of said lamp, a portion of said terminal adjacent the inner end of its outwardly extending arm being supported by said pivot support means within said housing, said terminal having another elongated arm extending from said terminal pivot portion within said housing, said lamp supporting member also including an insulative cover located over the sides of the first mentioned terminal arm, spring means engaging said other terminal arm for resiliently urging an outer end portion of said lamp supporting member cover pivotally into engagement with an end of said lamp so as to support said lamp with its longitudinal dimension parallel to said housing side, and means for conductively relating a power wire to said spring means.

3,144,290
MULTIPLE-POINT ELECTRICAL CONNECTOR
Isaac S. Blonder, West Orange, N.J., assignor to Blonder Tongue Electronics, Newark, N.J., a corporation of New Jersey
Filed Mar. 20, 1961, Ser. No. 96,896
2 Claims. (Cl. 339—95)

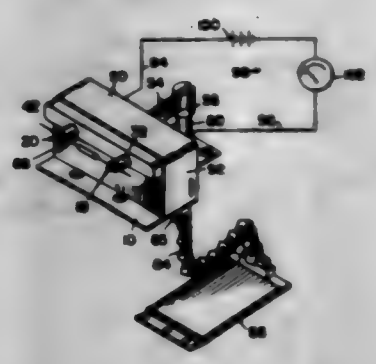


1. A connector for providing ready connection to and disconnection from a radio frequency transmission line, comprising, in combination, a pair of substantially parallel planar lugs each having at a corresponding end thereof a pair of opposite lateral arms curving transversely out of the plane of the lug into the form of a substantially elliptical cross-section tubular receptacle with a longitudinal split extending along the lug between said arms, said receptacle having an entrance extremity with edge portions flaring outwardly adjacent the split, and means for establishing a releasable radio frequency connection to said lugs and simultaneously cleaning the inner walls of said receptacles substantially throughout their length at regions adjacent the longitudinal edges of said splits and regions opposite said splits, said means comprising a plug having a pair of screws aligned with said receptacles, respectively, each screw having a substantially circular cross-section with an outer thread diameter equal substantially to the minor axis of the substantially elliptical flared entrance extremity of the corresponding receptable, but being greater than the minor axis of the remainder of the substantially elliptical receptacle, whereby when said screws are inserted in said receptacles through said entrance extremities, said threads scrape said regions of said receptacle walls and force open said receptacle splits to establish clean, reliable radio frequency contact at successive thread positions throughout the length of said regions.

3,144,291
ELECTRICAL CONTACT-MAKING APPARATUS
Dean R. Swan, 65 Lovejoy Road, Andover, Mass.
Filed Oct. 24, 1960, Ser. No. 64,519
4 Claims. (Cl. 339—108)

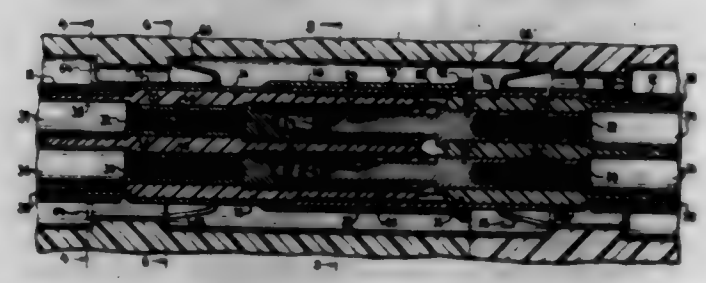
1. Electrical contact-making apparatus comprising; a first insulated transverse supporting member; two spaced apart electrical connectors having electrically conductive shanks mounted in said first supporting member and extending normal thereto, each said shank having a notch

therein for receiving the wire lead of an electrical component; sleeves carried on said shanks being axially slidable toward and away from said shank notches; a second insulated transverse supporting member mounted on and movable with said sleeves; actuating means engaging said second supporting member for moving said sleeves away



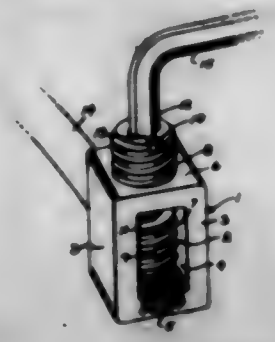
from said notches to permit the insertion of electrical component wire leads therein; spring means engaging said shanks for biasing said sleeves toward said notches to clamp said wire leads therein; and means carried by said shanks for independently regulating the biasing force exerted by said spring means on said sleeves.

3,144,292
TWIN CONDUCTOR SHIELDED WIRE CONNECTOR
Edgar W. Forney, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 17, 1961, Ser. No. 83,269
4 Claims. (Cl. 339—128)



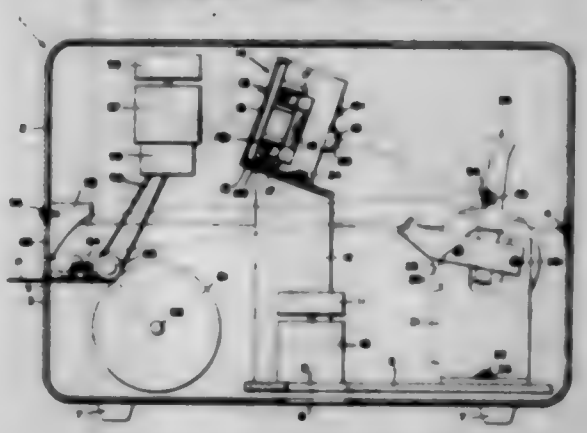
1. An improved connector for interconnecting cable of the type having a pair of inner conductors separately insulated each from the other and commonly surrounded by a metallic braid conductor comprising in combination, a pair of shell members having extensions adapted to fit under said braid and be crimped thereto by a ferrule member fitted over said cable and deformed inwardly against said braid and sleeve extension, each shell member including insulating inserts having forward portions relieved in a complementary fashion to orient one shell member with respect to the other shell member upon engagement of said insulating members, a pair of conductive pin members secured in each insert with the rear portions relieved to each receive an inner conductor and be crimped thereto, the forward portions of the pairs of pin members adapted to intermate, each shell member including a plurality of apertures of different sizes to permit crimping of said pin members, a spring member having an inner projection of the configuration of the larger of said apertures adapted to be fitted therein to orient said spring relative to said shell member, each spring member including an extending prong adapted to cooperate with an insulating block groove to orient said shell member assembly with respect to said block, whereby multiple connectors may be engaged for interconnecting multiple cables with the outer and inner conductor paths properly oriented.

3,144,293
DUAL TERMINAL CONNECTOR
Woodrow A. De Smidt, Whitefish Bay, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 13, 1962, Ser. No. 223,429
4 Claims. (Cl. 339—244)



2. In a connector the combination comprising: a frame having bottom and top walls, a pair of oppositely disposed side walls and open ends, the facing surfaces of said side walls being provided with threads and said top wall having a threaded aperture therethrough, said threads and aperture together defining a threaded bore extending upwardly from the bottom wall through the top wall; a first threaded clamping member threadedly engaged in and movable through the bore and having an upwardly opening tool receiving socket formed in its upper end; and a second threaded clamping member threadedly engaged in and movable through the bore and disposed above the first clamping member, said second clamping member having a tool passage extending vertically therethrough that is larger in diameter than the tool receiving socket of the first clamping member.

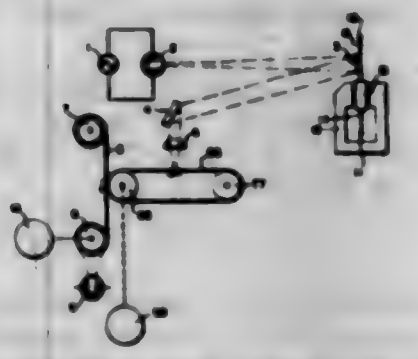
3,144,294
MEASURING APPARATUS
Norman L. Stauffer, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 31, 1961, Ser. No. 86,219
7 Claims. (Cl. 346—108)



1. In apparatus for directly recording the time-variations of phenomena, a pair of energizing terminals adapted for connection to a commercially available supply of alternating current electricity, an incandescent electric lamp having a tungsten filament and quartz envelope, a step-down transformer having a primary winding and secondary windings, connections from said energizing terminals to said primary windings, connections from said secondary winding for energizing the tungsten filament of said lamp, a recording medium having a maximum response to ultra-violet radiant energy of the frequencies emitted by said tungsten filament and transmitted by said quartz envelope and producing an immediately visible trace upon the incidence of such radiation thereon, a galvanometer having a coil responsive to said time-variations, a galvanometer mirror movable with said coil to reflect

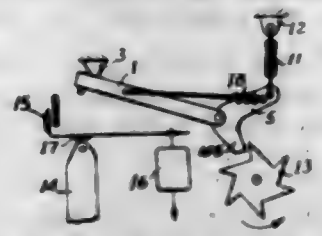
said radiations, and a second mirror having a surface in the shape of a portion of an ellipse accepting the radiant energy from said galvanometer mirror and impinging substantially all the energy incident on the elliptical mirror surface in a spot of high radiant energy density on said recording medium to produce an immediately visible trace.

3,144,295
MEASURING APPARATUS
Robert A. Le Mansean, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Original application Aug. 30, 1957, Ser. No. 681,337, now Patent No. 3,107,138, dated Oct. 15, 1963. Divided and this application Nov. 21, 1962, Ser. No. 247,779
10 Claims. (Cl. 346—109)



1. An apparatus for recording the time variations of a phenomenon under observation, a source of radiant energy comprising a band of suitable wave lengths, an endless belt including a substance of substantial response to said band of wave lengths and containing means which produce an immediately visible trace upon the incidence of such radiation, a galvanometer having a coil responsive to said time variations, a mirror movable with said coil to reflect said radiations and cause them to move as a pointer with the movements of said coil and to impinge on said endless belt to produce a trace thereon, a recording medium including a substance of substantial response to said band of wave lengths and containing means which produce a latent and permanently visible trace, and means contacting said recording medium with said endless belt whereby said trace on said endless belt produces a latent and permanently visible trace on said recording medium.

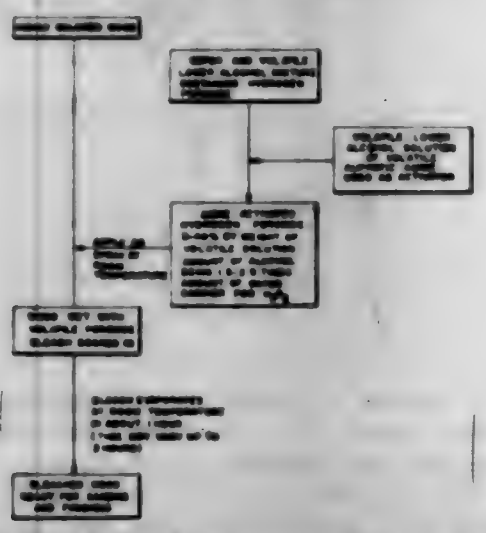
3,144,296
RECORDER
Rudolf Höhl, Frankfurt am Main, Germany, assignor to Hartmann & Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Apr. 4, 1962, Ser. No. 184,985
Claims priority, application Germany Apr. 19, 1961
13 Claims. (Cl. 346—141)



13. A recording instrument comprising two substantially elongated members pivoted to turn about a common fixed point and disposable with given respective points therein substantially in a straight line containing the fixed point and on opposite sides of said fixed point; spring bias means for tending to close the members together equally well about the point in opposite senses and becoming inoperative when said respective points lie in said line; one of said members being an impact bar for marking a chart, and a chart support in the path of pivotal movement of the bar in one direction and a stop for limiting the movement in the opposite direction, and means for turning said other member to turn its given point out of said straight line and about the fixed point when the marker arm is against the stop and determines the location of the line.

CHEMICAL

3,144,297
BLEACHING COMPOSITION CONTAINING HYDROGEN PEROXIDE AND METHOD OF BLEACHING COLORED WOOD
Orville L. Kinder, Louisville, Ky., assignor to Reliance Universal Inc., a corporation of Kentucky
Filed July 25, 1961, Ser. No. 126,520
15 Claims. (Cl. 8—111)



1. A volatile liquid bleaching composition, for application to colored wood at room temperature which is effective to decolorize said wood during evaporation of said liquid at room temperature, containing a major proportion of a non-toxic volatile lower aliphatic monohydric alkanol having at least two and no more than four carbon atoms, said alkanol being a solvent for aqueous hydrogen peroxide, aqueous hydrogen peroxide dissolved in said alkanol and a volatile lower aliphatic water-soluble amine selected from the group consisting of dimethylamine, triethylamine, monethylamine, n-propylamine, isopropylamine and mixtures of these amines with each other said volatile amine serving to provide an alkaline medium for said hydrogen peroxide, the concentration of hydrogen peroxide varying from about 3% to about 40% by weight of the total ingredients of the solution and said alkanol being present in an amount of about 1.5 to 2.5 times the amount of water present as carrier for the aqueous hydrogen peroxide.

3,144,298
METHOD OF TREATING CELLULOSIC MATERIALS AND PRODUCT THEREBY FORMED
Clifford H. Hallinger and René R. Carrasco, Chicago, Ill., assignors to American Maize-Products Company, a corporation of Maine
No Drawing. Filed Oct. 27, 1959, Ser. No. 848,902
8 Claims. (Cl. 8—115.6)

1. The method of treating cellulosic material which comprises the steps of forming an aqueous physical mixture containing from about 1.0% to about 50.0% by weight of starch having at least one free hydroxyl group, from about 1.0% to about 20.0% of an alkali metal salt of trimetaphosphoric acid based on the weight of the starch and sufficient alkali to catalyze reaction be-

tween the salt and the starch, and then applying the physical mixture to cellulosic material before any substantial reaction has taken place between the ingredients thereof, maintaining the mixture in situ upon the cellulosic material while causing reaction to take place between the starch and the alkali metal salt by heating the mixture to a temperature from about 100° F. to about 300° F. in order to form a bond with the cellulosic material and increase the wet strength of the cellulosic material.

3,144,299
WRINKLE RESISTANCE FINISH FOR CELLULOSIC TEXTILES

John G. Frick, Jr., Richard L. Arceneaux, and John David Reid, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed June 6, 1961, Ser. No. 115,268
8 Claims. (Cl. 8—116.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for treating a cellulosic textile fabric comprising: wetting the fabric with an aqueous solution containing about from 5 to 20% by weight of a water soluble product of formaldehyde and a carbamate compound selected from the group consisting of methyl carbamate, ethyl carbamate, propyl carbamate, and butyl carbamate, said product having been produced by the reaction, in aqueous alkaline solution, of the formaldehyde and the carbamate compound in the mole ratio of 2 to 1, and from 0.5 to 6.0% by weight based on the weight of the carbamate compound-formaldehyde solution of an acidic catalyst, and drying and curing the treated fabric at a temperature of from 130 to 160° C.

3,144,300
TREATMENT OF KERATINOUS FIBERS

Jean-Claude Cossard, Juvisy-sur-Orge, and Claude Trézain, Bourg-la-Reine, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

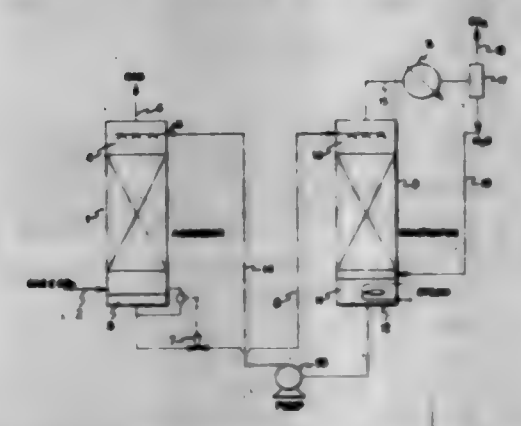
No Drawing. Filed Nov. 15, 1961, Ser. No. 152,641
Claims priority, application France Dec. 1, 1960
4 Claims. (Cl. 8—127.6)

1. A method of preventing the felting and shrinking of keratinous fibers which comprises degreasing the fibers, immersing them in an aqueous acid solution of sodium N-N dichloro-1–3–5 isocyanurate having a pH of about 2, and washing and drying the treated fibers.

3,144,301
REMOVAL OF CARBON DIOXDE FROM GASEOUS MIXTURES

Bertrand J. Mayland, Jeffersontown, Ky., assignor to Girdler Corporation, Louisville, Ky., a corporation of Ohio

Filed Apr. 21, 1961, Ser. No. 104,559
8 Claims. (Cl. 23—2)



1. In a regenerative process for purifying gaseous mixtures by removing carbon dioxide therefrom, in which process the gaseous mixtures are brought into intimate contact with a solution of potassium carbonate whereby carbon dioxide is absorbed from said gaseous mixtures with the consequent conversion of potassium carbonate to potassium bicarbonate, the concentration of the said solution being equivalent to that of a water solution containing substantially 18% to substantially 40% of potassium carbonate, the step of maintaining in the solution a content of substantially 0.5% to 2% of an amine chosen from a group consisting of monoethanolamine and diethanolamine and mixtures thereof, whereby to increase the efficiency of the process.

3,144,302
PREPARATION OF ISOCYANATES CONTAINING PHOSPHORUS

Harold Crosbie Fielding, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 26, 1960, Ser. No. 52,038
Claims priority, application Great Britain Sept. 16, 1959
2 Claims. (Cl. 23—14)

1. A process for the manufacture of phosphoryl isocyanate having the general formula

$$R_nP(NCO)_{3-n}$$
$$\|$$
$$O$$

wherein *n* is a member of the group consisting of 0, 1 and 2 and R is a member of the group consisting of lower alkyl, lower alkoxy, phenyl and phenoxy groups, said process comprising oxidizing the corresponding phosphorus isocyanates having the general formula

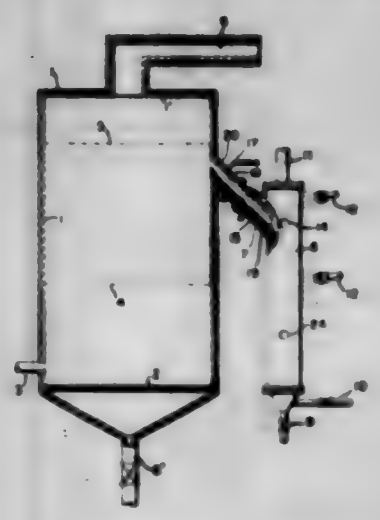
$$R_nP(NCO)_{3-n}$$

with a mixture of nitrogen dioxide and a member of the group consisting of oxygen and air, said mixture containing 2–5% of nitrogen dioxide, at a temperature between ambient temperature and 40° C.

3,144,303
FLUIDIZATION PROCESS

Alfred P. Engelmann, Taylors, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 30, 1960, Ser. No. 52,840
11 Claims. (Cl. 23—87)



1. A process for adjusting and controlling the solids and heat contents of an expanded fluidized reacting bed which comprises periodically establishing and maintaining a two-directional flow and interchange of reactant-gas fluidized solid bed particles from said reacting bed with inert-gas suspended particles of the same chemical composition from a separately maintained auxiliary fluidized non-reacting bed, effecting said interchange through an inclined restricted communicating passage maintained between the upper portion of each of said fluidized beds,

during said interchange maintaining a higher static pressure by means of said inert gas in said auxiliary bed over that prevailing in said reacting bed and the level of the expanded reacting bed above an inlet into said communicating passage, overflowing suspended reacting bed particles from said reacting bed into said passage for flow downwardly therethrough by gravity along the bottom portion of said passage and into said auxiliary bed, concurrently therewith flowing inert-gas-suspended particles from said auxiliary bed upwardly through the upper portion of said passage and into said reacting bed by maintaining a high upward superficial inert gas velocity in said passage ranging from 5–10 times the gas velocity maintained in said auxiliary bed, and continuing said particle interchange betwen said auxilary and reacting beds until the desired adjustment being made in said reacting bed becomes effected.

3,144,304

PROCESS FOR PURIFYING ALUMINA AND RECOVERING A GALLIUM CONCENTRATE

Tadashi Nagano and Masahiko Murakoshi, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed July 21, 1961, Ser. No. 125,646
Claims priority, application Japan Aug. 27, 1960
2 Claims. (Cl. 23—140)

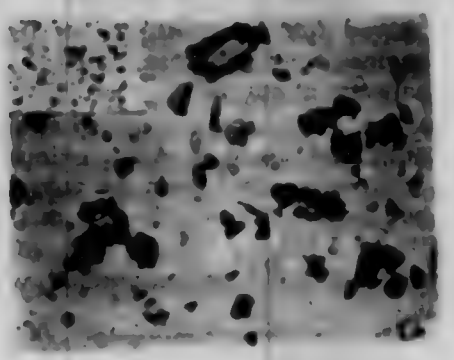
1. A process for simultaneously effecting purification of alumina and recovery of gallium, which comprises decomposing aluminum hydroxide with hydrochloric acid, said aluminum hydroxide being formed by hydrolyzing alkali aluminate solution obtained from the alkali decomposition of an aluminum-containing ore, passing the resulting solution through a strongly basic anion exchange resin layer having an affinity for gallium to adsorb gallium, iron and other metallic impurities, introducing into the thusly treated solution an amount of hydrogen chloride gas sufficient to form aluminum trichloride as a precipitate and firing the precipitate to form purified alumina, washing the resin layer with aqueous hydrochloric acid and then eluting the adsorbed gallium, iron and other impurities with water, neutralizing the resulting elution with ammonia to form a precipitate of gallium, iron and other metallic impurities as their hydroxides, and firing the hydroxides to form mixed oxides containing a substantial amount of gallium oxide.

3,144,305

LUBRICIOUS CRYSTALLINE BORON NITRIDE AND PROCESS FOR PRODUCING SAME

Timothy Edward O'Connor, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 2, 1960, Ser. No. 6,173
4 Claims. (Cl. 23—191)



2. The process for producing lubricious crystalline boron nitride platelets having an average maximum dimension ranging from about 20 to 40 microns, said process comprising the steps of; heating in a sealed container and in an atmosphere of nitrogen, a boron nitride starting material and a liquid selected from the group consisting of inorganic oxides and salts which are inert to the boron nitride starting material, to a temperature above 1000° C., thereafter raising the temperature sufficiently to volatilize said inorganic liquid, removing said volatilized inorganic liquid, cooling said container and its contents and removing the boron nitride material so obtained, the above steps being carried out with the boron nitride starting material and the inorganic liquid in contact with a preformed boron nitride seed, said seed being present in an amount ranging from 2% to 5% by weight of the boron nitride starting material and having been formed by recycling a boron nitride starting material through the above process at least 5 times in the absence of a preformed seed.

3,144,306

PRODUCTION OF BORON TRICHLORIDE BY HYDROCHLORINATION OF TITANIUM DIBORIDE

Frank H. May, Whittier, and James L. Bradford, Anaheim, Calif., assignors to American Potash & Chemical Corporation, a corporation of Delaware

No Drawing. Filed Jan. 16, 1961, Ser. No. 82,717
3 Claims. (Cl. 23—205)

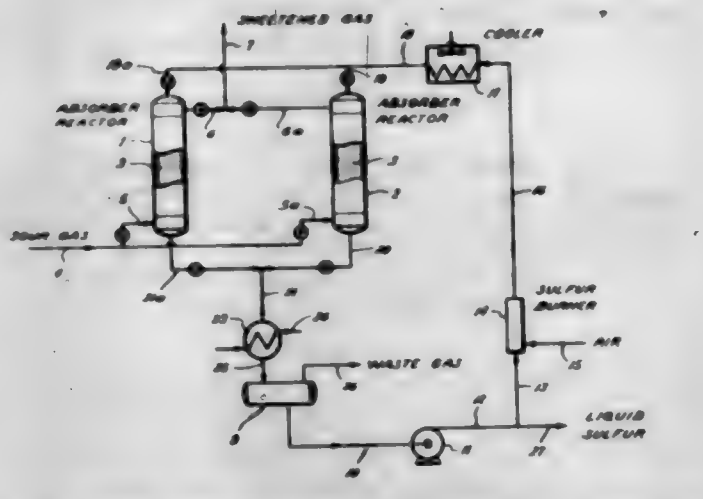
1. A process for producing boron trichloride comprising reacting titanium boride and hydrogen chloride at a temperature above about 500° C. to produce boron trichloride, titanium tetrachloride and hydrogen and recovering the boron trichloride.

3,144,307

PROCESS FOR THE SELECTIVE ADSORPTION OF HYDROGEN SULFIDE AND ITS SUBSEQUENT CATALYTIC CONVERSION TO ELEMENTAL SULPHUR

Harry W. Haines, Jr., Houston, Tex., assignor, by mesne assignments, to Sulphur Recovery, Inc.

Filed May 23, 1960, Ser. No. 31,185
9 Claims. (Cl. 23—225)



1. A sulphur recovery process, comprising, contacting a hydrocarbon gas stream containing hydrogen sulphide with a molecular sieve for hydrogen sulphide to selectively adsorb said hydrogen sulphide, thereafter de-sorbing the molecular sieve with a stream of gases containing a reactant consisting of sulfur dioxide for converting hydrogen sulphide to elemental sulphur, said molecular sieve comprising a catalyst for the conversion reaction, and conducting the desorption at the hydrogen sulphide conversion temperature whereby to substantially simultaneously de-sorb the molecular sieve of the hydrogen sulphide and to produce elemental sulphur therefrom.

3,144,308

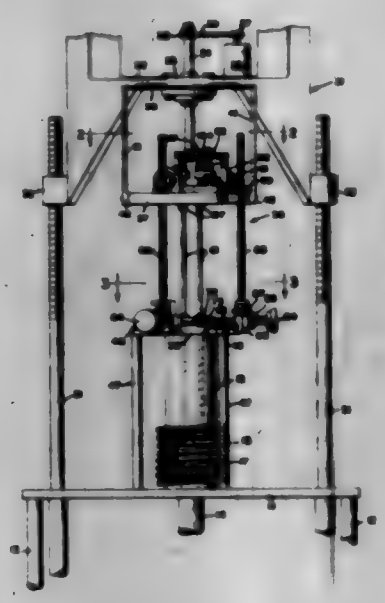
MULTIPLE CRYSTAL GROWING HEAD

Carl M. Tarter, 15625 Redwood Highway N., Healdsburg, Calif.

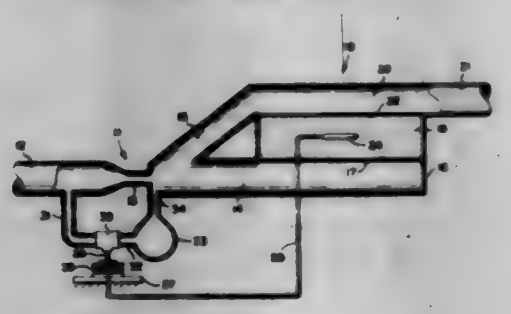
Filed July 3, 1961, Ser. No. 123,354
8 Claims. (Cl. 23—273)

1. A crystal growing head comprising a lower plate formed with at least one radial first slot, a top plate above

and vertically movable relative to said lower plate and formed with a second slot vertically aligned with said first slot, a seed rod extending through said slots and below said first plate, a first guide apertured for said seed rod, first means mounting said first guide for movement on said lower plate parallel to said first slot, a second guide apertured for said seed rod and mounting said seed rod for vertical movement with said top plate and rotative movement, second means mounting said second guide for movement on said top plate parallel to said second slot, adjustable third means for adjusting the radial position of said first guide, fourth means interconnecting said first and second means for equal radial movements of said first and second guides, and sealing means interposed between said bottom plate and said first guide sealing against escape of gas through said first slot around said seed rod.

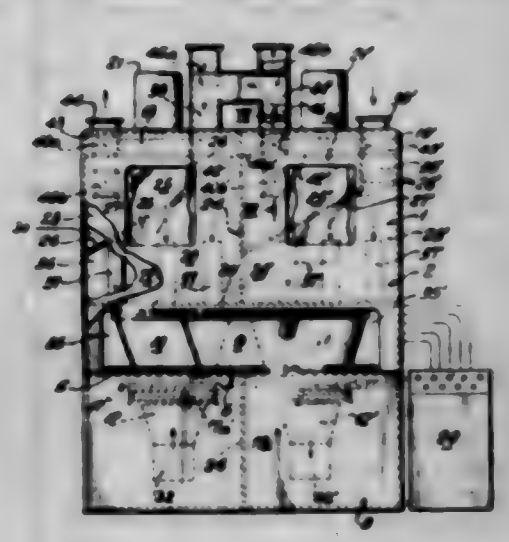


3,144,309
FLUID PURIFICATION CONTROL SYSTEM
Hubert T. Sparrow, Edina, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 174,348
12 Claims. (Cl. 23—288)



1. A catalytic muffler purification system for conversion of objectionable components from a flowing fluid including: fluid amplifier means having an inlet connected to a source of flowing fluid which contains objectionable components; said amplifier means having two outlet means; a first said outlet means directed through catalytic muffler element means for purification of said fluid and a second said outlet means bypassing said element means; and temperature responsive means sensing the temperature of said element means; said temperature responsive means switching said fluid to said second outlet means so that said fluid bypasses said element means upon said temperature responsive means sensing an unsafe temperature at said element means.

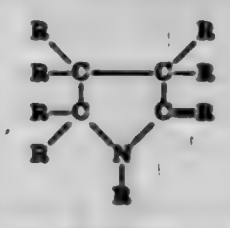
3,144,310
DEVICES FOR DRYING DAMP GRANULES
Werner Glatt, Postfach 23 (17b), Haltingen, Baden, Germany, and Hermann Wiedmann, Fanningen, near Lorrach, Germany; said Wiedmann assignor to said Glatt
Filed May 2, 1961, Ser. No. 107,260
Claims priority, application Germany May 3, 1960
5 Claims. (Cl. 34—186)



1. A device for drying damp granular materials by means of a current of hot, dry air, comprising at least two ducts for the passage of said air, at least three containers for temporarily storing said material during its processing, a revolving stage having three openings at predetermined locations, means for removably supporting said containers thereat, two of said locations substantially coinciding with the major directions of said ducts while the third location serves for filling said material into one of said containers and for emptying the same therefrom, said containers having open tops and perforated bottoms for the passage of said air, said container tops and bottoms at said two locations, the respective stage openings and said major duct directions being collinearly arranged in two separate, substantially parallel paths for successive flow of said air therethrough, a filter bag closed on top and interposed in each of said ducts substantially above said containers, and inlet filter means in said ducts.

3,144,311
METHOD AND COMPOSITION FOR REDUCING OCTANE REQUIREMENT INCREASE
Jack W. Armstrong, East Brunswick, N.J., and Richard L. Woodruff, Walnut Creek, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 13, 1961, Ser. No. 116,668
9 Claims. (Cl. 44—63)

1. An improved fuel composition for use in internal combustion engines consisting essentially of a stable gasoline boiling between about 30° F. and 425° F. containing an octane number-improving amount of an organo-metallic primary antiknock agent, a minor amount of an ignition control additive selected from the group consisting of phosphorus and boron compounds and mixtures thereof, and from 0.05 to 5.0% by weight of a gasoline-soluble alkyl-subetituted 2-pyrrolidone compound having the structural formula



wherein R is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 4 carbon atoms in-

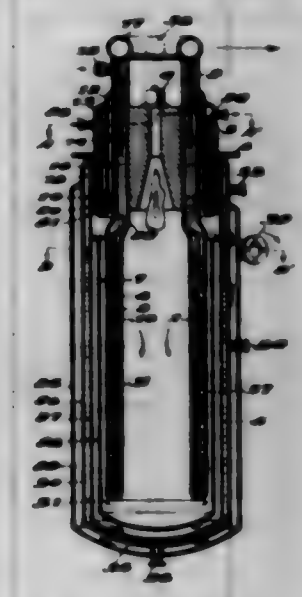
clusively with the proviso that at least one of the R's be an alkyl radical.

3,144,312

CATALYTIC CONVERSION PLANT FOR THE CONTINUOUS GENERATION OF GASES OF ANY KIND OUT OF HYDROCARBONS

Carl Mertens, Am Holzwege 15, Bochum-Linden, Germany

Filed June 6, 1961, Ser. No. 150,685
1 Claim. (Cl. 48—95)



Catalytic conversion plant for the continuous generation of gases, comprising a container, a plurality of coaxial vertical pipes one within the other within the container and including an outer pipe, an intermediate pipe and an inner pipe forming outer and inner annular catalyst spaces, means extending between the outer and inner pipes closing off such spaces from their outside, such spaces communicating adjacent their lower ends, a catalytic material in said spaces, means closing off a first of said catalyst spaces at the top, inner and outer pipe sections coaxial with said pipes extending upwardly from the top ends of the pipes and providing an annular heat-exchange space therebetween, said heat exchange space communicating with the other of said catalyst spaces, said heat exchange space having an inlet opening from outside the container, a plurality of tubes extending upwardly through said heat exchange space having their lower ends open to said first catalyst space, a collector connected to the upper ends of said tubes and having an outlet to the outside of the container therefrom, a burner in the space within the inner pipe section, means in the container to direct upwardly on the outside of the outer pipe gases flowing downwardly through the inner pipe and out of the open bottom thereof, an air preheater around the outer pipe section, said air preheater comprising three pipe elements coaxial with the pipe sections to form two air heating spaces, an inlet into one of said air heating spaces and an outlet from the other near one end thereof, said air heating spaces communicating near the other end only, a doublewalled steam generator in said container on the outside of said directing means, and means to guide gases from said burner from the outside of the outer pipe to flow in heat exchange relation with said steam generator.

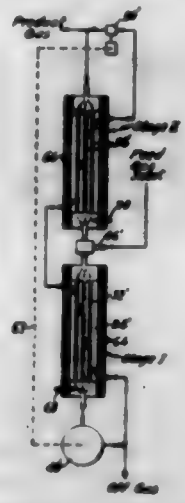
3,144,313

DIFFUSION PURIFICATION OF GASES

William C. Pfefferle, Middletown, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed Apr. 1, 1960, Ser. No. 19,393
6 Claims. (Cl. 55—16)

3. A method for separating a selected gas constituent from a gas mixture, which comprises passing the gas mixture through an input zone of a diffusion unit in a predetermined direction with respect to a non-porous diffusion membrane, the selected gas constituent diffusion through the lattice of the material of the membrane into a recovery zone at the other side of the membrane, withdrawing the gas having a lower content of the selected gas



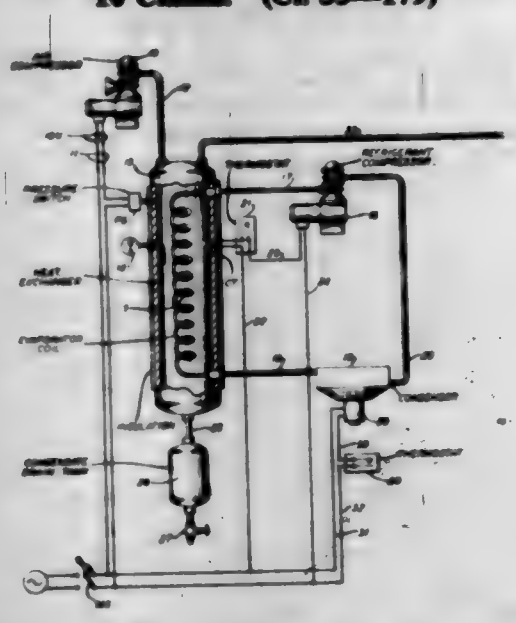
constituent from the input zone and releasing the pressure of the withdrawn gas, and passing a portion of the withdrawn gas of lower pressure through the recovery zone in a direction opposite to said predetermined direction of the gas mixture passing through the input zone and along the diffusion membrane.

3,144,314

MEANS FOR SUPPLYING PRESSURIZED DRY AIR TO AN ENCLOSURE AND CABLE SYSTEMS EMBODYING SUCH MEANS

Jesse M. Jackson, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

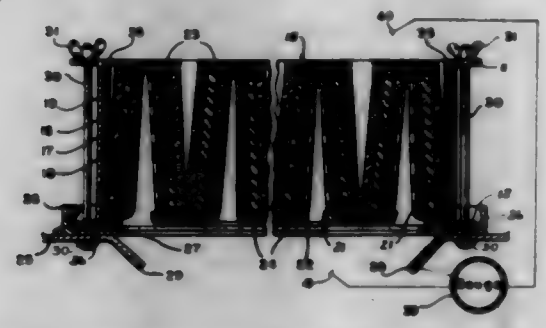
Filed June 22, 1960, Ser. No. 38,060
10 Claims. (Cl. 55—179)



3. An apparatus for supplying dry air, under pressure to an enclosure, comprising in combination an enclosure, an air compressor, a heat exchanging chamber connected to said compressor, a refrigerant compressor, an evaporator coil in said chamber connected to said refrigeration compressor for cooling the interior thereof, an air outlet on said chamber connected to a first tank containing a moisture removing desiccant, a second tank of moisture removing desiccant connected to said first tank, a humidity sensing and alarm contactor interposed between said first and second tanks, and an outlet on said second tank connected to said enclosure for the introduction of air into said enclosure.

3,144,315
AIR FILTER FOR INTERNAL COMBUSTION ENGINES

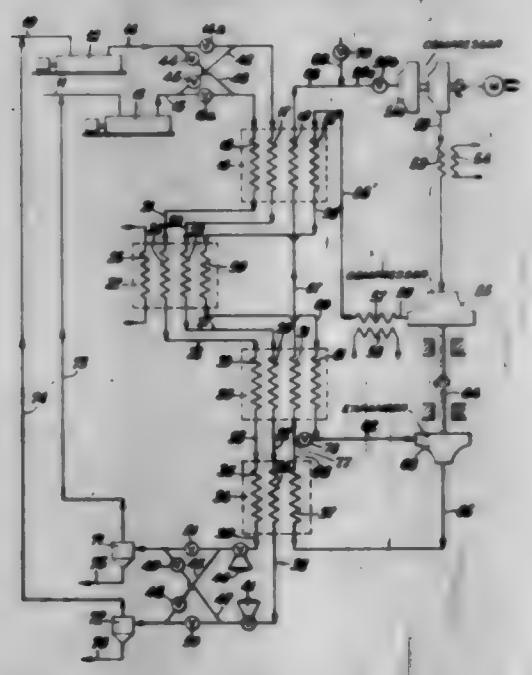
John L. Hunn, 3838 N. Maryland Ave., Milwaukee, Wis.
Filed Aug. 17, 1962, Ser. No. 217,561
3 Claims. (Cl. 55—274)



1. In an air filter for internal combustion engines, the structure comprising: a rectangular base member having an opening therethrough and having a transverse flange around its perimeter; a rigid, permeable filter-supporting frame separably mounted on said base, said frame having a plurality of parallel, tapered projections extending laterally across said base; and forming elongated angled faces, said faces having a plurality of apertures therethrough; a permeable filter element removably mounted on said frame, said filter element including an inner layer of porous synthetic foam material on and covering said tapered frame projections, and a second layer of more permeable foam material superposed on said inner layer; a rectangular, open-ended casing separably mounted on said base and surrounding said filter element, said casing fitting closely within said base member flange; sealing means between adjacent portions of said interfitting filter element, casing, and base members; and means releasably securing said interfitting members together.

3,144,314
PROCESS AND APPARATUS FOR LIQUEFYING LOW-BOILING GASES

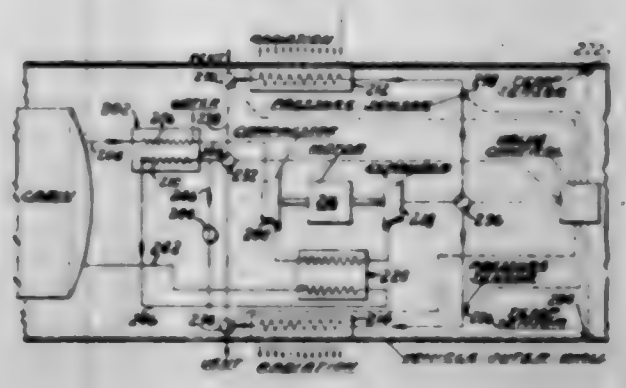
Helmut Koehn, Tonawanda, Lyle J. La Plante, Grand Island, Richard L. Shaner, Williamsville, and Rudolph F. Stengel, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed May 31, 1960, Ser. No. 32,974
23 Claims. (Cl. 62—9)



1. A refrigeration process for liquefying feed gas by heat exchange with a refrigerant gas, said feed gas and said refrigerant gas both having boiling points below —80° C. at atmospheric pressure, comprising the steps of providing said feed gas and compressing such gas to a pressure of at least 70 p.s.i.g.; partially cooling said feed gas in a first cooling step; further cooling said feed gas in a second cooling step; liquefying and subcooling said feed gas and withdrawing the liquid from such liquefaction step as a liquid product; providing and compressing said refrigerant gas to a pressure of at least 70 p.s.i.g.; after cooling the compressed refrigerant gas to a temperature below about 40° C.; work expanding the compressed and aftercooled refrigerant gas to sufficiently low pressure to develop power and cool the gas to a temperature below the condensation temperature of said feed gas; passing the work expanded refrigerant gas consecutively through the liquefaction, further cooling, and first cooling steps in counter-current heat exchange with the feed stream to effect such cooling and liquefaction thereof; withdrawing the warmed refrigerant gas from the warm end of the first cooling step and recirculating such refrigerant gas to the refrigerant compression step.

3,144,317
FREEZING PROCESS FOR REMOVAL OF CARBON DIOXIDE FROM AIR

Walter E. Arnoldi, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 28, 1960, Ser. No. 39,385
4 Claims. (Cl. 62—12)



1. The process for purifying air captured in a sealed compartment subjected to the exhalations of its occupants by removing the carbon dioxide therefrom wherein the compartment is in a space vehicle having freedom of mobility with respect to the sun's orientation comprising the steps of:

(1) extracting the air from said compartment,
(2) precooling the air by indirect heat exchange to a temperature above the freezing point of the water content of the air so as to condense substantially all of said water content,
(3) pressurizing the water-free air,
(4) further cooling said pressurized air to a temperature just above the freezing point of carbon dioxide, where the further cooling comprises the steps of indirect heat exchange of said water-free air and by work expansion of said water-free air,
(5) still further cooling of said further cooled air to a temperature at which the carbon dioxide in the air freezes to a solid in one of a pair of freezing devices,
(6) each of said freezing devices being located in said space vehicle so that only one of said devices will be orientated in the path of the sun's rays while the other is shielded from the sun's rays,
(7) venting one of said freezing devices to atmosphere which atmosphere is at a pressure below the triple point of said carbon dioxide when said one of said freezing devices is orientated in the path of the sun's rays so that the heat propagated thereby will cause said solid carbon dioxide to sublimate and vent to said atmosphere, and

(8) returning said carbon dioxide in said other freezing device which is radiating heat to said atmosphere for freezing said carbon dioxide back to said compartment whereby said carbon dioxide free air is placed in indirect heat exchange mentioned in the steps of precooling and further cooling.

3,144,318

COATING ELECTRONIC DEVICES

Charles P. Bruen, Mount Freedom, and Karl W. Dieckmann, Morris Plains, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Feb. 12, 1960, Ser. No. 8,381
12 Claims. (Cl. 65—18)

1. A process for producing a pre-form of low-melting glass which comprises immersing chunks of low-melting glass having a melting point of about 250° to 400° C. in a liquefied inert gas until approximately thermal equilibrium is attained, the chunks being cooled by evaporation of the liquefied gas, separating the glass chunks from the liquefied gas, grinding the chunks to form particles of desired mesh size, cold pressing the low-melting glass powder so obtained to predetermined configuration and then heating the pressed glass to temperature between the softening point of the glass up to 100° C. thereabove until the glass particles cohere to produce a physically strong structure.

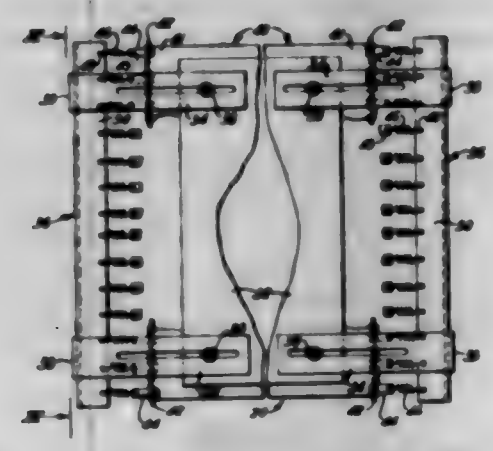
7. A process for applying a protective coating to an electronic device which comprises placing a pre-form of predetermined configuration composed of low-melting glass having a melting point of about 250° to 400° C. over the device to be protected and then heating the device to temperature about 100° to 200° C. above the softening point of the glass, thereby effecting slow-flowing of the glass over the device so that it becomes encapsulated in the glass.

3,144,319

TREATING GLASS SHEETS

Lee R. Robinson, Tarentum, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 27, 1961, Ser. No. 98,667
10 Claims. (Cl. 65—106)



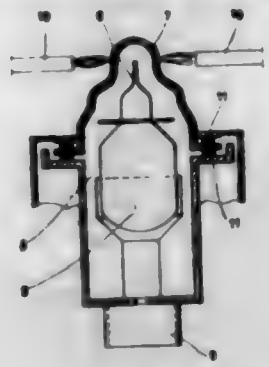
1. In apparatus for bending glass sheets comprising means for supporting a heat-softened glass sheet in a given plane, a pair of solid pressing members having complementary curved shaping surfaces located on opposite sides of said plane, a cover member of a flexible material that does not mar glass nor is affected by exposure to the temperature of a heat-softened glass sheet on contact therewith on each of said complementary shaping surfaces, each of said curved shaping surfaces having an axis of curvature, each of said curved shaping surfaces having opposite edges on said surfaces, said edges being spaced with relation to one another on each shaping surface in a direction parallel to said axis of curvature, and means attached to at least one of said pressing members to provide relative movement between said pressing members in a direction angularly disposed relative to said plane to cause said pressing members to apply pressure against the opposite surfaces of a heat-softened glass sheet supported in said given plane, the improvement comprising a pair of tensioning members flanking each pressing member, one of said tensioning members being adjacent each of said opposite edges of each shaping surface, each said tensioning member having a shaped surface conforming to that of said edge of the curved shaping surface of the solid pressing member which it flanks, means attached to each said tensioning member and to its associated pressing member to adjust the position of the tensioning member relative to an adjacent edge of the curved surface of the pressing member to which it is attached in a direction parallel to said axis of curvature of said shaping surface, said shaped surface of the tensioning member being located facing said given plane of the means for supporting said glass sheet, the shaped surface of the tensioning member being at least as great a distance from said given plane as said edge of the curved surface of the solid pressing member which it flanks, each of said cover members having an end portion extending beyond each of the opposite edges of said shaping surfaces, and means attaching each said end portion to an adjacent tensioning member to shape said cover members to conform to said shaping surface on which it is located and to maintain said cover member in tension between said pair of tensioning members and in contact with said shaping surface.

3,144,320

METHOD FOR THE HEATING OF ARTICLES MADE OF GLASS

Alois Ziegler, Augsburg, Germany, assignor to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H., Munich, Germany

Filed Mar. 22, 1960, Ser. No. 16,895
Claims priority, application Germany Apr. 7, 1959
1 Claim. (Cl. 65—108)



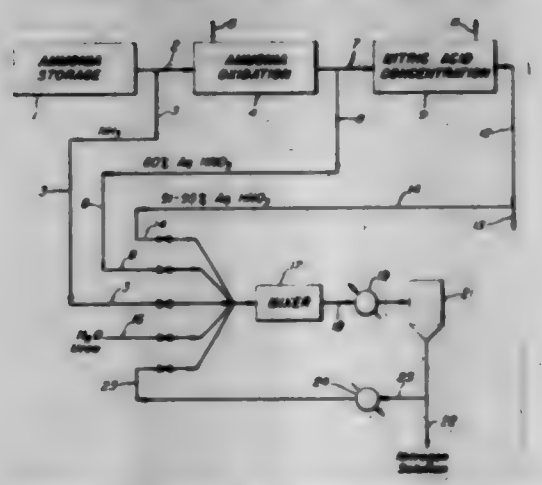
The method of deforming a portion of a glass article by heating the article portion to be deformed to a temperature at which the glass comprising the article softens and deforms, which method comprises, selecting a glass composition having a higher softening temperature than the glass comprising said article, surrounding the article a portion of which is to be deformed with an outer envelope made from said selected glass composition, bringing a part of said envelope close to the portion of said article to be deformed, keeping a predetermined and substantially uniform distance between the portion of said article to be deformed and said part of the envelope, positioning an annular metal part in abutting relation with said part of the envelope, heating said annular metal part by high frequency to a temperature higher than the softening temperature of the glass article portion to be deformed but less than the softening temperature of the glass comprising the surrounding body, keeping said article and said envelope in a predetermined fixed position, and

maintaining the heated condition of the surrounding glass body for a sufficient period of time to cause the surrounded glass article portion to soften and deform.

3,144,321
CONTINUOUS METHOD FOR PREPARING A NITROGEN CONTAINING FERTILIZER

Robert E. Butlkofer, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed June 6, 1962, Ser. No. 200,518
2 Claims. (Cl. 71—59)



1. A continuous method of preparing nitrogen solutions containing ammonia, ammonium nitrate and water from anhydrous ammonia which comprises:

oxidizing a portion of said ammonia to produce a nominal 60 percent aqueous nitric acid solution,

concentrating a first portion of said 60 percent aqueous nitric acid solution to 90+ percent aqueous nitric acid solution,

commingling an unoxidized portion of said ammonia with 60 percent aqueous nitric acid solution and with 90+ percent aqueous nitric acid solution in sufficient proportion to form a nitrogen solution of desired composition,

and cooling a portion of said nitrogen solution and cycling said cooled portion to the previous commingling step to serve as a coolant therefor.

3,144,322
CHROME ORE TREATING PROCESS

Frederick E. Bacon and Howard M. Dess, Niagara Falls, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 7, 1961, Ser. No. 150,627
6 Claims. (Cl. 75—1)

1. A process for reducing the iron content of chrome ore and for enriching the magnesia content of the ore which comprises heating a mixture of chrome ore and hydrated $MgCl_2$ at a temperature in the range between about 800° C. and 1400° C. to thereby decompose the hydrated $MgCl_2$ and chlorinate at least a portion of the iron contained in the ore; and continuing the heating of the mixture in the temperature range of about 800° C. to about 1400° C. until iron chlorides resulting from the chlorination of the ore are volatilized from the mixture and until the magnesium in the mixture is converted to magnesia.

3,144,323
TREATMENT OF MOLTEN LIGHT ALLOYS

Albert R. Watson and Frederick H. Taylor, Birmingham, England, assignors to Fomco International Limited, a company of Great Britain

No Drawing. Filed Apr. 27, 1960, Ser. No. 24,967
Claims priority, application Great Britain May 1, 1959
3 Claims. (Cl. 75—67)

1. A method of treating molten light alloys consisting essentially of at least one metal selected from the group consisting of aluminum and magnesium to remove therefrom gases including hydrogen which method comprises generating within the body of molten metal a sufficient quantity of at least one carbon oxide selected from the group consisting of carbon monoxide and carbon dioxide to remove said hydrogen from said molten alloy by adding to the molten alloy a mixture comprising carbon and an inorganic nitrate, said nitrate being present in at least substantially stoichiometric proportion relative to the carbon.

3,144,324
MAGNETIC COMPOSITIONS CONTAINING IRON, RHODIUM, AND SELECTED ELEMENTS FROM GROUPS II–A, III–A, IV–A, V–A and VI–A

Tom A. Bither, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 3, 1962, Ser. No. 192,859
8 Claims. (Cl. 75—122)

1. An alloy composed of (A) iron, (B) rhodium, and (C) at least one member of the group consisting of elements of Group II–A of the Periodic Table of atomic number 4–12 and elements of Groups III–A, IV–A, V–A and VI–A of atomic number 13–83 in the atom proportions of 0.8–1.2 of (A), 0.8–1.2 of (B), and 0.01–0.20 of (C).

3,144,325
MAGNETIC COMPOSITIONS CONTAINING IRON, RHODIUM, AND AT LEAST ONE MEMBER OF THE LANTHANIDE SERIES

Paul H. L. Walter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 3, 1962, Ser. No. 192,860
4 Claims. (Cl. 75—122)

1. An alloy composed of (A) iron, (B) rhodium, and (C) at least one lanthanide of atomic number 58–71 in the atom proportions of 0.8–1.2 of (A), 0.8–1.2 of (B) and 0.01–0.40 of (C).

3,144,326
CASTING STEEL ALLOY HAVING GREAT TENACITY AND WEAR RESISTANCE

Rudolf Egli, Turin, Italy, assignor to Inbega AG, Sankt Gallen, Switzerland, a corporation of Switzerland

No Drawing. Filed July 31, 1961, Ser. No. 129,201
Claims priority, application Italy Jan. 16, 1957
7 Claims. (Cl. 75—126)

1. A steel alloy of high tenacity especially for chip removing stools comprising about 2% to 4% of vanadium, about 2% to 4% of tungsten, about 13% to 15% of chromium and 1.1% to 1.5% of carbon, balance essentially iron, in which the percentages of the chromium content and the vanadium content are so related that the vanadium content is between 15% to 25% of the chromium content.

3,144,327
COPPER-BORON ALLOYS AND METHOD OF MAKING SAME

Ernest C. Schmidt, Euclid, and James C. Schaefer, North Royalton, Ohio, assignors to Walter M. Weil, Shaker Heights, Ohio

No Drawing. Filed Jan. 2, 1962, Ser. No. 163,881
9 Claims. (Cl. 75—153)

1. A method of making homogeneous, alloy-like, copper-boron compositions comprising preparing a mixture of copper and boron and heating said mixture to above about 2000° C. in an inert atmosphere and under a pressure between about 2 and 5 atmospheres absolute pressure.

3,144,328
METHOD OF PRODUCING POROUS SINTERED TANTALUM ANODES

Arnold S. Doty, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

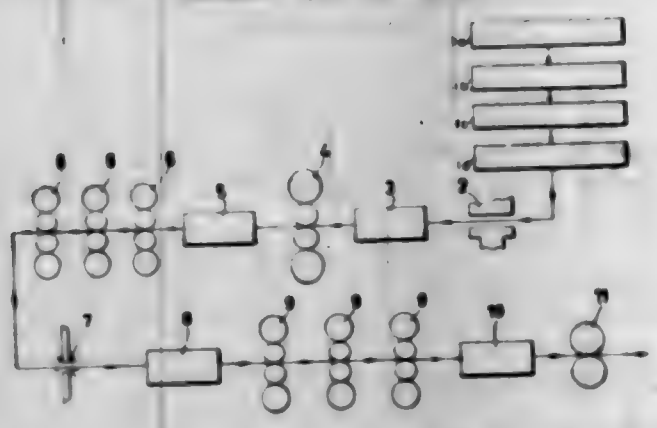
No Drawing. Filed May 17, 1960, Ser. No. 29,590
3 Claims. (Cl. 75—200)

1. A method of providing sintered tantalum anodes having a density in the range of from 4.5 to 9.5 gms./cc. comprising the steps of pouring tantalum powder loosely into a suitable cavity in a graphite block, presintering the powder at a temperature of from 1500–1600° C. for a period of 30 to 60 minutes so as to produce a coherent compact, said presintering taking place in an inert atmosphere, cooling the compact to room temperature, transferring the compact to a tantalum container, and sintering the same at a temperature of from 1900–2100° C. in an inert atmosphere so as to obtain an anode having a capacitance of approximately 2260 μfv./gm. and an equivalent series resistance of from .77 to .90 ohm.

3,144,329
METHOD FOR PRODUCING ROLLED STEEL PRODUCTS

Åke Tjelvar Frölich and John Arne Smeds tam, Oxelosund, Sweden, assignors to Trafikaktiebolaget Grangesberg-Oxelosund, Stockholm, Sweden, a joint-stock company of Sweden

Filed Sept. 5, 1961, Ser. No. 136,082
Claims priority, application Sweden, Sept. 6, 1960
7 Claims. (Cl. 75—203)



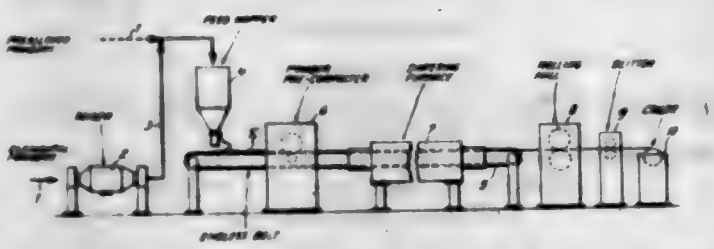
1. Process for the production of rolled steel products which comprises forming a ground sponge iron powder having a substantial content of iron oxide the bulk of which is exposed at the surfaces of the powder particles, adjusting the carbon content of said iron powder to the stoichiometric equivalent of the iron oxide content thereof by the addition of a member selected from the group consisting of pig iron and cementite, cold pressing said powder to sheet bars having a density of at least 4 g./cm.^{3}, sintering said bars at a temperature of 600–1200° C. whereby the oxygen and carbon contents of the bars are substantially reduced, compression rolling the sintered bars to a density of at least about 7 gm./cm.^{3}, annealing the compressed rolled bars and cold rolling the annealed bars.

3,144,330
METHOD OF MAKING ELECTRICAL RESISTANCE IRON-ALUMINUM ALLOYS

Samuel Storchheim, Forest Hills, N.Y., assignor, by mesne assignments, to Alloys Research & Manufacturing Corporation, a corporation of Delaware

Filed Aug. 26, 1960, Ser. No. 52,087
10 Claims. (Cl. 75—226)

1. A method of making electrical resistance alloys, comprising the steps of providing a powder consisting essentially of 5% to 30% by weight of aluminum, up to 40% by weight of manganese, and the remainder of iron, subjecting the powder to a temperature above the melting point of aluminum but below that of iron to effect sintering in the liquid phase thereby to form a sinter



cake, and hot-working the sinter cake to form a coherent resistance body.

3,144,331
PROCESS FOR CONDITIONING PHOTOPOLYMERIZABLE ELEMENTS

Glen Anthony Thommes, Middletown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

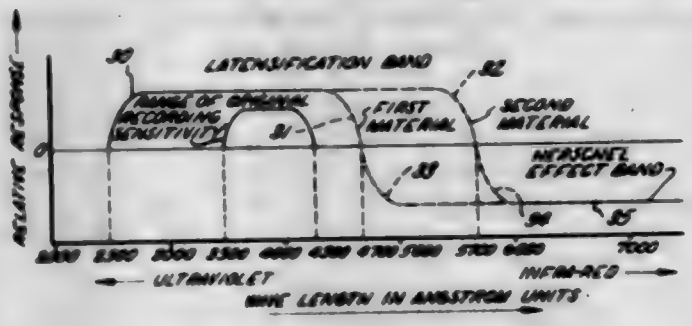
No Drawing. Filed Jan. 13, 1961, Ser. No. 82,413
11 Claims. (Cl. 96—27)

1. In a process for the production of a relief image on a support which comprises imagewise exposure to actinic radiation of a photopolymerizable relief height-forming solid stratum coated on said support, said stratum comprising (1) a preformed, compatible, macromolecular polymer binding agent, (2) a non-gaseous, addition-polymerizable ethylenically unsaturated compound containing at least one terminal ethylenic group, having a molecular weight of less than 1500, a boiling point above 100° C. at normal atmospheric pressure and being capable of forming a high polymer by free-radical initiated, chain-propagating addition polymerization in the presence of an addition polymerization initiator therefor activatable by actinic radiation and (3) from 0.0001 to 10%, by weight, of the stratum of such an initiator; the improvement of reducing the inhibition caused by the presence of absorbed oxygen in said stratum, which improvement consists in: prior to said imagewise exposure, uniformly exposing a surface of said stratum to 70% to 98% of the amount of actinic radiation necessary to initiate photopolymerization therein.

3,144,332
RAPID LATENSIFICATION OF PRINTOUT MATERIAL

Richard P. Brown, Monrovia, and John H. Jacobs, Altadena, Calif., assignors to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

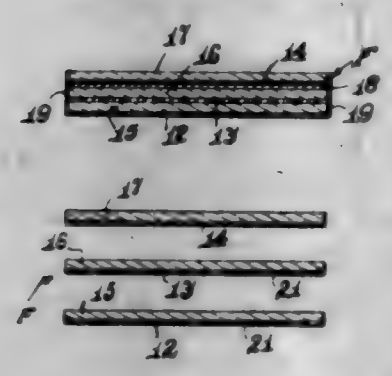
Continuation of application Ser. No. 839,617, Sept. 14, 1959. This application Sept. 20, 1962, Ser. No. 225,060
13 Claims. (Cl. 96—27)



1. A process for the rapid latensification of images on latensifiable silver halide printout material without fogging the material, consisting of recording a latent image on printout material by means of electromagnetic radiations within the range of the original recording sensitivity of the printout material, heating the printout material to a temperature which inactivates its original recording sensitivity, and susbequently exposing the

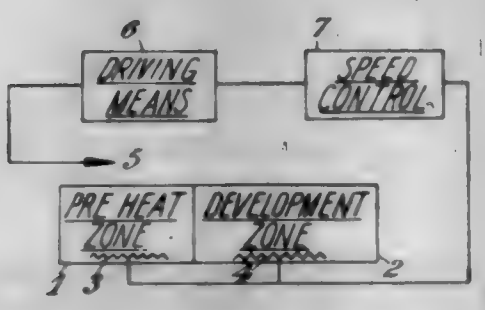
images so recorded on the printout material to latensifying electromagnetic radiations while the original recording sensitivity of the printout material is inactive.

3,144,333
PHOTOGRAPHIC COLOR FILM AND THE METHOD OF USE IN COLOR PRINTING
Robert R. Waldherr, 4980 Marine Drive, Chicago, Ill.
Filed Jan. 6, 1961, Ser. No. 81,064
5 Claims. (Cl. 96—32)



1. A process of producing etched color plates which comprises photographing a multi-color image on a photographic element constructed of at least three transparent plastic films, each film being equipped with an image-forming silver halide gelatin emulsion layer on each face thereof and arranged in superposed relation, said layers being sensitive to distinct and substantially exclusive spectral regions, said films and layers being arranged into a laminate characterized by the substantial absence of internal air, each image-forming layer having incorporated therein a different coupler dye material producing, upon development, a positive having the coupled dye color in areas exposed to radiation in the spectrum of said dye color, separating the said films while retaining therewith the emulsion layer with which each film is equipped, developing said layers to produce a positive color image of a different color on each film, producing a black and white negative of each developed film, and producing etched plates from each black and white negative.

3,144,334
METHOD OF DEVELOPING PHOTOGRAPHIC MATERIALS BY MEANS OF GASES OR VAPOURS AND TO APPARATUS FOR CARRYING THE METHOD INTO EFFECT
George Randolph Lambert, Loughton, England, assignor to Ozalid Company Limited, Loughton, England, a British company
Filed Apr. 22, 1959, Ser. No. 808,034
Claims priority, application Great Britain Apr. 24, 1958
3 Claims. (Cl. 96—49)



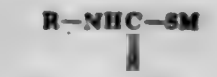
1. A method of developing, by exposure to ammoniacal developing vapours, two-component light-sensitive diazotype materials which have been differentially subjected to actinic radiation, which method comprises the steps of subjecting the materials while moving to a temperature in a separate preheat zone sufficient to heat the materials to a preselected temperature during their dwell in said preheat zone, said preselected temperature being so related to the moving speed of the material that upon reaching a developing zone having an entry end and spaced apart exit end the materials reach development temperature immediately adjacent the said entry end, passing the materials at said preselected temperature to a developing zone and subjecting said materials in said zone at said preselected temperature to developing vapours.

3,144,335
PROCESS FOR PRODUCING SILVER HALIDE-CASEIN PHOTOGRAPHIC EMULSIONS
Jerome L. Reid, Cambridge, and Ernst A. Steigmann, Winchester, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Mar. 6, 1961, Ser. No. 93,307
10 Claims. (Cl. 96—94)

1. A method of preparing a silver halide dispersion which comprises the steps of mixing together a water-soluble silver salt and at least one water-soluble halide salt in an aqueous solution of gelatin, thereby forming a silver halide-gelatin dispersion, adding casein to said dispersion, thereby displacing said gelatin from contact with said silver halide to form a silver halide-casein dispersion coagulable at a pH within the range of 3 to 5, inclusive, coagulating the thus-formed silver halide-casein dispersion by adjusting same to a coagulating pH, thereby forming silver halide-casein granules, and separating the thus-formed silver-halide granules from the liquid portion of the mass.

3,144,336
SYNERGISTIC SENSITIZATION OF PHOTOGRAPHIC SILVER HALIDE EMULSIONS
Arthur H. Herz, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,766
6 Claims. (Cl. 96—108)

1. A photographic silver halide emulsion sensitized with a sulfur sensitizer selected from the class consisting of an alkali metal thiosulfate, a compound represented by the following general formula:

(A) 

and a compound represented by the following general formula:

(B) 

wherein R represents a member selected from the class consisting of a hydrogen atom, an alkyl radical and an aryl radical, R_1 represents a member selected from the class consisting of an alkoxyl radical, an alkyl radical, an aryl radical and a dialkylamino radical, M represents a member selected from the class consisting of a hydrogen atom and a radical imparting a water-solubility to said depicted compound (A) and Q represents a member selected from the class consisting of an oxygen atom, a sulfur atom and an imino radical, said photographic silver halide emulsion containing a compound selected from the class consisting of methane sulfinic acid, methane disulfinic acid, ethane sulfinic acid, benzene sulfinic acid, chlorobenzene sulfinic acid, p-toluene sulfinic acid, p-anisol sulfinic acid, p-acetanilide sulfinic acid, salicylic sulfinic acid, m-benzene sulfinic acid, β-naphthalene sulfinic acid, cyclohexane sulfinic acid, thiophene sulfinic acid, and water-soluble salts of said sulfinic acids.

3,144,337
ANIMAL FEED CONTAINING STEROIDAL SAPOGENIN

John E. McKeon, Brooklyn, and Ward J. Haas, Bronxville, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 7, 1960, Ser. No. 61,080
10 Claims. (Cl. 99—2)

1. An animal feed composition comprising a nutritionally-balanced animal feed and a growth-promoting amount of a non-toxic steroidal sapogenin.

3,144,338
METHOD OF MAKING YEAST-RAISED BAKED PRODUCTS

Daniel B. Burke, Loudonville, N.Y., and Frederick M. Ketch, Battle Creek, Mich., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 23, 1963, Ser. No. 253,299
5 Claims. (Cl. 99—90)

1. The method of making yeast-raised baked goods which comprises:

(*a*) preparing an intimate and homogenous distribution of plastic shortening and sugar with a milled flour having at least 12% protein, the flour being present at a level of 75–85% by weight, the shortening being employed at a level of 4.5 to 7.5% by weight and the sugar being employed at a level of 4–12% by weight; the shortening being distributed uniformly over the flour by melting said shortening to a sufficient extent during the blending operation while maintaining the temperature of the mix being blended at below 110° F. to cause the shortening to be plated onto said flour so that the finished mix can be gripped under normal hand pressure but will crumble to its original consistency upon release of such pressure, said composition also containing about 3–6% dry non-fat milk solids by weight of the flour;

(*b*) creating an active aqueous yeast solution;

(*c*) beating all of the finished mix ingredients at once in the yeast solution until a sticky elastic batter is formed;

(*d*) resting the batter until gas cells are formed throughout by the activity of the yeast;

(*e*) beating the batter to reduce the volume thereof to approximately its original volume and reform the cells thereof to a uniform size;

(*f*) proofing the batter to allow it to rise to a volume suitable for production of small thin cells and a soft crust upon baking; and

(*g*) baking the proofed batter.

3,144,339
BREAD EMULSIFIER COMPOSITION AND PROCESS OF MAKING THE SAME

Gaston Dalby, New York, N.Y., and Harry C. Fisher, Cleveland, Ohio, assignors to The H. C. Fisher Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 8, 1962, Ser. No. 200,964
11 Claims. (Cl. 99—91)

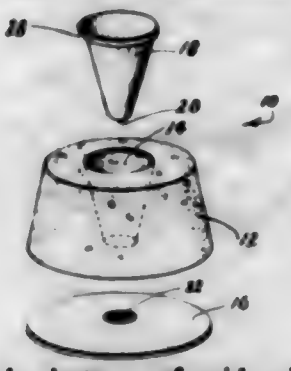
1. An emulsion for making bread dough which comprises an aqueous emulsion containing 15 to 25 parts by weight of glycerol monostearate, 11 to 20 parts by weight of glycerine and 0.75 to 5 parts by weight of lecithin, and water to make a total of 100 parts.

3,144,340
STACKABLE CAKE

Frank C. Powers, 24 Peterson Drive, Storm Lake, Iowa

Filed June 18, 1962, Ser. No. 203,197
1 Claim. (Cl. 99—92)

A stackable cake comprising: a cake having a centrally located frusto-conical opening therein; said opening having its larger diameter adjacent the top of said cake; a generally truncated conical cup element in said opening in contact with the walls thereof to partially distribute weight of additional cakes on said cup evenly over said cake walls; said cup element having its larger diameter at the top of said cake, and having a ridge portion extending above the top surface of said cake which enables an additional cake to be stacked thereon; a support plate under the bottom of said cake and having a central cavity beneath said cake opening; and said cup having its lower surface interfitting in said cavity, whereby said cake is held aligned with said plate, and whereby said cup, due to its interfitting support on said plate, due to its tapered wall support on the walls of said cake opening, and due to its upper ridge, enables said cake to support a plurality of stacked cakes without damage.



3,144,341
LACTATE COMPOUND EMULSIFIERS AND SHORTENING CONTAINING THE SAME

Stuart W. Thompson, Upper Saddle River, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 18, 1961, Ser. No. 103,733
8 Claims. (Cl. 99—123)

1. A shortening agent comprising an edible triglyceride fat and an emulsifier comprising a mono-diglyceride and a compound selected from the group consisting of stearyl lactoyl lactate, cetyl lactoyl lactate, and mixtures thereof.

3,144,342
PRESERVATION OF EGGS

Charles P. Collier, 3939 Camellia Lane, Santa Barbara, Calif., and John E. W. McConnell, 1057 Driftwood Lane, Ventura, Calif., assignors of one-third to Edward B. Gregg, San Francisco, Calif.

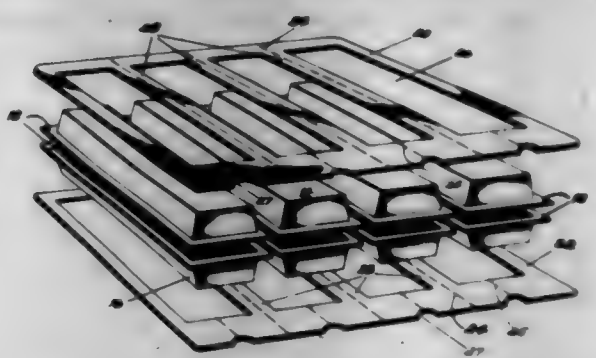
No Drawing. Filed July 2, 1959, Ser. No. 824,460
5 Claims. (Cl. 99—161)

1. A method of treating a food product of the class consisting of fresh eggs in the shell, fresh whole eggs removed from the shell and other fresh egg products which are sensitive to elevated temperatures and undergo coagulation of albumen at elevated temperatures, said method comprising contacting such food product with a gaseous sterilizing medium for a time and at a temperature sufficient to kill substantially all microorganisms which are brought into contact with the medium, said medium being a mixture of substantial proportions each of water vapor and a gas of a compound which has the formula



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of hydrogen and hydrocarbon radicals and in which X is selected from the group consisting of oxygen and the imine group, NH; said compound having a bactericidal effect and also having a substantial vapor pressure at 212° F.; the temperature being between about 130° F. and 212° F., the contact time being insufficient to cause such coagulation.

3,144,343
MARGARINE PACKAGE
Richard K. Fritsche, Fort Thomas, Ky., assignor to The Mistal Margarine Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 2, 1961, Ser. No. 92,979
4 Claims. (Cl. 99—179)



1. A margarine package comprising a plurality of unsealed opposed pairs of concave rigid plastic segments having peripheral flanges at the point of their opposition and defining individual food compartments, margarine disposed in said compartment, said pairs of opposed segments being spaced from one another in side-by-side relationship, a top cut-out rigid supporting frame including medial running members, placed over said pairs of said segment, said top frame and medial running members abutting the top of said opposed peripheral flanges of said food compartments, a bottom cut-out rigid supporting frame, including medial running members, placed under said pairs of said segments, said bottom frame and medial running members abutting the bottom of said opposed peripheral flanges of said compartments and means bonding said top and bottom frame members.

3,144,344
MULTIPLE COLOR GLAZES AND PROCESSES
Robert R. Umhoefer, 13348 Debby St., Van Nuys, Calif.
No Drawing. Filed Jan. 12, 1962, Ser. No. 165,950
6 Claims. (Cl. 106—48)

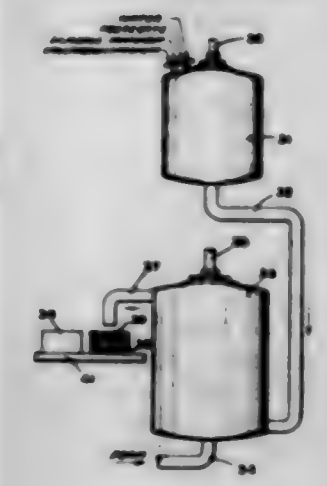
1. A glaze coating process of applying a vitreous glaze to a porous ceramic solid capable of withstanding the firing temperature of the glaze which comprises coating said solid with a liquid suspension of glaze components containing at least two coloring agents of different and contrasting colors, one of said coloring agents being soluble in said liquid and being absorbed by the porous solid and another said coloring agent being insoluble in said liquid and remaining on the surface of the said solid, thus effecting a color change on the surface.

6. A glaze composition comprising a suspension in a liquid of vitreous glaze components which form a vitreous coating when applied to a ceramic solid absorbent surface and fired, said suspension also containing a colloidal suspending agent and at least two different and contrasting coloring agents, one of said coloring agents being dissolved in said liquid and another of said coloring agents being undissolved in said liquid and remaining on the surface of said ceramic solid absorbent surface, thus effecting a color change on said surface.

3,144,345
SILICA REFRACTORY SHAPES
Donald O. McCreight, Bethel Park, and Ben Davies and Albert L. Renkey, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 5, 1961, Ser. No. 107,931
4 Claims. (Cl. 106—58)

1. As a smooth-surfaced wall lining for a coke oven, a plurality of smooth-surfaced fired brick made from a brickmaking size graded batch consisting essentially of, by weight: about 1 to 5 percent total, on the basis of an oxide analysis, of at least one member selected from the group consisting of lime hydrate, lightly calcined magnesium oxide and mixtures thereof, as a fired bonding agent; about 1 to 5 percent, based on the total batch, of a temporary bonding agent which is capable of being burned out on firing; about 1 to 5 percent of generally spherical particles of fumed silica in order to obtain said smooth surfaced brick on firing, substantially all the particles of the fumed silica being smaller than about 50 microns, and the remainder of the batch being crushed, size graded, silica rock.

3,144,346
CALCIUM SILICATE HYDRATE PRODUCTS
Sidney Diamet, Langley, Bucks, England
Filed Feb. 12, 1954, Ser. No. 409,792
Claims priority, application Great Britain Dec. 14, 1951
13 Claims. (Cl. 106—75)



4. In a method for making an indurated, light weight calcium silicate hydrate product, the steps which include: agitating a mixture comprising a calcareous component, a siliceous component, a porous light weight aggregate and water to form a body of a substantially uniform slurry, the amount of water being proportioned to provide a stable slurry; agitating the body of slurry and injecting preformed foam under pressure beneath the surface of the body of slurry to form an aerated slurry; transferring the aerated slurry to a mold; and subsequently indurating the molded slurry to form an indurated product comprising a plurality of particles of porous light weight aggregate surrounded substantially entirely and bonded by a rigid matrix of aerated calcium silicate hydrate.

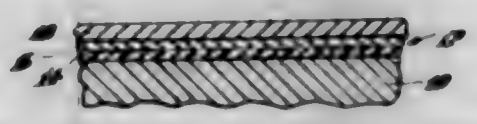
3,144,347
MONOHYDROXY ORGANIC ACID COMPOUNDS FOR IMPROVING THE PROPERTIES OF CEMENT, CONCRETE, AND MORTARS
Zach S. Cowan, Jr., Atlanta, Ga., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 13, 1962, Ser. No. 172,879
16 Claims. (Cl. 106—90)

4. The method of making improved inorganic concrete or mortar comprising admixing with at least one of the components of the concrete or mortar from about 0.001 to 3.5 percent by weight based on the weight of the inorganic cement used of a compound selected from the group consisting of hydroxyacetic acid, lactic acid, and their lactides and sodium, potassium, calcium and amine salts.

3,144,348
ADDUCT OF THIOGLYCOLIC ACID AND POLYETHYLENE WAX, EMULSIONS THEREOF, AND METHOD OF PREPARING SAME
Robert J. Turbett, Millington, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 23, 1961, Ser. No. 86,946
10 Claims. (Cl. 106—271)

1. Method for preparing modified polyethylene wax emulsifiable to stable, fine particle size emulsions comprising contacting in the liquid phase a polyethylene wax having from 0.5 to 3.0% terminal vinyl groups by weight and a molecular weight of from 1000 to about 5000 with thioglycolic acid at a temperature above about 25° C. until at least 25% of said vinyl groups have reacted with the thioglycolic acid.

3,144,349
REMOVABLE PROTECTIVE COATING FOR ARTICLES OF MANUFACTURE, SUCH AS AERONAUTICAL PROPELLER BLADES
Ralph F. N. Swingler, 56 Meadow Way, Letchworth, England, and Ernest Douglas Teague, 192 Handside Lane, Welwyn Garden City, Hertfordshire, England
Filed Mar. 16, 1960, Ser. No. 15,425
Claims priority, application Great Britain Apr. 8, 1959
13 Claims. (Cl. 117—6)



1. The method of coating a rigid structural member which comprises, depositing a layer of corrosion-resistant adhesive resin on the surface of the member in an uncured liquid condition, curing the layer, applying a flame-sprayed layer of metal to the cured layer and then applying an impact resistant flame-sprayed layer of a member selected from the group consisting of stable metal oxides and refractory metal carbides.

3,144,350
ELECTROSTATIC COATING METHOD AND APPARATUS
Gohei Ozume, Unagidani, Minami-ku, Osaka, Japan, assignor, by inheritance and assignment, of eleven twenty-sevenths to Shizue Ozume, eight twenty-sevenths to Nakako Oda, and eight twenty-sevenths to Taiji Ozume
Filed Jan. 3, 1958, Ser. No. 707,040
Claims priority, application Japan May 6, 1957
10 Claims. (Cl. 117—93.4)

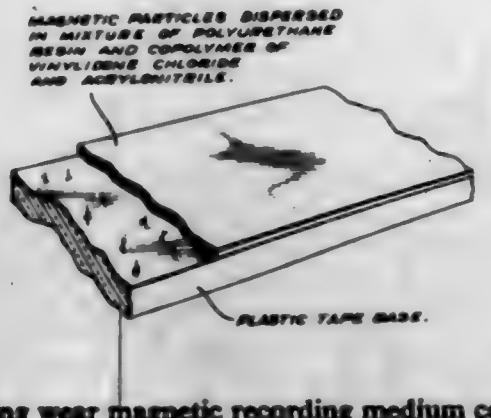


10. The method of electrostatically painting articles which comprises projecting a thin stream of paint substantially free of admixture with air or other gas and at a high pressure through a nozzle and against a strike-plate disposed in the path of the stream but at an angle to said path, whereby the paint, after striking the plate is deflected at the point of impingement in a direction angular to the direction of said stream, and is broken up into particles forming a fog-like vapor, and causing said vapor to pass through an electrostatic zone between said strike plate and said articles, to coat said articles.

3,144,351
METHOD OF SIZING HYDROPHOBIC SYNTHETIC YARNS
Glenn M. Anderson, Decatur, Ga., assignor to Penick & Ford, Ltd., Cedar Rapids, Iowa, a corporation of Delaware
No Drawing. Filed Oct. 18, 1961, Ser. No. 145,962
5 Claims. (Cl. 117—138.8)

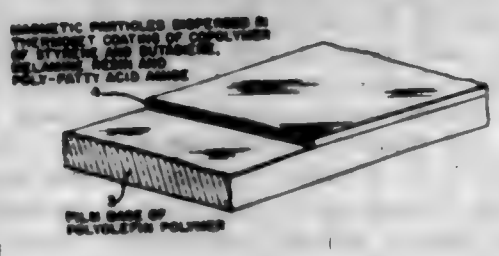
1. In the sizing of hydrophobic synthetic yarn prior to weaving, said yarn being selected from the class consisting of nylon yarn, polyester polymer yarn, and polyacrylic yarn, the improved method comprising contacting said yarn with an aqueous dispersion of a starch derivative selected from the group consisting of hydroxyethylated starch containing at least 1% by weight of the hydroxyethyl groups and acetylated starch containing at least 1% by weight of the acetyl groups, said aqueous dispersion also containing from 5 to 14 parts of urea per 100 parts by weight of said starch derivative.

3,144,352
MAGNETIC TAPE HAVING A BINDER MIXTURE OF POLYURETHANE RESIN AND A COPOLYMER OF VINYLIDENE CHLORIDE AND ACRYLONITRILE
James P. Talley, Auburn, Ala., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 15, 1962, Ser. No. 230,755
3 Claims. (Cl. 117—138.8)



1. A long wear magnetic recording medium comprising a plastic base and an adherent coating, including a magnetic pigment dispersed in a resin mixture, said resin mixture comprising a polyurethane resin which is made by reacting a mixture consisting of p,p'-diphenylmethane diisocyanate, adipic acid and butanediol-1,4 which resin is free of reactive isocyanate groups and a copolymer of vinylidene chloride and acrylonitrile, at least 5% of the resin mixture consisting of said polyurethane resin, said copolymer having about 1. specific gravity, from 7,000 to 7,500 lbs./sq. inch tensile strength, and from 0–10% elongation.

3,144,353
POLYOLEFIN COATED WITH THERMOSET COATING USED IN MAGNETIC RECORDING MEDIA
John W. Hargis, Palo Alto, and Dervis L. Flowers, Redwood City, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Mar. 8, 1963, Ser. No. 265,085
8 Claims. (Cl. 117—138.8)



1. As a new article of manufacture a film base of a

polyolefin polymer having a thermoset coating thereon, said coating comprising on a resin solids basis:

(*a*) from 25% to 70% of a copolymer of styrene and butadiene containing from 20% to 80% styrene and 80% to 20% butadiene;

(*b*) from 5 %to 20% of a melamine resin, said resin being a melamine-formaldehyde condensation product with an acid number of from 0 to 15; and

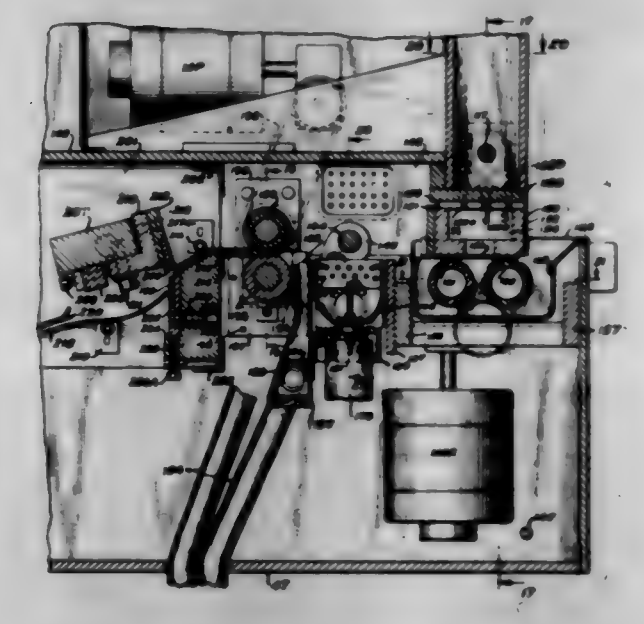
(*c*) from 15% to 70% of a poly-fatty acid amide of the formula:

$$HO—(OC—R—CONHR'—NH)_n—H$$

wherein R and R' are selected from the group consisting of straight and branched organic radicals of from 10 to 22 carbon atoms and *n* is such that the molecular weight of the amide is from 3000 to 8000.

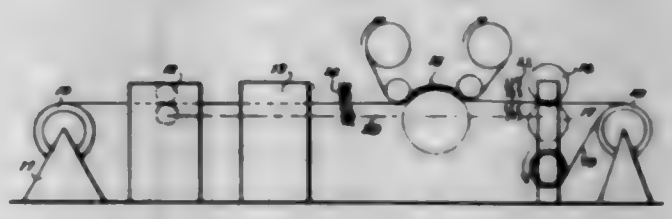
2. The article of claim 1 wherein the coating has dispersed therein finely divided magnetic particles.

3,144,354
ELECTROGRAPHIC PRINTER
Ira M. Sage, North Bergen, N.J., assignor to Koufel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Mar. 10, 1960, Ser. No. 14,983
15 Claims. (Cl. 118—40)



1. Means for developing and fixing an image on a web comprising a support, an open top developer housing having entrance and discharge ends, said housing being pivotally mounted at its discharge end on said support for limited movement about a horizontal pivot, an open top developer trough mounted on said housing closely adjacent the entrance end thereof, the limited pivotal movement of said housing assuring retention of developer in said trough at all times, roller means rotatable about an axis parallel to said horizontal pivot in said developer trough for carrying a developer into contact with an exposed web, means spaced toward the discharge end of said housing for fixing the image on said web, feed means for said exposed web including an idler roller mounted on said housing closely adjacent said horizontal pivot and substantially parallel thereto and a driven roller on said support cooperating with said idler roller to feed the web, a cutter mounted on said support for severing the leading and trailing ends of the web at locations providing a leading and trailing margin for the image and means to guide an exposed web with an electrostatic latent image on the surface facing said trough.

3,144,355
APPARATUS FOR PRINTING UPON COATED SURFACES
Hubert Edouard Henri Roukin, 88 bis Rue Adrien Lemoine, Pantoise, France
Filed Feb. 20, 1959, Ser. No. 794,618
Claims priority, application Belgium Feb. 21, 1958
2 Claims. (Cl. 118—44)

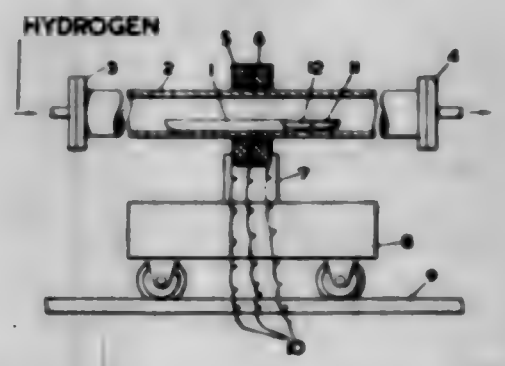


2. Apparatus for printing upon a polymerizable lacquered surface, that comprises, means for applying to the said surface a homogeneous paste comprising printing dye, solvent and a paste medium of sufficient viscosity to resist substantial impregnation of the lacquered surfaces when the same is heated to soften it; means for thereupon heating the lacquered surface to a degree sufficient to permit impregnation therewithin of the said dye but insufficient to permit of polymerization of the lacquered surface; means for removing the said paste medium; means for raising the temperature of the surface to the temperature of polymerization of the lacquered surface; and means operating synchronously with the applying means for stamping predetermined regions of the said surface.

3,144,356
BATTERY GRID ALLOY
Andor Debrovics, Cleveland, Ohio, now by change of name Andor Dover, assignor to The Electric Storage Battery Company, a corporation of New Jersey
No Drawing. Filed Aug. 11, 1960, Ser. No. 48,846
6 Claims. (Cl. 136—65)

1. In a storage battery grid containing from 2.0% to 6.0% antimony, 0.3% to 0.8% arsenic, 0.14% to 0.7% tin and the balance lead, the improvement which consists of the addition of from 0.3% to 0.01% cadmium, in inverse proportion to the amount of antimony present.

3,144,357
PREPARATION OF SEMICONDUCTOR MATERIALS
Kenneth Fraser Hulme and John Brian Mullin, Malvern, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed July 15, 1960, Ser. No. 43,199
Claims priority, application Great Britain July 23, 1959
4 Claims. (Cl. 148—1.6)



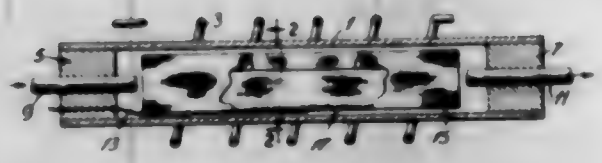
1. A process for the preparation of single crystals of semiconductor binary compounds which consist of one each of Group III and Group V elements by zone refining

in which a molten zone is moved in a given crystal-growing direction through an elongated mass of the material, the crystal-growing direction being along the longitudinal axis of said elongated mass, with crystal-growth taking place along said direction as the molten zone passes, said process comprising the steps of orienting a seed crystal so that its 1, 1, 1 direction lies obliquely to said crystal-growing direction, raising the temperature to above the melting point of a zone of said mass with a heater and thereby establishing a molten zone in said mass in contact with said seed crystal, and zone refining by establishing relative movement between said mass and said heater along said crystal-growing direction.

3,144,353
PROCESS FOR PRODUCTION OF LONG METALLIC WHISKERS USING A POLYCRYSTALLINE COPPER SUBSTRATE

William J. Allen, Niagara Falls, Ontario, Canada, and Watt W. Webb, Lewiston, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Mar. 2, 1961, Ser. No. 92,961
4 Claims. (Cl. 148—1.6)



1. A process for producing filamentary single crystals of a metal selected from Groups IB and VIII of the Periodic Table which comprises providing a metal-bearing vapor by heating and vaporizing a chloride of the selected metal in a hydrogen atmosphere at about atmospheric pressure; contacting a polycrystalline copper substrate with said metal-bearing vapor, thereby growing filamentary single crystals of the selected metal from said vapor mixture on said polycrystalline copper substrate.

3,144,359
METHOD FOR SULPHURIZING THE SURFACE OF FERROUS METAL

Rintaro Takahashi, 48 Oyama-machi Tamagawa, Tokyo, Japan

No Drawing. Filed Oct. 23, 1959, Ser. No. 848,191
Claims priority, application Japan Oct. 27, 1958
7 Claims. (Cl. 148—6.11)

1. A method of sulphurizing the surface of ferrous metal, which comprises the steps of desorbing gas from the surface of the metal to make the surface of the metal easily wettable to molten sulphur, and immersing the metal thus preliminarily treated in molten sulphur to sulphurize the surface of the metal.

3,144,360
PHOSPHATING PROCESS

Bert E. Paim, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

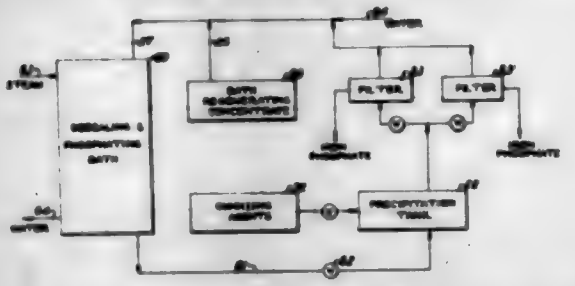
No Drawing. Filed Feb. 19, 1962, Ser. No. 174,291
11 Claims. (Cl. 148—6.15)

1. A process for rapidly phosphating a ferrous metal article which comprises introducing said article for about one to about 20 seconds into a hot aqueous phosphating solution having a total acidity within the range from about 90 to about 850 points and containing as essential ingredients from about 1.5 to about 8 percent of zinc ion, from about 3.5 to about 20 percent of phosphate ion, from about 5 to about 26 percent of nitrate ion, and from about 1 to about 4.5 percent of calcium ion.

3,144,361
PRETREATING IRON OR STEEL

Stefan Klinghoffer, Postfach 39, Linz (Danube), Austria

Filed Sept. 21, 1959, Ser. No. 841,408
Claims priority, application Germany Nov. 10, 1955
13 Claims. (Cl. 148—6.16)



1. In the method of pretreating iron and steel scaled workpieces to be cold-drawn, wherein the workpieces are descaled and coated with a crystalline phosphate, the improvement of descaling and ortho-phosphate-coating the said scaled work-pieces by a single treatment bath by the steps of (*a*) contacting the workpiece with a single liquid treatment bath having a temperature of between 20 and 99° C. consisting of an aqueous solution containing more free phosphoric acid than bound phosphoric acid, there being present in said solution from 2 to 7% by weight of total phosphoric acid and 0.2 to 2% by weight of phosphates, and maintaining it in said bath until the workpiece has been descaled to the bare metal base, and (*b*) thereafter removing the workpiece from the bath and directly drying the adhering liquid on the base metal after said contacting thereby to provide a phosphate coating on the descaled workpiece.

3,144,362
FORGED AND NITRIDED STEEL ROLL

Amos A. Bradd, Philadelphia, Pa., assignor to Midvale-Heppenstall Company, Nicetown, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1962, Ser. No. 226,630
1 Claim. (Cl. 148—36)

A forged and nitrided steel rolling-mill roll characterized by improved hot hardness characteristics and improved resistance to cracking and spalling, and consisting essentially of (parts being expressed in percent by weight of composition before nitriding):

Carbon	0.60–1.25
Manganese	0.10–1.25
Phosphorus	0.005–0.050
Sulfur	0.005–0.050
Silicon	0.10–1.25
Nickel	Under 3.50
Chromium	1.40–2.50
Molybdenum	Under 1.25
Vanadium	Under 0.35
Aluminum	0.50–1,50

Remainder iron and other elements in residual amounts.

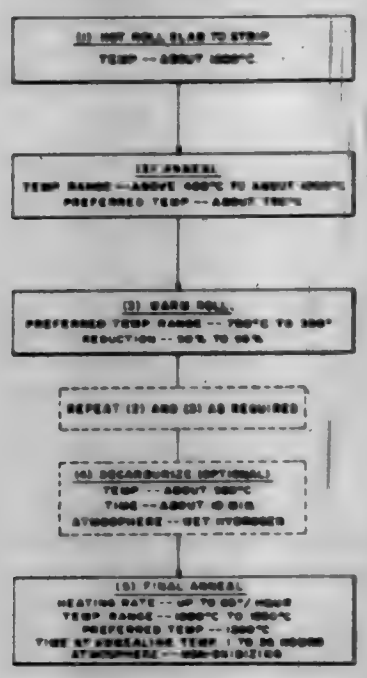
3,144,363
PROCESS FOR PRODUCING ORIENTED SILICON STEEL AND THE PRODUCT THEREOF

Robert G. Aspden, Penn Hills, and George N. Facaros, New Salem, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1961, Ser. No. 159,248
7 Claims. (Cl. 148—111)

1. In a process for producing sheets of oriented magnetic alloy having extremely low magneto-striction from hot-rolled alloy strip, the alloy strip composed of, by weight, from 4.5% to 7% silicon, from 0.10% to 0.50% manganese, from 0.01% to 0.10% sulfur, and the balance

essentially iron except for small amounts of impurities, the steps comprising (1) heating the strip to a temperature of about 750° C., (2) warm rolling the strip in the temperature range of from 750° C. to 350° C. to effect a reduction of from 50% to 95%, (3) and finally annealing the sheets by slowly heating the sheet thus obtained



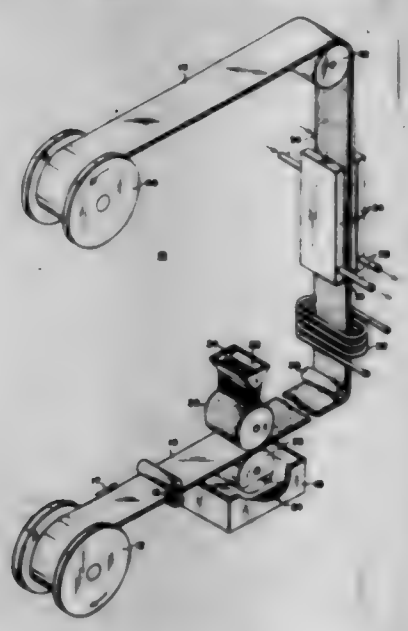
at a rate of up to 65° C. per hour to a temperature of from 1000° C. to 1250° C. in a non-oxidizing atmosphere and maintaining the sheet at this final annealing temperature to effect a high degree of secondary recrystallization and thereby produce a near (110)[001] grain orientation in the sheet.

3,144,364

INDUCTION ANNEALING OF MAGNETIC ALLOY SHEET

Chauncey G. Robinson, Muncie, Ind., and Kenneth J. Best, Sharon, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 14, 1960, Ser. No. 69,080
6 Claims. (Cl. 148—113)



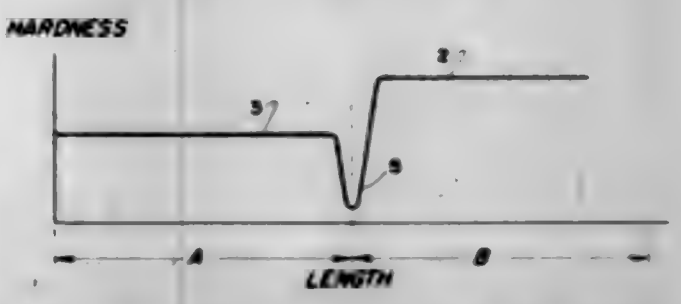
1. In a continuous method for obtaining stress relieved magnetic alloy sheet of extreme flatness and having an insulating film on the surfaces thereof, in which the magnetic sheet is sequentially heated to annealing temperatures and cooled, the improvement comprising the steps of, coating the moving sheet with an insulating coating composition, moving the coated sheet upwardly axially of a vertically disposed encircling induction coil energized with high frequency current to produce a longitudinal flux in the sheet whereby a narrow transverse band of the sheet is rapidly raised to a temperature in the range from 725° C. to 775° C., the isothermal lines being substantially straight and perpendicular to the edges of the sheet, thereafter continuing the vertical upward movement of the sheet to effect cooling by radiation to cooled surfaces on either side thereof with cooling faces substantially parallel to the sheet surfaces and closely spaced thereto to provide a substantially dead air chamber, whereby the sheet is cooled to a predetermined temperature below 400° C.

3,144,365

METHOD OF HEAT TREATING ELONGATED STEEL ARTICLES

J. D. Dixon, West Portal, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed July 10, 1963, Ser. No. 293,986
4 Claims. (Cl. 148—145)



1. A method of heat treating an elongated piece of steel to provide it with two adjoining elongated sections which are hardened by separate heat treatments, said method comprising:

(*a*) heating and cooling the steel piece to harden at least a part of the steel piece including two adjoining elongated sections which are segments of the length of the steel piece;

(*b*) heating and cooling one of said elongated sections of the steel piece to harden that section of the steel piece while unavoidably creating an annealed region in the piece between the later hardened section and the earlier hardened section of the piece; and

(*c*) subjecting the surface of said annealed region to hardened case forming temperatures and rapidly cooling the surface to create a hardened case which surrounds and strengthens said annealed region.

3,144,366

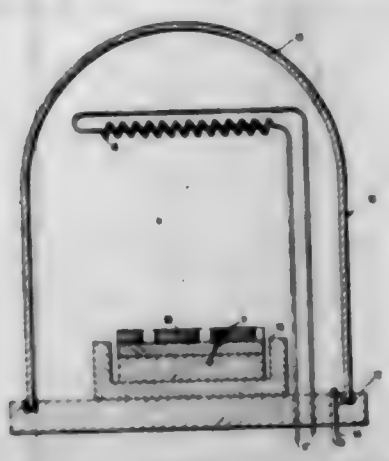
METHOD OF FABRICATING A PLURALITY OF PN JUNCTIONS IN A SEMICONDUCTOR BODY

Arthur J. Rideout, Millbrook, and Thomas K. Worthington, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 16, 1961, Ser. No. 131,771
13 Claims. (Cl. 148—179)

1. The method of fabricating a plurality of PN junctions in a semiconductor body comprising: depositing on predetermined portions of a surface of said body a first film of a material which is soluble in a medium that is not deterimental to said body; establishing on said first film and the exposed portions of said surface an impervious film of a material which has a low solubility in said medium and has a thickness substantially that of said first film; subjecting the assembly to said medium to dissolve said first film by attacking the edge portions thereof and then undermining the remainder to dislodge said impervious film over said first film, thus exposing

said predetermined portions of said surface of said body without appreciably disturbing the remainder of said impervious film; and establishing a plurality of PN junctions under said exposed surfaces.



3,144,367
INORGANIC NITRATE EXPLOSIVE COMPOSITION COATED WITH HYDRAZINE OR GUANIDINE COMPOUNDS
Bertil Petrus Enokmen, Gyttorp, Sweden, assignor to Nitroglycerin Aktiebolaget, Gyttorp, Sweden, a company of Sweden
No Drawing. Filed Mar. 6, 1962, Ser. No. 177,723
Claims priority, application Germany Mar. 7, 1961
11 Claims. (Cl. 149—8)

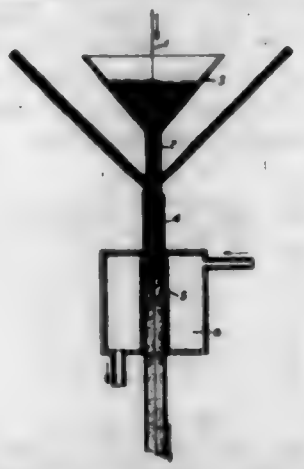
1. A novel explosive and propellant composition comprising particles of an inorganic nitrate, said nitrate particles having a surface coating of a compound selected from the group consisting of a substituted guanidine and hydrazine compound having at least one hydrophobic substituent having between 8 and 20 carbon atoms.

3,144,368
POWDERLESS ETCHING
Phillip M. Dougherty, Decatur, Ga., and Henry C. Vaughn, North Palm Beach, Fla., assignors to Photo-Engravers Research, Inc., Savannah, Ga., a corporation of Georgia
No Drawing. Filed Dec. 28, 1961, Ser. No. 162,969
5 Claims. (Cl. 156—14)

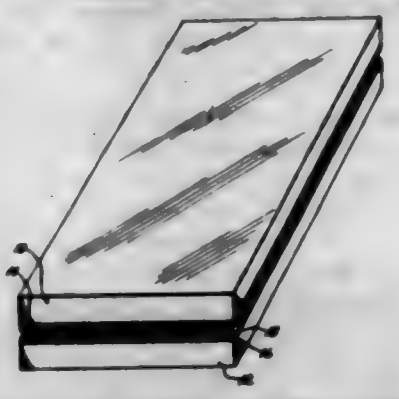
1. In a process for etching photoengraving copper wherein said photoengraving copper is contacted with ferric chloride etching solution to make an image in relief thereon and wherein thiourea is incorporated in said ferric chloride etching solution for control of undercutting, wherein the ferric chloride solution becomes partially spent, the improved process for replenishing the effectiveness of the spent etching solution which comprises forming a makeup solution by adding thiourea to fresh ferric chloride in an aqueous solution, allowing the fresh ferric chloride solution containing thiourea to age for a period of at least about 1 hour, and then adding the aged solution to said partially spent ferric chloride solution to maintain the effectiveness of said etching solution.

3,144,369
METHOD OF FORMING A COAXIAL CABLE
Stanley George Feord and Walter Eric Simpson, London, England, assignors to International Standard Electric Corporation, New York, N.Y.
Filed Apr. 18, 1960, Ser. No. 23,015
Claims priority, application Great Britain Apr. 30, 1959
4 Claims. (Cl. 156—51)

1. A method of manufacture of expanded plastic insulated cables including the steps of pre-expanding granules of suitable thermoplastic material containing a blowing agent, feeding the pre-expanded granules in the space between an inner conductor and a tubular former surrounding said conductor, forming an outer conductor, heating the resultant structure to expand further and to coalesce the granules into a continuous body, and limiting the external diameter to which said outer conductor can expand during said heating step whereby a desired uniform diameter is achieved.



3,144,370
METHOD FOR JOINING METALLIC MEMBERS
Dwight G. Bennett, Champaign, Ill., Richard M. Spriggs, Reading, Mass., and Henry G. Lefort, Alamo, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 14, 1961, Ser. No. 131,445
3 Claims. (Cl. 156—89)

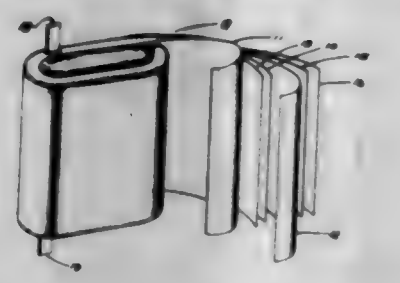


1. The method of joining metallic members comprising the steps of applying a film of ceramic adhesive to a surface of each of said metallic members, drying said adhesive, superimposing a metal space screen carrier on the filmed surface of one of said metallic members, assembling said other metallic member in juxtaposed relation to said first member with said screen carrier therebetween such that said screen carrier and metallic members are in pressure contact, heating said assembly to a temperature of about 1000° F. to 2000° F. and simultaneously subjecting said assembly to a pressure of about 50 p.s.i. for a period of about 20 minutes to interfuse said ceramic adhesive in order to effectuate the bonding of said metallic members, and cooling said bonded metallic members to room temperature.

3,144,371
METHOD OF PRODUCING DRY TYPE CAPACITORS
Paul H. Landolt, Danville, Ill., assignor to General Electric Company, a corporation of New York
Filed Dec. 2, 1959, Ser. No. 856,800
7 Claims. (Cl. 156—184)

5. A method of producing a dry type of electric capacitor suitable for alternating current applications comprising winding a pair of metallic foil electrodes and a plurality of porous dielectric layers so that said dielectric layers are interleaved between said electrodes to form a capacitor roll, drying said roll to remove moisture; impregnating said roll with a mixture comprising a monovinyl aryl compound and at least one polyvinyl aryl

compound, said composition containing a polymerization catalyst from .1 to 1 percent by weight of said composition and said catalyst having a decomposition temperature from 120 to 180 degrees centigrade for a half-life of 1 minute to 10 minutes; heating said capacitor roll at a temperature from 150 to 200 degrees centigrade to activate said catalyst and to effect a crosslinking of



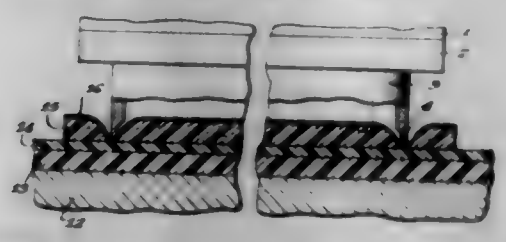
the composition in the outer dielectric layers and ends of said roll within an initial period between one to five minutes to seal the capacitor roll and heating thereafter at a temperature from 120 to 150 degrees centigrade for an interval ranging from 5 to 120 minutes to effect at least partial crosslinking of the composition in the inner dielectric layers of said capacitor roll.

3,144,372

METHOD OF HEAT AND TEAR SEALING POLYURETHANE FOAM MATERIAL TO THERMOPLASTIC FILM

Everett A. Peterson, Roslyn Heights, and Harold W. Peterson, Roslyn, N.Y., assignors to Peterson Electronic Die Co., Inc., New York, N.Y., a corporation of New Jersey

Filed June 8, 1959, Ser. No. 818,847
1 Claim. (Cl. 156—251)



The method of heat and tear sealing polyurethane foam material to a thermoplastic film, including the steps of superposing sheets of polyurethane foam and thermoplastic film, impressing a cold electrode die into line contact with the foam in a manner to define at least a part of the bounding edge of a product, in the same operation forcing material of the foam sheet laterally away from the bond line on both sides thereof at angles of approximately 60° on the product side and 30° to 45° on the other side with respect to the plane of the foam to insure a readily disruptible tear line around the bond line, and passing a high frequency current through said die.

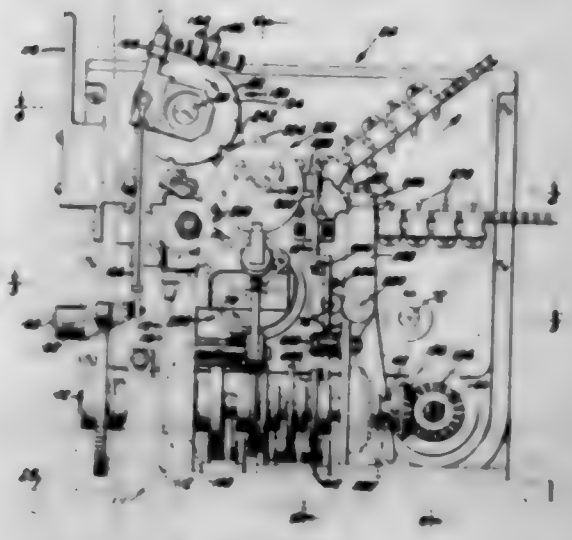
3,144,373

APPLYING EMISSIVE LEAVES TO CATHODE SLEEVES

Henry W. Roeber and Leonard D. Schwender, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 18, 1961, Ser. No. 111,077
13 Claims. (Cl. 156—361)

1. In a machine for applying leaves to cathode sleeves, a leaf feeding mechanism, means for effecting the wrapping of a fed leaf about a cathode sleeve, and means for bringing a cathode sleeve in opposition to the leaf comprising a hopper for containing cathode sleeves, a bottom for the hopper including inclined bottom walls, the lower ends of the inclined walls defining a cathode sleeve dispensing mouth therebetween, a cathode sleeve transfer turret having sleeve receiving slots in its periphery rotatable about a horizontal axis and oscillatory means for shifting the inclined walls with its mouth oscillating about



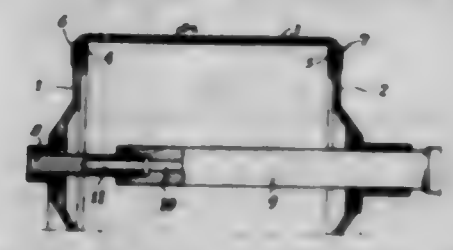
the axis of the turret, whereby cathode sleeves dispensed from the hopper will be fed into the slots during conjoint movement of the inclined walls and turret.

3,144,374

DEFORMABLE DRUM FOR THE MANUFACTURE OF TIRES

Jean Robert Louis Saint Paul, 17 Rue Jean Lerlaire, Paris, France

Filed Dec. 18, 1961, Ser. No. 159,833
Claims priority, application France Dec. 19, 1960
4 Claims. (Cl. 156—416)



1. A drum for building and shaping pneumatic tires adapted to be selectively disposed in a cylindrical and a toroidal configuration, the said drum comprising a shaft, two circular flanges supported coaxially in spaced relationship on said shaft for relative axial movement, a flexible tubular membrane disposed coaxially of said shaft and extending between said flanges, means securing the edges of said membrane to said flanges, a plurality of reinforcing cables in said membrane each extending generally axially of the membrane between said securing means, said cables each having a limited elastic extensibility in the direction of its length of an amount in the order of 10% of its initial length, and means for introducing air under pressure into the region enclosed by said membrane and flanges when the latter are moved toward each other to thereby dispose the said membrane in a toroidal shape with an increase in the length of the membrane by an amount determined by the extent of extensibility of said cables.

3,144,375

ARTIFICIAL TREE

Guy C. Day, Carlsbad, N. Mex.
(203 Pine St., Sweetwater, Tex.)

Filed Feb. 24, 1961, Ser. No. 91,300
3 Claims. (Cl. 161—34)

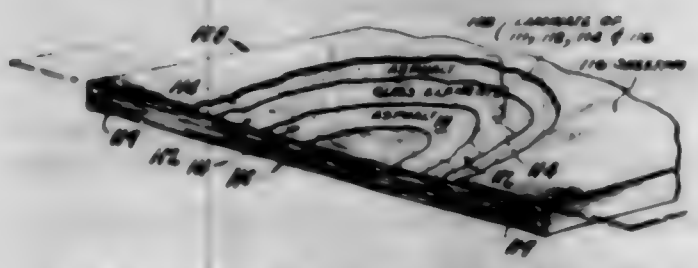
1. An artificial tree comprising: a sectional trunk structure having a base simulating root structure, said base being pivotally mounted on a support surface by pivotal connecting means in a manner to permit said sectional

trunk to be lowered from a normal upstanding position for access to the trunk sections for adjusting the trunk to



a predetermined height, and imitation foliage attached to said trunk.

3,144,376
INSULATING BOARD OF FIBROUS GLASS AND METHOD AND APPARATUS FOR MAKING SAME
Leonard J. Flumberg, Kansas City, Mo., and August C. Theroff, Kansas City, Kans., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 18, 1957, Ser. No. 691,885
8 Claims. (Cl. 161—156)

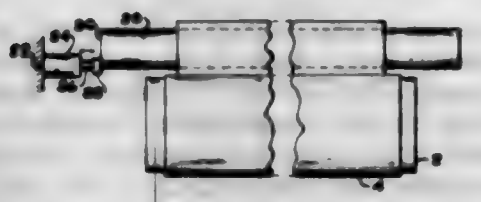


1. A thermal insulating roofing board including a base panel at least one half inch in thickness, said base panel comprising a highly porous, low density, substantially rigid body of mineral fibers, and a cured thermosetting binder dispersed through the body bonding the fibers together and holding the body to a definite thickness, said roofing board further including a distinct stratum of fibrous glass elements over the base panel, a covering sheet disposed over the stratum of fibrous glass elements, and a thermoplastic binder, in which the fibrous glass elements are completely embedded, said thermoplastic binder holding the fibrous glass elements in fixed position relative to each other and cohering the base panel, fibrous glass elements and covering sheet, said covering sheet being sufficiently reinforced by said thermoplastic binder and fibrous glass elements to provide the roofing board with a tough, rupture and compression resisting surface.

3,144,377
ANCHORAGE OF COATINGS ON CELLULOSIC MATERIALS THROUGH AN ALKALINE RESIN-FREE MATERIAL
Frank Elisha Kestes, New Castle, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 27, 1960, Ser. No. 65,286
23 Claims. (Cl. 161—249)

18. A laminated moistureproof film which comprises laminae of hydrophilic cellulose film treated on their surfaces with an alkaline material soluble in aqueous medium selected from the group consisting of: (1) a hydroxide of a metal having an ionization constant of at least 10^{-11}, (2) a metal salt of an amphoteric metal hydroxide having a hydrolysis constant of at least 10^{-11}, (3) a salt of an acid, said salt having a hydrolysis constant of at least 10^{-11}, and mixtures thereof; and having between the laminae a polymeric layer of a copolymer of from 30 to 97% vinylidene chloride, from 0.1 to 25% of an acidic ethylenic compound, and from about 3 to 40% of another polymerizable monoolefinic monomer, wherein the ratio of the total alkalinity, after treatment, of said laminae to the total acidity of said copolymer is at least 1.

3,144,378
METHOD AND APPARATUS FOR FORMING ASBESTOS-CEMENT PRODUCTS
Frank A. Claessens, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed June 28, 1962, Ser. No. 203,963
7 Claims. (Cl. 162—122)



1. A method for use in the formation of asbestos-cement products comprising:
(*a*) moving a continuous layer of asbestos-cement stock into contact with a mandrel wherein said stock is moved in a direction generally perpendicular to the longitudinal axis of said mandrel,
(*b*) rotating said mandrel during said movement of said abestos-cement stock to laminate a plurality of layers of said asbestos-cement stock thereon, and
(*c*) stopping the movement of said continuous layer of asbestos-cement stock and the rotation of said mandrel,
(*d*) moving said mandrel with said laminations of asbestos-cement stock thereon through a distance in a direction generally parallel to the longitudinal axis of said mandrel, and
(*e*) forming a separation of said asbestos-cement stock between said continuous layer of asbestos-cement stock and the laminations of said asbestos-cement stock on said mandrel by said movement thereof.

3,144,379
PROCESS OF PRECIPITATING CHLOROPRENE POLYMER LATEX ONTO CHRYSOTILE ASBESTOS FIBERS IN A SLURRY USING MAGNESIUM CHLORIDE AS SOLE PRECIPITATING AGENT
Chester Herbert Gelbert, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 17, 1961, Ser. No. 145,739
3 Claims. (Cl. 162—155)

1. In a process for preparing an asbestos sheet which comprises (1) adding a chloroprene polymer latex to an aqueous slurry of chrysotile asbestos fibers, (2) precipitating the solid chloroprene polymer in said latex onto the asbestos fibers, (3) draining the water therefrom and (4) forming the resulting fibers into a sheet; the improvement of reducing the time of said draining by adding as sole precipitating agent from about 20 to 40 parts of magnesium chloride per 100 parts of polymer solids to said asbestos slurry in step (2) above.

3,144,380

PROCESS FOR MAKING FILLED PAPERS CONTAINING A REACTION PRODUCT OF EPICHLOROHYDRIN WITH A CONDENSATION PRODUCT OF METHYL ACRYLATE AND A POLYETHYLENE POLYAMINE

Thomas J. Drennen, Lafayette Hill, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Jan. 16, 1962, Ser. No. 166,683
4 Claims. (Cl. 162—164)

1. A process for making filled papers and the like which comprises depositing on a foraminous forming surface an aqueous suspension of cellulose fibers and a water-insoluble inorganic filler, said suspension having a pH between about 3 and 12 and containing 0.01 to 0.5% fibers based on the total suspension weight and containing dissolved therein about 0.01 to 1% by weight, based on the weight of fiber, of a water-soluble reaction product of (1) epichlorohydrin with (2) a condensation product of methyl acrylate and a polyethylene-polyamine in a mol ratio of about 1:1 comprising a compound of the formula

$$H(-NH(CH_2CH_2NH)_mCH_2CH_2CO-)_xOCH_3$$

in which m is an integer having a value of 2 to 4, and x has an average value such as to provide an average molecular weight of about 300 to 1,000, the ratio of the epichlorohydrin to the condensation product being 0.2 mol to m mol of the former to each mol of polyamine used in making the condensation product, and the reaction product having a viscosity of about 3 to about 45 poises at a concentration of 25% in water at 25° C.

3,144,381

CONTINUOUSLY OPERABLE VERTICAL DIGESTER FOR COOKING PRE-IMPREGNATED FIBROUS RAW MATERIALS

Ludwig Simon, St. Pölten, Austria, assignor to J. M. Voith Aktiengesellschaft, St. Pölten, Austria, a corporation of Austria

Filed July 11, 1961, Ser. No. 123,163
Claims priority, application Austria July 20, 1960
5 Claims. (Cl. 162—237)



5. A vertical digester for the continuous cooking of preimpregnated fibrous raw materials in the manufacture of pulp at temperatures above 100° C. and under pressure, comprising a digester vessel adapted to contain a pulp column and having a top and a bottom, said bottom having at least one outlet, a vertical shaft coaxially disposed in and extending throughout said digester vessel and through the top and bottom thereof, an axial thrust bearing for said shaft located above said top, a radial bearing for said shaft disposed below said bottom, drive means for rotating said shaft in said axial and radial bearings, a discharge device fixed to and carried by said shaft above and adjacent to said bottom, said shaft being hollow and provided with holes so that steam can pass through said holes into the interior of said digester vessel.

3,144,382

COPPER SULFATE - O,O - DIMETHYL - S-(1,2 - DICARBOXYETHYL)DITHIOPHOSPHATE PESTICIDE

Michael Di Scala, 20 Jenny Jenks St., Norwalk, Conn.

No Drawing. Filed June 10, 1959, Ser. No. 819,212
1 Claim. (Cl. 167—16)

An insecticidal-fungicidal composition comprising a sprayable emulsion containing about 0.17% by weight of water-soluble copper sulfate, 0.4% by weight of O,O-dimethyl-S-(1,2-dicarboxyethyl)dithiophosphate, 0.3% by weight of xylene and 0.1% of the nonyl phenyl ether of polyethyleneglycol.

3,144,383

NEMATOCIDES

Paul C. Aichenegg, Prairie Village, Kans., and Carl D. Emerson, Liberty, Mo., assignors to Chemagro Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 2, 1960, Ser. No. 73,229
7 Claims. (Cl. 167—22)

1. A process of killing nematodes comprising applying to nematode infested soil in an amount sufficient to exert nematocidal action a compound having the formula RSO_2R_1 where R is vinyl and R_1 is selected from the group consisting of alkenyl, aryl, haloaryl, nitroaryl, alkoxyaryl, cycloalkenyl and aralkenyl and R_1 has between 2 and 18 carbon atoms.

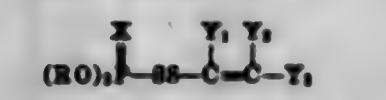
3,144,384

PHOSPHORUS CONTAINING SULFUR COMPOUNDS AND METHOD OF USING SAME

Paul C. Aichenegg, Prairie Village, Kans., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York

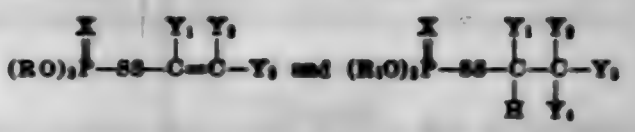
No Drawing. Filed Jan. 26, 1962, Ser. No. 169,088
22 Claims. (Cl. 167—22)

1. A compound having the formula



where R is selected from the group consisting of lower alkyl, phenyl, lower alkylphenyl, and halophenyl, Y_1, Y_2 and Y_3 are selected from the group consisting of hydrogen and halogen with at least two of Y_1, Y_2 and Y_3 being halogen, X is a chalcogen of atomic weight between 16 and 32 and all halogen atoms of said compound have an atomic weight between 35 and 80.

14. A process of killing nematodes comprising subjecting the nematodes to a nematocidally effective amount of a compound having a formula selected from the group consisting of



where R is selected from the group consisting of lower alkyl, phenyl, lower alkylphenyl, and halophenyl, R_1 is lower alkyl, Y_1, Y_2 and Y_3 are selected from the group consisting of hydrogen and halogen with at least two of Y_1, Y_2 and Y_3 being halogen and Y_4 is halogen, X is a chalcogen of atomic weight between 16 and 32 and all halogen atoms of said compound have an atomic weight between 35 and 80.

3,144,385
AEROSOLS
Frank Clifton McGrew, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 7, 1945, Ser. No. 587,218
6 Claims. (Cl. 167—39)

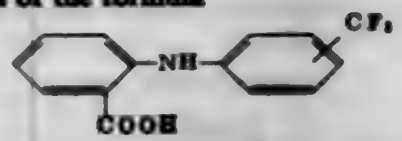
1. In a process of obtaining an aerosol, the step which comprises bursting in the air a closed frangible receptacle containing carbon dioxide under a pressure of at least 3 atmospheres and a solid material that has a particle size of less than 20 microns weight median diameter and is surface-coated with from 0.1% to 5% by weight of a polyhydric alcohol partial ester of an unsubstituted long-chain fatty acid.

3,144,386
MASTITIS AEROSOL FOAM
George E. Brightenback, Plainfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed May 9, 1958, Ser. No. 734,112
2 Claims. (Cl. 167—53)

1. A method for the treatment of bovine mastitis which comprises infusing into the milk duct system of the udder of an infected host a self-propelling mixture comprising a medicament which is effective against bovine mastitis, a liquid foam composition comprising a foam base including an oil and water emulsion stabilized with a surfactant and an emulsifier, the water being the major portion of the emulsion, and a non-toxic aerosol propellant, said propellant being capable of exerting sufficient pressure to expel said foam and medicament into said milk duct system and into the mucous membranes thereof.

3,144,387
ANTI-INFLAMMATORY COMPOSITIONS
Eldon M. Jones, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed June 30, 1961, Ser. No. 120,945
6 Claims. (Cl. 167—65)

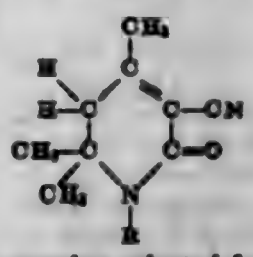
1. A method for treating inflammatory syndromes in human beings which comprises administering a substance of the class consisting of N-(trifluoromethylphenyl)anthranilic acids of the formula



and pharmaceutically-acceptable non-toxic salts thereof.

3,144,388
ANALGETIC COMPOSITIONS CONTAINING TETRAHYDROPYRIDINES
Hans Herbert Käbalc and Rolf Denzel, Basel, and Conrad Hans Eugster, Wallisellen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware
No Drawing. Filed June 21, 1962, Ser. No. 204,060
Claims priority, application Switzerland June 22, 1961
9 Claims. (Cl. 167—65)

1. A composition consisting essentially of:
(a) from about 1% to about 80% of a compound of the formula



wherein R is a member selected from the group consisting of n-propyl, benzyl and allyl, and
(b) a member selected from the group consisting of salicylic acid, acetylsalicylic acid, 1,2-diphenyl-4-n-butyl-3,5-dioxopyrazolidine, 1-(p-hydroxy-phenyl)-2-phenyl-4-n-butyl 3,5-dioxopyrazolidine and the sodium salts thereof.

3,144,389
2-HYDROXY-2-PHENYL-ETHYL CARBAMATE FOR MUSCLE RELAXATION
Charles D. Boerlager, Kankakee, and Kelley G. Taylor, Decatur, Ill., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 26, 1962, Ser. No. 205,200
5 Claims. (Cl. 167—65)

1. The method of promoting muscle relaxation, comprising orally administering 2-hydroxy-2-phenyl ethyl carbamate.

3,144,390
PROCESS FOR THE PURIFICATION OF INTERFERON
Derek C. Burke, Aberdeen, Scotland, assignor to National Research Development Corporation, London, England, a British corporation
No Drawing. Filed June 21, 1961, Ser. No. 118,513
Claims priority, application Great Britain June 28, 1960
4 Claims. (Cl. 167—78)

1. A process for the purification of interferon which comprises subjecting a concentrate of interferon in a salt solution to pressure dialysis to produce a solution containing a largely increased content of interferon, subjecting the solution to chromatography on sulphomethylcellulose at a pH of about 2 with an increasing chloride gradient, subjecting the solution to chromatography on diethylaminoethylcellulose with an increasing phosphate gradient in two stages one of which is conducted at a pH of 5.5 to 8.0 and the other of which is conducted at a pH of 4.4 to 4.6 and recovering interferon of increased purity and concentration from the chromatograms.

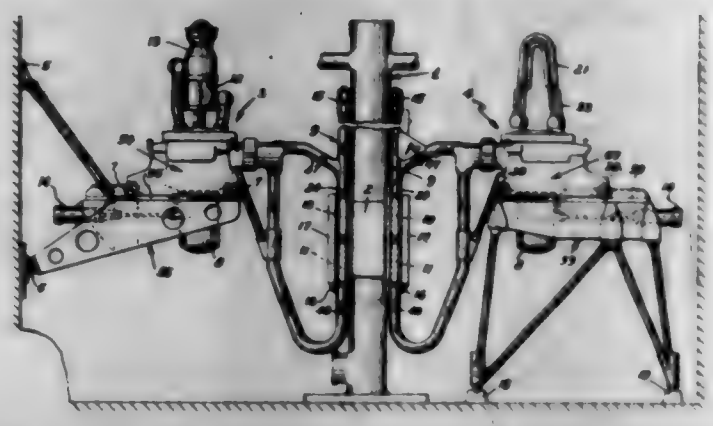
3,144,391
HAIR-SETTING COMPOSITION
Stillman R. Goff, Park Ridge, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
No Drawing. Filed Mar. 28, 1960, Ser. No. 17,760
10 Claims. (Cl. 167—87.1)

1. An improved hair-setting composition comprising (1) from 3 to 6% by weight of a film-forming material selected from the class consisting of a copolymer of vinyl acetate and vinyl pyrrolidone from 40:60 to 85:15 by weight, a copolymer of vinyl pyrrolidone and vinyl stearate from 80:20 to 40:60 by weight, a copolymer of vinyl propionate and vinyl pyrrolidone 50:50 by weight, a copolymer of methyl acrylate and vinyl pyrrolidone 65:35 by weight, a copolymer of lauryl methacrylate and diethylaminoethyl methacrylate 50:50 by weight, and quaternary ammonium salts of the last-said copolymer, (2) at least 2% by weight, based on the weight of said film-forming material, of a cationic surface active agent, and a volatile organic solvent for said material and said agent.

3,144,392
SELF-CONTAINED LOOP FOR STUDYING MATERIALS UNDER IRRADIATION IN A SWIMMING POOL REACTOR
Roger Chabannier, 135 Blvd. Bineau, Neuilly-sur-Seine, France; Gerard Dupuy, 2 bis Square Henry Pate, Paris, France; Bernard Lorenge, 9 Ave. Gambetta, Saint-Germain-en-Laye, France; and Jean Megret, 286 Rue d'Epinay, Argenteuil, France
Filed May 8, 1961, Ser. No. 108,434
Claims priority, application France May 20, 1960
15 Claims. (Cl. 176—12)

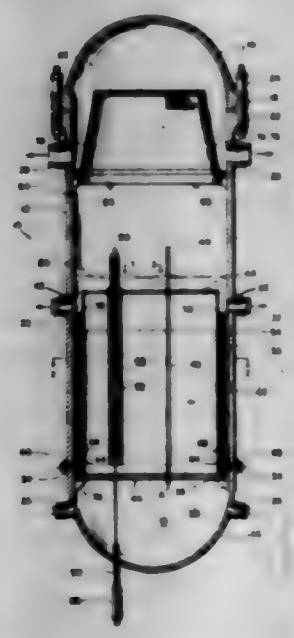
1. In a test loop for studying a sample under irradiation in a swimming-pool reactor, duct means defining a

closed circuit and including a test duct portion, means for supporting a sample in said duct, means for circulating a cooling gas in said circuit, a supporting frame secured to said duct means and supporting the same, a stationary structure connected to a wall of said reactor,



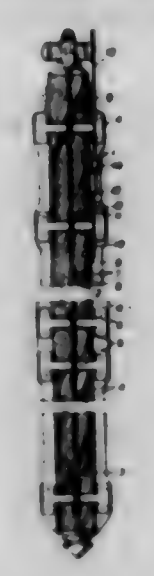
said supporting frame being mounted on said stationary structure for longitudinal movement with respect thereto, and control means for moving said supporting frame longitudinally with respect to said supporting structure, toward and away from the core of said reactor to adjust the position of said test duct portion with respect thereto.

3,144,393
SUBCOOLED LIQUID INLET FOG COOLED NUCLEAR REACTORS
Marvin Raber, Yonkers, and George A. Sofer, White Plains, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 29, 1962, Ser. No. 233,985
3 Claims. (Cl. 176—54)



1. A fog-cooled nuclear reactor comprising a pressure vessel, removable core means mounted within said vessel, a lower plenum formed within and by said pressure vessel below said core means, an upper plenum formed within and by said pressure vessel above said core means, spaced fuel coolant channels extending through said core means, said channels each having an opening into said lower plenum and an opening into said upper plenum, said channels containing the fissionable fuel elements of said reactor, moderator inlet means for delivering moderator water into and around said core means for filling the spaces between said coolant channels, said spaced fuel coolant channels being of such size relative to said core that the ratio of the volume of said coolant passages to said spaces between said coolant channels are in the range of 0.5 to 1.0, means for causing said coolant to flow through said fuel coolant channels at mass velocities greater than 1.5×10^6 lbs. per hr./ft.^{2} whereby said coolant water becomes partially vaporized in said coolant channels to form fog, means in said upper plenum for separating said fog into steam and water, and means for withdrawing said steam from said vessel.

3,144,394
FUEL ELEMENTS FOR NUCLEAR REACTORS
Charles Herbert Quinton Fifield, Lea, near Preston, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed May 21, 1962, Ser. No. 196,160
Claims priority, application Great Britain May 4, 1962
3 Claims. (Cl. 176—68)



1. A nuclear reactor fuel element including a thermocouple cable extending from a thermocouple hot junction for measuring fuel element temperature, a portion of said thermocouple cable being of reduced diameter, and means on said fuel element for applying torsion to said portion of cable, said means being operated by pulling on the cable whereby the cable becomes sheared at the said portion.

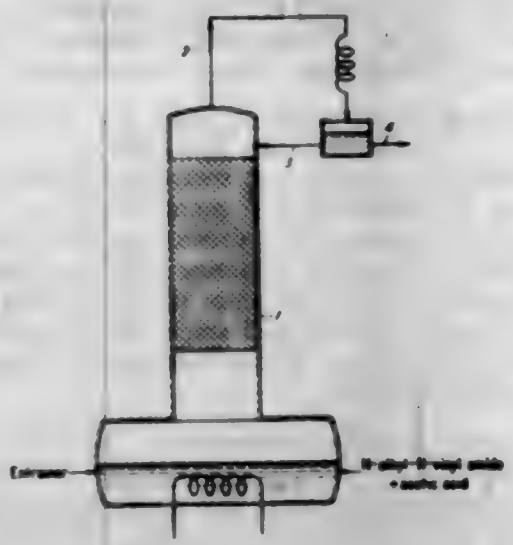
3,144,395
PROCESS FOR PREPARING 6-AMINOPENICILLANIC ACID BY *BACILLUS MEGATERIUM*
Sawao Murao, Osaka, and Kinichiro Sakaguchi and Kageaki Kono, Tokyo, Japan, assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 17, 1963, Ser. 273,542
Claims priority, application Japan Aug. 1, 1962
4 Claims. (Cl. 195—36)

1. A process for preparing 6-aminopenicillanic acid, which comprises subjecting a penicillin to the action of enzymes of a microorganism selected from the group consisting of *Bacillus megaterium* var. *penicillalyticum* ATCC 14945 and *Bacillus megaterium* var. *noncitrovorum* ATCC 14946, whereby 6-aminopenicillanic acid is obtained.

3,144,396
PROCESS FOR PURIFICATION OF N-ALKYL-N-VINYL AMIDES
John W. Lyon, Charleston, and Bertrand D. Ash, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 2, 1959, Ser. No. 856,673
7 Claims. (Cl. 202—42)

1. A process for recovering N-alkyl-N-vinylamides from an admixture of said amide and acetic acid, said admix-

ture capable of forming an azeotrope of the amide and acetic acid, which process comprises adding to the admixture an entrainer selected from the group consisting



of benzene, toluene, ethyl benzene, xylene, heptane, methylcyclohexane, octane, dibutyl ether and 1-chloro-3-methyl-butane and distilling the acetic acid from the mixture as a minimum boiling azeotrope with the entrainer.

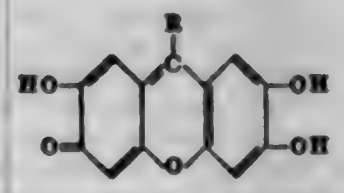
3,144,397

CHEMICAL MANUFACTURE OF GERMANIUM AND ITS COMPOUNDS

Jiří Šramberg, 2234 Dukla, and Josef Seidl, 1279 Denisova, both of Pardubice, Czechoslovakia

No Drawing. Filed Apr. 26, 1960, Ser. No. 24,658
6 Claims. (Cl. 204—105)

1. The method of recovering germanium from an aqueous concentrated hydrochloric acid solution containing a low concentration of germanium ions and also containing iron ions, which comprises passing said solution through an ion exchanger resin consisting essentially of the polycondensation reaction product of formaldehyde and a fluorone derivative of the formula:



wherein R is selected from the group consisting of monohydroxyphenyl and dihydroxyphenyl, said ion exchange resin being specific for germanium ions, so as to cause selective adsorption of said germanium ions by said ion exchange resin while said iron ions pass through and are not adsorbed by said ion exchange resin.

3,144,398

POLYETHYLENE PRODUCT AND PROCESS

William C. Reiser, Barrington, R.I., Edward M. Redding, Winnetka, Ill., Joseph J. Hlavy, Levittown, Pa., Arthur W. Sloan, Washington, D.C., and William D. Stewart, Alexandria, Va., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed June 16, 1958, Ser. No. 742,235
18 Claims. (Cl. 204—154)

1. A process comprising stretching polyethylene at a temperature from room temperature up to 65° C. and then irradiating the polyethylene at a dosage between about 20×10^6 and 200×10^6 rep.

3,144,399

POLYETHYLENE PRODUCT

William C. Reiser, Barrington, R.I., Edward M. Redding, Winnetka, Ill., Joseph J. Hlavy, Levittown, Pa., Arthur W. Sloan, Washington, D.C., and William D. Stewart, Alexandria, Va., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed June 16, 1958, Ser. No. 742,236
11 Claims. (Cl. 204—154)

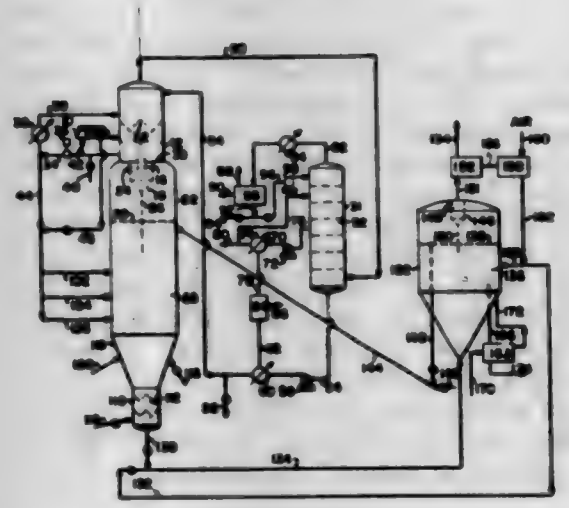
1. Irradiated, biaxially oriented polyethylene stretched at least 100% in each direction and below the break limit.

3,144,400

FLUID COKING PROCESS

Harold N. Weinberg, East Brunswick, Albert S. Perley, Martinsville, and Frederick J. Kaiser, Jr., Morris Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 16, 1960, Ser. No. 76,194
9 Claims. (Cl. 208—81)



1. In a process wherein heavy hydrocarbon oil is thermally cracked to lower boiling hydrocarbons and coke in a dense fluidized bed of solid particles in a single coking zone and heat is supplied to said cracking step by burning part of the coke solids in a burning zone and returning the heated solids to said cracking step in said single coking zone, the improvement which comprises passing hot cracked gaseous product directly from said cracking step to a scrubbing zone, introducing an oil consisting essentially of a whole petroleum crude oil feed into said scrubbing zone for contacting said whole crude oil feed and said cracked gaseous product to scrub out entrained solids from said feed into said cracked gaseous product and to condense heavy hydrocarbons from said cracked gaseous product and to vaporize lower boiling hydrocarbons from said whole crude oil feed, introducing a fluidizing gas into the bottom portion of said dense fluidized bed to maintain the solid particles in a fluidized condition, removing a bottoms fraction from said scrubbing zone and utilizing at least part thereof as the oil feed to said dense fluidized bed, and providing additional heat for the distillation of said whole crude oil feed in said scrubbing zone by supplying more heated solid particles from said burning zone and more heat to said dense fluidized bed in said cracking step than is necessary for cracking said oil feed and introducing a vaporizable liquid in addition to said oil feed into said dense fluidized bed for vaporizing said liquid and for heating the formed vapors and passing the heated vapors to said scrubbing zone to supply heat thereto for the vaporiza-

tion of lower boiling hydrocarbons from said whole crude oil feed.

3,144,401

INCREASED YIELDS AND CATALYST LIFE IN CATALYTIC HYDROCRACKING

Frank G. Ciapetta, Silver Spring, Md., and Harry L. Coonradt, Woodbury, and William E. Garwood, Haddonfield, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 16, 1959, Ser. No. 846,844

3 Claims. (Cl. 208—112)

1. A process for hydrocracking a hydrocarbon fraction having an initial boiling point of at least about 400° F. and a sulfur content of less than 4 percent by weight to produce lower boiling products which comprises contacting said hydrocarbon fraction in the presence of hydrogen for an extended period of time with an initially unaged catalyst comprising between about 0.05 percent and 10 percent, by weight of the catalyst, of at least one noble metal of the platinum and palladium series deposited upon a synthetic composite of refractory oxides of at least two elements of Groups IIA, IIIB and IV of the Periodic Arrangement of Elements having an activity index of at least 25 under hydrocracking reaction conditions to convert said hydrocarbon fraction to lower boiling products with a net consumption of hydrogen; adding substantial quantities of sulfur compounds to said hydrocarbon fraction to obtain a sulfur content in the range from about 0.5 to about 5 weight percent of said hydrocarbon fraction during a period of time which extends from the initial contacting of the hydrocarbon fraction with the catalyst to a time within the range from about 0.5 hour to about 14 days after said initial contacting; discontinuing said addition of sulfur compounds after said period of time has expired; and continuing the conversion of said hydrocarbon fraction without added sulfur compounds until such time as the catalyst becomes sufficiently aged as to require regeneration.

3,144,402

REACTIVATION OF A PLATINUM GROUP CATALYST COMPOSITE EMPLOYED IN THE REFORMING OF A NAPHTHA

Eugene F. Schwarzenbek, Short Hills, and John Turkevich, Princeton, N.J., assignors to Pullman Incorporated, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 317,368, Oct. 28, 1952. This application Dec. 16, 1963, Ser. No. 330,660

7 Claims. (Cl. 208—140)

4. In a reforming process which comprises contacting a naphtha with a fluidized mass of finely divided catalyst comprising a catalytic element selected from the group consisting of platinum and palladium supported on a carrier selected from a group consisting of silica, alumina, titania, thoria, zirconia, pumice, kieselguhr, fuller's earth, magnesia, silica-alumina and silica-magnesia at a temperature of about 800 to 950° F., a weight space velocity of about 0.25 to about 5, in the presence of added hydrogen in the amount of 0.5 to about 20 mols of hydrogen per mol of naphtha, at a total pressure of about 100 to 700 p.s.i.g., and at a catalyst to oil ratio of 0.1 to about 10 mols, such that a reformed liquid product is obtained and a carbonaceous material is deposited on the catalyst thereby decreasing the catalytic properties of the catalyst; the method for improving the catalytic properties of the used catalyst which includes the step of treating the used catalyst with an oxygen-containing gas having an oxygen pressure of about 5 to about 200 p.s.i.a., at a temperature of about 800 to about 900° F. for a period sufficient to restore a substantial portion of the catalytic properties of the used catalyst.

3,144,403

SWEETENING HYDROCARBONS

Lawrence N. Jacob, Toledo, Ohio, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 24, 1961, Ser. No. 154,879

4 Claims. (Cl. 208—207)

1. Process for reducing the mercaptan content of hydrocarbons by oxidation of mercaptans to disulfides which comprises contacting hydrocarbons containing mercaptans with a phenylene diamine inhibitor sweetening agent and oxygen in the presence of an alkaline catalyst consisting essentially of a solid anion exchange resin, and separating hydrocarbons having reduced mercaptan content from the solid resin.

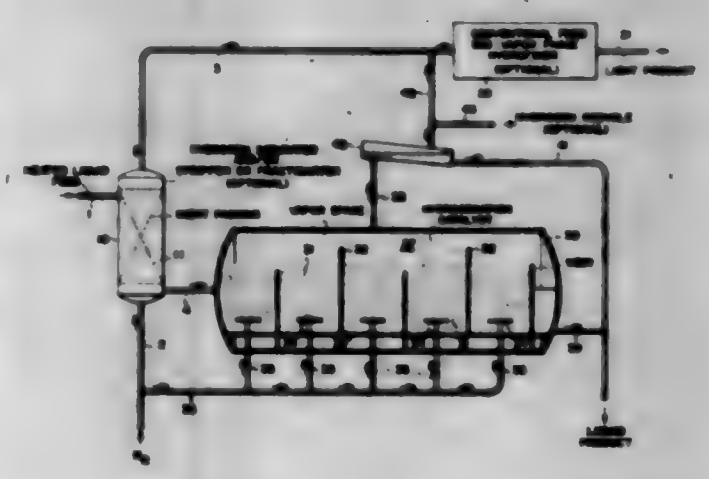
3,144,404

HYDROTREATING PROCESS AND APPARATUS

Charles W. Tyson, Summit, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

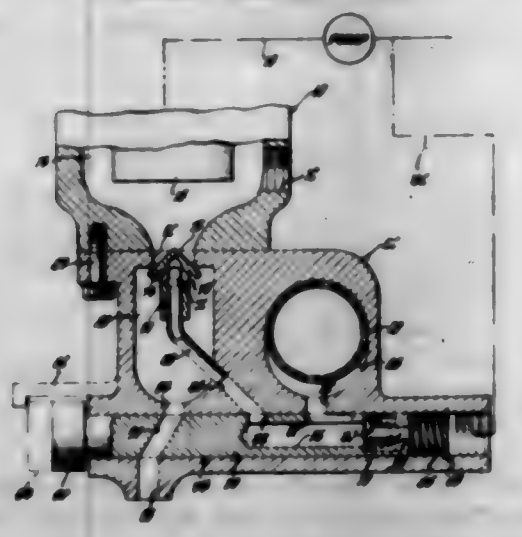
Filed Jan. 3, 1961, Ser. No. 80,181

5 Claims. (Cl. 208—264)



1. A method of hydrotreating a hydrocarbon oil at least a substantial portion of which is in liquid phase, which comprises providing a horizontally elongated fixed bed of hydrogenating catalyst having a length over five times its height and a width one-half to two times its height and being arranged in an enclosing reaction zone to provide a passageway for gaseous material arranged above the top and for the length of said fixed catalyst bed, introducing preheated liquid oil feed into one end of said fixed catalyst bed and flowing the oil feed in a horizontal direction through said fixed catalyst bed whereby a relatively long catalyst contacting time is provided for the oil feed, maintaining the liquid level of the liquid phase oil feed greater than about 50% of the fixed catalyst bed height, introducing free hydrogen into the lower portions of said fixed catalyst bed at a plurality of regions spaced along the length of said catalyst bed for upward and vertical passage therethrough and in an amount sufficient to substantially saturate the oil feed with hydrogen and in excess to agitate the oil feed as it passes horizontally through said fixed catalyst bed whereby gaseous material passes upwardly into said passageway and has a short catalyst contacting time, collecting gaseous material leaving said catalyst bed in said passageway above said catalyst bed, withdrawing collected gaseous material from the top of said reaction zone via said passageway, and withdrawing treated liquid oil from the other end of said catalyst bed.

3,144,685
FILTER PURGING DEVICE
Randall E. Beinke, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1961, Ser. No. 134,959
1 Claim. (Cl. 210—117)



In a pressurized fluid system having a filter housing containing a filter chamber, a silt chamber, a communicating passage between said filter chamber and said silt chamber and a filter element in said filter chamber, a purging device comprising:

a fluid storage chamber in said housing;

fluid pressurizing and volume limiting means in said storage chamber;

a first passage for conveying filtered fluid under pressure to said storage chamber;

a check valve in said first passage having an open position permitting ingress of fluid to said storage chamber and movable to a closed position preventing the ingress of fluid to said storage chamber upon the attainment of a predetermined charge of fluid in said storage chamber;

a valve chamber in said housing;

a second passage connecting said storage chamber with said valve chamber;

a third passage connected through said valve chamber to said second passage and connecting said valve chamber with said silt chamber;

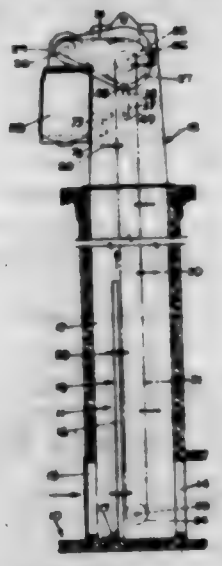
a silt chamber drain passage in said housing;

a second valve member in said valve chamber having means biasing said second valve to a first position preventing communication between said second and third passages and closing said drain passage, said second valve having means for moving said second valve to a second position permitting communication between said second and third passages and opening said drain passage; and

a third valve in said communicating passage having means for moving said third valve to a first position permitting communication between said filter chamber and said silt chamber and having means responsive to fluid pressure in said third passage for moving said third valve to a second position preventing communication between said filter chamber and said silt chamber.

3,144,686
WIPER MECHANISM FOR SCREENING APPARATUS
Wilford P. Criss, Columbus, Ohio, assignor, by mesne assignments, to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Feb. 16, 1960, Ser. No. 9,011
5 Claims. (Cl. 210—159)

1. An apparatus for screening material from a flowing stream of water comprising a stationary frame, a screen disposed in the path of flow of said stream of water to trap material carried by the stream of water, a rake for removing the trapped material from the screen, driven means connected to the rake for moving the rake into engagement with the screen and along the screen to remove the material therefrom, said driven means also moving the rake upwardly beyond the screen to carry the material away from the screen, a wiper disposed beyond the screen to be operative with the rake to remove the material from the rake, an operating mechanism operatively connected to said wiper for drawing the wiper across the rake and beyond the rake to a position out of the path of move-



ment of the rake to permit the rake to move past the wiper, a drive for positively actuating said operating mechanism, means for operating said drive by engagement of the driven means with said drive for drawing the wiper across the rake and to a position beyond the path of movement of the rake during continued movement of the rake, and guiding means for said wiper carried by said stationary frame independently of said rake, said guiding means including means whereby said wiper is free to move upwardly while in wiping contact with said rake and at the same time wipes across the rake to remove material therefrom until it moves beyond the rake as above set forth.

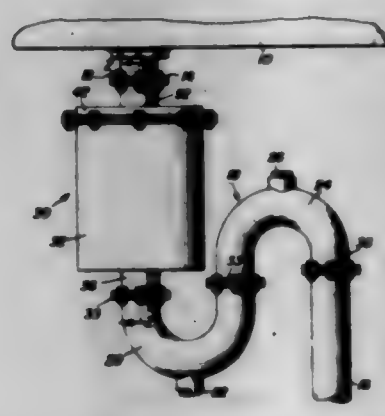
3,144,407
SEPARATOR FOR IMMISCIBLE FLUIDS
Cesar Olmos, Tulsa, Okla., assignor to Fram Corporation, Providence, R.I., a corporation of Rhode Island
Filed July 10, 1961, Ser. No. 122,749
2 Claims. (Cl. 210—307)



1. A separator for immiscible liquids, one of which is heavier than the other, comprising a head having an

inlet for the mixed liquids and an outlet for the lighter of the two liquids, a shell adapted to be supported by the head in a downwardly extending position and having an upper end portion that sealingly engages the head and a closed lower end, a center pipe secured to the head in communication with said inlet and extending centrally downwardly from the head, a coalescer cartridge and a separator cartridge mounted on the pipe in axial alignment with the separator cartridge above the coalescer cartridge, a sealing gasket on the pipe between the two cartridges and said pipe having an opening leading to the interior of the coalescer cartridge so that the mixed liquids are delivered by the pipe to the coalescer cartridge to pass outwardly therethrough and then to the outer surface of the separator cartridge to pass inwardly through this cartridge to surround the pipe and flow along the pipe to said outlet, means for clamping these cartridges on the pipe so that they are supported by the head independently of the shell, threaded means at the outer end of the pipe for removably clamping the shell to the head, and an outlet for draining the separated heavier liquid from the shell.

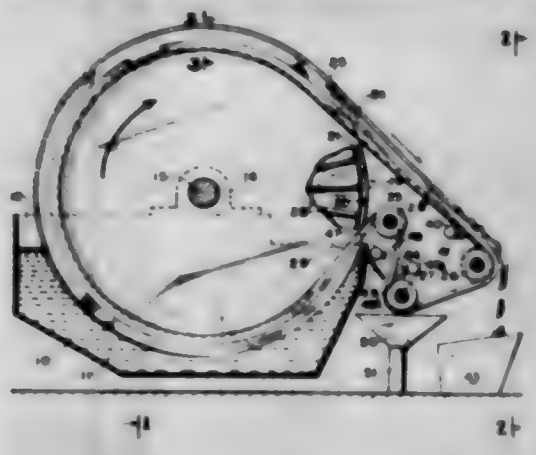
3,144,488
GREASE TRAP
Restituto P. Pascual, 2246 Medel St., Santa Ana, Manila, Philippine Republic
Filed Jan. 19, 1962, Ser. No. 167,314
6 Claims. (Cl. 210—322)



1. A grease trap for kitchen drain systems of the type including a sink drain outlet, a main drain line and a gooseneck trap connected therebetween, comprising a vertically elongated housing, inlet and outlet means at the top and bottom of said housing and respectively connected to and communicating with and supported by said sink drain outlet and said gooseneck trap, a plurality of vertically spaced separator units disposed in said housing in spaced relation to and positioned between said inlet and outlet means, each unit comprising a pair of reversely dished perforated members with a perforated disk therebetween, said members and disks having an upstanding wall at the periphery of each aperture and encircling the latter, support means on the interior walls of said housing carrying said units.

3,144,489
FILTER
Leo A. Jaubois, Moline, Ill., assignor to Ametek, Inc., a corporation of Delaware
Filed Oct. 4, 1960, Ser. No. 60,488
1 Claim. (Cl. 210—391)

In a drum type filter, a drum mounted for rotation about a horizontal axis; a discharge roll mounted for rotation about a horizontal axis parallel with said drum axis; an endless cloth belt surrounding a substantial portion of the periphery of said drum and discharge roll; undulating means on the periphery of said discharge roll; said undulating means comprising ridges extending radially outwardly from the peripheral surface of said discharge roll and forming with a portion of said belt, compartments for entrapping fluid under pressure; nozzle means adjacent the underside of said belt and said discharge roll for directing a jet of pressure fluid between the underside of said belt and the point on the periphery of said discharge roll where said belt passes onto said discharge roll whereby fluid pressure enters said compartments and causes said portion of the belt forming the same to balloon; means for moving said endless belt; and means for rotating said discharge roll whereby said portion of said belt forming the compartments continuously changes.



3,144,410
THIXOTROPIC LUBRICANT GREASE AND THICKENER THEREFOR
Thurston P. Traise, Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Original application Dec. 23, 1960, Ser. No. 77,856. Divided and this application Oct. 9, 1962, Ser. No. 238,518
5 Claims. (Cl. 252—51.5)

1. A thixotropic lubricating grease comprising a normally liquid lubricant vehicle thickened to grease consistency with at least one compound having the general formula



wherein R and R′ are hydroabietyl radicals selected from the group consisting of a dehydroabietyl radical, a dihydroabietyl radical, and a tetrahydroabietyl radical.

3,144,411
BARIUM-CONTAINING LEAD TITANATE FERROELECTRIC COMPOSITIONS AND ARTICLES
Frank Kulcsar, Fairview Park, and Bernard Jaffe, South Euclid, Ohio, assignors to Clevite Corporation, a corporation of Ohio
Filed Nov. 13, 1961, Ser. No. 151,847
16 Claims. (Cl. 252—62.9)



1. As a composition of matter, a ceramic solid solution consisting essentially of a material selected from

the area ABCD of FIGURE 3 and containing barium substituted for from 1 to 25 atom percent of the lead in said material.

3,144,412

SOLID DETERGENT COMPOSITIONS

Jack Thomas Inamorato, Flushing, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 1, 1960, Ser. No. 66,443

9 Claims. (Cl. 252—138)

1. A detergent composition comprising a substantially homogeneous mixture in solid form of (*a*) a water-soluble non-ionic higher alkyl phenol ethylene oxide detergent having about 5 to 20 carbon atoms in the alkyl group and about 5 to 50 mols of ethylene oxide and (*b*) a water-soluble higher alkyl mononuclear aryl sulfonate detergent having about 8 to 15 carbon atoms in said alkyl group, the ratio of said non-ionic detergent to alkyl aryl sulfonate detergent being from about 90:10 to 30:70 by weight and said detergents being in a total amount from about 5 to 50% by weight of the composition, and a mixture of (*c*) an alkali metal carboxymethylcellulose and (*d*) water-soluble polyvinyl alcohol soil-suspending agent having a viscosity within the range of about 1.8 to 65 centipoises, said carboxymethylcellulose and polyvinyl alcohol soil-suspending agents being from about 0.05 to 5% by weight of each in said composition, the balance being primarily water-soluble inorganic builder salts.

3,144,413

CALCIUM CARBIDE MANUFACTURE

John N. Underwood, Sunbern, N.Y., assignor to Union Carbide Corporation, a corporation of New York

Filed Dec. 6, 1961, Ser. No. 157,343

2 Claims. (Cl. 252—188.3)

1. In a process for producing calcium carbide furnace feed by compacting a finely divided mixture of calcium-bearing material and carbon between rolls to provide a product which is initially in substantially sheet-form as it exits the rolls, the improvement which comprises force-feeding the finely divided mixture of calcium-bearing material and carbon between the rolls at a pressure which is sufficient to cause the sheet-form product exiting the rolls to spontaneously fracture along a line substantially parallel to the axes of said rolls whereby substantially prismatically shaped compacts of said mixture of calcium-bearing material and carbon are produced.

3,144,414

PROCESS FOR INCREASING THE HYDROCRACKING ACTIVITY OF A SUPPORTED NICKEL CATALYST USING PHOSPHOROUS PENTAFLUORIDE

Morris B. Silverman, Portland, Oreg., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 21, 1961, Ser. No. 97,167

1 Claim. (Cl. 252—437)

A process for increasing the hydrocracking activity of a catalyst consisting essentially of from 1 to 35 weight percent (as the metal) of nickel sulfide disposed on an active siliceous cracking support, said support containing at least 40 weight percent silica, which comprises contacting said catalyst with a phosphorous pentafluoride-containing fluid at a temperature in the range of from about 100° to 1000° F. for a period sufficient such that at least 0.05 weight percent of the final catalyst is PF_5.

3,144,415

PROCESS FOR INCREASING THE HYDROCRACKING AND HYDROGENATING ACTIVITY OF A SUPPORTED NICKEL CATALYST USING PHOSPHINE

Morris B. Silverman, Portland, Oreg., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 21, 1961, Ser. No. 97,168

1 Claim. (Cl. 252—437)

A process for increasing the hydrocracking and hydrogenation activity of a catalyst consisting essentially of from 1 to 35 weight percent non-sulfided nickel disposed on an active siliceous cracking support, said support containing at least 40 weight percent silica, which comprises contacting said catalyst with a phosphine-containing fluid at a temperature in the range of from about 100° to 1000° F. for a period sufficient such that at least 0.05 weight percent of the final catalyst is PH_3.

3,144,416

METHOD OF MANUFACTURING SILVER CATALYSTS TO BE USED FOR VAPOR PHASE DIRECT OXIDATION OF OLEFINS

Kiyokuro Hosoda, Yokohama, Hideo Kinoshita, Tokyo, Katsuyoshi Hirao, Yokohama, Isamu Nazaki, Tokyo, Isamu Noguchi, Ota-ku, Tokyo, and Toshiharu Hirayama, Tokyo, Japan, assignors to Furukawa Electric Company Limited, Tokyo, Japan

No Drawing. Filed Feb. 4, 1960, Ser. No. 6,591

Claims priority, application Japan Feb. 17, 1959

4 Claims. (Cl. 252—476)

1. A method of manufacturing a silver catalyst for use in the vapour phase catalytic oxidation of olefin, which comprises forming a slurry with a volatile liquid inert to silver and a powder of active catalytic silver and a powder of electrolytic silver having a dendritic structure which has been deposited on a cathode in the electrolysis of silver nitrate solution, in a proportion of active catalytic silver powder to electrolytic silver within a range of from 10 to 50% by weight to dilute and disperse the powder of active silver into the powder of electrolytic silver, the size of powder of inactive electrolytic silver being within the range of −50+200 mesh, drying the slurry and press-molding the product thus obtained into granules; said catalytic silver powder being produced by reducing silver oxide obtained by reacting caustic alkali with silver salts.

3,144,417

POLYMERIZATION OF EPOXIDES

Frederick E. Bailey, Jr., Charleston, and Haywood G. France, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 2, 1959, Ser. No. 817,487

7 Claims. (Cl. 260—2)

3. A copolymer obtained by polymerizing a mixture containing a saturated vicinal epoxy hydrocarbon having a single vicinal epoxy group and containing 2 to 4 carbon atoms and a compound selected from the group consisting of N-(2,3-epoxypropyl)piperidine and N-(2,3-epoxypropyl)alkylpiperidine.

3,144,418

POLYMERIZATION OF EPOXIDES

Fred N. Hill, South Charleston, and John T. Fitzpatrick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 17, 1959, Ser. No. 833,979

12 Claims. (Cl. 260—2)

1. A process for polymerizing a saturated vicinal epoxy hydrocarbon having a single vicinal epoxy group and containing from 2 to 4 carbon atoms which comprises contacting said vicinal epoxy hydrocarbon with a catalytically significant quantity of a catalyst selected from the group consisting of zinc oxalate hydrate, cadmium phthal-

ate, zinc maleate, cadmium maleate and cerium oxalate, at an elevated temperature for a period of time sufficient to produce a solid polymer.

3,144,419
POLYURETHANE FROM PHENOL-ALDEHYDE RESINS CONTAINING PHOSPHORUS
Alvin Gutting, Bethesda, Md., assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 14, 1961, Ser. No. 124,019
12 Claims. (Cl. 260—2.5)

1. A polyurethane prepared by the reaction of an organic polyisocyanate with a member of the group consisting of (1) phosphite, (2) phosphate and (3) thiophosphate esters of oxyalkylated phenol-aldehyde resin, said resin being characterized by etherification of the resin molecule at the phenolic oxygen thereof by a plurality of divalent oxyalkylene radicals having the formula $(R_1O)_n$ in which R_1 is a member of the group consisting of ethylene radicals, propylene radicals, butylene radicals, hydroxypropylene and hydroxybutylene radicals, n is an integer from 1 to 20, the phosphorus being attached to a terminal oxygen of at least one of said divalent radicals, the remainder of said divalent radicals terminating in hydroxyl hydrogen.

3,144,420
HIGH IMPACT POLYSTYRENE
Charles F. Fryling, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Dec. 18, 1961, Ser. No. 160,032
1 Claim. (Cl. 260—4)

A process for producing a high impact polystyrene composition comprised of two phases and idealized as being a polystyrene matrix that has uniformly dispersed throughout it particles of a graft polymer that are so small as to be invisible to the naked eye, the copolymer having a backbone chain of elastomer having grafted thereon side chains of polystyrene, the amount of grafting being sufficient to anchor said particles in said matrix, said process comprising:

(*a*) forming a solution of rubber in styrene by dissolving in styrene a rubber that is a rubbery polymer of a conjugated diolefin,

(*b*) forming a solution of polystyrene in styrene by dissolving polystyrene in styrene,

(*c*) intimately mixing said two solutions so as to provide a homogeneous mixture which is comprised by weight of

	Percent
styrene	72–87
polystyrene	5–20
rubber	5–8

(*d*) adding to said homogeneous mixture a polymerization initiator, and

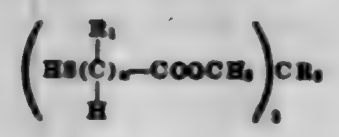
(*e*) polymerizing said homogeneous mixture to form said polystyrene composition.

3,144,421
EPOXY MOLDING COMPOUND INCLUDING A HIGH MOLECULAR WEIGHT SATURATED FATTY ACID
William T. Yost, Newark, Ohio, assignor, by mesne assignments, to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Apr. 11, 1961, Ser. No. 102,101
20 Claims. (Cl. 260—18)

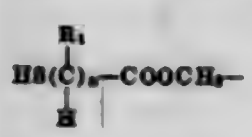
1. A dry fusible approximately neutral to slightly alkaline mineral filler-loaded polyepoxide resin thermosetting molding composition comprising in intimate admixture, (1) a solid fusible intermediate reaction product of (A) glycidyl polyether liquid at room temperature and having a 1,2 epoxy equivalency greater than 1.0 and (B) aromatic polyamine having primary amino groups as the sole reactive groups as curing agent for said polyether; (2) high molecular weight saturated fatty acid containing at least 10 carbon atoms in the molecule and solid at room temperature in an amount of from 0.15 to 0.26% by weight based on the weight of the molding composition; and (3) dry approximately neutral to slightly alkaline mineral filler in finely divided particulate form, in an amount of from 25–70% by weight based on the weight of the molding composition, said molding composition being indefinitely stable when stored at temperatures below 45° F. and being stable for at least about 5 weeks at room temperature and adapted to be molded and cured to a thermoset condition by the application of pressures of from 500–1500 p.s.i. and temperatures of from 230–315° F. for from about 3 to about 10 minutes.

3,144,422
POLYOLEFINS STABILIZED WITH PENTAERYTHRITOL MERCAPTO ESTERS
Otto A. Homberg, Woodlawn, Ohio, assignor to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 3, 1962, Ser. No. 164,180
13 Claims. (Cl. 260—23)

1. A polymer of a monoolefin having 2 to 4 carbon atoms having admixed therewith a stabilizing amount of a mercapto compound having the formula



when R_1 is selected from the group consisting of hydrogen and alkyl, R_2 is selected from the group consisting of alkyl and



and n is an integer from 1 to 4 inclusive.

3,144,423
ASPHALT COMPOSITION CONTAINING ATACTIC POLYPROPYLENE
Steven G. Belak, Claymont, and William J. Stout, Wilmington, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 29, 1960, Ser. No. 52,677
6 Claims. (Cl. 260—28.5)

1. As a new composition, a mixture of asphalt and atactic polypropylene having a molecular weight of from about 17,000 to about 25,000 obtained from the stereospecific polymerization of propylene, the content of atactic polypropylene in the mixture being in the range of 1–20% by weight and such that the penetration @ 77° F. is in the range of 70–120 and the penetration ratio is at least 30.

3,144,424
ASPHALT COATING COMPOSITION CONTAINING ASPHALTENES AND ATACTIC POLYPROPYLENE
James R. Clelland, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 3, 1960, Ser. No. 67,114
3 Claims. (Cl. 260—28.5)

1. A coating composition comprising from about 55 to about 75 percent by weight asphalt, from about 10

to about 30 percent by weight of added asphaltenes and from about 10 to about 25 percent by weight atactic polypropylene obtained from the stereo-specific polymerization of proxylene.

3,144,425

METHOD OF COATING FILM WITH A VINYLIDENE CHLORIDE COPOLYMER BLEND

Walter T. Koch, Drexel Hill, and Genevieve R. Stimmel, Swarthmore, Pa., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Nov. 5, 1959, Ser. No. 850,990
11 Claims. (Cl. 260—29.6)

1. A method of coating regenerated cellulosic film which comprises blending from 10 to 90 percent of an aqueous dispersion of a copolymer containing from about 85 to 94 percent by weight of vinylidene chloride and from about 6 to 15 percent by weight of a monomer selected from the group consisting of (C_8–C_{18}) alkyl acrylates and methacrylates, and from 10 to 90 percent of an aqueous dispersion of a copolymer containing from about 80 to 94 percent by weight of vinylidene chloride and from about 6 to 20 percent by weight of a monomer selected from the group consisting of acrylonitrile, (C_1–C_8) alkyl acrylates and methacrylates, acrylic acid, and methacrylic acid; and coating the surface of said regenerated cellulosic film with the blended aqueous dispersion.

3,144,426

PROCESS FOR THE PREPARATION OF AQUEOUS DISPERSIONS OF GRAFT INTERPOLYMER MATERIAL

Oliver W. Burke, Jr., 1238 Berkshire Road, Grosse Pointe, Mich., Oscar M. Grace, Madison Heights, Mich., and Rene G. Jennen, deceased, late of Detroit, Mich., by Michael Berry, temporary public administrator, Dearborn, Mich.; said Grace and said Berry assignors to said Burke

No Drawing. Filed Mar. 4, 1960, Ser. No. 12,684
1 Claim. (Cl. 260—29.7)

A process for the preparation of an aqueous polymer dispersion which consists in dissolving in a solvent a partially halogenated interpolymer composition, said polymer composition comprising polymerized C_4 to C_8 isoolefin in major proportion and polymerized C_4 to C_{18} multiolefin in minor proportion, adding water to the resulting interpolymer solution and emulsifying the same with the aid of an emulsifying agent, removing the solvent from the resulting emulsion, then adding thereto polymerizable monomer material selected from the class consisting of the monomers containing and polymerizable through, at least one ethylenically unsaturated group and combination thereof, and polymerizing at least a part of said monomer material with the aid of a free-radical generating catalyst.

3,144,427

POLYHYDRIC ALCOHOL DISPERSION OF A CHLOROPRENE POLYMER AND PROCESS OF PREPARING SAME

Donald Clark Thompson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,441
1 Claim. (Cl. 260—33.4)

A process for preparing a non-aqueous, latex-like dispersion of a plastic, benzene-soluble chloroprene polymer in a liquid polyhydric alcohol of not more than four carbon atoms, which process comprises polymerizing chloroprene in an alkaline aqueous dispersion in the presence of from 0.1 to 2%, by weight of said chloroprene, of an alkyl mercaptan containing from 8 to 18 carbon atoms, followed by adding said alcohol to said aqueous dispersion in an amount chosen so that the final amount thereof in the dispersion will be between about 40 to about 80% by weight of the total dispersion and then substantially completely evaporating water.

3,144,428

CONTACT ADHESIVE COMPOSITIONS

Stephen J. Kest, Cincinnati, Ohio, assignor to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed Mar. 1, 1962, Ser. No. 176,774
3 Claims. (Cl. 260—43)

1. A high-strength contact adhesive composition comprising a substantially homogeneous blend of:

(A) a polymer of chloroprene,

(B) from about 25% to about 200% by weight of a reaction product of a potentially heat-hardenable para-hydrocarbon-substituted phenol-aldehyde resinous reaction product with an amount of magnesium oxide sufficient to substantially completely react therewith, (C) from about 10% to about 40% by weight of a terpene-phenolic resinous reaction product, and

(D) from about 25% to about 200% by weight of an epoxy novolac resin,

the weights of said (B), (C) and (D) each being based on the weight of the polymer of choloroprene present.

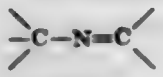
3,144,429

PROCESS OF PREPARING GEL FREE BLOCK COPOLYMERS BY USING A NONPOLYMERIZABLE NITROGEN - CONTAINING COMPOUND; AND PRODUCTS PREPARED THEREBY

Charles W. Strobel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 24, 1960, Ser. No. 64,268
16 Claims. (Cl. 260—45.5)

1. A process for preparing block copolymers which comprises initially contacting first monomeric material selected rfom the group consisting of conjugated dienes having 4 to 12 carbon atoms per molecule and vinyl-substituted aromatic compounds selected from the group consisting of substituted and unsubstituted styrene, 1-vinylnaphthalene and 2-vinylnaphthalene in which any substituents are selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, alkoxy, aryloxy, and dialkylamino in which the total carbon atoms of the combined substituents does not exceed 12 with a polymerization initiator having the formula $R(Li)_x$ wherein R is selected from the group consisting of aliphatic, cycloaliphatic and aromatic radicals and x is an integer of 1 to 4 in the presence of a hydrocarbon diluent selected from the group consisting of aromatic, paraffinic and cycloparaffinic hydrocarbons so as to form a polymeric block containing said first monomer, contacting said polymeric block with a non-polymerizable nitrogen-containing compound containing the structure



and otherwise free of substituents reactive with the lithium in said polymeric block and selected from the group consisting of heterocyclic nitrogen compounds containing up to 9 ring carbon atoms and up to 12 carbon atoms in substituents selected from the group consisting of alkyl, cycloalkyl, aryl, alkoxy and aryloxy radicals and N-substituted monoimines, N,N'-disubstituted diimines and N,N'-disubstituted carbodiimides containing up to 30 carbon atoms and in which each N-substituent is selected from the group consisting of alkyl, cycloalkyl, and aryl

radicals, and subsequently contacting the resulting polymeric block with a polar monomer selected from the group consisting of substituted and unsubstituted vinylpyridines, vinylquinolines and vinylisoquinolines in which any substituents are selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, alkoxy, aryloxy, and dialkylamino, the total carbon atoms in the combined substituents does not exceed 12, and in which the vinyl group is attached to a ring carbon other than a beta carbon and any alkyl groups on the alpha or gamma carbons with respect to the nitrogen are tertiary alkyl groups; lower alkyl acrylates, methacrylates and ethacrylates; acrylonitrile, methacrylonitrile, N,N-dimethylacrylamide, N,N-diethylmethacrylamide, vinylfuran and N-vinylcarbazole.

3,144,430
POLYPROPYLENE FILM AND METHOD OF MAKING

Albert N. Schaffhausen, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 9, 1961, Ser. No. 143,575
5 Claims. (Cl. 260—45.5)

1. A method of preparing with minimum waste a polymeric film having a uniform thickness and a tensile strength in mutually perpendicular directions exceeding that of unoriented isotactic polypropylene, comprising the steps of intimately blending from 5 to 35 parts of crystalline poly(vinyl methyl ether) and correspondingly from 95 to 65 parts of isotactic polypropylene, forming sheet material from the blended polymers, heating said sheet material to a temperature slightly below its melting point, and biaxially orienting said sheet material.

3,144,431
OXYMETHYLENE POLYMERS STABILIZED WITH CARBAMATES

Thomas J. Dolce, Summit, Frank M. Berardinelli, South Orange, and Donald E. Hudgin, Summit, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 5, 1959, Ser. No. 831,720
14 Claims. (Cl. 260—45.85)

2. A polymer composition comprising an oxymethylene polymer and a stabilizing proportion of a carbamate, said oxymethylene polymer containing oxyalkylene groups having more than one carbon atom and containing from 60 to 99.6 mol percent of oxymethylene groups, said carbamate being selected from the group consisting of alkyl carbamates, alkylene and oxyalkylene dicarbamates, and polymeric carbamates.

3,144,432
POLYCARBONATE POLYMERIZATION PROCESS

Daniel W. Fox, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 18, 1961, Ser. No. 132,317
4 Claims. (Cl. 260—47)

1. A process for the preparation of linear aromatic polymers comprising (1) passing a carbonyl halide into a solution comprising a dihydric phenol, chlorobenzene and pyridine to form a reaction mixture containing pyridine hydrochloride and a solution of the carbonate polymer in chlorobenzene, substantially all of the pyridine hydrochloride being present as a precipitate, (2) separating the precipitated pyridine hydrochloride from the reaction mixture, (3) distilling the solution of the carbonate polymer in the chlorobenzene to remove substantially all residual pyridine hydrochloride, and (4) separating the carbonate polymer from the chlorobenzene.

3,144,433
PROCESS FOR THE PRODUCTION OF EUPOLYOXYMETHYLENES

Heinrich Hopff and Hermann Metzler, Zurich, Switzerland, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt, Germany

No Drawing. Filed June 13, 1960, Ser. No. 35,412
Claims priority, application Germany June 12, 1959
6 Claims. (Cl. 260—67)

1. In a process for the production of eupolyoxymethylenes by bulk polymerization, the step which comprises bulk polymerizing trioxane in the absence of water in the presence of 0.01–10% by weight of at least one halogenated methane selected from the group consisting of carbon tetrachloride, chloroform, methylene chloride and bromoform and 0.01 to 10% by weight of at least one peroxy compound selected from the group consisting of persulfates and organic peroxides relative to the amount of trioxane at a temperature between about 50 and 90° C.

3,144,434
POLYESTER-CONTAINING POLYIMIDAZOLINES

Elizabeth C. Dearborn, Boston, and Philip K. Isaacs, Brookline, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,458
9 Claims. (Cl. 260—75)

1. The product derived by (1) reacting 3 moles of a glycol containing 2 to 10 carbon atoms and 4 moles of an aliphatic dicarboxylic acid containing 3 to 10 carbon atoms; (2) separately reacting 1 mole of an aliphatic monocarboxylic acid containing 1 to 18 carbon atoms and 1 mole of a polyamine having the formula

$$NH_2(CH_2CH_2NH)_nCH_2CH_2NH_2$$

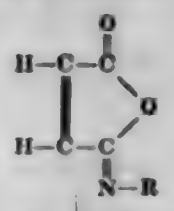
when n is a whole number having the value 1 to 4; and (3) reacting the product of step (2) with the product of step (1), each of said steps (1), (2) and (3) being carried out in a deoxygenated system and while continuously removing the water of reaction formed during each step.

3,144,435
POLYMERS OF N-SUBSTITUTED ISOMALEIMIDES AND A PROCESS FOR THEIR PREPARATION

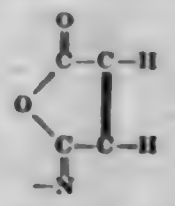
Carol K. Sauers, Middlebush, and Robert J. Cotter, New Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 24, 1960, Ser. No. 31,255
25 Claims. (Cl. 260—78)

11. Process for the preparation of thermoplastic linear polymers which comprises admixing a reaction mixture containing an organic diluent, an N-substituted isomaleimide having the general formula:



in which R is selected from the group consisting of monovalent hydrocarbon radicals and divalent hydrocarbon radicals having as a substituent on their terminal carbon atom a radical having the formula:



and from about 0.9 to about 1.1 moles per mole of said N-substituted isomaleimide of an organic diamine having at least one hydrogen atom attached to each nitro-

gen atom, said organic diamine being free of carboxyl and hydroxyl groups, at a temperature of from about 100° C. to about 150° C. for a period of time sufficient to produce a thermoplastic polymer.

3,144,436

PROCESS FOR DEGRADING STEREOREGULAR POLYMERS

Robert Eugene Greene and Edwin Thomas Pieski, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 4, 1961, Ser. No. 80,533
10 Claims. (Cl. 260—93.7)

1. A process for improving the processibility of high molecular weight stereoregular hydrocarbon polymers which comprises treating the said polymer melt in the essential absence of oxygen in a screw extruder, at the temperature of from the the polymer melting point to 100° C. above its melting point, with 0.005–0.5 weight percent of a free radical initiator until the melt index of the resulting stereoregular product is increased from the range "no-flow"–10 to 0.1–100, under the conditions of the A.S.T.M. Test No D–1238–57T Condition E, with the amount of oxygen introduced into the polymer during the process being less than 0.2% of its total weight.

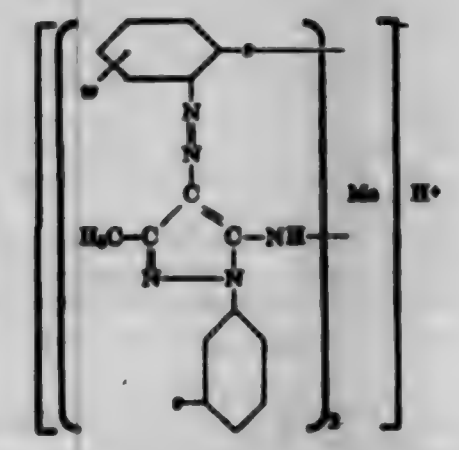
3,144,437

CHROMIUM AND COBALT COMPLEX COMPOUNDS OF MONOAZO DYESTUFFS

Hanspeter Uehlinger, Binningen, Switzerland, assignor to Sandoz A.G., Basel, Switzerland

No Drawing. Filed July 10, 1958, Ser. No. 747,570
Claims priority, application Switzerland Mar. 15, 1957
6 Claims. (Cl. 260—147)

1. A metal complex dyestuff which corresponds to the formula



wherein

z is a bridging link selected from the group consisting of —O— and —COO—,

w is a member selected from the group consisting of a hydrogen atom, a lower alkyl sulfonyl, a sulfonic acid lower alkyl amide, a sulfonic acid lower oxyalkyl amide, and a sulfonic acid mononuclear aryl amide group,

v is a member selected from the group consisting of a hydrogen atom and a chlorine atom,

and

Me is a metal atom selected from the group consisting of a chromium and a cobalt atom.

3,144,438

METHOD FOR THE PREPARATION OF ORGANIC SULFIDE DERIVATIVES AND COMPOSITIONS RESULTING THEREFROM

George Sosnovsky, Chicago, Ill., assignor to IIT Research Institute, a corporation of Illinois

No Drawing. Original application Feb. 13, 1961, Ser. No. 88,627. Divided and this application Apr. 17, 1962, Ser. No. 188,258
3 Claims. (Cl. 260—329)

1. The method of making 2-benzoxytetrahydrothiophene which comprises the steps of: reacting tetrahydrothiophene with tertiary butyl perbenzoate in the presence of cuprous bromide and separating said 2-benzoxytetrahydrothiophene from the other reaction products.

3. The method of making 2,3 dihydrothiophene which comprises the steps of: heating 2-benzoyloxytetrahydrothiophene in a partial vacuum and collecting said 2,3 dihydrothiophene as heating progresses.

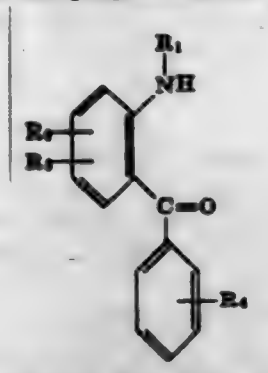
3,144,439

PROCESS FOR PRODUCTION OF BENZODIAZEPINES

Earl Reeder, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 21, 1962, Ser. No. 204,060
3 Claims. (Cl. 260—239)

1. A process for the preparation of compounds of the formula

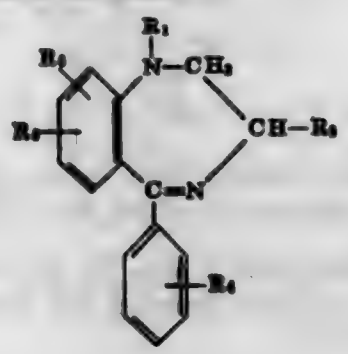


wherein R_1 is selected from the group consisting of hydrogen, lower alkyl and lower alkenyl; R_2 is selected from the group consisting of hydrogen and lower alkyl and R_4, R_5 and R_6 are selected from the group consisting of hydrogen, halogen, trifluoromethyl, nitro, amino, lower alkanoylamino, lower alkylthio, lower alkylsulfonyl, lower alkylsulfinyl, lower alkoxy, hydroxy, lower alkyl, cyano, carboxy, carbo-lower alkoxy, carbamyl and di-lower alkylamino, which comprises reacting a compound of the formula



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, and lower alkenyl; R_4, R_5, and R_6 are selected from the group consisting of hydrogen, halogen, trifluoromethyl, nitro, amino, lower alkanoylamino, lower alkylthio, lower alkylsulfonyl, lower alkylsulfinyl, lower alkoxy, hydroxy, lower alky, cyano, carboxy, carbo-lower alkoxy, carbamyl and di-lower alkylamino;

with a compound of the formula



wherein R_4 is selected from the group consisting of hydrogen and lower alkyl.

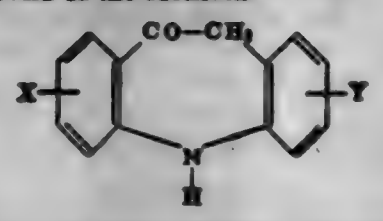
3,144,440

5H-DIBENZ[b,f]AZEPIN-10(11H)-ONE COMPOUNDS

Walter Schindler, Riehen, near Basel, and Hans Blattner, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 31, 1962, Ser. No. 220,887
Claims priority, application Switzerland Nov. 16, 1959
5 Claims. (Cl. 260—239)

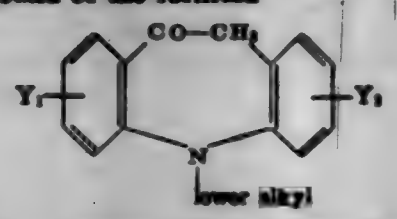
1. A compound of the formula



wherein X is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy, and

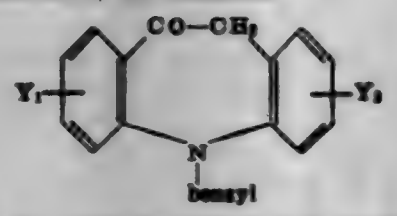
Y is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl.

4. A compound of the formula



wherein Y_1 is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy, and Y_2 is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl.

5. A compound of the formula



wherein Y_1 is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy, and

Y_2 is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl.

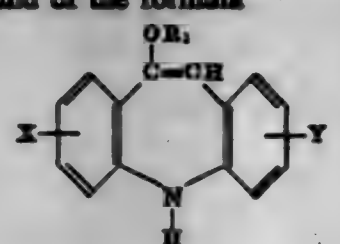
3,144,441

10-LOWER ALKOXY-5H-DIBENZ[b,f]AZEPINES

Walter Schindler, Riehen, near Basel, and Hans Blattner, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1962, Ser. No. 223,300
Claims priority, application Switzerland Nov. 16, 1959
5 Claims. (Cl. 260—239)

1. A compound of the formula



(I)

wherein

X is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy,

Y is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl, and

R_1 is lower alkyl.

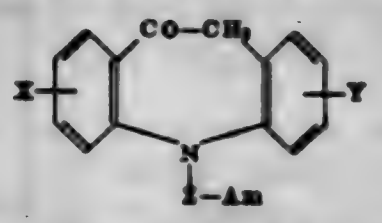
3,144,442

5-BASIC-SUBSTITUTED-5H-DIBENZ[b,f]AZEPIN-10(11H)-ONE COMPOUNDS

Walter Schindler, Riehen, near Basel, and Hans Blattner, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1962, Ser. No. 223,301
Claims priority, application Switzerland Nov. 16, 1959
21 Claims. (Cl. 260—239)

1. A compound selected from the group consisting of an N-heterocyclic compound of the formula



wherein X is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy,

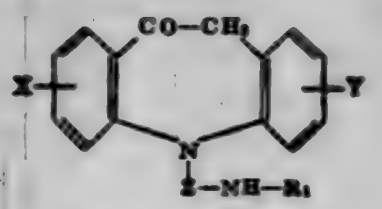
Y is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl,

Z is alkylene with 2 to 6 carbon atoms, and

Am is a member selected from the group consisting of di-(lower alkyl)-amino, 1-pyrrolidinyl, piperidino, morpholino, 4-methyl-1- piperazinyl, 4-(β-hydroxyethyl)-1-piperazinyl, 4-(β-acetoxyethyl)-1-piperazinyl, N-methyl-pyrrolidyl, N-methyl-piperidyl and N-methyl-hexahydroazepinyl,

and the non-toxic salt thereof with a compatible acid.

8. A member selected from the group consisting of a compound of the formula



wherein one of the symbols X and Y represents a member selected from the group consisting of hydrogen, chlorine, and bromine, and the other of the symbols X and Y represents hydrogen, both of the symbols X and Y simultaneously represent a member selected from the group consisting of chlorine and methyl,

Z represents a member selected from the group consisting of lower straight chained and lower branched chained alkylene, and

R_1 represents a member selected from the group consisting of lower alkyl and lower alkenyl,

and its pharmaceutically acceptable acid addition salts.

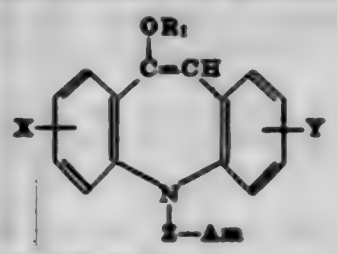
3,144,443

5-TERTIARYAMINOALKYL-10-ALKOXY-5H-DIBENZ[b,f]AZEPINES

Walter Schindler, Riehen, near Basel, and Hans Blattner, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 11, 1962, Ser. No. 223,302
Claims priority, application Switzerland Nov. 16, 1959
8 Claims. (Cl. 260—239)

1. A compound selected from the group consisting of an N-heterocyclic compound of the formula



(VI)

wherein R_1 is lower alkyl,

X is a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl and lower alkoxy,

Y is a member selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl,

Z is an alkylene chain containing 2 to 6 carbon atoms, and

Am is a member selected from the group consisting of di - (lower alkyl)amino, 1 - pyrrolidinyl, piperidino, morpholino, 4-methyl-1-piperazinyl, 4-(β - hydroxyethyl)-1-piperazinyl, 4-(β-acetoxyethyl)-1-piperazinyl N-methyl - pyrrolidyl, N - methyl-piperidyl and N-methyl-hexahydroazepinyl,

and the non-toxic salt thereof with a compatible acid.

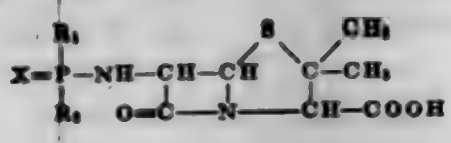
3,144,444

NOVEL DERIVATIVES OF 6-AMINO-PENICILLANIC ACID

Billie Kenneth Koe, Gales Ferry, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1960, Ser. No. 58,633
10 Claims. (Cl. 260—239.1)

1. A compound selected from the group consisting of those having the formula:



and the pharmacologically acceptable salts thereof wherein X is selected from the group consisting of oxygen and sulfur; R_1 is selected from the group consisting of cyclohexyl, phenoxymethyl, phenylmercaptomethyl, alkyl of from 1 to 8 carbon atoms, substituted alkyl wherein the substituent is selected from the group consisting of chloro, bromo, nitro and alkoxy of from 1 to 4 carbon atoms; benzyl, allyl, phenyl, substituted phenyl wherein the substituent is selected from the group consisting of chloro, bromo, nitro and alkoxy of from 1 to 4 carbon atoms and alkyl of from 1 to 4 carbon atoms; R_2 is selected from the group consisting of R_1 and YR_3 wherein Y is selected from the group consisting of oxygen and sulfur; R_3 is selected from the group consisting of allyl, benzyl, phenyl, substituted phenyl wherein the substituent is selected from the group consisting of chloro, bromo, nitro and alkoxy of from 1 to 4 carbon atoms and alkyl containing 1 to 4 carbon atoms; alkyl of from 1 to 8 carbon atoms and substituted alkyl wherein the substituent is selected from the group consisting of chloro, bromo, nitro and alkoxy of from 1 to 4 carbon atoms.

3,144,445

CRYSTALLINE FORM OF D-6-(2-AMINO-2-PHENYL-ACETAMIDO) PENICILLANIC ACID

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 26, 1962, Ser. No. 247,394
2 Claims. (Cl. 260—239.1)

1. A new crystalline form of D-6-(2-amino-2-phenyl-acetamido) penicillanic acid characterized by being substantially free of water in the chemically bound state, having a molecular weight of about 349, having an infrared spectrograph as disclosed in FIG. 1 of the drawings, and possessing substantially greater storage stability than hydrated crystalline D-6-(2-amino-2-phenyl-acetamido) penicillanic acid.

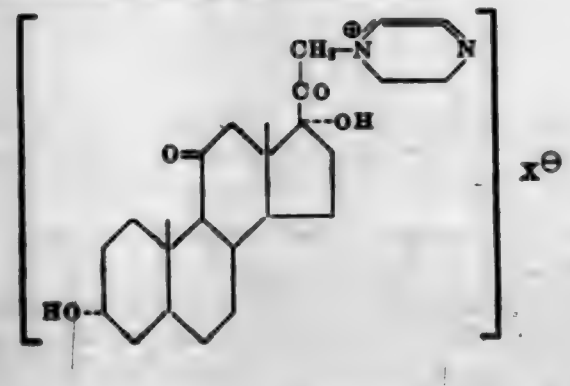
3,144,446

MONO AND BIS N-(3α,17α-DIHYDROXY-11,20-DIOXO-5β-PREGNAN-21-YL) QUATERNARY AMMONIUM SALTS OF TRIETHYLENEDIAMINE

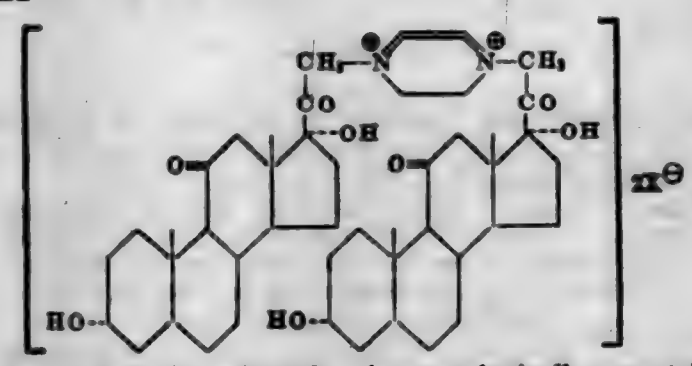
Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,236
5 Claims. (Cl. 260—239.5)

1. A compound selected from the class consisting of (*a*) mono and bis quaternary ammonium salts of triethylenediamine having the formulae:



and



wherein X is the anion of a pharmacologically acceptable acid, and (*b*) the acid addition salts of the above mono quaternary ammonium salts with pharmacologically acceptable acids.

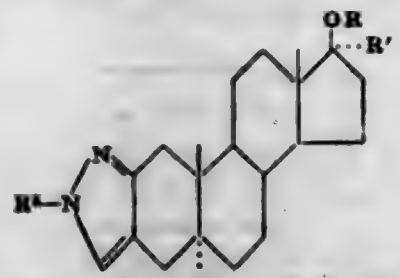
3,144,447

PYRAZOLO-ANDROSTANES

Albert Bowers, John Edwards, and James C. Orr, all of Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Aug. 1, 1961, Ser. No. 128,362
18 Claims. (Cl. 260—239.5)

9. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; R^1 is a member of the group consisting of hydrogen, an alkyl, an alkenyl, and an alkinyl group each containing from one to eight carbon atoms, and R^2 is selected from the group consisting of hydrogen, lower alkyl, an aryl and aralkyl group each containing up to 8 carbon atoms.

3,144,448

ISOXAZOLE DERIVATIVES OF SULFANILAMIDE

Hideo Kano, Kamikyo-ku, Kyoto-shi, Masaru Ogata, Kobe-shi, and Haruo Nishimura, Ashiya-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

Filed Dec. 6, 1962, Ser. No. 242,862
Claims priority, application Japan Aug. 21, 1962
2 Claims. (Cl. 260—239.9)

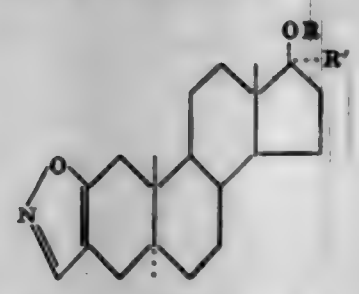
1. 3-sulfanilamido-4-iodo-5-lower alkylisoxazole.

3,144,449
ISOXAZOLO-ANDROSTAN-17β-OL DERIVATIVES

Albert Bowers and John Edwards, both of Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Aug. 3, 1961, Ser. No. 128,973
20 Claims. (Cl. 260—239.55)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; and R^1 is selected from the group consisting of hydrogen, an alkyl group, and alkenyl group, and an alkynyl group each containing less than 8 carbon atoms.

3,144,450
INTERMEDIATE PRODUCTS IN THE SYNTHESIS OF 21-ACYLOXY-11β-HYDROXY-3,20 - DIOXO - 4-PREGNEN-18-OIC ACID (11-18)-LACTONE

Wataru Nagata, Nishinomiya-shi, Hyogo Prefecture, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed June 29, 1962, Ser. No. 206,181
Claims priority, application Japan Mar. 12, 1960
25 Claims. (Cl. 260—239.57)

21. 11β - hydroxy - 3 - oxo - 17 - formyl - 4,16 - androstadien-18-oic acid (11-18)-lactone.

23. 3,3 - (lower)alkylenedioxy - 11β - hydroxy - 17β-formyl-5-androsten-18-oic acid (11-18)-lactone.

3,144,451
ETHYLENEDIAMINE DERIVATIVE

Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 27, 1961, Ser. No. 127,157
3 Claims. (Cl. 260—243)

1. A compound selected from the group which consists of 2-[(dimethylaminoethyl)methylamino]ethyl phenothiazine-10-carboxylate and its dihydrochloride salt.

ERRATUM

For Class 260—247.1 see:
Patent No. 3,144,652

3,144,452
POLYMERISATION OF ORGANIC ISOCYANATES

James Harry Wild and Francis Edward Gervase Tate, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 19, 1962, Ser. No. 167,436
9 Claims. (Cl. 260—248)

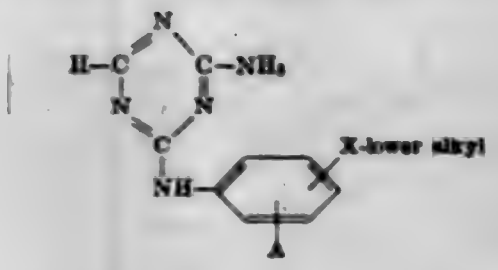
1. In a process for polymerising an aryl isocyanate in which the isocyanate is contacted with a polymerisation catalyst under substantially anhydrous condition; the improvement comprising utilising as a catalyst a member of the group consisting of 3- and 4-substituted pyridines in which the substituents are selected from the group consisting of 4-alkoxy, 4-aralkoxy, 3- and 4-alkylarylamino, 3- and 4-dialkylamino, 3- and 4-N-morpholino, 3- and 4-N-piperidino, and 3- and 4-N-pyrrolidino, said pyridine being of such basicity that, when substituted in benzoic acid in the 3- and 4- positions respectively, said 3- and 4- substituent increases the pK_a value of the substituted benzoic acid, measured in water at 25° C. to greater than 4.35.

3,144,453
PROCESS FOR PREPARING 2,4-DIAMINO-6-(H—)-1,3,5-TRIAZINES

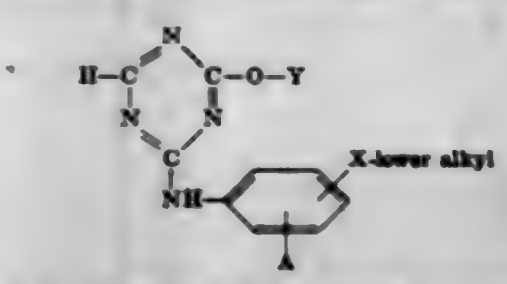
Royal A. Cutler, Sand Lake, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Mar. 14, 1960, Ser. No. 14,558. Divided and this application Oct. 18, 1960, Ser. No. 69,785
6 Claims. (Cl. 260—249.9)

1. The process for preparing a compound of the formula



wherein A is a member of the group consisting of hydrogen and halogen, and X is a member of the group consisting of —S—, —SO—, and —SO_2—, which comprises ammonolyzing a compound of the formula



where Y is a member of the group consisting of lower alkyl and phenyl by treatment with ammonium acetate.

3,144,454
3-HALOGENO, 4-NITRO, 6-LOWER ALKYL-PYRIDAZINE-1-OXIDE

Hideo Kano, Marutamachi-agaru, Keremedana-dori, Kamikyo-ku, Kyoto-shi, and Masaru Ogata, Sumiyoshi-cho, Higashinada-ku, Kobe-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed Sept. 6, 1962, Ser. No. 221,885
Claims priority, application Japan Feb. 26, 1962
7 Claims. (Cl. 260—250)

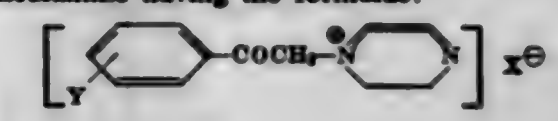
1. 3-halogeno-4-nitro-6-lower alkylpyridazine-1-oxide.

3,144,455
MONO AND BIS N-PHENACYL QUATERNARY AMMONIUM SALTS OF TRIETHYLENEDIAMINE

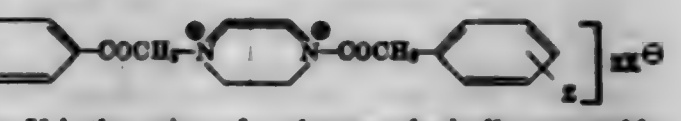
Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 28, 1963, Ser. No. 332,242
10 Claims. (Cl. 260—268)

1. A compound selected from the class consisting of (*a*) mono and bis quaternary ammonium salts of triethylenediamine having the formulae:



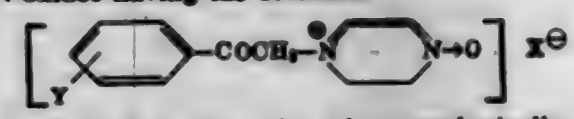
and



wherein X is the anion of a pharmacologically acceptable

acid and Y and Z each represent at least one substituent selected from the class consisting of hydrogen, nitro, halogen, hydroxy, lower-alkoxy and lower-alkyl, and (*b*) the acid addition salts of the above mono quaternary ammonium salts with pharmacologically acceptable acids.

9. A compound selected from the class consisting of (*a*) N-oxides having the formula:



wherein X is the anion of a pharmacologically acceptable acid and Y represents at least one substituent selected from the class consisting of hydrogen, nitro, halogen, hydroxy, lower-alkoxy, and lower-alkyl, and (*b*) the acid addition salts of the N-oxides of the above formula with pharmacologically acceptable acids.

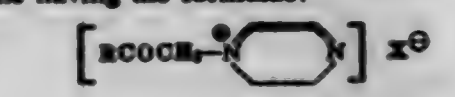
3,144,456

MONO AND BIS N-ALKANOYLMETHYL QUATERNARY AMMONIUM SALTS OF TRIETHYLENEDIAMINE

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 28, 1963, Ser. No. 332,247
5 Claims. (Cl. 260—268)

1. A compound selected from the class consisting of (*a*) mono and bis quaternary ammonium salts of triethylenediamine having the formulae:

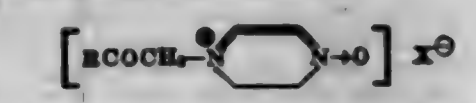


and



wherein R is alkyl containing from 1 to 4 carbon atoms, inclusive, and X is the anion of a pharmacologically acceptable acid, and (*b*) the acid addition salts of the above mono quaternary ammonium salts with pharmacologically acceptable acids.

5. A compound selected from the class consisting of (*a*) N-oxides having the formula:



wherein X is the anion of a pharmacologically acceptable acid and R is alkyl containing from 1 to 4 carbon atoms, inclusive, and (*b*) the acid addition salts of N-oxides of the above formula with pharmacologically acceptable acids.

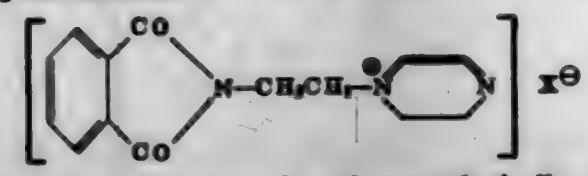
3,144,457

N-(2-PHTHALIMIDOETHYL) QUATERNARY AMMONIUM SALTS OF TRIETHYLENEDIAMINE

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 28, 1963, Ser. No. 332,248
3 Claims. (Cl. 260—268)

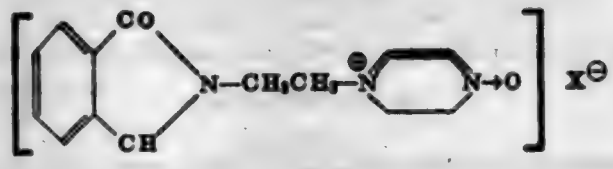
1. A compound selected from the class consisting of (*a*) quaternary ammonium salts of triethylenediamine having the formula:



wherein X is the anion of a pharmacologically accept-

able acid, and (*b*) the acid addition salts of the above quaternary ammonium salts with pharmacologically acceptable acids.

3. A compound selected from the class consisting of (*a*) N-oxides having the formula:



wherein X is the anion of a pharmacologically acceptable acid, and (*b*) the acid addition salts of the above N-oxides with pharamacologically acceptable acids.

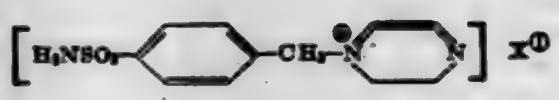
3,144,458

MONO AND BIS N-(p-SULFAMOYLBENZYL) QUATERNARY AMMONIUM SALTS OF TRIETHYLENEDIAMINE

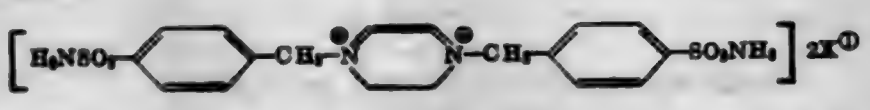
Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 28, 1963, Ser. No. 332,275
4 Claims. (Cl. 260—268)

1. A compound selected from the class consisting of (*a*) mono and bis quaternary ammonium salts of triethylenediamine having the formulae:



and



wherein X is the anion of a pharmacologically acceptable acid, and (*b*) the acid addition salts of the above mono quaternary ammonium salts with pharmacollogically acceptable acids.

3,144,459

D-3-METHOXY-4-PHENOXY-N-METHYL-Δ^6-MORPHINAN, DERIVATIVES THEREOF, AND METHOD FOR THE PURIFICATION THEREOF

Yoshiro Sawa, Ashiya-shi, Shin Maeda, Amagasaki-shi, and Naoki Tsuji, Sumiyoshi-gun, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Original application Aug. 6, 1962, Ser. No. 214,855. Divided and this application Jan. 29, 1963, Ser. No. 258,945
Claims priority, application Japan Dec. 29, 1959
10 Claims. (Cl. 260—285)

10. A method for the purification of D-3-methoxy-4-phenoxy-N-methyl-Δ^6-morphinan which comprises oxidizing the compound with per-acid at about 0° C. to obtain D-3-methoxy-4-phenoxy - 6,7 - epoxy - N - methylmorphinan N-oxide, reducing the N-oxide by catalytic reduction to obtain D-3-methoxy-4-phenoxy-6,7-epoxy-N-methylmorphinan, crystallizing the 6,7-epoxide as benzoate, treating the benzoate with alkali to isolate the free base of the 6,7-epoxide, converting the 6,7-epoxide to D-3-methoxy-4-phenoxy-6-bromo-7-hydroxy - N - methylmorphinan by treatment with hydrogen bromide at about 0° C. and then treating the bromohydrine with metallic zinc in acetic acid at about 100° C. to regenerate D-3-methoxy-4-phenoxy-N-methyl-Δ^6-morphinan.

3,144,460
CERTAIN TRIAZOLYLUREAS

John F. Hosler and William B. Hardy, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 22, 1959, Ser. No. 847,892
3 Claims. (Cl. 260—308)

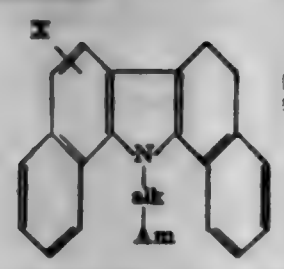
1. 1-phenyl-3-(4H-1,2,4-triazol-3-yl)-urea.
2. 1,1-dimethyl-3-(4H-1,2,4-triazol-3-yl)-urea.
3. 1-p-chlorophenyl-3-(4H-1,2,4-triazol-3-yl)-urea.

3,144,461
13-SUBSTITUTED 5,6-DIHYDRO-13H-DIBENZO-[a,j]CARBAZOLES

Leonard M. Rice, Baltimore, Md., and Meier E. Freed, Philadelphia, and Elizabeth Hertz, Bryn Mawr, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,940
7 Claims. (Cl. 260—315)

1. A substance selected from the group consisting of bases having the formula



where X is a member of the group consisting of hydrogen, halogen, methyl, trifluoromethyl, and lower alkoxy, alk is alkylene of from two to six carbon atoms, and Am represents an amino radical selected from the group consisting of diloweralkylamino, pyrrolidino, piperazino, hydroxy lower alkyl piperazino, amino, and lower alkylamino, and the non-toxic salts of said bases with pharmaceutically acceptable acids.

3,144,462
SEPARATION OF ISOMERIC DINITRO-CARBAZOLES

Henry M. Grotta, Delaware, Ohio, assignor, by mesne assignments, to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Aug. 14, 1963, Ser. No. 301,956
5 Claims. (Cl. 260—318)

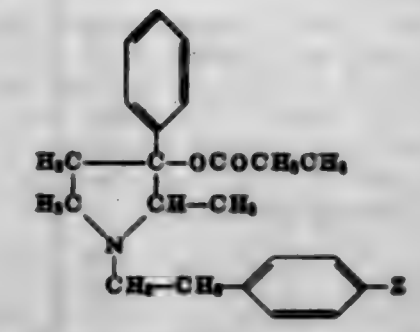
1. A method for separating, isolating and recovering 1,6-dinitrocarbazole and 3,6-dinitrocarbazole comprising the steps of dinitrating carbazole to form a crude mixture of dinitrocarbazoles comprising 1,6-dinitrocarbazole and 3,6-dinitrocarbazole and having a liquid and a solids portion; separating said liquid portion from said solids portion; adding an alcoholic solution of alkali to said solids portion to dissolve the 3,6-dinitrocarbazole as its salt while leaving the corresponding salt of 1,6-dinitrocarbazole as a solid; separating said salts; acidifying said separated salts to reform 1,6-dinitrocarbazole and 3,6-dinitrocarbazole; and recovering the separated 1,6-dinitrocarbazole and 3,6-dinitrocarbazole isomers.

3,144,463
N-(p-AMINOPHENETHYL)- AND N-(p-NITROPHENETHYL) - 2 - METHYL - 3 - PHENYL - 3-PROPIONYLOXY-PYRROLIDINES

John Frederick Cavalla, Isleworth, Middlesex, and Rupert Aleck Selway, Feltham, Middlesex, England, assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Jan. 25, 1962, Ser. No. 168,808
Claims priority, application Great Britain Feb. 3, 1961
5 Claims. (Cl. 260—326.3)

1. A member of the class consisting of compounds of the formula



and non-toxic acid-addition salts thereof; where Z is a member of the class consisting of the amino and nitro groups.

3,144,464
β - PHENYL - β - HYDROCARBON - HYDRACRYLIC ACID-2-N,N-DIETHYLAMINE ETHYL ESTERS

Hartmund Wollweber and Rudolf Hiltmann, Wuppertal-Elberfeld, Georg Klemmerle, Blankenstein (Ruhr), and Horst Kroiahott, Wuppertal-Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 25, 1960, Ser. No. 10,866
Claims priority, application Germany Feb. 27, 1959
4 Claims. (Cl. 260—340.5)

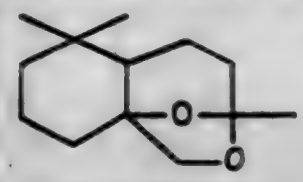
4. β-(3,4 - methylenedioxyphenyl) - β - isopropyl-hydracrylic acid-2-N,N-diethylaminoethyl ester.

3,144,465
INTERNAL KETALS FROM DIHYDRO-GAMMA-IONONE, DIHYDRO-GAMMA-IRONE AND 5,5,9-TRIMETHYL - 2 - METHYLENE - 1 - (3' - OXO-BUTYL-1')-DECAHYDRONAPHTHALENE

Leopold Ruzicka and Oskar Jeger, Zurich, Switzerland, assignors to Firmenich et Cie, Geneva, Switzerland

No Drawing. Filed July 24, 1961, Ser. No. 125,977
Claims priority, application Switzerland Jan. 12, 1961
9 Claims. (Cl. 260—340.9)

1. The polycyclic internal ketal of the formula

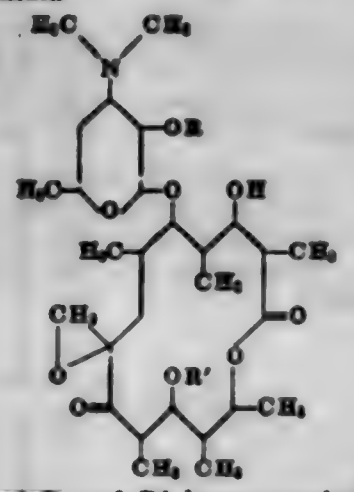


3,144,466
DIACYL ESTERS OF DE-OLEANDROSEHYDROXY-OLEANDOMYCIN AND PROCESS THEREFOR

Walter D. Celmer, New London, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 8, 1963, Ser. No. 263,743
10 Claims. (Cl. 260—343)

1. A compound selected from the group consisting of a 1,3-diacyloleandomycin wherein the oleandrose moiety has been replaced by a hydroxyl group, said compound having the formula



wherein each of R and R' is an unsubstituted alkanoyl

group having from two to six carbon atoms; and the mineral and organic acid addition salts thereof.

3,144,467

METHOD OF PREPARATION OF ALKYLATED DIHYDROCOUMARINS

William J. Houlihan, Colonia, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 16, 1962, Ser. No. 210,244
11 Claims. (Cl. 260—343.2)

1. A process for the preparation of a polyalkylated dihydrocoumarin which comprises condensing a dihydrocoumarin with an alkylating agent selected from the group consisting of olefins, mono-ols, diols and ethers at a temperature in the range of from about 0° to about 80° C. in the presence of an acid alkylation catalyst selected from the group consisting of sulfuric, phosphoric, chlorosulfonic, alkyl sulfonic and alkyl phosphonic acids, and recovering the resultant polyalkylated dihydrocoumarin.

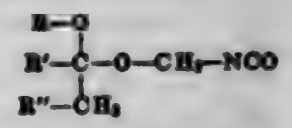
3,144,468

α-CYANATOMETHOXY ETHERS

Fred W. Hoover and Halsey B. Stevenson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 16, 1961, Ser. No. 151,446
10 Claims. (Cl. 260—345.9)

1. Compounds of the formula:



wherein R is saturated hydrocarbon of up to 18 carbons, each of R′ and R″ is selected from the group consisting of hydrogen and saturated hydrocarbon of up to 18 carbons, and R and R″ joined together with the oxygen are a cyclomonooxaalkyl group of 5–6 members and a total of up to 18 carbons.

3,144,469

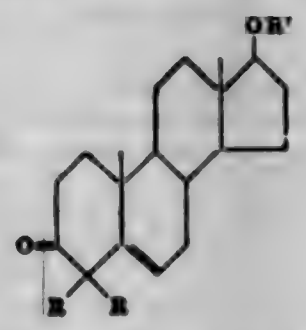
4,4-DIALKYL-17β-HYDROXY-ANDROSTANE 3-ONE AND DERIVATIVES THEREOF

Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Feb. 19, 1957, Ser. No. 641,038
19 Claims. (Cl. 260—397.4)

1. A process for the production of a compound selected from the group consisting of 4,4′-di lower alkyl-Δ^5-androsten-17β-ol-3-one and 4,4′-di lower alkyl-17α-lower alkyl-Δ^5-androsten-17β-ol-3-one comprising reacting a corresponding compound selected from the group consisting of Δ^4-androsten-17β-ol-3-one and 17α-lower alkyl-Δ^4-androsten-17β-ol-3-one with an alkyl iodide in the presence of potassium t-butoxide.

7. A compound of the following formula:



wherein R represents lower alkyl, and R′ is selected from the group consisting of hydrogen and hydrocarbon carboxylic acyl group of less than 12 carbon atoms.

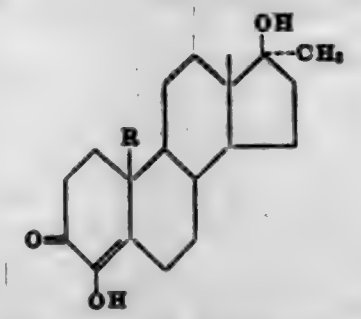
3,144,470

PROCESS OF PREPARING 4-HYDROXY-3-KETO-Δ^4-STEROIDS

Luciano Cagliotti and Gianfranco Cainelli, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed July 15, 1963, Ser. No. 295,288
Claims priority, application Italy July 19, 1962
3 Claims. (Cl. 260—397.4)

1. A process for preparing 4-hydroxy-3-keto-Δ^4-steroids of the formula:



wherein R is selected from the group consisting of H and CH_3, which comprises reacting a compound selected from the group consisting of 17α-methyl-testosterone and 17α-methyl-19-nor-testosterone with diborane, under nitrogen, in an inert solvent and at a temperature of from 0° to 50° C., oxidizing the resulting 3β,4α-dihydroxy-5α-steroid with N-bromoacetamide in an inert solvent, further oxidizing the resulting 3-keto-4α-hydroxy-5α-steroid with a gas selected from the group consisting of oxygen and air in the presence of an alkali hydroxide in alcohol solution, and isolating the resulting 4-hydroxy-3-keto-Δ^4-steroid.

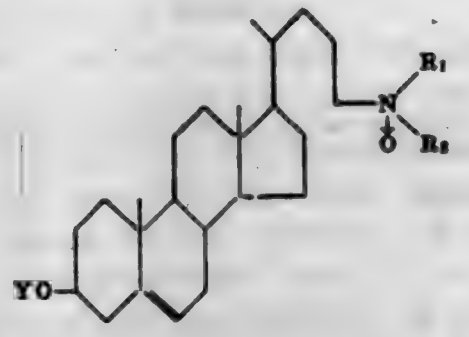
3,144,471

25-AZACHOLESTEROL N-OXIDE AND DERIVATIVES

Norman A. Nelson, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 4, 1963, Ser. No. 249,338
3 Claims. (Cl. 260—397.5)

1. A compound selected from the class consisting of (*a*) a compound having the formula:



wherein R_1 and R_2 each represents lower-alkyl and Y is selected from the class consisting of hydrogen and —COR, wherein R is lower-alkyl and (*b*) the pharmacologically acceptable acid addition salts thereof.

3,144,472

PREPARATION OF CYCLOPENTADIENYL VANADIUM TETRACARBONYL COMPOUNDS

Robert P. M. Werner, Ehningen, Basel-Land, Switzerland, and Swithun Manastyrsky, Warren, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 11, 1961, Ser. No. 158,564
4 Claims. (Cl. 260—429)

1. Process for the formation of organovanadium complexes having the formula

$$QV(CO)_4$$

where Q is selected from the class consisting of the cyclopentadienyl radical and hydrocarbon substituted cyclopentadienyl radicals having 6 to 13 carbon atoms, said process comprising reacting

(A) a compound having the formula $ME_xV(CO)_6$ where M is selected from the class consisting of alkali and alkaline earth metal atoms, E is selected from the class consisting of bidentate and tridentate ethers having up to about 12 carbon atoms, x is an integer having the value of three when E is a bidentate ether and two when E is a tridentate ether, with

(B) a compound selected from the class consisting of alkaline earth metal-cyclopentadienyl complexes and alkali metal-cyclopentadienyl complexes wherein the cyclopentadienyl moiety is selected from the class consisting of the cyclopentadienyl radical and hydrocarbon substituted cyclopentadienyl radicals having 6 to 13 carbon atoms,

said process being carried out in the presence of an inert ether solvent and a readily reducible inorganic Group IIB metal halide and at a temperature of about 25° to about 100° C.

3,144,473

METHOD FOR PREPARING ZINC DIALKYLS SUITABLE FOR USE IN POLYMERIZATION CATALYSTS

John Boor, Jr., Richmond, Oliver Johnson, Berkeley, and Kenzie Nozaki, El Cerrito, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Aug. 17, 1959, Ser. No. 833,951

3 Claims. (Cl. 260—429.9)

1. A method for preparing zinc dialkyl suitable for use in olefin polymerization catalysts which comprises reacting an alkyl halide with a zinc copper alloy, heating the resulting zinc alkyl halide to distill off zinc dialkyl, contacting distilled zinc dialkyl with an effective amount of a reducing metal selected from the group consisting of barium and sodium, and separating purified zinc dialkyl from the residue which contains said reducing metal.

3,144,474

PURIFICATION PROCESS FOR ISOCYANATES

Tadeusz Antoni Kantyka and Clifford Toyne, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 23, 1960, Ser. No. 30,766

Claims priority, application Great Britain June 12, 1959

1 Claim. (Cl. 260—453)

A process for eliminating isocyanurate, polyurea and biuret impurities from a solution of 30–60% of a crude isocyanate selected from the group consisting of diphenylmethane diisocyanate and toluylene diisocyanate, together with said impurities in a liquid chlorinated aromatic hydrocarbon, said solution being obtained by phosgenating a member of the group consisting of diamino toluene and diamino diphenylmethane in the presence of said chlorinated aromatic hydrocarbon, said process comprising mixing the crude aromatic isocyanate and chlorinated aromatic hydrocarbon with a liquid hydrocarbon petroleum fraction having a lower boiling point than said chlorinated aromatic hydrocarbon in an amount of 2–5 parts of petroleum fraction per part of 100% isocyanate present in the crude isocyanate solution whereby said impurities are caused to precipitate and separating the precipitated impurities from the mixture of chlorinated aromatic hydrocarbon and isocyanates.

3,144,475

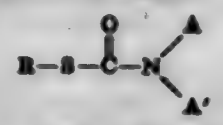
BENZYL DIALKYLTHIOLCARBAMATES

Marion W. Harman, Dunbar, and John J. D'Amico, Charleston, W. Va., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed July 3, 1961, Ser. No. 121,370

9 Claims. (Cl. 260—455)

1. A compound of the structure



where R represents a radical selected from the group consisting of benzyl, m-chlorobenzyl, 2,5-dichlorobenzyl, 2,6-dichlorobenzyl, 2,3,6-trichlorobenzyl and 5-chloro-2-methoxybenzyl and A and A' represent alkyl radicals containing two to four carbon atoms inclusive.

3,144,476

SEPARATION OF DICHLORONITROBENZENES AND BENZONITRILE PRODUCTION

Pieter Ten Hoken, Herne Bay, Kent, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 21, 1962, Ser. No. 174,669

Claims priority, application Great Britain Mar. 6, 1961

6 Claims. (Cl. 260—465)

1. A process for the selective separation of an isomeric mixture of 2,3-dihalonitrobenzene and 3,4-dihalonitrobenzene which comprises reacting said isomeric mixture with cuprous cyanide in about equimolar proportions to the 2,3-isomer, in the presence of an organic diluent, selected from the group consisting of tertiary amine, dialkyl formamide and dialkyl sulfoxide, the reaction occurring at about 125° C. to about 200° C. during a period of 1 to 20 hours, and thereafter separating by vaporization the volatile unreacted 3,4-dihalonitrobenzene from the resulting non-volatile residue of 2-halo-6-nitrobenzonitrile.

3,144,477

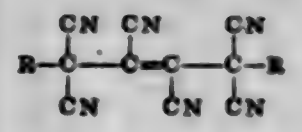
2-BUTENEHEXACARBONITRILES AND PROCESS FOR THE PREPARATION THEREOF

Elmore L. Martin, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 20, 1962, Ser. No. 181,285

11 Claims. (Cl. 260—465)

1. 1,4-Disubstituted 2-butenehexacarbonitriles of the formula



wherein R is selected from the group consisting of hydrocarbyl and substituted hydrocarbyl wherein the substituents are selected from the group consisting of amino di-loweralkylamino hydroxy, cyano, halo, nitro, sulfo, lower-alkylsulfonyl loweralkoxy benzyloxy, aryloxy loweralkoxycarbonyl.

3,144,478

PENTACYANOETHANE AND ITS SALTS

Owen Wright Webster, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 27, 1960, Ser. No. 65,258

9 Claims. (Cl. 260—465.8)

1. A pentacyanoethanide of the formula

$$M[C(CN)_4C(CN)_3]_x$$

wherein M is a cation selected from the group consisting of hydrogen ion, metal ions, ammonium, phenylammonium, diethylammonium, trimethylammonium, and

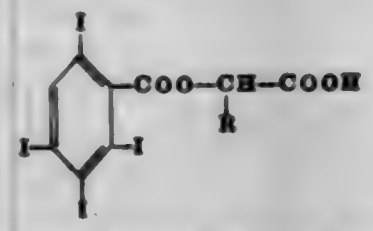
trimethylsulfonium and x is an integer corresponding to the valence of M.

3,144,479
NEW IODINE-CONTAINING BENZOIC ACID ESTERS

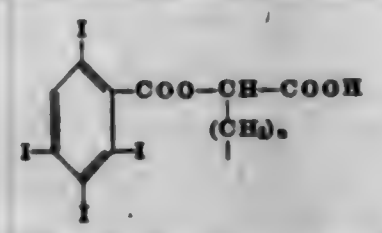
Werner Herrmann Obendorf, Linz, Austria, assignor to Osterreichische Stickstoffwerke Aktiengesellschaft, Linz, Austria

No Drawing. Filed June 29, 1959, Ser. No. 823,317
Claims priority, application Austria Aug. 7, 1958
7 Claims. (Cl. 260—471)

1. An iodine-containing benzoic acid ester compound selected from the group consisting of compounds having the formula



wherein R is selected from the group consisting of hydrogen, alkyl having 1–6 carbon atoms, alkoxy alkyl having 2–6 carbon atoms, phenyl and the group



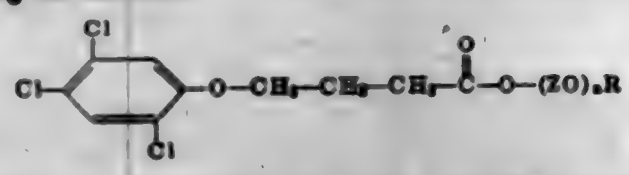
wherein n is an integer from 1–6, and the non-toxic salts thereof.

3,144,480
ESTERS OF γ-(2,4,5-TRICHLOROPHENOXY)-BUTYRIC ACID

Donald E. Sunil, Oreland, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Filed June 5, 1961, Ser. No. 114,674
6 Claims. (Cl. 260—473)

1. Esters of γ-(2,4,5-trichlorophenoxy)-butyric acid having the formula:



wherein Z is selected from the group consisting of ethylene and propylene, n is an integer of from 1 to 3, inclusive, and R represents an alkyl radical of 1 to 4 carbon atoms, inclusive.

3,144,481
BENZYLAMINE CARBOXYLIC ACID PRODUCTION

Edward W. Pietrusza, Morris Township, Morris County, and Richard E. Brown, Hanover Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 16, 1960, Ser. No. 50,000
8 Claims. (Cl. 260—518)

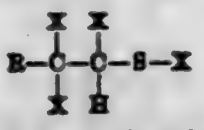
1. The process which comprises heating at about 90° C. to about 200° C., under pressures which are at least about atmospheric, a solution of cyanobenzylamine in at least about 0.1-N aqueous solution of an alkali containing 0.5 to 10 equivalents of alkali metal from the group consisting of sodium and potassium for every one mole of the cyanobenzylamine, carbonating the resulting solution of alkali metal salt of benzylamine carboxylic acid with carbon dioxide, thereby precipitating benzylamine carboxylic acid, and separating the resulting precipitate of benzylamine carboxylic acid from the mother liquor containing the bicarbonate of the alkali metal.

3,144,482
α-CHLORINATION OF DIVALENT SULFUR COMPOUNDS

Roy B. Flay, Concord, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 12, 1960, Ser. No. 55,168
6 Claims. (Cl. 260—543)

1. A method of α-chlorinating a divalent sulfur compound of the formula



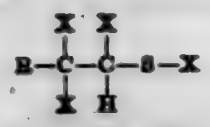
wherein R is selected from the class consisting of hydrogen and halogen, and X is halogen, which comprises contacting said sulfur compound with chlorine at a temperature of about −20° C. to +50° C. in the presence of chlorosulfonic acid in an amount of from about 0.10 to 5.0 percent by weight of said sulfur compound.

3,144,483
α-CHLORINATION OF DIVALENT SULFUR COMPOUNDS

Roy B. Flay, Concord, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 12, 1960, Ser. No. 55,169
7 Claims. (Cl. 260—543)

1. A method of α-chlorinating a divalent sulfur compound of the formula



wherein R is selected from the class consisting of hydrogen and halogen, and X is halogen, which comprises contacting said sulfur compound with chlorine at a temperature of about −20° C. to +50° C. in the presence of sulfuric acid of about 0.10 to 5.0 percent by weight sulfur compound, said sulfuric acid being in concentrations from about 70 to 100 weight percent.

3,144,484
CHROMOGENIC SUBSTRATE FOR USE IN ASSAYING ENZYMIC ACTIVITY

Bernard F. Erlanger, Beechhurst, N.Y., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 18, 1962, Ser. No. 231,606
1 Claim. (Cl. 260—562)

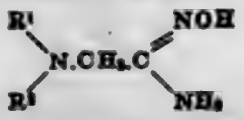
L-lysine p-nitroanilide dihydrobromide.

3,144,485
α-(N-ARYL, ARALKYL) ACETAMIDOXIONES

Frederick Roger Benn, Philip Thomas Charlton, and Grace Lilian Mary Harmer, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company

No Drawing. Filed Jan. 17, 1961, Ser. No. 83,154
Claims priority, application Great Britain Jan. 20, 1960
7 Claims. (Cl. 260—564)

1. A compound selected from the group consisting of compounds of the formula:



wherein R^1 represents benzyl and R^2 represents a rad-

ical selected from the group consisting of phenyl, p-methyl phenyl, p-methoxy phenyl and p-chloro phenyl, the acid addition salts thereof and the hydrated acid addition salts thereof.

3,144,486

PROCESS FOR THE PRODUCTION OF SYMMETRICAL DIALKYL HYDRAZINES

Hans-Joachim Abendroth, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 19, 1960, Ser. No. 76,492
Claims priority, application Germany Dec. 23, 1959
2 Claims. (Cl. 260—583)

1. In a process for the production of symmetrical dialkyl hydrazines, the steps which comprise reacting in the gas phase at a temperature between 40° C. and 100° C. gaseous chlorine with primary amines in vapor form in a proportion of from 30 to 60 mols per each mol of chlorine, said amine being selected from the group consisting of monomethylamine, monoethylamine, monopropylamine and monobutylamine, and carbonyl compounds in vapor form in a proportion of from 2 to 30 mols per each mol of chlorine, said carbonyl compounds being selected from the group consisting of acetone, methylethyl, ketone, diethyl ketone, methyl isopropyl ketone, methyl propyl ketone, ethyl propyl ketone, methyl butyl ketone, cyclohexanone, acetaldehyde, propionaldehyde, butyraldehyde and benzaldehyde, to thereby form diaziridines, recovering the diaziridines in the form of an aqueous solution from the reaction mixture, adding thereto an aqueous mineral acid to thereby convert the diaziridines into said initially employed carbonyl compounds and symmetrical dialkyl hydrazinium salts, and recovering said symmetrical dialkyl hydrazinium salts in the form of free symmetrical dialkyl hydrazines from the reaction mixture.

3,144,487

PROCESS OF PRODUCING CAROTENOIDS

Basil Charles Leicester Weedon, London, England, and Muhammad Akhtar, Lyallpure, West Pakistan, assignors to National Research Development Corporation

No Drawing. Filed Nov. 5, 1959, Ser. No. 851,906
Claims priority, application Great Britain Nov. 6, 1958
7 Claims. (Cl. 260—586)

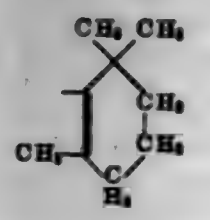
1. A process for the preparation of a carotenoid compound in which the carotenoid connecting group is a hydrocarbon radical selected from the group consisting of conjugated polyethylenic hydrocarbon carotenoid connecting groups and acetylenic analogues thereof which comprises condensing a polyunsaturated ketone represented by the formula

$$(CH_3)_2CH—CO—CH=R=CH—Y$$

in which the group CH=R=CH— is a hydrocarbon carotenoid connecting group selected from the group consisting of conjugated polyethylenic hydrocarbon carotenoid connecting groups and acetylenic analogues thereof, and Y is a group selected from the group consisting of

$$—CO—CH(CH_3)_2$$

and



with ethyl vinyl ketone in the presence of an alkaline condensation agent selected from the group consisting of caustic alkalies, alkali metal alkoxides and aluminum alkoxides.

3,144,488

PROCESS FOR THE PRODUCTION OF 3-CHLOROBUTANONE-2 AND BUTANONE

Jürgen Smidt, Munich-Solln, Rudolf Rittinger, Diessenhofen, near Munich, Hugo Kojer, Munich, and Rolf Sieber, Munich-Forstenried, Germany, assignors to Consortium für Elektrochemische Industrie G.m.b.H., Munich, Germany

No Drawing. Filed June 22, 1960, Ser. No. 37,855
Claims priority, application Germany June 29, 1959
4 Claims. (Cl. 260—597)

1. A process for the production of 3-chlorobutanone-2 in addition to butanone from a n-butylene, which comprises intimately contacting n-butylene at a temperature between 95 and 180° C. with an aqueous solution of copper chloride and palladium chloride containing 0.8 to 2 mols of copper and 0.005 to 0.05 mol of palladium per liter, the oxidation potential of said solution being maintained at a value over 330 millivolts measured at 80° C. against a normal calomel electrode by oxidation with oxygen, separating the crude ketones produced from such aqueous solution and separating the butanone from the 3-chlorobutanone-2 in the crude ketones by distillation.

3,144,489

PROCESS FOR THE PRODUCTION OF ALKYLATED ORGANIC SULPHUR COMPOUNDS

Willi Hahn, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 12, 1961, Ser. No. 102,384
11 Claims. (Cl. 260—609)

1. Process for producing alkylated organic sulfur compounds which comprises reacting a member selected from the group consisting of thiophenol, p-thiocresol, p-chlorothiophenol, 2-mercapto-benzthiazol, and dodecylmercaptan with an olefin selected from the group consisting of ethylene, propylene, isobutylene, tripropylene, styrene and cyclohexane in the presence of an aluminium mercaptide as catalyst, said contacting being effected at a temperature within the range of about 80° C. to about 300° C., and recovering the alkylated organic sulfur compound thereby formed.

3,144,490

HYDROGENATION OF ALDEHYDES AT ENHANCED RATE USING PLATINUM AND RUTHENIUM CATALYSTS

Paul N. Rylander and Jay G. Kaplan, Newark, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Oct. 31, 1960, Ser. No. 65,931
5 Claims. (Cl. 260—618)

1. A process for hydrogenating aldehydes to produce alcohols, which comprises reacting the aldehyde with hydrogen containing a small amount of elemental oxygen admixed therewith in the presence of a catalyst of the group consisting of Ru and Pt at a reaction temperature thereby to produce the corresponding alcohol.

3,144,491

PREPARATION OF 1-(2-BICYCLO(2·2·1)HEPT-5-ENYL)HEX-5-ENE AND 1-[2-(Δ⁸-OCTAHYDRO-1,4:5,8-DIMETHANONAPHTHYL)]HEX-5-ENE

George L. O'Connor, Henry E. Fritz, and David W. Peck, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 28, 1962, Ser. No. 247,833
2 Claims. (Cl. 260—666)

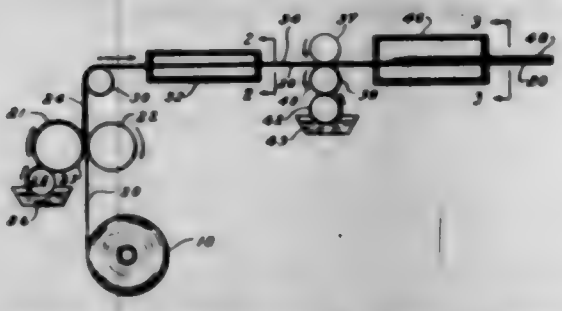
1. 1-(2-bicyclo[2·2·1]hept-5-enyl)hex-5-ene.

2. 1-[2-(Δ⁸-octahydro-1,4:5,8-dimethanonaphthyl)]hex-5-ene.

3,144,492
FOAMED RESIN PROCESS

Gene E. Lightner, Moscow, Idaho, and Kenneth R. Nicholls, Wilbraham, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 19, 1960, Ser. No. 76,870
7 Claims. (Cl. 264—47)

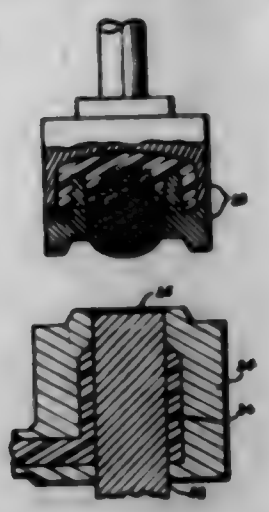


1. A process for preparing a foamed thermoplastic resin structure which comprises depositing a thin film of an aqueous dispersion of a finely-divided thermoplastic resin upon a support, removing substantially all of the water therefrom to provide a non-continuous film of said thermoplastic resin particles upon the support, contacting said thermoplastic resin particles with a vaporizable foaming agent for a peirod of time of up to about 10 minutes and substantially immediately thereafter heating said film of thermoplastic resin particles to a temperature above the softening temperature of the thermoplastic resin; said thermoplastic resin particles having a glass transition temperature of at least about 50° C. and an average particle size of less than 100 microns; said vaporizable foaming agent being selected from the group consisting of (*a*) a non-reactive organic compound which has at most a slight solvent action on the thermoplastic resin and has an atmospheric boiling point in the range of from about —10 to about 80° C. and (*b*) mixtures consisting predominantly of (*a*) with minor amounts of an organic compound having a solvent action on the thermoplastic resin.

3,144,493
METHOD OF FORMING PARTLY FOAMED PLASTIC ARTICLES

Thomas R. Santelli, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Oct. 19, 1959, Ser. No. 847,144
3 Claims. (Cl. 264—51)

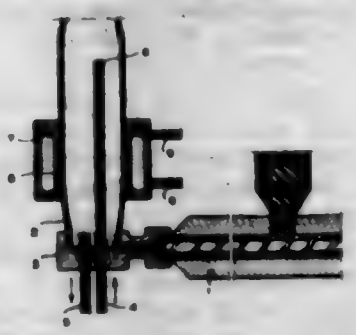


1. A method which comprises the steps of (1) providing a single, undivided quantity of hot plasticized plastic material containing an intimately dispersed foaming or cellulating agent, (2) forming a substantially unexpanded, non-cellular shaped end portion of an article from a first portion of said undivided quantity of plastic material under temperature and pressure shaping conditions which prevent any substantial foaming of said end portion by said foaming agent and chilling said end portion to an unplasticized essentially rigid condition preventing foaming even at a lower pressure, (3) from a second portion of said undivided quantity of plastic material forming the balance of said article integral with said shaped end portion at a lower pressure condition and a temperature condition wherein said second portion is still plasticized, whereby said second portion of said article is expanded into a cellular structure by the action of said foaming agent, said single quantity of plastic material remaining undivided and unseparated throughout said method.

3,144,494
MANUFACTURE OF PLASTIC FILM AND TUBING

Milo R. Gerow, 74 South Mountain Ave., Montclair, N.J.

Filed Feb. 15, 1955, Ser. No. 488,397
2 Claims. (Cl. 264—95)

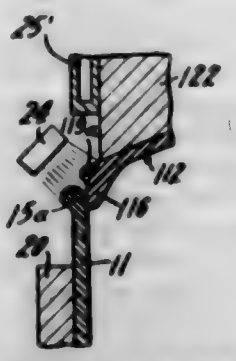


2. In apparatus for producing synthetic resinous thermoplastic tubing and sheeting, an extruder for extruding heated synthetic resinous thermoplastic tubing in non-self-sustaining condition, a hollow former of heat conductive material to receive tubing when extruded while in non-self-sustaining condition in direct contact with the former and without introducing fluid between former and tubing, conduits for circulating a gas under pressure within such tubing to expand such tubing to the internal size of the former, the surface of the former in contact with such tubing when being extruded in non-self-sustaining condition being discontinuous, and conduits for circulating a coolant within the hollow former in which the former is a pipe of copper coil having a number of turns in substantial sidewise contact with one another, the ends of the coil serving as inlet and outlet respectively for a fluid circulated internally through the coil.

3,144,495
CONTAINERS AND METHOD OF MAKING

Alexander George Makowski, Fayville, Mass., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 15, 1960, Ser. No. 56,267
8 Claims. (Cl. 264—248)

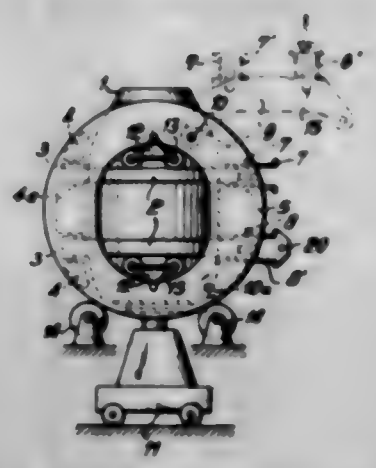


1. A method of affixing a thermoplastic end member to an unstepped tubular body of thermoplastic material including the steps of providing an end member having a rim portion of a size to have a free sliding fit in the end of the body and a marginal seal portion arranged to be exposed axially of the body end when the rim por-

tion is in place, positioning the end member at the body end with the rim portion therein and the marginal seal portion proximate to and externally exposed axially of the marginal portion of the body, heating directly and simultaneously the proximate marginal portions of the end member and body in an unconfined condition until they present softened axially displaced beads, applying a wiping force to said softened beads to effect an initial fusion thereof and thereafter while continuing to wipe said initially fused beads totalling confining the same to effect a completely fused unitary joint, and cooling the joint while the same is totally confined.

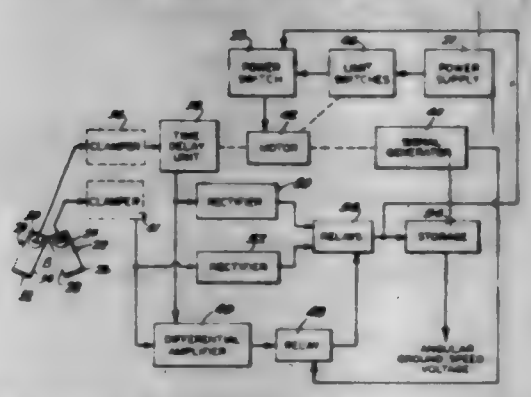
3,144,496
CONVERTER SUPPORT
Karlheinz Langlitz, Mulheim (Ruhr), Germany, assignor to Demag Aktiengesellschaft, Duisburg, Germany
Filed Feb. 20, 1961, Ser. No. 90,496
Claims priority, application Germany Feb. 28, 1960
8 Claims. (Cl. 266—36)

1. A converter support arrangement, comprising, in combination, a converter having a main axis; cage means including two rigid and integral cage members located on opposite sides of said converter spaced from the same and having continuous integral annular peripheral surfaces, first confining means located in the rear of said converter between said cage members and closing said cage means in the rear of said converter, second confining means located in front of said converter and including a pair of levers pivotally mounted on said cage members, respectively, in the space between the latter and said converter and beam means extending between said levers, said second confining means being turnable about an axis substantially normal to said main axis of said converter between a confining position located between said cage members so that said cage means is closed in front of said converter and a releasing position retracted from the front of said converter so that said cage means is open in front of said converter, and means for securing said second confining means in said confining position to said cage members, said first and second confining means including means for guiding said converter during turning movement in said cage means about said main axis when said second confining means is in said confining position; and supporting means in contact with said annular surfaces of said cage members and supporting said cage means and said converter for turning movement.



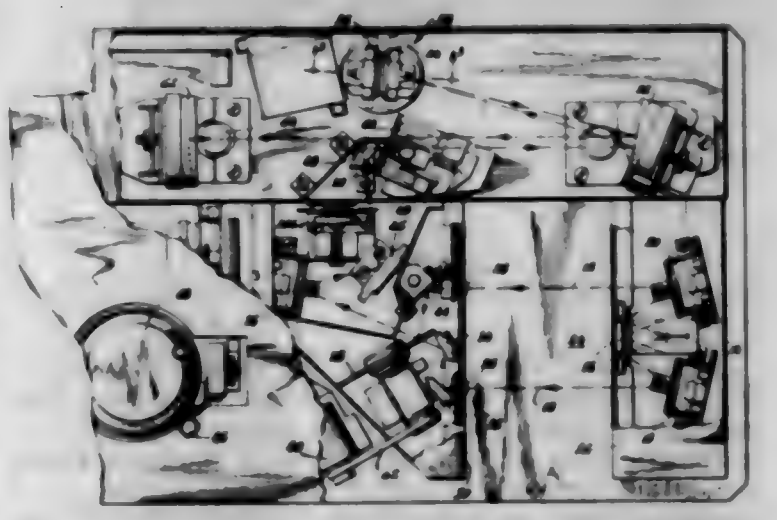
ELECTRICAL

3,144,497
RADIATION SENSITIVE GROUND SPEED INDICATOR
Fredrick A. Hamilton, Cincinnati, Ohio, assignor to Chicago Aerial Industries, Inc., Barrington, Ill., a corporation of Delaware
Original application Sept. 29, 1958, Ser. No. 763,895, now Patent No. 2,995,662, dated Aug. 8, 1961. Divided and this application May 22, 1961, Ser. No. 111,789
13 Claims. (Cl. 88—1)



1. Electro-optical apparatus for measuring ground velocity of an aerial vericle comprising a pair of radiation-sensitive elements, positioned in spaced apart, co-planar relation and adapted to produce individual time spaced electrical signals representative of the radiations received from a target area, optical means associated with each radiation-sensitive element for directing the radiations upon the elements, variable time delay means connected to the element first receiving the electrical signals for providing a time delay for said electrical signals, a signal comparison circuit connected to the other one of said elements and to said variable time delay means for producing a control signal whenever the signal outputs from said variable time delay means and from the second element are in coincidence, correction means connected to the variable time delay means for cyclically increasing and decreasing the time delay in accordance with said control signal to cyclically effect coincidence of the signals applied to said comparison circuit, and signal generating means associated with said correction means for generating an output signal indicative of the ground speed as represented by a condition of said correction means when the signals applied to said comparison circuit are in coincidence.

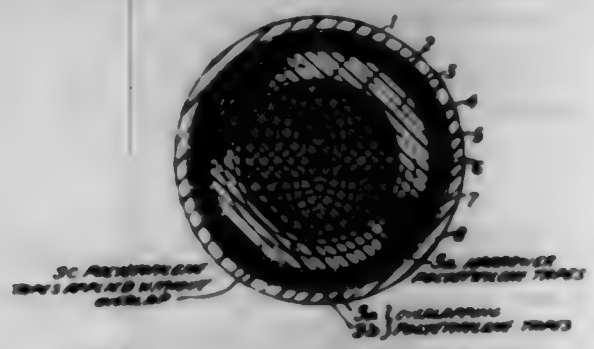
3,144,498
HIGH RESOLUTION FILTER-GRATING SPECTROMETER
Nelson L. Alpert, Stamford, and Hamilton W. Marshall, Wilton, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Feb. 23, 1961, Ser. No. 91,113
11 Claims. (Cl. 88—14)



1. A spectrophotometer comprising, in combination, radiation source means; means for forming a beam of

radiation from said source; a plurality of optical filter means mounted for selective positioning in said beam; monochromator entrance slit means for receiving said beam; collimator means positioned to receive and collimate the radiation from said entrance slit means; a plurality of optical grating means; selecting means for selectively, alternatively positioning each of said grating means in a scanning location to receive substantially the entire radiation beam thereupon; scanning means for rotating the selected grating through a scanning angle while positioned in said scanning location; monochromator exit slit means positioned to receive selected radiation wavelengths from each of said grating means; and detector means in the radiation from said exit slit means responsive to the intensity of the isolated wavelengths and filter changing means operatively connected to selectively position each of said filters in said beam, said filter changing means being interconnected to said selecting means.

3,144,499
INSULATING STRUCTURE FOR HIGH VOLTAGE POWER CABLES
Edward Leslie Davey, Hale, Cheshire, England, assignor to British Insulated Callender's (Submarine Cables) Limited
Filed Nov. 24, 1961, Ser. No. 155,252
Claims priority, application Great Britain Dec. 6, 1960
30 Claims. (Cl. 174—25)

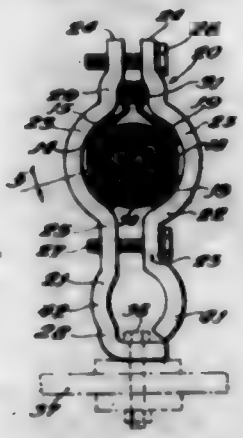


1. A structure capable of being charged with gas under superatmospheric pressure and, having been so charged, of operating as a sheathless gas-filled high voltage power cable, the structure comprising at least one conductor having a flexible effective surface of a smooth, non-re-entrant form, a dielectric wall built up on said conductor and consisting essentially of layers of helical lappings of tapes of plastics film, and surrounding this wall at least one layer of helically applied metal tape capable of reinforcing the wall against the internal pressure exerted upon it when the structure is charged with gas to render the structure operational as a gas-filled high voltage cable, narrower tapes of plastics film being used in the region of the dielectric wall adjacent the conductor and successive turns of the tapes of each layer of the inner part of the wall overlapping each other and successive turns of the tapes of each layer of the outer part of the wall being separated by a gap, whereby the gas spaces in the wall are of a predetermined shape and dimensions such that ionization of gas in said spaces is inhibited and their total volume is such that at the normal operating temperature and pressure of the cable they accommodate the thermal expansion of the solid dielectric material of the wall.

3,144,500
TERMINAL CLAMP FOR MESSENGER CABLE
John W. Schreyer, Sleepy Hollow Manor, Ill., assignor to Reliable Electric Company, Franklin Park, Ill., a corporation of Illinois
Filed Jan. 23, 1962, Ser. No. 168,093
9 Claims. (Cl. 174—41)

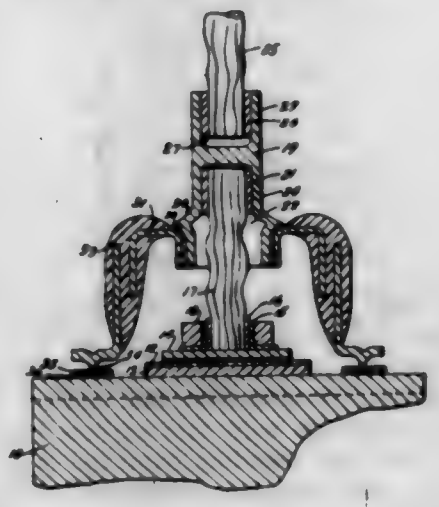
8. In combination with a cable having an exposed core and an electrically conducting sheath tab,

a messenger for supporting said cable,
first clamping means engaging said messenger,
an electrically conducting reaction ring surrounding said core beneath said sheath tab,
second clamping means for urging said sheath tab into electrical contact with said reaction ring,



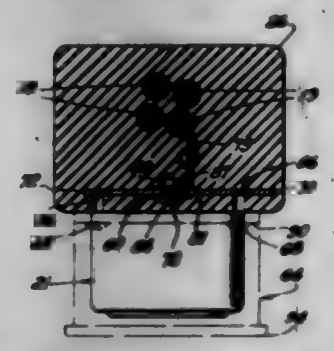
said reaction ring including a portion which extends between said first clamping means and said messenger to provide an electrical connection between said sheath tab and said messenger, and
means connecting said first and second clamping means so that said cable can be suspended from said messenger.

3,144,501
SEAL FOR SEMICONDUCTOR RECTIFIER
Edward J. Diebold, Palos Verdes Estates, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Jan. 19, 1961, Ser. No. 83,779
5 Claims. (Cl. 174—52)



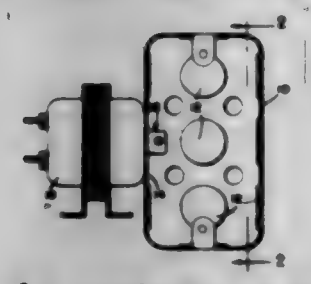
1. A hermetically sealed enclosure for semiconductor devices; said hermetically sealed enclosure including a conductive base member for receiving said semiconductor device, an open ended conductive stem, an annular bead of insulation material and a first and second metallic member embedded in and extending from said annular bead; said first and second metallic members being insulated from one another; said semiconductor device having a conductive lead extending therefrom and being electrically connected to said stem within the said open end of said stem; said first metallic member being secured to said stem along an annular surface; said second metallic member being secured to said conductive base along an annular surface; said first and second metallic members having overlapping ends; substantially all of the external surfaces of said first and second metallic members being encased in said bead of insulation material.

3,144,502
PORTABLE POWER SYSTEM
Hubert L. Weiss, % American Construction Equipment Co., 5955 W. Jefferson Blvd., Los Angeles 16, Calif.
Original application Aug. 4, 1958, Ser. No. 752,811, now Patent No. 3,004,175, dated Oct. 10, 1961. Divided and this application July 18, 1961, Ser. No. 132,254
1 Claim. (Cl. 174—52)



An encapsulated connector structure: a socket structure having a socket head and a pair of mounting ears on opposite sides of the head; a cover structure having a plurality of mounting apertures; a unitary bracket affixed to both ears of the socket structure and having a plurality of apertures; and an encapsulating housing encompassing the entire bracket and a substantial portion of the socket structure; the socket head projecting through the encapsulating housing for access thereto as well as for registration with said socket cover whereby said apertures of the cover are automatically aligned with blinded apertures of the bracket by virtue of alignment of the cover with the socket head.

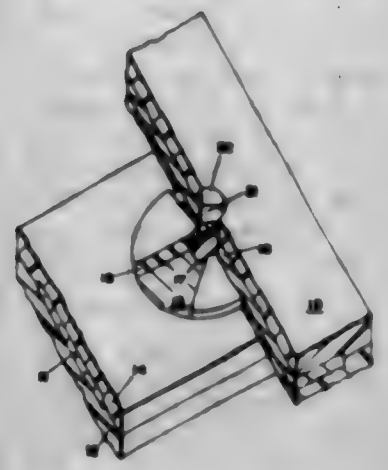
3,144,503
FASTENER FOR SECURING AN ELECTRICAL DEVICE TO AN OPENING
Albert J. Fischer, P.O. Box 218, DeLeon Springs Heights, Fla.
Filed Feb. 23, 1962, Ser. No. 175,137
7 Claims. (Cl. 174—52)



1. A fastener for securing an electrical device to a terminal box having a wall defining an opening comprising a base portion secured to a surface of said device, an inclined portion diverging from one end of said base portion to define a notch with said surface for reception of said wall, a first leg extending from the other end of said base portion, a second leg substantially parallel to the first extending from said inclined portion defining an acute angle with said base portion, said second leg containing a threaded opening, said first leg containing an opening aligned with said threaded opening and located nearer said base than the threaded opening, and a screw threadedly mounted in said threaded opening and freely movable through the opening in said first leg for engagement with said wall.

3,144,504
INTERCONNECTED FLEXIBLE ENCAPSULATED CONDUCTORS
Thomas H. Stearns, Wilton, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Sept. 30, 1960, Ser. No. 59,615
4 Claims. (Cl. 174—68.5)

1. In combination a first flexible thermoplastic strip having at least one electrical conductor encapsulated therein, a second thermoplastic strip having at least one electrical conductor encapsulated therein, said strips being laminated together such that a terminal portion of a first conductor is in spaced overlapping relation with a terminal portion on the second conductor with the thermoplastic material removed from therebetween, an insulating spacer positioned between said overlapping



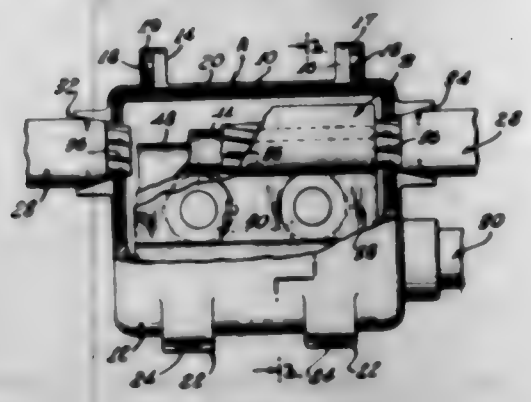
terminal portions to maintain them in spaced relation, said terminal portions and said spacer having a central opening therethrough, said spacer having arms extending therefrom to define channels, said channels and said apertures being filled with an electrically and mechanically bonding material interconnecting said terminal portions.

3,144,505
NON-METALLIC ELECTRICAL DUCT WITH EMBEDDED GROUND WIRE
Frank W. Fork, Pittsburgh, Pa., assignor to H. H. Robertson Company
Filed Aug. 24, 1961, Ser. No. 133,691
3 Claims. (Cl. 174—70)



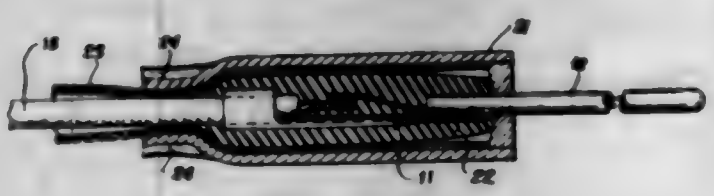
1. In an electrical distribution system, the combination comprising:
a non-metallic duct having pairs of opposed walls defining an interior space adapted to receive insulated, current conducting cables, one of said walls having at least one cable passageway;
a grounding element embedded within said one of said walls adjacent to the said cable passageway and extending the entire length of the said non-metallic duct, said grounding element having no electrical connection with a source of electrical power;
a base cup including a flanged base resting on the said one of said walls and surrounding the said cable passageway; and
at least one grounding lug depending from the said flanged base, said grounding lug penetrating the said non-metallic duct and the said grounding element whereby the said base cup is electrically grounded.

3,144,506
INSULATING COVER FOR CONNECTORS HAVING TAPERED CABLE ENTRANCES
Alfred B. Gauthel, Jr., Sea Cliff, N.Y., assignor to Dossert Manufacturing Corp., Brooklyn, N.Y., a corporation of New York
Filed July 21, 1960, Ser. No. 44,319
5 Claims. (Cl. 174—71)



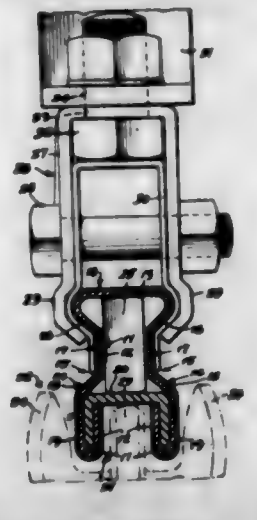
1. A cover member for a connector adapted to electrically connect uninsulated portions of adjacent insulated cables comprising complementary upper and lower enclosing shells hingedly connected together, said shells having outwardly tapered conical troughs defining together at least two cable receiving openings, said tapered troughs being of an exterior maximum dimension slightly larger than the cable diameter with its insulation, and an inner dimension slightly larger than said cable stripped of its insulation and being spaced a fixed predetermined amount so that upon closure of the hinged upper and lower shells the conical troughs form a moistureproof seal with similarly shaped conical terminal portions of the insulation about the cables.

3,144,507
SPLINT TYPE REINFORCED CONDUCTOR JOINT
Marvin D. Scudron, Skokie, Ill., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed May 4, 1962, Ser. No. 192,449
3 Claims. (Cl. 174—84)



1. Means providing a splint-type reinforcement between a conductor comprising a first wire and electrical insulation therearound having a bare end joined to a second wire, said second wire being contained in an elongated rigid, metallic sheath except for a portion thereof exposed at one end of the sheath, said sheath and wires having a common axis comprising: a rigid one-piece strain-relieving member having an elongated first portion extending parallel to the axis bridging the joint between said wires to relieve strain thereon, and a pair of curled arms extending laterally from said first portion, said arms embracing said insulation in clamping engagement therewith, said first portion being integrated with said sheath, a mass of potting compound surrounding the member, an adjacent part of the insulation and the adjacent part of the sheath, and a rigid tube surrounding the mass of potting compound.

3,144,506
CONDUCTOR BAR
Alleyne C. Howell, Jr., 645 Mine Hill Road, Fairfield, Conn.
Filed Jan. 25, 1962, Ser. No. 168,730
5 Claims. (Cl. 174—133)

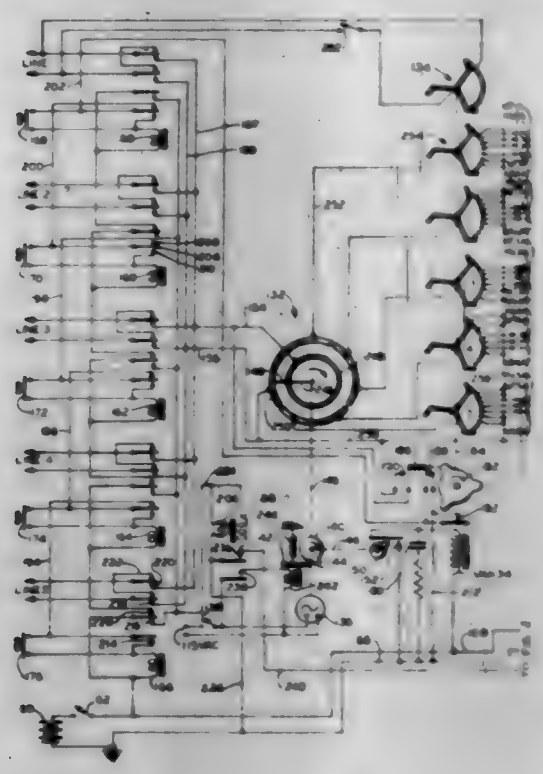


1. A conductor bar comprising a longitudinally extending sheet metal shell of uniform metal thickness throughout including a transversely continuous top wall and downwardly extending transversely spaced side walls integral with said top wall, the upper portions of said side walls contiguous to said top wall having transversely aligned longitudinal indentations at their outer sides forming transversely aligned downwardly facing longitudinal shoulders at their inner sides in downwardly spaced relation to said top wall, and a separate conductor strip of strip metal of substantially greater thickness than the sheet metal thickness of said shell and having a current conducting capacity independent of that of said shell, said conductor strip being positioned within said shell in current conducting relationship therewith against said shoulders in spanning relation between said side walls and having a transversely disposed downwardly facing contact face, the portions of said side walls below said shoulders each consisting of an outer wall portion, a bend portion extending transversely inwardly from said outer wall portion, and an inner wall portion extending upwardly from said bend portion and having a longitudinal free edge in vertically opposed abutting relationship to said contact face of said conductor strip, said inner wall portions being in transversely opposed spaced relation to each other and their opposed surfaces constituting with said contact face of said conductor strip a downwardly open guideway channel, and the current conducting relationship between said conductor strip and said shell being such that the current conducting capacity of said conductor bar is the sum of the current conducting capacities of said conductor strip and said shell.

3,144,589
AUTOMATIC TIME TRANSMITTER
Herbert S. Schory, U.S. Navy (% U.S. Naval Communication Station, Kodiak, Alaska), and Donald A. Doersch, U.S. Navy (% U.S. Naval Communication Station, Box 130, Navy 926, FPO, San Francisco, Calif.)
Filed July 3, 1961, Ser. No. 121,788
9 Claims. (Cl. 178—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A teletypewriter system comprising a time stepping unit whose configuration represents digitized time; an order wire line leading to a teletypewriter printing apparatus; means controlled by said time stepping unit for establishing a source of signal elements constituting the teletypewriter code combination corresponding to the characters representing the digitized time associated with the configuration of the time stepping unit; a readout unit for transmitting to said order wire line in proper serial

form a time message including said signal elements from said source; line control means for connecting said readout unit to said line; and means to prevent initiation of a readout cycle of said readout unit to transmit signals to



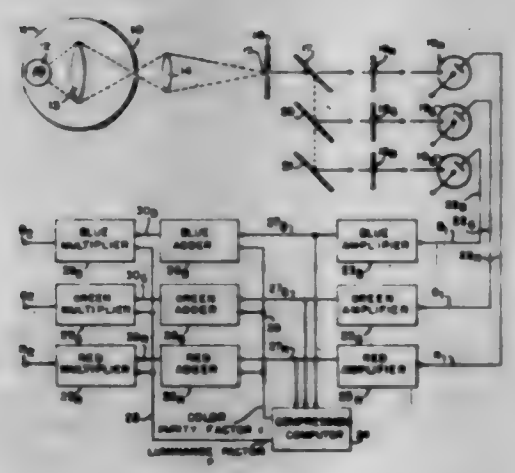
said order wire line during a time shift process of said time stepping unit wherein said time stepping units steps from one configuration to another corresponding to the passage of a time interval.

3,144,510

APPARATUS FOR THE COMPRESSION OF COLOR IMAGES

Monroe Farber, Jericho, and Vernon L. Marquart, Commack, N.Y., assignors to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Mar. 1, 1960, Ser. No. 12,088
18 Claims. (Cl. 178—5.2)



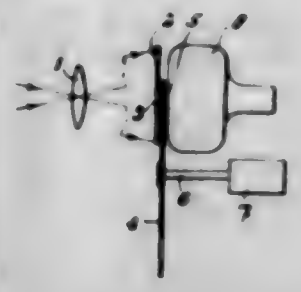
1. A system for compressing the color purity of a set of multistimulus-representative signals without affecting the dominant wavelengths of the image reproduced thereby, comprising: circuit means for translating each of said multistimulus signals; circuit means for deriving a signal responsive jointly to the simultaneous instantaneous values of said multistimulus signals; and means for simultaneously adding said derived signal to each of said multistimulus signals to develop a new set of multistimulus-representative signals with compressed color purity.

3,144,511

MECHANICAL SCANNING DEVICE WITH OPTICS HAVING PIN-CUSHION DISTORTION TO PROVIDE LINEAR SCANNING RATE

Albert Bouwers, The Hague, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands

Filed June 26, 1961, Ser. No. 119,452
Claims priority, application Netherlands June 28, 1960
1 Claim. (Cl. 178—7.1)



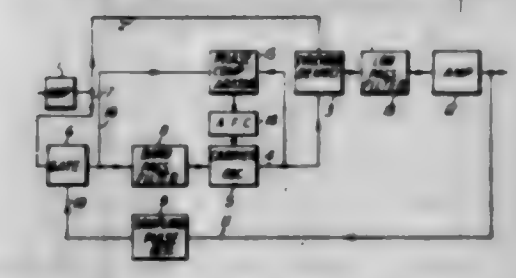
In a device for periodically scanning a narrow strip of an optical image, an optical objective having pin-cushion distortion which forms the image to be scanned, a disc positioned in the image plane of the objective and having a plurality of radial rectilinear light transmitting slots, means to rotate said disc at a substantially uniform speed, a diaphragm fixedly positioned immediately adjacent said scanning disc having a rectilinear light transmitting slot corresponding to the strip to be scanned, said slot in said diaphragm having a width varying along the length of said slot and said slots in said scanning disc having a width varying along the length of said slots so that the area of the surface element discovered at the crossing point of the slots is substantially constant along the strip to be scanned, and a light sensitive electrical signal generating element positioned behind the image plane to receive light transmitted at the crossing points of said slots, the amount of pin-cushion distortion of said optical objective being so as to substantially compensate for variations in travel speed of the crossing point of said slots along the strip to be scanned when said disc is rotated at said uniform speed.

3,144,512

TELEVISION SIGNAL RECEIVER TERMINAL

John Gilbert McAllan and John Douglas Laing, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 18, 1962, Ser. No. 188,350
Claims priority, application Great Britain May 3, 1961
10 Claims. (Cl. 178—7.3)



1. A receiver terminal for vestigial-sideband television signals comprising:

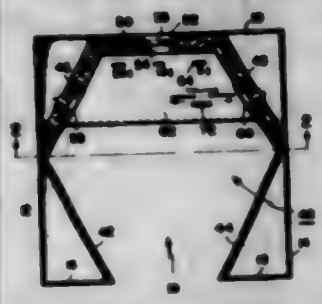
a source of said television signals;

a source of carrier wave;

a synchronous demodulator coupled to both of said sources to recover the video signal of said television signals; and

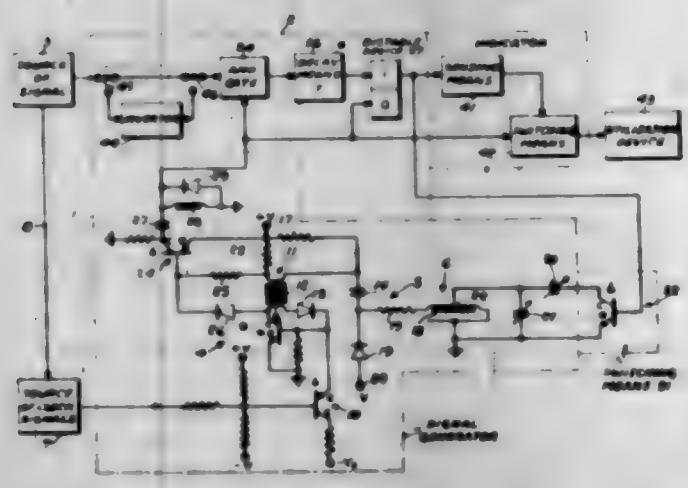
means coupled to both of said sources and the output of said demodulator to adjust the frequency and phase of said source of carrier wave to that of said television signals during predetermined periods in response to said video signal.

3,144,513
TELEPHONE BOOTH
Percival H. Sherron, Jamaica, N.Y. (% Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn 37, N.Y.)
Filed May 26, 1961, Ser. No. 112,955
9 Claims. (Cl. 179—1)



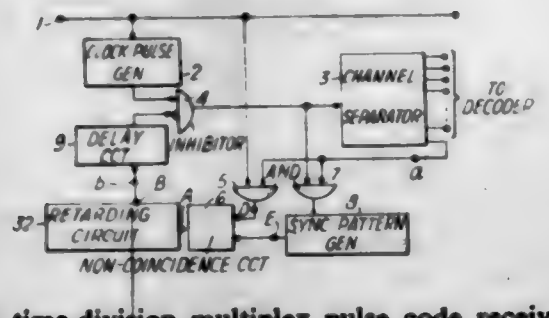
1. In combination, a telephone booth comprising an outer shell having upright walls, sound absorbing material arranged within said shell to form an absorption chamber having upright walls, and means extending across said booth and closing the top of said shell and chamber, the front of said booth being permanently open to afford ingress to and egress from said chamber, and a loud-speaking telephone set comprising a microphone, a plurality of loud-speakers, said microphone and loud-speakers being mounted in the walls of and so as to face the center of said chamber, said loud-speakers facing away from said microphone, and means for operatively connecting said microphone and loud-speakers to a telephone line.

3,144,514
RECURRING SIGNALLING CONDITION DETECTOR
Roy E. Gitter, Pompton Plains, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Feb. 27, 1961, Ser. No. 92,977
5 Claims. (Cl. 179—15)



1. A system to detect a recurring signalling condition within a given signal comprising a blocking oscillator, a delay line coupled to said blocking oscillator to control the output signal of said blocking oscillator to provide a reference signal having a normal repetition frequency, a condenser capable of being selectively coupled to said delay line to provide said reference signal with a second repetition frequency when coupled to said delay line, a coincidence device responsive to said given signal and said reference signal to provide a control signal varying in accordance with the presence and the absence of said recurring signalling condition, and means coupled to said condenser responsive to said control signal to alternately connect and disconnect said condenser to said delay line to change the repetition frequency of said reference signal between said normal and second repetition frequencies until said recurring signalling condition is detected and to maintain said condenser disconnected from said delay line after detecting said recurring signalling condition.

3,144,515
SYNCHRONIZATION SYSTEM IN TIME-DIVISION CODE TRANSMISSION
Hiroshi Kaneko, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Mar. 27, 1961, Ser. No. 98,503
Claims priority, application Japan Apr. 7, 1960
3 Claims. (Cl. 179—15)

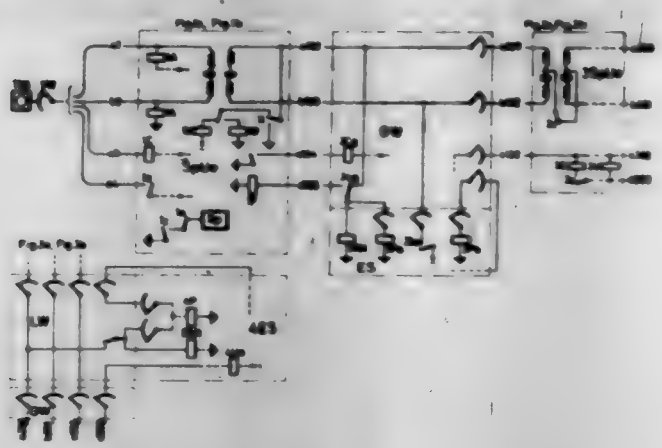


1. In a time-division multiplex pulse code receiver in which a loss of synchronism is restored in response to error pulses obtained from the lack of coincidence between the synchronizing code selected from within a frame of received pulses and a locally generated pulse code sequence corresponding to the transmitted synchronizing code, by causing the receiver channel separator to hunt for the correct synchronizing code, the improvement therein, to retard hunting, comprising: means for delaying said error pulses; and means coupled to said delay means at the input and output thereof and responsive to the first error pulse for preventing at least said first error pulse from causing said channel separator to start hunting, said means responsive to said first error pulse comprising an AND-gate connected to the output of said delaying means, a counter controlled by the error pulses and connected on a predetermined stage thereof to said AND-gate for the preparatory opening thereof upon a predetermined number of error pulses, an inhibitor gate interposed between the source of error pulses and said counter, and an inhibiting pulse source responsive to the state of said predetermined stage of said counter for applying an inhibiting pulse to said inhibitor gate for a predetermined time.

3,144,516
CIRCUIT ARRANGEMENT FOR CONNECTORS CONTROLLED BY MARKERS COMMON THERETO
Kurt Lass, Munich, and Lothar Schmitt, Neuried, near Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Mar. 6, 1959, Ser. No. 797,813
Claims priority, application Germany Mar. 10, 1958
22 Claims. (Cl. 179—18)

1. In a telephone system having connectors each provided with control relay means operatively connected therewith and having marker devices which are respectively common to a plurality of connectors, for controlling the operation thereof in the extension of calls from calling to called lines, control relay means for the respective marker devices, means for first connecting with a connector, involved in the extension of a call, a marker device for the setting thereof according to the impulses representing the tens digit of a desired called line, means for thereupon releasing said marker device, means for thereafter again connecting a marker device with said connector for the setting thereof in accordance with impulses representing the units digit of the called line, a circuit arrangement for deriving sequential evaluation of the impulses representing said tens and units digits,

respectively, said circuit arrangement comprising a test circuit, means controlled by said test circuit and effective responsive to the first connection of said marker device with said connector, for transmitting to the marker control relay means an electrical criterion signifying the setting of said connector in accordance with the impulses



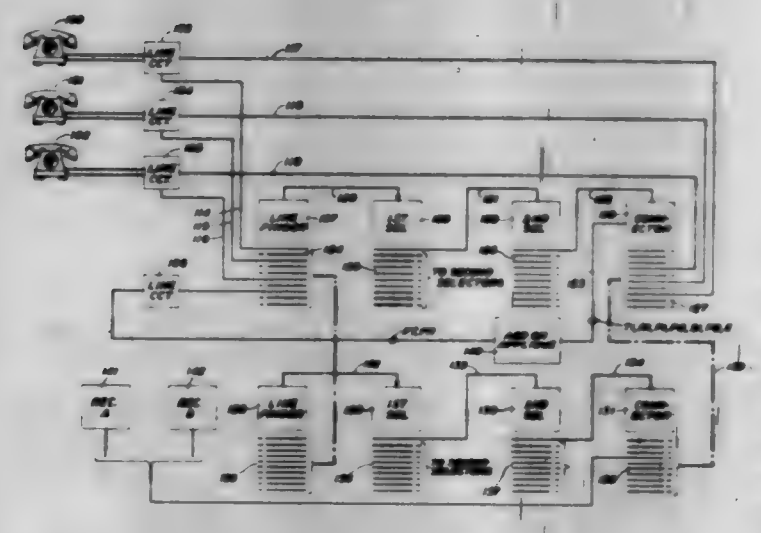
representing said tens digit, means for storing said electrical criterion in said marker control relay means, and means controlled by said stored electrical criterion upon subsequent connection of a marker device with said connector for effecting operation thereof in accordance with the impulses representing the units digit of the called line.

3,144,517

ADD-ON CIRCUIT FOR STEP-BY-STEP SYSTEMS

John C. Albrecht, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 27, 1960, Ser. No. 65,358
12 Claims. (Cl. 179—18)



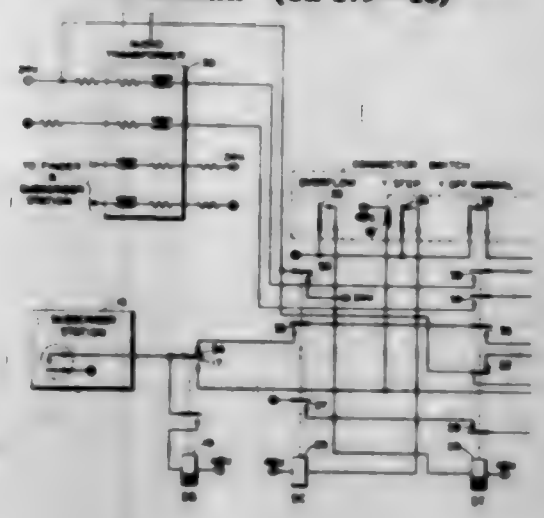
1. In a telephone switching system, a plurality of subscriber stations, a telephone switching network, means at each of said subscriber stations for generating call signal information representative of a called subscriber station, control means responsive to said call signal information from a calling one of said subscriber stations for selectively controlling said switching network to prepare a transmission path to connect said calling station with said called station, cut-through means responsive to a signal from said called station for completing said prepared transmission path through said switching network between said calling station and said called station, add-on means enabled by said cut-through means, said add-on means including switching means responsive when enabled to further call signal information from said calling station or said called subscriber station for selectively controlling said switching network to prepare a transmission path to connect said calling and called stations with another one of said plurality of subscriber stations.

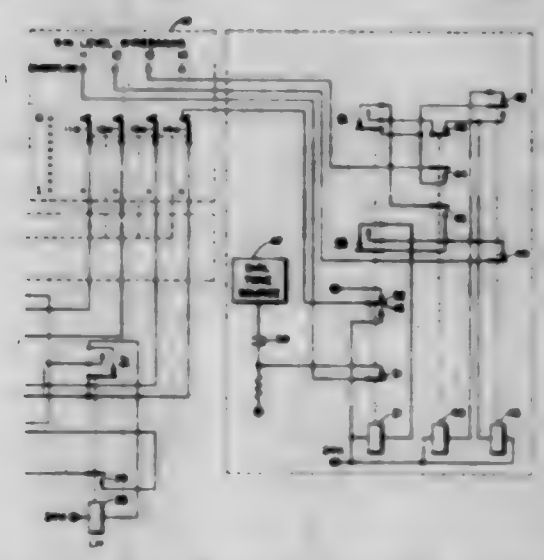
3,144,518

"MEET ME" CONFERENCE PRIVACY SYSTEM

Bruce D. Lamonds, Washington, D.C., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Jan. 26, 1962, Ser. No. 168,919
8 Claims. (Cl. 179—18)





1. In an automatic telephone system, the combination comprising a plurality of N lines, each having an associated subscriber station; means responsive to the receipt of predetermined directive signals from said subscriber stations for automatically establishing a conference circuit between stations which have transmitted said predetermined directive signals; means connected to said conference circuit responsive to the receipt of a first additional directive signal for denying access to said conference circuit by any other line of said system; and means connected to said conference circuit and responsive to the receipt of a second additional directive signal for granting access to said conference circuit by any other line of said system.

3,144,519

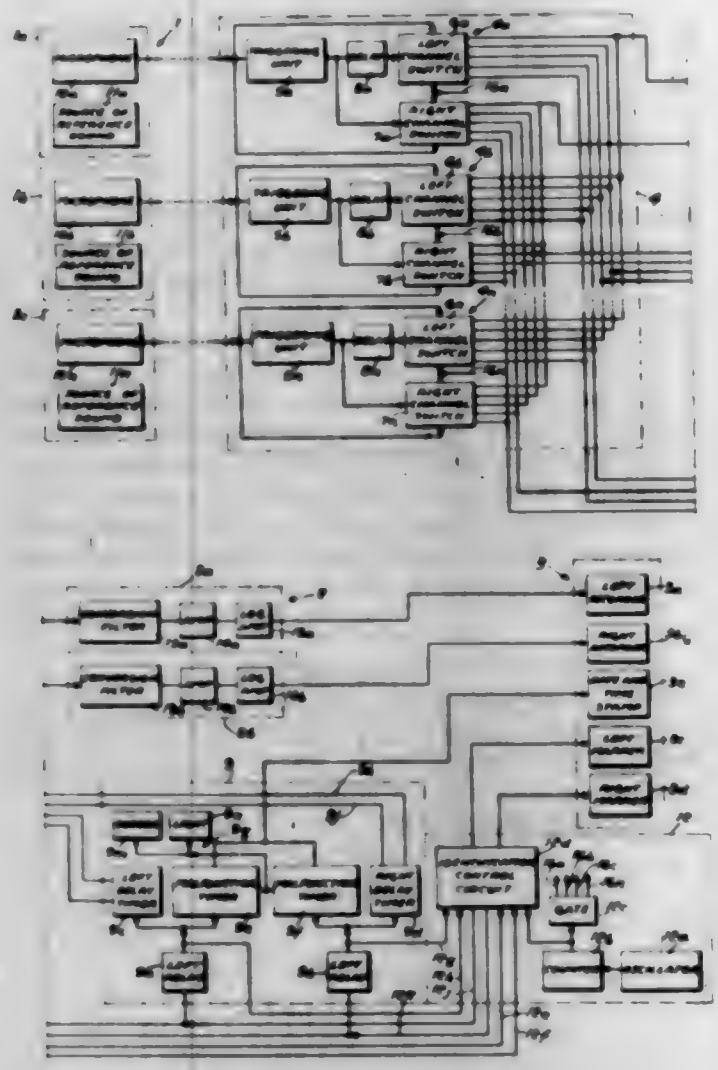
SOUND MONITORING AND RECORDING SYSTEM

Henry F. Herbig, Smoke Rise, and Harry G. Whitehead, Murray Hill, N.J., Marco Padalino, Yonkers, N.Y., and Gordon M. Nennemacher, Rahway, and Bruce McAdams, Pompton Plains, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Aug. 16, 1960, Ser. No. 50,015
5 Claims. (Cl. 179—100.1)

1. A sound monitoring and recording system for monitoring ambient sound at remote locations and recording the level of said sound at a central location comprising sound monitoring means including a source of reference

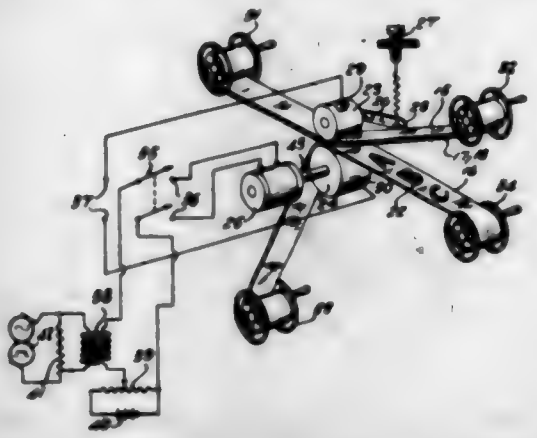
sound for receiving said ambient and reference sounds and converting said sounds into a single electrical signal, means responsive to said electrical signal to provide an output signal corresponding to values of said electrical signal above a given value, a plurality of conductors, switching means coupled intermediate said responsive means and said conductors to provide on at least one of said conductors said output signal corresponding to said electrical signal above a given value, a filter coupled to some of said conductors and responsive to said electrical signal from said switching means, said filter having a non-linear frequency response which provides varying magni-



tude output signal in accordance with the frequency of said electrical signal to provide an output signal which is a given function of the frequency of said electrical signal from said switching means, a recorder coupled to the output of said filter to record the frequency function signal therefrom, and control means coupled to others of said conductors to control the operation of said recorder in accordance with signals from said switching means.

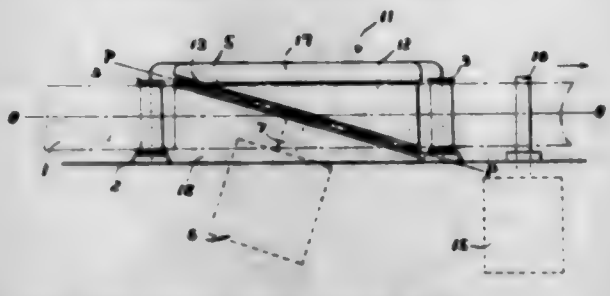
3,144,520
MAGNETOSTRICTIVE RECORD AND RECORDING APPARATUS
Simon Levin, 123 W. 44th St., New York, N.Y.
Filed May 19, 1958, Ser. No. 736,311
16 Claims. (Cl. 179—100.2)

1. In a magnetic recording apparatus, an information carrier comprising a first magnetostrictive medium which is adapted to be remanent changed by mechanical stresses, a second magnetic medium adapted to be remanent changed by the remanent change of said first magnetostrictive medium, said first magnetostrictive medium and said second magnetic medium comprising a combined medium of interspersed comminuted particles; said me-



chanical stresses being representative of information to be stored in said second magnetic medium.

3,144,521
MAGNETIC TAPE RECORDER
Nobutoshi Kihara and Kenji Sastuga, Tokyo, Japan, assignors to Sony Corporation, a corporation of Japan
Filed Nov. 1, 1960, Ser. No. 66,529
Claims priority, application Japan Nov. 6, 1959
5 Claims. (Cl. 179—100.2)

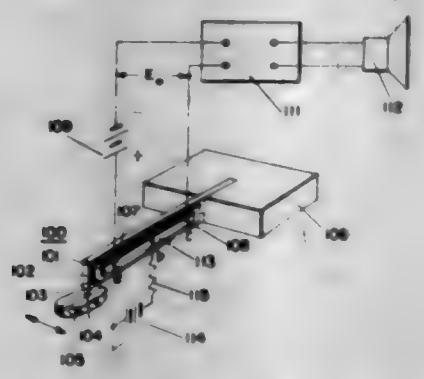


1. A magnetic tape recorder comprising
a tape guide member having an arcuate guide surface,
means for drawing a magnetic tape across said tape guide member in contacting relationship with said guide surface over an arcuate extent of said guide surface which is substantially less than 360 degrees,
said tape guide member having a substantially linear slot formed therein which extends diagonally across said guide surface, and
a rotatable member having a plurality of magnetic head elements mounted thereon and extending through said slot for contact with a magnetic tape which is drawn across said guide surface,
said arcuate guide surface having a dimension in the direction at right angles to the direction of tape movement thereacross many times the width of said slot for receiving a relatively wide magnetic tape the width of which is many times wider than the width of said slot.

3,144,532
VARIABLE RESISTIVITY SEMICONDUCTOR AMPLIFIER PHONOGRAPH PICKUP
Harold Bernstein, Cambridge, Mass., assignor to Manlabs, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed July 9, 1962, Ser. No. 208,205
15 Claims. (Cl. 179—100.41)

1. A phonograph pickup device for producing an alternating electric current representative of sound signals, comprising:
stylus means for engaging a moving phonograph record impressed in accordance with sound vibrations;
mechanical vibration means including a vibration member coupled to said stylus means for vibrating in accordance with said sound vibrations;

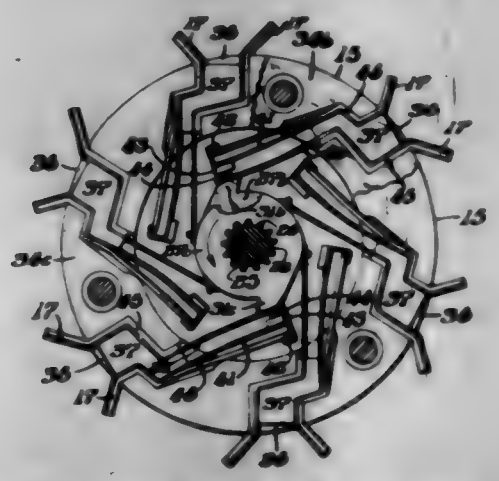
deformable transducer means disposed on said member including a transducer element formed of a single crystal of electrically semiconductive material for



varying the resistivity of the element in response to vibrations of said member; and

rectifying junction electrode means coupled to said element for producing an amplified electric signal.

3,144,523
CAM OPERATED SAMPLING SWITCH HAVING MEANS FOR CHANGING THE SWITCH-CLOSING TIME BY SMALL INCREMENTS
John P. Glass, 718 Lorraine Ave., Ardmore, Pa.
Filed July 20, 1961, Ser. No. 125,575
11 Claims. (Cl. 200—38)



1. Sampling switch apparatus comprising a shaft, a rotatable cam having internal teeth with a predetermined tooth angle mounted on said shaft and rotatable therewith, a series of switch contacts, switch-contact support means positioned around said rotatable cam and radially spaced therefrom, and means for changing the alignment between the cam teeth and the switch contacts by increments of an angle smaller than the cam tooth angle, said means comprising said support means and said cam teeth.

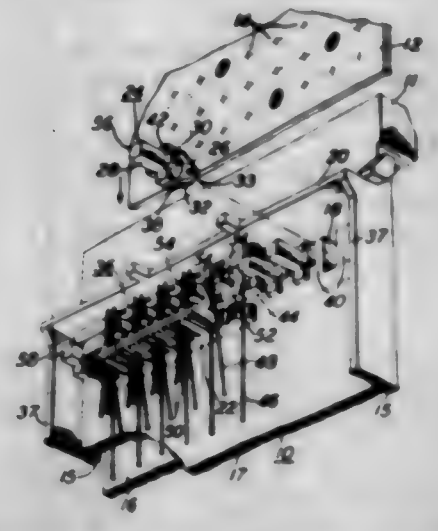
3,144,524
WEB ACTUATED SWITCH
Melville S. Hawley, New Providence, N.J., and Harold J. Hershey, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 26, 1962, Ser. No. 175,718
20 Claims. (Cl. 200—46)

1. A switch actuatable responsive to coding on a web moving relative to the switch comprising:

three contact members adapted to overlie the web;

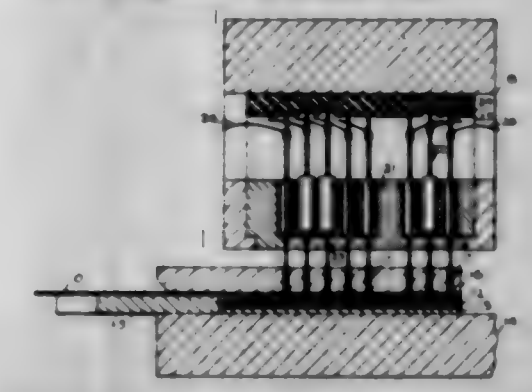
the first contact member being situated a substantially constant distance from the upper surface of the web;

the second contact member being movable between a first and a second position responsive to the presence of coding on the web, the second contact member in its first position being spaced a greater distance from the upper surface of the web than the first contact member and in its second position being spaced a shorter distance from the upper surface of the web than the first contact member;



and the third contact member overlying both the first and the second contact members and being biased theretoward, the third contact member engaging the second contact member when it is in its first position and following the second contact member as the second contact member moves from its first to its second position, the movement of the third contact member being arrested by its engagement with the first contact member whereupon the third contact member makes with the first contact member and immediately thereafter breaks with the second contact member as the second contact member continues its movement toward its second position.

3,144,525
PUNCHED CARD READER
George S. Fenn, Rolling Hills, and Robert F. Kiddle, San Pedro, Calif., assignors to FMA, Inc., El Segundo, Calif., a corporation of California
Filed Oct. 29, 1962, Ser. No. 233,623
3 Claims. (Cl. 200—46)

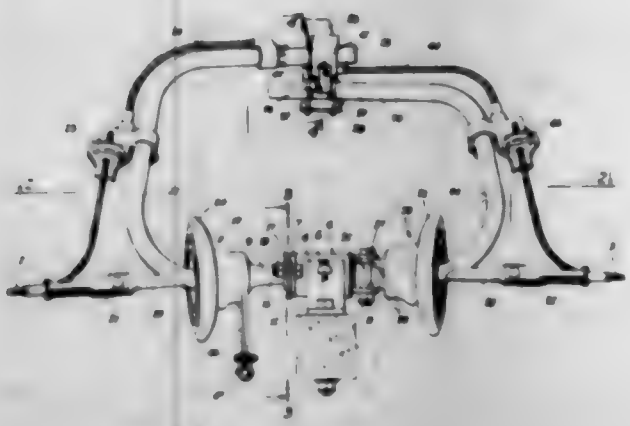


1. A punched card reader comprising: an electrically conductive plate; a housing structure positioned over said plate and adapted to be selectively moved toward and away from said plate; a resilient pad mounted in said housing structure and parallel to said plate; and a predetermined number of electrically conductive pins slidably mounted in said housing structure in a position that is perpendicular to both said pad and said plate, said pins being in pressure contact with said pad at one end and contiguous to said plate at the other end thereof.

3,144,526
POLE-TOP SWITCH STRUCTURE
John G. Pohl, P.O. Box 1257, Stockton, Calif.
Filed Dec. 3, 1962, Ser. No. 241,716
10 Claims. (Cl. 200—48)

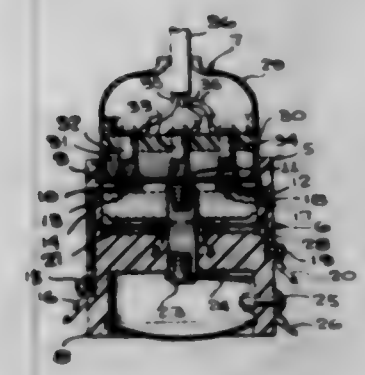
1. In a pole-top switch structure for cross-arm mounting, brackets mounted in spaced relation on and length-

wise of the cross-arm, a yoke disposed between the brackets, a horizontal pivot pin fixed in and extending between the brackets and on which the yoke is rockably mounted, one insulator unit projecting from one end of the yoke and rigid therewith against movement relative thereto in a vertical plane, said unit being adapted at its outer end for connection to one line cable, another insulator unit projecting from the other end of the yoke and adapted at its outer end for connection to another



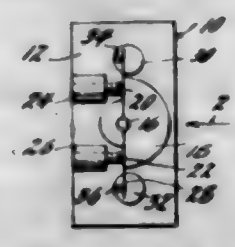
line cable, said other unit including an axial shank, means connecting the shank to the pivot pin for universal swivel movement relative thereto, and means between the shank and said other end of the yoke to adjustably clamp the shank against swivel movement relative to the yoke from any swivelled position of the shank relative to the pin; there being cooperating disengageable switch elements mounted on the units in spaced relation to the yoke and connected to the related cables.

3,144,527
MAGNETIC ELECTRICAL COUPLING
Manuel J. Tolegian, 3960 Glenridge Drive, Sherman Oaks, Calif.
Filed Sept. 13, 1961, Ser. No. 137,819
6 Claims. (Cl. 200—51.09)



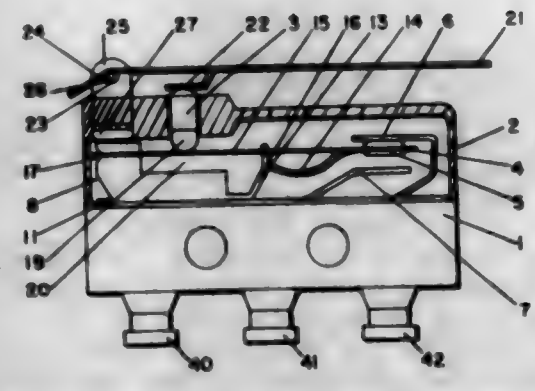
1. An electrical connector of the two-part type, comprising a first connector fitting having a tubular body portion, an outwardly directed contact plate carried by said tubular body portion, said contact plate being of non-conductive material and having a plurality of electrically isolated current carrying first contacts extending therethrough, a plurality of electrically isolated second contacts positioned inwardly of said contact plate, each of said second contacts being in substantial alignment with one of said first contacts and being movable toward and away from said contact plate into and out of engagement with its corresponding first contact, each of said second contacts being adapted to be connected to an electrical conductor, a first magnet in said tubular body portion disposed inwardly of said plurality of said second contacts and movable toward and away from said contact plate, said second contacts being between said first magnet and said contact plate, whereby when said magnet is moved toward said contact plate, said second contacts will be moved into electrical engagement with said first contacts to energize the same, said first magnet having its magnetic axis extending transversely of the direction of movement of said second contacts and said first magnet, a second connector fitting engageable with the contact plate of said first fitting, said second connector fitting having a plurality of exposed contacts positioned for electrical engagement with said first contacts when said fittings are engaged, a second magnet carried by said second connector fitting, said second magnet having its magnetic axis disposed substantially parallel to the magnetic axis of said first magnet, and means for preventing the rotation of each of said magnets relative to its respective fitting.

3,144,528
ACCELERATION SWITCH
Louis Pino, Rego Park, N.Y., assignor to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts
Filed Mar. 29, 1961, Ser. No. 99,232
4 Claims. (Cl. 200—61.45)



1. An acceleration responsive electrical switch comprising a support member, a shaft rotatably mounted in said support member, an eccentric mass secured to said shaft, means normally maintaining said eccentric mass to one side of said shaft relative to the direction of the force of acceleration to be measured, said last-mentioned means including means for limiting the arc of rotation of said mass, spring means secured to said shaft and extending radially from said shaft, and contact means positioned in the path of said spring means to be engaged thereby during the rotation of said mass in response to an accelerating force.

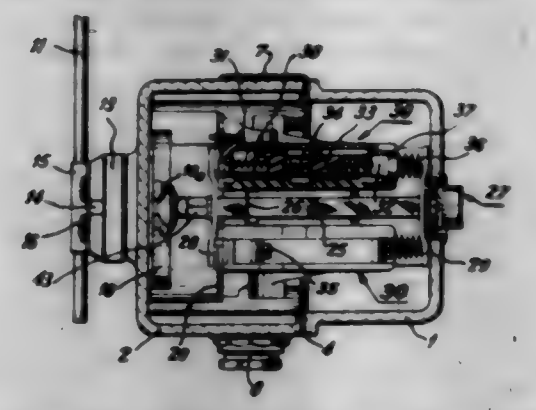
3,144,529
SNAP SWITCH
Joseph J. Zemke, Meriden, and Leo F. Geremia, Wallingford, Conn., assignors to Maxson Electronics Corporation, New York, N.Y., a corporation of New York
Filed Apr. 3, 1961, Ser. No. 100,387
7 Claims. (Cl. 200—67)



1. A snap switch, comprising switch elements and operating means therefor, a housing including a base and a cover for enclosing said switch elements, said cover having a pair of spaced perforations through its wall, a push-button extending through a wall of said cover to energize said operating means, an actuator for the push-button, said actuator including an integrally formed hinge portion,

a bracket anchored in the two perforations of the cover, and a pivot pin supported by said bracket, said hinge portion being in operative engagement with said pin and capable of pivotally supporting the actuator.

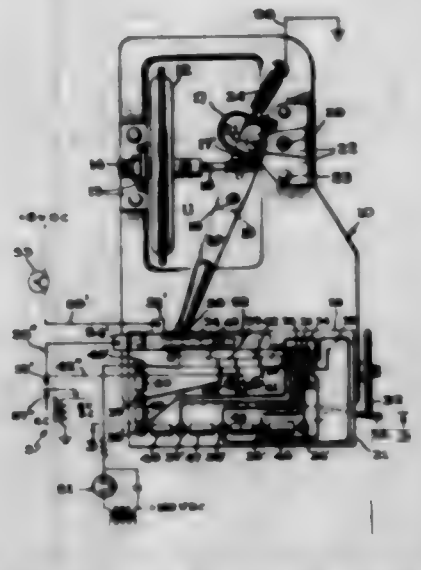
3,144,530
RE-SETTABLE SWITCH DEVICE
Clément Bily, Paris, and Jean Lescarboura, Nanterre, France, assignors to La Telemecanique Electrique, Nanterre, France, a company of France
Filed July 18, 1962, Ser. No. 210,647
Claims priority, application France Aug. 11, 1961
13 Claims. (Cl. 200—76)



1. A re-settable switch device comprising a frame, a monitor member pivotally carried by said frame and capable of assuming a normal position and an emergency position, switching means secured to said frame, an actuating rod connected with the switching means and displaceable axially in said frame between a first position and a second position in which positions the switching means are in a normal circuit condition and an emergency circuit condition respectively, camming means fast with said monitor member and engageable with one end of the rod for initiating rod displacement from the first to the second position on movement of the monitor member to its emergency position, a manual resetting control carried by said frame and engageable with the opposite end of the rod for initiating rod displacement from the second towards the first position, and a spring arrangement bearing against said frame, having a pivotal engagement with said rod and imposing, on said rod, a force perpendicular thereto in an unstable intermediate position of said rod, whereby axial displacement of the rod in either direction from one of its end positions past said unstable intermediate position will snap the rod forcefully to its opposite end position, the camming means preventing rod displacement by said control past its unstable intermediate position and towards its first position when the monitor member is in its emergency position.

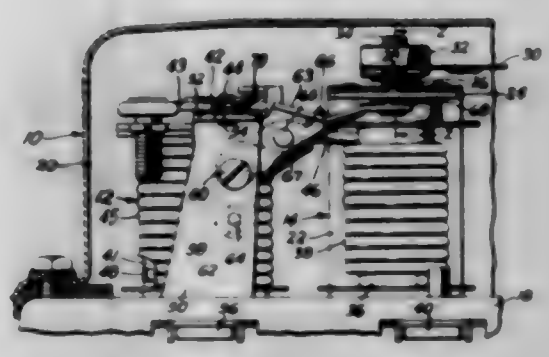
3,144,531
MULTICIRCUIT BAROSWITCH FOR TELEMETERING DEVICES
James R. Cosby, Towson, Md., assignor to The Bendix Corporation, Towson, Md., a corporation of Delaware
Filed June 22, 1960, Ser. No. 37,951
7 Claims. (Cl. 200—83)

3. In a baroswitch for controlling a telemetering circuit, a pressure-responsive device, a baroswitch arm connected to said device to be driven thereby, a contact element carried by said arm, a pair of first and second commutator blocks arranged in spaced superposed relation with the first of said blocks terminating short of the second block in a pressure-decreasing direction, the first block being provided with a series of telemetering signal segments covering a selected range of altitude for wiping engagement by said contact element as the baroswitch arm is driven in a pressure-decreasing direction and the second of said blocks being provided with a series of signal segments covering a range of altitude between minimum and maximum pressures, the baroswitch arm moving free



of the first block onto the second block upon being driven beyond the termination point of the first block.

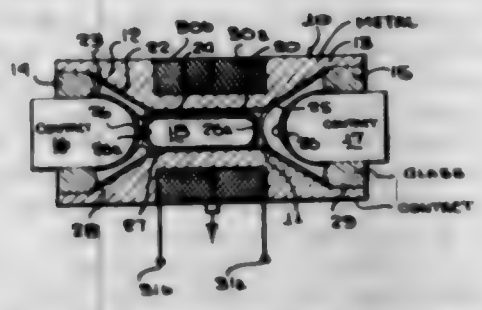
3,144,532
REGULATOR HAVING CUT-OUT RELAY PROTECTION
John E. Young, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 24, 1961, Ser. No. 91,449
3 Claims. (Cl. 200—98)



1. A regulator comprising, a cut-out relay having switch contacts, an actuating coil and an armature carrying one of said switch contacts, a current regulating relay having an actuating coil, a pair of switch contacts and an armature that carries one of said switch contacts, and a lever pivoted between its ends having a portion located at one side of its pivot adapted to be engaged by the armature of the current regulating relay and having another portion located on an opposite side of its pivot adapted to engage the armature of the cut-out relay to positively separate the cut-out relay contacts.

3,144,533
MERCURY RELAY
Erwin Donath, Princeton, N.J., assignor to Fifth Dimension Inc., Princeton, N.Y., a corporation of New Jersey
Filed Mar. 16, 1962, Ser. No. 180,050
22 Claims. (Cl. 200—112)

5. A relay comprising an envelope, a quantity of conducting liquid having high surface tension located in said envelope, contact surfaces and surfaces mutually insulating said contact surfaces located internally of said envelope, said contact surfaces only being wettable by said liquid, and at least in part forming part of said envelope the

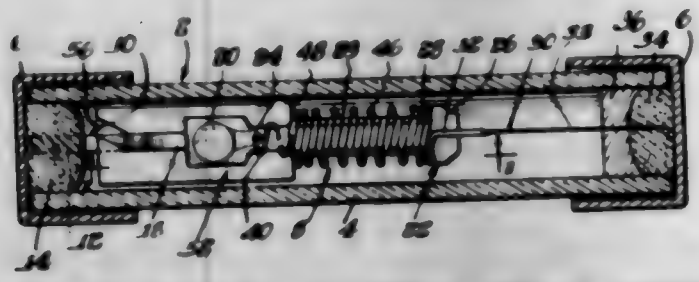


quantity of said liquid being only adequate to cover said contact surfaces with a layer of said liquid and inadequate to form a pool of said liquid in addition to said layer.

3,144,534
SLOW BLOWING FUSE

Bertram W. Baumbach, Arlington Heights, Ill., assignor to Littelfuse Incorporated, Des Plaines, Ill., a corporation of Illinois

Filed Dec. 12, 1960, Ser. No. 75,178
10 Claims. (Cl. 200—123)

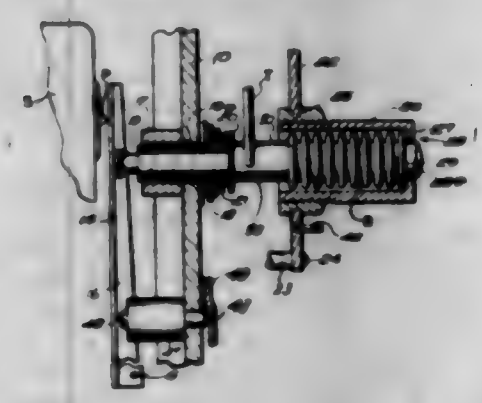


1. A time lag fuse comprising a tube of insulating material forming a fuse housing; a pair of fuse terminals at opposite ends of said tube; and a fuse assembly in said tube including a pair of resiliently urged apart conductive parts respectively connected to said fuse terminals, a solder joint holding said conductive parts together, one of said conductive parts including a heat reservoir member surrounded by a heater coil, the other conductive part extending to one of said fuse terminals, a high overload fuse filament connected between said heater coil and the other fuse terminal, and means independent of said fuse filament for supporting said fuse assembly rigidly within the tube, said fuse filament being relieved of strains by the independent support provided for the fuse assembly.

3,144,535
SWITCH RESPONSIVE TO CHANGES IN AMBIENT TEMPERATURE

John A. Denner, West Roxbury, and Henry G. Leupold, Arlington, Mass., assignors to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts

Filed Aug. 8, 1960, Ser. No. 48,850
4 Claims. (Cl. 200—140)

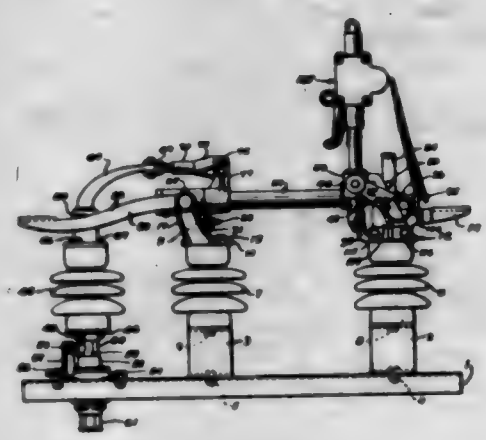


2. A wall thermostat comprising a casing adapted to be secured to a wall, said casing having a rigid chassis and a cover panel secured in spaced relation to the chassis providing a shallow open-sided chamber between them and said cover panel containing a central opening and a long narrow opening along one side, a switch secured to the rear side of the chassis with its operating nib projecting forwardly toward the back of the chassis, a lever pivotally mounted on the back of the chassis with an end adjacent the switch-operating pin, a bearing opening in the chassis in alignment with the opening in the cover, a motor having an expansible bellows portion and heads at its opposite ends, said motor being supported with the head at one end extending through the bearing into engagement with the lever and with the expansible portion and other head projecting forwardly through the opening in the panel, a closely fitting cap disposed about the expansible portion, said cap having an outer end opening in which the other head is engaged and being rotatably threaded to the chassis to enable axial movement thereof perpendicular to the chassis and hence bodily movement of the motor perpendicular to the lever, and providing means which excludes contact of the motor with the ambient atmosphere, a bulb mounted in the narrow opening in said panel with its edges spaced therefrom so that it is exposed at the front, back and sides to the ambient atmosphere, and a capillary tube extending from the bulb to the motor for effecting expansion thereof in response substantially exclusively to the rise in temperature of the ambient atmosphere surrounding the bulb.

3,144,536
INTERRUPTER ATTACHMENT FOR DISCONNECT SWITCH

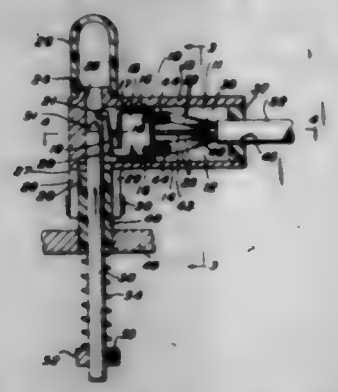
Ronald P. Bridges and Chester E. Pierzchala, St. Louis, Mo., assignors to James R. Kearney Corporation, St. Louis, Mo., a corporation of Delaware

Filed Mar. 22, 1961, Ser. No. 97,627
11 Claims. (Cl. 200—146)



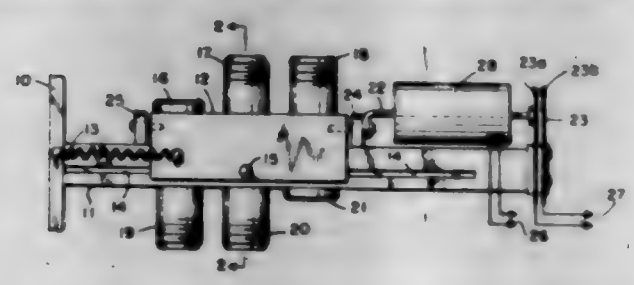
1. In an electric switch having a relatively fixed contact and a movable contact engageable with and disengageable from said fixed contact to connect and disconnect a heavy electric load respectively, the combination of means for suppressing the arc formed during switch operation comprising separate means for forming circuits through said movable contact in shunt relation with said fixed and movable contacts operated sequentially to open during movement of said movable contact from said fixed contact to transfer the current path from said switch to one of said shunt circuits and from one of said shunt circuits to another without interruption, a circuit interrupter of the arc suppressing type in said shunt circuit which is last to open, and means to operate said circuit interrupter in response to further opening movement of said movable contact to finally break the circuit between contacts of said switch before disengagement of said means in the shunt circuit last to open.

3,144,537
OPERATOR FOR MICROSWITCHES
Walter Kiwi, Torresdale Manor, Pa., assignor to R. H. Hood Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 2, 1962, Ser. No. 184,321
6 Claims. (Cl. 200—153)



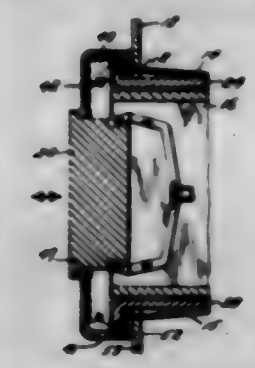
1. Microswitch operating mechanism comprising a mounting member, a unitary housing member having an interior compartment, a removable cover member for said compartment, a microswitch in said compartment having a movable operating portion, said housing member having a bore extending along said compartment into which said operating portion extends, said bore extending to and beyond said operating portion, an operating rod movable along said bore and having an end portion engageable with said operating portion, and means adjustably mounting said housing member with respect to said mounting member thereby to control the actuation comprising a tube carried by said mounting member having a passageway for said operating rod in alignment with said bore, said means including a clamping device for said tube.

3,144,538
COAXIAL CIRCUIT SHIFTER
William A. Etter, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed June 7, 1962, Ser. No. 200,893
7 Claims. (Cl. 200—153)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A coaxial circuit shifting device for selectively moving a first coaxial circuit from a connection with a second coaxial circuit to a connection with a third coaxial circuit, comprising:
first and second metallic body members, said first body member being guidably positioned with respect to said second body member and movable from a first position of rest to a second position of rest on said second body member;
means for moving said first member from said first position to said second position of rest;
first coaxial connecting means having outer and inner conductors for said first circuit mounted within said first body member to provide a coaxial conduit through said first member;
second and third coaxial connecting means having outer and inner conductors mounted within said second body member to provide coaxial conduits through said member, said second and third connecting means being spaced by a distance equal to the travel of the first body member in moving from said first position to said second position, said second and third coaxial connecting means being mounted on said second body member at points thereon to produce alignment of the outer and inner conductors of the first and second connectors when said first body is in its first position of rest, and to provide alignment of the outer and inner conductors of the first and third connectors at said second position of rest;
said inner conductors comprising means to urge their contacting areas into contact with one another at positions of alignment.

3,144,539
METALLIC REINFORCED SWITCH BOOT
Milton Morse, 252 Hawthorne Ave., New York, N.Y.
Filed Jan. 18, 1961, Ser. No. 83,518
1 Claim. (Cl. 200—168)

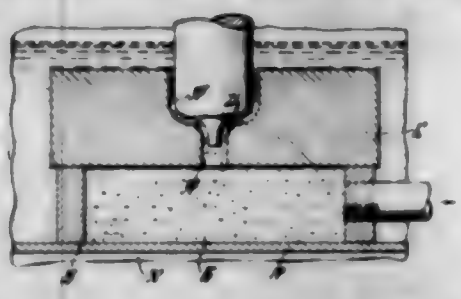


In combination, a switch housing, a panel having an opening, said housing extending through said opening, said housing having a principal axis, an actuating button disposed within said housing for slidable axial movement and extending outwardly of said opening in said panel, said housing having angle brackets engaging said opening in said panel, a hermetically sealing boot including: a frame element and a resilient element interconnected therewith, said frame element including a peripheral base member having a substantially centrally disposed opening therein corresponding in configuration to the opening in said panel, and at least one side wall having an outer surface disposed substantially at right angles with respect to said base member, said resilient boot element having at least one side wall having an inner surface secured to said outer surface of said side wall of said frame element, and extending to a free edge disposed in a plane beneath said frame element, and a top wall integral with said side wall, and having an opening disposed therein corresponding in configuration to said exposed button; said resilient element being positioned upon said housing in such manner that said frame element is disposed to surround said angle brackets, said free edge being thereby pressed against said panel, and said opening in said resilient element engaging the periphery of said actuating button.

3,144,540
ELECTRICAL STOCK REMOVAL APPARATUS
Gerhard K. Haas, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,829
8 Claims. (Cl. 219—69)

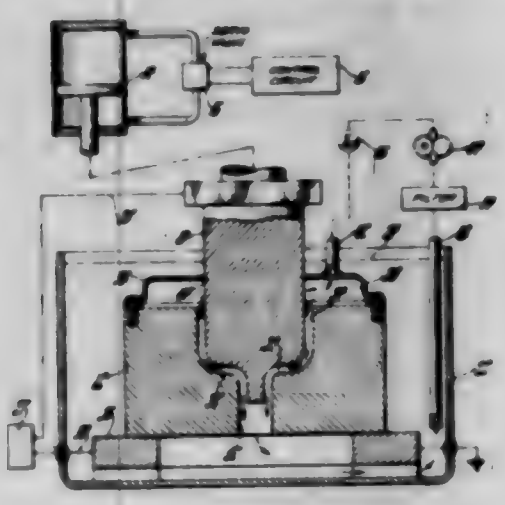
1. Apparatus for generating electrical stock removing discharges across an ionizable fluid filled gap formed between cutting tool and workpiece electrodes comprising means supplying ionizable fluid to the gap for aiding in the removal of eroded particles from the workpiece electrode means positioned downstream from the gap for collecting the ionizable fluid from the gap containing the eroded particles and gaseous formations developed during the stock removal so that the gaseous formations

cannot accumulate in the gap, and means withdrawing and separating the gaseous formations and the ionizable



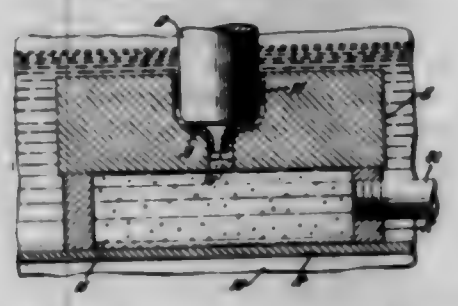
fluid containing the eroded particles and dissipating the gaseous formations so as to avoid explosions thereof.

3,144,541
ELECTRICAL STOCK REMOVAL APPARATUS
David H. Hill, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,830
9 Claims. (Cl. 219—69)



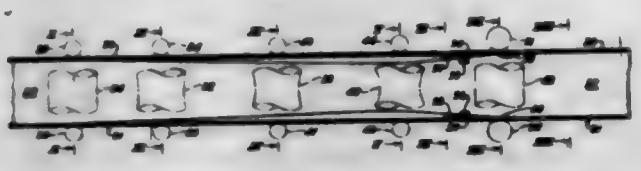
1. An ionizable fluid flow system for electrical stock removal apparatus of the character adapted to cause stock to be machined from a workpiece electrode by electrical discharges generated across a gap formed between a cutting tool electrode and the workpiece electrode comprising a source of clean ionizable fluid, and means producing a fluid pressure differential across the gap so as to promote flow of the clean ionizable fluid from the source through the gap in the direction stock is being machined and of a character that reduces the hazard of explosions from gas pocket formations in the fluid, the pressure differential producing means including an enclosure adjacent the gap and communicating with the source.

3,144,542
ELECTRICAL STOCK REMOVAL APPARATUS
Gerhard K. Haas, Berkley, and Arthur R. Disbrow, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,831
4 Claims. (Cl. 219—69)



1. Apparatus for generating electrical stock removing discharges across a dielectric fluid filled gap formed between cutting tool and workpiece electrodes comprising means supplying dielectric fluid to the gap for aiding in the removal of eroded particles from the workpiece electrode, a chamber positioned downstream from the gap for collecting the contaminated dielectric fluid containing the eroded particles and gaseous formations so as to prevent the gaseous formations from accumulating in the gap, and means withdrawing the contaminated dielectric fluid from the chamber, the withdrawing means including a reservoir and a fluid pressure source arranged to circulate fluid in the reservoir, the source producing a pressure differential between the chamber and the reservoir so that the contaminated dielectric fluid is withdrawn from the chamber and delivered to the reservoir where the gaseous formations are allowed to dissipate thereby avoiding explosions thereof.

3,144,543
FABRICATION OF STRUCTURAL MEMBERS
Lloyd E. Anderson, Sr., Pittsburgh, Pa., assignor to Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 21, 1962, Ser. No. 218,371
7 Claims. (Cl. 219—102)

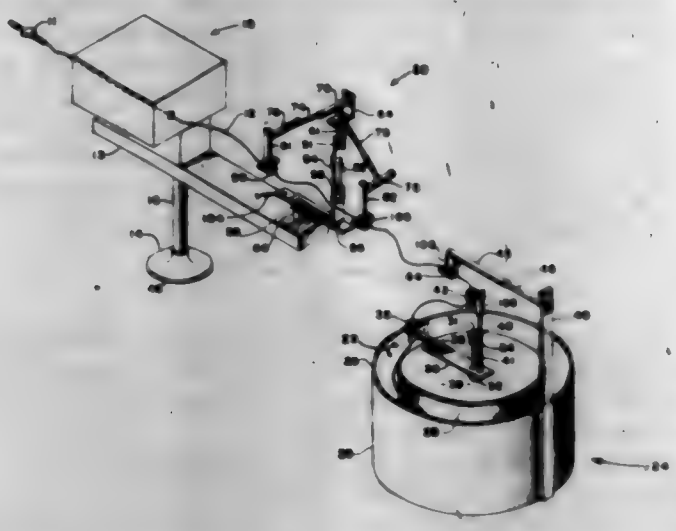


1. The method of forming a structural shape comprising arranging a web and a flange member into a contiguous configuration, simultaneously advancing those members while maintaining the flange essentially straight, progressively deforming the web in at least part of its transverse section during its advance to narrow its effective width until its edge adjacent the flange becomes spaced from the flange by a predetermined distance, then flattening the advancing previously deformed web to restore it to its original effective width while at the same time forcing the flange into contact with the adjacent edge of the web where the web has been flattened, whereby a V-space is defined between the web and the flange with the apex of the V at the point of flattening of the web and with one side of the V defined by the edge of the web between the point where the web is flattened and a point in advance thereof and with the other side of the V defined by the opposed portion of the surface of the adjacent flange, and heating the surface of those members along the sides of the V by high frequency current to raise the surface temperature sufficiently to result in welding of the members at about the apex of said V.

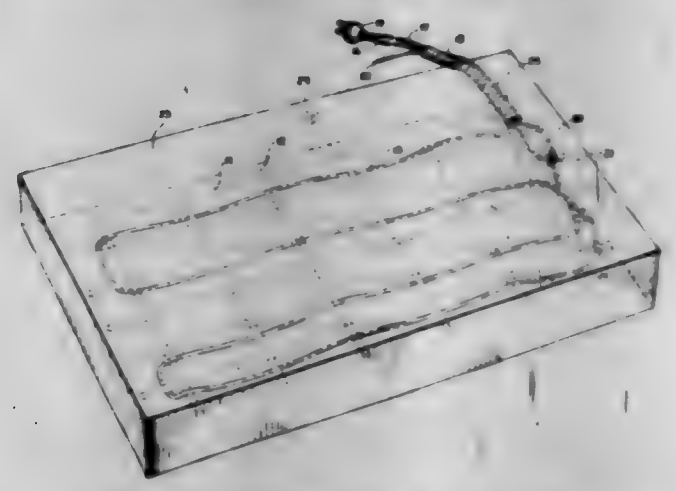
3,144,544
WELDING SYSTEM
Israel Kurtz, East Earl, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 29, 1963, Ser. No. 319,910
6 Claims. (Cl. 219—130)

1. In electric welding equipment of the type utilizing an advancing welding wire electrode the combination comprising, a stationary container, a supply of welding electrode wire in said container in the form of a single continuous strand pre-formed into a multitude of flat loops of equal size, a welding machine disposed remotely from said container and selectively intermittently operable to consume welding electrode wire in the performance of welding operations, power operated wire feeding means on said welding machine operable to feed said welding wire longitudinally and linearly into said welding machine in synchronism with operation of the welding

machine, a reach of said wire extending from said container to said wire feeding means and being operatively engaged by the feeding means, said reach of wire having an irregular generally spiral form resulting from the transformation of said wire from its flat loop form in said container to a longitudinally extending linear form at said feeding means, a plurality of wire guide members disposed along said reach, each of said guide members having a passage therethrough through which said reach of wire passes in extending from within said container to said wire feeding means, and means mounting each of said guide members for limited free bodily movement in a plurality of directions in response to pressure thereon from said wire in directions other than the direction of extent of said passage whereby while guiding said reach of wire said guide members are free to move and follow said irregular spiral form of the wire.

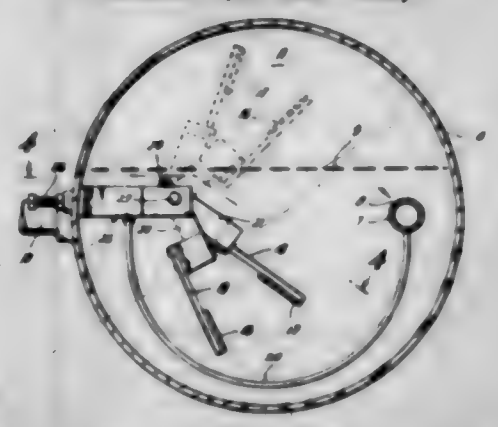


3,144,545
HEATING ASSEMBLY
Frank E. Shrimplin, Crawfordsville, and Virgil W. Swan, Waynetown, Ind., assignors to Heated Concrete Products, Inc., Waynetown, Ind., a corporation of Indiana
Filed Mar. 26, 1962, Ser. No. 182,366
3 Claims. (Cl. 219—213)



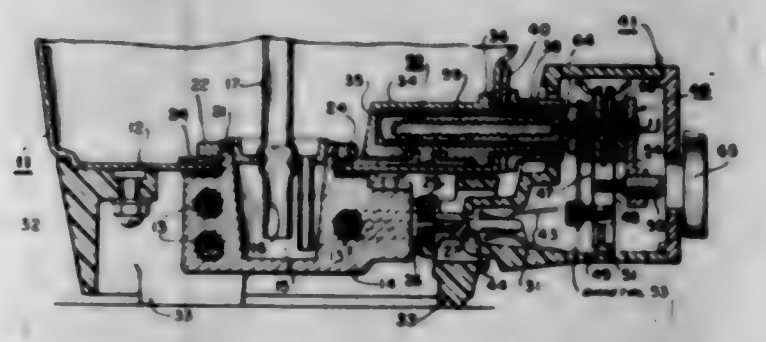
1. A combination heating and reinforcing structure adapted to be embedded in a portable slab, comprising a rigid grid made up of a plurality of substantially parallel, longitudinally-extending members and a plurality of substantially parallel, transversely-extending members bridging and welded to all of said longitudinally-extending members, an insulated electric resistance unit loosely woven through the mesh defined by said grid in a pattern of substantially uniform distribution over the surface of said grid and free from attachment to said grid, and flexible, insulated electric leads connected to the ends of said resistance unit and extending freely to a significant distance away from said grid.

3,144,546
IMMERSED ELECTRODE HEATER FOR LIQUIDS
Clyde V. Foley and Andrew H. Muhl, both of P.O. Box 7753, Houston 7, Tex.
Filed Mar. 5, 1963, Ser. No. 262,968
8 Claims. (Cl. 219—289)



1. A heater for an electrically conductive liquid comprising in combination a housing adapted to contain a body of electrically conductive liquid in a lower part thereof; a body of nonconductive gas in the housing above liquid level; means for introducing liquid into the housing below liquid level therein in a series of jets spaced from each other longitudinally of the housing and directed upward and across the housing; an outlet for liquid communicating with a central part of a side of the housing opposite said means for introducing liquid; at least one horizontally elongate electrode in the housing; means, in the housing responsive to temperature of liquid therein, for moving the electrode laterally between a first position in which the electrode is entirely in the body of gas and a second position in which the electrode is entirely below liquid level in the housing; means, operable from outside the housing, for adjusting said second position of the electrode; and means for passing an electric current through the electrode and liquid in contact therewith.

3,144,547
IMMERSIBLE VESSEL AND DETACHABLE CONTROL MEANS THEREFOR
David B. Price, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 8, 1959, Ser. No. 785,658
17 Claims. (Cl. 219—441)



1. In an electric percolator: a heating vessel including a side wall and a bottom wall structure defining a well, a main heater surrounding said well, means providing a cavity within said heating vessel above said bottom wall structure and opening through said vessel side wall, and a separable control plug including: means for establishing an electrical circuit through said main heater, a temperature-receiving probe insertable in said cavity, a warming heater within said probe, and control means responsive primarily to the temperature of liquid within said vessel received by said probe for rendering said main heater ineffective and for energizing said warming heater upon attainment of a predetermined temperature of liquid within said vessel.

3,144,548
APPARATUS FOR ACCUMULATING HEAT LOSS DATA DERIVED FROM WEATHER CONDITIONS

Theodore P. Seigel, Tupper Lake, N.Y.
(Box 221, R.D. 1, Charlton Road, Scotia 2, N.Y.)

Filed Jan. 7, 1960, Ser. No. 1,076
5 Claims. (Cl. 219—505)



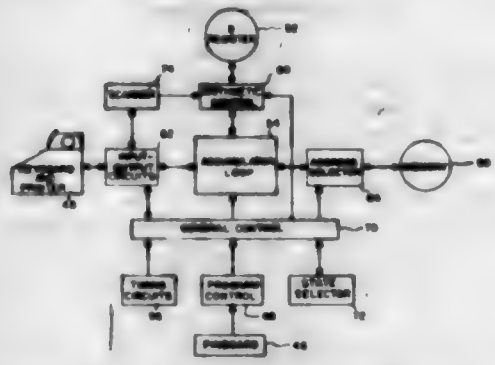
1. An apparatus for accumulating heat loss data on heated buildings for scheduling fuel deliveries thereto comprising, a relatively small sensing chamber positioned out of doors and exposed to the same weather and climatic conditions as the buildings on which the data is being accumulated, a heat radiating electrical element positioned in said sensing chamber for heating the interior thereof, a thermostat positioned in said sensing chamber for sensing the interior temperature thereof to detect heat losses therefrom, a first relay means including an operating coil and contact means operated to closed position when said operating coil is energized, a source of electrical power, a first electrical circuit including said thermostat and said first relay operating coil connected in series relation across said source of electrical power, said first electrical circuit being energized when said thermostat closes to call for heat in said sensing chamber, a second electrical circuit including said heat radiating electrical element and said first relay contact means connected in series relation across said source of electrical power, said second electrical circuit being energized when said operating coil of said first relay means is energized, a second relay means including an operating coil connected in parallel with said heat radiating electrical element and contact means operated to closed position when said second relay operating coil and said electrical element are energized, and a third electrical circuit including digital totalizing means connected in series with said second relay contact means across said source of electrical power and energized when said electrical element and said second relay means are energized to render a digital indication of heat units supplied to said sensing chamber which when having an empirical mathematical factor for a selected building applied thereto renders a measurement of the fuel consumed by that building in a given time, thus rendering a basis for scheduling fuel deliveries.

3,144,549
DATA STORAGE SYSTEM

George G. Hoberg, Berwyn, Lucille E. Mott, Ardmore, John R. Van Andel, Bridgeport, Edward W. Veitch, Rosemont, and Richard C. Weise, Philadelphia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Original application Mar. 4, 1955, Ser. No. 492,062, now Patent No. 3,043,449, dated July 10, 1962. Divided and this application Aug. 15, 1956, Ser. No. 604,153
11 Claims. (Cl. 235—157)

1. In an electronic computer system having a memory with more than one location each identified by a different address digit, means for automatically scanning a fixed number of said memory locations comprising a stepping counter, each step of which represents a different one of the memory locations, means for presetting the number of steps to be scanned by said counter so as to call for a specified number of locations on said memory, said

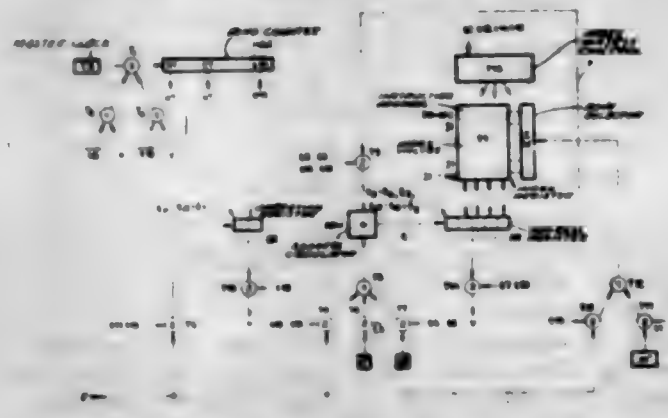


specified number of locations being adjustable under external program control, instruction means for controlling the computer operation so as to selectively bring said stepping switch into control to call for said locations on said memory, and means responsive to certain instructions for selecting a memory address digit corresponding to the count of said stepping counter.

3,144,550
PROGRAM-CONTROL UNIT COMPRISING AN INDEX REGISTER

Rolf Busten, Stuttgart-Zuffenhausen, Germany, assignor, by mesne assignments, to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 26, 1959, Ser. No. 795,737
Claims priority, application Germany Mar. 4, 1958
8 Claims. (Cl. 235—157)



1. The combination with an index register, having a plurality of rows of storage elements for storing instructions, of means for utilizing a particular row in said register for an instruction step address storage comprising:

(*a*) means for producing a plurality of time sequential pulses;

(*b*) means under control of a particular pulse for selecting the said particular row;

(*c*) a stepping address register;

(*d*) means under control of a particular pulse for transferring the information in said particular row into said stepping register;

(*e*) a calculator unit connected in series between the address register output and input;

(*f*) means responsive to several particular pulses in said plurality of pulses for causing the contents of said stepping address register to pass therefrom through said calculator unit and back into said stepping register, whereby the said contents are altered in a predetermined manner;

(*g*) an output coupled to said stepping address register;

(*h*) means under control of a particular pulse for sending the altered contents of said stepping register over said output;

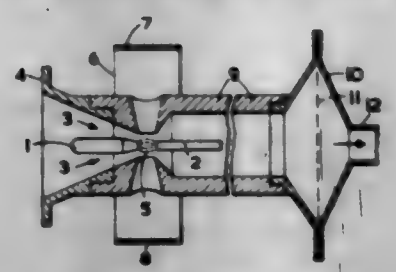
(*i*) and means responsive to a particular pulse for restoring the altered contents of said stepping register to said particular row.

3,144,551

BERYLLIUM MONITOR MEANS UTILIZING AN ELECTRIC ARC AND SPECTRUM ANALYZER

Robert John Webb, Welling, Kent, Maurice Stephen William Webb, Brighton, and Peter Charles Wildy, Thornton Heath, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Mar. 28, 1960, Ser. No. 18,061
10 Claims. (Cl. 250—43.5)



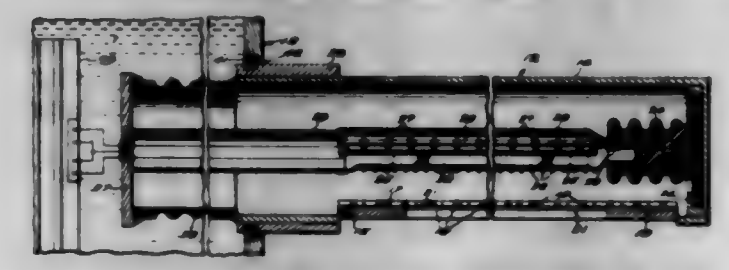
1. Apparatus for the quantitative analysis of a selected solid contaminating element in particulate form in a gas comprising a spectrum analysis chamber, an arc chamber, a pair of spaced electrodes located in the arc chamber and defining an arc therebetween, means to pass said gas containing the solid contaminating element through said arc chamber and said arc to produce radiation, means to measure the rate of flow of said gas, a window in said arc chamber positioned to enable passage of the radiation from said arc to the spectrum analysis chamber, an image slit in said spectrum analysis chamber aligned with said window and said arc, means to form a spectrum of the radiations entering said image slit, a first object slit positioned to admit a selected line in said spectrum, a second object slit positioned to admit background radiation adjacent said line, and means to compare the relative intensities of radiation admitted by said two object slits.

3,144,552

APPARATUS FOR THE IRRADIATION OF MATERIALS WITH A PULSED STRIP BEAM OF ELECTRONS

Russell G. Schonberg, Craig S. Nunan, and Lawrence E. Brown, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Aug. 24, 1960, Ser. No. 51,599
13 Claims. (Cl. 250—49.5)



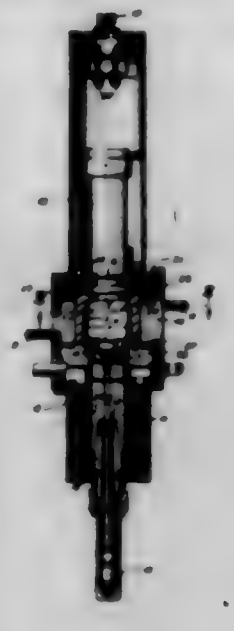
1. Apparatus for generating a pulsating strip particle beam for the purpose of irradiating matter comprising a longitudinal particle emitter adapted and arranged to emit particles along the longitudinal extent thereof, focusing means for focusing the particles emitted from said emitter into a strip beam extending the entire length of said emitter and accelerating means for intermittently accelerating particles emitted from said emitter, said accelerating means including an anode, a high voltage alternating current source, and means for coupling said high voltage source between said anode and emitter so that particles are accelerated from said emitter towards said anode only during the half cycle of said source when the anode voltage is greater than the emitter voltage, whereby particles from said emitter are intermittently accelerated to a high velocity for irradiation of matter the acceleration of said particles being limited to the region of said apparatus between said particle emitter and said anode.

3,144,553

SCINTILLATION DETECTOR FOR DETECTING RADIOACTIVE PARTICLES IN A GASEOUS STREAM

André Roguin, 17 Ave. St. Exupery, Antony, France

Filed May 19, 1961, Ser. No. 111,256
Claims priority, application France June 2, 1960
4 Claims. (Cl. 250—71.5)



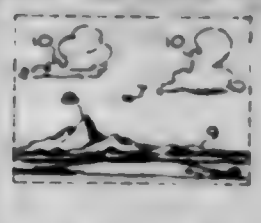
1. Apparatus for detecting the presence of radioactive particles in a gaseous stream, comprising: side wall means defining a precipitation chamber, said side wall means being provided with inlet and outlet means for accommodating a flow of gas through said chamber; a wall enclosing one end of said chamber and having a scintillator mounted therein for use in measuring radiation within said chamber; a piston disposed in the other end of said chamber to close off the same; a fixed repulsion electrode mounted in said side wall means; a moveable electrode mounted on said piston in alignment with said scintillator for attracting ions disposed within said chamber; and means for moving said piston into said chamber until said moveable electrode is positioned in intimate contact with said scintillator, thereby cutting off said gaseous stream and exhausting said chamber.

3,144,554

RADIANT ENERGY DETECTION SYSTEM FOR SUPPRESSING THE EFFECTS OF AMBIENT BACKGROUND RADIATION

Theodore R. Whitney, Woodland Hills, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Maryland

Filed Oct. 1, 1959, Ser. No. 844,814
10 Claims. (Cl. 250—83.3)



*5. In a radiation detection system in which radiant energy is received from a target having a given spectral dis-

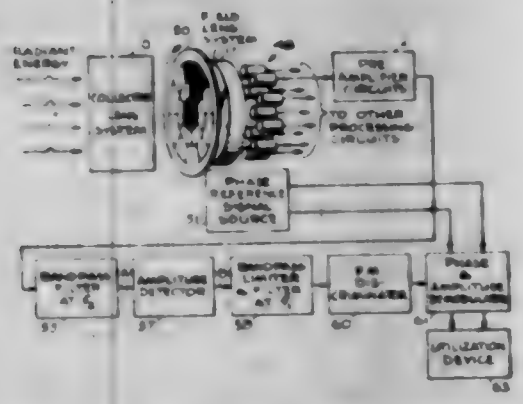
tribution along with ambient background radiation having a spectral distribution which differs substantially from the spectral distribution of radiant energy received from said target, the combination of an optical system for collecting radiant energy emanating from a volume of space encompassed by a predetermined field of view, a first radiation sensitive cell, a first optical filtering means for passing radiation collected by said optical system to said first cell within a first spectral band, a second radiation sensitive cell, a second optical filtering means for passing radiation collected by said optical system to said second cell within a second spectral band encompassing the first spectral band, subtraction means coupled to said first and second radiation sensitive cells for developing a signal representing radiation included in said second spectral band falling outside of said first spectral band only, and means for suppressing the effects of background from the signal provided by at least one of said radiation sensitive cells in accordance with the signal provided by said subtraction means.

3,144,555

RETICLE STRUCTURE FOR INFRA-RED DETECTING SYSTEM

George F. Aroyan, Woodland Hills, and Stanton H. Cushner, Los Angeles, Calif., assignors to Space Technology Laboratories, Inc., Redondo Beach, Calif., a corporation of Delaware

Filed June 8, 1962, Ser. No. 201,976
11 Claims. (Cl. 250—83.3)



9. A reticle for use with a track-while-scan infrared system using a mosaic of detectors disposed in rings about a central axis, the reticle comprising

a disk body rotatably mounted on the center axis and transparent to infrared energy, and

a number of variable transmissivity patterns disposed in rings corresponding to the rings in the mosaic of detectors concentrically about the central axis, each of the rings being areally subdivided to correspond to individual fields of view, each of the areal subdivisions having at least two superimposed patterns thereon, each of the patterns being defined opaque spokes, the spokes of at least one of the patterns being oblique with respect to the spokes of at least one other of the patterns.

3,144,556

APPARATUS TO MEASURE THE REFLECTION COEFFICIENT WITH RESPECT TO A REFERENCE MEASUREMENT OF A MATERIAL WHEN CONVEYED PAST A RADIATION SOURCE

Franciscus M. van Tillo, Heerlen, Netherlands, assignor to Stamicarbon N.V.

Filed Nov. 30, 1961, Ser. No. 155,973
Claims priority, application Netherlands Nov. 30, 1960
5 Claims. (Cl. 250—83.3)

1. An apparatus for determining the reflection coefficient of a material comprising:

(1) a radiation source for emitting an incident beam of rays;

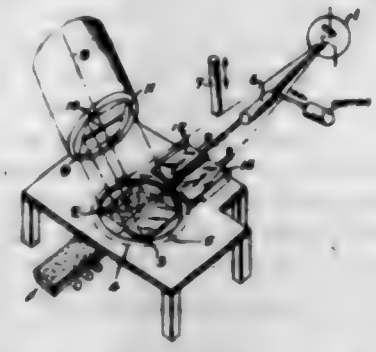
(2) a station positioned to receive the beam of rays from said source and reflect the same at an inclined angle in the order of 90° with respect to the incident beam, and including:

(*a*) reference projection plane; and

(*b*) a material projection plane adjacent to said reference projection plane;

(3) means for conveying material to said material projection plane for exposure to said beam;

(4) beam chopper means for continuously and alternately intersecting the beam portions projected upon said planes;



(5) means for receiving and measuring the intensities of the beam portions reflected by said planes wherein a difference in measurement of the radiation intensity projected from said planes provides a control impulse;

(6) automatic movable compensator means receiving said control impulse and equalizing the radiation intensities, the position thereof being a measure of the reflection coefficient of the material at said material projection plane; and

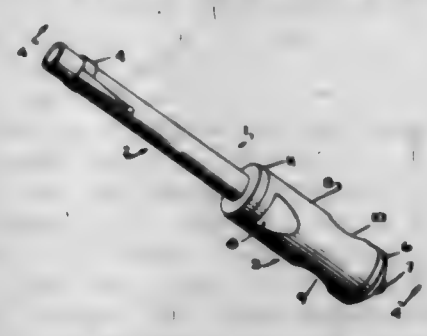
(7) said projection planes being arranged at said station so that a plane of symmetry passing through the incident rays and reflected to said measuring means divides the two planes in half, said material projection plane being disposed adjacent said measuring means relative to said reference projection plane.

3,144,557

INTEGRATED RADIATION DOSIMETER AND CHARGER

Warren B. Minton, Beechwood Drive, Shrewsbury, N.J.

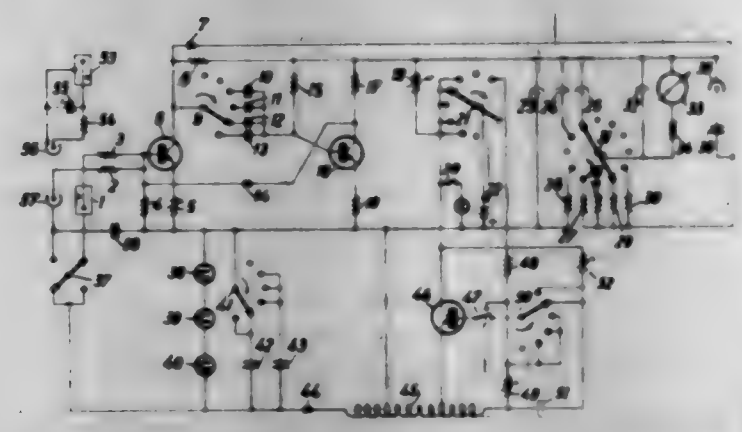
Filed Apr. 17, 1962, Ser. No. 188,163
1 Claim. (Cl. 250—83.3)



An integrated radiation dosimeter and charger capable of being transported in a clothing pocket comprising a cylindrical electrostatic quartz fibre dosimeter, a cylindrical charger case having a charging socket, said dosimeter being permanently and slidably mounted at one end in said charging socket of said case, an arcuate port formed in the outer shell of said case near said socket, said case having mounted therein a parabolic light-gathering and reflecting surface adjacent to and opposite said port and in communication with said socket, electrical charging means mounted within said case at the end away from said charging socket, said charging means being in the form of a cylindrical module, said module being potted so as to coincide with a plurality of arcuate recesses in the shell of said case, said recesses being fingertips, said electrical

charging means comprising a step-up autotransformer having a primary circuit and a secondary circuit, said primary circuit including the primary winding of said step-up autotransformer, a battery and a spring switch connected in series with said primary winding and said secondary circuit comprising the secondary winding of said step-up autotransformer, a diode with high back resistance connected in series to one side of said secondary winding, a capacitance shunted across said diode and said secondary winding and connected to the other side of said secondary winding and output contacts electrically connected to the output terminals of said capacitance, a pair of electrodes electrically connected to said contacts and mounted within said socket, said dosimeter having contacts mounted at the charging end thereof such that when said contacts on said dosimeter are moved into engagement with said electrodes in said charging socket and said spring button switch is opened and closed, a charge is built up across said electrodes whereby said dosimeter is charged while in engagement with said electrodes, and such that light will be reflected by said surface in a concentrated beam into said dosimeter to illuminate a scale therein.

3,144,558
APPARATUS FOR THE INDICATION AND MEASUREMENT OF NUCLEAR RADIATION
Reinhard Schneider, 2 am Brettenhagen, Altena, Westphalia, Germany
Filed Jan. 19, 1960, Ser. No. 3,464
11 Claims. (Cl. 250—83.6)

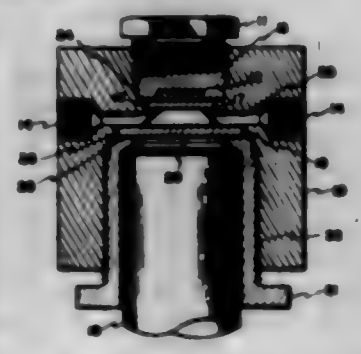


1. Apparatus for indicating and measuring nuclear radiation, comprising a pulse delivering counter tube detector, an impulse generator comprising an oscillator connected to power said detector, dial indicator means for different individual pulse ranges, and switch devices connected to the oscillator and detector and having a switch position wherein, in the ranges with low pulse counts, such low pulse counts are extended in length and the impulse generator operates at low frequency, and having a different switch position wherein, in the ranges with higher pulse counts the individual pulse widths are reduced without decreasing pulse amplitude and the frequency of the impulse generator is increased, whereby in the ranges in which the final pulse count is delivered, limited by the characteristics of the detector which conducts in regular sequence for short periods only, such final pulses provide the respective indicator readings.

3,144,559
CELL MEANS FOR SOFT X-RAY SOURCE
John Stanley Forrester and Francis Xavier Mayer, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 8, 1960, Ser. No. 54,728
1 Claim. (Cl. 250—106)

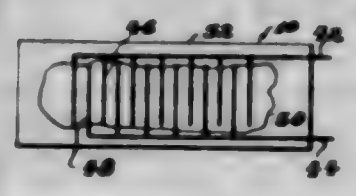
An apparatus suitable for monitoring plant streams which comprises:

(1) A corrosion-resistant, substantially cube-shaped, metal cell block of unitary construction,
  (*a*) Having two intersecting passageways extending therethrough,
  (*b*) The first of said passageways having a center portion in the form of a truncated cone and being adapted to receive and discharge a continuous flow of fluid;



(2) Upper and lower cylindrical, beryllium windows each having a thickness of 0.2 to 1.0 mm. mounted within the second of said passageways on opposite sides of said first passageway and forming the plane surfaces of said center portion in the form of a truncated cone;
  (*a*) Said windows being supported by flanges in said second passageway,
  (*b*) The portion of said second passageway below said windows being of larger cross section than the portion of said passageway above said windows wherein both portions of said second passageway being of larger cross section than said first passageway and both portions of said second passageway are threaded;
(3) Metal threaded means having an inner end with a hollow and having a source of X-ray radiation mounted within said hollow, said threaded means being threadably attached within the portion of said second passageway above said windows and positioned so that said inner end contacts said window and restricts its movement, the depth of the hollow being such that the distance from said radiation source to said first passageway is between ¼ inch to ½ inch;
(4) Solid metal threaded means having a hollow through its entire length within which hollow is a radiation detecting means, said threaded means being threadably attached within the portion of said second passageway below said windows and contacting said lower windows to restrict the movement of said windows in said lower portion of said second passageway.

3,144,560
PHOTORESPONSIVE MONOCRYSTAL SWITCHING SYSTEM
Maximillian R. Merriman, Rockaway, N.J., assignor, by mesne assignments, to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Original application Aug. 17, 1954, Ser. No. 450,443. Divided and this application July 29, 1958, Ser. No. 833,903
7 Claims. (Cl. 250—211)

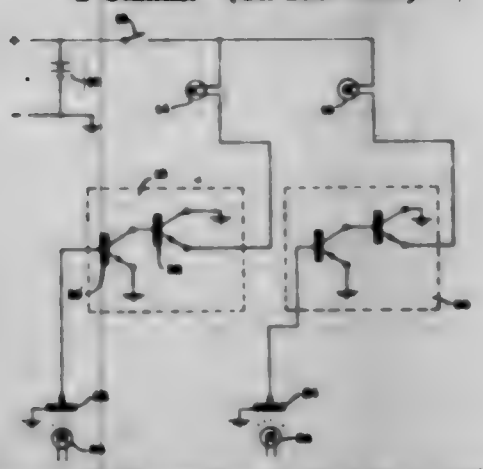


1. A light responsive system comprising a first circuit in which a light responsive cell, a battery and a first relay are in series circuit relation, a second circuit comprising

a biasing light source, a source of current, and a switch in series circuit relation, said biasing light source being disposed adjacent said cell to provide a light intensity additive to light on said cell from a remote source and being of a light intensity not sufficient alone to cause said relay to be adequately energized by said cell and said battery in said first circuit, said switch being operable by said relay, and a third circuit in coupled circuit relation with said second circuit and responsive only to a pulsating current in said second circuit.

3. A light responsive circuit comprising a load device, a source of power, and a light responsive means having a pair of electrodes connected in series circuit relation between said source of power and said load device, said light responsive means consisting solely of a single plate-like monocrystal of cadmium sulphide having a pair of substantially flat surfaces larger than any of the other surfaces, a plurality of parallel conductive strips on one of said flat surfaces, a body of insulating material secured to the opposite one of said flat surfaces, means for connecting alternate ones of said strips to one of said pair of electrodes and for connecting strips in between said alternate strips to the other of said pair of electrodes to thereby provide a plurality of light responsive portions of said monocrystal connected in parallel circuit relation to thus cause actuation of the load device upon illumination of said light responsive means without further amplification of the current passed by said light responsive means.

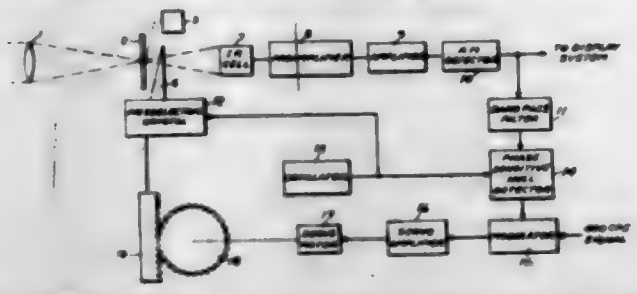
3,144,561
REMOTE LIGHT INDICATOR SYSTEM FOR VEHICLES
Christopher W. Farrell, 1237 Palm St., Lantana, Fla.
Filed May 19, 1960, Ser. No. 30,241
2 Claims. (Cl. 250—217)



1. A remote light monitor system for a vehicle signal system comprising a photocell positioned in the region of a vehicle signal light to be monitored to receive excitation substantially solely therefrom, an amplifier connected to said photocell, and indicator means including a lamp connected to said amplifier and positioned on the instrument panel of the vehicle, whereby said lamp indicates the degree of illumination of the light being monitored, said monitor system thereby producing a remote signal indication of said vehicle signal light and producing an indication of failure of the light.

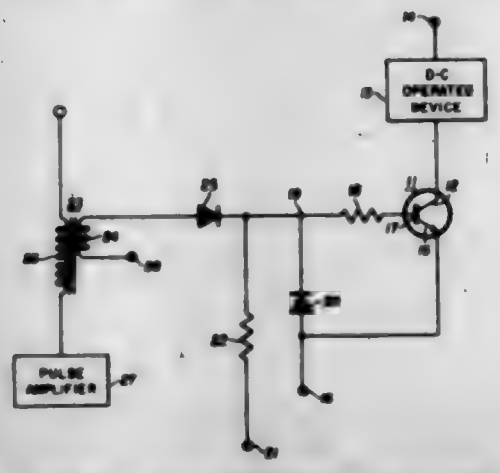
3,144,562
RADIATION SOURCE SEARCH SYSTEM USING AN OSCILLATING FILTER
Richard K. Orthuber, Sepulveda, Freeman F. Hall, Granada Hills, and Harold Enos, Pacoima, Calif., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 12, 1961, Ser. No. 111,127
8 Claims. (Cl. 250—235)

1. A detection system for locating a source of radiations comprising means to receive a mixture of radiations including said source radiations and other undesired radiations, said source radiations being within the frequency range of said undesired radiations, first filter means to pass some of said mixture of radiations including said source radiations, second variable spectral filter means disposed adjacent said first filter means, means to oscillate said second spectral filter means transverse to the axis of said receiving means in a constant dithering motion to modulate



said radiations, means responsive to the output of said first and second filter means said output including said radiations and said modulations to detect said radiations and said modulations and means coupled to the modulation output of said detection means to change the position of said second filter means relative said axis to attenuate said undesired radiations.

3,144,563
SWITCHING CIRCUIT EMPLOYING TRANSISTOR UTILIZING MINORITY-CARRIER STORAGE EFFECT TO MAINTAIN TRANSISTOR CONDUCTING BETWEEN INPUT PULSES
Edmund U. Cohler, Brookline, and Joseph E. Monahan, Framingham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 696,788, Nov. 15, 1957. This application Apr. 14, 1960, Ser. No. 23,124
6 Claims. (Cl. 307—88.5)

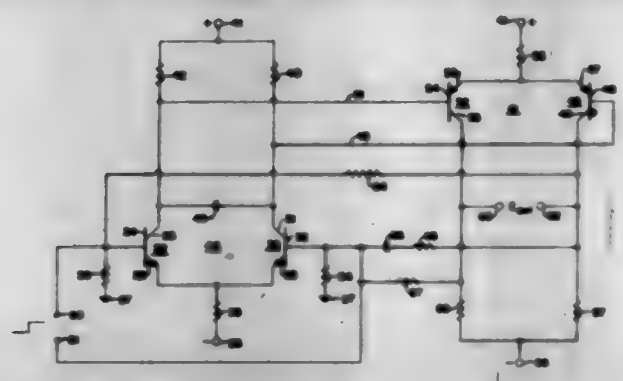


1. An electronic circuit which comprises a saturable transistor having base, collector and emitter electrodes and minority carrier storage capability, means for applying a potential of one polarity through a direct current load to said collector, means for applying a potential of opposite polarity to said emitter, means for applying a biasing potential to said base, and means including a resistance for applying to said base a train of pulses of polarity, amplitude, current rating and repetition rate adequate to drive said transistor to saturation and maintain it in such saturated condition.

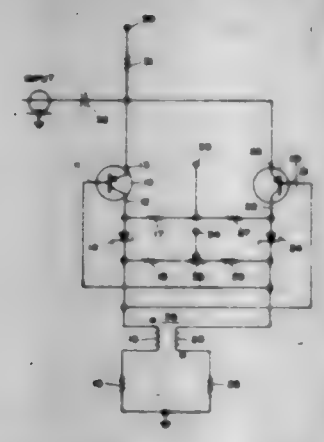
3,144,564
CASCADED DIFFERENTIAL AMPLIFIERS WITH POSITIVE AND NEGATIVE FEEDBACK
Daniel J. Sikorra, Champlin, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 29, 1960, Ser. No. 79,350
10 Claims. (Cl. 307—88.5)

1. An amplifier comprising: first and second difference amplifiers each having input and output terminals; means

connecting the output terminals of said first difference amplifier to the input terminals of said second difference amplifier; means adapted to connect the input terminals of said first difference amplifier to a source of input signals; means biasing the output terminals of said second difference amplifier to substantially zero potential during a no-signal condition; means biasing the input terminals of said first difference amplifier to substantially zero potential during a no-signal condition; and feedback means connected from the output terminals of the second difference amplifier to the input terminals of said first difference amplifier.

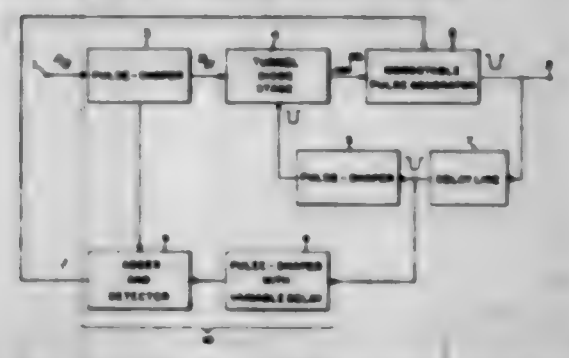


3,144,565
TRANSFORMER COUPLED MULTIVIBRATOR
Charles S. Coffey, New Brunswick, N.J., assignor to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed Aug. 15, 1962, Ser. No. 217,895
1 Claim. (Cl. 307—88.5)



In a multivibrator circuit and first and second transistor, each having emitter, base and collector electrodes, each of said transistors being adapted to be alternately rendered conductive or non-conductive to represent one or the other of two stable conditions, the combination consisting of: singular trigger input means applied simultaneously to said emitter electrodes of said first and second transistors for rendering said conducting transistor non-conducting a first Zener diode cross-connecting the collector electrode of said first transistor to the base electrode of said second transistor and a second Zener diode cross-connecting said collector electrode of said second transistor to the base electrode of said first transistor to prevent collector saturation, memory transformer means having a first winding connected to the commonly connected said first Zener diode and base electrode of said second transistor and a second transformer winding connected to the commonly connected said second Zener diode and base electrode of said first transistor for providing the sole switching voltage to the base of said non-conducting transistor to render said non-conducting transistor conductive upon a decrease of current flow through said first winding when said conducting transistor is rendered non-conducting by said singular input trigger signal, and for applying a holding voltage pulse to the base of said conducting transistor by said second transformer winding so as to hold said conducting transistor in a state of non-conductance.

3,144,566
TIME BASE FREQUENCY DIVIDER CIRCUIT
Hans R. Schindler, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1962, Ser. No. 220,618
7 Claims. (Cl. 307—88.5)



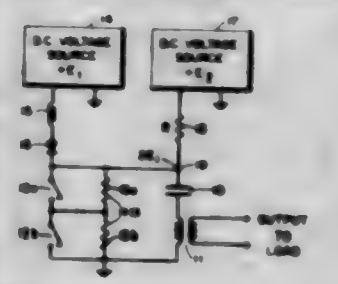
7. A time base frequency divider circuit for converting an input signal of a first frequency to an output signal of a second frequency that is an integral submultiple of and in phase synchronism with said first frequency comprising:

(*a*) negative resistance means having at least two stable regions of operation, said means rapidly switching from one stable region to another when sufficiently energized so as to provide an output from which is derived said output signal,

(*b*) first means for applying said input signal as a first input to said negative resistance means at an amplitude below that required for switching,

(*c*) feedback circuit for coupling the output of said negative resistance means to the input thereof, said circuit including the serial connection of a monostable pulse generator and a pulse shaper, said pulse generator generating a pulse of determinable width having a leading and a lagging edge in response to said negative resistance means being switched to one stable region of operation, said pulse shaper providing a steepening of at least the lagging edge of said pulse, said leading edge being applied to the input of said negative resistance means for causing switching thereof to the other stable region of operation and said lagging edge being applied to the input of said negative resistance means in combination with said first input for causing switching of said negative resistance means to said one stable region of operation at a time corresponding to an approximately fixed phase relationship between said first input and said lagging edge.

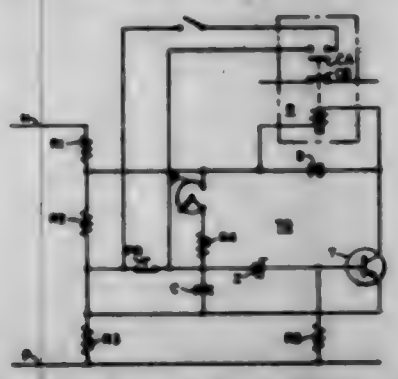
3,144,567
PULSE GENERATORS
Richard H. Moehlmann, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Mar. 31, 1961, Ser. No. 99,823
4 Claims. (Cl. 307—108)



1. A pulse generator comprising a power storage condenser means and a load connected in series; an induct-

ance, a rectifier, and a first D.C. source of predetermined voltage connected in series and across said condenser means and load for resonantly charging said condenser means to substantially twice the voltage of said D.C. source, the impedance of the charging circuit being relatively low for rapid charging rate, switch means connected across said condenser means and load for discharging said condenser means through said load, a second D.C. source connected across said condenser and load, the circuit of said second D.C. source having relatively high impedance compared to the impedance of said charging circuit and the voltage value of said second D.C. source being relatively high compared to the charge voltage of said condenser means to maintain substantially constant, between successive operations of the switch, the charge voltage of said condenser.

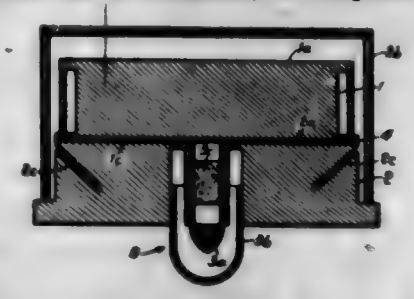
3,144,568
TIME DELAY CIRCUIT
Sheldon D. Stillman, Forest Hills, and David L. Griscom, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1961, Ser. No. 89,571
1 Claim. (Cl. 307—132)



A time delay circuit means, comprising: circuit means for connecting a source to a relay having plural contact means; said circuit means including a transistor having its emitter and collector electrodes series connected therein; series connected resistance and capacitance means connected across said source; a normally closed start switch means in shunt with said capacitor; means connecting said capacitor across the emitter and base electrodes of said transistor; Zener diode means in series with said capacitance and said emitter and base electrode to oppose forward current load through said emitter and base electrodes and having a predetermined breakdown voltage preventing current flow until the voltage across the capacitance is sufficiently large in response to opening of the start switch means to effect switching of the transistor to saturation and actuation of said relay; one contact means of said plural contact means being connected in parallel with said start switch means to thereby close and discharge said capacitance means independently of said start switch means when said relay is actuated, and said start switch means providing a discharge path for the capacitance means when closed.

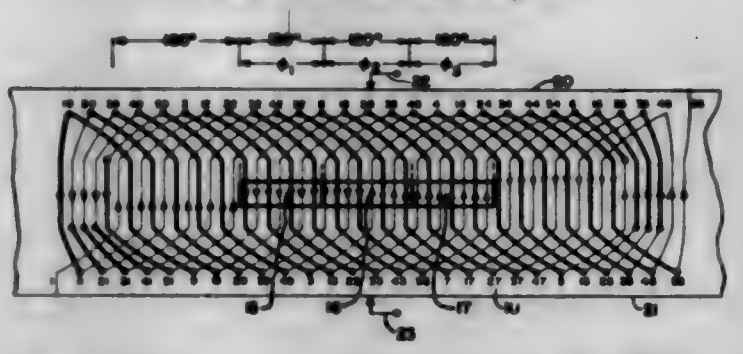
3,144,569
THERMIONIC CONVERTER
Donald K. Coles, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed July 7, 1960, Ser. No. 41,314
12 Claims. (Cl. 310—4)

1. A thermionic energy converter adapted to convert heat directly into an electrical current comprising a thermionic cathode in coactive relation with and directly heated by heat from a source of heat energy and radiating a percentage of said heat, an anode having a surface thereof closely spaced a given distance from said cathode and receptive to said heat radiated therefrom, said anode having a depression in the central portion thereof, means positioned on said anode to cause said central portion thereof to be relatively hotter than said surface thereof, and a source of subliming metal located within said anode depression, said metal subliming in response to the heat



therefrom and precipitating on said relatively cooler anode surface to form a layer which varies in accordance with the distance between adjacent areas of said cathode and anode and inversely with the temperatures on said anode surface to maintain a substantially uniform effective spacing between said anode and cathode, said layer occupying the major portion of the distance therebetween.

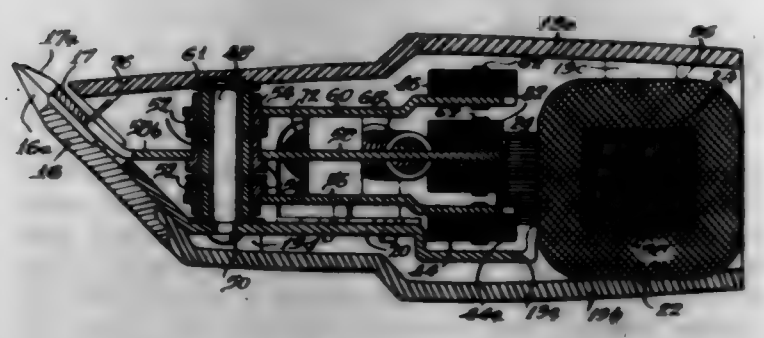
3,144,570
PRINTED CIRCUIT SYNCHRO
John E. Crowley, St. Anthony Village, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 19, 1960, Ser. No. 50,771
6 Claims. (Cl. 310—13)



1. In combination: a thin substrate of electrically insulating material having rows of apertures spaced from and aligned with a reference line and extending through said substrate; a first pattern of independent electrical conductors on one surface of said substrate, each of said conductors extending generally transversely of the reference line from a first aperture to a second aperture displaced in the direction of the reference line from the first aperture; a second pattern of independent electrical conductors on the other surface of said substrate, each of said conductors extending generally transversely of the reference line from a first aperture to a second aperture displaced in the direction of the reference line from the first aperture; electrically conducting means extending through said apertures individually and making connections between the respective conductors of said patterns which terminate at the several apertures to complete a single current path which traverses cyclically back and forth, both along and across the reference line, the number of traverses of said path in the direction of the reference line being less than the number of crossings of said path across the reference line and no two successive crossings of the reference line by the path occurring on adjoining conductors, so that when adjoining crossings are considered in order, beginning at one end of the reference line, groups of crossings all in one direction alternate with groups of crossings all in the other direction to define therebetween, when electric current flows along said path, a plurality of serially contiguous magnetic pole areas of successively opposite polarities, the number of pole areas being an order of

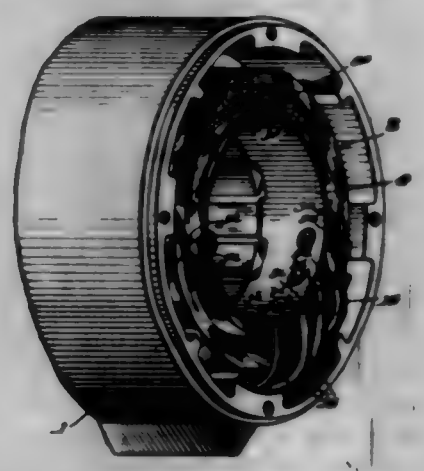
magnitude less than the number of said crossings; and means making electrical connections to the ends of said path.

3,144,571
ELECTROMAGNETIC MOTOR HAVING OPPOSITELY OSCILLATING ARMATURES
Sigmund R. Kukulski, Chicago, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1960, Ser. No. 78,028
8 Claims. (Cl. 310—29)



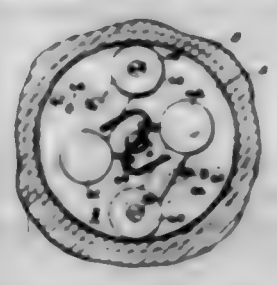
1. A vibratory electromagnetic motor comprising a frame member supporting a plurality of pivotally mounted armature means, each said armature means being of magnetic material and having a pair of circumferentially spaced salient poles, a field core carried by said frame member and including a pair of pole faces spaced to correspond to the spacing of said salient poles, a coil encircling said field core, spring means biasing each said armature means to a rest position in which said salient poles are out of alignment with said pole faces, the rest positions of said armature means being on opposite sides of said pole faces whereby energization of said field coil pivots said armature means in opposite directions toward a second position in which said salient poles are aligned with said pole faces.

3,144,572
TERMINAL CONSTRUCTION FOR ELECTRIC MOTORS
Charles Louis Smader, 825 Arthur Ave., Racine, Wis.
Filed Mar. 26, 1962, Ser. No. 182,276
12 Claims. (Cl. 310—71)



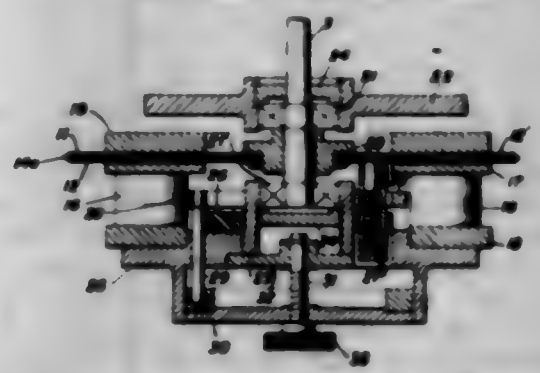
1. A coil lead anchor for electric motors and the like comprising a generally tubular-shaped body member of insulating material including a plurality of terminals mounted thereon, said tubular-shaped body member being of a size to be disposed in concentric relation with respect to the end portions of the field coils of such a motor with said terminals disposed adjacent said end portions at the outermost edge of said tubular-shaped body member and forming relatively rigid anchors for the lead wires to said coils, said tubular-shaped body member formed from a flat strip of flexible insulating material, said strip being of a length to be flexed into a tubular configuration, and said terminals disposed along one longitudinal edge of the strip and the opposite longitudinal edge of the latter provided with spaced notches for cooperation with portions of the motor structure on which the anchor is adapted to be mounted.

3,144,573
TEMPERATURE RESPONSIVE MAGNETIC COUPLING
Elwood Bergey, 1068 Horablend St., Pacific Beach, Calif., and Adolph F. Graf von Soden, Pacific Beach, Calif. (3909 Riviera Drive, San Diego 9, Calif.)
Filed Mar. 3, 1961, Ser. No. 93,086
4 Claims. (Cl. 310—94)



1. In a magnetic drive plate assembly of the class described, comprising a circular plate, a pair of magnetically influenced elements pivotally mounted on the surface of said circular plate, and bimetalic elements interconnecting said pivotally mounted magnetically influenced elements for directing and for uniformly controlling the pivotal position thereof, when subjected to a thermionic heat produced by the electrical current passing thereto and during the operation of said drive plate assembly, substantially as described.

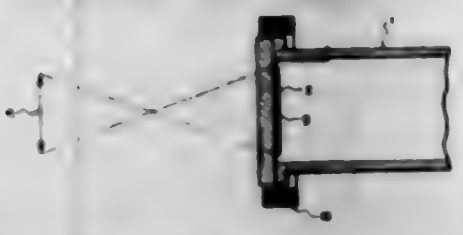
3,144,574
ROTATING ELECTRIC MACHINES WITH PRINTED CIRCUIT WINDINGS
Jacques Henry-Baudot, Antony, France, assignor, by mesne assignments, to Printed Motors, Inc., New York, N.Y.
Original application Oct. 21, 1957, Ser. No. 691,434, now Patent No. 3,090,890, dated May 21, 1963. Divided and this application Jan. 7, 1960, Ser. No. 1,128
Claims priority, application France Feb. 21, 1957
24 Claims. (Cl. 310—268)



1. A multipolar rotary electric machine winding structure comprising a winding carrier having opposite faces thereof presenting a closed-loop winding band on each face of said carrier, each winding band having inner and outer boundaries of substantially different lengths, and a winding mounted on said carrier comprising a first set of conductors secured to one face of said carrier and arranged transversely of the winding band thereof and distributed along the length of such band, a second set of conductors secured to the opposite face of said carrier and arranged transversely of the winding band thereof and distributed along the length of said band, each conductor being individually bonded throughout its length to the adjacent surface of said carrier, and bridging connections connecting said conductors to form winding loops in at least one series circuit with successive conductors in said series

circuit being in different sets, the successive conductors in the series circuit being spaced apart along said winding bands so that the planes of said winding loops are substantially parallel with the planes of the winding bands.

3,144,575
PARAMETRIC TARGET FOR INFRARED TELEVISION PICKUP TUBES
Victor A. Babits, Troy, N.Y.
(1184 Avenida Amantea, La Jolla, Calif.)
Filed Apr. 18, 1960, Ser. No. 23,029
4 Claims. (Cl. 313—65)



4. A target electrode for an infrared television pickup tube comprising a sheet of material which is translucent to infrared rays and electrically conductive, means providing another sheet of semiconductor material adjacent to said electrically conductive material, means for raising the temperature of said semiconductor material above its Curie temperature, said semiconductor material changing its dielectric constant upon incident infrared radiation and upon an impressed electric field created by the impinging electrons of the scanning cathode ray beam on said target, and said incident infrared radiation and said impressed electrical field combining to amplify each other when said semiconductor material is at a temperature above the Curie temperature.

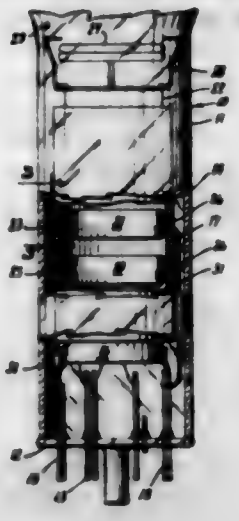
3,144,576
SPARK PLUG AND METHOD OF MANUFACTURE
Eugen Hagmaier, 15 Hildebrandstrasse, Stuttgart, Germany; Paul Riethmüller, 39 Klagenfurter Strasse, Stuttgart-Feuerbach, Germany; and Lothar Leinert, deceased, late of Stuttgart, Germany, by Paula Leinert, heir, 131 Reinsburgstrasse, Stuttgart, Germany
Continuation of abandoned application Ser. No. 433,250, May 28, 1954. This application Feb. 14, 1962, Ser. No. 173,861
11 Claims. (Cl. 313—141)



8. In a spark plug, an electrode, said electrode comprising a closed ended tube of a relatively high-temperature, oxidation-resistant metal, a core in said tube of a relatively softer metal having a higher heat conductivity and between said core and said tube the substantially uniform intimate bond obtained by concurrently cold extruding said core and said tube metal.

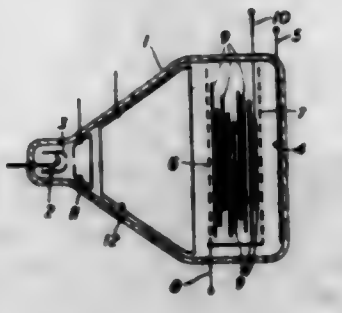
3,144,577
SUPPORT MEANS FOR CATHODE RAY TUBE GUN ASSEMBLY
Charles H. Tyson, Warminster, and Glenn Werst, Perkasie, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 24, 1961, Ser. No. 147,271
7 Claims. (Cl. 313—256)

1. In electron gun structure: an electrically insulative hollow ceramic cylinder having relatively small apertures extending transversely through the cylinder walls; electrode elements disposed within said cylinder; and generally U-shaped resilient stud elements including leg portions flexed toward one another, extending into said apertures, and engaged by wall portions of the latter, loop portions of



said stud elements being disposed in supporting engagement with said electrode elements and the flexure of said leg portions of said stud elements being maintained by engagement thereof with side wall portions of said apertures, whereby to provide frictional support for said electrode elements.

3,144,578
SYMBOL DISPLAYING ELECTRON DISCHARGE TUBES USING SECONDARY EMISSION
Ian Robertson Sinclair, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company
Filed May 15, 1961, Ser. No. 110,250
Claims priority, application Great Britain May 16, 1960
3 Claims. (Cl. 315—12)

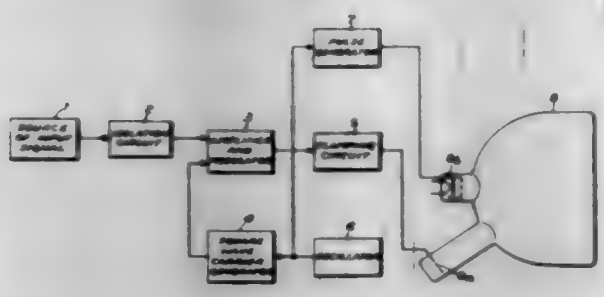


1. A symbol displaying electron discharge tube comprising within an evacuated envelope, a fluorescent screen; an electron gun adapted to provide an electron beam to flood said screen substantially uniformly with electrons; and, in the path of the beam projected to said screen, two spaced apart mesh electrodes extending transversely across said path and a plurality of transversely arranged symbol electrodes disposed between said mesh electrodes, said symbol electrodes being insulated from one another and each having its own connection electrode leading to the outside of the envelope, each symbol electrode being shaped in accordance with a desired symbol to be displayed and each being provided on the side thereof facing the gun with a layer of insulating material having a relatively high coefficient of secondary emission and a relatively low first secondary emission cross-over potential.

3,144,579
TWO GUN STORAGE TUBE UTILIZING PULSE CIRCUITRY

Jerry L. Holsinger, Lafayette, and Nelson E. Hoag, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed May 10, 1961, Ser. No. 109,682
10 Claims. (Cl. 315—13)

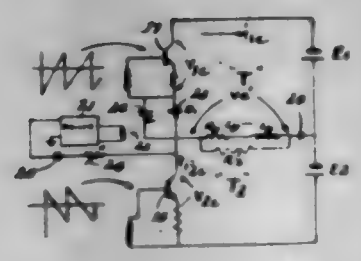


1. A circuit for use with a storage tube of the type having means forming a separate writing beam responsive to video information signals and a separate flood beam comprising means to periodically pulse said writing beam on and off at a given frequency, and means to periodically pulse said flood beam on and off at said given frequency in opposite phase with said pulse writing beam.

3,144,580
VERTICAL DEFLECTION SYSTEM

Jack E. Bridges, Park Ridge, and Zbigniew Wiencek, Rolling Meadows, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware

Filed Mar. 21, 1960, Ser. No. 16,578
10 Claims. (Cl. 315—27)



1. In a push-pull, class B sweep amplifier circuit for a television receiver, adapted to receive a signal including a blanking pulse for the sweep retrace period: a source of driving potential, the driving potential having a generally sawtooth wave form including a sweep portion and a retrace portion; a pair of transistors having control elements connected with said source and driven alternatively thereby during said sweep portion of said sawtooth wave, the driving potential rendering one of said transistors conductive during retrace, said transistors having output elements; a deflection coil connected with the output elements of said transistors; a diode connected with the output element of said one transistor and preventing conduction during at least a portion of the retrace; and a capacitor connected with said deflection coil and forming a tuned circuit therewith at a frequency having a half period no greater than the period of the blanking pulse of the received signal, said frequency being less than

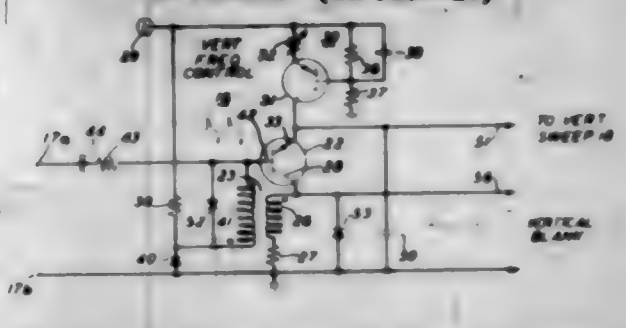
$$\frac{5}{2\pi}\sqrt{\frac{R_y R_p}{L_y^2}}$$

where R_y is the resistance of the deflection coil, L_y is the inductance of the deflection coil and R_p is the equivalent shunt resistance presented to the deflection coil.

3,144,581
FREQUENCY DIVIDER FOR VIDEO SYSTEMS EMPLOYING BLOCKING OSCILLATOR UTILIZING REVERSE BREAKDOWN DIODE IN FEEDBACK CIRCUIT

Joel Greenberg, Plainfield, Larned A. Meacham, New Providence, and Donald H. Nash and Leo Schenker, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 9, 1961, Ser. No. 108,876
10 Claims. (Cl. 315—27)

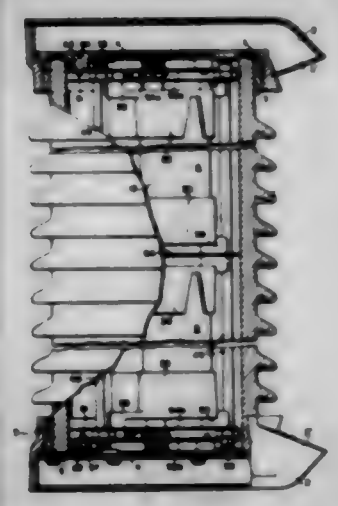


1. In a sweep control system for an electron beam device adapted to scan a rectangular area, means generating signals for causing the repetitive sweep of the electron beam across the width of said area, a single-stage, triggered, blocking oscillator circuit producing a triangular output wave at a frequency which is much lower than the frequency of said signals, means applying said signals to trigger said oscillator, means applying said wave to said device for repetitively sweeping said electron beam through the length of said area, and a reverse breakdown diode connected in the feedback circuit of said oscillator for terminating oscillation at a predetermined feedback voltage level.

3,144,582
LIGHTNING ARRESTER

Billy B. Sorrow, Robert T. Innis, and Ned T. Kunkle, Ellettsville, Ind., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

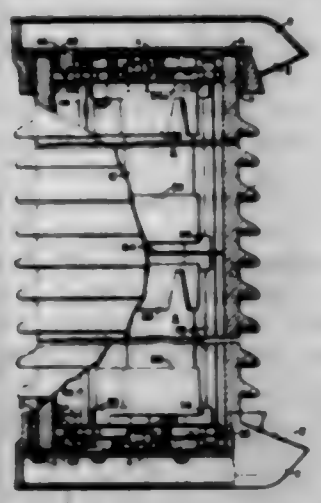
Filed Nov. 14, 1960, Ser. No. 69,887
8 Claims. (Cl. 315—36)



1. In a lightning arrester including a plurality of lightning arrester elements connected in series with an insulating outer housing and an insulating inner housing, an arc transfer assembly comprising a plurality of current sensitive elements each including a conductor connected in series with the arrester elements and vaporizable when subjected to excess current for a predetermined length of time, said elements located within the outer housing, exteriorly of said inner housing of the arrester, means for directing gases longitudinally in the arrester housing in a path exteriorly of said inner housing and parallel to the current path through the arrester elements, said conductors being disposed within said gas directing means,

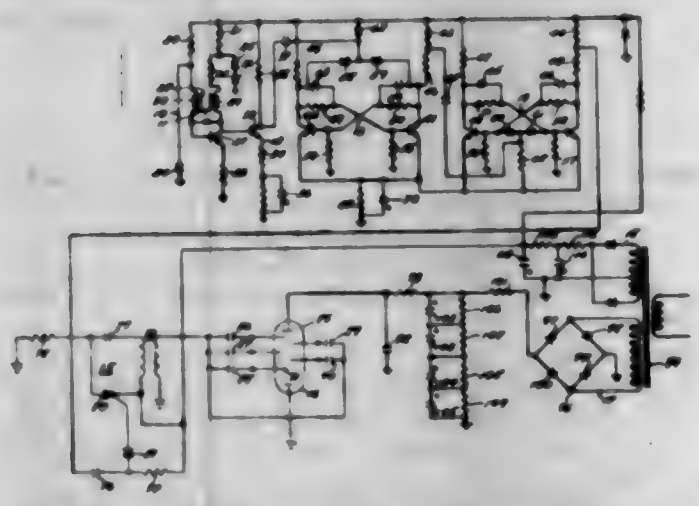
whereby the gases resulting from the vaporization of said conductors are directed longitudinally of the arrester to form a current path parallel to and external to said arrester elements upon flow of excess current for a predetermined length of time.

3,144,583
LIGHTNING ARRESTER
Billy B. Sorrow and Ned T. Knuckle, Ellettsville, Ind., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1960, Ser. No. 69,090
3 Claims. (Cl. 315—36)



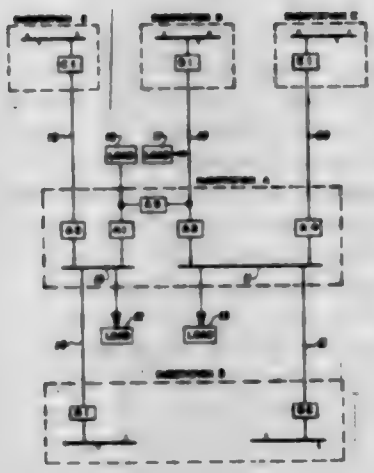
1. In combination a lightning arrester including a plurality of lightning arrester elements connected in series within an insulating outer housing closed at each end by a rupturable diaphragm, a current sensitive element capable of evolving gas when exposed to excessive current for a predetermined length of time disposed within the outer housing adjacent each diaphragm, said current sensitive element disposed within a tubular element closed at its end adjacent said diaphragm by a hammer adapted to be propelled toward said diaphragm by gas pressure generated by said current sensitive element thereby rupturing said diaphragm.

3,144,584
PORTABLE STROBOSCOPE
Joseph N. La Flandra, Yonkers, and Stephen Elmon and Jerome Spielberg, New York, N.Y., assignors to Loral Electronic Corporation, Bronx, N.Y., a corporation of New York
Filed Nov. 22, 1961, Ser. No. 154,182
1 Claim. (Cl. 315—241)



In a stroboscopic device, a tuning fork oscillator element, a buffer amplifier element receiving signals from said tuning fork oscillator element, a plurality of flip-flop circuits interconnected to said buffer amplifier element for dividing the frequency of signals received therefrom, a stroboscope lamp having a plurality of grids, triggering means actuated by frequency divided signals for periodically discharging said lamp, a single low-voltage power supply for powering said tuning fork oscillator element, buffer amplifier element, flip-flop circuit and triggering means, and a high-voltage power supply for powering said stroboscope lamp; said triggering means including a condenser chargeable to a low voltage, a step-up transformer, the primary winding of which is selectively connected to said condenser, the secondary winding of which is connected to the grids of said stroboscope lamp, and a silicon controlled rectifier means receiving output signals from said flip-flop circuits, and periodically shorting said condenser to said primary winding of said transformer.

3,144,585
LOGIC CONTROL SYSTEM FOR ELECTRICAL POWER TRANSMISSION NETWORK
John W. Blakemore, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 22, 1962, Ser. No. 196,809
6 Claims. (Cl. 317—28)



1. A system for controlling a breaker of an electrical power transmission network comprising:

(*a*) a bus bar in a given substation,

(*b*) first, second and third distribution lines each connected at one end to a first, a second or a third other substation, respectively, and at the other end to said bus bar,

(*c*) first and second line breakers interposed between said bus bar and said first and second lines, respectively,

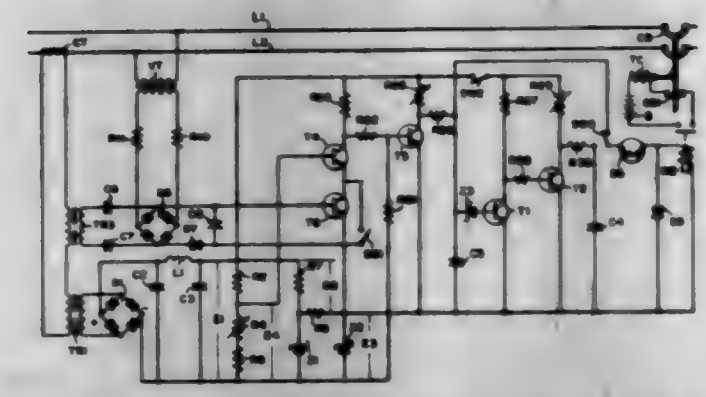
(*d*) means for detecting the presence of an excessive lagging phase angle of the power flow through said first breaker in a direction away from said bus bar and the absence of an excessive lagging phase angle through said first breaker in the other direction and to provide first and second electrical signals, respectively, upon the occurrence of such conditions,

(*e*) means for detecting the presence of an excessive lagging phase angle of the power flow through said second breaker in a direction toward said bus bar and to provide a third electrical signal indicative of such condition,

(*f*) means to provide fourth and fifth electrical signals at said given substation indicative of the absence of excessive lagging phase angles of power flow in directions away from said given substation at said first and third substations in said first and third lines,

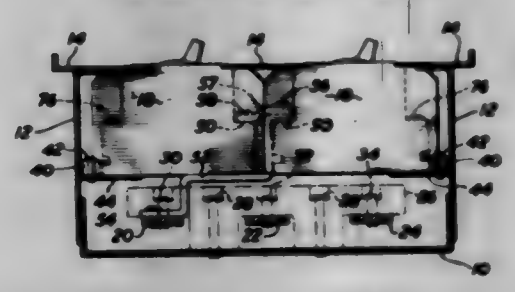
(*g*) and control means in said given substation adapted to energize said first breaker upon the simultaneous occurrence of said second, third, fourth and fifth electrical signals.

3,144,536
PROTECTIVE RELAY ASSEMBLIES
John C. Gaunbale, Livingston, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 15, 1962, Ser. No. 216,999
9 Claims. (Cl. 317—36)



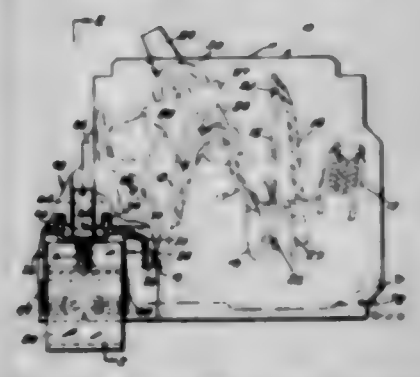
2. In a protective relay assembly, a pair of terminals, means for deriving from current supplied to the pair of terminals a first direct voltage having a magnitude dependent on the magnitude of current flowing through the pair of terminals over a substantial range of variation of the magnitude of said current, means for deriving from current supplied to said pair of terminals a second direct voltage, having a magnitude which is substantially constant over said range of variation, a capacitor, circuit means connecting the capacitor for energization in accordance with the first direct voltage, said circuit means including substantial resistance whereby the circuit means and capacitor provide a time-delay circuit, controllable disabling means rendering said capacitor ineffective for receiving a charge through said circuit means, effectuating means responsive to a predetermined relation between the first and second direct voltages for controlling the disabling means to condition the capacitor to receive charge from said circuit means and translating means responsive to the voltage across said capacitor, said translating means comprising a circuit energized in accordance with the voltage across said capacitor and including a threshold device, said threshold device having a characteristic which offers a substantial blocking resistance to the flow of current until the voltage thereacross reaches a predetermined threshold value at which the threshold device breaks over to offer an unblocked resistance to the flow of current which is much smaller than said blocking resistance, said threshold device after breaking over retaining said unblocked resistance until the voltage thereacross drops substantially below said threshold value.

3,144,587
DISTRIBUTION PANEL
Brian S. Darlow, London, Ontario, Canada, assignor to Taylor Electric Mfg. Co., Limited, London, Ontario, Canada
Filed Oct. 9, 1959, Ser. No. 845,566
1 Claim. (Cl. 317—119)



A distribution panel comprising a base, bus bars, means for supporting said bus bars in insulating relation on said base, a plurality of circuit breakers, said circuit breakers each having a front end and a back end, support means for supporting said circuit breakers on said base in pairs with the front end of each breaker in end to end relation to the front end of the breaker with which it forms a pair, said support means for each pair of said breakers comprising two diametrically opposed brackets and connector means that cooperates therewith, said brackets being carried by said base each supporting one of its respective pair of breakers adjacent its back end, said connector means comprising a first connector and a second connector, said first connector being rigidly connected at one of its ends to one of said bus bars and being rigidly connected at the other of its ends to the front end of the first breaker of its respective pair of breakers, said second connector being rigidly connected at one of its ends to the front end of said first connector and being rigidly connected at the other of its ends to the front end of the second breaker of its respective pair, said first connector extending for a portion of its extent between and in abutting relation to the front ends of its pair of breakers.

3,144,588
BOLTED CONNECTION FOR PLUG-IN DEVICE
Elwood T. Platz, Detroit, and John A. Herrmann, Grosse Pointe Farms, Mich., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 20, 1960, Ser. No. 3,525
20 Claims. (Cl. 317—119)



1. A circuit breaker terminal means comprising a pair of confronting jaws adapted to engage therebetween a panelboard terminal stab member through engagement with side surfaces thereof, a body portion integrally joining said jaws at their upper ends; a first lug connected to said body portion and operatively positioned above said jaws to engage a top surface adjacent the side surfaces of a panelboard terminal stab member; said first lug extending more in a forwardly direction than said jaws; registry means, including a formation in said first lug, constructed to provide securable engagement between said terminal means and the top surface of a panelboard stab.

3,144,589
CONTROL SYSTEM
Archie A. McGee, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1959, Ser. No. 840,278
9 Claims. (Cl. 317—137)

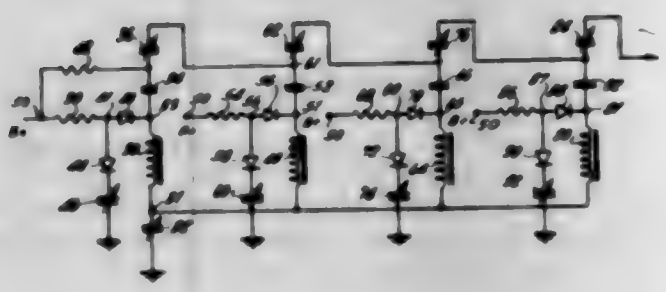
1. In a relay control system the combination comprising:

(*a*) a relay,

(*b*) means for establishing a first normally conductive path between said relay and a source of energizing potential through a unidirectional conductive device,

(*c*) a control circuit coupled to the first conductive path between the source and the unidirectional device including a second normally conductive path to reduce the energizing potential applied to the unidirectional device and to the relay to a value less than the value required to energize the relay,

(*d*) means to disable the control circuit upon occurrence of an event to raise the potential applied to said unidirectional device and said relay to a value sufficient to energize said relay,



(*e*) a third path between said source and said relay including a normally open contact associated with and responsive to said relay, said contact closing upon energization of said relay to complete said third path for supplying energizing potential to said relay and to disable said first normally conductive path by reverse-biasing said unidirectional device so that subsequent enabling of said control circuit, by termination of said event, cannot reduce the energizing potential to said relay,

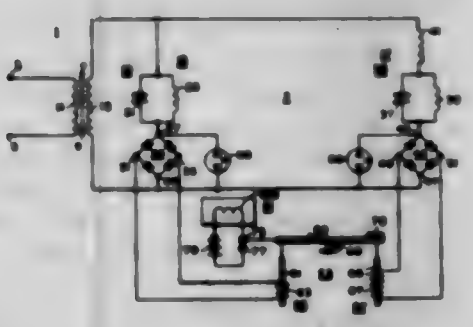
(*f*) and further contact means connected in circuit with said relay for interrupting said second path and de-energizing said relay.

3,144,590

FREQUENCY SELECTIVE NETWORKS

Robert L. Sharp, Pequannock, and William E. Glassburn, Mountainside, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 13, 1958, Ser. No. 741,854
12 Claims. (Cl. 317—138)



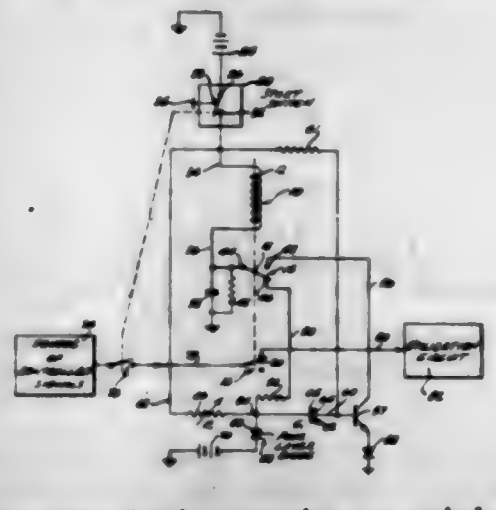
1. In an electrical frequency selective system responsive to an alternating voltage input presenting simultaneously a base frequency and at least one secondary frequency greater than said base frequency of alternation, a parallel resonant circuit connected to be energized by current derived from said input, said parallel resonant circuit being designed to resonate at a preselected frequency greater than said base frequency, a series resonant circuit connected to be energized by current derived from said input, said series resonant circuit being designed to resonate at said preselected frequency, said series resonant circuit including a parallel resonant portion designed to resonate at said base frequency, said series circuit having minimum impedance to unidirectional current, and translating means including a pair of elements, a first of said elements being connected for energization in accordance with the current flowing through said parallel circuit and the second of said elements being connected for energization in accordance with the current flowing through said series circuit, said second element being operable upon energization to render said first element ineffective.

3,144,591

TIME DELAY RELAY

Donald B. Levinson, Beverly Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 11, 1962, Ser. No. 195,021
8 Claims. (Cl. 317—142)



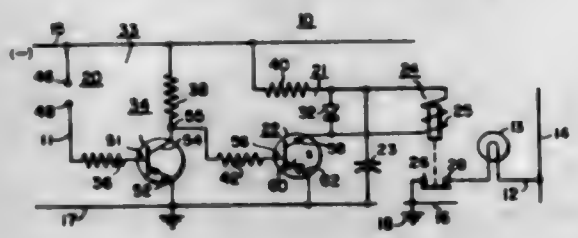
1. A time delay circuit responsive to a switched source of first potential comprising a second source of potential having one terminal coupled to one terminal of said switched source of first potential, relay means including a coil and a relay switch having an input terminal and a first and second output terminal with the input terminal coupled to another terminal of the switched source of first potential, a capacitor coupled from between said relay coil and the input terminal of said relay switch to said one terminal of said second source of potential, a transistor having a control electrode and having a load current path coupled between the first output terminal of said relay switch and said one terminal of said second source of potential, first impedance means coupled between the second output terminal of said relay switch and a junction point, a timing capacitor coupled between the control electrode of said transistor and said junction point, second impedance means coupled between said junction point and said another terminal of said switched source of first potential, breakover means coupled between said junction point and another terminal of said second source of potential, said breakover means having a first stable state with a relatively high impedance and a second stable state with a relatively low impedance, and third impedance means coupled between said another terminal of said switched source of first potential and the control electrode of said transistor.

3,144,592

ARRANGEMENT FOR CONTROLLING CIRCUIT CONTINUITY

Winthrop M. Leeds, Forest Hills, Pa., and Bernard R. Johnson, Riverdale, N. Dak., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

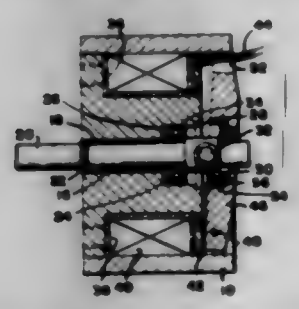
Filed Apr. 28, 1961, Ser. No. 106,321
5 Claims. (Cl. 317—148.5)



1. An arrangement for controlling the continuity of a power circuit, said arrangement comprising an actuator including at least one pair of spaced terminal elements, means for switching said power circuit between conductive and non-conductive states, said switching means including

a semiconductor switching device being electrically related to said actuator so as to receive a switching signal current each time said actuator terminal elements are bridged by an object having a resistivity as high as the order of that of a path through one's finger, said switching means also including an output semiconductor switching device included serially in said power circuit and coupled to said first mentioned semiconductor device and responding to switch said power circuit each time the first-mentioned semiconductor device is switched, and means for providing unidirectional flow of current through said output semiconductor device.

3,144,593
ROTARY SOLENOID
Raymond J. Ganowsky, 14711 Florita Road, La Mirada, Calif.
Filed Dec. 11, 1961, Ser. No. 158,196
8 Claims. (Cl. 317—165)



1. A rotary solenoid for providing angular displacement in response to electric current applied thereto comprising,

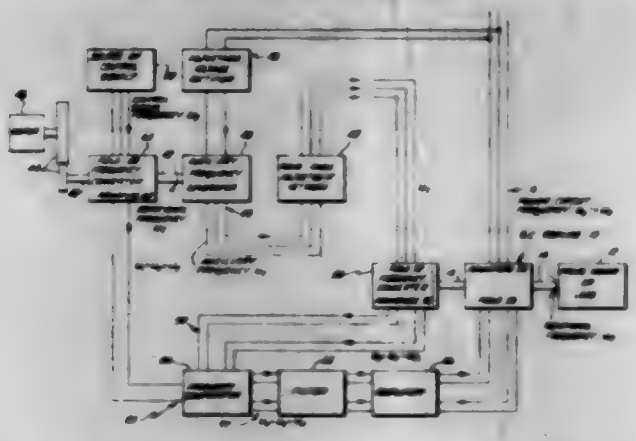
supporting structure,

a solenoid winding mounted in said supporting structure and responsive to electric current for producing a magnetic field surrounding said winding,

a movable armature responsive to said magnetic field having one end thereof forming a hinged attachment with said supporting structure and having a free end, said free end adapted to move relative to said solenoid winding in accordance with said magnetic field,

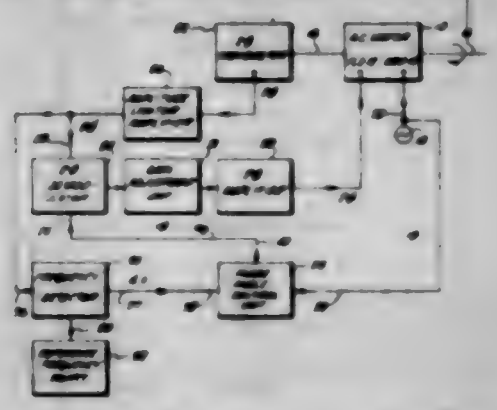
an output shaft coupled to said armature and rotatably mounted in said supporting structure, said output shaft responsive to movement of said armature for rotating in accordance therewith.

3,144,594
CONTROL APPARATUS FOR ALTERNATING CURRENT DYNAMOELECTRIC MACHINES
Troy D. Graybeal, Anaheim, Calif., assignor to Lear Siegler, Inc., a corporation of Delaware
Filed Feb. 27, 1961, Ser. No. 91,925
19 Claims. (Cl. 318—197)



1. In an apparatus for controlling the direction and speed of rotation of the magnetic field for an alternating current machine having an armature and a polyphase field winding the combination which comprises a source of control signals, an auxiliary frequency signal generator, control means coupled between the source of control signals, the auxiliary frequency signal generator and the alternating current machine for producing first and second alternating current amplitude unmodulated command signals having a frequency difference representative of the slip frequency of the alternating current machine, each of the first and second command signals having the auxiliary frequency signal as one component thereof so that the auxiliary frequency signal cancels out when the algebraic difference of the first and second command signals is obtained, means for obtaining the algebraic difference of the first and second command signals to provide a polyphase slip frequency signal and means for applying the polyphase slip frequency signal to the field windings of the alternating current machine.

3,144,595
CONTROL APPARATUS FOR ALTERNATING CURRENT DYNAMOELECTRIC MOTORS
Troy D. Graybeal, Anaheim, Calif., assignor to Lear Siegler, Inc., a corporation of Delaware
Filed Feb. 27, 1961, Ser. No. 91,926
13 Claims. (Cl. 318—197)

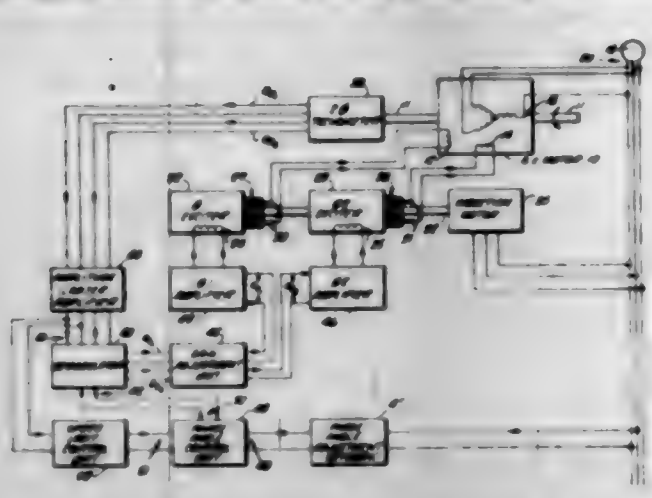


1. In an apparatus for controlling the speed of an alternating current motor having a polyphase field winding and an armature the combination which comprises a source of alternating current energizing potential connected to the armature of the motor, means responsive to the frequency of the alternating current energizing potential and to the speed of the motor for producing polyphase regulating signals of slip frequency, means for applying the polyphase regulating signals to the field windings of the motor, a source of speed reference frequency signals having a frequency representative of a preselected speed of the motor and means responsive to the speed reference frequency signals and to the speed of the motor for controlling the time phase relationship of each of the polyphase regulating signals to control the torque developed by the motor and thereby control the speed of the motor.

3,144,596
CONTROL APPARATUS FOR ALTERNATING CURRENT DYNAMOELECTRIC MOTORS
Troy D. Graybeal, Anaheim, Calif., assignor to Lear Siegler, Inc., a corporation of Delaware
Filed Feb. 27, 1961, Ser. No. 91,924
11 Claims. (Cl. 318—197)

1. In an apparatus for controlling the torque developed by an alternating current motor having a polyphase field winding and an armature the combination which comprises a source of alternating current energizing potential connected to the armature of the alternating current motor, amplifying exciting means having a polyphase input and output circuit for supplying field excitation to the motor, power transfer means for selectively supplying power to and receiving power from the exciting means independently of the torque developed by the motor, means for connecting the output circuit of the exciting means to the field windings of the motor, means responsive to the frequency of the alternating current energizing

potential and to the speed of the motor for producing polyphase regulating signals of slip frequency and means

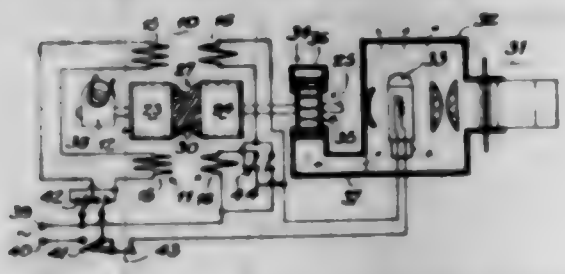


for applying the polyphase regulating signals to the input circuit of the exciting means.

3,144,597
SINGLE PHASE ALTERNATING CURRENT MOTOR SYSTEM

Royal Lee, Elm Grove, Wis., assignor to Lee Foundation for Nutritional Research, Milwaukee, Wis., a corporation of Wisconsin

Filed June 2, 1960, Ser. No. 33,414
5 Claims. (Cl. 318—220)

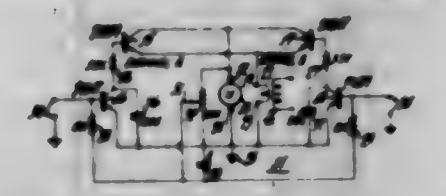


2. In combination, an alternating current motor having cooperating stator and rotor members and including a pair of phase windings adapted for energization from a single-phase current source, an optical projector including a projection lamp connected in series with one of said phase windings and forming a phase-shifting element for the connected phase winding, switch means for opening the circuit through the lamp at will while the motor is running, and means for insuring a closed condition of said switch means when the motor is restarted from rest.

3,144,598
BIDIRECTIONAL MOTOR CONTROL CIRCUIT

James F. Merritt, Palmyra, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Sept. 22, 1960, Ser. No. 57,770
6 Claims. (Cl. 318—293)

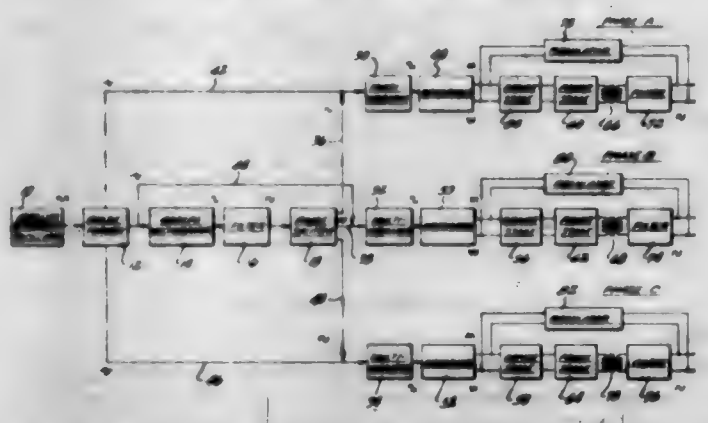


2. A control circuit comprising:
a load impedance element;
a pair of semiconductor devices of opposite conductivity types and having their respective emitter electrodes and collector electrodes commonly connected;
an alternating current energizing potential source connected in series with said load impedance element between said commonly connected emitter electrodes and said commonly connected collector electrodes;
a first direct current conductive path connected between the base and emitter electrodes of one of said pair of devices, a normally cut-off first semiconductor device of a type opposite of that of said one of said pair of devices having its emitter and collector electrodes in said first path for preventing the development of a forward bias across the base-emitter electrodes of said one of said pair of devices;
a second direct current conductive path connected between the base and emitter electrodes of the other of said pair of devices, a normally cut-off second semiconductor device of a type opposite to that of said other one of said pair of devices having its emitter and collector electrodes in said second path for preventing the development of a forward bias across the base-emitter electrodes of said other one of said pair of devices;
means for applying control signals across the base and emitter electrodes of said first and second semiconductor devices, said first device being rendered conductive in response to a control signal of one polarity to develop a forward bias across the base-emitter electrodes of said one of said pair of devices thereby enabling the passage of current through the emitter-collector electrodes of said one of said pair of devices in said one direction, said second device being rendered conductive in response to a control signal of the opposite polarity to develop a forward bias across the base-emitter electrodes of said other one of said pair of devices thereby enabling the passage of current through the emitter-collector electrodes of said other one of said pair of devices in the opposite direction;
feedback circuit means coupled to the emitter-collector current paths of said pair of transistors for developing a feedback voltage, and
means for applying said feedback voltage between the base and emitter electrodes of said first and second semiconductor devices, said feedback voltage being of a polarity to drive a conductive one of said pair of semiconductor devices in the more conductive direction and to drive a nonconductive one of said pair of semiconductor devices in the less conductive direction.

3,144,599
THREE-PHASE STATIC INVERTER

Charles B. Brahm, Ellington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

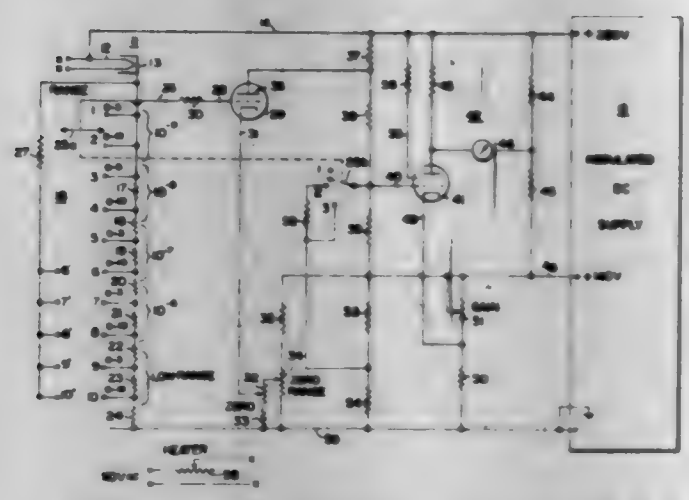
Filed May 20, 1960, Ser. No. 30,657
12 Claims. (Cl. 321—7)



1. A power supply system comprising means to produce a first signal at a selected frequency, a multivibrator synchronized by said first signal for producing a second signal having a frequency which is a sub-multiple of said first signal, converting means connected to receive said second signal and to produce therefrom a plurality of phase-displaced voltage signals, a plurality of output circuits, means for applying at least one of said plurality of

phase displaced voltage signals to each of said output circuits to actuate said output circuits, and means for simultaneously applying said first signal to said output circuits to synchronize the actuation of said output circuits.

3,144,600
GAS LEAK DETECTOR
John A. Roberts, Lynnfield Center, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1962, Ser. No. 237,502
15 Claims. (Cl. 324—33)



1. A leak detector comprising an element responsive to the presence of gaseous substances for producing D.-C. signals representative of the concentration of said gaseous substances,

means coupled to said element capable of assuming a plurality of different operative conditions for introducing different levels of attenuations in signals applied thereto in addition to a zero level of attenuation,

D.-C. signal amplifying means comprising input and output circuits and means capable of assuming a plurality of different operative conditions for controlling the gain of said amplifying means,

means for coupling the output signals of said attenuation means across the input circuit of said signal amplifying means,

a bridge circuit having said output circuit connected as one leg thereof, said output circuit comprising resistive means responsive to signals applied thereto for presenting values of resistance proportional to the magnitude of the applied signals,

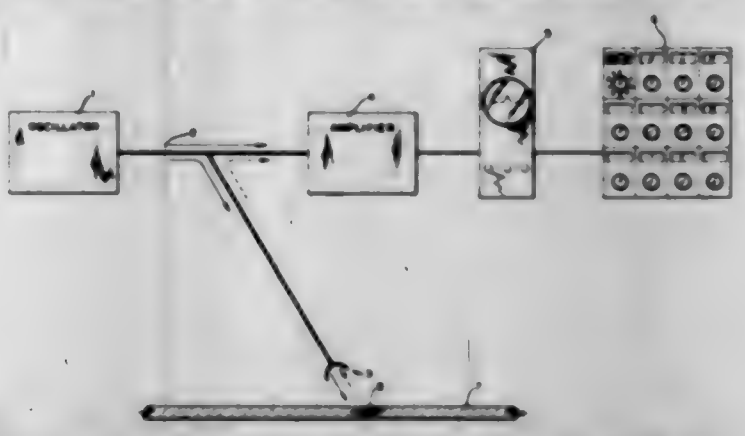
utilization means connected across one diagonal of said bridge circuit,

a first source of potential connected across the other diagonal of said bridge circuit,

and means operative for selectively controlling leak detector sensitivity by selectively controlling the operative condition of both said attenuating means and said gain controlling means to thereby provide a leak detector having a plurality of different selectable values of sensitivity.

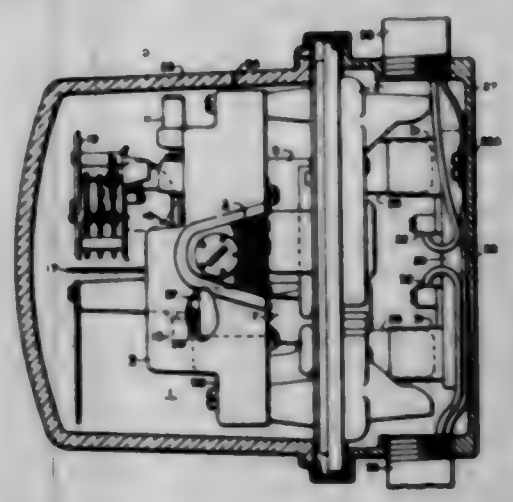
3,144,601
METHOD OF DISCOVERING AND LOCATING THE POSITION OF LOCALIZED ELECTRICALLY NON-CONDUCTING DEFECTS IN NON-CONDUCTING MATERIALS
Francis Slabodsky, Paris, France, assignor to Compagnie de Saint-Gobain, Paris, France
Filed Jan. 14, 1958, Ser. No. 708,929
Claims priority, application France Jan. 16, 1957
5 Claims. (Cl. 324—58.5)

1. A method of searching for and discovering the position and the dimension of localized electrically non-conducting defects in the surface and the interior of a sheet of electrically non-conducting material, said defects having dimensions on the order of the range 1 mm. to 1/10 mm., comprising directing upon and scanning such sheet of material with a moving beam of electromagnetic waves, having a wave length on the order of the



range from 1 millimeter to 1 centimeter, by displacing the beam of waves relative to the surface of the material, receiving the beam of waves reflected by the material, and recording the disturbances appearing in such received waves.

3,144,602
INDUCTION-TYPE DEVICE PROTECTED AGAINST EXTERNAL FIELD INFLUENCE
James E. Ramsey, Jr., Raleigh, N.C., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 18, 1961, Ser. No. 103,912
6 Claims. (Cl. 324—137)



1. In an induction device responsive to an alternating quantity, a base structure having a first side and a second side, an electromagnet located on the first side of the base structure, said device having a current path on the second side of said base structure for electric current producing stray magnetic influence, said electromagnet comprising a magnetic structure having an air gap, multiturn voltage winding means adapted to be energized in accordance with the voltage of an alternating circuit, and current winding means adapted to be energized in accordance with current flowing in an alternating circuit, said winding means when energized from an alternating current circuit cooperating with the magnetic structure to produce a shifting magnetic field in the air gap, terminal means coupled to the winding means and extending on the second side of the base structure for connecting the winding means to an electrical circuit, an electro-conductive armature having a part in said air gap, means mounting the armature for movement relative to the magnetic structure under the influence of said shifting magnetic field, an electro-conductive non-magnetic member having a portion adjacent and substantially extending over the electromagnet, said electromagnet being located between said portion and the base structure, and a soft magnetic member located between said

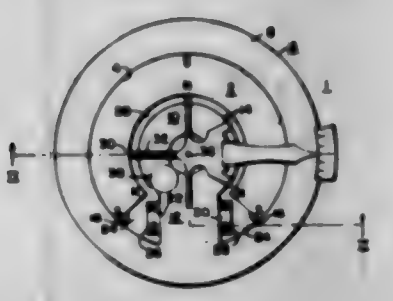
portion and the electromagnet adjacent the air gap for protecting the electromagnet from stray field influence due to current flowing in paths on said second side of the base structure, said magnetic member being spaced from parts of said electromagnet having a substantial magnetomotive force thereacross sufficiently to prevent the flow of appreciable magnetic flux through the magnetic member under the influence of said force, said soft magnetic member extending between the non-magnetic member and the electromagnet over an area and with a cross-section proportioned to provide substantial protection for the electromagnet against stray magnetic field influence from fields produced by electric current flowing in said current path.

3,144,603

LONG SCALE MOVING COIL ELECTRICAL MEASURING INSTRUMENT WITH ADDITIONAL FLUX AUGMENTING MAGNET MEANS IN THE AIR GAP

Ambrose J. Petzinger, Glen Rock, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 6, 1961, Ser. No. 87,321
4 Claims. (Cl. 324—150)



1. In a moving coil instrument of the concentric magnet type, inner and outer ring-like elements of non-permanent magnetic material, a connecting member of non-permanent magnetic material joining said elements and holding the same in concentric spaced relation to form a C-shaped gap therebetween, a main C-shaped permanent magnet located in said gap, said magnet being magnetized to provide a flux field across said gap in a first polarity and being of lesser length than the length of said gap and spaced in said gap to provide in said gap an end space between said member and each end of said magnet, and a pair of auxiliary magnets, said auxiliary magnets being of lesser volume than said main magnets and having a greater coercive force than said main magnet, said auxiliary magnets being individually located in said end spaces intermediate said main magnet and said connecting member, said auxiliary magnets being magnetized to establish flux fields across said gap in said one polarity.

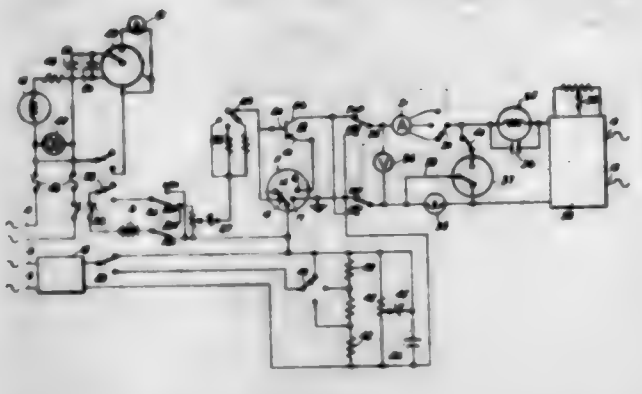
3,144,604

TRANSISTOR THERMAL IMPEDANCE TEST SET EMPLOYING A BRIDGING TYPE MERCURY RELAY

Grant F. Stetzler, Temple, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 27, 1960, Ser. No. 39,189
7 Claims. (Cl. 324—158)

1. A transistor thermal impedance test set comprising in combination a relay having mercury-wetted contacts which momentarily physically and electrically join together when the relay is actuated, means for applying base bias to the transistor under test, one side of said base bias means being connected to a first contact of the relay and to the transistor base, means for applying collector bias to the transistor, one side of said collector bias means being connected to the transistor collector and the other side thereof being connected to ground, a second contact of the relay connected to the transistor emitter, a third contact of the relay connected to ground, a fourth contact of the relay being the armature contact connected to the other side of the base bias means, a



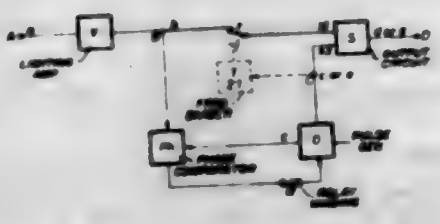
current measuring device having one side connected to said relay armature and the other side connected to ground, and means for transferring the relay armature between the first relay contact and the second and third relay contacts.

3,144,605

COMMUNICATION REPEATER EMPLOYING THE PULSE-CODE MODULATION METHOD AND COMPRISING FAULT-ALARM MEANS

Berthold Reidel, Paris, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed June 13, 1962, Ser. No. 202,186
Claims priority, application Germany June 16, 1961
16 Claims. (Cl. 325—3)



1. A repeater terminal for a pulse code modulation system comprising:

an input circuit for the train of signal pulses of said system;

an output circuit;

a pulse generator coupled to said output circuit capable of producing pulses having a first frequency predeterminedly related to the frequency of said train of signal pulses and a second frequency predeterminedly related to said first frequency;

a comparator circuit coupled to said input circuit and said pulse generator to compare the frequency of said train of signal pulses with the pulses of said generator to produce a control signal; and

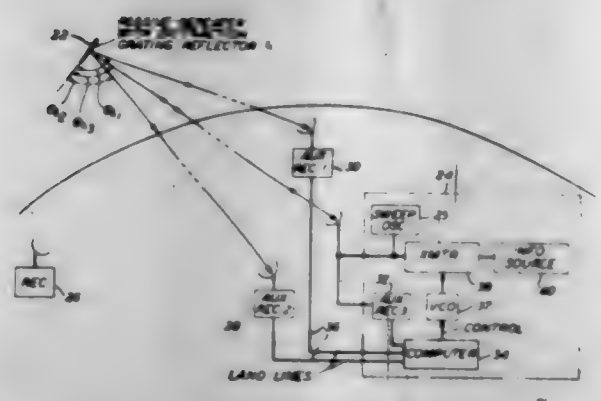
a control circuit coupled to said comparator circuit, said output circuit and said pulse generator responsive to said control signal to produce in said pulse generator pulses of said first frequency in the presence of said train of signal pulses to regenerate said train of signal pulses in said output circuit and to produce in said pulse generator pulses of said second frequency to pass a train of pulses through said second frequency to pass a train of pulses through said output circuit having a third frequency predeterminedly related to said second frequency to indicate a fault in said system.

3,144,606

PASSIVE SATELLITE REPEATER SYSTEM HAVING ORIENTATION COMPENSATION MEANS

Robert T. Adams, Short Hills, N.J., and Gordon Raisbeck, Lexington, Mass.; said Adams assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland, and said Raisbeck assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1961, Ser. No. 163,344
8 Claims. (Cl. 325—4)



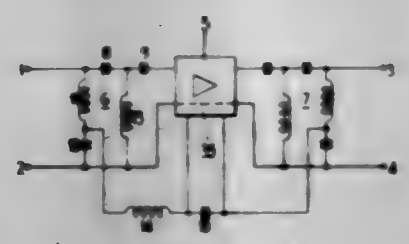
1. A communication system comprising a first station, a second station, and a repeater station subject to variations in orientation relative to said first and second stations, said repeater having a reflector disposed on its surface the angle of reflection of impinging signals of which is controllable dependent upon a characteristic of said impinging signal, means for radiating an information signal from said first station toward said repeater, and means for controlling the angle of reflection of said reflector by changing said characteristic to compensate for variations in orientation of said reflector with respect to said first and second stations to preserve maximum transmission from said first station to said second station via said repeater.

3,144,607

CARRIER COMMUNICATION SYSTEMS WITH REPEATER STATIONS

Robert Barrett, Coventry, England, assignor to The General Electric Company Limited, London, England

Filed Jan. 16, 1961, Ser. No. 82,918
Claims priority, application Great Britain Jan. 15, 1960
2 Claims. (Cl. 325—5)



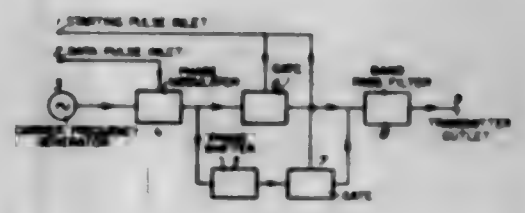
1. Repeater station apparatus for an electric carrier communication system comprising a pair of input terminals to which is supplied an input signal including direct current, audio frequency and carrier frequency components, first filter means to derive from the input signal two signals, one of which comprises the carrier frequency component of the input signal and the other of which comprises the direct current and audio frequency components of the input signal, second filter means, an amplifier connected between the first filter means and the second filter means to amplify the carrier frequency signal, a purely passive audio frequency and direct current path which is connected between the first filter means and the second filter means to carry the signal comprising the direct current and audio frequency components of the input signal, a pair of output terminals, and circuit means connecting the second filter means and the output terminal so as to supply thereto both the amplified carrier frequency signal and the signal comprising the direct current and audio frequency components of the input signal, said purely passive path comprising a loading inductor, a capacitor connected in series with the loading inductor to provide with the loading inductor a circuit for the audio frequency component of the input signal, and circuit means connecting the two sides of the capacitor to said amplifier to provide with the loading inductor a circuit for the direct current component of the input signal which component serves to energize said amplifier.

3,144,608

DATA TRANSMISSION UTILIZING PHASE-SHIFT MODULATION

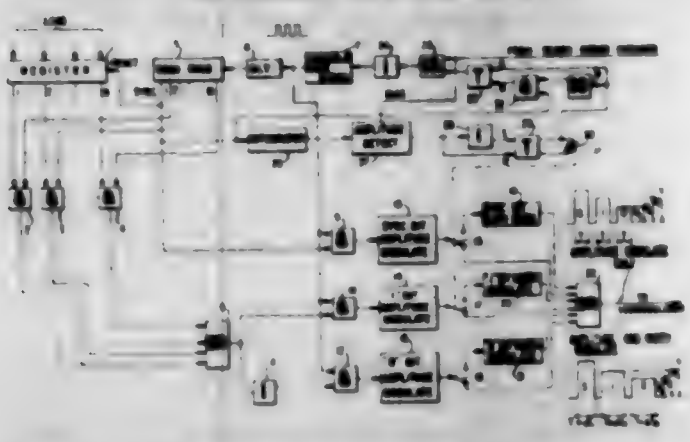
Stig E. Warring, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Feb. 21, 1961, Ser. No. 90,780
Claims priority, application Sweden Feb. 23, 1960
3 Claims. (Cl. 325—30)



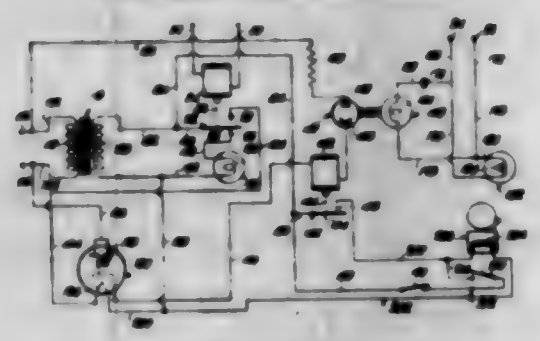
1. A communication system comprising first transmission means for transmitting signals composed of reference pulses and binary data pulses modulated on a carrier wave, said transmission means including modulating means, means for supplying said reference pulses and said binary data pulses to said modulating means together with said carrier wave, said modulating means modulating said carrier wave by shifting the phase positions of said carrier wave 180° relatively to one another and modulating the carrier wave by said reference pulses by at least one phase shifting of 90° of said phase position; receiving means for receiving said transmitted modulated signals, said receiving means having one input and two outputs, one for data pulses and one for reference pulses, a phase detector for detecting said data pulses, said phase detector having a first and a second input and an output, the first input of the detector being connected to the input of the receiving means and the output of the detector being connected to the output for data pulses, means for detecting said reference pulses, said reference pulse detecting means being connected between the input of the receiving means and said output for reference pulses, means for regenerating said carrier wave from the input signal, a phase shifter having a first and a second input for shifting the phase of said regenerated carrier wave 180°, said regenerating means having its input connected to the input of the receiving means and its output connected to said first input of said phase shifter, the output of which is connected to said second input of said phase detector, a bi-stable circuit connected to said second input of said phase shifter so as to cause 180° phase shifting in the carrier wave upon its activation, and means producing positive and negative pulses respectively responsive to said reference pulses and activating said bi-stable circuit by means of one of said positive or negative pulses; and second transmission means for transmitting said modulated pulses from said modulating means to said receiving means, said second transmission means connecting said modulating means and said input of said receiving means.

3,144,609
SIGNAL TO NOISE ENHANCEMENT TECHNIQUE FOR BINARY TRANSMISSION
Dale H. Rumble, Carmel, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,780
18 Claims. (Cl. 325—38)



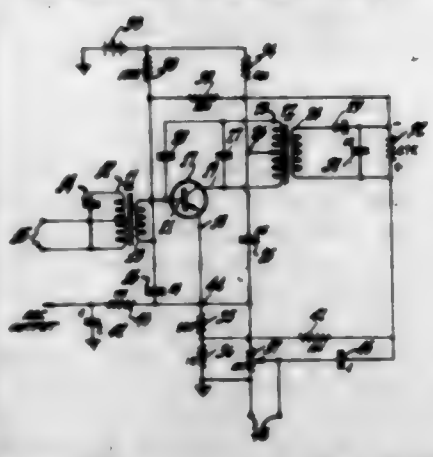
15. A pulse generating combination comprising: means for generating information pulses, means for varying the pulse generation rate, means responsive to a first pulse rate value for modulating said information pulses so that said pulses contain information represented by a first parameter, means responsive to a second pulse rate value lower than the first for generating pulses each modulated in accordance with said parameter and a second parameter.

3,144,610
RADIO RECEIVER COMBINED CONELRAD ALARM APPARATUS HAVING TIME DELAY APPARATUS SELECTIVELY RESPONSIVE TO CONELRAD CODE
Marvin F. Phillips, 308 Scotland St., Topeka, Kans.
Filed Sept. 2, 1958, Ser. No. 758,432
7 Claims. (Cl. 325—364)



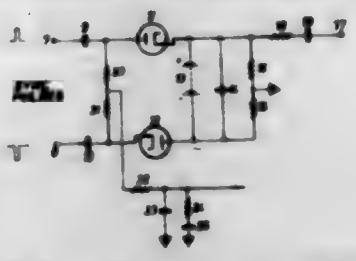
1. In alarm control apparatus: source of electrical power; an electrically responsive alarm indicator; a normally open operating circuit for coupling said indicator with said source of electrical power; operating circuit control means for closing said operating circuit and including a pair of devices operably coupled with said operating circuit and each having an inoperated condition and an operated condition, said control means being arranged for effective closure of said operating circuit only in response to occurrence of said operated condition in both of said devices simultaneously; receiving means for receiving transmissions of electrical alarm controlling signals characterized by predetermined intervals of relatively high frequency carrier signals, of a single preselected frequency relatively lower frequency modulation component signals superimposed upon said carrier signals, and intervals of no transmission of either the carrier or the modulated carrier signals; first control coupling means operably coupling one of said devices with said receiving means for controlling the condition of said one device responsive to the intervals of no transmission of said carrier or modulated carrier signals; and second control coupling means operably coupling the other of said devices with said receiving means for controlling the condition of said other device responsive to the intervals of transmission of said modulation component signals in said controlling signals.

3,144,611
REFLEX AMPLIFIER CIRCUIT WITH REDUCTION OF MINIMUM VOLUME CONTROL PLAY-THROUGH EFFECT
Henry M. Kleinman and Lova Pino, Somerville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Sept. 14, 1960, Ser. No. 55,875
14 Claims. (Cl. 325—486)



3. A reflex amplifier stage comprising circuit means for amplifying a modulated carrier signal, detector means for deriving a demodulated signal from said modulated carrier signal, means for feeding back said demodulated signal to said circuit means for amplification, output circuit means for said demodulated signal subsequent to the amplification thereof, said feeding back means including variable impedance means introducing an increasing degenerative impedance in said circuit means thereby reducing the amplification of said demodulated signal as said impedance means is varied in one direction, and simultaneously therewith, decreasing the magnitude of the impedance across which the amplified demodulated signal is developed for said output circuit means.

3,144,612
PHASE- AND FREQUENCY-COMPARISON CIRCUIT COMPRISING TWO RECTIFYING SECTIONS
Gerhard-Günter Gassmann, Berkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 26, 1960, Ser. No. 31,923
Claims priority, application Germany June 4, 1959
10 Claims. (Cl. 328—133)



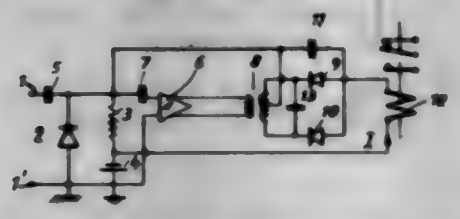
1. A phase and frequency comparison circuit comprising sources of first and second trains of periodic pulse signals, a pair of oppositely polarized gating means coupled to said sources and responsive exclusively to the coincident presence of pulses in said first and second trains to produce a third train of pulses having a mean amplitude determined by the relative phases of said coincident pulses and a frequency determined by the frequency of coincidence of said pulses in said first and second trains, and means coupled to said last mentioned means for producing a direct current control signal varying in accordance with said mean amplitude of said third pulses.

3,144,613

BIPOLAR SIGNAL RECEIVER WITH INPUT AND OUTPUT NON-LINEAR LIMITING MEANS WITH INTERCONNECTING FEEDBACK

John Bernt Pugerud, Stockholm, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Mar. 23, 1960, Ser. No. 17,888
Claims priority, application Sweden Apr. 1, 1959
8 Claims. (Cl. 328—172)



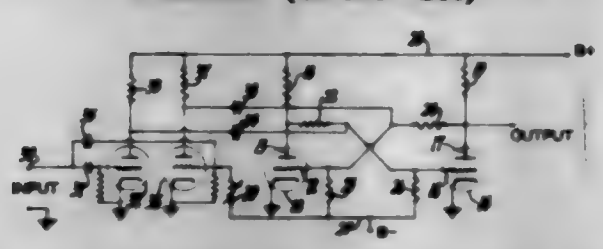
1. A signal receiver for bipolar signals, said signal receiver comprising amplifier means including at least one input circuit and one output circuit and a signal-limiting means, said signal-limiting means comprising a first and a second current-controlling means, the first one of said current-controlling means being connected to said output circuit and including a first and a second non-linear conductive element oppositely connected in series across said output circuit, the second of said current-controlling means being connected to said input circuit and including a third non-linear conductive element and an impedance means connected in circuit with said third non-linear conductive element, a biasing potential obtained across said impedance means being connected to said third non-linear conductive element, said potential having a value causing said third non-linear conductive element to control an input signal fed to said amplifier means when said input signal voltage is below a first signal level, said first and second non-linear conductive elements being connected to said impedance means to be blocked by a potential due to a direct current passing through said impedance means, and a direct current connection between said output circuit and the connecting point of said third non-linear conductive element and said impedance means to overcome the bias potential on said third non-linear conductive element when the input signal voltage reaches a second signal level.

3,144,614

SYNCHRONIZING THE STATES OF A BISTABLE MULTIVIBRATOR TO HIGH AND LOW AMPLITUDE PULSES

Jack H. Perry, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 23, 1960, Ser. No. 16,995
6 Claims. (Cl. 328—206)



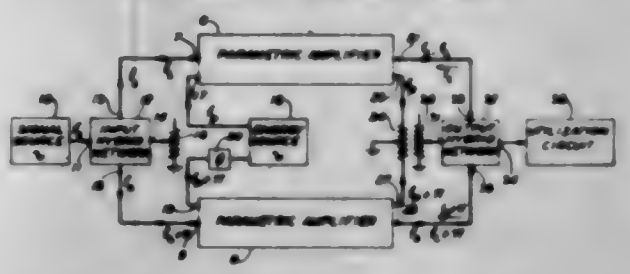
1. Signal processing apparatus comprising a bistable multivibrator having first and second stages and intercoupling circuits to provide bistable switching action, a signal source adapted to produce electrical signals of a first character and of a second character in alternate succession, first coupling means connecting said signal source to said first stage such that signals of both first and second character are applied to said first stage, and second coupling means including signal discriminator means connecting said signal source to said second stage such that only signals of said first character are applied to said second stage, said discriminator means being adapted to block signals of said second character, thereby synchronizing the bistable switching action in a particular phase relation with the electrical signals produced by said signal source.

3,144,615

PARAMETRIC AMPLIFIER SYSTEM

Rudolf S. Engelbrecht, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 26, 1959, Ser. No. 795,871
15 Claims. (Cl. 330—4.6)



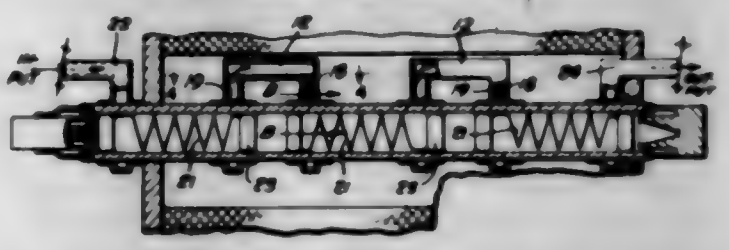
1. An amplifier system comprising: a pair of parametric amplifiers having input, pumping and output circuits; means for applying pumping signal energy at a frequency ω_3 to each of said pumping circuits to parametrically pump said amplifiers with mutually opposite phase relationship; first and second signal translating networks, one responsive to a frequency ω_2 and the other responsive to a frequency ω_1, where $\omega_1+\omega_2=\omega_3$, coupled to said input circuits with one of said networks coupled in push-pull relationship and the other in parallel; and means coupled to said output circuits for deriving amplified signal energy thereform.

3,144,616

HIGH FREQUENCY ELECTRON TUBE APPARATUS

Robert L. Jepsen, Los Altos, Calif., assignor to Varian Associates, San Carlos, Calif., a corporation of California

Original application Mar. 30, 1956, Ser. No. 575,161, now Patent No. 2,970,242, dated Jan. 31, 1961. Divided and this application Dec. 1, 1960, Ser. No. 72,899
1 Claim. (Cl. 330—43)



A traveling wave tube amplifier including: means for forming and projecting a beam of electrons over an elongated beam path; means at the terminal end of said beam path for collecting and dissipating the energy of said electrons; circuit means disposed between said beam forming means and said beam collecting means along said beam path for cumulative electromagnetic interaction with said beam for amplifying signal waves on said circuit; means for applying signal energy to said electromagnetic interaction circuit means to obtain amplification of said signal wave energy; means disposed along said beam path for extracting amplified signal wave energy from said beam for propagation to a load; said interacting circuit means including a plurality of severed helices successively arranged along the beam path in axially spaced apart relation for electromagnetic interaction with the beam of electrons to produce signal current modulation on said beam, nonreciprocal resistive sheet field displacement isolator wave energy transmission means having a sending and receiving end thereto coupling together pairs of said severed helices for transmission of wave energy between said severed helices, whereby signal wave energy

is propagated from one severed helix to another severed helix in the direction of beam travel for further cumulative electromagnetic interaction with the beam but preventing reflected wave energy traveling a direction opposed to the direction of electron travel from propagating back to the sending end of said nonreciprocal transmission means thereby greatly enhancing the gain characteristics of the amplifier without instability arising, and said nonreciprocal transmission means having an electrical path length for signal wave energy between coupled helices of said slow wave structure dimensioned such that the signal wave traveling in said nonreciprocal transmission means in the direction of electron travel experiences a phase delay with respect to the phase of the signal current modulation on the beam of substantially $2\pi n$ radians where n can have any + or — integer value including 0.

3,144,617

OPTICAL MASER WITH CONVEX NEGATIVE TEMPERATURE MEDIUM EXTREMITIES

Herwig W. Kogelnik, Summit, and William W. Rigrod, Millington, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1961, Ser. No. 163,135
12 Claims. (Cl. 331—94.5)



1. An optical maser comprising an elongated negative temperature medium characterized by a principal axis,
means for applying pump energy to said medium for establishing a population inversion therein,
an elongated optical interferometer resonant cavity comprising first and second external reflective end members,
means for abstracting energy from said cavity,
said negative temperature medium being disposed within said cavity and positioned with said axis substantially normal to said end members,
the axial extremities of said medium comprising means for focusing optical energy,
said focusing means having bi-cylindrical surface curvature.

3,144,618

TUNNEL DIODE CRYSTAL CONTROLLED OSCILLATOR

Wesley N. Jones, Severna Park, and Jacob Beser, Pikesville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 16, 1961, Ser. No. 82,848
4 Claims. (Cl. 331—107)



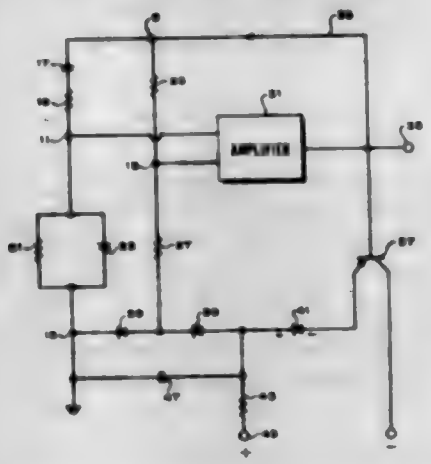
3. A frequency controlled oscillator circuit comprising a tunnel diode having a negative conductance region and a capacitance reactance therein, bias means operative to bias said tunnel diode into said negative conductance region, and an impedance member having an inductive reactance connected in series with said tunnel diode to form a tuned circuit including the capacitive reactance of said tunnel diode, said tuned circuit having a predetermined series resonant frequency, and a piezoelectric crystal having a predetermined resonant frequency and being connected across said impedance member to sustain oscillation at a frequency between said series resonant frequency of said tuned circuit and said predetermined resonant frequency of said crystal.

3,144,619

OSCILLATION GENERATOR HAVING AN AMPLITUDE STABILIZING CIRCUIT

David S. Cochran, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed July 14, 1961, Ser. No. 124,104
6 Claims. (Cl. 331—109)



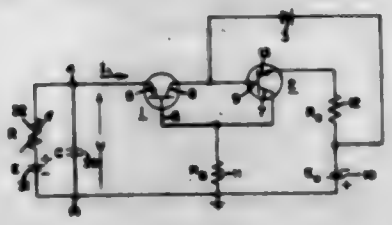
1. In an electronic oscillator the combination comprising a frequency selective signal attenuator, a resistive signal attenuator, an amplifier connected to receive the outputs of the frequency-selective and resistive attenuators and adapted to produce an output signal that is related to the difference between the signals at the outputs of said attenuators, a feedback path to apply the output signal to the frequency-selective and resistive attenuators, a first forward biased diode connected in series with the resistive signal attenuators, a second forward biased diode, alternating current conducting means so connecting the first and second diodes in parallel that successive half cycles of the alternating polarity applied signal appear in the forward conduction direction alternately across each of the diodes, said diodes being connected to vary the attenuation ratio of the resistive signal attenuator in response to changes in the current in said diodes, means providing forward bias current in the first and second diodes, a source of reference potential, a switch held non-conductive by said reference potential and being connected to apply the output signal to said diodes, said switch becoming conductive to vary the forward bias current in said diodes when the amplitude of the output signal exceeds the value of said reference potential.

3,144,620

TRANSISTORIZED NEGATIVE RESISTANCE NETWORKS

Heinz Raillard, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

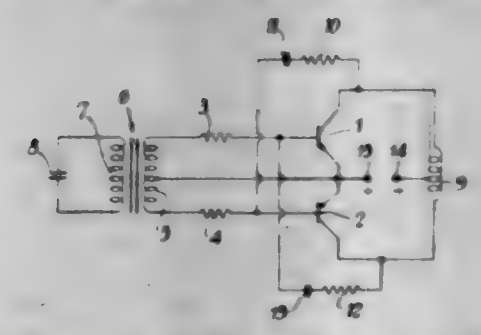
Filed Apr. 7, 1961, Ser. No. 101,583
7 Claims. (Cl. 331—111)



1. A two terminal network comprising a semiconductor arrangement exhibiting current amplification having

a current injecting electrode, a control electrode, a floating electrode and a current ejecting electrode, a first terminal of said network connected to said current injecting electrode, a series connection of a source of potential and impedance means connected between said control electrode and said current ejecting electrode, a second terminal of said network connected to a first point on said series connection, so that said network provides a negative resistance characteristic in response to energy applied to said terminals, an external current path including a nonlinear resistive element coupled between said floating electrode and a second point on said series connection for shunting increasing amounts of current away from said floating electrode in accordance with the voltage across said element whereby the negative resistance value of said characteristic is controlled by said current path.

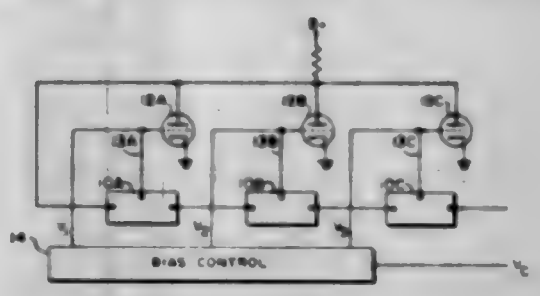
3,144,621
MULTIVIBRATOR PROVIDED WITH STABILIZING SHOCK-EXCITED RESONANT CIRCUIT
Derek Wilbur Moore, Rexdale, Ontario, Canada, assignor to The De Havilland Aircraft Company Limited, Hatfield, England, a company of Great Britain
Filed Mar. 9, 1962, Ser. No. 178,725
Claims priority, application Great Britain Mar. 10, 1961
2 Claims. (Cl. 331—113)



1. An electric oscillator comprising a pair of transistors each having emitter, base and collector electrodes, a coupling transformer having a centre-tapped secondary winding, an electrical connection between one base electrode and one end terminal of the secondary winding, an electrical connection between the other base electrode and the other end terminal of the secondary winding, an electrical connection from said centre-tap of the secondary winding to both emitter electrodes, an output transformer having a centre-tapped primary winding, an electrical connection between one collector electrode and one end terminal of the primary winding, an electrical connection between the other collector electrode and the other end terminal of the primary winding, a D.C. voltage source connected between said centre-tap of the primary winding and both emitter electrodes, a first feedback connection, comprising a resistor and a capacitor connected in series, from said one collector electrode to said other base electrode, a second feedback connection, comprising a resistor and a capacitor connected in series, from said other collector electrode to said one base electrode, and a resonant energy store inductively coupled to said secondary winding to permit shock excitation of the resonant energy store by electric currents flowing in said secondary winding and to permit the resonant energy store to induce voltages in said secondary winding to control the frequency of the oscillator.

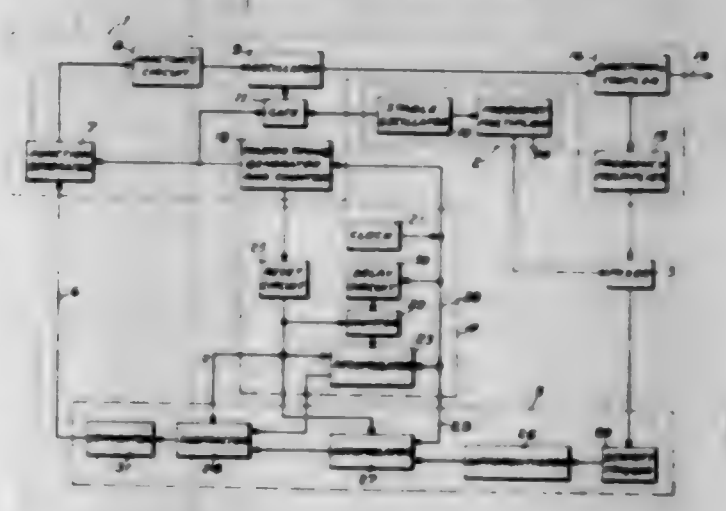
3,144,622
VOLTAGE VARIABLE OSCILLATOR
James S. Thorp, Ithaca, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed May 7, 1962, Ser. No. 193,029
9 Claims. (Cl. 331—135)

1. An oscillator comprising a plurality of amplifiers; means for increasing and decreasing the gain of each of said amplifiers in succession; a common input terminal connected to the outputs of said amplifiers; and a plurality of delay lines, each one connected between said common



input terminal and the input of one of said amplifiers, said delay line for each successive amplifier having a longer time delay.

3,144,623
FREQUENCY GENERATOR SYSTEM
James W. Steiner, West Caldwell, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Feb. 12, 1960, Ser. No. 8,315
12 Claims. (Cl. 331—178)

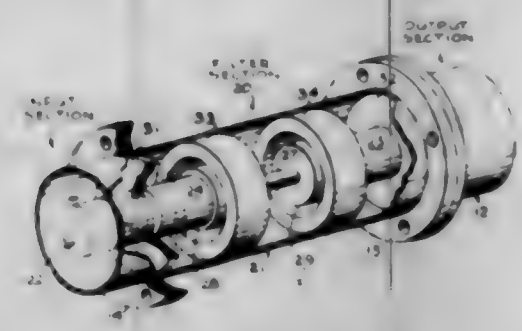


1. A stabilized sweep frequency generator system comprising a source of constant frequency signal, a source of varying amplitude signal coupled to said source of constant frequency signal to frequency modulate said constant frequency signal to produce a sweep frequency signal, a source of stable frequency signal, mixer means responsive to said sweep frequency signal and said stable frequency signal to produce a varying difference frequency signal, means independent of said source of varying amplitude signal for producing a comparison signal varying in accordance with the predetermined variation of the difference signal, means for comparing said comparison signal and said difference frequency signal to produce an error signal upon the occurrence of an error in the variation of said difference frequency signal, and means to couple said error signal to said source of varying amplitude signal to correct for said error.

3,144,624
COAXIAL WAVE FILTER
Chandos A. Rypinski, Jr., Sherman Oaks, Calif., assignor to C. A. Rypinski Company, a corporation of California
Filed Aug. 1, 1960, Ser. No. 46,539
3 Claims. (Cl. 333—73)

1. A low pass coaxial waveguide filter for high power wave transmission systems utilizing relatively large size waveguide structures, including the combination of an outer conductor, the outer conductor being concentric with a central axis, a number of conductive rings, each of the conductive rings being coupled to the outer conductor at an inner periphery of the conductor and lying

in a plane transverse to the central axis, the rings protruding inwardly towards the central axis and each being spaced along the central axis a selected distance from the adjacent rings, and an integral central conductor lying along the central axis, the central conductor having a cross sectional configuration at each point therealong which is concentric relative to the central axis and defined



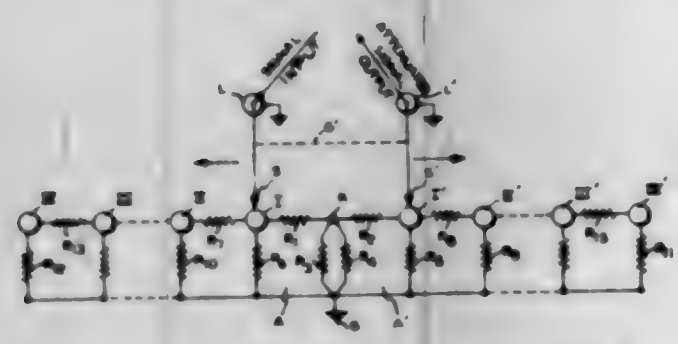
by successive sections, with alternate sections having relatively small diameters and relatively longer lengths, and then relatively larger diameters and shorter lengths, the lengths of the larger diameter sections corresponding to the lengths of the rings coupled to the outer conductor, and the differences in the diameters of the successive sections of the central conductor being selected with respect to the rings which are coupled to the outer conductor such that currents traveling along the inner and outer conductors traverse paths of relatively equal lengths.

3,144,625

ATTENUATOR SYSTEM HAVING END-TERMINATED DISSIPATIVE LONG LINE WITH INPUT AND OUTPUT TAPS MOVABLE SYMMETRICALLY TO MID POINT

Isaac S. Blonder, West Orange, N.J., assignor to Blonder-Tongue Electronics, Newark, N.J., a corporation of New Jersey

Filed Feb. 8, 1963, Ser. No. 257,191
7 Claims. (Cl. 333—81)



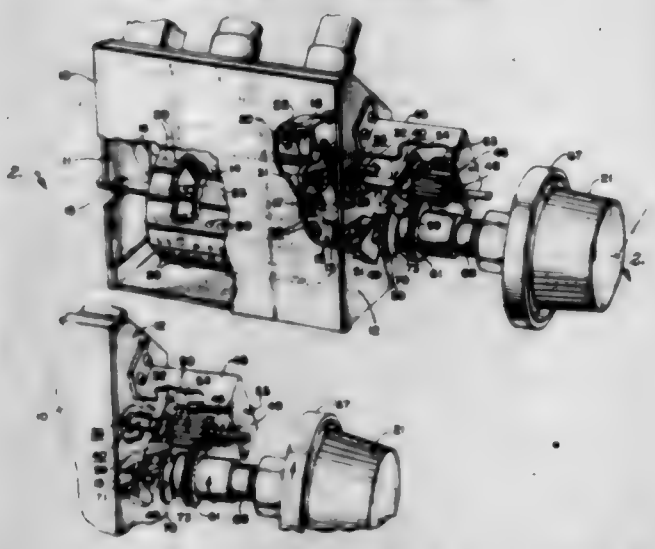
1. A wide-band signal attenuator system having, in combination, a pair of similar network ladder attenuators each having successively connected cascaded π-networks of series and shunt impedance elements, one end of both network ladders being connected together back-to-back at common termnials to provide thereat a resultant predetermined characteristic impedance and each network having contact terminals connected to the junctions of the said series and shunt impedance elements thereof, a pair of input-signal and output transmission lines each of the said characteristic impedance and each having a contact member for engaging the contact terminals of a corresponding network ladder, and means for relatively moving the contact members of both lines and the said corresponding network ladder contact terminals to successive contact members spaced away from the said common terminals along the corresponding network ladders.

3,144,626

TUNING MECHANISM

Otto H. Schwartz, Elmwood Park, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware

Filed Feb. 15, 1961, Ser. No. 89,570
10 Claims. (Cl. 334—51)



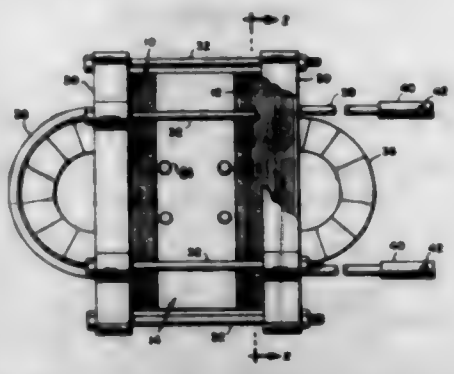
1. A tuner for controlling the tuning of a wave signal receiver, comprising: a frequency selector including a displaceable tuning element having a driven portion to be engaged by a driving member to effect displacement of said tuning element and tuning of said selector; a movable station selector having a plurality of operating positions in one of which said frequency selector is operationally included in the circuitry of said receiver to control the tuning thereof to a preselected station frequency; a tuning shaft having a driving member and normally retained in a rest position with said driving member out of the path of relative movement between said driving member and said driven portion but displaceable to an operative position in which said driving member mechanically engages said driven portion of sad tuning element during intervals in which said frequency selector is operationally included in the circuitry of said receiver; and an actuating mechanism comprising a rotatable control shaft coupled to said tuning shaft and means responsive solely to rotation of said control shaft for displacing said driving member to its operative position and actuating said driving member to drive said driven portion of said tuning element.

3,144,627

WELDING TRANSFORMER WITH COOLED CORE

Donald F. Dunnabeck, 871 Wood Lane, Bloomfield Hills, Mich., and Arthur W. Bull, Windsor, Ontario, Canada; said Bull assignor to Weldex Division of Metal Craft Co., Detroit, Mich., a corporation of Michigan

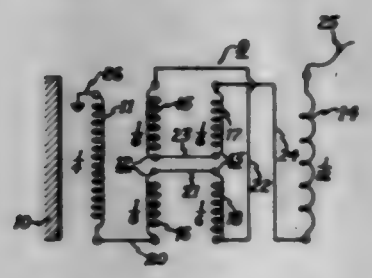
Filed July 5, 1960, Ser. No. 40,635
2 Claims. (Cl. 336—55)



1. A core for a welding stepdown transformer adapted to receive non-sinusoidal power pulses in its primary, comprising: a pair of identical stacks of thin magnetic laminations enclosing two space areas so as to form two separate magnetic paths having a single common leg and

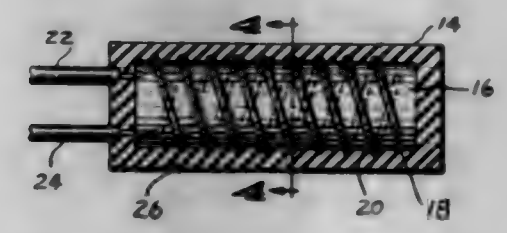
two non-common legs; a solid core part formed of two identical pieces of non-magnetic material shaped similarly to said lamination stacks but differing therefrom in having an air gap in each of said non-common legs and an insulating partition in said common leg; cooling passages in each of said solid core part halves connecting at said partition in said common leg; and fastener means for disposing said lamination stacks on the opposite sides of said solid core part and in an abutting relationship thereto.

3,144,628
TRANSFORMER WITH WINDING SECTIONS CONNECTED IN SERIES OR PARALLEL
Leonard Rabins, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 10, 1961, Ser. No. 102,035
4 Claims. (Cl. 336—182)



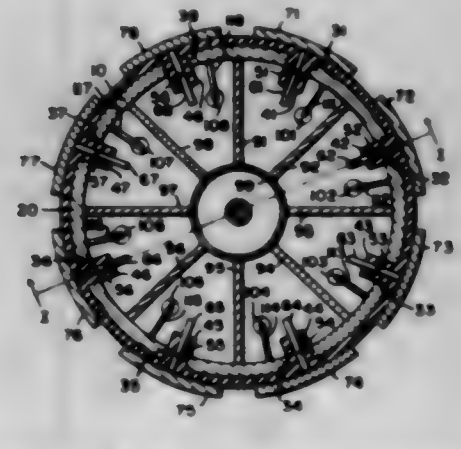
1. In a transformer, a unitary winding subdivided into four radially-concentric, axially-extending layers of turns comprising, a radially innermost layer having approximately one-fourth of the turns in said winding, a radially outermost layer having approximately one-twelfth of the turns, a first split central layer having upper and lower sections each of which has approximately one-sixth of the turns, and a second split central layer having upper and lower sections each of which has approximately one-sixth of the turns, the upper sections of said first and second central layers being substantially axially coextensive and connected in series, and the lower sections of said first and second central layers being substantially axially coextensive and connected in series, said winding having a dual voltage rating of three to one ratio while equally using all of its turns, the higher voltage corresponding to a series connection of the radially innermost and outermost layers with the serially connected upper sections and the serially connected lower sections of the two central layers, the lower voltage corresponding to a three branch parallel connection in which one branch is the radially innermost and outermost layers connected in series, and the other two branches are the serially connected upper sections and the serially connected lower sections respectively of the two central layers, said three branch parallel connection being characterized by equal currents in each of its three branches.

3,144,629
TRANSDUCER TEMPERATURE-SENSING UNIT
William A. Curby, 1663 Commonwealth Ave., Newton, Mass.
Filed June 5, 1961, Ser. No. 114,861
9 Claims. (Cl. 338—28)



1. A transducer temperature-sensing unit comprising, in combination, a semi-conductor body comprising a solid, base material of the group consisting of a cellulosic material and polyvinyl chloride, said base material containing a predetermined quantity of an ionizable, vaporizable compound selected from the group consisting of water, hydrogen chloride, ammonium hydroxide, and ammoniacal water, a pair of electrodes spaced apart laterally and in electrical contact with said semi-conductor body, and a capsular coating enclosing said semi-conductor body and electrodes and constituting an electric and hermetic seal.

3,144,630
SONOBUOY APPARATUS
Trevor Clark, Annapolis, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 19, 1961, Ser. No. 111,312
4 Claims. (Cl. 340—2)

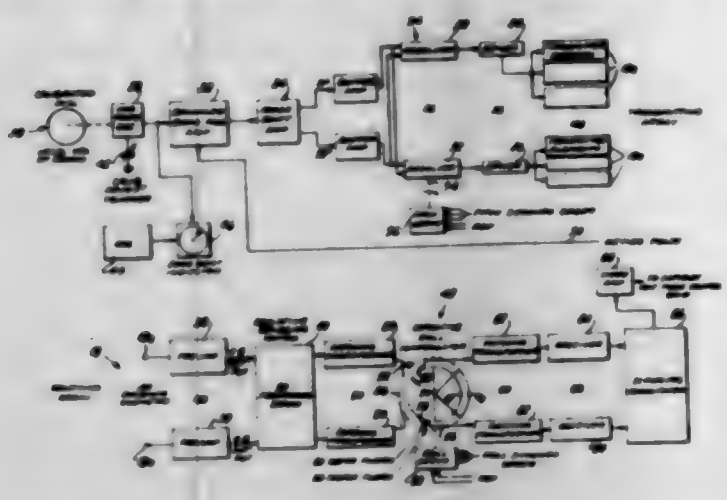


4. A sonobuoy comprising, means forming a resonant cavity, said cavity forming means including a flexible diaphragm and a cavity wall portion normally spaced from the diaphragm a predetermined distance, the center resonant frequency of said cavity varying with variations in the distance between said diaphragm and said wall portion, a plurality of radio frequency oscillators, means for energizing said plurality of oscillators, a plurality of coupling means coupling said plurality of oscillators to said resonant cavity, each of said oscillators having a low "Q" and said resonant cavity having a high "Q" whereby the frequency of said oscillators are held in synchronism by the center resonant frequency of said cavity, and means connected to the cavity for conducting radio frequency energy therefrom, the distance between said diaphragm and said wall portion varying with variations in pressure against the diaphragm in accordance with the depth of the sonobuoy and determining the center resonant frequency of said cavity, which frequency of said cavity constitutes an indication of the depth of the sonobuoy, said diaphragm being responsive to sonic waves striking the diaphragm for frequency modulating the center resonant cavity frequency.

3,144,631
RADIATION MAPPING SYSTEM
Howard E. Lustig, Flushing, and Arthur L. Roscoff, Huntington Station, N.Y., and Paul D. Frelich, Wellesley, and Harold K. Farr, Westwood, Mass., assignors to General Instrument Corporation, Newark, N.J., a corporation of New Jersey
Filed Jan. 9, 1962, Ser. No. 165,173
22 Claims. (Cl. 340—3)

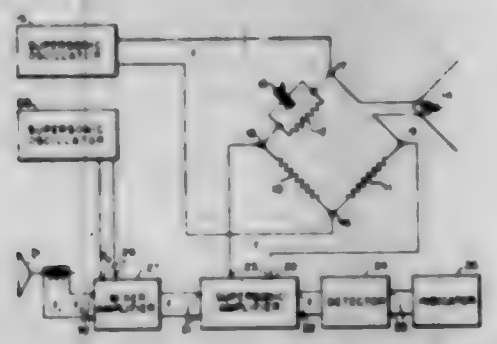
1. A system for mapping an area from a mapping station moving over said area which comprises means for transmitting a beam of energy from said station, said beam being wide in a first direction and narrow in a second direction at right angles to said first direction, means for receiving transmitted radiation reflected from said area in a plurality of adjacent individual receiving beams, said receiving beams being wide in said second

direction, narrow in said first direction and arranged relative to one another in said second direction, and means for recording signals received in each receiving beam, said receiving means comprising an array of a



plurality of individual transducing elements of greater number than the number of said beams, more than one of said elements being operatively associated with one another to produce reception in a given beam.

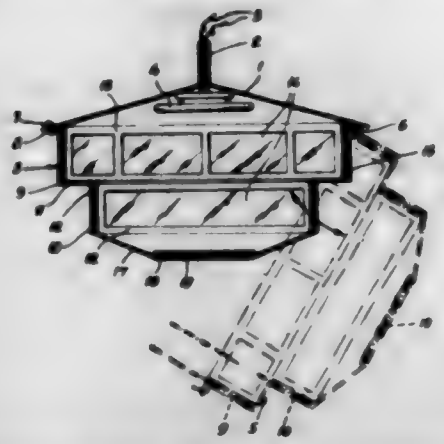
3,144,632
SONAR WAKE DETECTOR
Raymond L. Steinberger, Alexandria, Va., and Charles L. Derner, Orlando, Fla.
Filed Dec. 17, 1948, Ser. No. 65,956
1 Claim. (Cl. 340—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



Apparatus for detecting and recording the characteristics of a wake in a body of water comprising an electrosonic transducer immersed in the body of water, a Wien bridge having a pair of input terminals and a pair of output terminals, said transducer being connected in one arm of the bridge, a network in the adjacent arm of the bridge consisting of a resistance shunted by a variable condenser, said network balancing the electrical characteristics of the transducer to produce a null at the output terminals of the bridge, a source of alternating current connected to the input terminals of the bridge, an electrical indicating means, an electrical recording means, and an alternating current amplifier connecting the output terminals of the bridge to said indicating and recording means, whereby the indicating means will operate to give immediate indication of the presence of a wake while a record will be made depicting the nature of the wake.

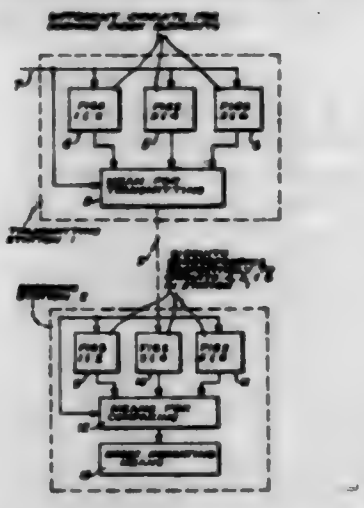
3,144,633
COMBINED ILLUMINATED STREET NAME AND TRAFFIC SIGNAL
Roger Germain, 5257 Baldwin St., Montreal, Quebec, Canada
Filed Aug. 17, 1962, Ser. No. 217,731
3 Claims. (Cl. 340—42)

1. A traffic signaling unit comprising a box shaped member adapted to be suspended at the center of a street intersection comprising a cap having a perimetral edge of substantially square shape, a box-shaped frame of square plan section hinged to said cap and positioned underneath and recessed inwardly relative to the same, means for retaining said frame in closed position with respect to said cap, lighting means underneath said cap and within said frame, said frame comprising an upper part and a lower part superposed one over the other, said lower part having smaller dimensions in plan section than said upper part whereby the sides of said lower part are



recessed inwardly with respect to the corresponding sides of the upper part, the sides of the lower part having a height substantially equal to the height of the sides of the upper part, said sides of said parts having window openings, translucent panes removably closing said openings, the panes of one of said parts carrying indications of manoeuvres to be accomplished by motor vehicle drivers and the panes of the other of said parts indications of street names.

3,144,634
TELEGRAPH SYSTEMS
Esmond Philip Goodwin Wright, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 20, 1961, Ser. No. 153,479
Claims priority, application Great Britain Dec. 15, 1960
2 Claims. (Cl. 340—146.1)



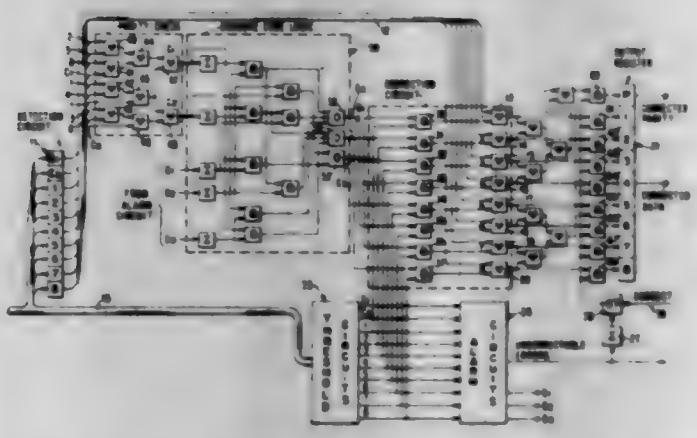
1. A telegraph signal transmission system using only two signalling conditions, mark and space, comprising: a transmitting station; a receiving station; means at the transmitting station for deriving from a block of signal elements a plurality of groups of check elements, each of which groups is indicative of a different particular relation between all of the marks and spaces contained in the said block of signal elements, the check elements within each group being derived individually from selected different groups of the signal elements in said block; means at said transmitting station for transmitting the said block of signal elements together with the said plurality of groups of check elements; means at the receiving station for deriving from the said transmitted block of signal

elements a second plurality of groups of check elements corresponding to the groups of transmitted check elements according to the same parity and selective grouping rules as used at the transmitting station; means at the receiving station for automatically comparing the said second check elements with the corresponding transmitted check elements; and means coupled to said comparing means at said receiving station for indicating an error in the transmitted signal elements, upon detection of a discrepancy between the said transmitted and second check elements.

3,144,635
ERROR CORRECTING SYSTEM FOR BINARY ERASURE CHANNEL TRANSMISSION

David T. Brown, Wappingers Falls, and Paul W. Woo, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 14, 1961, Ser. No. 159,282
5 Claims. (Cl. 340—146.1)



1. In a binary erasure transmission channel for transmitting characters of n binary data bits including k binary check bits where 2^k permutations of check bits are produced as a result of defining each of the k check bits as the parity of a unique combination of data bits wherein $n \geqslant 2^k$, such that at least one of 2^k-1 possible groups of related bits is produced so that an error in any one of two or more bits of a related group will produce the same permutation of check bits, the combination comprising:

means responsive to the presence of complementary electrical signals representing said binary data and check bits for receiving each character transmitted;

means operative to indicate an erasure of the complementary electrical signals representing a particular data or check bit;

means responsive to said bit erasure indicating means for indicating the related bit group to which the erased bit belongs;

parity checking means responsive to each unique combination of data bits in said receiving means;

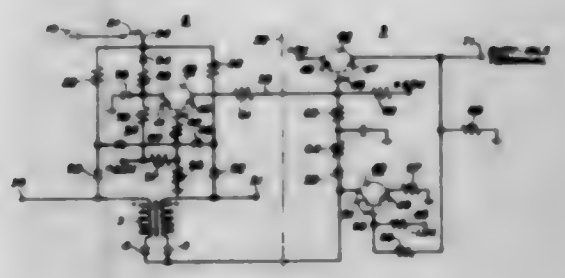
and logic means connected to said parity checking means, to said related group indicating means, and said bit erasure indicating means, operative in response to a parity error to correct the bit which was erased.

3,144,636
ELECTRICAL CIRCUITS FOR COMMUNICATION NETWORKS

Raymond E. Lenney, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application July 24, 1957, Ser. No. 673,861, now Patent No. 2,972,683, dated Feb. 21, 1961. Divided and this application Nov. 30, 1960, Ser. No. 72,604
10 Claims. (Cl. 340—147)

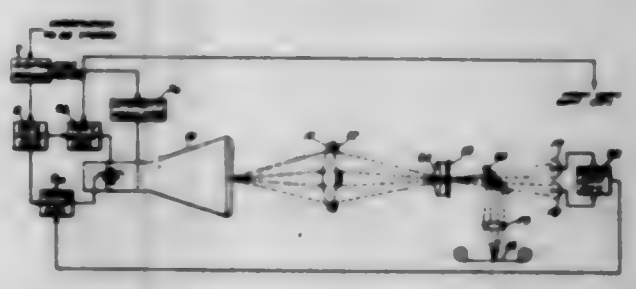
1. In a communication switching network, a pair of terminals connected in a path to be established through the network, a transformer having a primary winding and a secondary winding each having one terminal connected to a different one of the terminals of said pair of terminals, a first amplifying device, an impedance, means connecting said first device and said impedance in series between ground and the other terminals of both of said windings, a second amplifying device, a coincidence circuit applying signals to bias said second amplifying device into conduction in response to the simultaneous occurrence of marking signals at said path terminals, means connecting an output of said second amplifying device to control the conduction condition of said first amplifying device to be conducting or nonconducting in response to similar conditions in said second device, and means including said impedance turning off said second amplifying device in response to the occurrence of only a single marking signal at either of said path terminals when said first amplifying device is conducting.



3,144,637
RECORDING SYSTEM

Paul R. Adams, Mountain Lakes, and Mortimer Rogoff, Nutley, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Nov. 10, 1955, Ser. No. 546,213
7 Claims. (Cl. 340—172.5)



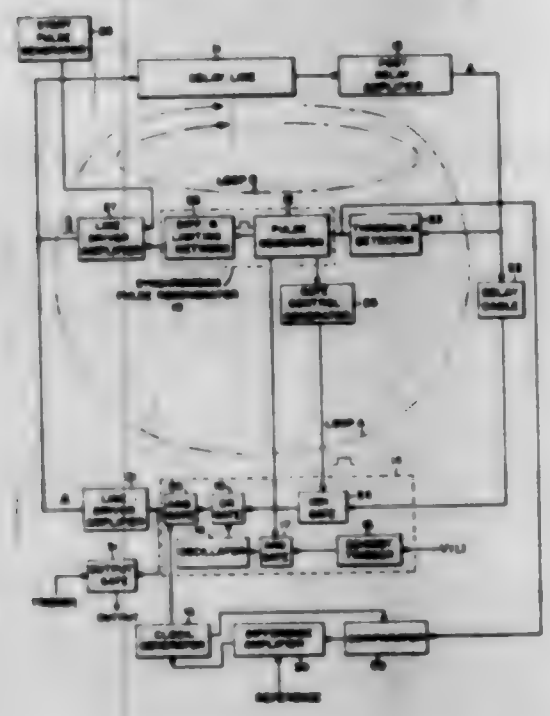
1. An information storage system comprising a cathode-ray tube including means for generating an electron beam and target means to luminesce when said electron beam impinges thereon, optical means defining a path for the light output of said cathode-ray tube, deflection means for said electron beam for varying the position of said beam responsive to each unit of information to be stored, means including a common lens and a graticule for predetermining a plurality of storage positions for said light energy passing thereto, pairs of mutually perpendicular light responsive means disposed in a common transverse plane relative to said light path for generating a difference signal between the members of each pair in accordance with the relative position of said light path with respect to said pairs and distribution of light from any one of said storage positions, and means for coupling said generated signal to said deflection means to adjust the position of said path of energy relative to said storage position predetermining means for equal illumination of each member of said pairs.

3,144,638

TIME COMPRESSION STORAGE CIRCUIT

Joseph P. Hesler, Liverpool, and William Pell, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Dec. 29, 1960, Ser. No. 79,424
6 Claims. (Cl. 340—173)



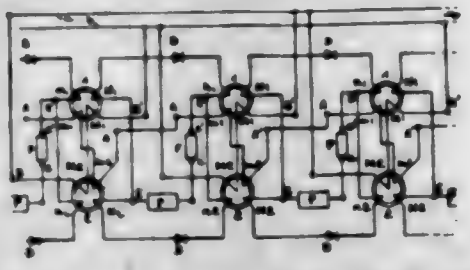
6. A time compression storage circuit to which is applied an electrical signal to be stored, comprising gating means for sampling said signal at a fixed time interval to obtain sampled information in the form of information bits, a first path closed through a series connection of a silica delay line and a post delay amplifier, said path including a delay cable, an inhibit circuit and a first line driver amplifier coupled together in the order recited, the input to said delay cable being coupled to the ouput of said post delay amplifier and the output of said first line driver amplifier being connected to the input of said delay line, means for introducing said information bits into said first path, a second path also closed through said silica delay line and said post delay amplifier to which is introduced a synchronizing pulse for actuating said gating means, the amplitude of said synchronizing pulse being several magnitudes greater than the amplitude of said information bits, said second path including a threshold detector, a synchronizing pulse regenerator and a second line driver amplifier coupled together in the order recited, the input to said threshold detector being connected in common with the input of said delay cable to the output of said post delay amplifier and the output of said second line driver amplifier being connected in common with the output of said first line driver amplifier to the input of said delay line, said inhibit circuit acting to pass said information bits into said first path and to block said synchronizing pulse, and said threshold detector acting to pass said synchronizing pulse into said second path while rejecting said information bits, said delay cable having a delay of two bit time intervals and said synchronizing pulse regenerator providing a delay of three bit time intervals, whereby said information bits are recirculated through said first closed path once per fixed time interval and are stored in said delay line in adjacent bit time intervals with the synchronizing pulse following said information bits and separated by one blank interval from the most recent information bit, said information bits forming a time compressed signal corresponding to the applied signal which is compressed in time by an amount equal to the ratio of said fixed time interval to said bit time interval.

3,144,639

SATURABLE MAGNETIC CORE CIRCUITS

André Michel Richard, Paris, and Jean Brodin, Bourg-la-Reine, France, assignors to Societe d'Electronique et d'Automatisme, Courbevole, France

Filed Sept. 12, 1958, Ser. No. 760,716
Claims priority, application France Oct. 12, 1957
41 Claims. (Cl. 340—174)



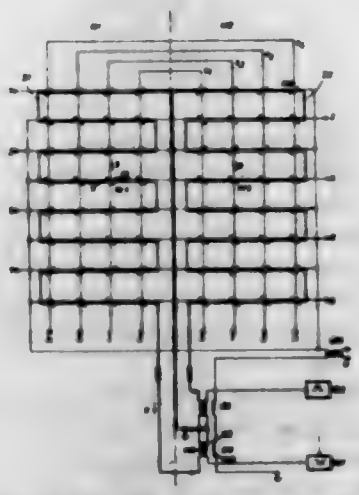
1. Saturable magnetic core circuits for handling binary data or informations, of the kind wherein a number of magnetic core stages are connected in at least one shift register arrangement by means of interconnecting transfer circuits, wherein each one of the said magnetic core stages comprises at least two magnetic flux circuits of a material having a substantially rectangular hysteresis loop, a winding fed by a supply of alternating current coupled with each of said magnetic flux circuits for driving them into an identical variation of magnetic flux from a predetermined saturated condition to a non-saturated condition and back to the said saturated condition, when acting alone in one cycle thereof, at least one read-in winding on each of the said magnetic flux circuits for the reception of a current of information bit which, for a predetermined digital value thereof in one read-in winding maintains its magnetic flux circuit at substantially the said saturated condition, and means coupling the two magnetic flux circuits of each stage to cause interaction between said magnetic circuits such that saturation of one circuit by an information signal causes the alternating current supply to produce in the other magnetic flux circuit a variation of flux of greater and substantially double amplitude, and at least one read-out winding on one of the said magnetic flux circuits across which appears a voltage which is characteristic of the change of condition of the magnetic flux in the magnetic circuit of the said read-out winding.

3,144,640

FERRITE MATRIX STORAGE

Wilhelm Grooteboer, Duisdorf, Bonn, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 3, 1959, Ser. No. 831,235
Claims priority, application Germany Aug. 7, 1958
1 Claim. (Cl. 340—174)



A ferrite storage matrix of the type using coincident row and column call-up pulses for saturating selected cores comprising: a plurality of cores arranged in rows

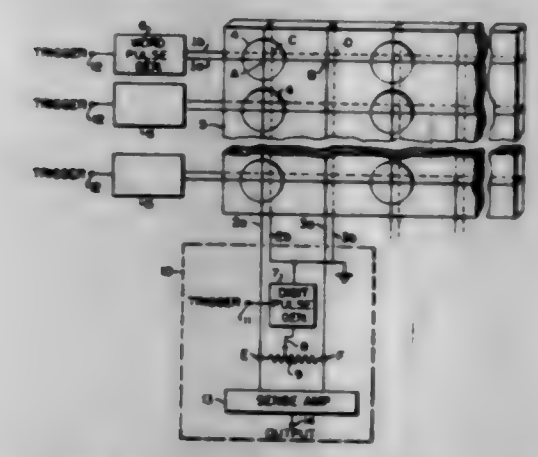
and columns having row wires and column wires; said matrix being subdivided into two semi-planes and said column wires being in pairs with the wires of each pair being corresponding wires in different semi-planes; means for saturating a selected core in said matrix comprising, means for feeding a call-up pulse to the row wire passing through said core in a direction to saturate said core, means for feeding a call-up pulse simultaneously to a selected pair of column wires including the column wire which passes through said selected core, said column call-up pulse passing through said last mentioned column wire in a sense to saturate said selected core and through the other wire of said pair in the other sense; means for inhibiting the effect of said call-up pulses on a selected core comprising, a combined inhibition wire and sensing wire for each semi-plane forming a partial loop extending through all the cores of its associated semi-plane, means for feeding an inhibition pulse to the inhibition and sensing wire of the semi-plane containing the selected core in a sense to counteract the call-up pulse on the row wire passing through said core; said means comprising a transformer for each semi-plane capable of transmitting inhibition pulses and receiving sensed pulses, said transformer having three windings, the first winding being the primary winding for inhibition pulses, the second winding being the secondary winding for inhibition pulses and also the primary winding for sensing reading pulses, and the third winding being an output winding for reading pulses; an inhibition pulse generator for each semi-plane, means for connecting the first winding of each transformer to the associated inhibition pulse generator, means for connecting the second winding of each transformer to the associated partial loop, an output circuit, and means for connecting the third winding in series with said output circuit.

3,144,641

BALANCED SENSE LINE MEMORY

Jack I. Raffel, Groton, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 30, 1961, Ser. No. 156,008
12 Claims. (Cl. 340—174)



1. In a thin film magnetic memory array of the type having rows and columns of discrete spots of magnetic material possessing an easy axis of magnetization in the direction of said rows and in which binary information is stored as the direction of remanent flux along the easy axis of a spot, information sensing apparatus comprising,

selection means for rotating the remanent flux of a spot in a given row,

sensing means coupled to said magnetic spot in a given column and responsive to flux rotation to produce an output signal related to the state of remanent flux in the spot selected by said selection means, said sensing means being coupled to said selection means to produce a first noise signal independent of the state of remanent flux of said selected spot,

balancing means coupled to said selection means to produce a second noise signal substantially identical to said first noise signal,

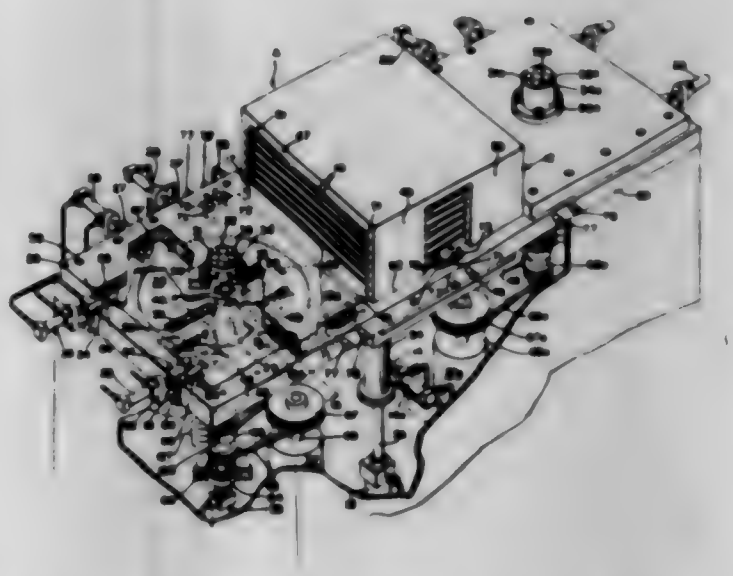
and a network to combine the signals of said sensing means and said balancing means to cause said second noise signal to cancel said first noise signal producing an output substantially equal to said output signal whereby said output corresponds to the information stored in said selected spot.

3,144,642

RANDOM ACCESS FILE WITH STATIONARY RECORDS

Robert C. Treseder, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,626
9 Claims. (Cl. 340—174.1)



1. A random access file comprising a record magazine, a plurality of flat, magnetic coated records stored therein, a constantly rotating rotor laterally beyond said magazine, a transducer mounted on said rotor for orbiting in a plane about the axis of rotor rotation and co-axial therewith, means for transferring a selected one of said records from said magazine into a position parallel to the plane of transducer orbit with a magnetic coated side of such selected record facing said transducer, means for relatively moving such record and transducer to bring such magnetic coated side of such record into operative relation with said transducer, and means for moving the orbiting transducer to a selected radial distance from the axis of rotor rotation.

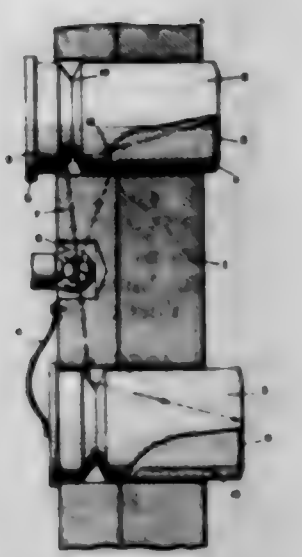
3,144,643

PUSH-BUTTON ILLUMINATING DEVICE

Percy Hugo Anders Andersson, Enebyberg, Sweden, assignor to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden

Filed Nov. 9, 1961, Ser. No. 151,220
Claims priority, application Sweden Dec. 10, 1960
4 Claims. (Cl. 340—380)

1. Push-button assembly including a push-button of light transmitting material having a visible end and being axially displaceable in a housing comprising a screening member surrounding a part of the push-button, a lamp disposed laterally of the push-button, said push-button having light reflecting surfaces located at at least two axially displaced positions of the push-button for reflecting light from the lamp to mutually different parts of the visible end of the push-button, a first one of said reflecting surfaces being illuminated by the lamp in a first position of the push-button and being shielded from the lamp by the screening member in a second position



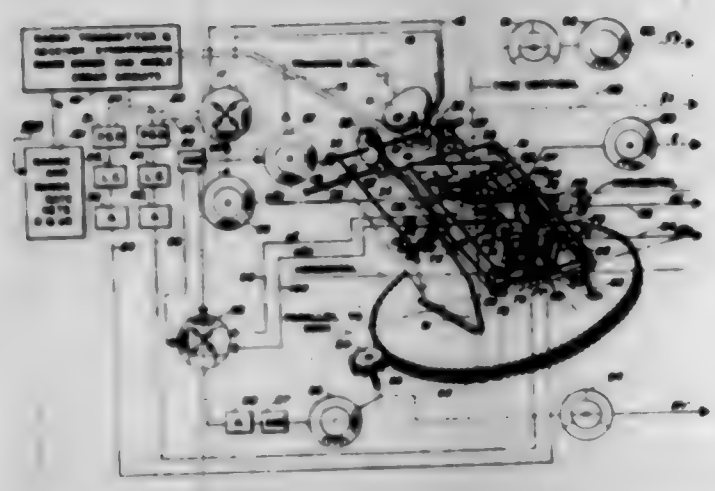
of the push-button, the second reflecting surface being constantly illuminated in both positions of the push-button.

3,144,644

GUN FIRE CONTROL METHOD AND SYSTEM

Ivan A. Getting, Belmont, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 23, 1948, Ser. No. 61,558
19 Claims. (Cl. 343—7)



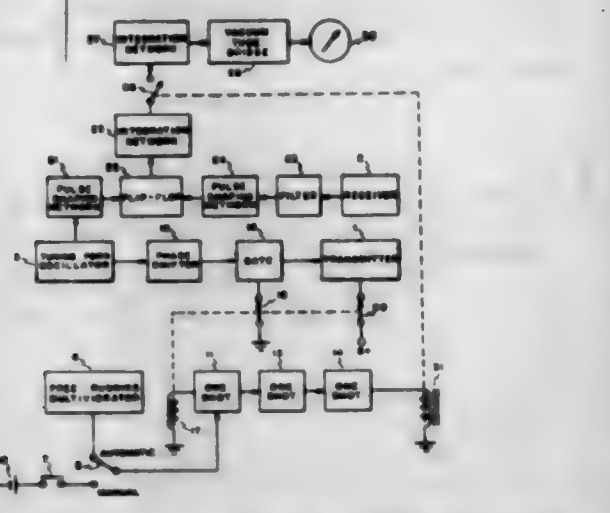
10. In fire control apparatus of the character disclosed for use aboard a vessel, in combination, movable director means adapted to be positioned in train and having thereon movable antenna means adapted to defining a line-of-sight and to be positioned in elevation, radar means operatively connected to said antenna means, said radar means being adapted to generate a target angle error signal, means for utilizing said angle error signal to position said director in train and said antenna means in elevation, said means for utilizing including gyroscopic means movably mounted in predetermined position in said director means and means responsive to the said gyroscope means to provide voltages corresponding to incremental deviations of rotation eZs of said director about said line-of-sight, and incremental deviations in elevation eE, and in traverse eBs of said director and means including servo systems responsive to said last named voltages operatively connected to said director means and said antenna means to maintain the said director and the said antenna means oriented continuously in a direction which minimizes the aforesaid target angle error signal.

3,144,645

DISTANCE MEASURING SYSTEM

Norman E. McIver, Baltimore County, Gordon A. Leap, Baltimore, and Robert W. Cope, Baltimore County, Md., assignors to The Bendix Corporation, a corporation of Delaware

Continuation of abandoned application Ser. No. 734,566, May 12, 1958. This application Apr. 21, 1960, Ser. No. 23,810
20 Claims. (Cl. 343—12)



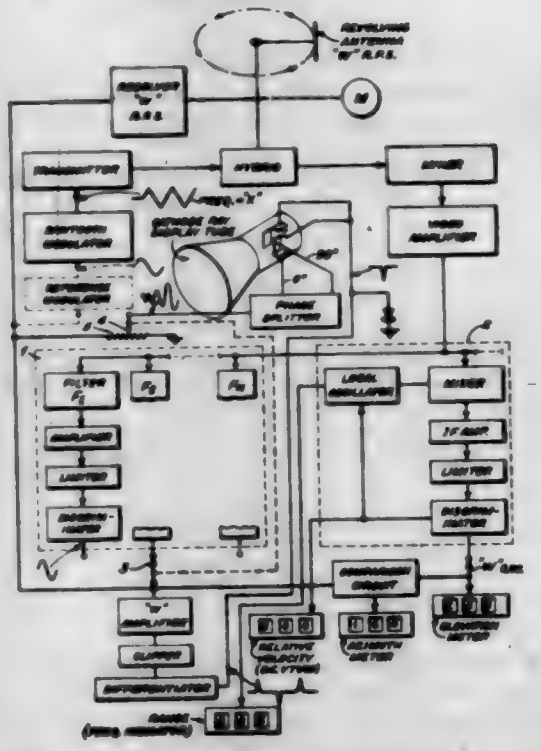
13. An interrogator for a distance measuring system comprising an audio modulation tone oscillator, a high-Q electromechanical resonator for stabilizing said tone oscillator, a transmitter modulated by said tone, a receiver, a phase comparator, means for applying to said phase comparator said tone and the modulation recovered by said receiver, means for indicating distance in response to the phase difference determined by said phase comparator and means for selectively operating said transmitter and receiver upon the same carrier frequency for interrogating and obtaining a response from a remote responder station.

3,144,646

DOPPLER SYSTEM

Joe J. Breithaupt, Irving, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 8, 1959, Ser. No. 825,695
17 Claims. (Cl. 343—16)



1. A direction finding system comprising an antenna for radiating signals into space and for receiving some of

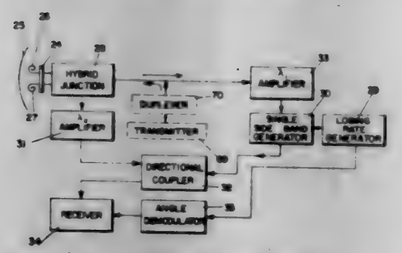
the radiated signals which have been reflected by an object in space, means for revolving said antenna in a plane at such constant angular velocity that the radiated signal undergoes significant frequency modulation due to the doppler effect between the moving antenna and the object in space, means for impressing an outgoing signal on said antenna, and means for demodulating the doppler-produced frequency modulated signal received by said antenna from said object in space, means for detecting the amplitude of the demodulated signal to find the elevational angle of said object in space and the phase of said demodulated signal to find the azimuthal angle of said object in space.

3,144,647
DIVERSITY SYSTEM
William Sichak, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 1, 1959, Ser. No. 856,476
13 Claims. (Cl. 343—100)



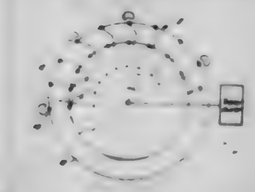
1. A diversity communication system comprising a transmitter, an antenna including a parabolic reflector and a plurality of horns even in number, said horns being disposed in a symmetrical relation to the axis of revolution of said reflector and adjacent the focus thereof, means coupling the signal of said transmitter to each of said horns including means to excite one half of said horns 180 degrees out of phase with respect to the other half of said horns for radiation of the signal of said transmitter according to a given polarization in the form of a plurality of beams disposed at an angle with respect to each other and said axis of revolution, a plurality of means responsive to said plurality of beams, each of said responsive means being coupled to one of said beams to recover the signal carried thereby, and means to combine the resultant output signal of each of said plurality of responsive means to provide a single output signal.

3,144,648
DUAL MODE SPIRAL ANTENNA
Kenneth Dollinger, Nashua, N.H., assignor to Advanced Development Laboratories, Inc., Nashua, N.H., a corporation of Delaware
Filed Sept. 28, 1962, Ser. No. 226,915
17 Claims. (Cl. 343—100)



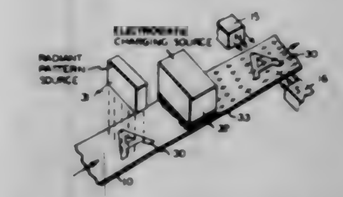
1. A wave translation device, comprising:
a pair of involute circular, wave translation elements;
synchronous means coupled to said elements for coupling said elements and a pair of signals in synchronous phase relation;
anti-synchronous means coupled to said elements for coupling said elements and a pair of signals in 180° phase relation; and
variable means coupled to said elements for varying a selected characteristic of one said pair of signals relative to the other said pair of signals.

3,144,649
DIRECTION FINDER OR OMNIRANGE BEACON WITH WIDE-APERTURE ANTENNA SYSTEM
Fritz Steiner, also known as Friedrich Steiner, Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 26, 1959, Ser. No. 823,196
Claims priority, application Germany July 16, 1958
6 Claims. (Cl. 343—106)



4. A directional radiant acting circuit in a form of a circular array of antenna means, comprising a transducer, and means for cyclically coupling adjacent antenna means of said array to said transducer to provide an effective rotation in which said antenna means comprise directive antenna units each having a directive radiation pattern and means connected to said coupling means for sequentially controlling the radiation of said antenna unit so that the radiation pattern of each unit moving along the circumference of a circle and the center of said circle coincide with the center of said circular array, said antenna means comprising an inner and outer circular array of antennas, the number of said antennas of said outer array being equal to the number of antennas in said inner array, and said inner array of antennas being positioned to act as a reflector to the nearest antennas of said outer array to produce a directional radiation pattern.

3,144,650
ELECTRICAL PROCESS
Alfred B. Levine, 2924 Terrace Drive, Chevy Chase, Md., assignor of one-half to Boris Haskell, Chevy Chase, Md.
Filed June 28, 1962, Ser. No. 205,958
17 Claims. (Cl. 346—74)



6. In a process for embossing a thermoplastic material in a predetermined pattern, the combined steps of applying an electrostatic charge and applying actinic radiation to the thermoplastic, with one of the charge or radiation being in a latent pattern of the embossing desired, and developing the latent pattern by applying to the thermoplastic a substantially unidirectionally changing magnetic field.

3,144,651
TIME-SCALE RECORDING APPARATUS
Carl H. Savit, Van Nuys, and Melvin J. Wells, Torrance, Calif., assignors to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 31, 1962, Ser. No. 220,720
16 Claims. (Cl. 346—74)



2. A time-scale recording apparatus comprising:
(*a*) a rotatable drum having a recording surface thereon;
(*b*) a reproducing element of the type by means of which recordation of a signal is obtained upon relative movement of the drum surface and reproducing element;
(*c*) means for mounting said reproducing element adjacent said drum surface;
(*d*) means for connecting said mounting means to said drum for rotation therewith;
(*e*) means for transmitting a reference time signal to said apparatus;
(*f*) means for disconnecting said mounting means from said drum upon receipt of said reference signal whereby said drum rotates relative to said reproducing element.

3,144,652
MANUFACTURE OF SULFENAMIDES FROM MORPHOLINES
John J. D'Amico, Charleston, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 17, 1961, Ser. No. 153,239
6 Claims. (Cl. 260—247.1)

1. A process of making sulfenamides which consists essentially in oxidizing a mixture of substantially one molecular proportion of a member of the group consisting of 2-mercaptobenzothiazole and 2,2'-dithiobis(benzothiazole) and substantially one equivalent proportion of a member of the group consisting of morpholine and dimethylmorpholine with an inorganic oxidizing agent selected from the class consisting of alkali metal hypohalite, hydrogen peroxide, potassium persulphate, potassium ferricyanide, chlorine and bromine in water miscible monohydric alcohol and recovering 2-benzothiazole sulfenamide corresponding to the amine reactant.

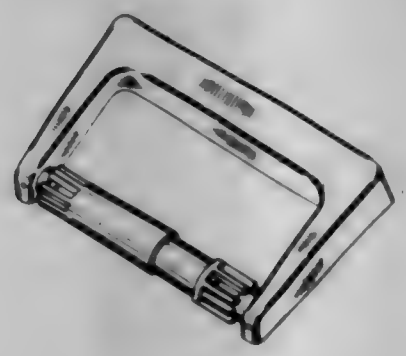
DESIGNS

AUGUST 11, 1964

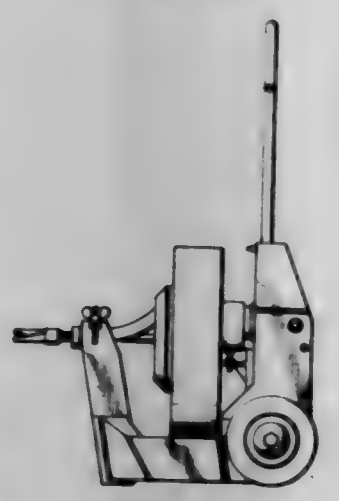
198,831
COMBINED COMB, TOOTHBRUSH, AND TOOTHPASTE RACK
Joe A. Di Tirro, Cleveland, Ohio, assignor to Marianna Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 23, 1963, Ser. No. 76,346
Term of patent 14 years
(Cl. D4—3)



198,832
PAPER ROLL HOLDER
George Moy, Warren, Mich., assignor to Handy Things Manufacturing Company, Ludington, Mich.
Filed Sept. 9, 1963, Ser. No. 76,516
Term of patent 14 years
(Cl. D4—3)



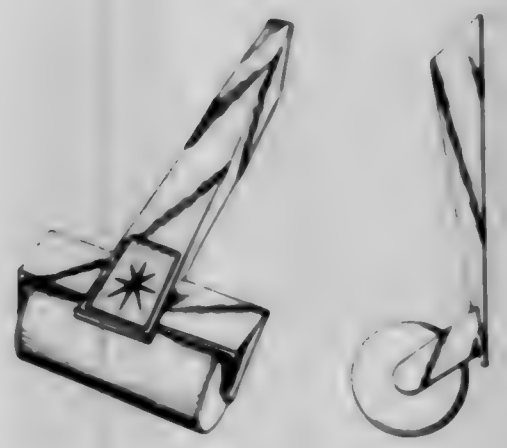
198,833
SEWER CLEANER
Charles J. O'Neill, Mendota, Ill., assignor to Conco Engineering Works, Inc., Mendota, Ill., a corporation of Illinois
Filed Apr. 1, 1963, Ser. No. 74,287
Term of patent 14 years
(Cl. D9—2)



198,834
TOOTHBRUSH OR SIMILAR ARTICLE
Richard M. Hyman, Iowa City, Iowa, assignor to Chemway Corporation, Wayne, N.J., a corporation of Delaware
Filed Sept. 10, 1963, Ser. No. 76,544
Term of patent 14 years
(Cl. D9—2)



198,835
LINT REMOVER
David A. Martin, 2375 Colgate Drive, Costa Mesa, Calif.
Filed Nov. 14, 1963, Ser. No. 77,426
Term of patent 14 years
(Cl. D9—2)



198,836
FURNITURE PULL
Melboure F. Smith, Jr., Lenoir, N.C., assignor to Broyhill Furniture Factories, Lenoir, N.C., a partnership
Filed Jan. 15, 1964, Ser. No. 78,212
Term of patent 14 years
(Cl. D10—8)



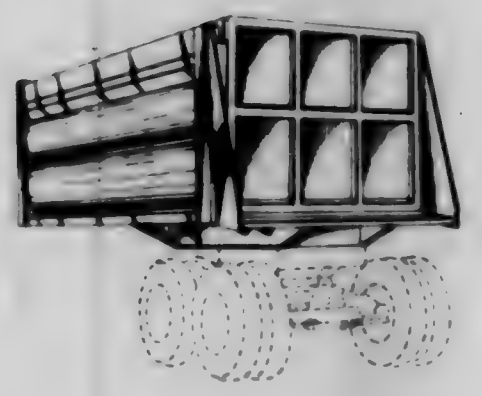
198,837
SERVICE STATION
Donald A. Wexler, Palm Springs, Bernard Perlin, Los Angeles, George E. Boggio, La Habra, and Ernest E. Molina, Monterey Park, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Jan. 6, 1964, Ser. No. 78,089
Term of patent 14 years
(Cl. D13—1)



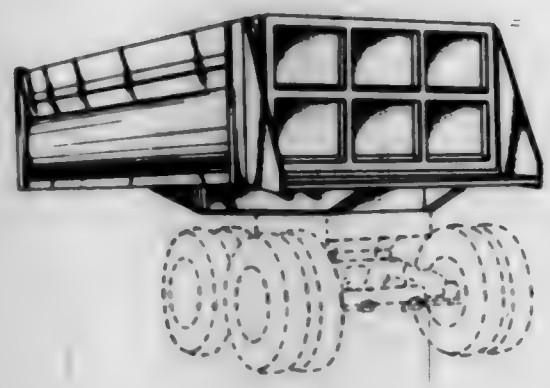
198,838
RAILING UNIT
Wenzel W. Thom, 524 N. Fountain, Wichita, Kans., assignor of one-half to Cecil D. Jones, Wichita, Kans.
Filed May 21, 1962, Ser. No. 70,217
Term of patent 14 years
(Cl. D13—7)



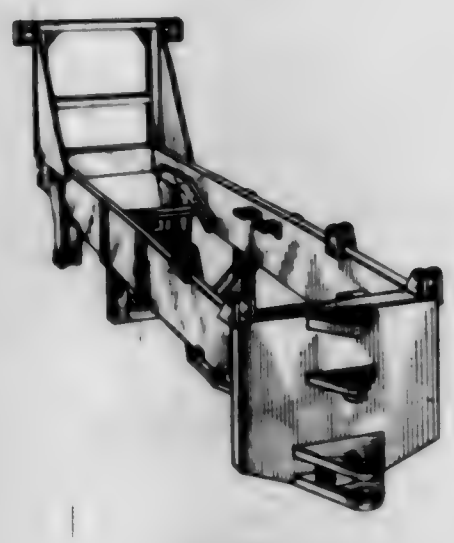
198,839
BULK LOAD BODY FOR A VEHICLE
William A. Herpich and Donal W. Chaney, Galion, Ohio, assignors to Hercules Galion Products, Inc., Galion, Ohio, a corporation of Delaware
Filed Sept. 23, 1963, Ser. No. 76,678
Term of patent 14 years
(Cl. D14—3)



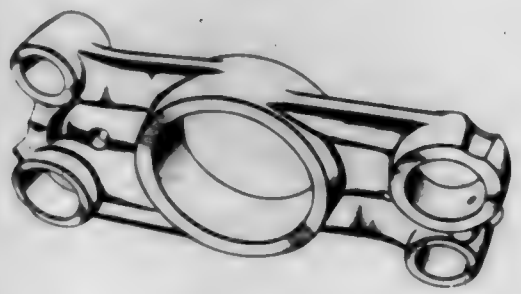
198,840
BULK LOAD BODY FOR A VEHICLE
William A. Herpich and Donal W. Chaney, Galion, Ohio, assignors to Hercules Galion Products, Inc., Galion, Ohio, a corporation of Delaware
Filed Sept. 23, 1963, Ser. No. 76,696
Term of patent 14 years
(Cl. D14—3)



198,841
TRACTOR FRAME
Lovell R. Simmons, Willie O. Ray, and Horace H. Ray, Jackson, Miss., assignors to M-R-S Manufacturing Company, Flora, Miss., a corporation of Delaware
Filed Feb. 5, 1964, Ser. No. 78,526
Term of patent 14 years
(Cl. D14—3)



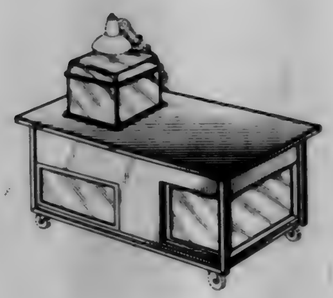
198,842
BRAKE SHOE ANCHOR
Lloyd D. Kay, San Marion, Calif., assignor to Kay-Brunner Steel Products, Inc., Alhambra, Calif., a corporation of Delaware
Filed Feb. 27, 1963, Ser. No. 73,738
Term of patent 14 years
(Cl. D14—30)



198,843
CHAIR
Samuel D. Lockshin, Baker Hill, Mass., assignor to Hampden Specialty Products Corporation, Easthampton, Mass., a corporation
Filed Nov. 2, 1962, Ser. No. 72,357
Term of patent 14 years
(Cl. D15—1)



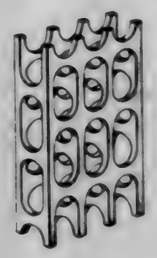
198,844
BIOLOGICAL SCIENCE LABORATORY UNIT FOR CLASSROOMS AND THE LIKE
James D. Graham, Manitowoc, Wis., assignor to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin
Filed Nov. 23, 1962, Ser. No. 72,590
Term of patent 14 years
(Cl. D16—2)



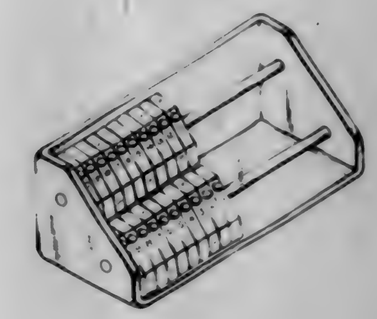
198,845
FACING BRICK
Andrew M. Matyas, 1642 North Road SE., and John A. Matyas, 2655 Brandywine SE., both of Warren, Ohio
Filed Mar. 12, 1963, Ser. No. 73,938
Term of patent 3½ years
(Cl. D18—2)



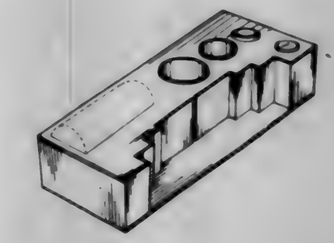
198,846
ARCHITECTURAL SCREEN WALL UNIT
Erwin F. Hauer, Wooding Hill Road, Bethany, Conn.
Filed June 18, 1963, Ser. No. 75,290
Term of patent 14 years
(Cl. D18—2)



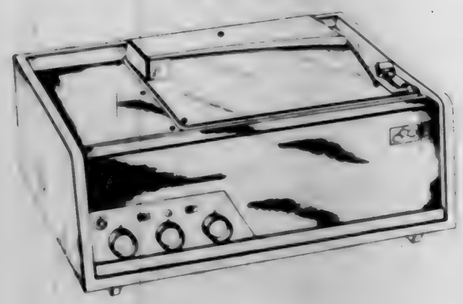
198,847
ABACUS OR THE LIKE
Thomas L. Mathison, 53 Sugar Maple Road, Levittown, N.Y.
Filed Apr. 9, 1964, Ser. No. 79,424
Term of patent 14 years
(Cl. D25—1)



198,848
FUSE TESTER CASING
Joe L. Alexander, Puryear, Tenn., assignor to Guy L. Gray, Paducah, Ky.
Filed July 24, 1961, Ser. No. 66,026
Term of patent 14 years
(Cl. D26—1)



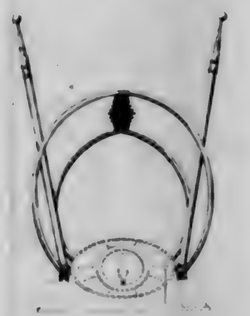
198,849
HOUSING FOR A CARTRIDGE TAPE PLAYER OR SIMILAR ARTICLE
Jack Prygoff, Queens County, N.Y.
(167—05 12th Ave., Whitestone 57, N.Y.)
Filed July 12, 1963, Ser. No. 75,776
Term of patent 3½ years
(Cl. D26—14)



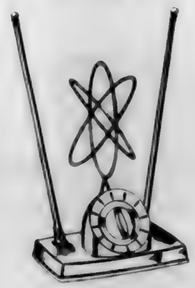
198,850
MICROPHONE
Nicholas S. Kategianis, Chicago, and Courtney A. Leubner, Forest Park, Ill., assignor to Shure Brothers, Incorporated, a corporation of Illinois
Filed July 29, 1963, Ser. No. 76,026
Term of patent 14 years
(Cl. D26—14)



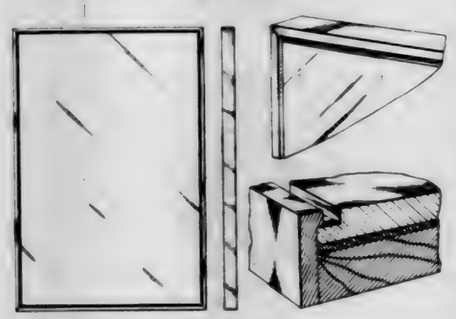
198,851
INDOOR TELEVISION ANTENNA
Marvin P. Middlemark, 99—05 63rd Drive, New York 74, N.Y.
Filed Sept. 12, 1963, Ser. No. 76,564
Term of patent 14 years
(Cl. D26—14)



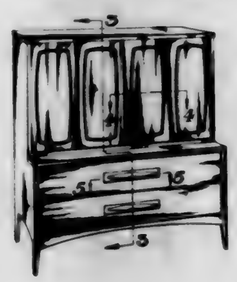
198,852
INDOOR TELEVISION ANTENNA
Marvin P. Middlemark, 99—05 63rd Drive, Rego Park, New York 74, N.Y.
Filed Nov. 8, 1963, Ser. No. 77,337
Term of patent 14 years
(Cl. D26—14)



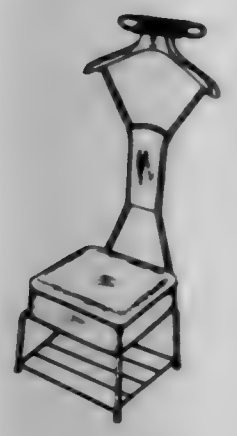
198,853
PICTURE FRAME
Harvey S. Hoshour, 931 Madison Ave., New York 21, N.Y.
Filed Dec. 14, 1961, Ser. No. 67,910
Term of patent 14 years
(Cl. D29—20)



198,854
CHEST
Melbourne F. Smith, Jr., Lenoir, N.C., assignor to Broyhill Furniture Factories, Lenoir, N.C., a partnership
Filed Jan. 15, 1964, Ser. No. 78,211
Term of patent 14 years
(Cl. D33—6)



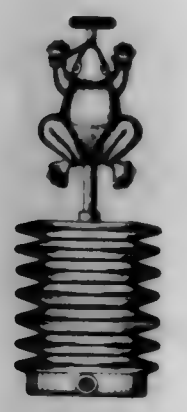
198,855
VALET STAND
Sidney C. Derman, Manhasset, and Harold S. French, Great Neck, N.Y., assignors to Trendsetter Products Corp., Glen Cove, N.Y., a corporation of New York
Filed Jan. 28, 1963, Ser. No. 73,353
Term of patent 3½ years
(Cl. D33—8)



198,856
DOLL OR SIMILAR ARTICLE
Avis R. Rossi, Southboro, Mass., assignor to Constance B. Brewer, Chestnut Hill, Mass.
Filed Apr. 17, 1964, Ser. No. 79,556
Term of patent 14 years
(Cl. D34—2)



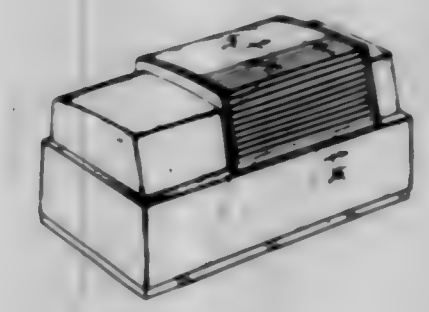
198,857
BUBBLE BLOWING TOY
Howard Rabin, 300 Howard Ave., New Orleans, La.
Filed Mar. 12, 1964, Ser. No. 78,979
Term of patent 14 years
(Cl. D34—15)



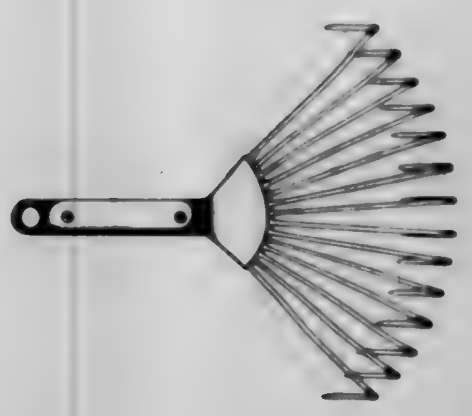
198,858
SLED
Leonard E. Greenberg, West Hartford, Conn., assignor to Coleco Industries, Inc., Hartford, Conn., a corporation of Connecticut
Filed Mar. 18, 1964, Ser. No. 79,058
Term of patent 14 years
(Cl. D34—15)



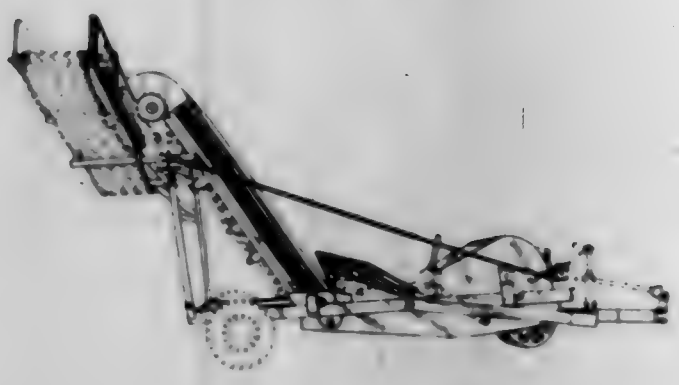
198,859
KNIFE SHARPENER
Alfred W. Madl, Mequon, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 4, 1963, Ser. No. 74,305
Term of patent 14 years
(Cl. D37—1)



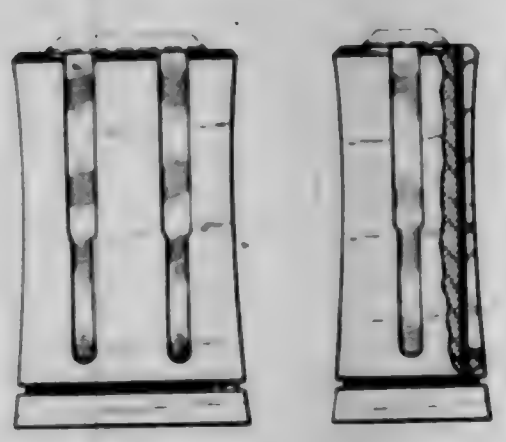
198,860
SKIN DIVER'S HAND RAKE
Joseph Fedorka, Jr., 38 Meadowbrook Drive, Somerville, N.J.
Filed June 26, 1963, Ser. No. 75,535
Term of patent 14 years
(Cl. D39—1)



198,861
BEET HARVESTER OR SIMILAR ARTICLE
Harold E. Erdman, Rte. 1, Crookston, Minn.
Filed Feb. 6, 1962, Ser. No. 68,687
Term of patent 14 years
(Cl. D40—1)



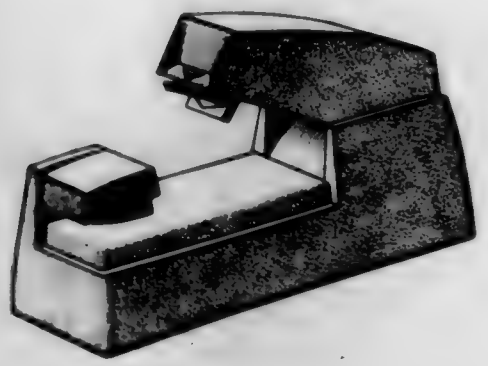
198,862
HOLDER FOR CUTLERY
Austin H. Munson, Arlington Heights, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 78,867
Term of patent 14 years
(Cl. D44—29)



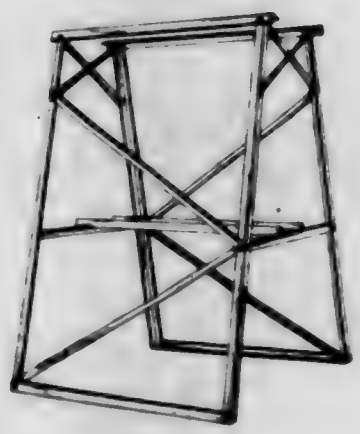
198,863
COMBINED ANCHOR AND BOW LIGHT
Harry Najimian, Jr., Lake Bluff, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 71,740
Term of patent 14 years
(Cl. D48—32)



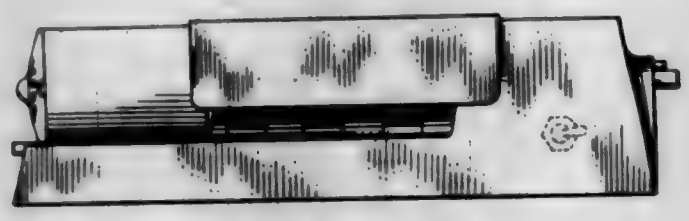
198,864
STAMP-AFFIXING MACHINE
Robert Henry Relly, Cincinnati, Ohio, assignor to Stamp-licator, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed July 25, 1963, Ser. No. 75,965
Term of patent 14 years
(Cl. D52—2)



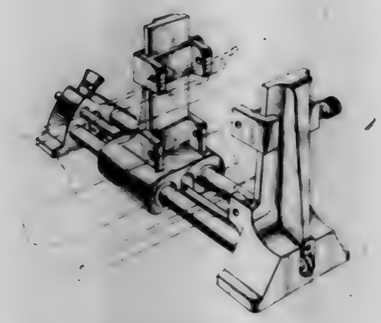
198,865
STAND FOR DRUM TYPE CONTAINERS
Keith B. Borglum, 218 Loma, Waterloo, Iowa
Filed June 18, 1963, Ser. No. 75,410
Term of patent 14 years
(Cl. D54—1)



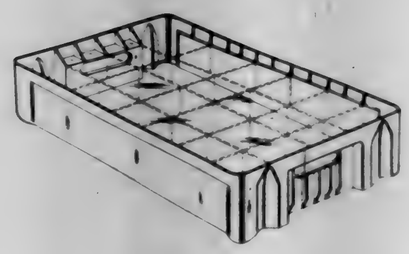
198,866
CASING FOR A KEY DUPLICATING MACHINE
William H. Gale, 452 Harps St., San Fernando, Calif.
Filed May 3, 1963, Ser. No. 74,735
Term of patent 14 years
(Cl. D54—14)



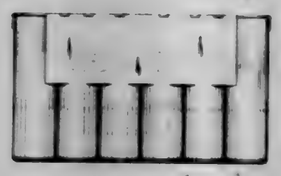
198,867
BAG STRETCHER OR SIMILAR ARTICLE
Roman M. Tomczak, Willow Springs, and Michael J. Myles, Downers Grove, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Mar. 6, 1963, Ser. No. 73,835
Term of patent 3½ years
(Cl. D55—1)



198,868
CASE FOR BEVERAGE BOTTLES OR THE LIKE
Robert L. Beesley and Rudolph H. Matthias, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 78,095
Term of patent 14 years
(Cl. D58—5)



198,869
CASE FOR BOTTLES OR THE LIKE
Robert L. Beesley and Rudolph H. Matthias, both of Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 21, 1964, Ser. No. 78,300
Term of patent 14 years
(Cl. D58—5)



198,870
BOTTLE OR SIMILAR ARTICLE
Cyril Elton Hodgcock, Johannesburg, Transvaal, Republic of South Africa, assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Oct. 10, 1962, Ser. No. 72,058
Claims priority, application Republic of South Africa Apr. 11, 1962
Term of patent 14 years
(Cl. D58—8)



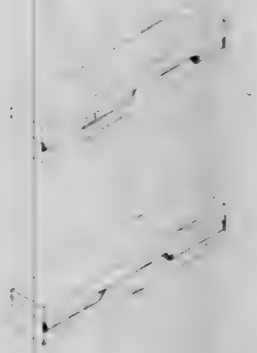
198,871
BOTTLE
David Akeireh, 1500 Stanley St., Montreal, Quebec, Canada
Filed Oct. 7, 1963, Ser. No. 76,891
Claims priority, application Canada May 23, 1963
Term of patent 3½ years
(Cl. D58—8)



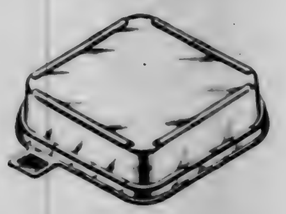
198,872
POURING SPOUT
Milam M. Kinard, 2701 Broadway, and Lane M. Larrieu, 2216 Spring St., both of Little Rock, Ark., assignors of one-half to J. E. Gaskin, Little Rock, Ark.
Filed Nov. 7, 1963, Ser. No. 77,322
Term of patent 3½ years
(Cl. D58—10)



198,873
DISPENSING CONTAINER
Lewis E. Kirkwood and Harry W. Bull, Midland, and David D. Cornell and Kenneth T. Buttery, Kalamazoo, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 9, 1962, Ser. No. 70,051
Term of patent 14 years
(Cl. D58—12)



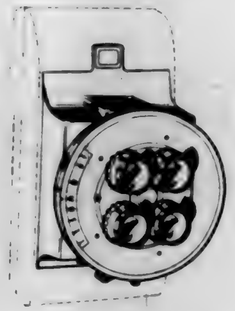
198,874
PACKAGE COVER
Richard Leo Joosten, Elmhurst, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 22, 1963, Ser. No. 74,550
Term of patent 14 years
(Cl. D58—24)



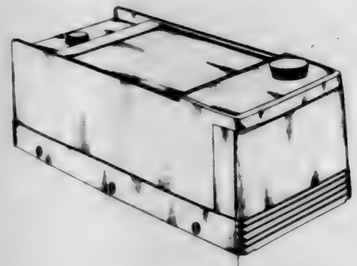
198,875
BOTTLE CAP
Thomas G. Amelio, Miami, Fla., assignor to Pearce-Simpson, Inc.
Filed July 19, 1963, Ser. No. 78,881
Term of patent 14 years
(Cl. D58—36)



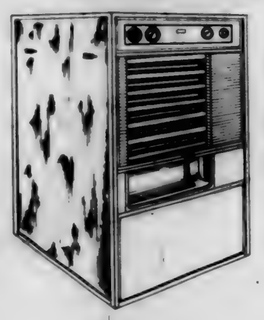
198,876
MULTIPLE IMAGE LENS SYSTEM FOR A CAMERA OR SIMILAR ARTICLE
Samuel Kitrosser, Lexington, Mass., assignor, by mesne assignments, to Avant Incorporated, Lincoln, Mass., a corporation of Massachusetts
Filed Nov. 20, 1961, Ser. No. 67,594
Term of patent 14 years
(Cl. D61—1)



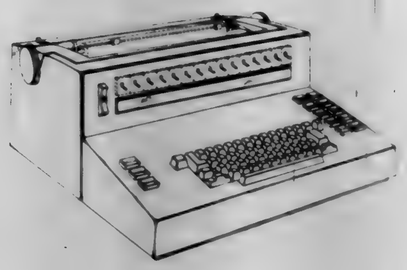
198,877
SOLUTION STORAGE AND REPLENISHMENT MACHINE
Ralph M. Vigna, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 6, 1963, Ser. No. 76,133
Term of patent 14 years
(Cl. D61—1)



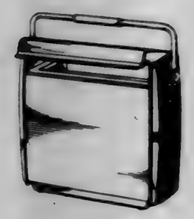
198,878
PHOTOGRAPHIC FILM PROCESSOR
Ralph M. Vigna, Rochester, and Theodore G. Clement, Macedon, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 6, 1963, Ser. No. 76,134
Term of patent 14 years
(Cl. D61—1)



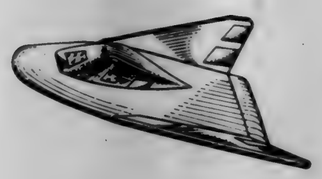
198,879
DATA PROCESSING SYSTEM CONSOLE
Walter Furlani, Endicott, and Edward J. Sabella, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 29, 1962, Ser. No. 71,492
Term of patent 14 years
(Cl. D64—11)



198,880
THERMOELECTRIC REFRIGERATOR
Gordon D. Petrie, 537-A N. Adams, Glendale, Calif.
Filed Dec. 30, 1963, Ser. No. 77,949
Term of patent 14 years
(Cl. D67—3)



198,881
RE-ENTRY VEHICLE OR SIMILAR ARTICLE
Jesse J. King, Dallas, and John H. Boucher, Arlington, Tex., and Cecil V. Carter, Beverly Hills, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 8, 1963, Ser. No. 73,094
Term of patent 14 years
(Cl. D71—1)



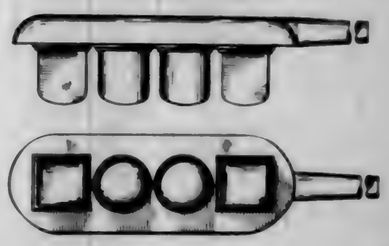
198,882
BOAT
John P. Barnard, Fort Worth, Tex., assignor to Terry Plastics, Fort Worth, Tex., a corporation of Texas
Filed Feb. 3, 1964, Ser. No. 78,487
Term of patent 14 years
(Cl. D71—1)



198,883
SIGNAL FLAG
Robert White, East Braintree, Mass.
Filed June 7, 1962, Ser. No. 70,462
Term of patent 3½ years
(Cl. D72—1)



198,884
TRAFFIC LIGHT SIGNAL
Douglas B. Hughes, 6501 Bruton Road, Cartierville, Montreal, Quebec, Canada
Continuation of design applications Ser. Nos. 70,848 and 70,847, July 9, 1962. This application Sept. 30, 1963, Ser. No. 76,845
Claims priority, application Canada Apr. 6, 1962
Term of patent 14 years
(Cl. D72—1)



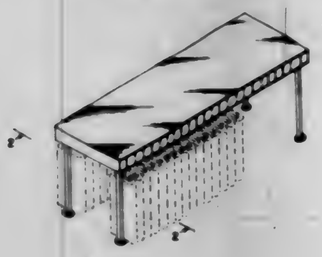
198,885
BUTTERFLY VALVE BODY
Bruce M. Gifford, Houston, Tex, assignor of one-half to Mono-Coat Corporation, Houston, Tex., a corporation of Texas, and one-half to Automotive Rubber Company, Inc., Detroit, Mich., a corporation of Michigan
Filed May 27, 1963, Ser. No. 75,068
Term of patent 14 years
(Cl. D78—1)



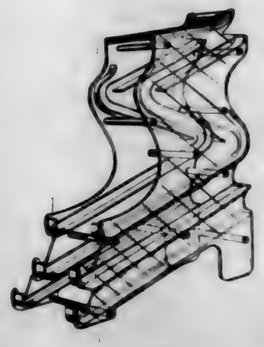
198,886
BUTTERFLY VALVE BODY
Bruce M. Gifford, Houston, Tex., assignor of one-half to to Mono-Coat Corporation, Houston, Tex., a corporation of Texas, and one-half to Automotive Rubber Company, Inc., Detroit, Mich., a corporation of Michigan
Filed May 27, 1963, Ser. No. 75,079
Term of patent 14 years
(Cl. D78—1)



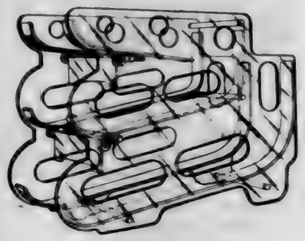
198,887
DISPLAY RACK FOR BOLTS OF FABRIC OR THE LIKE
Nick Grande, Bronxville, N.Y., assignor to Loomshill, Inc., New York, N.Y.
Filed July 26, 1961, Ser. No. 66,079
Term of patent 14 years
(Cl. D80—9)



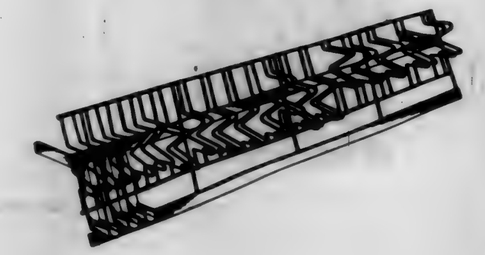
198,888
BIN DISPENSER FOR VARIOUS SIZED ARTICLES
Simon Hesslov, 52 E. Myrtle Ave., Youngstown, Ohio
Filed May 24, 1963, Ser. No. 75,056
Term of patent 14 years
(Cl. D80—9)



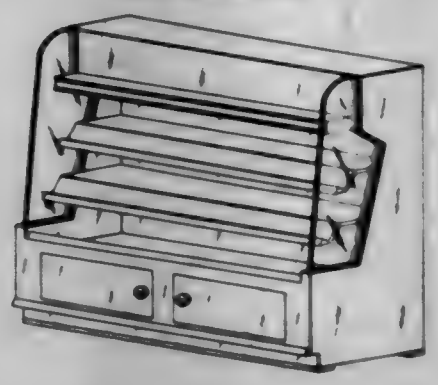
198,889
BIN DISPENSER
Simon Hesslov, 52 E. Myrtle Ave., Youngstown, Ohio
Filed May 24, 1963, Ser. No. 75,057
Term of patent 14 years
(Cl. D80—9)



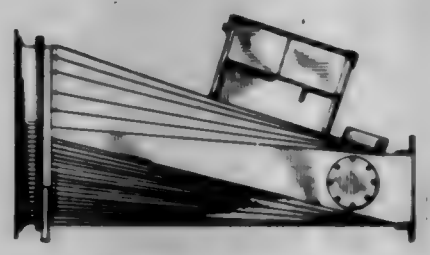
198,890
FLATWARE DISPLAY RACK
Elmer L. Reibold, Park Ridge, Leon E. Litzelman, Naperville, and Robert W. Masco, Chicago, Ill., assignors to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed May 1, 1963, Ser. No. 74,695
Term of patent 14 years
(Cl. D80—10)



198,891
REFRIGERATED DISPLAY CASE FOR CANDY OR THE LIKE
Howard H. Milstein, 946 Frog Hollow Road, Rydal, Pa.
Filed Mar. 9, 1964, Ser. No. 78,916
Term of patent 14 years
(Cl. D80—11)



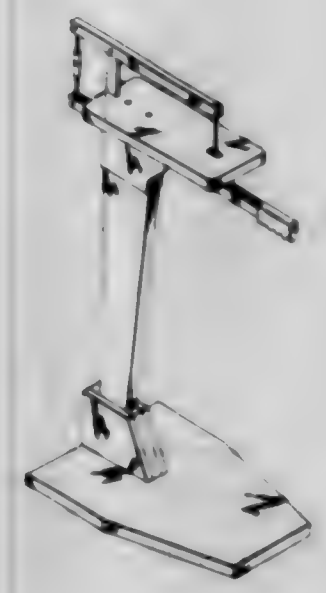
198,892
SUPPLEMENTAL HEAT UNIT FOR GRAIN STORAGE BINS AND THE LIKE
Victor J. Muell, Des Moines, and Edwin C. Riggs, West Des Moines, Iowa, assignors to Lennox Industries, Inc., Des Moines, Iowa, a corporation of Iowa
Filed Feb. 16, 1962, Ser. No. 68,861
Term of patent 14 years
(Cl. D81—20)



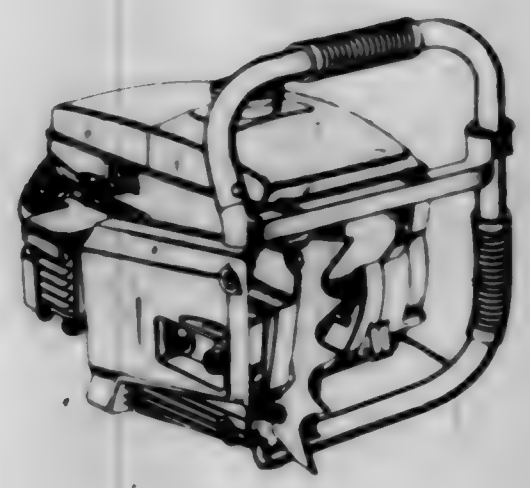
198,893
TEXTILE FABRIC OR SIMILAR ARTICLE
Edward Cutler, Quincy, Mass., assignor to Majestic Fabrics, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 7, 1963, Ser. No. 74,784
Term of patent 3½ years
(Cl. D92—1)



198,894
JIG SAW
John W. Green, 1039 Capri Drive, Campbell, Calif.
Filed May 1, 1963, Ser. No. 74,693
Term of patent 3½ years
(Cl. D93—3)



198,895
CHAIN SAW ENGINE UNIT
Theodore B. Barna, 1827 33rd St. NW. Rochester, Minn.; Gordon W. Florian, 300 Burr St., Fairfield, Conn.; and Philip R. Haskell, P.O. Box 68, Easton, Conn.
Filed Jan. 29, 1964, Ser. No. 78,466
Term of patent 14 years
(Cl. D93—3)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Consolidated Orchard Co.: *See*—
Miller, Gilbert. 2,433.

Jackson & Perkins Co.: *See*—
Meserve, Kathleen K. 2,434.
Meserve, Kathleen K. 2,435.

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Meserve, Kathleen K., to Jackson & Perkins Co. Ilex (holly) plant. 2,435, 8–11–64, Cl. 65.

Miller, Gilbert, to Consolidated Orchard Co. Apple tree. 2,433, 8–11–64, Cl. 35.

Swim, Herbert C., and O. L. Weeks. Rose plant. 2,436, 8–11–64, Cl. 29.

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Amello, Thomas G., to Pearce-Simpson, Inc. Bottle cap. 198,875, 8–11–64, Cl. D58—26.

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Automotive Rubber Co., Inc.: *See*—
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Barna, Theodore B., G. W. Florian, and P. R. Haskell. Chain saw engine unit. 198,895, 8–11–64, Cl. D93—3.

Barnard, John P., to Terry Plastics. Boat. 198,882, 8–11–64, Cl. D71—1.

Beesley, Robert L., and R. H. Matthias, to The Dow Chemical Co. Case for bottles or the like. 198,869, 8–11–64, Cl. D58—5.

Boggio, George E.: *See*—
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Borglum, Keith R. Stand for drum type containers. 198,865, 8–11–64, Cl. D54—1.

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Kirkwood, Lewis E., Bull, Cornell, and Buttery. 198,873.

Buttery, Kenneth T.: *See*—
Kirkwood, Lewis E., Bull, Cornell, and Buttery. 198,873.

Beesley, Robert L., and R. H. Matthias, to The Dow Chemical Co. Case for beverage bottles or the like. 198,868, 8–11–64, Cl. D58—5.

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Carter, Cecil V.: *See*—
King, Jesse J., Boucher, and Carter. 198,881.

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Herpich, William A., and Chaney. 198,840.

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Clement, Theodore G.: *See*—
Vigna, Ralph M., and Clement. 198,878.

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Di Tirro, Joe A., to Marianna Corp. Combined comb, toothbrush, and toothpaste rack. 198,831, 8–11–64, Cl. D4—3.

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Beesley, Robert L., and Matthias. 198,868.
Beesley, Robert L., and Matthias. 198,869.
Kirkwood, Lewis E., Bull, Cornell, and Buttery. 198,873.

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Erdman, Harold E. Beet harvester or similar article. 198,861, 8–11–64, Cl. D40—1.

Fedorka, Joseph, Jr. Skin diver's hand rake. 198,860, 8–11–64, Cl. D39—1.

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Gifford, Bruce M., to Mono-Coat Corp., and Automotive Rubber Co., Inc. Butterfly valve body. 198,886, 8–11–64, Cl. D78—1.

Graham, James D., to Hamilton Mfg. Co. Biological science laboratory unit for classrooms and the like. 198,844, 8–11–64, Cl. D16—2.

Grande, Nick, to Loomskill, Inc. Display rack for bolts of fabric or the like. 198,887, 8–11–64, Cl. D80—9.

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Herpich, William A., and D. W. Chaney, to Hercules Gallon Products, Inc. Bulk load body for a vehicle. 198,839, 8–11–64, Cl. D14—3.

Herpich, William A., and D. W. Chaney, to Hercules Gallon Products, Inc. Bulk load body for a vehicle. 198,840, 8–11–64, Cl. D14—3.

Heselov, Simon. Bin dispenser for various sized articles. 198,888, 8–11–64, Cl. D80—9.

Heselov, Simon. Bin dispenser. 198,889, 8–11–64, Cl. D80—9.

Hoshour, Harvey S. Picture frame. 198,853, 8–11–64, Cl. D29—20.

Hughes, Douglas B. Traffic light signal. 198,884, 8–11–64, Cl. D72—1.

Hyman, Richard M., to Chemway Corp. Toothbrush or similar article. 198,834, 8–11–64, Cl. D9—2.

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Kategianis, Nicholas S., and C. A. Leubner, to Shure Brothers, Inc. Microphone. 198,850, 8–11–64, Cl. D26—14.

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King, Jesse J., J. H. Boucher, and C. V. Carter. Re-entry vehicle or similar article. 198,881, 8–11–64, Cl. D71—1.

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Middlemark, Marvin P. Indoor television antenna. 198,851. 8–11–64, Cl. D26—14.

Middlemark, Marvin P. Indoor television antenna. 198,852. 8–11–64, Cl. D26—14.

Milstein, Howard H. Refrigerated display case for candy or the like. 198,891, 8–11–64, Cl. D80—11.

Molina, Ernest E.: *See*—
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Gifford, Bruce M. 198,886.

Moy, George, to Handy Things Mfg. Co. Paper roll holder. 198,832, 8–11–64, Cl. D4—3.

Muell, Victor J., and E. C. Riggs, to Lennox Industries, Inc. Supplemental heat unit for grain storage bins and the like. 198,892, 8–11–64, Cl. 81—20.

Munson, Austin H., to Ekco Products Co. Holder for cutlery. 198,862, 8–11–64, Cl. D44—29.

Myles, Michael J.: *See*—
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Najimian, Harry, Jr., to Outboard Marine Corp. Combined anchor and bow light. 198,863, 8–11–64, Cl. D48—32.

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Petrie, Gordon D. Thermoelectric refrigerator. 198,880, 8–11–64, Cl. D67—3.

Prygoff, Jack. Housing for a cartridge tape player or similar article. 198,849, 8–11–64, Cl. D26—14.

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White, Robert. Signal flag. 198,883, 8–11–64, Cl. D72—1.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: *See*—
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Abild, Robert N., to United Aircraft Corp. Pressure fed propellant system for storable liquid rocket. 3,143,855, 8–11–64, Cl. 60—35.6.

Abplanalp, Robert H. Means for dispensing heated aerosols. 1,144,174, 8–11–64, Cl. 222—146.

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Adams, Robert T., and G. Raisbeck; said Adams assor. to International Telephone and Telegraph Corp., and said Raisbeck assor. to Bell Telephone Laboratories, Inc. Passive satellite repeater system having orientation compensation means. 3,144,606, 8–11–64, Cl. 325—4.

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Ainsworth, Alan, to United Kingdom Atomic Energy Authority. Manipulating device. 3,144,140, 8–11–64, Cl. 214—1.

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Alderson, John M. Ram jet engine. 3,143,852, 8–11–64, Cl. 60—35.6.

Allan, William J., and W. W. Webb, to Union Carbide Corp. Process for production of long metallic whiskers using a polycrystalline copper substrate. 3,144,358, 8–11–64, Cl. 148—1.6.

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Alpert, Nelson L., and H. W. Marshall, to The Perkin-Elmer Corp. High resolution filter-grating spectrometer. 3,144,498, 8–11–64, Cl. 88—14.

Altschuler, Samuel, and W. F. Ridenour. Vane type rotary motor for gun. 3,143,922, 8–11–64, Cl. 89—12.

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Anderson, Edmund B., ½ to said Anderson and ½ to W. H. Stark. Anti-backlash slip joint. 3,143,867, 8–11–64, Cl. 64—23.

Anderson, George R., and D. M. Stough, to Hogan Controls Corp. Method of and apparatus for correcting head type steam flow meters from steam pressure and superheat referred to superheat base. 3,143,879, 8–11–64, Cl. 73—205.

Anderson, Glenn M., to Penick & Ford, Ltd. Method of sizing hydrophobic synthetic yarns. 3,144,351, 8–11–64, Cl. 117—138.8.

Anderson, Lloyd E., Br., to Pittsburgh-Des Moines Steel Co. Fabrication of structural members. 3,144,543, 8–11–64, Cl. 219—102.

Anderson, Rudolph C. Method and mechanism for hoisting and stowing small boats. 3,143,991, 8–11–64, Cl. 114—43.5.

Andersson, Percy H. A., to Svenska Aktiebolaget Gasaccumulator. Push-button illuminating device. 3,144,643, 8–11–64, Cl. 340—380.

Angio-American Extrusion Co.: *See*—
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Anthes, Clifford C., to Union Carbide Corp. Method and apparatus for providing closed ventilation circuit for automotive crankcases. 3,144,011, 8–11–64, Cl. 123—119.

Anthes, Clifford C., to Union Carbide Corp. Apparatus for providing closed ventilation of automotive crankcases. 3,144,044, 8–11–64, Cl. 137—483.

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Armstrong, Jack W., and R. L. Woodruff, to Shell Oil Co. Method and composition for reducing octane requirement increase. 3,144,311, 8–11–64, Cl. 44—63.

Arnold, Jorg, and G. Temke. Safety valve for gaseous media. 3,144,043, 8–11–64, Cl. 137—461.

Arnold, Kent B. and P. S. Gauging apparatus for controlling a grinding machine. 3,143,830, 8–11–64, Cl. 51—165.

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Aroyan, George F., and S. H. Cushner, to Space Technology Laboratories, Inc. Reticle structure for infra-red detecting system. 3,144,555, 8–11–64, Cl. 250—83.3.

Artmann, Kurt. Support structure for furniture, and the like. 3,144,234, 8–11–64, Cl. 248—188.2.

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Ayers, David T., Jr., to Kelsey-Hayes Co. Fluid pressure motor mechanism. 3,143,930, 8–11–64, Cl. 91—391.

Babbe, Arnold O., to Air Logistics Corp. Printed circuit board and method of making the same. 3,143,787, 8–11–64, Cl. 29—155.5.

Babits, Victor A. Parametric target for infrared television pickup tubes. 3,144,575, 8–11–64, Cl. 313—65.

Bacon, Frederick E., and H. M. Dess, to Union Carbide Corp. Chrome ore treating process. 3,144,322, 8–11–64, Cl. 75—1.

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Banko, George. Optical viewer and grinding wheel dresser. 3,143,831, 8–11–64, Cl. 51—165.

Barr, Chalmers W., to Riegel Paper Corp. Container sealing machine. 3,143,837, 8–11–64, Cl. 53—373.

Barrett, Robert, to The General Electric Co. Ltd. Carrier communication systems with repeater stations. 3,144,607, 8–11–64, Cl. 325—5.

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Bartz, Fred H. Foldable ejector insert for food cartons. 3,144,189, 8–11–64, Cl. 226—23.

Basci, Joseph. Stacked vessels. 3,144,016, 8–11–64, Cl. 126—265.

Basten, Rolf, to International Standard Electric Corp. Program-control unit comprising an index register. 3,144,550, 8–11–64, Cl. 235—157.

Baumbach, Bertram W., to Littelfuse Inc. Slow blowing fuse. 3,144,534, 8–11–64, Cl. 200—123.

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Beimiller, Philip E., and K. H. Schoenrock, to Hamilton Watch Co. Indexing mechanism. 3,143,848, 8–11–64, Cl. 58—28.

Beinke, Randall E., to General Motors Corp. Filter purging device. 3,144,405, 8–11–64, Cl. 210—117.

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Benn, Frederick R., P. T. Charlton, and G. L. M. Harmer, to Boots Pure Drug Co. Ltd. α-(N-aryl, N-aralkyl) acetamidoxiones. 3,144,485, 8–11–64, Cl. 260—564.

Bennett, Dwight G., R. M. Spriggs, and H. G. Lefort, to United Sttaes of America, Air Force. Method for joining metallic members. 3,144,370, 8–11–64, Cl. 156—89.

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Bergey, Ellwood, and A. F. Graf von Soden. Temperature responsive magnetic coupling. 3,144,573, 8–11–64, Cl. 310—94.

Bergman, Paul F., to Johnson Products, Inc. Rocker arm oiling system. 3,144,094, 8–11–64, Cl. 184—6.

Bernstein, Harold, to Maniabs, Inc. Variable resistivity semiconductor amplifier phonograph pickup. 3,144,522, 8–11–64, Cl. 179—100.41.

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Billingsley, John G. S., to E. I. du Pont de Nemours and Co. Apparatus for slitting film and removing the strips from the cutting zone under unequal tension. 3,144,210, 8–11–64, Cl. 242—56.4.

Billy, Clément, and J. Lescarboura, to La Telemacanique Electrique. Re-settable switch device. 3,144,580, 8–11–64, Cl. 200—76.

Binford, Jack C., to FMC Corp. Spinning funnel. 3,143,845, 8–11–64, Cl. 57—78.

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Blink, Peter and R. O. 3,143,982.

Blonder, Isaac S., to Blonder Tongue Electronics. Multiple-point electrical connector. 3,144,290, 8–11–64, Cl. 339—95.

Blonder, Isaac S., to Blonder-Tongue Electronics. Attenuator system having end-terminated dissipative long line with input and output taps movable symmetrically to mid point. 3,144,625, 8–11–64, Cl. 333—81.

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Blonder, Isaac S. 3,144,290.
Blonder, Isaac S. 3,144,625.

Bloomquist, George W., to FMC Corp. Hydraulic valve. 3,144,039, 8–11–64, Cl. 137—222.

Bodenger, Jacob. Stethoscope. 3,144,091, 8–11–64, Cl. 181—24.

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Bohanon, Hoy P., to Acme Engineering and Mfg. Corp. Centrifugal blower wheel. 3,144,204, 8–11–64, Cl. 230—134.

Bond, Beverly, to Ronson Corp. Electric head construction with movable slide cover. 3,143,796, 8–11–64, Cl. 30—34.

Boor, John, Jr., O. Johnson, and K. Nozaki, to Shell Oil Co. Method for preparing zinc dialkyls suitable for use in polymerization catalysts. 3,144,473, 8–11–64, Cl. 260—429.9.

Booth, George M., to Wallace & Tiernan Inc. Pneumatic transmitting means for flowmeters. 3,143,881, 8–11–64, Cl. 73—209.

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Bossinger, Charles D., and K. G. Taylor, to Armour Pharmaceutical Co. 2-hydroxy-2-phenyl-ethyl carbamate for muscle relaxation. 3,144,389, 8–11–64, Cl. 167—65.

Boughton, John H., Side dump buckets. 3,144,147, 8–11–64, Cl. 214—140.

Bouwers, Albert, to Optische Industrie "de Oude Delft," N.V. Mechanical scanning device with optics having pin-cushion distortion to provide linear scanning rate. 3,144,511, 8–11–64, Cl. 178—7.1.

Bouyoucos, Joh V. Hydroacoustic oscillator techniques. 3,143,999, 8–11–64, Cl. 116—137.

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Bowers, Albert, and J. Edwards, to Syntex Corp. Isoxazolo-androstan-17β-ol derivatives. 3,144,449, 8–11–64, Cl. 260—239.55.

Bowers, Albert, J. Ewards, and J. C. Orr, to Syntex Corp. Pyrazolo-androstanes. 3,144,447, 8–11–64, Cl. 260—239.5.

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Bowman, Hamilton B. 3,143,828.

Boyd, Joseph J., to Atlantic Steel Co. Apparatus for positioning, stacking, and dispensing cotton tie buckles. 3,144,169, 8–11–64, Cl. 221—175.

Bradd, Amos A., to Midvale-Heppenstall Co. Forged and nitrided steel roll. 3,144,362, 8–11–64, Cl. 148—34.

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Brauchle, Edwin J. Cutlery serrating apparatus. 3,143,829, 8–11–64, Cl. 51—98.

Breithaupt, Joe J., to Texas Instruments Inc. Doppler system. 3,144,646, 8–11–64, Cl. 343—16.

Brekke, John E., to United States of America, Agriculture. Sampling device. 3,143,884, 8–11–64, Cl. 73—425.2.

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Bridge, Archibald C., to Anglo-American Extrusion Co. Production of extruded metal products. 3,144,132, 8–11–64, Cl. 207—10.

Bridges, Jack E., and Z. Wiencek, to Warwick Electronics Inc. Vertical deflection system. 3,144,580, 8–11–64, Cl. 315—27.

Bridges, Ronald P., and C. E. Pierschala, to James R. Kearney Corp. Interrupter attachment for disconnect switch. 3,144,536, 8–11–64, Cl. 200—148.

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Brightenback, George E., to Merck & Co., Inc. Mastitis aerosol foam. 3,144,336, 8–11–64, Cl. 167—53.

Brinkmeyer, Francis M., and J. H. Creighton, to Deere & Co. Scrapers. 3,143,814, 8–11–64, Cl. 37—6.

Bristol, Billy L., to Ametek, Inc. Fan. 3,143,953, 8–11–64, Cl. 98—116.

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Brown, David T., and P. W. Woo, to International Business Machines Corp. Error correcting system for binary erasure channel transmission. 3,144,635, 8–11–64, Cl. 340—146.1.

Brown, Edwin C., and R. D. Brownell, to Baldwin-Lima-Hamilton Corp. Outrigger mechanism. 3,144,138, 8–11–64, Cl. 212—145.

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Brown, Howard D. Combination derrick and portable digger support for trucks. 3,144,125, 8–11–64, Cl. 212—35.

Brown, Lawrence E.: *See*—
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Brown, Richard E.: *See*—
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Brown, Richard P., and J. H. Jacobs, to Consolidated Electrodynamics Corp. Recorder. 3,143,940, 8–11–64, Cl. 95—1.

Brown, Richard P., and J. H. Jacobs, to Consolidated Electrodynamics Corp. Rapid latensification of printout material. 3,144,332, 8–11–64, Cl. 96—27.

Brown, Walter M., S. Trombatore, and B. Brown. Fishing rod and reel attachment. 3,143,823, 8–11–64, Cl. 43—19.

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Brownson, De Witt M.: *See*—
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Bruen, Charles P., and K. W. Dieckmann, to Allied Chemical Corp. Coating electronic devices. 3,144,315, 8–11–64, Cl. 65—18.

Bryer, Jack, to E. How & Co., Inc. Rotary folding mechanism drive means. 3,144,249, 8–11–64, Cl. 270—77.

Buchholz, Albert E., deceased, by R. K. Gerling, special administrator, and K. E. Clausen, to Outboard Marine Corp. Retractable wheel installation and actuating mechanism therefor. 3,143,749, 8–11–64, Cl. 9—1.

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Budzich, Tadeusz, to The Weatherhead Co. Axial piston pump drive. 3,143,973, 8–11–64, Cl. 103—162.

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Bunker-Ramo Corp., The: *See*—
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Burgess, Herbert R.: *See*—
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Burgio, Raymond A., Jr. Pocketbook construction. 3,144,065, 8–11–64, Cl. 150—35.

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Burke, Daniel B., and P. M. Ketch, to General Foods Corp. Method of making yeast-raised baked products. 3,144,338, 8–11–64, Cl. 99—90.

Burke, Derek C., to National Research Development Corp. Process for the purification of interferon. 3,144,390, 8–11–64, Cl. 167—78.

Burke, Oliver W., Jr., O. M. Grace, and R. G. Jennen, deceased, by M. Berry, temporary public administrator: said Grace and said Berry assors to said Burke, Jr. Process for the preparation of aqueous dispersions of graft interpolymer material. 3,144,426, 8–11–64, Cl. 260—29.7.

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Burns, Arthur H., Jr., and C. M. Schreiber, to Olin Mathieson Chemical Corp. Expanding bullet. 3,143,966, 8–11–64, Cl. 102—91.

Burr, Harvey, J. J. Leone, and J. L. Olyha, to Anaconda Wire and Cable Co. Marking apapratus. 3,143,950, 8–11–64, Cl. 101—6.

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Butikofer, Robert E., to Standard Oil Co. Continuous method for preparing a nitrogen containing fertilizer. 3,144,321, 8–11–64, Cl. 71—59.

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Cadmus, Lamont A., to Willys Motors, Inc. Pressurized wheel and brake assembly. 3,144,099, 8–11–64, Cl. 188—2.

Cagliotti, Luciano, and G. Cainelli, to Societa' Farmaceutici Italia. Process of preparing 4-hydroxy-3-keto-Δ4-steroids. 3,144,470, 8–11–64, Cl. 260—397.4.

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Cagliotti, Luciano, and Cainelli. 3,144,470.

California Research Corp.: *See*—
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Flay, Roy B. 3,144,483.
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Campbell, George J., Jr., to Campbell Chain Co. Lugged cross-chain for vehicle tires. 3,144,068, 8–11–64, Cl. 152—245.

Campbell, Hobart T., J. J. Monahan, and J. A. Roeder, to Western Electric Co., Inc. Apparatus for continuously feeding articles to machines. 3,144,168, 8–11–64, Cl. 221—11

Canadian Industries Ltd.: *See*—
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Canadian Patents and Development Ltd.: *See*—
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Capek, Richard C., to Symons Mfg. Co. Separable two-part I-beam connector. 3,144,105, 8–11–64, Cl. 189—35.

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Carlisle Chemical Works, Inc.: *See*—
Homberg, Otto A. 3,144,422.

Carlton, C. Sidney: *See*—
Weatherall, Edwin R. 3,143,840.

Carrasco, Rene R.: *See*—
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Carroll, Dee B. Escape hatches for passenger airliner. 3,144,224, 8–11–64, Cl. 244—129.

Carruthers, Eben H., to Chisholm-Ryder Co., Inc. Cutter bank for harvesters for pod type vegetables. 3,144,022, 8–11–64, Cl. 130—30.

Carter, Cecil P., to Borg-Warner Corp. Chip producing saw. 3,144,058, 8–11–64, Cl. 143—138.

Carter Controls, Inc.: *See*—
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Cartwright, Robert B., to Chicago Carton Co. Popcorn. 3–144,194, 8–11–64, Cl. 229—51.

Cavalla, John F., and R. A. Selway, to Parke, Davis & Co. N-(p-amino phenethyl)-and N-(p-nitrophenethyl)-2-methyl-3-phenyl-3-propionlyoxypyrrolidines. 3,144,463, 8–11–64, Cl. 260—326.3.

Celanese Corp. of America: *See*—
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Celmer, Walter D., to Chas. Pfizer & Co., Inc. Diacyl esters of de-oleandrosehydroxyoleandomycin and process therefor. 3,144,466, 8–11–64, Cl. 260—343.

Chabassier, Roger, G. Dupuy, P. Lerouge, and J. Megret. Self-contained loop for studying materials under irradiation in a swimming pool reactor. 3,144,392, 8–11–64, Cl. 176—12.

Chain Belt Co.: *See*—
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Chalfin, William L., and D. Friedwald, to Chalsea Products Co. Hair curler. 3,144,027, 8–11–64, Cl. 132—40.

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Chalfin, William L., and Friedwald. 3,144,027.

Chapellier, Robert A., to Burns and Roe, Inc. Billet handling apparatus. 3,144,139, 8–11–64, Cl. 214—1.

Chapman, Philip W., to American Bosch Arma Corp. Inertial platform. 3,143,892, 8–11–64, Cl. 74—5.34.

Chapman, William R. Watercraft. 3,143,996, 8–11–64, Cl. 115—70.

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Chemagro Corp.: *See*—
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Chicago Carton Co.: *See*—
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Chicago Pneumatic Tool Co.: *See*—
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Childs, Gordon E., to Westinghouse Electric Corp. Method for flashing lamp filaments. 3,144,286, 8–11–64, Cl. 316—1.

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Christie, George L. Pendulum drawing device. 3,143,807, 8–11–64, Cl. 33—27.

Ciapetta, Frank G., H. L. Coonradt, and W. E. Garwood, to Socony Mobile Oil Co., Inc. Increase yields and catalysts life in catalytic hydrocracking. 3,144,401, 8–11–64, Cl. 208—112.

Cimochowski, Anthony E.: *See*—
Rutter, Donald P., and Cimochowski. 3,144,069.

Claessens, Frank A., to Johns-Manville Corp. Method and apparatus for forming asbestos-cement products. 3,144,-378, 8-11-64, Cl. 162—122.

Clainin, Alta L. Protector-type cover for furniture corners. 3,144,236, 8-11-64, Cl. 248—346.1.

Clanton, Albert R. and H. L., to R. W. Clanton. Machine for molding concrete blocks. 3,143,780, 8-11-64, Cl. 25—41.

Clanton, Hollis L.: *See*—
Clanton, Albert R., and H. L. 3,143,780.

Clanton, Raymond W.: *See*—
Clanton, Albert R. and H. L. 3,143,780.

Clark, Robert L., to Le Febure Corp. Apparatus for manufacture of index guides. 3,143,935, 8-11-64, Cl. 93—1.

Clark, Trevor, to Westinghouse Electric Corp. Sonobuoy apparatus. 3,144,630, 8-11-64, Cl. 340—2.

Classen, Hans-Heinrich: *See*—
Acker, Josef, and Classen. 3,144,048.

Clausen, Kenneth E.: *See*—
Buchholz, Albert E., Gerling, and Clausen. 3,143,749.

Clausen, Marvin D., ⅛ to P. M. Jilbert, and ⅛ to D. C. Kjellitrup. Stake setter. 3,143,805, 8-11-64, Cl. 33—74.

Clejan, Deodat, to General American Transportation Corp. Freight transportation systems and methods. 3,143,978, 8-11-64, Cl. 105—368.

Clelland, James D., to Sun Oil Co. Asphalt coating composition containing asphaltenes and atactic polypropylene. 3,144,424, 8-11-64, Cl. 260—28.5.

Clevite Corp.: *See*—
Kulesar, Frank, and Jaffe. 3,144,411.

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Coan, John P.: *See*—
Eichwald, Eric, and Coan. 3,144,024.

Cochran, David S., to Hewlett-Packard Co. Oscillation generator having an amplitude stabilizing circuit. 3,144,619, 8-11-64, Cl. 331—109.

Coffey, Charles S., to Edgerton, Germeshausen & Grier, Inc. Transformer coupled multivibrator. 3,144,565, 8-11-64, Cl. 307—88.5.

Cohler, Edmund U., and J. E. Monahan, to Sylvania Electric Products Inc. Switching circuit employing transistor utilizing minority-carrier storage effect to maintain transistor conducting between input pulses. 3,144,563, 8-11-64, Cl. 307—88.5.

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Collier, Charles P., and J. E. W. McConnell, ¼ to E. B. Gregg. Preservation of eggs. 3,144,342, 8-11-64, Cl. 99—161.

Collura, Peter C., to Container Corp. of America. Paperboard and plastic film hosiery package. 3,144,128, 8-11-64, Cl. 206—45.34.

Comet Appliances Ltd.: *See*—
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Connell, Edwin L., to Chicago Pneumatic Tool Co. Tractor for duct crawler. 3,144,240, 8-11-64, Cl. 254—134.5.

Conner, Guy O. Expansible stud member for an unthreaded hole. 3,143,917, 8-11-64, Cl. 85—83.

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Brown, Richard P., and Jacobs. 3,143,940.

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Smidt, Jurgen, Ruttinger, Kojer, and Sieber. 3,144,488.

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Ball, Eric. 3,143,776.

Cookson, Maynard C. S. Dispensers for syrups and like commodities. 3,144,177, 8-11-64, Cl. 222—309.

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Cooper, Dexter P., Jr., and A. J. Sable, to Polaroid Corp. Photographic exposure apparatus. 3,143,940, 8-11-64, Cl. 95—77.5.

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McIver, Norman E., Leap, and Cope. 3,144,645.

Copping, Bruce G., to Atkron, Inc. Package assembly. 3,144,-130, 8-11-64, Cl. 206—65.

Corey, Ronald D. Burners. 3,144,073, 8-11-64, Cl. 158—7.

Cornell, Edward L., Jr., to Wm. H. Welsh Co., Inc. Guard. 3,143,957, 8-11-64, Cl. 100—53.

Cosby, James R., to The Bendix Corp. Multicircuit baroswitch for telemetering devices. 3,144,531, 8-11-64, Cl. 200—83.

Cosnard, Jean-Claude, and C. Tressin, to Compagnie de Saint-Gobain. Treatment of keratinous fibers. 3,144,300, 8-11-64, Cl. 8—127.6.

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Cowlishaw, Frank, to W. E. & F. Dobson, Ltd. Support of roofs in mines. 3,143,862, 8-11-64, Cl. 61—45.

Cox, Frederick L. Boat trailer incorporating collapsible sleeping quarter. 3,144,150, 8-11-64, Cl. 214—505.

Creed & Co. Ltd.: *See*—
Turner, Frederick J. L. 3,144,205.

Creed, Sherman H., and S. Caimma, to FMC Corp. Fruit splitting machine. 3,144,061, 8-11-64, Cl. 146—72.

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Cromie, Harry W., to Surgitool Inc. Prosthetic sutureless heart valve. 3,143,742, 8-11-64, Cl. 3—1.

Cross, Eason, Jr., and K. K. Mills, Jr. Catch mechanism. 3,144,166, 8-11-64, Cl. 220—60.

Crowley, John K., to Minneapolis-Honeywell Regulator Co. Printed circuit synchro. 3,144,570, 8-11-64, Cl. 310—13.

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Creed, Sherman H., and Caimma. 3,144,061.

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Robinson, William W., Jr., and Camp. 3,144,001.

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Cushner, Stanton H.: *See*—
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Dade Reagents, Inc.: *See*—
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Damag Aktiengesellschaft: *See*—
Langlitz, Karlheinz. 3,144,496.

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Harman, Marion W., and D'Amico. 3,144,475.

D'Amico, John J., to Monsanto Co. Manufacture of sulfenamides from morpholines. 3,144,652, 8-11-64, Cl. 260—247.1.

Dancygier, Chil. Shearing apparatus for cutting a fabric. 3,143,801, 8-11-64, Cl. 30—275.

Daniel, Hermann P., and W. F. W. Niem, to Union Special Maschinenfabrik, G.m.b.H. Thread chain severing device for sewing machines. 3,143,987, 8-11-64, Cl. 112—252.

Darby Food Corp.: *See*—
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Darlow, Brian S., to Taylor Electric Mfg. Co., Ltd. Distribution panel. 3,144,387, 8-11-64, Cl. 317—119.

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Daugherty, Phillip A., and H. C. Vaughn, to Photo-Engravers Research, Inc. Powderless etching. 3,144,368, 8-11-64, Cl. 156—14.

Davey, Edward L., to British Insulated Callender's (Submarine Cables) Ltd. Insulating structure for high voltage power cables. 3,144,499, 8-11-64, Cl. 174—25.

Davies, Ben: *See*—
McGreight, Donald O., Davies, and Renkey. 3,144,345.

Davies, Edward R., G. L. Bowen, and R. W. Lemon, to Jered Industries, Inc. Multiple speed transmission. 3,144,107, 8-11-64, Cl. 192—13.

Davis, Frank L. Covered life preserver with automatic cover discharging self-inflation. 3,143,751, 8-11-64, Cl. 9—318.

Davis, Martin A., to American Home Products Corp. Ethylenediamine derivative. 3,144,451, 8-11-64, Cl. 260—243.

Davis, Oscar B., to H.V. Developments Ltd. Vending machine. 3,144,285, 8-11-64, Cl. 312—97.1.

Day, Guy C. Artificial tree. 3,144,375, 8-11-64, Cl. 161—24.

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Dearborn, Elisabeth C., and P. K. Isaacs, to W. R. Grace & Co. Polyester-containing polyimidazolines. 3,144,434, 8-11-64, Cl. 200—75.

Deasey, William: *See*—
London, Michael J., and Deasey. 3,144,092.

Debray, Jean-Claude, to Compagnie des Freins et Signaux Westinghouse. High speed compressor for light weight vehicles requiring pneumatic service. 3,144,198, 8-11-64, Cl. 230—38.

Deere & Co.: *See*—
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De Havilland Aircraft of Canada Ltd., The: *See*—
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Weir, Edward A., and Mee. 3,144,104.
Moore, Derek W. 3,144,621.

Deller, Konrad, to Alweg-Forschung, G.m.b.H. Bogies for monorail vehicles. 3,143,977, 8-11-64, Cl. 105—144.

De Makay, Nicolas. Powder forming apparatus. 3,143,918, 8-11-64, Cl. 86—1.

Dempster Bros., Inc.: *See*—
Dempster, George R., Herpich, and Harvey.

Dempster, George R., W. A. Herpich, and S. K. Harvey, said Herpich and Harvey assors. to Dempster Bros., Inc. Transporting equipment for containers. 3,144,149, 8-11-64, Cl. 214—505.

Denner, John A., and H. G. Leupold, to United Electric Controls Co. Switch responsive to changes in ambient temperature. 3,144,535, 8-11-64, Cl. 200—140.

Denss, Rolf: *See*—
Kuhnis, Hans H., Denss, and Eugster. 3,144,388.

De Smidt, Woodrow A., to Allen-Bradley Co. Dual terminal connector. 3,144,293, 8-11-64, Cl. 339—244.

Deus, Howard M.: *See*—
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Dewas, Raymond. Needle for weaving machines of the continuous weft-feed type. 3,144,051, 8-11-64, Cl. 139—123.

Diaz, Edmundo S. Syringe. 3,144,021, 8-11-64, Cl. 128—227.

Dickerson, Frank K., to The Boeing Co. Rotary nibbler. 3,143,911, 8-11-64, Cl. 83—350.

Dickinson, Lloyd B., and W. V. Vessalo, to McKinney Mfg. Co. Folding door controlling hardware. 3,144,077, 8-11-64, Cl. 160—206.

Diebold, Edward J., to International Rectifier Corp. Seal for semiconductor rectifier. 3,144,501, 8-11-64, Cl. 174—52.

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Bruen, Charles P., and Dieckmann. 3,144,318.

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Dietert, Harry W. 3,143,777.

Dietert, Harry W., to Harry W. Dietert Co. Moldability controller. 3,143,777, 8-11-64, Cl. 23—80.

Dilnot, Sidney. Calcium silicate hydrate products. 3,144,-346, 8-11-64, Cl. 106—75.

Disbrow, Arthur R.: *See*—
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Di Scala, Michael. Copper sulfate-O,O-dimethyl-S-(1,2-dicarboxyethyl) dithiophosphate pesticide. 3,144,382, 8-11-64, Cl. 167—16.

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Dobbs, Frank G.: *See*—
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Dobbs, Stephan H.: *See*—
Schmitz, Heinrich. 3,143,871.

Dobrovics, Andor, now by change of name, A. Dover, to The Electric Storage Battery Co. Battery grid alloy. 3,144,356, 8-11-64, Cl. 136—65.

Dobson, Frank E., and D. M. Brownson, to American Can Co. Mounting means for rollers and the like. 3,143,962, 8-11-64, Cl. 101—248.

Dobson, W. E. & F., Ltd.: *See*—
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Doerach, Donald A.: *See*—
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Dolce, Thomas J., F. M. Berardinelli, and D. E. Hudgin, to Celanese Corp. of America. Oxymethylene polymers stabilized with carbamates. 3,144,431, 8-11-64, Cl. 260—45.85.

Dollinger, Kenneth, to Advanced Development Laboratories, Inc. Dual mode spiral antenna. 3,144,848, 8-11-64, Cl. 343—100.

Donath, Erwin, to Fifth Dimension Inc. Mercury relay. 3,144,533, 8-11-64, Cl. 200—112.

Donovan, Joseph J. Automatic film developing apparatus. 3,144,030, 8-11-64, Cl. 134—58.

Dossert Mfg. Corp.: *See*—
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Douglas, George R., to Westinghouse Electric Corp. Rate-of-change device. 3,143,890, 8-11-64, Cl. 73—505.

Dover, Andor: *See*—
Dobrovics, Andor. 3,144,356.

Dowling, Donald J.: *See*—
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Dreanen, Thomas J., to Rohm & Haas Co. Process for making filled papers containing a reaction product of epichlorohydrin methyl acrylate and a polyethylene polyamine. 3,144,380, 8-11-64, Cl. 162—164.

Dritz, Arthur. Mechanical device. 3,144,157, 8-11-64, Cl. 218—25.

Dualjet Corp.: *See*—
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Du Buc, Robert J., J. K. Nice, and F. A. Horning, to The Bendix Corp. Method of making a pivot nut for a brake adjuster. 3,143,795, 8-11-64, Cl. 29—543.

Dumas, Lucien J.-M. B., to Societe Geotechnique pour la Production du Petrole Geopetrole. System for piping fluids across a body of water. 3,143,861, 8-11-64, Cl. 61—42.

Dunham, Frederick S., to Otis Elevator Co. Sliding door hanger. 3,143,758, 8-11-64, Cl. 16—68.

Dunnabeck, Donald F., and A. W. Bull, ½ to Welder Division of Metal Craft Co. Welding transformer with cooled core. 3,144,627, 8-11-64, Cl. 336—55.

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Easton, Frank E. 3,144,377.
Engelmann, Alfred P. 3,144,303.
Gelbert, Chester H. 3,144,379.
Greene, Robert E., and Pieski. 3,144,436.
Hoover, Fred W., and Stevenson. 3,144,468.
Iler, Ralph K., Padfield, and Yates. 3,143,789.
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Eaton, Harry J., to Star-Fire Marine Jet Co. Combined forward and reverse steering device for jet propelled aquatic vehicles. 3,143,857, 8-11-64, Cl. 60—35.55.

Ebert, Paul J., to Briggs & Stratton Corp. Oil slinger. 3,144,097, 8-11-64, Cl. 184—13.

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Bowers, Albert, Edwards, and Orr. 3,144,447.

Egli, Rudolf, to Inbega AG. Casting steel alloy having great tenacity and wear resistance. 3,144,326, 8-11-64, Cl. 75—126.

Ehlert, Arthur W. Cutting device. 3,143,909, 8-11-64, Cl. 83—167.

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Ellis, Robert. Figurine and means for animating same. 3,143,826, 8-11-64, Cl. 46—240.

Else, Inc.: *See*—
Tyroler, Else E. 3,143,741.

Emerson, Carl D.: *See*—
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Enoksson, Bertil P., to Nitroglycerin Aktiebolaget. Inorganic nitrate explosive composition coated with hydrazine or guanidine compounds. 3,144,887, 8-11-64, Cl. 149—8.

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Erlich, Victor L., to Reeves Brothers, Inc. Tobacco smoke filters. 3,144,025, 8-11-64, Cl. 131—208.

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Esso Research and Engineering Co.: *See*—
Forrester, John S., and Mayer. 3,144,559.
Tyson, Charles W. 3,144,404.
Weinberg, Harold N., Perley, and Kaiser. 3,144,400.

Estes, Walter E. Apparatus for reshaping the necks of cartridge cases. 3,143,919, 8-11-64, Cl. 86—23.

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Etter, William A., to United States of America, Army. Coaxial circuit shifter. 3,144,538, 8-11-64, Cl. 200—153.

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Kuhnis, Hans H., Denss, and Eugster. 3,144,388.

Evans, William E. R., and B. W. Kingston, to International Standard Electric Corp. Electrolytic capacitors. 3,143,-785, 8-11-64, Cl. 29—25.31.

Evernden, Harold I. F., to General Motors Corp. Transmission. 3,143,898, 8-11-64, Cl. 74—688.

Ewing, Paul E., to Rich Mfg. Co. of California. Apparatus for lining cylindrical flasks. 3,143,774, 8-11-64, Cl. 22—86.

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FMC Corp.: *See*—
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French, John F. 3,144,122.
Hurtig, Roy E. 3,143,956.
Koch, Walter T., and Stimmel. 3,144,425.
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Fabula, Andrew, and H. E. Yost, to Otis Elevator Co. Comb plate for belt type moving sidewalk. 3,144,117, 8–11–64, Cl. 198—16.
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Felts, Carl F., Sr. Device for wiring beehive frames. 3,144,053, 8–11–64, Cl. 140—93.
Fenn, George S., and R. F. Kiddle, to FMA, Inc. Punched card reader. 3,144,525, 8–11–64, Cl. 200—46.
Ferguson, Harold W., to The Stanley Works. Retractable door pivot assembly. 3,143,760, 8–11–64, Cl. 16—176.
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Holt, George W., and Benson. 3,144,190.
Fielding, Harold C., to Imperial Chemical Industries Ltd. Preparation of isocyanates containing phosphorus. 3,144,302, 8–11–64, Cl. 23—14.
Fifield, Charles H. Q., to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,144,394, 8–11–64, Cl. 176—68.
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Ruzicka, Leopold, and Jeger. 3,144,465.
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Dalby, Gaston, and Fisher. 3,144,339.
Fisher, Walter M., to Ace Fastener Corp. Method of waving hair and apparatus for performing the same. 3,144,026, 8–11–64, Cl. 132—7.
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Flay, Roy B., to California Research Corp. α-Chlorination of divalent sulfur compounds. 3,144,483, 8–11–64, Cl. 260—543.
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Gamble, Charles S. Organ drawbar demonstrator device. 3,143,914, 8–11–64, Cl. 84—343.
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Gerow, Milo R. Manufacture of plastic film and tubing. 3,144,494, 8–11–64, Cl. 264—95.
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Glass, John P. Cam operated sampling switch having means for changing the switch closing time by small increments. 3,144,523, 8–11–64, Cl. 200—38.
Glass, William H., to Westinghouse Air Brake Co. Vacuum brake system for railway trains. 3,144,277, 8–11–64, Cl. 303—12.
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Graybeal, Troy D., to Lear Siegler, Inc. Control apparatus for alternating current dynamoelectric motors. 3,144,595, 8–11–64, Cl. 318—197.
Graybeal, Troy D., to Lear Siegler, Inc. Control apparatus for alternating current dynamoelectric motors. 3,144,596, 8–11–64, Cl. 318—197.
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Gregoire, Resta S., to Gregoire Engineering and Development Co. Landing mat structure. 3,143,939, 8–11–64, Cl. 94—13.
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Schmidt, Lewis W. 3,144,083.
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Hahn, Willi, to Farbenfebriken Bayer Aktiengesellschaft. Process for the production of alkylated organic sulphur compounds. 3,144,489, 8–11–64, Cl. 260—609.

Haines, Harry W., Jr., to Sulphur Recovery, Inc. Process for the selective adsorption of hydrogen sulfide and its subsequent catalytic conversion to elemental sulphur. 3,144,307, 8–11–64, Cl. 23—225.

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Hathorn, Don H., and F. C. Pittman, to Halliburton Co. Density meters. 3,143,887, 8–11–64, Cl. 73—434.

Hausmann, George F., to United Aircraft Corp. Directional control means for rockets or the like. 3,143,856, 8–11–64, Cl. 60—35.54.

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Hawley, Melville S., and H. J. Hershey, to Bell Telephone Laboratories, Inc. Web actuated switch. 3,144,524, 8–11–64, Cl. 200—46.

Head, Eugene R., to Chemetron Corp. Cardiac monitor apparatus. 3,144,018, 8–11–64, Cl. 128—2.1.

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Hendley, James A., to Talon, Inc. Slide fastener stringer. 3,143,779, 8–11–64, Cl. 24—205.16.

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Hennig, Walter, and H. Weimel, to VEB Kamera- und Kinowerke Dresden. Adaptor socket. 3,143,942, 8–11–64, Cl. 95—11.5.

Henry, Harry L. Lift truck. 3,144,239, 8–11–64, Cl. 254—4.

Henry-Baudot, Jacques, to Printed Motors, Inc. Rotating electric machines with printed circuit windings. 3,144,574, 8–11–64, Cl. 310—208.

Henson, Thomas L., to Baker Perkins Inc. Ovens. 3,144,243, 8–11–64, Cl. 263—6.

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Hergenrader, Wilmer J., and G. W. Colby, to Cummins Engine Co., Inc. Apparatus for making a filter element. 3,144,055, 8–11–64, Cl. 141—73.

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Hesler, Joseph P., and W. Pell, to General Electric Co. Time compression storage circuit. 3,144,038, 8–11–64, Cl. 340—173.

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Hodges, Howard T., C. E. Swing, and C. R. Taylor, to Eastman Kodak Co. Automatic copying device. 3,143,948, 8–11–64, Cl. 95—77.5.

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Holsinger, Jerry L., and N. E. Hoag, to International Telephone and Telegraph Corp. Two gun storage tube utilizing pulse circuitry. 3,144,579, 8–11–64, Cl. 315—13.

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Hoover, Fred W., and H. B. Stevenson, to E. I. du Pont de Nemours and Co. α-cyanatomethoxy ethers. 3,144,468, 8–11–64, Cl. 260—345.9.

Hopff, Heinrich, and H. Metsler, to Deutsche Gold-und Silber-Scheideanstalt vormals Roessler. Process for the production of eupolyoxymethylenes. 3,144,433, 8–11–64, Cl. 260—67.

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Hosler, John F., and W. B. Hardy, to American Cyanamid Co. Certain triazolyureas. 3,144,460, 8–11–64, Cl. 260—309.

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Houlihan, William J., to Universal Oil Products Co. Method of preparation of alkylated dihydrocoumarins. 3,144,467, 8–11–64, Cl. 260—343.2.

Howell, Alleyne C., Jr. Conductor bar. 3,144,508, 8–11–64, Cl. 174—133.

Hoyle, Robert J., Jr., H. B. McKean, and G. F. Scheelke, to Potlach Forests Inc. Stiffness tester for lumber. 3,143,878, 8–11–64, Cl. 73—100.

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Huime, Kenneth F., and J. B. Mullin, to National Research Development Corp. Preparation of semiconductor materials. 3,144,357, 8–11–64, Cl. 148—1.6.

Humble, Francis E., to Alfred Imhof Ltd. Rigid frameworks for use in constructing racks, cabinets, boxes, or like structures. 3,144,285, 8–11–64, Cl. 287—54.

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Ideal Industries, Inc.: *See*—
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International Standard Electric Corp.: *See*—
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Jacob, Lawrence N., to Sun Oil Co. Sweetening hydrocarbons. 3,144,403, 8–11–64, Cl. 208—207.

Jacobi, Edward N., to Briggs & Stratton Corp. Automobile lock having swingable shaft. 3,143,874, 8–11–64, Cl. 70—379.

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Jaffa, Matthew L. and D. Screen printing head and improved squeegee assembly therefor. 3,143,961, 8–11–64, Cl. 101—123.

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Johnson, John E., and A. F. G. von Soden; said von Soden, assor. of 10% to L. R. Lopez. Receptacles with vacuum cell units or the like. 3,144,160, 8–11–64, Cl. 220—9.

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Jones, Wesley N., and J. Beser, to Westinghouse Electric Corp. Tunnel diode crystal controlled oscillator. 3,144,618, 8–11–64, Cl. 331—107.

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Kalns, Arvid. Concrete slab forming machine. 3,143,782, 8–11–64, Cl. 25—41.
Kane, Harvey. Rotor for snow removing machines. 3,143,815, 8–11–64, Cl. 37—43.
Kaneko, Hisashi, to Nippon Electric Co. Ltd. Synchronization system in time-division code transmission. 3,144,515, 8–11–64, Cl. 179—15.
Kano, Hideo, and M. Ogata, to Shionogi & Co., Ltd. 3-halogeno, 4-nitro, 6-lower alkyl-pyridazine-1-oxide. 3,144,454, 8–11–64, Cl. 260—250.
Kano, Hideo, M. Ogata, and H. Nishimura, to Shionogi & Co., Ltd. Isoxazole derivatives of sulfanilamide. 3,144,448, 8–11–64, Cl. 260—239.9.
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Karbowiak, Antoni E., to International Standard Electric Corp. Manufacture of long haul waveguide. 3,144,072, 8–11–64, Cl. 153—67.
Kass, Bernard H. Vibration isolator. 3,144,238, 8–11–64, Cl. 248—21.
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Kitteison, Mathias H. Control apparatus. 3,144,220, 8–11–64, Cl. 244—42.
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Klasing, Charles L., Jr., and W. H. Sale, to Klasing Hand Brake Co. Journal box lid with sealing and venting means. 3,144,281, 8–11–64, Cl. 308—50.
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Kleinman, Henry M., and L. Pius, to Radio Corp. of America. Reflex amplifier circuit with reduction of minimum volume control play-through effect. 3,144,611, 8–11–64, Cl. 325—456.
Klinghoffer, Stefan. Pretreating iron or steel. 3,144,361, 8–11–64, Cl. 148—6.16.
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Koe, Billie K., to Chas. Pfizer & Co., Inc. Novel derivatives of 6-aminopenicillanic acid. 3,144,444, 8–11–64, Cl. 260—239.1.
Koehn, Helmut, L. J. La Plante, R. L. Shaner, and R. F. Stengel, to Union Carbide Corp. Process and apparatus for liquefying low-boiling gases. 3,144,316, 8–11–64, Cl. 62—9.
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Kohn, Julius A., to General Electric Co. Gear mechanisms and method of making the same. 3,143,897, 8–11–64, Cl. 74—606.
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Komarek, Gustav and K. B. 3,143,769.
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Kopp, Herman. Individual divisional jar for coffee and other food products. 3,144,152, 8–11–64, Cl. 215—6.
Koppen, Otto C. Powerboat steering control. 3,143,995, 8–11–64, Cl. 115—37.
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Krueger, Theodore H., Jr. Arched structure. 3,144,103, 8–11–64, Cl. 189—1.
Kryszczuk, Edward. Turbine blade cutting tool attachment. 3,143,923, 8–11–64, Cl. 90—31.
Kuhnis, Hans H., E. Denss, and C. H. Eugster, to Geigy Chemical Corp. Analgetic compositions containing tetrahydropyridines. 3,144,388, 8–11–64, Cl. 167—65.
Kukuiski, Sigmund R., to Sunbeam Corp. Electromagnetic motor having oppositely oscillating armature. 3,144,571, 8–11–64, Cl. 310—29.
Kulcsar, Frank, and B. Jaffe, to Clevite Corp. Barium-containing lead titanate ferroelectric compositions and articles. 3,144,411, 8–11–64, Cl. 252—62.9.
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Sorrow, Billy B., and Kunkle. 3,144,583.
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La Fiandra, Joseph N., S. Kinson, and J. Spielberg, to Loral Electronic Corp. Portable stroboscope. 3,144,584, 8–11–64, Cl. 315—241.
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Lambert, George R., to Oxalid Co. Ltd. Method of developing photographic materials by means of gases or vapours and to apparatus for carrying the method into effect. 3,144,334, 8–11–64, Cl. 96—49.
Lamberti, Martin J. Collapsible baggage carriers for automobiles. 3,144,183, 8–11–64, Cl. 224—42.07.
Lanahan, John H., and R. I. Leach, to United Shoe Machinery Corp. Work positioning table. 3,143,791, 8–11–64, Cl. 29—203.
Landolt, Paul H., to General Electric Co. Method of producing dry type capacitors. 3,144,371, 8–11–64, Cl. 150—184.

Lane, Richard N., and J. J. Moore, to Union Carbide Corp. Exposure meter. 3,144,089, 8–11–64, Cl. 181—.5.
Lang, Charles W., and K. W. Eriksen, to Sundstrand Corp. Fuel unit. 3,143,967, 8–11–64, Cl. 103—4.
Langlitz, Karlheinz, to Damag Aktiengesellschaft. Converter support. 3,144,496, 8–11–64, Cl. 266—36.
Lanman, Robert W., to Carter Controls, Inc. Rotary actuator. 3,143,932, 8–11–64, Cl. 92—31.
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La Pointe, Andre E., to United States of America, Navy. Chaff dispenser. 3,143,965, 8–11–64, Cl. 102—84.4.
Larkin, Sam. Machine for making wire mesh. 3,144,054, 8–11–64, Cl. 140—112.
Laxo, Ed H., deceased: by T. E. Laxo, executrix, to T. E. Laxo. Can body blank registration apparatus. 3,143,990, 8–11–64, Cl. 113—116.
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Lee, James L., Jr. Time registering mechanism. 3,143,847, 8–11–64, Cl. 58—22.9.
Lee, Royal, to Lee Foundation For Nutritional Research. Single phase alternating current motor system. 3,144,597, 8–11–64, Cl. 318—220.
Leeds, Winthrop M., and R. R. Johnson, to Westinghouse Electric Corp. Arrangement for controlling circuit continuity. 3,144,592, 8–11–64, Cl. 317—148.5.
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Levin, Simon. Magnetostrictive record and recording apparatus. 3,144,620, 8–11–64, Cl. 179—100.2.
Levine, Alfred B., to B. Haskell. Electrical process. 3,144,650, 8–11–64, Cl. 346—74.
Levinson, Donald B., to Hughes Aircraft Co. Time delay relay. 3,144,597, 8–11–64, Cl. 317—142.
Levy, Sidney. Spray gun. 3,144,210, 8–11–64, Cl. 239—415.
Lewis, William D., and W. D. Webb, to E. I. du Pont de Nemours and Co. Band type coupling for flanged pipe. 3,144,264, 8–11–64, Cl. 285—367.
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Lukeis, Frank J. Lines for trawl nets. 3,143,821, 8–11–64, Cl. 43—9.
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Lustig, Howard E., A. L. Rossoff, P. D. Frelich, and H. K. Farr, to General Instrument Corp. Radiation mapping system. 3,144,651, 8–11–64, Cl. 340—3.
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Martin, Joseph E. Heat treating furnaces. 3,144,245, 8–11–64, Cl. 263—34.
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Martin-Hurst, William F. F., to Teddington Aircraft Controls Ltd. Method of making flexible metallic bellows. 3,143,794, 8–11–64, Cl. 29—454.
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Maynard, Robert W., to The Mosler Safe Co. Safe door construction. 3,143,983, 8–11–64, Cl. 109—64.
Mazzagatti, Roy P., K. D. Savage, and D. J. Dowling, to Texaco Inc. Acoustical well logging tool having low acoustical velocity between transducers. 3,144,090, 8–11–64, Cl. 181—.5.
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McAllan, John G., and J. D. Laing, to International Standard Electric Corp. Television signal receiver terminal. 3,144,512, 8–11–64, Cl. 178—7.3.
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Merritt, James F., to Radio Corp. of America. Bi-directional motor control circuit. 3,144,598, 8–11–64, Cl. 318—293.
Merten, Eugen, to Shell Oil Co. Method for forming seismic and other records. 3,143,946, 8–11–64, Cl. 95—73.
Mertens, Carl. Catalytic conversion plant for the continuous generation of gases of any kind out of hydrocarbons. 3,144,312, 8–11–64, Cl. 48—95.
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Moffett, Robert B., to The Upjohn Co. Mono and bis N-phenacyl quaternary ammonium salts of triethylenediamine. 3,144,455, 8–11–64, Cl. 260—268.
Moffett, Robert B., to The Upjohn Co. Mono and bis N-alkanoylmethyl quaternary ammonium salts of triethylenediamine. 3,144,456, 8–11–64, Cl. 260—268.
Moffett, Robert B., to The Upjohn Co. N-(2 phthalimidoethyl) quaternary ammonium salts of triethylenediamine. 3,144,457, 8–11–64, Cl. 260—268.
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Morasch, Henry. Garden tool. 3,143,984, 8–11–64, Cl. 111—7.1.
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Morris, Richard E., to Bethlehem Steel Co. Closure for a pressure vessel. 3,144,162, 8–11–64, Cl. 220—46.
Morse, John F. Steering connection for outboard motors. 3,143,994, 8–11–64, Cl. 115—18.
Morse, Milton. Grounded electrical plug construction. 3,144,287, 8–11–64, Cl. 339—14.
Morse, Milton. Metallic reinforced switch boot. 3,144,539, 8–11–64, Cl. 200—168.
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Murayama, Sutemi, to Ramco Equipment Corp. Apparatus for degreasing cable reels. 3,144,032, 8–11–64, Cl. 134—96.
Murphy, Laurence W., to Geo. A. Hormel & Co. Process for facilitating the immobilization and slaughtering of animals. 3,143,762, 8–11–64, Cl. 17—45.
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Naczynski, Stanley J., to United States Steel Corp. Apparatus for stenciling moving plate. 3,143,980, 8–11–64, Cl. 101—121.

Nagata, Wataru, to Shionogi & Co., Ltd. Intermediate products in the synthesis of 21-acyloxy-11β-hydroxy-3,20-dioxo-4-pregnen-18-oic acid (11-18)-lactone. 3,144,450, 8–11–64, Cl. 260—239.57.
Naguno, Tadashi, and M. Murakoshi, to Asahi Kasei Kogyo Kabushiki Kaisha. Process for purifying alumina and recovering a gallium concentrate. 3,144,304, 8–11–64, Cl. 23—140.
Nakasone, Robert T., to Tamar Electronics, Inc. Vibration damped transducer. 3,143,883, 8–11–64, Cl. 73—414.
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Nelson, James K., to Westinghouse Electric Corp. Ice maker apparatus. 3,143,863, 8–11–64, Cl. 62—72.
Nelson, Norman A., to The Upjohn Co. 25-azacholesterol N-oxide and derivatives. 3,144,471, 8–11–64, Cl. 260—397.5.
Nelson, Robert E. Seal assembly for a bore. 3,143,934, 8–11–64, Cl. 92—250.
Nesmith, James A. Automatic coffee brewing device. 3,143,954, 8–11–64, Cl. 99—289.
Ness, Royal V. Insecticide applicator for animals. 3,144,004, 8–11–64, Cl. 119—157.
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Nigrelli, Biagio J., W. E. Standley, and R. B. Wittmann, to Johns-Nigrelli-Johns, Inc. Conveyor system. 3,144,119, 8–11–64, Cl. 198—32.
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Norton, Orlo C., to Norton Engineering, Inc. Cylinder and sealing ring combination. 3,143,933, 8–11–64, Cl. 92—85.
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Obendorf, Werner H., to Osterreichische Stickstoffwerke Aktiengesellschaft. New iodine-containing benzoic acid esters. 3,144,479, 8–11–64, Cl. 260—471.
O'Connor, George L., H. E. Fritz, and D. W. Peck, to Union Carbide Corp. Preparation of 1-(2-bicyclo[2.2.1]hept-5-enyl)hex-5-ene and 1-[2-(Δ⁸-octahydro-1,4 :5,8-dimethanonaphthyl)]hex-5-one. 3,144,491, 8–11–64, Cl. 260—666.
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O'Donnell, William R., to Valve Corp. of America. Aerosol actuator cap construction. 3,144,175, 8–11–64, Cl. 222—182.
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Phillips, Marvin F. Radio receiver combined conelrad alarm apparatus having time delay apparatus selectively responsive to conelrad code. 3,144,610, 8–11–64, Cl. 325—364.

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Plumberg, Leonard J., and A. C. Theroff, to Owens-Corning Fiberglas Corp. Insulating board of fibrous glass and method and apparatus for making same. 3,144,376, 8–11–64, Cl. 161—156.

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Poullart, Willy H. P., to International Standard Electric Corp. Edge closure mechanism for a document carrier. 3,143,838, 8–11–64, Cl. 53—376.

Pouios, George. Display apparatus. 3,144,133, 8–11–64, Cl. 211—1.5.

Powers, Frank C. Stackable cake. 3,144,340, 8–11–64, Cl. 99—92.

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Price, David B., to Westinghouse Electric Corp. Immersible vessel and detachable control means therefor. 3,144,547, 8–11–64, Cl. 219—441.

Price, Nathaniel W. Flush tank attachment for lever operation of atomiser deodorant cans. 3,143,745, 8–11–64, Cl. 4—222.

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Proctor, Edward A. Fire escape equipment. 3,144,093, 8–11–64, Cl. 182—92.

P'Simer, George, and J. E. Blackburn, to Safety Auto Baby Seat Co., Inc. Car seat for infants. 3,144,273, 8–11–64, Cl. 297—254.

Pugerud, John B., to Telefonaktiebolaget L M Ericsson. Bipolar signal receiver with input and output nonlinear limiting means with interconnecting feedback. 3,144,613, 8–11–64, Cl. 328—172.

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Rabins, Leonard, to General Electric Co. Transformer with winding sections connected in series or parallel. 3,144,628, 8–11–64, Cl. 336—182.

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Raillard, Heinz, to General Electric Co. Transistorized negative resistance networks. 3,144,620, 8–11–64, Cl. 331—111.

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Ramseier, Walter, and P. Personeni, to H. A. Schlatter Aktiengesellschaft. Metal cutting tool. 3,143,906, 8–11–64, Cl. 82—4.

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Raskin, Hubert E. H. Apparatus for printing upon coated surfaces. 3,144,355, 8–11–64, Cl. 118—44.

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Rainer, William C., Redding, Hitov, Sloan, and Stewart. 3,144,399.

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Reeves Bros., Inc.: *See*—
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Reynolds, Frank J. Quick connection for male-female coupling. 3,144,262, 8–11–64, Cl. 285—311.

Reynolds, Grover C. Dental device for obtaining the centric relation of the jaws. 3,143,802, 8–11–64, Cl. 32—19.

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Rice, Arthur A., to A. A. Rice, Inc. Collapsible self-anchoring device. 3,143,916, 8–11–64, Cl. 85—71.

Rice, Frederic L., Jr., to Phillips Petroleum Co. Method and system for controlling pressure in storage vessels. 3,144,036, 8–11–64, Cl. 137—12.

Rice, Leonard M., M. E. Freed, and E. Hertz, to American Home Products Corp. 13-substituted 5,6-dihydro-13H-dibenzo[a,i] carbazoles. 3,144,461, 8–11–64, Cl. 260—315.

Rich Mfg. Co. of California: *See*—
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Richard, André M., and J. Brodin, to Societe d'Electronique et d'Automatisme. Saturable magnetic core circuits. 3,144,639, 8–11–64, Cl. 340—174.

Richardson, Rolland A.: *See*—
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Rideout, Arthur J., and T. K. Worthington, to International Business Machines Corp. Method of fabricating a plurality of PN junctions in a semiconductor body. 3,144,366, 8–11–64, Cl. 148—179.

Riegel Paper Corp.: *See*—
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Riethmuller, Paul: *See*—
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Roberts, John A., to General Electric Co. Gas leak detector. 3,144,600, 8–11–64, 1. 324—33.

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Robic, Norman P., to Electro Refractories & Abrasives Corp. Device for transmitting motion. 3,143,895, 8–11–64, Cl. 74—229.

Robinson, Chauncey G., and K. J. Best, to Westinghouse Electric Corp. Induction annealing of magnetic alloy sheet. 3,144,364, 8–11–64, Cl. 148—113.

Robinson, Lee R., to Pittsburgh Plate Glass Co. Treating glass sheets. 3,144,319, 8–11–64, Cl. 65—106.

Robinson, William W., Jr., and D. C. Camp, to Cumberland Case Co. Hog-type broiler feeder. 3,144,001, 8–11–64, Cl. 119—53.

Rockwell, Ernest S. Beverage brewing machine. 3,143,955, 8–11–64, Cl. 99—289.

Roeber, Henry W., and L. D. Schwender, to Sylvania Electric Products Inc. Applying emissive leaves to cathode sleeves. 3,144,373, 8–11–64, Cl. 156—261.

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Rowe, Robert W. Pivotally mounted auxiliary door opening device. 3,144,268, 8–11–64, Cl. 292—336.3.

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Schindler, Walter, and H. Blattner. 5H-dibenz[b,f]azepin-10(11H)-one compounds. 3,144,440, 8–11–64, Cl. 260—239.

Schindler, Walter, and H. Blattner, to Geigy Chemical Corp. 10-lower alkoxy-5H-dibenz[b,f]azepines. 3,144,441, 8–11–64, Cl. 260—239.

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Silverman, Morris B., to California Research Corp. Process for increasing the hydrocracking and hydrogenating activity of a supported nickel catalyst using phosphine. 3,144,415, 8–11–64, Cl. 252—437.

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Sorrow, Billy B., and N. T. Kunkle, to Westinghouse Electric Corp. Lightning arrester. 3,144,583, 8–11–64, Cl. 315—36.

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Vogel, Norman A., and W. W. Woodbury, to International Business Machines Corp. Very high speed cam actuated punch with interposer between punch and cam. 3,143,912, 8–11–64, Cl. 83—572.
Vogt, Norman H., H. W. Weprin, and S. P. Pasutin, to Armour and Co. Machine for severing end portions from animal carcasses. 3,144,062, 8–11–64, Cl. 146—81.
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 11, 1964 Volume 805 Number 2

TRADEMARKS

NOTICES

Oppositions Under Section 13 of the Trademark Act of 1946

Section 13 of the Trademark Act of 1946 provides that any person who believes that he would be damaged by the registration of a mark upon the Principal Register may, upon payment of the required fee, file a verified opposition in the Patent Office, stating the grounds therefor, within thirty days after publication under Section 12(a) of the mark sought to be registered.

An unverified opposition may be filed by a duly authorized attorney, but the opposition will be null and void unless verified by the opposer within a reasonable time after such filing to be fixed by the Commissioner.

An opposition will not be accepted unless it complies with the statutory requirements, namely, it must be filed in the Patent Office within thirty days after publication under Section 12(a) of the mark opposed, be accompanied by a fee in the proper amount, must state the grounds therefor and, if filed by the opposer, must be verified.

A request to extend the time for filing an opposition under Rule 2.103 must be received in the Patent Office before the expiration of thirty days from date of publication under Section 12(a) of the mark sought to be registered. The request should specify the period of extension desired and be accompanied by a showing of good cause for the extension requested, but in the event circumstances do not permit submission of the showing of good cause with the request, it must be furnished within ten days after filing the request for extension.

Two or more parties may be joined in opposition to the registration of a mark, but separate fees for each party so joined must be paid. Likewise, a mark may be opposed in each of a plurality of classes, but a separate fee of $25.00 for each class in which opposition is sought, must accompany the opposition. To be complete, oppositions accompanied by fees insufficient to cover each class named in the application, must specify the particular classes in which opposition is sought.

HORACE B. FAY, Jr.
Assistant Commissioner.

July 15, 1964.

Interviews Involving Trademark Applications

Interviews frequently result in a better understanding of the issues involved, shorten the prosecution and facilitate disposal of applications.

Interviews for discussion of registrability of the mark of a pending application will not be had before the first official Office action thereon and ordinarily not before filing the first response. Arrangements for an interview should be made in advance so that the Examiner may review the case and be familiar with the details involved.

Interviews on Friday will no longer be prohibited as a

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,462
Date of oldest new application	Dec. 1, 1963
Date of oldest amended application	Nov. 18, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 6, 11, 13, 18, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	1-3-64	12-5-63
(II) H. E. KASCHUB, Classes 1, 3, 8, 7, 9, 10, 12, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	12-1-63	11-18-63
Renewals (All Classes)	6-4-64	6-26-64
Sec. 12 (c) Publications (All Classes)	6-6-64	

Applications filed during the month of June 1964—2,380

Registrations Issued	401—No. 774,753 to No. 775,153
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

matter of policy but all interviews should be set at a time satisfactory to all parties concerned.

A memorandum summarizing the conclusions reached at the interview should be prepared by the Examiner and placed in the application file. The memorandum will be retained in the application file until the prosecution is completed. Such procedure will not, however, relieve the applicant of the responsibility of complying with the requirements of Trademark Rule 2.62.

HORACE B. FAY, Jr.,
July 6, 1964. *Assistant Commissioner.*

This supersedes the notice of February 10, 1958, 728 O.G. (TM 1).

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
July 16, 1964. *Commissioner of Patents.*

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 127,401 (DR. PEPPER (in script) GOOD FOR LIFE), The Circle A Company, Nonalcoholic, maltless beverage sold as a soft drink; **Reg. No. 422,982** (DR. PEPPER (in script) GOOD FOR LIFE AND DESIGN), Dr. Pepper Company, Nonalcoholic, maltless beverages sold as soft drinks, and syrups for making the same; **Reg. No. 534,670** (DR. PEPPER (inscript) and DESIGN), same; **Reg. No. 534,699** (DR. PEPPER (in script)), same; filed Mar. 6, 1964, D.C. N. Mex. (Albuquerque), Doc. 5580, *Dr. Pepper Company v. Dr. Pepper Bottling Company of New Mexico.* Consent decree disposing of the issues in this case, and requiring defendant to amend corporate name May 11, 1964.

Reg. No. 372,500 (LIFE AND DESIGN), Time, Incorporated, Weekly magazine and for pamphlets, containing material taken from such magazine; **Reg. No. 565,090**, same, Weekly magazine, filed June 7, 1963, D.C. Md. (Baltimore), Doc. 14744, *Time, Incorporated v. Lifetime, Incorporated.*

Reg. No. 422,982. (See Reg. No. 127,401.)

Reg. No. 534,670. (See Reg. No. 127,401.)

Reg. No. 534,699. (See Reg. No. 127,401.)

Reg. No. 547,221 (AAA AND DESIGN), American Automobile Association, Services rendered to motor vehicle owners, motorists and travelers generally—namely, disseminating travel information, making travel arrangements, rating tourist accommodations, etc.; **Reg. No. 788,556** (AAA), same, Printed maps, printed touring and route information, pamphlets published from time to time, filed Feb. 5, 1964, D.C., N.D. Calif. (Sacramento), Doc. 8566, *American Automobile Assn. v. Clarence Nits et al.*

Reg. No. 568,055 (FEDWAY (in script)), Federated Department Stores, Inc., Garden hose and rubber vehicle tires; **Reg. No. 566,120**, same, Umbrellas; **Reg. No. 566,734**, same, Pots, pans, skillets, pie plates and casseroles made of metal; **Reg. No. 567,179**, same, Pillows, mattresses, chairs, sofas, desks, secretaries, tables, bookcases, beds, etc.; **Reg. No. 567,541**, same, Handbags, trunks, foot lockers, hand luggage formed from metal, canvas, leather and combinations of these materials, dressing cases, hat cases, brief cases, bird cages, bird stands, billfolds, wallets and purses; **Reg. No. 568,330**, same, Watches and clocks; **Reg. No. 568,962**, same, Bracelets, earrings, necklaces, lapel and breast pins, watch bands, wedding bands, etc.; **Reg. No. 569,191**, same, China and earthenware plates, saucers, cups, and salt and pepper shakers; **Reg. No. 570,851**, same, Storage batteries, electric batteries, electrically actuated Christmas tree lights and decorations, electric coffee makers and percolators; **Reg. No. 571,667**, same, Men's clothing, specifically suits, tuxedos, robes, topcoats, overcoats, etc., **Reg. No. 573,972**, same, Gas and oil burning water heaters, stokers, exhaust and ventilating fans; **Reg. No. 573,495**, same, Textile rugs, cotton, rayon, woolen, silk and linen yard goods, textile table place mats and napkins, etc.; **Reg. No. 574,664**, same, Carving knives and forks, shears, scissors, nippers, etc.; **Reg. No. 575,499**, same, Toy stuffed animals, dolls, musical toys, game balls, baseball gloves and bats, etc.; **Reg. No. 575,505**, same, Hand and bath soaps, laundry soaps, soap flakes and powders, etc.; **Reg. No. 580,735**, same, Hand sewing needles, pins, snap fasteners, buttons, etc.; **Reg. No. 582,223** (FEDRITE), same, Men's suits and coats; **Reg. No. 591,941** (FED-STRIDES), same, Men's shoes made from leather, fabric, rubber, or combinations of these materials; **Reg. No. 591942** (FED-STARS), same, Women's shoes made from leather, fabric, rubber, or combinations of these materials; **Reg. No. 595,105** (FEDWAY (in script)), same, Electric refrigerators and freezing units for home use; **Reg. No. 596,068** (FED-STAR), same Women's hosiery; **Reg. No. 787,968** (FED-ROSE), same, Women's hosiery, filed Feb. 20, 1964, D.C., N.D. Tex. (Wichita Falls), Doc. CA T-65, *Federated Department Stores, Inc. v. Fed-Mart of Texas, Inc.* Order of dismissal Mar. 26, 1964.

Reg. No. 565,090. (See Reg. No. 372,500.)

Reg. No. 566,120. (See Reg. No. 563,055.)

Reg. No. 566,734. (See Reg. No. 563,055.)

Reg. No. 567,179. (See Reg. No. 563,055.)

Reg. No. 567,541. (See Reg. No. 563,055.)

Reg. No. 568,330. (See Reg. No. 563,055.)

Reg. No. 568,962. (See Reg. No. 563,055.)

Reg. No. 569,191. (See Reg. No. 563,055.)

Reg. No. 570,851. (See Reg. No. 563,055.)

Reg. No. 571,667. (See Reg. No. 563,055.)

Reg. No. 573,972. (See Reg. No. 563,055.)

Reg. No. 573,495. (See Reg. No. 563,055.)

Reg. No. 574,664. (See Reg. No. 563,055.)

Reg. No. 575,499. (See Reg. No. 563,055.)

Reg. No. 580,735. (See Reg. No. 563,055.)

Reg. No. 582,223. (See Reg. No. 563,055.)

Reg. No. 591,941. (See Reg. No. 563,055.)

Reg. No. 591,942. (See Reg. No. 563,055.)

Reg. No. 595,105. (See Reg. No. 563,055.)

Reg. No. 607,294 (CENCO AND DESIGN), Central Scientific Company, Batteries, electric motors, electric generators, rheostats, electric stirrers, etc., filed Feb. 25, 1964, D.C., N.D. Calif. (San Francisco), Doc. 42135, *Cenco Instruments Corp. v. California Electronic Manufacturing Co.*

Reg. No. 696,955. (See Reg. No. 563,055.)

Reg. No. 696,979 (ITT), International Telephone and Telegraph Corporation, Semi-conductor devices, electron discharge tubes, wiring devices and telephone apparatus; **Reg. No. 711,999**, same, House organs published at intervals, filed Oct. 10, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1831, *IIT Research Institute v. International Telephone and Telegraph Corporation.* Final consent judgment Feb. 18, 1964.

Reg. No. 788,556. (See Reg. No. 547,221.)

Reg. No. 787,968 (ALCAN), Aluminum Company of Canada, Limited, Aluminum ingot and aluminum alloy ingot; **Reg. No. 787,691**, same, Chemical materials for general industrial use—namely, alumina, bauxite, brucite, fluospar and limestone; **Reg. No. 788,556**, same, Chemicals for general industrial use—namely, alumina hydrate, aluminum chloride, aluminum fluoride, etc., filed Mar. 2, 1964, D.C., M.D. Fla. (Tampa), Doc. 64-48-T, *Aluminum Company of Canada, Limited v. Alumatron International, Inc. et al.* Trademarks infringed; defendants enjoined (notice Apr. 27, 1964.)

Reg. No. 711,999. (See Reg. No. 696,979.)

Reg. No. 787,691. (See Reg. No. 787,968.)

Reg. No. 788,556. (See Reg. No. 787,968.)

Reg. No. 787,968. (See Reg. No. 563,055.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 135,260. Cortland Industries, Inc., Cortland, N.Y. Filed Jan. 5, 1962.

AIROC

For Molded Plastic Forms of Sandwich-Type Construction for General Use in the Industrial Arts.
First use Dec. 1, 1961.

SN 155,021. Stony Creek Granite Corporation, Providence, R.I. Filed Oct. 11, 1962.

MILFORD PINK

For Granite.
First use 1880.

SN 158,821. The Homalite Corporation, Wilmington, Del. Filed Dec. 10, 1962.

HOMALITE CR-39

For Thermosetting Type Plastic, Cast Pieces, Cast Tubing, Cast Rods, Cast Sheet and Machined Pieces of Varying Sizes and Shapes Weighing as Little as 1 Gram and as Much as 10 Kilograms.
First use Oct. 1, 1961.

SN 161,459. The J. H. Baker Company, York, Pa. Filed Jan. 28, 1963.

GRIP N GO

For Crushed Limestone for Use on Icy Roads and Walks To Prevent Slipping.
First use on or about Jan. 15, 1963.

SN 168,008. Jewell Ridge Coal Sales Company, Inc., Cincinnati, Ohio. Filed May 2, 1963.

JEWELL POCAHONTAS

No exclusive claim is made to the term "Pocahontas."
Owner of Reg. No. 155,927.
For Coal.
First use in or about the year 1913.

SN 168,197. International Purasil, Inc., Rogers, Ark. Filed May 6, 1963.

PURASIL

For Substantially Pure Silica in Its Natural State.
First use Nov. 16, 1962.

SN 171,039. Ralston Purina Company, St. Louis, Mo. Filed June 14, 1963.

PURINA

Owner of Reg. Nos. 61,057, 603,137, and others.
For Absorbent Deodorizing Clay.
First use Nov. 14, 1962.

SN 171,068. Allied Resinous Products, Inc., Conneaut, Ohio. Filed June 17, 1963.

RESINOL

For Thermoplastic Compounds Fabricated Into Blocks, Rods, Sheets, Tubes, and Castings for Articles of Manufacture.
First use Aug. 19, 1953.

SN 171,069. Allied Resinous Products, Inc., Conneaut, Ohio. Filed June 17, 1963.

BORONOL

For Thermoplastic Compounds Fabricated Into Blocks, Rods, Sheets, Tubes, and Castings for Articles of Manufacture.
First use Aug. 19, 1953.

SN 173,695. Rehau-Plastiks G.m.b.H., Rehau, Bavaria, Germany. Filed July 24, 1963.

PLASTIKANT

Owner of German Reg. Nos. 672,118, dated Feb. 26, 1955, 681,992, dated Sept. 26, 1955, and 725,971, dated June 12, 1959.
For Semi-Finished Articles of Synthetic Material—Namely, Pipes, Tubes, Hose, Plates, Rods, Bars, Strands, and Plastic Blanks of Various Shapes and Profiles.

SN 173,731. Bearfoot Sole Company, Inc., Wadsworth, Ohio. Filed July 25, 1963.

ORTHO-REST

For Shoe Soling Material Sold in Large Sheets, in Approximate Sole-Size Sheets, and as Soles Die-Stamped to Shoe Configuration, for Use in the Manufacture of Shoes.
First use on or about July 1, 1963.

SN 173,800. Whitmor Plastic Wire & Cable Corp., North Hollywood, Calif. Filed July 25, 1963.

FUSECOR

For Reinforced Flexible Vinyl Rod Used as a Cable Filler.
First use Aug. 26, 1960.

SN 173,886. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed July 29, 1963.

LUHYDRAN

Owner of German Reg. No. 768,306, dated Dec. 7, 1962.
For Chemical Products for Industrial Purposes, Especially Artificial Resins for the Manufacture of Lacquers.

SN 174,088. Donovan Industries, Inc., New York, N.Y. Filed July 31, 1963.

PATI-LIZARD

For Artificial Leather.
First use April 1962.

SN 174,089. Donovan Industries, Inc., New York, N.Y. Filed July 31, 1963.

PATI-MOCO-CROC

For Artificial Leather.
First use April 1963.

SN 174,090. Donovan Industries, Inc., New York, N.Y. Filed July 31, 1963.

PATI-GATOR

For Artificial Leather.
First use April 1963.

SN 177,618. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Sept. 24, 1963.

CELLIDOR

Owner of German Reg. No. 612,202, dated Oct. 5, 1951.
For Thermoplastic Synthetic Materials and Semifabricated Articles Produced Therefrom—Namely, Plates, Blocks, Tubes, and Foils.

SN 178,028. Pioneer Hi-Bred Corn Company, Des Moines, Iowa. Filed Sept. 30, 1963.

PIONEER

The drawing is lined for green. Owner of Reg. Nos. 84,443, 726,844, and others.
For Corn, Sorghum, and Alfalfa Seeds.
First use on or about Aug. 30, 1963.

SN 178,029. Pioneer Hi-Bred Corn Company, Des Moines, Iowa. Filed Sept. 30, 1963.

The drawing is lined for green.
For Corn, Sorghum, and Alfalfa Seeds.
First use on or about Aug. 30, 1963.

SN 178,136. Safeway Stores, Incorporated, Oakland, Calif. Filed Oct. 1, 1963.

OZARK

Owner of Reg. No. 667,534.
For Charcoal in Lump and Briquet Form.
First use May 1, 1957.

SN 181,283. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 18, 1963.

3M

Owner of Reg. No. 749,501.
For Plastic Sheet Material for Application to a Substrate To Provide a Chalkboard Facing.
First use Nov. 6, 1963.

SN 183,545. Air Reduction Company, Incorporated, New York, N.Y. Filed Dec. 6, 1963.

VELVESUEDE

For Vinyl Fabrics.
First use on or about Apr. 1, 1963.

Class 2—Receptacles

SN 174,683. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

The English translation of "Mitsubishi" is "three rhomboids." Owner of Japanese Reg. No. 600,496, dated Nov. 8, 1962.
For Boxes, Bags and Cases Used for Packing and Preserving Foodstuffs, Made of Polyvinyl Chloride, Melamine Resins, Phenolic Resins, Polyester Resins, Polyethylene Resins, Styrene Resins, Polyurethane Resins, Acrylic Resins and Epoxy Resins.

SN 178,550. The Huffman Manufacturing Company, Dayton, Ohio. Filed Oct. 8, 1963.

HUFFLEX

For Radiator and Battery Fillers and the Like.
First use February 1962.

SN 183,806. Standard Folding Cartons, Inc., Jackson Heights, N.Y. Filed Dec. 30, 1963.

STANSEAL

For Folding Paper Cartons.
First use Dec. 6, 1963.

Class 4—Abrasives and Polishing Materials

SN 155,830. Peninsular Distributing Company, Detroit, Mich. Filed Oct. 24, 1962.



Let JAY Do It

For Stainless Steel Cleaner and Polish for Institutional, Industrial, and Commercial Use.
First use on or about Apr. 1, 1962.

SN 193,282. Melville Shoe Corporation, New York, N.Y. Filed May 12, 1964.

Thom McAn

Bootmaster

The name "Thom McAn" is fanciful. Owner of Reg. Nos. 171,095, 268,178 and others.
For Shoe Polish.
First use May 6, 1964.

Class 5—Adhesives

SN 160,383. Henkel & Cie., GmbH, Duesseldorf-Holthausen, Germany. Filed Jan. 8, 1963.

ASSIL

Owner of German Reg. No. 630,769, dated May 21, 1952.
For Glue, Adhesives, and Cementing Compositions.

SN 160,384. Henkel & Cie., GmbH, Duesseldorf-Holthausen, Germany. Filed Jan. 8, 1963.

OVALIT

Owner of German Reg. No. 631,550, dated Dec. 12, 1952.
For Adhesive and Glue for Plastic.

SN 187,602. The O'Donnell Rubber Products Company, Cincinnati, Ohio. Filed Feb. 27, 1964.

TAPEY O'DONNELL

For Tapes, Bindings, and Die-Cut Shapes and Forms of Leather or Fabric, in Uncoated Condition or Coated With Adhesives, for General Use in the Industrial Arts; Pressure-Sensitive Adhesives, Thermoplastic Adhesives, and Solvent-Activated Adhesives.
First use at least as early as Dec. 20, 1963; on or about June 1, 1933, as to "O'Donnell."

Class 6—Chemicals and Chemical Compositions

SN 188,227. Phillips Petroleum Company, Bartlesville, Okla. Filed Feb. 19, 1962.

AVITROL

For Chemical Compositions To Repel Birds From Buildings and Other Areas.
First use on or about Feb. 1, 1962.

SN 159,970. The Diversey Corporation, Chicago, Ill. Filed Dec. 31, 1962.

UDDER-BAC

For Liquid Udder Wash and Dairy Farm Equipment Sanitizer.
First use Dec. 7, 1962.

SN 168,939. Middlesex Foods Inc., Highland Park, N.J. Filed May 15, 1963.

MIDDLESEX

For Ammonia, Liquid Starch, and Bleach (Sodium Hypochlorite Solution).
First use in 1946.

SN 175,598. Mann Research Laboratories, Inc., New York, N.Y. Filed Aug. 22, 1963.

BAPA

For Substrate for Enzymes, for Testing of Activity of Enzymes, and as an Intermediate for Synthesis of Other Substrates.
First use in March 1961.

SN 180,116. Onyx Chemical Corporation, Jersey City, N.J. Filed Oct. 30, 1963.

MICROFOAM

For Foaming Agent Used as an Ingredient in Preparing Formulas of Gypsum Slurry Used in the Manufacture of Gypsum Wallboard for the Purpose of Reducing Density, Improving Workability and Scoring, Dispersing Water Uniformly Throughout the Same and To Increase the Bond Strength of the Paper to the Gypsum Core.
First use on or about Oct. 8, 1963.

SN 181,344. The FR Corporation, New York, N.Y. Filed Nov. 18, 1963.

MAXIMATIC

Photographic Chemicals.
First use Nov. 6, 1963.

SN 183,061. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Dec. 16, 1963.

RESIDIL

For Diluents for Epoxy Resins.
First use Nov. 26, 1963.

SN 154,149. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 7, 1964.

KOR

Owner of Reg. Nos. 626,739 and 751,505.
For Photographic Resist, Photographic Resist Developer and Photographic Resist Thinner.
First use Aug. 7, 1963.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 165,982. The Casco Products Corporation, Bridgeport, Conn. Filed Feb. 4, 1964.

CASCO

Owner of Reg. Nos. 317,455, 660,982, and others.
For Electric Cigar Lighters.
First use about Aug. 1, 1923.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 161,762. MB Associates, Walnut Creek, Calif. Filed Jan. 31, 1963.

LANCE-JET

For Sub-Miniature Ballistic Rockets for Use in Anti-Personnel and/or Anti-Material Operations.
First use Apr. 17, 1961.

SN 162,025. American Cyanamid Company, Wayne, N.J. Filed Nov. 20, 1963.

ROCFRAC

For High Explosives.
First use Oct. 30, 1963.

Class 10 — Fertilizers

SN 173,001. Humble Oil & Refining Company, Houston, Tex. Filed July 15, 1963.

ENCAP

For Asphalt Products for Agricultural Use—Namely, Agricultural Mulch.
First use at least as early as Mar. 4, 1963.

Class 12 — Construction Materials

SN 171,189. Simpson Timber Company, Seattle, Wash. Filed June 17, 1963.

POTOMAC

For Plywood.
First use May 17, 1963.

SN 171,276. Simpson Timber Company, Seattle, Wash. Filed June 18, 1963.

CASHMERE

For Reconstituted Food Fiber Ceiling Tile.
First use May 17, 1963.

SN 172,631. Aquarius Industries, Incorporated, Oscoda, Mich. Filed July 9, 1963.

AQUARIUS

For Swimming Pools and Accessory Equipment—Namely, Plastic Pool Liners and Pool Water Treatment Cells.
First use May 15, 1963.

SN 180,152. The Dayton Sure Grip and Shore Company, Miamisburg, Ohio. Filed Oct. 10, 1963.

RAPI-BARS

For Components for Interconnecting and Supporting Concrete Forms.
First use Oct. 30, 1961.

SN 180,627. Adirondak Stone Quarries, Incorporated, Malone, N.Y. Filed Nov. 7, 1963.

DURAQUARTZ

For Slabs of Building Stone.
First use Nov. 16, 1962.

SN 183,586. Harbison-Walker Refractories Company, Pittsburgh, Pa. Filed Dec. 26, 1963.

H-W OXIBOND

Owner of Reg. Nos. 231,533, 661,543, and others.
For Refractory Material for Metallurgical Furnace Linings.
First use Sept. 23, 1960.

SN 186,676. American Gilsonite Company, Salt Lake City, Utah. Filed Feb. 14, 1964.

GILSASEAL

Owner of Reg. Nos. 144,545, 742,856, and others.
For Asphalt Pavement Sealer.
First use Jan. 19, 1964.

SN 186,860. E. J. Lavino and Company, Philadelphia, Pa. Filed Feb. 17, 1964.

OLIPASTE

Owner of Reg. Nos. 398,636 and 758,676.
For Paste or Wash To Be Used as a Coating on Basic Refractories.
First use Dec. 5, 1963.

SN 186,952. Johns-Manville Corporation, New York, N.Y. Filed Feb. 18, 1964.

TENU-MAT

For Fiber Glass Duct Liners.
First use Jan. 15, 1964.

SN 187,196. Johns-Manville Corporation, New York, N.Y. Filed Feb. 21, 1964.

DURAMAT

For Bitumen Treated Reinforced Fiber Glass Mats for Various Uses in the Construction Materials Field, Especially as a Supporting Base for Drain Tile, a Lining Material for Drainage Ditches, Ponds and the Like, and as a Pipeline Wrap.
First use July 29, 1953.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 169,640. La Salle Enterprises, Inc., Philadelphia, Pa. Filed May 24, 1963.

E-Z-ON

For Strap-On Tire Chain Units.
First use Apr. 16, 1963.

SN 171,401. Sunbeam Corporation, Chicago, Ill. Filed June 19, 1963.

RAIN CHIEF

For Lawn Sprinklers.
First use May 31, 1963.

SN 182,902. Slant/Fin Radiator Corporation, Richmond Hill, N.Y. Filed Dec. 12, 1963.

FAST/FLEX

For Pipe Connectors.
First use Nov. 20, 1963.

SN 182,443. Newman-Green, Inc., Addison, Ill. Filed Dec. 23, 1963.



Owner of Reg. No. 760,507.
For Valves and Valve Parts for Pressurized Packages.
First use July 11, 1962.

SN 185,684. J. B. Knight Company, d.b.a. J. B. Knight Distributing Company, Brownfield, Tex. Filed Jan. 30, 1964.



For Agricultural Irrigation Connectors.
First use Jan. 6, 1963.

SN 187,307. Sealco Air Brakes, Inc., City of Industry, Calif. Filed Mar. 2, 1964.

SEALCO

Owner of Reg. No. 426,992.
For Valves for Air Brake Systems and Repair Parts Therefor.
First use December 1947.

Class 15 — Oils and Greases

SN 160,836. The Standard Oil Company, Cleveland, Ohio. Filed Apr. 10, 1964.

E-10

For Grease.
First use Sept. 21, 1949.

Class 16 — Protective and Decorative Coatings

SN 160,386. Henkel & Cie., GmbH, Duesseldorf-Holthausen, Germany. Filed Jan. 8, 1963.

COMBIZELL

Owner of German Reg. No. 618,673, dated Nov. 6, 1951.
For Methylcellulose Binding and Thickening Agents for Paints.

SN 167,282. The Diversey Corporation, Chicago, Ill. Filed Apr. 22, 1963.

DURAPHOS

For Protective Coating on Metal To Prevent Rust and as Base Coating for Painted Metal Surfaces.
First use Apr. 11, 1963.

Class 17 — Tobacco Products

SN 167,614. SPC Industries, Inc., Jericho, N.Y. Filed Feb. 27, 1964.



For Tobacco Smokes—Namely, Tobacco Prefilled Pipes.
First use Feb. 11, 1964.

SN 167,811. Sullana A.G., Zurich, Switzerland. Filed Mar. 2, 1964.



Owner of Swiss Reg. No. 188,235, dated Oct. 16, 1961.
For Cigarettes.

Class 18—Medicines and Pharmaceutical Preparations

SN 157,348. Gibona Anstalt, Vaduz, Liechtenstein. Filed Aug. 6, 1963.

TACHOSTYPTEST

Owner of Liechtenstein Reg. No. 1,278, dated Feb. 8, 1962.
For Pharmaceutical Products—Namely, Homostatic Agents for Intravenous Administration and Test Reagents for Blood Analysis.

SN 177,964. Canal Pharmaceuticals, Inc., Chicago, Ill., by change of name from Chicago Pharmacal Company, Chicago, Ill. Filed Sept. 30, 1963.

UTRASUL

For Medicinal Preparation Used in the Treatment of Urinary Tract Infections.
First use Aug. 26, 1963.

SN 175,189. Toonama N.V., Sneek, Netherlands. Filed Oct. 16, 1963.

KING

For Peppermint for Medicinal Purposes.
First use in the year 1923; in commerce 1959.

SN 183,018. American Cyanamid Company, Wayne, N.J. Filed Dec. 16, 1963.

ACIBAN

Owner of Reg. No. 416,018.
For Antacid Preparation.
First use Dec. 8, 1963.

SN 168,514. C & C Research Products, Inc., Philadelphia, Pa. Filed Mar. 12, 1964.

PROMONAIL

For Vitamin Preparation Which Tends To Promote Nail Growth in Humans.
First use Sept. 1, 1962.

SN 160,424. Parke, Davis & Company, Detroit, Mich. Filed Apr. 6, 1964.

CAMOPRIMA

Owner of Reg. No. 631,682.
For Pharmaceutical Preparations Generally—Namely, Combination of Amodiaquine and Primaquine, Primarily Useful as an Anti-Malarial.
First use on or before Jan. 1, 1961.

Class 19—Vehicles

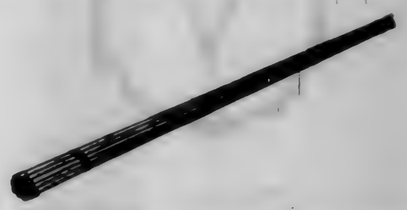
SN 167,123. Lazy Days Manufacturing Co., Inc., Buford, Ga. Filed Feb. 20, 1964.

LAZY-DAYS

For House Boats.
First use October 1961.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 166,234. The Youngstown Sheet and Tube Company, Boardman, Ohio. Filed Apr. 6, 1963.



The mark consists of an orange band about a bundle of conduit. The representation of the bundle of conduit forms no part of the mark. Owner of Reg. Nos. 277,426 and 702,793.
For Electrical Conduit.
First use Apr. 4, 1961.

SN 170,207. Nuclear Electronic Laboratories Incorporated, Walnut Creek, Calif. Filed June 3, 1963.

MIN-AMP

For Voice Amplifiers.
First use Feb. 11, 1963.

SN 174,418. Macon Corporation, Newark, N.J. Filed Aug. 5, 1963.

LOW-VAR

For Subminiature Ceramic Capacitors.
First use March 1960.

SN 174,419. Macon Corporation, Newark, N.J. Filed Aug. 5, 1963.

STABLE-K

For Subminiature Ceramic Capacitors.
First use March 1961.

SN 174,420. Macon Corporation, Newark, N.J. Filed Aug. 5, 1963.

SUPER-K

For Subminiature Ceramic Capacitors.
First use March 1964.

SN 174,421. Macon Corporation, Newark, N.J. Filed Aug. 5, 1963.

NARROW-CAPS

For Subminiature Ceramic Capacitors.
First use Oct. 5, 1959.

SN 174,422. Macon Corporation, Newark, N.J. Filed Aug. 5, 1963.

MU-CAPS

For Subminiature Ceramic Capacitors.
First use March 1962.

SN 174,745. Channel Master Corporation, Ellenville, N.Y. Filed Aug. 9, 1963.

BAND SAW

For UHF Antennas.
First use July 19, 1963.

SN 184,473. Jet Spray Cooler, Inc., Waltham, Mass. Filed Jan. 13, 1964.

JET

For Electrical Hot and Cold Beverage Dispensers, Parts and Accessories.
First use on or about Apr. 1, 1957.

SN 188,116. Emerson Electric Co., St. Louis, Mo., by change of name from The Emerson Electric Manufacturing Company, St. Louis, Mo. Filed Jan. 23, 1964.

OCTEX

For Enclosure Panels for Commercial and Industrial Lighting Fixtures.
First use Dec. 31, 1963.

SN 186,428. Alabama Metallurgical Corporation, Selma, Ala. Filed Feb. 11, 1964.

ALANODE

For Metallic Anodes.
First use Nov. 14, 1963.

Class 22—Games, Toys, and Sporting Goods

SN 156,182. Lawrence Swan, Niles, Ill. Filed Oct. 29, 1962.

GREEN-EYE

For Sporting Goods—Namely, Golf Clubs.
First use July 15, 1961.

SN 161,228. A & H Doll Manufacturing Corporation, Woodside, N.Y. Filed Jan. 28, 1963.

ANNIVERSARY BELLES

For Dolls.
First use Dec. 3, 1962.

SN 170,029. Robert G. Cerling, Elmhurst, Ill. Filed May 21, 1963.

SCATBACK

For Equipment Sold as a Unit for Playing a Board Game Played Along the Lines of Football.
First use Oct. 28, 1960.

SN 171,470. Mattel, Inc., Hawthorne, Calif. Filed June 20, 1963.

ANIMAL FRIENDS

For Equipment Sold as a Unit for Playing a Board and Card Type Game.
First use May 3, 1963.

SN 178,261. Elsie O. Deatherage, Selah, Wash. Filed Oct. 3, 1963.

SPIN-A-TURN

For Apparatus Comprising a Playing Board and Marks Therefore for Playing an Educational Word Game.
First use September 1963.

SN 179,161. Seneca Tackle Co., Inc., New York, N.Y. Filed Oct. 16, 1963.



No claim of exclusive right is made to "Lure" for the goods recited.
For Fish Lures.
First use June 15, 1950.

SN 180,025. Principle Business Enterprises, Inc., Waterville, Ohio. Filed Oct. 29, 1963.

STICKY-PIX

For Game Equipment Comprising a Board, Having a Tacky Adhesive on the Surface Thereof, Accompanied by an Assortment of Pieces of Plastic Foam Sheeting in Various Shapes and Sizes, To Be Applied to the Board by the User To Produce Any Desired Design, Picture or the Like.
First use Oct. 16, 1963.

SN 180,679. Product Investors Corporation, Ltd., New York, N.Y. Filed Nov. 7, 1963.

GOLFOMAT

For Equipment or Apparatus Sold as a Unit for Playing a Golf Game.
First use June 27, 1963.

SN 183,713. Sutton Games Corp., New York, N.Y. Filed Dec. 27, 1963.

PORT-OF-CALL

For Equipment Sold as a Unit for Playing a Board Type Game.
First use Nov. 15, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 183,221. Burgess & Associates, Inc., Lakewood, Ohio. Filed Feb. 21, 1963.

VIBRON

For Vibrators, Vibratory Conveyors, Vibratory Feeders, Vibratory Equipment and Parts.
First use April 1963.

SN 175,089. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 14, 1963.

AMERON

For Mufflers for Internal Combustion Engines.
First use Apr. 23, 1963.

SN 179,912. The Martin Sweets Company, Inc., Louisville, Ky. Filed Oct. 28, 1963.

MS

For Plastic Processing Machinery.
First use no later than May 1, 1958.

SN 180,220. Ronald H. Marks, Dallas, Tex. Filed Oct. 31, 1963.

EKON-O-VRT

For Strip-Forming Apparatus for Forming Material Such as Paper or Plastic Into Strips.
First use Sept. 25, 1963.

SN 180,281. Bemis Bro. Bag Company, Minneapolis, Minn. Filed Nov. 1, 1963.

THERMAIR

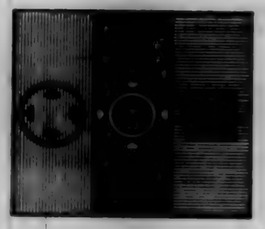
For Machines for Heat Sealing Plastic or Plastic Containing Materials and Parts Thereof.
First use on or about July 17, 1963.

SN 183,329. International Tool Company, Inc., Houston, Tex. Filed Dec. 4, 1963.

KELLY SPINNER

For Swivel Drive for Oil Well Drilling Rigs.
First use at least as early as Mar. 15, 1962.

SN 183,679. Grotnes Machine Works, Inc., Chicago, Ill. Filed Dec. 27, 1963.



The drawing is lined for the colors red, black, and blue, but color is not an essential part of the mark.
For Metal Forming Equipment—Namely, Roll Forming Machines, Metal Cutting Machines, Metal Expanding Machines, Metal Shrinking Machines, Hydraulic Presses, Mechanical Presses, Container Manufacturing Machines, Drum Manufacturing Machines, Pail Manufacturing Machines, Broaching Machines, Metal Coiling Machines, Welding Machines, Weld Planishing Machines, Weld Trimming Machines, Automotive Wheel Rim Manufacturing Machines, Conveyor Equipment, Transfer Lines, and Parts, Tools and Accessories for Said Machines.
First use Feb. 6, 1963; at least as early as May 6, 1954, in different form.

SN 183,986. A. J. Mitchell Co., Fall River, Mass. Filed Jan. 3, 1964.

AUTOSNAP

For Snap Fastener Feeding Machines.
First use Oct. 8, 1963.

SN 184,360. Continental Drill Corporation, Inc., Chicago, Ill. Filed Jan. 10, 1964.

CONTINENTAL•BLUE DOT

Owner of Reg. Nos. 703,300 and 745,403.
For Twist Drills, Masonry Drills, Boring Bits, and Related Drill Products.
First use Feb. 25, 1963.

SN 184,596. American Bosch Arms Corporation, Springfield, Mass. Filed Jan. 15, 1964.

INTRAVANCE

For Internal Timing Devices for Internal Combustion Engines.
First use Dec. 13, 1963.

SN 185,417. Nihon Spindle Seiso Kabushiki Kaisha, Amagasaki, Hyogo, Japan. Filed Jan. 27, 1964.

PNEUMANIEZ

For Pneumatic Cleaners for Textile Machines.
First use Oct. 15, 1954; in commerce Oct. 15, 1954.

SN 185,552. The Bastian-Blessing Company, Chicago, Ill. Filed Jan. 29, 1964.

EXCELALL

Owner of Reg. No. 662,826.
For Carbonators, CO_2 Regulators, Beverage Dispensers, Plain Water and Soda Water Coolers, Soda Fountains, and Parts Thereof.
First use Aug. 18, 1948.

SN 185,684. J. B. Knight Company, d.b.a. J. B. Knight Distributing Company, Brownfield, Tex. Filed Jan. 30, 1964.



For Agricultural Irrigation Pipe Moving Equipment.
First use Jan. 8, 1963.

SN 185,776. Heller Laboratories, Inc., Leonia, N.J. Filed Jan. 31, 1964.

TOWERTROL

For Automatic Water Treatment Controls, Valves, and Automatic Electrical Controls for Water Systems.
First use in early summer of 1961.

SN 187,138. Jeffrey J. Orr and John J. Shankland (joint owners), d.b.a. SJ Manufacturing Company, Doylestown, Ohio. Filed Feb. 20, 1964.

EASY-UP

For Silage Distributing Equipment.
First use in or about July 1963.

SN 187,161. Sprayline, Inc., Fresno, Calif. Filed Feb. 20, 1964.

SPEED MASTER

For Spray Finishing Machines for the Dry Wall and Plastering Industry.
First use Aug. 28, 1961.

SN 187,172. The Cleveland Twist Drill Company, Cleveland, Ohio. Filed Feb. 21, 1964.

TWIN-JET

For Twist Drills—Namely, Carbide Tipped Double Crimped Tube Drills.
First use Feb. 6, 1964.

SN 187,455. The AP Parts Corporation, Toledo, Ohio. Filed Feb. 26, 1964.

ACOUSTA TONE

For Mufflers for Exhaust Gas Systems.
First use July 15, 1963.

SN 187,772. The Mead Corporation, Dayton, Ohio. Filed Mar. 2, 1964.

PAK-PACER

For Automatic Packaging Machinery.
First use July 1961.

SN 187,954. Omark Industries, Inc., Portland, Oreg. Filed Mar. 4, 1964.

MICRO-GUARD

For Saw Chains.
First use Oct. 18, 1963.

SN 188,151. Stephens-Adamson Mfg. Co., Aurora, Ill. Filed Mar. 6, 1964.

CURVE CROWN

Owner of Reg. No. 690,703.
For Pulleys and Parts and Fittings Therefor.
First use June 23, 1958.

SN 188,208. Dorr-Oliver Incorporated, Stamford, Conn. Filed Mar. 9, 1964.

DOXIE

For Centrifugal Type Separating Devices, Such as Impurity Eliminators.
First use Sept. 9, 1963.

SN 188,209. Dorr-Oliver Incorporated, Stamford, Conn. Filed Mar. 9, 1964.

DOXIE

For Centrifugal Type Separating Devices, Such as Impurity Eliminators.
First use Sept. 9, 1963.

SN 189,173. International Parts Corporation, Chicago, Ill. Filed Mar. 20, 1964.

VIBRO

For Positive Crankcase Ventilation Valves—Namely, Valves Used in Internal Combustion Engines for Eliminating Crankcase Emissions.
First use on or about July 17, 1963.

SN 189,214. Selectivend Corporation, Kansas City, Kans. Filed Mar. 20, 1964.

SV

Owner of Reg. No. 758,794.
For Coin Operated Vending Machines.
First use January 1960.

SN 189,282. Electriz, Inc., Port Chester, N.Y. Filed Mar. 23, 1964.



For Electric Carving Knives.
First use Nov. 20, 1963.

SN 189,382. Seawol, Inc., Los Angeles, Calif. Filed Mar. 23, 1964.

CHAMPION

For Sewing Machines.
First use on or about Mar. 10, 1964.

SN 189,420. American Carbide Company, East Rutherford, N.J. Filed Mar. 24, 1964.

AMLOC

For Dies and Die Holders.
First use Mar. 22, 1963.

SN 189,894. General Standard Company, Chicago, Ill. Filed Mar. 30, 1964.

GESCO

For Railway Equipment—Namely, Roller Bearing Adapters.
First use Mar. 11, 1964.

SN 189,907. Leewood Sales Company, St. Joseph, Mo. Filed Mar. 30, 1964.

OLD STOREKEEPER

For Razor Blades.
First use at least as early as 1936.

SN 190,054. Avco Corporation, Coldwater, Ohio. Filed Apr. 1, 1964.



No claim is made to the words "System" and "Power Unit" apart from the mark as shown. Owner of Reg. Nos. 171,596, 606,701, and others.
For Self-Propelled Field Harvesting Equipment.
First use Feb. 27, 1964.

Class 24—Laundry Appliances and Machines

SN 140,547. Eaton Chemical Corporation, Detroit, Mich. Filed Mar. 23, 1962.



The drawing is lined for red and blue.
For Dry-Cleaning Machines and Parts.
First use Feb. 3, 1962.

Class 26—Measuring and Scientific Appliances

SN 124,698. Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany. Filed Dec. 28, 1961.



For Postage Meters and Postal Metering Machines.
First use on or about Apr. 9, 1940; in commerce Nov. 20, 1953.

SN 147,758. Dynamics Corporation of America, New York, N.Y., assignee of Reeves Instrument Corporation, Garden City, N.Y. Filed June 28, 1962.

PROBLEM CHECK

For Electronic Computers.
First use on or about Mar. 1, 1955.

SN 165,242. Moderntools Corp., Woodside, N.Y. Filed Mar. 22, 1963.

MODERNTOOLS

For Precision Measuring Tools—Namely, Vernier Height Gages and Dial Calipers.
First use July 30, 1962.

SN 172,834. Memo Electronic Research and Development Corporation, Plainwell, Mich. Filed July 11, 1963.

MEMO

For Electronic Apparatus for Monitoring, Testing, Controlling or Indicating That a Correction Is Necessary in the Proper Operation of Industrial Machines.
First use June 6, 1963.

SN 175,531. Visual Graphics Corporation, New York, N.Y. Filed Aug. 21, 1963.



For Lithographic Cameras.
First use June 12, 1963.

SN 175,541. Anken Chemical & Film Corporation, Newton, N.J. Filed Aug. 22, 1963.

VALUE LINE

For Sensitized Photographic Papers and Unsensitized Coated Photocopy Papers.
First use Apr. 29, 1963.

SN 177,555. Shandon Scientific Company Limited, Willesden, London, England. Filed Sept. 23, 1963.

PANGLAS

Priority claimed under Sec. 44(d) on British Reg. No. 946,708, dated Mar. 22, 1963.
For Scientific Apparatus and Instruments—Namely, Chromatographic Tanks, Parts, and Fittings Therefor Made Wholly or Principally of Glass.

SN 179,876. Tool Automation Enterprises Corporation, Hazelcrest, Ill. Filed Oct. 23, 1963.



For Manually Operated Measuring Instruments of the Caliper Type, Comprising Vernier Scales, and Especially Adapted for Measuring the Distance Between Centers of Spaced Holes in Machine Parts and Other Objects.
First use Oct. 8, 1963.

SN 179,880. Barnes Engineering Company, Stamford, Conn. Filed Oct. 24, 1963.

CIRCULE

For Removable Packaged Electronic Circuits, e.g., Amplifiers, Demodulators, Filters, Rectifiers, Power Supplies, and Other Electronic Circuitry for Use in Radiation Instruments Such as Infrared Cameras, Radiometers, Trackers, and Other Such Instruments Which Employ Electronic Signal Processing.
First use Oct. 1, 1963.

SN 179,912. The Martin Sweets Company, Inc., Louisville, Ky. Filed Oct. 28, 1963.



For Scientific Instruments for Measurement and Comparison of Paper and Paper Products.
First use no later than May 1, 1964.

SN 180,538. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed Nov. 5, 1963.

PROTOTRON

Owner of German Reg. No. 754,434, dated Oct. 30, 1961.
For Mass Spectrometers.

SN 180,871. Flex-Kleen Corporation, Chicago, Ill. Filed Nov. 12, 1963.

ASTRO-FLEX

For Electrical Timers for Sequential Control of Industrial Process Equipment.
First use November 1961.

SN 181,720. Visual Graphics Corp., New York, N.Y. Filed Nov. 21, 1963.

Typrinter

For Photographic Typesetting Machine in the Nature of a Contact Printer.
First use Oct. 28, 1963.

SN 182,034. Carpenter Corporation, Muskegon, Mich. Filed Nov. 29, 1963.



For Measuring and Scientific Appliances, and More Particularly, Measuring Appliances for Marine and Land Vehicles—Namely, Speedometers, Tachometers, Compasses, Manifold Pressure Gauges, and Ammeters.
First use on or about Oct. 6, 1963.

SN 182,856. Ankh Laboratories, Inc., Fairborn, Ohio. Filed Dec. 12, 1963.



Owner of Reg. No. 749,768.
For Apparatus for Conducting Qualitative and Quantitative Assays, Particularly Assays of the Activity of Chemical Agents in Relation to Micro-Organisms.
First use Oct. 23, 1963.

SN 182,983. Copymation, Inc., Elk Grove Village, Ill. Filed Dec. 13, 1963.

COPYMATION

Owner of Reg. Nos. 734,198 and 758,365.
For Photo Reproducing Machines of the Whiteprint Variety and Apparatus Used in Connection Therewith, Said Apparatus Including Paper Feeding, Print Delivery, Control and Pumping Apparatus Sold as Optional Accessories.
First use on or about Nov. 15, 1963.

SN 183,434. J. A. Maurer, Inc., Long Island City, N.Y. Filed Dec. 23, 1963.

GORGON

For Electro-Optical Guidance Systems and Parts Thereof.
First use March 1959.

SN 184,954. Oxberry Corporation, New Rochelle, N.Y. Filed Jan. 20, 1964.

OXBERRY

For Motion Picture Equipment, Including Cameras, Photographic Animation Devices, Printers, and Projectors.
First use about 1956.

SN 186,123. The Sheffield Corporation, Dayton, Ohio. Filed Feb. 5, 1964.

LECTROLAIR

For Gaging Apparatus and Parts Thereof Used for Measurement or Comparison of the Size or Dimension of an Article To Be Gaged.
First use on or about May 1, 1954.

SN 186,366. Keystone Camera Company, Inc., Boston, Mass. Filed Feb. 10, 1964.

LOAD-A-MATIC

For Photographic Cameras.
First use Jan. 22, 1964.

SN 186,416. United Gas Corporation, Shreveport, La. Filed Feb. 10, 1964.

AMCORDER

For Adding Machine Tape Recorder Instruments.
First use Nov. 8, 1963.

SN 186,950. Instruments, Inc., Tulsa, Okla. Filed Feb. 18, 1964.

LEVELTRONIC

For Conductivity Switch for Controlling the Level of Conductive Liquid.
First use on or about Aug. 12, 1954.

SN 187,115. Komamura Photographic Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Feb. 20, 1964.

HORSEMAN

For Cameras.
First use April 1961; in commerce January 1962.

SN 188,505. American Optical Company, Southbridge, Mass. Filed Mar. 12, 1964.

PROJECT-O-BLOCKER

Owner of Reg. Nos. 259,735 and 703,227.
For Apparatus for Aligning and Mounting Ophthalmic Lens Blanks for Processing Thereof.
First use Dec. 5, 1963.

Class 28 — Jewelry and Precious-Metal Ware

SN 157,176. Richard Wengert, d.b.a. Julius Wengert & Co., Pforzheim, Germany. Filed June 13, 1962.



Owner of German Reg. No. 469,667, dated Oct. 10, 1934.
For Pocket Manicure Sets, Toothpicks, Perfume Bottles, Powder Boxes, Pill Boxes, Pocket Mirrors, Table Bells, and Swizzle Sticks All Made of Silver or Gold.

SN 173,348. Gem Novelty Mfg. Co., Inc., New York, N.Y. Filed July 18, 1963.

fabiola

For Costume Jewelry.
First use Apr. 10, 1963.

SN 185,519. C. A. Kiger Company, Kansas City, Mo. Filed Jan. 28, 1964.

IDENTIFIED

Owner of Reg. Nos. 406,378 and 407,788.
For Precious and Semi-Precious Stones.
First use June 16, 1942.

SN 188,352. Fort Jewelry Co. Inc., Providence, R.I. Filed Mar. 10, 1964.



For Silverware—Namely, Sterling Silver and Silver Plated Souvenir Spoons, Precious Metal Charms, Necklaces and Pendants Therefor.
First use May 1960.

Class 30 — Crockery, Earthenware, and Porcelain

SN 183,634. Terrace Ceramics, Inc., Zanesville, Ohio. Filed Dec. 26, 1963.



For Horticultural Art Ware—Namely, Planters, Flower Bowls and Window Boxes Made of High-Fired Porcelain Material.
First use Nov. 15, 1963.

Class 31 — Filters and Refrigerators

SN 181,873. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed Aug. 27, 1962.

ACIPLEX

Priority claimed under Sec. 44(d) on Japanese application filed July 17, 1962; Reg. No. 627,495, Oct. 23, 1963.
For Ion-Exchange Resin and Membrane Made Therefrom.

SN 185,890. Groton Distributing Corp., Brooklyn, N.Y. Filed Feb. 3, 1964.

Filtro-Cal

For Water Filtering Elements for Insertion in Water Faucet Filter Attachments.
First use on or about Nov. 15, 1963.

Class 32 — Furniture and Upholstery

SN 186,237. George L. Cole, d.b.a. Ramsey Co., Philadelphia, Pa. Filed Feb. 7, 1964.

TRACT-A-FILE

For Filing Cabinets.
First use Dec. 30, 1957.

SN 186,990. Alladin Plastics, Inc., Gardena, Calif. Filed Feb. 19, 1964.

SUN-DIAL

For Chairs.
First use on or about Oct. 16, 1963.

SN 181,000. Benner Glass Company, Jacksonville, Fla. Filed Nov. 13, 1963.



For Glassware—Namely, Glasses, Tumblers, Mugs, Individually and Associated With Trays and Racks Therefor; Jars, Bowls, Salt and Pepper Shakers, Vases, Planters, Pitchers, and Bottles.
First use September 1955; 1948 in a different form.

SN 181,001. Benner Glass Company, Jacksonville, Fla. Filed Nov. 13, 1963.

SIESTA WARE

The word "Ware" is disclaimed apart from the mark as shown.
For Glassware—Namely, Glasses, Tumblers, Mugs, Individually and Associated With Trays and Racks Therefor; Jars, Bowls, Salt and Pepper Shakers, Vases, Planters, Pitchers, and Bottles.
First use October 1948.

SN 181,002. Benner Glass Company, Jacksonville, Fla. Filed Nov. 13, 1963.

Siesta Ware

The word "Ware" is disclaimed apart from the mark as shown.
For Glassware—Namely, Glasses, Tumblers, Mugs, Individually and Associated With Trays and Racks Therefor; Jars, Bowls, Salt and Pepper Shakers, Vases, Planters, Pitchers, and Bottles.
First use October 1948.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 174,230. Lucille H. Neuschel, Richfield Springs, N.Y. Filed Aug. 1, 1963.

WYRE-TRED

For Vehicle Tires.
First use July 25, 1963.

SN 183,328. The Hercules Tire & Rubber Company, Stamford, Conn. Filed Dec. 20, 1963.

H.D.T.

For Pneumatic Tires, Tubes, Tread Rubber, and Tire Flaps.
First use Nov. 12, 1963, on tires.

Class 36 — Musical Instruments and Supplies

SN 182,119. Clement P. Salla, Toronto, Ontario, Canada. Filed Nov. 29, 1963.

PIANOMATE

Owner of Canadian Reg. No. 130,176, dated Mar. 6, 1963.
For Template for Developing the Muscles and the Position of the Fingers on the Piano.

SN 184,373. V-M Corporation, Benton Harbor, Mich. Filed Jan. 8, 1964.

FIDELIS

Owner of Reg. No. 613,505.
For Phonographs and Tape Recorders.
First use on or before May 17, 1954, on phonographs.

SN 184,497. The Nortronics Company, Inc., Minneapolis, Minn. Filed Jan. 13, 1964.



For Magnetic Tapes.
First use Jan. 5, 1961.

SN 184,734. D. F. (Bud) Magness, Heber Springs, Ark. Filed Jan. 16, 1964.

M-VAN

For Phonograph Records.
First use Sept. 25, 1963.

SN 184,875. Edward Van Baerle, Chicago, Ill. Filed Jan. 20, 1964.

PAUSEMATIC

For Phonograph Attachment Providing Instant Start and Stop of Record.
First use Aug. 27, 1963.

Class 37 — Paper and Stationery

SN 183,452. The Parker Pen Company, Janesville, Wis. Filed Dec. 23, 1963.



Owner of Reg. Nos. 419,077, 750,243, and others.
For Fountain Pens and Ink Cartridges Therefor, Ball Point Pens and Refills Therefor, Mechanical Pencils and Leads and Erasers Therefor, and Writing Instrument Desk Sets.
First use Aug. 27, 1958.

SN 186,166. S. M. Frank & Co., Inc., New York, N.Y. Filed Feb. 6, 1964.



Owner of Reg. Nos. 120,584, 542,066, and others.
For Mechanical Pens.
First use Jan. 6, 1964.

SN 186,221. W. H. Brady Co., Milwaukee, Wis. Filed Feb. 7, 1964.

PERMA-SHIELD

For Pressure Sensitive Adhesive Labels.
First use Oct. 1, 1959.

Class 38 — Prints and Publications

SN 111,715. Dell Publishing Co., Inc., New York, N.Y. Filed Jan. 11, 1961.

DELL PURSE BOOK

For Books.
First use Dec. 8, 1960.

SN 123,693. Societe Anonyme Le Lido, Paris, France. Filed July 10, 1961.

LE LIDO

Priority claimed under Sec. 44(d) on French Reg. No. 494,856, dated Mar. 14, 1961 (Satne); Natl. Inst. No. 160,905.
For Printed Display Cards, Menu Cards, Invitation Cards, Magazines, Newspapers, Newsletters, House Organs, Posters, and Programs.

SN 165,798. Mar-Wheat Enterprises, Inc., Clarksville, Tex. Filed Apr. 1, 1963.



For Printed Cards for Promotional Use by Others in Encouraging the Sale of Their Merchandise.
First use Jan. 27, 1962.

SN 166,895. Fox River Paper Corporation, Appleton, Wis. Filed Apr. 17, 1963.



For Lithography Workbooks.
First use Apr. 15, 1963.

SN 166,896. Fox River Paper Corporation, Appleton, Wis. Filed Apr. 17, 1963.

GRAPHI LITH

For Lithography Workbooks.
First use Apr. 15, 1963.

SN 176,786. Forbes Investographs Inc., New York, N.Y. Filed Sept. 12, 1963.

FORBES INVESTOGRAPHS

Owner of Reg. Nos. 556,832, 711,016, and 721,847.
For Financial Advisory and Reference Publication Containing Charts, Statistical Tables, and Text on Traded Securities.
First use Aug. 16, 1963.

SN 177,024. Thomas Gilcrease Institute of American History & Art, Tulsa, Okla. Filed Sept. 16, 1963.

AMERICAN SCENE

For Magazine.
First use on or about Mar. 15, 1963.

SN 180,090. Griffon Graphics, Inc., Seattle, Wash. Filed Oct. 30, 1963.



For Educational Documentary Films.
First use Apr. 30, 1962.

SN 181,385. Monsanto Chemical Company, St. Louis, Mo. Filed Nov. 18, 1963.

TECH-TALK

For News Bulletin on Technical Developments and New Products of Applicant for Distribution to Applicant's Customers.
First use October 1963.

Class 39 — Clothing

SN 175,462. Blair Fashions, Inc., Chicago, Ill. Filed Aug. 21, 1963.

AUTUMN LEAVES

For Girdles and Panty Girdles.
First use June 6, 1963.

SN 175,463. Blair Fashions, Inc., Chicago, Ill. Filed Aug. 21, 1963.

LINE TAMER

For Girdles and Panty Girdles.
First use June 6, 1963.

SN 181,328. Jane Colby Inc., New York, N.Y. Filed Nov. 15, 1963.



The name "Jane Colby" is fanciful.
For Women's and Misses' Dresses, Blouses, Skirts, Suits, Pants, and Shorts.
First use 1948.

SN 181,901. I. B. Kleinert Rubber Company, New York, N.Y. Filed Nov. 26, 1963.

UNDER-ALL

For Women's Undershirts Which Serve as Holders for Dress Shields.
First use February 1956.

SN 182,441. Sam Shainberg Company, Memphis, Tenn. Filed Dec. 5, 1963.

LAURIE NOVEL

The name "Laurie Novel" does not refer to any particular living individual.
For Ladies' Hats, Dresses, and Coats.
First use March 1960.

SN 182,706. Carson Pirie Scott & Co., Chicago, Ill. Filed Dec. 10, 1963.

Thriftwist

For Hosiery.
First use Oct. 31, 1963.

SN 183,678. Glen Mfg. Inc., Milwaukee, Wis. Filed Dec. 27, 1963.

petti

Owner of Reg. Nos. 426,234, 671,259, and 715,123.
For Women's Junior and Children's Sportswear—Namely, Jackets, Coats, Parkas, Sweaters, Ski Pants, Slacks, and Stretch Pants.
First use July 31, 1963.

SN 184,491. Doris Moore of California, Long Beach, Calif. Filed Jan. 10, 1964.

HANG TEN

Owner of Reg. No. 763,573.
For Garments for Swimming, Including Bathing Suits, Jackets and Shirts.
First use May 20, 1962.

SN 185,630. Muriel Spring, New York, N.Y. Filed Jan. 29, 1964.

BRIANTI

For Trimmed Hats.
First use Jan. 6, 1956.

SN 185,711. Personal Sportswear, Inc., Boston, Mass. Filed Jan. 30, 1964.

DONATH

Owner of Reg. Nos. 429,100 and 504,488.
For Women's Skirts.
First use Oct. 16, 1945.

Class 40—Fancy Goods, Furnishings, and Notions

SN 190,815. Melville Shoe Corporation, New York, N.Y. Filed Apr. 10, 1964.

Thom McAn

The name "Thom McAn" is fanciful. Owner of Reg. Nos. 171,095, 268,176, and others.
For Shoe Laces.
First use Aug. 10, 1963.

SN 191,337. Wig City-34th St., Inc., New York, N.Y. Filed Apr. 16, 1964.

SANS SOUCI

For Wigs and Hairpieces.
First use Dec. 10, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 177,013. The Dow Chemical Company, Wilmington, Del. Filed Sept. 16, 1963.

ROVANA

Owner of Reg. Nos. 689,667 and 691,343.
For Textile Fabrics Useful in the Manufacture of Drapery, Wall Coverings, and the Like.
First use May 24, 1963.

SN 177,014. The Dow Chemical Company, Midland, Mich. Filed Sept. 16, 1963.

ROVANA

Owner of Reg. Nos. 689,667 and 691,343.
For Draperies, Curtains, Wall Hangings, and Draping Fabrics.
First use May 24, 1963.

SN 177,485. Charles Bloom, Inc., New York, N.Y. Filed Sept. 23, 1963.

BLOOMMIST

For Piece Goods Used for Draperies and Upholstery Purposes.
First use Mar. 23, 1962.

SN 179,211. Denis-Marcus, Inc., New York, N.Y. Filed Oct. 17, 1963.

BOCA RATON

For Textile Piece Goods Used in Making Ladies' Dresses and the Like.
First use Jan. 15, 1955.

SN 182,226. Troy Mills Inc., Troy, N.H. Filed Dec. 2, 1963.

TROYFELT

Owner of Reg. Nos. 299,668, 705,289, and others.
For Mechanically Interlocked, Non-Woven Felt.
First use July 1, 1958.

SN 184,571. Everfast Fabrics, Inc., New York, N.Y. Filed Jan. 14, 1964.

HALYARD

For Piece Goods of Cotton, Wool, Rayons, Synthetic Fibers, and Mixtures of the Same.
First use Jan. 6, 1964.

SN 184,856. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Jan. 17, 1964.

"THE CASTELLO COLLECTION"

For Piece Goods of Cotton and Rayon, Nylon and Other Synthetic Fibers, and/or Combinations Thereof, Adapted To Be Made Up Into Draperies, Slipcovers, Upholstery Goods, Bedspreads, and Pillows.
First use on or about Dec. 10, 1963.

SN 184,984. J. P. Stevens & Co., Inc., New York, N.Y. Filed Jan. 20, 1964.

COSMETIC TOUCH

For Piece Goods of Cotton and Synthetic Fibers Treated With a Chemical Agent, Such Fabrics Being Used for Lingerie and the Like.
First use Jan. 8, 1964.

SN 185,256. Weiknit Elastic Fabrics Co., West New York, N.J. Filed Jan. 23, 1964.

AIRO-KNIT

For Porous Fabrics and Girdle Blanks.
First use Jan. 20, 1958.

Class 43—Thread and Yarn

SN 169,746. Monsanto Chemical Company, St. Louis, Mo. Filed May 27, 1963.

MONSANTO

Owner of Reg. Nos. 526,822, 539,035, and 672,664.
For Synthetic Thread and Yarn.
First use Apr. 6, 1963.

SN 169,940. Kyowa Rubber Industry Co., Ltd., Nishinari-ku, Osaka, Japan. Filed May 29, 1963.

Millionex

Owner of Japanese Reg. Nos. 434,107, dated Apr. 13, 1953; and 441,594, dated Mar. 6, 1954.
For Plain and Coated Rubber Thread.

SN 174,693. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 5, 1963.

MITSUBISHI

The English translation of "Mitsubishi" is "three rhomboids." Owner of Japanese Reg. Nos. 353,666, dated Dec. 14, 1942; 355,667, dated Dec. 14, 1942; 355,669, dated Dec. 14, 1946; and 571,461, dated May 1, 1961.
For Threads for Sewing and Embroidering, and Yarns for Weaving and Knitting, of Silk, Cotton, Wool, Hemp, and Synthetics.

SN 178,767. The American Thread Company, New York, N.Y. Filed Oct. 11, 1963.

STAR FAST

No claim is made to the word "fast" apart from the mark as shown. Owner of Reg. Nos. 25,632 and 742,430.
For Thread and Yarn.
First use June 21, 1943.

SN 181,781. Acme Backing Corporation, New York, N.Y. Filed Nov. 22, 1963.

BEAULON

For Synthetic Yarn.
First use Nov. 18, 1963.

Class 44—Dental, Medical, and Surgical Appliances

SN 178,731. Picker X-Ray Corporation, White Plains, N.Y. Filed Oct. 10, 1963.

PICKER

Owner of Reg. Nos. 427,872, 589,503, and others.
For Medical Diagnostic Mechanisms for Emitting, Detecting, Handling, Measuring, and/or Recording X or Nuclear Radiation; Medical Therapy Mechanisms for Emitting X and Nuclear Radiation; Medical Diagnostic Mechanisms Stimulated by Such Radiation for Producing Visually Detectable Images; Medical Diagnostic X-Ray Film; Materials and Mechanisms for Processing Medical Diagnostic X-Ray Film; Mechanisms for Holding and/or Aiding in Interpreting Such Medical Diagnostic Images and Films; Parts and Accessories for Such Mechanisms; and Medical Diagnostic Instruments, Tools, and Equipment Such as: Examination Stools, Periscopes for Use With Treatment Cones, Mobile Buckey Stands, Head Clamps, Calipers, Safelight Lamps, Cone Racks, Enema Cans, Mechanical Measuring Devices for Measuring the Pelvic Cavity During Pregnancy, Optic Canal Localizers, Stenvers Localizers, Head Rests, Film Viewing Devices, and Angio Injectors.
First use in 1934.

Class 45—Soft Drinks and Carbonated Waters

SN 157,782. Feigenson, Incorporated, d.b.a. Faygo Beverage Company, Detroit, Mich. Filed Nov. 23, 1962.

FAYGO

For Soft Drinks.
First use 1942.

SN 172,424. Side Kick Citric Products Co., Woodmere, N.Y. Filed July 3, 1963.

SIDE KICK

For Non-Alcoholic Imitation Lemon Flavored Concentrate Used in the Preparation of Alcoholic and Non-Alcoholic Beverages.
First use August 1951.

SN 172,724. George H. Byer, Anchorage, Alaska. Filed July 10, 1963.



The drawing is lined for the colors orange and green.
For Carbonated Soft Drink.
First use June 1, 1963.

SN 173,563. S. E. Cassidy, d.b.a. The Witesoda Company, Princeton, Ill. Filed July 23, 1963.

QUININE

WATER

with a dash of lime

The drawing is lined to show the color red. Without waiver of common law rights applicant disclaims the words "Quinine Tonic Water With a Dash of Lime" apart from the mark shown.
For Carbonated Quinine Water.
First use on or about Apr. 16, 1961.

SN 173,564. S. E. Cassidy, d.b.a. The Witesoda Company, Princeton, Ill. Filed July 23, 1963.

"QUE" TONIC

Without waiver of common law rights applicant disclaims the word "Tonic" apart from the mark shown.
For Carbonated Quinine Water.
First use on or about Apr. 16, 1961.

Class 46—Foods and Ingredients of Foods

SN 146,291. Independent Grocers Alliance Distributing Co., Chicago, Ill. Filed June 6, 1962.

MASTER CHEF

For Fresh Meat.
First use Apr. 23, 1962.

SN 147,705. Concentrates Company, Cedar Grove, N.J. Filed S.R. June 26, 1962; Am. P.R. June 4, 1963.

SUN-RIPE

The words "Choice of the Grove" in the present mark are disclaimed.
For Dehydrated Fruits, Berries, and Vegetables With Other Ingredients for Use as Bases for Making Sauces, Spreads, and Fruit Flavored Food Drinks and for Other Food Purposes.
First use December 1959.

SN 154,676. American Salt Corporation, Omaha, Nebr. Filed Oct. 8, 1962.

EASY FLOW

For Salt for Use as a Feed Supplement for Livestock.
First use August 1962.

SN 162,489. Reliable Packing Company, d.b.a. Thompson Farms, Chicago, Ill. Filed Feb. 11, 1963.

THOMPSON FARMS BRAND

Applicant disclaims exclusive rights to the word "Brand." Owner of Reg. No. 739,450.
For Pork and Pork Products—Namely, Canned Hams, Pullman Hams, Pork Loins, Bacon, Canadian Bacon, Smoked Butts, Spareribs, Feet, Butts, Ears, Tails, Neck Bones, and Back Ribs.
First use March 1962; June 1956 as to "Thompson Farms Brand."

SN 169,967. Francis G. Palmer, d.b.a. Glacier Springs Trout, Bellaire, Mich. Filed May 29, 1963.

GLACIER SPRINGS

For Fresh Trout.
First use Sept. 26, 1962.

SN 173,862. Peerless Confection Company, Chicago, Ill. Filed July 26, 1963.

PEERMINTS

For Candies.
First use on or about Apr. 28, 1926.

SN 179,189. Tonnema N.V., Sneek, Netherlands. Filed Oct. 16, 1963.

KING

For Peppermint for Confectionery Purposes.
First use in the year 1823; in commerce 1962.

SN 179,461. Revord-James & Co., Golf, Ill. Filed Oct. 21, 1963.

TWIST-O

Pure Lemon Oil.
First use February 1953.

SN 180,464. T-N-T Food Products, Inc., Lawrence, Kans. Filed Nov. 4, 1963.

jet pop

The word "Pop" is disclaimed apart from the mark as shown.
For Unpopped Popcorn.
First use Oct. 10, 1963.

SN 182,184. James Candy Company, Atlantic City, N.J. Filed Dec. 2, 1963.

The drawing is lined for blue, but no claim to color is made. Owner of Reg. Nos. 622,798 and 762,689.
For Candy.
First use June 1949.

SN 183,784. Pacific National Foods, Inc., d.b.a. 7 Valley Foods, Seattle, Wash. Filed Dec. 30, 1963.

7 VALLEYS

For Frozen Fruit and Vegetables.
First use Aug. 6, 1963.

SN 183,972. The Donruss Co., Memphis, Tenn. Filed Jan. 3, 1964.

DART

For Chewing Gum in the Form of Balls, Squares, Rectangles, and Other Shapes.
First use Feb. 28, 1958.

SN 184,942. Mayfair Markets, Los Angeles, Calif. Filed Jan. 20, 1964.

Mayfresh

For Canned Fish; Flour; Canned Fruits; Canned Vegetables; Pork and Beans; Marshmallows; Raisins; Jams and Jellies; Peanut Butter; Preserves; Canned Fruit Juices; Apple Cider; Prune Juice; Tomato Juice; Apple Drink; Orange Drink; Grape Drink; Fruit Punch; Evaporated Milk; Catsup; Salad Oil; Oleomargarine; Butter; Pickles; Salad Dressing; Mayonnaise; Sandwich Spread; Vegetable Shortening; Salt; Canned Soup; Tomato Sauce; Vinegar; Regular and Instant Coffee; Fresh Eggs; Soda Crackers; Graham Crackers; Frozen Orange Juice Concentrate; Frozen Lemonade Concentrate; Frozen Vegetables; Frozen French Fries; Frozen Crinkle Cut Potatoes; Frozen Strawberries; Bakery Products—Namely, Bread, Clover Rolls, Plain Rolls, Sesame Rolls, Poppy Rolls, Hamburger Buns, Hot Dog Rolls, English Muffins, Cake, Donuts, Sweet Rolls, Coffee Cake, Danish Pastry; Meat Products—Namely, Pickle Loaf, Olive Loaf, Salami, Luncheon Meats, Thuringer, Chopped Ham, Pizza Loaf, Ham and Cheese Loaf, Honey Loaf, Cooked Ham, Bologna; Dressings—Namely, Bleu Cheese Dressing, Roquefort Dressing, Sour Cream Dressing, Thousand Island Dressing, Horseradish Dressing; Ready-To-Bake Biscuits; Frozen Meat Pies; Frozen Chicken Pies; Frozen Turkey Pies; Frozen Macaroni and Cheese; Potato Salad; Macaroni Salad; Waldorf Salad; Cole Slaw; Pineapple Carrot Salad; Fruit Cocktail; Cottage Cheese Salads; Ambrosia; Black Cherry Salad; Mandarin Salad; Frozen Dessert Pies; Cheeses in Stick, Chunk, and Grated Forms and in Various Types Such as Cheddar, Longhorn, Tillamook, Jack, Romano, American, Martin, Swiss, and Parmesan; Ice Cream; Fresh Milk; and Cottage Cheese.
First use at least as early as 1958.

SN 185,134. Joseph Hendler, d.b.a. C.S. Baked Goods Co., Detroit, Mich. Filed Jan. 22, 1964.

PARVANA

For Frozen Pudding Dessert, Frozen Cake Roll, and Frozen Pies.
First use September 1960.

SN 185,432. National Biscuit Company, New York, N.Y. Filed Jan. 27, 1964.

SNACK MATE

Applicant disclaims the word "Snack" apart from the mark as shown.
For Cheese and Pasturized Process Cheese Spreads.
First use Dec. 31, 1963.

SN 185,959. United Fruit Company, Boston, Mass. Filed Feb. 3, 1964.

VALERY

For Fresh Bananas.
First use Apr. 16, 1962.

SN 186,452. General Foods Corporation, White Plains, N.Y. Filed Feb. 11, 1964.

GOOD SEASONS

Owner of Reg. Nos. 607,349, 742,737, and others.
For Barbecue Sauce.
First use Dec. 30, 1963.

SN 187,202. The Nestlé Company, Inc., White Plains, N.Y. Filed Feb. 21, 1964.

X-15

For Chocolate Bar.
First use Nov. 20, 1963.

SN 187,395. Central Soya Company, Inc., Fort Wayne, Ind. Filed Feb. 25, 1964.

PARADISE VALLEY

For Dressed Chickens and Parts Thereof.
First use Dec. 6, 1963.

SN 187,399. Churny Company, Inc., Somerville, Mass. Filed Feb. 25, 1964.

BLIP

For Mustard.
First use as early as Feb. 5, 1964.

SN 187,645. American Sugar Company, New York, N.Y. Filed Feb. 28, 1964.

FESTIVE

For Sugar.
First use Nov. 18, 1963.

SN 187,654. East India Spice Co., Ltd., Mount Vernon, N.Y. Filed Feb. 28, 1964.

EAST INDIA BRAND

Applicant disclaims the term "Brand."
For Tea, Spices, Mustard, Minced Onion, Onion Powder, Parsley Flakes, Garlic Powder, Chili Powder, and Vegetable Flakes.
First use March 1959.

SN 187,683. The Nestlé Company, Inc., d.b.a. The Crosse & Blackwell Company, White Plains, N.Y. Filed Feb. 28, 1964.

TEN-O'CLOCK TESTED

Owner of Reg. Nos. 658,894, 686,723, and others.
For Canned Fruits and Canned Vegetables.
First use May 31, 1957.

SN 187,798. Richview, Inc., Oxnard, Calif. Filed Mar. 2, 1964.

Cal Cel

For Fresh Vegetables.
First use Feb. 11, 1964.

SN 187,862. Gerber Cheese Company, Inc., New York, N.Y. Filed Mar. 3, 1964.

Milford Farms

For Cheese.
First use Feb. 7, 1964.

SN 195,036. Luden's, Inc., Reading, Pa. Filed June 10, 1964.

KRIMPY BAR

No claim being made to the word "Bar" apart from the mark as shown.
For Candy.
First use Sept. 20, 1921.

Class 47 — Wines

SN 177,171. John Harvey & Sons, Limited, Bristol, England. Filed Sept. 17, 1963.

TICO

For Sherry Wines.
First use June 1, 1963; in commerce June 1, 1963.

Class 49 — Distilled Alcoholic Liquors

SN 169,935. Glen Distillers Limited, Nassau, Bahamas. Filed May 29, 1963.

LIGHT BRIGADE

For Scotch Whisky.
First use Jan. 1, 1963; in commerce Jan. 14, 1963.

SN 182,498. Pearson's Liquor Annex, Inc., d.b.a. Plain Old Pearson's, Washington, D.C. Filed Dec. 6, 1963.

Yorktown

The drawing is lined for the color gold.
For Whiskey.
First use July 2, 1956.

SN 184,486. Merit House, Inc., New York, N.Y. Filed Jan. 13, 1964.

TROPICAL GAL

For Rum.
First use Dec. 27, 1963.

SN 184,487. Merit House, Inc., New York, N.Y. Filed Jan. 13, 1964.

MAGIC ISLES

For Rum.
First use Dec. 27, 1963.

Class 50 — Merchandise Not Otherwise Classified

SN 135,819. Norcross, Inc., New York, N.Y. Filed Jan. 15, 1962.

NORCROSS

Owner of Reg. Nos. 414,959, 736,061, and others.
For Collapsible Statuettes and Figurines, and Figurines Made All or in Part From Sheet Stock Such as Paper, Cardboard, or Plastic.
First use at least as early as 1937.

SN 176,805. Porter & Co., Inc., Butler, N.J., by change of name from Porter-Horechny & Co., Inc., Butler, N.J. Filed Aug. 22, 1963.

MOTIVATOR

For Presentation Board Used by a Speaker Before an Audience for Supporting Placards or Signs, and Placards or Signs To Be Used With the Presentation Board.
First use June 3, 1963.

SN 177,163. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 17, 1963.

CENTARI

For Fiber-Reinforced Plastic Film Sold in Sheet Form for Use as a Protective and Decorative Covering for Such Items as Office and Household Furniture, Doors, Kitchen Cabinets, Counter Tops, an Wood Paneling.
First use July 16, 1963.

SN 181,043. Max Katz Bag Co., Inc., Indianapolis, Ind. Filed Nov. 13, 1963.

INSUL-QUILT

For Insulated Blankets Primarily for the Protection of Winter-Poured Concrete.
First use Nov. 5, 1963.

SN 180,713. Living Pictures, Inc., Houston, Tex. Filed Mar. 26, 1964.

sceneolife

For Wall Aquarium.
First use Mar. 13, 1964.

SN 190,816. Melville Shoe Corporation, New York, N.Y. Filed Apr. 10, 1964.

ThomMcAn

The name "Thom McAn" is fanciful. Owner of Reg. Nos. 170,095, 268,176, and others.
For Shoe Trees.
First use Aug. 13, 1963.

SN 192,729. L. Marino, Inc., Brooklyn, N.Y. Filed May 5, 1964.

MARINTEX

For Tents, Tarpaulins, Canopies, Boat Covers, and Truck Covers.
First use Feb. 28, 1964.

SN 192,975. Art Ward Co., Inc., Brooklyn, N.Y. Filed May 8, 1964.

CROWN AWARD

For Paint-By-The-Numbers Painting Kits, Containing Painting Panels, Liquid Paints, Ink, Brushes, Drawing Pens and Pen Holder.
First use on or about Mar. 10, 1964.

Class 51 — Cosmetics and Toilet Preparations

SN 159,825. Ellen Kaye Laboratories, Inc., St. Paul, Minn. Filed Dec. 27, 1962.

FONTANNA

For Permanent Wave Solutions and Neutralisers.
First use Sept. 10, 1962.

SN 167,011. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed Apr. 18, 1963.

OGILVIE

Owner of Reg. Nos. 151,041, 197,180, and 546,798.
For Preparations for Conditioning the Hair, for Setting Waves in the Hair and for Dressing the Hair; Hair Coloring Preparations; Hair Tinting Rinses; Hair Lighteners; Bluing for the Hair; Hair Pencils; Scalp Pomade; Scalp Lotion; Hair Spray; Reconditioning Treating Kit, Comprising Reconditioning Oil, Creme Conditioner and Shampoo; and Home Permanent Kits.
First use Mar. 1, 1920.

SN 168,345. Penny-Pak, Inc., Danville, Ill. Filed May 7, 1963.

PENNY PAK

For Shave Cream Dispensable From an Aerosol Type Container.
First use Feb. 21, 1963.

SN 171,537. John Borghese, Ltd., New York, N.Y. Filed June 21, 1963.



For After Shave Skin Freshener Cologne for Men and Women.
First use May 23, 1963.

SN 177,179. Lanvin-Parfums, Inc., New York, N.Y. Filed Sept. 17, 1963.

NATURAL SPRAY

The word "Spray" is disclaimed apart from the mark as shown.
For Toilet Water.
First use July 29, 1963.

SN 180,990. Alexandra de Markoff Sales Corporation, New York, N.Y. Filed Nov. 12, 1963.

ALEXA

Owner of Reg. Nos. 400,550, 624,466, and others.
For Perfume, Cleansing Cream, and Cleansing Lotion.
First use Feb. 8, 1944, on perfume.

SN 183,701. Park & Tilford, d.b.a. Norex Laboratories, New York, N.Y. Filed Dec. 27, 1963.

OXY-GRIP

For Denture Adhesive.
First use Nov. 27, 1963.

SN 183,785. Paula Payne Products Company, Charlotte, N.C. Filed Dec. 30, 1963.

BOUNCI-BODY

For Cold Wave Preparation and Naturaliser Therefor.
First use Aug. 2, 1963.
Subj. to Intf. with SN 185,084 and SN 188,627.

SN 183,961. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 3, 1964.

MONOPHATE

For Dentifrice.
First use Dec. 3, 1963.

SN 184,533. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 13, 1964.

FRINGE BENEFIT

For Mascara.
First use Sept. 15, 1963.

SN 188,627. "42" Products, Ltd., Inc., Santa Monica, Calif. Filed Mar. 13, 1964.

BODY 'N BOUNCE

For Hair Spray, Creme Hair Conditioner, and Hair Setting Lotion.
First use Nov. 20, 1963.
Subj. to Intf. with SN 183,785 and SN 185,084.

Class 52 — Detergents and Soaps

SN 151,998. Packer-Scott Company, Portland, Oreg. Filed Aug. 27, 1962.

BETA-PHENE

For General Purpose Cleaner and Disinfectant for Industrial, Institutional, and Commercial Use.
First use Aug. 30, 1962.

SN 152,033. Arkansas Company, Inc., Newark, N.J. Filed Aug. 30, 1962.

DERGON

Owner of Reg. Nos. 402,035 and 641,236.
For Industrial Detergents and Surface-Active Agents.
First use March 1940.

SN 155,834. Peninsular Distributing Company, Detroit, Mich. Filed Oct. 24, 1962.



For Detergent—Namely, an All-Purpose Cleaner Concentrate for Institutional, Industrial, and Commercial Use.
First use on or about Apr. 1, 1962.

SN 158,101. Edward Schlosser Associates, Inc., Ridgefield Park, N.J. Filed Nov. 28, 1962.

UNBELIEVABLE

For Cleaning and Rubber Revitalizing Liquid Used on Rubber Rollers, Blankets, Plates, and Similar Printing Press Parts and Accessories.
First use October 1957.

SN 167,011. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed Apr. 18, 1963.

OGILVIE

Owner of Reg. Nos. 151,041, 197,180, and 546,796.
For Anti-Dandruff Treatment Shampoo.
First use May 1955.

SN 168,128. Feinseifenwerk Walter Rau & Company, Stuttgart-Mohringen, Germany. Filed Mar. 26, 1963.



The drawing is lined for shading purposes only.
Owner of German Reg. No. 733,067, dated Jan. 22, 1960.
For Toilet Soap.

SN 168,203. Madison Chemical Corporation, Maywood, Ill. Filed May 6, 1963.

CHEMTRUST

For Cleaner and Solvent for Cleaning Motors, Machinery, and Similar Industrial Equipment.
First use Apr. 5, 1961.

SN 171,310. Colgate-Palmolive Company, New York, N.Y. Filed June 19, 1963.

MUSTANG

For All-Purpose Household Detergent and Cleaner.
First use May 23, 1963.

SN 176,547. Frederick R. Loffredo, d.b.a. Post Chemical Company, Statent Island, N.Y. Filed Sept. 9, 1963.

DISSOLVO

For Enzyme Preparation Used as a Cleaner and Deodoriser for Septic Tanks and Cesspools.
First use July 6, 1963.

SN 177,046. Huntington Laboratories, Inc., Huntington, Ind. Filed Sept. 16, 1963.

T·O·R

For Multi-Purpose Germicidal Cleaner for Institutional and Commercial Use.
First use Aug. 19, 1963.

SN 185,084. Shontex, Inc., Los Angeles, Calif. Filed Jan. 21, 1964.

Beauty Body Bounce

For Shampoo.
First use Dec. 23, 1963.
Subj. to Intf. with SN 183,785 and SN 188,627.

SERVICE MARKS

Class 100 — Miscellaneous

SN 149,515. Allstate Insurance Company, Skokie, Ill. Filed July 23, 1962.

ALERT

For Rendering of Insurance Informational Service to or on Behalf of Customers Through the Use of Electronic Data Processing Equipment.
First use on or about Apr. 18, 1962.

SN 165,983. Atlantic Research Corporation, Alexandria, Va. Filed Apr. 3, 1963.



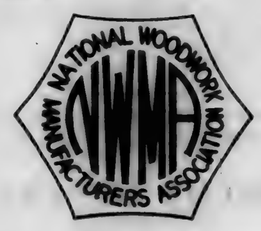
Owner of Reg. Nos. 715,181, 728,978, and 726,347.
For Research, Development, Engineering, Production and Consultant Services in the Field of Fissionable and Radioactive Materials and Devices and Apparatus for Using and Measuring Such Materials; Upper Atmospheric Phenomena and Radioactive Fallout and Devices for Analyzing and Measuring Same; Nuclear Reactors; Boiling Heat Transfer; Heat Exchange Phenomena and Heat Exchangers; Plasma Physics; Radioactive Waste Disposal; Neutron Activation Analysis; Isotope Power Sources; Radiation Effect and Radiation Damage to Materials.
First use May 1962.

SN 166,457. The Glemby Company, Inc., New York, N.Y. Filed Apr. 10, 1963.

COIFFURES AMERICANA

The word "Coiffures" is disclaimed apart from the mark as shown.
For Beauty Salon Services.
First use in April 1955.

SN 180,021. National Woodwork Manufacturers Association, Inc., Chicago, Ill. Filed Oct. 29, 1963.



For Association Services—Namely, Disseminating Information of Interest to Woodwork Manufacturers and Promoting the Interest of Such Manufacturers.
First use July 28, 1954.

SN 180,290. Chicken Delight, Inc., Rock Island, Ill. Filed Nov. 1, 1963.

CHICKEN DELIGHT

The word "Chicken" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 578,807, 578,808, and 764,374.
For Take-Out Food Shop Services—Namely, the Preparing of Meals for Consumption Off-The-Premises and Delivering the Same to Customers When Requested.
First use July 20, 1951.

SN 187,475. Thomas Carvel, Yonkers, N.Y. Filed Feb. 26, 1964.

Carvel

Owner of Reg. Nos. 597,727, 753,756, and others.
For Serving of Foods and Beverages at Road Stands.
First use July 1949.

Class 101 — Advertising and Business

SN 153,216. Reynolds Aluminum Supply Company, Atlanta, Ga. Filed Sept. 14, 1962.

SERVICE THAT NEVER SLEEPS

For Wholesale Distributing Services in the Field of Industrial and Building Materials.
First use on or about May 16, 1962.

SN 156,416. Kellogg Company, Battle Creek, Mich. Filed Nov. 1, 1962.



For Offering to the Purchasing Public a Service in the Nature of a Plurality of Recipes Which the Customer Can Use in the Preparation of Foods.
First use July 20, 1962.

SN 156,531. Souther Steel and Aluminum Co., St. Louis, Mo. Filed Nov. 2, 1962.

SHO-ME SHO-VAN

For Field Instruction and Demonstration in Motor Vehicles for Promoting Use of Sheet Metal and Metal Working Machinery and Tools Made by Others.
First use on or about Aug. 13, 1962.

SN 164,578. Transkrit Corporation, New York, N.Y. Filed Mar. 13, 1963.

TRANSKODING

For Magnetic Ink Printing on Checks, Negotiable Instruments, and Printed and Unprinted Single and Multiple Forms or Sheets.
First use August 1960.

SN 180,997. Samuel R. Barnhill, d.b.a. Barnhill Associates, Denver, Colo. Filed Nov. 13, 1963.



For Manufacturers' Representative in the Field of Electronic Equipment and Components.
First use Nov. 1, 1962.

Class 102 — Insurance and Financial

SN 154,936. Wells Fargo Bank, San Francisco, Calif. Filed Oct. 10, 1962.

WELLS FARGO

Owner of Reg. No. 743,913.
For Banking and Trust Services.
First use Mar. 18, 1853.

SN 155,195. Quinby & Co., Incorporated, Rochester, N.Y. Filed Oct. 15, 1962.

INVESTACCOUNTS

For Stock Investment Services.
First use Sept. 4, 1962.

SN 157,626. Lanseair, Inc., Springfield, Mo. Filed Nov. 20, 1962.



For General Insurance Agents.
First use Sept. 5, 1962.

SN 163,700. Belmont Savings & Loan Association, Long Beach, Calif. Filed Mar. 1, 1963.



The words "Savings and Loan Association" are disclaimed apart from the mark as shown.
For Savings Account Services.
First use on or about Feb. 4, 1962.

SN 175,106. William E. Harlan, Houston, Tex. Filed Aug. 15, 1963.



The drawing is lined as a part of the design, and not to indicate any particular color.
For Insurance Agency Services.
First use 1953.

SN 175,107. William E. Harlan, Houston, Tex. Filed Aug. 15, 1963.

RETROSERVICE

For Providing Claim Loss and Premium Data to Policy Holders and Underwriters.
First use July 18, 1963.

Class 103 — Construction and Repair

SN 135,500. Getz Exterminators, Inc., St. Louis, Mo. Filed Jan. 10, 1962.



Owner of Reg. Nos. 297,145, 653,904, and others.
For Exterminating Services.
First use 1953.

SN 158,421. Ed Averdieck, Houston, Tex. Filed Dec. 4, 1962.

DON'T GOOF WITH THE ROOF

For Roofing Construction and Repair Services.
First use Sept. 17, 1962.

Class 104 — Communication

SN 166,164. Columbia Broadcasting System, Inc., New York, N.Y. Filed Apr. 5, 1963.



For Radio Program Series.
First use Sept. 5, 1960.

Class 106 — Material Treatment

SN 163,800. Stafford Printers, Inc., Stafford Springs, Conn. Filed Mar. 4, 1963.



Applicant disclaims the words "Prints by" except as part of the composite mark. Owner of Reg. Nos. 435,793, 506,111, and 553,053.
For Treatment of Textiles—Namely, Dyeing, Printing, and Finishing.
First use on or before Feb. 1, 1961.

SN 178,018. Mission Protective Coating Company, Houston, Tex. Filed Sept. 30, 1963.

BUCOTE

For Coating Pipe With a Protective Coating.
First use Dec. 10, 1962.

SN 180,587. Lee Dyeing Company of Johnstown, Inc., Johnstown, N.Y. Filed Nov. 6, 1963.

JOHNSON FORMULA

Applicant hereby disclaims the word "Formula" apart from the mark as shown. Owner of Reg. No. 701,153.

For Scientific Predetermination of Length Factor in Nylon Tricot Greige Goods Production, Not of Its Own Manufacture, for the Warp Knit Industry.

First use July 17, 1958.

Class 107 — Education and Entertainment

SN 173,194. Sixty Now Incorporated, Toledo, Ohio. Filed July 17, 1963.

60 NOW

For Educating Members and the Public to the Benefits of Earlier Retirement.

First use in or about May 1961.

SN 181,301. Duke Niles Production Corp., New York, N.Y. Filed S.R. Nov. 18, 1963; Am. P.R. June 22, 1964.

THE VILLAGE STOMPERS

For Musical Entertainment Rendered by an Orchestra.

First use July 2, 1963.

SN 182,015. Robert W. Ward, Chicago, Ill. Filed Nov. 27, 1963.

A GOLDEN MINUTE

For Radio Programs Consisting of Short Inspirational Messages.

First use Nov. 17, 1963.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 134,397. National Council of State Boards of Engineering Examiners, Clemson, S.C. Filed Dec. 20, 1961.



The drawing is lined for blue and red.

For Indicating Membership in Applicant.

First use Aug. 18, 1960.

SN 163,921. Arkansas Alumni Association, Inc., Fayetteville, Ark. Filed Mar. 5, 1963.



For Indicating Membership in Applicant Club.

First use July 1, 1962.

SN 174,155. The American Registry of Radiologic Technologists, Minneapolis, Minn. Filed Aug. 1, 1963.



Owner of Reg. No. 647,624.

For Indicating Membership in an Association of Radiologic Technicians.

First use July 1, 1962.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

774,753. MINEX. Industrial Minerals of Canada Limited. SN 151,068. Pub. 6-11-63. Filed 8-13-62.

774,754. C AND DESIGN. Pacific Resins & Chemicals, Inc. SN 160,965. Pub. 5-26-64. Filed 1-18-63.

774,755. POLYFYDE. Hayden Newport Chemical Corporation, by assignment and change of name from Hayden Newport Chemical Corporation. SN 167,142. Pub. 5-26-64. Filed 4-19-63.

774,756. CELLASTO. Cellasto Incorporated. SN 172,727. Pub. 5-26-64. Filed 7-10-63.

774,757. CYKLOSIT. Farbenfabriken Bayer Aktiengesellschaft. SN 174,270. Pub. 5-26-64. Filed 8-2-63.

Class 2 — Receptacles

774,758. ARKLITE. Arkell Safety Bag Company. SN 121,160. Pub. 5-26-64. Filed 6-1-61.

774,759. ACOUSTITHERM. B. & J. Jacobs Company, Inc. MULTIPLE CLASS (Classes 2, 12, 23, and 34). SN 141,071. Pub. 5-26-64. Filed 3-26-62.

774,760. TUFFLAS. Haveg Industries, Inc. SN 156,599. Pub. 5-26-64. Filed 11-5-62.

774,761. MIRAVUE AND DESIGN. American Can Company. SN 163,026. Pub. 5-26-64. Filed 2-19-63.

774,762. MYLINE. Baralan International Inc. SN 165,107. Pub. 5-26-64. Filed 3-21-63.

774,763. BETTY BRITE AND DESIGN. American Paper & Plastic Products, Inc. SN 176,344. Pub. 5-26-64. Filed 9-5-63.

774,764. KIP. Fabio Sets, d.b.a. Kip—Apparecchiature. SN 178,601. Pub. 5-26-64. Filed 10-9-63.

774,765. REPUBLIC PACKAGING AND DESIGN. Republic Packaging Corporation. SN 179,065. Pub. 5-26-64. Filed 10-15-63.

774,766. ANAPAC. Anaconda Aluminum Company. SN 179,184. Pub. 5-26-64. Filed 10-17-63.

774,767. NEB PLASTIQUES. C-Thru Products, Inc. SN 180,365. Pub. 5-26-64. Filed 11-4-63.

774,768. TWIN OAKS. Gulf States Paper Corporation. SN 181,475. Pub. 5-26-64. Filed 11-19-63.

774,769. MAIN-TAINER. Main Products Corporation. SN 181,988. Pub. 5-26-64. Filed 11-27-63.

774,770. BREATHE-O-PAK. Comet Packaging and Paper Company, Inc. SN 184,437. Pub. 5-26-64. Filed 1-13-64.

774,771. CHILLPAK. Container Corporation of America. SN 185,197. Pub. 5-26-64. Filed 1-23-64.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

774,772. SIR DRAKE. Nash Inc. SN 141,350. Pub. 5-26-64. Filed 4-2-62.

774,773. LADY DRAKE. Nash Inc. SN 143,122. Pub. 5-26-64. Filed 4-12-62.

774,774. FIBRE-STEEL. Sackner Products Inc. SN 166,216. Pub. 5-26-64. Filed 4-5-63.

Class 4 — Abrasives and Polishing Materials

774,775. MET-ALL. Anton Products Corporation. SN 179,587. Pub. 5-26-64. Filed 10-28-63.

774,776. TARNITE. The Water Master Company. SN 181,503. Pub. 5-26-64. Filed 11-19-63.

Class 5 — Adhesives

774,777. C AND DESIGN. Pacific Resins & Chemicals, Inc. SN 160,966. Pub. 5-26-64. Filed 1-18-63.

774,778. EVER-GRIP ETC. AND DESIGN. Contact Industries, Inc. SN 182,598. Pub. 5-26-64. Filed 12-9-63.

Class 6 — Chemicals and Chemical Compositions

774,779. D-CONTAMIN-X. D-Contamin-X Corp., assignee of Missy, Inc. SN 152,058. Pub. 5-26-64. Filed 11-15-61.

774,780. HOECHST AND BRIDGE AND TOWER DESIGN. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. SN 156,046. Pub. 5-26-64. Filed 10-15-62.

774,781. AROSURF. Archer-Daniels-Midland Company. SN 164,685. Pub. 5-26-64. Filed 3-15-63.

774,782. GIRDLER CATALYSTS AND DESIGN. Chemetron Corporation. SN 168,697. Pub. 5-26-64. Filed 5-13-63.

774,783. KROMA-X. Hilex Company. SN 169,263. Pub. 5-26-64. Filed 5-20-63.

774,784. ROSE MITCHAM. A. M. Todd Company. SN 173,066. Pub. 5-26-64. Filed 7-15-63.

774,785. UROSCREEN. Chas. Pfizer & Co., Inc. SN 173,683. Pub. 5-26-64. Filed 7-24-63.

774,786. CHECKCELL. Chas. Pfizer & Co., Inc. SN 173,684. Pub. 5-26-64. Filed 7-24-63.

774,787. WEL-BRAND. Wellman Combing Company. SN 179,090. Pub. 5-26-64. Filed 9-25-63.

774,788. MECOPEX. Morton Salt Company. SN 179,722. Pub. 5-26-64. Filed 10-24-63.

774,789. L-Trol. American Cyanamid Company. SN 179,946. Pub. 5-26-64. Filed 10-28-63.

774,790. ISOSTYRE W. Woburn Chemical Corp. SN 180,143. Pub. 5-26-64. Filed 10-30-63.

774,791. FRIJOLINE. Woburn Chemical Corp. SN 180,144. Pub. 5-26-64. Filed 10-30-63.

774,792. DISTOLINE. Woburn Chemical Corp. SN 180,145. Pub. 5-26-64. Filed 10-30-63.

774,793. OLIVINE. Woburn Chemical Corp. SN 180,146. Pub. 5-26-64. Filed 10-30-63.

774,794. K MART. S. S. Kresge Company. SN 180,300. Pub. 5-26-64. Filed 11-1-63.

774,795. CARBIUM MM. Diamond Alkali Company. SN 180,378. Pub. 5-26-64. Filed 11-4-63.

774,796. STALEY AND DESIGN. A. E. Staley Manufacturing Company. SN 180,455. Pub. 5-26-64. Filed 11-4-63.

774,797. WITCOBLAK. Witco Chemical Company, Inc. SN 180,476. Pub. 5-26-64. Filed 11-4-63.

774,798. KEYSTONE. United Refining Company. SN 183,613. Pub. 5-26-64. Filed 12-30-63.

Class 8—Smokers' Articles, Not Including Tobacco Products

774,799. FALCON CLASSIC. Falcon International, Inc. SN 181,465. Pub. 5-26-64. Filed 11-19-63.

Class 9—Explosives, Firearms, Equipments, and Projectiles

774,800. NUM-RITE. Olin Mathieson Chemical Corporation. SN 160,882. Pub. 5-26-64. Filed 1-17-63.

774,801. DOMINION. Canadian Industries Limited. SN 171,828. Pub. 5-26-64. Filed 6-25-63.

774,802. EXCELSIOR. Fabbriche Italo-Americane Montagni, S.p.A. SN 174,269. Pub. 5-26-64. Filed 8-2-63.

Class 10—Fertilizers

774,803. FLOW-45. Tennessee Farmers Cooperative. SN 178,746. Pub. 5-26-64. Filed 10-10-63.

Class 12—Construction Materials

774,759. (See Class 2 for this trademark.)

774,804. SELF STORING GLASS-WALLS. Devae, Inc. SN 136,417. Pub. 5-26-64. Filed 1-17-62.

774,805. RANCO KON-KRETE AND DESIGN. Ranco Industrial Products Corporation. SN 146,749. Pub. 5-26-64. Filed 6-12-62.

774,806. GLEN BLOCK. Glenstone Block Company. SN 155,605. Pub. 5-26-64. Filed 10-22-62.

774,807. CCC CHEMICAL CEMENT CO. AND DESIGN. Chemical Cement Co. SN 155,691. Pub. 5-26-64. Filed 10-23-62.

774,808. SUNDISC. National Gypsum Company. SN 161,811. Pub. 5-26-64. Filed 6-19-63.

774,809. DOLLAR AND DESIGN. The Robert Dollar Co. SN 168,115. Pub. 5-26-64. Filed 5-3-63.

774,810. CHROMGARD. United States Plywood Corporation. SN 169,188. Pub. 5-26-64. Filed 5-17-63.

774,811. W KING AND DESIGN. King Chemical Company. SN 169,548. Pub. 5-26-64. Filed 5-23-63.

774,812. INTEGRA-TILE. The Integra Corporation. SN 170,320. Pub. 5-26-64. Filed 6-4-63.

774,813. MV. Admiral Steel Corporation. SN 173,995. Pub. 5-26-64. Filed 7-30-63.

774,814. A. Herbert Daunt Jessop, d.b.a. Amenity Products Company. SN 175,660. Pub. 5-26-64. Filed 8-23-63.

774,815. TEMP-MAT. Pittsburgh Corning Corporation. SN 176,567. Pub. 5-26-64. Filed 9-9-63.

774,816. BRIDGFORM. Bethlehem Steel Company. SN 177,677. Pub. 5-26-64. Filed 9-25-63.

774,817. WEDLASTIC. Western Chemical and Manufacturing Company. SN 178,070. Pub. 5-26-64. Filed 9-30-63.

774,818. FIRECELL. Hexcel Products Inc. SN 180,092. Pub. 5-26-64. Filed 10-30-63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

774,819. TIGER TEETH. Tiger Teeth, Inc. SN 161,292. Pub. 5-26-64. Filed 1-23-63.

774,820. JET-O-MATIC. Pall Corporation. SN 163,397. Pub. 5-26-64. Filed 2-25-63.

774,821. POLYGRAB. Logan Hospital Equipment Co. SN 163,640. Pub. 5-26-64. Filed 2-28-63.

774,822. BIB-TITE. The Caldwell Manufacturing Company. SN 163,707. Pub. 5-26-64. Filed 3-1-63.

774,823. THE QUALITY LINE THAT'S EASY TO FIND. Dorman Products, Inc. SN 168,396. Pub. 5-26-64. Filed 5-5-63.

774,824. PRANKSTER PROOF. Republic Industries, Inc. SN 171,883. Pub. 5-26-64. Filed 6-19-63.

774,825. MAK-A-POP. Maryland Plastics Incorporated. SN 171,899. Pub. 5-26-64. Filed 6-26-63.

774,826. ST'S AND DESIGN. Samuel and Linda Wagner, d.b.a. S & L Wagner Co. SN 173,302. Pub. 5-26-64. Filed 7-18-63.

774,827. "AUTO-BULB." "Automatic" Sprinkler Corporation of America (Ohio corporation), assignee of "Automatic" Sprinkler Corporation of America (Delaware corporation). SN 173,729. Pub. 5-26-64. Filed 7-25-63.

774,828. TURN-LOC. Deutsch Fastener Corp. SN 175,780. Pub. 5-26-64. Filed 8-26-63.

774,829. CONTROL-O-FLUSH. The Accurate Brass Corporation. SN 176,965. Pub. 5-26-64. Filed 9-16-63.

774,830. GRIP-LOCK. Anchor Hocking Glass Corporation. SN 177,219. Pub. 5-26-64. Filed 9-18-63.

774,831. MAGIKETTLE. Food Equipment Research Mfg. Corp. SN 177,345. Pub. 5-26-64. Filed 9-19-63.

774,832. SWENSON CATCHES AND DESIGN. Swenson Mfg. Co., Inc. SN 177,465. Pub. 5-26-64. Filed 9-20-63.

774,833. GYROLOK. Hoke Manufacturing Company, Inc., assignee of Hoke Incorporated. SN 178,702. Pub. 5-5-64. Filed 10-10-63.

774,834. DESIGN LADLE WITH ARROW. The Youngstown Sheet and Tube Company. MULTIPLE CLASS (Classes 13 and 14). SN 179,067. Pub. 5-26-64. Filed 10-15-63.

774,835. TUBBY. Century Products, Inc. SN 179,610. Pub. 5-26-64. Filed 10-22-63.

774,836. MODULINE. Superior Laminates, Inc. SN 179,825. Pub. 5-26-64. Filed 10-25-63.

774,837. HI-"D." Triangle Conduit & Cable Co., Inc. SN 180,542. Pub. 5-26-64. Filed 11-5-63.

774,838. HAMMEL-DAHL. ITT General Controls Inc. SN 180,581. Pub. 5-26-64. Filed 11-6-63.

774,839. SONISTOR. Arthur N. Wells. SN 181,083. Pub. 5-26-64. Filed 11-13-63.

774,840. DESIGN STYLIZED SILHOUETTE OF OUTBUILDING. "Chic-Sales" Co. SN 181,322. Pub. 5-26-64. Filed 11-18-63.

Class 14—Metals and Metal Castings and Forgings

774,634. (See Class 13 for this trademark.)

774,841. ASHCOLITE. The Allen-Sherman-Hoff Company. SN 181,783. Pub. 5-26-64. Filed 11-22-63.

774,842. YO-MAN. The Youngstown Sheet and Tube Company. SN 182,019. Pub. 5-26-64. Filed 11-27-63.

774,843. THERM-I-VAC. Latrobe Steel Company. SN 182,191. Pub. 5-26-64. Filed 12-2-63.

Class 15—Oils and Greases

774,844. SURFAK. Gibraltar Industries, Inc. SN 183,677. Pub. 5-26-64. Filed 12-27-63.

774,845. GERONA. Tiona Petroleum Company. SN 183,810. Pub. 5-26-64. Filed 12-30-63.

774,846. KEYSTONE. United Refining Company. SN 183,814. Pub. 5-26-64. Filed 12-30-63.

Class 16—Protective and Decorative Coatings

774,847. RIVIERA. Iowa Paint Manufacturing Company, Inc. SN 148,397. Pub. 5-26-64. Filed 4-30-62.

774,848. AQUASOL. The Empire Varnish Company. SN 164,958. Pub. 5-26-64. Filed 3-19-63.

774,849. COLUMBIA ETC. AND DESIGN. United States Borax & Chemical Corporation. SN 177,112. Pub. 5-26-64. Filed 9-16-63.

774,850. APCO AND DESIGN. The Debevoise Company. SN 181,529. Pub. 5-26-64. Filed 11-20-63.

Class 17—Tobacco Products

774,851. BETSY ROSS. F. X. Smith's Sons Co. SN 177,804. Pub. 5-26-64. Filed 9-18-63.

774,852. JIM DANDY. F. X. Smith's Sons Co. SN 177,806. Pub. 5-26-64. Filed 9-18-63.

Class 18—Medicines and Pharmaceutical Preparations

774,853. MC GAW. McGaw Laboratories, Inc. SN 154,612. Pub. 5-26-64. Filed 10-5-62.

774,854. TRIAZIDE. The Upjohn Company. SN 155,031. Pub. 5-26-64. Filed 10-11-62.

774,855. PALOHIST. Palmedico, Inc. SN 155,329. Pub. 5-26-64. Filed 10-17-62.

774,856. E-SE. H. C. Burns Company, Inc. SN 167,696. Pub. 5-26-64. Filed 4-29-63.

774,857. SUPER ISODETTES. International Latex Corporation. SN 171,452. Pub. 5-26-64. Filed 6-20-63.

774,858. OPEZE. Broemmel Pharmaceuticals. SN 171,961. Pub. 5-26-64. Filed 6-27-63.

774,859. TRIKON. Dermik Pharmacal Co. Inc. SN 180,074. Pub. 5-26-64. Filed 10-30-63.

774,860. MURI-LUBE. Invenex Pharmaceuticals. SN 182,330. Pub. 5-26-64. Filed 12-4-63.

774,861. BELL-ANS. Bell & Company, Inc. SN 184,026. Pub. 5-26-64. Filed 1-6-64.

Class 19—Vehicles

774,862. MASTER M. United Industrial Syndicate, Inc., assignee of G.K.B. Co., Inc. SN 130,535. Pub. 5-26-64. Filed 10-24-61.

774,863. AVANTI. Velo International, Inc. SN 168,044. Pub. 5-26-64. Filed 8-2-63.

774,864. MAXIBRAKE AND DESIGN. Gustin-Bacon Brake Company. SN 170,311. Pub. 5-26-64. Filed 6-4-63.

774,865. TRACKER. Boise Cascade Corporation, assignee of Ames Harris Neville Co. SN 179,016. Pub. 5-26-64. Filed 10-15-63.

774,866. ALCORT CATFISH. Alcort, Inc. SN 179,282. Pub. 5-26-64. Filed 10-21-63.

774,867. FLIGHTLINER. Sears, Roebuck and Co. SN 181,567. Pub. 5-26-64. Filed 11-20-63.

774,868. CHRIS CRAFT AND DESIGN. Chris-Craft Corporation. SN 181,857. Pub. 5-26-64. Filed 11-26-63.

774,869. CHAMPION. Hartman Trailer Manufacturing Company. SN 182,263. Pub. 5-26-64. Filed 12-3-63.

774,870. WHALER. The Fisher-Pierce Co., Inc. SN 182,321. Pub. 5-26-64. Filed 12-4-63.

774,871. G AND HAND DESIGN. Girling Limited. SN 182,614. Pub. 5-26-64. Filed 12-6-63.

Class 21—Electrical Apparatus, Machines, and Supplies

774,872. QUIK-STIK. H. K. Porter Company, Inc. SN 168,852. Pub. 5-26-64. Filed 5-14-63.

774,873. SIGNATURE. Montgomery Ward & Co. Incorporated. MULTIPLE CLASS (Classes 21 and 23). SN 170,929. Pub. 5-26-64. Filed 6-18-63.

774,874. LYTESPOT. Lightolier Incorporated. SN 171,549. Pub. 5-26-64. Filed 6-21-63.

774,875. DELSIN. General Precision, Inc. SN 172,816. Pub. 5-26-64. Filed 7-11-63.

774,876. WALLPACK. Holophane Company, Inc. SN 173,843. Pub. 5-26-64. Filed 7-26-63.

774,877. TRAINPHONE. Westinghouse Air Brake Company. SN 175,455. Pub. 5-26-64. Filed 8-20-63.

774,878. LORAIN. Lorain Products Corporation. SN 175,590. Pub. 5-26-64. Filed 8-22-63.

774,879. PERMA LIFE. Sternco Industries, Inc. SN 178,681. Pub. 5-26-64. Filed 10-9-63.

774,880. EDITALL. Joel Tall and Leona Tall, d.b.a. The Tall Company. SN 180,157. Pub. 5-26-64. Filed 10-16-63.

774,881. CARDTROL. The Cincinnati Time Recorder Company. SN 181,212. Pub. 5-26-64. Filed 11-15-63.

774,882. GEPOL. General Electric Company. SN 181,880. Pub. 5-26-64. Filed 11-26-63.

774,883. UNISPAR. General Electric Company. SN 181,881. Pub. 5-26-64. Filed 11-26-63.

774,884. GLOBE AND DESIGN. Globe-Union Inc. SN 181,882. Pub. 5-26-64. Filed 11-26-63.

774,885. SWIV-O-FLEX. Swivelier Company, Inc. SN 181,931. Pub. 5-26-64. Filed 11-26-63.

774,886. DORADO. Deena Products Co. SN 182,251. Pub. 5-26-64. Filed 12-3-63.

774,887. RED TOP. Sprague Electric Company. SN 182,297. Pub. 5-26-64. Filed 12-3-63.

774,888. WRAP-LOK. Sprague Electric Company. SN 182,298. Pub. 5-26-64. Filed 12-3-63.

774,889. ALUMAPAK. Sprague Electric Company. SN 182,299. Pub. 5-26-64. Filed 12-3-63.

774,890. MINUTE KING. Temperature Enclosures, Inc. SN 182,374. Pub. 5-26-64. Filed 12-4-63.

Class 22—Games, Toys, and Sporting Goods

774,891. TIKI. M & M World Marketing, Incorporated. SN 152,593. Pub. 5-26-64. Filed 9-6-62.

774,892. SKIPPER. Mattel, Inc. SN 165,237. Pub. 5-26-64. Filed 3-22-63.

774,893. NIKKI. Jolly Toys, Inc. SN 166,102. Pub. 5-26-64. Filed 4-4-63.

774,894. SPIN-A-GAME. Hassenfeld Bros. Inc. SN 169,256. Pub. 5-26-64. Filed 5-20-63.

774,895. CP AND DESIGN. Columbia Products Company. SN 169,351. Pub. 5-26-64. Filed 5-21-63.

774,896. THUNDERBIRD. George H. Staring, d.b.a. Thunderbird Kite Company. SN 178,806. Pub. 5-26-64. Filed 10-3-63.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

774,873. (See Class 21 for this trademark.)

774,897. HIGH PRODUCTION. New Jersey Machine Corporation. SN 154,914. Pub. 5-26-64. Filed 10-10-62.

774,898. MISCELLANEOUS DESIGN. Imes S.A. SN 157,110. Pub. 5-26-64. Filed 9-6-63.

774,899. POLYPELLER. Somat Corporation, by change of name from Wandel Machine Co., Inc. SN 162,212. Pub. 5-26-64. Filed 2-6-63.

774,900. HI-DRI PRESS. Somat Corporation, by change of name from Wandel Machine Co., Inc. SN 162,215. Pub. 5-26-64. Filed 2-6-63.

774,901. AI AND DESIGN. Anchor Industries, Inc. SN 163,514. Pub. 5-26-64. Filed 3-27-63.

774,902. DYNAPOISE. Carrier Corporation. SN 163,805. Pub. 5-26-64. Filed 3-4-63.

774,903. PROTOLITE. Pendleton Tool Industries, Inc., assignee of Pendleton Tool Industries, Inc., d.b.a. Proto Tool Company. SN 164,064. Pub. 5-26-64. Filed 3-6-63.

774,904. LINK-O-MATIC. Crafford Tool & Die Co. SN 164,326. Pub. 5-26-64. Filed 3-11-63.

774,905. MINISHOP. Hamilton Associates. SN 168,501. Pub. 5-26-64. Filed 5-9-63.

774,906. EDUCATED HOIST. Sel-Rex Corporation. SN 169,659. Pub. 5-26-64. Filed 5-24-63.

774,907. U. Union Tank Car Company. SN 171,505. Pub. 5-26-64. Filed 6-20-63.

774,908. DESIGN WINGED ACCUMULATOR. Greer Hydraulics, Inc. SN 171,772. Pub. 5-26-64. Filed 6-25-63.

774,909. DESIGN ACCUMULATOR. Greer Hydraulics, Inc. SN 171,773. Pub. 5-26-64. Filed 6-25-63.

774,910. MAYBACH. Maybach-Motorenbau G.m.b.H. SN 171,901. Pub. 5-26-64. Filed 6-26-63.

774,911. WHARTON UNITOOLS. Reginald H. Wilson-Rich, d.b.a. Wharton Unitools. SN 171,942. Pub. 5-26-64. Filed 6-26-63.

774,912. HALEKSMASTER. Dorothy C. Haleka. SN 172,186. Pub. 5-26-64. Filed 7-1-63.

774,913. SYNCRO-FLEX. General Kinematics Corporation. SN 173,350. Pub. 5-26-64. Filed 7-19-63.

774,914. GOLDEN ARROW. Golden Arrow Manufacturing Limited. SN 173,451. Pub. 5-26-64. Filed 7-22-63.

774,915. DOUBLIFE. Madison Industries, Inc., assignee of Madison Industries Inc. SN 173,472. Pub. 5-5-64. Filed 7-22-63.

774,916. REPRESENTATION OF CIRCLES WITH SIX DOTS. New Hampshire Ball Bearings, Inc. SN 174,284. Pub. 5-26-64. Filed 8-2-63.

774,917. MODUROC. Astrosystems International Inc. SN 174,321. Pub. 5-26-64. Filed 8-5-63.

774,918. FABRON. Micromatic Hone Corporation. SN 174,681. Pub. 5-26-64. Filed 8-8-63.

774,919. PAPER MAN. Stepper Associates Inc. SN 175,811. Pub. 5-26-64. Filed 8-26-63.

774,920. SYNCROFLO. Syncroflo, Inc. SN 178,054. Pub. 5-26-64. Filed 9-30-63.

774,921. PNEUMA-TOUCH. Niagara Machine & Tool Works. SN 178,470. Pub. 5-26-64. Filed 10-7-63.

774,922. DAFFIN. Daffin Corporation. SN 179,324. Pub. 5-26-64. Filed 10-18-63.

774,923. DAFFIN. Daffin Corporation. SN 179,325. Pub. 5-26-64. Filed 10-18-63.

774,924. NORTHERN. Northern Engineering Works. SN 179,448. Pub. 5-26-64. Filed 10-21-63.

774,925. HIGHLAND ROSE. Oneida Ltd. SN 179,452. Pub. 5-26-64. Filed 10-21-63.

774,926. PENNSALT EQUIPMENT AND DESIGN. Pennsalt Chemicals Corporation. SN 179,729. Pub. 5-26-64. Filed 10-24-63.

774,927. DEMPSTER SIDE LODER. Dempster Brothers, Inc. SN 179,779. Pub. 5-26-64. Filed 10-25-63.

774,928. RENAISSANCE. Imperial Knife Associated Companies, Inc. SN 179,794. Pub. 5-26-64. Filed 10-25-63.

774,929. WRIGHT-WAY. American Chain & Cable Company, Inc. SN 180,204. Pub. 5-26-64. Filed 11-1-63.

774,930. L AND DESIGN. The Lasar Company. SN 180,310. Pub. 5-26-64. Filed 11-1-63.

774,931. GRIP-LUG. Allied Steel & Tractor Products, Inc. SN 180,351. Pub. 5-26-64. Filed 11-4-63.

774,932. LEMPCOLOY. Lempco Products, Inc. SN 180,416. Pub. 5-26-64. Filed 11-4-63.

774,933. ELDO-LOK. Elderado Tool and Manufacturing Corporation. SN 180,719. Pub. 5-26-64. Filed 11-6-63.

774,934. ABR-A-SAW. Collins Machinery Corporation. SN 181,097. Pub. 5-26-64. Filed 11-15-63.

774,935. CALEMATIC. Caledex Machine Company Limited. SN 181,112. Pub. 5-26-64. Filed 11-14-63.

774,936. CRP. FMC Corporation. SN 181,535. Pub. 5-26-64. Filed 11-20-63.

774,937. WGB. W. G. B. Oil Clarifier, Inc. SN 181,721. Pub. 5-26-64. Filed 11-21-63.

774,938. WEB AND DESIGN. Walker Manufacturing Company. SN 181,722. Pub. 5-26-64. Filed 11-21-63.

774,939. HYDROVACTOR. The Allen-Sherman-Hoff Company. SN 181,734. Pub. 5-26-64. Filed 11-22-63.

774,940. HYDROJECTOR. The Allen-Sherman-Hoff Company. SN 181,739. Pub. 5-26-64. Filed 11-23-63.

774,941. KLEEN-A-MAGIC. Automotive Associates, Inc. SN 181,743. Pub. 5-26-64. Filed 11-23-63.

774,942. RAPID BLOC. FMC Corporation. SN 181,766. Pub. 5-26-64. Filed 11-23-63.

774,943. UNI-KIT. Goisy and Co. Inc. SN 181,772. Pub. 5-26-64. Filed 11-23-63.

774,944. FT AND DESIGN. Falcon Tool Company. SN 181,873. Pub. 5-26-64. Filed 11-26-63.

774,945. SQUARE WHEEL. Square Wheel Co. SN 182,127. Pub. 5-26-64. Filed 11-29-63.

774,946. SKY-TRAC. Western Tank & Steel Corporation. SN 182,519. Pub. 5-26-64. Filed 12-6-63.

774,947. VFC AND DESIGN. Usarco Industries, Inc. SN 182,842. Pub. 5-26-64. Filed 12-20-63.

774,948. VANSCO. Van's Sales Company, Inc. SN 182,845. Pub. 5-26-64. Filed 12-20-63.

774,949. VANSCO AND DESIGN. Van's Sales Company, Inc. SN 182,846. Pub. 5-26-64. Filed 12-20-63.

774,950. PELLETMOBILE. Dalfa Corporation. SN 182,869. Pub. 5-26-64. Filed 12-26-63.

774,951. SPEEDOFF. Abington Textile Machinery Works. SN 182,885. Pub. 5-26-64. Filed 1-3-64.

774,952. CARTHAGE. Carthage Machine Company. SN 182,888. Pub. 5-26-64. Filed 1-3-64.

774,953. SONTRIFUGE. Teknika, Inc. SN 182,934. Pub. 5-26-64. Filed 1-3-64.

774,954. ACCUPAT. FMC Corporation. SN 182,974. Pub. 5-26-64. Filed 1-3-64.

774,955. K AND DESIGN. Kraeuter & Company, Inc. SN 184,578. Pub. 5-26-64. Filed 1-14-64.

774,956. ZINSER AND DESIGN. Stadd. Spindelwerke Zinser Dipl. Ing. Hans Zinser. SN 185,723. Pub. 5-26-64. Filed 1-30-64.

Class 25 — Locks and Safes

774,957. 777 AND DESIGN. 777 Lock and Engineering Corporation. SN 176,577. Pub. 5-26-64. Filed 9-9-63.

Class 26 — Measuring and Scientific Appliances

774,958. THERMO. Thermo Electric Co., Inc. SN 124,990. Pub. 10-8-63. Filed 7-20-61.

774,959. REINGARD. Royal Research Corporation. SN 143,676. Pub. 5-26-64. Filed 5-2-62.

774,960. REDINGTON. Redington Counters, Inc. SN 164,888. Pub. 5-26-64. Filed 3-19-63.

774,961. DIGI-STORE. Trak Electronics Company, Inc. SN 166,666. Pub. 5-26-64. Filed 4-13-63.

774,962. A AND DESIGN. Ault Incorporated, by change of name from Ault Magnetics, Inc. SN 174,333. Pub. 5-12-64. Filed 8-5-63.

774,963. RAILWEIGHT. International Railroads' Weighing Corporation. SN 177,080. Pub. 5-26-64. Filed 9-16-63.

774,964. OPTOE-LINER. FMC Corporation. SN 181,973. Pub. 5-26-64. Filed 11-27-63.

Class 27 — Horological Instruments

774,965. BONHEUR. The Pan American Barter Co., Inc. SN 182,112. Pub. 5-26-64. Filed 11-29-63.

Class 28 — Jewelry and Precious-Metal Ware

774,966. M AND DESIGN. Melvin Taubman, d.b.a. Melson Jewelry Co. SN 167,958. Pub. 5-26-64. Filed 5-1-63.

774,967. H. Hickok Manufacturing Co., Inc. SN 169,039. Pub. 5-26-64. Filed 5-16-63.

774,968. FAIRWAY. Speidel Corporation. SN 185,086. Pub. 5-26-64. Filed 1-21-64.

774,969. FAI. Frederick Atkins International, Ltd. SN 185,754. Pub. 5-26-64. Filed 1-31-64.

Class 29 — Brooms, Brushes, and Dusters

774,970. VELVATIZED TIP. Rubberset Company. SN 173,782. Pub. 5-26-64. Filed 7-25-63.

774,971. DUSPOSE. American Cyanamid Company. SN 182,027. Pub. 5-26-64. Filed 11-29-63.

774,972. RONSON. Ronson Corporation. SN 182,358. Pub. 5-26-64. Filed 12-4-63.

774,973. HEALTH CROSS AND DESIGN. A. Robinson & Co., Inc. SN 182,898. Pub. 5-26-64. Filed 12-12-63.

Class 31 — Filters and Refrigerators

774,974. C AND DESIGN. Culligan, Inc. SN 144,694. Pub. 5-26-64. Filed 5-16-62.

774,975. WIX FILTERS AND DESIGN. Wix Corporation. SN 159,318. Pub. 5-26-64. Filed 12-17-62.

774,976. AIRWEDGE. CRS Industries, Inc. SN 174,079. Pub. 5-26-64. Filed 7-31-63.

774,977. GEOMETRICAL DESIGN. Aktiebolaget Electrolux. SN 183,016. Pub. 5-26-64. Filed 12-16-63.

Class 32 — Furniture and Upholstery

774,978. "ALUMIFOAM." The Waterbury Mattress Company. SN 99,897. Pub. 5-26-64. Filed 6-28-60.

774,979. KCS. Kirby-Cogeshall-Steinau Co., Inc. MULTIPLE CLASS (Classes 32 and 50). SN 161,796. Pub. 5-26-64. Filed 1-31-63.

774,980. MULTILASTIC. American Metal Products Company, assignee of No-Sag Spring Company. SN 172,840. Pub. 5-26-64. Filed 7-11-63.

774,981. CARRIVOICE AND DESIGN. Lanier Electronic Laboratory, Inc. SN 181,649. Pub. 5-26-64. Filed 11-21-63.

Class 34 — Heating, Lighting, and Ventilating Apparatus

774,759. (See Class 2 for this trademark.)

774,982. HEVI-DUTY. Basic Products Corporation. SN 154,684. Pub. 5-26-64. Filed 10-8-62.

774,983. FYR-PROGRAMMER. Coen Company, Inc. SN 183,375. Pub. 5-26-64. Filed 12-23-63.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

774,984. SYF-O-MATIC. Theodore K. Gardner, d.b.a. Syf-O-Matic Products. SN 181,628. Pub. 5-26-64. Filed 11-21-63.

774,985. PACTAFLEX. Flexibox Limited. SN 182,260. Pub. 5-26-64. Filed 12-3-63.

774,986. LAREDO. United States Rubber Company. SN 182,378. Pub. 5-26-64. Filed 12-4-63.

Class 36 — Musical Instruments and Supplies

774,987. REDWING. Redwing Publishing and Recording Co. SN 174,531. Pub. 5-26-64. Filed 8-6-63.

774,988. 3 MARCHING MUSICIANS AND DESIGN. C. G. Conn, Ltd. SN 176,164. Pub. 5-26-64. Filed 9-3-63.

Class 37 — Paper and Stationery

774,989. DSI AND DESIGN. Diamond Systems, Inc. SN 163,815. Pub. 5-26-64. Filed 3-4-63.

774,990. NORMANDIE. Normandie Press, Inc. SN 164,368. Pub. 5-26-64. Filed 3-11-63.

774,991. HI-LITER. The Carter's Ink Company. SN 164,697. Pub. 5-26-64. Filed 3-15-63.

774,992. TRAZON AND DESIGN. Azon Corporation. SN 167,444. Pub. 5-26-64. Filed 4-26-63.

774,993. LIFE O' THE PARTY. Beach Products, Inc. SN 168,575. Pub. 5-26-64. Filed 5-10-63.

774,994. ADD TAPE AND DESIGN. Lakeside Central Company. SN 169,280. Pub. 5-26-64. Filed 5-20-63.

774,995. ADD ROLL AND DESIGN. Lakeside Central Company. SN 169,281. Pub. 5-26-64. Filed 5-20-63.

774,996. DESIGN 9 VERTICAL STRIPES. Nekoosa-Edwards Paper Company. SN 174,218. Pub. 5-26-64. Filed 8-1-63.

774,997. N AND DESIGN. Northern Packaging Corporation. SN 174,223. Pub. 5-26-64. Filed 8-1-63.

774,998. KINLINE. R. & W. Watson Limited. SN 175,346. Pub. 5-26-64. Filed 8-19-63.

774,999. BETTY BRITE AND DESIGN. American Paper & Plastic Products, Inc. SN 176,345. Pub. 5-26-64. Filed 9-5-63.

775,000. TEL-A-SISTOR. Dean R. Fiedler, d.b.a. Dean R. Fiedler Co. SN 176,511. Pub. 5-26-64. Filed 9-9-63.

775,001. SHIPMATE AND DESIGN. Paper Service Co., Inc. SN 180,440. Pub. 5-26-64. Filed 11-4-63.

775,002. SHIPMATE AND DESIGN. Paper Service Co., Inc. SN 180,441. Pub. 5-26-64. Filed 11-4-63.

775,003. DATAB. W. H. Brady Co. SN 182,922. Pub. 5-26-64. Filed 12-13-63.

775,004. RESIL PAK. The Cromwell Paper Company. SN 182,936. Pub. 5-26-64. Filed 12-13-63.

Class 38 — Prints and Publications

775,005. TAKE TEN. Chicago Musicians for Union Democracy. SN 166,443. Pub. 5-26-64. Filed 4-10-63.

775,006. REPRESENTATION OF ROPE ENCIRCLED GLOBES. Business International Corporation. SN 173,095. Pub. 5-26-64. Filed 7-16-63.

775,007. CLINGIES. The Ullman Company, Inc. SN 178,062. Pub. 5-26-64. Filed 9-30-63.

775,008. AMERICAN ASSOCIATION OF INDUSTRIAL NURSES JOURNAL. American Association of Industrial Nurses, Inc. SN 179,957. Pub. 5-26-64. Filed 10-29-63.

775,009. INSTRUX. The Psychological Corporation. SN 180,026. Pub. 5-26-64. Filed 10-29-63.

Class 39—Clothing

775,010. LILY LOVES. Lily of France, Inc. (Connecticut corporation), assignee of Lily of France, Inc. (New York corporation). SN 134,332. Pub. 5-26-64. Filed 12-19-61.

775,011. AVIANCA. Aerovias Nacionales de Colombia. SN 148,280. Pub. 5-26-64. Filed 7-3-62.

775,012. AVIANCA RED RUANA. Aerovias Nacionales de Colombia. SN 148,281. Pub. 5-26-64. Filed 7-3-62.

775,013. LILYETTE. Lilyette Brassiere Co., Inc. SN 154,041. Pub. 5-26-64. Filed 9-27-62.

775,014. COCOON. Vanity Fair Mills, Inc. SN 160,681. Pub. 5-26-64. Filed 1-14-63.

775,015. ALPHA-BETTE. Alpha Mills Corporation. SN 165,728. Pub. 5-26-64. Filed 4-1-63.

775,016. YORKTOWN. Huntley Knitting Mills, Inc., d.b.a. Trend Fashions. SN 167,548. Pub 5-26-64. Filed 4-25-63.

775,017. EL COLLETO. C. F. Hathaway Company. SN 169,030. Pub. 5-26-64. Filed 5-16-63.

775,018. FLORON TAILLEUR. Metco Corp. SN 170,415. Pub. 5-26-64. Filed 6-5-63.

775,019. CESAR. Cesare Contegiacomo S.p.A. SN 171,217. Pub. 5-26-64. Filed 6-17-63.

775,020. "MARAFIELDS." Countess Mara, Incorporated. SN 171,317. Pub. 5-26-64. Filed 6-19-63.

775,021. EUGENIA. Kats Drug Company. SN 173,845. Pub. 5-26-64. Filed 7-26-63.

775,022. KAREN AMES. Karen Industries, Inc. SN 174,189. Pub. 5-26-64. Filed 8-1-63.

775,023. WILLAWAW. Zwicker Knitting Mills, assignee of Eagle Knitting Mills, Inc. SN 176,079. Pub. 5-26-64. Filed 8-30-63.

775,024. MISS COSMOPOLITAN. Best & Co., Inc. SN 177,154. Pub. 5-26-64. Filed 9-17-63.

775,025. ROL-BAN. Textile Sales Company. SN 178,056. Pub. 5-26-64. Filed 9-30-63.

775,026. ZOO PARTNERS. March & Mendl, Inc. SN 178,210. Pub. 5-26-64. Filed 10-2-63.

775,027. SURE-FORM AND DESIGN. Hughes Affiliated Mills, Inc. SN 178,450. Pub. 5-26-64. Filed 10-7-63.

775,028. NEVER-THE-LESS. Maidenform, Inc. SN 178,809. Pub. 5-26-64. Filed 10-11-63.

775,029. EASY TAB. Piedmont Shirt Company. SN 179,354. Pub. 5-26-64. Filed 10-18-63.

775,030. ECONILONS. Oakmont Hosiery Mills. SN 179,449. Pub. 5-26-64. Filed 10-21-63.

775,031. POLE CATS AND DESIGN. O'Brien Manufacturing Company. SN 179,450. Pub. 5-26-64. Filed 10-21-63.

775,032. COLUMBINE. Maidenform, Inc. SN 180,102. Pub. 5-26-64. Filed 10-30-63.

775,033. BOARDROOM. Bullock's, Inc. SN 180,175. Pub. 5-26-64. Filed 10-31-63.

775,034. COT'N-GRO. Lisle Mills Company, by mesne assignments from William Walter Artst. SN 180,551. Pub. 5-26-64. Filed 11-6-63.

775,035. EV'RYTHING. Flexnit Company, Inc. SN 180,720. Pub. 5-26-64. Filed 11-8-63.

Class 40—Fancy Goods, Furnishings, and Notions

775,036. BUNNY BAND. Solo Products Corporation. SN 176,401. Pub. 5-26-64. Filed 9-5-63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

775,037. GREYSTONE FABRICS. Worcester Textile Company. SN 166,603. Pub. 5-26-64. Filed 4-11-63.

775,038. ULTRAPAN. Farbenfabriken Bayer Aktiengesellschaft. SN 175,486. Pub. 5-26-64. Filed 8-21-63.

775,039. HEAVEN T' SEVEN. Henry L. Sobel, d.b.a. King Morpheus Products. SN 176,243. Pub. 5-26-64. Filed 9-3-63.

775,040. G GENERAL TIRE. The General Tire & Rubber Company. SN 179,708. Pub. 5-26-64. Filed 10-24-63.

775,041. VELVETONE AND DESIGN. Gordon Mills, Inc. SN 180,061. Pub. 5-26-64. Filed 11-7-63.

775,042. MIDAS TOUCH. James Lees and Sons Company. SN 180,916. Pub. 5-26-64. Filed 11-12-63.

775,043. VIVACIOUS. James Lees and Sons Company. SN 180,917. Pub. 5-26-64. Filed 11-12-63.

775,044. THREE CHEERS. James Lees and Sons Company. SN 180,918. Pub. 5-26-64. Filed 11-12-63.

775,045. STONENYL. James Lees and Sons Company. SN 180,919. Pub. 5-26-64. Filed 11-12-63.

775,046. SPICEWOOD. James Lees and Sons Company. SN 180,920. Pub. 5-26-64. Filed 11-12-63.

775,047. NYLOTILE. James Lees and Sons Company. SN 180,921. Pub. 5-26-64. Filed 11-12-63.

Class 43—Thread and Yarn

775,048. MYFLEX. Clarence L. Meyers & Co. Inc. SN 171,789. Pub. 5-26-64. Filed 6-25-63.

775,049. ULTRAPAN. Farbenfabriken Bayer Aktiengesellschaft. SN 175,486. Pub. 5-26-64. Filed 8-21-63.

775,050. RESILION. Bear Brand Hosiery Co. SN 180,043. Pub. 5-26-64. Filed 11-7-63.

Class 44—Dental, Medical, and Surgical Appliances

775,051. MARYLEE'S ETC. AND DESIGN. A. Philip and Mary Lee Schneider. SN 148,658. Pub. 5-26-64. Filed 7-9-62.

775,052. McGAW. McGaw Laboratories, Inc. SN 154,611. Pub. 5-26-64. Filed 10-5-62.

775,053. P AND DESIGN. Kansas City Assemblage Company, Inc. SN 174,034. Pub. 5-26-64. Filed 7-30-63.

775,054. MG AND DESIGN. Mennen-Greatbatch Electronics, Inc. SN 176,935. Pub. 5-26-64. Filed 9-13-63.

775,055. FPI. Fluid Power, Inc. SN 179,037. Pub. 5-26-64. Filed 10-15-63.

775,056. SYMPOULE. Arthur Bane. SN 179,186. Pub. 5-26-64. Filed 10-17-63.

775,057. SURGA SHIELD. Monogram Manufacturing Company. SN 180,317. Pub. 5-26-64. Filed 11-1-63.

775,058. COBIUM. Nuclear Consultants Corporation. SN 180,672. Pub. 5-26-64. Filed 11-7-63.

775,059. VI-DRAPE. Aeroplast Corporation. SN 181,732. Pub. 5-26-64. Filed 11-22-63.

775,060. MANIQUEEN. Stonetree Chemical Corporation. SN 183,371. Pub. 5-26-64. Filed 12-4-63.

775,061. HERMES. Dupaco, Inc. SN 183,042. Pub. 5-26-64. Filed 12-16-63.

775,062. ANGIOCATH. Deseret Pharmaceutical Company, Inc. SN 183,317. Pub. 5-26-64. Filed 12-20-63.

775,063. QUIKUFF. Propper Manufacturing Company, Inc. SN 183,791. Pub. 5-26-64. Filed 12-30-63.

775,064. AUTOSFIG. Propper Manufacturing Company, Inc. SN 183,792. Pub. 5-26-64. Filed 12-30-63.

775,065. IRRIGO. Propper Manufacturing Company, Inc. SN 183,793. Pub. 5-26-64. Filed 12-30-63.

Class 45—Soft Drinks and Carbonated Waters

775,066. SHASTA AND DESIGN. Consolidated Foods Corporation, d.b.a. Shasta Beverages. SN 148,140. Pub. 5-26-64. Filed 7-2-62.

Class 46—Foods and Ingredients of Foods

775,067. WILLIAMS. Florida Products Company, Inc. SN 76,073. Pub. 6-11-63. Filed 6-19-59.

775,068. SEA-BLEST. Consolidated Foods Corporation, assignee of Tiedemann & McMorran, Inc. SN 126,964. Pub. 5-26-64. Filed 8-30-61.

775,069. MISS PENNY QUALITY CHECKED AND DESIGN. Miss Penny Foods, Inc., assignee of Carney-White Food Company Incorporated. SN 131,552. Pub. 5-26-64. Filed 11-8-61.

775,070. KEEVER AND DESIGN. The Keever Starch Company. SN 146,541. Pub. 5-26-64. Filed 5-11-62.

775,071. BIG LAY. Southern States Cooperative, Incorporated. SN 154,800. Pub. 5-26-64. Filed 10-9-62.

775,072. CANDY APPLE MAGIC. Victor Zinder, d.b.a. Victor Products Company. SN 155,870. Pub. 5-26-64. Filed 10-24-62.

775,073. KEMIN. Rolland W. Nelson, d.b.a. Chemical Industries. SN 158,994. Pub. 5-26-64. Filed 12-12-62.

775,074. FRUIT FREEZE. Castle & Cooke, Inc., assignee of Dole Corporation, d.b.a. Hawaiian Pineapple Company. SN 159,338. Pub. 4-28-64. Filed 12-18-62.

775,075. PARSLETTE. Harry S. Lapoff. SN 162,562. Pub. 5-26-64. Filed 2-12-63.

775,076. BILLY'S. Billy's Bretzels Inc. SN 165,024. Pub. 5-26-64. Filed 3-20-63.

775,077. RETTUB. H. P. Hood & Sons, Inc. SN 165,515. Pub. 5-26-64. Filed 3-27-63.

775,078. VERMONT GOLD. H. P. Hood & Sons, Inc. SN 165,516. Pub. 5-26-64. Filed 3-27-63.

775,079. SAV-REE-PAK. Allen Electronics, Inc. SN 165,660. Pub. 5-26-64. Filed 3-29-63.

775,080. SHUR-SET. Anderson, Clayton & Co. SN 165,664. Pub. 5-26-64. Filed 3-29-63.

775,081. CATERER'S KITCHEN. Stop & Shop, Inc., d.b.a. Caterer's Kitchen. SN 167,425. Pub. 5-26-64. Filed 4-23-63.

775,082. DOVER AND DESIGN. Washington Creamery New York Corp. SN 168,372. Pub. 5-26-64. Filed 5-7-63.

775,083. „LE BISCUIT QUI SE MANGE TOUT SEUL" AND DESIGN. Oulevay S.A. SN 172,333. Pub. 5-26-64. Filed 7-2-63.

775,084. ROSE MITCHAM. A. M. Todd Company. SN 173,065. Pub. 5-26-64. Filed 7-15-63.

775,085. MENTOS. Van Melle N.V. SN 174,111. Pub. 5-26-64. Filed 7-31-63.

775,086. MELLINI. Van Melle N.V. SN 174,112. Pub. 5-26-64. Filed 7-31-63.

775,087. RINKY DRINK. Castle & Cooke, Inc., assignee of Dole Corporation. SN 174,352. Pub. 4-28-64. Filed 8-5-63.

775,088. PARTY TYME! Party-Tyme Products, Inc. SN 174,789. Pub. 5-26-64. Filed 8-9-63.

775,089. SCARLET WONDER. General Foods Corporation. SN 178,093. Pub. 5-26-64. Filed 10-10-63.

775,090. BAND WAGON. United States Tobacco Company. SN 179,280. Pub. 5-26-64. Filed 10-17-63.

775,091. SMORGAS AND DESIGN. Adams and Brooks, Inc. SN 180,161. Pub. 5-26-64. Filed 10-31-63.

775,092. TROP-BANA. Beatrice Foods Co. SN 180,173. Pub. 5-26-64. Filed 10-31-63.

775,093. MARSTAR. Marschall Dairy Laboratory, Inc. SN 180,221. Pub. 5-26-64. Filed 10-31-63.

775,094. CHIQUITA ETC. AND DESIGN. United Fruit Company. SN 180,249. Pub. 5-26-64. Filed 10-31-63.

775,095. F & H FEEDS AND DESIGN. F & H Feeds. SN 180,303. Pub. 5-26-64. Filed 11-1-63.

775,096. "OLD GEORGIA ORCHARD" AND DESIGN. Bogri Farms. SN 180,559. Pub. 5-26-64. Filed 11-6-63.

775,097. BACK-YARD CHEF. Florence Heath, d.b.a. Heath's Restaurant. SN 184,065. Pub. 5-26-64. Filed 1-6-64.

775,098. BACK-YARD CHEF AND DESIGN. Florence Heath, d.b.a. Heath's Restaurant. SN 184,066. Pub. 5-26-64. Filed 1-6-64.

Class 47—Wines

775,099. EDUARD VILLON. Pastene Wine & Spirits Co., Inc. SN 179,252. Pub. 5-26-64. Filed 10-17-63.

Class 48—Malt Beverages and Liquors

775,100. GAME COCK. The Cumberland Brewing Company of Allegany County, Maryland. SN 179,202. Pub. 5-26-64. Filed 10-17-63.

Class 49—Distilled Alcoholic Liquors

775,101. POTT AND DESIGN. H. H. Pott Nfgr. Rumhandelshaus. SN 92,675. Pub. 5-22-62. Filed 2-18-60.

775,102. OLD ENGLISH AND DESIGN. David Sherman Corporation, d.b.a. Westerfield Company. SN 138,986. Pub. 5-12-64. Filed 3-2-62.

Class 50—Merchandise Not Otherwise Classified

774,979. (See Class 32 for this trademark.)

775,103. MASTERFEEDER. Bradshaw Mfg. Co. SN 140,257. Pub. 5-26-64. Filed 7-18-62.

775,104. VISIONLITE. Robert B. Hollingsworth. SN 160,541. Pub. 5-26-64. Filed 1-11-63.

775,105. LIFE-RITE. United States Plywood Corporation. SN 167,586. Pub. 5-26-64. Filed 4-25-63.

775,106. LAM-DECK. George R. Moore and Philip Adelman. SN 171,556. Pub. 5-26-64. Filed 6-21-63.

775,107. NAPCOWARE AND DESIGN. National Potteries Corporation. SN 174,120. Pub. 5-26-64. Filed 7-31-63.

775,108. CATAPHOTE. Cataphote Corporation. SN 179,197. Pub. 5-26-64. Filed 10-17-63.

775,109. BAND-GARD. Ipco Hospital Supply Corporation. SN 183,762. Pub. 5-26-64. Filed 12-30-63.

775,110. ELBO. National Soda Straw Company. SN 184,090. Pub. 5-26-64. Filed 1-6-64.

775,111. CARNIVAL. National Soda Straw Company. SN 184,091. Pub. 5-26-64. Filed 1-6-64.

775,112. COVER-ZUM. Hyde Manufacturing Company. SN 184,159. Pub. 5-26-64. Filed 1-7-64.

Class 51—Cosmetics and Toilet Preparations

775,113. LADY LYNN. Invincible Products Corporation. SN 140,356. Pub. 5-26-64. Filed 3-21-62.

775,114. PRIMAVERA. Jacqueline Cochran, Inc. SN 157,470. Pub. 5-26-64. Filed 11-19-62.

775,115. MARTHA SCOTT. Household Research Corporation, d.b.a. R. L. Winslow & Company. SN 170,407. Pub. 5-26-64. Filed 6-5-63.

Class 52 — Detergents and Soaps

775,116. DESIGN 20 MULE TEAM. United States Borax & Chemical Corporation. SN 177,117. Pub. 5-26-64. Filed 9-16-63.

775,117. MANPOWER. "42" Products, Ltd., Inc. SN 182,071. Pub. 5-26-64. Filed 11-29-63.

Service Marks

Class 100 — Miscellaneous

775,118. I+I(Δ). C-E-I-R, Inc. SN 150,516. Pub. 5-26-64. Filed 8-6-62.

775,119. INTELLECT PLUS THE AMPLIFIERS OF INTELLECT. C-E-I-R, Inc. SN 150,517. Pub. 5-26-64. Filed 8-6-62.

775,120. BUDKON. Budkon, Incorporated. SN 150,848. Pub. 5-26-64. Filed 8-9-62.

775,121. DESIGN OF TWO MASKS. Budkon, Incorporated. SN 150,849. Pub. 5-26-64. Filed 8-9-62.

775,122. DRC AND DESIGN. Dynamics Research Corporation. SN 163,474. Pub. 5-26-64. Filed 2-26-63.

775,123. COSTIN'S SIRLOIN ROOM. Sirloin Room, Inc., d.b.a. Costin's Sirloin Room. SN 164,182. Pub. 5-26-64. Filed 3-7-63.

775,124. GOLLIWOG. Sheraton Corporation of America. SN 170,566. Pub. 5-26-64. Filed 6-7-63.

Class 101 — Advertising and Business

775,125. GLOBE DESIGN. Charles D. Shultz, Ltd., by change of name from C. D. Schultz & Company Limited. MULTIPLE CLASS (Classes 101 and 102). SN 156,907. Pub. 5-26-64. Filed 11-8-62.

Class 102 — Insurance and Financial

775,125. (See Class 101 for this trademark.)

775,126. G. I. S. Growth Industry Shares, Inc. SN 148,032. Pub. 5-26-64. Filed 6-29-62.

775,127. FAMILY FOUNDATION INSURANCE. Red Owl Stores, Inc. SN 162,487. Pub. 11-19-63. Filed 2-11-63.

775,128. HIC ETC. AND DESIGN. Health Insurance Council. SN 168,502. Pub. 5-26-64. Filed 5-9-63.

775,129. CIC AND DESIGN. Southwestern Investment Company. SN 171,395. Pub. 5-26-64. Filed 6-19-63.

775,130. 1ST AND DESIGN. First Security National Bank of Beaumont. SN 172,984. Pub. 5-26-64. Filed 7-15-63.

775,131. AIRSURANCE AND DESIGN. United States Aviation Underwriters, Incorporated. SN 173,716. Pub. 5-26-64. Filed 7-24-63.

775,132. AIRSURANCE USAIG AND DESIGN. United States Aviation Underwriters, Incorporated. SN 173,717. Pub. 5-26-64. Filed 7-24-63.

775,133. DESIGN HEXAGONAL. Samson Associates, Inc. SN 173,963. Pub. 5-26-64. Filed 7-29-63.

775,134. DESIGN OF CORN AND GLOBE. The Greater Iowa Corporation. SN 175,279. Pub. 5-26-64. Filed 8-19-63.

Class 103 — Construction and Repair

775,135. DSB AND DESIGN. The D. S. Brown Company. SN 149,636. Pub. 5-26-64. Filed 7-24-62.

775,136. ACAN. Albert-Acan X-Ray Solutions, Inc. SN 163,097. Pub. 5-26-64. Filed 2-20-63.

775,137. FATHOM. Columbus Construction Company. SN 164,605. Pub. 5-26-64. Filed 3-14-63.

775,138. 76. Union Oil Company of California. SN 166,846. Pub. 5-26-64. Filed 4-16-63.

775,139. GUARDIAN POWER CLEANING. Guardian Fire Reduction Company, Inc. SN 174,309. Pub. 5-26-64. Filed 8-2-63.

Class 104 — Communication

775,140. UNISTOX. United Press International, Inc. SN 162,507. Pub. 5-26-64. Filed 2-11-63.

Class 105 — Transportation and Storage

775,141. MCLEAN. McLean Trucking Company. SN 153,417. Pub. 5-26-64. Filed 9-18-62.

775,142. U. Union Tank Car Company. SN 171,507. Pub. 5-26-64. Filed 6-20-63.

775,143. UST ETC. AND DESIGN. United States Truck Leasing Corporation. SN 172,438. Pub. 5-26-64. Filed 7-3-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

775,144. The Georgia Marble Company, Tate, Ga. SN 171,411. Filed P.R. 6-19-63; Am. S.R. 4-22-64.

WILLINGHAM WHITE

For Chips or Flakes of Marble for Use in Manufacture of Terrazzo and Used in Exterior and Interior Precast Construction.
First use Apr. 1, 1963.

Class 10 — Fertilizers

775,145. Henry D. Fox, Lakewood, Calif. SN 154,967. Filed P.R. 10-11-62; Am. S.R. 1-8-64.

SET 'N SIZE

For Growth Regulator for Tomato Plants.
First use in or about February 1960.

Class 46 — Foods and Ingredients of Foods

775,146. Sargento Cheese Company, Inc., Elkhart Lake, Wis. SN 109,997. Filed P.R. 12-9-60; Am. S.R. 1-8-62.

BURGHERCHEESE

For Cheese.
First use Nov. 9, 1960.

775,147. Freemen & Gossage, Inc., San Francisco, Calif., by change of name from Weiner & Gossage, Inc., San Francisco, Calif. SN 133,997. Filed P.R. 12-13-61; Am. S.R. 3-3-64.

BREDSPRED

For Flavored Food Spreads—Namely, Cheese Spreads, Mustard Spread, Chili Spread, Curry Spread, and Lemon Spread.
First use Nov. 14, 1961, on cheese spreads.

Class 49 — Distilled Alcoholic Liquors

775,148. Edward Simpson & Co., Limited, London, England. SN 179,275. Filed 10-17-63.



Owner of U.S. Reg. No. 721,461.
For Gin.
First use July 1933; in commerce July 1960.

Class 50 — Merchandise Not Otherwise Classified

775,149. Faster-Form Corporation, New Hartford, N.Y. SN 157,680. Filed P.R. 11-21-62; Am. S.R. 6-17-64.

THE LAST ROSARY

For Rosaries Utilizing Floral Beads.
First use Oct. 25, 1962.

Service Mark

Class 100 — Miscellaneous

775,150. Christopher J. Bravos, d.b.a. Globe Copy Company, Chicago, Ill. SN 153,728. Filed P.R. 9-24-62; Am. S.R. 6-12-64.

INSTANT PRINTING

For Reproducing Multiple Copies of Printed Matter for Others.
First use July 1, 1962.

Class 101 — Advertising and Business

775,151. Maritz, Inc., St. Louis, Mo. SN 162,964. Filed 2-18-63.

MOTIVATING MEN TO SELL YOUR PRODUCT IS OUR BUSINESS

For Planning and Conducting Sales and Safety Incentive Programs.
First use January 1961.

Class 102 — Insurance and Financial

775,152. Insurance Company of North America, Philadelphia, Pa. SN 143,965. Filed P.R. 5-7-62; Am. S.R. 6-16-64.

PACKET

For Underwriting of Marine Insurance.
First use Jan. 10, 1962.

Class 105 — Transportation and Storage

775,153. Happiness Tours, Inc., Chicago, Ill. SN 160,729. Filed P.R. 5-27-63; Am. S.R. 6-22-64.

Rotchford's

For Arranging and Conducting Travel Tours and Arranging Hotel Accommodations for Tourists.
First use Jan. 13, 1961.

TRADEMARK REGISTRATIONS RENEWED

25,119. INVINCIBLE. Cl. 11. 8-14-1894.
185,106. CAVALIER. Cl. 31. 6-10-24.
185,875. DICTAPHONOIL. Cl. 15. 6-24-24.
186,465. BAM. Cl. 39. 7-8-24.
186,744. BROOKMERE. Cl. 46. 7-22-24.
186,831. GOLDEN GATE. Cl. 46. 7-22-24.
187,255. FLUFFO. Cl. 46. 7-29-24.
187,298. LIFE SAVERS AND DESIGN. Cl. 46. 7-29-24.
187,453. PUREX. Cl. 46. 8-5-24.
187,763. DRYVIN. Cl. 13. 8-12-24.
188,799. SKYBRYTE. Cl. 52. 9-2-24.
188,813. THE FOURTH ESTATE. Cl. 38. 9-2-24.
190,133. IDEAL. Cl. 46. 10-7-24.
190,668. ROMEX. Cl. 21. 10-21-24.
190,898. PURETEST. Cl. 46. 10-28-24.
190,899. TOPSALL. Cl. 46. 10-28-24.
191,430. ALMOND ROCA. Cl. 46. 11-11-24.
191,514. CCS. Cl. 50. 11-11-24.

191,545. BOSS ARMOURPLATE. Cl. 39. 11-11-24.
191,725. ESS-R-BEE. Cl. 39. 11-18-24.
191,891. APOLLON. Cl. 46. 11-18-24.
191,993. M-O. Cl. 18. 11-25-24.
192,529. CUPREX. Cl. 18. 12-9-24.
192,923. GOLDEN GATE PARK. Cl. 1. 12-16-24.
406,113. A DE M AND DESIGN. Cl. 51. 3-14-44.
406,213. STRATOWAVE. Cl. 51. 3-14-44.
406,338. OIL-SPUNJ. Cl. 52. 3-28-44.
406,908. JET-RITE. Cl. 37. 5-9-44.
407,077. AUSTINIZED. Cl. 42. 5-16-44.
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406,412. AMERICAN IMPORT & EXPORT BULLETIN AND DESIGN. Cl. 38. 4-4-44. Import Publications, Inc., New York, N.Y. Amended to appear:



708,954. BLACO-THIN. Cl. 16. 12-27-60. G. S. Blakeslee & Co., Chicago, Ill. Amended: In the statement, column 2, line 3, "Nos." is deleted and *No.* is inserted and ",510,545, and 627,748" is deleted.

731,106. TOP TEN PINS AND DESIGN. Cl. 22. 5-8-62. Ford Products Company, Pawtucket, R.I. Corrected: In the statement, column 1, line 1, "Food" should be deleted and *Ford* should be inserted.

770,953. AEROPREEN. Cl. 1. 6-9-64. Aeropreen Limited, London, England. Corrected: In the statement, column 1, lines 2 and 3 should be deleted and *Plantation House, Rood Lane, London E. C. 3, England* should be inserted.

771,020. AEROPREEN. Cl. 12. 6-9-64. Aeropreen Limited, London, England. Corrected: In the statement, column 1, lines 2 and 3 should be deleted and *Plantation House, Rood Lane, London E. C. 3, England* should be inserted.

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Eagle Knitting Mills, Inc.: *See*—
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Eagle Roll Leaf Stamping Co., Brooklyn, N.Y. 663,466, canc. Cl. 32.
Eastman Kodak Co., Rochester, N.Y. 409,000, ren. 8–11–64. Cl. 6.
Editor & Publisher Co., The: *See*—
Fourth Estate Publishing Co., The.
Ed-Lyn Co., The: *See*—
Wilkerson, Byron E.
Eldorado Tool and Mfg. Corp., Milford, Conn. 774,948, pub. 5–26–64. Cl. 23.
Electrical Utilities Co., La Salle, Ill. 663,296, canc. Cl. 21.
Ellsworth, Robert B., Indianapolis, Ind. 663,317, canc. Cl. 6.
Emmbee Mfg. Co., Elizabeth, N.J. 663,291, canc. Cl. 1.
Empire Varnish Co., The, Cleveland, Ohio. 774,948, pub. 5–26–64. Cl. 16.
Evans Products Co.: *See*—
Harbor Plywood Corp.
Evans Products Co., Plymouth, Mich. 663,284, canc. Cl. 19.
Everson, F. E.: *See*—
Everson, Franklin E.
Everson, Franklin E., d.b.a. F. E. Everson, to Colgate-Palmolive Co., New York, N.Y. 407,780, ren. 8–11–64. Cl. 6.
Excell Laboratories, Inc., Chicago, Ill. 663,330, canc. Cl. 10.
FMC Corp., San Jose, Calif. 774,936, pub. 5–26–64. Cl. 23.
FMC Corp., San Jose, Calif. 774,942, pub. 5–26–64. Cl. 23.
FMC Corp., San Jose, Calif. 774,954, pub. 5–26–64. Cl. 23.
FMC Corp., San Jose, Calif. 774,964, pub. 5–26–64. Cl. 23.
Fabbriche Italo-Americane Montaggi, S.p.A., Rome, Italy. 774,802, pub. 5–26–64. Cl. 9.
Falcon International, Inc., Chicago, Ill. 774,799, pub. 5–26–64. Cl. 8.
Falcon Tool Co., Detroit, Mich. 774,944, pub. 5–26–64. Cl. 23.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 663,367, canc. Cl. 18.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 774,757, pub. 5–26–64. Cl. 1.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 775,038, pub. 5–26–64. Cl. 42.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 775,049, pub. 5–26–64. Cl. 43.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. 774,780, pub. 5–26–64. Cl. 6.
Faster-Form Corp., New Hartford, N.Y. 775,149. Cl. 50.
Feeds, R & H, Lathrop, Calif. 775,095, pub. 5–26–64. Cl. 46.
Ferry-Morse Seed Co.: *See*—
Morse, C. C. & Co.
Fiedler, Dean R., d.b.a. Dean R. Fiedler Co., Portland, Oreg. 775,000, pub. 5–26–64. Cl. 37.
Fiedler, Dean R., Co.: *See*—
Fiedler, Dean R.
Fieldcrest Mills, Inc., Spray, N.C. 663,530–2, canc. Cl. 42.
First Security National Bank of Beaumont, Beaumont, Tex. 775,130, pub. 5–26–64. Cl. 102.
Fisher-Pierce Co., Inc., The, Rockland, Mass. 774,870, pub. 5–26–64. Cl. 19.
Flako Products Corp., New Brunswick, N.J., to The Quaker Oats Co., Chicago, Ill. 167,255, ren. 8–11–64. Cl. 46.
Fleet-Wing Corp.: *See*—
Canfield Oil Co., The.
Flexibox Ltd., Manchester, England. 774,985, pub. 5–26–64. Cl. 35.
Flexnit Co., Inc., New York, N.Y. 775,035, pub. 5–26–64. Cl. 39.

Florida Products Co., Inc., Washington, D.C. 775,067, pub. 6–11–63. Cl. 46.
Florida Speaks Corp., St. Petersburg, Fla. 649,731, canc. Cl. 38.
Fluid Power, Inc., Hudson, Ohio. 775,055, pub. 5–26–64. Cl. 44.
Food Equipment Research Mfg. Corp., Bayport, N.Y. 774,831, pub. 5–26–64. Cl. 13.
Ford Products Co., Pawtucket, R.I. 741,106, cor. Cl. 22.
Fourth Estate Publishing Co., The, to The Editor & Publisher Co., New York, N.Y. 188,813, ren. 8–11–64. Cl. 38.
"42" Products, Ltd., Inc., Santa Monica, Calif. 775,117, pub. 5–26–64. Cl. 52.
Fox, Henry D., Lakewood, Calif. 775,145. Cl. 10.
Freeman & Gossage, Inc., from Weiner & Gossage, Inc., San Francisco, Calif. 775,147. Cl. 46.
G.K.B. Co., Inc.: *See*—
United Industrial Syndicate.
Garber's Travel Service: *See*—
Garber's Travel Service, Inc.
Garber's Travel Service, Inc., d.b.a. Garber's Travel Service, Brookline, Mass. 663,592, canc. Cl. 105.
Gardner, Theodore K., d.b.a. S7-O-Matic Products, Pasadena, Calif. 774,984, pub. 5–26–64. Cl. 35.
Gem Color Co., Inc., Paterson, N.J. 663,310, canc. Cl. 5.
General Aniline & Film Corp., New York, N.Y. 663,442, canc. Cl. 26.
General Cable Corp.: *See*—
Rome Wire Co.
General Electric Co., Baltimore, Md. 774,882–3, pub. 5–26–64. Cl. 21.
General Foods Corp., White Plains, N.Y. 775,089, pub. 5–26–64. Cl. 46.
General Kinematics Corp., Barrington, Ill. 774,913, pub. 5–26–64. Cl. 23.
General Mills, Inc.: *See*—
Washburn-Crosby Co.
General Precision, Inc., Little Falls, N.J. 774,875, pub. 5–26–64. Cl. 21.
General Tire & Rubber Co., The, Akron, Ohio. 663,295, canc. Cl. 1.
General Tire & Rubber Co., The, Akron, Ohio. 775,040, pub. 5–26–64. Cl. 42.
Georgia Marble Co., The, Tate, Ga. 775,144. Cl. 1.
Gerardi, Frank S., Providence, R.I. 663,603, canc. Cl. 42.
Gibraltar Industries, Inc., Chicago, Ill. 774,844, pub. 5–26–64. Cl. 15.
Gilbert, Enoch J., d.b.a. Jack Gilbert of New York, New York, N.Y. 663,520, canc. Cl. 39.
Gilbert, Jack, of New York: *See*—
Gilbert, Enoch J.
Girling Ltd., Tyseley, Birmingham, England. 774,871, pub. 5–26–64. Cl. 19.
Glenstone Block Co., Springfield, Mo. 774,806, pub. 5–26–64. Cl. 12.
Globe American Corp., Kokomo, Ind. 663,403, canc. Cl. 21.
Globe Copy Co.: *See*—
Bravos, Christopher J.
Globe-Union Inc., Milwaukee, Wis. 774,884, pub. 5–26–64. Cl. 21.
Golay and Co. Inc., Cambridge City, Ind. 774,943, pub. 5–26–64. Cl. 23.
Golden Arrow Mfg. Ltd., Calgary, Alberta, Canada. 774,914, pub. 5–26–64. Cl. 23.
Gordon Mills, Inc., Calhoun, Ga. 775,041, pub. 5–26–64. Cl. 42.
Grand Rapids Varnish Corp., Grand Rapids, Mich. 663,583, canc. Cl. 52.
Greater Iowa Corp., The, Des Moines, Iowa. 775,134, pub. 5–26–64. Cl. 102.
Greer Hydraulics, Inc., Los Angeles, Calif. 774,908–9, pub. 5–26–64. Cl. 23.
Gross, Morton B.: *See*—
Poling, Guy H.
Growth Industry Shares, Inc., Chicago, Ill. 775,126, pub. 5–26–64. Cl. 102.
Guardian Fire Reduction Co., Inc., Little Rock, Ark. 775,139, pub. 5–26–64. Cl. 103.
Guitart, Rafael F., Havana, Cuba. 663,563, canc. Cl. 51.
Gulf States Paper Corp., Tuscaloosa, Ala. 774,766, pub. 5–26–64. Cl. 2.
Gustin-Bacon Brake Co., Kansas City, Mo. 774,864, pub. 5–26–64. Cl. 19.
Haleka, Dorothy C., Southington, Conn. 774,912, pub. 5–26–64. Cl. 23.
Haley M-O Co., The, Indianapolis, Ind., to Sterling Drug Inc., New York, N.Y. 191,998, ren. 8–11–64. Cl. 18.
Hall, Turner, Corp.: *See*—
Tylon Products, Inc.
Hamilton Associates, Baltimore, Md. 774,905, pub. 5–26–64. Cl. 23.
Happiness Tours, Inc., Chicago, Ill. 775,153. Cl. 105.
Harbor Plywood Corp., Hoquiam, Wash., to Evans Products Co., Portland, Oreg. 409,479, ren. 8–11–64. Cl. 12.
Hartman Trailer Mfg. Co., Perkasie, Pa. 774,869, pub. 5–26–64. Cl. 19.
Hasenfeld Bros. Inc., Central Falls, R.I. 774,894, pub. 5–26–64. Cl. 22.
Hathaway, C. F., Co., Waterville, Maine. 775,017, pub. 5–26–64. Cl. 39.
Haveg Industries, Inc., Wilmington, Del. 774,760, pub. 5–26–64. Cl. 2.
Hawaiian Pineapple Co.: *See*—
Castle & Cooke, Inc.
Heath, Florence, d.b.a. Heath's Restaurant, Dallas, Tex. 775,097–8, pub. 5–26–64. Cl. 46.
Health Insurance Council, New York, N.Y. 775,128, pub. 5–26–64. Cl. 102.
Heath's Restaurant: *See*—
Heath, Florence.
Hewitt-Robins Inc.: *See*—
Robins Conveyers Inc.
Hexcel Products Inc., Berkeley, Calif. 774,818, pub. 5–26–64. Cl. 12.
Hayden Newport Chemical Corp., from Hayden Newport Chemical Corp., New York, N.Y. 774,755, pub. 5–26–64. Cl. 1.
Hickok Mfg. Co., Inc., Rochester, N.Y. 774,967, pub. 5–26–64. Cl. 28.
Hilex Co., St. Paul, Minn. 774,783, pub. 5–26–64. Cl. 6.
Hoke Mfg. Co. Inc., from Hoke Inc., Cresskill, N.J. 774,838, pub. 5–5–64. Cl. 13.
Holophane Co., Inc., New York, N.Y. 774,876, pub. 5–26–64. Cl. 21.
Hood, H. P., & Sons, Inc., Boston, Mass. 775,077–8, pub. 5–26–64. Cl. 46.
Hoke Inc.: *See*—
Hoke Mfg. Co. Inc.
Hollinger Corp., The, Arlington, Va. 663,801, canc. Cl. 2.
Hollingsworth, Robert B., Evanston, Ill. 775,104, pub. 5–26–64. Cl. 50.
Household Research Corp., d.b.a. Winslow & Co., Auburndale, Mass. 775,115, pub. 5–26–64. Cl. 51.
Hughes Affiliated Mills, Inc., Hickory, N.C. 775,027, pub. 5–26–64. Cl. 39.
Hughes, Talmadge C., Detroit, Mich. 663,482, canc. Cl. 38.
Hull, Clair I., d.b.a. Northwest Venetian Blind Co. and/or Norco Metal Products Co., Seattle, Wash. 663,591, canc. Cl. 103.
Hunt & Winterbotham, Ltd., New York, N.Y. 663,496, canc. Cl. 39.
Huntley Knitting Mills, Inc., d.b.a. Trend Fashions, York, S.C. 775,016, pub. 5–26–64. Cl. 39.
Hyde Mfg. Co., Southbridge, Mass. 775,112, pub. 5–26–64. Cl. 50.
IPCO Hospital Supply Corp., New York, N.Y. 775,109, pub. 5–26–64. Cl. 50.
ITT General Controls Inc., Glendale, Calif. 774,888, pub. 5–26–64. Cl. 13.
Imea S.A., Neuchatel, Switzerland. 774,896, pub. 5–26–64. Cl. 23.
Imperial Knife Associated Companies, Inc., Providence, R.I. 774,928, pub. 5–26–64. Cl. 23.
Import Publications, Inc., New York, N.Y. 406,412. Am. 7(d). Cl. 38.
Industrial Minerals of Canada Ltd., Toronto, Ontario, Canada. 774,753, pub. 6–11–63. Cl. 1.
Insurance Co. of North America, Philadelphia, Pa. 775,152. Cl. 102.
Installation Service Co., Elmhurst, Ill. 663,471, canc. Cl. 34.
Integra Corp., The, Chicago, Ill. 774,812, pub. 5–26–64. Cl. 12.
International Latex Corp., Dover, Del. 774,857, pub. 5–26–64. Cl. 18.
International Railroad's Weighing Corp., Northfield, Ill. 774,963, pub. 5–26–64. Cl. 26.
Invenex Pharmaceuticals, San Francisco, Calif. 774,860, pub. 5–26–64. Cl. 18.
Invincible Products Corp., Chicago, Ill. 775,113, pub. 5–26–64. Cl. 51.
Iowa Paint Mfg. Co., Inc., Des Moines, Iowa. 774,847, pub. 5–26–64. Cl. 16.
Jacobs, B. & J., Co., Inc., Cincinnati, Ohio. 774,759, pub. 5–26–64. (Consolidated certificate, Classes 2, 12, 23, and 34.)
Jerrold Electronics Corp., Philadelphia, Pa. 663,398, canc. Cl. 21.
Jessop, Herbert D., d.b.a. Amenity Products Co., Glendora, Calif. 774,814, pub. 5–26–64. Cl. 12.
Jolly Toys, Inc., New York, N.Y. 774,893, pub. 5–26–64. Cl. 22.
Kansas City Assemblage Co., Inc., Kansas City, Mo. 775,053, pub. 5–26–64. Cl. 44.
Karen Industries, Inc., Northbridge, Mass. 775,022, pub. 5–26–64. Cl. 39.
Kats Drug Co., Kansas City, Mo. 775,021, pub. 5–26–64. Cl. 39.
Keever Starch Co., The, Columbus, Ohio. 775,070, pub. 5–26–64. Cl. 46.
Kerr Chemicals, Inc.: *See*—
Kerr, Robert J., Chemicals, Inc.
Kerr, Robert J., Chemicals, Inc., to Kerr Chemicals, Inc., Park Ridge, Ill. 663,312, canc. Cl. 6.
King Chemical Co., Mount Vernon, N.Y. 774,811, pub. 5–26–64. Cl. 12.
King Morpheus Products: *See*—
Sobel, Henry L.
Kip-Apparecchiature Brevettate del Rag. Fabio Seta: *See*—
Seta, Fabio.
Kirby-Cogeshall-Steinau Co., Inc., Milwaukee, Wis. 774,978, pub. 5–26–64. (Consolidated certificate, Classes 32 and 50.)
Kraeuter & Co., Inc., Newark, N.J. 774,955, pub. 5–26–64. Cl. 23.
Kresge, S. S., Co., Detroit, Mich. 774,794, pub. 5–26–64. Cl. 6.
Lakeside Central Co., Chicago, Ill. 774,994–5, pub. 5–26–64. Cl. 37.
Lanier Electronic Laboratory, Inc., Atlanta, Ga. 774,961, pub. 5–26–64. Cl. 32.
Lanoff, Harry S., Paterson, N.J. 775,075, pub. 5–26–64. Cl. 46.
Latrobe Steel Co., Latrobe, Pa. 774,843, pub. 5–26–64. Cl. 14.
Lazar Co., The, Chicago, Ill. 774,930, pub. 5–26–64. Cl. 23.
Lees, James, and Sons Co., Bridgeport, Pa. 775,042–7, pub. 5–26–64. Cl. 42.
Lempco Products, Inc., Bedford, Ohio. 774,932, pub. 5–26–64. Cl. 23.

Life Savers, Inc.: *See*—
Mint Products Co. Inc.
Lightoller Inc., New York, N.Y. 774,874, pub. 5–26–64. Cl. 21.
Lily of France, Inc., New Haven, Conn., from Lily of France, Inc., New York, N.Y. 775,010, pub. 5–26–64. Cl. 39.
Lilyette Brassiere Co., Inc., New York, N. Y. 774,013, pub. 5–26–64. Cl. 39.
Lisle Mills Co., Allentown, Pa., from W. W. Artzt, New York, N.Y. 775,034, pub. 5–26–64. Cl. 39.
Lockrey-Fater Corp., The, Long Island City, N.Y. 663,357, canc. Cl. 16.
Loft Candy Corp.: *See*—
U.R.S. Candy Stores, Inc.
Logan Hospital Equipment Co., Glendale, Calif. 774,821, pub. 5–26–64. Cl. 13.
Lorain Products Corp., Lorain, Ohio. 774,878, pub. 5–26–64. Cl. 21.
Lurie, Alvin, d.b.a. Nyval Laboratories, Chicago, Ill. 663,578, canc. Cl. 51.
M & M World Marketing, Inc., Miami, Fla. 774,891, pub. 5–26–64. Cl. 22.
Macy, R. H., & Co., Inc.: *See*—
Bamberger, L., & Co.
Madison Industries, Inc., Providence, R.I., from Madison Industries Inc., Pawtucket, R.I. 774,915, pub. 5–5–64. Cl. 23.
Maidenform, Inc., New York, N.Y. 775,028, pub. 5–26–64. Cl. 39.
Main Products Corp., Philadelphia, Pa. 774,769, pub. 5–26–64. Cl. 2.
Maidenform, Inc., New York, N.Y. 775,032, pub. 5–26–64. Cl. 39.
Manteca Canning Co., Manteca, Calif. 190,898–9, ren. 8–11–64. Cl. 46.
Marathon Paper Mills Co., Rothschild, Wis., to American Can Co., New York, N.Y. 409,894, ren. 8–11–64. Cl. 5.
March & Mendl, Inc., New York, N.Y. 775,026, pub. 5–26–64. Cl. 39.
Maryland Plastics Inc., Federalsburg, Md. 774,825, pub. 5–26–64. Cl. 13.
Maritz, Inc., St. Louis, Mo. 775,151. Cl. 101.
Marschall Dairy Laboratory, Inc., Madison, Wis. 775,093, pub. 5–26–64. Cl. 46.
Mattel, Inc., Hawthorne, Calif. 774,802, pub. 5–26–64. Cl. 22.
Maybach-Motorenbau G.m.b.H., Friedrichshafen, Germany. 774,910, pub. 5–26–64. Cl. 23.
Manorette, Inc., Chilton, Wis. 663,389, canc. Cl. 19.
May Department Stores Co., The, St. Louis, Mo. 663,512, canc. Cl. 39.
McDermut, Whitney, Cliffside Park, N.J. 663,467, canc. Cl. 32.
McGaw Laboratories, Inc., Milledgeville, Ga. 775,052, pub. 5–26–64. Cl. 44.
McGaw Laboratories, Inc., Milledgeville, Ga. 774,853, pub. 5–26–64. Cl. 18.
McLean Trucking Co., Winston-Salem, N.C. 775,141, pub. 5–26–64. Cl. 105.
McNeil Laboratories Inc., Philadelphia, Pa. 663,379, canc. Cl. 18.
Meison Jewelry Co.: *See*—
Taubman, Melvin.
Mennen-Greatbatch Electronics, Inc., Clarence, N.Y. 775,054, pub. 5–26–64. Cl. 44.
Merck & Co., Inc.: *See*—
Merck, E.
Merck, E., Darmstadt, Germany, to Merck & Co., Inc., d.b.a. Quinton Co., Rahway, N.J. 192,529, ren. 8–11–64. Cl. 18.
Metco Corp., Miami, Fla. 775,018, pub. 5–26–64. Cl. 39.
Meyers, Clarence L., & Co. Inc., Wyncote, Pa. 775,048, pub. 5–26–64. Cl. 43.
Micromatic Hone Corp., Detroit, Mich. 774,918, pub. 5–26–64. Cl. 23.
Mid-States Corp., Chicago, Ill. 663,391, canc. Cl. 19.
Minerals & Chemicals Corp. of America, Menlo Park, N.J. 663,290, canc. Cl. 1.
Mint Products Co. Inc., to Life Savers, Inc., Port Chester, N.Y., to Beech-Nut Life Savers, Inc., Canajoharie, N.Y. 187,298, ren. 8–11–64. Cl. 46.
Miss Penny Foods, Inc., from Carney-White Food Co. Inc., Nashville, Tenn. 775,069, pub. 5–26–64. Cl. 46.
Morton Salt Co.: *See*—
Ohio Salt Co., The.
Morton Salt Co., Chicago, Ill. 774,788, pub. 5–26–64. Cl. 6.
Morse, C. C., & Co., San Francisco, Calif., to Ferry-Morse Seed Co., Mountain View, Calif. 192,923, ren. 8–11–64. Cl. 1.
Movie Star, Inc., New York, N.Y. 663,505, canc. Cl. 39.
Monogram Mfg. Co., Chicago, Ill. 775,057, pub. 5–26–64. Cl. 44.
Moore, George R., and Philip Adelman, Long Beach, Calif. 775,106, pub. 5–26–64. Cl. 50.
Montgomery Ward & Co. Inc., Chicago, Ill. 774,873, pub. 5–26–64. Multiple Class (Classes 21 and 23).
Mueller Transportation Co., St. Paul, Minn. 663,594, canc. Cl. 105.
Nash Inc., Jersey City, N.J. 774,772–3, pub. 5–26–64. Cl. 3.
National Gypsum Co., Buffalo, N.Y. 774,908, pub. 5–26–64. Cl. 12.
National Plastic Products Co., Inc.: *See*—
National Plastic Products Co.
National Plastic Products Co., to National Plastic Products Co., Inc., Odenton, Md. 408,076, ren. 8–11–64. Cl. 43.
National Potteries Corp., Bedford, Ohio. 775,107, pub. 5–26–64. Cl. 50.
National Soda Straw Co., Chicago, Ill. 775,110–1, pub. 5–26–64. Cl. 50.
National Starch Products Inc., to National Starch and Chemical Corp., New York, N.Y. 410,824, ren. 8–11–64. Cl. 5.
National Starch and Chemical Corp.: *See*—
National Starch Products Inc.
Neff, H. L., & Co. Inc.: *See*—
Neff, H. L.
Neff, H. L., d.b.a. H. L. Neff & Co., to H. L. Neff & Co. Inc., Red Lion, Pa. 408,844, ren. 8–11–64. Cl. 17.
Neff, H. L., & Co.: *See*—
Neff, H. L.
Nekoosa-Edwards Paper Co., Port Edwards, Wis. 774,896, pub. 5–26–64. Cl. 37.
Nelson, Rolland W., d.b.a. Chemical Industries, Des Moines, Iowa. 775,073, pub. 5–26–64. Cl. 46.
Nestle & Anglo-Swiss Condensed Milk Co., Chan and Vevey, Switzerland, to The Nestlé Co., Inc., White Plains, N.Y. 190,133, ren. 8–11–64. Cl. 46.
Nestlé Co., Inc., The.
Nestle & Anglo-Swiss Condensed Milk Co.
New Hampshire Ball Bearings, Inc., Peterborough, N.H. 774,916, pub. 5–26–64. Cl. 23.
New Jersey Machine Corp., Hoboken, N.J. 774,897, pub. 5–26–64. Cl. 23.
New Jersey Zinc Co., The, New York, N.Y. 401,531, ren. 8–11–64. Cl. 14.
New Jersey Zinc Co., The, New York, N.Y. 410,128, ren. 8–11–64. Cl. 16.
New Jersey Zinc Co., The, New York, N.Y. 410,856, ren. 8–11–64. Cl. 18.
New York Air Brake Co., The: *See*—
Proportioneers, Inc.
Niagara Machine & Tool Works, Buffalo, N.Y. 774,921, pub. 5–26–64. Cl. 23.
Norco Metal Products Co.: *See*—
Hull, Clair I.
Normandie Press, Inc., New York, N.Y. 774,990, pub. 5–26–64. Cl. 37.
North American Philips Co., Inc., New York, N.Y. 407,777, ren. 8–11–64. Cl. 26.
Northern Engineering Works, Detroit, Mich. 774,924, pub. 5–26–64. Cl. 23.
Northern Packaging Corp., Rochester, N.Y. 774,997, pub. 5–26–64. Cl. 37.
Northwest Venetian Blind Co.: *See*—
Hull, Clair I.
Norwich Mills, Inc., Norwich, N.Y. 663,500, canc. Cl. 39.
No-Sag Spring Co.: *See*—
American Metal Products Co.
Nuclear Consultants Corp., St. Louis County, Mo. 775,058, pub. 5–26–64. Cl. 44.
Nyval Laboratories: *See*—
Lurie, Alvin.
Oakmont Hosiery Mills, Greensboro, N.C. 775,030, pub. 5–26–64. Cl. 39.
O'Brien Mfg. Co., Temple, Tex. 775,031, pub. 5–26–64. Cl. 39.
Ohio Salt Co., The, Wadsworth, Ohio, to Morton Salt Co., Chicago, Ill. 187,453, ren. 8–11–64. Cl. 46.
O'Keefe's Beverages, Ltd., Toronto, Ontario, Canada. 232,098, canc. Cl. 45.
Old Town Corp.: *See*—
Old Town Ribbon & Carbon Co., Inc.
Old Town Ribbon & Carbon Co., Inc., to Old Town Corp., Brooklyn, N.Y. 406,908, ren. 8–11–64. Cl. 37.
Olin Mathieson Chemical Corp., East Alton, Ill. 774,800, pub. 5–26–64. Cl. 9.
Oneida Ltd., Oneida, N.Y. 774,925, pub. 5–26–64. Cl. 23.
Optics Mfg. Corp., Philadelphia, Pa. 663,446–7, canc. Cl. 26.
Oulevay S.A., Morges, Vaud, Switzerland. 775,083, pub. 5–26–64. Cl. 46.
Pacific Resins & Chemicals, Inc., Seattle, Wash. 774,754, pub. 5–26–64. Cl. 1.
Pacific Resins & Chemicals, Inc., Seattle, Wash. 774,777, pub. 5–26–64. Cl. 5.
Pall Corp., Glen Cove, N.Y. 774,820, pub. 5–26–64. Cl. 13.
Palmedico, Inc., Columbia, S.C. 774,855, pub. 5–26–64. Cl. 18.
Pan American Barter Co., Inc., The, New York, N.Y. 774,965, pub. 5–26–64. Cl. 27.
Paper Service Co., Inc., Kansas City, Kans. 775,001–2, pub. 5–26–64. Cl. 37.
Party-Tyme Products, Inc., New York, N.Y. 775,088, pub. 5–26–64. Cl. 46.
Pastene Wine & Spirits Co., Inc., Boston, Mass. 775,099, pub. 5–26–64. Cl. 47.
Pendleton Tool Industries, Inc., from Pendleton Tool Industries, Inc., d.b.a. Proto Tool Co., Los Angeles, Calif. 774,903, pub. 5–26–64. Cl. 23.
Pennsalt Chemicals Corp., Philadelphia, Pa. 774,926, pub. 5–26–64. Cl. 23.
Perrot, Arnold, Nidau-Bienne, Switzerland. 663,483, canc. Cl. 38.
Peters Mfg. Co., Wollaston, Mass. 663,409, canc. Cl. 21.
Pfizer, Chas., & Co., Inc., New York, N.Y. 774,785–6, pub. 5–26–64. Cl. 6.
Philip, A., and Mary Lee Schneider, Phoenix, Ariz. 775,051, pub. 5–26–64. Cl. 44.
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LUTHER H. HODGES, *Secretary*

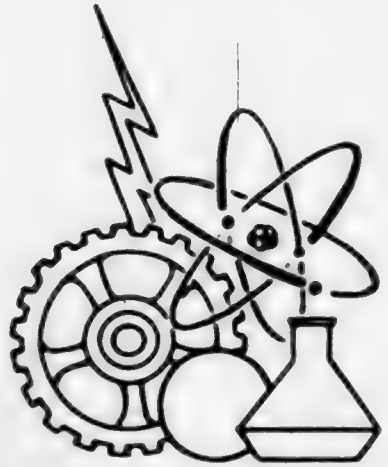
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EDWARD J. BRENNER, *Commissioner*

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

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PUBLISHED WEEKLY BY AUTHORITY OF CONGRESS

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 18, 1964 Volume 805 Number 3

PATENTS

NOTICES

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Photoprints as Drawings—Filing Date Only

Effective September 1, 1964 the Application Branch is authorized and directed to accept all applications in which photoprints have been submitted in lieu of formal drawings, and to forward them to the Examiner, who will notify the applicant immediately that the application has been accepted *for filing only*, and that to be entitled to examination, the applicant must file formal drawings complying with Rule 84 within 60 days, and pay the cost of comparing the photoprints with the formal drawings.

A comparison charge of $10.00 per hour, with a minimum charge of $10.00 per application is hereby established. This charge may be applied against deposit accounts and authorization to charge such accounts should be included when the formal drawings are filed. For those who have no deposit account acceptance of the formal drawings will be contingent upon payment of the comparison charge within the period set.

This notice supersedes the notice of April 24, 1964, published May 26, 1964, in 802 O.G. 871.

EDWARD J. BRENNER,
Commissioner.

July 16, 1964.

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
Commissioner of Patents.

July 16, 1964.

Citation of Prior Art

It is found that citations of prior art pursuant to the notices dated December 10, 1963 (797 O.G. 733), and April 24, 1964 (802 O.G. 601), in some instances have comprised lists of more than fifty patents without any indication as to their supposed pertinence. Such citations are not helpful to the Patent Office and serve only to encumber the records without producing any useful result. It was the object of the notices referred to, to elicit citations which would be helpful to the Examiner in considering the application, and that result is not obtained by voluminous citations unaccompanied by explanation. Since such citations, similarly, are not helpful to the public, it has been concluded not to publish extensive lists of citations in the manner set forth in the notice dated June 22, 1964 (804 O.G. 521), and the publication of such citations will be limited to cases in which not more than ten references have been cited.

EDWARD J. BRENNER,
Commissioner of Patents.

July 24, 1964.

Change of Price

TRADEMARK SECTION OF THE OFFICIAL GAZETTE

Effective with volume 805, No. 1, August 4, 1964, issue, the subscription price of the publication listed above will be changed as follows:

Old Rate	*New Rate*
$10.00 domestic	$12.00 domestic
3.75 additional for foreign mailing	4.00 additional for foreign mailing
.20 per single copy	.25 per single copy

Adjudicated Patents

(C.A. Oreg.) Moore Patent No. 2,801,630 (128—75), for cervical collar. *Held* invalid. *Florida Brace Corp.* v. *Bartels*, 332 F.2d 337; 141 USPQ 172.

(D.C. Calif.) Barefoot Patent No. 2,903,742 (18—18), for apparatus for retreading tires. Claims 1, 3, and 7 *Held* not infringed. *Bacon Am. Corp.* v. *Super Mold Corp. of Calif.*, 229 F. Supp. 998; 141 USPQ 87.

(D.C. Mich.) Jacobson Patent No. 2,931,245 (74—501), for remote control device particularly for an automotive rearview mirror. Claims 2 and 20 *Held* invalid and not infringed. *Nelmor Corp.* v. *Jervis Corp.*, 229 F. Supp. 864; 141 USPQ 431.

(C.A. Del.) Watts Reissue Patent 23,688 (339—213), for electrical connector. *Held* invalid. *AMP Inc.* v. *Burndy Corp.*, 332 F.2d 236; 141 USPQ 705.

New Applications Received During June 1964

Patents	8,168
Designs	447
Plant Patents	6
Reissues	27
Total	8,648

Issue—August 18, 1964

Patents	734—No.	3,144,653 to No.	3,145,386, incl.
Designs	72—No.	198,896 to No.	198,967, incl.
Plant Patents	2—No.	2,437 to No.	2,438, incl.
Reissues	2—No.	25,631 to No.	25,632, incl.
Total	810		

Department of Commerce
Patent Office
[37 CFR Part 1]

RULES OF PRACTICE IN PATENT CASES

Petition and Action by the Commissioner

Notice is hereby given that the United States Patent Office proposes to amend one of its rules relating to patents. The amendment is proposed pursuant to the authority contained in Title 35 U.S.C., section 6.

All persons who desire to submit written data, views, arguments or suggestions for consideration in connection with the proposed amendment, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., within 60 days of publication in the Federal Register. An oral hearing will not be scheduled.

The text of the proposed amendment is as follows:

Section 1.181 of Title 37 CFR (Patent Rule 181) is proposed to be amended by deleting paragraph (f) thereof and replacing it with new paragraph (f) reading as follows:

§ 1.181 *Petition to the Commissioner.*

* * * * * *

(f) Except as otherwise provided in these rules, any such petition not filed within 30 days from the action complained of, may be dismissed as untimely. The mere filing of a petition will not stay the period for reply to an Examiner's action which may be running against an application, nor act as a stay of other proceedings.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: July 21, 1964.

J. H. HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-7432; Filed, July 27, 1964; 8:47 a.m.]

Published in 29 F.R. 10473, July 28, 1964

Disclaimers

2,775,886.—*Robert P. Lathrop*, Chevy Chase, Md., and *Lawrence K. Hyde*, Washington, D.C. OPTIMUM YIELD STRENGTH TESTING APPARATUS. Patent dated Jan. 1, 1957. Disclaimer filed May 22, 1964, by the assignee, *Baldwin-Lima-Hamilton Corporation*.

Hereby enters this disclaimer to claims 22 and 23 of said patent.

2,849,683.—*Stewart E. Miller*, Middletown, N.J. NON-RECIPROCAL WAVE TRANSMISSION. Patent dated Aug. 26, 1958. Disclaimer filed May 22, 1964, by the assignee, *Bell Telephone Laboratories, Incorporated*.

Hereby enters this disclaimer to claim 3 of said patent.

2,943,079.—*John J. D'Amico*, Nitro, W. Va. VULCANIZING RUBBER WITH PROPYNYL SULFENAMIDES. Patent dated June 28, 1960. Disclaimer filed May 20, 1964, by the assignee, *Monsanto Chemical Company*.

Hereby enters this disclaimer to claims 1 and 9 of said patent.

Patents Available for Licensing or Sale

3,125,774. Method of Applying a Coating to the Surface of a Heel. Alois Schmitt, Goldbach uber Aschaffenburg, Germany. Correspondence to: Toulmin & Toulmin, 11 S. Wilkinson St., Dayton 2, Ohio.

3,096,505. Brakelight System. David A. Richins, Box 123, Henefer, Utah.

3,132,351. Hospital Bed. J. William Freeman, 824 Second National Bldg., Akron, Ohio, 44308.

General Electric Company is prepared to grant non-exclusive licenses under the following 4 patents upon reasonable terms to domestic manufacturers.

Applications for license should be addressed to: Division Patent Counsel, Missile and Space Division, Valley Forge Space Technology Center, P.O. Box 8555, Philadelphia, Pa., 19101.

3,127,243. Recovery of Potable Water From Human Metabolic Wastes by Distillation and Oxidation of the Resulting Vapors.

3,129,351. Multielectrode Arc Assembly.

3,133,213. Magnetic Structure for Producing Magnetic Fields in More Than Two Gaps.

3,128,009. Transpiration Cooling System.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	7-12-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	11-30-62	12- 6-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1-22-63	1-25-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-24-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-18-62	10-29-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-31-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	9-12-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11-23-62	11-13-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 5-62	9-11-62
SECURITY, GROUP 220—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-18-62	11-23-62
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	9-19-62	10- 9-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	7- 3-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	8- 9-62	9-24-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9-10-62	9-13-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	1-10-63	1-10-63

CONDITION OF PATENT APPLICATIONS AS OF JUNE 30, 1964

Total number of pending applications (excluding Designs)	211,565
Total number of Design applications pending	6,014
Total number of applications awaiting action (excluding Designs)	127,154
Total number of Design applications awaiting action	1,997
Date of oldest new application awaiting action	June 19, 1962
Date of oldest amended application awaiting action	July 3, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*

Patents	Numbers 2,424,968 to 2,426,580, inclusive
Plant Patents	Numbers 751 to 756, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6- 6-63	7- 2-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	12-13-62	1-21-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10-23-62	10-1-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-22-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod, Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-10-62	10-19-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner Fluid Handling; Valves; Pipes and Tubular Conduits; Fluid Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	1-29-63	3- 6-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Supervisory Examiner Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	1-29-63	3- 4-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	4-12-63	4- 8-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	5-31-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 1-63	3-18-63
PHYSICS, GROUP 430—R. L. EVANS, Supervisory Examiner Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11-14-62	11-26-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-31-63	4-11-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-26-63	3-11-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	2-19-63	4-15-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner Printing; Typewriters; Stationery; Material Treatment.	2- 5-63	12-12-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	4- 1-63	3-21-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner Industrial Arts; Household, Personal and Fine Arts.	2- 3-64	2- 2-64

Supreme Court of the United States

COMPCO CORP. *v.* DAY-BRITE LIGHTING, INC.

No. 106. Decided March 9, 1964

[— U.S. —; 140 USPQ 528]

1. UNFAIR COMPETITION—UNPATENTED ARTICLE—STATE LAW CANNOT PREVENT COPYING OF UNPATENTABLE ARTICLE.

"Notwithstanding the thinness of the evidence to support findings of likely and actual confusion among purchasers, we do not find it necessary in this case to determine whether there is 'clear error' in these findings. They, like those in *Sears, Roebuck & Co.* v. *Stiffel Co.*, * * * were based wholly on the fact that selling an article which is an exact copy of another unpatented article is likely to produce and did in this case produce confusion as to the source of the article. Even accepting the findings, we hold that the order for an accounting for damages and the injunction are in conflict with the Federal patent laws. Today we have held in *Sears, Roebuck & Co.* v. *Stiffel Co.* * * * that when an article is unprotected by a patent or a copyright, State law may not forbid others to copy that article. To forbid copying would interfere with the Federal policy, found in Art. I, § 8, cl. 8, of the Constitution and in the implementing Federal statutes, of allowing free access to copy whatever the Federal patent and copyright laws leave in the public domain. Here Day-Brite's fixture has been held not to be entitled to a design or mechanical patent. Under the Federal patent laws it is, therefore, in the public domain and can be copied in every detail by whoever pleases."

2. SAME—SAME—SAME—SECONDARY MEANING.

"It is true that the trial court found that the configuration of Day-Brite's fixture identified Day-Brite to the trade because the arrangemnt of the ribbing had, like a trademark, acquired a 'secondary meaning' by which that particular design was associated with Day-Brite. But if the design is not entitled to a design patent or other Federal statutory protection, then it can be copied at will."

3. SAME—SAME—SAME—PALMING OFF.

"* * * while the Federal patent laws prevent a State from prohibiting copying and selling of unpatented articles, they do not stand in the way of State law, statutory or decisional, which requires those who make and sell copies to take precautions to identify their products as their own. A State of course has power to impose liability upon those who, knowing that the public is relying upon an original manufacturer's reputation for quality and integrity, deceive the public by palming off their copies as the original. That an article copied from an unpatented article could be made in some other way, that the design is 'nonfunctional' and not essential to the use of either article, that the configuration of the article copied may have a 'secondary meaning' which identifies the maker to the trade, or that there may be 'confusion' among purchasers as to which article is which or as to who is the maker, may be relevant evidence in applying a State's law requiring such precautions as labeling; however, neither these facts nor any others can furnish a basis for imposing liability for or prohibiting the actual acts of copying and selling, regardless of the copier's motives. * * * And of course a State cannot hold a copier accountable in damages for failure to label or otherwise to identify his goods unless his failure is in violation of valid State statutory or decisional law requiring the copier to label or take other precautions to prevent confusion of customers as to the source of the goods."

ON WRIT of certiorari to the United States Court of Appeals for the Seventh Circuit.

REVERSED.

Jerome F. Fallon (*Horace Dawson* of counsel) for petitioner.

Owen J. Ooms (*Roy A. Lieder, Frederick M. Woodruff*, and *Gravely, Lieder & Woodruff* of counsel) for respondent.

Archibald Cox, William H. Orrick, Jr., Daniel M. Friedman, and *Lionel Kestenbaum*, for the United States, amicus curiae.

MR. JUSTICE BLACK delivered the opinion of the Court.

As in *Sears, Roebuck & Co.* v. *Stiffel Co.*, ante, p.—, the question here is whether the use of State unfair competition law to give relief against copying of an unpatented industrial design conflicts with the Federal patent laws. Both Compco and Day-Brite are manufacturers of fluorescent lighting fixtures of a kind widely used in offices and stores. Day-Brite in 1955 secured from the Patent Office a design patent on a reflector having cross-ribs claimed to give both strength and attractiveness to the fixture. Day-Brite also sought, but was refused, a mechanical patent on the same device. After Day-Brite had begun selling its fixture, Compco's predecessor [1] began making and selling fixtures very similar to Day-Brite's. This action was then brought by Day-Brite. One count alleged that Compco had infringed Day-Brite's design patent; a second count charged that the public and the trade had come to associate this particular design with Day-Brite, that Compco had copied Day-Brite's distinctive design so as to confuse and deceive purchasers into thinking Compco's fixtures were actually Day-Brite's, and that by doing this Compco had unfairly competed with Day-Brite. The complaint prayed for both an accounting and an injunction.

The District Court held the design patent invalid; but as to the second count, while the court did not find that Compco had engaged in any deceptive or fraudulent practices, it did hold that Compco had been guilty of unfair competition under Illinois law. The court found that the overall appearance of Compco's fixture was "the same, to the eye of the ordinary observer, as the overall appearance" of Day-Brite's reflector, which embodied the design of the invalidated patents; that the appearance of Day-Brite's design had "the capacity to identify [Day-Brite] in the trade and does in fact so identify [it] to the trade"; that the concurrent sale of the two products was "likely to cause confusion in the trade"; and that "actual confusion has occurred." On these findings the court adjudged Compco guilty of unfair competition in the sale of its fixtures, ordered Compco to account to Day-Brite for damages, and enjoined Compco "from unfairly competing with plaintiff by the sale or attempted sale of reflectors identical to or confusingly similar to" those made by Day-Brite. The Court of Appeals held there was substantial evidence in the record to support the District Court's finding of likely confusion and that this finding was sufficient to support a holding of unfair competition under Illinois law.[2] 311 F.2d 26. Although the District Court had not made such a finding, the appellate court observed that "several choices of ribbing were apparently available to meet the functional needs of the product," yet Compco "chose precisely the same design used by the plaintiff and followed it so closely as to make confusion likely." 311 F.2d, at 30. A design which identifies its maker to the trade, the Court of Appeals held, is a "protectable" right under Illinois law, even though the design is unpatentable.[3] We granted certiorari. 374 U.S. 825.

To support its findings of likelihood of confusion and actual confusion, the trial court was able to refer to only one circumstance in

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[1] The sales of which Day-Brite complained in this action had actually been made by the Mitchell Lighting Company. However, by the time the complaint was filed, Mitchell had been acquired by Compco, which was therefore the defendant in the action and is the petitioner here. For simplicity we shall throughout thee opinion refer only to Compco even though the transactions for which Compco was sought to be held liable were those of the predecessor company, Mitchell.

[2] The Court of Appeals also affirmed the holding that the design patent was invalid. No review of this ruling is sought here.

[3] As stated in *Sears, Roebuck & Co.* v. *Stiffel Co.*, ante, at p. —, n. 2, we do not here decide whether the Court of Appeals was correct in its statement of Illinois law.

the record. A plant manager who had installed some of Compco's fixtures later asked Day-Brite to service the fixtures, thinking they had been made by Day-Brite. There was no testimony given by a purchaser or by anyone else that any customer had ever been misled, deceived, or "confused," that is, that anyone had ever bought a Compco fixture thinking it was a Day-Brite fixture. All the record shows, as to the one instance cited by the trial court, is that both Compco and Day-Brite fixtures had been installed in the same plant, that three years later some repairs were needed, and that the manager viewing the Compco fixtures—hung at least 15 feet above the floor and arranged end to end in a continuous line so that identifying marks were hidden—thought they were Day-Brite fixtures and asked Day-Brite to service them.[4] Not only is this incident suggestive only of confusion *after* a purchase had been made, but also there is considerable evidence of the care taken by Compco to prevent customer confusion, including clearly labeling both the fixtures and the containers in which they were shipped and not selling through manufacturers' representatives who handled competing lines.

[1] Notwithstanding the thinness of the evidence to support findings of likely and actual confusion among purchasers, we do not find it necessary in this case to determine whether there is "clear error" in these findings. They, like those in *Sears, Roebuck & Co.* v. *Stiffel Co.*, supra, were based wholly on the fact that selling an article which is an exact copy of another unpatented article is likely to produce and did in this case produce confusion as to the source of the article. Even accepting the findings, we hold that the order for an accounting for damages and the injunction are in conflict with the Federal patent laws. Today we have held in *Sears, Roebuck & Co.* v. *Stiffel Co.*, supra, that when an article is unprotected by a patent or a copyright, State law may not forbid others to copy that article. To forbid copying would interfere with the Federal policy, found in Art. I, § 8, cl. 8, of the Constitution and in the implementing Federal statutes, of allowing free access to copy whatever the Federal patent and copyright laws leave in the public domain. Here Day-Brite's fixture has been held not to be entitled to a design or mechanical patent. Under the Federal patent laws it is, therefore, in the public domain and can be copied in every detail by whoever pleases. [2] It is true that the trial court found that the configuration of Day-Brite's fixture identified Day-Brite to the trade because the arrangement of the ribbing had, like a trademark, acquired a "secondary meaning" by which that particular design was associated with Day-Brite. But if the design is not entitled to a design patent or other Federal statutory protection, then it can be copied at will.

[3] As we have said in *Sears*, while the Federal patent laws prevent a State from prohibiting copying and selling of unpatented articles, they do not stand in the way of State law, statutory or decisional, which requires those who make and sell copies to take precautions to identify their products as their own. A State of course has power to impose liability upon those who, knowing that the public in relying upon an original manufacturer's reputation for quality and integrity,

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[4] The only testimony about this incident was given by a sales representative of Day-Brite, who said that the plant manager had climbed up on a forklift truck to look at the fixtures. The manager was not called as a witness.

deceive the public by palming off their copies as the original. That an article copied from an unpatented article could be made in some other way, that the design is "nonfunctional" and not essential to the use of either article, that the configuration of the article copied may have a "secondary meaning" which identifies the maker to the trade, or that there may be "confusion" among purchasers as to which article is which or as to who is the maker, may be relevant evidence in applying a State's law requiring such precautions as labeling; however, neither these facts nor any others can furnish a basis for imposing liability for or prohibiting the actual acts of copying and selling, regardless of the copier's motives. Cf. *Kellogg Co.* v. *National Biscuit Co.*, 305 U.S. 111, 120 (1938). And of course a State cannot hold a copier accountable in damages for failure to label or otherwise to identify his goods unless his failure is in violation of valid State statutory or decisional law requiring the copier to label or take other precautions to prevent confusion of customers as to the source of the goods.[5]

Since the judgment below forbids the sale of a copy of an unpainted article and orders an accounting for damages for such copying, it cannot stand.

REVERSED.

[5] As we pointed out in *Sears, Roebuck & Co.* v. *Stiffel Co.*, ante, p. ——, n. 9, there is no showing that Illinois has any such law.

Supreme Court of the United States

SEARS, ROEBUCK & CO. *v.* STIFFEL COMPANY

No. 108. Decided March 9, 1964

[— U.S. —; 140 USPQ 531]

1. PATENT LAWS—COPYRIGHT LAWS—STATE LAWS MAY NOT NEGATE EFFECT OF FEDERAL STATUTES.

"Pursuant to * * * constitutional authority, Congress in 1790, enacted the first Federal patent and copyright law * * * and ever since that time has fixed the conditions upon which patents and copyrights shall be granted. * * * These laws, like other laws of the United States enacted pursuant to constitutional authority, are the supreme law of the land. * * * When State law touches upon the area of these Federal statutes, it is 'familiar doctrine' that the Federal policy 'may not be set at naught, or its benefits denied' by the State law. * * * This is true, of course, even if the State law is enacted in the exercise of otherwise undoubted State power."

2. PATENT—EFFECT OF PATENT GRANT—RIGHTS AND LIMITATIONS OF PATENTEE.

"The grant of a patent is the grant of a statutory monopoly; indeed, the grant of patents in England was an explicit exception to the statute of James I prohibiting monopolies. Patents are not given as favors, as was the case of monopolies given by the Tudor monarchs * * * but are meant to encourage invention by rewarding the inventor with the right, limited to a term of years fixed by the patent, to exclude others from the use of his invention. During that period of time no one may make, use, or sell the patented product without the patentee's authority. * * * But in rewarding useful invention, the "rights and welfare of the community must be fairly dealt with and effectually guarded.' * * * To that end the prerequisites to obtaining a patent are strictly observed, and when the patent has issued the limitations on its exercise are equally strictly enforced. To begin with, a genuine 'invention' or 'discovery' must be demonstrated 'lest in the constant demand for new appliances the heavy hand of tribute be laid on each slight technological advance in an art.' * * * Once the patent issues, it is strictly construed * * * it cannot be used to secure any monopoly beyond that contained in the patent * * * the patentee's control over the product when it leaves his hands is sharply

limited * * * and the patent monopoly may not be used in disregard of the antitrust laws * * *. Finally * * * when the patent expires the monopoly created by it expires, too, and the right to make the article—including the right to make it in precisely the shape it carried when patented—passes to the public. * * *"

3. PATENT LAWS—STATE LAWS MAY NOT NEGATE EFFECT OF FEDERAL PATENT STATUTES.

"Thus the patent system is one in which uniform Federal standards are carefully used to promote invention while at the same time preserving free competition. Obviously a State could not, consistently with the Supremacy Clause of the Constitution, extend the life of a patent beyond its expiration date or give a patent on an article which lacked the level of invention required for Federal patents. To do either would run counter to the policy of Congress of granting patents only to true inventions, and then only for a limited time. Just as a State cannot encroach upon the Federal patent laws directly, it cannot, under some other law, such as that forbidding unfair competition, give protection of a kind that clashes with the objectives of the Federal patent laws."

4. UNFAIR COMPETITION—UNPATENTED ARTICLE—STATE LAW CANNOT PREVENT COPYING OF UNPATENTABLE ARTICLE.

"'Sharing in the goodwill of an article unprotected by patent or trademark is the exercise of a right possessed by all—and in the free exercise of which the consuming public is deeply interested.' * * * To allow a State by use of its law of unfair competition to prevent the copying of an article which represents too slight an advance to be patented would be to permit the State to block off from the public something which Federal law has said belongs to the public. The result would be that while Federal law grants only 14 or 17 years' protection to genuine inventions * * * States could allow perpetual protection to articles too lacking in novelty to merit any patent at all under Federal constitutional standards. This would be too great an encroachment on the Federal patent system to be tolerated."

5. SAME—SAME—SAME.

"Sears has been held liable here for unfair competition because of a finding of likelihood of confusion based only on the fact that Sears' lamp was copied from Stiffel's unpatented lamp and that consequently the two looked exactly alike. Of course there could be 'confusion' as to who had manufactured these nearly identical articles. But mere inability of the public to tell two identical articles apart is not enough to support an injunction against copying or an award of damages for copying that which the Federal patent laws permit to be copied. Doubtless a State may, in appropriate circumstances, require that goods, whether patented or unpatented, be labeled or that other precautionary steps be taken to prevent customers from being misled as to the source, just as it may protect businesses in the use of their trademarks, labels, or distinctive dress in the packaging of goods so as to prevent others, by imitating such markings, from misleading purchasers as to the source of the goods. But because of the Federal patent laws a State may not, when the article is unpatented and uncopyrighted, prohibit the copying of the article itself or award damages for such copying. * * * The judgment below did both and in so doing gave Stiffel the equivalent of a patent monopoly on its unpatented lamp. That was error, and Sears is entitled to a judgment in its favor."

ON WRIT of certiorari to the United States Court of Appeals for the Seventh Circuit.

REVERSED.

Will Freeman (*Leo H. Arnstein*, *Frank H. Marks*, *D. D. Allegretti*, and *George B. Newitt* of counsel) for petitioner.

Warren C. Horton (*Marshall W. Sutker* and *Max R. Kraus* of counsel) for respondent.

Archibald Cox, *William H. Orrick, Jr.*, *Daniel M. Friedman*, and *Lionel Kestenbaum*, for the United States, amicus curiae.

MR. JUSTICE BLACK delivered the opinion of the Court.

The question in this case is whether a State's unfair competition law can, consistently with the Federal patent laws, impose liability for or prohibit the copying of an article which is protected by neither a Federal patent nor a copyright. The respondent, Stiffel Company, secured design and mechanical patents on a "pole lamp"—a vertical tube having lamp fixtures along the outside, the tube being made so that it will stand upright between the floor and ceiling of a room. Pole lamps proved a decided commercial success, and soon after Stiffel brought them on the market Sears, Roebuck & Company put on the market a substantially identical lamp, which it sold more cheaply, Sears' retail price being about the same as Stiffel's wholesale price. Stiffel then brought this action against Sears in the United States District Court for the Northern District of Illinois, claiming in its first count that by copying its design Sears had infringed Stiffel's patents and in its second count that by selling copies of Stiffel's lamp Sears had caused confusion in the trade as to the source of the lamps and had thereby engaged in unfair competition under Illinois law. There was evidence that identifying tags were not attached to the Sears lamps although labels appeared on the cartons in which they were delivered to customers, that customers had asked Stiffel whether its lamps differed from Sears', and that in two cases customers who had bought Stiffel lamps had complained to Stiffel on learning that Sears was selling substantially identical lamps at a much lower price.

The District Court, after holding the patents invalid for want of invention, went on to find as a fact that Sears' lamp was "a substantially exact copy" of Stiffel's and that the two lamps were so much alike, both in appearance and in functional details, "that confusion between them is likely, and some confusion has already occurred." On these findings the court held Sears guilty of unfair competition, enjoined Sears "from unfairly competing with [Stiffel] by selling or attempting to sell pole lamps identical to or confusingly similar to" Stiffel's lamp, and ordered an accounting to fix profits and damages resulting from Sears' "unfair competition."

The Court of Appeals affirmed.[1] 313 F.2d 115. That court held that, to make out a case of unfair competition under Illinois law, there was no need to show that Sears had been "palming off" its lamps as Stiffel lamps; Stiffel had only to prove that there was a "likelihood of confusion as to the source of the products"—that the two articles were sufficiently identical that customers could not tell who had made a particular one. Impressed by the "remarkable sameness of appearance" of the lamps, the Court of Appeals upheld the trial court's findings of likelihood of confusion and some actual confusion, findings which the appellate court construed to mean confusion "as to the source of the lamps." The Court of Appeals thought this enough under Illinois law to sustain the trial court's holding of unfair competition, and thus held Sears liable under Illinois law for doing no

[1] No review is sought here of the ruling affirming the District Court's holding that the patent is invalid.

more than copying and marketing an unpatented article.[3] We granted certiorari to consider whether this use of a State's law of unfair competition is compatible with the Federal patent law. 374 U.S. 826.

Before the Constitution was adopted, some States had granted patents either by special act or by general statute,[4] but when the Constitution was adopted provision for a Federal patent law was made one of the enumerated powers of Congress because, as Madison put it in *The Federalist* No. 43, the States "cannot make effectual provision" for either patents or copyrights.[4] That constitutional provision is Art. I, § 8, cl. 8, which empowers Congress "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." [1] Pursuant to this constitutional authority, Congress in 1790 enacted the first Federal patent and copyright law, 1 Stat. 109, and ever since that time has fixed the conditions upon which patents and copyrights shall be granted, see 17 U.S.C. §§ 1–215; 35 U.S.C. §§ 1–293. These laws, like other laws of the United States enacted pursuant to constitutional authority, are the supreme law of the land. See *Sperry* v. *Florida*, 373 U.S. 379 (1963). When State law touches upon the area of these Federal statutes, it is "familiar doctrine" that the Federal policy "may not be set at naught, or its benefits denied" by the State law. *Sola Elec. Co.* v. *Jefferson Elec. Co.*, 317 U.S. 173, 176 (1942). This is true, of course, even if the State law is enacted in the exercise of otherwise undoubted state power.

[2] The grant of a patent is the grant of a statutory monopoly;[5] indeed, the grant of patents in England was an explicit exception to the statute of James I prohibiting monopolies.[6] Patents are not given as favors, as was the case of monopolies given by the Tudor monarchs, see *Case of the Monopolies* (*Darcy* v. *Allein*), 11 Co. 84, 77 Eng. Rep. 1260 (K. B. 1602), but are meant to encourage invention by rewarding the inventor with the right, limited to a term of years fixed by the patent, to exclude others from the use of his invention. During

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[3] 313 F.2d, at 118 and nn. 6, 7. At least one Illinois case has held in an exhaustive opinion that unfair competition under the law of Illinois is not proved unless the defendant is shown to have "palmed off" the article which he sells as that of another seller; the court there said that "[t]he courts in this State do not treat the 'palming off' doctrine as merely the designation of a typical class of cases of unfair competition, but they announce it as the rule of law itself—the test by which it is determined whether a given state of facts constitutes unfair competition as a matter of law. . . . The 'palming off' rule is expressed in a positive, concrete form which will not admit of 'broadening' or 'widening' by any proper judicial process." *Stevens-Davis Co.* v. *Mather & Co.*, 230 Ill. App. 45, 66–68 (1923). In spite of this the Court of Appeals in its opinions both in this case and in *Compco Corp.* v. *Day-Brite Lighting, Inc.*, 311 F.2d 26, rev'd, *post*, p. —, relied upon one of its previous decisions in a trade name case, *Independent Nail & Packing Co.* v. *Stronghold Screw Prods.*, 205 F.2d 921 (C. A. 7th Cir. 1953), which concluded that as to use of trade names the *Stevens-Davis* rule had been overruled by two subsequent Illinois decisions. Those two cases, however, discussed only misleading use of trade names, not copying of articles of trade. One prohibited the use of a name so similar to that of another seller as to deceive or confuse customers, even though the defendant company did not sell the same products as the plaintiff and so in one sense could not be said to have palmed off its goods as those of a competitor, since the plaintiff was not a competitor. *Lady Esther, Ltd.* v. *Lady Esther Corset Shoppe, Inc.*, 317 Ill. App. 451, 46 N. E.2d 165 (1943). The other Illinois case on which the Court of Appeals relied was a mandamus action which held that under an Illinois statute a corporation was properly denied registration in the State when its name was "deceptively similar" to that of a corporation already registered. *Investors Syndicate of America, Inc.*, v. *Hughes*, 378 Ill. 413, 38 N. E.2d 754 (1941). The Court of Appeals, by holding that because Illinois forbids misleading use of trade names it also forbids as unfair competition the mere copying of an article of trade without any palming off, thus appears to have extended greatly the scope of the Illinois law of unfair competition beyond the limits indicated in the Illinois cases and beyond any previous decisions of the Seventh Circuit itself. Because of our disposition of these cases we need not decide whether it was correct in doing so.

[4] See I Walker, Patents (Deller ed. 1937), § 7.

[4] *The Federalist* (Cooke ed. 1961) 288.

[5] Patent rights exist only by virtue of statute. *Wheaton* v. *Peters*, 8 Pet. 591, 658 (1834).

[6] The Statute of Monopolies, 21 Jac. I, c. 3 (1623), declared all monopolies "contrary to the Laws of this Realm" and "utterly void and of none Effect." Section VI, however, excepted patents of 14 years to "the true and first Inventor and Inventors" of "new Manufactures" so long as they were "not contrary to the Law, nor mischievous to the State, by raising Prices of Commodities at home, or Hurt of Trade, or generally inconvenient . . . ." Much American patent law derives from English patent law. See *Pennock* v. *Dialogue*, 2 Pet. 1, 18 (1829).

that period of time no one may make, use, or sell the patented product without the patentee's authority. 35 U.S.C. § 271. But in rewarding useful invention, the "rights and welfare of the community must be fairly dealt with and effectually guarded." *Kendall* v. *Winsor*, 21 How. 322, 329 (1859). To that end the prerequisites to obtaining a patent are strictly observed, and when the patent has issued the limitations on its exercise are equally strictly enforced. To begin with, a genuine "invention" or "discovery" must be demonstrated "lest in the constant demand for new appliances the heavy hand of tribute be laid on each slight technological advance in an art." *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, 92 (1941); see *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 152–153 (1950); *Atlantic Works* v. *Brady*, 107 U.S. 192, 199–200 (1883). Once the patent issues, it is strictly construed, *United States* v. *Masonite Corp.*, 316 U.S. 265, 280 (1942), it cannot be used to secure any monopoly beyond that contained in the patent, *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U.S. 488, 492 (1942), the patentee's control over the product when it leaves his hands is sharply limited, see *United States* v. *Univis Lens Co.*, 316 U.S. 241, 250–252 (1942), and the patent monopoly may not be used in disregard of the antitrust laws, see *International Business Machines Corp.* v. *United States*, 298 U.S. 131 (1936); *United Shoe Machinery Corp.* v. *United States*, 258 U.S. 451, 463–464 (1922). Finally, and especially relevant here, when the patent expires the monopoly created by it expires, too, and the right to make the article—including the right to make it in precisely the shape it carried when patented—passes to the public. *Kellogg Co.* v. *National Biscuit Co.*, 305 U.S. 111, 120–122 (1938); *Singer Mfg. Co.* v. *June Mfg. Co.*, 163 U.S. 169, 185 (1896).

[3] Thus the patent system is one in which uniform Federal standards are carefully used to promote invention while at the same time preserving free competition.[7] Obviously a State could not, consistently with the Supremacy Clause of the Constitution,[8] extend the life of a patent beyond its expiration date or give a patent on an article which lacked the level of invention required for Federal patents. To do either would run counter to the policy of Congress of granting patents only to true inventions, and then only for a limited time. Just as a State cannot encroach upon the Federal patent laws directly, it cannot, under some other law, such as that forbidding unfair competition, give protection of a kind that clashes with the objectives of the Federal patent laws.

In the present case the "pole lamp" sold by Stiffel has been held not to be entitled to the protection of either a mechanical or a design patent. An unpatentable article, like an article on which the patent has expired, is in the public domain and may be made and sold by whoever chooses to do so. What Sears did was to copy Stiffel's design and to sell lamps almost identical to those sold by Stiffel. This it had every right to do under the Federal patent laws. That Stiffel originated the pole lamp and made it popular is immaterial. [4] "Sharing the goodwill of an article unprotected by patent or trademark is the exercise of a right possessed by all—and in the free exercise of which the consuming public is deeply interested." *Kellogg*

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[7] The purpose of Congress to have national uniformity in patent and copyright laws can be inferred from such statutes as that which vests exclusive jurisdiction to hear patent and copyright cases in Federal courts, 28 U.S.C. § 1338(a), and that section of the Copyright Act which expressly saves state protection of unpublished writings but does not include published writings, 17 U.S.C. § 2.

[8] U.S. Const., Art. VI.

Co. v. *National Biscuit Co.*, supra, 305 U.S., at 122. To allow a State by use of its law of unfair competition to prevent the copying of an article which represents too slight an advance to be patented would be to permit the State to block off from the public something which Federal law has said belongs to the public. The result would be that while Federal law grants only 14 or 17 years' protection to genuine inventions, see 35 U.S.C. §§ 154, 173, States could allow perpetual protection to articles too lacking in novelty to merit any patent at all under Federal constitutional standards. This would be too great an enchroachment on the Federal patent system to be tolerated.

[5] Sears has been held liable here for unfair competition because of a finding of likelihood of confusion based only on the fact that Sears' lamp was copied from Stiffel's unpatented lamp and that consequently the two looked exactly alike. Of course there could be "confusion" as to who had manufactured these nearly identical articles. But mere inability of the public to tell two identical articles apart is not enough to support an injunction against copying or an award of damages for copying that which the Federal patent laws permit to be copied. Doubtless a State may, in appropriate circumstances, require that goods, whether patented or unpatented, be labeled or that other precautionary steps be taken to prevent customers from being misled as to the source, just as it may protect businesses in the use of their trademarks, labels, or distinctive dress in the packaging of goods so as to prevent others, by imitating such markings, from misleading purchasers as to the source of the goods.[9] But because of the Federal patent laws a State may not, when the article is unpatented and uncopyrighted, prohibit the copying of the article itself or award damages for such copying. Cf. *G. Ricordi & Co.* v. *Haendler*, 194 F.2d 914, 916 (C. A. 2d Cir. 1952). The judgment below did both and in so doing gave Stiffel the equivalent of a patent monopoly on its unpatented lamp. That was error, and Sears is entitled to a judgment in its favor.

REVERSED.

[9] It seems apparent that Illinois has not seen fit to impose liability on sellers who do not label their goods. Neither the discussions in the opinions below nor the briefs before us cite any Illinois statute or decision requiring labeling.

Supreme Court of the United States

COMPCO CORP. v. DAY-BRITE LIGHTING, INC.
SEARS, ROEBUCK & CO. v. STIFFEL COMPANY

Nos. 106 and 108. Decided March 9, 1964

[— U.S. —; 140 USPQ 531]

MR. JUSTICE HARLAN, concurring in the result.

In one respect I would give the States more leeway in unfair competition "copying" cases than the Court's opinions would allow. If copying is found, other than by an inference arising from the mere act of copying, to have been undertaken with the dominant purpose and effect of palming off one's goods as those of another or of confusing customers as to the source of such goods, I see no reason why the State may not impose reasonable restrictions on the future "copying" itself. Vindication of the paramount Federal interest at stake does not require a State to tolerate such specifically oriented predatory business practices. Apart from this, I am in accord with the opinions of the Court, and concur in both judgments since neither case presents the point on which I find myself in disagreement.

U.S. Court of Customs and Patent Appeals

IN RE AUGUSTUS A. STRAUB

No. 7055. Decided March 19, 1964

[51 CCPA —; 328 F.2d 999; 140 USPQ 655]

1. CLAIM—CONSTRUCTION OF CLAIMS—CLAIMS CONSTRUED IN LIGHT OF THE SPECIFICATION.

"* * * construing the language of the appealed claims in the light of the specification, we are required to give to the term 'a metal annulus' a meaning broad enough to include both the 'metal ring' and the 'annular flange' which are shown in the drawing and described in the specification."

2. PATENTABILITY—NOVELTY—EVIDENCE—COMMERCIAL ACCEPTANCE.

"We refer to this affidavit [of appellant] particularly since it is directed to the invention claimed in the subject application and indicates the public acceptance of such trays. This commercial acceptance suggests that the instant tray had some feature or features which earlier trays did not possess."

3. SAME—OBVIOUSNESS—CONTINUING PROBLEM.

"There appears to have been * * * a continuing problem in this art and on the present record appellant seems to have been the first to conceive that the problem could be solved if the trays could be so constructed that they could be automatically and mechanically picked up, transported, and deposited where desired; and, particularly, if a plurality of trays could be picked up and deposited one at a time or all at one time."

4. SAME—ANTICIPATION—PRIOR ART STRUCTURE NOT INTENDED TO SERVE CLAIMED FUNCTION OR ANY PARTICULAR FUNCTION.

"The error here is that the Examiner and the Board applied the term 'annulus' to that portion of the Cone and Dailey trays which immediately surrounds the inner opening in the trays. But these areas of the Cone and Dailey trays were never intended to serve the same function (nor indeed, *any* particular function) as the 'annulus' claimed by appellant and it has not been shown that they could in fact function in that manner, i.e., as lifting means. Although it could be said that these areas are annuli, or at least portions of annuli, they are clarly not annuli 'adapted to be engaged by lifting mechanism' as called for in the appealed claims. On the other hand, that embodiment of appellant's invention which most nearly approximates the prior art devices and which is described in the specification as having 'an inwardly projecting annular flange 53 which is integral with the top plate,' clearly includes, as a distinct element, 'lifting means comprising a metal annulus * * * adapted to be engaged by lifting mechanism.'"

5. SAME—PARTICULAR SUBJECT MATTER—"CONVECTOR SPACE TRAYS."

The refusal of certain claims in an application entitled "Convector Space Trays," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 374,924.

REVERSED.

B. D. Watts, Watts & Fisher, J. P. Wetherill, for appellant.

Clarence W. Moore (*L. F. Parker* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appellant appeals from the decision of the Board of Appeals affirming the Examiner's rejection of claims 13 and 14 of his patent application for Convector Space Trays, Serial No. 374,924, filed August 18, 1953. The appealed claims read as follows:

13. A fabricated convector space tray comprising a metal ring, a set of metal ribs attached to said ring and defining passages for gas flow therebetween, and *lifting means comprising a metal annulus disposed within said ring, secured to said tray*, and *adapted to be engaged by lifting mechanism* extending therethrough and to lift said tray and a load thereon.

14. The combination of elements set forth in claim 13 in which the *annulus is attached to the inner ends of said ribs.*

We have emphasized the particular portions of the appealed claims which appellant asserts cover structural features of his improved convector space tray which are not shown in the following prior art upon which the rejection is based:

Watrous, 2,043,456, June 9, 1936.
Dailey, 2,489,012, November 22 1949.
Cone 2,580,283, December 25, 1951.
Winder, 2,671,656, March 9, 1954.

The space tray of these claims is seen to be a combination of three basic elements namely, a metal ring, a set of metal ribs, and an annulus "disposed within" the ring. The claims thus describe the position and arrangement of the three basic elements in specifying that the ribs are attached to the ring and that the metal annulus is disposed within the ring and is secured to the tray and is adapted to be engaged by a lifting mechanism extending through it for lifting the tray and a coil of strip steel placed thereon.

As pointed out in the Board's opinion:

> The instant case points out certain difficulties of handling and then points out the particular disclosed novelty over the prior art that is intended to solve the handling problem. The particular novel feature urged is an annulus located within the ring and capable of being engaged by a handling equipment.
>
> The instant application does not show the general combination with the furnace nor does it show any form of handling apparatus. In the case as filed (see starting with line 24, page 2 of the specification) it was stated that the handling equipment was disclosed in a copending application of appellant. By amendment it is now stated that the handling equipment is disclosed in a patent to:
>
> Heppenstall, 2,701,736, February 8, 1955.
>
> granted on an application filed subsequent to the filing date of the instant application. This patent discloses trays of the same general type as in the instant case, i.e. in the form of annuli, each having a flange protruding into the axial opening and so related to the work supported and a handling mandrel as to be engageable by retractable dogs carried by the mandrel. The flanges must be so spacially related to the annular load carried thereby and from each other as to permit the retractable dogs to be inserted under the carrying flange in accordance with the disclosure of this subsequently filed application, which constitutes the only disclosure of how to use the instantly claimed tray.

Convector space trays shown in the references are flat annular rings which are positioned horizontally between the adjacent ends of coils of strip steel arranged on end in vertical stacks in an annealing furnace. If the coils were stacked directly on each other without the use of the convector space trays, the hot gases which flowed in the furnace would be in contact only with the inner and outer turns of the coils. Appellant asserts that in such case the heat transfer from the inner or outer turns of a coil to intermediate turns is uncertain and non-uniform due to the insulating effects of air spaces between the turns. However, when space trays are placed horizontally between the ends of coils in a stack, heat transmitted to the edges of the turns of a coil flows through the metal and will heat the entire coil.

Such trays as shown by the prior art were constructed so as to permit the heated gases not only to flow vertically through the central aperture of the coils but also to flow horizontally between the ends of adjacent coils and thus to heat the edges of the coil turns for their full lengths. These space trays considered of two flat rings with central openings therethrough and with ribs between the rings and extending from their inner periphery to their outer periphery as

illustrated in the Dailey and Winder reference patents; or they consisted of one such ring with sets of such ribs on opposite sides of the ring as shown in the Winder reference patent. The central opening through such rings permitted gases to flow vertically through the coils and trays while the spaces between the ribs permitted gases to flow horizontally between the central opening and the space around the coils.

Appellant's brief points out that such space trays are of substantial size, usually about 2 inches in axial height, from about 4 to 6 feet in outside diameter, and having central openings from about 1 to 2 feet in diameter. They are said to weigh from about 500 to 750 pounds. Appellant asserts that such trays are used with coils of strip steel ranging from about 3 to about 6 or 7 feet in strip width. Such a coil of about 66 inches in outside diameter and 3½ to 4 feet in strip width is asserted to weigh about 60,000 pounds.

In use, a plurality of vertical stacks, each consisting of alternately arranged coils and trays, are built up on the core stand of an annealing furnace and then a hood is lowered over the stacks with its edges resting in a groove in the base of the furnace and with sealing material, such as sand, in the groove to retard or prevent the escape of gases from within the furnace. Non-oxidizing gases are discharged into the space within the hood and usually are heated by tubes within the hood through which highly heated gases are passed. The direction of travel of the non-oxidizing gases may be as shown in the Dailey reference patent, that is, vertically up through the central openings in the trays and coils, horizontally through the trays, vertically down outside of the coils and out through the sand seal or pipes. The Winder reference shows a similar gas flow pattern. An alternative direction of gas flow is shown in the Cone reference where the hot gases enter the hood through the coil stand, are drawn from outside the coils horizontally through the trays and are exhausted from the center of the stack through the base or the sand seal.

After the coils have been heated for the desired length of time, the heating of the gases is discontinued and the coils are allowed to cool down to a predetermined temperature, after which the hood is removed and the stacks are disassembled by alternately removing the trays and coils.

Appellant's brief states:

> In building up and tearing down these stacks of coils and space trays, the prior space trays were handled as follows. A crane or some similar apparatus with depending chains, cables or the like, having hooks at their ends was employed. This apparatus was moved to a tray storage and a workman manually engaged the hooks with the outer edges of a tray. The apparatus lifted the tray, moved it to a position over a coil previously placed on end on the coil stand of the furnace, and lowered the tray onto the coil. Another workman disengaged the hooks from the tray manually. After another coil was placed on end on the top of that tray, another tray was brought from storage and placed on the second coil in the manner just described. These operations were continued until each stack was built up to the maximum height which would be accommodated within the hood, usually to about 13 to 15 feet, and as many of the stacks were made as the hood would accommodate, often as many as eight.
>
> When the furnace was opened after completion of the above described annealing operation, the stacks were torn down by reversal of the foregoing operations. That is, a workman manually engaged the hooks of the transfer apparatus with the outer edges of the top space tray and that apparatus lifted the tray, and carried it to, and deposited it in, the tray storage place, where another workman manually disengaged the hooks from the tray. After the thus exposed coil of steel had been removed, the next lower tray was removed in a

similar fashion. These operations were continued until all the stacks were completely disassembled.

It is appellant's position that a considerable amount of manual labor and time was required to handle the space trays, as can be seen from the foregoing description. The trays prior to the present invention were such that but one tray could be handled at a time. As an example, appellant asserts that when a furnace accommodated eight stacks of four coils each, thirty-two trips of the handling apparatus between the storage space and the furnace were required for bringing the trays for the eight stacks to the furnace and the same number of trips were required to take those same trays back to storage. The time for these operations is nonproductive time of the furnace and the time so spent represented an unrecoverable item of cost of the annealing operation.

Appellant asserts that despite the fact that these costs for labor and furnace down-time were well known, they had long been endured because no one had been able to find a way of avoiding them.

The issue presented by the present appeal arises from the Board's affirmance of the Examiner's rejection of claims 13 and 14 "as directly readable on each of Cone and Dailey with further reference to Watrous and Winder." In its opinion, after considering the language of claims 13 and 14 in the light of appellant's disclosure, the Board's position is stated as follows:

Turning now to Dailey, it is our opinion, consonant with the opinion of the Examiner, that each of these claims reads directly on the convector tray there disclosed. This tray is formed of two spaced plates having ribs therebetween. Each of these plates has a unitary portion in the form of a unitary metallic annulus disposed within the ring in exactly the same sense that appellant's device has this feature.

The claim is entirely silent on the disclosed fact that when there are two spaced plates, as in Dailey, one annulus on the interior edge of one plate has a diameter less than that of the adjacent plate. The claims are entirely silent on the geometry of the tray, *per se*, which would permit of use of the Heppenstall lifting device. For lifting the lowermost tray which rests upon a coil to be heat treated, it is essential that the lowermost annulus of a stack of trays have an internal diameter less than the internal diameter of the coil or otherwise be so spacially related as to permit the dogs to be projected into lifting engagement therewith. The claims are entirely silent as to such essential features.

This is pointed out to emphasize the breadth of the claims before us and the entire lack of limitation as to features essential to the only disclosed utility which requires for understanding not only a study of the instant case but a study of the disclosure of the subsequently filed application of Heppenstall that has become the cited Heppenstall patent.

The application of the claims to the second basic reference is obvious from what has been stated.

The issue presented by this appeal appears to be one of semantics more than one of substance. The appealed claims each call for "a metal annulus" which is disposed within the ring and is "secured to the tray." The drawing of the application consists of ten figures. In the construction shown in FIGURES 1–8, the "metal annulus" is a separate member which in the specification is referred to as a "ring." Thus in referring to the construction shown in FIGURE 2, the specification states:

• • • By virtue of the welded attachment of ring 10 to the tray and by virtue of the fact that this ring is designed to support loads far in excess of the weight of the tray itself, the tray and coils and trays stacked on it may be lifted and carried safely by lifting tongs in the manner described in my aforesaid copending application.

In referring to the construction shown in FIG. 3 the specification states:

> • • • A metal ring 25 of outside diameter corresponding to the diameter of central transverse opening 26 defined by the inner ends of ribs 21 is welded to said rib ends to provide a strong and rugged construction for use with the lifting apparatus of my aforesaid copending application.

This reference to a "metal ring" also is used in describing the construction shown in FIGURES 5 and 7. However, when the construction of FIGURE 9 is described, we find the specification referring to "an inwardly projecting annular flange 53 which is integral with the top plate."

[1] Thus, construing the language of the appealed claims in the light of the specification, we are required to give to the term "a metal annulus" a meaning broad enough to include both the "metal ring" and the "annular flange" which are shown in the drawing and described in the specification.

While we respect and follow the factual analysis made by the Board and by the Examiner, we do not agree with their legal analysis of the claims on appeal. These claims are specific, narrow claims which require the presence of "lifting means comprising a metal annulus disposed within" the ring which forms the body of the convector space tray. Each claim specifically requires the presence of this metal annulus as an element of the lifting means. For such claims to be "directly readable on" the references as found by the Examiner and the Board, it is necessary to find this feature in the references. It is to be noted that both the Examiner and the Board seem to have ignored this very specific language of the claims, even though they purport to have found the feature in the prior art references in which there are central annular openings of the rings forming the bodies of the trays. These openings may extend inwardly from the inner confines of the coils to be heated. We think the proper reading of the appealed claims requires as a separate element "a metal annulus disposed within the ring" which forms the body of the tray. Neither the Examiner nor the Board has pointed to such an element in the references. Unless such an element is present in the references we are unable to agree that the appealed claims are "directly readable" on the prior art constructions.

The "lifting means" defined in the claims as a "metal annulus" appears to be of significant commercial importance, as pointed out in the Straub affidavit of October 29, 1958:

> The volume of sales by my company of space trays embodying the present invention has increased from year to year during the past five years, except as affected by the recession, and in the first of those five years it was greatly in excess of the largest prior annual sales by my company of space trays not embodying the present invention.

[2] We refer to this affidavit particularly since it is directed to the invention claimed in the subject application and indicates the public acceptance of such trays. This commercial acceptance suggests that the instant tray had some feature or features which earlier trays did not possess. There is nothing of record from which we can refute appellant's position as stated in his brief that:

> The Dailey, Cone and Winder patents merely present the long-standing problem in tray handling. Their space trays were always handled by the slow, expensive and inefficient method described above. None of those patents even suggested that the trays might be handled in a more facile, economical or efficient way. Moreover, there was no device in existence which could have been used for handling the trays of those patents in such a way.

[3] There appears to have been, therefore, a continuing problem in this art and on the present record appellant seems to have been the first to conceive that the problem could be solved if the trays could be so constructed that they could be automatically and mechanically picked up, transported, and deposited where desired; and, particularly, if a plurality of trays could be picked up and deposited one at a time or all at one time. He constructed such a tray by disposing within the metal ring of a conventional tray an annulus which was not long enough radially to affect materially the gas flow through the coils or the heat transfer efficiency, but which was long enough radially to afford adequate surface for lifting contact of the dogs of a lifting device.

[4] The error here is that the Examiner and the Board applied the term "annulus" to that portion of the Cone and Dailey trays which immediately surrounds the inner opening in the trays. But these areas of the Cone and Dailey trays were never intended to serve the same function (nor indeed, *any* particular function) as the "annulus" claimed by appellant and it has not been shown that they could in fact function in that manner, i.e., as lifting means. Although it could be said that these areas are annuli, or at least portions of annuli, they are clearly not annuli "adapted to be engaged by lifting mechanism" as called for in the appealed claims. On the other hand, that embodiment of appellant's invention which most nearly approximates the prior art devices and which is described in the specification as having "an inwardly projecting annular flange 53 which is integral with the top plate," clearly includes, as a distinct element, "lifting means comprising a metal annulus * * * adapted to be engaged by lifting mechanism."

Here, as in *Bolyard* v. *Watson*, 181 F. Supp. 882, 886, 124 USPQ 165, 168–69 (D.D.C. 1959),

> * * * The error of the Board resides in its method of rationalization. Instead of looking at the reference to see what it teaches and then turning to the problem of whether in view of that teaching the applicant's claimed invention is disclosed or would have been obvious, it proceeds from a complete knowledge of applicant's invention and then creates out of the Beck disclosure by interpretation a mere verbal correspondence with claim 7. * * *

[5] For the foregoing reasons, the decision of the Board is reversed.
REVERSED.

WORLEY, *Chief Judge* (dissenting):

It seems to me that the majority is making fish out of the application structure and fowl out of the same structure in the reference. Thus the majority finds that the term "metal annulus" in the claims has a meaning broad enough to include the construction of appellant's FIG. 9 with "an inwardly projecting annular flange 53 which is integral with the top plate" and yet concludes that the *same term does not apply to Dailey*, which obviously also has an inwardly projecting flange integral with the top plate, merely because the claims require the annulus to be a separate element.

The Patent Office being charged with determining whether application claims define over the prior art, I cannot agree with the majority that the issue of whether the present claims so define is "one of semantics more than one of substance." Neither do I think that the reference to the "metal annulus" in terms of a lifting function which

may be performed on it changes the broad application claims, which lack any structural distinction over the prior art, into "specific, narrow claims" which are patentable over the art.

Finding no error in the Board's decision, I would affirm.

U.S. Court of Customs and Patent Appeals

IN RE ALBERT A. CARLETTI AND WELSH C. WHITTLESEY

No. 7039. Decided March 19, 1964

[51 CCPA —; 328 F.2d 1020; 140 USPQ 658]

1. DESIGN—PATENTABILITY—FUNCTIONAL FEATURES—35 U.S.C. 171.

"The gasket at bar was standardized in a specification. This does not bespeak the existence of design in anything other than the sense of engineering 'design,' and certainly contraindicates the existence of the 'ornamental design' referred to in 35 U.S.C. 171, under which a patent is here sought."

2. SAME—SAME—SAME.

"It is clear that appellants never invented an 'ornamental design.' The appearance of appellants' gasket seems as much dictated by functional considerations as is the appearance of a piece of rope, which, too, has ribs and grooves nicely arranged. The fact that it is attractive or pleasant to behold is not enough. Many well-constructed articles of manufacture whose configurations are dictated solely by function are pleasing to look upon, for example a hex-nut, a ball bearing, a golf club, or a fishing rod, the pleasure depending largely on one's interests. But it has long been settled that when a configuration is the result of functional considerations only, the resulting design is not patentable as an ornamental design for the simple reason that it is not 'ornamental'—was not created for the purpose of ornamenting."

3. SAME—SAME—SAME—MERE AVOIDANCE OF DISSYMETRY IN FUNCTIONAL FEATURES DOES NOT RESULT IN PATENTABLE DESIGN.

"Neither does it suffice to argue, as appellants do, that the ribs and grooves *could* have been less gracefully arranged than they are in their actual 'balanced relationship.' If obviousness enters into this case, it is at this point. If it is desired to employ a groove for flexibility and three concentric ribs to make a good seal on a flat drum head, what is more obvious than to arrange them with approximately equal spacing, as was done? But it was done without thought of ornament. The creation or origination of an ornamental design does not reside in the mere *avoidance* of dissymetry."

4. SAME—PATENTABILITY—PARTICULAR SUBJECT MATTER—"GASKET."

The refusal of the claim in an application for a design patent entitled "Gasket," on the ground that the differences over the prior art are dictated by functional requirements, is affirmed.

APPEAL from the Patent Office. Serial No. 56,122.

AFFIRMED.

Herbert Berl for appellants.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, JR., *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of the claim in an application for a design patent, Serial No. 56,122, filed May 28, 1959, for "Gasket."

We do not agree with the rejection predicated on the two prior art references because of obviousness of the design under 35 U.S.C. 103.

The cited references are:

Mixer, 301,512, July 8, 1884.

Thomas Somerville Co. Catalog No. 52A, copyright 1952, page 136, upper lefthand corner, spud washer.

The washer of the Somerville Co. catalog (Lavelle flanged spud washer) has a radially-extending flange and a cylindrical portion around the opening, which portion is much higher than the radial flange is wide. There are no ribs or grooves anywhere on it. It does not have even the general proportions of appellants' washer and in no way resembles it in appearance.

The Mixer patent of 1884 on a pipe coupling discloses an absolutely flat lead washer to be inserted between two pipe-end "coupling plates" on which *plates* there are concentric circular corrugations. Only when the pipe coupling is assembled are grooves impressed in the flat lead washer, which is never seen again until the assembly is broken down, if it ever is. Were a rubber washer used in place of the lead, moreover, upon disassembly it would again be flat, due to its resiliency. There is, therefore, no realistic disclosure of a washer or gasket as a separate article having any grooves or ribs. Only the spent lead washer is shown to have a surface other than flat. Neither do we find the slightest hint in this patent of any "innermost rib * * * fractionally higher than the others resulting in a slightly deeper groove around it."

Even combining the reference disclosures, therefore, fails to suggest appellants' design.

One of the Examiner's principal grounds of rejection was that the differences between appellants' gasket and the prior art, to which differences we must look in deciding whether patentable invention exists, are *dictated by functional requirements*, "i.e., to make the article fit the place where it is to be used and to increase the functional utility thereof rather than to appeal to the esthetic sense." We have quoted from the Examiner's final position as stated in his answer. Cases in support of this rejection were cited. The Board affirmed this rejection saying:

> The instant design *differs* from the Somerville publication essentially by the plurality of concentric annular ribs and by the recessed groove. These features, however, are added to the Somerville citation [disclosure] essentially for *purely functional purposes*, the ribs to effect better sealing action and the groove primarily to prevent a fileting action in the mold. It has been held in court decisions including *Connecticut Paper Products Co. v. New York Paper Co.*, 127 F.2d 423, 53 USPQ 271, that the addition of features placed upon an old design for *purely functional purposes* does not ordinarily render a design patentable. [Emphasis added.]
>
> The Examiner's rejection of the appealed claim as being unpatentable over the reference is sustained.

It is thus seen that the *functionality* of the elements asserted to *distinguish* the design from the prior art—as distinguished from the obviousness of those features—was a ground, if not a principal ground, of rejection. The Patent Office Solicitor's brief takes the same position.

While it cannot be said that the Patent Office has made out an iron-clad case of the functionality of the features relied on for patentability, more than a good case has been made out and the appellants have failed to refute it. In the first place we have in the record the military specification covering this gasket, MIL-P-40068, June 9, 1959, containing engineering drawings in great detail, specifying the exact position, dimensions, and tolerances of the grooves and ribs etc.,

without the slightest suggestion that they serve in any way as ornamentation. In the second place, appellants' brief says:

> The design was created at the U.S. Army Quartermaster Research and Engineering Center, Natick, Massachusetts, in the course of appellants' employment by the Government of the United States as technologists. Its intended use is as a component of a closure assembly for containers, such as gasoline drums.

The record further shows such drums to be the common 55 gal. drums and the gasket to be for the threaded plug which closes the bung hole therein.

It seems naive in the extreme to believe that anyone would try to "ornament" the rubber gasket on the under side of the bung cap for a gasoline drum, notwithstanding the seriocomic legal arguments presented by counsel for the Department of the Army. Common sense and but a slight familiarity with the requirements of gaskets both point to the obvious functionality of the groove and ribs on the gasket. In a letter to the Commissioner of Patents in this application on August 1, 1960, appellants' counsel said:

> • • • the current design resulted from a development program which was inaugurated more than a year prior to publication of MIL-P-40008. Numerous gaskets were *designed* and subjected to *severe testing* under all service conditions including tropical and arctic. Only a device which passes all tests and experiments is finally standardized in a procurement specification. [Emphasis added.]

[1] The gasket at bar was standardized in a specification. This does not bespeak the existence of design in anything other than the sense of engineering "design," and certainly contraindicates the existence of the "ornamental design" referred to in 35 U.S.C. 171, under which a patent is here sought.

[2] It is clear that appellants never invented an "ornamental design." The appearance of appellants' gasket seems as much dictated by functional considerations as is the appearance of a piece of rope, which, too, has ribs and grooves nicely arranged. The fact that it is attractive or pleasant to behold is not enough. Many well-constructed articles of manufacture whose configurations are dictated solely by function are pleasing to look upon, for example a hex-nut, a ball bearing, a golf club, or a fishing rod, the pleasure depending largely on one's interests. But it has long been settled that when a configuration is the result of functional considerations only, the resulting design is not patentable as an ornamental design for the simple reason that it is not "ornamental"—was not created for the purpose of ornamenting. Walker on Patents, Deller ed., sec. 138, p. 434; *Connecticut Paper Products* case, cited by the Board, supra, *Hueter* v. *Compco Corp.*, 179 F.2d 416, 84 USPQ 312; *Applied Arts Corp.* v. *Grand Rapids Metalcraft Corp.*, 67 F.2d 428, 19 USPQ 266; *In re Garbo*, 48 CCPA 845, 848, 287 F.2d 192, 129 USPQ 72. In the latter case this court said:

> It is true • • • that a design may embody functional features and still be patentable, but in order to attain this legal status under these circumstances, the design *must have an unobvious appearance, distinct from that dictated solely by functional considerations.* [Emphasis added.]

That is the principle which is believed to apply here.

[3] Neither does it suffice to argue, as appellants do, that the ribs and grooves *could* have been less gracefully arranged than they are in their actual "balanced relationship." If obviousness enters into this case, it is at this point. If it is desired to employ a groove for flexibility and three concentric ribs to make a good seal on a flat drum

head, what is more obvious than to arrange them with approximately equal spacing, as was done? But it was done without thought of ornament. The creation or origination of an ornamental design does not reside in the mere *avoidance* of dissymetry.

[4] For the foregoing reasons the decision is affirmed.

AFFIRMED.

WORLEY, *Chief Judge* (concurring):

It is to be hoped that the instant appeal will culminate the final phase of an extended campaign by the United States Army against the United States Patent Office and convince the former of the futility of further pursuit. The Army objective appears to be to carve out, isolate and contain a certain area of the public domain in which the Patent Office stoutly contends the Army has no territorial rights as against the paramount interest of the public.

The initial probing actions by the Army have been repulsed by shock troops of the Patent Office largely on the strength of certain intelligence provided by one Somerville and a William M. Mixer. Additional sorties have proved equally fruitless, as was the final attack launched against the main force. Thus far the pen has proved mightier than the sword.

In more "patentese" terms, the Examiner and the Board have expressly held that the Somerville spud washer and the Mixer washer would make appellants' device obvious to one of ordinary skill in this particular art. Those references are more than ample to show that the instant gasket is innocent of any patentable characteristics. Indeed, the Mixer washer is particularly appropriate because, aside from its spaced grooves in common with the instant gasket, in its actual use it is as invisible to the eye as is appellants' bunghole gasket.

There can be no doubt that the rejection is clearly correct and should be affirmed.

U.S. Court of Customs and Patent Appeals

IN RE PAUL WIEST AND FRITS ESPER

No. 7153. Decided March 26, 1964

[51 CCPA —; 328 F.2d 1012; 140 USPQ 83]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"MAGNETIC MATERIAL."

The decision of the Board of Appeals, refusing the claims in an application entitled "Magnetic Material" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 783,145.

AFFIRMED.

Michael S. Striker, Harold D. Steinberg, for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 1, 3, 4, 5, 6, 8 and 9 [1] of appellants' application Serial No. 783,145, filed December 29, 1958, for "Magnetic Material." No claim has been allowed.

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[1] Appellants in their brief withdrew their appeal as to claims 1 and 5.

Appellants' invention relates to an anisotropic mangetic material in the form of a sintered body which consists essentially of particles of a metal oxide having the composition recited in illustative appealed claim 3:

As an anisotropic magnetic material, a sintered body consisting essentially of particles of at least one metal oxide sintered to each other, said metal oxide corresponding to the formula $MO.6Fe_2O_3$, wherein M represents at least one metal selected from the group consisting of Ba, Sr and Pb, said sintered body having a density of up to 4.80 grams per cubic centimeter and an intrinsic coercive force of at least 3300 oersted and said sintered particles having a size of up to 1μ.

Appellants' magnetic material is said to be capable of substantially retaining its magnetization even upon and after exposure to very low temperatures, i.e. the material is capable of withstanding exposure to a temperature of $-40°$ C. with only a slight decrease of its magnetic flux or induction.

Appellants concede that their invention relates to an anisotropic magnetic material in the form of a sintered body which consists of particles of metal oxide having the composition recited in the appealed claims, which composition, per se, is old. However, appellants rely for patentability of the composition on a combination of three recited characteristic features:

1. A density of the sintered body of anisotropic magnetic material which will be up to 4.80 grams per cubic centimeter;
2. An intrinsic coercive force of at least 3300 oersted; and
3. A size of the individual sintered particles which is up to one micron.

Appellants in their application state that it is preferred to grind the pre-sintered oxides, in preparing the magnetic material, to a fineness of at least one micron. Modifying agents or additives, such as Fe_2O_3, manganese, bismuth, $MaSO_4$, B_2O_3, As_2O_3, Sb_2O_3 and others are said to "facilitate in many cases, the production of sintered anisotropic magnetic bodies which possess the essential characteristics according to the present invention, namely, a density not exceeding 4.80 grams per cubic centimeter and an intrinsic coercive force of at least 3300 oersted." These essential characteristics, appellants state, "are primarily obtained by controlling and modifying the composition, and the pressure, grinding and sintering conditions during the production of the sintered magnetic body."

The references relied on by the Examiner and the Board are:

Gorter et al., 2,762,778, September 11, 1956.
Sixtus, 3,001,943, September 26, 1961.
Philips (British), 747,737, April 11, 1956.

The Gorter et al. patent relates to magnetically anisotropic permanent magnets and to methods of producing same. In one embodiment of their invention, the patentees employ material "which is in a finely-divided state, for example, particles less than 10μ and preferably less than 5μ and place the same in a sufficiently mobile condition so that the particles can be oriented by a magnetic field." In one example a material is obtained which has "a field strength of disappearance I^HC of 3225 oersteds, a $(BH)_{max}$ value of 0.99×10^6 and an 'apparent density' of 4.41."

The Sixtus patent relates to an improved heat treatment for increasing the coercive force and the maximum useable magnetic energy of permanent magnetic materials which consist of a combination of iron oxide and one or more metal oxides. The anisotropic magnetic

materials in the Sixtus patent are said to be less susceptible to the demagnetizing influence of stray fields, shocks, and temperature changes. In the course of the patentee's process, slugs of a metal oxide are crushed and ground until the particles are of "a micron or so in greatest dimension."

The Philips patent realtes to methods of manufacturing permanent magnets. It teaches that materials can be provided with magnetically anisotropic properties in various ways, "for example, by subjecting the material in the form of fine particles of a size smaller than 10μ, preferably smaller than 5μ, in a state in which the particles are sufficiently moving to permit magnetic orientation to the action of an external magnetic field having a field strength of more than 100 oersted, preferably more than 700 oersted, and by subsequently compressing the particles to form a coherent body the magnetic field preferably being maintained during compression."

The Examiner rejected the appealed claims as unpatentable over Gorter et al. in view of Philips and Sixtus. He took the view that there is but one difference between appellants' claims and the subject matter disclosed by the references which difference, viz. that appellants' material has an intrinsic coercive force of at least 3300 oersted while the highest intrinsic force shown by the references is 3225 oersted, he regarded as insignificant. The Board, in affirming the Examiner, stated:

* * * * * * *

Example 8 of the Gorter et al. patent shows a material having a density of 4.41 and an intrinsic force of 3225 oersteds. As for the particle size, it is stated in the patent (column 2, lines 19 to 24) that the particles should be less than 10μ and preferably less than 5μ.

Further elucidation of the matter of particle size is found in the Sixtus patent, which suggests a particle size of one micron in maximum dimension. Sixtus does not assert that he is the originator of a material having a particle size of this dimension, and it may be assumed that particles of this size were previously known in the art, as in connection with the Gorter et al. material. It is noted that the discussion in Sixtus of particle size may be correlated with the other two patents cited because Sixtus refers to a single crystal dimension in the first paragraph of his Example I, just as Gorter et al. refer to single crystals in column 2, lines 40 to 42. Moreover, Philips emphasizes on page 2, lines 4 to 9, that fine particles be utilized in order to obtain a high intrinsic coercive force.

With the indicated express teaching in the Sixtus patent regarding particle size, we consider it quite obvious to a person of ordinary skill in this art to make a magnetic material in accordance with the last sentence of Example 8 of Gorter et al. having a particle size up to 1μ.

Appellants have not demonstrated that the difference between the coercive force of the Gorter et al. material (3225 oersteds) and appellants' claimed lower limit of 3300 oersteds, a difference of less than 8%, is in any way significant. * * *

Appellants argue that none of the references taken alone, nor the combination of the teachings of the references suggest the advisability or desirability of providing an anisotropic magnetic material which, in addition to the density of up to 4.80 grams and the sintered particle size of up to one micron will also have an intrinsic coercive force of at least 3300 oersted. Appellants contend that the Board relied on the last sentence of Example 8 of the Gorter et al. patent to support its position. That sentence reads:

* * * A block obtained in the same manner, but not subjected to a first field treatment, had a remanence Br of 2020 Gauss and, a field strength of disappearance $I^{H}C$ of 3225 oersteds, a $(BH)_{max}$ value of 0.99×10^{6} and an "apparent density" of 4.41.

Appellants urge that since that material in Gorter et al. has not been subjected to a first field treatment, the material has not been made

anisotropic, but is an isotropic material. Appellants further rely on an affidavit which they submitted "which shows that the combination of the three features is required in order to achieve the desired result [eliminating thermal instability], while materials having a somewhat larger particle size and an only slightly lesser intrinsic coercive force (still higher than that disclosed by the references) will show a magnetization loss of about 40%."

For reasons hereinafter stated, we are not persuaded by appellants' urgings that the particular material in the Gorter et al. patent referred to by the Board is not a magnetically anisotropic material in some degree. Although that material has not been subjected to a first magnetic field treatment, it appears that a binder solution of the material was placed in a molding die and subjected to a second magnetic field treatment with at least a portion of the binder solution being removed by heating to a temperature of 500° C. Blocks of this material were then passed through a furnace having an atmosphere of air at a temperature of 1280° C. The Philips patent teaches that a material may be transferred into a mangetically anisotropic condition by subjecting the material while in the form of fine particles in a state in which they are sufficiently moving to permit magnetic orientation, to the action of an external magnetic field having a field strength of more than 100 oersted, and by subsequently compressing the particles to form a coherent body, the magnetic field preferably being maintained during compression. We think the conditions in the Philips patent are sufficiently analogous to the treatment in the Gorter et al. patent to indicate that the Gorter et al. Example 8 material in question will be anisotropic to some degree. A principal contention of appellants on this point appears to rest on a letter published in the Journal of Applied Physics, vol. 23 (1952), page 1282, referred to for the first time in their brief. They contend that "In this letter, a $(BH)_{max}$ value of between 0.8 and 1.1×10^6 Gauss-Oersted is given for isotropic oxidic magnetic materials on the basis of $MO.6Fe_2O_3$, while the corresponding $(BH)_{max}$ value for anisotropic materials is indicated as up to 3.0×10^6." That letter, however, sets no minimum as to the $(BH)_{max}$ value for anisotropic material and the appealed claims do not recite a $(BH)_{max}$ value. Furthermore, the letter indicates that the "anisotropy of the remanence value $B_r\parallel/B_r\perp$" for example, is a relative term, that value increasing "with increasing sintering temperature."[2]

Since we consider the Gorter et al. patent to show anisotropic magnetic material having a density within appellants' range and an intrinsic coercive force of 3225 oersteds, which is a difference of less than 3% from appellants' claimed lower limit and a difference which the record has not shown to be significant, we think the issue here is simply whether it would be obvious to employ a particle size of up to one micron in preparing the Gorter et al. compositions.

Gorter et al. do not specify a particle size of up to one micron although they indicate the desirability of employing particles of preferably less than five microns in size. Sixtus, however, in preparing his anisotropic magnetic materal shows that it is known in this art

[2] Bozorth in "Ferromagnetism" (1951), states that "In a single crystal of iron (and of other substances) the magnetic properties depend on the direction in which they are measured. Although some of these crystals are cubic and have some isotropic properties, such as their interaction with light, they are magnetically anisotropic in their response to magnetic fields of any considerable magnitude. Crystals of non-cubic symmetry are anisotropic with respect to light and to magnetic fields of any magnitude."

to employ particles of material of "a micron or so in greatest dimension." We believe that it would have been obvious to one of ordinary skill in the art to employ the conventional particle size set forth in the Sixtus patent in the Gorter et al. process especially since the two patents are from analogous art.

Appellants place heavy emphasis on the affidavit of record. There is nothing in the affidavit, however, to show that the material of Gorter et al. having an oersted value of 3225 and a particle size preferably less than 5 microns does not have the characteristics of appellants' material. Although affiants state that tests and experiments refered to in the affidavit which compare materials of different particle size indicate that there appears to be a relationship between the particle size of the ground material and the intrinsic coercive force, it seems clear from the record that appellants' desired characteristics are not dependent solely on the particle size. Appellants in their specification have stated that the intrinsic coercive force and density value recited in the appealed claims "are primarily obtained by controlling and modifying the composition, and the pressure, grinding and sintering conditions during the production of the sintered magnetic body." Moreover, Sixtus not only teaches that the coercive force can be increased by heat treatment but that a heat treatment can also make such materials less susceptible to temperature changes.

[1] For the reasons set forth above the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE GEORGE C. MAPELSDEN

No. 7123. Decided March 26, 1964

[51 CCPA —; 329 F.2d 321; 140 USPQ 30]

1. PATENTABILITY—OBVIOUSNESS—COMBINATION OF REFERENCES.

"The issue lies in what the combination of references makes obvious to the person of ordinary skill and not whether a feature of one reference can be bodily incorporated in the other to produce the subject matter claimed."

2. SAME—SAME—AGE OF REFERENCES.

"The age of the references, which issued in 1932 and 1940, respectively, is advanced by appellant as an indication that their combination as relied on in the rejection is not obvious. However, we do not find that circumstance of any significant weight here."

3. SAME—PARTICULAR SUBJECT MATTER—"STRAIN RELIEVING CORD CONNECTOR."

The refusal of the claim in an application entitled "Strain Relieving Cord Connector," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 764,910.

AFFIRMED.

Frank L. Neuhauser (*Harry F. Manbeck, Jr.* of counsel) for appellant.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

Mapelsden appeals from the decision of the Board of Appeals affirming the Examiner's rejection of claim 2, the only remaining claim, of

application Serial No. 764,910, filed October 2, 1958, for Strain Relieving Cord Connector.

The invention is said to relate particularly to a connector for use with an electrical cord having two or more parallel conductors that are covered by an insulating jacket of non-circular shape. It is stated that such cords are identified by the industry as "parallel" cords to distinguish from the circular cross-section cords having two or more insulated conductors twisted around each other. The application states:

> The novel feature of this invention resides in the strain relief means or cord entrance guard at the back end of the connector which protects the cord from excessive bending.

FIGURES 1 and 2 of the application are reproduced below:

FIG. 1

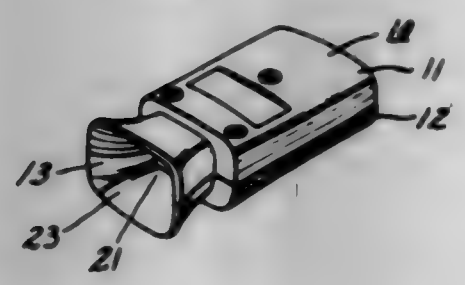
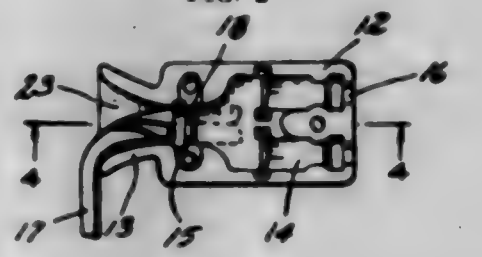


FIG. 2



Appellant's electrical cord connector is for use with a cord 17 having two parallel conductors. The connector consists of a contact supporting portion 14, an intermediate cord gripping portion 15 and an entrance guard 13 which has a passageway 21 for the cord.

The appealed claim reads:

> 2. A female connector for an electrical cord having at least two parallel conductors covered by an insulating jacket of generally oval shape with a major and a minor axis, the connector comprising a four-sided body of insulating material with a contact supporting compartment at one end, an intermediate section wherein the cord is gripped within the connector body, and a strain relieving cord-entrance guard at the opposite end of the connector, the outer periphery of said body where the intermediate section meets the cord guard having a generally oblong rectangular configuration the cord guard having a four-sided passageway of gradually outwardly increasing cross-section, the four sides of the passageway being arranged in general alignment longitudinally to the four sides of the body and outwardly curved to limit the radius of bend of the cord a pair of contact members held within the supporting compartment and connected at their terminal ends to the conductors of the cord, the innermost end of said passageway being generally of square cross-section with its sides slightly larger than the major axis of the cord, so that when the cord is bent edgewise, the cord will twist to an angle of 90° and will assume a flatwise bend against one of the side walls of the passageway, thereby increasing the flex life of the cord the outermost end of the passageway having a generally oblong rectangular peripheral configuration which is no greater in length and width than said outer periphery of said body thereby to provide an integral strain relief of compact, sturdy and economical structure.

The references relied on by the Examiner and the Board are:

Becker, 1,880,069, September 27, 1932.
Folsom, 2,192,737, March 5, 1940.

Becker discloses an electrical cord connector comprising principally a contact supporting section, an intermediate cord gripping portion and a cord entrance guard. The guard has a rounded outwardly flaring central bore which "prevents any sharp kinks or bends" in the conductor adjacent the connector.

Folsom discloses an electrical cord connector comprising a contact supporting section and a cord gripping portion. The connector is of

a four-sided or generally rectangular cross-section to accommodate a conventional parallel conductor cord of generally rectangular cross-section.

The Board regarded the claim as unpatentable over the Becker and Folsom patents. It took the view it would involve only following the teaching of Becker to add a guard to Folsom's connector and found nothing unobvious in the manner in which the guard is provided by appellant.

Appellant argues that "if the Becker structure is added to Folsom, we have a resultant structure wherein an oval cord is centered within a round flared part." We do not find that argument convincing. Certainly, a person of ordinary skill in the art would find in Becker the suggestion to provide an outwardly flaring cord guard on the connector of Folsom. Moreover, it would be obvious to make such a guard of rectangular cross-section to correspond to the generally rectangular cross-section of both the cord and connector of Folsom instead of the circular cross-section which Becker uses in connection with the circular cord and connector of his construction. [1] The issue lies in what the combination of references makes obvious to the person of ordinary skill and not whether a feature of one reference can be bodily incorporated in the other to produce the subject matter claimed. *In re Henley*, 44 CCPA 701, 239 F.2d 399, 112 USPQ 56.

Appellant emphasizes the recitation in the claim that the innermost end of the four sided passageway of the guard is "generally of square cross-section with the sides slightly larger than the major axis of the cord, so that when the cord is bent edgewise, the cord will twist to an angle of 90° and will assume a flatwise bend against one of the side walls of the passageway." He urges that "the routineer about whom the Board speaks," even if he were smart enough to obtain a cord guard of rectangular shape after combining Becker and Folsom, would not bother to provide a "generally square shape" at the inner end of the guard. The feature of a generally square shape at the inner end of the passageway with all four sides slightly larger than the major axis of the cord is described as allowing the cord to twist through a 90° angle when the cord is bent around its minor axis and permitting the cord to end up in a flatwise bend against the side of the guard beyond the twist without undue stress resulting.

Contrary to appellant's contention, the Examiner and Board did not disregard or misunderstand that feature of the construction. Thus, the Board stated that the routineer, obviously meaning one of ordinary skill in the art, would be cognizant "that the parallel cord bends more easily about the major axis of its cross-section" and that "the guard must flare outwardly at such an angle as to accommodate the cord in the region of the twist." Further, the Examiner quoted the recitation of the "generally square cross section" with sides "slightly larger" than the major axis of the word and noted that Becker teaches that the innermost portion of the passageway of the guard is slightly larger than the cord. We are satisfied from the obvious and inherent bending characteristic of the parallel cord and the aforementioned teaching of Becker that the Board did not err in its view of the feature in question.

[2] The age of the references, which issued in 1932 and 1940, respectively, is advanced by appellant as an indication that their combination as relied on in the rejection is not obvious. However, we

do not find that circumstance of any significant weight here. See *In re Beauchamp*, 41 CCPA 791, 210 F.2d 309, 100 USPQ 400.

Appellant also refers to the reference in the claim to the outermost end of the passageway as having a generally oblong rectangular peripheral configuration which is "no greater in length and width" than the outer periphery of the connector body as a limitation not met by the combination of references. Nothing more than an obvious matter of choice is seen in that feature, it being noted that the outermost end of the passageway of the outwardly flaring guard of Becker also is shown appreciably smaller in cross-section than the main body of the connector.

[3] Finding no error, the decision is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE JOSEF FRIED AND JOSEF E. HERZ

No. 7065. Decided March 26, 1964

[51 CCPA —; 329 F.2d 323; 141 USPQ 27]

1. APPLICATION—DISCLOSURE—RELIANCE ON COMMONLY ASSIGNED APPLICATION CITED IN APPEALED APPLICATION.

"We do not see that reliance on a *commonly assigned* application, cited in the specification as filed, can be barred merely because of different inventorship."

2. SAME—SAME—CITATION OF COPENDING APPLICATION IN APPEALED APPLICATION FOR A DIFFERENT PURPOSE.

"* * * the Board said that it was 'not called upon to rule on' the question of whether the reference to Serial No. 489,769 'in the application as filed, for a different purpose than that of disclosing the starting materials is sufficient to incorporate the disclosure into the specification and make it available for the latter purpose.' We cannot agree with that conclusion since resolution of the above question would dispose of the issue of insufficient disclosure."

3. SAME—SAME—RELIANCE UPON CITATIONS OF COPENDING APPLICATIONS IN APPEALED APPLICATION—WAIVER OF SECRECY AS TO COPENDING CITED APPLICATIONS.

"* * * the preparation of all the starting materials is adequately disclosed in the copending applications and we see no reason why appellants may not rely on those disclosures. The possibility of the instant application issuing as a patent while Serial No. 489,769 was still pending and unavailable to the public, was eliminated by a waiver of secrecy filed by appellants' assignee."

4. PATENTABILITY—COMPOUND—REFERENCE—TRANSITORY INTERMEDIATE IN THE PRIOR ART.

"Appellants charge that their 21-iodo steroid is disclosed only as a transitory intermediate in Nathan and therefore is never prepared. We note, however, that the reference states unequivocally that the 21-iodo intermediates are produced but are then converted to the corresponding 21-acetoxy products. Nathan is primarily concerned with the recovery of the 21-acetoxy pregnene derivatives and therefore does not attempt to *isolate* or *recover* the 21-iodo pregnenes. There is no evidence to suggest that it is beyond the skill of a chemist to alter the reaction conditions and isolate the disclosed intermediate. Indeed Nathan suggests that his process may be somewhat reversible. Furthermore, we think a chemist would recognize the distinction between an intermediate which forms and proceeds to react further in situ and an intermediate which never really exists because it decomposes spontaneously. There is no evidence here from which to conclude that the 21-iodo intermediate is never actually formed in Nathan's process. Appellants' statements to that effect are not enough."

5. SAME—PARTICULAR SUBJECT MATTER—STEROIDS.

The decision of the Board of Appeals in appellants' application relating to steroids, refusing claims 20 and 21 as unsupported by the specification in that the preparation of all the starting materials allegedly was not disclosed and further refusing claims 6 and 21 as unpatentable over the prior art, is reversed

as to the rejection on insufficient disclosure and affirmed as to the rejection over the prior art.

APPEAL from the Patent Office. Serial No. 521,915.

MODIFIED.

William H. Saltzman (*Robert Alpher* and *Merle J. Smith* of counsel) for appellants.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

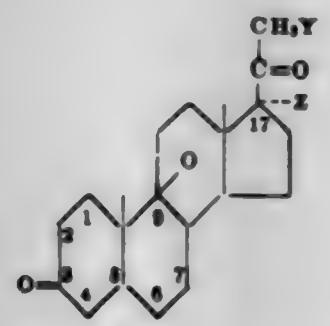
Fried and Herz appeal from the Board of Appeals' affirmance of the Examiner's rejection of claims 6, 20 and 21, the remaining claims of their application.[1]

The invention relates to steroids of the pregnane series. The claims in dispute are directed to unsaturated pregnane steroids having a 9,11 epoxy group and an alkylsulfonoxy or iodo group in the 21 position.

Claim 6 reads:

6. 21-iodo-Δ^4-pregnene-9β,11β-oxido-17α-ol-3,20-dione.

The steroids being claimed may be depicted by the structural formula:



wherein Y is lower alkylsulfonoxy and iodo, Z is hydrogen and alpha hydroxy and either the 1,2, the 4,5, the 1,2 and 4,5, or the 4,5, and 6,7 positions are unsaturated. The symbols Δ^1, Δ^4, $\Delta^{1,4}$ and $\Delta^{4,6}$ correspond to unsaturation in the aforesaid positions, respectively.

Claims 20 and 21 are generic. Claim 20 is directed to the alkylsulfonoxy derivatives of pregnene which serve as intermediates for the preparation of the corresponding iodo compounds, which are the subject matter of claim 21. The latter are said to be useful as intermediates in the preparation of other steroids which are physiologically active.

The Board held that claims 20 and 21 were unsupported by the specification in that the preparation of all of the starting materials was not disclosed; and also held that the compounds of claims 6 and 21 were unpatentable in view of a patent to Nathan et al., 2,884,429, April 28, 1959.

Regarding the first holding, the specification as filed contained a reference to two copending applications[2] for the purpose of disclosing how to convert pregnenes unsubstituted in the 21 position,[3] having a 9β,11β-oxido substituent, to physiologically-active 9β-halo, 11β-hydroxy derivatives. When first confronted with a rejection

[1] Serial No. 521,915, filed July 13, 1955.
[2] Serial No. 417,489, filed March 10, 1954, and Serial No. 489,769, filed February 21, 1955.
[3] The specification earlier teaches a mehod for reducing the 21-iodo compounds of claim 21 to the corresponding 21-unsubstituted compounds.

based on insufficient disclosure of the preparation of the starting materials for the Δ^1-, $\Delta^{1,4}$, and $\Delta^{4,6}$ steroids, appellants made the following amendment to the specification:

[The Δ^1-, $\Delta^{1,4}$- and $\Delta^{4,6}$-steroid reactants can be prepared as disclosed in the applications of Josef Fried, Serial Nos. 489,769 and 515,917, filed February 21, 1955, and June 24, 1955, respectively.]

That amendment was entered by the Examiner but he continued the rejection on the ground that

* * * Applicants may not rely upon copending applications having different inventorship for the purpose of completing the disclosure, M.P.E.P. 608.01(p).

The Board sustained that rejection,[4] but for a somewhat different reason. In the Board's view the reference to Serial No. 489,769 in the specification as filed, for a limited purpose, as described above, even if sufficient to incorporate other portions of the copending application for other purposes[5]

* * * would still not avail appellants since that application, as stated by the Examiner, does not disclose the preparation of all the starting materials required for the compounds recited in these claims.

[2] On reconsideration the Board said that it was "not called upon to rule on" the question of whether the reference to Serial No. 489,769 "in the application as filed, for a different purpose than that of disclosing the starting materials is sufficient to incorporate the disclosure into the specification and make it available for the latter purpose." We cannot agree with that conclusion since resolution of the above question would dispose of the issue of insufficient disclosure. The Patent Office tribunals do not deny that Serial No. 489,769 discloses the preparation of the Δ^1, $\Delta^{1,4}$, and $\Delta^{4,6}$ starting materials. Indeed the Solicitor agrees that those starting materials are disclosed by Serial No. 589,769. The application as filed also refererd to Serial No. 417,489, a copending application which prepares and claims the Δ^4 starting materials. Furthermore, no statement was ever made by the Examiner to the effect that the Δ^4 steroids were insufficiently disclosed.[6] The Board on reconsideration said:

Petitioners also contend that the adequacy of the disclosures of the Δ^4 pregnenes is not in issue. This is not the case as the Examiner on page 4 of the answer, states that the "application Serial No. 489,769 fails to show the preparation of *all* of the starting materials used to synthesize the compounds recited in claims 20 and 21, i.e., 9β,11β-oxido-17-desoxy-pregnene-21-ol derivatives" *or more specifically 9β,11β-oxido-17-desoxy-Δ⁴-pregnene 21-ol.* [Last emphasis supplied.]

It seems to us that the emphasized portion at the end of that statement was not included in the comments of the Examiner. He said:

Serial No. 489,769 fails to show the preparation of all of the starting materials used to synthesize the compounds recited in claims 20 and 21, i.e. 9β,11β-oxido-17-desoxy-pregnene-21-ol derivatives. * * *

Reading that statement of the Examiner in view of his earlier remarks that "only the Δ^4 steroids corresponding to the formulas given on pages 1 and 4 of the specification have been sufficiently disclosed," we can only conclude that the Examiner was referring to Δ^1, $\Delta^{1,4}$ and $\Delta^{4,6}$ steroids having no hydroxy group in the 17α position.

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[4] [1] We do not see that reliance on a *commonly assigned* application, cited in the specification as filed, can be barred merely because of different inventorship.

[5] The Board also refused to consider Serial No. 515,917 because it was not referred to in the application as filed. Since appellants concede that Serial No. 517,917 is merely cumulative to the disclosure of Serial No. 489,769, we need not consider that matter.

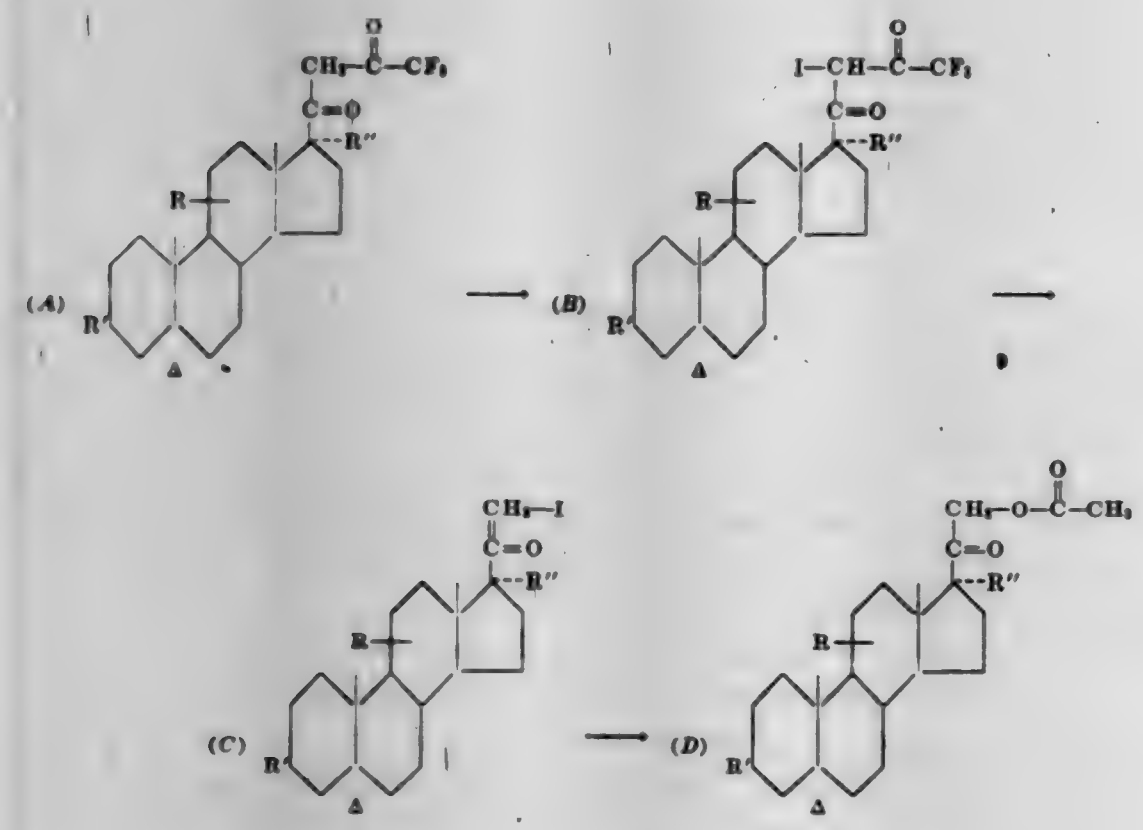
[6] Original claims 3 and 4 drawn to Δ^4 pregnene esters of a sulfonic acid, which claims are species of claim 20, were allowed by the Examiner.

Appellants point out that a generic method of preparation is disclosed in Serial No. 489,769 wherein the 17α position may have a hydroxy or a hydrogen radical. In addition, the preparation of the Δ^1, $\Delta^{1,4}$ and $\Delta^{4,6}$ 17α hydroxy steroids is specifically disclosed. The generic teaching discloses that the specific example of the preparation of 9β,11β-oxido 17α-ol pregnenes would work whether the 17 position was so substituted or not.

[3] Thus the preparation of all the starting materials is adequately disclosed in the copending applications and we see no reason why appellants may not rely on those disclosures. The possibility of the instant application issuing as a patent while Serial No. 489,769 was still pending and unavailable to the public, was eliminated by a waiver of secrecy filed by appellants' assignee.[1] Since claim 20 is not rejected on any other ground we are obliged to reverse the decision of the Board on that claim.

The second issue presented is the rejection of claims 6 and 21 as unpatentable over the Nathan patent.

Nathan discloses the generic reaction schreme:



The Δ symbol above represents unsaturation at either the 4,5 of the 5,6 positions. R′ may represent a ketonic oxygen atom (=O), R a 9:11-β-oxide, R″ a hydrogen or hydroxy group.

Nathan specifically discloses twenty steroids which may be used as starting materials in the outlined reaction scheme. One of those is 9:11-β-oxido-21-(trifluoroacetyl) progesterone. When the latter is used as compound *A* in the above reaction scheme compound *C* will be 21-iodo-9:11-β-oxido progesterone which may be written as 21-iodo-Δ^4-pregnene-9β,11β-oxido-17α-ol-3,20-dione, the compound of claim 6.

Appellants contend that compound *C* in Nathan's reaction scheme is simply a transitory intermediate and as such is never prepared.

[1] The waiver of secrecy was filed during the prosecution. Serial No. 489,769 has since matured into Patent No. 3,101,332. Serial No. 417,489 had issued as Patent No. 2,852,511 at the time said waiver of secrecy was filed.

They argue that the 21-iodo intermediate cannot be prepared because Nathan's reaction is conducted in an acidic medium and, as taught by their specification, in an acidic solvent, the 21unsubstituted products are obtained directly.

In re Jacobs and Bauer, 50 CCPA 1316, 318 F.2d 743, 137 USPQ 888, presented a similar factual situation. There a reference patent to Miller disclosed a method for the preparation of perfluoroallene and claimed it as "Perfluoroallene, B.P. −28° C." Appellants therein claimed perfluoroallene, B.P. −38° C. and maintained that perfluoroallene was not disclosed by Miller because the method of preparation in Miller's patent was inoperative. To substantiate that contention Jacobs and Bauer cited an article by them which appeared in the Journal of the American Chemical Society stating that they were unable to make perfluoroallene by the reaction disclosed by Miller. They also referred to a second article coauthored by Miller, which reported a process employing the same reactants as in the Miller patent but producing a different product.

We said in that case:

> In order for appellants to prevail, and in view of the Miller disclosure, we think that appellants have the burden of proving that Miller's process was not operative to produce perfluoroallene and could not be made operative by use of ordinary skill in the art, and that therefore Miller's perfluoroallene never existed. *Bullare Co. et al.* v. *Coe*, Com'r Pats., 147 F.2d 568, 64 USPQ 350. Furthermore, this court, in *In re Spence*, 46 CCPA 722, 725, 261 F.2d 244, 120 USPQ 82, stated:
>
> > The invention disclosed in a patent is presumed to be operative because the patent enjoys a statutory presumption of validity, 35 U.S.C. 101. An inoperative device lacks the utility which is required by statute.

We concluded in the *Jacobs and Bauer* case that the presumption of operativeness of the Miller process was not overcome by the cited publication.

Applying the same yardstick used in *Jacobs and Bauer* we conclude that appellants have not discharged their "burden of proving that [Nathan's] process was not operative to produce [21-iodo-9:11-β-oxido-progesterone] and could not be made operative by use of ordinary skill in the art, and that therefore [Nathan's 21-iodo-9:11-β-oxido-progesterone] never existed."

[4] Appellants charge that their 21-iodo steroid is disclosed only as a transitory intermediate in Nathan and therefore is never prepared. We note, however, that the reference states unequivocally that the 21-iodo intermediates are produced but are then converted to the corresponding 21-acetoxy products. Nathan is primarily concerned with the recovery of the 21-acetoxy pregnene derivatives and therefore does not attempt to *isolate* or *recover* the 21-iodo pregnenes. There is no evidence to suggest that it is beyond the skill of a chemist to alter the reaction conditions and isolate the disclosed intermediate. Indeed Nathan suggests that his process may be somewhat reversible. Furthermore, we think a chemist would recognize the distinction between an intermediate which forms and proceeds to react further in situ and an intermediate which never really exists because it decomposes spontaneously.[6] There is no evidence here from which to conclude that the 21-iodo intermediate is never actually formed in Nathan's process. Appellants' statements to that effect are not enough.

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[6] For example, Kirk & Othmer "Encyclopedia of Chemical Technology," vol. 3, p. 149 (1949), discloses that in the preparation of carbonates by the reaction of phoegene with alcohol, chlorofomates are produced. Whether the chlorofomates are isolated or are permitted to continue to react and form carbonates is a matter of choice.

As evidence of the inoperativeness of Nathan's process appellants refer to a statement in their specification that 21-unsubstituted pregnenes are directly obtained in an acidic medium. Nathan states, however, that he obtains 21-*acetoxy* pregnenes in an acidic medium indirectly. We are not in a position, on this record, to hold that appellants are correct and Nathan is incorrect.

[5] The rejection of claims 6 and 21 as unpatentable over Nathan is affirmed; the rejection of claim 20 is reversed.

MODIFIED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

1,210,408, H. F. W. Brockhausen, GARBAGE REDUCTION AND TRANSPORTATION SYSTEM; **1,469,499**, S. Forter, REVERSING VALVE; **1,567,914**, H. P. Taylor, APPARATUS FOR REDUCING THE OFFAL IN SLAUGHTERHOUSES TO GREASE AND TANKAGE; **2,681,899**, A. Jullien, HYDRAULIC SYSTEM FOR THE DELIVERY OF PULVERULENT MATERIALS; **2,876,488**, R. S. Zebarth, METHOD OF AND APPARATUS FOR REMOVING FEATHERS FROM PLUCKING MACHINES OF POULTRY PROCESSING PLANTS; **Re. 25,128**, Brown and Waller, METHOD OF AND APPARATUS FOR HANDLING RAW MATERIALS IN THE PRODUCTION OF HYDROLYZED FEATHER MEAL AND OTHER POULTRY BY-PRODUCT MEAL, filed Mar. 28, 1963, D.C., S.D. Miss. (Jackson), Doc. 3395, *El Dorado Poultry By-Products Company v. A.B.C. Rendering of San Antonio, Inc.* Stipulation of dismissal with prejudice (notice Mar. 4, 1964).

1,469,499. (See 1,210,408.)

1,567,914. (See 1,210,408.)

1,941,066, E. H. Armstrong, RADIO SIGNALING SYSTEMS; **1,941,068**, same, RADIO SIGNALING; **1,941,069**, same, **2,098,698**, same, RADIO TRANSMITTING SYSTEMS; **Re. 21,660**, same, FREQUENCY MODULATION SIGNALING SYSTEM, filed Jan. 6, 1954, D.C., N.D. Ill. (Chicago), Doc. 54c19, *Esther Marion Armstrong (executrix of Edwin H. Armstrong, deceased) v. Motorola, Inc.* By agreement, Patent Nos. 1,941,068 and 2,098,698 dismissed from complaint with prejudice Jan. 3, 1962. Final judgment; claims 8, 9 and 10 of Patent No. 1,941,066 held valid and infringed; claims 1 and 2 of Patent No. 1,941,069 held valid and infringed; claims 1, 2, 4 and 6 of Reissue Patent No. 21,660 held valid and infringed June 11, 1964.

1,941,066. (See 1,946,066.)

1,941,069. (See 1,946,066.)

2,098,698. (See 1,946,066.)

2,438,264, J. Bender, Jr., PHONOGRAPH DRIVING MECHANISM; **2,438,265**, R. G. Metzner, TWO-SPEED PHONOGRAPH TURNTABLE DRIVES, filed Sept. 16, 1960, D.C., E.D.N.Y. (Brooklyn), Doc. 60C–867, *The General Industries Co. v. Birmingham Sound Reproducers, Ltd. et al.* Consent judgment; injunction issued Feb. 26, 1964.

2,438,265. (See 2,438,264.)

2,441,960, P. Eisler, MANUFACTURE OF ELECTRIC CIRCUIT COMPONENTS; **2,706,697**, same; **Re. 24,168**, same, filed July 15, 1963, C.C.A., 4th Cir., Doc. 9085, *Technograph Printed Circuits Ltd. et al. v. Bendix Corporation.* Judgment of District Court affirmed Jan. 17, 1964.

2,493,953, F. Zatyko, METHOD OF MAKING PULLEYS, filed Mar. 2, 1964, D.C., N.D. Ohio (Cleveland), Doc. C–64–163, *Anna Zatko & Zatko Manufacturing Company, Inc. v. Rogers Manufacturing Company, Inc.*

2,999,715, M. S. Steiner, SCOURING PADS, filed Feb. 27, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c360, *ACS Industries, Inc. v. Triangle Manufacturing Company.*

2,571,435(a), A. L. Flamm, GAS FUELED CIGAR LIGHTER; **2,982,949(a)**, C. Zellweger, FILLING VALVES FOR LIQUEFIED GAS LIGHTERS; **Re. 24,163(a)**, same, VALVES FOR FILLING PYROPHORIC LIGHTERS FOR LIQUIFIED GAS, filed Nov. 20, 1963, D.C., S.D. Calif. (Los Angeles), Doc. 63–1413–EC, *Ronson Corporation et al. v. Sun Coast Merchandise Corporation.* Stipulation and consent judgment in favor of plaintiff; patents infringed; defendant enjoined Jan. 9, 1964. Same, Doc. 63–1412–EC, *Ronson Corporation et al. v. Rosen Enterprises, Inc.* Action dismissed without prejudice Mar. 11, 1964.

2,571,435(b), A. L. Flamm, GAS FUELED CIGAR LIGHTER; **2,982,949(b)**, C. Zellweger, FILLING VALVES FOR LIQUEFIED GAS LIGHTERS; **3,005,601**, same, GAS FUELED LIGHTER VALVE; **Re. 24,163(b)**, same, VALVES FOR FILLING PYROPHORIC LIGHTERS FOR LIQUIFIED GAS, filed Dec. 26, 1963, D.C., E.D. Pa. (Philadelphia), Doc. 34766, *Ronson Corporation et al. v. Sea Wide Industries et al.* Consent judgment; injunction issued Apr. 13, 1964.

2,681,899. (See 1,210,408.)

2,706,697. (See 2,441,960.)

2,769,789, D. R. Harwin et al., CARPET UNDERLAY, filed May 25, 1961, D.C.N.J. (Trenton), Doc. 419–61, *The Mansfield Tire & Rubber Company v. National Sponge Cushion Co., Inc.* Transferred to D.C., S.D. Calif. (Los Angeles), Doc. 1480–61–S, Nov. 20, 1961. Consent decree; patent held valid; defendant enjoined June 23, 1964.

2,876,488. (See 1,210,408.)

2,982,949(a). (See 2,571,435(a).)

2,982,949(b). (See 2,571,435(b).)

3,005,601. (See 2,571,435(b).)

3,009,212, T. A. Graham et al., PIPE CLAMP, filed Feb. 18, 1964, D.C., N.D. Calif. (San Francisco), Doc. 42124, *Smith-Blair, Inc. v. Edward S. Walsh Co.*

Re. 21,660. (See 1,941,066.)

Re. 24,163(a). (See 2,571,435(a).)

Re. 24,163(b). (See 2,571,435(b).)

Re. 24,168. (See 2,441,960.)

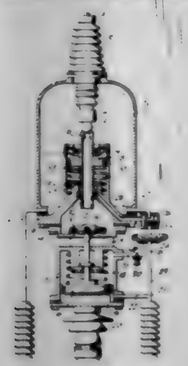
Re. 25,128. (See 1,210,408.)

REISSUES

AUGUST 18, 1964

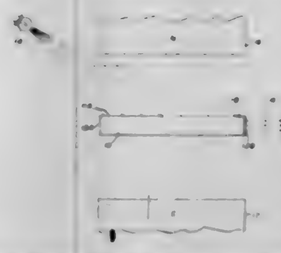
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,631
AIR BLAST CIRCUIT BREAKER
Haakon Forwald, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Original No. 2,724,751, dated Nov. 22, 1955, Ser. No. 270,169, Feb. 6, 1952. Application for reissue Apr. 20, 1962, Ser. No. 190,526
Claims priority, application Sweden Feb. 9, 1951
9 Claims. (Cl. 200—148)



5. An air blast circuit breaker comprising a metal compressed air container having a capacity sufficient to contain a volume of air for at least one current interruption, a pipe line delivering compressed air to said container, insulating means serving as the sole support for said container and insulating it from earth, an air outlet opening in said container, a passage leading outwardly from said air outlet opening, a pair of contacts in said container in close proximity to said outlet opening, an insulating bushing projecting into said container and carrying one of the contacts of said pair, means for electrically connecting the other contact of said pair with the container, and valve means, including a valve in said passage downstream of said contacts movable independently of said contacts, for controlling the flow of air from said container through said outlet opening and for opening and closing said contacts, and means to move the valve to closed position while the contacts remain open.

25,632
OPTICAL MASER
Willard S. Boyle, Washington, D.C., and David G. Thomas, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original No. 3,059,117, dated Oct. 16, 1962, Ser. No. 1,487, Jan. 11, 1960. Application for reissue Feb. 5, 1963, Ser. No. 256,804
6 Claims. (Cl. 88—1)



6. An optical maser comprising a semiconductive wafer including two zones of opposite conductivity-type for forming a p-n junction which intersects the surface of the wafer at a pair of opposed surfaces, means connected to the wafer for biasing the p-n junction in the forward direction for injecting carriers across the p-n junction, means for making the probability of radiative transitions higher than the probability of absorptive transitions in said wafer whereby radiation is stimulated from said wafer, and means for forming a mode isolator of said wafer whereby the radiation stimulated is substantially coherent.

PLANT PATENTS

GRANTED AUGUST 18, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,437
CHRYSANTHEMUM PLANT
William E. Duffett, Barberton, Ohio, assignor, by mesne assignments, to George J. Ball, Inc., West Chicago, Ill.
Filed Oct. 4, 1963, Ser. No. 314,082
1 Claim. (Cl. Plt.—78)

A new and distinct variety of chrysanthemum plant substantially as herein disclosed, characterized as to novelty by the brilliant to vivid yellow color of its blooms, the very double petalage, its strong habit of growth with blooms on long strong stems, and very early, continuous and long blooming period.

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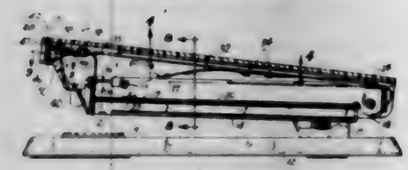
A new and distinct variety of chrysanthemum plant substantially as herein disclosed, characterized as to novelty by the brilliant to vivid yellow color of its blooms, tall growth habit with blooms on long, strong stems, very early, continuous and long blooming period, the large size of its blooms, and its improved qualities as a cut flower.

PATENTS

GRANTED AUGUST 18, 1964

GENERAL AND MECHANICAL

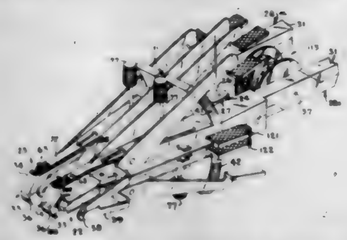
3,144,653
STAPLING MACHINE
Sheldon I. Kobea, Flushing, N.Y., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York
Filed Sept. 19, 1962, Ser. No. 224,734
8 Claims. (Cl. 1—3)



1. A stapling machine comprising a base, an anvil upon said base, a magazine pivotally connected to said base, said magazine having an inwardly offset front portion and provided with a substantially vertical staple discharge opening therewithin; a spring loaded follower within said magazine, an openable cover having oppositely disposed spaced side portions normally overlying said magazine and pivotally connected thereto, a cap overlying said cover and pivotally connected thereto, a pair of first spaced leaf spring members secured to said cap normally bolding said cap away from said cover, each of said spring members abutting an opposite side portion of said cover, a driver blade secured to said cap, said driver blade having a driving portion adapted to move within the staple discharge opening within said magazine and a securing portion at substantially right angles to said driving portion, the securing portion of said driver blade normally overlying the offset front portion of said magazine and forward of said staple discharge opening, a downwardly extending second curved leaf spring member secured to said cap adjacent the securing portion of said driver blade, said spring provided with an opening within its forward portion, a top member overlying said cap, said top member having separate first and second portions adjacent one another, the first portion of said cap being made of flexible material and having a pair of side members straddling the adjacent side portions of said cap and extending therebeneath, an inwardly extending boss upon the interior of each of the extending portions of said side members, the second portion of said top member having an opening at its forward portion and backing means behind said opening, a curved insert member larger than said opening normally compressibly disposed between said opening and said backing means, said second portion of said top member also having an intermediate holding portion normally secured within the opening within said second curved leaf spring member.

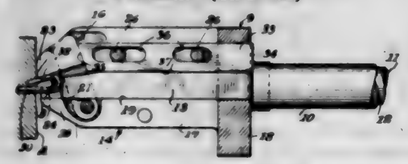
3,144,654
MEDICAL STAPLERS
Rudolph F. Mallina, Hastings on Hudson, and Theodore R. Miller, New York, N.Y., assignors to Foundation for Medical Technology, a corporation of New York
Filed Nov. 22, 1961, Ser. No. 154,187
14 Claims. (Cl. 1—50)

1. In a medical stapler, the combination of a stapler section and an anvil section, hinge means between said sections operable for removably interengaging said sections for performing suturing stapling, each section including a releasably closed bearing structure, two semi-cylindrical staple bushing-halves removably disposed in registry in the bearing structure of the stapler section and two semi-cylindrical anvil bushing-halves removably disposed in registry in the bearing structure of the anvil section, the bushing-halves in the bearing structure of each section completing a cylindrical bushing including a projecting tube defining a central passage, each staple bushing-half defining receptacles for staples including arcuate staple exit ports, the receptacles and the ports of said staple bushing in said stapler section being arranged along a circle coaxially in said tube, the anvil bushing in the anvil section defining on the tube an anvil surface disposed opposite said ports when said sections are hinged together,



movable propelling means connected to the stapler section and being operable to propel each staple out of its receptacle through a port, each bushing-half carrying a pin, each bearing structure defining two opposite bores each receiving a pin for positioning the bushing-halves thereof in registry to complete the bushing, latching means connected to each section and being operable for releasably engaging said pin for holding it in the bore thereby holding the bushing-half thereof in position in the bearing structure, and adjusting means operable for adjusting the force exerted between the ports and anvil surface when the two sections are hinged together said latching means being movable between a first holding position, wherein said means releasably engages said pin when said pin is in the bore thereby restraining removal of the pin from the bore, and a second ejecting position wherein said means expels the released pin from said bore.

3,144,655
NAIL-DRIVING AND CLINCHING TOOL
Samuel J. Kest, 6432 Sunnyslope Ave., Van Nuys, Calif.
Filed Apr. 29, 1963, Ser. No. 276,314
5 Claims. (Cl. 1—95)



1. A tool for driving nails that have return-bent clinch ends on the driving ends of said nails and for clinching

said ends around a portion of a lath or the like, said tool comprising:

(*a*) a nose guide having an end notch therein to receive such a lath portion,

(*b*) a nail driver guided in said nose guide and carried by a pneumatically-operated plunger to drive a nail from the nose guide, and

(*c*) means independent of the nail driver and operatively engaged by said plunger near the end of the driving movement of the driver to clinch the return-bent end of said nail around said lath portion,

(*d*) said nail-end clinching means comprising a slide member disposed at one side edge of the nail driver and having a rearward end engageable by the plunger and movable thereby in a direction toward the nose guide,

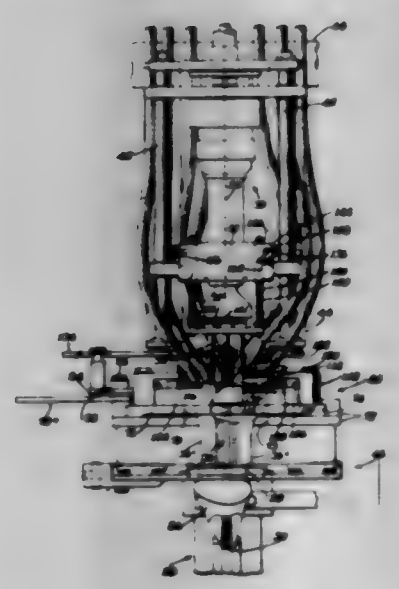
(*e*) a clinching lever on a pivot spaced from the opposite side edge of the nail driver and extending from said pivot alongside the driving end of the nail driver and having a free end in the path of movement of the slide member for engagement and movement by said slide member in a forwardly and downwardly directed arc to nail-clinching position.

3,144,656

HEEL ATTACHING MACHINES

Andrew J. Gilbride, Swampscott, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed Feb. 8, 1962, Ser. No. 172,818
8 Claims. (Cl. 1—338)



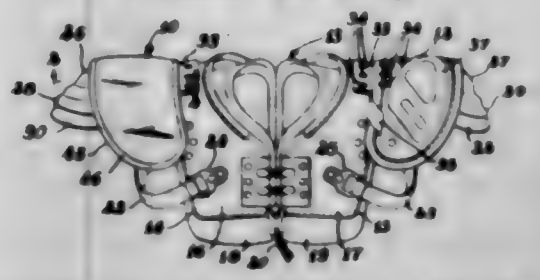
1. A nailing die for use in a heel attaching machine provided with a jack which has a spindle and is movable only lengthwise of an axis of said spindle and which has mechanism cooperating with a geometrically graded last to secure said last and a shoe mounted on it in a predetermined position on the jack with the heightwise median plane of the heel seat of the shoe arranged in a fixed reference plane of the machine, said nailing die comprising a rear nail driver guide, which lies in said plane, and opposite pairs of nail driver guides, associated guides of said pairs of guides being arranged at opposite sides respectively of said plane, means for initially moving all of the nail driver guides as a unit lengthwise of the shoe positioned upon the jack, and means for initially moving the associated driver guides at opposite sides of said plane toward and away from each other and toward and away from said rear nail driver guide.

3,144,657

ACCESSORY PAD FOR USE ON FOOTBALL SHOULDER PADS

John K. Groot, Evanston, Ill., assignor to Wilson Athletic Goods Mfg. Co., Inc., River Grove, Ill., a corporation of Delaware

Filed Sept. 21, 1962, Ser. No. 225,237
6 Claims. (Cl. 2—2)



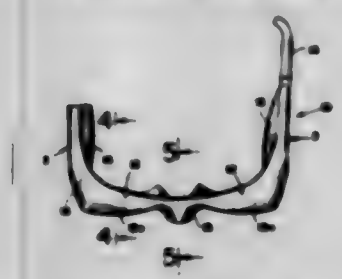
4. In combination with a shoulder pad including a pair of body protective portions, shoulder caps hingedly connected to opposite sides of the body protective portions, and epaulets comprising relatively hard and stiff shells of predetermined shape connected to the body protective portions by flexible hinges and overlying portions of both the body protective portions and shoulder caps, accessory pads for covering the normally exposed outer surfaces of said epaulets and comprising wear resistant and relatively flexible covers for the outer surfaces of said pads shaped to conform approximately to the edge contours of the epaulets and including layers of flexible and relatively resilient material substantially coextensive with the covers, flexibe means secured to said accessory pads and extending from a major portion of the peripheries thereof for embracing the edges of said epaulets and marginal regions of the surfaces of the epaulets opposite those which the covers overlay, drawstrings and means at the margins of said flexible means receiving said drawstrings for securing said flexible means and covers in place on the epaulets, said drawstrings extending between the epaulets and said flexible hinges near the margins of the epaulets.

3,144,658

EYE SHIELDS

Elliot A. Byron, 4403 Sexton Lane, Dallas 29, Tex.

Filed June 20, 1962, Ser. No. 203,911
1 Claim. (Cl. 2—12)



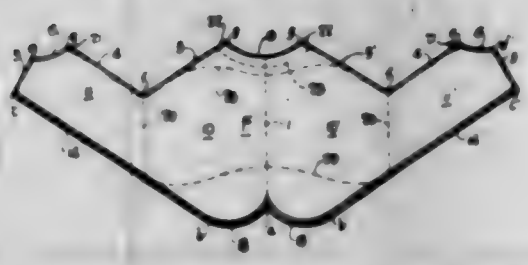
A unitary eye shield structure of relatively light weight rigid material consisting of a nose piece of concavo-convex configuration adapted to extend from a position above the eyes of a wearer to a position below the eyes and to conform to the upper part of the nose of the wearer, a pair of upwardly arched concavo-convex top arms extending oppositely from the nose piece and adapted to overlie and closely conform to the eyebrows of the wearer and including depending inwardly concaved lower portions at their outer ends, and integral side pieces extending rearwardly at substantially right angles to said top arm, said side pieces including concavo-convex bulbous intermediate portions having substantially horizontal inwardly convex top edges, said bulbous portions being adapted to overlie and surround the cheek bones of the wearer, and temples extending rearwardly from and aligned with the top edges of the sides pieces and terminating in hooks adapted to engage behind the ears of the wearer.

3,144,659
HOSPITAL GOWN
Clinton A. Matthews, P.O. Box 28, Paris, Tenn.
Filed Apr. 10, 1962, Ser. No. 186,444
1 Claim. (Cl. 2—83)



A hospital gown for the human body comprising a front panel of first length formed of a torso section and a skirt section, a rear panel complementary with said torso section and having a second length about one-half of said first length, said rear panel and torso joined along portions of their complementary edges, said rear panel terminated by a lower straight edge in the same plane as the division line between said torso section and said skirt section, said torso section and rear panel having a neck-receiving opening and arm openings defined therebetween, said torso section having a front middle cut from said neck-receiving opening to substantially said skirt section, snap fasteners to close said cut, second snap fasteners permitting opening and closing an edge portion of said complementary edges running between said neck opening and one of said arm openings and between said last mentioned arm opening and said division line, such that when said cuts are open and said edge portion is open, a wide opening is provided for placing said gown on the human body, said skirt section having a substantially straight bottom-most edge parallel with said lower edge of said rear panel, said skirt section having a center cut from the bottom-most edge thereof perpendicularly directed toward said lower straight edge and extending approximately two-thirds the length of said bottom panel and dividing said panel into a pair of leg sections, said skirt section being approximately the same width as said torso section at said line of division, the sides of said skirt section from said line to said bottom-most edge flared outwardly to said bottom edge an amount such that said bottom-most edge is approximately twice the width of said torso section.

3,144,660
COMBINATION GARMENT
Rosanna Portaro, 19215 Rockhill Ave.,
Cleveland 4, Ohio
Filed Dec. 12, 1961, Ser. No. 158,744
20 Claims. (Cl. 2—88)



1. A combination garment comprising a front and a back each of flat flexible material,
the front and the back each having a central panel comprising a pair of juxtaposed body panel portions and,
beyond and spaced by the central panel,
a pair of sleeve panel portions,
each sleeve panel portion being adjacent and connected to a body panel portion,
collar means defining a central neck opening and cuff means defining a pair of distal arm openings between and at the upper edges of the front and the back,
the front and the back having runs of their top edge portions joined together between the neck and arm openings,
said joined top edge runs including a central pair separated by the neck opening and extending along the body panel portions and having inner ends at and outer ends spaced from the neck opening and,
located along each of the sleeve panel portions, an intermediate run oblique to the central run of the adjacent body panel portion, the said intermediate runs having near ends at the outer ends of the central runs and distal ends at the cuff means, said intermediate runs extending generally upwardly and away from the said outer ends toward the arm openings, and the garment having a generally continuous opening along the bottom edges of the body and sleeve panel portions to permit easy donning over the head and arms of the wearer.

3,144,661
HOSPITAL GARMENT
Elizabeth A. Bauer, 7 W. Elliott Road, Annapolis, Md.
Filed Aug. 10, 1960, Ser. No. 48,707
3 Claims. (Cl. 2—114)



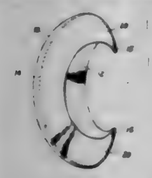
1. A hospital garment for use in oxygen tents comprising a central back panel and two side panels adapted to be folded over a patient's chest in overlapping relationship, all of said panels having substantially the same size and shape including a neckline and opposed shoulder, arm hole defining, and side edge lines and a bottom edge line, said panels having a length sufficient to extend from the neck to a line below the hips of an average sized person and a width to extend fully from side to side of an average sized person, the inner side edges and shoulder lines of said side panels being joined by common seams to the corresponding lines of said back panel, a pair of sleeves joined to the armhole defining lines between said common side and shoulder line seam, a hood part having a head-covering portion and a lower edge line joined by a common seam to the neck line of said central panel, said lower edge line and said common seam extending from said central panel in opposite directions partly along the neck lines of said side panels, a plurality of ties along each outer side edge and shoulder line of said side panels, at least some of said ties on one of said side panels being in the same corresponding position as at least some of the ties on the other of said side panels, a plurality of ties on one side of said garment along one of said pair of common side edge and shoulder line seams, at least some of said ties corresponding in position to at least some of the first mentioned ties along said outer side edge and shoulder lines, and a plurality of ties along the other of said pair of common side edge and shoulder line seams on the side of said garment opposite the last mentioned ties, at least some of said ties along said last mentioned seam corresponding in position to at least some of said first mentioned ties.

3,144,662
BONNET-TYPE HEAD COVERING
Lillian L. Gettinger, 113 W. Conway St., Baltimore, Md.
Filed Jan. 18, 1962, Ser. No. 167,115
1 Claim. (Cl. 2—204)



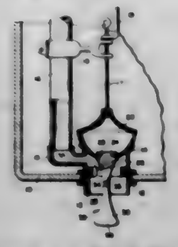
A bonnet-type head covering comprising a flexible one piece cap panel adapted to extend from the neck of a user over the ears and hair and at least adjacent the forehead of the user, a flexible one piece neck engaging band secured to said cap panel, and a loop buckle having a center post and carried by said neck engaging band, said neck engaging band comprising a folded-over elongate panel stitched to the rear lower edge of said cap panel normally lying adjacent the user's neck, said neck engaging band being narrow compared to the length of a normal user's neck, said cap panel being shirred along the stitched connection therebetween with said neck engaging band, said cap panel having the front lower side edge portions thereof folded-over inwardly of the cap panel, the lower end of said front side edge portions being stitched to said neck engaging band, the front edge portion of said panel being selectively foldable inwardly to cover varying degrees of the forward part of a user's head, said neck engaging band having first and second end portions extending beyond opposite sides of said cap panel, said second end portion being a minor fraction of the length of said first end portion, said second end portion being folded-over backwardly upon itself and stitched to the adjacent portion thereof to provide a loop extending around said post and securing said buckle in position, said first end portion having a length less than the length of said neck engaging band stitched directly to said cap panel and being tapered at the end thereof, said first end of the folded-over elongate panel being stitched along the free edges thereof adjacent said cap panel along a fractional length of said neck engaging band whereby the free edges of said tapered end portion are free from one another.

3,144,663
EAR MUFF
William S. McKinstry, 1520 Waterbury Road, Lakewood 7, Ohio
Filed Nov. 16, 1961, Ser. No. 152,795
4 Claims. (Cl. 2—209)



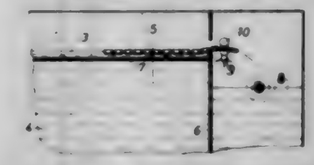
1. An ear guard for the human ear comprising, a yieldable body portion, said body portion having a cavity therein adapted to receive the ear therein, said body portion comprising side walls transversely spaced at their forward ends and connected at their rearward and upper and lower ends to define said cavity, said side walls being recessed rearwardly intermediate their upper and lower ends so that substantially only the pinna portion of the human ear will be encompassed thereby, and substantially C-shaped, resilient spring means secured in said body portion generally adjacent the outer periphery of said upper, lower and rearward ends urging said upper and lower ends of said side walls vertically inwardly toward one another, for clasping the ear and thus maintaining the ear guard in position on the ear.

3,144,664
ATTACHMENT FOR A TOILET FLUSHING MEANS
William A. Foaken, Olga, Wash., assignor to Hold Corporation, a corporation of Washington
Filed Aug. 29, 1961, Ser. No. 134,617
2 Claims. (Cl. 4—57)



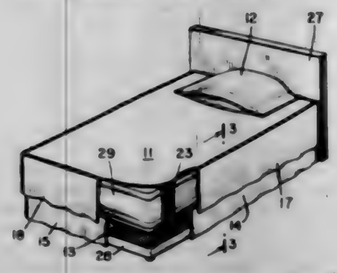
1. An attachment for a toilet flushing means, comprising: a non-metallic and resilient constricting means for insertion in the water discharge pipe of a toilet flushing tank; resilient means for securing said means in place; a resilient ball valve means for said flushing tank; a rigid water flow throttling means secured to the lower part of said ball valve means and extending axially and downwardly therefrom; said throttling means having a slender stem mid-portion and an enlarged lower valve portion; said slender stem mid-portion located at the same elevation as said constricting means when the ball valve is closed and said enlarged lower valve portion disposed at substantially the same level as said constricting means when said ball valve is initially fully raised from its seat during the beginning of the flushing cycle and said constricting means constitutes a resilient non-metallic band which is split radially; a spring metal open ring embedded in said resilient band to spring bias said band into an expanded position and insure a secure seating in said water discharge pipe.

3,144,665
SWIMMING POOL COVER
Albert Meyer, Kaststrasse 4, Bergisch-Neukirchen, Germany
Filed Mar. 15, 1962, Ser. No. 179,937
Claims priority, application Germany Mar. 18, 1961
3 Claims. (Cl. 4—172)



1. In combination with a water-filled swimming pool; a protective cover therefor, comprising a multiple number of buoyant, elongated rigid cover members flexibly connected in side by side relationship and freely floating on the surface of the water in the pool when extended, extending transversely between opposed walls of the pool with the ends of said cover members closely adjacent said walls, safety support means extending along said walls below the surface of the water in closely spaced relationship below the ends of said rigid cover members adapted to be contacted by and support said cover members if the same are forcibly immersed, and means for winding said flexibly connected cover members for storage at one end of the pool and for unwinding the same onto the pool's surface for use.

3,144,666
BEDSPREAD
Hazel M. Ragsdale Mazera, Palm Desert, and Clyde B. Clark, Los Angeles, Calif., assignors to M.C.D.C. Corporation, a corporation of California
Filed Oct. 16, 1961, Ser. No. 145,330
2 Claims. (Cl. 5—333)



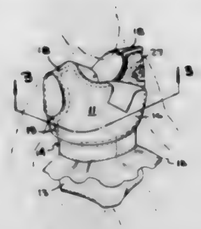
1. A bedspread for a box spring and mattress bed, comprising, in combination: an under spread for positioning between said box spring and mattress and having an underskirt depending downwardly from the border of the under spread to cover the foot and opposite sides of said box spring; elastic strip means secured under said underskirt at said border and engaging the sides of said box spring to hold said under spread in place; a cover spread for covering said mattress and having a border skirt depending downwardly from the border of said cover spread to overlap said underskirt for securing said spread to said mattress; elastic means adjacent to the head end of said cover spread comprising a single band secured between the head end vertical edges of the border skirt portions depending on opposite sides of said bed, said band engaging the head end of said mattress; and elastic means adjacent to the foot end of said cover spread comprising a single under band passing under said mattress adjacent to its foot end, the ends of said single under band being secured to inside border portions at the intersection of the cover spread and border skirt adjacent the foot ends thereof.

3,144,667
INFLATABLE NECK BAND LIFE PRESERVER
Donald G. Dobbs, 4011 NW. 189th Terrace, Carol City, Fla.
Filed July 19, 1963, Ser. No. 296,198
7 Claims. (Cl. 9—316)



1. In an inflatable neck band life preserver, the combination comprising, a tubular cartridge, said cartridge being sealed at one end and having a frangible closure cap at the other end, a quantity of gas under pressure contained in said cartridge, an elongated a flexible inflatable tube, one end of said tube being secured to and sealed about the closure cap end of said tubular cartridge, means sealing the other end of said tube, means for adjustably connecting the other end of said tube to said sealed end of said cartridge, and means controlled by longitudinally stretching said inflatable tube of said life preserver when worn in necklace fashion about the neck of a person for rupturing said frangible closure cap to permit the gas under pressure in said cartridge to inflate said flexible tube.

3,144,668
SAFETY PLAY SUIT
Carolyn D. Palesotti, Rte. 2, Box 46A, Mound, Minn.
Filed Apr. 12, 1963, Ser. No. 272,563
1 Claim. (Cl. 9—329)



A children's safety play suit comprising a unitary garment having an upper jacket portion and a trouser portion and provided with an intervening continuous waist band portion, said jacket portion comprising a single front two-ply panel, and a pair of rear two-ply panels, said two-ply panels defining respective compartments, said panels being stitched at their lower margins to said waist band portion and being stitched together at their top and side portions to define an enclosure to receive the upper portion of a child's body, said rear two-ply panels having overlapping inner vertical margins provided with a plurality of spaced interlocking sets of male and female snap fasteners, and respective buoyant pads disposed in said compartments and being substantially coextensive in area therewith, said pads comprising respective water proof flexible envelopes of plastic sheet material filled with buoyant padding material.

3,144,669
INNER SOLE SPOTTER AND RETAINER
Paul A. Lamy, 13 Ferry St., Suncook, N.H.
Filed June 7, 1962, Ser. No. 200,772
6 Claims. (Cl. 12—141)



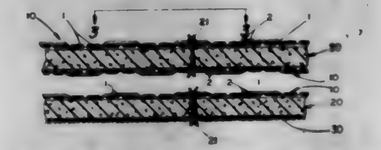
1. The combination with a shoe last including a toe portion and a heel portion and a sole surface extending over the toe and heel portions, of an insole retaining device comprising a coil spring anchored to said last and having a headed portion projecting out of said sole surface adjacent each end of said sole surface, each of said headed portions being adapted for receiving thereover an insole provided with a hole for said spring headed portion.

3,144,670
METHOD OF LASTING FOOTWEAR
Jacob S. Kamborian, 133 Forest Ave., West Newton, Mass.; Jacob S. Kamborian, Jr., 49 Fay Lane, Needham Heights, Mass.; and Robert B. Field, Brockton, Mass.; said Field assignor to said Jacob S. Kamborian and said Jacob S. Kamborian, Jr.
Filed Jan. 5, 1961, Ser. No. 80,919
20 Claims. (Cl. 12—145)



1. That method of making shoes which comprises as steps: assembling with the quarter portion of a shoe upper a normally hard, stiffening sheet of thermoplastic material, applying heat to reduce the stiffening material to a soft, moldable condition, introducing the heel end of a last having an insole attached thereto into the quarter portion of the upper, applying stress such as to strain the quarter portion of the upper about the heel end of the last and conform it closely to the contour of the last and, while maintaining such conforming stress, wiping-in the lasting margin of the quarter portion together with a margin of the stiffening sheet, over onto the insole and continuing to maintain said conforming stress and holding said margin in wiped-in position until the stiffening sheet has cooled sufficiently to resume its initial hardness.

3,144,671
DUST CLOTH
Arthur S. Gould, Old Greenwich, Conn., and Philip Nathanson, Brooklyn, N.Y., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 4, 1958, Ser. No. 726,578
3 Claims. (Cl. 15—1.5)



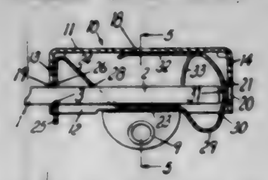
1. A fabric for dust cloths and the like in which a substantially major portion of the fabric surface is comprised of flat, substantially untwisted mono-filament non-fibrous yarns consisting of a tribo-electrostatic plastic, non-fibrous film of polyethylene terephthalate of a thickness ranging between 1.5 and .5 mil and slit to a substantially rectangular cross-section having relatively sharp edges and a width ranging between one one hundred twenty-fourth and one thirty-second of an inch, said fabric being woven so as to present the width, rather than the thickness of the yarn to the surface of the fabric.

3,144,672
WINDSHIELD WIPER ASSEMBLY
Siegfried Fehrenbach, Stuttgart, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Feb. 26, 1962, Ser. No. 175,501
Claims priority, application Germany Apr. 13, 1961
2 Claims. (Cl. 15—250.14)

1. In a windshield wiper assembly, in combination, a first and a spaced second fixed shaft; a first and second wiper, said wipers being supported by and being rotable about the axes of the respective shafts and each having a windshield-engaging blade, said blades oscillatable about the axes of the respective shafts between first end positions in which they are spaced from each other and second end positions in which the blade of said first wiper overlaps the blade of said second wiper; and means for moving said blades between said end positions thereof so that the blade of said second wiper trails the blade of said first wiper when the blades are moved from the second toward the first end positions thereof, said last mentioned means comprising reciprocating means including first and second motion transmitting means, and first and second reversing means operatively connected with the respective motion transmitting means and with the respective wipers, at least said second reversing means comprising a quadric-crank chain including a first crank drivingly connected to said second wiper, an arcuate second crank having a first end and a second end, fixed crank pin means for turnably supporting the first end of said second crank, a link having a first end and a second end, first pivot means for articulately connecting the second end of said second crank with the first end of said link, and second pivot means for articulately connecting the second end of said link with said first crank, said second crank straddling said second fixed shaft when the blade of said second wiper assumes said second end position.

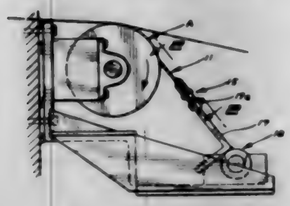


3,144,673
WINDSHIELD WIPERS
Arthur L. Ludwig, Hastings, Mich., assignor to Hastings Manufacturing Company, Hastings, Mich.
Filed July 15, 1963, Ser. No. 295,014
8 Claims. (Cl. 15—250.32)



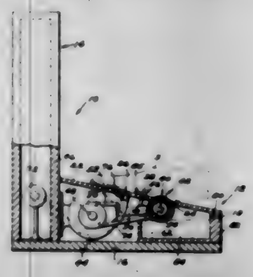
1. The combination of a windshield wiper blade unit provided with support members having outwardly projecting coupling ears disposed in side by side relation, an actuating arm having a keeper spaced from its inner end, a chambered body member having integral top, side, and end walls, the side walls having centrally disposed inwardly projecting bottom portions terminating in downwardly projecting coupling members disposed in side by side relation and having bearings with which said wiper support member coupling ears are pivotally engaged, the end walls having openings therein adapted to receive said actuating arm, a springably resilient latch member comprising a base portion supportedly seated on the bottom portion of said body member and having an upwardly projecting arm at one end thereof provided with a downwardly projecting latch disposed in supported sliding engagement with the adjacent end wall and having a slot therein through which said actuating arm is disposed, said latch member being springably engageable with said keeper of said actuating arm, said latch member also having a loop-like fingerpiece disposed at the other end of said bottom portion of said body member to project downwardly therefrom and having a second upwardly projecting arm slidably engaged with the other end of said body member and having an opening therein alignable with the arm receiving opening thereof, said upwardly projecting arm having a portion springably engaged with the underside of the top of said body member whereby both of said arms are under actuating arm engaging tension.

3,144,674
DOCTOR BLADE RETAINER
Arthur E. Broughton, Glens Falls, N.Y.
Filed Jan. 3, 1963, Ser. No. 249,290
8 Claims. (Cl. 15—256.5)



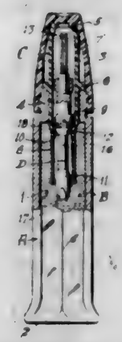
1. A positioning spring maintaining in the blade retaining cavity of a conventional holder a doctor blade of the type having a plurality of spaced apertures therethrough; said spring having a portion thereof engaged with a surface of said doctor blade and having another portion engaged with the holder to maintain a predetermined position between the holder and the blade, one of said engaging portions being laterally offset and skewed from the other of said portions, a retaining pin removably inserted through one of the apertures in said doctor blade and having an enlarged head on one end thereof and having a transversely disposed opening through the other end portion thereof, said spring having an anchoring portion insertable through the opening in said pin with means for releasably holding said spring portion in said pin opening.

3,144,675
BOWLING SHOE CONDITIONER
Richard A. Canaan, 22487 Boulder, East Detroit, Mich.
Filed Nov. 8, 1962, Ser. No. 236,364
1 Claim. (Cl. 15—311)



A shoe conditioner comprising a tread plate having a top surface adapted to be engaged by the bottom of a shoe such as a bowler's shoe, an elongated slot in said plate, a rotary brush beneath the slot in said tread plate and normally projecting upwardly through said slot and above said top surface of said tread plate to contact and condition the bottom of a shoe engaging said top surface, the axis of rotation of said brush extending in the direction of length of said slot, a resilient support for said brush enabling it to be displaced in a downward direction under the weight of the shoe, said tread plate having a second elongated slot parallel to and substantially coextensive with the first slot, said second slot being spaced from the first slot a distance substantially less than the average length of a shoe, an elongated bar upon and projecting upwardly from the top surface of said tread plate adjacent and parallel to said second slot adapted to be engaged by the bottom of a shoe to prevent the shoe from bearing directly down on and closing said second slot, said slots, said brush and said bar approximating in length the average width of a shoe, and means for discharging air upwardly through said second slot.

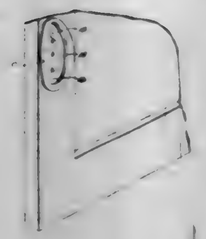
3,144,676
FOUNTAIN BRUSH
Joseph L. La Mura, 367 Passaic Ave., West Caldwell, N.J.
Filed Mar. 7, 1962, Ser. No. 178,130
3 Claims. (Cl. 15—586)



1. A fountain brush comprising a container having a reservoir for liquid formed with a neck, a liquid discharge tube fitted in said neck with its inner end extending into said reservoir and its outlet end projecting outwardly from the neck, said discharge tube having two annular coaxial valve seats intermediate its ends one facing toward the outlet end of the discharge tube and the other facing toward the other end of the tube, a valve rod loosely longitudinally reciprocable in said discharge tube and having two valve heads spaced longitudinally of the rod each to coact with one of said valve seats, each valve head to control the flow of liquid through said tube in one direction, there being a space between the valve seats and the portion of the valve rod between said valve heads, and a brush mounted on one end of said valve rod and movable in opposite directions by said valve rod into storage position within the discharge tube and into use position projecting from the discharge tube, respectively, one valve head being formed at the end of the valve rod opposite the brush and the other valve head being disposed intermediate the length of the valve rod, said discharge tube having lateral apertures in its walls between the inner end of the tube and the valve seat that faces said inner end of the tube and closely adjacent the valve seat.

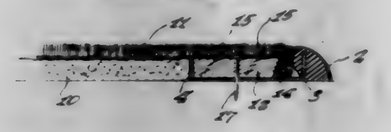
3,144,677
SHIELDS
Frank J. Hanke, 3348 N. 98th St., Milwaukee 22, Wis.
Filed Oct. 8, 1962, Ser. No. 228,820
1 Claim. (Cl. 16—1)

In combination with a cabinet door handle, a clear material ovate-triangular shield plate placed between the handle and the cabinet door, said shield having a single aperture centrally disposed to accommodate a single knob arrangement and two sets of aligned apertures, each set



of apertures adjacent an end of said shield and in parallel with the longitudinal axis of the shield to accommodate different sizes of conventional arcuate pull handles.

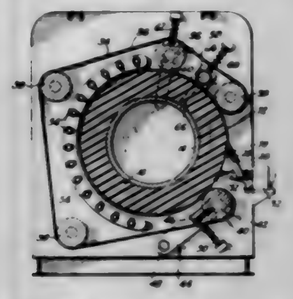
3,144,678
COLOR EDGE
Roger La Casse, 32 Prospect St., White Plains, N.Y.
Filed Sept. 27, 1961, Ser. No. 141,081
1 Claim. (Cl. 16—16)



A carpet edging for securing carpeting to a floor comprising an elongated C-shaped channel having a flat base and a pair of upwardly extending front and rear legs, the front leg presenting a generally rounded face, and a back surface having an upper portion which lies normal to the flat base, the rear leg having a vertical height less than the height of the front leg and substantially equal to the height of a pad to be disposed beneath a carpet to be connected and normal to the flat base, an elongated member of uniform cross-section and of a height corresponding to that of the rear leg disposed in said channel with its rear edge abutting the entire inside surface of said rear leg and its front edge presenting an inclined surface, the width of said elongated member at its upper surface exceeding that at its bottom surface and the width of said upper surface being less than the inside distance of said channel between said rear leg and said upper portion of the back surface of the front leg, whereby to provide a cavity extending longitudinally of the edging to receive the edge portion of a carpet, means driven through the elongated member and the base of the channel and into a floor therebelow for holding the elongated member in fixed position, and a plurality of pin means extending outwardly of the upper surface of said elongated member towards said front leg for engaging and holding the carpet to be connected, said carpet edging being of extruded color plastic and an upstanding flat metal reinforcement strip member rectangular in cross-section wholly embedded in said front leg adjacent the back surface thereof and parallel thereto.

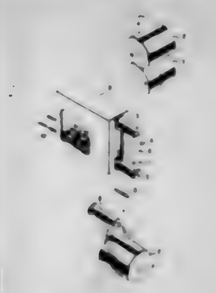
3,144,679
APPARATUS FOR THE MANUFACTURE OF VINYL FLOOR COVERINGS
Charles O. Siemmons, Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Mar. 16, 1962, Ser. No. 180,175
4 Claims. (Cl. 18—1)

1. Apparatus for producing a continuous, polished vinyl web comprising in combination:
(*a*) a frame for rotatably supporting a consolidated vinyl body having a cylindrical outer surface;
(*b*) means for polishing said cylindrical outer surface, said means comprising
(1) an endless belt defining a closed loop, said belt having a smooth surface outside of said loop,



(2) means including at least two rollers inside said loop for urging said smooth surface into pressure engagement with the periphery of the body, said rollers being disposed at angularly spaced points about said body, and
(3) means for heating the belt over the portion thereof in contact with the body;
(*c*) a veneer cutting blade on said frame; and
(*d*) means for rotating said body past said polishing means and said veneer cutting blade to separate a continuous, polished web from the body.

3,144,680
APPARATUS FOR HEATING UNDRAWN YARN FOR DRAWING
Harold H. Heighton, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Oct. 13, 1960, Ser. No. 64,678, now Patent No. 3,101,990, dated Aug. 27, 1963. Divided and this application Dec. 31, 1962, Ser. No. 248,501
2 Claims. (Cl. 18—8)



1. In an apparatus for continuously drawing multifilament yarn, of crystallizable synthetic linear polymer, which includes feed rolls for supplying the yarn at a uniform rate, means for heating the yarn to a drawing temperature above the crystalline second order transition temperature of the polymer, draw rolls for applying drawing tension to the heated yarn, and snubbing means located between said feed and draw rolls for maintaining the yarn under less than drawing tension between the feed rolls and the snubbing means; the improvement for heating the yarn to the drawing temperature in a period of 0.06 to 3 seconds so that the yarn will draw evenly to have

uniform dyeing properties which comprises, a pair of freely-rotating small idler rollers mounted to pass the yarn back and forth over the rolls for several wraps, a heating shoe extending between the idler rollers, the shoe having slightly convex surfaces terminating tangentially to the roller surfaces for guiding the yarn smoothly from roller to roller, said shoe surfaces being matte finished with an average surface deviation of at least 25 microinches to provide a total frictional drag on the yarn of 10% to 40% of said drawing tension, and heating means for maintaining the shoe surfaces and rollers at said drawing temperature.

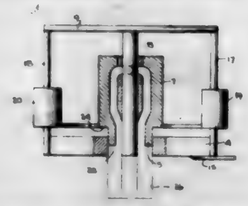
3,144,681
APPARATUS FOR ROLL COMPACTING METAL AND METAL COATED PARTICLES
Tibor Krantz and Vilnis Silins, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Canada
Filed May 14, 1962, Ser. No. 194,380
4 Claims. (Cl. 18—9)



2. Apparatus for compacting metal and metal coated particles which comprises: a pair of oppositely positioned rolls mounted on roll shafts for rotation in a horizontal plane and defining a roll gap therebetween; means for preventing leakage of metal particles from the ends of the roll gap which comprises a freely rotatable endless belt mounted at each end of the roll gap, each belt having a surface maintained in frictional engagement with surfaces of the ends of opposing rolls from a point above to the bottom of the roll gap; a feed hopper positioned above said rolls having a feed throat extending into said roll gap, means adjustable in a vertical plane between said feed throat and the portion of the belt above the roll gap for controlling the surface area of each belt exposed to the metal particles contained in said feed throat whereby the rate of flow of metal particles into the ends of said roll gap can be regulated; and means for maintaining the exposed surface of each belt in frictional engagement with exposed surfaces of the opposing rolls.

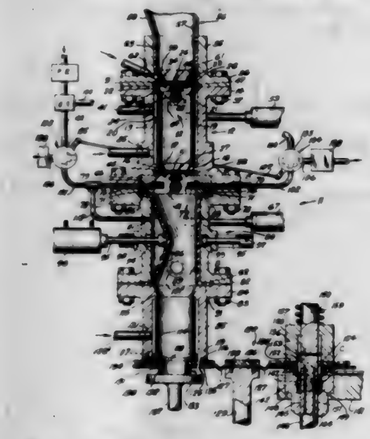
3,144,682
EXTRUDER
Henry W. Thielfoldt, Suffolk County, N.Y., assignor, by mesne assignments, to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 22, 1961, Ser. No. 140,078
6 Claims. (Cl. 18—14)

1. An extruder comprising a first hollow die member having a cylindrical inner wall; a second hollow die member having a cylindrical outer wall contiguous with the cylindrical inner wall of said first die member; a pin member projecting into said die members at least to a plane coinciding with the bottom face of said first die member and positioned concentrically within said second die member and spaced therefrom to form an annular zone therewith, means for supplying plastic material to said annular zone; and means for moving one of said die members relative to the other to raise the end of said



second die member above said plane to vary the thickness of extruded plastic material.

3,144,683
MATERIAL COMPACTING AND MOLD CHARGING APPARATUS
Clarence W. Vogt, Box 232, Weston, Conn.
Filed July 26, 1960, Ser. No. 45,363
11 Claims. (Cl. 18—30)

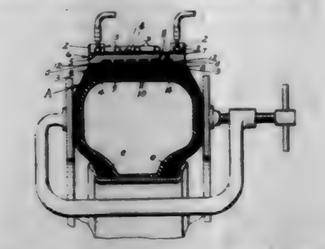


1. Filling equipment for comminuted material, comprising two operating stations, one laterally displaced from the other, a receptacle having a porous wall portion, movable between said stations, said receptacle being open at both ends, means at said first station for supplying a charge of comminuted material to said receptacle, means to apply gas under superatmospheric pressure to such material to charge said receptacle with said comminuted material in compacted form, said porous wall portion permitting discharge of gas from said receptacle while restraining discharge of such material said second station having a mold cavity over which said charged receptacle is positioned, and means to displace a portion of such compacted material from said receptacle into said mold cavity.

3,144,684
MOLD FOR RETREADING TIRES
Raymond P. Hawkinson, Minneapolis, Minn., assignor to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota
Filed June 25, 1962, Ser. No. 204,855
2 Claims. (Cl. 18—44)

1. A pneumatic tire recapping device comprising:
(*a*) a cylinder-like cast-metal matrix,
(*b*) opposite side edges of said matrix defining cylindrical sealing flanges for engagement with cylindrical shoulder portions formed on opposite sides of a tire to be recapped therein,

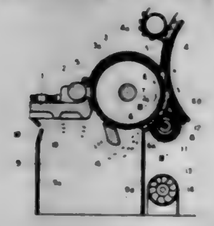
(*c*) said matrix intermediate said sealing flanges being recessed to define a tread-molding cavity,



(*d*) opposite side edge portions of said sealing flanges within said molding cavity being formed to define circumferentially spaced, radially extending design-forming fingers,

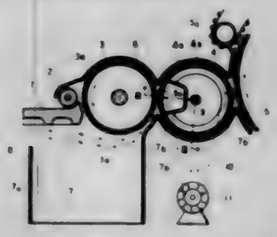
(*e*) said fingers projecting radially inwardly beyond said sealing flanges and adapted to make centering engagement with opposite side walls of a tread-forming recess formed in said casing between said shoulder portions.

3,144,685
CARDING ENGINE
Kunio Aoki, Osaka, Japan, assignor to Daiwa Boseki Kabushiki Kaisha, Osaka, Japan
Original application Dec. 9, 1958, Ser. No. 779,240. Divided and this application June 26, 1961, Ser. No. 119,733
Claims priority, application Japan, Dec. 27, 1957, 32/32,788; June 27, 1958, 33/18,011
3 Claims. (Cl. 19—105)



1. A carding engine, comprising a carding cylinder, a licker-in adjacent said carding cylinder, a suction means below and between said licker-in and said carding cylinder and having a periphery closely adjacent said carding cylinder and said licker-in with the closely adjacent portions of said licker-in, suction means and carding cylinder at the apexes of a triangle, said suction means comprising a moving endless surface member having a plurality of apertures in the wall thereof, a vacuum box fixedly mounted within said moving endless surface member, said vacuum box having at least one opening therein, said opening extending in the peripheral direction of said moving endless surface member at least along a portion of said moving endless surface member and opening outwardly of said moving endless surface member toward said licker-in, an exhaust fan connected to said vacuum box, an upper casing covering at least the upper portions of said licker-in, an under casing covering at least a portion of said suction means and a part of the underside of the licker-in and having an opening at least between said licker-in and said suction means, and a plurality of substantially vertical walls below said licker-in and including a front wall remote from the suction means, a rear wall between said front wall and the suction means, and two side walls between said front and rear walls, said walls substantially completely enclosing an air space in communication with said licker-in, the front wall having an opening therein at the top thereof for admitting an air stream into the top of said air space.

3,144,686
CARDING ENGINE HAVING SUCTION CLEANING MEANS BETWEEN THE LICKER-IN AND THE CARDING CYLINDER
Kunio Aoki, Osaka, Japan, assignor to Daiwa Boseki Kabushiki Kaisha, Osaka, Japan
Filed June 26, 1961, Ser. No. 119,734
Claims priority, application Japan Dec. 27, 1957
11 Claims. (Cl. 19—105)



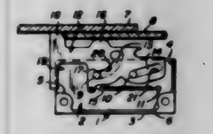
1. A carding engine, comprising a carding cylinder, a licker-in spaced from said carding cylinder, a suction cylinder between said licker-in and said carding cylinder and having its periphery closely adjacent said carding cylinder and said licker-in, said suction cylinder comprising a cage roller having a plurality of apertures in the cylindrical wall thereof, a plurality of saw teeth on the outer cylindrical surface thereof, a vacuum box fixedly mounted within said cage roller, said vacuum box having at least one opening therein, said opening extending in the peripheral direction of said cage roller at least along a portion of said suction cylinder, an exhaust fan connected to said vacuum box, an upper casing over at least the upper portions of said licker-in and said suction cylinder, and a plurality of substantially vertical walls at least below said licker-in and enclosing a still air space in communication at least with said licker-in, one of said walls having an opening therein into said still air space.

3,144,687
METHOD FOR FORMING AND PROCESSING TEXTILE FIBERS AND FILAMENTARY MATERIALS
Francis C. Skalko, Pawtucket, R.I., and John J. Owens, Greenville, S.C., assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Apr. 6, 1960, Ser. No. 20,419
11 Claims. (Cl. 19—145.5)



1. The method of producing a composite linear body of different materials including attenuating heat-softened material to comparatively fine elongate discrete bodies in strand form, impinging the strand against a surface to disperse the bodies, continuously blending a fibrous constituent with the dispersed discrete bodies as they are formed to establish a linear assemblage, advancing the linear assemblage through a compactor to compact the discrete bodies and fibrous constituent into a composite linear body, and winding the composite body on a collector.

3,144,688
DRAUGHT EXCLUDER
Helmer B. Nielsen, Pembroke, Ontario, Canada, assignor to Eddy Match Company Limited, Pembroke, Ontario, Canada
Filed May 14, 1962, Ser. No. 194,533
9 Claims. (Cl. 20—52)



1. A draught excluder device for windows, comprising abutment means adapted to be fixedly mounted on a window frame, a movable block, means for resiliently urging said block into a position in engagement between said abutment means and a slidable window pane to prevent inward movement of said pane, and a lip on said movable block adapted to lie in the path of said slidable pane when the latter is being opened, thereby automatically to release said block from said position in opposition to said resilient means and to allow said resilient means to return said block to said position when the window is closed.

3,144,689
GLAZING STRIP AND ARTICLE EMBODYING SAME
Romuald Mignerault and Fernand W. Mignerault, both of 332 St. Andre St., Gatineau, Quebec, Canada
Filed Feb. 11, 1963, Ser. No. 257,642
1 Claim. (Cl. 20—56.4)



A glazing member comprising an elongated, pliable, unitary strip of plastic composition, said strip being of uniform cross-section throughout its extent, said strip having a forward body portion and a rearward base portion, said body portion having a convex outer surface and a concave inner surface, said surfaces converging towards each other and terminating in a common longitudinal edge of said strip, said strip also having a longitudinally extending shoulder at the juncture of said body and base portions and offset from said juncture, said shoulder having a transversely concave surface having a terminating edge defined by its line of juncture with said convex surface of said body portion, said base portion having compressible barbs projecting from each side thereof, said barbs on one side of said base portion being in opposed relation to said shoulder.

3,144,690
EXOTHERMICALLY REACTING SHAPED PRODUCTS FOR USE IN FOUNDRY PRACTICE
William T. Buckingham, Galena, Ohio, assignor to Foseco International Limited, Birmingham, England, a company of Great Britain
No Drawing. Filed July 17, 1961, Ser. No. 124,376
3 Claims. (Cl. 22—147)

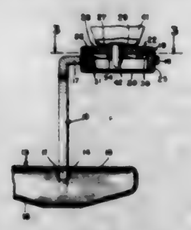
3. A molded exothermically reacting shaped article having thin walls with a height to thickness ratio of greater than about 9, comprising an exothermically reacting composition consisting essentially of an aluminothermic composition of 15 to 50% by weight of finely divided aluminum, an oxidizing agent for the aluminum in a quantity stoichiometrically insufficient to combine with all of the aluminum present, 2 to 9% of a binder, 0.1 to 3% by weight of metal flock intimately dispersed therein and the residue being substantially a refractory filler, the said metal flock being formed of metal fibres of diameter at most about 0.5 mm. and length about 5 to about 30 mm.

3,144,691
SAFETY DIAPER PINS
Robert V. Dean, 2631 Gaynor Ave., Wisconsin Rapids, Wis.
Filed Jan. 19, 1962, Ser. No. 167,334
3 Claims. (Cl. 24—1)



1. A safety diaper pin comprising an elongated non-stretchable cord loop having first and second ends, a resilient and flexible member longer than the loop, said member being longitudinally-compressible and having first and second ends, said second end of the loop being secured to the second end of said member, a hook on the first end of said member releasably engaged with the first end of the loop, the member being compressed and tautening the cord loop, said member comprising an elongated tube having first and second end walls, an eye on said second end wall through which the second end of the cord loop is secured, said first end wall being formed with an opening, an outwardly spring-pressed rod working through said opening, said hook being on the outer end of the rod.

3,144,692
CUFF LINK
Carlos Espino, 1242 Devon Ave., Los Angeles, Calif.
Filed Feb. 19, 1962, Ser. No. 174,186
1 Claim. (Cl. 24—97)



A cuff link including an ornamental stud, a pin carried by said ornamental stud, a housing, there being an annular groove in an inner side of said housing, a resilient spring mounted in said housing and having a configuration wherein said spring has a first annular portion forming a major part of a circle adapted for seating in said annular groove, one free end of said annular portion terminating in a tip which extends outwardly therefrom into an associated laterally extending aperture formed in

said housing to prevent clockwise rotation of said spring in said annular groove, the other free end of said spring being bent in a plurality of directions within the said housing to present pin engaging portions for releasably engaging said pin carried by said stud, said plurality of bends comprising a reversely bent second arcuate portion extending in a clockwise direction from said first arcuate portion and forming a major portion of a circle normally tangent to said pin, said second portion merging into an arcuate reversely bent third portion normally spaced from said first portion and having a free end normally extending toward said pin and merging into a fourth arcuate portion normally abutting said pin throughout the extent thereof, said fourth arcuate portion merging into a fifth arcuate portion normally tangent to the second arcuate portion to thus surround said pin and terminating in a sixth portion which extends substantially linearly to said pin and terminates in a finger engageable end portion normally positioned within said aperture and adapted to be actuated to release said spring from gripping engagement with said pin.

3,144,693
LOCK FOR FASTENING PINS
Karl Rittmann, Friedrichstrasse 126, Duesseldorf, Germany
Filed Jan. 22, 1962, Ser. No. 167,501
6 Claims. (Cl. 24—158)



1. A lock for fastening pins, which comprises a carrier, an outer cylinder secured to said carrier having a slot which extends parallel to the axis of said cylinder and is adapted to receive an end of a pin for insertion into said cylinder, an inner cylinder axially slidably disposed in and radially spaced from said outer cylinder and adapted to be axially extended from said outer cylinder so as to clear said slot, an inturned rim formed on said outer cylinder at one end thereof, an outturned rim formed on said inner cylinder at the end oposite to said inturned rim, and a helical spring disposed radially between said inner and outer cylinder and axially between said inturned and outturned rims and tending to retract said inner cylinder into said outer cylinder, said outturned rim being formed with a slot through which said spring can be threadedly introduced between said cylinders after said outer cylinder has been fitted over said inner cylinder.

3,144,694
PLASTIC DEFORMABLE MOUNTING
Eason Cross, Jr., 901 20th St. NW., Washington, D.C., and Edward K. Mills, Jr., Cherry Lane, Mendham, N.J.
Filed Jan. 5, 1962, Ser. No. 164,492
1 Claim. (Cl. 24—213)

In combination, a sheet having a pair of substantially rectangular apertures spaced from one another by intermediate material having parallel straight edges along respective sides of said apertures and providing a series of four parallel straight edges comprising an inner pair consisting of the aperture edges along the intermediate material and an outer pair consisting of the aperture edges opposite to those along the strip, an element, and means for mounting said element on said sheet comprising a series of four parallel and substantially straight lugs upstanding on said element, said lugs being formed by flexible resilient plastic material generally triangular in cross-section with bases on said element and opposite sides converging towards free end edges remote from said element, said four lugs comprising an outer pair consisting of the outermost ones of the series and an inner pair consisting of the two intermediate ones of the series, each of said lugs having a transverse slot extending partly across the base thereof from one side towards the other and being bounded along one side by said base portion, the material of each lug between the inner end of the slot and the other side constituting a neck for predetermining a region of bending of the lug, the surface of said one side of each lug between the outer end of the slot and the free edge thereof constituting a cam surface which terminates towards the base along a ledge over-



hanging the slot, the slots and cam surfaces on the outer pair of lugs facing outwardly and away from one another, the slots and cam surfaces of the inner pair of lugs facing towards one another, the distance between the ledges of the outer pair of lugs being greater than the distance between the outer pair of aperture edges, the distance between the free edges of the outer pair of lugs being less than the distance between the outer pair of aperture edges, the distance between the ledges of the inner pair of lugs being less than the distance between the inner pair of edges, and the distance between the free edges of the inner pair of lugs being greater than the distance between the inner aperture edges.

3,144,695
MOUNTING DEVICE
Gilbert G. Budwig, 3480 Bayside Walk, San Diego, Calif.
Filed Apr. 24, 1961, Ser. No. 104,872
10 Claims. (Cl. 24—213)



1. A mounting device formed of yieldable and stretchable plastic material, and adapted for installation in a panel having an accommodation aperture, said device comprising:

(*a*) a slot-free sleeve having an external flange at its first end and an internal flange at its second end;

(*b*) said internal flange forming, initially, an axially outer surface flush with said second end, and the outer surface of said sleeve initially forming with its second end a relatively sharp corner;

(*c*) said internal flange also initially forming at the intersection of its axially inner and radially inner surfaces a relatively sharp internal corner;

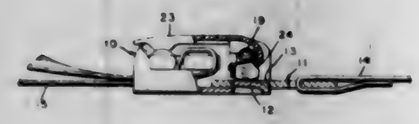
(*d*) said internal flange being axially deflectable and radially expansible, to cause the surrounding end portion of said sleeve to expand into an external flange of essentially V-shaped profile;

(*e*) a pin having a flange at its one end and a shoulder at its second end;

(*f*) said pin fitting snugly and slidably in the bore of said sleeve, and adapted to be forced axially against said internal flange to expand said sleeve for anchorage in said aperture;

(*g*) the axial distance of said pin between its flange and its shoulder being sufficiently greater than the initial distance between the first end of said sleeve and said internal corner to cause said internal corner to extend axially, on insertion of said pin, and engage behind said shoulder with the initially, radially inner surface of said internal flange bearing against said shoulder to lock said pin in said sleeve.

3,144,696
SEPARABLE FASTENER BIASING SYSTEM
Andrew G. Carter, Grand Rapids, Mich., and Herman G. Alofs, 1512 Yorkshire SE., Grand Rapids, Mich.; said Carter assignor to Andrew G. Carter and Harriett T. Carter, a partnership doing business as Carter Engineering Company, Grand Rapids, Mich.
Filed May 31, 1962, Ser. No. 198,966
5 Claims. (Cl. 24—230)



1. A buckle mechanism comprising:

first and second buckle sections having portions in normally overlapping relationship and having interengaged aperture and abutment means, respectively, on said portions, one of said buckle sections including a frame having opposite side walls provided with aligned holes, one of said holes having a chordal portion, said one buckle section also having:

a shaft normally engaging said holes, said shaft having a chordal portion,

said shaft also having a transverse notch interrupting the chordal portion of said shaft and normally receiving the wall of said frame at said hole to fix the axial and angular position of said shaft with respect to said frame;

cam means rotatably mounted on said shaft and having portions angularly disposed in locking position to bear against the other of said buckle sections to maintain the interengagement of said aperture and abutment means, said cam means being rotatable on said shaft to a release position providing clearance for the disengagement of said aperture and abutment means;

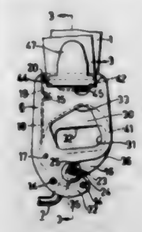
a lever rotatably mounted on said shaft and having abutment means adjacent said shaft and a portion engageable with said cam means to rotate the same to release position,

said lever also having bearing means embracing said shaft adjacent said abutment means;

coil spring means having one end thereof provided with a chordal portion tightly embracing said shaft chordal portion to rotatively fix the said end with respect to said shaft, the opposite end of said spring means biasing said cam means and lever to locking position,

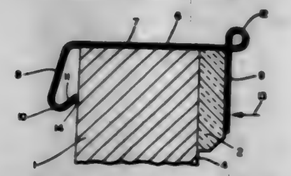
said spring means including separate springs, one of said springs engaging said cam means, and the other engaging said lever abutment means.

3,144,697
SAFETY BELT BUCKLE FOR VEHICLE OCCUPANTS
Herbert Olof Rosenberg, Vikstensvagen 41, Johanneshov, Sweden
Filed Dec. 29, 1960, Ser. No. 79,300
Claims priority, application, Sweden, Jan. 14, 1960, 326/60; Jan. 21, 1960, 548/60
2 Claims. (Cl. 24—242)



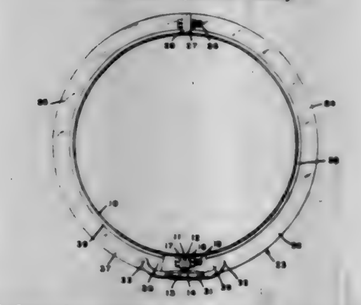
1. A buckle for a safety belt for connecting the belt to a fixed link, the buckle comprising a pair of similar plate members connected to the belt, a latch member between the plate members, a pivot connecting the latch member to the plate members for pivotal movement between first and second positions, said plate members each including a hook portion which bounds an open recess, said latch member including a hook portion which extends in a generally opposite direction to the hook portions of the plate members, said hook portion of the latch member bounding a recess which opens in a direction generally opposite to the direction that the recesses in the plate members open, said recess of the latch member being at least in part in registry with the recesses of the plate members in the first position of the latch member while the hook portion of the latch member overlaps the hook portion of the plate members such that a bounded opening a provided in which the link may be accommodated whereby connection is provided between the link and the belt, said latch member including a handle portion which may be manually operated to move the latch member between said first and second positions, said plate members being provided with openings adjacent the handle portion of the latch member to provide access to the handle portion through the openings, said latch member in the second portion thereof having the hook portion thereof out of overlapping relation with the hook portions of the plate members to expose the recesses in the plate members whereby the link and buckle may be disengaged by relative movement therebetween tending to remove the link from the recesses in the plate members, and a finger-shaped element on the latch member facing the hook portion thereof, said finger-shaped element having a straight edge spaced from said hook portion of the latch member for contacting the link as said latch member is pivotally moved from said first position towards said second position to disengage the link and buckle, said straight edge of the hook portion of the latch member being located at a position with respect to the openings of the recesses in the plate members to block said openings when the latch member is in the second position thereof so that entry of the link into the recesses in the plate members is prevented when said latch member is in the second position, said hook portion of the latch member having an outward end portion for engaging said link with the latch member in the first position, said outward end portion of the hook member having a specific curvature such that relative displacement between the link and the latch member in a direction against said end portion produces a force on the hook portion of the latch member which passes through said pivot.

3,144,698
WIRE CLIP FOR INGOT MOLD SIDEBOARD
Sherwood G. Haw, R.D. 1, Magnolia, Ohio
Filed Apr. 5, 1963, Ser. No. 270,928
1 Claim. (Cl. 24—261)



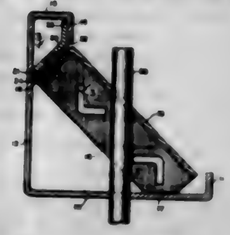
A wire clip for attaching a sideboard to the inner surface of an ingot mold including an elongated wire composed of resilient material such as spring steel and having an intermediate straight portion and having downturned end portions, one downturned end portion being outwardly inclined at an angle to the intermediate portion and having an inturned lower curved extremity of substantial length and terminates in a free end which extends beyond the connection of said one downturned end portion with said intermediate straight portion and has a sharp straight edge thereon which is directed toward the intermediate portion, the other downturned end portion forming a loop extending above the intermediate portion and being inclined from a position above to a position below the intermediate portion, said other end portion being substantially parallel to said one end portion, said loop operating as a spring means for urging said other end portion toward said one end portion and the spring means when the clip is in use also urging said sharp edge into biting engagement with an associated ingot mold.

3,144,699
FORM FOR PRODUCING CONCRETE COLUMNS
Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich.
Filed Oct. 4, 1961, Ser. No. 142,928
3 Claims. (Cl. 25—118)



3. A form for confining cast material, said form comprising: a sheet of material having flanges at opposite edges thereof, said flanges having a ridge at the outer edges thereof, and also having aligned apertures intersecting the said outer edges and open said outer edges for the reception of bolt means, said flanges being normally in abutting relationship to form said sheet in a tubular configuration; reinforcing bars normally bearing against said flanges, and having apertures aligned with said flange apertures; bolt means traversing said aligned apertures, said bolt means and reinforcing bars providing a unitary assembly engageable with said flanges in a loose condition of said bolt means; articulating ring means surrounding the junction between said sheets and having a discontinuity at said flanges; and clamping means normally securing the ends of said ring means bridging said flanges.

3,144,700
ROAD FORM AND INCORPORATED LOAD TRANSFER UNIT
Robert E. Heltzel, 6922 Mines Road, Warren, Ohio
Filed Mar. 11, 1963, Ser. No. 264,157
14 Claims. (Cl. 25—118)



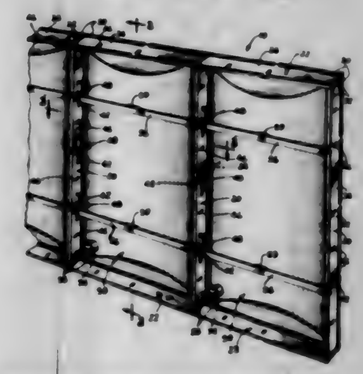
1. For use with a side form having a base, side wall and rail head, and a brace having connection at its lower end to the base and having connection at its upper portion to the rail head, said latter connection comprising

(*a*) a load thrust means on the rail head responsive to bending or depressing moments of the rail head,

(*b*) a load receiving means substantially rigid with the brace and in spaced confronting relation to the load thrust means, and

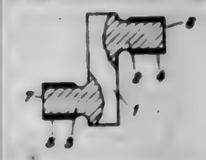
(*c*) an elastic load transfer means located between said load thrust means and said load receiving means adapted to be stressed incident to movements of the rail head and load thrust means responsive to said moments.

3,144,701
CONCRETE WALL FORM PANEL UNIT WITH FACING-REINFORCING AND INSULATING MEANS
George F. Bowden, Des Plaines, Ill., assignor to Symons Mfg. Company, Des Plaines, Ill., a corporation of Delaware
Filed May 3, 1962, Ser. No. 192,280
4 Claims. (Cl. 25—131)



1. As a new article of manufacture, a prefabricated rectangular panel unit adapted to be arranged in an upstanding position and also in edge-to-edge relation with similar panel units and to form with such similar units one side of a wall form into which wet concrete is to be poured and then set for wall-forming purposes, said panel unit comprising a normally flat rectangular plywood facing, a rectangular frame extending around and serving to reinforce the facing, having its front marginal portions connected to the marginal regions of the facing, having its intermediate and rear marginal portions projecting rearwards of the rear surface of the facing and forming therewith a rectangular space of appreciable thickness, a rectangular rearwardly bulged pan formed of imperforate sheet material of comparatively high tensile strength, disposed for the most part within and shaped in outline substantially conformably to said space, having its marginal portions, substantially throughout their entire length, connected fixedly in place adjacent to the junctures of the front marginal portions of the frame and the marginal regions of the facing, and defining with said rear surface of the facing a closed pocket, and a mass of material possessing lightness of weight, a comparatively high degree of resistance to compression and a slight amount of resiliency, disposed in and entirely filling the pocket, and arranged so that the inner surface thereof is in coextensive contact with substantially the entire area of the rear surface of the facing and its rear surface is in coextensive contact with substantially the entire area of the inside surface of the pan, said pan being for the most part uniformly arcuate in cross section from end to end in order that it possesses a catenary effect, said mass being of such character that when wet concrete is poured against the front surface of the facing and the facing thereby tends to bulge rearwards, it is placed under compression and any rearward pressure which it exerts against the pan, places the pan under tension and is, due to the catenary effect of the pan, opposed by corresponding compression of the facing with the result that the mass and pan effectively coact to resist to a maximum rearward bulging of the facing in connection with pouring of wet concrete against it.

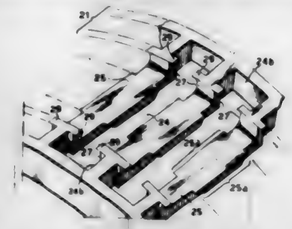
3,144,702
METHOD OF MANUFACTURING CRANKSHAFTS FROM SEPARATE COMPONENTS BY FLASH BUTT WELDING
August Theodor Wuppermann, Leverkusen-Schlebusch, Germany, assignor to Theodor Wuppermann Gesellschaft mit beschränkter Haftung, Leverkusen, Germany
Filed Sept. 25, 1961, Ser. No. 140,569
Claims priority, application Germany Oct. 15, 1960
9 Claims. (Cl. 29—6)



1. A method of manufacturing crankshafts comprising the steps of manufacturing a plurality of separate components each comprising a crank web and crank pin portions projecting from said crank web integral therewith and each pin portion having a free end face; tightly fitting tubular bodies of wear-resistant material on said crank pin portions, respectively; and welding together said separate components at said end faces of corresponding ones of their crank pin portions to form a crankshaft having bearing contact surfaces formed by said wear-resistant material.

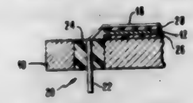
3,144,703
METHOD OF MANUFACTURING ROLL CAGES FOR NEEDLE BEARINGS
Giacomo Elasadi and Giuseppe Ficco, Turin, Italy, assignors to RIV Officine di Villar Perosa Societa per Azioni, Turin, Italy
Filed Nov. 20, 1962, Ser. No. 239,485
Claims priority, application Italy Nov. 25, 1961
5 Claims. (Cl. 29—148.4)

1. Method of manufacturing a cage for a needle bearing of the character comprising a pair of crown sections integrally interconnected by roll-separating bars defining roll-windows therebetween, and wherein each of the windows is formed at locations adjacent its end portions with a pair of chordal surfaces for guiding a respective roll on its assigned axial plane of the cage, each of said chordal surfaces having adjacent thereto a pair of circumferentially directed projections located at radially opposite sides of the pitch cylinder of the cage for radially retaining the rolls in the cage, said method comprising



the steps of: forming a cage blank with the roll-windows extending into each of the crown sections by a pre-end portion of a width smaller than the roll diameter followed by an end section of a width greater than said diameter permitting passage of a machining tool through the section; and slotting the flanks of each of said pre-end portions of each window over a radially limited extent by passing the tool through the respective end sections to thereby form said chordal surfaces.

3,144,704
METHOD OF MAKING COUPLINGS TO SUPER-CONDUCTOR CIRCUITS
Daniel J. Quinn III, Chappaqua, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 2, 1962, Ser. No. 206,623
8 Claims. (Cl. 29—155.5)



1. A method for making an electrical connection to a superconductor circuit mounted on a first side of a metal substrate which comprises

(*a*) forming a desired hole in the metal substrate and filling said hole with a filled plastic resin having a substantially identical coefficient of thermal expansion as the metal of the substrate,

(*b*) locating a conductive element within and passing through said hole separated from contact with the sides thereof by said resin,

(*c*) polishing a first side of the composite structure including plastic resin, the conductive element, and the substrate to form a planar surface across the interface therebetween,

(*d*) applying a thin insulating coating to desired areas of the polished surface of the metal substrate,

(*e*) depositing desired surface conductors on said insulating coating and said plastic resin to make direct electrical connection with the conducting element within said hole.

7. A method of making an active element of a superconductor transformer which comprises

(*a*) drilling a hole through a metal substrate in the area where it is desired for magnetic coupling to occur in the transformer,

(*b*) filling said hole with a filled plastic resin insulating material having substantially the same coefficient of thermal expansion as that of the metal,

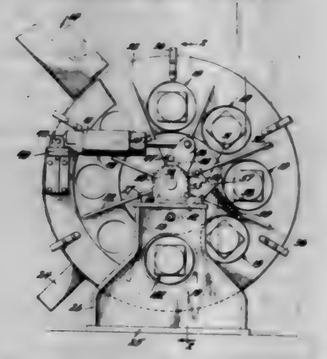
(*c*) polishing one surface of the composite structure formed by the metal substrate and the plastic resin insulating material to form a smooth planar surface,
(*d*) depositing an insulative layer on the metal portion of the polished surface of the composite structure and
(*e*) depositing a strip line on said insulative layer and polished surface of said plastic resin insulative material within the hole in the substrate.

3,144,705
METHOD OF MAKING A PULLEY STRUCTURE
John W. Anderson, 578 Broadway, Gary, Ind.
Original application Oct. 22, 1959, Ser. No. 848,031, now Patent No. 3,059,487, dated Oct. 23, 1962. Divided and this application Feb. 26, 1962, Ser. No. 175,898
4 Claims. (Cl. 29—159)



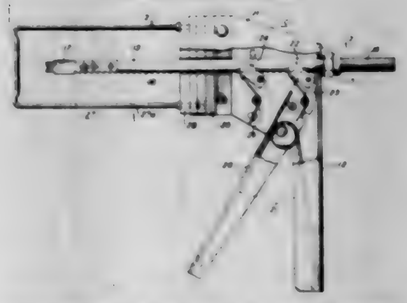
1. A method of constructing a cable-driven assembly comprising:
forming body members with a peripheral portion describing an incompletely closed curve,
forming from flat stock an elongate member with a pair of longitudinally extending substantially parallel cable-receiving grooves,
curing said elongate member to conform generally to the incompletely closed curve peripheral portion of said body members and applying the curved elongate member to the incompletely closed curve peripheral portion of said body members and securing said body members together with said elongate member therebetween,
and bending ends of the curved elongate member for holding relationship with ends of said incompletely closed curve peripheral portion to prevent relative peripheral movement therebetween.

3,144,706
APPARATUS FOR DRIVING COMPONENTS INTO A WORKPIECE
Anthony J. Vrsecky, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 9, 1961, Ser. No. 116,203
14 Claims. (Cl. 29—203)



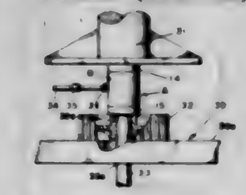
1. In an apparatus for driving a slender component into a workpiece, means for feeding components, carrier means for advancing a workpiece, guide means actuated by said carrier means and moved relative to said carrier means for receiving components from said feeding means, means for driving the components through said guide means and into the workpiece, and means actuated by the carrier means upon advancement of a workpiece into alignment with the guide means for actuating the driving means.

3,144,707
DISMANTLING TOOL
Irvin H. Hiestand, Lutherville, Md., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed June 13, 1962, Ser. No. 202,244
1 Claim. (Cl. 29—283)



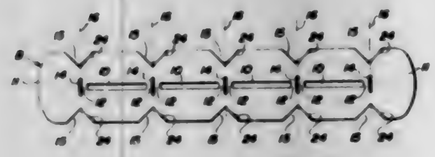
A dismantling tool comprising a housing including a handle portion, a push rod journaled for reciprocation in bearings in the housing walls, said rod having teeth on one side, a lever pivoted in the housing adjacent to the handle portion and having a driving pawl pivoted to its inner end, a holding pawl pivoted to the housing, both pawls located and oriented to cooperate with the teeth on the rod to drive or to hold the rod, springs for biasing the lever and the pawls each to a ready position, means for limiting the movement of the rod in its driven direction, and a pulling member secured to the housing, having arms extending in parallel relation to the push rod and a lateral member connecting the arms, said rod being rotatable to release its teeth from the pawls to permit retrograde movement thereof.

3,144,708
FLUID OPERATED DEVICE FOR STARTING THE MOVEMENT OF SHAFTS FROM HUBS
Albert L. Poorman, Rte. 2, Box 557, Rainier, Oreg.
Filed Nov. 29, 1962, Ser. No. 240,975
3 Claims. (Cl. 29—252)



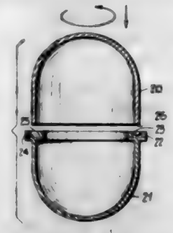
1. A device for starting the movement of shafts from hubs comprising a hydraulic press and a hammer device, said hydraulic press having a press piston and a bed adapted to support said hub, a bore through said bed for passage of said shaft and means for applying a pressure behind said press piston to maintain engagement of said hammer device with said shaft, said hammer device being interposed between said press piston and said shaft, and plunger means carried by said hammer device for imparting an impact blow against said shaft, said hammer device including a body member having means defining a longitudinal bore therethrough, said longitudinal bore having a closed top end and a bottom end including a bore for said plunger means, a hammer piston having two piston heads and being slidably supported within said longitudinal bore between an upper impact-potential position wherein one of said piston heads is adjacent said top end of said longitudinal bore and a lower impact-delivering position wherein the other of said piston heads is adjacent said bottom end of said longitudinal bore, said plunger means having an anvil portion within said longitudinal bore adjacent said bottom end thereof and an end portion adapted to seat against said shaft to transmit said impact blow to said shaft, and intermediate fluid supply motivating means including an intermediate arcuate recess in said hammer piston and upper and lower cylindrical grooves in said body member to alternately and continuously raise said hammer piston within said longitudinal bore and lower said hammer piston against said anvil portion of said plunger with sufficient speed and pressure to initiate said impact blow.

3,144,709
PREPARATION OF SHEET STOCK HAVING LONGITUDINAL INTERNAL WEAKENING THEREIN
Ants Hansson, Evanston, and Edward J. Ripling, Flossmoor, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 13, 1959, Ser. No. 846,125
9 Claims. (Cl. 29—413)



1. The method of preparing laminate metal strip material of predetermined width for expansion into tubular form, which comprises preparing a metal billet having opposite surfaces to be engaged by the rolls during rolling, said billet having a longitudinally extending internal channel and a pair of longitudinally extending internal discontinuities, the discontinuities each having a greater dimension in the direction between said roll-engaging surfaces than the like dimension of the channel, said channel being spaced transversely from each of the discontinuities by an integral metal portion of the billet, longitudinally rolling the billet with weld-preventing material in said channel and discontinuities to cause reduction of the billet to the thickness desired for the strip material and thereby producing a smooth surfaced strip in which the dimensions of the internal weld-preventing material in the direction between the roll engaged surfaces of the billet have been coordinately reduced with the said dimensions of the residues of the discontinuities being greater than the said dimension of the residue of the channel, and then applying forces to the rolled product whereby to overstress it at and effect longitudinal separation of the metal between the rolled surfaces of the strip and the residues of the discontinuities and therewith form a narrower strip of material having a width essentially equal to the transverse distance between the rolled residues of the discontinuities, the separated strip having metal laminations at its rolled surfaces, said laminations being separated by the rolled residue of the channel and being integrally connected at the edges by the rolled residues of the billet metal originally present between the said channel and the respective discontinuities.

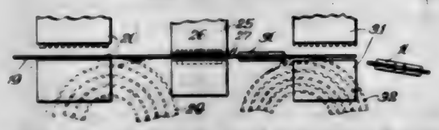
3,144,710
FRICTION SEALING
Milton Bernard Hollander, Stamford, and Michael Francis Campo-Campins, Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed May 1, 1961, Ser. No. 121,268
10 Claims. (Cl. 29—470.3)



1. The process of joining two metal members comprising the steps of providing a circular groove in a first member and a circular edge on a second member, rotating the members relative to each other, forcing the circular edge of the second member into the groove in the first member until frictional heat renders material within the groove plastic, rapidly stopping the relative rotation of the members, and allowing the plastic material within the groove to solidify and form a seal between the members.

10. The process of friction welding metal workpieces comprising urging a single metal workpiece in one direction against a plurality of metal workpieces which have adjacent coplanar portions, rotating the single workpiece and the plurality of workpieces relative to each other in contact with all said adjacent coplanar portions until the rubbing surfaces are rendered plastic by frictional heat, thereafter stopping rotation and maintaining a forging pressure between the workpieces while the workpieces cool.

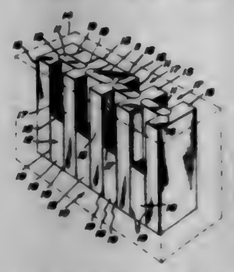
3,144,711
METHOD OF FORMING AT LEAST PARTIALLY MOLDED ELEMENTS
Robert G. Stevens, Glen Ellyn, Ill., assignor to Molding Engineers, Inc., a corporation of Illinois
Filed Oct. 5, 1959, Ser. No. 844,365
11 Claims. (Cl. 29—529)



6. The method of forming partially molded elements, comprising the steps of: providing an elongate strip of metal; moving the strip longitudinally along a preselected path defining first, second and third positions; forming a portion of said strip at said first position to define a partially formed element including means for registering said element; moving said strip to dispose said element in said second position; providing injection molding means at said second position having means for cooperation with said registering means for accurately locating said element in said second position; operating said molding means to retain said strip portion against movement and injection mold material onto said retained strip portion to form said element into a more completely formed but still partially formed element; moving said strip to dispose said still partially formed element in said third position; providing forming means at said third position having means for cooperation with said registering means for accurately locating said still partially formed element

in said third position; and operating said forming means to form said still partially formed element at said third position to define a complete partially metallic and partially molded element.

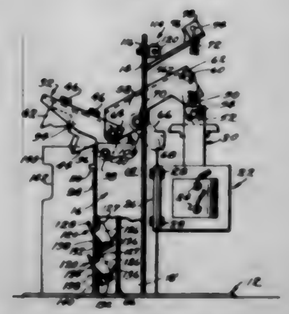
3,144,712
PREPARATION OF NON-HOMOGENEOUS METAL STOCK HAVING REGIONS OF RELATIVELY LOW NOTCH SENSITIVITY
Edward J. Ripling, Flossmoor, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 1, 1959, Ser. No. 803,483
8 Claims. (Cl. 29—528)



1. The method of producing a metal tube, which consists of forming a billet having a plurality of transversely spaced longitudinal passages therein, the roll-engaging surfaces of the billet extending essentially in planes and having alternating regions of a stronger and a softer metal across its width, the stronger metal being notch-sensitive and subject to splitting when a strip rolled from a hollow billet thereof is bent at a reentrant angle, the softer metal being less notch-sensitive and not subject to such splitting, said softer metal regions extending from one said surface of the billet to the other between adjacent longitudinal edge surfaces of said passages, the harder metal being located between each said passage and the adjacent said surfaces of the billet, reducing the thickness of the billet with weld-preventing material in said passages and therewith extending its area and correspondingly reducing the thickness of the weld-preventing material, whereby to form a connected body having laminations of the stronger metal separated by the residue of the weld-preventing material, said laminations being connected at the edges of the said residue by said softer metal, and opening out the laminations to form a tube.

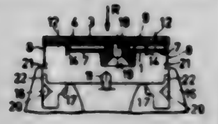
3,144,713
SOLENOID OPERATED CAN OPENER
Karl Ledergerber and Max Engster, Wadley, Ga., assignors to Fulghum Enterprises, Wadley, Ga., a corporation of Georgia
Filed July 27, 1962, Ser. No. 212,986
6 Claims. (Cl. 30—4)

1. In a can opener: a frame; a solenoid fixed with respect to said frame having a vertically movable plunger biased to a position above the solenoid; a can-opening lever arm provided with depending punch means secured near one end pivoted to said frame near its other end for rotation about a horizontal axis, said one end being remote from said solenoid; a first link pivoted to the upper end of said solenoid plunger for rotation about a horizontal axis; a second link pivoted near one of its ends to said first link and near its other end to said other end of said can-opening arm; a third link pivoted to said frame between said can-opening arm and said solenoid for rotation about a horizontal axis and pivoted to said second link intermediate the ends thereof; a solenoid-actuating switch fixed with respect to said frame, said switch having an actuating plunger projecting therefrom; a switch lever mounted for pivotal movement toward and away from said actuating plunger and for sliding movement transversely of said actuating plunger and having a plunger-engaging projection thereon; movable can-operated means associated with said switch lever for rotating said switch lever in a direction such that said projection engages said switch plunger when said means is moved by a can; means associated with said switch lever



and operable, when said can-opening arm reaches its can-opening position, to slide said switch lever transversely of said actuating plunger whereby said projection releases said actuating plunger; and biasing means, operable when said can-operated means is released, for rotating said switch lever away from said actuating plunger and for sliding said switch lever transversely of said actuating plunger into its original position with the projection thereon poised for engagement with the actuating plunger.

3,144,714
CUTTING HEAD FOR DRY SHAVER
Louw Arjen Boiana, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,665
Claims priority, application Netherlands Dec. 4, 1961
6 Claims. (Cl. 30—43.92)

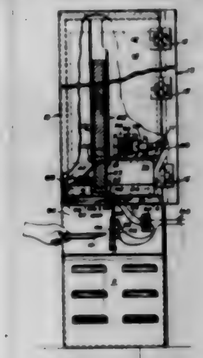


1. A cutting head for a dry shaver having a reciprocating driving means comprising a housing, a fixed cutting plate, a movable cutting plate provided with cutting teeth and notches at opposite ends thereof, a substantially U-shaped frame having a first pair of legs thereof removably connected to said housing, a second pair of legs on said frame insertable in the notches of said cutting plate, said frame being rigidly connected to said fixed cutting plate, the body of said frame being located between said fixed and movable cutting plates, and the longitudinal edges of said fixed plate constituting guides for said movable cutting plate.

3,144,715
BUTTER PAT DISPENSERS
Ralph G. Page, Peabody, Mass.
Filed Apr. 9, 1963, Ser. No. 271,616
12 Claims. (Cl. 31—21)

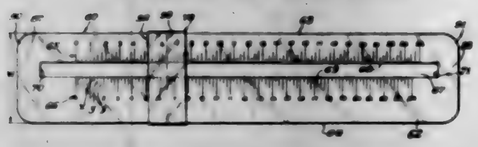
1. A butter pat dispenser comprising a vertically extending tube for receiving a column of butter, a frame supporting said tube and having an opening into which

the bottom of said tube extends, a slide assembly slidably supported by said frame for movement under said tube bottom, means attached to said assembly at one side of said tube bottom and normally located under said bottom for supporting the bottom of a column of butter in said tube, a bare wire insulatedly attached to said assembly below the level of said tube bottom and above the level of said supporting means and extending perpendicular to the direction of movement of said assembly and located normally at the opposite side of said tube bottom, auxiliary butter column supporting means slidably supported by said frame and having a butter penetrating edge generally parallel to said wire below the level of said tube bottom and above the level of said wire and located nor-



mally at said opposite side, a solenoid attached to said frame and having means including a plunger so attached to said assembly that when energized said solenoid moves through said last mentioned means said assembly in a direction to move said first mentioned supporting means from under said tube bottom, and to move said wire across the space under said tube bottom, means including said assembly for causing said auxiliary means and said edge to move in said last mentioned direction when said assembly starts to move in said last mentioned direction, means for supplying electric current to energize said solenoid and to heat said wire, and means for moving said assembly in a direction opposite to said last mentioned direction when said solenoid is deenergized.

3,144,716
DRIVER'S DAILY LOG COMPUTER
John L. Cich, 2639 N. Melvina Ave., Chicago, Ill.
Filed June 23, 1959, Ser. No. 822,319
3 Claims. (Cl. 33—107)



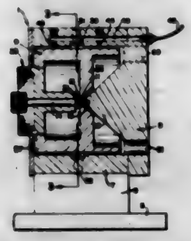
1. A measuring device having an elongated rule body with graduations thereon, a slider movably mounted thereon and having an index for registry with respective graduations, said body having top and bottom edges in tight engagement with opposing portions of said slider, said body having an elongated slot between said edges and being transversely flexible to reduce the width thereof to disengage said edges from said portions and accommodate easy sliding movement of the slider lengthwise of the rule body while said body is pressed into engagement with the subject to be measured.

3,144,717
CHILD HEIGHT MEASURING AND STATUS RECORDING DEVICE
Robert L. B. Gumaelius, 38—31 218th St., Bayside, N.Y.
Filed Oct. 11, 1962, Ser. No. 229,858
6 Claims. (Cl. 33—138)



1. A device of the character defined comprising a body composed of a plurality of walls arranged one upon the other, at least part of said walls being secured together, one wall constituting a front wall, another a back wall, spool supporting members projecting from the front wall, means forming a rotatable mounting of a spool on said members, an elongated tape characterized with inch makings thereupon wound upon said spool, said front wall having spaced apertures, through which the tape passes in withdrawing the tape from said spool and re-winding the tape thereon, said device including means facilitating attachment of the device to a support, a tab at the free end portion of the tape forming means facilitating withdrawal of the tape from the spool of said device, and said back wall including means for engaging and supporting the tab thereon when the device is not in measuring use.

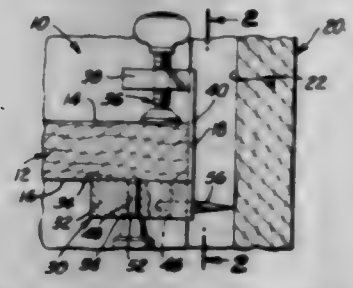
3,144,718
RADIAL PLAY GAUGE
Paul D. Dreher, Keene, N.H., assignor to Miniature Precision Bearings, Inc., a corporation of New Hampshire
Filed Apr. 5, 1961, Ser. No. 102,961
5 Claims. (Cl. 33—174)



1. A radial play gauge for measuring the radial play of a ballbearing assembly having an inner and outer race separated by ball elements lying in a common plane, comprising arbor means for affixing an end face of said inner race to said gauge, a rotor surrounding said outer race movable vertically and rotatable with respect to said gauge and positionable so that its outer peripheral surface is symmetrical about the common diametral plane of the ball elements, clamping means for clamping an end face of said outer race to said rotor, centering means for applying a predetermined resultant force on

the upper part of said rotor in a direction in the common diametral plane of the ball elements, positioning means for applying a balancing force to position said rotor with respect to said gauge wherein its outer peripheral surface is symmetrical about the common diametral plane of the ball elements, a load means for applying a predetermined resultant load on the bottom part of said rotor in a direction in the common diametral plane of the ball elements, and an indicator means engaging said rotor for measuring vertical movement of said rotor under influence of said load means.

3,144,719
JIG FOR LOCATING CABINET LATCH COMPONENTS OR THE LIKE
Philip J. Ceravolo, 2924 Vaquero Ave., Los Angeles, Calif.
Filed Feb. 8, 1963, Ser. No. 257,820
3 Claims. (Cl. 33—194)



1. In a jig for locating mounting screws for the components of a two-component cabinet latch, or the like, which latch components are to be mounted on a surface of a cabinet and on the inner surface of a hinged door of the cabinet, respectively, the combination of:

(*a*) a jig body having a surface seatable against said cabinet surface;

(*b*) means on said jig body for locating it in a predetermined position relative to one edge of said cabinet surface;

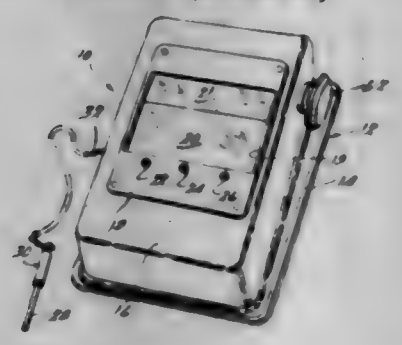
(*c*) first locating means for locating on said cabinet surface the proper position for a screw for attaching to said cabinet surface the latch component which is to be mounted thereon;

(*d*) said first locating means being oriented in a direction perpendicular to said jig-body surface and extending through said jig-body surface;

(*e*) second locating means carried by said jig body, and engageable by said door surface when said door is closed, for marking on said door surface the proper location for a screw for attaching to said door surface the latch component which is to be mounted thereon; and

(*f*) said second locating means being oriented in a direction parallel to and being spaced from said jig-body surface.

3,144,720
TEACHING MACHINE
Leslie L. Kehl, 15020 Fairlane, Livonia, Mich.
Filed Apr. 6, 1962, Ser. No. 185,657
1 Claim. (Cl. 35—9)



A manually operable teaching machine comprising an enclosure having a relatively large aperture therein, a pair of rolls in said enclosure on opposite sides of the aperture therein, a programmed imperforate tape on one of said rolls advanceable in one direction only past the aperture in said enclosure onto the other of said rolls, said tape having questions with multiple choice answers thereto appearing simultaneously within the aperture in said enclosure, the multiple choice answers to the questions being in laterally spaced relation relative to the direction of movement of said tape, a plurality of relatively small apertures in said enclosure in laterally spaced relation relative to the direction of movement of said tape so as to be aligned with the multiple choice answers to the questions, and a punch insertable through a selected one of said relatively small apertures for perforating and permanently marking said tape, said tape having the correct answer to the question thereon which appears upon advancement of said tape.

3,144,721
HANGER DISPLAY ASSEMBLY
Harold Woloz, Culver City, Calif., assignor to Rube F. Hoffman Co., Los Angeles, Calif., a corporation of California
Filed Jan. 13, 1961, Ser. No. 82,640
5 Claims. (Cl. 35—56)



1. A display assembly including: a wire-like cross-bar, a wire-like hook-shaped supporting member formed rigid with said cross-bar and extending at right angles thereto, a folded strip of material supported at its apex on said cross-bar and including a central aperture at its apex through which said hook-shaped supporting member extends, a measured quantity of fabric folded to simulate a completed garment and having one end extending between the folds of said strip of material, and staple means extending through said folded strip of material for supporting the measured quantity of fabric between the folds of said strip of material.

3,144,722
CUSHION HEEL CONSTRUCTION FOR WOMEN'S SHOES
Anthony Cortina, 56 Huntington St., New London, Conn.
Filed Mar. 20, 1963, Ser. No. 266,618
13 Claims. (Cl. 36—36)



1. A quickly replaceable heel structure for women's shoes comprising a woman's shoe having a heel-supporting base mounted to depend to an intermediate depth below the heel area of a woman's shoe, said supporting

base being central bored to receive and support in vertically sliding fit the vertically extending shank portion of a removable heel insert, said shank portion extending to a vertical position substantially less than the total bore height to provide a space above the upper end of said shank portion, a spacing element comprising a solid uniform body disposed in the upper end of said bore shaped to the cross section thereof and sized to a selected spacing depth, said shank portion bearing against said spacing element at its upper end and supporting a non-resilient heel-wearing layer at its lower end, said heel element being supported in total wearing height in said heel assembly by said spacing element, and laterally removable clamping means mounted about and securing said shank portion within the bore of said depending heel base.

3,144,723

CONTROL SYSTEM FOR TANDEM UNCONNECTED VEHICLES WHEREBY REAR VEHICLE CONTROLS WORK MEANS OF THE FORWARD VEHICLE

John W. Carter, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Mar. 1, 1961, Ser. No. 92,669
4 Claims. (Cl. 37—129)



4. In a radio operated remote control system the combination comprising;

an earth moving vehicle having a movable member employed to perform an earth conditioning function;

a self-motivating pusher vehicle for assisting said earth moving vehicle by furnishing added motivating force from behind;

radio signaling means on said pusher vehicle; and

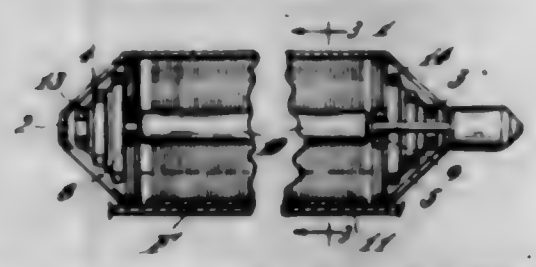
means on said earth moving vehicle responsive to said radio signaling means to position said movable member.

3,144,724

IRONING APPARATUS

Herbert J. Wollner, Belmont, Mass., assignor to ACH Fiber Service, Inc., Boston, Mass., a corporation of Massachusetts

Filed July 9, 1962, Ser. No. 208,198
2 Claims. (Cl. 38—69)



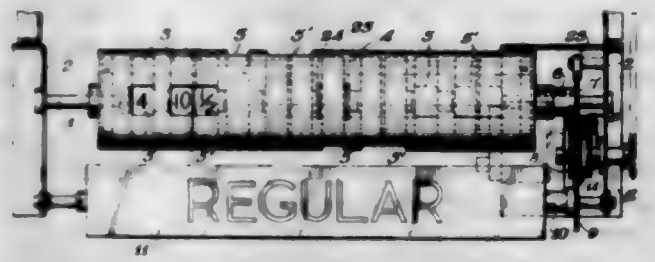
1. For ironing material such as fabric, apparatus comprising a housing which is curved in cross-section about a longitudinal axis, a rotor in the housing having an axis approximately parallel to said axis, and a brush on said rotor, the housing having a longitudinal slot in one side through which said material may be brushed, the housing having an inlet through which air may flow to the material presented to said slot, and means to heat said air, said brush comprising bristles mounted on the rotor so that their free ends wipe sidewise over the inner periphery of the housing and over the fabric at said slot, said bristles being much longer than the distance from the rotor to said periphery so that only the sides of the bristles wipe over the fabric, whereby the fabric is ironed without being upbraided by the ends of the bristles.

3,144,725

SELECTIVE PRICE-INDICATING DEVICE

Robert G. Spalding, Bracknell, England, assignor to Symington Wayne Corporation, a corporation of Maryland

Filed Feb. 12, 1962, Ser. No. 172,607
9 Claims. (Cl. 40—61)



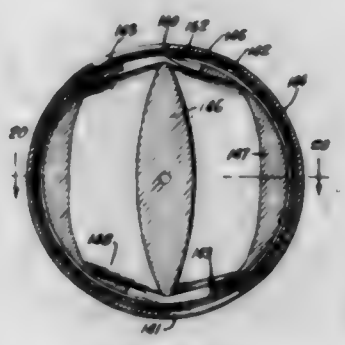
1. A selective price indicating device for a multi-product dispenser comprising a relatively stationary shaft, a number of sets of price indicating drums rotatably mounted along the length of said stationary shaft, a frontal display position arranged at one angular orientation about the axis of said shaft, said price indicating drums having a full range of price indicating numbers about their peripheries, disengageable means maintaining said drums normally fixed relative to said shaft and permitting their angular orientation to be varied relative to it whereby the prices that they display at said frontal display station may be varied, an index tube rotatably mounted about said shaft and said drums, a number of index frames on said tube respectively longitudinally aligned with said sets of drums and angularly displaced from each other about the periphery of said tube, and controllable drive means connected to said tube for rotating it and selectively stopping it with a selected one of said index frames angularly aligned at said frontal display station with one of said sets of drums for displaying the price upon it.

3,144,726

ANIMATION DEVICE

Ronald D. Alleman, Fort Baker, Calif. (2nd Army, 497th Eng. Co., Port Const., Fort Belvoir, Va.)

Filed Feb. 5, 1962, Ser. No. 171,321
1 Claim. (Cl. 40—81)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A device for viewing in succession a series of indicia-bearing cards, said device comprising:

(*a*) a stationary dual channel card-holding magazine for two stacks of indicia-bearing cards, each of said channels being open at each end and having card exit portals and card entry portals, the entry portals of one chamber being adjacent to the exit portals of the other chamber;

(*b*) an ellipsoid member separating the two channels of said card-holding magazine and causing the stacks of cards to be flared for easy pick-up of successive cards;
(*c*) a cylinder surrounding said stationary magazine and rotatable thereabout, said cylinder having alternately transparent and shuttered sectional areas;
(*d*) card withdrawal and conveyor means including a plurality of internally projecting card contact tabs which contact the cards only at the exit and entry portals, said tabs being so disposed as to turn about the card magazine with the rotating cylinder and to transfer cards from the exit portals of one chamber of the magazine to the entry portals of the other chamber, such transfer taking place while the shuttered portion of the rotatable cylinder covers the transfer from the viewers sight;
(*e*) card deposito means including card guides positioned on the magazine over the entry portals so as to force the cards into the chamber;
(*f*) turning means for said rotatable cylinder;
(*g*) a case enclosing said magazine and rotatable cylinder and mounting said rotatable cylinder; and
(*h*) a viewing aperture in said case so disposed as to allow a view of successive cards.

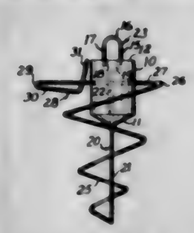
3,144,727
EXTRACTOR AND DEFORMABLE PLASTIC CARTRIDGE
Charles J. De Caro, Orange, Conn., and Rowland J. Kopf, Rocky River, Ohio, assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Jan. 31, 1956, Ser. No. 563,444, now Patent No. 3,048,849, dated Aug. 14, 1962. Divided and this application Aug. 14, 1962, Ser. No. 217,513
5 Claims. (Cl. 42—25)



1. In an explosive actuated assembly, the combination comprising apparatus having barrel and breech portions for defining a cartridge chamber and also comprising a cartridge containing an explosive charge for generating an actuating gas upon firing in said apparatus having said breech portion together with an extractor axially movable to a first position to form said chamber, said cartridge including a breech plug of deformable plastic extending forwardly from the cartridge rear end over at least most of the cartridge length and being slidably receivable in said chamber, said plug forming at least at the cartridge exterior an expandable sidewall extending longitudinally and circumferentially for sliding contact in at least one of said breech and said barrel portions and for expansion into sealing contact with said portions and longitudinal binding contact with said extractor, said extractor having longitudinally extending gripping means for deforming and receiving a deformed part of said plastic plug at and forwardly of said end upon said expansion, said breech portion and extractor being axially retractable from said first position to a second position for extracting the cartridge from said barrel portion.

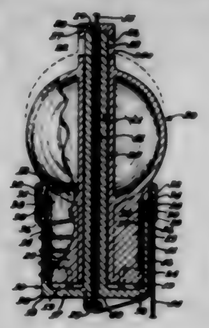
3,144,728
LURE RETRIEVER
Marvin Stevens, 4903 Buford Highway, Norcross, Ga.
Filed Feb. 19, 1962, Ser. No. 174,095
4 Claims. (Cl. 43—17.2)

1. A fish lure retriever comprising a weight, a tapered helix, said helix being mounted by both ends coaxially on the weight, the narrowed portion of said helix extending below the lower portion of said weight, a guide extending from said weight substantially perpendicularly to the axis



of said weight, and suspension means on one end of said weight.

3,144,729
AUTOMATIC RELEASING FISHING FLOAT
Jonas Jonasson, 418 32nd Ave. E., Bradenton, Fla.
Filed Dec. 27, 1962, Ser. No. 247,619
3 Claims. (Cl. 43—43.11)



1. An automatic releasing drop line fishing float comprising in combination:
(A) a drop line spool having,
(B) a diameter portion,
(C) a top flange portion,
(D) a bottom edge,
(E) a bottom,
(F) and a bore surface inside thereof,
(G) a centrally located upstanding stem formed integral with said bottom,
(H) there being openings formed in said spool immediately above and adjacent to said bottom,
(I) a spherical float member having a centrally located bore axially slidable on the outside diameter of said stem,
(J) a plurality of downwardly extending spool guides formed integral with said float member having
(K) peripheral outer surfaces slidingly engaging in the bore of said drop line spool,
(L) a stop on the upper end of said stem adapted to engage said spherical float member to arrest its upward motion on said stem,
(M) there being a fishing line bore extending axially through said stem and the bottom of said drop line spool,
(N) downwardly depending integral locking lugs at diametrically opposite sides of said spherical float spaced radially outwardly from a pair of said spool guides so as to form line receiving slots,
(O) upper and lower bridge pieces formed integral with said drop line spool extending across the outside face of said locking lugs so as to form a line slot extending across and to each side of said locking lugs,

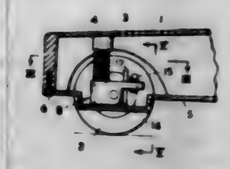
(P) and there being recesses formed in the bore of said drop line spool which are adapted to slidably receive said locking lugs so that the lower ends of said locking lugs move to a position above said line slots when the float is moved to upper position relative to said spool and said lower ends moving down below said line slots when the float is in lowered position relative to said spool.

3,144,730
TRANSPARENT BOWL DISPLAY
John Clifford Johnson, 1425 H St. NW., Apt. 413, Washington, D.C.
Filed May 16, 1962, Ser. No. 195,180
3 Claims. (Cl. 46—91)



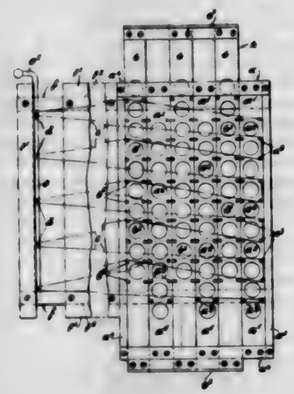
1. An ornamental device comprising a container having a transparent wall visibly enclosing a body of water, said water having dissolved therein carbon dioxide gas which is formed by the reaction of a water soluble acid substance and a water soluble carbonate salt, said container having disposed therein a plurality of irregularly shaped pellets formed of water insoluble plastic to which carbon dioxide gas bubbles evolved from said solution are adherent, said pellets having a specific gravity so slightly exceeding that of the liquid as to tend to sink in the water, but less than that of water when made slightly buoyant by attached bubbles, whereby said pellet bodies rise and fall for an extended time period at varying rates in the water as gas bubbles evolved in the water attach themselves to said pellets, float the pellet bodies upwardly to the water surface, where the adherent bubbles are discharged and then sink.

3,144,731
MODEL VEHICLES
Arthur Baxter Jones, East Cowes, Isle of Wight, and Howard W. Fairbairn, Darlington, England, assignors to The Mettoy Company Limited, London, England, a British company
Filed Aug. 7, 1961, Ser. No. 129,718
2 Claims. (Cl. 46—201)



1. A model vehicle comprising a body, a pair of spaced upright pivots on said body, a wheel supporting member mounted on each of said pivots, said member being free to oscillate about the axis of said pivot and to move axially along said axis, a vehicle supporting wheel rotatably mounted on each supporting member, a connecting member interconnecting said supporting members for movement in unison about said axes independently of any steering gear, a spring urging each of said supporting members downwardly along the axis of said pivot, whereby said body is resiliently supported on said wheels, and a cam fixed to said body, said cam being engageable by said wheel supporting members to deflect one of said supporting members upwardly along said axis, against the action of its respective spring, when said supporting members move from a central position about said pivots, said springs tending to return said supporting members to the central position.

3,144,732
APPARATUS FOR USE IN THE CULTIVATION OF PLANTS
John Harold Alfred Beacon, Tewkesbury Road, Eckington, near Pershore, England
Filed Aug. 1, 1962, Ser. No. 213,935
1 Claim. (Cl. 47—34.13)



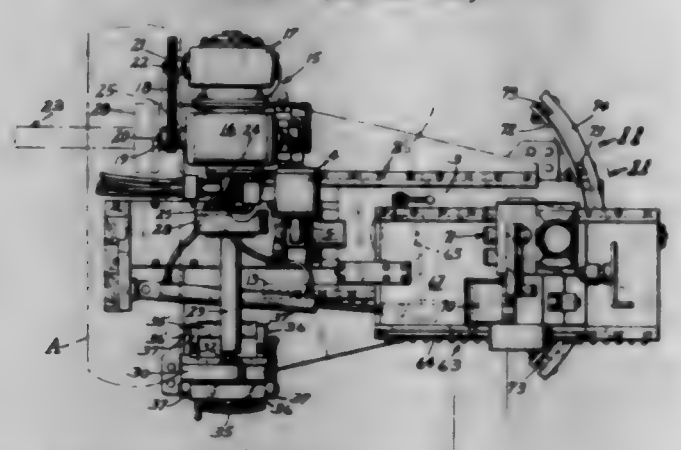
Apparatus for horticultural use comprising, in combination, a base including a plurality of spaced strip members immovable relative to each other and each defining a row of apertures, a slide including a plurality of spaced strip members immovable relative to each other and each defining a row of apertures, the strips of the slide being juxtaposed to the strips of the base in an alternate arrangement wherein all of the strip members are coplanar, the slide strips being arranged to slide relative to the base strips, pairs of upwardly directed pins, each of said pairs being connected to said strip members between the adjacent apertures of said rows of apertures with the pins of each pair spaced to position them contiguous to the edges of their respective strip member, the slide having a first position wherein the apertures are aligned in rows transverse to the direction of slide movement and there is a transverse row of pins between each transverse row of apertures and a second position reached after a movement equal to twice the distance between the centers of any two adjacent apertures taken in the direction of said movement and wherein the end pins on the slide are staggered in the direction of said movement relative to the end pins on the base and the rest of the pins form a plurality of transverse rows, whereby undulating form is imparted to a single strip of flexible material wound, when the slide is in said first position, in zigzag formation about and inserted between a plurality of said transverse rows of the pins when the slide is moved from said first position to the second position, portions of the undulations being staggered with respect to the corresponding portions of the undulations of the next successive part of the strip to form box-like cells.

3,144,733
CLIP CONSTRUCTION
Henry A. Balinski, Hoffman Estates, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 26, 1961, Ser. No. 161,963
15 Claims. (Cl. 50—481)



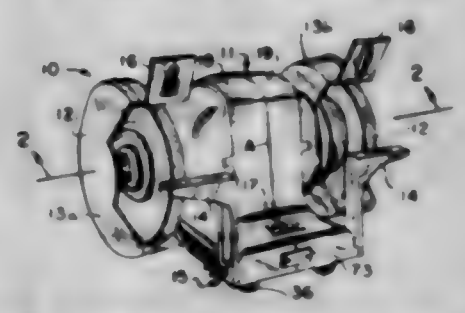
1. A clip formed from a blank of sheet metal includ- two portions and adapted for accommodating adjacent panels, said clip comprising a pair of angularly disposed pockets for receiving adjacent edge portions of such panels; each pocket being substantially channel-shaped in cross section and including a base portion for contacting the edge surface of an accommodated panel, and a pair of substantially parallel elongated leg portions projecting from said base portion for engaging opposite planar surfaces of such panels; a first leg portion of one pocket being formed from one portion of said blank and being generally coplanar with one portion of the other pocket; the remaining leg portions and the base portions of said pair of pockets being struck from the other portion of said blank; said remaining leg portions including second, third and fourth leg portions; said second and third leg portions each including a pair of spaced generally coplanar elongated side elements joined to said base portions, and a bridging element joining the distal of said side elements; said fourth leg portion being struck at least in part from the opening delimited by said side elements and bridging element of said third leg portion; said third leg portion being struck at least in part from the opening delimited by said side elements and bridging element of said second leg portion; and each leg portion including a distal edge extending at least a major portion of the width of said clip.

3,144,734
TIRE BUFFING AND TRUING MACHINE
Rudolph E. Olson, Minneapolis, Minn., assignor to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota
Filed June 13, 1963, Ser. No. 287,567
4 Claims. (Cl. 51—33)



1. A tire buffing machine comprising in combination,
(*a*) a base which defines a longitudinally disposed horizontal guideway,
(*b*) a slide member mounted and guided in said guideway,
(*c*) means for imparting limited longitudinal movements to said slide member in said guideway in opposite directions,
(*d*) means defining superstructure carried by said slide member and defining a second horizontally disposed guideway,
(*e*) means adjacent the inner end of said second-mentioned guideway pivotally securing said superstructure for swinging movements of the outer end thereof about a vertical axis,
(*f*) a second slide member in said second guideway,
(*g*) means for imparting longitudinal movements in opposite directions to said second-mentioned slide member in said second-mentioned guideway,
(*h*) a mounting standard carried by said second-mentioned slide member and having a power-operated buffing head on its upper end which rotates about a horizontal axis,
(*i*) a rigid column carried by said base in longitudinally spaced laterally offset relation to said first-mentioned guideway,
(*j*) a tire-mounting power head carried by the upper end of said column and including a horizontally disposed laterally outwardly projecting shaft for rotation on a horizontal axis,
(*k*) means journalling said tire-mounting power head for limited swinging movements of the projected end of the said shaft about a vertical axis,
(*l*) and means releasably locking and supporting the projected end of said shaft in its operative position wherein the axis thereof is normal to the longitudinal axis of said first-mentioned guideway.

3,144,735
BENCH GRINDER
George W. McCarty, Towson, and Martin I. Sheps and Lawrence H. Bowen III, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Mar. 7, 1963, Ser. No. 263,567
7 Claims. (Cl. 51—166)



1. A stationary abrasive machine, comprising:
(*a*) a split-housing including a pair of completely identical mating halves interchangeable with each other, and join together along a common vertical midplane;
(*b*) means to detachably secure said mating halves together;
(*c*) a motor including a stator and a rotor arranged concentrically within said stator;
(*d*) means to locate and trap said stator between said mating halves as said halves are secured together;
(*e*) said rotor having a shaft arranged perpendicularly with respect to said common vertical midplane;
(*f*) a bearing retained within each of said pair of mating halves for journaling said rotor shaft within said housing, each of said bearings having an inner race and an outer race;
(*g*) said shaft having respective end portions projecting beyond each of said mating halves of said housing;
(*h*) a rotating abrasive member secured to each of said respective end portions of said shaft;
(*i*) means to clamp the inner race of each bearing against a respective shoulder formed on said rotor shaft;

(*j*) a pair of guard members, one for each of said abrasive members; and

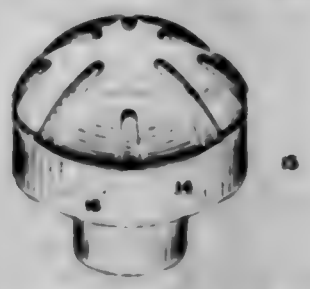
(*k*) means to clamp the outer race of at least one of said bearings against the respective half of said housing and adjacent said respective guard member.

3,144,736
SPINDLE ASSEMBLY
Gerald R. Rusk, Maumee, and Frederick M. Hagquist, Toledo, Ohio, assignors to The Freeman Supply Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 12, 1961, Ser. No. 137,669
5 Claims. (Cl. 51—168)



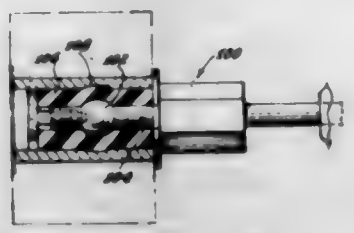
1. A spindle assembly adapted for mounting on a drive shaft, for carrying a tool member, and for transmitting power from the drive shaft to the tool member, said assembly comprising in combination, a female spindle having a tapered recess therein with a closed small end and an open large end, and having a threaded opening at the small end of the recess, the recess and the threaded opening being coaxial with said spindle, means associated with said spindle and releasably engageable with the drive shaft, a male spindle including a shaft having a threaded end engaged in the opening of said female spindle, a tapered body rotatably and slidably mounted on said shaft and frictionally engaged in said recess, and spaced stop members affixed to said shaft, one on each side of said body, and effective to limit longitudinal movement of said body relative to said shaft.

3,144,737
ALUMINUM FOIL LENS GRINDING PAD
Kenneth D. Fass, Henrietta, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 27, 1962, Ser. No. 226,641
1 Claim. (Cl. 51—185)



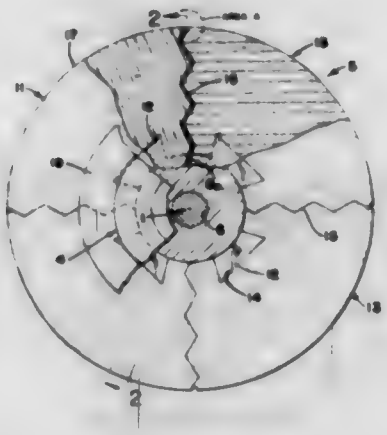
An overlay for a curved tool for grinding lens blanks, comprising a sheet of soft aluminum foil having a peripheral configuration approximating that of the tool, a coating of adhesive on one side of the foil for adhering the foil to the tool, and said foil being partially cut away throughout the area thereof to form a slot-like configuration for facilitating a smooth fit of the foil on the curved surface of the tool and for conveying a slurry of grinding media over the surface of the tool.

3,144,738
ABRADING APPARATUS
Aleck Block, Los Angeles, Calif., assignor to Merit Products, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 6, 1961, Ser. No. 93,505
6 Claims. (Cl. 51—193.5)



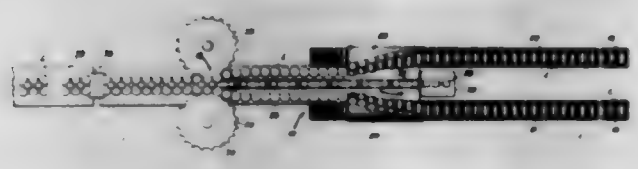
1. In combination for providing an abrading action, a plurality of flaps each having an abrasive material on at least one face of the flap, each of the flaps having a particular edge defining one extremity of the flaps, first means disposed in cooperative relationship with the flaps for retaining the flaps in an annularly stacked relationship defining a hollow center, there being an internally disposed groove in the first means, means made from an elastically expansible material for expansion into the groove in the first means and disposed within the hollow center defined by the first means for holding the first means and the flaps for rotation without extending beyond the particular edges of the flaps, and means disposed in cooperative relationship with the elastically expansible means for adjustably controlling the expansion of the expansible means into the groove in the first means.

3,144,739
GRINDING WHEEL
William J. Brutvan, 12805 Cedar Ave., Cleveland, Ohio, and Carl F. Foster, 29366 Cresthaven, Willowick, Ohio
Filed Feb. 5, 1962, Ser. No. 170,940
8 Claims. (Cl. 51—206.5)



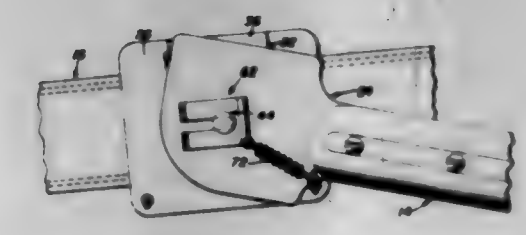
8. A grinding wheel having a hub and a shaft and comprising a multiplicity of radially interlocked segments of grit, each segment being of a different grade of grit and being secured to said shaft through said hub, and substantially radial zag-zagged grooves between said interlocking segments of grit intermediate the sides thereof for passage of coolant fluid therethrough, and a coolant fluid passageway to said radial grooves from said hub and shaft.

3,144,740
CONTINUOUS ORIENTING AND PACKAGING MACHINE FOR CANS OR THE LIKE
Gerald T. Erickson and Richard Erickson, Westport, Conn., assignors to Snap Pac Corporation, Houston, Tex.
Filed Oct. 20, 1961, Ser. No. 146,641
3 Claims. (Cl. 53—48)



2. A machine for transporting, orienting and packing correctly oriented cans in a clip-type can carrier, the machine comprising; a can inserting station, a conveyor for carrying two rows of cans while in a horizontal position toward the can inserting station, can orienting means including means for rotating said cans while being transported by said conveyors and in a horizontal position and arresting means for stopping the rotation of the cans when they reach an oriented position, can righting means to right the cans from said horizontal position to an upright position, means for feeding a plurality of clip-type can carriers between rows of cans to the can insertion station in synchronism with the movement of cans, a further conveyor for moving the correctly oriented upright cans through said insertion station, and opposed pocketed insertion wheels at the insertion station for inserting each of the correctly oriented cans into the continuously fed can carrier clips moving between the rows of cans.

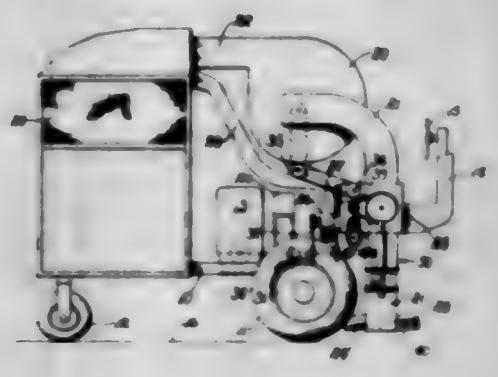
3,144,741
SULKY HITCH
Gosta S. Andersson, P.O. Box 104, Upper Jay, N.Y.
Filed July 16, 1963, Ser. No. 295,314
8 Claims. (Cl. 54—23)



1. In a sulky hitch for releasably interlocking a sulky shaft with a sulky saddle, a saddle plate unit, a stud rigid with and projecting from said saddle plate unit, a shaft plate, said shaft plate being rotatably received on said projecting stud, and means for locking said shaft plate on said stud during an initial predetermined rotation of the saddle plate unit relative to the shaft plate.

3,144,742
COTTON GLEANER
Arthur Zeimer, 630 N. Irwin, Hanford, Calif.
Filed Oct. 23, 1961, Ser. No. 146,856
8 Claims. (Cl. 56—12)

1. A gleaner for cotton fields comprising a vehicle; a prime mover mounted thereon; a blower mounted in the vehicle driven by the prime mover; duct means providing an inlet and an outlet to and from the blower, said inlet depending from the vehicle; and a pair of laterally opposed, longitudinally spaced gleaner heads extended from and in pneumatic communication with the inlet duct, each of the gleaner heads having walls defining an entry



port disposed to direct an air stream entering through the port in a substantially horizontal direction.

3,144,743
TOPPING DEVICE FOR SUGAR CANE HARVESTER
James Kenneth Gaunt, North Essendon, Victoria, James Wood, Sunshine, Victoria, and John Errington Douglas, Reservoir, Victoria, Australia, assignors to Massey-Ferguson (Australia) Limited, Victoria, Australia, a company of Victoria, Australia
Filed Mar. 27, 1961, Ser. No. 98,536
Claims priority, application Great Britain Mar. 31, 1960
5 Claims. (Cl. 56—17)



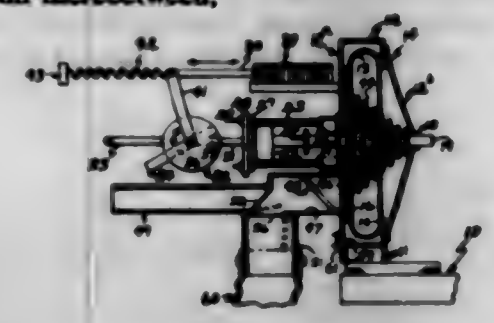
1. A topping mechanism for a sugar cane harvester comprising, in combination, an elongated arm, a rotary cutter journaled in a generally horizontal plane at the forward end of said arm, a pair of elongated gathering components mounted on said frame one above and the other below said cutter and diverging forwardly in generally horizontal planes so as to define a path which converges toward said cutter, each of said components carrying endless conveyors driven along said components so as to run along said path toward said cutter, said conveyors crossing one another at a point spaced rearwardly of the effective cutting arc of said cutter, and means driving said cutter so as to cut transversely of said path toward the lower gathering component.

3,144,744
COTTON HARVESTER
William A. Gemgnet, Cube, Ala., and George D. McKenzie, 115 Magnolia Ave., Evergreen, Ala.
Filed July 3, 1961, Ser. No. 121,483
9 Claims. (Cl. 56—31)

1. In a cotton harvester,
(*a*) a cotton conveyor tube,
(*b*) a cotton receiving housing having an inlet in communication with the discharge end of said cotton conveyor tube, said receiving housing being provided with a cotton discharge passageway,

(c) a bellows housing in communication with said receiving housing,

(d) a plurality of elongated, laterally spaced partition members separating said receiving housing from said bellows housing and inclined relative to the direction of movement of the air and cotton, said partition members being generally parallel to each other and spaced from each other a distance to permit the flow of air therebetween and restrain the movement of cotton therebetween,



(e) a movable diaphragm mounted in said bellows housing whereby upon movement of said diaphragm in one direction air is drawn from said receiving housing through said partition members into said bellows housing and upon movement of the diaphragm in the other direction air is forced from said bellows housing into said receiving housing,

(f) a check valve separating said conveyor tube from said receiving housing and permitting flow of air and cotton inwardly of said receiving housing only,

(g) a check valve mounted in position to permit flow of air and cotton outwardly of the discharge passageway of said receiving housing only, and

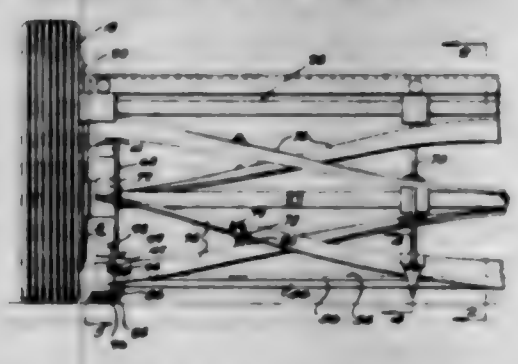
(h) quick acting means to move said diaphragm intermittently in said one direction and then in said other direction whereby cotton is drawn into said receiving housing in response to movement of said diaphragm in said one direction and cotton is forced out of said receiving housing in response to movement of said diaphragm in said other direction.

3,144,745

MOWING APPARATUS

David L. Sharpe, 1113 Corn Tassel Trail, Martinsville, Va.

Filed Sept. 27, 1963, Ser. No. 312,876
9 Claims. (Cl. 56—249)



6. A lawn mower of the reel type, the lawn mower comprising:

(a) a frame;

(b) ground wheels on the frame;

(c) a blade reel mounted in the frame, including a plurality of blades;

(d) a bed knife secured to the frame beneath the blade reel, including an elongated central section;

(e) the central section having a plurality of notches of a selected configuration formed therein at spaced locations; and

(f) pick-up projection means conforming to said selected configuration extending outwardly from the blades and passing through the bed knife notches.

7. A lawn mower of the reel type which includes a frame, ground wheels on the frame, a blade reel assembly including blades and end sprockets, and a bed knife which has a central section located in a horizontal plane the combination of:

(a) retractable edging blade means secured to the blade reel sprocket adjacent one end thereof; and

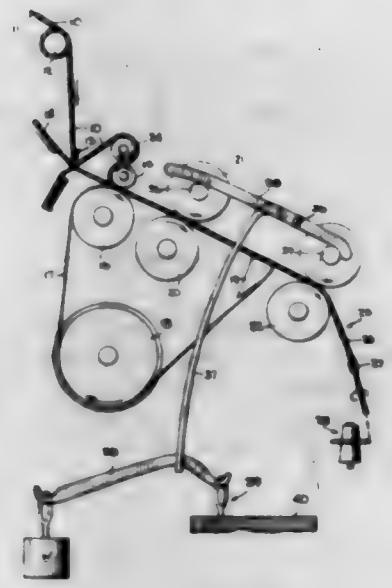
(b) a bed knife end section secured to the bed knife and occupying a depressed plane with respect to that of the bed knife central section beneath the edging blade.

3,144,746

APPARATUS FOR PRODUCING SLUB YARN

William E. Stamps, Allen R. Merrill, and Malcolm R. Livingston, all of Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Original application Aug. 26, 1958, Ser. No. 757,374, now Patent No. 3,044,251, dated July 17, 1962. Divided and this application Mar. 27, 1962, Ser. No. 189,945
1 Claim. (Cl. 57—12)



Apparatus for producing a slub-containing spun yarn comprising a pair of drafting rolls and means to rotate the same, means to supply at least one roving to said drafting rolls at a velocity less than the peripheral velocity of said drafting rolls so that said roving will be drafted thereby, means to supply a pre-formed yarn to said drafting rolls together with said roving with said pre-formed yarn being supplied under tension at a velocity less than the peripheral velocity of said drafting rolls, means to weight said drafting rolls sufficiently to draft said roving and insufficiently to break said pre-formed yarn before reaching said drafting rolls so that said pre-formed yarn will be fed through said drafting rolls at a slower velocity than said roving, and means to twist the composite of said preformed yarn and said roving emerging from said forward rolls at a rate sufficient to cause the twist in said pre-formed yarn to build up until said pre-formed yarn breaks.

3,144,747

APPARATUS FOR PRODUCING A COMPOSITE NOVELTY SLUB YARN

Clifford W. Pahn, Frostburg, and William R. Gibson, Cumberland, Md., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed May 5, 1959, Ser. No. 811,866
2 Claims. (Cl. 57—34)

1. Apparatus for producing a composite novelty slub yarn, comprising a bulking jet, a first pair of feed rolls for feeding a first multifilament yarn into said jet, a

second pair of feed rolls for feeding a second multifilament yarn into said jet jointly with said first yarn, the contact surface of one of said second feed rolls being provided with a plurality of randomly spaced cut-outs, a pair of delivery rolls for feeding yarn leaving said jet away from the latter, and means for traversing said



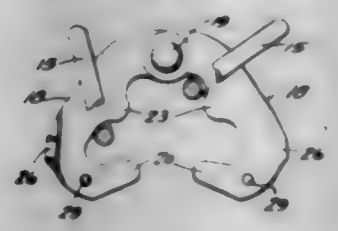
second yarn back and forth along said second feed rolls, the tension on said second yarn being relieved so as to permit bulking thereof under the influence of said jet whenever said second yarn passes between a cut-out in the surface of said one roll and its associated roll of said second pair of feed rolls.

3,144,748

CHAIN HOOK ASSEMBLAGE

James C. Knop, Milwaukee, Wis., assignor to The Fulton Company, a corporation of Wisconsin

Filed Aug. 21, 1961, Ser. No. 132,810
3 Claims. (Cl. 59—88)



1. A chain hook assemblage comprising, a pair of members having shank portions pivotally interconnected at one end with the opposite ends bent inwardly toward each other to form hooks swingable in parallel planes common to said hooks into overlapping position to provide a closed loop, the terminal portion of each of said hooks being formed with an external elongated rectilinear edge and each hook also being formed with an external elongated laterally off-set rectilinear abutment remote from its terminal portion and adjacent its shank portion, said rectilinear edges and said rectilinear abutment being inclined toward each other in a direction receding from said pivotal connection with the rectilinear abutment of one of said hooks forming a longitudinal bearing stop for the rectilinear edge of the other of said hooks when said hooks are swung to overlapped position to thus reinforce the terminal portions of said hooks.

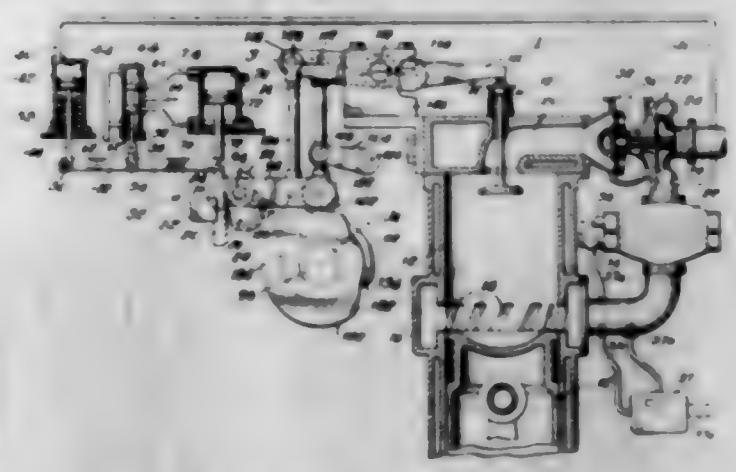
3,144,749

TWO CYCLE SUPERCHARGED DIESEL ENGINE

Ralph Miller, 1943 N. Summit Ave., Milwaukee, Wis.

Filed Nov. 26, 1956, Ser. No. 624,348
5 Claims. (Cl. 60—13)

1. In a supercharged, intercooled, two-stroke cycle, uniflow, compression ignition engine, having a cylinder with inlet ports around the cylinder wall and at least one exhaust valve for the cylinder head, a method of operating such an engine so as to increase the total weight of air in the combustion chamber without increasing the final combustion pressure and temperature above a predetermined maximum; including the steps of increasing the compression effected in the supercharger at full load to a selected compression ratio above those normally used, for example a pressure ratio of 2 to 1 or above, so that the outlet temperature of the air from the supercharger will be higher than normal; increasing the amount of heat withdrawn by the intercooler over the amount of heat normally withdrawn by reducing the outlet temperature of the air from the intercooler to an approximately



constant value for all loads, for example approximately 100° F.; and reducing the compression effected in the cylinder to a selected compression ratio below that normally used, for example to a ratio of approximately 8 to 1, that provides a pressure rise that does not exceed the predetermined maximum final compression pressure when added to the pressure rise in the supercharger, and that also provides a corresponding temperature rise that does not exceed the predetermined maximum final compression temperature when added to both the approximately constant temperature of the outlet air from the intercooler and also to the temperature rise due to heating of the air by the cylinder walls.

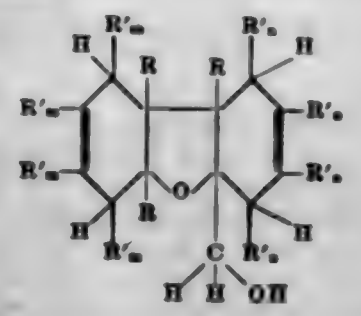
3,144,750

POLYCYCLIC ALCOHOLS AS HYPERGOLIC FUELS

James T. Edmonds, Jr., and Cleveland R. Scott, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 10, 1951, Ser. No. 260,944
7 Claims. (Cl. 60—35.4)

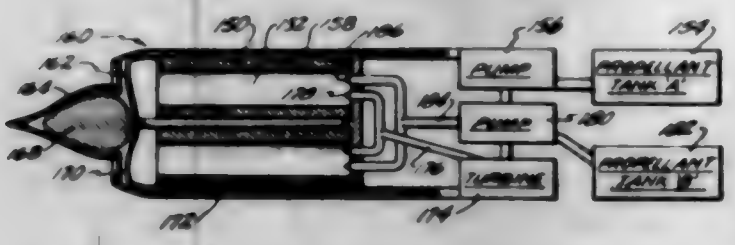
1. In the method for developing thrust by the combustion of bipropellant components in a combustion chamber of a reaction motor the steps comprising separately and simultaneously injecting a stream of an oxidant component and a fuel component into contact with each other in the combustion chamber of said motor, in such proportions as to produce spontaneous ignition, said fuel component comprising an alcohol characterized by the structural formula



wherein R is selected from the group consisting of hydrogen atom and a methyl radical, at least one R being a hydrogen atom, wherein R′ is selected from the group consisting of a hydrogen atom and an alkyl radical having

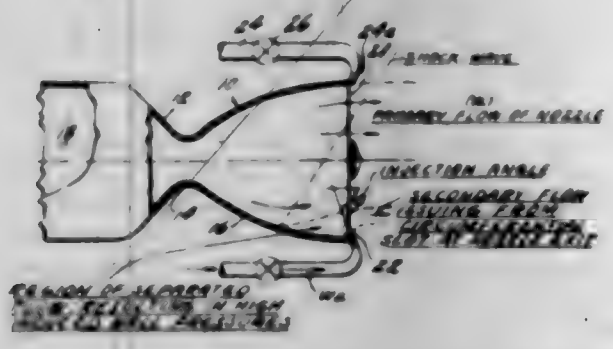
not more than three carbon atoms, wherein the sum of the carbon atoms in the R'_m and the sum of the carbon atoms in the R'_n in each case is not greater than three and wherein at least two of the R'_m and at least two of the R'_n are hydrogen atoms.

3,144,751
HYBRID ROCKET
Arthur W. Blackman, Jr., Manchester, and Charles R. Miller, Rockville, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 10, 1961, Ser. No. 109,282
12 Claims. (Cl. 60—35.6)



1. In a hybrid rocket powerplant having a solid propellant and a source of liquid propellant, means for dividing a solid propellant into symmetrical segments about the axis of the powerplant, reaction means in the exhaust stream from each of the segments, and means for varying the flow of liquid propellant through each of said segments for varying the reaction rate of propellants in one segment with respect to another of said segments and thereby varying the resultant forces on the respective reaction means.

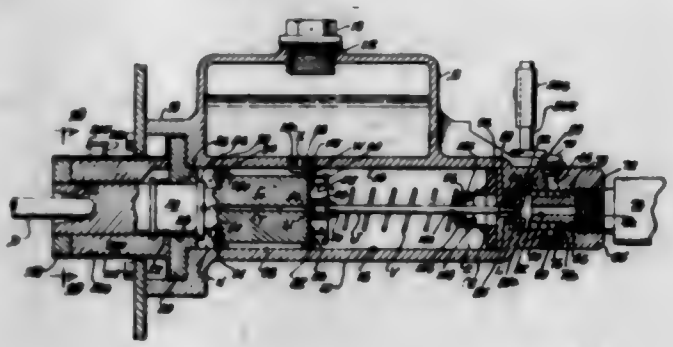
3,144,752
INJECTION THRUST VECTORING
Charles Edward Kepler, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 2, 1961, Ser. No. 142,146
2 Claims. (Cl. 60—35.54)



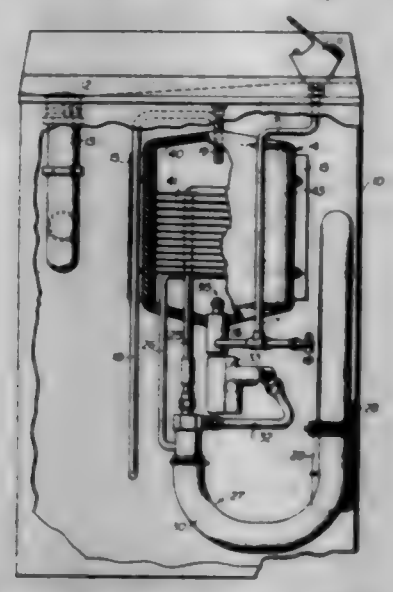
1. In a propulsion vehicle, an exhaust nozzle having a discharge end, means for generating a supersonic flow through said nozzle, and means for injecting a fluid into said nozzle to create a shock wave, said injection means including a high aspect ratio slot disposed circumferentially with respect to said nozzle, each end of said high aspect ratio slot terminating in an end slot extending upstream of said nozzle from said high aspect ratio slot.

3,144,753
HYDRAULIC BRAKE SYSTEM AND COMPONENTS THEREOF
Lawrence M. Sanders, 13953 S. Paramount Blvd., Bellflower, Calif.
Filed Nov. 10, 1960, Ser. No. 68,465
6 Claims. (Cl. 60—54.6)

1. A manually operable hydraulic fluid master cylinder, comprising: a piston; a body having a first bore defined therein in which said piston is slidably mounted, a cylindrical enclosed space formed in said body forwardly of said bore and connected thereto, two fluid passages connecting the forward and rearward ends of said first bore, a fluid outlet in said body communicating with said enclosed space, and a hydraulic fluid reservoir connected by at least one port to said first bore, with said piston dividing said first bore into a first forwardly disposed confined space and a second rearwardly disposed confined space; manually operable means for moving said piston forwardly in said first bore; means for closing the rearward end of said first bore; a valve stem mounted on the forward face of said piston and projecting forwardly therefrom; a resilient valve washer slidably movable in said enclosed space, said washer being capable of sealing engagement with said valve stem; spring means in said enclosed space that at all times tends to maintain said washer in sealing contact with a flat surface on that portion of said body forming the rear of said enclosed space; throttling valve means actuated by the forward movement of said piston for restricting the rate of fluid flow from said first confined space to said second confined space after said stem has slidably and sealingly engaged said washer, with the degree of said restriction increasing in proportion to the increased rate at which said piston is moved forwardly; first, second and third normally closed check valves, said first check valve opening only upon forward movement of said piston to permit hydraulic fluid to flow from said reservoir through said port to fill said second confined space, said second check valve opening only upon rearward movement of said piston to permit fluid to flow from said second to said first confined space, and said third check valve opening only upon rearward movement of said piston to permit fluid under pressure in said first confined space to flow through said port to said reservoir; and spring means that at all times tend to return said piston to a rearward position in said first bore, which piston when moved forwardly in said first bore by said manually operable means subjects fluid forwardly thereof to a first pressure until said valve stem seals with said valve washer, whereupon fluid from said first confined space flows through said throttling valve means to said second confined space to increase the force exerted by said piston and increase the pressure on fluid situated in said first confined space, said valve washer after sealing engagement with said stem moving forwardly slightly thereon due to said increased pressure on said fluid in said confined space to allow flow of fluid under said increased pressure into said enclosed space, but with said valve washer moving rearwardly so long as engaged by said valve stem to seal with said flat surface to prevent rearward flow of said fluid at higher pressure from said enclosed space to said first confined space, with said throttling valve means serving to regulate the rate at which pressure on said fluid in said first confined space can increase above said first pressure.



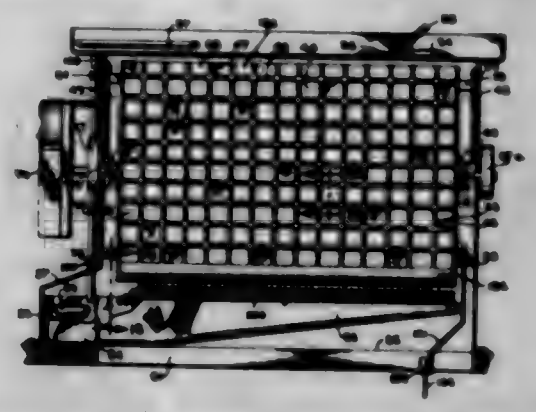
3,144,754
LIQUID COOLING SYSTEMS
Carleton D. Tilden, Painesville, Ohio, assignor to Cleveland Technical Center, Inc.
Filed June 17, 1963, Ser. No. 288,089
4 Claims. (Cl. 62—5)



1. A liquid cooling system comprising:
(*a*) a cabinet including liquid dispensing means,
(*b*) sealed liquid containing means including a tank, a serpentine gas conducting channel having an inlet and an outlet, and a shell of heat insulating material enveloping said tank and channel,
(*c*) means mounting said containing means in said cabinet,
(*d*) liquid inlet means communicating with said tank for supplying a liquid to be cooled,
(*e*) liquid outlet means connecting said tank to said liquid dispensing means,
(*f*) a vortex assembly mounted in said cabinet, said assembly including a tube, a nozzle for tangentially introducing a gas into said tube to create a vortex, a cold gas outlet in communication with said channel inlet, and a throttle valve for releasing relatively hot gas from one end of said tube,
(*g*) a conduit extending around said tube and beyond said one end,
(*h*) means connecting said channel outlet to said conduit so that gas exhausted from said channel is caused to flow along the outside surfaces of said tube in heat exchange relationship, and
(*i*) means for supplying gas to said nozzle,
(*j*) said gas supply means including a mechanically actuatable control valve having an inlet port and outlet port, and means operatively disposed between said ports and exposed to the liquid in said tank for selectively establishing and blocking gas flow through said valve in response to temperature changes of said liquid.

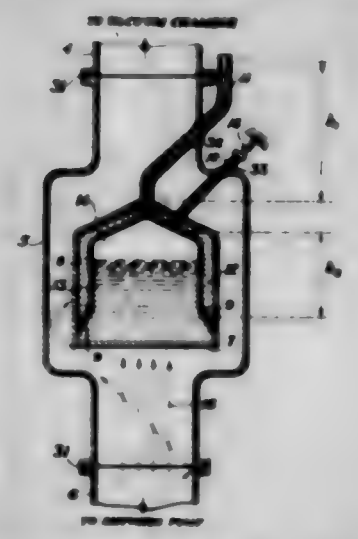
3,144,755
SMALL BLOCK ICE MAKING MACHINE
Theodore Kattis, 1220 M St., Bedford, Ind.
Filed July 24, 1961, Ser. No. 126,127
10 Claims. (Cl. 62—137)

4. An ice making apparatus comprising a generally vertically disposed plate; means refrigerating said plate; a member having a plurality of cavities therein opening from opposite faces disposed up and down the member; means shifting the member into contact with said plate closing off openings of the cavities on the one side, and shifting the member from said contact; means maintaining an approximately constant flow of water in predetermined volume over the member into and out of said cavities on that side removed from said plate contacting face, the water flow being in excess of that required to form ice blocks in said cavities; means removing ice blocks from the cavities in the grid shifted position away from said plate; a receptacle receiving and storing said removed ice blocks; a receptacle block level sensing member actuated



by movement of said cavity member in contacting ice blocks in the receptacle at a predetermined maximum level and dropping of the blocks below that level; and means controlled by said sensing member arresting and initiating respectively operation of said apparatus.

3,144,756
VACUUM SYSTEM COOLING TRAP
Kenneth W. Arnold, Reading, and Richard B. Britton, Billerica, Mass., assignors to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware
Filed July 23, 1962, Ser. No. 211,812
4 Claims. (Cl. 62—169)

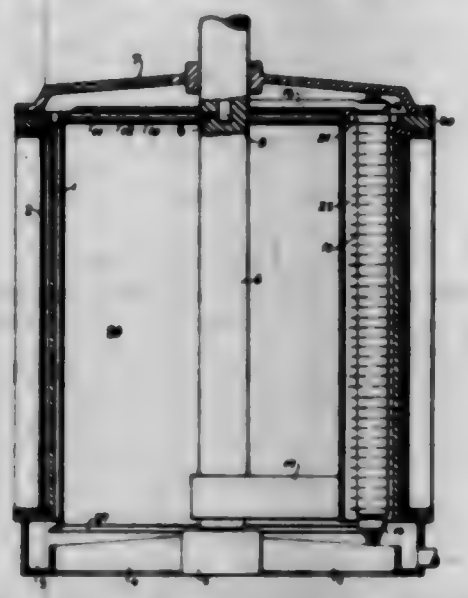


1. In a vacuum system cold trap a container for liquid coolant having a partition therein, said partition being substantially parallel to the sides and top of said container and adapted to divide the interior thereof into first and second compartments, said first compartment being contiguous to the sides and top of said container and having means connected to the apex thereof to permit emission of evaporated coolant formed therein, and said second compartment being contiguous to the bottom of said container and comprising a reservoir for said coolant, and means for pumping coolant from said second compartment to said first compartment.

3,144,757
APPARATUS FOR THE PRODUCTION OF BITS OF ICE
Hans Gram, Vejen, Denmark, assignor to Brodrene Gram A/S, Vejen, Denmark, a corporation of Denmark
Filed Feb. 12, 1962, Ser. No. 172,522
Claims priority, application Denmark Feb. 13, 1961
2 Claims. (Cl. 62—354)

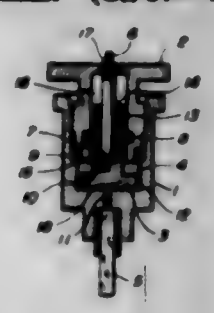
1. An apparatus for the production of bits of ice, comprising a refrigerating surface, means for supplying water

to said refrigerating surface to be frozen thereon to form a shell of ice of a certain thickness, a roller constructed with radial projections, said roller having its axis disposed parallel to said refrigerating surface at a distance therefrom such that the outer periphery of said roller, defined by the outer ends of said projections is spaced from said refrigerating surface at a distance less than the thickness of said shell of ice, means for relatively moving said roller along said refrigerating surface parallel thereto and transversely to the roller axis, means for positively rotat-



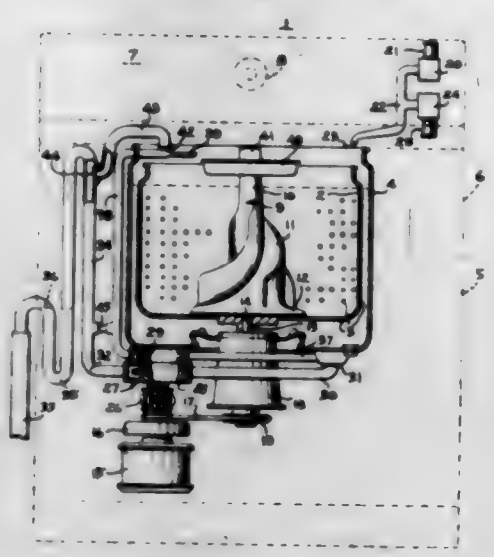
ing said roller at a peripheral speed substantially equal to the speed of said relative movement of the roller along said refrigerating surface, and in a direction to cause movement substantially together of said surface and said periphery of the roller at their points of closest approach, so that said roller has substantially a rolling motion along the said refrigerating surface, and a scraper mounted for movement together with said roller along said refrigerating surface at a distance behind said roller, as viewed in the common direction of movement, said scraper being located in a position to engage said shell of ice.

3,144,758
BURNER DEVICES FOR LIQUEFIED GAS LIGHTERS
Taisho Ihetani, 589 Negatacho-1-chome, Nakano-ku, Tokyo, Japan
Filed July 13, 1962, Ser. No. 209,611
Claims priority, application Japan, Aug. 30, 1961, 36/31,261; Sept. 21, 1961, 36/47,521
7 Claims. (Cl. 67—7.1)



1. In a liquefied gas lighter, a burner device comprising a rigid bottomed cylindrical burner casing having a wick secured to its bottom, a support element having a central upstanding stem portion and mounted in the bottom of the casing, an annular element of porous material resting on said support element and fitted over said stem portion thereof, said stem portion being formed with a fuel passage opening at one end sidewise to a portion of the inner annular surface of said element of porous material and at the other end in the center of the top of the stem portion, a compressing element fitted in said casing and having a cavity defined by an annular wall to receive said stem portion so that said annular wall compresses said element of porous material against the inner wall of said casing, a rubber packing having a central valve opening fitted in said cavity in fluidtight relation to the wall thereof, a valve rod downwardly operable by the cap of the lighter to control said valve opening, and a movable element threadably fitted in said casing for depressing said compressing element.

3,144,759
WASHING MACHINE
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 27, 1963, Ser. No. 291,170
6 Claims. (Cl. 68—23)



1. A clothes washing machine comprising:
(*a*) liquid and clothes receptacle means having an opening at the top thereof;
(*b*) washing means for effecting the cleansing of clothes in said receptacle means;
(*c*) a rotary pump having an inlet and an outlet;
(*d*) means for operating said pump at a relatively high speed during washing of clothes;
(*e*) first conduit means having one end connected to said pump inlet and the other end positioned above the liquid level reached in said receptacle means adjacent said opening;
(*f*) and second conduit means having one end connected so said pump outlet and the other end positioned over said receptacle means so as to discharge back into said receptacle means from the top thereof.

3,144,760
SURFACE OF SUEDE LEATHER
Hermann Fuchs, Weinheim an der Bergstrasse, Germany, assignor to Carl Freudenberg, Weinheim an der Bergstrasse, Germany, a German corporation
No Drawing. Filed Mar. 28, 1962, Ser. No. 183,053
Claims priority, application Germany Jan. 30, 1962
10 Claims. (Cl. 69—21)

1. Process for providing suede leather with improved surface properties which comprises hot impressing suede leather with a pattern of geometrical designs, each design having a surface area up to about 1 $cm.^2$ and the combined area of said designs with respect to the surface of the leather amounting to at most about 50 percent of the total surface area of the leather being treated.

7. Suede leather with improved surface properties, having a surface pattern of impressed geometrical designs, each design representing a surface area up to about 1 $cm.^2$ and the combined area of said designs on the surface of the leather amounting to at most about 50 percent of the total surface area of the leather bearing the designs, said

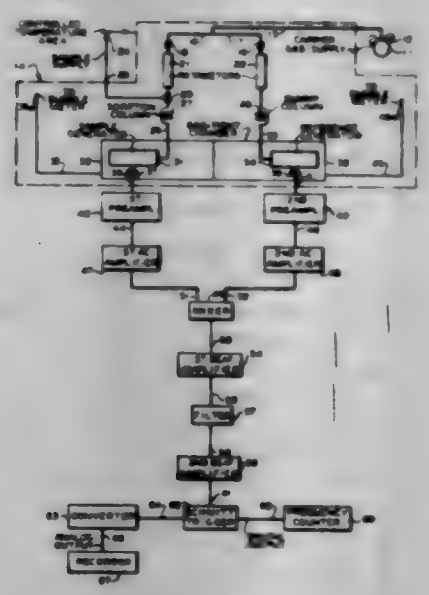
pattern having been made by the process which comprises hot impressing suede leather at a temperature between about 400 and 800° C. with a pattern of geometrical designs, each design having a surface area up to about 1 cm.^{2} and the combined area of said designs with respect to the surface of the leather amounting to at most about 50 percent of the total surface area of the leather being treated.

3,144,761
LOCK RELEASE SYSTEMS
John Gwyn Williams Lee, Welwyn, England, assignor to The De Havilland Aircraft Company Limited
Filed Oct. 24, 1960, Ser. No. 64,543
Claims priority, application Great Britain Nov. 4, 1959
18 Claims. (Cl. 70—277)



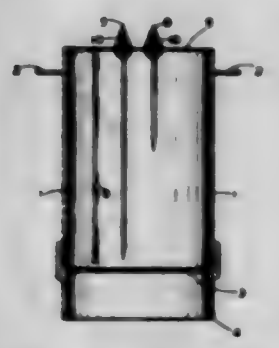
1. A lock release actuating system comprising a substantially steady source of radiation, an angularly movable chopper arranged to vary the amount of radiation passing from said source to produce a predetermined sequence of radiation pulses, a detector of radiation pulses, and a comparator operable to compare output signals of the detector with a preset sequence of signals and to initiate a lock-releasing operation upon completion of a correct sequence of radiation pulses.

3,144,762
COMPOSITION SENSING TRANSDUCER
Maurice K. Testerman and Paul C. McLeod, Little Rock, Ark., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,491
2 Claims. (Cl. 73—23.1)



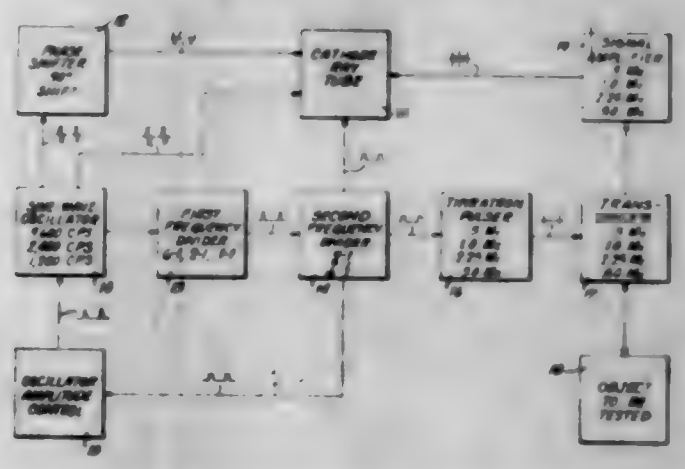
1. In a chromatographic analyzer including a chromatographic column, means to pass a carrier gas to the inlet of said column, and means to introduce a sample of material to be analyzed to the inlet of said column; apparatus to detect constituents of the sample material in the column effluent comprising first and second signal generators, each comprising means defining an orifice of rectangular cross section, a sharp edge positioned so that a gas stream flowing through said orifice impinges on said edge, and a resonant cavity disposed adjacent said sharp edge and perpendicular to a gas stream flowing through said orifice; means to direct the column effluent through the orifice of the first signal generator to impinge on the sharp edge thereof; means to pass carrier gas through the orifice of the second signal generator to impinge on the sharp edge thereof; first and second microphones positioned adjacent said first and second signal generators, respectively, to establish respective first and second signals, the frequencies of which are representative of the compositions of the gases passed through the orifices of the respective signal generators; means to heterodyne said first and second signals to provide an output signal representative of the difference in frequencies of said first and second signals; and means to measure said output signal.

3,144,763
FREENESS TESTER
Ned H. Mayo, Pensacola Beach, Fla., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed June 13, 1961, Ser. No. 116,862
6 Claims. (Cl. 73—63)



1. A freeness tester for determining freeness of fiber stock comprising an elongated shell open at each end thereof, a wire screen adapted to admit water but not fibers positioned over the opening at one end of said shell, and detecting means positioned inside said shell for measuring the rate of rise of water between two spaced apart points, one of said points located above the other of said points, both of said points being situated within said shell and means operable by said detecting means for indicating the rate of the rise of water inside said shell.

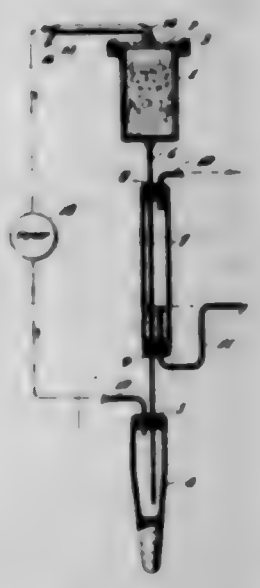
3,144,764
ULTRASONIC INSPECTION SYSTEM
William C. Harmon, Chagrin Falls, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Oct. 1, 1958, Ser. No. 764,534
17 Claims. (Cl. 73—67.8)



3. An ultrasonic inspection system comprising, cathode-ray tube display means, an oscillator for continuously

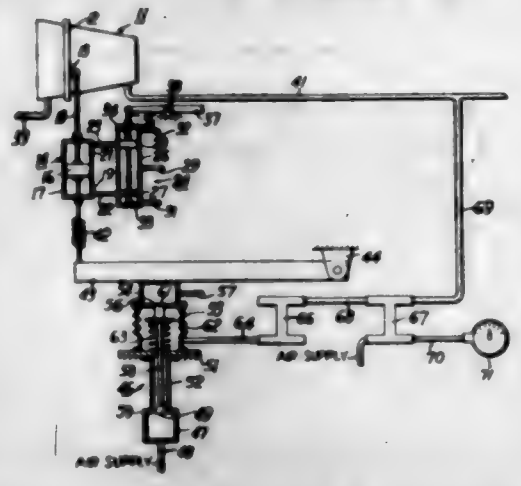
generating sinusoidal oscillations, cyclically operative control means synchronously responsive to said generated oscillations for controlling said oscillator to vary periodically the amplitude of oscillation thereof, means responsive to said generated oscillations for applying to pairs of cathode-ray beam deflection electrodes of said display means quadrature-phase-related oscillations having amplitudes periodically varying together in the same sense to enable reproduction by said display means of recurrent in-register spiral traces, means included in said oscillation amplitude control means for controlling at least one of said aforesaid means to effect the visual reproduction by said display means of a spiral trace pattern initiated at a preselected angular orientation established by said control means and including spiral trace convolutions of preselected number controlled by said control means, means including a transducer for generating substantially coincidentally with the initiation of each said pattern an ultrasonic energy inspection pulse for application to an object to be inspected, and means responsive to ultrasonic pulse energy received by said transducer after translation through said object during the visual trace interval for controlling said display means to produce on said trace a visual indication which by angular reference to said preselected orientation and the oscillator frequency provides an accurate measure of the transit time of said translated pulse energy.

3,144,765
MOISTURE METER
Herbert J. Wollner, Belmont, Mass., assignor to ACH Fiber Service, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 1, 1961, Ser. No. 106,743
4 Claims. (Cl. 73—76)



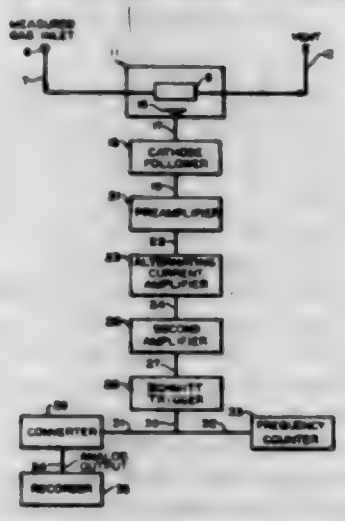
1. For measuring the moisture content of material, a system comprising an orbital circuit, a pump for circulating air around the circuit, the circuit including a chamber to receive a sample of the material, a receiver to collect liquid, a condenser between the chamber and receiver, the circuit extending from the chamber to the upper end of the condenser, thence from the lower end of the condenser to the receiver, and thence back to the chamber, and a heater in the circuit between the receiver and container to heat the air after it leaves the receiver so that it picks up moisture from the material in said chamber, said circuit being closed so that no air can enter the circuit and no liquid can escape from the circuit, whereby the final level of the liquid in said receiver indicates the total moisture content of the material.

3,144,766
FLOW INDICATING MEANS FOR IMPOSITIVE DISPLACEMENT MACHINES
Royce N. Brown, New Berlin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 22, 1961, Ser. No. 118,834
4 Claims. (Cl. 73—168)



1. A combination for measuring the volumetric flow of a fluid handling machine having inlet means in fluid communication with a fluid source and means for varying the volumetric flow of said machine comprising: means for moving said volume varying means to a number of positions between open and closed positions to vary the volumetric flow of said machine; signal combining means; signal converting means connecting said signal combining means to said volume varying means, said converting means imposing a signal of predetermined magnitude on said signal combining means for a predetermined position of said volume varying means; means connecting the discharge of said machine to said signal combining means, said connecting means transmitting a signal to said combining means proportional to the discharge pressure of said machine; and gauge means connected to said signal combining means, said gauge means being calibrated to cause a particular indication of volumetric flow for a particular signal from said signal combining means and said signal combining means being calibrated to give said particular signal to said gauge means as a result of receiving predetermined signals from said connecting means and said signal converting means.

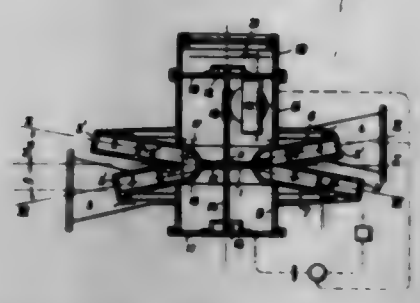
3,144,767
METHOD AND APPARATUS FOR DETERMINING FLUID FLOW RATE
Maurice K. Testerman and Paul C. McLeod, Little Rock, Ark., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,531
11 Claims. (Cl. 73—194)



1. An ultrasonic frequency wave generator serving as a fluid flow rate measuring device comprising an orifice

having rectangular cross-sectional area with a width to height ratio greater than one so as to permit a stream of fluid of variable mass flow to jet therefrom, a resonant cavity adjacent said orifice and also disposed below the flowing gas stream; said flowing fluid stream impinging upon the edge of said resonant cavity opposite said orifice, whereby the natural energy undulations in said stream are amplified in the ultrasonic frequency range.

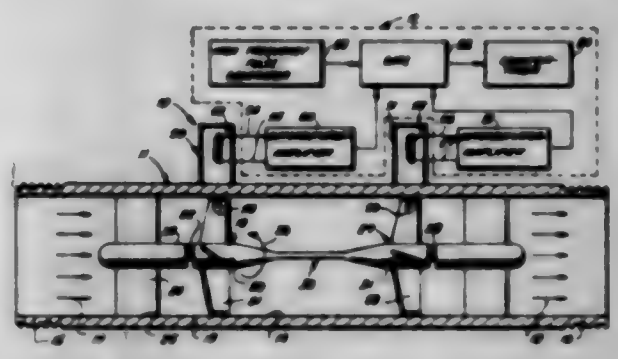
3,144,768
FLUID METER CONSTRUCTION
Hans Gehre, Oberkassel, Germany
Filed July 31, 1957, Ser. No. 675,315
Claims priority, application Germany Aug. 6, 1956
13 Claims. (Cl. 73—231)



1. In a measuring wheel meter for measuring the flow of fluids having a rotatable measuring wheel with blades adapted to be acted on tangentially by a flowing fluid, the improvement which comprises means defining a first imperforate spiral path of fluid flow of continuously decreasing cross sectional area leading to said measuring wheel and terminating substantially tangentially at said measuring wheel, means defining a second imperforate spiral path of fluid flow leading tangentially from said measuring wheel in the same direction of spiral of said first spiral path and continuously increasing in cross sectional area in a direction away from said measuring wheel, said first and second spiral path means being in direct unconstrained transitional flow communication with each other at said measuring wheel and together defining an unobstructed spiral vortex path of flow continuing from said first path to said measuring wheel and from said measuring wheel to said second path, the narrowest flow cross-section within said meter being defined by the transitional flow path means at the measuring wheel interconnecting the two spiral flow paths, said transitional flow path means being the sole path of fluid flow communication between the first and second imperforate spiral flow paths and said measuring wheel being disposed within said transitional flow path means in open communication with said spiral flow paths around the entire periphery of said wheel.

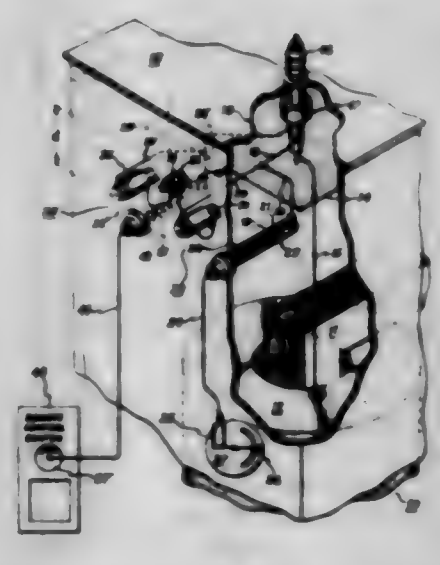
3,144,769
MEANS FOR MEASURING MASS FLOW RATE OF FLUID FLOW
Edward E. Francisco, Jr., Woodland Hills, Calif., assignor, by mesne assignments, to Brooks Instrument Company, Inc., Hatfield, Pa., a corporation of Pennsylvania
Filed Apr. 4, 1960, Ser. No. 19,718
1 Claim. (Cl. 73—231)

A fluid mass flow rate meter comprising a body defining an internal flow passage extending through the body and adapted to define axial flow of fluids therethrough, coaxial axially spaced first and second bladed rotors adapted to rotate at different rotational speeds responsive to the same fluid flow rotationally mounted within the flow passage with their axis parallel to the axis of the flow passage for rotation responsive to fluid flow, means rotating with the rotors for coupling the first and second rotors together torsionally deflectionally for equal rotational speeds, whereby fluid flow through the flow passage causes the first and second rotors to rotate at the same rotational speed with angular displacement therebetween about their axis, means for sensing cyclically rotational motion of each rotor, means responsive to the sensing for indicating a time interval directly proportional to the quotient of the angular displacement of the first and second rotors about their axis divided by the rotational speed of the rotors, whereby the quotient so indicated is directly proportional to the mass flow rate of the fluid, the means for coupling including a first cylindrical sleeve extending coaxially from the first rotor toward the second rotor with its end disposed intermediate the two



rotors and a second cylindrical sleeve extending coaxially from the second rotor toward the first rotor with its end portion disposed over the end of the first sleeve intermediate the two rotors, a helix of resiliently yieldable wire disposed within the sleeves concentrically with the axis of rotation of the rotors and extending between the rotors with one end attached to the first rotor and the other end attached to the second rotor, apertures in the first sleeve and in the second sleeve communicating between the exterior and interior of each sleeve, and outwardly extending planar projections within each sleeve, whereby motion of the sleeves relative to each other is damped when there is liquid flow.

3,144,770
MEANS FOR DETERMINING AN INTERNAL CONDITION IN ELECTRICAL APPARATUS
Edward J. Skeely, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Jan. 30, 1961, Ser. No. 85,618
17 Claims. (Cl. 73—358)



2. Electrical apparatus having in combination, an enclosing tank of a magnetic conducting material in which flows stray magnetic flux from said apparatus when it is in operation, means for indicating externally of said tank an internal operating condition of said apparatus,

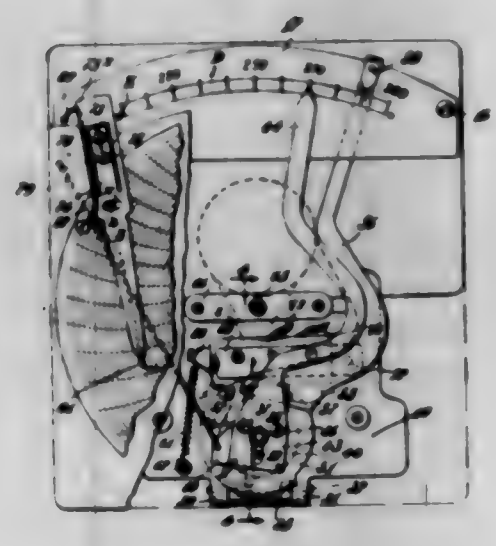
said means including a pair of electric circuit elements mounted respectively on the inside and the outside of said tank, said circuit elements being interconnected to form a closed loop circuit by means of two circuit conductors which pass from the inside to the outside of said tank, one of said conductors being insulated from said tank, the other of said conductors being a conducting portion of said tank, the distance between said conductors where they pass from the inside to the outside of said tank measured in a direction substantially perpendicular to said stray flux being sufficiently short that any circulating current induced in said closed loop circuit by linkage with said flux will be reduced below a magnitude that produces significant errors in said indicating means.

3,144,771

INDICATING AND RECORDING CONTROL

Henry G. Leupold, Arlington, Mass., assignor to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts

Filed Apr. 4, 1960, Ser. No. 19,714
8 Claims. (Cl. 73—368)



1. An apparatus of the kind wherein an index element moves in an arcuate path along a graduated scale, and wherein a pressure motor has a movable element which moves in accordance with temperature variations, and has means for transmitting motion from said movable element to the index element, said apparatus comprising, in combination, a snap-action switch having an operating pin, a movable member which, by contact with the pin, actuates the switch, an eccentric coaxial with the index element operative to determine the normal distance between said pin and the movable member, and means including a part which moves in an arcuate path along said scale for turning the eccentric.

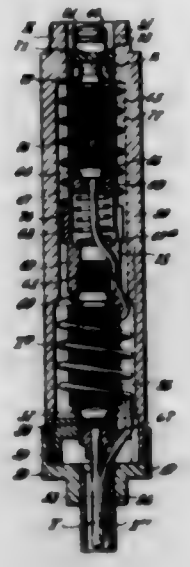
8. An apparatus of the kind wherein an index element is movable by motion transmission means in an arcuate path along a graduated scale, and wherein a pressure motor has a movable element which moves in accordance with temperature variations; comprising a pivotally supported bimetallic lever operably associated with the movable element and the index element so as to transmit motion of the movable element to the index element, the ends of said lever, respectively, having contact with the movable element and the motion-transmission means, said motor comprising a cylinder having a stud projecting from one end, a disc fixed to said stud, the disc being eccentric with respect to the axis of the cylinder and being arranged to turn in a hole in a fixed part of the instrument frame, and means whereby the disc may be clamped in adjusted position, the rotation of the disc resulting in bodily motion of the motor cylinder in a direction perpendicular to its axis, thereby to shift the point of contact of the movable element toward or from the axis of pivotal support of the lever.

3,144,772

TEMPERATURE VARIATION TRANSMITTER

Robert D. Reis, Hingham, Mass., assignor to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts

Filed June 23, 1961, Ser. No. 119,167
5 Claims. (Cl. 73—368.7)



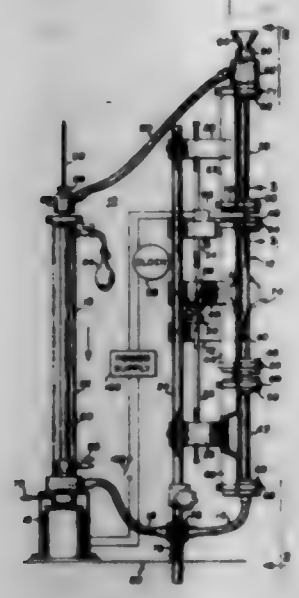
1. In a transmitter for translating variations in temperature into mechanical motion of an actuating element, said transmitter being of the kind which comprises a casing which houses a main motor comprising a metallic bellows having a movable upper end wall, a capillary transmitting tube connecting the interior of said bellows with a bulb located at a distant source at which temperature variations occur, said bulb, tube and bellows being filled with a liquid, a compensator comprising a pair of rigid, coaxial, telescopic tubular elements, the inner one of said elements having a closure at its lower end, a compression spring bearing at one end against the underside of said closure and at its other end against an abutment at the lower end of the outer tubular element, the upper end of the outer tubular element having a bridge member which extends transversely of the axis of the inner tubular element, said latter tubular element having longitudinally extending slots for the passage of said bridge member so arranged that the inner element may move axially a limited distance relative to said outer tubular element, an actuating button at the upper end of said inner element, a compensating metallic bellows housed within the inner tubular element, the upper end of the latter bellows engaging said transverse bridge member and the lower end engaging the closure at the lower end of the inner tubular element, in combination, a capillary neutralizing tube having one end open into the interior of the compensating bellows and its other end closed, the compensating bellows and said neutralizing tube being filled with liquid, said neutralizing tube extending from the transmitter, in close adjacency to the aforesaid capillary transmitting tube, substantially to said source where the temperature variations take place, the component parts of the transmitter being so constructed and arranged that variation in length of the compensating bellows, in response to the temperature of the ambient medium through which the capillary tubes pass on their way from the source to the transmitter, results in an inverse variation in the overall length of the compensator.

3,144,773

SEDIMENTATION APPARATUS AND METHOD FOR DETERMINING PARTICLE SIZE DISTRIBUTION

Hadley R. Bramel, 88 Amador Ave., Atherton, Calif.

Filed Dec. 26, 1962, Ser. No. 246,974
17 Claims. (Cl. 73—432)



1. A method for determining the particle size distribution of a powdery material comprising the steps of:

(*a*) adding said powdery material to the fluid of a closed circulatory fluid system having a vertically tubular portion;

(*b*) dispersing said powdery material evenly through the fluid by circulating the fluid through said fluid system;

(*c*) bringing the circulating fluid to a complete rest after said powdery material is evenly distributed by shutting off circulation and letting a first time period elapse after shutting off circulation, said first time period being sufficiently long for all vortices and bubbles to die out;

(*d*) isolating a section of said vertical tubular portion at the end of said first time period to define a sedimentation tube;

(*e*) permitting axial sedimentation of the dispersed powdery material in the sedimentation tube for a second time period which commences with the isolation, said second time period being selected to provide a desired distribution of particles in the sedimentation tube; and

(*f*) arresting said axial sedimentation immediately after the end of said second time period by turning said sedimentation tube to a horizontal position so that the powdery material settles to form a ribbon along the lower length of the sedimentation tube which ribbon provides data useful for determining the particle size distribution of said powdery material.

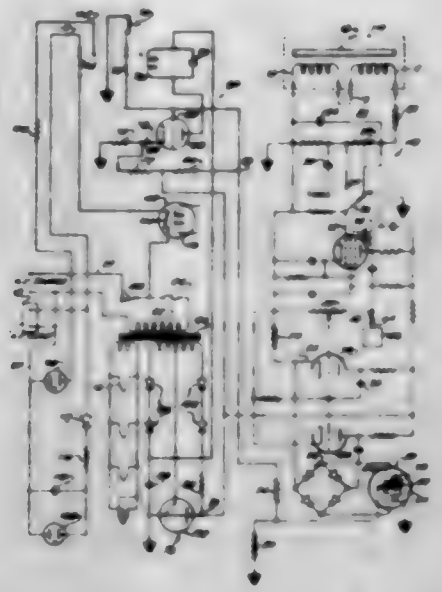
3,144,774

VIBRATION DETECTION APPARATUS

Thomas E. Bjorn, Waukegan, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Feb. 14, 1961, Ser. No. 89,235
5 Claims. (Cl. 73—466)

5. Apparatus for detecting unbalance in a rotating mechanism comprising means for producing a fluctuating electric signal responsive to vibrational forces caused by an unbalance in the rotating mechanism; electric meter means operative responsive to the receipt of said fluctuating signal for reading the magnitude of the unbalance and comprising contact means operable responsive to a predetermined magnitude of the unbalance; alarm means; and means for connecting said alarm means to a line



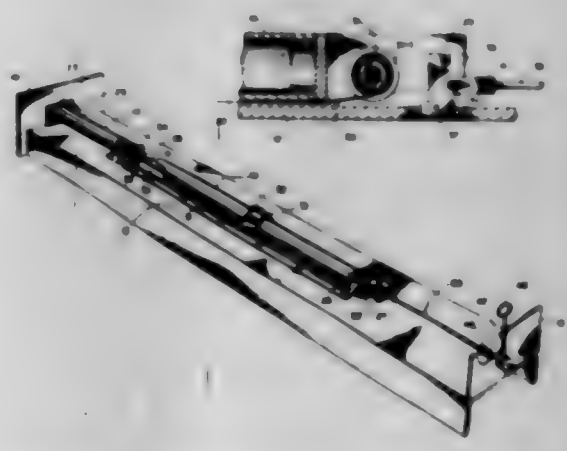
source comprising a high impedance input electronic switch operable responsive to said contact means and a relay operable responsive to said electronic switch.

3,144,775

ARM HOLDING AND EXTENDING MEANS

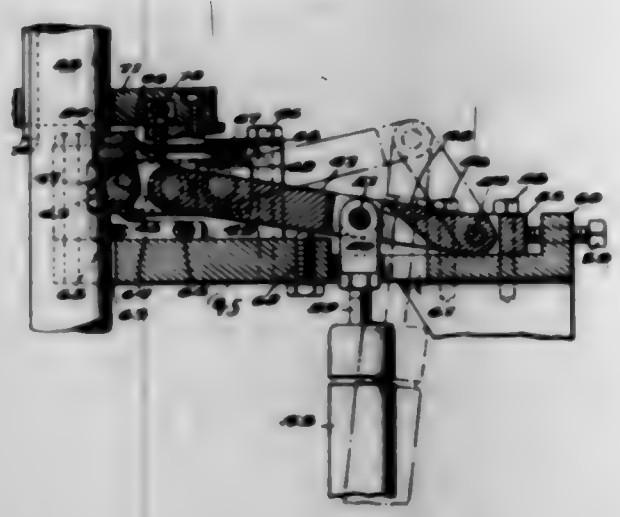
Robert K. Chalmers, Cheverly, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 17, 1962, Ser. No. 188,287
3 Claims. (Cl. 74—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A device for holding an arm in a contained position relative to a base and subsequently extending the arm to an extended position which comprises an arm support on said base, guide means for guiding said arm relative to said base, an arm driving means associated with said arm for exerting a constant force thereto in a direction along said guide means to extend said arm into an extended position, arm holding means secured to said base for holding said arm in contained position relative to said base, means for securing said holding means in an arm holding position and subsequently releasing said holding means and said arm, spring means associated with said holding means for applying an initial force to said holding means and said arm upon release of said arm from said holding position, and first and second separate means for holding said arm in an extended position after being released by said holding means and forced into an extended position by said arm driving means.

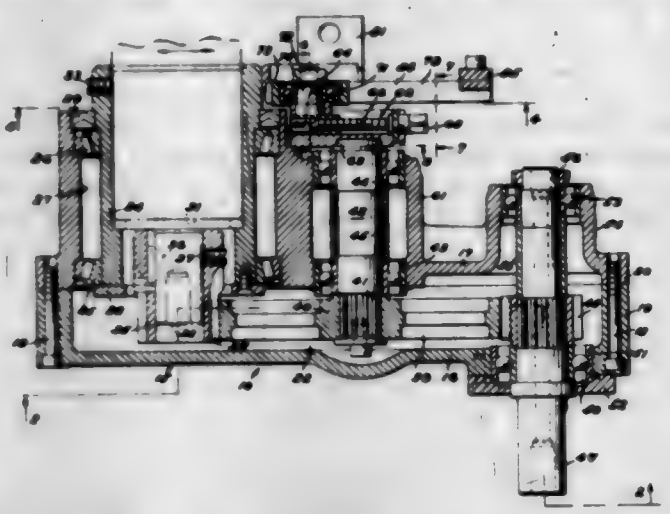
3,144,776
LATCH MECHANISM
Charles M. Minke, Cumberland, Md., assignor to Allegany Instrument Company, Inc., Cumberland, Md., a corporation of Maryland
Original application Dec. 20, 1957, Ser. No. 704,143. Divided and this application July 6, 1962, Ser. No. 206,139
2 Claims. (Cl. 74—2)



1. A latch mechanism comprising; a rod, said rod having a groove defined therein, transverse to the axis of said rod, a latch, said latch having one end shaped to fit said groove, a pair of fixed parallel slide guides, a pair of slides riding in said guides, the other end of said latch being pivotally mounted between said slides, said slides being positioned so that said latch will engage said groove when said slides are slid to their engagement position and said latch is pivoted to its engagement position, a leaf spring biased to urge said latch into engagement with said groove when said latch and said slides are in their respective engagement positions, a first link pivotally attached at one end to said slides, a second link pivotally attached at one end to the other end of said first link, said second link being pivotally attached at the other end to a fixed support, the pivot axis of said other end of said second link being positioned so that the axis of force transmission of said first and second links are collinear when said slides are in their engagement position to form a rigid arm of said first and second links, means to move the pivot axis of said other end of said first link and said one end of said second link to break said rigid arm.

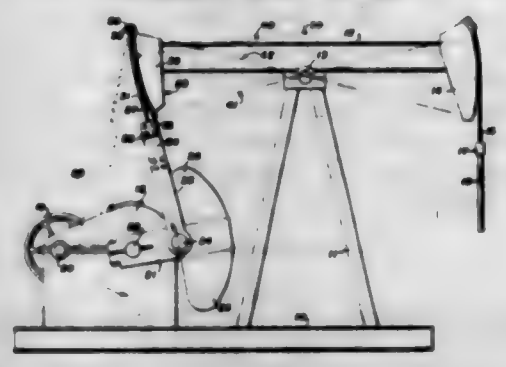
3,144,777
COMPOUND MOTION ADAPTER FOR BUFFING MACHINE
Otto Thiel, Detroit, and John G. Heckert, Birmingham, Mich., assignors to Midwest Supply and Manufacturing Company, Ferndale, Mich., a corporation of Michigan
Filed Oct. 18, 1960, Ser. No. 61,515
4 Claims. (Cl. 74—22)

1. A work finishing machine comprising a rotary spindle mounted for back-and-forth movement transversely of the axis thereof, a housing having means to mount the same for movement with said spindle and for oscillation about an axis coincident with said spindle axis, a work spindle mounted by said housing for movement therewith and for rotation about an axis laterally spaced from and paralleling the axis of housing oscillation, drive means for said work spindle carried by said housing for oscillation therewith, including a pinion mounted in said housing coaxially of said first named spindle axis and adapted to be driven by said first named spindle, a pinion drivingly connected to said work spindle to rotate the same, and a shaft rotatably mounted by said housing and having a gear fixed thereon and meshing with said pinions to transmit power therebetween, a crank fixed on said shaft externally of said housing, and a



fixed control device carried by said housing mounting means and operatively connected to said crank to oscillate said housing upon rotation of said shaft and crank.

3,144,778
PUMPING UNIT WITH IMPROVED FLEXIBLY CONNECTED BEAM
John Edward Lott, Fort Worth, Tex., assignor to American Manufacturing Company of Texas, Fort Worth, Tex., a corporation of Texas
Filed Apr. 5, 1962, Ser. No. 185,267
1 Claim. (Cl. 74—41)

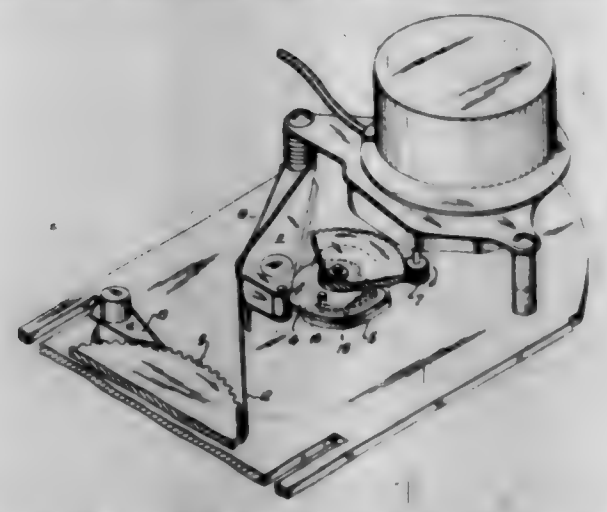


In a beam type pumping unit:
a beam pivotally mounted for oscillation in a vertical plane,
forward and rear mulcheads mounted on the ends of said beam, said mulcheads having outer generally vertical arcuate surfaces, the arcuate surface of said rear mulchead being generated about at least one point above the axis of oscillation of said beam,
a crank beneath said rear mulchead, said crank having an extending end rotatable about the remaining end, said crank rotating in a direction such that said extending end moves upwardly when on the side of rotation adjacent said forward mulchead,
a pitman journalled on the extending end of said crank and extending upwardly therefrom, and
flexible means connected at the upper end of and extending over the arcuate surface of said rear mulchead and connected with the upper end of said pitman.

3,144,779
INTERMITTENT DRIVING MECHANISM
Wallace L. Linn, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,201
11 Claims. (Cl. 74—125)

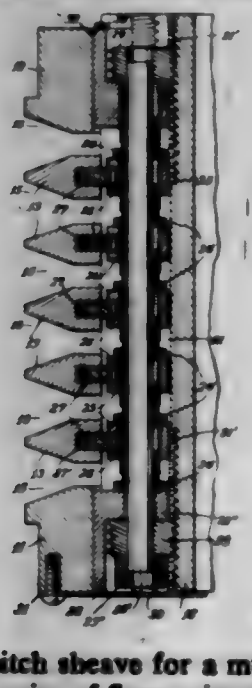
1. An advancement mechanism for an intermittent timing device comprising a suitable power source, said

power source having a driving means coupled to a gear train to rotatably drive said gear train, a cam assembly comprising at least two partial cams, and a gear of said gear train supported by a hub and bearing post, one of said cams being loosely fitted thereon to have a floating characteristic, another of said cams and said gear being fixed together and supported thereon, said fixedly supported cam having an arcuate slot of determined extent formed therein, said floating cam having a post fitted within said slot and being moveable along the extent thereof, said cams thus being angularly moveable with



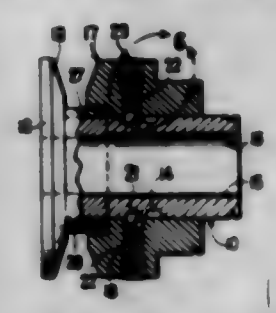
respect to each other, the peripheries of said cams individually having fall and rise contours, said contours having an overlapping relationship, a spring biased cam follower adapted to ride on said peripheral contours thereof, said spring biased cam follower moving on said rise contours on said cams for a determined portion thereof, said follower coming to a fall portion therealong, one of said cams having a peripheral contour relationship to the other cam whereby said spring biased cam follower is sufficiently retarded so as to prevent overshoot of a ratchet coupled to said spring biased cam follower and activated thereby.

3,144,780
VARIABLE PITCH SHEAVES FOR MULTIPLE V BELT DRIVE
Jackson Chung, Mishawaka, Ind., assignor to Dodge Manufacturing Corporation, Mishawaka, Ind., a corporation of Indiana
Filed June 28, 1961, Ser. No. 118,303
16 Claims. (Cl. 74—230.17)



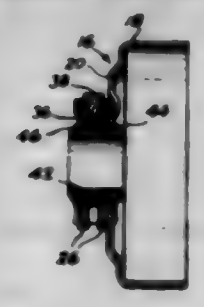
15. A variable pitch sheave for a multiple V belt drive including a hub, a series of flange rings on the hub shaped to provide peripheral V grooves between them for the belts and axially shiftable for varying the width of the grooves, and means effected by relative angular movement of the flange for restraining rotation of the flange rings on the hub, said sheaves including means for maintaining equality of width between the grooves including jacks aligned independently of the exact angular positions of the flanges, spacing the rings apart and coupled together to provide equal dimensional changes upon a given common actuation.

3,144,781
BELT GRIPPING PULLEY CONSTRUCTION
Charles J. Rozell, La Fontaine, Ind.
Filed May 10, 1962, Ser. No. 193,730
2 Claims. (Cl. 74—230.24)



1. A pulley of the character described, comprising a a hollow section embodying a hollow shaft having a keyway at the inner surface thereof for use in securing said hollow shaft to a drive shaft, one end of said hollow shaft terminating in a large circular portion, an outer hollow cylindrical section slidable on said hollow shaft, the outer surface of said inner section and the inner surface of said outer section having keyways, a key in said keyways to permit sliding of the outer section on said inner section but prevent relative rotation of these sections, the enlarged circular portion of said inner section and the adjacent end of said outer section having confronting faces for tractive engagement with opposite sides of an interposed V-belt, the outer section having a radial bore, a ball detent in said radial bore, the inner section having spaced annular grooves, one groove positioned to engage the ball detent when the confronting surfaces are in position to be in tractive engagement with a V-belt, the outer groove positioned to engage the ball detent when the confronting surfaces are positioned to be out of tractive engagement with a V-belt, a throw out collar surrounding the outer section and means retaining the throw out collar on the outer section.

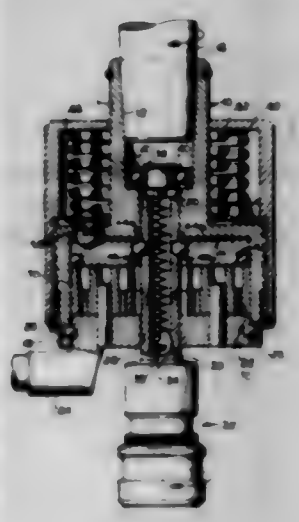
3,144,782
CHAIN SAW DRIVING SPROCKET ASSEMBLY
Tilson H. Edmunson, 1732 SE. Sherrett, Portland, Oreg.
Filed Oct. 27, 1961, Ser. No. 148,698
4 Claims. (Cl. 74—343)



1. A driving sprocket assembly for providing a drive connection between a chain saw power unit and a saw chain, comprising a cup-shaped clutch element adapted to be driven by the power unit and having a closed face provided with recesses, first and second sprocket wheel retaining members having projections on one surface and indentations on the other surface, the sprocket wheel retaining members being disposed in the assembly with

the indentations facing each other and the projections facing outwardly whereby the projections on one of the retaining members engages the recesses in the clutch element for providing a drive connection, and a sprocket wheel disposed between the retaining members adapted for meshing engagement with the saw chain, the sprocket wheel having toothed portions and oppositely extending lateral enlargements on the toothed portions engaging the recesses in the first and second retaining members for providing a drive connection therebetween.

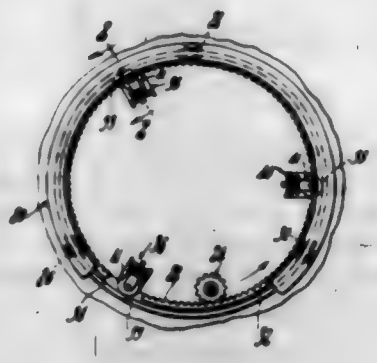
3,144,783
TAPPING ATTACHMENT
Herman R. Dubendorfer, 1513 Princeton Drive, San Jose 24, Calif.
Filed Jan. 18, 1963, Ser. No. 252,357
12 Claims. (Cl. 74—376)



1. A power transmission attachment comprising a rotatable input shaft having an end portion expanded into an inverted cup possessing a bottom containing apertures and a side wall having external threads, a rotatable output shaft, a base for rotatably supporting said output shaft, a disk within said cup adjacent the bottom thereof having a plurality of cavities in its surface adjacent the bottom of said cup, means for coupling said output shaft for common rotary movement to said disk, coupling members of a size to fit into said cavities located in the apertures in the bottom of said cup, a cap arranged concentrically around said input shaft and having a side wall containing internal threads in engagement with said external threads in the side wall of said inverted cup for adjustment of the position of said cap relative to said cup, and an expansion spring arranged coaxially around said input shaft in the space between said cap and said cup to urge said coupling members yieldably into engagement with the cavities in said disk.

3,144,784
CENTERING OF ROTARY MEMBERS
Edward V. Garner, East Walpole, Mass., assignor to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed Feb. 3, 1961, Ser. No. 86,949
6 Claims. (Cl. 74—411)

1. In combination with a rotary member, support means supporting said rotary member for rotation about a predetermined axis, a fixed support member adjacent said rotary member, a substantially circular centering rim on one of said members concentric with said axis, and a centering means mounted on the other of said members and engaging said rim for centering the rotary member about said axis, said centering rim having at least one imperfection exposed to engage said centering means, said rotary member having a drive mechanism which can apply an off-centering force of a given magnitude thereto, said rotary member requiring the application of an off-centering force of a greater magnitude before said rotary member can be shifted laterally to permit the passing of said imperfection, said centering means comprising a multiplicity of spaced-apart guiding members engaged on said rim including at least one guiding member having a pre-



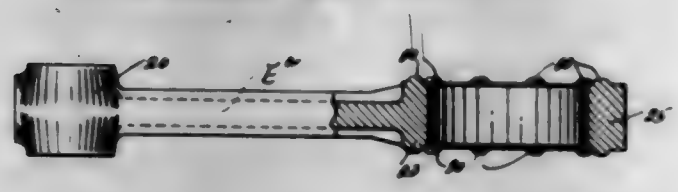
loadable resilient support member to which said guiding member is mounted, and a pre-load means cooperating with said resilient support member for imposing a limited pre-load of a magnitude between the magnitude of said two forces thereon whereby the off-centering influence of said drive mechanism is resisted and said rotary member is centered, while movement of said guide member to accommodate said imperfection in said rim is permitted without lateral movement of said rotary member.

3,144,785
ADJUSTABLE STEERING COLUMN
George Steiner, 58531 Main Blvd., Box 234, and Joseph H. De Maire, 30939 Prospect, both of New Haven, Mich.
Filed Sept. 21, 1962, Ser. No. 225,183
8 Claims. (Cl. 74—493)



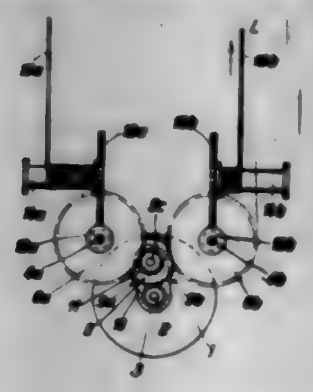
1. An adjustable steering column comprising a relatively stationary tubular lower section and having a ball socket on its upper end, an upper tubular section extending upwardly from and in substantially axial alignment with the lower section, said upper section having a ball on its lower end engaged in said socket, a bearing ring having an annular concave inner surface engaged with the top of said ball, first clamping means acting between said bearing ring and said socket for clamping the ball in the socket, a steering shaft comprising a lower section journaled through said lower column section and an upper shaft section journaled through the upper column section, double knee joint means rotatably connecting the shaft sections together at their adjacent ends, and means for releasably and supportably connecting said bearing ring to a support.

3,144,786
ANTI-FRICTION TYPE MOUNTING MEANS FOR CONNECTING RODS
Robert A. Dale, 4432 Oakland Ave. S., Minneapolis 7, Minn.
Filed Mar. 21, 1962, Ser. No. 181,387
5 Claims. (Cl. 74—579)



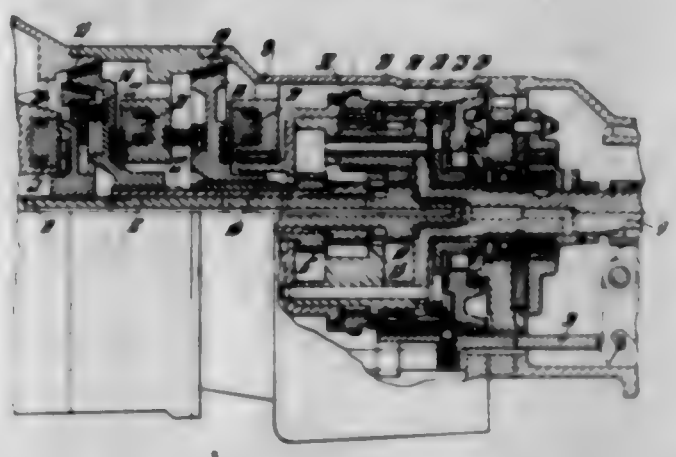
1. As an article of manufacture, a crank shaft connecting rod comprising an elongated body having a wrist pin connecting means at one end and at the opposite end having a crank pin connecting portion, the outer sides of which are provided with small friction reducing projections integral therewith.

3,144,787
DRIVING ARRANGEMENTS FOR TOY DEVICES AND THE LIKE
Rudolf Griesl, Ludenscheid, Westphalia, Germany, assignor to Marbet & Co. Kommanditgesellschaft, Ludenscheid, Westphalia, Germany
Filed Feb. 19, 1960, Ser. No. 9,857
Claims priority, application Germany, Feb. 20, 1959, M 40,563
2 Claims. (Cl. 74—665)



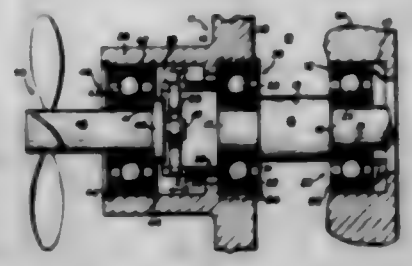
1. A driving arrangement for alternately rotating two driven shafts comprising, in combination, a reversible electric motor having a driving shaft; a driving gear coaxially mounted on and rotatable by said shaft in clockwise and anticlockwise directions; a carrier swingably mounted on said driving shaft; intermediate gear means rotatably mounted on said carrier and meshing with said driving gear; a first and a second driven shaft disposed at the opposing sides of said carrier and each parallel with said driving shaft; a first and second driven gear coaxial with and drivingly connected to said first and second driven shaft, respectively, said carrier swingable into a first position in which said intermediate gear means meshes with said first driven gear, and into a second position in which said intermediate gear means meshes with said second driven gear whereby said intermediate gear means is adapted to rotate the first driven shaft when the carrier is in said first position and to rotate the second driven shaft when the carrier is in said second position; first self-locking means comprising a first worm coaxially connected with the first driven shaft and a first worm wheel meshing with said first worm for holding the first driven shaft against rotation when said intermediate gear means is out of mesh with said first driven gear; and second self-locking means comprising a second worm coaxially connected with the second driven shaft and a second worm wheel meshing with said second worm for holding the second driven shaft against rotation when said intermediate gear means is out of mesh with the second driven gear.

3,144,788
VARIABLE SPEED POWER TRANSMISSION MECHANISM FOR VEHICLES
Axel Charles Wickman, 14 S. Hibiscus Drive, Hibiscus Island, Miami Beach, Fla.
Filed June 12, 1961, Ser. No. 116,453
Claims priority, application Great Britain June 29, 1960
1 Claim. (Cl. 74—761)



An epicyclic power transmission mechanism comprising a housing, a single input shaft rotatably mounted in said housing, a driving sun pinion on said input shaft, first and second reaction sun pinions rotatably mounted in said housing, first and second brake means for locking said first and second reaction sun pinions respectively relative to the housing, clutch means for interlocking said first reaction sun pinion with said input shaft, an internally toothed reaction annulus rotatably mounted in said housing, a control ring for said reaction annulus rotatably mounted in said housing, driver-operable means for locking said control ring relative to the housing, a unidirectional clutch interconnecting said reaction annulus and said control ring, an internally toothed reversing annulus rotatably mounted in said housing, a driver-operable means for locking said reversing annulus relative to said housing, an output shaft rotatably mounted in said housing, a planet pinion carrier on said output shaft, planet pinions rotatably mounted on said planet pinion carrier and interengaging said first and second reaction sun pinions with said reversing annulus, and further planet pinions rotatably mounted on said planet pinion carrier and interengaging said driving sun pinion with said reaction annulus and with said first-mentioned planet pinions.

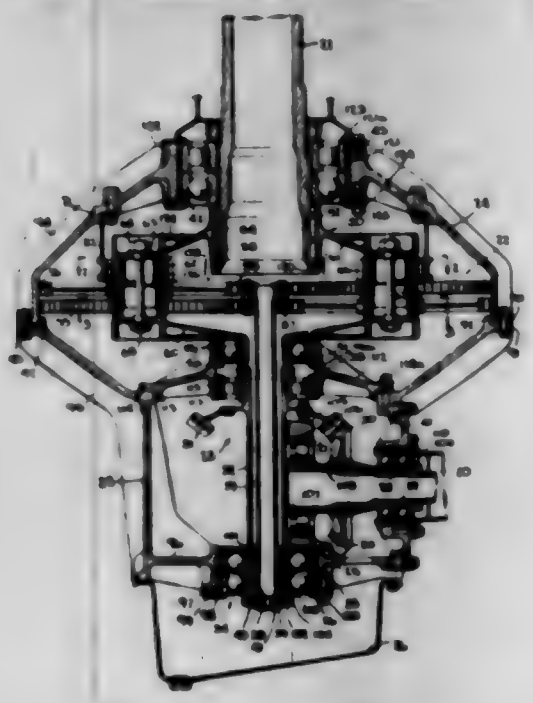
3,144,789
HIGH TORQUE PLANETARY DRIVE
Eli M. Ledin, 4 Bobwhite Drive, Norwalk, Conn.
Filed July 18, 1962, Ser. No. 210,733
2 Claims. (Cl. 74—798)



1. A high torque drive for an industrial fan or the like comprising, in combination, a ball bearing assembly including inner and outer races, balls disposed between said races, and a separator operatively associated with said balls and movable therewith; means fixing said outer race against rotation whereby said assembly may function as a planetary gearing; a rotatably supported driving shaft connected to said inner race to rotate the latter; a rotatably supported driven shaft; a load connected to said

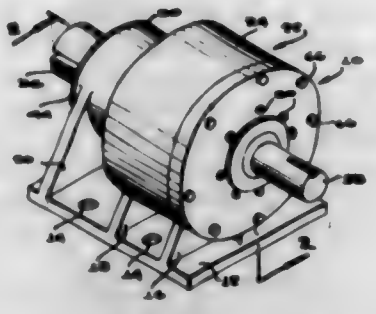
driven shaft; said separator extending in an axial direction outwardly of said ball bearing assembly toward said driven shaft; and a resilient coupling connecting the axially outer end of said separator to said driven shaft to rotate said driven shaft upon rotation of said driving shaft, said resilient coupling absorbing the shock incident to the initiation of rotation of said driving shaft; said resilient coupiing comprising a relatively elongated spring element engaged in a diametrical slot in an end of said driven shaft and having ends engaged in diametrically opposite slots in the axially outer end of said separator; said spring element having a substantially rectilinear central section engaged in the slot in said driven shaft and substantially rectilinear ends extending substantially parallel to said central section and engaged in the slots in said separator; said central section being joined to each end section by a U-shaped bowed offset portion substantially perpendicular to the plane of said central section, and the bowed offset portions extending in opposite directions; said end sections of said spring element being arranged to disengage said slots in said axially outer end of said separator when the torque exceeds a predetermined value, to uncouple said driven shaft from said separator.

3,144,790
GEAR TYPE TRANSMISSIONS
Charles S. Davis, Jr., New York, N.Y., and Stanley W. Baker, Ramsey, N.J., assignors to Bergen Research Engineering Corporation, Teterboro, N.J., a corporation of New Jersey
Filed Apr. 13, 1961, Ser. No. 102,701
4 Claims. (Cl. 74—801)



1. A speed reducer comprising a torque transmitting shaft and an output shaft axially aligned therewith, a fixed orbit gear, a carrier mounted on said output shaft and rotating therewith, said carrier having six rotatable spur gears meshing with said orbit gear to rotate said carrier on application of torque thereto, three planet gears each mounted on a respective spur gear positioned 120 degrees to one another, a second set of three planet gears mounted on the three remaining spur gears at 120 degrees to one another, means for mounting said torque transmitting shaft to have an end deviating from the aligned axis on application of low radial pressures thereto, said end having a radial flange with three beams extending generally longitudinal to said torque transmitting shaft and on each side of said flange and having a limited universal movement relative to said flange, two sun gears mounted on opposite ends of said beams to move radially and circumferentially with respect to each other and said flange, one sun gear engaging one set of planet gears with the center of tooth contact in aligned relation with the end of the beam engaging said one sun gear and the other sun gear engaging the other set of planet gears with the center of tooth contact in aligned relation with the other end of the beam engaging said other sun gear to have the forces on each side of the flange balanced and to equalize the torque supplied between said sun gears and said respective planet gears.

3,144,791
SPEED REDUCER
Theodore L. Menge, Sr., Shreveport, La., assignor of sixteen and two-thirds percent to Aubry H. Temple, fifty percent to William C. Randolph, and thirty-three and one-third percent to Temple Iron Works, Inc., all of Shreveport, La.
Original application June 6, 1958, Ser. No. 740,364, now Patent No. 2,972,910, dated Feb. 28, 1961. Divided and this application Feb. 24, 1961, Ser. No. 91,546
1 Claim. (Cl. 74—804)



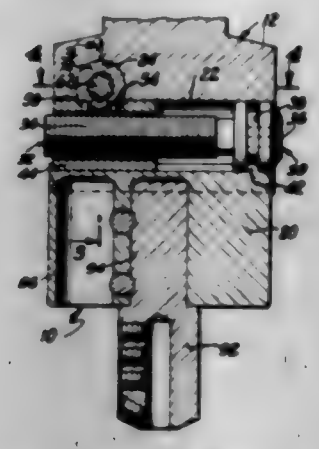
A speed reducer comprising a substantially hollow housing having a pair of opposed open ends, a closure member for each of said open ends, a power input shaft extending through one of said closure members and journalled for rotation within said housing, said power input shaft having a pair of eccentric portions formed thereon intermediate its ends and disposed 180 degrees out of phase, a first spur gear fixedly secured to said one closure member and disposed within said housing in coaxial alignment with said power input shaft, said first spur gear having a number of teeth, a pair of internal spur gears eccentrically connected together to permit differential movement therebetween, each of said internal spur gears, respectively, being mounted on said eccentric portions of said power input shaft, one of said internal spur gears having *b* number of teeth and meshing with said first spur gear, a power output shaft extending through the other of said closure members and journalled for rotation within said housing, a second spur gear disposed within said housing and fixedly mounted on said power output shaft, said second spur gear having *c* number of teeth and being meshed with the other of said internal spur gears, the latter having *d* number of teeth, and wherein the number of teeth between each pair of meshed gears differ in number and are divisible by the difference and whereby the speed reduction ratio may be expressed by the equation

$$\frac{(b-a)}{b}\frac{(d)}{c}-\frac{d-c}{c}=\text{ratio}+-\text{or }0$$

3,144,792
BORING HEAD
Carlos Marchis, 918 S. Burlington, Los Angeles, Calif., assignor of fifteen percent to Thomas P. Mahoney, Pacific Palisades, Calif.
Filed May 14, 1962, Ser. No. 194,316
6 Claims. (Cl. 77—58)

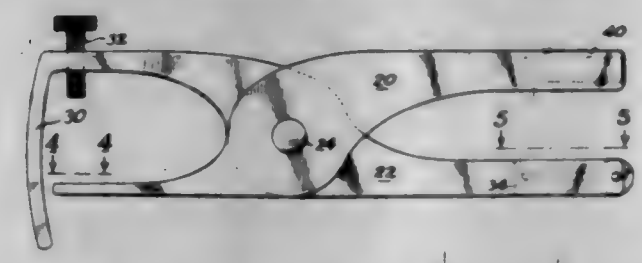
1. In a boring head, the combination of: a housing having mounting means thereupon adapted to facilitate the mounting of the housing on an associated machine

tool; a tool holder mounted for movement in said housing; coarse adjustment means operatively connected to said tool holder for causing movement of said tool holder in relatively large increments, said coarse adjustment means being constituted by a nut slidably mounted in said housing for longitudinal movement and a screw engageable with said nut and longitudinally movable by rotation relative to said nut, said screw being connected



to said tool holder to cause longitudinal movement thereof; and fine adjustment means connected to said tool holder through said coarse adjustment means and adapted to cause relatively fine increments of movement of said coarse adjustment means and said tool holder, said fine adjustment means being engageable with said nut to cause longitudinally sliding movement of the same and to longitudinally move said nut and said screw simultaneously.

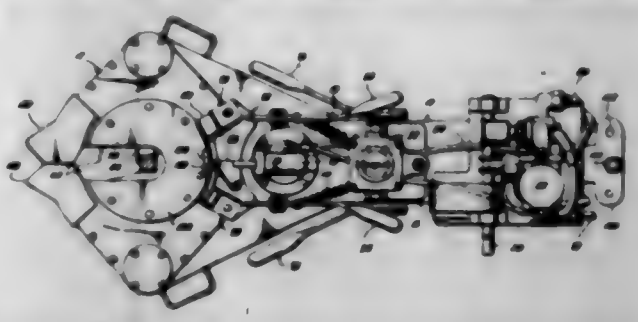
3,144,793
TUBELESS TIRE PUNCTURE REPAIR TOOL
Joseph H. Smith, 3151 Pine St. SW., Tacoma, Wash.
Filed Mar. 27, 1961, Ser. No. 98,483
2 Claims. (Cl. 81—15.6)



1. A tool for use in repairing punctures in tubeless tires and comprising a pair of lever arms pivoted to each other intermediate their ends in plier-like fashion and forming a pair of opposed jaws, one of the jaws having an extension extending at substantially right angles in the direction of the other of the jaws and reaching beyond the plane of the same when the tool is in operative position, the other of the jaws having a bifurcated outer end for reception therethrough of a hollow needle associated with a collapsible fluid tire sealant receptacle with the latter resting upon said bifurcated jaw, and screw means extending through said one of the jaws in the direction of the other of the jaws and adapted to bear adjustably on the end of the collapsible receptacle opposite the bifurcated jaw.

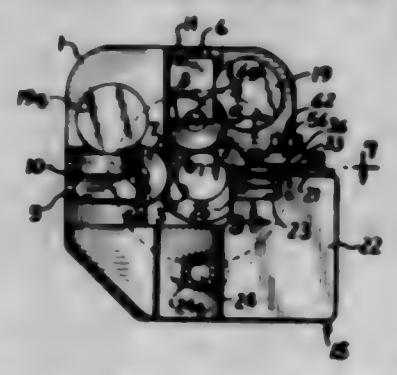
3,144,794
POWER DRIVEN SUCKER ROD WRENCH
James Lewis Foster, P.O. Box 1351, Wichita Falls, Tex.
Filed June 26, 1961, Ser. No. 119,718
4 Claims. (Cl. 81—56)

1. Power wrench mechanism for connecting and disconnecting elongated threaded members disposed in end to end arrangement on a common axis and each having elongated, flat, external faces disposed in angular relation about said axis comprising a housing having a radially disposed opening, a rotary head rotatably mounted in the housing and having a radially disposed slot positioned to form with said opening a throat into and out of which one of said members may be moved when the opening and slot are in radial alignment, holding means including a holding element having a recess of angular shape and which is rotatably mounted on the head for swinging movement to a position in engagement with adjacent ones



of said faces of said one member in said slot to hold said one member against rotation relative to the head and to another position out of engagement with said one member, and means on said element and head positioned for coaction to move said element to said holding position upon rotation of the head in one direction and to move the element out of said holding position upon rotation of the head in the other direction.

3,144,795
TOOL
William S. Dunnell, La Grange Park, Ill., assignor to Boyar-Schultz Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 1, 1961, Ser. No. 128,481
5 Claims. (Cl. 82—35)

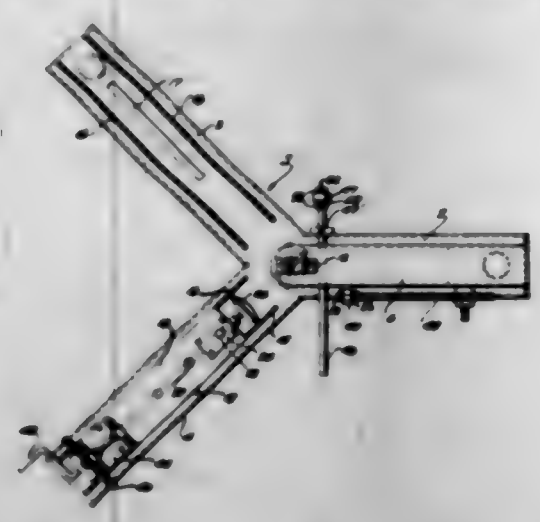


1. A cutting tool comprising a tool holder having a seat, a tool bit mounted on the seat and having a cutting edge, a first surface on the tool holder, a slide mounted on the tool holder and having a second surface presented toward the first surface and lying at an angle thereto, a chip breaker seated upon the tool bit and having converging surfaces disposed against said first and second surfaces respectively and being slidable relative thereto, means for shifting the slide toward the first surface in a manner to move the second surface toward the first surface without changing the angular relationship therebetween, the movement of said second surface shifting the chip breaker along said surfaces toward the cutting edge and to a selected position relative thereto, and releasable clamping means cooperating with the tool holder and the chip breaker for holding the latter in its selected position.

3,144,796
MULTIPLE CIRCULAR SHEAR
Joseph C. Bergmann, 5130 E. Imperial Highway, Lynwood, Calif.
Continuation of application Ser. No. 759,301, Sept. 5, 1958. This application Mar. 19, 1962, Ser. No. 182,995
6 Claims. (Cl. 82—57)

1. In sheet metal cutting apparatus: stationary support means; means for clamping sheet metal to said

support means for rotation about a fixed axis through at least 360 degrees; a plurality of cutter support members angularly spaced from one another and mounted on said stationary support means for movement to and from said axis in separate planes generally radial of said axis; a pair of oppositely driven, rotary cutters disposed one above the other for severing the sheet metal and rotatably carried by each of said support members; means carried by each of said support members for independently rotating each pair of cutters, whereby the pair of cutters on one support member severs the sheet metal and ro-



tates it about the said fixed axis independently of the pair of cutters on another support member; means for individually shifting said cutter support members on said stationary means to and from said axis to locate one pair of cutters a different distance from said axis than another pair of cutters whereby the pairs of cutters are adapted to be independently rotated to cut a ring in the sheet metal; and means for selectively moving the upper cutter of each pair to and from its companion lower cutter to place such pair of cutters in shearing relation or out of shearing relation to the sheet metal therebetween.

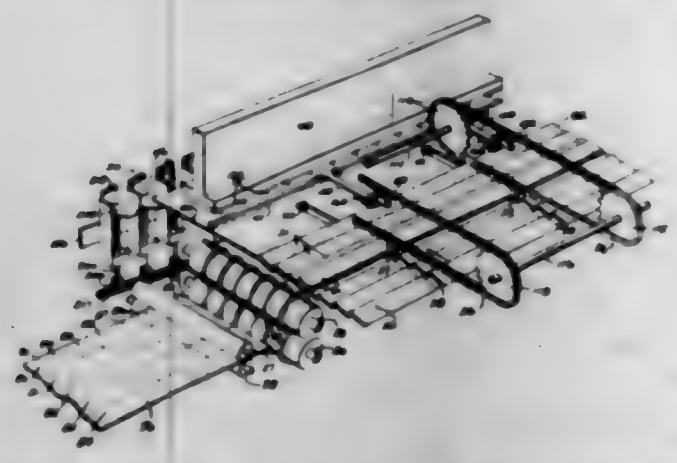
3,144,797

SLITTER DEVICE TILTING WEBS IN ACCORDANCE WITH THE TILT OF THE RECEIVING TRAY

Lloyd E. Pitner, deceased, late of Milwaukee, Wis., by John L. Pitner, administrator, Milwaukee, Wis.

Original application July 13, 1953, Ser. No. 367,686, now Patent No. 2,879,991, dated Mar. 31, 1959. Divided and this application Mar. 18, 1959, Ser. No. 804,059

4 Claims. (Cl. 83—87)



1. In a collocating machine having feed means for sheet material directed forwardly toward a tray, a tray to receive a plurality of individual strip products, said tray having elongated troughs for the receipt of each strip, said troughs having laterally inclined floors positioned to receive a product moving into a trough from a receiving end thereof, a slitter positioned adjacent said receiving end of said troughs and comprising a pair of slitting rolls having spaced slitting collars provided with mated radial side walls overlapping in contiguity whereby in a slitting operation, material at one side of the slit is thrust one way, and the other is thrust the other way to tilt the slit material, said slitting collars being arranged and positioned along said rolls whereby to slit material and tilt it for passage to a trough in accord with the tilt of the bottom of the trough.

3,144,798

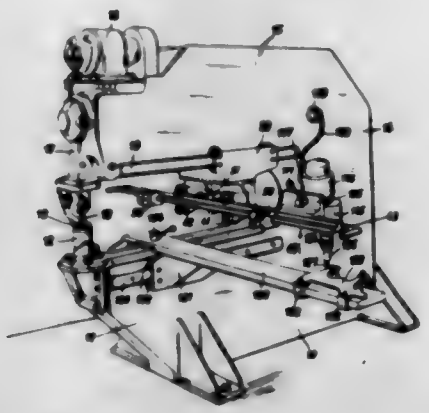
SHEET CUTTING MACHINE

Berthold Leibinger, Stuttgart-Weilimdorf, Germany, assignor to Messrs. Trumpf & Co., Stuttgart-Weilimdorf, Germany

Original application Oct. 29, 1958, Ser. No. 770,461, now Patent No. 3,058,380, dated Oct. 16, 1962. Divided and this application July 22, 1960, Ser. No. 44,650

Claims priority, application Germany, Dec. 6, 1957, T 14,490; July 19, 1958, T 15,410; July 24, 1958, T 15,422

23 Claims. (Cl. 83—410)



3. In a machine for cutting sheets of metal or the like, in combination, punch press means for cutting a work sheet, said punch press means including upper and lower substantially horizontal arms spaced from each other and a reciprocable punch carrier and a die carrier respectively located at adjacent front ends of and carried by said upper and lower arms; first carriage means supported on and longitudinally movable along said upper arm toward and away from said punch carrier and located at least in part between said upper and lower arms; means cooperating with said first carriage means and upper arm for releasably fixing said first carriage means to said upper arm; second carriage means carried by said first carriage means between said upper and lower arms for movement transversely of said arms; means cooperating with said second and first carriage means for releasably fixing said second carriage means to said first carriage means; and work holding means carried by said second carriage means for holding a work sheet in a given plane while it is acted upon by said punch press means and said first and second carriage means being capable of moving said work sheet in any direction in said plane.

3,144,799

TRIM MACHINE FOR PERFORMING SUPPLEMENTARY PIERCING OPERATION AND AN INTERLOCKED SAFETY STOP ON A SLIDER CAST

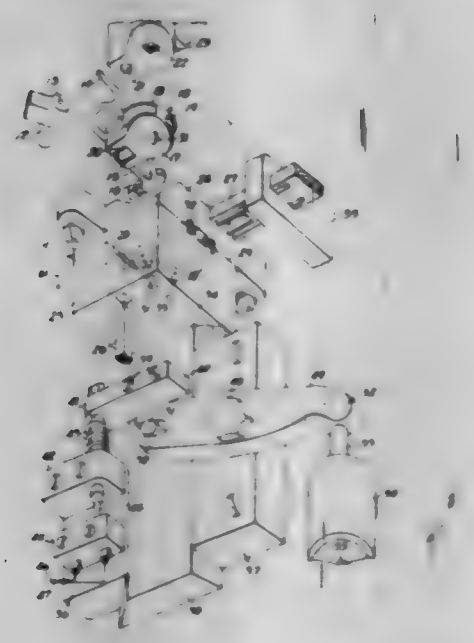
Louis H. Morin, 125 Beechwood Ave., Bronx, N.Y.

Filed May 17, 1962, Ser. No. 195,583

4 Claims. (Cl. 83—555)

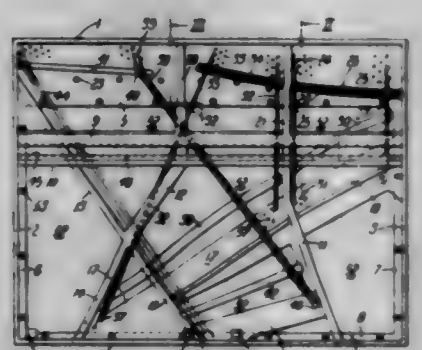
1. In a die casting machine of the character defined, a trimming and forming station for a casting comprising a nest consisting of a stationary member and a movable member, said nest being formed by a recess between the

faces of the stationary member and the movable member, said recess being of a contour complementary to that of the casting, an opening through the stationary member aligned with the recess, punch means aligned with said opening for moving said casting through said opening into said nest whereby said casting is trimmed of the gate and runner, one of the members of said nest supporting a forming tool for piercing a hole in the casting supported in the nest by the first named tool, two other trimming punches movable into the nest of said members and the casting supported therein in trimming portions of the casting in combination with the trimming



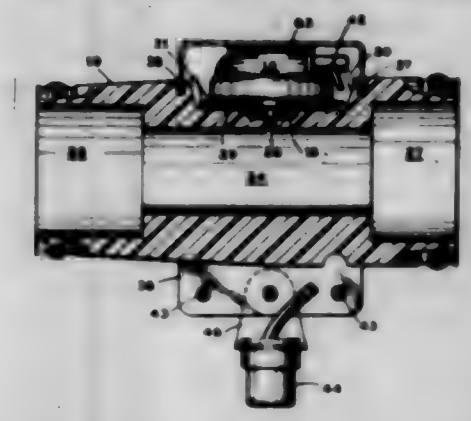
tool of said transfer tool in completely trimming the casting, said movable member of the nest including a slide, means for actuating said slide in movement of said movable member away from the stationary member, while maintaining the trimmed and formed casting supported on one of said punches, said one punch being then actuated to move the trimmed and formed casting out of the path of said members, and means associated with said one punch for stripping the resulting formed cast product therefrom for delivery at said station.

3,144,868
PIANOFORTES
John A. Salmons, Northampton, England, assignor to Crown Foundry Company Limited, Northampton, England, a British company
Filed June 12, 1961, Ser. No. 116,514
11 Claims. (Cl. 84—186)



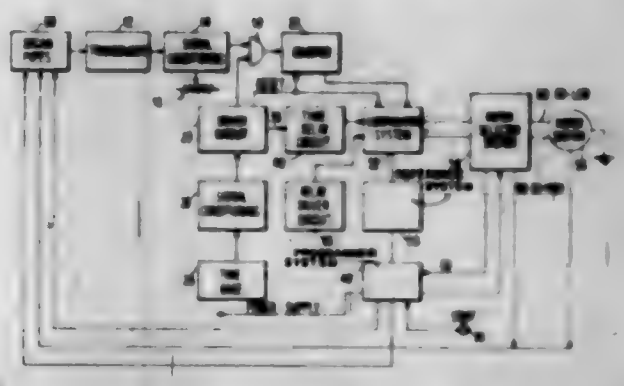
1. A pianoforte comprising a unitary integral moulding of reinforced plastic constituting the frame and the top, bottom and sides of the case of the pianoforte.

3,144,881
MUSICAL INSTRUMENT
Kent A. Abreo, West Palm Beach, Fla. (1811 Broadway, Riviera Beach, Fla.)
Filed Nov. 23, 1962, Ser. No. 239,717
3 Claims. (Cl. 84—380)



1. In combination with a woodwind type instrument having a main sound column, an electrical pickup mounted securely to the sound column with a passageway communicating from the point of the pickup mounting to the interior of said column, an amplifier for amplifying an electric signal generated by sound waves striking said pickup, an electrical conductor communicating between the pickup and the amplifier and a speaker electrically connected to said amplifier whereby sound caused by passage of air waves in said column is adapted to be amplified; the improvement which resides in a recessed surface on the instrument and a flat cushion nested on the recessed surface and disposed between said pickup and said sound column for eliminating mechanical noises of the pickup vibrating against the sound column and movement of the pickup with respect to the instrument.

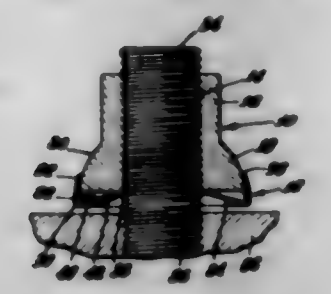
3,144,882
TUNING APPARATUS
Lawrence P. Faber, Jr., 3127 David Ave., Palo Alto, Calif., and Keith S. Kirkwood, 10633 S. Blaine Ave., Cupertino, Calif.
Filed June 1, 1961, Ser. No. 114,163
9 Claims. (Cl. 84—454)



6. Apparatus for automatically tuning a plurality of acoustical devices successively compriting: means including a transducer for picking up the frequency of oscillations of acoustical energy generated by each of a plurality of acoustical devices when energized; circuit means connected to said transducer by a series connected signal conditioning circuit and a gate logic circuit for counting the frequency of oscillations picked up by said transducer; means including a reference system, a motor selector system, and a motor system connected to said plurality of acoustical devices for selecting frequency limits for comparison with the frequency of oscillations counted by said circuit means; and means connected to said circuit means and said motor system for automatically comparing the frequency of oscillations counted by said circuit

means with said frequency limits and for adjusting the frequency of said acoustical devices to within said frequency limits.

3,144,883
NUT AND WASHER ASSEMBLY
Franklin S. Briles, 6 Middleridge Lane N., Rolling Hills, Calif.
Filed Aug. 11, 1959, Ser. No. 833,029
1 Claim. (Cl. 85—32)



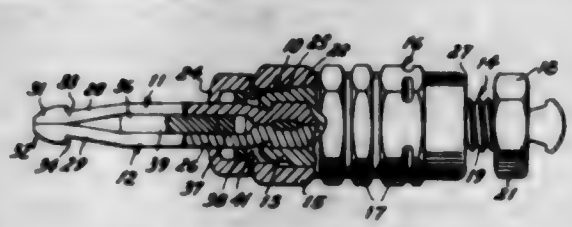
A nut and captive washer assembly comprising: a nut member having a central threaded bore extending therethrough to render the nut mateable with a threaded member, said nut member including a wrenching portion, an annular flange portion adjacent said wrenching portion, and a flat base disposed at substantially right angles to the bore and extending from the bore radially outwardly to the periphery of said flange portion, said flange portion being in the form of an annular segment of a sphere with the convergence of said annular flange portion being toward said wrenching portion, with the diameter of said flange portion in the region of said wrenching portion being less than the diameter of said flat base; and a resilient captive washer having a central opening therein with a diameter larger than the diameter of the bore with which it aligns, said washer including a peripherally continuous skirt which is complementary to the form of said annular flange portion and is in encircling, loosely contacting relationship with said annular flange portion and at least partially overlying the same, and a deformable base portion having a frusto-conical configuration embodying a crown and a peripherally continuous, smooth, outer peripheral edge integral with said skirt, the crown being proximate the base of said nut member, and the outer peripheral edge being spaced from the base of said nut member and adapted to initially, frictionally, contact a bearing surface to override the contacting engagement and rotation of said washer occurring due to the rotation of said nut member in one direction to a terminal position, thus deforming the washer between the base of said nut member and the bearing surface to render the washer substantially flat, whereby substantially the entire base portion of the washer is in frictional and compressive engagement with the bearing surface, whereby the outer peripheral edge of said base portion of the washer produces force on the bearing surface and on the nut member, with more resistance to rotation being present at the bearing surface than at the nut member, and return of said washer to substantially its original form is achieved when said nut member is rotated in a second direction opposite said one direction.

3,144,884
ANCHORING STRUCTURE FOR RELEASABLE FASTENER PINS
Malcolm P. Harwood, North Hollywood, Calif., assignor to Wedgelock Corporation of California, North Hollywood, Calif., a corporation of California
Filed June 30, 1961, Ser. No. 121,212
1 Claim. (Cl. 85—81)

In a releasable fastener including a body having a work-engaging closed end and an axial opening extending through said closed end, stud means movably mounted in said body for non-rotating axial movement relative to said body, said stud means having an enlarged head at one end thereof and a shank, means defining a blind bore in one end of said head opposed from said shank, a pair of spaced, elongated, work-engaging pins, each said pin having inner and outer ends, an intermediate portion extending outwardly of said body through said axial opening thereof, and enlarged outer tips, said outer ends of said pins being angularly disposed relative to each other so as to converge at their said outer tips, the improvement comprising:

an annular internal flange integral with said head and adjacent to the open end of said blind bore of said head and engaging opposing external radial shoulders defined on said inner end of each of said pins;

said blind bore including a cylindrical portion terminating in a conical blind end;

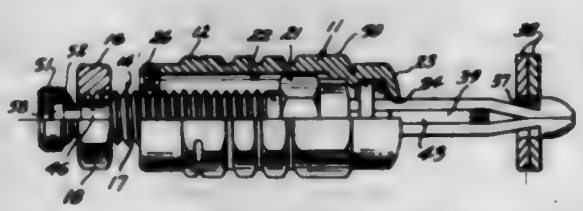


said inner end of each of said pins being semi-circular in cross section and including a relatively flat axial face and a semi-conical tip, said inner ends being juxtaposed in face-to-face relationship in said blind bore so as to define together a cylindrical exterior complementary to the cylindrical portion of said blind bore and the semi-conical tip complementary to the conical end of said blind bore;

a transverse groove intersecting said relatively flat face of each of said inner ends of said pins and extending from side to side of said faces, said grooves being equally spaced from the tips of said ends, said grooves having sloped side walls and substantially flat bottom walls, said bottom walls extending substantially parallel to said flat faces; and

key means residing in said transverse grooves with a portion of one side of a longitudinal median of said key means residing in one of said grooves and a portion on an opposite side of said median residing in the other of said grooves, said key means having sloped side walls to cooperate with the sloped side walls of said grooves.

3,144,885
RELEASABLE FASTENER HAVING RETAINING MEANS FOR A DRIVE NUT
James H. Lee, Lawndale, Calif., assignor to Wedgelock Corporation of California, North Hollywood, Calif., a corporation of California
Filed Dec. 18, 1961, Ser. No. 160,365
1 Claim. (Cl. 85—81)



In a releasable fastener including a body having a work-piece-engaging closed end, an axial opening extending through said closed end and a tool-engaging outer surface adapted to be non-rotatably supported by a tool, stud means movably mounted in said body for non-rotating axial movement relative to said body and having an externally threaded portion intermediate its ends, work-engaging pin means secured to one end of said stud means for linear movement therewith extending outwardly of said

body, said pin means being protractable and retractable through said opening of said body, nut means engaging said threaded portion of said stud means and engageable with the end of said body which is remote from said closed end for selectively retracting said pin means in response to rotation of said nut means, said nut means having a tool-engageable outer surface adapted to be rotated by a power driven tool, and retaining means on said remote end of said stud means for preventing removal of said nut means from said stud means, the improvement comprising: a reduced portion intermediate said retaining means and said threaded portion of said stud means on which said nut means is freely rotatable, said retaining means including annular shoulder means on said remote end of said stud means, said shoulder means including a frusto-conical portion coaxial to the longitudinal axis of said stud means and spaced from said threaded portion thereof and having a diametric dimension substantially greater than the outer diameter of the threads on said nut means, a convexly rounded annular portion coextensive with and axially spaced from said frusto-conical portion and projecting rigidly therefrom toward said threaded portion to engage the inner diameter of the thread of the nut when the nut is forcibly removed from the threaded portion of the stud so as to provide a surface which retains the nut in a plane substantially normal to the longitudinal axis of the stud and spaced from said frusto-conical portion.

3,144,806
PROJECTION SYSTEM

Tom F. Smith, Urbana, Mo. (% Rowe E. Carney, Jr., R. E. Carney Theatres, 1100 Pine St., Rolla, Mo.), assignor of fifty percent to Rowe E. Carney, Jr., Rolla, Mo.

Filed Sept. 28, 1962, Ser. No. 226,964
6 Claims. (Cl. 88—16.6)



1. In a system for projecting panoramic scenes comprising a projector, said projector adapted to project through a first projection lens a panoramic scene from a film each frame being subdivided into at least three areas, each sectional area carrying a picture of a scene photographed which corresponds to a definite angular section of the scene, a collimating lens positioned to receive a projected beam consisting of each of the sectional areas of a single frame from the projection lens, a screen lens assembly positioned to receive the projected beam after it passes through the collimating lens, said screen lens assembly consisting of four separate convex lenses positioned along a transverse plane with respect to said projected beam in optical alignment therewith, two in one level and two in a level directly below, each of the lenses being adapted to receive a different portion of the said projected beam corresponding to the sectional area of the film frame, four secondary projection lenses positioned in optical alignment with respect to said projected beam, two in said first level and two in said second level, each of the four secondary projection lenses being adapted to receive a different portion of the said projected beam corresponding to the sectional area of the film frame, separate first reflectors positioned to receive a different portion of the said projected beam from each of the two upper level convex lenses of the screen lens assembly, said reflectors being adapted to reflect the different portions of the beam laterally in opposite directions, each of said secondary projection lenses of said first level being adapted to receive said reflected portions of said beam, separate second reflectors adapted to receive the separate beams from the said secondary projection lenses and to reflect the separate beams in a direction and in a manner whereby the beams are distributed horizontally over an arcuate screen, each of the two secondary projection lenses of the second level being adapted to receive a different portion of the said projected beam of the film frame, separate first reflectors positioned to receive a different portion of the said projected beam from each of the secondary projection lenses of the second level, the said reflectors being two for each secondary projection lens of the second level, the first of said reflectors being adapted to reflect the different portions of the beam laterally in opposite directions, the second of said reflectors adapted to receive the separate beams from the said first reflectors and to reflect the separate beams in a direction and in a manner whereby the beams are distributed horizontally over an arcuate screen displaced from the beams projected by the lenses and reflectors of the first level.

3,144,807
OPTICAL ELECTRIC SYSTEM FOR USE WITH MEASURING INSTRUMENT

William F. Coombs, Jr., Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed June 18, 1962, Ser. No. 203,285
4 Claims. (Cl. 88—24)





1. An optical electric system for use with a measuring instrument including in combination a rotatable mirror, a concave scale and an image plane, a screen disposed at said image plane, means including a light source for projecting a beam of light by way of said rotatable mirror onto said concave scale, said concave scale including a reflective surface and scale representations on said reflective surface, said reflective scale retrodirecting the light rays projected thereupon, and means producing an optical signal associated with said circular scale but separate from said scale representations, an optical image forming element placed on the optical axis of the system between said scale and said image plane whereby light including the optical signal is retrodirected by said concave scale by way of said rotatable mirror and through said optical imaging forming element to thereby form an image of an illuminated portion of said scale on said screen, means including a plurality of photoelectric cells

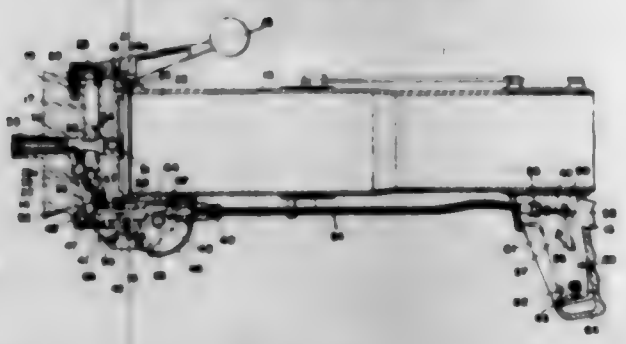
detecting the optical signals, electrical circuit means associated with said photoelectric cells indicating changes in the position of the rotatable mirror.

3,144,806

RECOILLESS RIFLE FIRING MECHANISM

Walter B. Stepp, Fair Oaks, Calif., and Francis W. Dietsch, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Sept. 11, 1962, Ser. No. 222,977
5 Claims. (Cl. 89—1.7)



1. In a recoilless rifle, the combination of a barrel having an interrupted thread at its breech end, a nozzle having a thread at its forward end, a hinge coupling said nozzle to said barrel, a lock ring having its rearward end partially threaded onto said forward end of said nozzle and having on its forward end an interrupted thread adapted to cooperate with said interrupted thread of said barrel, said lock ring having a radial extension, means rotatably mounting a cocking shaft for movement with a control handle about the longitudinal axis of the shaft between predetermined limits, said cocking shaft extending transversely into said nozzle and having a groove at its inner end, said control handle having a recess engaging with said radial extension for rotating said ring in opposite directions between said predetermined limits to engage and disengage said interrupted threads, and latch means cooperating with said groove only during disengagement of said interrupted threads to lock said shaft and said handle against rotation.

3,144,809

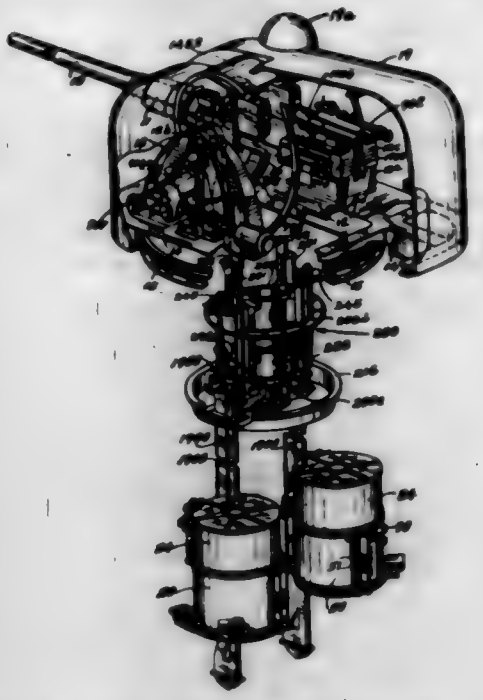
BREECH BLOCK OPERATING MECHANISM

Phillip H. Girouard, Washington, D.C., Carl V. Hickman, deceased, late of Kensington, Md., by Jean W. Hickman, administratrix, Washington, D.C., Garold A. Kane, John L. Nelson, Milton C. Neuman, and Harrison Randolph, Minneapolis, Minn., and Thomas C. Collier, Portsmouth, N.H., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Original application Aug. 27, 1952, Ser. No. 306,612. Divided and this application July 9, 1958, Ser. No. 758,844

2 Claims. (Cl. 89—6)

1. In an automatically operated gun system of the recoil type including means to return the gun tube from a recoiled position to a battery position, an automatically operated breech block assembly operable to open and close the breech of the gun tube, the improvement wherein said automatically operated breech block assembly comprises a breech block, a breech block operating fluid motor, a first link pivotally connected at one end to said breech block, a lever having one end pivotally connected to the other end of said first link, said lever having its other end pivotally mounted on a stationary portion of said gun, said link and said lever disposed in substantially a straight line when said block is in said closed position thereby forming a straightened toggle, said motor being operably connected to said lever at a point intermediate said ends of said lever in a manner wherein said motor is operable to swing said lever about said other end to break said toggle and move said breech block to said open position, a recoil actuated valve operable to control the flow of a first pressurized fluid to said breech block operating motor, said recoil valve being actuated by recoil of said gun to thereby permit the communication of said first pressurized fluid to said breech block operating motor thereby causing said motor to move said breech block to open the breech of said gun tube, fluid pump means operated by said recoil to generate a second pressurized fluid, said second pressurized fluid being communicated to said breech block operating motor in a manner to reinforce said first pressurized fluid during movement of said breech block to open the breech of said gun tube, a rammer valve actuated when a shell is being rammed into said gun tube, said rammer actuated valve and said recoil actuated valve operable to act in conjunction to effect communication of said first pressurized fluid to said breech block operating motor in a manner to cause movement of said breech block to said breech closing position, and buffer means on said breech block operating motor operable to gradually decelerate the terminal movements of said motor.

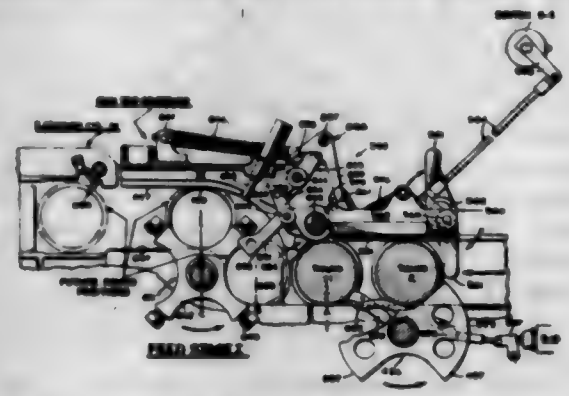


3,144,810

AUTOMATIC FEED AND CONTROL MECHANISM

Arthur J. Stanton, Bethesda, Md., David F. Anderson, McLean, Va., Richard E. Taylor, Hyattsville, and Robert Butterworth, District Heights, Md., and Russell T. Shawen, Arlington, Va., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 3, 1957, Ser. No. 663,322
12 Claims. (Cl. 89—33)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In an automatic firearm having a barrel, a receiver having a round entry end and a round exit end, a con-

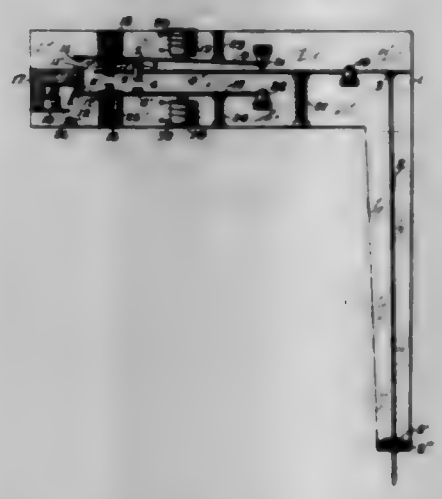
tinuous feeder for moving rounds adjacent the receiver, the continuous feeder defining a round passage, a movable round bypass door adjacent the receiver and normally in a closed position, a latch for said bypass door, and a gun mechanism comprising; rotatable feed means for successively moving rounds into and out of barrel alignment, reciprocating drive means operable for actuating said feed means when a round is fired, round entry gate means disposed between said continuous feeder and said gun barrel, support means for said gate means, and lock means for said gate means and operable during indexing movement of said feed means, and round bypass locking means alternately actuated by the positioning of said lock means for said gate means.

3,144,811

PATTERN SENSING ARRANGEMENT FOR A CUTTING MACHINE TOOL

František Janas and Jan Sedláček, Gottwaldov, Czechoslovakia, assignors to Závody presního strojírenství Gottwaldov, národní podnik, Gottwaldov, Czechoslovakia

Filed May 2, 1962, Ser. No. 191,783
16 Claims. (Cl. 90—62)



1. A sensing arrangement for a machine tool, comprising, in combination,

(*a*) a support adapted to be connected to a cutting tool for joint movement therewith while said tool cuts a work piece;

(*b*) a primary switch actuator movably mounted on said support;

(*c*) two secondary switch actuators movably mounted on said support;

(*d*) actuating means for moving each of said secondary switch actuators toward and away from a respective predetermined position adjacent said primary switch actuator;

(*e*) stylus means mounted on said support for scanning a pattern when said support moves relative to said pattern, said stylus means being movable on said support responsive to engagement with the pattern scanned, and connected to said primary switch actuator for moving the same relative to each of said secondary switch actuators toward and away from a normal position in which said first switch actuator engages the respective secondary switch actuator when the same is in said predetermined position thereof;

(*f*) contact means operative responsive to relative movement of said primary and secondary switch actuators; and

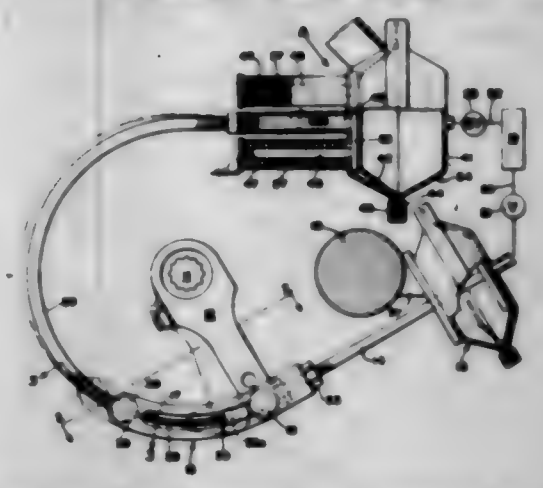
(*g*) circuit means conductively connected to said contact means for controlling movement of said support relative to said pattern.

3,144,812

EMERGENCY ACTUATOR FOR AIR BRAKE SYSTEM

Edgar A. Rager and Willie T. Davis, San Jose, and Franklin F. Day, Saratoga, Calif., assignors, by direct and mesne assignments, to Explorer Research Co., a corporation of California

Filed Sept. 5, 1961, Ser. No. 136,013
8 Claims. (Cl. 91—170)



1. Emergency brake actuating mechanism for a motor vehicle equipped with an air brake system of the type which includes a supply of compressed air, a brake actuating cam shaft, a brake arm secured thereto, a primary brake actuating air pot having a piston therein and communicating with the compressed air supply through an operator controlled valve, a piston rod mounted for limited movement by the piston of the primary air pot, powerful spring means emergency brake operation, and secondary air pressure actuated means communicating with the compressed air supply and acting oppositely to said spring means with sufficient force, at a designed operating pressure of the compressed air supply, to move the spring means to inoperative position; said emergency brake actuating mechanism comprising

(*a*) a slip-link on the free end of the piston rod,

(*b*) thrust means on the slip-link for thrust engagement with the free end of the brake arm in a brake setting direction upon controlled actuation of the primary air pot for normal brake setting operation,

(*c*) said brake arm being movable away from thrust engagement with said thrust means along said slip-link member in a brake setting direction,

(*d*) and a tension member interconnecting the free end of the brake arm to said spring means for biasing the tension member and the brake arm to which it is connected in a brake setting direction, the limit of movement of the brake arm by the spring means being greater than its limit of movement by the primary air pot,

whereby, upon a designed drop in pressure in the compressed air supply, the secondary air pressure actuated means releases the spring means, which thereupon, by means of the tension member, biases the free end of the brake arm along the slip-link and clear of the thrust means to an emergency brake setting position beyond the limit of movement of the brake arm and its cam shaft by the primary air pot.

3,144,813

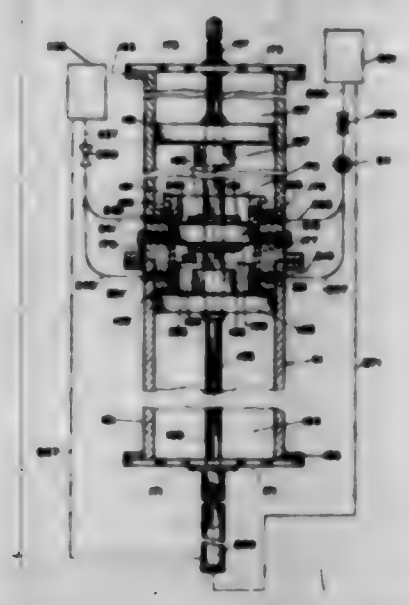
RECIPROCATING ENGINE

Abraham G. Bentiaanse, 162 Main St., Unionville, Conn.

Original application July 5, 1956, Ser. No. 596,091, now Patent No. 3,049,089, dated Aug. 14, 1962. Divided and this application Mar. 5, 1962, Ser. No. 177,559
4 Claims. (Cl. 91—329)

1. In a reciprocating engine, two aligned cylinders, a piston operating within each of said cylinders, a shaft rigidly connecting said pistons, an oscillatable main valve

having a central cylindrical opening and carrying ports alternatively alignable with inlet and outlet ports fixed to the engine which upon the operation of said valve closes inlet ports to the first of said cylinders and opens outlet ports to the second of said cylinders and vice versa, mounting for said main valve centrally disposed between and aligned with said cylinders, a central oscillating hammer valving disc forming a partition between said cylinders and freely longitudinally movable upon said rigid shaft connecting said pistons, cooperating formations by which said disc is mounted within said central cylindrical opening of said main valve for movement therewith and relatively thereto along a longitudinal axis, the sides of said disc being disposed at right angles to its



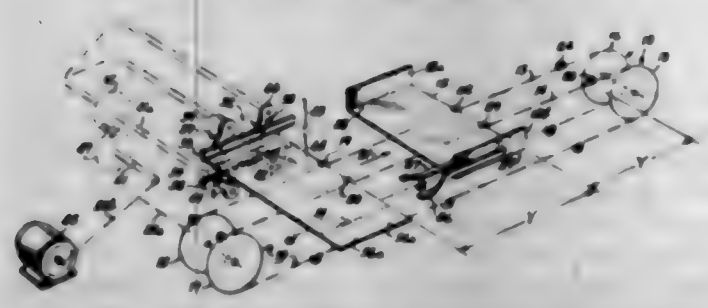
axis of longitudinal movement and the width of said disc being relatively less than the length of the cylindrical opening within which it is mounted, and formations upon the sides of said main valve engageable by each of said pistons during the latter portion of its stroke therestowards thereby first engaging and slightly moving said main cylindrical valve thereby starting the oscillation of said valve and admitting steam to the side of said hammer valving disc relatively adjacent said piston which has engaged said main valve and moving it with relatively great speed against one of said cooperative formations thus immediately completing the movement of said central valving member and causing immediate reciprocation of said engine.

3,144,814

MEANS FOR SCORING SHEET WORKPIECES

Burke P. Lokey, Covington, Va., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed May 21, 1962, Ser. No. 196,204
4 Claims. (Cl. 93—8)



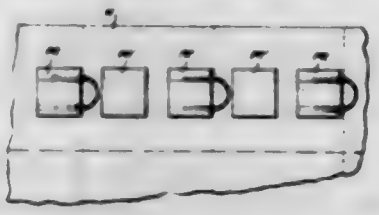
1. Bag scoring apparatus comprising: a substantially horizontally disposed endless conveyor passing about oppositely disposed rolls for conveying bag tubes successively past scoring means, said conveyor being provided with upstanding bag clamps equi-spaced therealong adapted upon engagement by said bag tubes to position the same in proper scoring alignment with said scoring means, said means including pairs of parallel shafts disposed respectively above and below and normal to the travel path of said conveyor, male and female scoring bars eccentrically mounted on said shaft pairs respectively, for reciprocative movement and intermittent mating engagement of said scoring bars upon concurrent rotation of said shafts at a common angular velocity, said scoring bar mounting means including parallel equal crank linkages, means for driving said shafts and conveyor rolls in fixed angular relation to one another, comprising a motor and shafts and circular gears connecting said linkages and roll shafts to said motor, said gears being constructed and arranged to rotate the cranks of said linkages at a constant angular velocity and so proportioned in relation to said roll diameters and scoring bar cranks to move said bars while in mating engagement at a lineal speed slightly exceeding the lineal speed of said conveyor, and such as to move the successive bag tubes into positioning engagement with said conveyor clamps, respectively, and to score said tubes as thus positioned.

3,144,815

BURST RESISTANT PAPER SHOPPING BAG

John S. Davis, Irving-on-the-Hudson, N.Y., assignor to Equitable Paper Bag Co. Inc., Long Island City, N.Y., a corporation of New York

Original application July 31, 1959, Ser. No. 830,928. Divided and this application Dec. 13, 1961, Ser. No. 159,185
1 Claim. (Cl. 93—35)



In the manufacture of shopping bags by feeding a flat web of indefinite length longitudinally through folding and forming apparatus, applying to the flat web, as the web travels through said apparatus, two longitudinally extending rows of equal sized handle patches at equally spaced locations along each row and with the patches of each row of a transverse width substantially less than one half the width of the web and with the patches overlying the surface of the web that is to form the inside surface of the bags, tubing the web with the patches on the inside of the tube, cutting the tube to lengths for separate bags, and folding and bonding each length in a bottoming operation that closes the bottom for each bag, the improvement which comprises applying twice as many patches along a given length of each row in a given length of the web as there are bag lengths in said given length of the web, alternate patches of each row being applied at places on the web that are near the upper ends of the bags, applying cord handles to the web in position to be held by said alternate patches and only said alternate patches, the other patches that have no handles being applied at places on the web that are spaced from the cuts that sever the web and at places which locate these other patches in each corner where the bottom of the bag meets each side wall of the bag after the bottoming operation.

3,144,816

CONTAINER CONSTRUCTION

James H. Walker, Los Angeles, and Thomas E. Bower, South Gate, Calif., assignors to Fibreboard Paper Products Corp., San Francisco, Calif., a corporation of Delaware

Filed Sept. 4, 1962, Ser. No. 221,816
10 Claims. (Cl. 93—36.01)

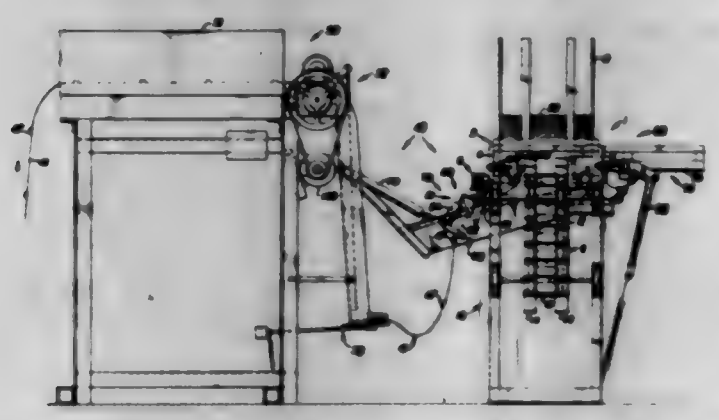
1. A fully automatic, rapid apparatus adapted to insert

a bag into a carton and join it thereto to form an inexpensive, strong container comprising:

(*a*) carton feed means for unfolding cartons from a supply of flat cartons and positioning said formed cartons in sequence on a conveyor means, said formed cartons having a top flap with a hole therethrough;

(*b*) conveyor means for supporitng the formed cartons from said carton feed means and moving a series of said formed cartons in sequence adjacent to a series of operatively associated handling means, said handling means including:

(*c*) bag feed means for properly positioning a continuous band of bags in sequence adjacent to the formed cartons on said conveyor means and separating the bags from said continuous band of bags, each of said bags having a spout mounted thereon opening into the bag;



(*d*) assemblying means for engaging the spout of the bag adjacent to the closest formed carton in the hole in the top flap of said carton and inserting said bag in said carton;

(*e*) bottom folding means for bending the bottom flaps to cover the bottom end of the formed cartons on said conveyor means while leaving the outermost bottom flap extended;

(*f*) top folding means for bending the top flaps to cover the top end of the formed cartons on said conveyor means while leaving the outermost top flap extended;

(*g*) fastening means for attaching the outermost top and bottom flaps to their adjacent flaps to seal the end of said carton; and

(*h*) control means for operating said carton feed means and conveyor means and for actuating said bag feed means, assemblying means, bottom folding means, top folding means and fastening means for each carton when it is adjacent each of said means.

3,144,817

SENSITIVE PAPER DEVELOPING DEVICE

Tatsuo Aizawa, 5 Miyakayashi-cho, Higashiosmiyoshi-ku, Osaka, Japan

Filed Aug. 8, 1960, Ser. No. 48,163
1 Claim. (Cl. 95—89)



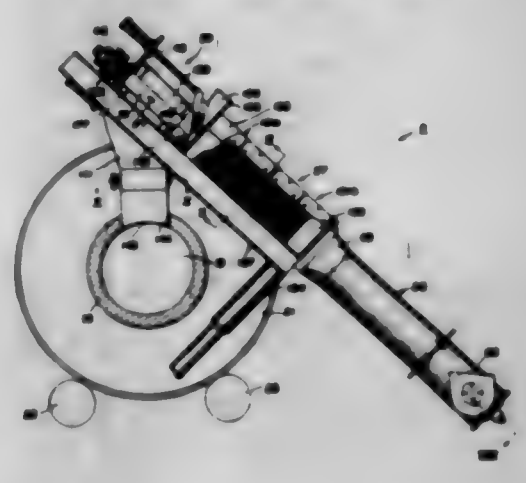
In a photo-developing machine, a pair of side frames of sheet material, a tray for developer solution supported adjacent the upper edges of said side frames, said side frames having a pair of opposed open slots extending downwardly from the upper edges thereof, said slots having closed bottom ends at points above and rearward of said tray, a holder assembly, primary and secondary coating rollers positioned at one end of said assembly, projections extending laterally from said assembly adjacent the opposite end thereof, and receivable in said slots, the parts being so dimensioned and positioned that when said projections are disposed in said slots said assembly may be swung on said projections as pivots to position said primary roller in said tray or to remove it therefrom, said holder assembly including a pair of side members of flat sheet material, a plurality of spaced parallel rods extending between said side members and secured thereto to hold the same in spaced parallel relation and provide therewith a rigid structural unit, one of said rods, adjacent one end of said side members extending therethrough and constituting a supporting rod to provide said projections receivable in said slots, each of said side members having an open slot extending inwardly from the end thereof opposite said supporting rod, said primary and secondary rollers each having projecting portions providing pintles journaled in said last-mentioned slots with the pintles of the secondary roller adjacent the closed ends of said slots and the pintles of the primary roller adjacent the outer ends thereof and spring means urging said primary roller into contact with said secondary roller, said rollers being of impermeable elastic material and having deep slits extending circumferentially thereof and lying in closely spaced planes transverse to their axes and a plurality of spaced guide members of thin sheet material mounted on said holder and having ends projecting into said slits on the discharge side of said rollers, and having opposed edges defining a guide passage for sheet material therebetween.

3,144,818

COMBINED FEEDER, CONDITIONER, AND DEWATERER FOR A DEHYDRATOR

Ivan S. Sullivan, Tiptonville, Tenn., assignor of forty per cent to Reelfoot Alfalfa Mill, Tiptonville, Tenn., a partnership

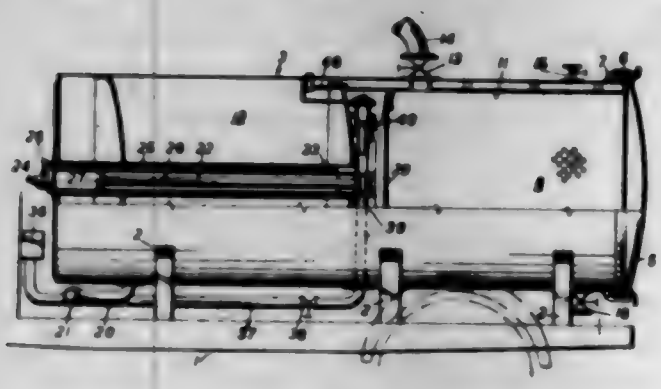
Filed Jan. 9, 1962, Ser. No. 165,283
6 Claims. (Cl. 100—98)



6. Apparatus adapted to be used with a dehydrator for hay and the like comprising means establishing an angularly disposed continuous substantially cylindrical channel for the passage of hay and the like therethrough; said means including elevator means for moving the hay and the like from the lower end thereof to the upper end thereof, dewaterer means in substantially unrestricted communication adjacent the lower end thereof with said elevator means adjacent the upper end thereof for moving the hay and the like from said elevator means to the upper end of said dewaterer means and for dewatering and conditioning the hay and the like, said dewaterer means and said elevator means being in co-axial longitudinal alignment with the longitudinal axes thereof being inclined relative to a horizontal plane, and discharge

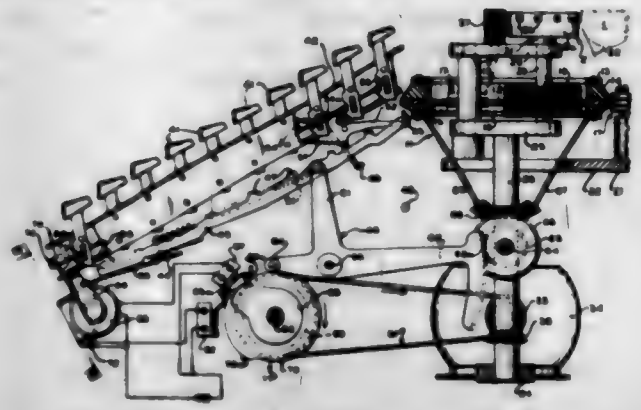
means in communication with the upper end of said dewaterer means for discharging the hay and the like into a dehydrator; said dewaterer means comprising compressing and conditioning means including knives and means for moving the hay and the like against said knives to compress the liquid therefrom and to flatten, tear and break the stems of the hay and the like; rib sections surrounding said compressing and conditioning means; each of said rib sections including a backing screen having interstices therein to permit the liquid from the hay and the like to pass therethrough, a second screen having smaller interstices than the interstices in said backing screen, said second screen being disposed adjacent said backing screen entirely around the interior thereof and entirely around said compressing and conditioning means, and a plurality of rib means attached to said backing screen in spaced relationship along the length thereof and extending outwardly therefrom.

3,144,819
APPARATUS FOR TREATING WATER-BORNE REFUSE
Leonard H. Riddell, 3 Kent Road N., Harrogate, England
Filed Mar. 1, 1962, Ser. No. 176,547
1 Claim. (Cl. 100—112)



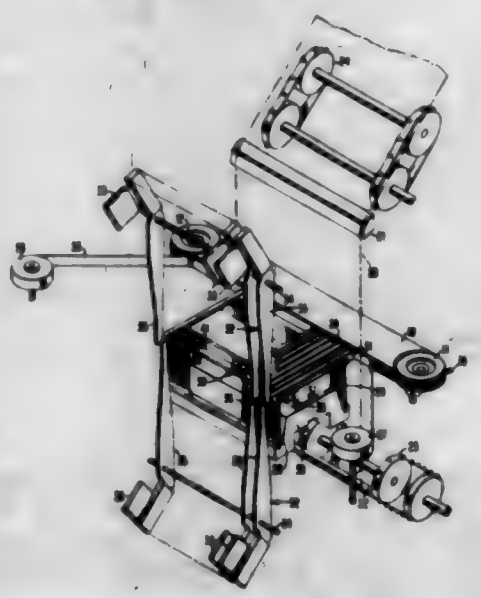
In apparatus for treating water-borne domestic and like refuse to separate it from its flushing water and to dispose of it, the combination of a tank having an outer shell and having in its wall near one end a suction inlet aperture for the water-borne refuse and in its opposite end an outlet opening for discharge of the solid refuse and also having a discharge outlet aperture for separated water and a valve-controlled air inlet aperture, means for producing partial vacuum conditions in said tank, sectional perforated strainer plates forming a lining for the longitudinal wall of said shell but spaced therefrom so as to leave between said shell and said plates passages communicating with said water discharge outlet aperture and said air inlet aperture, a pusher plate mounted for reciprocation within said lining longitudinally thereof so as to act as a ram and to pass said suction inlet aperture at the beginning of its compressing stroke but so as to leave a perimetral gap between it and said lining for passage of air and water, brushes mounted around the perimeter of said pusher plate and reciprocatable therewith arranged to sweep the inner faces of said strainer plates for cleaning same and to prevent substantially the escape of refuse through said perimetral gap, means for adjusting said brushes relative to said strainer plates, a longitudinally slidable closure member for said suction inlet aperture across which, when said member is in its closed position, said pusher plate moves in close association therewith, power means for reciprocating said pusher plate and said closure member, and means for controlling and co-ordinating the movements of said plate and said member whereby said suction inlet aperture is closed before the compressing stroke of the pusher plate commences.

3,144,820
SELECTIVE ROTARY PRINT MEMBER
Nathaniel B. Wales, Jr., Sharon, Conn., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Feb. 8, 1961, Ser. No. 87,959
20 Claims. (Cl. 101—91)



1. In a printing mechanism: a printing wheel including an arcuate print sector comprising a group of printing types disposed circumferentially relative to the longitudinal axis of said wheel, any one of said types being adapted to be selected for printing on a record member at a printing point; movement control means for constraining said printing wheel to roll along an invariable path such that the path along which said group of printing types rolls is substantially tangent to said record member at said printing point, said movement control means including means for causing said wheel to roll bodily along said path including said printing point while rotating about its longitudinal axis, so that said wheel as a whole, including its longitudinal axis, moves in the course of such rolling movement; and selection means for causing any selected one of said printing types to roll on said record member at said printing point; said path being unchanged irrespective of the control exercised by said selection means.

3,144,821
PRINTER APPARATUS HAVING PRINT FORCE CONTROL
John E. Drejza, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 6, 1960, Ser. No. 61,029
4 Claims. (Cl. 101—93)



1. In a print apparatus, a print mechanism comprising in combination, a movable striking member, a struck member, said striking and struck members coacting to form print impressions on a print medium therebetween

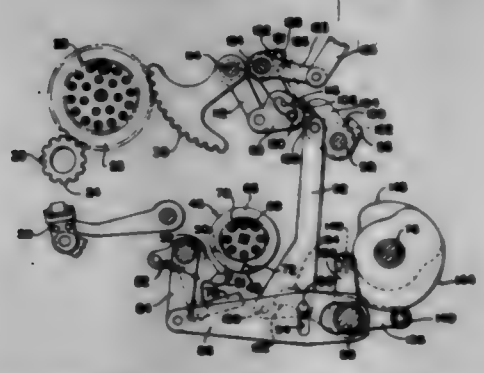
and being spaced apart a predetermined distance to accommodate print media of various thicknesses, means for imparting inertial motion to said striking member, and impression control means for automatically varying the impact force level of said striking member in accordance with variations of the thickness of said print media within a predetermined range of thicknesses thereof including a resilient force control means located in the path of travel of said striking member for engaging said striking member coincidentally with the impact thereof on said print media, said force control means having an energy absorbing characteristic whereby print media in the range of said thicknesses are struck with force proportional to the thickness thereof and said struck member is struck at a substantially constant force throughout said range of print media.

3,144,822

SYMBOL PRINTING CONTROL FOR ACCOUNTING MACHINES

Edward S. Stork and Walter J. Stark, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Oct. 19, 1960, Ser. No. 63,644
2 Claims. (Cl. 101—93)



2. In a machine of the class described, having printing means for printing at least two different symbols, the combination comprising switch means controlled by the initiation of a manual entry of information into the machine; solenoid means controlled by said switch means; first print selection means settable in response to energization of said solenoid means; second print selection means settable in a plurality of positions; first operating means for controlling the setting of said second print selection means; sensing means for sensing the settings of the first and second print selection means; setting means for setting the printing means to determine the symbol to be printed, and movable between a first position and a second position; cyclically operable means capable of actuating the setting means when said setting means is in its second position, and incapable of actuating the setting means when said setting means is in its first position; and second operating means controlled by the sensing means for selectively positioning the setting means in either said first position or said second position, according to the settings of the first and second print selection means, thereby controlling the setting of the printing means to determine the symbol to be printed in accordance with the settings of the first and second print selection means.

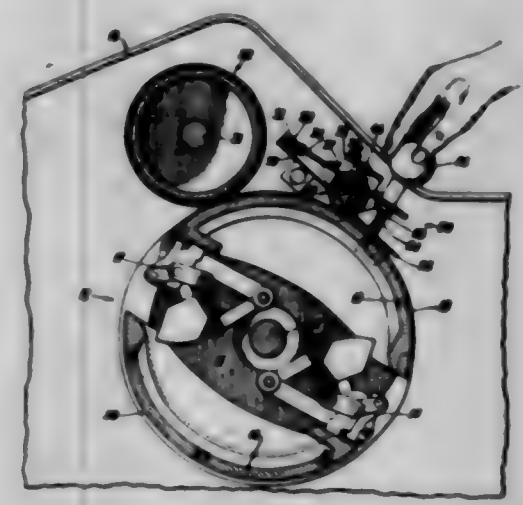
3,144,823

PRE-WETTING DEVICE FOR PRINTING PRESS

Paul H. Hilpman, Garden City, and Leroy Fred Albert, Brooklyn, N.Y., assignors, by mesne assignments, to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Aug. 16, 1962, Ser. No. 217,321
3 Claims. (Cl. 101—147)

1. A pre-wetting device for a printing press having a pair of spaced-apart side frames and a printing cylinder rotatably supported therebetween, said device comprising a pre-wetting roller, a support for said roller, said support being pivotally mounted on the side frames of the press adjacent the printing cylinder, means for resiliently



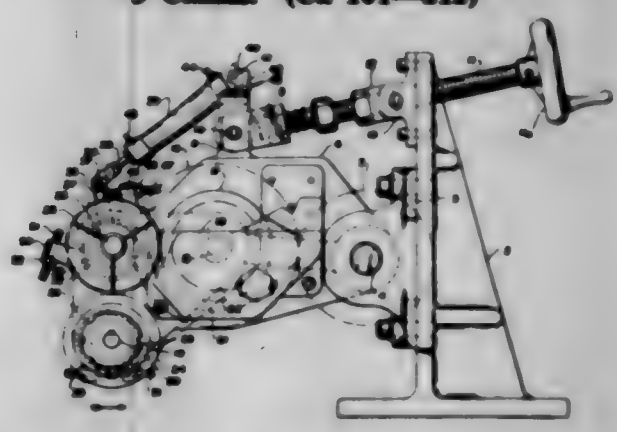
mounting said roller on said support, and means for resiliently urging said roller support away from said printing cylinder.

3,144,824

TYPE ROLL MOUNTING FOR OFFSET PRINTERS

John S. Ayers, Scott Township, Allegheny County, Pa., assignor to Jas. H. Matthews & Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 30, 1962, Ser. No. 234,843
3 Claims. (Cl. 101—212)



1. An over-the-line offset printer comprising a support, a frame pivotally mounted at one end on the support for adjustment in a vertical arc above the path along which articles to be printed upon move, a transverse drive shaft mounted in the support and said one end of the frame providing the pivoting connection between the support and the frame, said shaft having a drive connection at one end and a driving gear thereon, a second shaft passing transversely through the frame parallel with the first shaft having an ink roll at one end and a gear at the other meshing with said driving gear of the first shaft, said second shaft also having a sprocket wheel thereon, a third shaft passing through the frame having a blanket roll in the vertical plane of the ink roll at one end thereof and a sprocket wheel on the other end, a drive chain passing around said sprocket wheels of the second and third shafts, a transverse bearing sleeve rotatably mounted in the frame, a fourth shaft extending through the bearing sleeve eccentrically of the axis of rotation of the sleeve, said fourth shaft having a type roll at one end in the vertical plane of the inking and blanket rolls, a gear at the other end of said fourth shaft, the third shaft having a gear that meshes with said gear on the fourth shaft, and means for rotating the bearing sleeve through a limited arc for moving the fourth shaft with its type roll about the periphery of the blanket roll toward and away from contacting engagement with the inking roll while keeping the gears of the third and fourth shaft in mesh

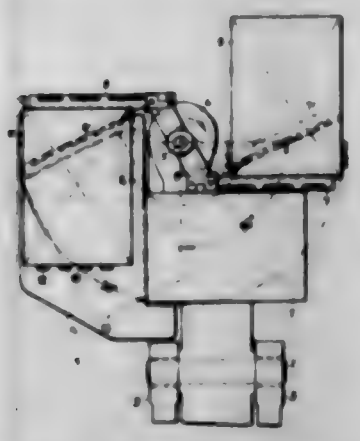
with the type and blanket rolls being constantly driven in isochronism.

3,144,825

APPARATUS FOR IMPROVING SHEET DELIVERY ON AUTOMATIC PLATEN MACHINES

Artur Büttner, Heidelberg, Germany, assignor to Schnellpressenfabrik Aktiengesellschaft Heidelberg, Heidelberg, Germany, a corporation of Germany

Filed Mar. 13, 1962, Ser. No. 179,363
Claims priority, application Germany, Apr. 8, 1961, Sch 29,512
16 Claims. (Cl. 101—297)



1. In a machine having a platen cyclically reciprocable in opposite directions between a terminal first position and a terminal second position spaced apart from said first position and having gripping means mounted for synchronous reciprocable travel with said platen and simultaneously traveling in an arcuate path in the plane of the platen during movement of said platen toward said second position to deliver sheets individually from the platen to a delivery stack upon completion of the opening movement of said platen, the improvement which comprises, means substantially air impervious to permit accurate and easy stacking of said sheets on said delivery stack comprising, means defining a support surface substantially in said plane of said platen to support the individual sheets along their major face dimension when taken from said platen and during their travel along said arcuate path and during substantially the entire opening movement of said platen and the last mentioned means comprising means selectively movable relative to said platen in timed relationship with the movement of said platen for reducing the area of said support surface when the sheets are to be delivered to said delivery stack substantially upon completion of the movement of a platen.

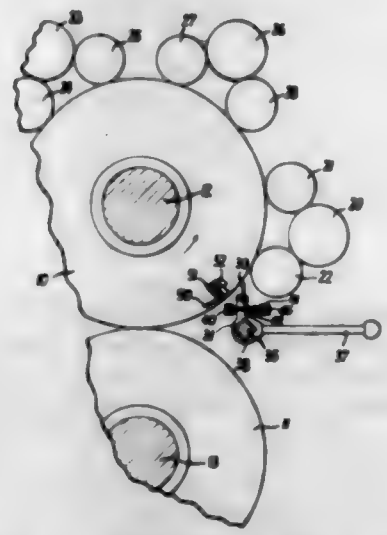
3,144,826

DEVICE FOR REMOVING HICKIES FROM PRINTING PLATES

William B. Lang, Pittsburgh, Pa., and Robert Reisartz and Hermann Fischer, Augsburg, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg A.G., Augsburg, Germany, a corporation of Germany

Filed July 30, 1962, Ser. No. 213,543
Claims priority, application Germany Aug. 24, 1961
17 Claims. (Cl. 101—425)

1. Apparatus for removing particles of foreign matter adhering to the surface of a printing plate mounted on a plate cylinder of a rotary printing press in which said plate cylinder has applied thereto repeatedly during the operation of said printing press a film of ink, said apparatus being adapted for removing said particles while said printing press is in operation and during continued rotation of said plate cylinder therein, which comprises in combination a transverse rod mounted across said printing press and adjacent the surface of said plate cylinder and said printing plate thereon, a spatula member having a scraping edge for contacting said printing plate on said plate cylinder in an area thereof where said particle is adhering for removing said particle, means for mounting said spatula member on said transverse rod for axial and angular movement with respect thereto, said transverse rod and said spatula member thereon being disposed in said printing press for contacting said printing plate at an



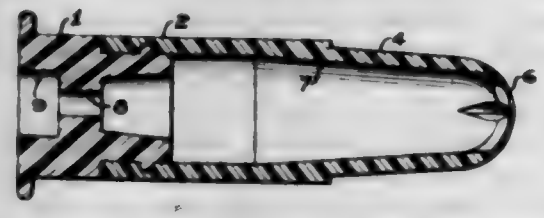
angular position in the rotation of said plate cylinder prior to the application of said ink film thereto, and operating means for moving said spatula and said scraping edge thereof angularly into and out of contact with said printing plate and axially of said plate cylinder during rotation thereof for contacting said printing plate at any point on the surface thereof where said particle may be adhering.

3,144,827

BLANK CARTRIDGE

John T. Boutwell, 3523 Casitas Ave., Los Angeles, Calif.

Filed Nov. 19, 1962, Ser. No. 238,665
8 Claims. (Cl. 102—39)



1. A cartridge case comprising a molded thermoplastic prepared from a molding composition comprising elongated granules of approximately 1/16 to about 1/8 inch in diameter and having therein from about 15–60% by weight of the granule of generally parallel short-length filaments extending longitudinally of the granule, said filaments being coated with a polymerized sizing compound and a superjacent thermoplastic molding composition.

3,144,828

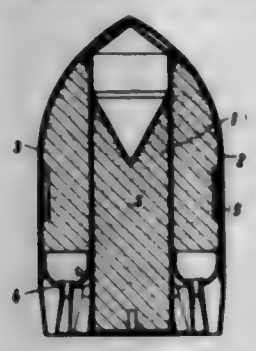
SPIN-STABILIZED ROCKET PROJECTILE

Karl-Otto Wehlow, Fritz Woyt, and Hermann Renner, Dusseldorf, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany

Filed June 21, 1963, Ser. No. 290,288
Claims priority, application Germany June 30, 1962
4 Claims. (Cl. 102—49)

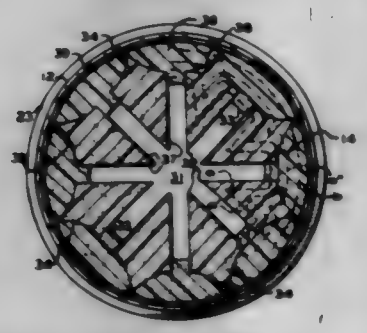
1. A spin-stabilized rocket projectile comprising in combination a spin-sensitive portion, a first annular combustion chamber forming a starting propulsion unit for said projectile, said first chamber surrounding said portion and fixed thereto, and a second annular combustion chamber forming a cruising propulsion unit for said projectile and also surrounding said portion, the centres of gravity of said portion and said first and second combus-

tion chambers being substantially coincident and the ratio of axial moment of inertia to transverse moment of in-



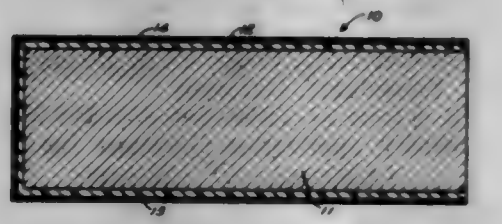
ertia of said projectile lying within the range of about 0.4 to 1.5.

3,144,829
SOLID PROPELLANT CHARGE
Homer M. Fox, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 16, 1958, Ser. No. 780,897
8 Claims. (Cl. 102—98)



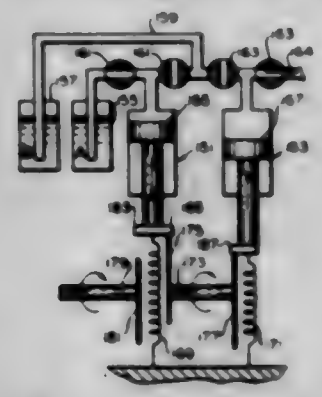
1. A cylindrical solid propellant charge, comprising extruded solid propellant and cast solid propellant, said charge having an axial perforation extending the length thereof, said perforation having a main portion and a minor portion, said main portion of said perforation being defined by exposed surfaces of said extruded solid propellant and said minor portion of said perforation being defined by exposed surfaces of said cast solid propellant, said cast solid propellant defining the outer cylindrical surface of said charge, said extruded solid propellant comprising at least two segments partially embedded in said cast solid propellant and supported by the same, the inner surfaces of said segments forming said exposed surfaces defining in the main said perforation, and restricting material covering the outer cylindrical surfaces of said cast solid propellant and the two ends of said charge.

3,144,830
SOLID PROPELLENT GRAINS
Myron G. De Fries, Bethesda, Md., and Alvist V. Rice, Springfield, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia
Filed Apr. 10, 1961, Ser. No. 101,643
13 Claims. (Cl. 102—98)



1. A shaped solid propellent grain compriting a self-oxidant, gas-producing composition having at least one surface inhibited against ignition by a first solid inhibitor coating bonded thereto, said first coating consisting essentially of a cured mixture of a reactive liquid epoxy polymer and a liquid polyamide containing reactive amino groups, containing embedded therein as an integral portion thereof at least one layer of a porous sheet consisting essentially of an organic polymeric material and being of sufficient thickness to provide substantial heat insulation, said organic polymeric material being selected from the group consisting of polyamide, polyacrylonitrile, polyacrylate ester, polymethacrylate ester, polyester, polyethylene, cellulose ester, cellulose ether, polyvinyl, cotton, and rayon, and a second solid inhibitor coating, bonded to the exterior surface of said first inhibitor coating, and consisting essentially of an organic polymer binder containing dispersed therein at least about 1% by weight of a particulate, inert, solid filler having a lower thermal conductivity than that of the polymer binder, said first coating being free from such filler.

3,144,831
FLUID GRADIENT ENGINE
Edward G. Pickels, Atherton, and James H. Bassham, San Jose, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed July 13, 1961, Ser. No. 123,991
13 Claims. (Cl. 103—6)



1. A fluid gradient engine comprising means for providing a continuous flow of a composite fluid from a plurality of sources, and control means connected to one of said sources for continually varying the output therefrom to said means for providing a continuous flow, and means connected to said control means for operating the control means in time synchronism with said means for providing a continuous flow.

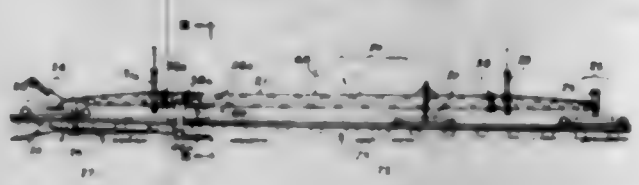
3,144,832
PORTABLE SELF-PRIMING FLOOR DRAINER PUMP ASSEMBLY
Richard H. Haynes, 144 Fulton St., New Milford, N.J.
Filed July 10, 1961, Ser. No. 123,404
2 Claims. (Cl. 103—113)



1. In a portable self-priming floor drainer pump assembly including a pump chamber having a fluid inlet, and a collecting chamber beneath said pump chamber in communication with said inlet, the provision of a base plate of resilient material covering the bottom of said collecting chamber and having a plurality of circumferentially spaced radially extending protuberances each having a longitudinal slit therein communicating with said collecting chamber, the marginal portions of said protuberances

forming said slits being flanged toward each other for upward flexing of said marginal portions slightly away from a floor surface by suction in said pump chamber for substantially complete drainage of water from said floor surface, and support members carried by said plate and having their bottoms in substantially the same plane as the bottoms of said protuberances.

3,144,833
RAILROAD TRACK WORKING EQUIPMENT
James W. Christoff and Richard A. Peppin, Minneapolis, Minn., assignors to Mannix Co., Ltd., Calgary, Alberta, Canada
Filed Feb. 23, 1961, Ser. No. 91,225
6 Claims. (Cl. 104—7)



1. A tie-ejector mechanism for use in association with means for elevating a section of railroad track, comprising

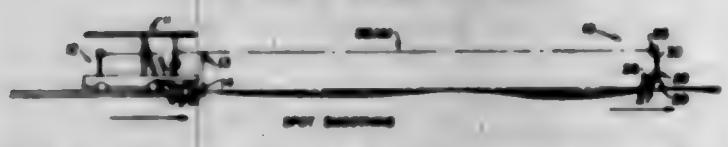
(*a*) a pair of tie supporting and propelling means,

(*b*) means for mounting said tie supporting and propelling means on said track elevating means beneath a section of railroad track elevated by said track elevating means,

(*c*) said mounting means mounting said tie supporting and propelling means spaced apart from each other transversely of the track in position to receive, support and propel towards one side of the track respective ends of a tie displaced downwardly from the track,

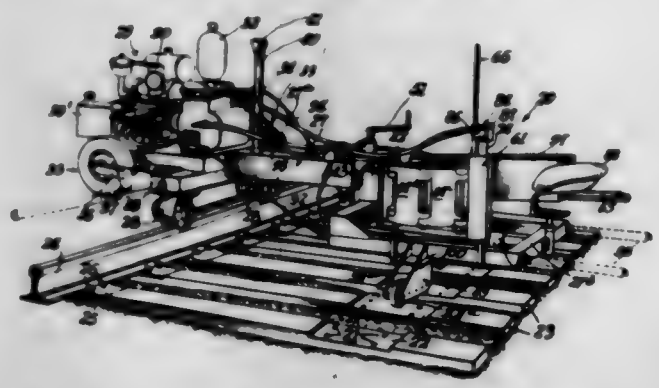
(*d*) the spacing between said tie supporting and propelling means being at least as great as half the length of a tie whereby the trailing end of a tie propelled by said means to one side of the rack will drop after moving beyond the upstream supporting and propelling means for continued propulsion of the tie by the downstream propelling means along an upwardly inclined path.

3,144,834
MEANS FOR DETERMINING ROADBED LEVEL AND SUPER ELEVATION
John Kenneth Stewart, 60 Ballantyne Terrace, Dorval, Quebec, Canada
Filed June 30, 1961, Ser. No. 121,875
10 Claims. (Cl. 104—12)



3. For use with railroad ballast tamping apparatus of the type having independently operable tamping heads mounted over each rail of the track for movement along the track on a carriage and jack means for engagement with the ballast to raise the track; surveying apparatus comprising a fixed frequency high intensity infra-red light beam transmitter mounted on a wheeled chassis for movement on the railroad track independently of the ballast tamping apparatus and adapted to transmit a fixed frequency high intensity infra-red light beam adjacent and above the track grade rail; a beam receiver mounted on the carriage for movement therewith; sensing means including a frame having rail engaging wheels and an adjustable shadow board, said sensing means being connected to said carriage for movement therewith and located adjacent the receiver between said transmitter and said receiver; remote control means operable from said carriage to adjust the vertical height of the shadow board relative to its rail engaging wheels; means on said carriage responsive to beam reception by said receiver to transmit a command signal to said ballast tamping apparatus to stop its forward motion, jack and tamp the track until the shadow board on the track is lifted to interfere with the transmitted beam, and cross level sensing means on said shadow board sensitive to variations in the horizontal plane position of the other rail from the grade rail adapted to transmit a signal to cause said tamping apparatus to jack and tamp the other rail until a predetermined relationship is established between said other rail and said grade rail.

3,144,835
RAILWAY TIE HOLE-PLUGGING MACHINE
Walter L. Peboski and Joseph James Starika, St. Paul, and Charles D. Johnson, Fairmont, Minn., assignors to Fairmont Railway Motors, Inc., Fairmont, Minn., a corporation of Minnesota
Filed Nov. 13, 1959, Ser. No. 852,834
3 Claims. (Cl. 104—17)



1. A railway tie hole-plugging machine, comprising a self-propelling, manually controlled vehicle movable in opposite directions along a railway from which one rail has been removed from the ties thereof, leaving exposed spike holes in the corresponding end portions of the ties from which the one rail was removed, said vehicle including a frame, first means for supporting said frame upon the remaining rail, second means spaced from said first means for supporting said frame upon the corresponding end portions of the ties from which the one rail was removed, an operator-supporting means mounted on said frame adjacent said second means, and manually controlled third means mounted on said frame for imparting propelling power to said first means to effect movement of said frame to the approximate location of a selected group of exposed spike holes; and a driving head carried by said frame adjacent said operator-supporting means; said driving head including a substantially vertically disposed cylinder mounted on said frame for substantially free movement independently thereof in a substantially horizontal plane to effect manual positioning thereof into substantial registration above a particular exposed spike hole of the selected group, a fluid pressure-responsive piston mounted for reciprocatory movement within said cylinder, a source of fluid pressure carried on said frame, first conduit means interconnecting said source and said cylinder, manually-actuated first valve-control means operatively connected to said conduit means and mounted adjacent said operator-supporting means for selectively supplying fluid pressure to said piston to effect movement thereof, a tie plug magazine disposed adjacent to and substantially parallel with said cylinder and movable therewith as a unit in a substantially horizontal plane, fluid pressure-responsive means for laterally transferring a tie plug from said magazine into vertical alignment with and beneath said piston when the latter is disposed adjacent

the upper end of said cylinder whereby, upon downward movement of said piston, the transferred tie plug is driven thereby into the particular registered exposed spike hole; said means for transferring a tie plug being spaced from the tie surface in the normal position of use whereby the position of the tie plug engaged thereby relative to the underlying tie is visible prior to actuation of said piston, second conduit means interconnecting said source and said transferring means, and second manually-operated valve-control means adjacent said operator-supporting means and operatively connected to said second conduit means and in communication with said first valve-control means for selectively supplying fluid pressure to said transferring means.

3,144,836
MONORAIL SYSTEM

Robert W. Cripe, 1560 Virginia Ave., Glendale 2, Calif., and Norman M. Greene, 909 S. Victory Blvd., Burbank, Calif.

Filed Apr. 3, 1962, Ser. No. 184,811
3 Claims. (Cl. 104—103)

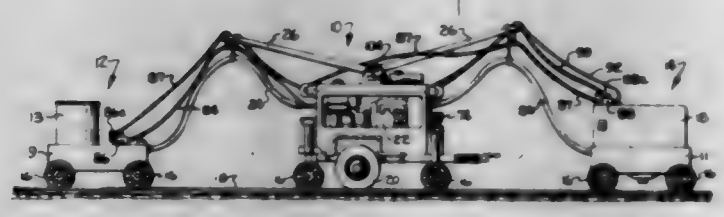


1. A monorail system comprising: a single continuous main rail of substantially hollow tubular cross-section throughout substantially its entirety; a base for said main rail, a web extending from said hollow tubular rail to said base, said web and said main rail being mounted to one side of the center line of said base; a switch rail mounted for movement vertically and horizontally towards and away from said main rail, said switch having its upper riding surface curved with the same radius of curvature as said main rail; bogie wheels engaging said rails; a vehicle; a support arm depending from said bogie wheels and supporting said vehicle in suspension from said rails; a retainer wheel mounted on said support and adapted to engage under a portion of said rails on the side of said rail disposed the furthest from the center line of said base to prevent said bogie wheels from leaving said rails.

3,144,837
WORK APPARATUS FOR USE ON RAILROADS AND THE LIKE

Roy C. Patton, Box 171, Jacksonville, Fla.

Filed Mar. 21, 1961, Ser. No. 97,270
7 Claims. (Cl. 105—1)

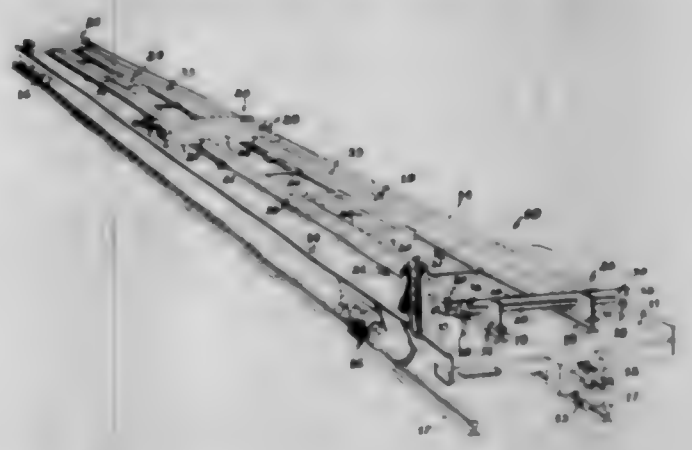


1. Work apparatus for use on railroads and the like comprising a wheeled parent carriage unit positioned upon a railroad track, a pair of auxiliary work units positioned upon the track in spaced relation to said parent carriage unit, motor means on said parent carriage unit effective upon activation to propel said parent carriage unit along the track, control devices at said auxiliary work units movable between first and second positions, said control devices being operatively connected to said motor means for de-activating and activating the same, said motor means being de-activated by location of either of said control devices in said first position thereof, and said motor means being activated to propel said parent carriage unit by location of said control devices at both of said auxiliary work units in said second positions thereof.

3,144,838
CONTAINER SUPPORT DEVICE FOR A RAILWAY CAR

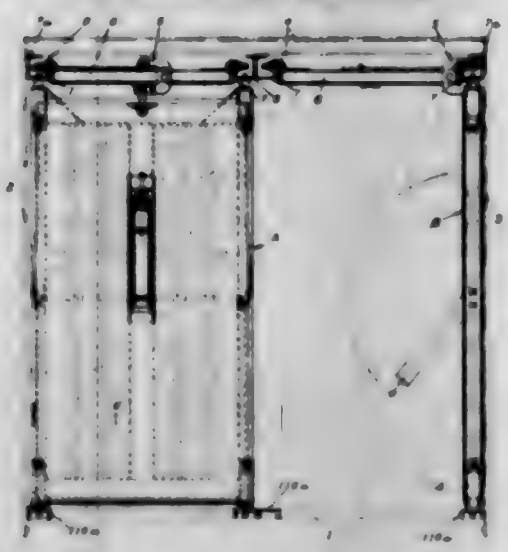
William R. Shaver, Hammond, Ind., and George F. Bridges, Chicago, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed June 7, 1961, Ser. No. 115,412
5 Claims. (Cl. 105—366)



1. In a railway car having an underframe including an open flat deck portion and upstanding side sills, the provision of a container supporting rack assembly mounted on said deck portion longitudinally thereof inwardly of said side sills, said rack assembly comprising transversely spaced interconnected rail-like members projecting vertically from said deck portion no higher than said side sills and including cushion attachment means connected to the deck portion of the car through cushion means carried by the car and providing for controlled travel of said rail-like members longitudinally of the car in response to car operational shock, said rail-like members having mounted solely along top surface portions thereof a plurality of vertically projecting and transversely extending container end supports, each container end support comprising transversely continuous horizontal and vertical wall portions and vertical end wall portions which are directed longitudinally of said assembly, said wall portions being arranged to encase a bottom end portion of a container including the side end portions thereof to transversely support the same and control positioning thereof on said rail-like members, said container end supports projecting laterally beyond said rail-like members substantially toward said side sills and being arranged in oppositely facing longitudinally spaced paired relation to cooperatively encase opposite end portions of a container therebetween, and longitudinally continuous container bottom support means mounted solely on top surface portions of said rail-like members and extending between oppositely facing pairs of end supports, the horizontal wall portion of each container end support being flush with the top surfaces of said intermediate container bottom support means and constituting a transverse continuation thereof, the horizontal wall portion of each container end support and the top surfaces of said intermediate container bottom support means lying in a horizontal plane which is above the top surfaces of said side sills.

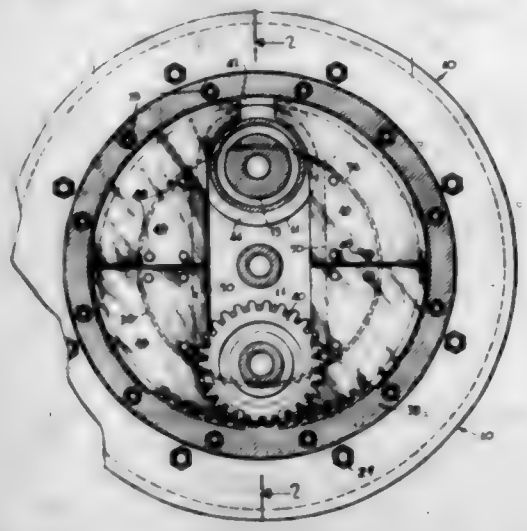
3,144,839
LADING SEPARATOR FOR RAILWAY CARS AND OTHER VEHICLES
Kristjan H. Palsson, Seattle, Wash., assignor to Pacific Car and Foundry Company, Renton, Wash.
Filed Aug. 14, 1962, Ser. No. 216,775
20 Claims. (Cl. 105—376)



1. In a railway car assembly having spaced side walls, a floor and a roof, longitudinally extending side rail members fixed to the side walls of the car adjacent the roof, said side rails including longitudinally extending tracks, said tracks being spaced inwardly from said side walls, a transversely extending beam including an upwardly facing trackway mounted upon the tracks of said side rail members for travel therealong, the trackway of said transversely extending beam extending over the track of one of the longitudinally extending side rail members to a position between said track and the adjacent side wall, a partition member adapted to be supported from said transverse beam, and means for supporting said partition member on said transverse beam including a traveling hanger, said traveling hanger being of C-form with the arms of the C-shaped hanger extending toward one side wall and positioned one above and one below the transversely extending beam, said C-shaped hanger including a pair of side walls positioned at each side of the rail, roller means mounted at the free end of the upper arm of said C-shaped hanger member for travel on its upwardly facing trackway, a vertically positioned pin suspended from the outer portion of the lower arm of the C-shaped hanger member, said pin having its axis in alignment with the medial portion of said superimposed roller means, and means on the pin for rotatably supporting said partition, whereby said C-shaped hanger when moved along the trackway of said transversely extending beam may travel on said trackway outwardly beyond the track of the side rail member and suspend the partition member between the longitudinally extending track and the adjacent side wall of the car when the partition member is rotated on its supporting pin to a position parallel to the car side.

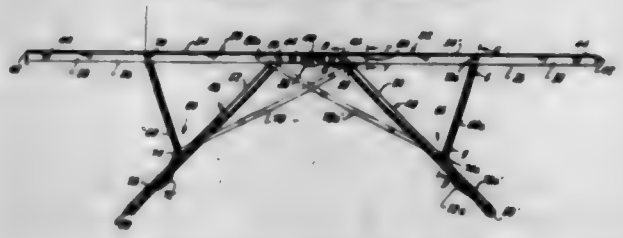
3,144,840
HAY PELLETER
Jack W. Crane, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed June 28, 1963, Ser. No. 289,288
3 Claims. (Cl. 107—14)

1. A machine of the character desribed embodying a ring die and co-acting rollers, a ring gear connected with said ring die externally of and concentric therewith, roll driving gears external to the rolls, concentric therewith and meshing with the ring gear, feeding means moving feed material into said ring die on one side thereof, said roll driving gears being located in a transaxial plane on the opposite side of said ring die from said feeding means, said feeding means comprising an auger flight and a mounting cylinder therefor, which latter has terminal portions projecting into the ring die in the spaces between



the rolls, and gear sealing means between said feeding means and said gears and carried from said projecting portions of the cylinder.

3,144,841
FOLDABLE PING-PONG TABLE
Stephen J. Meringoff, 156 N. Brookside Ave., Freeport, N.Y.
Filed Oct. 14, 1963, Ser. No. 315,780
12 Claims. (Cl. 108—36)



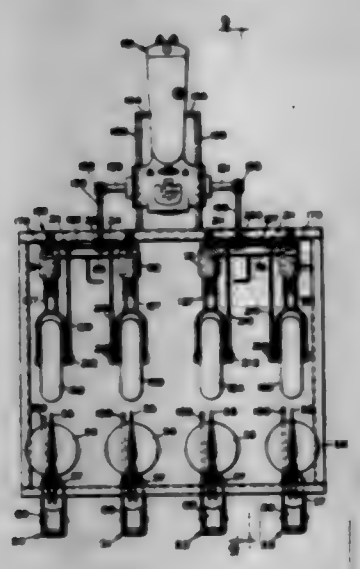
1. A folding game table comprising in combination: a top having first and second leaves hingedly connected to one another such that the leaves are pivotal between an extended position at which the leaves are substantially planar and a collapsed position at which the leaves are essentially parallel to one another; a first leg pivotally connected to the first leaf, a second leg pivotally connected to the second leaf, said legs being pivotal from an angular position at an acute angle with their respective associated leaves while the latter are in an extended position to a collapsed position at which they are disposed between the leaves while the latter are in a collapsed position; and at least one linkage means operatively associated with each leg for maintaining said leaves in their extended position and the legs in their said angular position while permitting both said leaves and said legs to be pivoted to their respective collapsed positions, at least one of said linkage means including a stop means against which the associated leg rests while in its angular position and which is adapted to be actuated to permit said leaves to be pivoted from their extended position and the legs from their angular position to their respective collapsed positions, at least one of said linkage means including a first elongated member and a second elongated member being pivotally connected to one another with the first member being pivotally connected to the first leaf and with the second member being pivotally connected with the first leg, and a third elongated member being pivotally connected with the pivotal connection of the first and second members and pivotally connected to the second of said leaves in such a manner that the said pivotal connection of the third member with the pivotal connection of the first and second member cooperates to provide said stop means.

3,144,842
SUPPORTING STRUCTURE
William L. Murray, Duluth, Minn., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 3, 1961, Ser. No. 142,733
6 Claims. (Cl. 110—99)



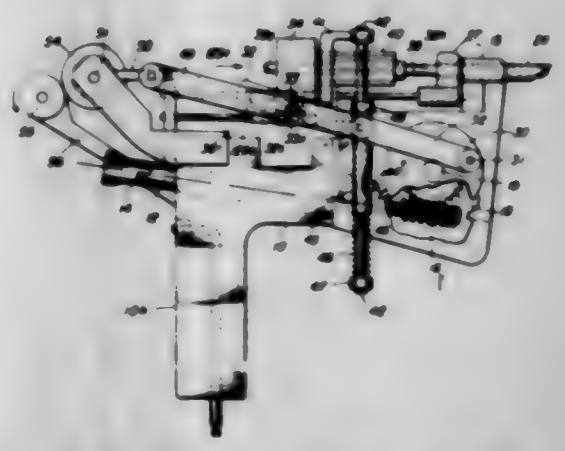
3. A supporting structure for a sprung refractory brick arch comprising generally vertical buckstays for supporting the ends of the arch, horizontal beams extending in the direction of the span of the arch and supported by said buckstays at opposite ends of the arch, a plurality of flanged beams extending transversely of said horizontal beams and located therebeneath, the lower flange of each of said flanged beams bearing on top of said arch, a plurality of clamp bodies for each of said plurality of beams, each clamp body having a base with hook end portions for receiving the upper flange of the associated flanged beam and an upwardly extending hollow neck, said neck having a transverse opening therethrough, a rod receivable in said hollow neck having a notch therein adapted to be aligned with said transverse opening, a wedge receivable in said transverse opening and notch, and means for supporting the upper end of each rod on the associated horizontal beam.

3,144,843
MINIMUM TILLAGE PLANTER
Norman E. Watson and John W. Watson, both of R.F.D. 3, London, Ohio
Filed Sept. 11, 1959, Ser. No. 839,988
7 Claims. (Cl. 111—52)



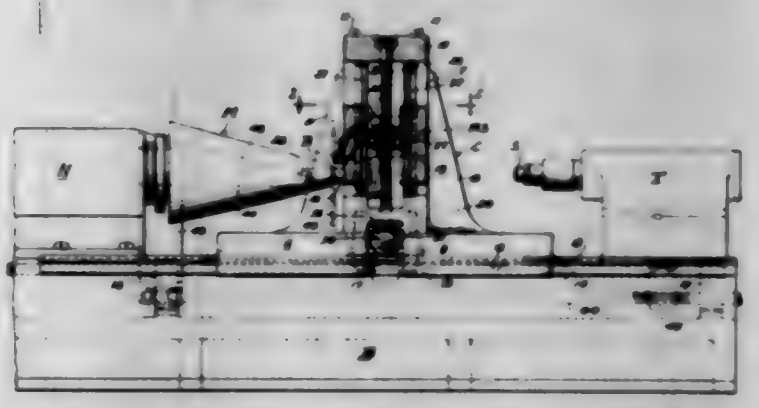
1. A self-propelled minimum tillage planter comprising, in combination, a frame; front wheels for said frame; steering means for said front wheels; a forwardly facing seat rearwardly of said steering means; a plurality of laterally spaced seed dispensing means mounted on said frame for dispensing seed in parallel paths in the direction of travel of said planter; a plurality of rear frame supporting means including compacting wheels mounted forwardly of said seed dispensing means and confined to substantial alignment with said paths for supporting said frame and compacting said paths of said seed dispensing means; mounting means vertically movably attaching each of said supporting means to said frame including pressure equalizing means for maintaining substantially equal pressure between each of said compacting wheels and the ground notwithstanding variations in the vertical positions of said compacting wheels; an engine mounted on said frame means; and driving means connecting said engine with certain of said compacting wheels.

3,144,844
PORTABLE MACHINE FOR TUFTING CUT PILE
Charles D. Elliott, Robert F. Hackney, and Lewis C. La Duke, Dalton, Ga., assignors to Cabin Crafts, Inc., Dalton, Ga., a corporation of Georgia
Filed Oct. 11, 1962, Ser. No. 229,832
9 Claims. (Cl. 112—80)



1. In a tufting machine, a hollow needle, a hollow sleeve within said needle and movable longitudinally and rotatably with respect to the needle, said sleeve and needle being adapted to have yarn threaded lengthwise through them, power operable means to reciprocate said needle for causing it to penetrate and withdraw from a work sheet, power operable means to reciprocate said sleeve in timed relation to the reciprocation of the needle, a power driven shaft connected to said needle-reciprocating means and said sleeve-reciprocating means to drive them simultaneously, means driven by said power shaft to rotate said sleeve after said needle has formed a loop, said needle and sleeve having cutting edges formed thereon cooperating to sever the yarn loop as said sleeve rotates.

3,144,845
METAL WORKING
Claus L. Sporck, Cincinnati, Ohio, assignor to The Lodge & Shipley Company, Cincinnati, Ohio, a corporation of Ohio
Continuation of application Ser. No. 536,685, Sept. 23, 1955. This application Nov. 13, 1959, Ser. No. 852,769
3 Claims. (Cl. 113—52)



1. In a metal working machine: an elongated horizontally disposed bed; a rotatable spindle supported adjacent one end of the bed and adapted to mount a blank to be worked; a rotatable tailstock mounted adjacent the opposite end of said bed and movable toward said spindle for the purpose of engaging and holding a blank mounted on

the spindle and movable away from said spindle to release a blank thereon; and a carriage disposed on said bed for movement toward and away from said spindle, said carriage having a pair of elongated spaced-apart guide members respectively movably mounted on opposite sides of the bed, a pair of upright columns respectively secured to said guide members substantially centrally thereof, a bridge member extending across said bed and connected to said columns at their lower ends thereof, the bridge member being disposed substantially below the rotational axis of the spindle, a cross-beam extending across said bed and connected to said columns at the upper ends thereof, the cross-beam being disposed substantially above the rotational axis of the spindle, the bridge member, the upright columns and the cross-beam respectively forming a generally rectangular-shaped, open centered upright frame, said movement of the tailstock being accommodated by said open centered construction, a shoe extending interjacent said columns and connected thereto for motion in a vertical direction, a roller support mounted on said shoe, a roller mounted on said support, the support and the shoe being constructed and arranged whereby to be substantially above the rotational axis of the spindle when the roller first engages a blank whereby to be spaced from the tailstock engaging the blank.

3,144,846

AIR COOLED ANTI-WICKING TOOL FOR WIRE SOLDERING OPERATIONS

Joseph D. Keller, 1820 Winchester Drive, Winter Park, Fla.

Filed Aug. 31, 1961, Ser. No. 135,335
5 Claims. (Cl. 113—98)



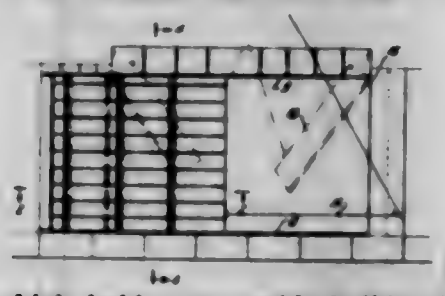
1. An anti-wicking tool for wire soldering operations comprising a pair of pivotally connected jaws, spring means to yieldably urge the forward portions of the jaws in mutually engaged closed relation, each jaw having at its forward free end a transverse wire clamping member adapted to grip a bared end portion of an electric wire engaged therebetween, and a tubular air delivery duct unitary with one of said jaws through which cool air can be discharged in contact with that portion of the gripped bared wire disposed behind said gripping clamping members, whereby to keep the latter portion of the wire at a temperature below the melting point of solder during a soldering operation.

3,144,847

REMOVABLE BULKHEAD FOR SHIPS' HOLDS

Tauno Aarre Antero Välisalmi, Turku, Finland, assignor to Valmet OY, Helsinki, Finland

Filed Aug. 9, 1962, Ser. No. 215,927
10 Claims. (Cl. 114—75)



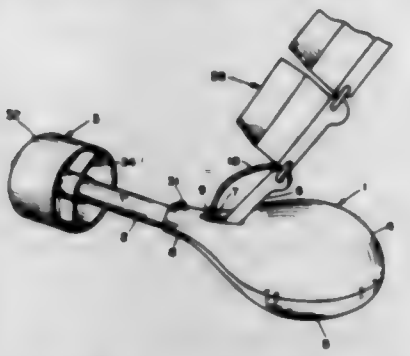
1. For a ship's hold a removable bulkhead, characterized in including panel members mounted for movement substantially in the horizontal direction so the same can be moved into an assembly en bloc of overlapping panels and thence into extensions of each other to form a cargo control wall, the two opposite edges of each panel member advantageously being provided with parallel major stiffeners mounted to project in opposite directions from the opposite sides of said member so that the panel members when packed will overlap one another so the members proper are in as close proximity to each other as their dimensions permit, the said panel members preferably also having interlocking means whereby the several panel members forming the wall can be pulled out to form extensions of each other, and guide means comprising two bottom rails and two top rails adapted to slidably receive guide means on the members, the top guide rails being secured together by web means and fitted with hinges at a suitable structural point thereof and when necessary severed so that when the wall is in inoperative position the top guide rails and their supports are adapted to be suspended from said hinges.

3,144,848

LIGHTWEIGHT TOWED TRANSDUCER HOUSING

Sydney T. Knott, Barnstable, and Warren E. Witzell, Woods Hole, Mass., assignors to the United States of America as represented by the Secretary of the Navy

Filed Apr. 16, 1963, Ser. No. 273,537
4 Claims. (Cl. 114—235)



1. A towed vehicle for maintaining sonic apparatus in a predetermined attitude comprising, in combination,
a generally "teardrop" shaped housing consisting of upper and lower symmetrical half shell sections;
said housing having an elliptical cross-sectional shape at its point of maximum width and a circular cross-sectional shape at its rear portion;
a longitudinal slot cut in said upper half section along the vertical plane of symmetry thereof;
a circular aperture formed in said lower half shell section;
a metallic window covering said aperture;
a tubular element, one end of said tubular element fitting into the rear portion of said housing;
and a ring tail secured to the other end of said tubular element.

3,144,849

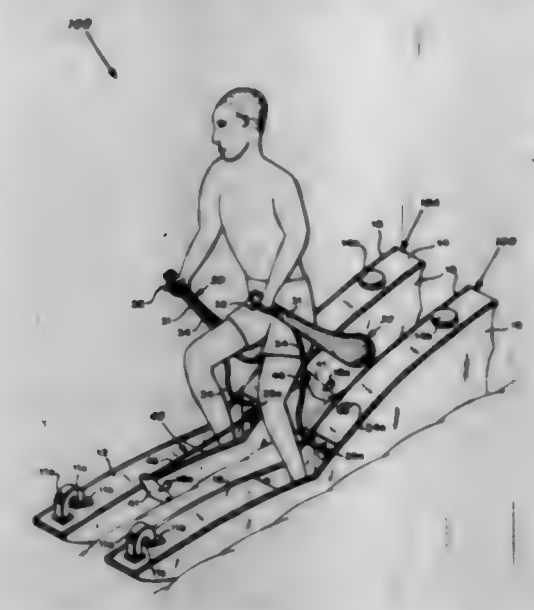
SELF-PROPELLED WATER SKIS

Robert E. Maser, 851 Pickering Lane, Media, Pa.

Filed Sept. 27, 1962, Ser. No. 226,639
11 Claims. (Cl. 115—70)

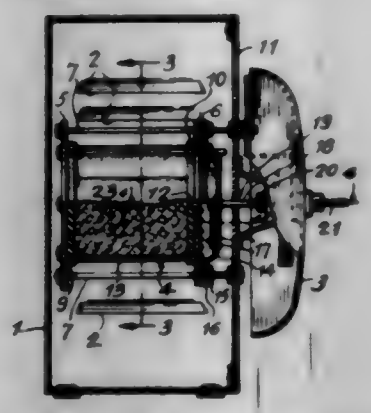
1. A water ski adapted to accommodate only one foot and only one buttock of a skier, comprising a planing surface, a front flotation chamber above the front of said planing surface, a rear flotation chamber with an elevated top and large volume compared to said front flotation chamber above the rear of said planing surface and adapted to serve as a seat for only one buttock of a skier, a foot station large enough to receive only one foot of a skier between said flotation chambers, independently operable propulsion means in said ski within at least one of said flotation chambers, control means connected to said propulsion means and operable from the exterior of said flotation chambers, a manual, rapidly selectively

operable, rigid, latching, close-linking means on one side of said water ski whereby said water ski may be selectively, manually, rapidly connected in a close side-by-



side relationship to and disconnected from a second water ski, said water ski being intended for use as one of a pair of similar skis.

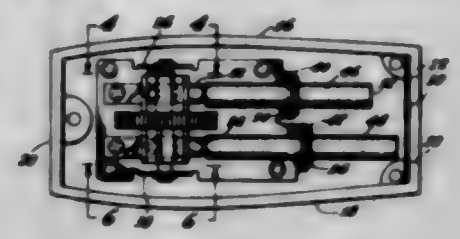
3,144,850
GAS DETECTING METHOD AND APPARATUS
David J. Rosenberg, Glen Cove, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Apr. 25, 1962, Ser. No. 191,681
4 Claims. (Cl. 116—67)



1. Apparatus for detecting the presence of a particular gas comprising, in combination, means within a confined area capable of sorbing at least a portion of the gas to be detected, flexible means communicating with said confined area, and a warning means capable of being actuated by the deflection of said flexible means, whereby, when the pressure of the mixture of gases is reduced through sorption of at least a portion of the gas to be detected, the flexible means is deflected, thereby actuating the warning means.

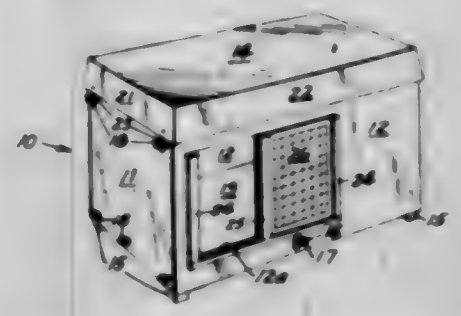
3,144,851
SONIC SIGNAL
Sesto I. Chiarello, Los Angeles, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 10, 1961, Ser. No. 144,126
14 Claims. (Cl. 116—137)

1. In a device of the class described, the combination of a support, a first elongated tuning rod mounted on said support and adapted to vibrate at a first frequency, a second elongated tuning rod mounted on said support substantially parallel to said first rod and adapted to vibrate at a second frequency, a first hammer mounted on said support adjacent one end of said first tuning rod, said hammer being positioned to strike said end to thereby excite said first rod into vibrating at said first frequency, a second hammer mounted on one end of said first rod, said second hammer being positioned to strike said second end to thereby excite said second rod into vibrating at said second frequency, a manually movable control member mounted on said support, adjacent said tuning rods and being movable in directions parallel to



said tuning rods, said control member being operatively connected to said first hammer for causing said hammer to strike said first member only when said control member is moved in one direction, said control member being operatively connected to said second member for causing said second hammer to strike said second member only when said control member is moved in the opposite direction.

3,144,852
PORTABLE KNOCK-DOWN ANIMAL HOUSING STRUCTURE
James Meenan, Farmington, Minn.
(411 Pacific Ave., San Pedro, Calif.)
Filed Aug. 14, 1963, Ser. No. 302,883
3 Claims. (Cl. 119—19)



1. A knock-down animal housing structure for housing dogs and the like and being capable of ready erection and disassembly, said structure comprising

opposed upstanding end walls, opposed upstanding side walls, and a horizontal bottom wall,

means releasably clamping said end walls in clamped relation against the end portions of said side walls comprising a plurality of elongate rod elements extending between and through at least two opposed walls,

adjustable means engaging opposite ends of said rods and clampingly engaging the associated walls, said clamping means on at least one end of each of said rod elements being disengageable therefrom when said housing structure is disassembled,

said bottom wall being supported on said rod elements,

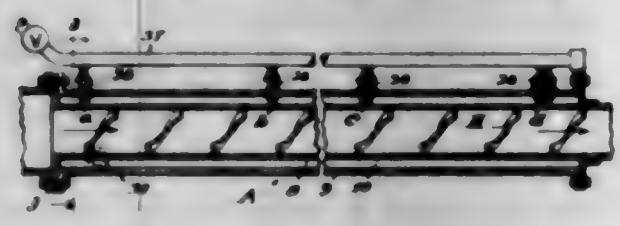
and a substantially flat roof member having continuous depending peripheral flanges integrally formed therewith and engaging the upper edges of said side and end walls to retain the same in interengaging relation, said roof member when detached and inverted being shaped and dimensioned to receive the disassembled side, end and bottom walls within the confines of said flanges and releasable locking means on said roof member and certain of said upstanding walls releasably clamping said roof member on said upstanding walls.

3,144,853
AUTOMATIC HOG DRINKING CUP
Ronald S. Blough, Fairfield, Iowa, assignor to Fairfield Engineering and Manufacturing Company, Fairfield, Iowa, a corporation of Iowa
Filed July 26, 1962, Ser. No. 212,544
2 Claims. (Cl. 119—75)



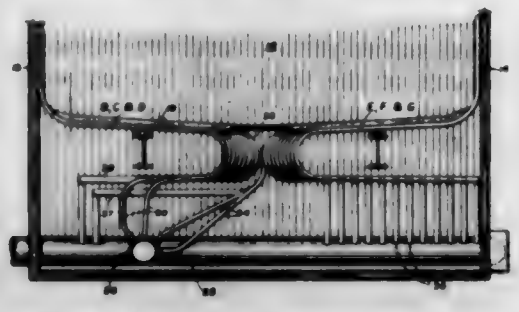
1. An automatic hog drinking cup comprising, in combination, a body having a generally vertical back panel adapted to be secured within an animal pen, said body including a bowl portion integral with said back panel and defining a slightly elongated shallow bowl with a rounded bottom extending substantially at a right angle from said back panel, a valve mounted on said back panel for admitting water into said bowl, a generally flat, movable paddle mounted on said back panel and generally parallel thereto for operating said valve, a guard having a generally box-like shape overlying the upper portion of said paddle and having a lower edge position substantially in the plane defined by the top edge of said bowl, said paddle having a tip portion disposed within said bowl below the lower edge of said guard and the plane defined by the top edge of the bowl and engagebale only by the nose of an animal to draw water into said bowl, the lower edge of the guard and the nose of the animal being covered with water causing the animal to retreat from said tip and shut off the water before it overflows said bowl.

3,144,854
LIQUID HEATER
Lewis K. Smith, 977 E. Ruddock, Covina, Calif.
Filed May 26, 1961, Ser. No. 112,854
1 Claim. (Cl. 122—136)



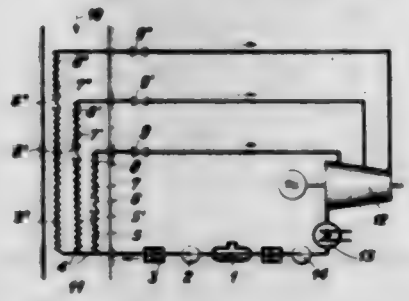
A liquid heater comprising an elongate cylindrical fire tube, a cylindrical shell encompassing said fire tube in concentrically spaced but proximate relation thereto forming a shallow cylindrical liquid conveying space between said fire tube and shell, said shell having a discharge outlet adjacent one end thereof, a series of liquid discharge nozzles opening through said shell to said cylindrical space tangentially thereof and arranged at spaced intervals along the length of said cylinder such as to direct a multiple of jets spirally along said space toward said outlet, and a supply pipe connected to said series of nozzles; said supply pipe having an intake end adjacent the end of said shell having the discharge outlet, and the several nozzles of the series thereof having discharge outlets progressively increasing in size from the nozzle of smallest dimension which is located adjacent the intake end of said supply pipe, whereby the volumetric flow of liquid from the several nozzles will be substantially equal.

3,144,855
STEAM GENERATING UNIT
Eugene F. Spellman, Shrewsbury, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 19, 1962, Ser. No. 180,530
4 Claims. (Cl. 122—235)



1. A steam generating unit, comprising
(*a*) a furnace having four walls and a bottom defining a combustion chamber, the bottom having a division gap extending between two opposed walls at a position between the other two walls,
(*b*) a first header underlying each of the said other two walls,
(*c*) water wall tubes originating in each of the said first headers and extending vertically to define the wall under which the header lies,
(*d*) a cross header extending between the headers,
(*e*) water wall tubes extending from the cross header upwardly along the division gap, extending horizontally to define a portion of the bottom between the said division gap and one of the said other two walls, and then extending vertically to define that wall,
(*f*) water wall tubes extending laterally from the first headers, extending upwardly adjacent the division gap, extending horizontally to define a substantial portion of the bottom, and then extending vertically to define a portion of the other of the said two walls,
(*g*) and water wall tubes extending from the cross header upwardly adjacent the division gap, extending horizontally to define substantial portions of the bottom, and then extending vertically to define the remainder of the said other of the said other two walls.

3,144,856
STEAM GENERATING PLANT
Alfred Brunner, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Nov. 10, 1960, Ser. No. 68,447
Claims priority, application Switzerland Nov. 26, 1959
5 Claims. (Cl. 122—406)



1. A steam generating plant comprising duct means, a hot heating fluid flowing through said duct means, a plurality of steam generators producing steam at different pressures and placed in said duct means in series relation with respect to the flow of the heating fluid for heating by the latter, a source of supply of feedwater at a pressure exceeding the operating pressure of the steam generator which produces the highest pressure steam, a tubular feedwater heater connected to said source for receiving

high pressure feedwater therefrom, said feedwater heater having a plurality of portions placed in said duct means to receive different amounts of heat from said heating fluid, each of said steam generators having an inlet connected to a different one of said portions of said feedwater heater for receiving feedwater at different temperatures therefrom, and a throttling means interposed in each of said inlets for maintaining an equal pressure in all of said feedwater heater portions and for individually reducing the pressure of the feedwater leaving said feedwater heater portions to the operating pressure of the respective steam generator.

3,144,857
DIESEL ENGINE OPERATION
Howard E. Henselberg, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 27, 1961, Ser. No. 148,050
6 Claims. (Cl. 123—27)

1. A method of operating a compression ignition engine especially adapted to increase the available horsepower which comprises the steps of:

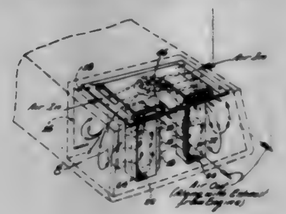
(1) introducing into the combustion chamber of a compression ignition engine a gaseous fuel and air to form a combustible mixture,

(2) compressing said mixture to from about 1/12 to about 1/22 of its original volume so as to raise the temperature of said mixture to a level sufficient to ignite diesel fuel,

(3) injecting into the combustion chamber, a pilot charge so as to initiate combustion of the total mixture;

the weight ratio of said pilot charge to said gaseous fuel being from about 0.01:1 to about 1:1, said pilot charge being characterized by consisting essentially of diesel fuel containing from about 1.0 to about 15 grams per gallon of a metal having an atomic number of 25 to 28 as a hydrocarbon soluble, carbon-containing compound having the metal atom coordinated to the organic portion of the molecule by a plurality of metal-to-carbon bonds.

3,144,858
AIR-COOLED INBOARD ENGINE
Wayne F. Horning, Arcadia, and Robert W. Jones, San Gabriel, Calif., assignors to Inboard Marine, Inc., Temple City, Calif., a corporation of California
Filed Oct. 15, 1962, Ser. No. 230,611
16 Claims. (Cl. 123—41.31)



1. An air-cooled engine installation in a boat, comprising:

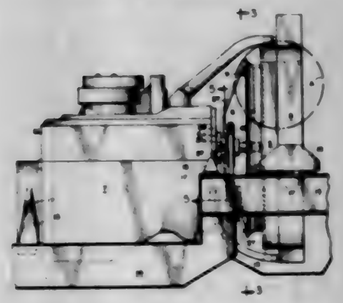
an engine of the air-cooled type having at least one row of finned cylinders with an exhaust pipe extending adjacent to the row;

a closed compartment in the boat enclosing the engine, said compartment having air-intake port means and air-discharge port means;

means powered by the motor to induce air into the compartment through the intake port means to maintain the interior of the compartment above the pressure of the ambient atmosphere; and

a discharge duct structure inside the compartment connected to said discharge port means to discharge the inducted air from the compartment, said discharge duct structure enclosing said exhaust pipe on three sides and being open on the fourth side to receive air from the interior of the compartment, said fourth open side being adjacent said row of finned cylinders to draw the discharging air over the finned cylinders.

3,144,859
FAN-SHROUD STRUCTURE AND MOUNTING
William L. Walton, Racine, Wis., assignor to Young Radiator Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 15, 1962, Ser. No. 173,472
4 Claims. (Cl. 123—41.49)



1. A shroud for a radiator fan forming part of a heat-engine cooling-system, comprising,

(*a*) one metal section
of annular form
mountable on the engine
concentric with the fan
for rotation of the fan within the one section free of any relative radial movement between the fan and the one section,

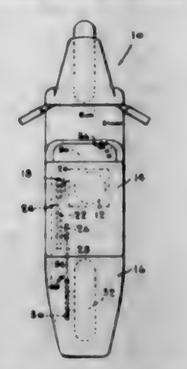
(*b*) another metal section
of annular form
having one perimeter contoured for attachment to the radiator and
having the other perimeter
contoured for radial overlapping embracive positioning relative to the one section to permit relative radial movement of the two sections,

(*c*) overlapping metal parts
on the respective sections
oppositely disposed
radially of the two sections in axially-spaced relationship, and

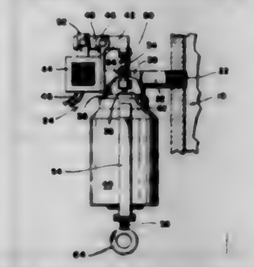
(*d*) an air seal ring
interposed between the opposed faces of the overlapping parts
to confine air flow through the one section.

3,144,860
VEHICLE TRANSMISSION AND CONTROL
William J. Harley, Milwaukee, Wis., assignor to Harley-Davidson Motor Co., Milwaukee, Wis., a corporation of Wisconsin
Filed July 28, 1961, Ser. No. 127,605
8 Claims. (Cl. 123—179)

1. A safety device for an engine comprising, a transmission having a speed responsive input connected to said engine and an output means connected to said input means by a belt, start means for said engine, manually operable means having a start and a run position, and lockout means operated by the manually operable means to lock the output from rotation when the manual means is in the start position whereby an increase in engine speed of the input during starting will cause the belt to load the input and prevent excessive engine speed.



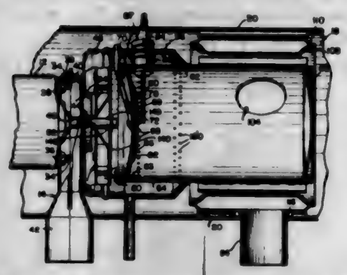
3,144,861
GAS STARTING MEANS FOR DIESEL ENGINES
Robert C. Ragon, 1714 Raymond St., Seattle, Wash.
Filed Apr. 23, 1962, Ser. No. 189,387
4 Claims. (Cl. 123—187.5)



2. A gas starting means for diesel engines, comprising: a gas pressure can positioned to discharge its contents into the intake manifold of a diesel engine; a threaded short and straight discharge pipe for engaging said intake manifold; a cap fixedly secured to said discharge pipe for receiving the mount of said pressure can; a U-shaped stirrup pivotably secured to said cap; an adjustable pressure stud at the bottom of said stirrup to force said pressure can into engagement with said cap; a depressible piston supported on said cap to operatively engage the discharge valve of said pressure can and means for selectively operating said depressible piston, said discharge valve of said pressure can having the discharge opening thereof aligned with said discharge pipe for direct injection of the contents of said can into said intake manifold.

3,144,862
FUEL BURNING HEATERS
Fred W. Hottenroth, Cleveland Heights, and Richard C. Spooner, Fairview Park, Ohio, assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Sept. 7, 1960, Ser. No. 54,402
3 Claims. (Cl. 126—110)

1. Fluid fuel burning apparatus comprising means forming a combustion chamber having a substantially cylindrical wall, a first end plate closing one end of said chamber, an imperforate second end plate closing the other end of said chamber, a thin substantially flat ceramic wick in surface contact with at least the central portion of the inner surface of said second end plate, a fluid fuel inlet communicating with said central portion of said second end plate, an electrically conductive foraminous retainer for said wick rigid with said second end plate, a spark plug having an electrode terminating at a point closely adjacent said conductive retainer to form a spark gap therewith, an annular combustion chamber housing member surrounding a portion of said combustion chamber adjacent said second end plate, means for moving air



in a helical path in the space between said combustion chamber and said combustion chamber housing member, means forming air inlet openings in the wall of said combustion chamber adjacent said wick, said openings communicating with said space whereby air is caused to flow through said openings into said combustion chamber in a helical flow path, and passage means leading through said cylindrical wall of said combustion chamber forming a path for combustion products to the exterior of said combustion chamber.

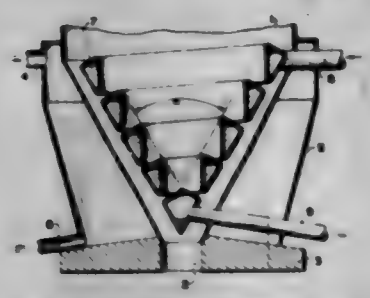
3,144,863
REMOVABLE OVEN DOOR
Earl S. Pollock, Lexington, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Oct. 10, 1961, Ser. No. 144,235
2 Claims. (Cl. 126—191)



1. In an oven assembly comprising an open oven compartment, a frame around the exterior of said oven compartment at the front thereof, a door at the front of said oven compartment having a chamber therein, and hinge means attached to said front frame for removably securing the bottom of said door to said frame for swinging movement between vertical closed and substantially horizontal open positions; a support lever extending outwardly from within said chamber, a pin attached to the exterior of said front frame, the outer end of said lever having an open cam hook engageable with said pin, a bracket reciprocable within said chamber pivotally connected to

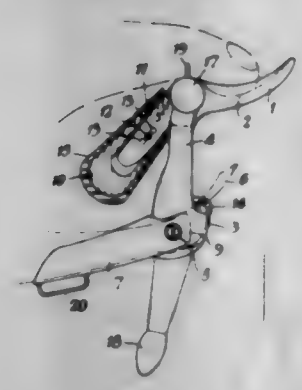
the inner end of said support lever, a counterbalance spring attached within the upper portion of said chamber and connected to said bracket, and latch means on said door adapted to be manually engaged with said bracket when said door is in an open position.

3,144,864
MELTING APPARATUS
James W. I. Heijnis, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed May 31, 1962, Ser. No. 199,076
Claims priority, application Netherlands June 12, 1961
4 Claims. (Cl. 126—343.5)



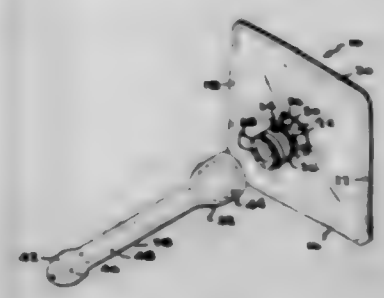
1. Apparatus for melting granules of thermoplastic polymer comprising a funnel-shaped melting chamber and a melting grid disposed within said chamber, said grid consisting of a spirally coiled tube conforming to the shape of an inverted cone and closed in horizontal projection, the cone angle of said grid being approximately equal to the funnel angle of said chamber and between from 40 to 12°, said grid spaced a sufficient distance from the inner wall of said chamber to allow for the free flow of molten polymer between the grid and inner wall of said chamber, the tubing of said grid being triangular in cross section with the side positioned nearest the cone axis running parallel thereto and the other sides making an acute angle therewith, whereby polymer granules supplied to said apparatus are uniformly melted during passage through said grid and unmelted or partially melted granules are prevented from passing through said grid.

3,144,865
GAG FOR ANIMALS
John Herbert Acheson Markham, 36 Carisbrooke Road, Newport, Isle of Wight, England, and William Lyle Stewart, Benwell, Upper Oddington, Moreton-in-Marsh, England
Filed Mar. 8, 1963, Ser. No. 263,917
Claims priority, application Great Britain Mar. 13, 1962
12 Claims. (Cl. 128—19)



1. A gag, for an animal having incisor teeth at the front of its lower jaw which normally occlude against a dental pad at the front of its upper jaw, comprising a first part shaped and dimensioned for insertion in the animal's mouth and for supporting the upper jaw of the animal, portions of the upper surface of the first part defining a depression therein capable of receiving the dental pad of the animal, a second part of curved form disposed below said first part and constructed and dimensioned for receiving the front of the lower jaw of the animal, a third part interconnecting the first and second parts, portions of the third part and of the second part defining an aperture shaped and dimensioned for receiving the incisor teeth of the animal, the portions of the second part defining the lower limit of the aperture and preventing the lower lip of the animal from passing up to the occlusal surfaces of the incisor teeth and a fourth part extending downwardly from and connected to at least one of said first and third parts above the said portions of the third part and shaped and dimensioned for preventing the tongue of the animal from touching its incisor teeth.

3,144,866
DISPOSABLE DOUCHE SYRINGE AND BAG
Albert L. Ellis, Pittsburg, Calif., assignor to Briggs, Castling & Kelly, San Francisco, Calif., a firm
Filed Aug. 11, 1961, Ser. No. 130,954
8 Claims. (Cl. 128—232)



7. A disposable syringe comprising a flexible bag, a threaded nipple secured to said bag and communicating with the interior thereof, said nipple having a helical thread groove, and obliquely-slanted barbs extending beyond its periphery, and arranged, in their normal, unstressed state, oblique to radial planes through the nipple axis, and a tubular nozzle having internal threads at one end, mating with said groove.

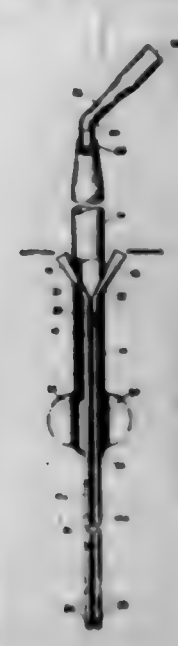
3,144,867
DENTAL PROPHYLACTIC
Garrison Trupp, 4600 York Road, and Bernard Trupp, 3900 N. Charles St., both of Baltimore, Md.
Filed Aug. 24, 1962, Ser. No. 219,221
4 Claims. (Cl. 128—234)



1. A relatively small portable dental prophylactic device, comprising a tapered and pointed relatively long discharge tip of a size to fit into the interproximal spaces at all points of the dental arch, liquid supply means including a container of a size to fit in the hand of the user connected to said discharge tip for supplying a multiple of controlled discharges of liquid from the tip, and manually operable fluid pump means connected to the container for the intermittent and repeated discharge of liquid from

said container in a multiple of controlled amounts in a jet stream through the discharge tip.

3,144,868
DRAINAGE AND FEEDING CANNULAE
Mario E. Jascalevich, 435 60th St., Weehawken, N.J.
Filed Oct. 21, 1960, Ser. No. 64,888
4 Claims. (Cl. 128—350)



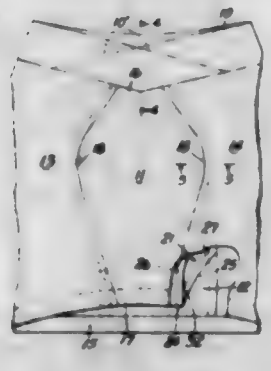
2. A device suitable for use in connection with a gastrostomy comprising a flexible tubular body, a flexible drainage tube within said body, a flexible feeding tube within said body, the upper ends of said tubes being in communication with the exterior of said body for respective connection to suction means and a source of food supply, a flexible conduit within said body having the upper end thereof in communication with the exterior of said body, an inflatable balloon, means for maintaining said balloon adjacent to and surrounding the lower end of said body, the lower end of said conduit being in communication with said inflatable balloon, said drainage and feeding tubes each being of a length to extend exteriorly beyond the lower end of said body for free independent positioning in selected areas.

3,144,869
UNDERGARMENTS
Ronald L. Blair, 2650 W. Belden Ave., Chicago, Ill.
Filed Mar. 5, 1962, Ser. No. 177,446
2 Claims. (Cl. 128—498)



1. An undergarment including a front having brassiere cups, side members secured to said front, rear panels secured to said side members, said rear panels including a lower back portion and a shoulder blade covering portion positioned above said lower back portion, said lower back portion formed of an elastic material having only a horizontal one-way stretch and provided with an upper rectilinear edge extending at an inclination outwardly and provided with an outer edge extending to an armpit portion with said outer edge forming a lower armpit portion of the rear panel, said outer edge forming a portion of the upper side edge of the armpit portion of the undergarment, said shoulder blade covering portion having a lower rectilinear edge secured to the upper rectilinear edge of the lower back portion, said shoulder blade covering extending into the armpit portion and having an outer edge forming an upper armpit portion, said last mentioned outer edge extending upwardly of said outer edge of said lower back portion and forming a continuous outer edge therewith, said shoulder blade portion formed of an elastic material having a one-way stretch, said stretch extending at an angle relative to the one-way stretch of the lower back portion.

3,144,870
GIRDLES WITH INTERIOR BANDS
Simon Grishman, Yonkers, N.Y., assignor to William Gluckin & Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 19, 1962, Ser. No. 231,755
3 Claims. (Cl. 128—527)

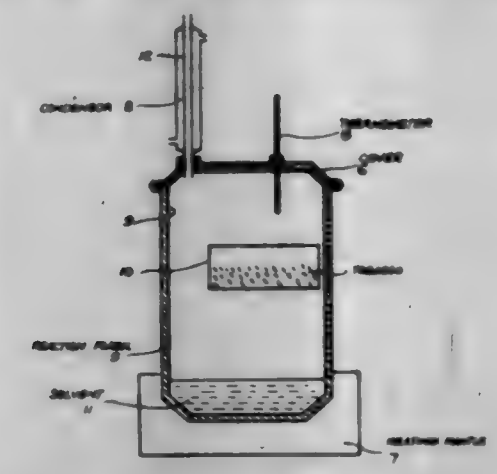


1. A girdle of the character defined comprising a body portion having sides joined by front and rear panels, an upper wide body encircling elastic waistband fixed to the upper edges of said sides and front and rear panels of the body portion, a band contained within the body portion, said band having ends attached to the lower edge of said waistband at the front and rear panels of the body portion, said band comprising a substantially central crotch portion and wider end portions, said crotch portion extending between the lower portions of said front and rear panels, and said wider end portions being attached to the front and rear panels at end limits of said crotch portion and widely spaced with respect to said waistband.

3,144,871
TREATMENT OF TOBACCO WITH ORGANIC SOLVENTS IN THE VAPOUR PHASE
John Edwin de Souza, Rexdale, Quebec, and Robert Louis Rice, Montreal, Quebec, Canada, assignors to Imperial Tobacco Company of Canada, Limited, Montreal, Quebec, Canada
Filed June 4, 1962, Ser. No. 199,738
4 Claims. (Cl. 131—140)

1. A process for treating tobacco to improve its filling capacity which comprises the steps of subjecting tobacco to solvent vapor and subsequently drying the tobacco in the absence of solvent to remove solvent vapor from the tobacco, said step of subjecting the tobacco to solvent vapor consisting of subjecting the tobacco, at atmospheric pressure and for a predetermined period, to vapor of a non-aqueous solvent maintained at a temperature of

from about 64 to 100° C., said solvent being selected from the group of aliphatic hydrocarbons, aromatic hy-



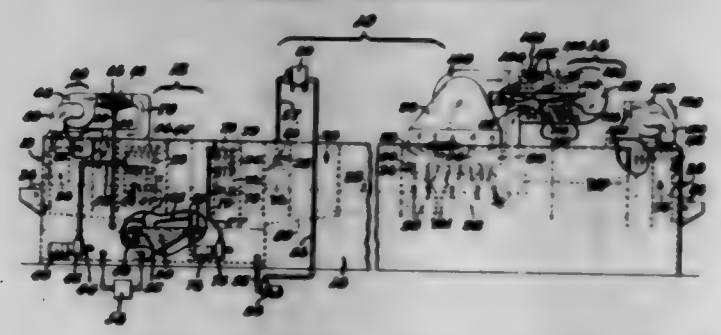
drocarbons, chlorinated hydrocarbons and mixtures thereof.

3,144,873

TROUGH-TYPE SOLVENT WASHER

Thomas J. Kearney, Detroit, Mich., assignor to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan

Filed Aug. 16, 1963, Ser. No. 302,686
4 Claims. (Cl. 134—72)



1. A through-type volatile solvent washer for removing soils from the surface of non-absorbent articles, said washer comprising:

a substantially air-tight treatment chamber having an inlet and an exit,

a continuous conveyor extending the length of the chamber for transporting articles through the treatment zone,

a first spraying zone having means for discharging a chlorinated hydrocarbon solvent from a plurality of discharge nozzles on articles located on the conveyor,

a second spraying zone located adjacent said first zone and having means for discharging said solvent on the articles on the conveyor after the articles have passed through the first spraying zone,

a distillate rinse zone located adjacent said second spraying zone and having means for discharging a distillate of the solvent on the articles on the conveyor after the articles have passed through the second spraying zone,

a blow-off zone located adjacent said distillate rinse zone and having means for discharging heated air on the articles as they pass on the conveyor, said means including an exhaust fan, a distillation apparatus whereby vapor solvent is condensed from the heated air after it is passed over the articles and means for returning said condensed solvent for subsequent spraying use, and

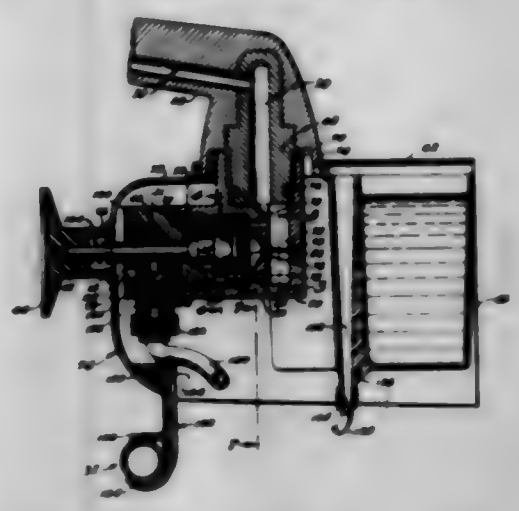
a pair of vapor solvent recovering means located adjacent both ends of the chamber whereby solvent-laden air is withdrawn from the ends of the chamber and the solvent distilled from the air for re-use in the spraying zone.

3,144,873

DIVERTER VALVE FOR DISHWASHING APPARATUS

Herbert Carvel Moore, Los Angeles, and Herbert L. Trautmann, San Marino, Calif., assignors to Electro-Way Corporation, a corporation of California

Original application Aug. 2, 1956, Ser. No. 601,812, now Patent No. 2,956,579, dated Oct. 18, 1960. Divided and this application Aug. 22, 1960, Ser. No. 51,130
7 Claims. (Cl. 137—119)



1. In a device having an inlet for connection to a pure water supply, a first discharge outlet in continuous communication with the atmosphere for discharging a stream of pure water and an alternate second discharge outlet subject to contamination, diverter valve means to divert flow from said first discharge outlet to said second discharge outlet and to prevent contaminated backflow from said second discharge outlet to said inlet, said diverter valve means having in combination: a diverter valve chamber in communication with said inlet; a first outflow passage from said chamber to said first discharge outlet; a second outflow passage from said chamber to said second discharge outlet; a diverter valve member in said chamber movable between a first position closing said first outflow passage to divert flow from said inlet to said second outflow passage and a second position closing said second outflow passage to divert flow from said inlet to said first outflow passage; and means to prevent backflow in said second outflow passage in response to lowering of pressure in said diverter chamber when said diverter valve member is in said first position closing said first outflow passage, said preventing means comprising: a by-pass from said chamber to said first outflow passage; and check valve means normally closing said by-pass and opening in response to a vacuum in the chamber thereby to place the chamber in communication with the atmosphere through said first outflow passage.

7. In a dishwashing device for mounting on the plumbing at the rear side of a kitchen sink for use with a supply of detergent, said device having at least one inlet for connection to a water supply, a first discharge outlet for clear water and a second discharge outlet for mixed water and detergent, the combination therewith of:

a diverter valve chamber in communication with said inlet and said two outlets for fluid flow from the inlet to the two outlets;

control means extending forward from the dishwashing device, said control means having a normal forward position and being movable rearwardly to a second rear position;

yielding means urging said control means forward to its normal forward position;

valve means to control flow from the diverter chamber to said two outlets, said valve means having a normal first position cutting off said second outlet while permitting flow from the diverter chamber to the first outlet control means to move from its normal first

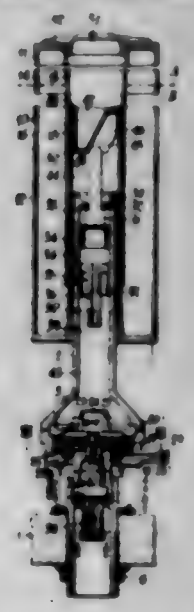
position to its second position when the control means is moved from its normal forward position to its rearward position, said valve means in its second position diverting the flow of the water from said inlet to the second outlet thereby causing the diverted water to exert a given force by fluid pressure on the valve means to tend to keep the valve means at its second position as long as the diverted flow continues, the force exerted by said yielding means being less than said given force whereby the yielding means permits the given force to hold the valve means at its second position as long as the diverted flow continues and the yielding means returns the valve means to its normal first position in response to the drop of the fluid pressure in the diverter chamber when flow from the inlet to the diverter chamber ceases.

3,144,874

TOILET TANK SUPPLY VALVE ASSEMBLY

Charley L. Goldtrap, Denver, Colo., assignor to Twentieth Century Products Corp., Denver, Colo.

Filed June 13, 1961, Ser. No. 116,859
7 Claims. (Cl. 137—414)



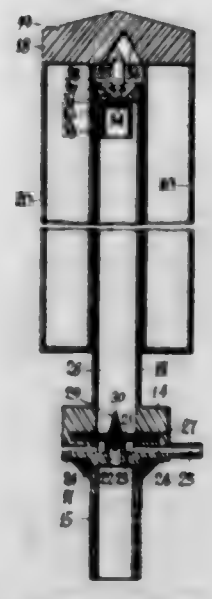
1. A toilet tank supply valve assembly comprising a normally generally upright casing having a water inlet passage adapted for communication with a source of water under pressure, an inlet control valve defining a pressure chamber in said casing, a tank filling water outlet passage from said casing, communication between said tank filling and water inlet passages being interrupted by closing of said inlet control valve, a pressure equalizing passage placing said pressure chamber in communication with said inlet passage, a bleed passage communicating with said chamber for relieving the pressure in said chamber, a bleed control valve, and a float guidingly supported for movement between elevated and lowered positions in response to changes in the water level in an associated tank, said bleed control valve being moved to open said bleed passage upon movement of said float to said lowered position and being movable to close said bleed passage upon movement of said float to said elevated position, said inlet control valve being held closed by the water in said chamber when the latter is at substantially source pressure and being opened by water in said inlet passage when the pressure in said chamber is relieved by opening said bleed passage, together with a surge damper positioned in said pressure chamber, said surge damper extending across said chamber and having a passage therethrough of small diameter relative to that of said chamber, said surge damper comprising an elongated tubular central portion providing said passage therethrough and an outer skirt portion concentric therewith and bearing against the inner wall of said chamber, said skirt portion opening toward said inlet control valve.

3,144,875

TOILET TANK SUPPLY VALVE ASSEMBLY

Charley L. Goldtrap, Englewood, Colo., assignor, by direct and mesne assignments, to Twentieth Century Products Corporation, Denver, Colo., a corporation of Colorado

Continuation of application Ser. No. 779,739, Dec. 11, 1958. This application Jan. 7, 1963, Ser. No. 249,954
16 Claims. (Cl. 137—414)



16. A toilet tank supply valve assembly comprising a normally upright casing, a float member supported on said casing for rising and falling movement therealong in response to predetermined changes in the level of water in an associated tank, a water inlet passage to said casing, a tank filling water outlet passage from said casing, a first valve defining a pressure chamber in said casing, said first valve being movable to a closed position closing off said tank filling water outlet passage from said inlet passage and from said pressure chamber, a pressure equalizing passage placing said chamber in communication with said inlet passage whereby said chamber is subject to inlet pressure when said first valve is in said closed position, said first valve normally being held in said closed position by the pressure of water in said chamber, a bleed passage from said chamber, a second valve normally closing said bleed passage, means canting said second valve to open said bleed passage upon predetermined falling movement of said float member on said casing, said pressure equalizing passage being of restricted size relative to said bleed passage whereby opening of the latter relieves the pressure in said chamber for movement of said first valve out of said closed position to open said water outlet passage to said inlet passage for filling an associated tank, said second valve closing said bleed passage upon predetermined rising movement of said float member on said casing to enable the buildup of pressure in said chamber for movement of said first valve to said closed position, whereby filling of an associated tank is controlled by said first valve which latter is hydraulically controlled by said float member through said second valve.

3,144,876

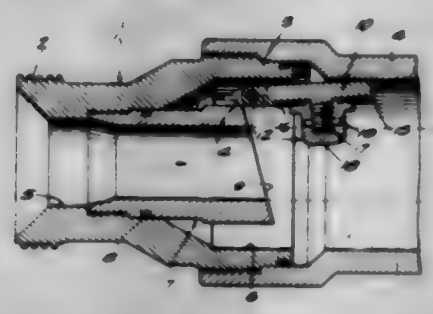
SWING-TYPE CHECK VALVE

James A. Frye, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Apr. 25, 1962, Ser. No. 190,175
4 Claims. (Cl. 137—454.5)

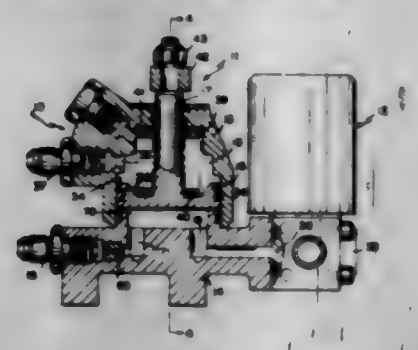
1. A swing-type check valve, comprising: a tubular valve body structure defining a throat having a valve seat

at its upstream end and an enlarged valve chamber beyond the upstream end of said throat, whereby fluid flowing through said throat tends to form a jet stream in the center of said valve chamber and an annular region of lower velocity fluid around said jet stream; a valve member for said valve seat in said valve chamber, hinge means for said valve member having a pivotal axis in said annu-



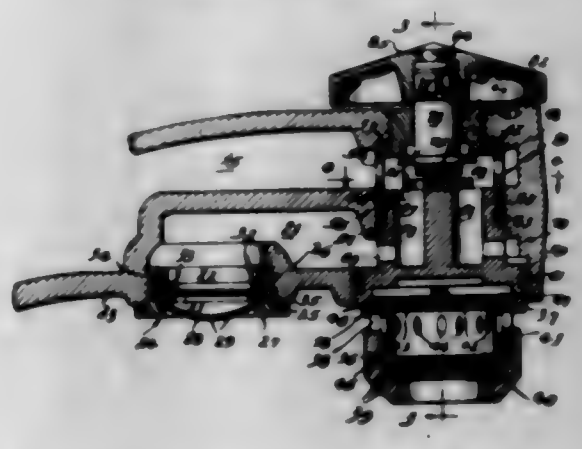
lar region, said valve member being movable between a closed position engaging said valve seat and an open position within said annular region; and an element carried by said valve member projecting therefrom into said jet stream and constructed and arranged so that impingement thereon by the fluid flowing therein, when said valve member is in its open position, urges said valve member clear of said jet stream.

3,144,877
CLUSTERED DUAL VALVE CONTROL FOR ROCKET LIQUID FUEL SYSTEM
John R. Prybylski, Amherst, and Clement J. Turansky, Tonawanda, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 7, 1961, Ser. No. 150,850
1 Claim. (Cl. 137—595)



A clustered dual valve control for use on a liquid fuel rocket engine system having a gas generator combusting liquid fuel and oxidizer supplied from a pressurized liquid fuel supply tank and a liquid oxidizer supply tank for powering a fuel pump and an oxidizer pump delivering liquid fuel and oxidizer to the rocket engine and gas generator and comprising: a body housing containing a closed cylindrical cavity at the mid section, a piston axially operable within said closed cylindrical cavity and having on one end a free face and on the opposite end having an integral piston rod the free end of which extends through said body housing, a first valve means within said body housing parallel to said closed cylindrical cavity and having inlet and outlet means for the passage of liquid fuel, a second valve means within said body housing parallel to said closed cylindrical cavity and having inlet and outlet means for the passage of liquid oxidizer, connecting means joining said first and said second valve means to the free end of the piston rod on said piston for simultaneous movement therewith to open and close said valve means, a compression spring means coaxial with the piston rod and disposed between said piston and said body housing for biasing said first and said second valve means to the normally closed position, inlet passage means in said body housing communicating with the free face of said piston in said cylindrical cavity adapted for joining said cylindrical cavity to the discharge side of said fuel pump, discharge passage means in said body housing communicating with the free face of said piston in said cylindrical cavity adapted for joining said cylindrical cavity to said fuel supply tank, said inlet passage means being smaller than said discharge passage means; static pressure sensing passage means in said body housing communicating with the piston rod end of said piston in said cylindrical cavity adapted for joining said cylindrical cavity to said fuel supply tank, and normally open valve means in said discharge passage means, said last-named valve means being closable to block the flow from said discharge passage means permitting the fuel discharge pressure from said fuel pump to move said piston against the bias of said compression spring means and simultaneously open said first and said second valve means.

3,144,878
DIVERTER VALVE ASSEMBLY
Frank N. Williams, Wilmette, Ill., assignor to Federal-Huber Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 18, 1961, Ser. No. 159,917
4 Claims. (Cl. 137—625.31)

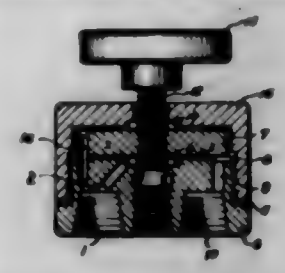


4. A diverter valve assembly for a faucet spout comprising a generally cylindrical valve body having a valve chamber adjacent the upper end of the body, a plurality of circumferentially spaced radial inlets communicating with a source of liquid under pressure and opening into said valve chamber, a central outlet at the lower end of the valve body, a pair of oppositely disposed longitudinally extending passages in said valve body between said valve chamber and said outlet, a second pair of oppositely disposed longitudinally extending passages communicating with said valve chamber and terminating short of said outlet, a pair of outlets extending radially outwardly through the valve body and communicating with said last named passages, a rotatable flat valve member in said valve chamber extending diametrically across the chamber and adapted to alternately close one pair of passages and open the other pair of passages, and means to limit rotation of said valve member to an arc of approximately 90°

3,144,879
ADJUSTABLE LAMINAR FLOW RESTRICTION
Hans D. Baumann, Sharon, Mass.
(203 Wayside Ave., Decatur, Ill.)
Filed Mar. 12, 1963, Ser. No. 264,544
3 Claims. (Cl. 138—43)

1. Apparatus for controllably restricting the flow of fluid therethrough which comprises a housing having a flat upper surface and having an opening to receive a screw or valve stem centrally of said upper surface and extending into the housing, said housing also being provided with a circular channel disposed substantially coradially and in apposition with said screw opening and communicating with the upper flat surface, said housing

being further provided with an opening through one of its surfaces other than the upper flat surface and extending into the housing to provide for ingress of fluid and said housing being also provided with another opening through one of its surfaces other than its upper flat surface to provide for egress of fluid therefrom, said housing being provided with a port to connect the inlet opening to the circular channel and flat upper surface of the housing substantially centrally of said surface, said housing being provided with a second port which connects the fluid egress opening with the flat upper surface at a substantially greater radial distance from the center of said flat upper surface than the inlet port connection thereto; a flat plate held above and in opposition to the flat upper



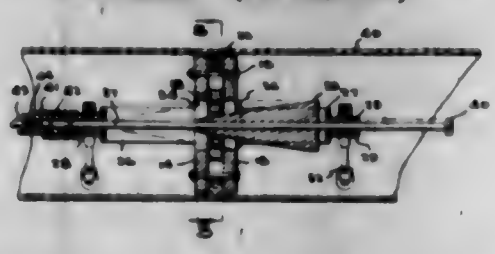
surface of the housing, said plate being provided with an opening which is co-radially of the screw opening of the housing; a sealing ring located in the central channel of the housing having an opening which is in co-radial relationship with the screw opening of the housing, said sealing ring providing a bearing surface for the aforementioned flat plate and providing means for displacing the plate from the housing; means for sealing the periphery of the housing and the periphery of the plate against leakage of fluid therethrough; and, screw or valve stem means extending through the openings in the flat plate, the sealing rings and housing and screwably engaging the same to regulate the spacing apart of the flat plate and housing, said screw means including a differentially pitched threaded section to engage the housing and the flat plate.

3,144,880

SEWER PIPE LEAK STOPPER

Thomas E. Witsks, Pawleys Island, S.C., assignor of one-half to H. S. Clardy, Georgetown County, S.C.

Filed Sept. 28, 1962, Ser. No. 226,798
10 Claims. (Cl. 138—97)



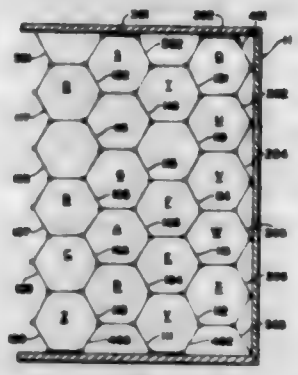
2. A device for repairing conduits comprising a pair of disc members of like diameter, means securing said disc members in spaced parallel relation, a plurality of shoe members slidably disposed between said disc members and being movable outwardly, said shoe members normally being disposed inwardly, arcuate rigid bar means secured to at least certain of the shoe members and peripherally covering the space between the adjacent shoe members, the bar means and the shoe members being shaped to define with the outer circumferential portions of said disc members a substantially annular space adapted to receive sealing material, means to guide said disc members through a conduit, a tapered wedge member extending axially through said disc members and being engageable with the inner edges of said shoe member, and means to move the wedge members longitudinally in a direction to expand said shoe members, whereby to force the sealing material against the interior wall of the conduit.

3,144,881

CONSTRUCTION ELEMENT

Wayne T. Sproull, Glendale, Calif., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 18, 1961, Ser. No. 132,378
8 Claims. (Cl. 138—117)



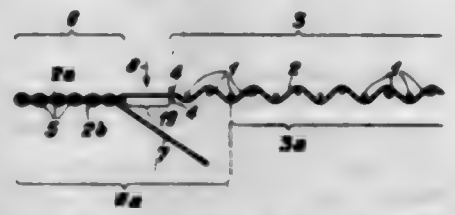
1. A structure providing a bank of nested ducts comprising a plurality of geometrically congruent construction elements, each of said elements having at least two angularly disposed portions forming contiguous sides of a duct, each two portions having a common edge and at least one free edge, said two portions forming a dihedral angle having said common edge as the vertex of said dihedral angle, and means located along said vertex exterior to said dihedral angle engaging a free edge of at least one other of said construction elements forming said bank of nested ducts to locate adjacent elements in respect to each other.

3,144,882

METHOD FOR WEAVING SELVAGELESS CLOTH

Max Steiner, Zurich, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland

Filed Oct. 16, 1961, Ser. No. 145,148
Claims priority, application Switzerland Mar. 28, 1961
4 Claims. (Cl. 139—54)



1. A method of producing selvageless cloth on a loom for weaving wherein sheds are consecutively formed in a warp, and weft threads are consecutively inserted into said sheds, the width of said warp being greater than the width of the produced cloth, said warp having marginal warp threads, and the inserted weft threads having end portions extending beyond said marginal warp threads, said method comprising:

bending over the weft thread end portions extending beyond the marginal warp threads,

tucking said end portions between all of said marginal warp threads for forming a temporary selvage, and

cutting the weft threads inside and adjacent to said marginal warp threads for removing the temporary selvage from the cloth.

3,144,883

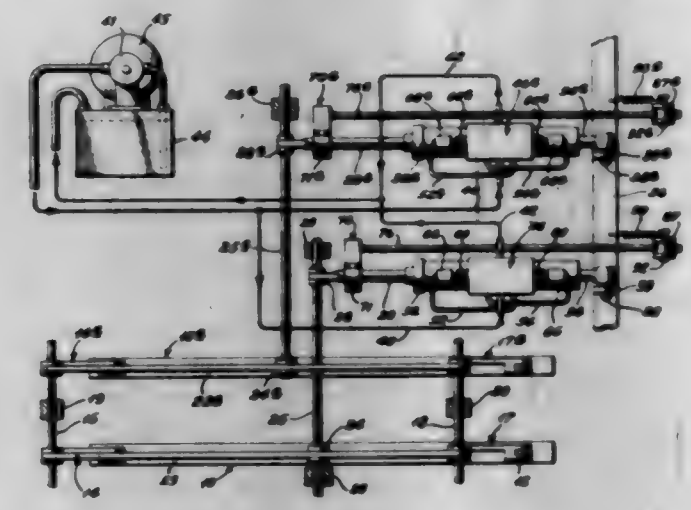
SHEDDING MECHANISM FOR A LOOM

Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia

Filed Dec. 27, 1962, Ser. No. 248,183
11 Claims. (Cl. 139—55)

1. In a loom having a harness, operating means for raising and lowering said harness comprising: a double-acting cylinder and piston assembly; means securing one

element of said assembly to a stationary portion of the loom; a source of fluid under pressure; electrically operated valve means operatively connected to said cylinder and piston assembly; switch means electrically connected to said valve means for actuating said valve means to direct fluid under pressure to said cylinder to cause the other element of said cylinder and piston assembly to move; a cam; means for driving said cam in synchronism with the loom; a cam follower driven by said cam; said switch means including first contact means connected to said cam follower for movement therewith and second contact means connected to said other element of said cylinder and piston assembly for movement therewith; one of said contact means including a first contact element electrically connected to said electrically operated



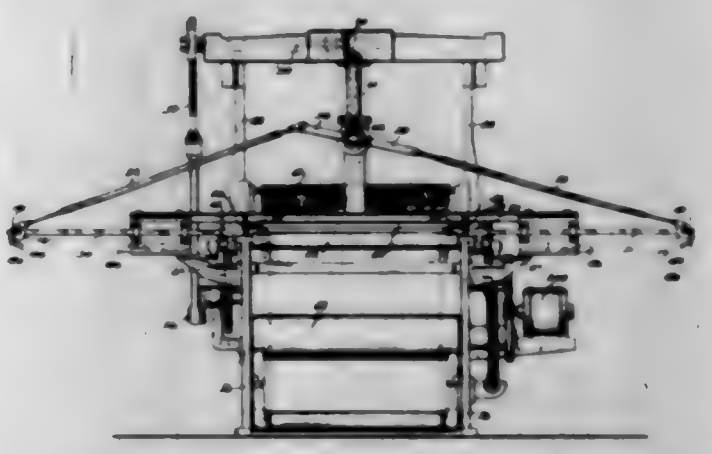
valve for actuating said valve in one direction and a second contact element electrically connected to said electrically operated valve for actuating said valve in the opposite direction; the other of said contact means being positioned to cooperate alternatively with said first and second contact elements to complete electrical circuits therethrough, the circuit completed upon relative movement between said cam follower and said other element of said cylinder and piston assembly in one direction being effective to condition said valve means so as to cause relative movement between said cam follower and said other element of said cylinder and piston assembly in the opposite direction; and means connecting said assembly to said harness to raise and lower the harness upon reciprocation of said other element of said assembly.

3,144,884
CLAMPING SHUTTLE
Vladimir Svaty, Liberec, Czechoslovakia, assignor to Sdruzeni Podniku Textilniho Strojirenstvi, Liberec, Czechoslovakia
Filed Sept. 25, 1961, Ser. No. 140,599
Claims priority, application Czechoslovakia Sept. 24, 1960
9 Claims. (Cl. 139—125)



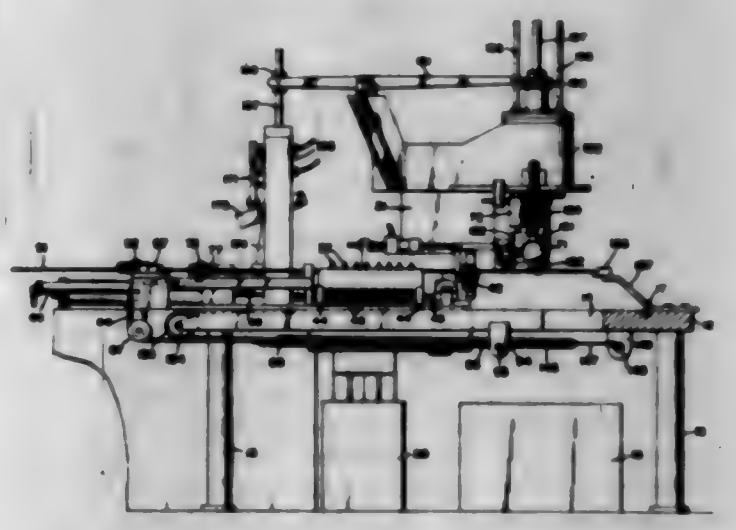
1. A shuttle comprising a body formed with a cavity open on one side of said body, said body having an abutment portion partly closing said cavity so that a gap is formed adjacent said abutment portion in said body; and a resilient means resiliently abutting said abutment portion, said gap being adapted to permit passage of a thread into said cavity so that the thread is clamped between said abutment portion and said resilient means.

3,144,885
LOOM
George M. Boyes and James E. Watson, Appleton, Wis., assignors to Wisconsin Wire Works, Appleton, Wis., a corporation of Wisconsin
Filed Nov. 9, 1960, Ser. No. 68,290
12 Claims. (Cl. 139—141)



1. A method of operating a loom having means for forming a shed of warp and having a shuttle reciprocable through the shed for laying weft strands therethrough and having means for beating up each successive strand of weft, said method comprising the step of maintaining the shuttle in substantially continuous operation forth and back through the shed without substantial dwell, said method including reversing the shed and advancing the shuttle into the reversed shed to lay a strand of weft therethrough while the beatup means is still acting upon the strand last laid in the shed.

3,144,886
MACHINE FOR MANUFACTURING TORSION SPRINGS
Charles L. Willard, Jr., 683 Ulloa St., San Francisco 27, Calif.
Filed Jan. 5, 1960, Ser. No. 589
9 Claims. (Cl. 140—71)



1. In a spring manufacturing machine, a frame having a horizontal table, a source of hydraulic pressure, a plurality of valves connected into said source, timing means individually controlling said valves, feed means on said

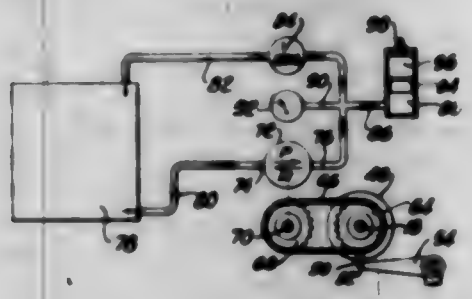
frame for feeding wire into said machine in a direction parallel to said table, first hydraulic means for actuating said feed means controlled by a first of said valves, cutoff means for cutting off wire at desired lengths, second hydraulic means for actuating said cutoff means controlled by a second valve of said valves, a spindle mounted for rotation about an axis perpendicular to said table and for movement along said axis and rotatable to form a coil in said wire, a rack reciprocable on said table, gear means for transmitting motion from said rack to rotary motion of said spindle, third hydraulic means for actuating said rack controlled by a third valve of said valves, fourth hydraulic means for moving said spindle in the direction of its axis of rotation, a fourth valve for controlling said fourth hydraulic means in timed relation to rotation of said spindle, at least one tool mounted on said frame for performing a bending operation on said wire, fifth hydraulic means for actuating said tool controlled by a fifth valve of said valves, and timing means for timing, opening and closing of each said valve, said timing means being adjustable to open and close each said valve independently of every other said valve.

3,144,887

SHAFT POSITIONING DEVICE

Frank Bergandi, El Monte, and Herbert E. Rohrbacher, Whittier, Calif., assignors to Bergandi Manufacturing Company, Inc., El Monte, Calif., a corporation of California

Filed Apr. 30, 1962, Ser. No. 191,971
6 Claims. (Cl. 140—92.6)



1. In a machine having a rotatable shaft at which work is performed:

means adjacent such shaft for performing work at said shaft when said shaft is rotating, and additional means adjacent said shaft for performing work at said shaft when said shaft is stationary and positioned in a particular position, drive means connected to selectively drive said shaft, and detent means connected to said shaft for holding said shaft in said particular position when said selective drive means is inoperative to drive said shaft;

shaft positioning means to position said shaft in said predetermined position which includes:

a pump having a normal inlet and a normal outlet and a pump shaft, said pump shaft being normally used so as to operate said pump;

means for connecting said pump shaft to said shaft so that both of said shafts rotate at the same time; and

a hydraulic circuit means, said circuit means including a reservoir, an accumulator and a pressure responsive valve, first pipe means connecting said normal inlet to said reservoir so that as said shaft is operated said pump draws fluid from said reservoir and second pipe means connecting said normal outlet to said accumulator and to said reservoir through said valve,

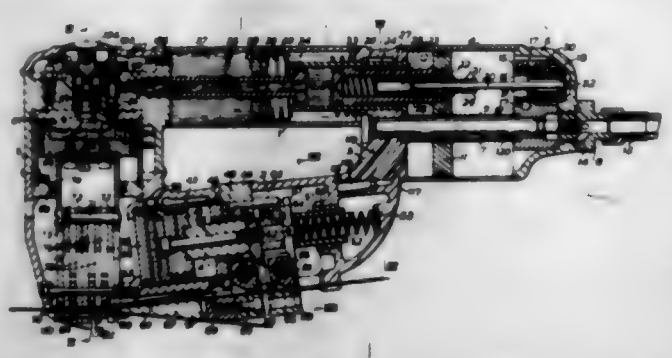
said accumulator serving to supply hydraulic fluid to said pump so as to operate said pump as a motor to position said shaft to said particular position.

3,144,888

TOOL FOR APPLYING BINDING STRAPPING, WIRE AND THE LIKE ABOUT ARTICLES

Basil S. Palmer, Fareham, England, assignor to Packers Supply Company Limited, Surrey, England, a British company

Filed July 22, 1960, Ser. No. 44,780
Claims priority, application Great Britain Aug. 14, 1959
21 Claims. (Cl. 140—93.2)



1. A tool for use in binding articles with a closed loop of tensioned strapping, comprising a supporting body, an hydraulic pump carried by said supporting body and a pneumatic motor carried by said supporting body and driving said hydraulic pump, means for tensioning the strapping including a first cylinder carried by said supporting body a first ram reciprocable in said first cylinder and gripper means connected for movement with said first ram, and means for jointing overlapping ends of the loop of strapping including a second cylinder carried by said supporting body, a second ram reciprocable in said second cylinder and movable jointing elements coupled with said second ram, a conduit including a first branch leading pressure liquid from the hydraulic pump to one side of the first ram in the first cylinder and a second branch leading pressure liquid from the hydraulic pump to one side of the second ram in the second cylinder, movable pressure-responsive control means in said conduit movable between a first position in which said first branch is open and pressure liquid from said hydraulic pump has access to said first cylinder and said first ram to move said gripper means to tension the strapping and the said second branch is closed by said movable pressure-responsive control means, and a second position in which said first branch is closed by said movable pressure-responsive control means and said second branch is open and pressure liquid from said hydraulic pump has access to said second cylinder and said second ram to move said movable jointing elements to join overlapping parts of the tensioned strapping.

3,144,889

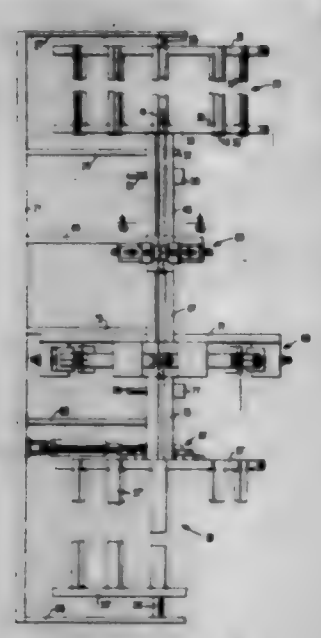
TRANSISTOR PREPARATION MACHINE

Theodore H. Cole, Union Center, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 24, 1961, Ser. No. 126,232
11 Claims. (Cl. 140—140)

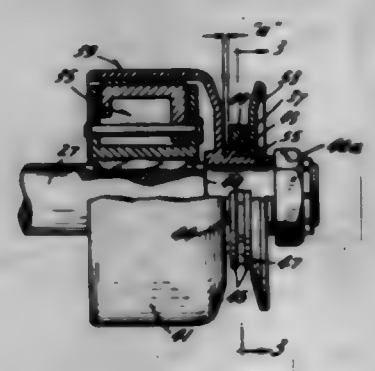
10. A machine for straightening and trimming the leads of transistors having three leads projecting from the base of the can thereof in a triangular configuration, said machine comprising a first pre-straightening station and a second straightening and cut-off station each movable between open and closed positions, track means adapted to receive an aligned supply of transistors for movement therealong and including portions extending through said stations, said track means including a channel in which the can is received and cover means secured to the open side of the channel forming a longitudinal slot between which the leads project forwardly with two of the leads slidable along one side of the slot and the third lead slidable along the other side of the slot, stop means at each of said stations movable into and out of blocking engagement with

the transistors, said first station comprising means for resiliently gripping the sides of the can and resiliently urging the base of the can against said track cover means, means for thereafter loosely encircling and combing each of the leads forwardly over a predetermined length thereof in a direction approximately perpendicular to the base of the can, said second station including means for resiliently gripping the sides of the can and resiliently



urging the base of the can against said track cover means, laterally movable interengageable means for thereafter gathering and simultaneously tightly engaging every portion of each of the leads over the combed predetermined length thereof to straighten said predetermined lead lengths approximately parallel to one another and perpendicular to the base of the can, and means for subsequently shearing the leads to length.

3,144,890
CHAIN SAW SPROCKET
Finn T. Irgens, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Jan. 12, 1962, Ser. No. 165,733
7 Claims. (Cl. 143—32)



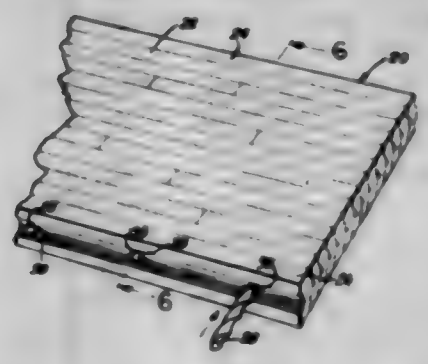
1. The combination in a chain saw of
an engine having an output shaft,
a clutch member drivingly engageable with said shaft to effect rotation of said clutch member,
means for releasably drivingly engaging said clutch member to said shaft,
a chain sprocket keyed to said clutch member for rotation therewith and for self-adjusting axial movement, and means on said sprocket and on said clutch member limiting said self-adjusting axial movement of said sprocket relative to said clutch member.

3,144,891
SAW CHAIN SEMICHISEL BIT CUTTER
Raymond R. Carlton, Portland, Oreg., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon
Filed May 15, 1961, Ser. No. 110,193
3 Claims. (Cl. 143—135)



1. A saw chain cutter link comprising;
a body plate; and
an integral cutter tooth extending upwardly from the top edge of said body plate;
said cutter tooth having a shank portion laterally offset from and outwardly inclined to said body plate;
a flattened toe portion extending transversely inwardly of said body plate at substantially a right angle thereto; and
a small radius curved portion joining said shank and toe portions having an outside radius of curvature less than the sum of the inside radius of curvature plus the thickness of the body plate but no less than the thickness of said body plate;
said curved portion having a greater thickness than said shank and toe portions;
the forward edge of said toe, shank, and curved portions forming a continuous beveled surface;
said beveled surface being sharpened to form a continuous chisel cutting edge at its leading edge;
the beveled surface of said toe portion being concave in the direction of cutting; and
the beveled surface of said shank and curved portions being flat in the direction of cutting and providing a hooked cutting edge;
said cutting edge conforming to a cylindrical surface so that it can be sharpened with a cylindrical sharpening tool of uniform round cross-section having a longitudinal axis substantially coincident with the toe bevel axis of concavity.

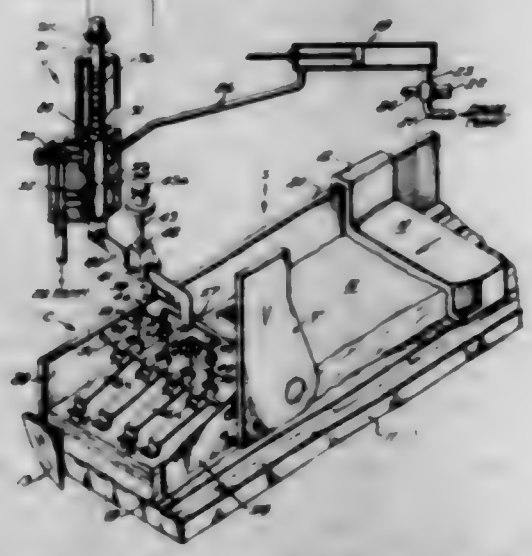
3,144,892
METHOD OF FABRICATING COMPOSITE PANELS
John W. Webster, Upper Arlington, Ohio, assignor to D. R. Frampton & Company, Columbus, Ohio, a corporation of Ohio
Filed Sept. 18, 1961, Ser. No. 138,877
6 Claims. (Cl. 144—318)



1. The steps in the method of fabricating panels which method comprises forming a plurality of wood panel components each of which includes a first side surface that forms a tongue portion and a second side surface that

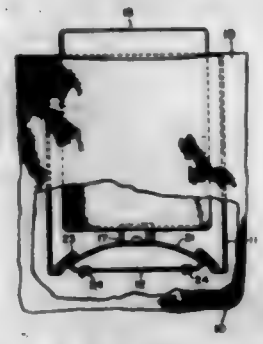
forms a groove portion; forming longitudinally extending channels in certain of said side surfaces; disposing said plurality of wood panel components in side by side relationship with said tongue portions in said groove portions to form an assembly wherein said channels and confronting side surfaces form open ended passages extending to the edges of said assembly, said assembly including right and left edge components having outer edge faces; drilling aligned bores through said components and channels of substantially equal bore diameter, said passages serving to release cuttings from said aligned bores at a plurality of spaced locations along the lengths thereof; and driving into said bores a metal dowel provided with crested spiral threads extending in full diameter substantially to the end tips of said dowel, said dowel being driven to a position wherein said end tips are located just inwardly of said outer edge faces whereby said end tips grip the bores in said edge components.

3,144,893
BACON SLICER HAVING AUTOMATIC FEED ADJUSTMENT
Francis A. Dahms, Tariffville, Conn., assignor to Emhart Manufacturing Company, Hartford, Conn., a corporation of Delaware
Filed Sept. 23, 1957, Ser. No. 685,584
4 Claims. (Cl. 146—95)



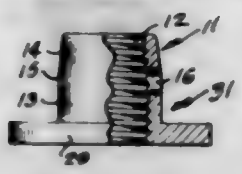
1. A machine for slicing bacon and the like which comprises a support having substantially constant speed movable cutter means adjacent thereto, pusher means operatively associated with said support to advance bacon and the like into the cutter means, vertically and laterally moveable sensing means operatively associated with said support to engage the advancing bacon and the like and including at least one vertically movable finger engaging a lateral surface and a laterally movable arm engaging a generally vertical surface of the bacon and the like, power advancing means operatively connected to said pusher means, control means connected to said power advancing means, and compensating means interconnecting said vertical and lateral sensing means and operatively connected to said control means for advancing said pusher means at speeds dependent upon the cross sectional area of a slab of bacon and the like to provide for the production of substantially uniform weight in a uniform number of slices of bacon and the like cut from the slab, said compensating means including a lever which at one end is pivotally connected to the control means and at the other end is pivotally connected to the finger and which is pivoted between the ends for movement in a generally vertical plane, the said compensating means also including motion transmitting means connected between said arm and said lever and comprising crank means for pivoting said lever responsive to movement of the arm to effect adjustment of said control means.

3,144,894
GUARD FOR WALLET
Harold S. Young, 315 Kimble Terrace, Chula Vista, Calif.
Filed Mar. 11, 1963, Ser. No. 264,357
3 Claims. (Cl. 150—47)



1. Guard means for holding a generally rectangular wallet in a person's pocket, comprising: a small magnet of high flux density and having a width much less than the width of said wallet; fastening means attached to said magnet and passing through the bottom of said wallet near its center to retain the top of said magnet continually in contact with the bottom of the wallet; a narrow spring of high magnetic permeability extending under said wallet and magnet, the middle portion only of said spring contacting the poles of said magnet; and fasteners attaching the ends only of said spring to the bottom of said pocket and keeping said ends in continual contact therewith whereby in response to limited upward movement of said wallet and magnet, the middle portion of said spring is bent upward and in response to further upward movement of said wallet the poles of said magnet leave said spring and the middle portion of the spring snaps down against the bottom of said pocket.

3,144,895
HIGH TEMPERATURE DEFORMED THREAD LOCK NUT WITH PERFORATED BODY
Homer W. Linger, New Canaan, Conn., assignor, by mesne assignments, to Textron Industries, Inc., Norwalk, Conn., a corporation of Delaware
Filed Feb. 25, 1959, Ser. No. 795,413
1 Claim. (Cl. 151—21)

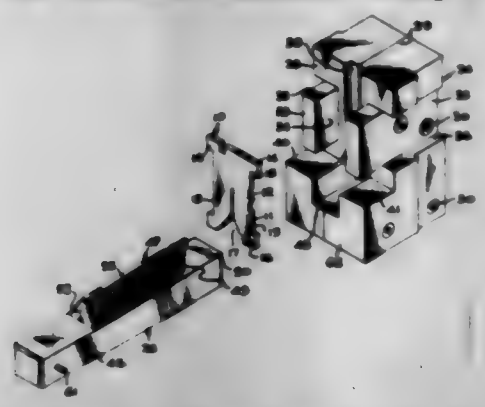


A light weight self-locking nut for use at high temperatures comprising a unitary thin-walled body made of a super alloy and including: a flange-like base; an internally threaded tubular barrel extending upwardly from said base; the cross-section of substantially the upper half portion of said barrel being of oval shape and of the lower half portion of said barrel being of circular shape, whereby said upper portion is a self-locking means for the nut when a threaded member is inserted into said barrel; and a pair of aligned circular openings formed in and extending through said barrel on the major axis of the oval at the junction of said barrel portions, said openings being of a diameter at least as large as the axial distance between one pitch of the threads on said barrel.

3,144,896
EDGE STRAIGHTENING TOOL
James H. Landon, 1316 Raymond Ave., Glendale, Calif.
Filed May 29, 1962, Ser. No. 198,508
4 Claims. (Cl. 153—32)

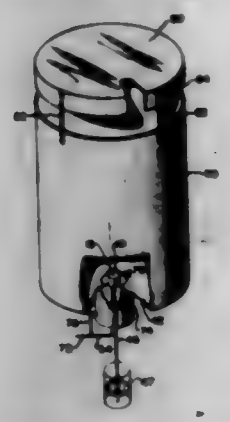
1. A broaching tool for straightening the edge surface of a flat plate in which said edge surface is originally

straight and normal to the plane of the plate, the tool comprising a die and a broaching implement, the die having a flat surface for seating the plate in the die, means for engaging the plate to hold it on said flat surface against turning in the plane of said flat surface, a cylindrical opening in the die extending normal to said flat surface, the broaching implement having a cylindrical



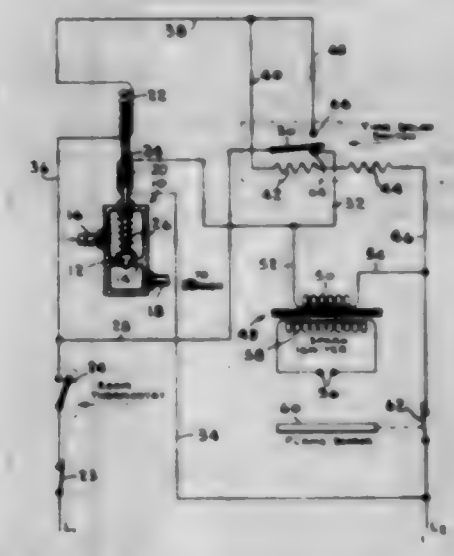
guide rod portion snugly slidable in said die opening, a broach on the implement spaced from said plate-holding means by a distance such that the broach will rub against said edge surface as the implement is passed into the die opening, the broach tapering outwardly from its entering end to its trailing end so as to wedge tightly against said edge surface as the broach passes against the said edge surface.

3,144,897
OIL BURNER APPARATUS
Albert Biber, Verona, and Orvis A. Davis, Sr., Gibsonia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 18, 1960, Ser. No. 70,245
6 Claims. (Cl. 158—28)



1. An oil burner apparatus comprising a tubular wall having an inlet end and an exhaust end, enclosure means for enclosing the inlet end of said tubular wall, an aspirating nozzle adapted so that the passage of pressurized primary air therethrough aspirates liquid fuel existing under substantially atmospheric pressure to produce an atomized primary air-liquid fuel spray, said nozzle disposed at the inlet end of said tubular wall coaxially therewith and positioned for directing said spray along a path close to the longitudinal axis thereof towards said exhaust end, barrier means providing axial obstruction at said exhaust end, exhaust passageway means at said exhaust end in the region of said barrier means, said exhaust passageway means constituting substantially the only means for removal of exhaust from said apparatus during combustion of said spray, inlet passageway means through said inlet end enclosure means, said inlet passageway means extending through said enclosure means in a region relatively close to said nozzle and relatively remote from the tubular wall, said inlet passageway means adapted for the admission of secondary air to said apparatus relatively close to the longitudinal axis thereof and relatively remote from said tubular wall, the region of said tubular wall and the region of said inlet end enclosure means relatively close to said tubular wall and relatively remote from said longitudinal axis being free of any inlet passageway means so that said inlet passageway means constitutes substantially the only means for the admission of secondary air within said tubular wall during combustion of said spray, said apparatus adapted so that the flame produced upon combustion of said spray is axially removed from the nozzle and is substantially confined to a region axially remote therefrom.

3,144,858
DIRECT IGNITION SYSTEM
Lawrence Quesever, Milwaukee, Wis., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Aug. 28, 1961, Ser. No. 134,497
4 Claims. (Cl. 158—125)

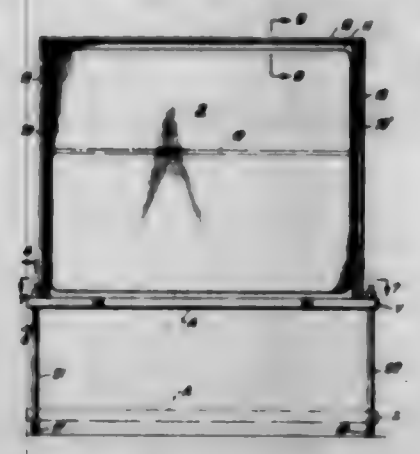


1. A fuel burning system comprising, an electromagnetic fuel valve having two coils which jointly produce sufficient force to open the valve while one of said coils only produces enough force to hold the valve open, an electric ignitor for igniting the fuel, a time delay switch, electric circuit means for energizing said coils and said ignitor with the ignitor and one of said coils connected in parallel through said time delay switch, said time delay switch including an electric heater for actuating the switch, said heater being connected in series with the other of said coils, a thermostat for controlling energization of said circuit means, said delay switch being operative when actuated by its heater to de-energize said one coil, said circuit means including a normal open branch circuit closed by said time delay switch when actuated by said heater to continue the energization of the heater to thereby keep the delay switch actuated.

3,144,899
PORTABLE MOTION PICTURE SCREEN
La Mar Roy Stewart, 23208 Robert Road, Torrance, Calif., and Patrick H. Stewart, 5257 Willow Wood Road, Rolling Hills, Calif.
Filed Feb. 26, 1962, Ser. No. 175,729
11 Claims. (Cl. 160—24)

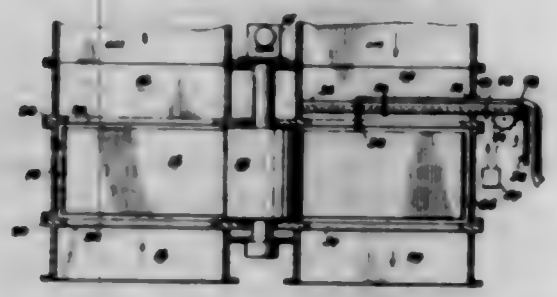
1. A portable picture projection screen comprising in combination an elongated hollow rectangular case having a removable cover for one rectangular side thereof, a roller mounted for rotation in said case, a flexible picture projection screen secured at one end to said roller, a cross-bar secured to the opposite end of said screen, two side bars and means to demountably position each said side bars at opposite ends of said roller to extend vertically and in parallel spaced relation above the roller, means at the upper ends of said side bars to receive and demountably secure thereto the opposite ends of said cross-bar, means

to releasably apply vertical tensioning to said screen thereby to remove therefrom horizontally extending irregularities in the viewing surface of the screen, said tensioning means also including re-winding tension on said roller, means to releasably apply a sustained horizontal tension to said screen thereby to remove vertically extending irregularities in the viewing surface of said screen and to bring all areas of the screen into the same vertical plane,



and a demountable support means for said case, said support means including a means, contained in part in the case, to vary the horizontal level of said case thereby to vary the viewing heighth of said screen between predetermined maximum and minimum limits and means housed in said case to rotate said case about a horizontal axis over selected angle or degree of rotation thereby to vary the viewing angle of the screen between predetermined maximum and minimum limits.

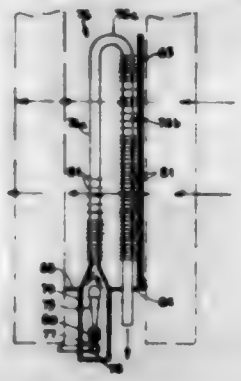
3,144,900
RETRACTABLE CLEANER FOR ROTARY REGENERATIVE HEAT EXCHANGER
Richard Stockman, Friendship, N.Y., assignor, by mesne assignments, to Combustion Engineering, Inc., a stock corporation of Delaware
Filed May 29, 1961, Ser. No. 113,343
7 Claims. (Cl. 165—5)



1. In apparatus having a housing divided into a plurality of open-ended compartments adapted to direct a contaminated gas therethrough, cleaning means for the supply of a cleaning fluid to said compartments to remove deposits of contaminants therefrom, said cleaning means comprising a nozzle confronting the open ends of said compartments, a hose for the supply of a cleaning fluid to said nozzle, a radially disposed track within said housing adjacent the open ends of said compartments providing a support for said nozzle, and a drive mechanism moving said nozzle over said track including limp drive means having directional stability only when guided by said track.

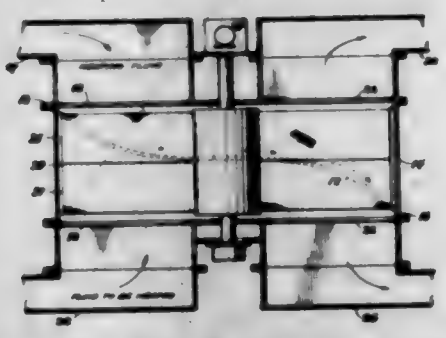
3,144,901
MOVABLE AIR CONDITIONING APPARATUS
George W. Meek, Fort Myers, Fla., assignor to Lizenzia A.G., Zug, Switzerland, a Swiss corporation
Filed May 13, 1960, Ser. No. 29,861
4 Claims. (Cl. 165—6)

1. Air treating apparatus comprising, an enclosing casing, a plurality of wheels in said casing, one of the wheels being a heat transfer wheel and another of the wheels being a moisture transfer wheel, said wheels being slightly spaced apart, each of the wheels being air permeable in a direction substantially parallel to its axis, partitions in said casing co-operating with the wheels to divide the casing into separate air passageways at opposite sides of the wheels, fans for directing separate streams of air through the respective passageways, means for mounting the wheels for rotation in the casing, heating means in the



form of a plurality of burners consisting of long tubes, the direction of said tubes being perpendicular to the direction of the air flow, said burners being located in the close spacing between the heat transfer wheel and the moisture transfer wheel, and a flue tube extending from the heating means and having its outer end in communication with the suction side of one of the fans to produce a draft through said tube and discharge the flue gas with the air for regenerating the moisture transfer wheel.

3,144,902
HEAT EXCHANGER ARRANGEMENT
John T. Egbert, Wellsville, N.Y., assignor, by mesne assignments, to Combustion Engineering, Inc., a stock corporation of Delaware
Filed June 9, 1961, Ser. No. 115,981
8 Claims. (Cl. 165—7)

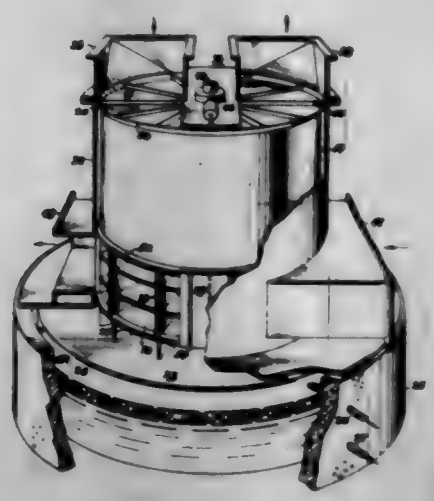


1. Regenerative heat exchange apparatus having a cylindrical matrix arranged to direct a heating fluid and a fluid to be heated alternately through spaced parts of the matrix, said matrix comprising a heat absorbent mass formed with a multiplicity of passageways that extend between inlet and outlet openings in spaced ends of the matrix, said passageways extending continuously and inclined similarly in a plane normal to the radius of said matrix to circumferentially displace the outlet openings from the inlet openings of said passageways.

3,144,903
ROTARY HEAT EXCHANGE APPARATUS WITH SUPPORT THEREFOR
Richard Stockman, Friendship Heights, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,331
9 Claims. (Cl. 165—7)

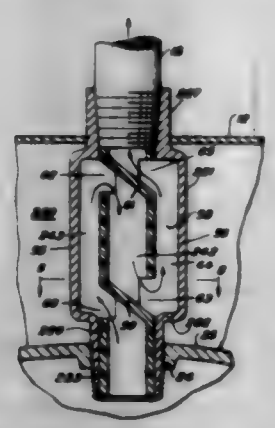
1. Rotary regenerative heat exchange apparatus including a rotor that comprises a cylindrical rotor shell, a central rotor post, radial partitions arranged to extend be-

tween the rotor post and rotor shell to provide a series of sectorial compartments therebetween, a perforate mass of heat absorbent material carried in each compartment of the rotor, a cylindrical housing surrounding the rotor provided with inlet and outlet openings for a heating fluid and a fluid to be heated, a guide bearing at the upper end



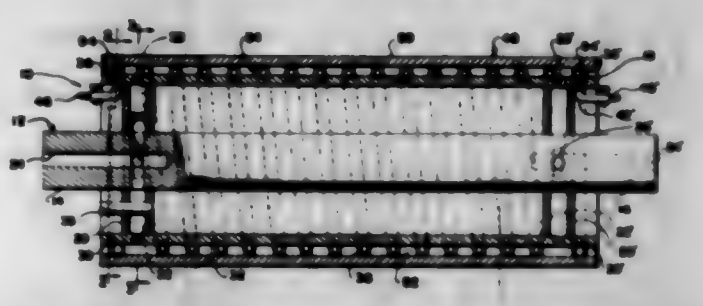
of said housing supporting the rotor post against lateral displacement, a flotation chamber subjacent the rotor housing, a float tank in the flotation chamber connected to said rotor, and fluid material carried by said flotation chamber at a depth sufficient to float said tank and said rotor connected thereto at a predetermined position within said rotor housing.

3,144,984
HEAT TRAP FOR STORAGE WATER HEATERS
Frank Kahn, 1865 Edmund Road, Abington, Pa., and James L. Everett III, 743 Mancill Road, Strafford, Pa.
Filed May 4, 1962, Ser. No. 192,589
8 Claims. (Cl. 165—73)



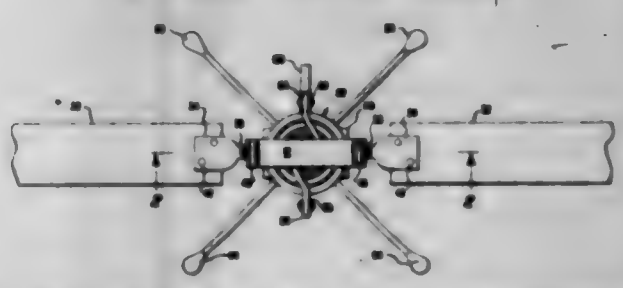
1. In a storage water heater system containing hot water and having a tank with a top water pipe connection, a heat trap fitting disposed vertically thereabove having a bottom water connection connected to said tank connection in convective heat transfer relation with the water in said tank under standby conditions and a water delivery pipe connection above said bottom connection, said heat trap fitting comprising a casing and an internal sleeve of thermal non-conducting material having a vertical water passageway therein, said casing being spaced from said sleeve to provide a second vertical water passageway between said casing and said sleeve, communicating with the passageway in said sleeve, and the water in said second passageway being in thermal exchange relation with the external environment of the casing providing natural temperature stratification of the water in said second passageway.

3,144,985
ROLL CONSTRUCTION
William Albert, 305 W. Evans St., Middlesex, N.J.
Filed Nov. 15, 1960, Ser. No. 69,372
6 Claims. (Cl. 165—89)



5. A roll comprising a shaft having ends adapted for rotatably mounting said shaft, a first rigid metallic sleeve, a pair of spaced circular plate members rigidly connecting each end of said first sleeve to said shaft, said first sleeve having a generally circular groove in the outer surface thereof adjacent the ends of the sleeve and a generally helical groove connecting said generally circular grooves, a second rigid metallic sleeve having an inside diameter greater than the outside diameter of said first sleeve and adapted to be telescopically received over said first sleeve, a pair of generally circular grooves on the inner surface of said second sleeve and corresponding to the generally circular grooves in said first sleeve, expansible tubing received between the outer cylindrical surface of said first sleeve and the inner cylindrical surface of said second sleeve in said generally cylindrical end grooves and said helical groove, means for expanding said expansible tubing whereby said second sleeve rotates with said first sleeve, an axial bore in each end of said shaft, radial bores in said shaft communicating with each of said axial bores, said radial bores being positioned between each of said pairs of circular plates securing said first sleeve to said shaft, and openings in said first sleeve to permit the flow of a heat exchange medium through said axial bores, said radial bores, said openings in said first sleeve, and about the expansible tubings received in the generally helically arranged grooves.

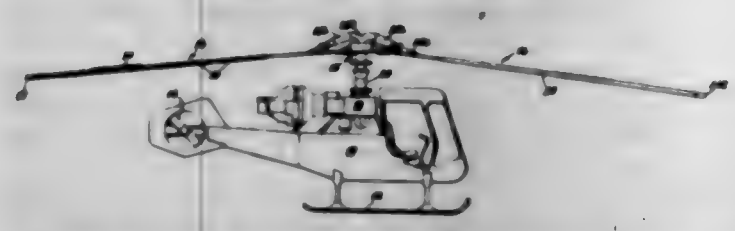
3,144,986
ROTOR BLADE CONTROL AND MOUNTING APPARATUS FOR ROTARY WING AIRCRAFT
Herbert S. Shaw, La Mesa, Calif., assignor to Gyrotor Inc., San Diego, Calif., a corporation of California
Filed Dec. 5, 1960, Ser. No. 73,897
10 Claims. (Cl. 170—160.13)



1. Rotor blade control and mounting apparatus for rotary wing aircraft, said apparatus comprising: support structure; rotor mast means carried by said support structure for rotation about a first axis; pivotal means carried by said mast means for pivotal movement about a second axis transverse to said first axis; a plurality of rotor blades; means pivotally mounting said blades to said pivotal means for flapping of said blades; a pair of linkage means connecting said blades to said rotor mast means for rotative adjustment of said blades about their axes, said linkage means being articulated to permit said flapping; inertia means rotatably carried by said support structure and mounted for universal tilting about said support structure and said mast means; a pair of means connected, re-

spectively, between said inertia means and said pair of linkage means whereby said inertia means is rotated by said linkage means upon rotation of said mast means; and control means connected to said inertia means and operative to alter the plane of rotation of said inertia means to thereby alter the pitch adjustment of said blades.

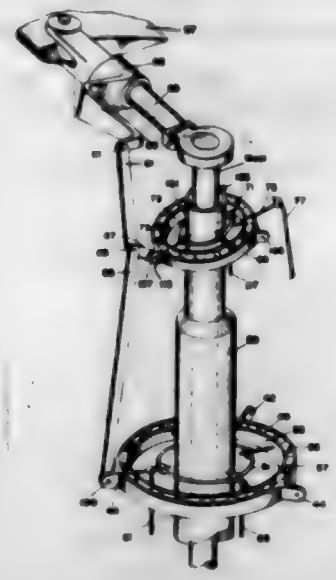
3,144,907
HELICOPTER ROTOR AND METHOD OF MAKING A BLADE MEMBER THEREOF
George F. Lubben, Simsbury, and John J. Schnebly, Windsor Locks, Conn., and George A. McCoubrey, Agawam, Mass., assignors to Kaman Aircraft Corporation, a corporation of Connecticut
Filed Nov. 4, 1959, Ser. No. 850,953
5 Claims. (Cl. 170—160.25)



5. The combination in a helicopter rotor, of a hub rotatable about an approximately vertical axis, a grip member connected with the hub for pivotal movement about a nonradial axis in fixed relation to the hub, a blade body extending radially outwardly from the grip member and having an airfoil lifting portion, interengaging elements respectively on said grip member and on the inner end of said body for preventing bodily movement of the inner end of the body in any nonradial direction which elements are constructed and arranged to permit said body to move relatively to the hub member either rotatably about the radial axis or radially outwardly, four separate generally radial tension-torsion members fixedly connected at their inner ends with the grip member and fixedly connected at their outer ends with the blade body which tension-torsion members prevent radially outward movement of the blade body and which tension-torsion members have torsional resiliency to resist rotative movement of said body about said radial axis while permitting such movement to a limited extent, two of said tension-torsion members being in superposed positions and vertically spaced from each other throughout their entire length and constituting a pair of members spaced in the leading direction from said radial axis and the other two of said tension-torsion members being in superposed positions and vertically spaced from each other throughout a portion of their length and in engagement with each other throughout another portion of their length and constituting a pair of members spaced in the trailing direction from said radial axis, a servo-flap carried by the airfoil portion of the blade body and angularly adjustable relative thereto, and means for angularly adjusting said servo-flap to enable it during rotor rotation to aerodynamically effect adjustment of the blade body about said radial axis and relatively to the grip member as permitted by the torsional resiliency of said tension-torsion members.

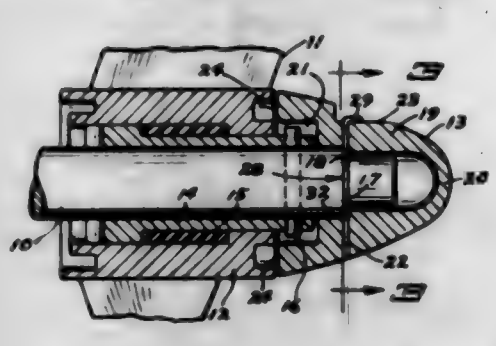
3,144,968
SELECTIVE SECOND HARMONIC CONTROL
Robert L. Pascher, Dallas, Tex., assignor to Bell Aerospace, Wheatfield, N.Y., a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 247,972
7 Claims. (Cl. 170—160.25)

1. Apparatus for developing second harmonic cyclic pitch control in a rotary-wing aircraft, comprising:
a mast,
a rotor connected to said mast,
a first harmonic swashplate,
a second harmonic swashplate,
said first and second harmonic swashplates mounted adjacent said mast,



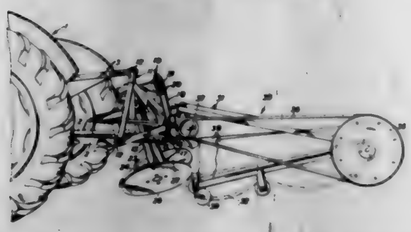
control means comprising a plurality of links pivotally connected to each other, one of said links pivotally connected to said rotor and another of said links pivotally connected to said first harmonic swashplate and idler means pivotally attached to said second harmonic swashplate and said links intermediate said rotor and first harmonic swashplate,
whereby actuation of either of said first or second harmonic swashplates introduces a corresponding form of cyclic pitch to said rotor when said rotor is rotated.

3,144,969
PROPELLER RETENTION MEANS
Dexter R. Hart, St. Paul, and Kurt O. W. Moebius, Minneapolis, Minn., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Feb. 9, 1962, Ser. No. 172,278
2 Claims. (Cl. 170—177)



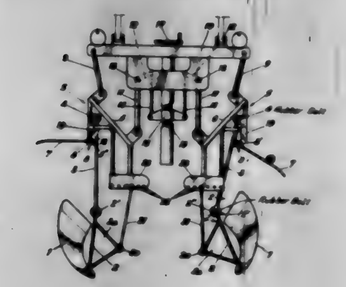
1. In a marine engine having a propeller shaft, a propeller hub mounted on said shaft, said shaft having a shoulder thereon facing the hub, a retainer for prohibiting axial movement of the propeller hub along the propeller shaft, which comprises an annular retention member encircling the shaft adjacent the shoulder, said retention member having a slot extending radially therethrough, said slot being reduced in width by a shoulder near the outer periphery of the retention member, a U-shaped retention clip held in said slot for radial sliding movement between a locking position with the legs of the clip engaging against said first mentioned shoulder and a radially outward shoulder releasing position allowing axial movement of the retention clip, and said clip legs having portions spaced apart greater than the width of said slot reduced portion prohibiting complete outward removal of the clip from the retention member.

3,144,910
SHARES FOR RAISING ROOT CROPS
John Clement Hawkins, Clophill, and Robert John Olield, Silsoe, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Apr. 30, 1962, Ser. No. 190,954
Claims priority, application Great Britain, May 3, 1961, 16,877/61
3 Claims. (Cl. 171—58)



1. A machine for use in the harvesting of root crops comprising a frame, a ground-engaging share carried by the frame, said share having opposite side walls each of which comprises a disc-like rotor, each of said disc-like rotor having an upwardly extending shaft axis fixed thereto, the inner peripheries of said rotors being adjacent to but spaced from each other, the general planes of revolution of said rotors lying at an angle to one another of between 45° and 180°, the axes of rotation of said rotors extending upwardly at an acute angle to the vertical and intersecting above said rotors, and drive means connected to said rotors to rotate said rotors in directions to produce rearward movement of the inner peripheries of said rotors.

3,144,911
MECHANICAL CONTROL SYSTEM FOR THE INWARD ROCKING OF THE INDEPENDENT SHARES OF A PLOUGH REMOVING SPOIL HEAPS IN VINEYARDS
Emile Aristide Cogois, 2 Rue Kagueneck, Soultz, Haut-Rhin, France
Filed July 11, 1961, Ser. No. 123,316
Claims priority, application France July 21, 1960
1 Claim. (Cl. 172—234)



A mechanical control system for the inward rocking of independent shares of a plough removing spoil heaps in vineyards, comprising,
a beam carrying two independent surfacing shares,
two bar means,
a deformable system connecting said bar means with said beam in order to adjust the position of said bar means,
a cam member integrally included in each of said bar means and having a cam face,
a lug integrally projecting from each of said bar means,
an arm pivotally connected with said lug of each of said bar means,
a supporting member for each of said independent surfacing shares pivotally connected with a corresponding one of said arms,
a feeler projection pivotally mounted on each of said arms rearwardly of said cam face and extending laterally and outwardly from each of said arms,
an auxiliary projection extending forwardly from each of said feeler projections and engaging said cam face of the corresponding one of said cam members, so that upon impact of said feeler projection on a vine-stock, the corresponding one of said arms is turned inwardly towards the plough about its pivot connection with said bar means,
a rod pivotally connecting said supporting member with a selective pivot point member of said bar means, so that upon turning of said corresponding one of said arms, the corresponding one of said shares is likewise subjected to a receding turning motion inwardly towards the plough, and
elastic means on said pivotal connections of said feeler projections to said arms and of said supporting members of said independent shares to said arms.

3,144,912
MASONRY DRILLING APPARATUS
Arthur S. Beehm, Robert H. Riley, Jr., and Harold O. Short, Towson, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Nov. 21, 1960, Ser. No. 70,678
1 Claim. (Cl. 175—313)



For use with a portable power-driven hammer for masonry drilling operations, wherein suction means are provided to draw the dust and grit particles out of the hole being drilled, a masonry drill comprising:
(*a*) a sleeve having a tapered socket at one end thereof, with the taper converging inwardly of the sleeve;
(*b*) means to couple the opposite end of said sleeve to the hammer and to the suction means; and
(*c*) a replaceable star drill bit comprising four planar flutes spaced at right angles, one from another, and intersecting centrally of each other to form, in cross-section, a "star" configuration;
(*d*) each of said flutes having an outer side edge formed with a rearmost portion provided with a rearwardly-converging taper which is complementary to said tapered socket of said sleeve, whereby said star drill bit is seated within said sleeve;
(*e*) each of said flutes further having a forwardmost portion extending forwardly of said rearmost tapered portion, said forwardmost portion extending slightly in a radial direction beyond the outer diameter of said sleeve, whereby the hole being drilled is maintained straight while the bit is rotated, and whereby the suction draws outside air between the hole being drilled and the outer cylindrical wall of said sleeve, forces the air down into the hole, and draws the dust and grit particles out of the hole by passing upwardly between said flutes to within the inner cylindrical wall of said sleeve; and
(*f*) a shoulder formed on each of said outer edges intermediate said rearmost tapered portion and said forwardmost portion, each of said shoulders being spaced in close proximity from the end of said sleeve, whereby said star drill bit may be quickly and conveniently removed from said sleeve, and whereby the outside air passes down into the hole to draw out the dust and grit particles.

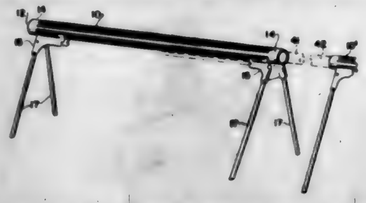
3,144,913
METHOD AND APPARATUS FOR ATTENUATING HELICAL ACOUSTIC PRESSURE WAVES
George B. Bailey, Redondo Beach, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 763,273, Sept. 25, 1958. This application Aug. 31, 1962, Ser. No. 220,675
10 Claims. (Cl. 181—46)



1. An acoustic attenuator for use with a high speed, rotary fluid machine from which is exhausted a high velocity fluid stream containing a helical, axially advancing, acoustic pressure wave pattern including radially traveling pressure waves; said attenuator comprising:
a rigid, generally tubular baffle structure having a central fluid passage to pass said fluid stream therethrough;
said baffle structure comprising a plurality of rigid, radially directed baffles circumferentially spaced about and extending longitudinally of said passage and relatively flat, rigid outer walls joining adjacent baffles along their radially outer edges, each baffle including a relatively flat, rigid radially inner edge face and relatively flat, rigid radially directed side walls;
the spaces between adjacent baffles being closed along their radially outer sides by said outer walls and being open along their radially inner sides to said fluid passage, and the circumferential width of the inner open sides of said spaces being substantially equal to the circumferential width of said inner baffle faces; and
the radial dimension of at least some of said spaces at positions spaced therealong, measured radially between the outer wall of the respective space and the inner edge face of an adjacent baffle, being substantially equal to $n\lambda/4$ where n is an odd integer and λ is the predetermined wavelength of a radial pressure wave within said fluid stream.

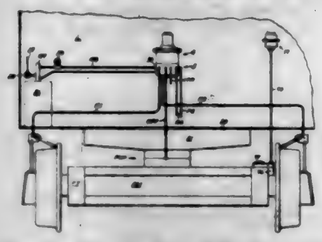
3,144,914
SAW HORSES OR THE LIKE
Sigurd Tjaervall, 619 2nd St., Brooklyn, N.Y.
Filed Apr. 2, 1963, Ser. No. 269,934
2 Claims. (Cl. 182—155)

1. In a saw horse having a horizontal pipe, round legs for supporting the pipe and two pressed steel means for hinging the legs on the pipe at each respective end portion of the pipe, each of said means comprising a split trough-like member having opposite symmetrically curved sides on and between which the pipe may rest and shaped to fit the exterior of the pipe and welded to the end portion of the pipe, a generally L-shaped flank part extending downwardly and outwardly from each of said sides, each flank part having a horizontal arm and corner portion both integral with the respective side and a downwardly projecting arm, said downwardly projecting arm having a wall turned back semi-cylindrically to form a half socket receiving one of the legs, the latter having



near the end portion thereof an oval diametric hole therethrough, a pivot pin passing through holes provided in said corner portion and in the wall respectively, and also through the oval hole, whereby the leg may be turned about the pivot pin to be partially removed from the socket and folded substantially alongside the pipe, locking means for selectively locking the leg in the socket in erect position and in folded position along the pipe, and a generally triangular web connecting the two walls of adjacent half sockets on an end portion of the pipe.

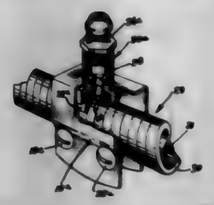
3,144,915
DIRECTIONALLY SELECTIVE LUBRICATING SYSTEM
William E. Burrell, 2837 SE. Harold St., Portland, Oreg.
Filed June 4, 1962, Ser. No. 199,821
7 Claims. (Cl. 184—3)



1. A directionally selective lubricating system for a plurality of wheels of a railroad train, said system including a source of grease under pressure, a grease applicator for each of said wheels, a grease distributor having an inlet and an inlet conduit for receiving grease from said source and delivering grease under pressure from said source to said inlet, said distributor including a plurality of sectors each of which sectors includes an alternate conduit means for receiving grease under pressure from said inlet of said distributor and conducting said grease alternately from each of a pair of outlets from said sector to a pair of applicators at a selected pair of said wheels, said distributor including a rotary slide valve means and motor means for rotating said slide valve means at a preset ratio with the rotation of said wheels and said alternate conduit means of each of said sectors of said distributor including a cylinder in each sector having a free piston therein and said rotary slide valve means driven by said motor to control said free piston in said sector first to emit the grease therefrom through one of said grease outlets to one of said applicators of one of said wheels when said train is running in one direction and then to emit the grease therefrom

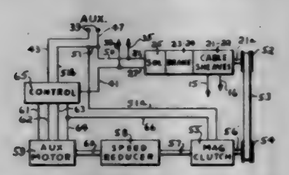
through the other of said grease outlets to the other of said applicators of the other of said wheels when said train and said wheels are running in the other direction.

3,144,916
CABLE HOUSING GREASE FITTING
Harold G. Lien, 308 4th Ave. NE., Osseo, Minn.
Filed Aug. 20, 1962, Ser. No. 217,906
8 Claims. (Cl. 184—105)



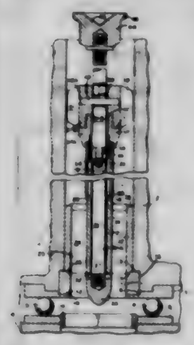
8. The combination of a cable housing, a grease fitting structure secured thereto comprising, a bracket, a sleeve secured to said bracket; at least a portion of said sleeve being within said bracket, a resilient washer mounted in a portion of the sleeve within said bracket, means on said bracket interacting with said cable housing for forcing said resilient washer into greasetight association with said cable housing; said cable housing having a hole therein aligned with said resilient washer opening, and a check valve type grease fitting removably inserted in said sleeve and extending outside said bracket.

3,144,917
ELEVATOR SAFETY CONTROL SYSTEM
Lawrence E. Tremel, 2906 Devereaux St., Philadelphia, Pa., assignor of fifty percent to Edward Kohlhepp, Philadelphia, Pa.
Filed Sept. 27, 1961, Ser. No. 141,878
4 Claims. (Cl. 187—29)



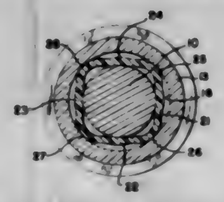
1. Auxiliary control apparatus operable from a control station external to an elevator for selectively causing the elevator to move to a desired position in the elevator shaft comprising in combination, normally inoperable first auxiliary electric circuit means coupled to the normal elevator position holding device for selectively actuating and deactuating the latter, an electrically energizable auxiliary power drive including an electrically reversible motor and a clutch mechanism for coupling the motor to the mechanical hoist of the elevator, said auxiliary power drive being operable when energized to move the elevator to the desired position in the elevator shaft, normally inoperable second auxiliary electric circuit means coupled to said auxiliary power drive for selectively energizing and deenergizing the latter, said second auxiliary electric circuit means including a selectively operable switch in electric circuit connection with said motor effective when operated in one way to cause motor armature rotation in one sense and when operated in another way to cause motor armature rotation in the opposite sense, and means automatically operating when the elevator main power drive is disabled to prevent control of the elevator motion from the interior of the elevator while simultaneously rendering operable said first and second auxiliary electric circuit means.

3,144,918
SHOCK ABSORBERS
James S. Picton and Anthony J. Taylor, London, England, assignors to Babcock & Wilcox Limited, London, England, a British company
Filed Oct. 20, 1960, Ser. No. 63,906
Claims priority, application, Great Britain, Oct. 21, 1959, 35,644/59
6 Claims. (Cl. 188—1)



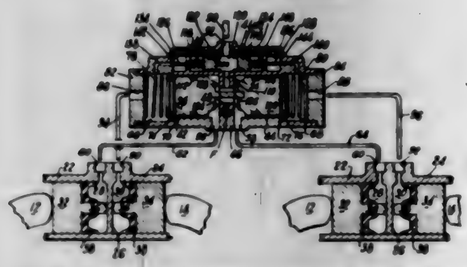
1. A shock absorber for dissipating the kinetic energy of a moving body comprising a deformable tubular member and a movable member, said movable member extending through said tubular member and movable relative there to upon impact by said moving body, means connected to said movable member having an interference fit within said tubular member to expand said tubular member upon movement of said movable member, and a tubular sheath encasing said tubular member and supporting each end thereof, one end of said movable member extending beyond the corresponding end of said sheath and adapted to receive said impact, the second end of said movable member extending beyond the corresponding end of said sheath and mating therewith to cap said corresponding end of said sheath.

3,144,919
PUSH-PULL SHAFT ASSEMBLY
Charles M. Foote, Cleveland Heights, Ohio, and Clem W. Evard, Columbia City, and Emil A. Gordon, Churubusco, Ind., assignors to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed July 24, 1962, Ser. No. 212,807
5 Claims. (Cl. 188—67)



1. An assembly comprising a support having an opening therethrough, a unitary circumferentially continuous resilient deformable plastic bushing seated in said opening, said bushing having a plurality of circumferentially spaced corners engaging the side wall of said opening and between said corners presenting sides which are spaced inward from the side wall of said opening, means on said housing retaining said bushing against longitudinal movement in said opening, and a longitudinally reciprocable shaft extending through said opening and said bushing, said shaft having a maximum cross-sectional dimension greater than the minimum internal cross-sectional dimension of said bushing between said sides, said shaft engaging said sides of the bushing and deforming the latter outwardly at a plurality of circumferentially spaced locations which are spaced from said corners of the bushing, said bushing by its deformation at said sides producing a frictional restraint on the shaft at said last-mentioned locations.

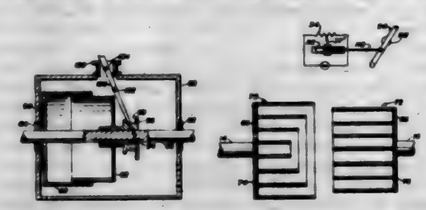
3,144,920
HYDRAULIC BRAKING SYSTEM HAVING IMPROVED STABILITY
Earl R. Price, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Jan. 15, 1962, Ser. No. 166,345
4 Claims. (Cl. 188—152)



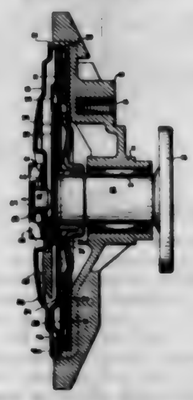
1. In an automotive braking system having left and right wheel braking structures each of which include primary and secondary shoes, a rotating drum structure engaged by the shoes, primary and secondary fluid pressure motors respective ones of which force the leading edge of the primary shoe and the trailing edge of said secondary shoe into engagement with said drum structure, and a link transferring servoaction torque forces from said primary shoe to the leading end of said secondary shoe: control means operatively connected to said primary and secondary fluid pressure motors for developing a modulated pressure; valve means operatively connected between said control means and said fluid pressure motors for initially supplying fluid from said control means to each of said fluid pressure motors, and to thereafter isolate fluid in said secondary fluid pressure motors from said control means; balancing means in fluid communication with said control means and said fluid pressure motors, said balancing means having opposing fluid displacement chambers to which pressure from said isolated secondary fluid pressure motors are respectively communicated; opposing movable walls in said respective fluid displacement chambers; and valve means controlled by movement of said opposing movable walls for closing off communication from said control means to the primary fluid pressure motor of the brake structure having the greatest pressure in its secondary fluid pressure motor.

3,144,921
ELECTROFLUID COUPLING
Thomas W. Marthesh, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Dec. 30, 1960, Ser. No. 79,841
2 Claims. (Cl. 192—21.5)

1. An electrofluid coupling comprising a housing for retaining a field-responsive fluid, bearing means associated with said housing supporting an input shaft extending from within to without said housing, a first member disposed within said housing, said first member comprising a plurality of spaced, concentric, cylindrical tubes coaxially supported from one end to produce a plurality of annular spaces therebetween, a second member disposed within said housing, said second member comprising a plurality of spaced, concentric, cylindrical tubes coaxially supported from one end to produce a plurality of annular spaces therebetween, said members axially aligned, with the tubes of one said member being arranged to enter the annular spaces of the other said member, one said member being supported by said input shaft for rotation therewith, the other said member being supported by said housing in fixed relationship thereto, one said member being axially movable with respect to the other from a first position in which said tubes overlap, to a second position in which said tubes are axially separated, means for moving the one said member between the first and second positions, means including a potentiometer for controllably applying an eletcric potential between said first and second members, and means mechanically linking said potentiometer to said means for moving the one said member, whereby the potential is varied in response to movement of said member.



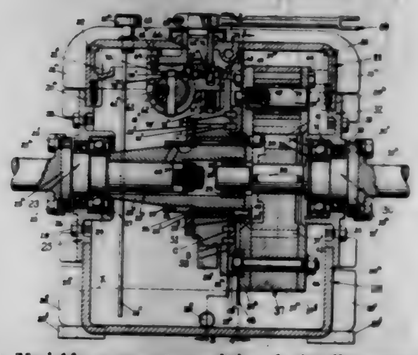
3,144,922
TEMPERATURE AND SPEED RESPONSIVE FLUID COUPLING
Thomas J. Weir, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Apr. 5, 1962, Ser. No. 185,380
5 Claims. (Cl. 192—58)



1. A fluid coupling device comprising a drive shaft, an outer casing rotatably mounted on said shaft, said casing having a divider plate therein separating the space within said casing into a fluid reservoir and a drive chamber, a drive disc mounted on said shaft within said drive chamber, said drive disc having surfaces disposed in close face-to-face and spaced relation with surfaces of said plate and outer casing, an aperture in said plate providing a port opening into said reservoir and into said drive chamber for filling the spaces between said disc, plate and casing surfaces with fluid from said reser-

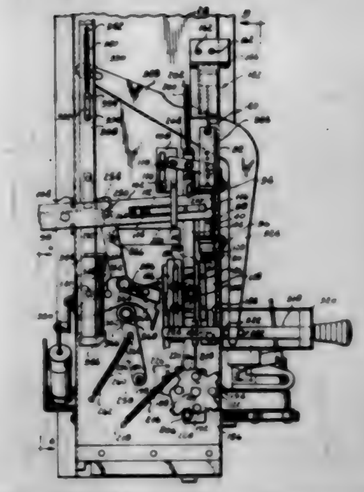
voir to create fluid drive coupling of said casing and said disc, the degree of coupling therebetween varying with the volume of fluid in said drive chamber, a drain aperture in said plate for draining fluid from said drive chamber to said reservoir, a valve member having a portion overlying said port and pivotally mounted on said divider plate for movement into and out of seating relation with said port, temperature responsive means mounted exteriorly of said outer casing having means extending within said casing cooperating with said valve member to exert a force thereon urging said valve member into seating relation with said port, said force varying inversely with changes in the temperature ambient to said temperature responsive means, resilient means urging said valve member away from seating relation with said port, and a weight mounted on said valve member and responsive to centrifugal forces created by rotation of said casing for urging said valve member away from seating relation with said port, whereby at elevated shaft speeds the centrifugal force generated by the presence of said weight substantially aids the force exerted by said resilient means in opposing the force exerted by said temperature responsive means to thereby establish an exponential increase in the degree of coupling between said shaft and said casing with increase in said temperature, and at reduced shaft speeds there is maintained a substantially linear relation between the degree of coupling and increase in said temperature.

3,144,923
VARIABLE POWER TRANSMITTING HYDRAULIC APPARATUS
John R. Thomas, Wichita, Kans., assignor to The Thomas Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Sept. 1, 1960, Ser. No. 53,471
9 Claims. (Cl. 192—61)



1. Variable power transmitting hydraulic apparatus comprising a non-rotatable receptacle having a compartment containing a static body of oil and a column of priming oil positioned remotely vertically from the static body of oil; an oil supply unit associated with the static body of oil and with the column of priming oil and communicating with a fluid-circulating mechanical power-transmitting pump operatively connected with a power-driven input shaft extending into said receptacle and adapted to variably transmit power to an output shaft extending exteriorly from said receptacle and including pump priming means and oil feed means; said priming means and said oil feed means being alternately automatically operable responsively to the demand of the pump for oil, said oil supply unit including gravity-actuated valve-controlled oil feed means communicating with said static body of oil and operatively associated with buoyant-valve-controlled priming means communicating with said column of priming oil positioned remotely vertically from said static body of oil.

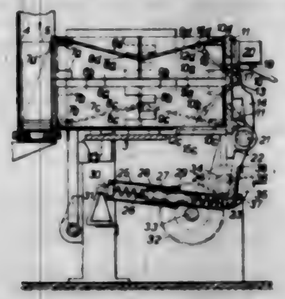
3,144,924
REGULATED COIN RELEASED LOCKING MECHANISM
Merrill Krahmer, Livingston, and Henry E. Verbeke, Chester, N.J., assignors, by mesne assignments, to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware
Filed Jan. 18, 1960, Ser. No. 3,192
9 Claims. (Cl. 194—18)



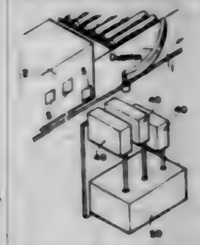
1. In a merchandising machine, a dispensing mechanism comprising a member adapted to move in response to the operation of said mechanism a coin-released locking mechanism including means for normally locking said member, means responsive to the deposit of coins for establishing a credit equal to the sum in coins deposited, change maker means to be set by said credit establishing means to give change, said locking means being responsive to the deposite of coins and being adapted to release said member when a sum aggregating a purchase price has been deposited, means for retarding the releasing action of said locking means to ensure that said credit registering means has set said change making means to give the correct sum in change before said locking means releases said member, a support, an escrow member adapted to receive and temporarily retain coins deposited in the coin-released mechanism, means mounting said escrow member for movement on said support from a first position at which said escrow member receives coins to a second position at which coins received by said escrow member are accepted, means normally positioning said escrow member in said first position, means responsive to the operation of said dispensing mechanism for moving said escrow member to said second position and means for retarding the return movement of said escrow member to said first position under the action of said positioning means.

3,144,925
COLLECTING MECHANISM
Edric Raymond Brooks, Kingston-upon-Thames, Surrey, England, assignor to Molins Machine Company Limited, London, England, a British company
Filed Nov. 16, 1962, Ser. No. 238,161
Claims priority, application, Great Britain, Nov. 17, 1961, 41,247/61
2 Claims. (Cl. 198—24)

1. Pushing mechanism including a reciprocating pusher member, a part fixed against movement with said pusher member, at least two foldable members connecting said pusher member to said fixed part, each of said foldable members comprising a pair of elements hinged to each other and also hinged to the fixed part and the pusher member, respectively, about substantially parallel hinge axes, the hinge axes of one pair of elements being substantially perpendicular to the hinge axes of the other pair and being so located that on folding of the two foldable members the elements of one pair are accommodated between the elements of the other pair, and means to cause the said folding members to fold and unfold to move the pusher member toward and away from said fixed part.

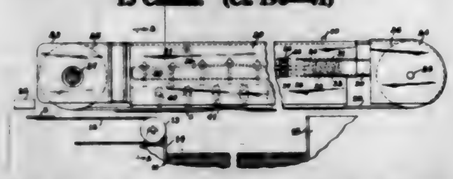


3,144,926
INSTALLATION FOR SELECTIVELY DISPATCHING ARTICLES
Abraham Edelman, 12 E. 22nd St., New York, N.Y.
Filed May 17, 1961, Ser. No. 110,786
9 Claims. (Cl. 198—38)



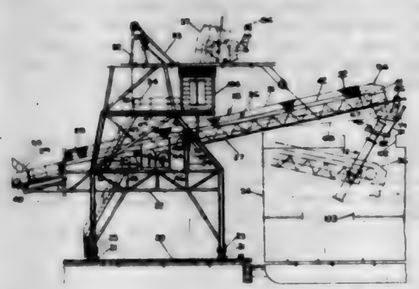
1. In an article-dispatching installation including a control system for controlling the diversion of articles travelling on a plane conveyor to selected receivers by actuating article diverters wherein said control system comprises a selected pattern of several light reflectors attachable to each article to be controlled and a reading means for each of the diverters, each of said reading means comprising a physical pattern formed by several sensing units for simultaneously sensing said several reflectors of the pattern, each sensing unit including a source of light for directing a concentrated beam of light to a predetermined one of the reflectors on the articles and a photocell electrically responsive to light and positioned to receive light reflected by the respective predetermined reflector only, said beams being parallel to each other and to the plane of the conveyor, each reading means further including circuit means connecting the photocells of all the sensing units forming the pattern of the respective reading means in an energizing circuit and an electrically operated actuating means for each of the diverters of the installation, said actuating means being connected to said energizing circuit and operated to actuate the respective diverter when all the photocells connected in the energizing circuit become simultaneously electrically responsive by simultaneously receiving light reflected from the respective reflectors of the pattern of the reflectors, the light reflecting surface of each of said reflectors being a retrodirective surface reflecting from each area portion of the surface light impinging thereupon at any angle of incidence parallel to such angle.

3,144,927
FLEXIBLE MAGNETIC CONVEYOR
Dario Buccicone, Gary, Ind., assignor to Buccicone Engineering Co., Inc., Gary, Ind., a corporation of Indiana
Filed Sept. 25, 1961, Ser. No. 140,430
13 Claims. (Cl. 198—41)



1. A metal sheet conveyor comprising an elongate frame, a plurality of longitudinally spaced electromagnetic assemblies each mounted for limited vertical movement on the lower face of said frame, means associated with said assemblies for advancing a sheet in a path beneath said assemblies, an elongate cushion forming member mounted on said frame and means supporting the individual assemblies on said cushion forming member so that successive assemblies are free to move vertically and follow the contour of the uppermost surface of the sheet as the sheet is advanced beneath the same.

3,144,928
CONVEYING APPARATUS FOR LOADING SHIPS
Alfred H. Roleson, Worthington, Ohio, assignor, by mesne assignments, to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Oct. 11, 1961, Ser. No. 144,473
1 Claim. (Cl. 198—72)



Conveying apparatus comprising conveying means for moving material to a discharge position at which the material is discharged, a guiding chute at said discharge position for guiding the discharge of material from the conveying means, means fixedly securing the guiding chute to the conveying means, pivot means connecting the conveying means to the supporting structure for swinging movement of the conveying means relatively to the supporting structure for adjusting the position of said conveying means, an intermediate chute for receiving material discharged from said conveying means through the guiding chute at the discharge position, transverse pivot means for connecting said intermediate chute to the guiding chute for swinging movement of the intermediate chute relatively to the guiding chute and the conveying means for adjustment of the position of said intermediate chute relatively to the conveying means, said pivot means comprising a transverse shaft fixedly

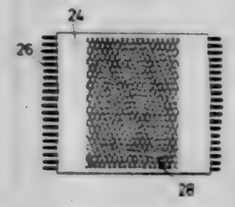
connected to said intermediate chute, means rotatably supporting said transverse shaft on the guiding chute at one side thereof, the opposite side of said guiding chute being formed with an arcuate portion having the axis of said shaft as its center, said intermediate chute mating with the guiding chute and having an arcuate portion with the axis of said shaft as its center and being complementally formed with respect to the arcuate portion of the guiding chute, said intermediate chute being disposed in a substantially upright position, a wheel secured to each end of said transverse shaft at opposite sides of the intermediate chute for swinging of the intermediate chute relatively to the guiding chute and the conveying means to maintain the upright position of the intermediate chute substantially fixed, a pair of fixed wheels disposed on the axis of the pivot means which connects the conveying means to the supporting structure, flexible motion transmission means trained on the fixed wheels and on the first said wheels to rotate the first said wheels in response to adjustment of the position of the conveying means to thereby adjust the position of the intermediate chute relatively to the guiding chute and the conveying means, a discharge chute depending from the intermediate chute for receiving material therefrom, pivot means disposed intermediate opposite sides of the intermediate chute, and means mounting the discharge chute on said pivot means for swinging movement of said discharge chute to opposite sides of the intermediate chute, the lower portion of said intermediate chute having opposite sides thereof formed as portions of a cylinder about the axis of said pivot means, and the discharge chute mating with such cylindrical portion of the intermediate chute to form a connection therewith in all adjusted positions of the discharge chute, adjusting means for the discharge chute including a hydraulic cylinder and piston device, means pivotally connecting the piston end of said hydraulic device to the discharge chute, means pivotally connecting the cylinder to the intermediate chute and by extension and retraction of the piston rod relatively to the hydraulic cylinder the discharge chute is swung from one side to the other side of the intermediate chute, and said discharge chute including telescopic chute sections and means for extending one of said chute sections relatively to the other of said chute sections for increasing the reach of said discharge chute.

3,144,929
BELT CONVEYOR
James Hall Carpenter, Jacksonville, Fla., assignor to Carpco Research & Engineering, Inc., Jacksonville, Fla., a corporation of Florida
Filed May 25, 1961, Ser. No. 112,580
19 Claims. (Cl. 198—165)



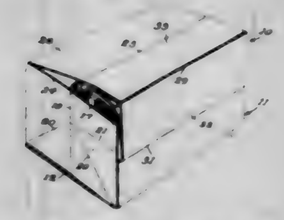
1. In a lifting conveyor, a continuous pliable resilient belt having a trough extending throughout its length, said trough being defined by a generally semicylindrical bottom wall and a pair of spaced side walls meeting said bottom wall and extending therefrom with gradually decreasing separation between said side walls, the outer edges of said side walls defining an opening into said trough of less width than the trough bottom, said belt being resiliently deformable to increase the width of said opening to be substantially equal to the width of the trough bottom, and a second continuous pliable belt of generally circular cross section having a diameter substantially equal to the maximum width dimension of said trough receivable into and removable from said trough, means for inserting said second belt into said trough, said side walls engaging generally opposite portions of said second belt to retain said second belt in said trough and continuously urge said second belt toward material supporting contact with said bottom wall when said second belt is inserted in said trough.

3,144,930
CONVEYOR BELT STRUCTURE
Peter Michels, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Nov. 21, 1961, Ser. No. 153,932
Claims priority, application Germany Nov. 24, 1960
6 Claims. (Cl. 198—193)



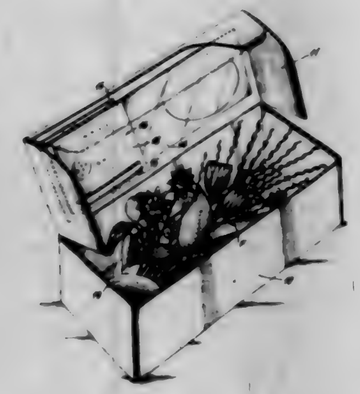
1. A conveyor belt comprising an elongated strip, spaced longitudinally extending reinforcement members embedded in said strip, and longitudinally spaced groups of transversely disposed reinforcing members embedded in said strip, each group having a longitudinal extent, adjacent groups having a spacing which is between 5 and 40 times the longitudinal extent of each group, said strip having a width which is greater than the longitudinal extent of each group, said reinforcing members in each group lying in coplanar relation, said longitudinally extending reinforcement members lying in a plane spaced from the reinforcing members of the groups such that the reinforcing members in the groups are spaced in entirety from the longitudinally extending reinforcement members.

3,144,931
COLLAPSIBLE FOLDED BAG STRUCTURE WITH SPACED INTERMEDIATE FOLDS
Florren Emerson Long, Fredericktown, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 14, 1959, Ser. No. 859,406
8 Claims. (Cl. 206—46)



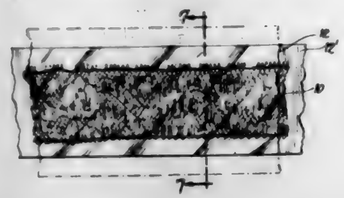
6. A package comprising a bag having a powdered material in the lower portion thereof for mixing with a liquid, said bag being in the form of an elongated tube having a bottom, said tube being folded above said powdered material to form a temporary intermediate top wall closing off a lower compartment, means for manually releasably closing the upper end of said tube, the portion of said tube disposed intermediate said intermediate top wall and said tube upper end defining an upper compartment for receiving the liquid and being initially completely flattened along longitudinal fold lines and folded upon itself and upon said intermediate top wall along transverse fold lines to provide a compact package, and said bag being openable into a single compartment to define a shaker for the purpose of mixing said powdered material with the liquid, said tube having positive diagonal fold lines above said intermediate top wall cooperating with said transverse fold lines to define a temporary intermediate bottom wall for said upper compartment when the upper portion of said tube is opened, and a portion between said temporary intermediate bottom wall and said temporary intermediate top wall flattened along longitudinal fold lines to define an upright combination grip and sealing portion whereby the ease in which said compartments are sealed from one another may be facilitated by centrally gripping said upright flattened portion.

3,144,932
"DO-IT-YOURSELF" FLORAL ARRANGEMENT KITS
Valerio J. Zerbo, Jr., New York, N.Y., assignor to Overseas Service Corporation, Washington, D.C., a corporation of Delaware
Filed Mar. 11, 1964, Ser. No. 351,083
4 Claims. (Cl. 206—47)



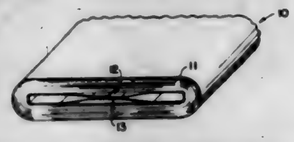
1. A "do-it-yourself" kit for producing an artificial plant arrangement comprising a container, a plurality of species of artificial plants within said container in sufficient quantity to constitute a highly esthetic plant arrangement, a cover for said container and plants therein provided with two windowed openings, a picture in color of the desired finished plant arrangement mounted on the inside of said cover at one of said windowed openings and adapted to be viewed from the outside of said container, the other one of said windowed openings serving as an inspection window for the contents of the container, a block of foam plastic of predetermined configuration positioned within said container and adapted to be placed within a specially contoured receptacle and to have impaled therein the stems of the plants at predetermined locations in said block to attain the plant arrangement illustrated in said picture, and a printed instruction guide within said container indicating the locations on said block at which the respective plants should be inserted to attain the aforesaid esthetic effect.

3,144,933
COMBINATION OF ELONGATED FABRIC AND PACKAGE FOR SAME
Harvey J. Abramson, New York, N.Y., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Dec. 7, 1960, Ser. No. 74,429
4 Claims. (Cl. 206—49)



1. The combination of a continuous elongated web of textile fabric and a package enclosing the same comprising a continuous envelope of a pair of flexible films, the films of said pair being disposed on opposite sides of said web and sealed to each other along both their longitudinal edges, said films being coextensive in length with said web, said envelope being relatively thin and flat, at least one of said films being translucent, said other film being darker than said one film.

3,144,934
PACKAGE CONSTRUCTION AND CORE AND METHOD FOR MAKING THE SAME OR THE LIKE
Richard S. Shultz, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 25, 1961, Ser. No. 126,691
15 Claims. (Cl. 206—56)



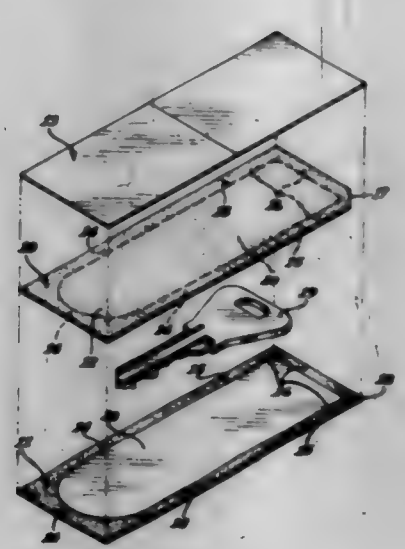
13. A core element having a central web portion and a pair of opposed tubular end portions respectively connected to said central web portion, said end portions being collapsible to define a substantially square perimeter about said core element and being expandable to define a substantially long and narrow rectangular perimeter about said core element having a length longer than the length of said square perimeter, the short legs of said rectangular perimeter being straight.

3,144,935
KEY HOLDER
Arthur E. Geyler, 125 W. Palm Lane, Phoenix 3, Ariz.
Filed Sept. 4, 1962, Ser. No. 221,019
1 Claim. (Cl. 206—56)

A key holder comprising in combination:
(A) a single sheet base member,
(B) a single sheet cover member,
(C) means for permanently securing a portion of the peripheral portion of said members together to form a key pocket area therebetween,
(D) means for demountably adhesively securing the remainder of said peripheral portions of said members together to provide accessibility to said key pocket area for inserting and removing said key in said pocket,

(E) a self-sticking adhesive coating on the entire outside face of said base member,

(F) a tear sheet demountably presented on said adhesive coating on the outside of said base member to protect said adhesive coating until attachment of the key holder to a mounting surface,



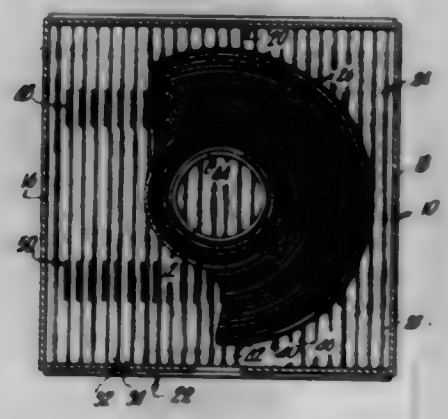
(G) and a clipped corner on the demountably adhesively secured portion of said bore member exposing the adhesively coated non-clipped corner on said cover member so that said non-clipped corner of said member is adapted to adhesively secure said key holder along with the adhesive coating on the outside of said base member to an object upon which it is to be mounted.

3,144,936

PACKAGE FOR COILS

William D. Muehlebach, Kansas City, Mo., and Alfred J. Paradise, Jr., Overland Park, Kans., assignors to Chemical Sealing Corporation, Kansas City, Mo., a corporation of Missouri

Filed Dec. 12, 1960, Ser. No. 75,257
1 Claim. (Cl. 206—65)



In combination, a container; a plurality of polygonal panels and a number of coils of flexible material in the container, the peripheral edges of the panels engaging the walls of the container and the coils alternating with the panels, the faces of the coils engaging the faces of proximal panels with the circumferential edges of the coils disposed in spaced relationship to said walls of the container; putty-like material on said coils; and a pair of spaced, generally parallel strips of adhesive binding one face of each coil respectively with a face of one corresponding panel next adjacent thereto, said strips of adhesive being located on opposite sides of the axis of a corresponding coil.

3,144,937

METAL EXTRUSION PRESS

Walter vom Dorp, Rheydt, Germany, assignor to Mannesmann - Meer Aktiengesellschaft, Moenchen - Gladbach, Germany, a German company

Filed July 5, 1960, Ser. No. 40,729
Claims priority, application Germany July 8, 1959
8 Claims. (Cl. 207—1)



1. A metal extrusion press in line with a following device providing treatment of products subsequent to extrusion,

a base body in the press,

two containers movable relative to said body,

a matrix positioned in each container,

two discharge channels for the extruded products, said containers and channels each being swingable sideways between an extrusion position and one of two side positions adjacent the extrusion position, said side positions being for cutting off the extruded products from the residual stock,

characterized in that the channels are arranged fanwise, converging at a pivot point at the in-line following device, which device is common to all channels, said base body having a slot at the extrusion position and opposite which position the channel when receiving the extrusion product is located and means to swing the matrices and channels from the central extrusion position to a side position and back again; whereby long rigid products can be extruded through said slot, moved to a side position, after which movement, and as the extruded product is cut off from the residual stock and conveyed to the next following device in line, another billet may be extruded into the other channel in the central position.

3,144,938

APPARATUS FOR TESTING ELECTRICAL COMPONENTS

Frank Wahl, North Bergen, N.J., assignor to Western Electric Company, Incorporated, a corporation of New York

Filed Mar. 8, 1961, Ser. No. 94,293
13 Claims. (Cl. 209—81)

1. An apparatus for testing like components having leads extending from like ends thereof comprising:

a continuously moving conveyor having successive portions moved in a straight line path,

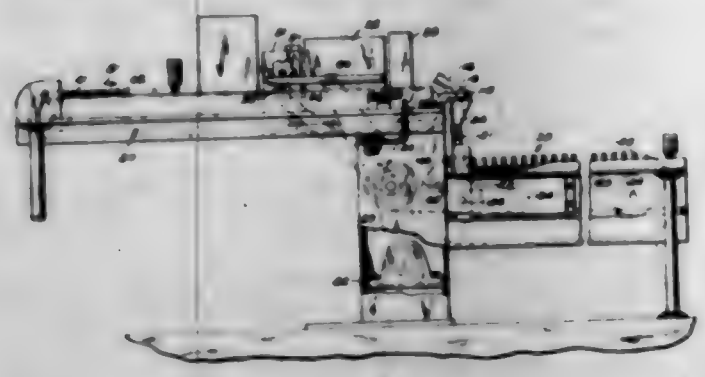
spaced nests on the conveyor for holding the components causing their leads to travel in a straight line adjacent the path,

a unit having circuits to test the components singly mounted at a fixed position adjacent to the path,

lead clamps included in the circuits and normally held open at one side and free of the conveyor,

means operable to close the lead clamps on their respective leads of each component successively to include the components singly in the test circuits,

means to move the lead clamps from a starting position to cause them to travel a given distance with the component on the conveyor being tested.



a carriage provided for the lead clamps,

means to support the carriage for movement parallel with the conveyor, and

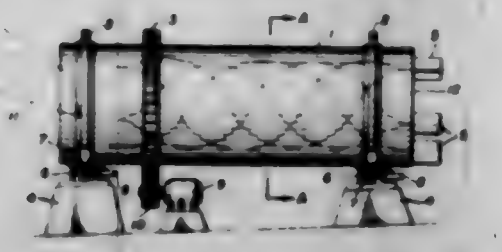
means actuatable to open the clamps free of the terminals short of the end of movement of the carriage and clamps with the conveyor.

3,144,939

ROTARY SIEVING APPARATUS

Genichi Yoshikawa, Yawata, Japan, assignor to Yawata Iron and Steel Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed July 5, 1961, Ser. No. 121,913
Claims priority, application Japan, July 6, 1960, 35/30,715
3 Claims. (Cl. 209—95)



1. A rotary sorting and sieving apparatus for scrap iron comprising a hollow cylindrical body having the longitudinal axis thereof inclined to the horizontal and having an intake opening at the upper end of said cylindrical body and a discharge opening at the lower end of said cylindrical body, rotating means on which said cylindrical body is mounted for rotating about said inclined longitudinal axis, and a plurality of from 2 to 8 rails on the inside of said cylindrical body extending spirally along the inside surface of said cylindrical body at a coarse pitch from said intake opening and projecting out of the discharge opening beyond the end of said cylindrical body, said rails having a cross section with the maximum dimension at the inside surface of the hollow cylindrical body and having a progressively decreasing dimension in the direction toward the axis of the cylindrical body for providing between the successive rails a space diverging inwardly toward the axis of the cylindrical body, said rails having a radial dimension of from 150 mm. to 600 mm. and the cylindrical body having an inside diameter on the order of two meters, whereby scrap iron is automatically sorted as it is moved along the cylindrical body without jamming in the diverging spaces between the successive rails and large pieces are carried beyond the discharge end of the cylindrical body while smaller pieces fall out of the end of the cylindrical body.

3,144,940

FOLDABLE VALET

Louis H. Barnett and John D. Davis, Fort Worth, Tex., assignors to Lonza Industries, Fort Worth, Tex., a corporation of Texas

Filed Sept. 7, 1962, Ser. No. 221,969
6 Claims. (Cl. 211—1)



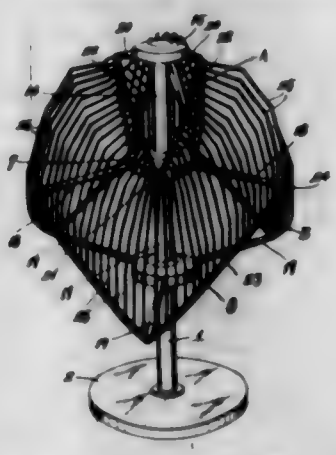
1. A foldable valet including a pair of spaced front legs and a rear leg pivoted to the front legs, a generally horizontal upper leg section joining said spaced front legs together, an upwardly extending tubular member joined to said horizontal leg section, a hanger member on top of said tubular member, a snap on removable tray for holding small objects mounted on the upper end of said legs, a trouser hanger pivoted to said front leg and extending outwardly from said tray, and a shoe rack pivoted to said front legs and removably attached to said rear leg.

3,144,941

FILING RACK FOR CARD AND THE LIKE

Kuniaro Niino, 173 Sakenobe-cho, Hamamatsu-shi, Shizuoka, Japan

Filed July 1, 1963, Ser. No. 292,024
Claims priority, application Japan July 10, 1962
4 Claims. (Cl. 211—10)



1. A card filing rack, comprising a vertical hollow support shaft adapted to be secured to a base or floor; at least three rotary members mounted on said hollow support shaft in a vertically spaced relation to one another, along the length of said support shaft, the top rotary member being provided with three short bars radially and horizontally extending therefrom, the intermediate rotary member being provided with three long arm bars and three short bars radially and horizontally extending therefrom, and the lowest rotary member being provided with three long arm bars radially and horizontally extending therefrom the short bars of the top and intermediate rotary members being connected by outwardly arched bars which are connected to each other to form upper V-shaped frame members, the long bars of the intermediate and lowest rotary members being connected by outwardly arched bars which are connected to each other

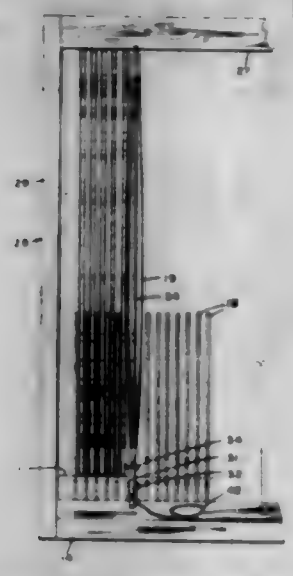
to form lower V-shaped frame members, a plurality of spaced card backing bars each having one end thereof connected to said upper frame member and the other end thereof connected to said lower frame member.

3,144,942
FILING UNIT
David Meade Peebles, 2912 Cortland Place, Washington 8, D.C.
Filed Feb. 27, 1962, Ser. No. 176,059
7 Claims. (Cl. 211—11)



1. In a filing unit, the combination of a base plate, a divider comprising an open wire frame including a base and a pair of sides, and means rigidly securing the base of said frame to said base plate, said frame initially lying in a substantially flat position on the base plate, said securing means of the base of said frame being spaced from the sides of the frame whereby portions of the frame base between the frame sides and the securing means are unsecured and twistable to permit movement of the frame from a lying position to an upstanding position on said base plate.

3,144,943
RACK FOR STORING PHONOGRAPH RECORDS WITHIN THE STANDARD JACKET ENVELOPES
Neal Punt, Rte. 1, Coopersville, Mich.
Filed May 15, 1963, Ser. No. 280,667
7 Claims. (Cl. 211—40)



1. In combination with a group of standard-size phonograph record envelopes, a rack for storing said envelopes and the records contained therein, comprising:

a base having an envelope-supporting portion with a depth dimension less than the length of an edge of said standard-size envelopes, and having a front inclined portion intersecting said envelope-supporting portion, said envelopes normally having a portion of said edge overhanging said inclined portion;

arch means fixed with respect to said base and including a beam disposed adjacent to and above the normal position of the top of said envelopes,

said beam having a downwardly-extending offset in front of the normal position of said envelopes;

lateral support means for said envelopes including a plurality of parallel bent wire members spaced apart appropriately to receive said envelopes freely therebetween,

said members having portions disposed toward the rear of said base which extend vertically to a substantial height to stabilize the said envelopes;

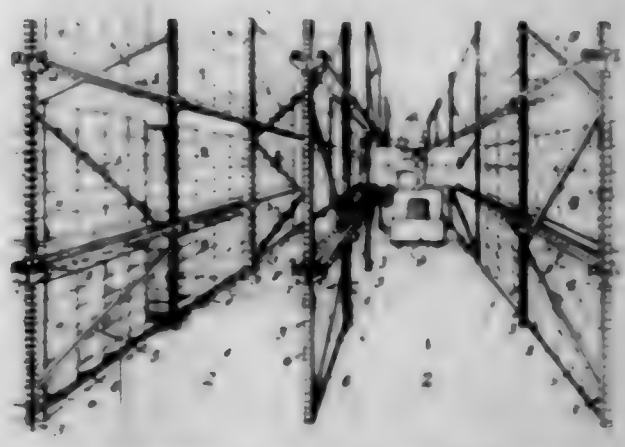
wedge means insertable between said members, and between said inclined portion and the overhanging edge of said envelopes, whereby force insertion of said wedge means generates forces between said beam and said wedge means which open said envelopes to expose the contained records,

said wedge means including a web portion receivable between said members and also including a top trough engageable with said overhanging edge,

said trough being disposed above the forward portion of said members on insertion of said wedge means, and

stop means on said base establishing the inserted position of said envelopes between said members.

3,144,944
DRIVE-IN PALLET RACK
Kennedy McConnell, Riverdale, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 19, 1962, Ser. No. 180,532
6 Claims. (Cl. 211—148)



1. A rack structure of a type having upright skeletal walls spaced parallel to each other to form aisles therebetween, said walls having uprights which have connected thereto rail supports which in turn have connected thereto load support rails extending parallel to said walls, each connection between a rail support and a rail comprising, said rail support having two spaced vertical wall portions extending from its upper surface between which a rail is positioned, said rail being provided with a plurality of holes spaced from each other in rows at the same vertical level longitudinally along the rail, one of said wall portions having a projecting member directed toward the other said wall portion to align with one of said holes on one side of the rail positioned between the two wall portions, the other said wall portion supporting a retractable latch which is aligned with one of said holes on the opposite side of said rail, said latch being extendable to engage the hole it is aligned with while the projecting member is engaged with the hole it is aligned with to thereby form the connection between the rail support and the rail.

3,144,945
STORAGE RACK
Edward A. Setz, 136 E. 3rd St., Lansdale, Pa.
Filed Mar. 6, 1962, Ser. No. 177,841
12 Claims. (Cl. 211—176)

8. An assemblable and disassemblable storage rack comprising in combination, longitudinally spaced bents each including laterally spaced posts having outwardly extending flanges with vertically spaced rail support notches with horizontal ledges to support an edge of a rail and

with inwardly and downwardly tapered upper edges to force the rail edge down on said ledges, said posts also having pin keeper holes near said notches, a rail having a horizontal edge resting on said notch ledges and having keeper locking pins resting in said keeper holes, each



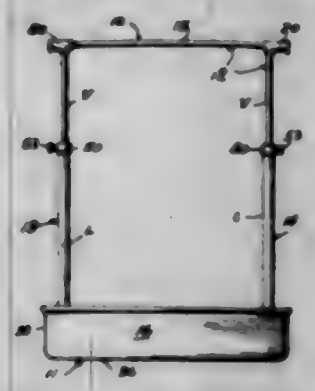
keeper locking pin having a reduced end portion and being mounted in guide support means, and a spring mounted on said pin and having a reduced end portion held in the reduced portion of the pin and the other end engaging the pin guide support means to urge the pin into a keeper hole of the post.

3,144,946

POLE FITTING FOR CLOTHES HANGER RACK

George Milton Ellis, 11981 Magdalena Ave., Los Altos Hills, Calif.

Filed Dec. 18, 1961, Ser. No. 159,977
4 Claims. (Cl. 211—182)



1. The combination with the tubular uprights and rod of a clothes hanger rack, a corner coupling between each of said uprights and said rod, each said coupling comprising a sleeve portion for receiving the end of said rod, a stud portion adapted to have sliding frictional fit into the upper end of one of said tubular uprights, said stud portion projecting radially from said sleeve portion at an angle such that the included angle between said rod and said uprights is greater than 90 degrees to impress a crown contour to the rod spanning between said corner couplings and thereby exert a binding action between said studs and the upper ends of said uprights.

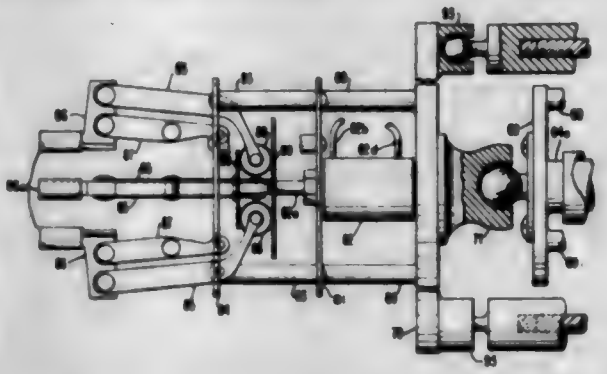
3,144,947

MECHANICAL OBJECT MANIPULATOR

Donald G. Pittwood, Salt Point, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 29, 1961, Ser. No. 120,786
12 Claims. (Cl. 214—1)

1. In a mechanical manipulator, an object engaging device, a frame, means including at least one actuating member for maneuvering said device in space, said actuating member including a piston journaled to said frame and movable along its own length and bearing a detent and further including means for connecting the said piston to said device, a drum also borne by said frame and disposed to revolve about an axis, a plurality of independently settable stop means borne by and disposed on said drum to be brought serially into operative relationship with said piston detent as said drum is revolved, means for indexing said drum to sequentially position said stop means in operating relationship with respect to said piston detent, valve means directively operable for causing said



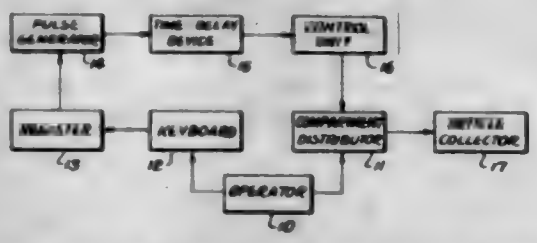
actuating member to extend and retract said piston with respect to said frame, and timer means connected to and cyclically effective for operating said indexing means and said valve means.

3,144,948

COLLOCATING MACHINE USING A TIME-POSITION CODE

Seymour Hesig, Kensington, Md., assignor to the United States of America as represented by the Secretary of Commerce

Filed Jan. 23, 1962, Ser. No. 168,871
11 Claims. (Cl. 214—11)



7. In a collocator wherein each pulse in a time-position code is associated with a respective one of a plurality of discharge points, a rotatable member of nonconductive material, means for rotating said member, a strip of conductive material positioned on the surface of said member, a brush connected to a source of potential, said brush being positioned so that when urged against the surface of said member it will contact said strip of conductive material as said member rotates, thereby generating a respective pulse in said time-position code, control means for selectively urging said brush into contact with the surface of said member, a slip-ring of conductive material positioned on the surface of said member and connected to said strip of conductive material, a distributor including a plurality of containers, and means connected to said slip-ring and responsive to any one of said pulses for selectively controlling said containers in the vicinity of the discharge point associated with the pulse.

3,144,949

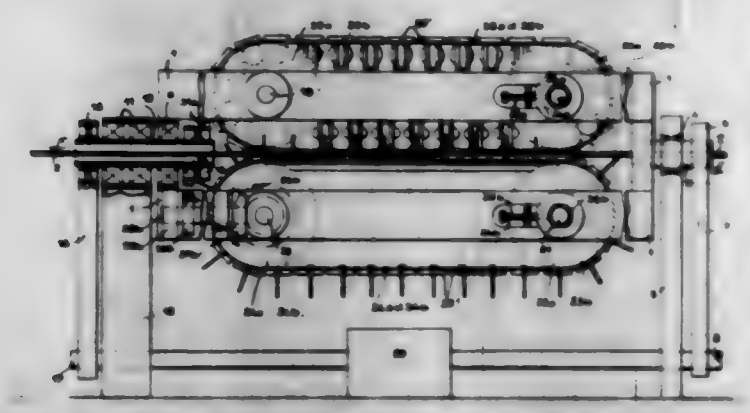
CABLE HAULING APPARATUS

Otto Hauswitz, La Celle-Saint-Cloud, France, assignor to Société Anonyme Geoffroy-Delore, Paris, France

Filed Jan. 16, 1963, Ser. No. 251,833
Claims priority, application France Jan. 19, 1962
11 Claims. (Cl. 214—338)

1. Apparatus for hauling rope-like articles comprising a frame, endless track means mounted on said frame for continuous displacement therearound and including a straight stretch of track, a series of gripping members supported on the endless track means and each comprising a pair of cooperating gripper elements transversely relatively displaceable and having gripping surfaces directed towards each other, means resiliently pressing said elements relatively together into gripping engagement

with a rope-like article guided towards and parallel to said straight stretch of track, and latching means on said gripping members operable as both elements of each member reach the start of said straight stretch to lock



the elements against transverse relative displacement in the article-gripping position as determined by said resilient means through the extent of said stretch, and disengageable as said elements reach the far end of said stretch to release the article.

3,144,950

COMBINATION HANDLE AND TRIFOIL WAND DEVICE FOR BLOWING BUBBLES FROM A SOAP SOLUTION

David J. Rosenheim, Deal, N.J., assignor to Laurel Plastics, Inc., Wanamassa, N.J., a corporation of New Jersey

Filed Apr. 9, 1962, Ser. No. 185,949
9 Claims. (Cl. 215—100)



1. A combination container for a bubble forming liquid and circular cap with a flat base and integral trifoil ring member for blowing bubbles in respect to said liquid including a plastic container and wand assemblage comprising a plastic cup and a one-piece snap on cover said cover having a flat base and a peripheral skirt and an integral connection from the edge of the skirt to the ring member and integrally molded wand taking the form of said trifoil ring member extending outwardly from the edge of the cover, said assemblage being formed of flexible form-retaining bendable polyethylene and said wand being thicker than the connection of the wand to the skirt of the cover and the base of the cover having about the same thickness as the connection and the wand retaining its position when bent into the plane or perpendicular to the plane of the cover.

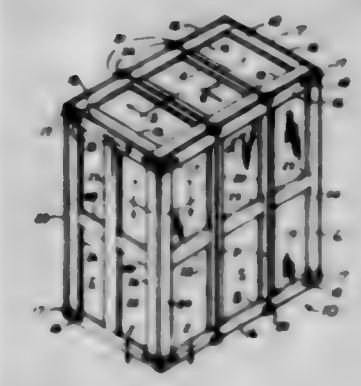
3,144,951

DEMOUNTABLE SELF-LOCKING CONTAINER

William F. Knabe, Colton, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of California

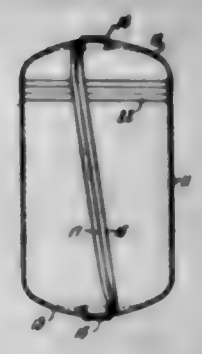
Filed Mar. 13, 1962, Ser. No. 179,954
1 Claim. (Cl. 217—65)

In a knockdown box formed of interlocking wood panel and wood cleat construction, the combination of preformed separable side, end, top and bottom panels assembled together with engaging edge portions of adjacent panels to form said box therefrom, said side panels being identical, said end panels being identical, said top and bottom panels being identical, said panels each having cleat means secured thereto and effective to reinforce said box at the corners thereof, certain of said cleat means for said top, bottom, and end panels providing interlocking engagement at said corners for said meeting edge portions of adjacent panels thereby to structurally integrate the box, said certain of the cleat means for each of the top and bottom panels forming therewith a perimetrically extending socket having edge portions of said side and end panels received therewithin, said certain of the cleat means for each of said end panels forming a pair of sockets having edge portions of said side panels respectively received therewithin, and at least one metal band extended perimetrically of the box for locking the assembled panels together as a unitary structure, said certain cleat means for each of said top and bottom panels comprising first and second sets of perimetrically extending cleats of identical rectangular cross section, the cleats of the first set being respectively spaced from the edges of the associated panel each with its confronting longer cross sectional face disposed parallel to the edge face of the panel to form one of said perimetrically extending sockets therebetween, the cleats



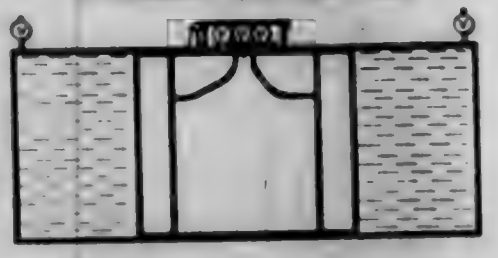
of the second set being secured respectively to the cleats of the first set and to the face of said associated panel, each cleat of said second set having its shorter cross sectional face secured to said longer cross sectional face of the associated cleat of the first set and having its longer cross sectional face secured to said face of the associated panel, said certain cleat means for each of said end panels comprising at each of the side panel engaging ends thereof a first end cleat spaced from an edge of an associated end panel to form one of said sockets for receiving said edge portions of the side panels and a second end cleat secured to the first end cleat and to the face of the associated end panel, said first and second end cleats having identical rectangular cross sections, said first end cleat having its confronting longer cross sectional face disposed parallel to the edge face of its associated end panel, said second cleat having its shorter cross sectional face secured to said longer cross sectional face of the first cleat and having its longer cross sectional face secured to its associated end panel, said cleat means comprising at least one intermediate cleat secured to each of the top, bottom, side and end panels, each said intermediate cleat for each panel extending into abutting engagement at each end thereof with one of the cleats of said first and second sets of perimetrically extending cleats, and certain of said intermediate cleats being aligned perimetrically of the box and disposed beneath said metal band.

3,144,952
FILAMENT WOUND CONTAINER
Edwin C. Uhlig, Warwick, and Henry C. Buffington, Cranston, R.I., Irving A. King, Bellingham, Mass., and Arnold C. Brooks, Tiverton, R.I., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 15, 1960, Ser. No. 36,396
13 Claims. (Cl. 220—3)



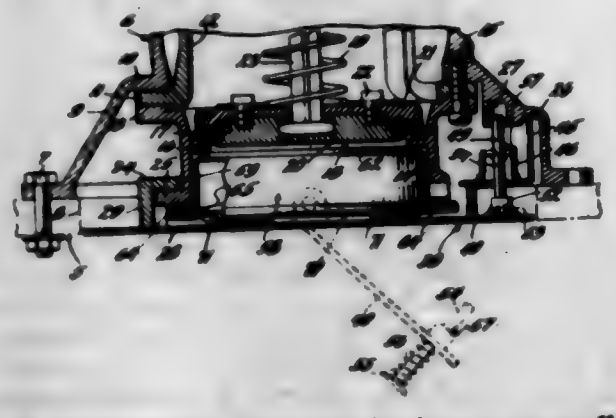
1. A filament wound structure having an elongated body portion and a bulging end, comprising filaments and a binder, said filaments being arranged in girth windings along said elongated body portion and in end windings passing over said body portion and over the ends of said structure, each circuit of said end windings lying along a path that passes over both ends and the elongated body portion of the structure, each said path meeting itself only once in each complete circuit of said structure, at least one layer in said structure being composed of a plurality of said circuits of end windings in which each end winding circuit in said layer is contiguous to the immediately preceding and immediately following end winding circuits throughout substantially the entire length of said circuits, each such end winding bounding in one complete circuit a surface which is substantially plane, said substantially plane surface of the end winding passing only once through the axis of the structure, and the length of the end windings on the elongated body portion forming an angle at each point along said length with a line formed by the intersection of an axial plane through the structure and the surface of said elongated body portion which angle is less than the angle whose tangent is equal to one-half the quotient of the circumference of said elongated body portion at an end thereof divided by the length of said body portion.

3,144,953
ANTI-SLOSH DEVICE
William H. Taylor, 233 Elwood Ave., West Chester, Pa.
Filed Dec. 20, 1961, Ser. No. 160,715
4 Claims. (Cl. 220—22)



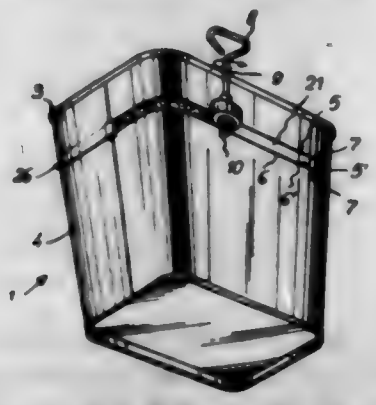
1. An anti-surge liquid cargo container assembly comprising a relatively rigid tank, a hatch centrally positioned on the top of said tank, an inflatable member within said tank and capable of insertion through said hatch when in a deflated state, said member comprising a central collapsible bag and a compartment at each end of the bag forming a sealing bulkhead, the contour of each of said sealing bulkheads conforming to the internal shape of the tank, said member when in an inflated state forming a liquid-tight bulkhead extending from the top to the bottom of said tank and dividing said tank into two separate, longitudinally spaced, substantially liquid-tight compartments, and conduit means for supplying fluid under pressure to each of said sealing bulkheads and to said bag to inflate each.

3,144,954
CLOSURE DEVICE FOR TANKS
Albert W. Brown, Balboa, and Douglas R. Garrett, Burbank, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Original application May 22, 1958, Ser. No. 737,823. Divided and this application Mar. 8, 1962, Ser. No. 185,188
9 Claims. (Cl. 220—40)



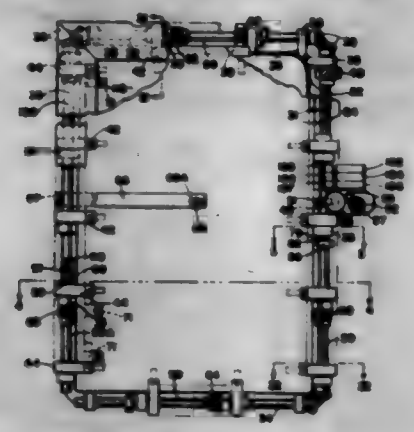
1. In combination, a housing having an upwardly and downwardly facing opening surrounded by a sealing seat, closure cap means including a face plate, sealing means carried by the plate and including a sealing ring engageable about the opening on said seat, cooperable means carried by said housing and said plate and effective upon turning of the plate for securing the cap means in place on the housing with said sealing ring in sealing contact against said seat, handle means carried by said plate and swingable between a collapsed ineffective position and an effective position in which it can be used as a handle for imparting turning movement to the cap means, and means on the handle and the housing independently of said cooperable means for effectively securing the handle means in its collapsed position only after the cap means has been turned to its fully secured position.

3,144,955
TEAR STRIP STRUCTURE FOR CANS
James Sidney Armstrong, Bernal, Buenos Aires, Argentina, assignor to Compania Swift de la Plata Sociedad Anonima Frigorifica, Buenos Aires, Argentina
Filed Nov. 19, 1962, Ser. No. 238,351
Claims priority, application Australia Nov. 27, 1961
9 Claims. (Cl. 220—54)



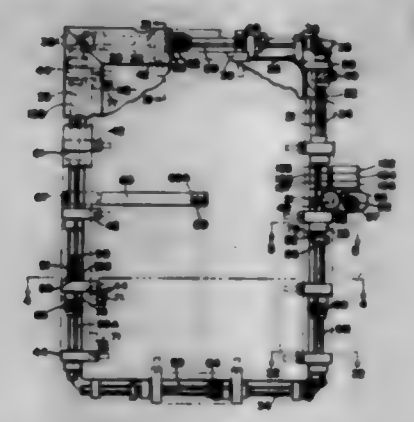
2. A can manufactured of metal sheet having a first base, a second base and a side wall surrounding said bases, two pairs of parallel score lines adjacent one of said base portion, said score lines defining an endless path in said side wall, an endless bead between each pair of score lines, a flat portion between said two pairs of score lines, said flat portion being larger in width than said beads, and said beads projecting out of the plane defined by said side wall containing said flat portion.

3,144,956
CONTROL APPARATUS FOR DOORS
Edgar L. Anderson, Penfield, N.Y., assignor to Wilmot Castle Company, Rochester, N.Y., a corporation of New York
Filed Sept. 21, 1961, Ser. No. 139,674
22 Claims. (Cl. 220—55.3)



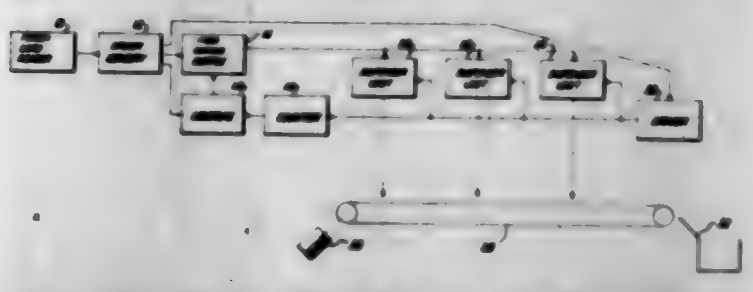
1. Improved apparatus for combination with a pressure vessel member having an opening and a door member for closure of said opening, said improvement comprising pivotal hinge means intermediate said members at a first side of said door member, first control means selectively moving said door member between an open position and a closed position relative to said opening, means responsive to force opposing said control means for disengaging said control means, locking means movably mounted on a first of said members at a second side of said door member being adapted to engage a second of said members when said members are in substantially said closed position, second control means coactive with said first control means selectively moving said locking means between an unlocked position and a locked position and means responsive to force opposing said second control means for disengaging said second control means.

3,144,957
CLOSURE APPARATUS FOR PRESSURE CHAMBER
Edgar L. Anderson, Penfield, N.Y., assignor to Wilmot Castle Company, Rochester, N.Y., a corporation of New York
Filed Jan. 22, 1962, Ser. No. 167,732
26 Claims. (Cl. 220—55.3)



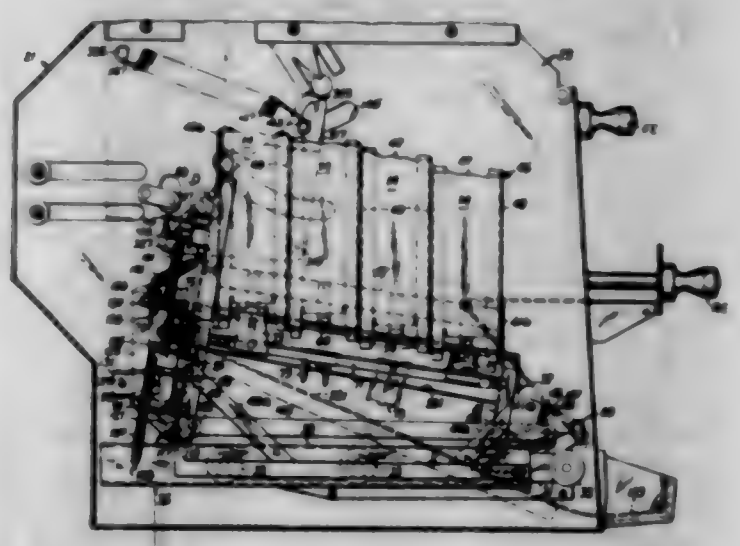
1. Improved apparatus for combination with a pressure vessel member having an opening, a door member adapted for closure of said opening, support means supporting said door exteriorly of said chamber for movement between open and closed positions, sealing means intermediate said members adapted to surround the periphery of said opening, said improvement comprising: locking means intermediate said members automatically movable between locked, ajar and unlocked positions for locking and sealing said members together when in said locked position, and safety control means between said members permitting said locking means to move from said ajar position to said unlocked position only if pressure in said chamber has been reduced to a preselected level.

3,144,958
AUTOMATIC WAREHOUSING MACHINE
Donald G. Gumpertz, 4217 Navajo St., North Hollywood, Calif.
Continuation of application Ser. No. 732,968, May 5, 1958. This application Sept. 4, 1962, Ser. No. 222,758
14 Claims. (Cl. 221—7)



14. Apparatus for dispensing any quantity of selected items comprising a source of digitally coded signals indicative of the type and quantity of each item to be dispensed, a plurality of dispensing units, each arranged to dispense one item when actuated, first decoding means coupled to the source for generating a plurality of output signals identifying the items to be dispensed, means responsive to said output signals from the decoding means for repeatedly actuating all the particular dispensing units identified by said output signals, second decoding means coupled to the source for generating a plurality of output signals indicative of the quantity of each item to be dispensed, means responsive to the signals from the second decoding means for interrupting the actuation of any particular dispensing unit by said actuating means when the particular dispensing unit has been actuated a number of times corresponding to the quantity information for that particular item.

3,144,959
CIGARETTE VENDING MACHINE WITH BOOK MATCH ACCUMULATION CONTROL
Alvin W. Holstein, Brentwood, and Leonard A. Fichen, St. Louis County, Mo., assignors, by mesne assignments, to Universal Match Corporation, Ferguson, Mo., a corporation of Delaware
Filed May 9, 1962, Ser. No. 193,510
4 Claims. (Cl. 221—13)



1. In a cigarette machine having pull-out rods for vending packs of cigarettes, the packs being delivered to a pan, means for holding a supply of book matches, an ejector for ejecting a book of matches from said supply, the book being delivered to the pan, means for operating the ejector, means for actuating said ejector operating means

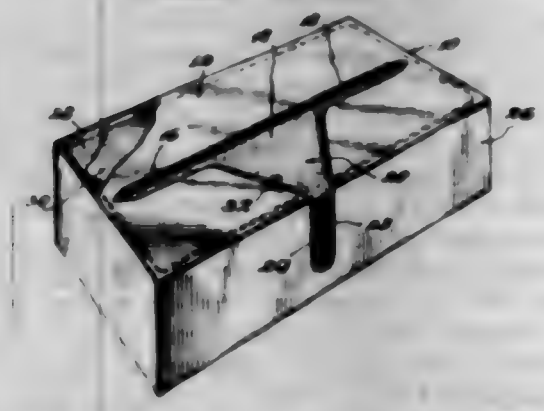
upon operation of any rod, a feeler for detecting accumulation of book matches in the pan, and a control for said ejector operating means interconnected with the feeler adapted to move the feeler away from the pan and back toward the pan on operation of said ejector operating means, said feeler being blocked from full movement toward the pan by engagement with an accumulated book in the pan and said control thereupon acting to hold said ejector operating means out of operation while permitting continued operation of said pull-out rods.

3,144,960
BAG HOLDING AND DISPENSING MEANS
Hercules Membrino, 280 Rte. 202, Malvern, Pa.
Filed Aug. 9, 1962, Ser. No. 215,932
6 Claims. (Cl. 221—26)



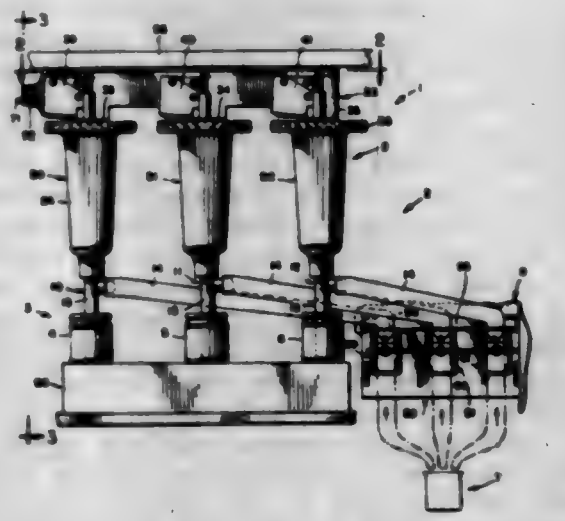
6. A bag holding and dispensing device comprising a retaining means in the form of a generally flat sheet, a framed portion on one face of the sheet, said framed portion being defined by oppositely-disposed linear pockets, and a fastening means adjacent one end of said framed portion between said linear pockets, said fastening means being constructed to releasably retain a stack of flattened bags against said sheet within said framed portion and said linear pockets being constructed to releasably retain the corresponding edges of said bags, said linear pockets being defined by a pair of slits in said sheet each of which, at least at one end, terminates at the corresponding edge of the sheet to form an open end for the corresponding pocket, each pocket having an open end at a common edge of the sheet, and closure means for closing said open ends.

3,144,961
TISSUE DISPENSING CARTON WITH FLOATING CONTROL ELEMENT
Lewis E. Phenner, Menasha, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed July 17, 1962, Ser. No. 210,363
1 Claim. (Cl. 221—48)



In combination, a rectangular tissue dispensing carton having substantial depth and including top, bottom, end and side walls, a stack of interleaved tissues disposed within said carton, and a planar control element loosely disposed within said carton between the top wall thereof and the top of said tissue stack, said top wall and an adjacent side wall having a removable section defining a generally T-shaped aperture therein when removed, the cross bar of said T comprising a relatively narrow elongate portion centrally disposed in and extending longitudinally of said top wall and consisting of an opposed pair of aligned and relatively narrow slot-like portions terminating near said end walls to provide constrictional forces against individual tissues when sequentially dispensed from said carton, the pedestal of said T comprising a medially disposed symmetrical neck-like portion interconnected with said elongate portion and extending to one side margin of said top wall and downwardly through part of the adjacent side wall, said neck-like portion having substantial width in the common area of communication with said elongate portion and narrowing down to a size slightly wider than finger width at said side margin and through part of said side wall to provide easy manual access to the carton contents for unitary removal through said T-shaped aperture of a plurality of said interleaved tissues, said control element being of light-weight sheet stock freely floatable within said carton and provided with an aperture of substantially the same general configuration as the top wall aperture including said side margin opening and positioned in substantial registry therewith, the marginal opening in said element corresponding to the marginal opening in said top wall and said side wall to provide unobstructed manual access to said tissues through both the top and side wall apertures.

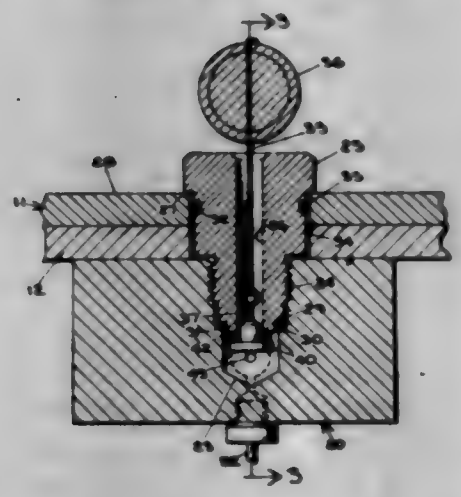
3,144,962
DISPENSING MECHANISM
Donald S. Reynolds, Wilmette, Ill., assignor to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware
Filed July 26, 1961, Ser. No. 126,969
9 Claims. (Cl. 222—66)



1. A dispensing mechanism for dispensing liquid material comprising a plurality of containers for storing a supply of material to be dispensed, a plurality of siphon units, each of said siphon units being operatively connected to a respective one of said containers for feeding such material therethrough from said container, a plurality of electrically operable means, each of said electrically operable means having a portion movable into one position effective to open a respective one of said siphon units upon energization of said respective means, and movable into another position effective to close said respective siphon unit upon deenergization of said respective means, all of said means being normally de-energized, and means for sequentially energizing said electrically operable means, said last-mentioned means including a switch, sensing means connected to the top of said siphon units for sensing the level of said material in said container, a plurality of other switches, each of said other switches having a movable

contact movable between one position wherein it is electrically connected to a respective one of said electrically operable means, and another position wherein it is electrically disconnected from said respective electrically operable means, each of said sensing means connected to the top of respective ones of said siphon units being operably connected to respective ones of said movable contacts to dispose said contact in said one position when the level of said material in said container to which said respective siphon unit is attached is above a predetermined level, and dispose said contact in said other position when the level of said material in said last-mentioned container is below said predetermined level.

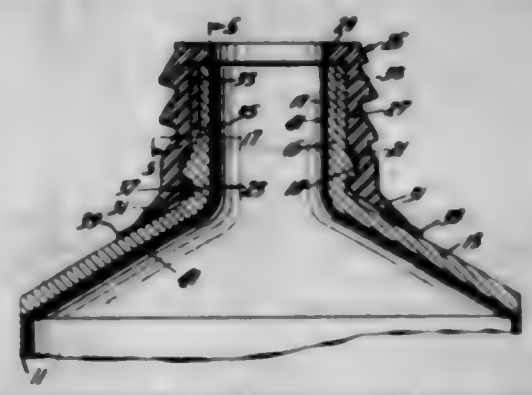
3,144,963
FEED PUMP
Harry A. Savage, 7361 SW. 9th St., Miami, Fla., assignor of fifty percent to Donald W. Barlow, Miami, Fla.
Filed Nov. 15, 1962, Ser. No. 238,332
3 Claims. (Cl. 222—66)



1. A feed pump comprising a container of liquid, valve supporting means mounted below said container, said valve supporting means having a valve chamber and a liquid passageway connecting said container and said valve chamber, permitting the flow of liquid from said container to said valve chamber, a float positioned in said container, a valve positioned in said valve chamber and controlling the flow of liquid through said liquid passageway, means connecting said valve and said float effected by the liquid in said container whereby upward movement of said float causes said valve to be brought from an open to its closed position, pump means connected to said chamber, valve discharge means connected to said chamber, and resilient means mounted on said valve discharge means yieldingly urging said discharge valve to a closed position whereby upon the depletion of the liquid in said container said float valve moves downwardly to open said first named valve and dissipate therethrough the pressure produced by said pump means while said discharge valve is maintained in a closed position and liquid is trapped in said chamber and said liquid passageway.

3,144,964
OUTSERT FOR A COLLAPSIBLE TUBE
Donald Howard Goff, Mountainside, and Christian Theodore Schetndel, Vienna, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 17, 1961, Ser. No. 96,585
3 Claims. (Cl. 222—92)

1. In the combination of a collapsible tube unit comprising a metal body having a breast portion and a neck portion integrally formed with the body and an outsert of resilient plastic material attached to said tube unit and embracing and enclosing said neck portion, preformed toothed means on said neck portion and said outsert providing a 360 degree assemblable mutual interfitting relationship between the outer surface of said neck portion and the inner surface of said outsert preventing relative rotation thereof, means providing a snap-together locking connection between said outsert and said neck por-



tion, and an outwardly and downwardly flared skirt portion on the lower end of said outsert which converges to a relatively thin peripheral lip, said skirt portion being angularly disposed toward said breast portion whereby said lip is held in close deflected engagement with said breast portion when the parts are assembled and said locking connection means is fully engaged.

3,144,965
ICE STORAGE AND DISPENSING HOPPER
Paul F. Burton, Paul F. Fleagle, and Roy S. Steeley, Charles Town, W. Va., assignors to Dixie-Narco, Inc., Ranson, W. Va., a corporation of West Virginia
Filed Dec. 28, 1961, Ser. No. 162,806
4 Claims. (Cl. 222—168)

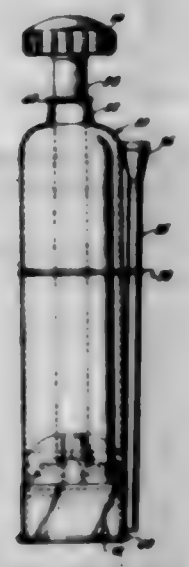


1. In an ice dispensing device: a container; an upright driving shaft in said container; a discharge opening through the bottom wall of said container located eccentrically of the axis of said shaft; a stationary plate in said container, overlying said discharge opening, and spaced upwardly therefrom; a disc fixed to said shaft below and closely adjacent said stationary plate; said disc having an opening therethrough eccentrically of said shaft; an open-ended measuring cup removably mounted on the underside of said disc with its upper open end in registry with said opening therein; the lower open end of said cup being adjacent the bottom of said container and adapted to pass through registry with said discharge opening upon rotation of said shaft a removable cover on said container; said shaft being journalled in said cover; a bracket secured to said cover and extending downwardly in said container adjacent a side wall thereof; said stationary plate being secured to said bracket.

3,144,966
CARTRIDGE FOR MIXING AND DISPENSING SEALANT COMPOUND

Ralph J. Cook, Inglewood, Calif., assignor to Semco Research Inc., Inglewood, Calif., a corporation of California

Filed Apr. 16, 1962, Ser. No. 187,610
20 Claims. (Cl. 222—136)



1. A dual compartment container for separately storing two ingredients, subsequently intermixing the two ingredients and later dispensing the mixture, comprising:

a shell to contain one of the two ingredients, said shell having a normally closed dispensing outlet at one of its ends;

a wall member separate from said normally closed dispensing outlet movable to extrude the contents of the shell out through said dispensing outlet;

a dasher mounted in said shell;

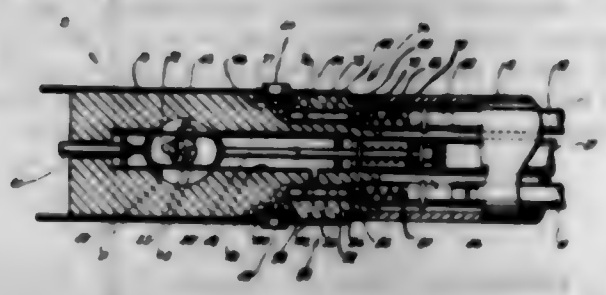
a tubular member to contain the second of said ingredients and to extend through said dispensing outlet into engagement with said dasher for manual reciprocation of the dasher;

and means initially closing the inner end of said tubular member, said closing means being adapted to be opened to place the interior of said tubular member in communication with the interior of said shell to provide a flow path for extrusion of said second ingredient from the tubular member into the shell for intermixture with the first ingredient.

3,144,967
DISPENSING DEVICE

Marshall A. McClain, 3161 N. Gladys St., South San Gabriel, Calif.

Filed Jan. 27, 1961, Ser. No. 85,247
7 Claims. (Cl. 222—144.5)



1. A hand graspable liquid dispensing device:

a head having a plurality of passages formed therein each of which is adapted to receive the end of a separate liquid conducting tube;

a separate valve located in each of said passages;

a first actuator means operatively associated with one of said valves, said first actuator means including a lever being pivoted to said head for limited movement between a first postion where the associated valve is closed and a second position where the associated valve is open;

a second actuator means operatively associated with a second of said valves, said second actuator means including a lever pivoted for limited movement between a first position where the associated valve is closed and a second position where the associated valve is open and the lever of the first actuator means to its said second position;

a third actuator means operatively associated with a third one of said valves, said third valve including a valve member disposed in its passage for movement between a closed position and an open position, said third actuator means including an actuator passage formed in said head leading from one end of said member to a side of said head, and a plurality of balls located in said actuator passage and substantially filling said passage, whereby motion of said balls relative to said head is transmitted to said third valve member, said passage and balls being disposed so that said movement opens said third valve.

3,144,968
FLUID DISPENSER

Louis J. Martino, Lombard, Wayne E. Moll, Villa Park, and Ralph E. Weimer, Lombard, Ill., assignors to McDonald's Systems, Inc., Chicago, Ill., a corporation of Illinois

Filed Oct. 11, 1962, Ser. No. 229,821
7 Claims. (Cl. 222—380)



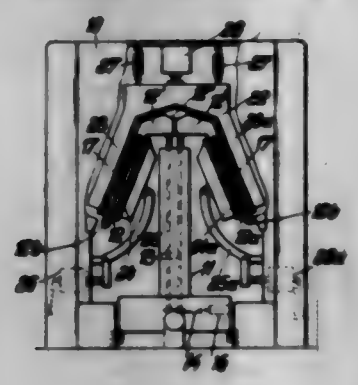
1. A manual fluid dispenser comprising an upstanding shell having an upstanding wall circular in cross section, a handle connected to said shell, a floor near the base of said shell surrounding an opening in the base of said shell, a resilient deformable concave plunger adapted to rest on its peripheral edge on said floor, the wall of said shell restraining said plunger so that said opening is covered for all positions of said plunger, a resilient diffusor valve releasably connected to said shell in said opening in the base of said shell beneath said plunger, said plunger, said shell and said diffusor valve cooperating to form a chamber, said diffusor valve defining at least one slit, said plunger defining a plurality of openings, a resilient flapper valve releasably connected to the chamber side of said plunger and covering said plunger openings, a reciprocatable rod connected to said plunger for deforming said plunger and for reducing the volume of said chamber, and means adjacent said handle for reciprocating said rod, whereby when said rod is reciprocated and said plunger is deformed the flapper valve prevents the escape of the chamber's contents through said openings and the contents of said chamber are dispensed through said slit and when said reciprocating means are released the flapper valve opens to allow a predetermined flow into said chamber as said plunger resiliently returns to its undeformed concave configuration.

3,144,969

DEVICE FOR SIMULTANEOUS PRESSING OF BOTH SIDES OF A GARMENT HAVING A LONGITUDINAL OPENING

Herbert Kannegiesser and Richard Juraschek, both of Vlotho (Weser), Germany, assignors to Kannegiesser & Co. Maschinenfabrik G.m.b.H., Vlotho (Weser), Germany

Filed July 31, 1961, Ser. No. 127,933
5 Claims. (Cl. 223—74)



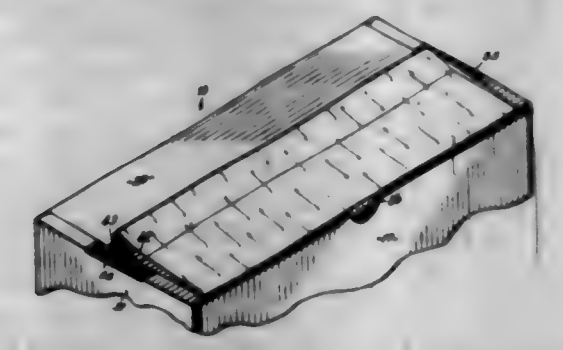
1. In an apparatus for simultaneously pressing the two sleeves of a unilaterally open garment: supporting means, two sleeve bucks each having a front end and a rear end and being loadable from the front end, means pivotally connecting said rear ends of said sleeve bucks to said supporting means, said sleeve bucks being movable from a loading position in which said sleeve bucks extend in the same general direction from said supporting means into a pressing position in which said sleeve bucks extend in opposite directions from said supporting means, said sleeve bucks also being provided with shoulder sections for receiving the shoulder portions of the garment to be pressed, and press platen means spaced to receive therebetween said sleeve bucks and operable to press said sleeves and shoulder portions of said garment on said sleeve bucks and shoulder sections respectively in one single pressing operation, said press platen means including a single continuous upper plate means above said bucks and movable downwardly against the tops of both of the bucks simultaneously to press the respective portions of said garment against said shoulder sections and top surface portions of said sleeve bucks and said plate means also comprising two lower plate means beneath said bucks and movable upwardly against the bottom of said bucks to press the respective portions of said garment against the bottom surface portions of said sleeve bucks.

3,144,970

DISPENSER FOR ROLL OF SHEET MATERIAL

Edwin T. Beschmann, Miamiville, Ohio, assignor to The Nivison-Weiskopf, Reading, Ohio, a corporation of Ohio

Filed Aug. 1, 1963, Ser. No. 299,348
7 Claims. (Cl. 225—39)



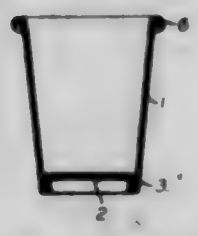
1. A dispenser for a roll of sheet material comprising,
a box including a front panel and a rear panel,
a cover hinged to said rear panel and having tuck flap extending from its front edge,
the free edge of said flap being constituted by a cutting edge,
said tuck flap being foldable upon itself along a line parallel to said cutting edge and positionable, in folded condition, adjacent the inside surface of said front panel with said knife edge projecting upwardly above the upper edge of said front panel,
said cover having a slot extending parallel to said knife edge, and
an upwardly bendable flap hinged at the edge of said slot between said slot and said knife edge.

3,144,971

PAPER CUP AND PROCESS FOR MAKING IT

Fritz Wommelsdorf, Eggersallee 23, Hamburg, Germany

Filed Nov. 19, 1962, Ser. No. 238,435
Claims priority, application Germany Nov. 20, 1961
2 Claims. (Cl. 229—1.5)



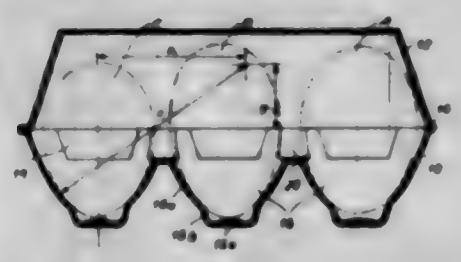
1. Paper cup for hot beverages, having a bottom part and a side wall connected to the bottom part; having on the inner surface of the paper material a coating consisting of synthetic plastic material substantially insoluble in water, the pores of said paper material on the outer surface of the cup being incompletely filled with paraffin, without applying paraffin onto said outer surface proper.

3,144,972

CONTAINER OF FIBROUS MATERIAL FOR HENS' EGGS

Louis Martin Hartmann and Albert Bertram Arlandius Hansen, both of Lyngby, Denmark, assignors to Aktieselskabet Brodrene Hartmann, Lyngby, Denmark, a company of Denmark

Filed Jan. 3, 1962, Ser. No. 163,980
Claims priority, application Denmark Jan. 12, 1961
2 Claims. (Cl. 229—2.5)



1. A resilient support for hens' eggs to be packed comprising a structure provided with a number of cells constituting seats for the lower parts of hens' eggs to be packed, each cell including an egg-supporting part having a truncated, generally cone shape with an inwardly concavely-curved generatrix curved according to an arc of a circle being located above the level of the cell and at a distance of about 57 mm. from the axis of the cell.

3,144,973

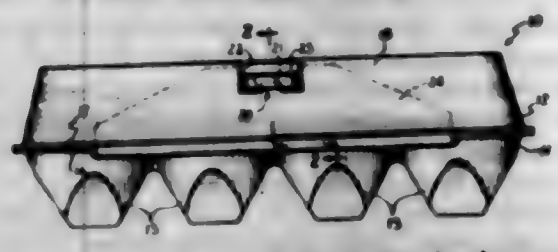
CARTON LATCH

Leo A. Heintzelman, 4990 Burlingame Ave., Grandville, Mich., assignor of one-half to Herman Wilbert, Grand Rapids, Mich.

Filed Apr. 2, 1962, Ser. No. 184,335
2 Claims. (Cl. 229—2.5)

1. A molded pulp fiber egg carton comprising a pocketed body section for holding a plurality of eggs, and an overlying tray-like cover section, flanges formed

on each of said sections adjacent the edges thereof, said flanges being interconnected along the rear edges of said sections forming a hinge therebetween, an inner flap member hinged at its lower portion to the front edge of said body section and projecting upwardly therefrom in face-to-face relationship with a front wall of said cover section when the cover is closed over said body section, said front wall having an opening therein and having a contiguously formed upstanding locking tab projecting



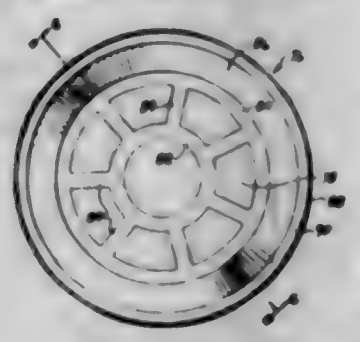
partially into said opening, said inner flap having an outwardly projecting catch member adapted to register with and insertable laterally into said opening without distortion when said cover section is closed, and a slot in the lower portion of said catch member to receive said locking tab when said catch member is inserted into said opening and after movement thereof downwardly in said opening into latching position to prevent movement of said catch member laterally of said opening.

3,144,974

MANUFACTURE OF FOOD CONTAINER AND THE LIKE FROM ALUMINUM FOIL OR OTHER THIN METALLIC MATERIAL

Frank L. Eichner, Merrill A. Gregel, and William M. Korman, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed July 10, 1959, Ser. No. 826,191
4 Claims. (Cl. 229—3.5)



2. A container formed from an aluminum containing thin sheet of from 0.0015 to 0.006 inch in thickness and having at least one cup-shaped compartment formed therein and defined by drawing critical bends in said sheet to produce integral continuous side walls of said compartment, said sheet being embossed and work hardened to the desired degree with an omni-directional stretch embossing pattern including a plurality of closely formed, narrow undulations adjacent each other, said undulations causing said sheet to have an apparent thickness in the order of 130% to 200% of the thickness of the unembossed sheet said sheet being stretched at the critical bends of said container without substantial change in the actual cross-sectional thickness of said sheet.

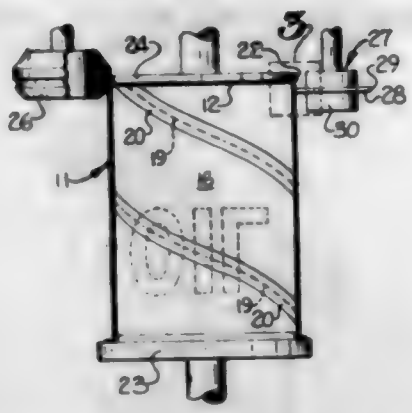
3,144,975

CONTAINER CONSTRUCTION

Richard W. Turnage and Charles K. Dunlap, Jr., Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina

Filed Feb. 27, 1963, Ser. No. 261,339
6 Claims. (Cl. 229—4.5)

1. A container for packaging a liquid such as oil and the like comprising, in combination, a tubular multi-ply body composed substantially of wound fibre strips adhesively secured together, an end closure secured in sealing relationship with an end of said body to form a container and at least one circumferentially extending score in the



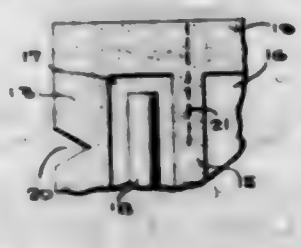
outer surface of said body adjacent said end to permit said body to flex with the application of pressure on said end thereby preventing separation of said end closure and body to avoid leakage of the liquid packaged in said container.

3,144,976

LIQUID FILLED POUCH WITH STRAW

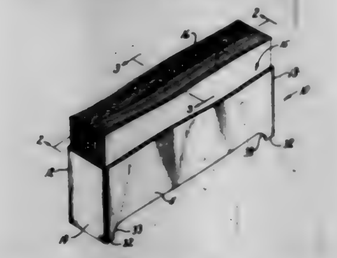
Oren A. Freshour, Downers Grove, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 18, 1961, Ser. No. 138,993
1 Claim. (Cl. 229—7)



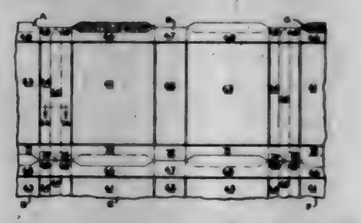
A liquid filled pouch assembly comprising a sealed pouch formed of a heat sealable flexible sheet material, said pouch having two panels joined along the edges thereof and said pouch including a top, a bottom and side edges, a line of heat sealing extending between said panels downwardly from said top and more closely adjacent to one of said side edges than to the other so as to separate said pouch into a large main compartment and a smaller dispensing compartment disposed proximal to said one side edge, a straw loosely received in said dispensing compartment, said line of heat sealing terminating short of said bottom whereby liquid may flow from the bottom of the main compartment into the bottom of said dispensing compartment, at least said one side edge being defined by a wide line of heat sealing, said wide line of heat sealing including first weakening means facilitating the tearing off of an upper portion of said pouch to open the upper end of said dispensing compartment whereby said straw may be projected above the top of said pouch, second weakening means extending along an upper central part of said first mentioned line of heat sealing to limit the tearing of said pouch to said dispensing compartment, said first weakening means comprising a notch in said one side edge, said second weakening means being a weakening line in the line of heat sealing separating the dispensing and main compartments of said pouch, and said weakening line being formed by a plurality of perforations extending from the top edge of said top to a point substantially directly opposite the notch for facilitating the tearing off of an upper rectangular corner portion of said dispensing compartment to effect the projection of said straw above the top of said pouch without otherwise effecting the top of said main compartment.

3,144,977
COLLAPSIBLE RECEPTACLE AND BLANK THEREFOR OR THE LIKE
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Feb. 15, 1962, Ser. No. 173,478
19 Claims. (Cl. 229—16)



1. A collapsible receptacle having a pair of opposed end wall means and a pair of opposed side wall means, said end wall means being foldable to bring said side wall means against each other to collapse said receptacle, bottom wall means interconnected to said side wall means to close the bottom of said receptacle, said bottom wall means comprising two bottom wall members separate from each other and tab means carried by said end wall means and being interlocked to said bottom wall means to hold said receptacle in article-carrying position.

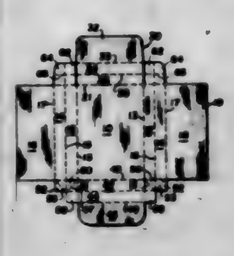
3,144,978
CARTON
Norman J. Asmus, Appleton, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 20, 1962, Ser. No. 211,287
6 Claims. (Cl. 229—37)



1. A composite layout of dovetailed attached carton blanks comprising a plurality of blanks defined by cut lines and score lines; each of said blanks including (1) a pair of main panels hingedly connected along one edge by an intervening side panel (2) a pair of closure panels extending from corresponding edges of said main panels having their remote edges on each side of the blank being defined by partial cut lines extending halfway through the thickness of the carton blank, the edge defining partial cut lines on one side of the blank being offset from the edge defining partial cut lines on the other side of the blank.

3,144,979
EXPANSIBLE CORRUGATED PAPERBOARD CARTON
Frank L. Young, 1601 N. 72nd St., Philadelphia, Pa.
Filed Aug. 5, 1963, Ser. No. 299,812
2 Claims. (Cl. 229—41)

1. A gusset carton adapted to be expanded from an initially flat-folded container into a rectangular container of boxlike configuration comprising; a one-piece blank of single-faced corrugated paperboard including substantially rectangular front and back panels overlying each other, side walls hinged to the respective outboard edges of said front and back panels along pairs of longitudinal folds, each of said side walls having a longitudinal reverse fold intermediate each pair of longitudinal folds to form inwardly-folded lateral panel sections overlying each other between said front and back panels, a bottom hinged to the lower edges of said front and back panels along a pair of transverse folds and having an intermediate transverse fold therebetween to form outwardly-folded bottom panel sections overlying each other, said front panel including wings with sealed overlapping marginal edges at the central portion thereof, said bottom including a bottom seal flap having flattened corrugated flutes adhesively secured to the lower marginal edge of said front panel, diagonally-scored gusset portions downwardly depending from the respective lateral panel sections along continuations of the transverse fold connecting said bottom with said back panel and terminating along a line registering with the transverse fold intermediate said bottom panel sections, adjacent gusset portions being hinged to each other and the gusset portions next adjacent the bottom panel section which is hinged

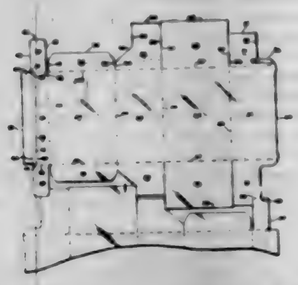


to said back panel being hinged to said last-mentioned bottom panel section, sealing tabs depending from the last-mentioned gusset portions along the intermediate transverse fold and being further hinged to the bottom panel section which is hinged to said front panel, said sealing tabs being adhesively secured in face-to-face abutment with the gusset portions which are connected to the lateral panel sections hinged to said front panel, said gusset portions being substantially co-planar with the respective inwardly-folded lateral panel sections when the carton is in flattened condition, said gusset portions breaking along their respective diagonal lines of fold and forming triangular sections overlying the flat bottom in parallel planes therewith when the carton is squared out into boxlike configuration, a top closure flap connected to the upper edge of said back panel and transversely triple scored so as to be divided into a top sealing flap adapted to be adhesively secured to said front panel and a pair of hinged-top panel sections which are adapted to form a squared-off top panel, and a corner flap hinged to the upper edge of each of said lateral panel sections and terminating at the transverse score intermediate said top sealing flap and the next adjacent top panel section, adjacent corner flaps being hinged together along continuations of the intermediate longitudinal folds.

3,144,980
DISPENSING CONTAINER
Louis P. Larson, Glendale, Mo., assignor, by mesne assignments, to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1962, Ser. No. 173,760
5 Claims. (Cl. 229—51)

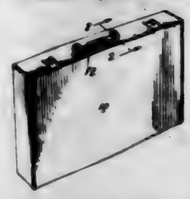
1. A telescopically recloseable chest-type ice cream carton formed from a one-piece, scored, foldable blank, comprising

(a) a front wall, a back wall and end walls extending upwardly for substantially the full depth of the carton from respective edges of a bottom wall and terminating at top edges in substantially the same plane,
(b) said walls defining a rectangular body,
(c) a cover panel integral with said rear wall and hingedly connected thereto at the top edge,
(d) said cover panel having end flanges integral with and extending downwardly from its end edges, said end flanges having front and back portions adjacent said front and back walls respectively, said cover panel having a front flange integral with and extending downwardly from its front edge,
(e) front and back in-turned flaps articulated respectively to said front and back walls at the edges thereof and being adapted to secure fixedly said body walls in said rectangular relation,
(f) said flaps being disposed over at least a portion of each end wall panel and including sealing portions adjacent the free edges thereof,
(g) said sealing portions extending upwardly from the bottom edge of said body to a point not beyond the free edges of said downwardly extending cover end flanges,



(h) said back flaps being comprised of said sealing portions of less than full carton depth and adjacent, integral, substantially full-depth back sandwiching portions,
(i) said back sandwiching portions being immediately adjacent the edges of said back wall,
(j) said sandwiching portions being maintained in a predetermined unsecured face-to-face relation with adjacent parts of an upper portion of each end wall to define spaces into which the back end portions of the end flanges of the cover panel are sandwiched,
(k) said front cover flanges including in-turned cover reinforcing tabs attached to the free edges thereof, and
(l) said reinforcing tabs extending inwardly and having sealing portions along the free edges thereof,
(m) said cover reinforcing tabs being adapted to secure fixedly said cover front flange and said cover end flanges in a perpendicular relation,
(n) said cover front flange including means for adhesively securing said cover panel in closed position and means for releasing said front cover flange comprising a manually separable portion,
(o) said cover flanges and cover panel defining a free swinging, recloseable chest-type cover,
(p) the integrity of said body and said chest-type covering being maintained and the end of said carton being completely closed by the sealing of said front flaps, back flaps and cover reinforcing tabs.

3,144,981
BOX AND HANDLE
Jacques Robitaille, 1781 Boudrias St., St. Laurent, Quebec, Canada
Filed June 12, 1963, Ser. No. 287,317
1 Claim. (Cl. 229—52)

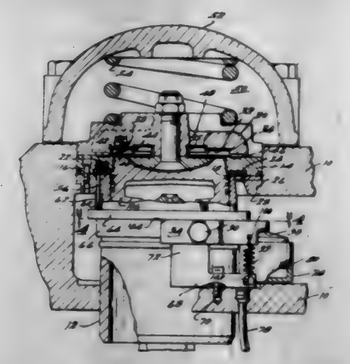


A flexible handle construction for a cardboard box having interconnected portions provided with overlapping top wall flaps, characterized in that said handle comprises a length of flexible cord, or the like, having pre-knotted free end portions, and that at least the portion of the inner one of said box top wall flaps to which said handle is to be attached is of overlapping double-ply construction having an inner ply folded beneath an outer ply, said flap inner ply being provided with a pair of spaced openings of sufficient diameter to accommodate the diameter of said flexible cord with slots extending from the free edge of said inner ply to said openings said inner ply free edge being also provided with an inwardly extending cut-out between said inwardly extending slots to provide clearance for passage of said cord when formed in a loop, and said flap outer ply being provided with a corresponding pair of spaced openings in register with said inner ply openings, said outer ply openings being interconnected by a slot extending therebetween whereby said flexible cord length is engaged with said top wall inner flap by sliding said pre-knotted ends within said inner ply inwardly extending slots until said ends are within said spaced openings, and by pulling the resultant cord length loop thus formed upwardly through said flap outer ply openings interconnecting slot until said ends are within said second spaced openings preventing sideways withdrawal from said inner ply engagement; said box top wall outer flap having corresponding spaced openings connected by an elongated slot adapted to accommodate the upward passage of said cord length loop when said box is in closed and overlapped condition, said top wall outer flap also being of double ply construction with the free edge of the inner ply provided with an inwardly extending cut-out of greater length than said cord accommodating spaced openings to provide clearance for the passage of said cord loop upwardly through said openings.

3,144,982
COMPRESSOR UNLOADING MEANS
Emil T. Neubauer and Russell E. Comstock, Sidney, Ohio, assignors to Copeland Refrigeration Corporation, Sidney, Ohio, a corporation of Michigan
Filed Oct. 30, 1961, Ser. No. 148,488
1 Claim. (Cl. 230—30)

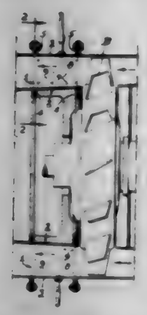
In an unloading device for engaging the ring-shaped suction valve of a gas compressor, a plurality of lift pins reciprocably mounted on said compressor at spaced intervals around the cylinder associated with said valve, reciprocable support means for supporting and moving said pins substantially simultaneously into lifting engagement with said valve, a substantially U-shaped lever having legs intermediate portions of which are pivotally mounted on said compressor at spaced points around said cylinder, abutments at the outer ends of said legs engageable with spaced portions of said support means for urging it and said pins toward said valve, hydraulic power means engaging the central portion of said lever in a direction urging said abutments away from said support means, and

spring means connected to said legs between said central lever portion and said intermediate leg portions, said spring means constantly urging said lever in the opposite



direction from that of said power means engagement, whereby said spring means will continuously urge said intermediate leg portions in one direction against their pivots.

3,144,983
SELF-CLEANING BLOWER VANE STRUCTURE
Herbert Ljungström, Jonkoping, Curt Cederholm, Vendelso, and Hans Zetterberg, Farsta, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed July 3, 1961, Ser. No. 121,576
Claims priority, application Sweden, July 5, 1960, 6,564/60
4 Claims. (Cl. 230—132)



1. Self-cleaning guide vane structure, as for guide vanes arranged downstream from a blower and subject to an accumulation thereon of hardenable material which can be broken up for removal as by flexure deformation of the guide vanes: comprising a guide vane assembly including radially spaced fixed stationary vane supporting anchorage means, a plurality of radial stationary guide vanes fixedly anchored at their ends to said spaced fixed stationary anchorage means, leaving their sides and edges between the fixed ends free for flexure, each guide vane being formed of flexible, resilient, distortable covering material, and a rigid flexing member embedded in the covering material intermediate said anchored ends, said flexing member having an operating element extending from the covering material at one end and through the anchorage means at that end for manipulation of the rigid flexing member to temporarily flex and deform the covering material to break up the hardened material thereon for removal.

3,144,984
WEATHER SHIELD FOR A NEWSPAPER BOX
Howard C. Ross, Acorn Farm, Gainesville, Va.
Filed Oct. 10, 1962, Ser. No. 229,528
3 Claims. (Cl. 232—17)



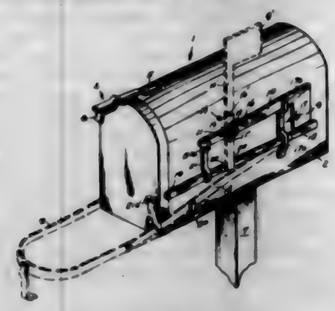
1. A detachable weather shield accessory for use with an open-ended, generally horizontally disposed, rural delivery newspaper or mail tube, comprising:
(*a*) a snap-on, inverted U-shaped, tunnel member having open ends, which is
(1) fabricated of a resilient but fairly rigid material, and
(2) adapted to be readily attached to or removed from the open end of said tube by resilient snap-on or snap-off action respectively of the resilient member:
(*b*) said tunnel member comprising an upper portion of a generally horizontally disposed bight member interconnected with a pair of opposed, spaced apart resilient side leg members which are dependingly supported from said bight member:
(*c*) a freely swingable, single closure gate panel of a size slightly smaller than the open end area of said tube and having an upper and lower edge: and
(*d*) said gate having a generally horizontal fulcrum support axis near its upper edge and being swingably and dependingly supported thereat from the upper portion and intermediate the ends of the said tunnel member.

3,144,985
MAIL STACKER
Francis H. Coyne, Jr., 213 Roger Williams Ave., East Providence, R.I.
Filed Aug. 22, 1962, Ser. No. 218,621
7 Claims. (Cl. 232—24)



3. A mailbox comprising a container having a front wall with a slot therein, means providing a bin in said container registering with said slot and having a second wall spaced from the front wall, means directing articles passed through said slot to said second wall, and a resilient pad on said second wall having an abutment surface at a location to be engaged by an article passed through said slot and at such an angle as to arrest an article and cause it to bound therefrom and settle by gravity to the bottom of the bin.

3,144,986
MAILBOX SIGNALLING APPARATUS
Ralph G. Hendrickson, 16 Duke St., Binghamton, N.Y.
Filed Mar. 9, 1962, Ser. No. 178,649
3 Claims. (Cl. 232—35)



1. An automatic signalling device for a mailbox having a door at one end hinged to open outwardly, comprising: a beam hinged at its forward end to said door and slidably disposed in a loop affixed to a side of said mailbox at a location remote from said door; a pivot affixed to said mailbox; a staff rotatably mounted on said pivot and longitudinally slidable with respect to said pivot; signal means mounted upon said staff and adapted to be carried thereby from a displayed position to a retracted position; resilient biasing means having one end thereof affixed to said mailbox and the other end thereof selectively engageable with first anchoring means affixed to said mailbox or second anchoring means affixed to said staff; detaining means on said beam for selective engagement with said staff; and stop means mounted on said beam for alternative engagement with said staff.

3,144,987
COIN DISPENSING TRAY
Otis E. Hoffman, Charles J. Wallman, and Arnold R. Buchholz, Watertown, Wis., assignors to Brandt Automatic Cashier Company, Watertown, Wis., a corporation of Wisconsin
Filed Dec. 11, 1962, Ser. No. 243,882
4 Claims. (Cl. 232—65)



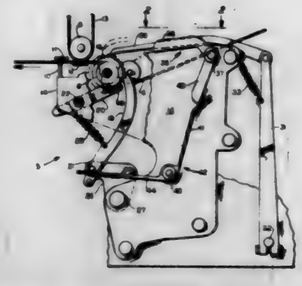
1. A coin dispensing tray for attachment about the discharge opening of a coin dispensing machine, comprising: a mounting plate adapted for attachment to the coin dispensing machine and having a coin entrance adapted to register with said discharge opening; a rear wall member mounted upon said mounting plate and having a lower sweep edge; a shaft mounted by said rear wall member and having its axis generally normal to said mounting plate; a movable member mounted for rotation upon said shaft and including a displaceable tray bottom portion for receiving coins deposited in said tray and having a coin supporting surface cooperating with the sweep edge of said rear wall member; and finger engageable means on said tray bottom portion for displacing said movable member rearwardly causing said sweep edge to sweep the coin supporting surface of said tray bottom portion and thereby permitting coins to fall from said tray.

3,144,988
FLEXURE SPRING PUNCH
David A. Schulman, Brooklyn, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 11, 1962, Ser. No. 193,954
6 Claims. (Cl. 234—109)



1. A punch including in combination, a frame, a combined punch actuator and energizer spring fixed to said frame, a latch fixed to said frame and positioned to normally retain said spring cocked, a punch member fixed to said spring, a cam rotatably fixed to said frame, and riding on said spring for a portion of its cycle selectively actuable means mounted on said frame for attracting said latch when actuated, said spring thereafter being solely under the control of said cam profile, and out of contact with said latch, said latch including camming means associated with said spring for affecting passage of said spring beneath said latch and retaining of said spring by said latch after release of said latch by said selectively actuable means.

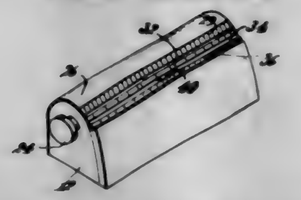
3,144,989
TAPE FEED-OUT DISABLING MEANS
George H. Warfel, Menlo Park, and Alida W. Thorson, San Carlos, Calif., assignors to Bank of America National Trust and Savings Association, San Francisco, Calif., an American association
Filed Jan. 31, 1963, Ser. No. 255,330
1 Claim. (Cl. 234—128)



Apparatus for recording on tape comprising:
(*a*) an intermittently operable recording device for recording information on said tape;
(*b*) tape feed means connected to said recording device for moving a predetermined amount of said tape past said recording device after each operation of the same;
(*c*) selectively actuatable feed-out means for moving said tape past said recording device at a fixed rate independent of operation of said recording device;
(*d*) disabling means engageable with said feed-out means for disabling said feed-out means; and

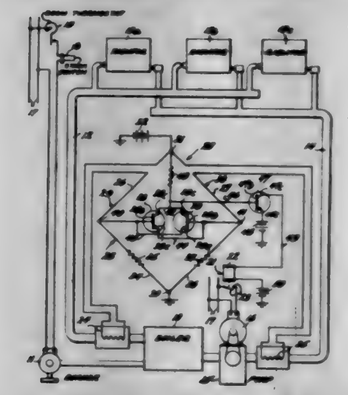
(*e*) means connecting said recording device with said disabling means for holding said disabling means in engagement with said feed-out means while said recording device is operating.

3,144,990
TYPE SIZE CALCULATOR
Anthony J. Evangelista, Boston, Mass., assignor to Boston Herald-Traveler Corporation, Boston, Mass., a corporation of Massachusetts
Filed Nov. 8, 1962, Ser. No. 236,328
5 Claims. (Cl. 235—79.5)



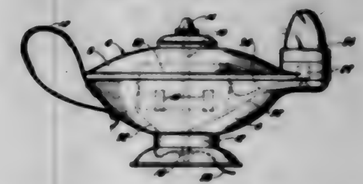
1. A type size calculator comprising a frame, a drum journaled in said frame, said drum being rotatable between a plurality of discrete positions, each position corresponding to one style of type face, a fixed inverse logarithmic scale supported by said frame longitudinally adjacent to said drum, a forward logarithmic scale slidable in said frame parallel to said inverse logarithmic scale, and a plurality of indicia carried by said drum, a pair of indices for each said position indicating on said fixed inverse logarithmic scale the relative width of characters of the corresponding type style for lower case and capital characters respectively.

3,144,991
HOT WATER HEATING SYSTEM HAVING A WIDE RANGE TEMPERATURE EQUALIZER CONTROL
Henry F. Marchant, 3226 1st St. N., Arlington, Va.
Filed Feb. 5, 1963, Ser. No. 256,375
4 Claims. (Cl. 237—8)



1. Apparatus for automatically controlling flow of a temperature conditioned medium in a thermal interchange system responsive to occurrence of a preselected temperature differential between selected spaced zones in the system to maintain the temperature of the conditioned medium at the spaced zones substantially equalized comprising an electrical bridge circuit having a pair of input terminals, means applying a potential across said input terminals, said bridge circuit including a pair of parallel branches connected between said input terminals having intermediate junction points and corresponding fixed resistors between said junction points and one of said input terminals maintaining a fixed electrical resistance value in each branch between said junction points and said last-mentioned input terminal, a pair of temperature responsive variable resistors whose electrical resistance varies as a function of temperature located at spaced selected zones in the system in heat exchange relation to the conditioned medium, means connecting said variable resistors in the respective opposite branches of said bridge circuit between said junction points and the other of said input terminals, circulating means for producing forced circulation of the conditioned medium through the system, and regulating means automatically responsive to occurrence of a preselected potential difference between said junction points to activate said circulating means and substantially equalize the temperature of the conditioned medium at said spaced zones until the potentials at said junction points return to substantially equal values.

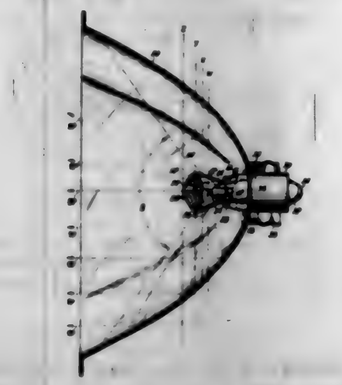
3,144,992
NIGHT LIGHT CONSTRUCTION
Chan Cheung, 1–7 Nam On St., Shekwan, Hong Kong
Filed Mar. 18, 1963, Ser. No. 265,629
1 Claim. (Cl. 240—6.4)



In a portable self-contained night light, a body having means for supporting a battery therein, a lamp socket on the body having means for electrical connection with one pole of a battery carried by said battery-supporting means, said body having a downwardly open recess in its bottom, a stationary contact in said recess having means for electrical connection with the other pole of said battery, said stationary contact comprising a threaded post of electrically conductive material and an electrically conductive nut threaded thereon for adjustment axially of the post, a movable contact in said recess and extending below the bottom of the body and being spring biased downwardly to engage said nut when the light is raised from a supporting surface, said movable contact comprising a member having means for electrical connection with said other pole of said battery and being supported for movement relative to the body and said post and intersecting the path of movement of said nut when said nut is adjusted on said post, said movable contact, when the light is placed upon a supporting surface, being shiftable by engagement with the supporting surface to a position out of engagement with said nut, and said nut being adjustable toward and away from said movable contact.

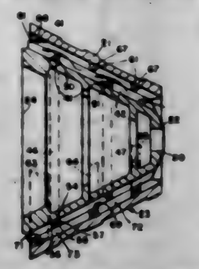
3,144,993
SEARCH LIGHT
Kurt Sonnenschein, Rothenbach,
Idar-Oberstein 3, Germany
Filed Apr. 21, 1961, Ser. No. 104,704
Claims priority, application Germany, June 2, 1959, S 63,259; Nov. 11, 1959, S 65,788; Apr. 22, 1960, S 68,181
3 Claims. (Cl. 240—41.3)

1. A searchlight comprising, in combination, a concave parabolic reflector; a light source located at the focal point of said reflector so that the latter concentrates a first part of the light emanating from said light source in a beam having substantially parallel rays; and a condenser lens located forwardly of said light source and having a focal point located rearwardly of the focal point of said reflector so that said condenser lens directs a second part of the light emanating from said light source in a conical light beam having an angle of divergence between 40 and



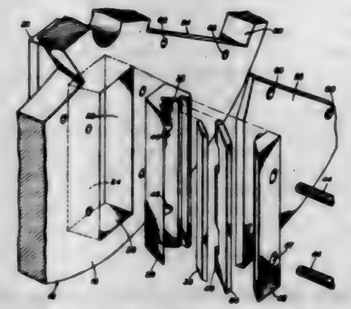
75°, said parabolic reflector having in a plane normal to the optical axis thereof and passing through the condenser lens a diameter substantially larger than the diameter of the condenser lens to define with the latter a substantially annular space surrounding the condenser lens and through which all of the parallel rays pass without engaging said condenser lens.

3,144,994
APPARATUS FOR REFINING PAPER STOCK
Donald W. Danforth, Andover, Mass., assignor to John W. Bolton & Sons, Inc., Lawrence, Mass., a corporation of Massachusetts
Filed Aug. 29, 1960, Ser. No. 52,412
9 Claims. (Cl. 241—260)



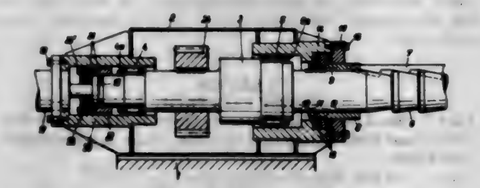
1. In a truncated, conical refiner for paper stock, the combination of axially movable plug and stationary shell members having truncated conical working faces each lined with a plurality of segmental shaped patterns of spaced straight parallel blades, of predetermined uniform height, angularly offset to the plug axis, the blades of said members defining spaced channels therebetween having a predetermined uniform width and depth to establish a minimum cross sectional area for passage of said stock; outward deflector means comprising a plurality of continuous circular ring-like rows of individual deflectors, each equal in height to the height of the plug blades and filling a portion of one of said plug channels, and inward deflector means comprising a plurality of continuous circular ring-like rows of individual deflectors, each equal in height to the height of the shell blades and filling a portion of one of said shell channels, said rows of deflectors being initially longitudinally spaced from each other at predetermined minimum distances to permit a normal range of axial adjustment of said plug member to compensate for wear with no individual shell deflector ever being opposite an individual plug deflector, for thereby restricting the flow of said stock through said refiner, without reducing said cross sectional area of stock passage below said minimum and while continuing to guide said stock in a sinuous path back and forth across the working faces of said blades.

3,144,995
WOOD CHIPPER
Paul J. Fontaine, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 7, 1959, Ser. No. 857,838
2 Claims. (Cl. 241—298)



1. A chipping rotor comprising a disc body having spaced planar faces, a radially disposed slot extending inwards from a planar face into the body of the disc, said slot enclosed by spaced top and bottom planar walls and spaced side walls connecting the top and bottom walls, a knife mounting block seated in said slot within the body of the disc against at least some of the enclosing walls of the slot, the front of said block not projecting substantially beyond a planar face of the disc, means securing said block in said slot, a recess in said block, and a chipper knife mounted in said recess and extending out of said slot.

3,144,996
WINDING DRUM
Georg Engel, Essen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany, a corporation of Germany
Filed Oct. 8, 1962, Ser. No. 229,083
Claims priority, application Germany Oct. 12, 1961
3 Claims. (Cl. 242—72.1)



1. A winding drum having an axially displaceable step-core comprising:

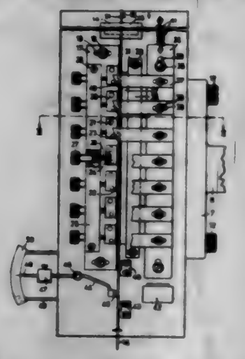
an immovable housing,

a shaft mounted for axial movement in and projecting from said housing and including a step-core, a plurality of radially adjustable tension segments engaging said step-core,

a thrust-bearing disposed in said housing and supporting axially said tension segments,

means operatively connected with said shaft for axial displacement of the latter, and
means secured to said shaft and causing rotation of said shaft.

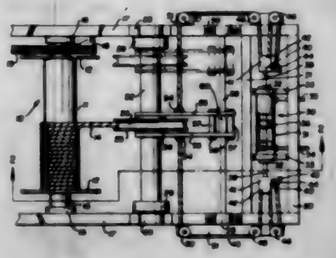
3,144,597
BRAKING DEVICE
Frederik Johan ten Brinke, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 19, 1962, Ser. No. 188,821
Claims priority, application Netherlands May 8, 1961
3 Claims. (Cl. 242—149)



1. A wire braking device for wire winding machines having a wire inlet end and an outlet end comprising means for feeding and drawing a wire through said device, an elongated mounting plate over which said wire passes, a first holder member connected to said mounting plate at one side thereof, a series of adjustable friction members including a cylindrical friction surface, said friction members being pivotally supported on said first holder member having said friction surface parallel with said wire, the pivotal support of said friction element being offset from said friction surface in the direction of the inlet end of said braking device, a second holder member mounted on said first holder member in the plane of said adjustable friction members, adjustable means on said second holder member operatively interconnected with said adjustable friction members for adjustably biasing said friction members against a wire extending across said plate; a second friction element immovably mounted on said mounting plate for engaging said wire in the plane of said adjustable friction members, a slide member movably mounted on said mounting plate, a plurality of abutment stops supported on said slide member, said abutment stops engaging said adjustable friction elements upon movement of said slide member in one direction for disengaging said cylindrical friction surfaces from said wires.

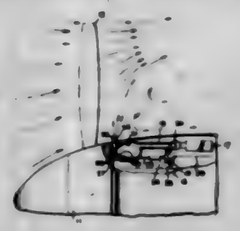
3,144,598
HOIST CONTROL
Carl F. Back, Orrville, Ohio, assignor to The Sandersen Cyclone Drill Company, Orrville, Ohio, a corporation of Ohio
Filed Dec. 24, 1962, Ser. No. 246,835
2 Claims. (Cl. 242—157.1)

1. In a hoist having a drum for winding a hoist cable, said drum being rotatably mounted on a frame, a stationary shaft mounted on said frame parallel to said drum, a sleeve slidable longitudinally of said stationary shaft, an idler sheave rotatably carried by said sleeve, a fluid cylinder mounted on said frame substantially parallel to said stationary shaft, a piston within said cylinder, piston shaft connected by said piston extending from either end of said cylinder, an idler pulley and cable anchor fitting on the end of each piston shaft, at least two idler pulleys mounted on said frame adjacent and laterally of each piston shaft, at least one idler pulley mounted on said frame adjacent to each end of said stationary shaft, and dual



control cables extending one from each of the anchors on said fittings and trained around said adjacent idler pulleys and connected to said sleeve on opposite sides of said sheave.

3,144,599
PROPELLER BLADE LOADING CONTROL
Vernon L. Rogallo, Los Altos, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 24, 1962, Ser. No. 168,560
8 Claims. (Cl. 244—51)
(Granted under Title 35, U.S. Code (1952), sec. 266)

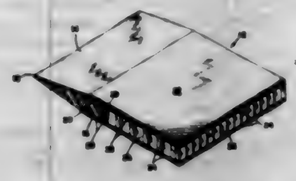


8. A high efficiency thrust system for aircraft, comprising: a body; a propeller carried by said body for rotation about an axis to create a slipstream through said propeller and produce thrust; and means to modify the path of said slipstream including nozzle means located aft of said propeller and adapted to discharge fluid at superatmospheric pressure radially outward in a plurality of directions simultaneously in a plane transverse to said axis to contact the slipstream through said propeller and divert it radially outward toward the blade tips of said propeller; and means to supply fluid to said nozzle means; and means to vary the discharge area of said nozzle means unsymmetrically about said axis to produce unsymmetrical modification of said slipstream.

3,145,000
LIGHT WEIGHT-HIGH THERMAL RESISTANT AIRFOIL
William L. Mackie, Ventura, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 29, 1963, Ser. No. 284,263
5 Claims. (Cl. 244—123)
(Granted under Title 35, U.S. Code (1952), sec. 266)

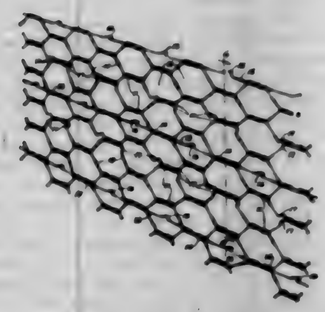
1. An airfoil construction suitable for supersonic flight comprising:
(*a*) a pair of spaced sheet members having high tensile strength creating an open end adjacent an edge of the airfoil;

(*b*) a rigid cellular structure extending between and bonded to said sheet members;
(*c*) an airfoil edge secured in said open end between said sheet members;



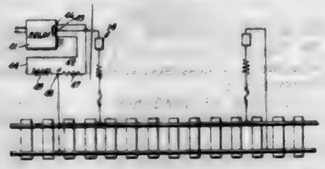
(*d*) said airfoil edge being made of ablative material; whereby said airfoil has a high strength-to-weight ratio and is capable of withstanding high thermal shock encountered in supersonic flight.

3,145,001
SELF FURRING PLASTER MESH
Willis J. Brunings, near Peoria, Ill., assignor to Keystone Steel & Wire Company, Peoria, Ill., a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 186,192
1 Claim. (Cl. 245—7)



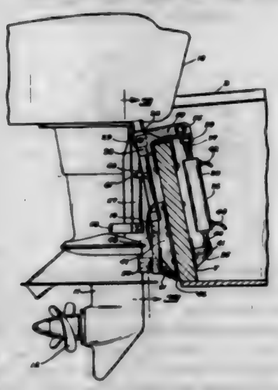
Self furring plaster mesh in strips of indeterminate length comprising a wire mesh fabric formed of a plurality of wires twisted together in pairs at spaced elongated twist points and spread between the twist points to define a fabric having hexagonal openings therein, opposite sides of which are defined by the elongated twist points, the twist points lying in spaced parallel lines extending longitudinally of the fabric, a plurality of spaced parallel line wires extending along certain only of said spaced parallel lines longitudinally of the fabric and intertwisted with the first named wires at the aligned twist points in said certain of the lines, the line wires extending across certain of the hexagonal openings and being formed with offset bends defining furring projections extending beyond the plane of the fabric in the central portions of the openings, each of the bends lying in a plane normal to the fabric and which includes the line wire in which the offset bend is formed, the first named wires being bent out of the plane of the fabric in the same direction as the line wires adjacent to and beyond each end of twist points in a line between and parallel to adjacent line wires to displace said twist points from the plane of the fabric to serve as furring projections, the offset bends in the line wires and in the first named wires lying in lines extending longitudinally of the fabric to interfit when the fabric is rolled longitudinally and to prevent the rolled fabric from telescoping.

3,145,002
COUNTER VOLTAGE TRACK CIRCUITS
Fred H. Winks, 434 78th St., Brooklyn, N.Y., and Henry G. Wanner, 538 E. 142nd St., New York, N.Y.
Filed Oct. 17, 1962, Ser. No. 231,170
1 Claim. (Cl. 246—33)



A track circuit comprised of a pair of running rails, a feed end source of alternating current, a relay end source of alternating current, a two element alternating current relay with a center tapped track winding and a balancing impedance, said feed end source being secured across the running rails and said relay end source of current, relay and impedance being connected in series to a rail, and said feed end source being of opposite polarity to and greater magnitude than the relay end source of current, and said impedance being inserted in the relay end of the track circuit with its free ends connected to the outside leads of the track winding and with its joined end connected to one of the rails, whereby when the running rails are unoccupied the resultant current from the sources causes the relay to function in one way, and when the running rails are occupied by a train the current from the feed end source is shunted away from the relay and the current from the relay end source operates the relay in another way.

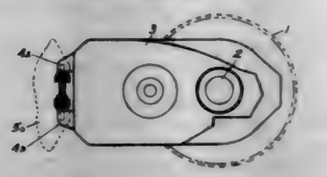
3,145,003
OUTBOARD MOTOR MOUNTING
Dexter R. Hart, St. Paul, Minn., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Aug. 28, 1962, Ser. No. 219,854
6 Claims. (Cl. 248—4)



1. A means for mounting an outboard motor on a boat transom which comprises a bracket for fixed attachment to the boat transom, a mounting frame mounted on the bracket for up and down sliding movement and swinging movement about an axis transverse of the boat, an outboard motor mounted in upright position on the frame for movement therewith with the motor lower unit depending therebelow, power means for selectively moving the frame up and down, an arcuate guide means adapted to be mounted on the rear side of transom below the bracket providing an upright track curving gradually in diminishing degrees away from the transom in its up-

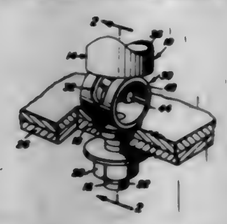
ward extension, and means slidably connecting the lower unit of the motor to said truck whereby said motor lower unit will swing about said transverse axis toward and away from the transom as the frame is respectively moved down and up.

3,145,884
TRACTION MOTOR NOSE SUPPORT
James W. Sherrick, Edinboro, Pa., assignor to Lord Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1962, Ser. No. 243,516
6 Claims. (Cl. 248—9)



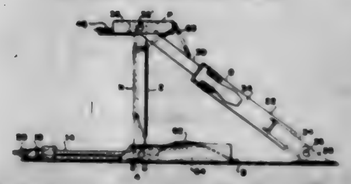
1. A support for a traction motor having a pair of opposed upper and lower nose lugs, two pairs of opposed upper and lower truck lugs with the upper truck lugs on opposite sides of the upper nose lug and the lower truck lugs on opposite sides of the lower nose lug, upper and lower beams respectively spaced below and above the upper and lower lugs and carrying bodies of elastomer respectively presented to the upper and lower lugs, guide pins extending through the upper and lower truck lugs and beams, and tubular posts telescoped over the guide pins and having opposite ends engaging said beams, said posts having means for lengthening the same to force the beams apart and to preload the said bodies against the associated lugs.

3,145,885
DETACHABLE POLE HOLDER
Roger H. Wentz, 1333 Illinois, Sidney, Nebr.
Filed Nov. 20, 1962, Ser. No. 238,912
3 Claims. (Cl. 248—40)



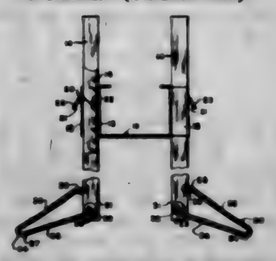
1. A detachable pole holder comprising a base assembly adapted to be secured to a suitable supporting member, said base assembly including a cylindrical member having a circumferential slot formed therein intermediate its opposite ends, a pole supporting member adapted to removably support a pole, said pole supporting member including an abutment surface from which a shank member projects, said shank member being swingable through said slot with said abutment surface disposed in abutting engagement with the outer surfaces of the adjacent portions of said cylindrical member, and a removable fastener threadedly engaged with the free end of said shank member disposed through said slot and clampingly engaging said adjacent portions of said cylindrical member between said abutment surface and said fastener, said slot extending generally one-half the circumference of said cylindrical member, said cylindrical member including a threaded shank portion which projects generally radially outwardly from the portion of said cylindrical member remote from said slot, said base assembly including a threaded bore in which said last mentioned shank is threadedly engaged.

3,145,886
COLLAPSIBLE TRAILER SUPPORT AND ANCHOR
Lester E. Robinson, Short Hills, George K. Bradfield, Jr., Maywood, and John A. Johnson, Short Hills, N.J., assignors of two-thirds to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey, and one-third to The Rail Trailer Co., Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 586,835, May 23, 1956. This application June 9, 1959, Ser. No. 819,192
10 Claims. (Cl. 248—119)



1. A support and anchor device for supporting a highway trailer and anchoring the trailer to a railway car, said device comprising a supporting structure including a first leg member substantially vertically disposed when in operative position, a second leg member inclined at an angle relative to said first leg member when in operative position, said leg members being pivotally connected adjacent their upper portions, a platform pivotally supported by said leg members, means adapted for pivotally mounting the lower portions of said leg members on the car, means for moving the lower portion of one of said leg members relative to the lower portion of said other leg member for raising and lowering the upper portions of said leg members to raise and lower said platform between a collapsed lowered inoperative position permitting longitudinal movement of the highway trailer thereover and an operative raised position for supporting one end of the highway trailer, means on said platform adapted to engage the trailer when said platform is in its raised operative position to secure the trailer to the platform, and cushioning means in said second leg member for providing cushioning action of the trailer on the car when said platform is in its raised operative position.

3,145,887
TROUGH SUPPORT
John J. Swinney, Canton, Ga., assignor to Bradshaw Manufacturing Co., Inc., Canton, Ga., a corporation of Georgia
Filed Apr. 29, 1963, Ser. No. 276,381
8 Claims. (Cl. 248—149)



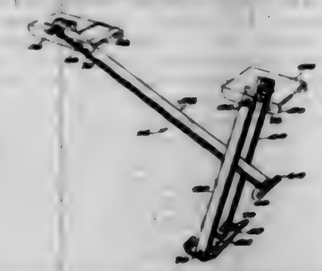
6. A stanchion for supporting a structure, said stanchion comprising, in combination, a vertical member with a central web; a plurality of thin flat upwardly and outwardly extending ratchet teeth distributed vertically along the central web; a sleeve slidably positionable on the vertical member and having a closure plate with a slit opposite the central web of the vertical member; a lever inserted through and pivotable in the slit and having an inner end between the central web and the closure plate and an outer end more remote from the central web than from the closure plate; a thin flat pawl fixedly attached to and extending downward from the inner end of the lever and having a length greater than the distance between the central web and the closure plate; a release plate fixedly attached to the outer end of the lever; and means for attaching the structure to the sleeve.

3,145,888
VEHICLE BODY LOADING AND UNLOADING MECHANISM
William A. Herpich and Donald R. Longmire, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Apr. 27, 1959, Ser. No. 808,972
4 Claims. (Cl. 248—150)



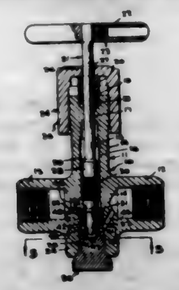
1. A container of the character described, comprising a body portion and a plurality of leg assemblies for supporting the body portion in an elevated position, each of the leg assemblies comprising an elongated cap plate having a pair of spaced-apart flanges, a leg section pivotally suspended from the flanges adjacent one end of the cap plate, said leg section including members laterally spaced-apart, a diagonal brace structure pivotally suspended from the cap plate adjacent the opposite end thereof and extending to the lower end portion of the leg section between the members, a pin connecting the brace structure with the leg section, means for detachably locking the brace structure in extended relation and providing for folding movement of the brace structure and the leg section relative to the cap plate, and means for detachably locking the leg in folded position between the flanges with the brace structure between the members.

3,145,889
CONTAINERS FOR VEHICLES
Henry C. French and Nell F. Wender, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Aug. 8, 1960, Ser. No. 48,274
2 Claims. (Cl. 248—190)



1. A container of the character described, comprising a body portion and a leg assembly in supporting relation therewith, said leg assembly comprising bracket means connected with the body portion at spaced points, a pair of upright leg members pivotally connected with the bracket means, a brace leg member pivotally connected with the bracket means on the body portion at a point spaced from the point of pivotal connection of the upright leg member and extending between the upright leg members in extended position, a cross bar fixed on the end portion of the brace leg member opposite from the pivotal connection, and a foot plate fixed to the lower end of the upright members and having a portion projecting laterally therefrom in the path of movement of the cross bar during relative swinging movement of the members for limiting said swinging movement.

3,145,910
THROTTLING AND SHUT-OFF VALVE
Michael Andrew Karr, Jr., Houston, Tex., assignor to Vallee Sales & Engineering Company, Inc., Houston, Tex.
Filed Apr. 16, 1962, Ser. No. 187,540
2 Claims. (Cl. 251—210)



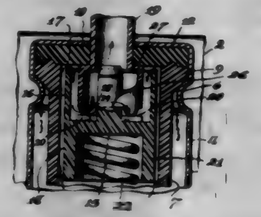
1. A throttling and shut-off valve comprising a body having diametrically opposed inlet and outlet ports, said body having an upstanding section which is provided with an internally threaded surface, there being an inwardly disposed shoulder in the upper portion of said upstanding section, said shoulder having a central aperture therein, packing arranged above said shoulder, a follower above said packing, a cap mounted on the upstanding section of said body, a stem extending through said cap, a handle connected to the upper end of said stem, said stem including a lower enlarged portion which is threaded for a portion of its length for threadedly engaging the threaded surface in the interior of the upstanding section of the body; said stem further including tapered surface merging into a cylindrical section, and a tapered tip on the lower end of the stem, a cylindrical internally threaded flange portion depending from said body; a seat member having an upper threaded section threadedly engaging said flange portion, said seat member further including an intermediate tapered section and a lower enlarged section, there being an annular groove in the upper section of said seat member, a port in the upper section of said seat member communicating with said groove, the upper section of said seat member having a vertically disposed recess therein which communicates with said last named port, said body further including an inner wall portion which has a passageway and an opening therein, said passageway establishing communication between the inlet port of the body and the groove in the seat member, a circular packing element arranged above said seat member, and a load ring positioned above said packing element.

3,145,911
VALVE MECHANISM
Henry C. Kappel, Elmhurst, Ill., assignor to The Uni Valve Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Sept. 28, 1961, Ser. No. 141,414
3 Claims. (Cl. 251—349)

1. In a valve assembly:
an open top valve housing;
a gasket closing said top;

a valve reciprocable in the housing, said valve having a wall provided with a continuous terminal edge and defining a cavity having a bottom;

resilient means in the housing yieldably biasing the valve toward one end of its path of travel with said edge engaging the inner face of said gasket, closing the cavity;

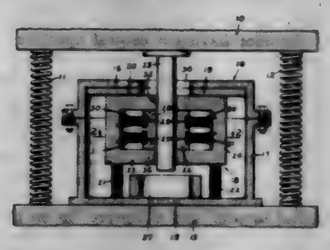


a tubular stem in said chamber and extending through the gasket, said stem having means engaging said face;

a projection on said bottom within the cavity; and

means on the stem disposed for engagement with the projection upon rotation of the stem to shift the valve against the action of said resilient means and thereby unseat said edge from the gasket.

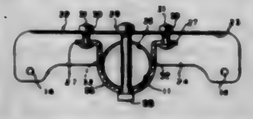
3,145,013
ALL-DIRECTIONAL FRICTIONAL DAMPER
Nicholas F. Kfoury, Manorhaven, N.Y., assignor to Korfund Dynamics Corporation, Long Island City, N.Y., a corporation of New York
Filed July 16, 1962, Ser. No. 209,949
5 Claims. (Cl. 248—358)



1. A vibration damper comprising a shaft adapted to be attached to a vibratile member, friction members engaging said shaft slidably, means biasing said friction members against said shaft, a housing slidably receiving said shaft for relative axial movement and movable with said shaft in directions transverse to said axis of said shaft, said friction members and said biasing means, being mounted in said housing, a fixed member, friction means interposed between said housing and said fixed member and disposed in a plane substantially perpendicular said shaft and biasing means urging said housing, said fixed member and said friction means together.

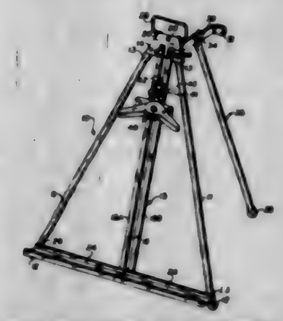
3,145,013
PLAYGROUND SWING
Daniel P. Gradecki, Hartstown, Pa., assignor to Blazon, Inc., Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Aug. 8, 1961, Ser. No. 130,137
3 Claims. (Cl. 248—370)

3. A Support for use on a playground or like swing comprising: a horizontally extending bar; a horizontal cross-piece extending transversely of said support and having spaced flanges defining a channel portion; said cross-piece engaging said bar in one direction to have said channel portion opening inwardly of the bar; a member engageable with said bar in the other direction to have portions thereof substantially non-rotatably received between said flanges of the channel portion; means for



clamping said member and cross-piece together on the bar; and means on said cross-piece and said member for locking said member and cross-piece against relative movement with respect to each other and said bar.

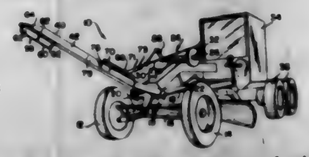
3,145,014
COLLAPSIBLE MULTI-POSITION EASEL
Herman Neuwirth, Fort Lee, N.J., assignor to Testrite Instrument Co., Inc., Newark, N.J., a corporation of New York
Filed Aug. 26, 1963, Ser. No. 304,450
8 Claims. (Cl. 248—464)



1. An easel comprising, in combination, a frame including a central leg, a pair of side legs and a pair of bottom frame members; means pivotally connecting the upper ends of said side legs to the upper ends of said central leg; said central leg having a guiding formation extending longitudinally thereof; means pivotally connecting the outer end of each bottom frame member to a respective side leg adjacent the bottom end of the latter; pivot means hingedly interconnecting the inner ends of said bottom frame members and slidable along said guiding formation; and support leg means pivotally interconnected to the upper end of said central leg for swinging movement perpendicular to the general plane of said frame, to form a tripod structure including said side legs and said support legs; whereby said easel, when in the collapsed condition, may be erected by swinging said side legs outwardly relative to said central leg to cause said pivot means to move downwardly along said guiding formation; said guiding formation including means limiting downward movement of said bottom frame members to a position in which they are rectilinearly aligned and substantially horizontal; said easel being collapsible by moving said pivot means upwardly along said guiding formation with inward pressure on said side legs to swing said side legs toward said central leg.

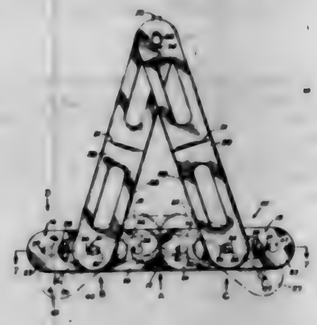
3,145,015
MOTOR GRADER BOOM
Alfred F. Woodman, Jr., Manhattan, Kans., assignor to Ella Jean Woodman, Manhattan, Kans.
Filed Mar. 13, 1961, Ser. No. 95,150
2 Claims. (Cl. 254—137)

2. A lifting boom construction composed of two elongated sections of channel shaped structural members connected together in an end to end arrangement, said connection arrangement comprising a pair of straddle plates secured to the outside surfaces of opposite legs of a first of said channel member near an end thereof and extending beyond the end of the first channel member; a hollow pipe extending across the upper surface of the second of said pair of channel members adjacent an end thereof; said straddle plates having aligned apertures and positioned to be aligned with the opening in said hollow pipe when said channel members are connected together; pin



means extending through said apertures and said pipe; the facing end surfaces of said channel members being in abutting relationship when the boom is in its load carrying position; and stop means secured to the outside wall surfaces of said second channel member and each positioned to abut against an edge of said straddle plate when said boom is in its load carrying position, said stop means comprising blocks having a thickness greater than the thickness of the straddle plates, said blocks being notched to receive said straddle plates to strength the boom for load forces which act in a sidewise direction.

3,145,016
PULLEY ASSEMBLAGE FOR SUPPORTING ELECTRICAL TRANSMISSION LINES
George L. Leithiser, Jr., R.D. 3, York, Pa.
Filed Feb. 27, 1961, Ser. No. 91,764
6 Claims. (Cl. 254—134.3)



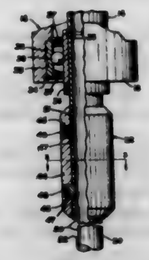
1. In a device for supporting electric transmission lines and the like so that the transmission line at the locus of the device will be supported in a true arc the radius of which is variable according to the angle of load imposed on the line, the combination of a plurality of sub-assemblages each including a pair of relatively spaced side plates located in parallelism, said side plates of each sub-assemblage having a pair of relatively spaced axles mounted thereon in right angled relation to and between the side plates, pulleys mounted upon said axles between the side plates of each sub-assembly for rotation about the axes of the axles, the side plates of each sub-assemblage being arranged so that the side plates at one side of the pulleys are arranged in the same plane and the side plates at the opposite sides of the pulleys are arranged in the same plane, gear teeth mounted on the adjacent ends of said side plates at each side of the sub-assemblies in intermeshing relation, and means supporting said side plates so that a transmission line strung over said pulleys will tend to assume a true arc which is variable according to the angle of load imposed on the line.

3,145,017
AGITATOR FOR DISPENSING FREEZER
Frank P. Thomas, Zionsville, Ind., assignor to General Equipment Manufacturing and Sales, Inc., Indianapolis, Ind., a corporation of Indiana
Filed June 6, 1962, Ser. No. 200,399
2 Claims. (Cl. 259—45)



2. In a dispensing freezer the combination of a cylindrical freezing chamber adapted to receive unfrozen mix, a motor driven shaft, support means mounting said shaft for rotation axially within said chamber, a delivery aperture in said chamber adjacent one end of said shaft, an auger member carried by said shaft adjacent said delivery aperture for directing frozen mix into said delivery aperture, a series of curved scraper blades mounted to extend radially along one side of said shaft, the scraping surface of each of said scraper blades extending at an angle with the shaft axis and curved to conform to the surface of said chamber for moving frozen mix to said auger member, a series of rectilinear scraper blades mounted along the opposite side of said shaft, the scraping surface of each of said rectilinear blades being aligned with the shaft axis and biased into scraping engagement with the chamber surface for scraping frozen mix from the chamber wall surface, and means providing a dynamic unbalance of said shaft upon rotation thereof whereby said curved blades are displaced transverse to the axis of shaft rotation and thus into good scraping relation with the chamber wall.

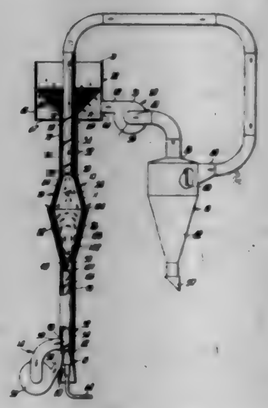
3,145,018
SHAFT LOCKING DEVICE
Elbert V. Goodwiller, Dayton, Ohio, assignor to Chemineer, Inc., Dayton, Ohio, a corporation of Ohio
Filed Feb. 13, 1961, Ser. No. 89,002
6 Claims. (Cl. 259—135)



1. In a portable agitator wherein a vertically depending driven shaft of substantial free length includes a hollow tube having a solid generally cylindrical shaft secured thereto and is provided with a propeller at one end thereof, an improved shaft locking assembly for securing the solid shaft in telescoping relation to the hollow tube, comprising a collet positioned over said tube and having at least two spaced threaded apertures disposed length-

wise thereon, said tube having at least two spaced apertures each aligned with one of the apertures in said collet, said solid shaft being provided with a flat section located along the cylindrical surface thereof facing each said aperture in said tube, and set screw means positioned in said threaded apertures and extending through said collet and said tube for engagement with said flat section to position said shaft within said tube in firm driving relation therewith and releasable to allow adjustment of said shaft while preventing removal of said shaft from said tube, said flat section of said shaft being greater in length than the length of said collet for allowing telescoping movement of said shaft within said tube thereby to provide adjustment of the effective free length of said shaft.

3,145,819
VACUUM EXPANSION EXFOLIATOR
Francis H. Cluts, Rocky Ford, Colo.
Filed Jan. 2, 1962, Ser. No. 163,455
12 Claims. (Cl. 263—21)



1. A machine for treating materials capable of being exfoliated, said machine comprising:

hollow structure including a body having a chamber provided with a material inlet means and a material outlet means spaced above said inlet means, and heat-conducting pipe beneath the body in communication with said inlet means and terminating in an open lower end;

blower means having an air inlet means and an air outlet means, said air outlet means being coupled with the pipe to direct currents of air into said chamber via said pipe and said material inlet means for flow upwardly out of said chamber through said material outlet means;

heater means adjacent said open end of the pipe for raising the temperature of the air in the pipe;

a material supply hopper;

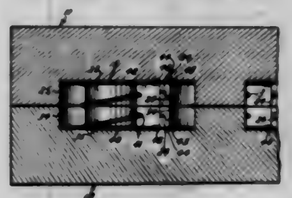
means coupled with said hopper and said structure for feeding said material therefrom and into the air currents;

an air intake tube coupled with said air inlet means and surrounding the pipe in spaced relationship thereto, presenting an air passage in thermal interchange relationship with the pipe for heating the air prior to entering said air inlet means;

a material discharge conduit in communication with said material outlet means; and

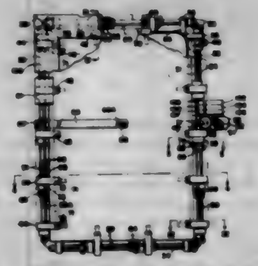
a collector coupled with said conduit for receiving the material.

3,145,820
SPRING ASSISTED FOAM CUSHION CONSTRUCTION
Nick Calla, 1466 W. 5th St., Brooklyn, N.Y.
Filed Aug. 26, 1963, Ser. No. 304,369
3 Claims. (Cl. 267—1)



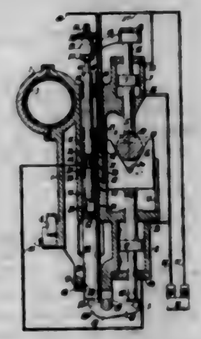
1. In a spring assisted foam cushion construction, a first foam element having upper and lower surfaces, there being a first plurality of annular recesses extending from said lower surface into the body of said first foam element to form a plurality of substantially cylindrical protuberances; means interconnecting said annular recesses; a corresponding second foam element having upper and lower surfaces, there being a second plurality of recesses extending from said upper surface of said second foam element corresponding in location to said first plurality of annular recesses, to form a second plurality of cylindrical protuberances and a plurality of detached areas on said last mentioned upper surface, and a spring element including a plurality of coils corresponding to the number of annular recesses in each of said first and second foam elements, said coils each being disposed partially within an individual annular recess in each of said first and second foam elements, said coils having a relatively unstressed length greater than the combined depth of the recesses in which it is disposed, said first and second foam elements being cemented together over the lower surface of said first foam element and the upper surface of said second foam element to prestress said coils.

3,145,821
DOOR LOCKING APPARATUS
Edgar L. Anderson, Pendield, N.Y., assignor to Wilmot Castle Company, Rochester, N.Y., a corporation of New York
Original application Sept. 21, 1961, Ser. No. 139,674. Divided and this application Dec. 8, 1961, Ser. No. 157,934
21 Claims. (Cl. 268—65)



1. Improved apparatus for combination with a pressure vessel member having an opening and a door member for closure of said opening, said improvement comprising: a shaft rotatably mounted on a first of said members at a first side of said door member, locking means rotatably mounted on said shaft for movement in a plane substantially normal to said door member, said locking means being adapted for locking said members together at said first side, eccentric cam means mounted on said shaft imparting radial motion to said locking means for moving said locking means between ajar and locked positions, and means between said members at a second side of said door member coactive with said shaft for locking the side opposite said first door side, control means coactive with said shaft for controlling the rotation of said locking means about said shaft for automatically moving said locking means between open and ajar positions, and means responsive to radial movement of said locking means when arcuately displaced from a normal position in which it is maintained by said control means for stopping said control means from controlling said locking means.

3,145,822
WORKPIECE-LOCATING VISE FOR USE IN A MACHINE-TOOL
Robert Moll, Geneva, Switzerland, assignor to Condor S.A., Courfaivre (Jura bernois, Switzerland), a corporation of Switzerland
Filed Feb. 15, 1962, Ser. No. 173,454
Claims priority, application, Switzerland, Feb. 17, 1961, 1,997/61
4 Claims. (Cl. 269—25)



1. A machine tool locating vise comprising,

a frame having a bore provided with fluid pressure ports and an exhaust port,

first and second fluid cylinder and piston article clamping units,

a primary source of fluid pressure operating in conjunction with valve means to move the pistons of said first and second article clamping units to article clamping position,

valve means in said bore comprising a sheath and a slidable valve telescoping therewith, said sheath and valve having portions exposed outside of the bore, and said valve having an annular groove adapted to cooperate with said pressure ports to supply pressure to the second fluid cylinder and piston article clamping unit and also communicating with said exhaust port,

and means actuated respectively by the exposed portions of the sheath and the valve to hold the pistons and clamping members in final adjusted relation.

3,145,823
CARD-FEEDER MECHANISM
Gustave D. Cerf, Norwalk, Conn., and Morris Krakinowski, Port Chester, N.Y., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 18, 1962, Ser. No. 203,259
16 Claims. (Cl. 271—41)

1. In a card-handling machine including a card container; a card-feeding mechanism comprising:

(*a*) a support spaced from the container in a selected direction;

(*b*) a flexible member secured at one end to the support with the other end thereof projecting generally along the selected direction toward the container;

(*c*) a picker knife movable in a direction transverse to the selected direction for extracting cards from the container, carried on the said other end of the flexible member;

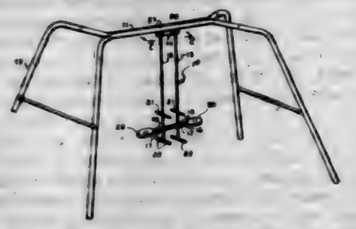


(*d*) the flexible member being sufficiently bendable to permit such transverse movement of the picker knife;

(*e*) and means for flexing the flexible member and driving the picker knife through such transverse movement in one direction;

(*f*) the flexible member being sufficiently resilient to thereafter return the picker knife in the opposite direction to complete such transverse movement.

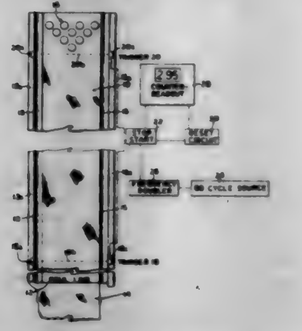
3,145,824
GLIDER-TYPE PLAYGROUND SWING
Daniel P. Gradoski, Hartstown, Pa., assignor to Blazon, Inc., Cuyahoga Falls, Ohio, a corporation of Ohio
Filed Aug. 8, 1961, Ser. No. 130,136
3 Claims. (Cl. 272—37)



3. A playground or like swing for suspension from an overhead support, comprising: a rigid supporting member having laterally spaced supporting portions; a pair of pivotal means each including relatively fixed and movable parts; said fixed parts having means thereon for fixedly attaching the same to said overhead support; means for mounting said movable parts on said relatively fixed parts for rotation of the movable parts with respect to said fixed parts about a fixed horizontal axis of the rigid member; said movable parts having rigid downward extensions and rotatable with the same about said fixed horizontal axis; a pair of drop-arms pivoted at the upper ends thereof to said downward extensions to depend thereform; means for maintaining said movable parts in a plane of lateral swinging movement of said drop-arms about said fixed horizontal axis, in which plane the drop-arms swing in parallelism about transverse axes which are relatively fixed with respect to the downward extensions, and which extend angularly of said fixed horizontal axis; and connector means between said drop-arms for maintaining the same in parallelism upon being swung on said horizontal and transverse axes; said connector means having opposite riding extensions laterally outwardly of

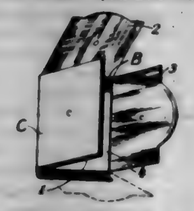
the drop arms; said drop-arms having manually operable means above and below said connector means whereby riders on said riding extensions may by selective application of pressure to said manually operable means swing the drop-arms variously about said horizontal and transverse axes.

3,145,025
BOWLING BALL SPEED MEASURING AND INDICATING DEVICE
Jimmie H. Morrison, 770 Iowa St., and Horace F. Morrison, 1602 W. Main St., both of Norman, Okla.
Filed Sept. 18, 1961, Ser. No. 138,635
4 Claims. (Cl. 273—54)



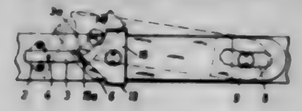
4. A device for improving a person's bowling skill comprising, in combination, a bowling lane having a first end from which a ball is delivered by a bowler toward a second end, a plurality of pins upon the second end to be struck down by the ball, a first trigger means adjacent the first end of the lane, and a second trigger means adjacent the second end of the lane, the first and second trigger means each having a photobeam projected across the lane and positioned a distance from the surface thereof to be interrupted by the passage of a ball along the lane, each of the trigger means producing an electrical signal when the photobeam is interrupted by the passage of a ball, timing means, a first switching circuit means responsive to the signal from said first trigger means for starting said timing means, a second switching circuit means responsive to the signal of said second trigger means for stopping the timing means, and visual indicator means connected to the timing means for visually displaying an elapsed time proportional to the time required for a ball to travel along the lane between the first and second photobeams as timed by said timing means.

3,145,026
AUDITORY PUBLICATIONS
Charles Kay Shaw, 3 Brackenhill, Limpsfield, Surrey, England
Filed May 16, 1961, Ser. No. 110,556
9 Claims. (Cl. 274—42)



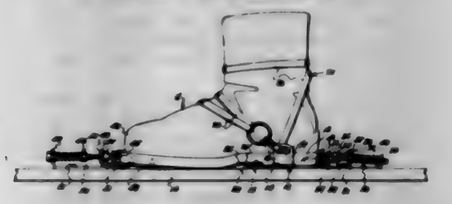
1. An auditory publication comprising in combination, a booklike binder, a base sheet, at least two subsidiary sheets formed integral with the base sheet at the sides thereof, said subsidiary sheets being folded to overlie the base sheet in registry therewith, a flexible plastic recording mounted on each of said sheets, said base and subsidiary sheets being adapted to be unfolded and refolded at will to bring a selected recording uppermost directly adjacent said base sheet and without an intervening sheet between the base sheet and the subsidiary sheet on which the selected record is mounted, and means on said binder and one of said sheets for attaching the folded sheets within said binder.

3,145,027
SAFETY SKI BINDING
Ludwig Berchtold, Bergstrasse 85, Krailling, near Munich, Germany; Albert Schuster, Muenchener Strasse 15, Planegg, near Munich, Germany; and Hannes Marker, Alpspitzstrasse 37, Garmisch-Partenkirchen, Germany
Filed Jan. 23, 1962, Ser. No. 168,081
Claims priority, application Germany Feb. 6, 1961
28 Claims. (Cl. 280—11.35)



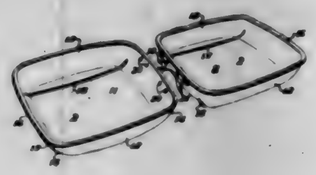
1. A safety binding for skies compriaing a swingable plate, means pivotally mounting said swingable plate in a region constituting the heel portion and extending perpendicular to the upper side of a ski, a jaw plate pivotally mounted on a front portion of said swingable plate, means on said jaw plate to prevent movement of a boot held by said binding in a direction transverse to the longitudinal axis of said jaw plate secured laterally to said jaw plate, a retaining member cooperating with said swingable plate and being mounted forwardly of the latter on the ski, a detent device disposed on said retaining member and adapted to hold said swingable plate in a central position on said ski, said detent device adapted to be released upon the application of a torque exceeding an adjustable predetermined value, and locking means disposed between said jaw plate and said retaining member to hold the jaw plate in said central position, said locking means being interrupted upon a swinging motion being imparted to said swingable plate.

3,145,028
SAFETY SKI BINDING OF THE STRAP OR LONG THONG HARNESS TYPE
Mitchell H. Cubberley, 121 Bell St., Belleville, N.J.
Filed May 24, 1962, Ser. No. 197,355
2 Claims. (Cl. 280—11.35)



1. In a ski binding, the combination with a ski body having means to detachably connect the toe of a ski boot thereto, a heel plate structure applicable to a boot heel and adapted to be mounted on the ski body in detachable relation to the latter, said heel plate structure comprising a bottom part and a top part unitary therewith, the rear end of said top part having an upstanding arcuate back wall to embrace a received boot heel, said bottom part exceeding in length the length of the top part, whereby to provide a transverse lip portion to project freely beyond the forward end of the top part and a rearward extension to project freely beyond the heel embracing back wall of the top part, said rearward extension terminating in an upstanding keeper means, said forward transverse lip portion of the bottom part having an upwardly projecting key lug, a transverse anchoring block adapted to be secured to the ski body, the rearward face of the anchoring block being undercut to provide a recess beneath an overhanging shoulder, said recess being adapted to normally receive the forward lip portion of the heel plate structure, whereby to releasably attach the forward end of the heel plate structure to the ski body, said shoulder having an indenting notch to receive said key lug, whereby to prevent lateral displacement of the attached forward end of the heel plate structure, the ski body having yieldable holding means to releasably engage said keeper means, whereby to normally attach the rear end of the heel plate structure to the ski body, and said heel plate structure being provided at opposite sides thereof with upwardly extending perforate tongues engageable by a strap or long thong harness adapted to be applied to the boot for attachment of the heel plate structure thereto.

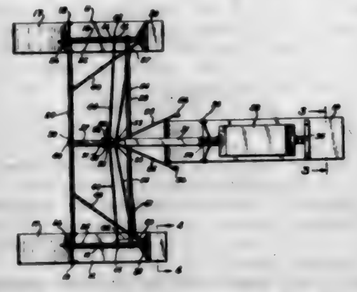
3,145,029
TANDEM SLEDS
Clifford A. Ollanketo, 2009 W. 21st St., Minneapolis, Minn.
Filed July 17, 1962, Ser. No. 210,355
4 Claims. (Cl. 280—16)



1. A tandem sled comprising in combination, an independent forward unit and at least one trailed unit in tandem arrangement relative to the said forward unit, a flexible connector permanently connecting the said independent forward unit and the said rear trailed unit in longitudinally spaced relation, said flexible connector comprising a relatively heavy flexible central web terminating each end portion thereof in transversely disposed flange plates having bores aligned with bores in the respective sled units to receive threaded screws whereby the said flexible connector is permanently secured to the respective sled units.

3,145,030
SLED FOR SNOW AND WATER
Frank E. Mills, 2432 King St., Denver, Colo.
Filed Feb. 19, 1963, Ser. No. 259,493
6 Claims. (Cl. 280—16)

1. A ski sled comprising:
(*a*) a transversely-extending cross frame;
(*b*) a longitudinally-extending, tiltable, medial body member rotatably attached medially of and extending rearwardly from said cross frame in T-shaped relation thereto;
(*c*) a rear runner mounted beneath said body member;
(*d*) a normally vertical runner yoke tiltably mounted at each extremity of said cross frame in parallel relation to said medial frame;
(*e*) a front runner mounted on and beneath each runner yoke;
(*f*) connecting means between said body member and said runner yokes so that the tilting movement of the body member will simultaneously and similarly tilt said yokes to guide said sled;
(*g*) a rider's seat mounted on said medial frame;



(*h*) two flexible guide elements extending from the rider's position on said seat forwardly and outwardly from said medial frame to a fixed connection adjacent each extremity of said cross frame so that alternating tension in said guide members will tilt said medial frame sidewardly relative to said cross frame;
the axis of tilt between the runner yokes and the cross frame being inclined forwardly and downwardly at an angle of substantially 15° from horizontal;
and the axis of rotation between the cross frame and the medial frame being inclined rearwardly and downwardly at an angle of substantially 15° from horizontal;
(*i*) means pivotally mounting the forward portion of each front runner on its yoke; and
(*j*) adjustable mounting means mounting the rear portion of each front runner on its yoke so that said rear portion can be vertically adjusted to preset the front runners at any desired incline from the horizontal.

3,145,031
MOBILE TOOL SUPPORTING APPARATUS
Thomas Carl Wilkinson, 713 Bluff Park Road, Birmingham, Ala.
Filed Feb. 17, 1961, Ser. No. 90,017
1 Claim. (Cl. 280—47.35)



A mobile tool supporting apparatus for use in supporting handled tools such as garden implements and the like, said mobile tool supporting apparatus comprising,
a substantially flat rectangular frame structure having fore and aft pairs of ground engaging wheel means, one of said pairs comprising casters, said frame structure having upstanding peripheral flanges affixed thereto,
an open top peripherally closed rectangular tool supporting panel structure mounted on said frame structure in vertically extending relation therewith and including spaced-apart front, rear and opposed side

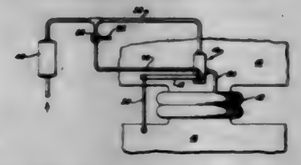
walls, each having its lower edge spaced above said frame structure to thereby define an opening between the upper surface of the frame structure and the lower peripheral edges of said walls,

each of said walls being positioned inwardly of its associated marginal portion of said frame structure and cooperating therewith to define a marginal tool-supporting ledge,

the outer surfaces of said walls each having a plurality of tool-handle retaining and positioning members fixedly connected to opposed surfaces thereof for engaging handle portions of handled type implements and cooperating with said tool-supporting ledge for positioning and releasably retaining a plurality of tools in upstanding side-by-side relation on the ledge, each of said retaining and positioning members including a latch element pivotally mounted on its associated wall for pivotal movement between locked and unlocked positions, the respective inner surfaces and said outer surfaces of said walls also having a plurality of channel-shaped tool receiving members thereon,

and a guide handle structure pivotally connected with said panel structure and being shiftable between erect operative and collapsed inoperative positions.

3,145,833
LOAD CONTROLLED VALVE FOR VEHICLE AIR SPRINGS
Thomas J. Turek, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Oct. 28, 1957, Ser. No. 692,944
6 Claims. (Cl. 280—124)



1. Control means for regulating the air pressure within a vehicle air spring for maintaining the vehicle frame a predetermined distance above the vehicle axle, comprising a leveling valve having a casing adapted to be mounted on the frame, and having an inlet adapted to be supplied with compressed air, valve means within the casing for controlling the flow of compressed air to and from the air spring, a single valve actuating element within the casing for operating said valve means, said element being movable in opposite directions and being provided with a recess, means including an oscillatable lever responsive to relative movement between the frame and axle, means including a member movable in one direction into said recess and movable in the opposite direction out of said recess to positively connect and to positively disconnect said lever and element, a fluid pressure device for controlling the movements of said member in said directions, and manually operable means for applying compressed air to said device.

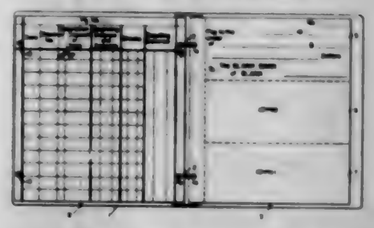
3,145,833
BOOK COVER AND MACHINE AND METHOD FOR MAKING SAME
William H. Caddoo, Darien, Conn., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 7, 1961, Ser. No. 136,584
3 Claims. (Cl. 281—29)

1. A method of forming a book cover of the type including at least two leafboards each having first and second parallel edge portions, a spine and a tape comprising the steps of assembling the two leafboards with the first edge portions thereof in opposed spaced relationship, the spin between and spaced from the first edge portions, and the tape overlying the spine and the leafboards with edges of the tape overlapping, secured to and terminating at the first edge portions of the leafboards remote from the second edge portions thereof; passing the assembled leafboards, spine and tape between opposed pressure rolls to



apply a predetermined pressure on the tape and the first leafboard edge portions without placing pressure on the spine to first depress the tape beyond the thickness thereof into the leafboards only at the first leafboard edge portions whereby the tape is recessed below the surfaces of the leafboards, and thereafter releasing the predetermined pressure to return the tape to a generally flush position with the leafboard surfaces by passing the assembly beyond the opposed pressure rolls.

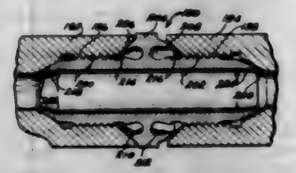
3,145,834
COMBINED CHECK AND ACCOUNT BOOK
Curtis Campbell, 99 Lothrop St., Beverly, Mass.
Filed Jan. 18, 1961, Ser. No. 83,549
2 Claims. (Cl. 283—58)



1. A combined check and account book, comprising, in combination, a loose-leaf binder, a first plurality of sheets of predetermined width punched along one edge and inserted in said binder, said sheets each comprising a plurality of detachable check forms, a second plurality of sheets of width larger than said predetermined width punched along opposite edges so that said second sheets can each be inserted at either edge in said binder and being inserted in said binder adjacent said first sheets, each of said second plurality comprising an account record sheet provided on both sides with ruling and indicia for recording, whereby upon opening the book to the current account record sheet, it will be opposite a sheet of check forms.

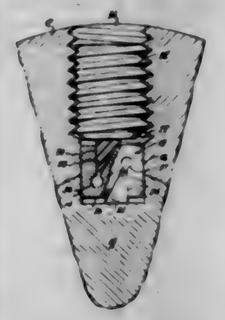
3,145,835
PIPE COUPLING HAVING A FLEXIBLE SEALING LIP
Frank J. Hanback, Palos Verdes Estates, Calif., assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 10, 1958, Ser. No. 760,227
2 Claims. (Cl. 285—110)

1. A fluid coupling comprising a body section having an axial bore therein, an end face on said body section normal to the bore, a threaded opening extending from said bore towards said end face, a first outwardly flaring conical seat portion extending from the end of said bore to said threaded opening, said body section having a second outwardly flaring conical seat at the end face thereof opening into said threaded opening, a nut member adapted to be received in said body portion, said nut comprising a maximum diameter portion overhanging said second conical seat of the body, said nut having a thin flexible tapered lip portion integrally formed thereon and extending axially and radially inwardly from the nut to be received in the said second conical seat, said nut



having a cylindrical threaded portion extending axially into the threaded opening in said body, said cylindrical threaded portion terminating in a tapered end adapted to be engaged by said first conical seat at the juncture between the body bore and the threaded opening whereby said nut may be drawn into said body member and said flexible lip will form a seal with the second conical seat and the end of the threaded portion of the nut is deformed inwardly by the first conical seat.

3,145,836
EXPANDIBLE KEY
Roy A. Blom, Massapequa Park, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Dec. 26, 1962, Ser. No. 247,182
4 Claims. (Cl. 287—52.05)



1. A keying arrangement for keying together a shaft and a hub having matching, axially extending key-ways cut therein, comprising,

a key dimensioned to fit into the rectangular area defined by the aligned key-ways,

said key having a first axially extending V-shaped slot cut in the key face adjacent said hub and having a second axially extending V-shaped slot cut into the key face adjacent said shaft,

said first and second slots being offset from each other and extending into the key to a depth so that the lower end of one slot is past the lower end of the other,

a first and second wedge respectively inserted into said first and second slots,

said wedges extending above the slotted faces of the key, and

means urging said wedges into their respective slots to expand the key into tight engagement with the sides of the key-ways.

3,145,837
SPRING FASTENER
Harold B. Newton, Sun Valley, Calif., assignor to James B. Lansing Sound, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 7, 1963, Ser. No. 263,631
9 Claims. (Cl. 292—17)



1. A fastener comprising

a first fitment having a quasi-cylindrical mody with a forward part divergently sprung from said body, and a rearward part partly divergent from said body toward said forward part;

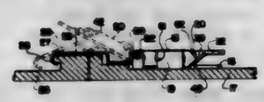
a second fitment in the shape of a cup having a rearward part partly divergent from said cup toward the forward part thereof, and

an internal ridge in said cup near said forward part;

said fitments proportioned to allow the forward part of said first fitment to enter into and pass beyond the ridge of said cup for removably fastening said two fitments together;

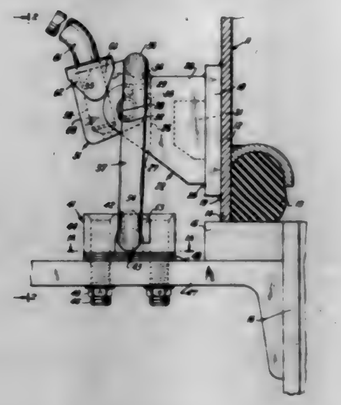
said partly divergent rearward parts of both said fitments formed to retain each said fitment within a separate structural element for joining said structural elements by said first fitment entering into said second fitment.

3,145,838
CATCH FOR A PACKING CASE OR THE LIKE
Gunnar E. Swanson, Middletown, Conn. (% Nielsen Hardware Corp., 770 Wethersfield Ave., Hartford 6, Conn.)
Filed Oct. 19, 1962, Ser. No. 231,798
23 Claims. (Cl. 292—113)



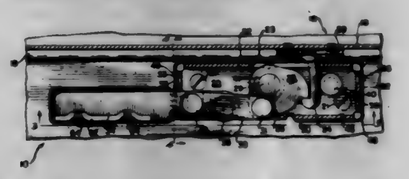
1. In a catch for use in releasably securing together two separable panels or the like one of which includes a strike, the combination comprising a body adapted for attachment to the other of said panels, a main lever pivotally connected to said body for movement relative thereto about a fixed transverse axis between closed and released positions corresponding respectively to closed and released conditions of said catch, a member adapted to engage said strike and pivotally connected with said main lever, a control lever carried by the free end portion of said main lever and including a rear portion freely accessible to a user, coengaging locking means on said body and integral with said control lever for holding said main lever in its closed position relative to said body, said control lever being movable relative to said main lever between first and second positions at which positions said control lever is respectively locked and unlocked relative to said body when said main lever is in its closed position, biasing means between said main lever and said control lever for urging said control lever into its first position relative to said main lever, and means for moving said control lever to its second position relative to said main lever so as to unlock the same from said body in response to a force applied to said rear portion of said control lever and in the direction corresponding to movement of said main lever toward its released position.

3,145,039
LOCKING MECHANISM
Philip Richter, Bethlehem, Pa., assignor to Fuller Company, Catasauqua, Pa., a corporation of Delaware
Filed May 24, 1962, Ser. No. 197,408
4 Claims. (Cl. 292—256.5)



1. A releasable locking mechanism for a hatch cover of the type having a depending skirt plate adapted to have its lower edge seated on a fixed supporting surface, said mechanism comprising a locking member pivotally mounted with respect to said skirt plate, said locking member having a hook, a locking ring, a pivotal mount for a portion of said locking ring, means securing said pivotal mount in fixed position with respect to said fixed supporting surface, a portion of said locking ring opposed to the pivotally mounted portion thereof being adapted to engage said hook, said locking member being movable between locked and unlocked position correspondingly to move the hook thereof, said locking ring being under tension when the hook is in locked position engaged by the locking ring, and removable spacer means interposed between said pivotal mount and said fixed supporting surface to vary the distance of the pivotal mount of said locking ring from the fixed supporting surface to which it is secured, thereby to vary the distance between the portion of said locking ring engaging said hook when the latter is in locked position and the opposed pivotally mounted portion of said locking ring.

3,145,040
LATCH MECHANISM
Malcolm T. Phelps, Jamestown, N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.
Filed Sept. 16, 1963, Ser. No. 308,978
8 Claims. (Cl. 292—304)



1. A latch cover for detachably interconnecting adjacent edge portions of a container and cover therefor, said container and cover having opposed horizontal flange portions and a compressible gasket therebetween, said latch device comprising

a base plate secured to the edge of said container,

a cam rotatably mounted on said base plate and having a downwardly directed nose portion,

a keeper extending downwardly from said cover and extending therefrom when said cover is in closed position alongside said base plate and being guided thereby, said keeper having a land portion in alignment with downward movement of the nose portion of said cam,

a link member pivotally connected at one end to said cam,

a latch control lever pivotally connected at one end to said base plate at a position offset from the center of rotation of said cam, and pivotally connected at a position offset from the axis of its connection to said base plate, to the other end of said link,

said base plate having extending flange portions and a cover member snap-fitted thereon thereby substantially enclosing said cam and link member,

and said lever member being formed with a lateral flange and having a box-shaped cover member attached thereto thereby providing a smooth surfaced handle device for said control lever simulating in appearance the cover device for said back plate,

the parts being so dimensioned and arranged that when said handle member is pulled upwardly into horizontal alignment beneath the edge of said cover member, the nose portion of said cam draws said keeper downwardly into gasket compressing position while said link assumes a "past-center" position relative to the axis of pivoting of said control lever on said base plate, thereby locking said latch device in holding position.

3,145,041
ZIPPER HOOK
Richard A. Grolig, 6552 N. Damen Ave., Chicago 45, Ill.
Filed Jan. 12, 1962, Ser. No. 165,858
4 Claims. (Cl. 294—19)



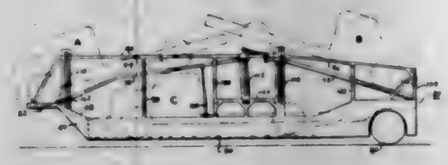
1. The combination of a tab with an aperture and a tool of the type described for operating the tab, said aperture having predetermined transverse dimensions and being spaced a predetermined distance from a longitudinal edge of the tab said tool comprising an elongated wire member, a finger element having transverse dimensions less than said predetermined transverse dimensions integral with and projecting transversely in a first direction from one end portion of said wire member for extending into said aperture in the tab, and another element integral with said end portion of the wire member axially outwardly of said finger element a distance at least as great as said predetermined distance and including opposed spaced apart leg portions extending transversely of the wire member in a second direction offset from said first direction for embracing opposite sides of said tab when the tool is assembled with the tab.

3,145,042
RELEASABLE CARGO COUPLING
Robert E. Bendl, Grafton Ct., R.F.D. 2, Denbigh, Va.
Filed Jan. 16, 1962, Ser. No. 166,437
6 Claims. (Cl. 294—83)
(Granted under Title 35, U.S. Code (1952), sec. 266)



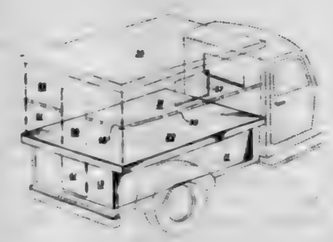
1. A construction for a separable cargo coupling for quick separation of a load from a carrier comprising first and second interengaging connector blocks for connection respectively to a load and a carrier, said first and second connector blocks each including a comating notched portion which includes a transverse ledge, the notched portion of said first connector block including recessed transverse bar means and said second connector block including recessed lever means having a cammed surface terminating in a hook, said cammed surface and hook of said lever means coacting with said transverse bar means upon interengagement of said first and second connector blocks to maintain said notched portions of said first and second connector blocks in interlocking engagement and release means operable to rotate said lever means urging said cammed surface into contact with said transverse bar moving said transverse bar out of engagement with said hook whereby said first and second connector blocks are separated.

3,145,043
TRAILER FOR HAULING VEHICLES
Emery A. Gyori and Lester J. Hammons, both of 4000 W. Sample St., South Bend, Ind.
Filed June 12, 1961, Ser. No. 116,439
5 Claims. (Cl. 296—1)



1. A trailer for hauling automobiles, trucks and similar vehicles of various sizes and shapes, comprising an elongated bed portion, a forward frame above the forward end of said bed portion having spaced parallel tracks for supporting a vehicle, a vertically adjustable pivot means supporting each end of said frame, a structure supporting said pivot means on said bed portion, the pivot means at the rear end of said frame being pivoted at its lower end to said structure, a rear frame above the rearward end of said bed portion having spaced parallel tracks for supporting a vehicle, a vertically adjustable pivot means supporting the forward end of said rear frame, a forwardly extending lever connected to said last mentioned pivot means for raising the rear end of said rear frame and holding said rear frame in said raised position, an adjustable means for releasably supporting the rear end of said rear frame, each of said adjustable pivot means for the respective frames including two spaced vertically positioned members defining a vertical slot, one of said members having a plurality of vertically spaced holes, a pivot pin joined to the respective end of the respective frame and extending through and movable in the slot, a pin seating in one of said vertically arranged holes for retaining said first mentioned pin in its adjusted position and the frame thereof in a preselected vertical position, hydraulic cylinders for raising and lowering one end of said forward frame, and hydraulic cylinders for raising and lowering the forward end of said rear frame.

3,145,044
CAMPER
Charles J. Harrison, Box 5, Bea Lomond, Calif., and Ernest S. Fridley, 22625 E. Cliffs Drive, Santa Cruz, Calif.
Filed Oct. 15, 1962, Ser. No. 230,600
2 Claims. (Cl. 296—23)



1. A camper intended to be mounted on a pickup truck body comprising:

(*a*) a rigid, box-like member of lesser width than a pickup truck body whereby the said member may fit within the sides of a pickup truck, said member having vertical sides and ends affixed to a horizontal base;

(*b*) opposed side members positioned above and hingedly connected to said box-like member and spaced farther apart than the said side members of the said box-like member, said opposed side members each consisting of a pair of panels normally vertically spaced one above the other, said panels being hinged together along an edge of each by means of horizontal hinges whereby said panels may be folded against one another about the said hinge;

(*c*) front and back members normally vertically positioned above the box-like member, said front and back members each consisting of at least two normally vertically spaced panels hingedly connected along edges thereof by means of horizontal hinges; and

(*d*) a generally horizontal planar top to which the topmost of each of the pair of side panels and the topmost of each of the front and back panels is connected by means of hinges, the hinges for the front and back panels being vertically spaced from the hinges for the side panels and the sizes of the side and front and back panels being such that when the said hingedly connected vertically spaced panels are folded inwardly upon one another and about the

hinges on said planar top, horizontal folded panels are formed leaving a space within the said camper between the said side, front and back members sufficient to accommodate a jack.

3,145,845
ANIMAL HAULING VEHICLES
John Phil Felbern, 4160 W. Broad St., Columbus, Ohio
Filed Sept. 11, 1962, Ser. No. 222,809
1 Claim. (Cl. 296—24)



A semi-trailer having interchangeable floor platforms providing a bi-level or a tri-level vehicle of maximum animal hauling capacity comprising,

a van body having a major portion thereof of transverse rectangular cross-section throughout the length thereof and terminating in a forward vertical wall extending one-third the height of said body,

a ground-engaging wheel assembly mounted upon said van body major portion and disposed entirely externally thereof,

said van body forwardly of said wall having a remaining minor portion thereof of transverse rectangular cross-section having a lesser area than that of said major portion,

said minor body portion being co-extensive in width and having a co-planar roofline with said major body portion, and having a floorline parallel with and upwardly offset from thefloorline of said major body portion a distance less than one-third the height of said major body portion,

said minor body portion floorline having means thereon for accommodating the rear portion of a tractor to which the semi-trailer is connected,

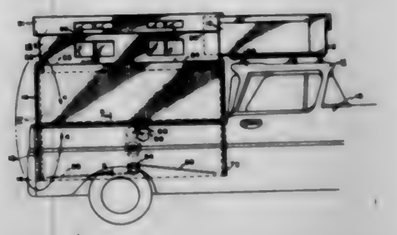
a horizontal floor panel within said minor body portion extending longitudinally thereof at the level of the upper end of said wall to define with said minor body portion floorline therebeneath a storage space therebetween,

three pairs of tracks secured in parallel vertically spaced relation to the side walls of said van body, of which a first pair is disposed midway of the height of said major body portion, and the second and third pairs are disposed respectively at one-third and two-thirds of the height thereof, said first and third track pairs extending the full length of said van body, and said second track pair extending the length of said major body portion to terminate adjacent said panel,

and a plurality of platform elements removably engageable with either said first pair of tracks to define a bi-level van body for hauling relatively larger animals, or with said second and third pairs of tracks to define a tri-level van body for hauling relatively smaller animals wherein said panel forms a substantially co-planar extension of the platform elements associated with said second track pair,

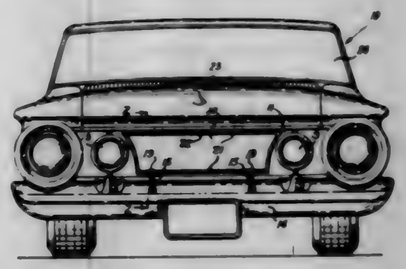
whereby in either bi-level or tri-level form, the entire van body length is available for hauling animals on level platform floors, and the entire length and width of said major portion thereof is available for hauling animals at said floor line thereof, while providing internal storage space for unused platform elements, to thereby maximize the carrying capacity of the semi-trailer.

3,145,846
TRANSPORTABLE CABIN CONSTRUCTION
Victor T. Orn, 2159 Hugo Ave., and Charles D. Dryer, 6265 S. Highland, both of Salt Lake City, Utah
Filed Aug. 27, 1962, Ser. No. 219,421
3 Claims. (Cl. 296—24)



1. A trailer construction including, in combination, a top enclosure member, a bottom enclosure member telescopingly encompassing said top enclosure member, means for selectively hoisting said top enclosure member above said bottom enclosure member to enlarge the enclosure space mutually defined by said top and bottom enclosure members, and a front enclosure member including floor means, said front enclosure member being telescopingly received within and, when said top enclosure member is hoisted by said means, being selectively extensible forwardly from said top enclosure member to further enlarge the enclosure defined by said top, bottom and front enclosure members, said top enclosure member including means for supporting said front enclosure member for telescoping movement therewithin.

3,145,847
DEFLECTOR FOR MOTOR VEHICLES
Aloysius Joseph Pye, Sr., 207 Dyson, Orange, Tex.
Filed Aug. 20, 1962, Ser. No. 217,818
1 Claim. (Cl. 296—91)



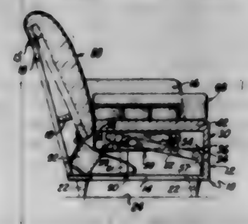
In combination with a motor vehicle having a grill, a bumper, a hood, headlights and a dashboard, a pair of upright supports secured to said bumper, a horizontally extending imperforate plate pivotally mounted on said supports in front of said grill between said headlights and normally inclined at its top toward said grill, said plate having arcuate cutaway ends spaced inwardly from the headlights, a control rod secured to the top of said plate and extending beneath said hood to said dashboard for control by the driver to vary the inclination of said plate, said control rod being pivotally connected to said plate, said plate having a normal angle of inclination of approximately 45° and variable relative to said grill.

3,145,848
BABY WALKER
Ralph F. Dowdy, Rte. 2, and Lloyd F. Dowdy, Mohawk Star Rte., both of Springfield, Oreg.
Filed July 5, 1963, Ser. No. 293,891
1 Claim. (Cl. 297—5)



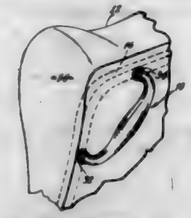
A baby walker comprising a ring-shaped base member, supporting wheel means carried by said base member, a pair of similar, generally U-shaped frames each consisting of a top lateral connecting bight portion and a pair of legs, pivot means joining said frames intermediate the ends of adjacent legs for relative rotative folding and unfolding movements, hinge means connecting the lower free ends of the legs of one of said frames to the forward portion of said base member, the top bight portion of said latter mentioned frame constituting a back support on the walker, the top bight portion of the other of said frames constituting a front gripping handle, means for detachably securing the lower free ends of the legs of said other frame to the rear portion of said base member, said latter mentioned means including a pair of upwardly extending pins on said base member having enlarged heads but capable of telescopically receiving the lower free ends of the legs of said other frame when these legs are sprung into alignment with said pins, latch slots for said pin heads in the ends of said legs of said other frame, and seat means supported from said frames in suspended relation, whereby, upon detachment of said legs of said other frame from the rear portion of said base member, said other frame can be rotated into approximate parallel relationship with the companion frame and said frames then swung as a unit in a folded position substantially parallel with said base member.

3,145,849
CONVERTIBLE CHAIR LOUNGE
Alexander J. Duke, 4635 Sunset Blvd., Hollywood 27, Calif., assignor of one-fourth to Buddy Richard Berach, Los Angeles, Calif.
Filed Sept. 17, 1962, Ser. No. 224,094
8 Claims. (Cl. 297—105)



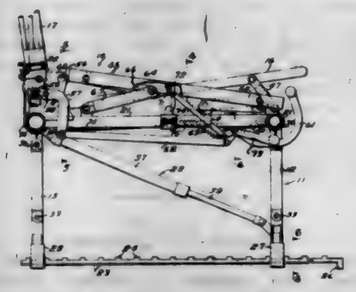
1. In a convertible chair-lounge, the combination of: a frame having a back and side arms; a rigidly supported back cushion hingedly secured to the back of said frame; an extensible-retractable linkage secured to said frame adjacent said side arms; an extensible-retractable ottoman secured to one extremity of said linkage and adapted to be extended and retracted thereupon; a flexible, hammock-like sling interposed between and secured, respectively, at its rear end to the lower extremity of said back cushion and at its forward end to the rear extremity of the ottoman; and a cushion substantially shorter than said sling secured to the upper surface of said sling in immediate proximity to the lower extremity of said back cushion.

3,145,850
FLEXIBLE HANDLE
Robert L. Edwards, Mansfield, Ohio, assignor to National Seating Company, Mansfield, Ohio, a corporation of Ohio
Filed Sept. 10, 1963, Ser. No. 307,868
9 Claims. (Cl. 297—183)



7. A flexible handle mountable on a vehicle seat comprising a core assembly, an outer plastic cover around said core assembly, fitting means disposed at opposite ends of said cover, said fitting means including threaded shank portions engageable with threaded portions of said seat, said core assembly and said cover being resiliently deformable in all directions whereby force applied thereagainst causes temporary deformation thereof, with the core assembly and cover returning to its self-supporting position at the cessation of such force.

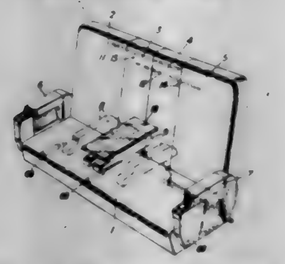
3,145,851
AIRPLANE PASSENGER SEAT
William L. Rausch, Oakland, Calif.
(196 E. Stuart, Fresno, Calif.)
Filed Dec. 19, 1961, Ser. No. 160,482
2 Claims. (Cl. 297—216)



1. An airplane passenger seat comprising at least one front leg adapted for securance to a floor surface and adapted for pivotal movement in a plane substantially perpendicular to said surface, at least one rear leg spaced from said front leg in a direction parallel to said plane and adapted for pivotal movement in a plane substantially parallel to that of said front leg movement, a rigid seat base pivotally mounted on the upper ends of said legs for movement therewith, an elongated brace member connected between the rear portion of said base and the floor surface adjacent said front leg, said brace member including a tubular cylinder having a piston slidable therein and adapted to allow pivotal movement of said legs in one direction when said piston moves in said cylinder, a fluid contained in said cylinder for normally restricting movement of said piston thus maintaining said brace member and legs in a rigid position, means for releasing said fluid restriction to allow movement of said

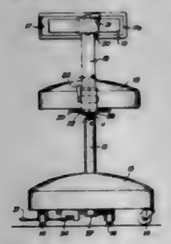
piston when sufficient pressure is created in said fluid, a seat bottom mounted on said base, a seat back pivotally secured to the rear of said base and extending upwardly therefrom, a notched plate secured to said seat back, and a bell crank pivotally mounted on said base and having one end thereof adapted to bear against said notched plate to restrict rearward pivotal movement of said seat back, said bell crank adapted to engage said notched plate so as to allow forward pivotal movement of said seat back in said direction of said legs upon sufficient force being applied thereto.

3,145,052
AIRPLANE SEATS
Robert Charles Morgan, Maidenhead, England, assignor to British European Airways Corporation, Ruislip, England
Filed Jan. 24, 1963, Ser. No. 253,723
8 Claims. (Cl. 297—354)



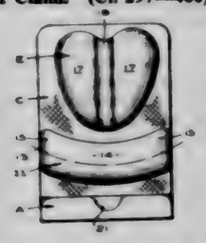
1. A reclining seat for airplanes adapted to form at least one wider individual seat and at least two narrower individual seats, comprising a chair frame, a single bench-type squab on said frame, a plurality of independent seat back sections with at least one section having a width different from that of an adjacent section, means mounting each section for independent reclining movement about a horizontal axis on said frame, interlocking means for joining adjacent sections into combined seat back sections so that all the sections in the combined section move together, each combined section being movable independently of another combined section, said combined sections being equal in number to the number of individual seats in use, and said interlocking means being unlockable from said adjacent combined sections when required to allow said adjacent sections to move independently of one another.

3,145,053
STOOL FOR DENTISTS
Elbert O. Thompson, Salt Lake City, and Dean H. Hale, Logan, Utah, assignors to Vacudent Manufacturing Company, Salt Lake City, Utah, a corporation of Utah
Filed Oct. 13, 1961, Ser. No. 144,862
4 Claims. (Cl. 297—383)



1. A stool particularly adapted for use by dentists and dental assistants while working on dental patients, comprising, in combination: a maneuverable base structure; a substantially circular seat mounted on said base structure; a supporting post extending upwardly from and in adjacency to the periphery of said seat; means mounting said post for revolution about the periphery of said seat; a trunk rest of strip-like, substantially curved configuration mounted cantilever fashion on said post and having its length extending substantially horizontally therefrom; and means adjustably interconnecting said trunk rest and said post for lateral movement of the former relative to the latter, so that the degree of cantilever extension of said trunk rest from said post can be adjusted as desired.

3,145,054
PORTABLE CHAIR SEAT WITH A BACK-SUPPORTING PNEUMATIC CUSHION
John Sopko, Jr., Rte. 3, Box 161, Sonora, Calif.
Filed July 12, 1962, Ser. No. 209,465
1 Claim. (Cl. 297—460)



In a portable chair seat with a back-supporting pneumatic cushion:

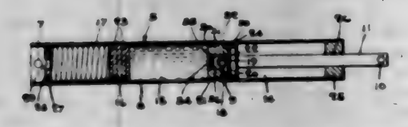
(*a*) a seat made to be placed on a supporting surface;
(*b*) a backrest secured to the seat and extending thereabove;
(*c*) an elongated back-supporting pneumatic cushion carried by the backrest to extend transversely thereof and having opposite ends;
(*d*) the cushion being curved along its longitudinal axis to define concaved upper and convexed lower edges, respectively, and having a midportion disposed at an elevation above the seat in a position to embrace the sacroiliac region of an occupant occupying the seat and pressing rearwardly against the cushion;
(*e*) the cushion having outer end portions curving upwardly from its midportion and being disposed at higher elevations above the seat than the midportion thereof, with the outer end portions positioned to support the floating ribs area of the occupant when pressing rearwardly against the cushion;
(*f*) and the backrest being provided with a rigid member arranged rearwardly of the cushion and against which the cushion may be compressed by the occupant, whereby the rebounding pressure of the cushion against the sacroiliac region and the floating ribs area of the occupant may be varied by forward and rearward movement of the occupant.

3,145,055
SPRING MOTOR OPERATED TILTING DUMP TRUCK
Joseph H. Carter, 517 E. State St., Rockford, Ill.
Filed Feb. 12, 1959, Ser. No. 792,734
10 Claims. (Cl. 298—22)

1. A dual piston and cylinder structure comprising two cylinders having inner and outer ends, the inner ends having a wall separating them with openings provided therein through which said cylinders have communication, check valve means housed in said wall cooperating with said openings to control fluid flow between said cylinders to provide a certain rate of flow in one direction between said cylinders with said check valve means seated and a different rate of flow in the opposite direction with said check valve means unseated, the outer ends of said cylinders having walls therein, a piston reciprocable in one of said cylinders having a rod connected therewith and extending through an opening provided in the outer end wall thereof, a piston reciprocable in the other of said cylinders, and a spring compressible between said last named piston and the outer end wall of said last named cylinder.

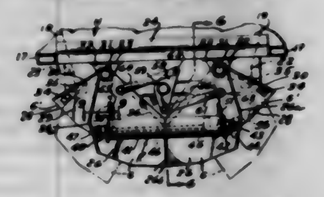


3,145,056
SPRING MOTOR OPERATED TILTING TOY DUMP TRUCK
David J. Blahnik, Crystal Lake, Ill., assignor, by mesne assignments, to Joseph H. Carter, Rockford, Ill.
Filed Mar. 2, 1959, Ser. No. 796,666
5 Claims. (Cl. 298—22)



1. A dual piston and cylinder structure comprising two cylinders in rigid coaxial and coextensive relationship, a partition wall separating adjoining inner ends of said cylinders, end walls closing the outer ends of said cylinders, one of said end walls having an opening provided therein, a piston rod extending through and reciprocable in said opening and connected with a piston reciprocable in one of said cylinders, a piston reciprocable in the other of said cylinders, a coiled compression spring in the latter cylinder compressible between said piston and the outer end wall of said cylinder, the inner ends of said cylinders being in communication through openings provided in said partition wall, and check valve means cooperating with said openings and housed in said partition wall to control fluid flow between said cylinders to provide a certain flow rate in one direction between said cylinders with said check valve means seated and a different flow rate in the opposite direction with said check valve means unseated.

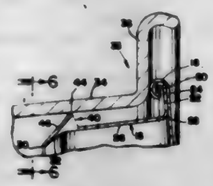
3,145,057
VEHICLE HOPPER CLOSURE
Percy R. Taggart, Sylmar, Calif., assignor, by mesne assignments, to Challenge-Cook Bros. Incorporated, La Mirada, Calif., a corporation of California
Filed Aug. 24, 1959, Ser. No. 835,752
25 Claims. (Cl. 298—35)



1. In combination with a hopper adapted to handle lading and having an elongated wide-mouthed discharge opening of sufficient capacity for the lading to be precipitously discharged upon full opening of said discharge opening, inner and outer pairs of horizontally extending closure gates for said opening having upstanding end walls and including means pivotally supporting said gates adjacent the opposite ends of said elongated discharge opening for swinging movement toward and away from a medial vertical plane through said discharge opening, said pivotal support means for supporting said inner and outer gates for independent movement and being so arranged that when all gates are in their respective closed positions gravity forces are effective on the outer pair of gates to urge them to swing toward one another and effective on the inner gates to urge them to swing away from their closed position, and means to move said gates to and to hold them selectively in open, closed and intermediate positions therebetween.

18. A mobile material transporting vehicle having a chassis provided with at least one pair of rear wheels, an elongated hopper adapted to handle lading supported lengthwise of said chassis having an outlet opening spaced closely above the roadway, said opening being substantially as wide as the spacing between the lateral side walls of said hopper whereby to dump lading from the hopper into a relatively wide-based low-height heap, a plurality of pairs of closure members normally closing said hopper outlet opening and pivoted to swing about axes parallel to the longitudinal axis of said hopper and positioned above the material supporting surfaces of said closure members when closed, the bottoms of one pair of said closure members, when closed, being positioned substantially below the level of the axles of said rear wheels and close to the roadway, and means including fluid-powered means connected with one pair of said closure members and effective to hold all of said members closed when actuated in one direction and effective to open said one pair of closure members outwardly and upwardly away from the roadway in advance of the opening of the second pair of closure members when actuated in the reverse direction.

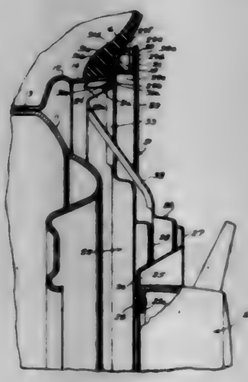
3,145,058
WHEEL COVER
Carl J. Demrick, Birmingham, Claude J. Marshall, Ypsilanti, and Victor A. Seaborn, Adrian, Mich., assignors, by mesne assignments, to Avis Industrial Corporation, Detroit, Mich., a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,890
9 Claims. (Cl. 301—37)



1. In a wheel structure which has an annular axially extending rim portion, a circular wheel cover having a disc and a continuous axially extending annular flange of a diameter less than the diameter of said rim portion for telescoping nested engagement within said rim portion, said flange having an outer end secured to said disc and an inner end spaced from said disc and being formed for radial flexing movement with respect to said outer end, and a plurality of cover retaining teeth pressed from peripherally spaced portions of said flange, each of said teeth forming integral continuations of said flange in a circumferential direction and being inclined radially outwardly in a direction toward said flange outer end and

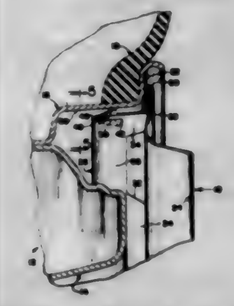
terminating in an elongated retaining edge adapted to grippingly engage said rim portion, said retaining edges being located along a substantially circular path extending about said flange, said path being of a diameter sufficiently greater than the diameter of said rim portion such that telescoping of said flange into said rim portion effects a radially inwardly flexing movement of the portions of said flange formed with said retaining teeth, said teeth being arranged in a spaced apart relation such that the distance between at least some of said teeth is sufficient to provide for a radially outward flexing movement of the portions of said flange between said some teeth when said teeth are in gripping engagement with said rim portion.

3,145,059
SPOKE TYPE WHEEL COVER
Edward G. Hemstreet, Southfield, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1962, Ser. No. 217,454
6 Claims. (Cl. 301—37)



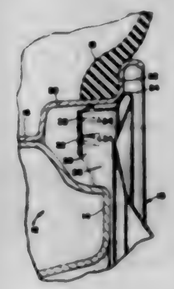
1. In a wheel structure,
a non-wire spoke type wheel and a cover structure having means securing the cover structure in press-on, pry-off assembly with the wheel,
the cover structure comprising a pair of axially inner and axially outer spoke type cover members each comprising a sheet metal stamping and having a series of circumferentially spaced spokes,
the spokes on one of the cover members being staggered circumferentially of the spokes on another of said cover members and with the spokes on the axially outer cover member extending generally radially and axially across and between the spokes on the axially inner cover member creating a wire spoke wheel effect on the wheel, the spokes being disposed in circumferentially spaced planes intersecting along a line through a central axis of said cover members,
the cover structure further including a spinner disposed on the axially outer side of said cover members and screws having heads disposed on the axially inner side of said cover members and with the screws being extended through the central areas of said cover members and threaded into said ornament securing the cover members in bottomed engagement with an axially inner face of said spinner in unitary assembly.

3,145,060
WHEEL COVER
Carl J. Demrick, Birmingham, Mich., assignor to Avis Industrial Corporation, Almont, Mich., a corporation of Delaware
Filed Aug. 28, 1962, Ser. No. 220,020
9 Claims. (Cl. 301—37)



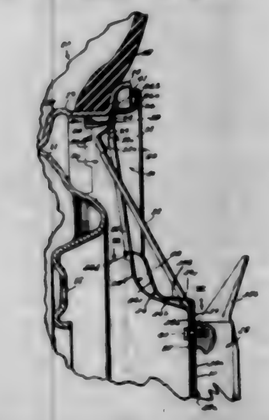
3. In a wheel structure having a side flange and an axial flange radially and axially inward thereof, a cover for disposition at the outer side of the wheel structure comprising a circular member having an outer peripheral portion overlying said side flange, and an annular member extending axially inwardly within said axial flange, said annular member having a continuous generally cylindrical band at its axially innermost end and a plurality of circumferentially spaced leg portions integral therewith and extending axially outwardly and having their terminal ends secured to the peripheral portion of said circular member, said band including a plurality of retention elements extending radially outwardly therefrom and having terminal edges for retainingly engaging said axial flange.

3,145,061
WHEEL COVER
Carl J. Demrick, Birmingham, Mich., assignor to Avis Industrial Corporation, Almont, Mich., a corporation of Delaware
Filed Nov. 14, 1962, Ser. No. 237,651
6 Claims. (Cl. 301—37)



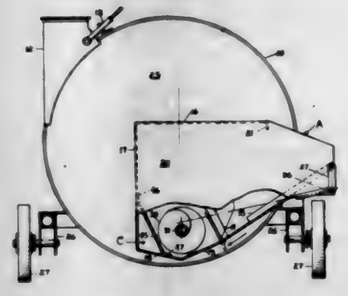
1. In a wheel structure having rim and body parts including a side flange and an axial flange located radially and axially inward of the side flange, a cover for disposition at the outer side of the wheel structure having a rearwardly turned outer peripheral edge and having extending rearwardly and radially inwardly from said edge a continuous annular flange provided with a plurality of extensions resiliently yieldable in a radial direction and mutually resisting such yielding by the common connection through said annular flange, said extensions being arcuately curved at their inner terminal ends in conformity with the circumference of the annular flange and having at such terminal ends circumferentially extending deformations for rigidifying such terminal ends for resisting deformation of the arcuate configuration of the extensions, each of said extensions having a series of circumferentially aligned slots therein and a series of retention elements deflected radially outwardly from the material of the extensions axially inward of the slots so that a series of circumferentially aligned retention elements are provided extending radially and axially outwardly and having the inner edges of said slots defining radially and axially outwardly facing straight edge portions in circumferential alignment for retainingly engaging said axial flange.

3,145,062
SPOKED WHEEL COVER
John S. Judd, Birmingham, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Feb. 19, 1963, Ser. No. 259,553
10 Claims. (Cl. 301—37)



9. A vehicle wheel cover structure comprising
an axially outer spoked cover plate having a first set of circumferentially spaced spokes including a central plate portion and an outer exposed ring portion with the spokes being formed integral at one end with an outer margin of the central plate portion and integral with an axially inner margin of the outer ring portion, the outer exposed ring portion having circumferentially spaced open sided notches at its inner margin,
an axially inner spoked cover plate having a second set of circumferentially spaced spokes disposed circumferentially between the spokes of said first set and having an inner plate portion and an outer concealed ring portion disposed axially behind said central plate portion and said outer exposed ring portion with said second set of spokes having outer spoke end portions engaged in said notches in said outer exposed ring portion,
said spokes having simulated ferrules at radially outer ends at junctions of the spokes with the associated outer ring portion,
means substantially lockingly encasing radially inner ends of the spokes in both sets, said means including a pair of cover members each having circumferentially spaced notches with the notches on one of the cover members engaged with the radially inner ends of the first set of spokes in one of the sets and with the notches on another of the cover members engaged with the radially inner ends of the second set of spokes, and
means mounted on an underside of the cover structure for securing the cover structure in removable assembly with a vehicle wheel.

3,145,063
FORAGE BLOWER
Edward V. Kools, Appleton, Wis., assignor to Kools Brothers, Inc., Menasha, Wis., a corporation of Wisconsin
Filed Mar. 27, 1962, Ser. No. 182,825
8 Claims. (Cl. 302—37)

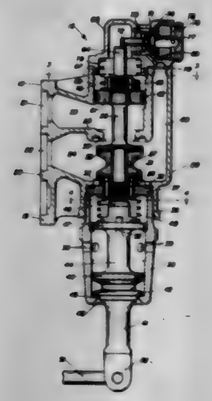


1. In a forage blower, a blower housing of substantially cylindrical shape, a receiving bin attached to one side of said blower housing, said bin including a rear wall and a floor at a substantial angle to the rear wall, the bin floor being mounted adjacent to and slightly above the lower periphery of said blower housing, an opening in said one side of said blower housing below the center thereof to permit feeding of forage thereinto from said bin, an impeller rotatably mounted within said blower housing for rotation at its lower extremities from front to rear of the forage blower, a conveyor in the lower portion of said bin to feed forage from the bin into said blower housing, and a baffle plate mounted in said bin adjacent that side of said conveyor which is toward the rear of the forage blower, said baffle plate being connected to the rear wall of the bin intermediate its top and bottom edges and inclined downwardly forwardly to the floor of said bin between the rear wall and the conveyor, the edge of said baffle plate adjacent said blower housing being inclined downwardly outwardly with respect to said housing, said baffle plate with the bin rear wall and floor forming a chamber having an opening into the bin at least by virtue of said downward outward inclination of an edge of the baffle plate.

3,145,064
BRAKE CYLINDER RELEASE VALVES
Henry R. Billeter, Deerfield, Robert E. Campbell, Arlington Heights, and Harry I. Tramblie, Western Springs, Ill., assignors to Sloan Valve Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 16, 1962, Ser. No. 230,964
9 Claims. (Cl. 303—69)

1. In a brake cylinder release valve, a casing having a connection with a brake control valve and a connection with a brake cylinder, a valve stem in said casing having a double acting valve member on one end and a piston slidable in said casing on the other end, a valve seat in said casing opened by said valve member to permit free passage of air pressure from said brake control valve to said brake cylinder, a spring on said valve stem biasing said valve member in said open position, manual operated means in said casing for actuating said valve stem to move said valve member to close on said valve seat and disconnect the air pressure from said brake cylinder while

retaining the air pressure from said brake control valve, said retained air pressure being effective on one side of said piston opposed to said spring to hold said valve stem and valve member in actuated position after said manual operating means is released, a second valve seat normally closed by said valve member and opened upon movement of said valve member to exhaust the air pressure to atmosphere from said brake cylinder, a relief valve in said



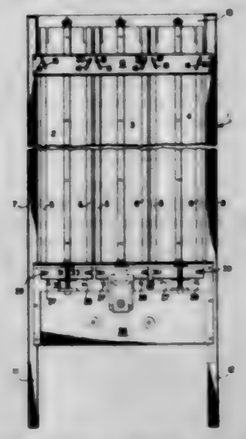
casing having a valve seat controlling the exhaust of air pressure from the other side of said piston to atmosphere, said relief valve having a horizontally disposed stem arranged opposite the upper end of said main valve stem, the operation of said main valve stem being effective to contact said relief valve stem and tilt the same to open said relief valve as said piston is moved from one of its seats to the other, and spring means on said relief valve stem for restoring the same.

3,145,065
BEARING ASSEMBLY
Edward J. Cator, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 26, 1961, Ser. No. 162,029
3 Claims. (Cl. 308—6)



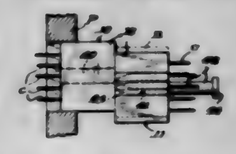
1. A bearing assembly including a housing and a slide disposed within said housing, two pairs of vertically spaced longitudinally extending resilient tubular members, a first of said pairs horizontally aligned with a second of said pairs, said pairs disposed between said slide and said housing and forming longitudinally extending trackways, a plurality of balls, a retainer for confining said balls in spaced relation to each other and in rolling contact with said trackways, and means limiting the movement of said slide, said balls, said trackways forming lateral and vertical supports between said housing and said slide and said tubular members so constructed and arranged that the resiliency of said tubular members compensates to a high degree for relatively small inconsistencies in the diameter of said balls.

3,145,066
VENDING MACHINES
Wilbert O. O'Neal, Arlington Heights, Ill., assignor, by mesne assignments, to L. W. Menzimer, trustee, Rockford, Ill.
Filed July 12, 1962, Ser. No. 209,421
4 Claims. (Cl. 312—45)



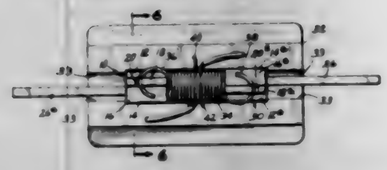
1. A vending machine having at least one compartment therein adapted to contain mechandise, said compartment having spaced apart substantially parallel sidewalls which are capable of movement toward and away from one another, a plurality of slotted support members, projecting means on each of sidewalls adapted to fit into certain of the slots on said support members, the slots on said support means being arranged in such a manner that said sidewalls are capable only of parallel movement with respect to one another, movable means associated with at least one of said support members, said movable means having slots therein which are adapted to receive certain of the projecting means on each of said sidewalls, whereby movement of said movable means serves to move said projecting means in the slots in said support members and thereby move said sidewalls with respect to one another to vary a dimension of said compartment.

3,145,067
POSITION-AND-LOCK JACK
Benjamin Mihalevich and Donald D. Rinehart, Galion, Ohio, assignors to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed May 25, 1962, Ser. No. 197,716
2 Claims. (Cl. 339—75)



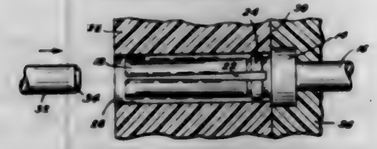
2. A position-and-lock jack construction comprising a pair of blocks each having formed therethrough a plurality of passages each opposable in communicating relation with a passage in the other block, a spring terminal in each of said passages, means removably securing the terminal in the passage, means for connecting one end of each terminal to a conductor, the terminals in opposable passages constituting pairs with one terminal of each pair having the end thereof other than said one end substantially flat and projecting out of the passage and with the other terminal of the pair having said other end thereof terminating within the passage and having a protrusion thereon, said blocks being movable toward and from each other respectively to and from a position with the terminals of said pairs in overlapping but offset relation, means for shifting the blocks from said position to a second position with the terminals of each pair disposed in stressed contacting relation, and means to lock the blocks in said second position, said block shifting and locking means comprising a plurality of corresponding apertures in the blocks located to extend in pairs partially offset but communicating relation upon positioning of the blocks to bring the terminal pairs into unstressed engagement and to extend in substantially registering pairs upon disposition of the blocks in said second position thereof, and a plurality of wedge members each engageable in a registering pair of apertures to hold the blocks in the second position, each of said wedge members being longitudinally movable in the aperture pairs into the communicating opening between the apertures in said partially offset relation to effect relative movement of the blocks to the second position.

3,145,068
WIRE CONNECTOR
Herbert S. Neale, 601 Grace St., Albert Lea, Minn.
Filed Oct. 9, 1962, Ser. No. 229,441
4 Claims. (Cl. 339—200)



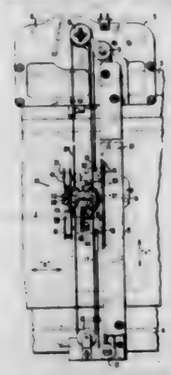
1. A device for connecting wires comprising:
(*a*) first and second support means,
(*b*) bar means extending from each of said first and second support means connecting said first and second support means in slidable relationship,
(*c*) coil spring means connected to and normally urging said first and second support means together,
(*d*) said bar means forming pressure responsive means for moving said first and second support members apart to separate the convolutions of said spring whereby wires may be inserted therebetween for clamping engagement thereby when said first and second support means are allowed to move together.

3,145,069
ELECTRICAL CONNECTOR
Nell F. Damon, Cumberland, R.I., and Ralph C. Hoy, Attleboro, Mass., assignors to Augat, Inc., a corporation of Massachusetts
Filed Sept. 18, 1961, Ser. No. 138,894
1 Claim. (Cl. 339—218)



In combination, a housing of substantially rigid electrically nonconductive material, a cylindrical bore extending through said housing, an electrical connector mounted in said bore, said connector being constructed of relatively resilient, electrically conductive material and comprising a hollow cylindrical shank portion, the outer diameter of which is less than the diameter of said bore, said shank portion being open at one of its ends for slidably receiving a male prong, a solid circular flange at the other end of said shank portion, the outer diameter of which is substantially greater than that of said bore, a peripheral, circumferential rib on said shank portion located adjacent to but spaced from said flange, the outer diameter of said rib being just slightly greater than the diameter of said bore, and a pair of diametrically opposed slots extending longitudinally along said shank portion to a point beyond said rib but terminating short of said flange, said shank portion being maintained in said bore by the frictional engagement of said rib therein with said flange in abutting relation with one end of said bore, said bore, said rib, and said slots cooperating to cause said shank portion to be automatically crimped, whereby a proper size male prong that is slid into said shank portion is resiliently gripped therein.

3,145,070
MULTIPLE SYMBOL GRAPHICAL RECORDER
Monroe A. Miller and Jerry A. Stegenga, Coral Gables, Fla., assignors to Milgo Electronic Corporation, a corporation of Florida
Filed Jan. 8, 1963, Ser. No. 250,182
12 Claims. (Cl. 346—29)

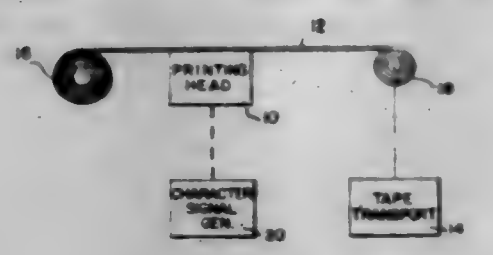


1. Plotting apparatus comprising an arm adapted for movement in a first coordinate; a carriage mounted on said arm for movement along said arm in a second coordinate; a first pulley fixedly mounted on said arm remotely from said carriage; first means for rotating said first pulley; first cable means connected to said carriage and driven by said first pulley to move said carriage along said arm; a rotatable wheel mounted on said carriage; a second pulley fixedly mounted on said arm and remote from said carriage; second means for rotating said second pulley; second cable means driven by said second pulley and engaging said wheel to rotate said wheel, said wheel being rotatable by said second cable responsive to movement of said carriage as well as to rotation of said second pulley; and third means for rotating said second pulley to compensate said wheel for the rotation caused by the movement of said carriage, said third means being operative responsive to the rotation of said first pulley.

3,145,071
HIGH SPEED THERMAL CONTACT PRINTER
Arthur W. Vance, Palos Verdes Estates, Calif., assignor, by mesne assignments, to Teledyne, Inc., a corporation of Delaware
Filed Sept. 11, 1961, Ser. No. 137,077
6 Claims. (Cl. 346—76)

1. A high-speed printing head comprising a plurality of thermally and electrically conducting plates separated from each other by insulative layers and forming a lami-

nated structure, each of said plates being selectively adapted to receive electric current and to transmit said current therethrough, and a plurality of printing elements mounted on said plates and adapted to receive electric



currents, said elements being electrically and thermally connected to said plates, each of said printing elements being relatively small with respect to said plates and further adapted to attain relatively high temperatures in response to said electric currents.

3,145,072
PHOTOGRAPHIC RECORDER

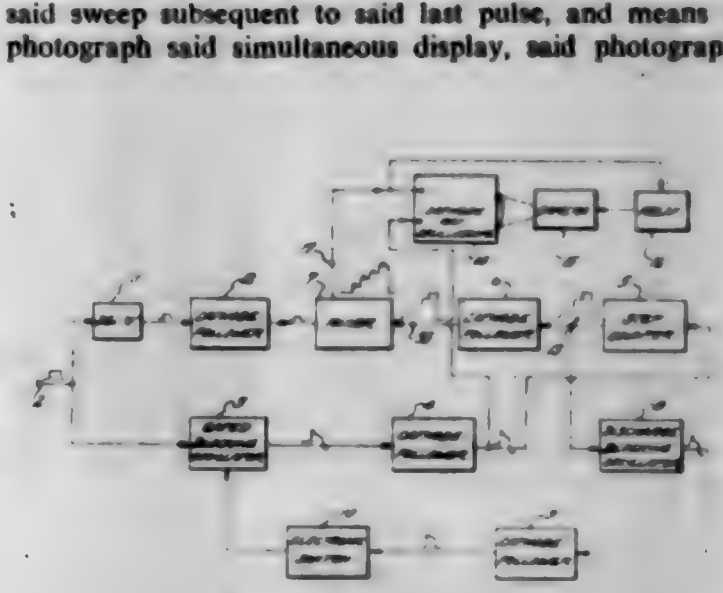
Paul J. Daly, Quincy, and Joseph F. Clark, Lexington, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

Original application Feb. 27, 1962, Ser. No. 176,159. Divided and this application Sept. 10, 1963, Ser. No. 308,040

5 Claims. (Cl. 346—110)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An electronic signal analyzer comprising means to display a series of pulses simultaneously on the face of a cathode ray tube of an oscilloscope, each pulse of said series being successively displaced from the other in the vertical direction, means to trigger the sweep of said cathode ray oscilloscope with each pulse of said series of pulses, electronic switching means to switch off said sweep subsequent to said last pulse, and means to photograph said simultaneous display, said photograph-



ing means including a camera having a shutter and positioned to photograph said simultaneous display, a relay arranged so that said shutter is normally closed, said relay being actuated by the first pulse of said series to open said shutter and upon the termination of the last pulse of said series said actuation being eliminated said shutter closes.

CHEMICAL

3,145,073
TREATMENT OF POLYOLEFIN ARTICLES AND RESULTING PRODUCTS

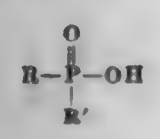
Domenick Donald Gagliardi, 185 Howland St., East Greenwich, R.I.

No Drawing. Filed Apr. 18, 1962, Ser. No. 188,568

14 Claims. (Cl. 8—100)

2. A process for improving the surface characteristics of a preformed article composed of solid olefin polymer which comprises:

(*a*) applying to said article an organic phosphoric acid having the following formula:



(I)

wherein

(1) R is a radical selected from the group consisting of alkyl, aryl, alkoxy and aryloxy containing 2 to 20 carbon atoms, and

(2) R′ is a radical selected from the group consisting of hydroxy, alkyl, aryl, alkyloxy containing 2 to 20 carbon atoms and aryloxy,

(*b*) heating the article with the applied organic phosphoric acid to a temperature between about 10° C. below the melting point of said polyolefin and 100° C. to cause at least a part of said organic phosphoric acid to become permanently associated with said article,

(*c*) removing from the resulting article those portions of the organic phosphoric acid which do not become permanently associated with said article as a result of said step (*b*), and

(*d*) recovering the resulting modified polyolefin article having improved surface characteristics.

3,145,074
ISOCYANATE TREATMENT OF WOOL IN PRESENCE OF METHYLPYRROLIDONE

Nathan H. Koenig, Berkeley, and Ross A. Crane, Oakland, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 2, 1962, Ser. No. 227,961

8 Claims. (Cl. 8—127.6)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for chemically modifying wool which comprises reacting wool under essentially anhydrous conditions, in the presence of N-methyl-2-pyrrolidone, with an organic isocyanate of the class consisting of aliphatic, aromatic, and aromatic-aliphatic isocyanates.

3,145,075
PROCESS FOR CHEMICALLY CURLING CELLULOSE ACETATES

Paul Ernst and Walter Fischer, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a German corporation

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,591

Claims priority, application Germany Nov. 17, 1959

4 Claims. (Cl. 8—131)

1. Process for chemically curling cellulose acetate fibers which comprises immersing said fibers in a bath consisting essentially of water and 2–10% of an oxycarboxylic acid ester of an aliphatic alcohol having 1–6 carbon atoms, and heating said bath with said fibers immersed therein to a temperature of 90–100° C.

3,145,076

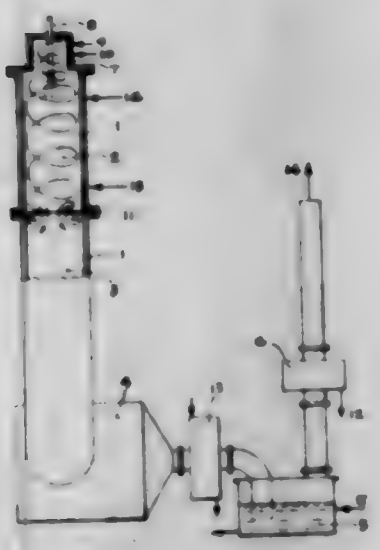
OXIDATION OF SUBSTANCES SUSPENDED OR DISSOLVED IN A LIQUID RESISTANT TO OXIDATION

Martin Reichert, Frankenthal, Pfalz, and Leo Unterstenhoefer, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Continuation of application Ser. No. 149,719, Nov. 2, 1961. This application Aug. 7, 1963, Ser. No. 303,713

Claims priority, application Germany Nov. 4, 1960

4 Claims. (Cl. 23—1)



1. A process for the complete combustion of solid waste substances said substances being selected from the group consisting of carbon black and organic polymers whereby entirely gaseous products are formed, which process comprises: passing said substances incorporated in an oxidation-resistant liquid axially into a first zone of a combustion chamber, tangentially introducing an oxygen-containing gas and fuel into an antechamber of said combustion chamber whereby a flame supporting gas stream is formed, said gas stream moving in a spiral path from said antechamber through the first zone of said combustion chamber in the vicinity of the wall of said combustion chamber, substantially evaporating said liquid in said chamber, mixing said waste substances and said gas stream at a substantial distance from the point of introduction of said waste substance and said gas stream into said chamber, and thereafter passing said intimately mixed substance and gas stream through an orifice into a second zone of said chamber wherein complete combustion of said waste substance takes place, the internal diameter of said orifice being substantially less than that of said first and said second zone of said chamber.

3,145,077

PREPARATION OF PHOSPHORYL ISOCYANATES

Harold Crosbie Fielding, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,240

Claims priority, application Great Britain Jan. 12, 1961

4 Claims. (Cl. 23—14)

1. Process for making phosphoryl triisocyanate comprising reacting phosphorus trichloride with a cyanate chosen from the group consisting of sodium cyanate and potassium cyanate in a liquid sulphur dioxide medium to give a solution of phosphorus triisocyanate therein, reacting said solution with sulphur trioxide, separating a chloride selected from the group consisting of sodium chloride and potassium chloride from the reaction mixture and distilling phosphoryl triisocyanate from the latter.

3,145,078

METHOD OF REPROCESSING NUCLEAR FUEL ELEMENTS

Gerald Strickland, Blue Point, Richard Johnson, Shoreham, Frederick L. Horn, Sayville, and Charles B. Bartlett, West Islip, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 7, 1962, Ser. No. 193,626

5 Claims. (Cl. 23—14.5)

1. A process for recovering of uranium from clad uranium bearing nuclear fuel elements, said elements being clad with a material selected from the group consisting of zirconium, stainless steel, carbides and aluminum, comprising intimately contacting and reacting the clad element with liquid NOF.X(HF), wherein X is an average number ranging from about 3 to about 12 while maintaining the temperature of the liquid at a temperature ranging from about 80° F. to about 100° F. until all of the clad element has been reacted with said liquid, separating the liquid portion of the reaction products, evaporating the separated liquid portion to dryness, thereafter recovering the uranium from the solute remaining from said evaporated liquid portion.

3,145,079

PROCESS FOR THE PREPARATION OF PURIFIED HYDROGEN BROMIDE GAS BY THE USE OF ACTIVATED CARBON AS CATALYST

Max L. Harbough, New Shrewsbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,805

1 Claim. (Cl. 23—154)

In a process for the preparation of purified hydrogen bromide gas from an impure hydrogen bromide gas produced by the reduction of bromine with sulfur in the presence of water, said impure hydrogen bromide gas containing in addition to hydrogen bromide only stoichiometric quantities of

(*a*) sulfurous impurities calculated as SO_2, and

(*b*) free bromine,

and not less than 2 moles of water for each mole of said sulfurous impurity, the step comprising catalytically converting said sulfurous impurities and free bromine to H_2SO_4 and HBr by contacting said impure hydrogen bromide gas with activated carbon while maintaining a temperature from about 25° C. to 125° C.

3,145,080

PURIFICATION OF DILUTE COMMERCIAL SULFURIC ACID

Kurt Jockers, Ludwigshafen (Rhine), and Hermann Meier, Ludwigshafen (Rhine)-Gartenstadt, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

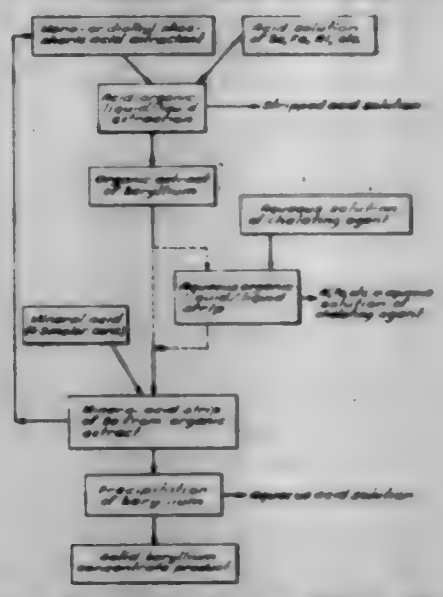
No Drawing. Filed Oct. 27, 1961, Ser. No. 148,040

Claims priority, application Germany Nov. 15, 1960

5 Claims. (Cl. 23—172)

1. A process for the purification of dilute commercial sulfuric acid which comprises treating said sulfuric acid in the presence of active carbon with hydrogen sulfide in an amount between about 2 mg. per liter of sulfuric acid and an amount corresponding to the solubility of hydrogen sulfide in the sulfuric acid and, after separating the active carbon from the sulfuric acid, destroying the remainder of the hydrogen sulfide with hydrogen peroxide in the presence of active carbon.

3,145,081
PROCESS FOR CONCENTRATION AND PURIFICATION OF BERYLLIUM VALUES
Joseph P. Surls, Jr., and Robert R. Grinstead, both of Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 28, 1961, Ser. No. 162,824
7 Claims. (Cl. 23—183)



1. A process for recovering beryllium values dissolved in an aqueous acid solution which comprises: (1) contacting a beryllium containing aqueous acid solution of pH from about 0.4 to about 2 with a member selected from the group consisting of mono- and dialkyl substituted orthophosphoric acids wherein the number of carbon atoms present in each alkyl group of said substituted orthophosphoric acid ranges from about 4 to about 18 thereby to extract said beryllium values from said aqueous acid solution into the alkyl phosphoric acid, (2) separating the beryllium poor aqueous acid phase and beryllium-alkyl phosphoric acid extract, (3) and, contacting the beryllium-alkyl phosphoric acid extract with mineral acid thereby to strip the beryllium values from said extract and recovering the beryllium values from said mineral acid.

3,145,082
STABILIZED HYDROXYLAMINE AND ITS METHOD OF PREPARATION
Douglas A. Rausch, James L. Kroon, and Ralph A. Davis, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 7, 1959, Ser. No. 857,990
13 Claims. (Cl. 23—190)

1. In a process for the preparation of hydroxylamine wherein a hydroxylamine hydrohalide salt is reacted with an alkali metal alcoholate, the alkali metal halide salt formed as a result of the reaction is removed from the reaction mixture, and the hydroxylamine crystallized from the alkali metal halide-free reaction mixture, the step of stabilizing the hydroxylamine produced, which comprises adding a chelating agent selected from the group consisting of the trisodium salt of hydroxylethylethylenediaminetriacetic acid, the tetrasodium salt of ethylenediaminetetraacetic acid, polyvinyl pyrrolidone, and poly-N-vinyl-5-ethyl-2-oxizolidinone to the alkali halide salt-free reaction mixture prior to the crystallization of the hydroxylamine.

3,145,083
PRODUCTION OF SILICON TETRACHLORIDE
Louis S. Belknap, Malden, and Clifford Le Roy Carpenter, Wellesley Hills, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware
No Drawing. Filed June 22, 1959, Ser. No. 821,703
5 Claims. (Cl. 23—205)

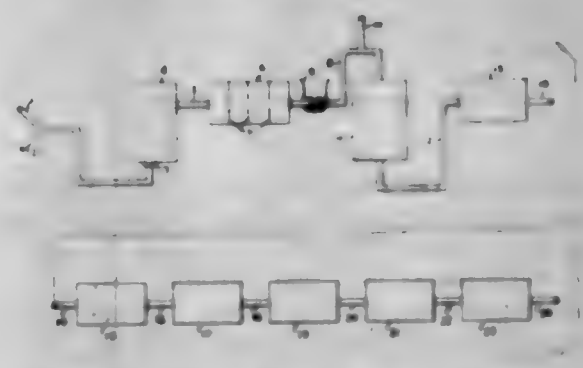
1. A process for producing silicon tetrachloride at high yields which consist essentially of treating a solid charge consisting essentially of hi-grade silica sand containing at least 95% by weight of silica with a reactant chosen from the group consisting of a gaseous mixture of carbon monoxide and chlorine, and phosgene, at temperatures substantially above about 2200° F.

3,145,084
PURIFICATION OF LIQUID BROMINE CONTAMINATED WITH ORGANIC IMPURITIES
Leo Rudolf Belohlav, Lafayette, Ind., assignor to Great Lakes Chemical Corporation, West Lafayette, Ind., a corporation of Michigan
Filed Feb. 6, 1963, Ser. No. 256,607
6 Claims. (Cl. 23—216)



1. A process for increasing the purity of liquid bromine contaminated with organic impurities which comprises the steps of
(1) mixing the contaminated bromine as a liquid with an amount of a 5 to 30 percent aqueous solution of a bromide which dissolves less than all of the contaminated bromine to produce a two phase system consisting of undissolved contaminated bromine containing most of the organic contaminants and an aqueous phase containing bromine dissolved therein,
(2) separating the aqueous phase from the undissolved contaminated bromine,
(3) heating the separated aqueous phase to volatilize the thus-purified bromine dissolved therein, and
(4) condensing and recovering the thus-purified liquid bromine.

3,145,085
PRODUCTION OF HIGH PURITY NITROGEN
Homer H. Bremit, Shelbyville, Ind., assignor to General Electric Company, a corporation of New York
Filed Mar. 23, 1961, Ser. No. 97,853
6 Claims. (Cl. 23—220)



1. In the production of high purity nitrogen gas from the combustion of hydrocarbon gas in which the quantities of carbon monoxide and hydrogen of the combustion product are reduced by oxidation with a precise excess of oxygen, the process of reducing fluctuations in the combustion product gas stream composition before introduction of said oxygen which comprises passing said stream through a baffled tank.

3,145,086

DIAGNOSTIC COMPOSITION

Alfred H. Free, Elkhart, Ind., and Gary D. Lower, Chicago, Ill., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed May 5, 1960, Ser. No. 26,953
14 Claims. (Cl. 23—253)

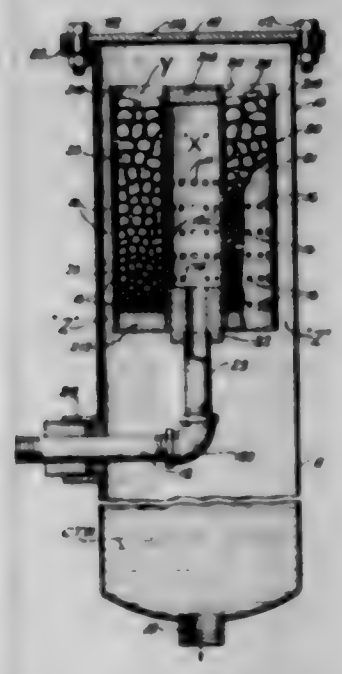
1. A composition for detecting urea present in a fluid which comprises a bibulous material containing impregnated therein an enzyme system having urease activity, an indicator material which changes color in the presence of a pH change and a buffer for maintaining the pH of the composition within a predetermined range in the presence of the fluid containing said urea.

3,145,087

FEEDERS FOR DISSOLVING CHEMICALS INTO INTERMITTENT FLOW FLUID SYSTEMS

Alexander Marriott Walker, 699 Shepardbush Road, Birmingham, Mich.

Filed May 22, 1961, Ser. No. 111,829
4 Claims. (Cl. 23—272.6)



1. A feeder for dissolving slowly soluble chemicals in pelletized or lump form at a substantially even rate into an intermittent flow fluid system comprising

a closed reservoir tank for receiving chemically treated fluid including a fluid inlet means at the upper portion thereof connectable to a source of untreated fluid under pressure and an outlet means at the bottom thereof connectable to a point of intermittent chemically treated fluid demand therefrom,

a basket for soluble pelletized chemicals in the top of said reservoir tank spaced therefrom and including partition means therein providing in said basket a closed plenum chamber and an open top chemical chamber,

said tank including a removably sealed means through which the open top chemical chamber may be charged,

said fluid inlet means to said reservoir tank being connected to said plenum chamber,

the lower portion of the partition between said plenum chamber and said chemical chamber having a plurality of fluid passages therethrough communicating with said chemical chamber,

the lower portion of said chemical chamber having a plurality of fluid outlet passages therethrough with a total area greater than that of said fluid passages communicating from said plenum chamber to said chemical chamber,

the height of the bottom of said chemical basket within said reservoir tank being such that the level of the chemically treated fluid in said tank is always maintained below the said chemical basket by air pressure established within said reservoir tank responsive to fluid under pressure entering said tank when chemically treated fluid is not being withdrawn by demand therefrom,

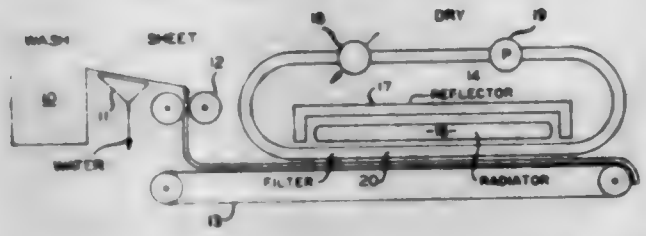
and valve means in said fluid inlet means operable responsive to the weight of a charge of soluble chemicals in said chemical basket closing responsive to depletion of said charge of said soluble chemicals substantially to the level of the uppermost of the fluid passages in said plenum chamber.

3,145,088

RUBBER DRYING

Dwight L. McKay, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 3, 1961, Ser. No. 93,108
6 Claims. (Cl. 34—4)



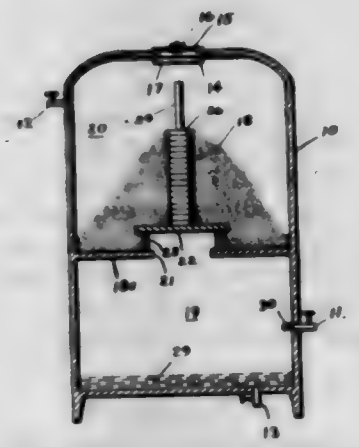
1. In a process of drying wet rubber crumb obtained from a wash zone using a radiant heat source in which at least one-half of the total radiant energy from the source lies in the range of 1 to 7 microns wavelength, the improvement comprising filtering up to 20 percent of the energy from the source to remove radiant energy in the range of 3 to 4 microns wavelength, and exposing said rubber to the thus filtered radiation.

3,145,089

CORROSION PREVENTING AIR DRIER

Orlo Clair Norton, 544 Virginia Ave., Erie, Pa.

Filed Mar. 1, 1961, Ser. No. 92,696
1 Claim. (Cl. 55—281)



An air drier comprising a tank having an inlet and an outlet spaced from each other, a partition between said inlet and said outlet dividing said tank into an inlet section and an outlet section, said partition having an opening therethrough, a baffle over said opening, a desiccant supported on said baffle, a desiccant inlet in the top of said tank, a removable cover on said tank closing said desiccant inlet, a post attached to said baffle and extending generally perpendicular therefrom, zinc metallic flat washers on said post, and a drain at the bottom of said tank for draining out the solution of desiccant and water removed from the air.

3,145,090
METHOD OF MAKING BODY FROM GLASS PARTICLES
Dean A. Buckner, Perinton, and Harold C. Hafner, Webster, N.Y., assignors to Bausch & Lomb Incorporated, a corporation of New York
No Drawing. Filed Jan. 7, 1960, Ser. No. 940
1 Claim. (Cl. 65—18)

A method of making a shaped body of a compacted mass of particles composed of a relatively unstable glass composition comprising pulverizing the glass to a particle size having a relatively high proportion of coarse particles which are smaller than 60 mesh and a relatively small proportion of fine particles, forming the pulverulent mass into a loosely cohesive body by pressing at about 10,000 pounds per square inch, heating the loosely cohesive body to a temperature of about 725° C., maintaining the body at about 35,000 pounds per square inch of sectional area of the mass in a plane perpendicular to the direction of pressure for about 15 minutes, thereby to close the voids between the particles of said mass by deformation of said particles and to bond the particles together into a cohesive, dense body.

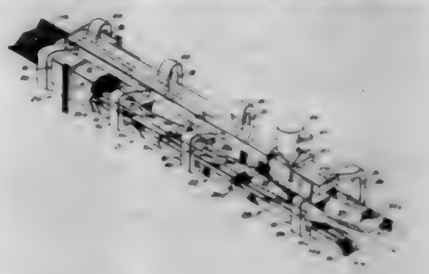
3,145,091
METHOD FOR PERFORMING THE FIRST STEPS IN CONVERTING AN OPEN-ENDED GLASS TUBE INTO A PLURALITY OF FEVER THERMOMETERS
Arthur Sonni and Anthony Sonni, both of 33—40 75th St., Jackson Heights, N.Y.
Filed July 21, 1958, Ser. No. 749,927
2 Claims. (Cl. 65—108)



1. The method of manufacturing fever thermometers which comprises, holding a glass tube stationary in vertical position, applying heat substantially simultaneously to two vertically spaced cross sections of the tube, and, simultaneously with heating said cross sections, supplying air under pressure into the tube to cause its bore to expand at said cross sections and thus forming two spaced blisters allowing said cross sections to cool, applying heat to a third cross section of the tube intermediate said spaced apart cross sections, and, while the tube is softened at said third cross section, supplying air under pressure into the tube momentarily to expand the bore of the tube at said third cross section to form a third blister, and thereafter applying elongating force to the tube to stretch it and elongate said third blister as well as the tube and to facilitate breaking the tube along a cross section of the tube intermediate the ends of said third blister.

3,145,092
LEHR FOR GLASSWARE
Alfred S. Decker, Toledo, and James W. Johnesee, Maumee, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Aug. 28, 1961, Ser. No. 134,180
6 Claims. (Cl. 65—351)

6. In a lehr for heat treatment and cooling of glassware comprising top, bottom and side walls defining an elongated tunnel, an air permeable conveyor extending lengthwise of the tunnel from an inlet end to an exit end and spaced intermediate the top and bottom walls thereof for moving glassware supported thereon the length of the tunnel, said tunnel having at least one lengthwise cooling section adjacent the exit end, means for providing coolant air under pressure supplied from the exit end into the cooling section of the tunnel for flow counter to the movement of the conveyor and in the region overlying the ware on the conveyor as it is moving through the cooling section of the lehr on said traveling conveyor, a longitudinal elongated duct beneath said conveyor in said cooling section, the duct being constructed and arranged to define a longitudinally extending tapered slot-like opening into the duct that varies in area along its length, an exhaust conduit connected into said duct, the area of the opening progressively increasing along the duct in a divergence that extends in either longitudinal direction from the region where the exhaust conduit connects with the duct, said tapered slot-like opening being disposed in the bottom region of the tunnel and inwardly from the side walls thereof.



3,145,093
ACIDIC FERTILIZER-CONTAINING SLAG
Harold W. Wilson, P.O. Box 1101, El Paso, Tex.
No Drawing. Filed May 16, 1960, Ser. No. 29,130
9 Claims. (Cl. 71—62)

1. A process for making an acidic soil-fertilizing and soil-improving solid hydrated siliceous gelatinous product which comprises intimately mixing dry pulverized slag with a hot aqueous acid solution having an acid concentration of from 35 to 70 percent by weight before the slag is contacted with the acid; said slag being copper refining reverberatory furnace slag, a typical analysis thereof comprising about 30 percent by weight of silicon dioxide, about 15 to 35 percent by weight of iron, a total of approximately 16 to 22 percent by weight of calcium, aluminum, magnesium and manganese (expressed as oxides), approximately 1 percent by weight of sulfur, approximately 7 percent by weight of combined oxygen and approximately 2 to 4 percent by weight of zinc, copper, lead boron and molybdenum; said acid being a member selected from the group consisting of sulfuric acid phosphoric acid and a mixture of sulfuric and phosphoric acids, and said hot aqueous acid solution being at a temperature from about 212° F. to at most the boiling point of the aqueous acid solution, whereby an acidic soil-fertilizing and soil-improving solid hydrated siliceous gelatinous product is produced.

5. Solid dry acidic granular gelatinous hydrous silicate soil-improving and soil-fertilizing product comprising, within a hydrophilic colloid molecular branch structure, (1) hydrate of ferrous sulfate, (2) ferrous sulfate acid, (3) calcium and magnesium sulfates, (4) unreacted sulfuric acid combined physically with ferrous sulfate, (5) gels of silicic acid and aluminum oxide, and (6) trace amounts of sulfates and oxides which are reaction products of (*a*) at least one metallic element selected from the group consisting of zinc, copper, manganese, boron and molybdenum and (*b*) sulfuric acid; the gelatinous product holding the above-defined constituents in a state of readiness for slow liberation through progressive decomposition, being non-toxic to soil, being capable of reducing the alkalinity of soil, being capable of reducing evaporation-of-water loss in soil, being capable of reducing transpiration loss from plants, being capable of inducing soil granulation and being capable of enhancing soil structure; said gelatinous product being the reaction product at an elevated temperature of (*a*) 10 parts by weight of air-cooled reverberatory furnace copper refining slag, said slag having a typical analysis comprising about 30 percent by weight of silicon dioxide, about 15 to 35 percent by weight of iron, a total of approximately 16 to 22 percent by weight of calcium, aluminum, magnesium and manganese (expressed as oxides), approximately 1 percent by weight of sulfur, approximately 7 percent by weight of combined oxygen and approximately 2 to 4 percent by weight of zinc, copper, lead, boron and molybdenum, (*b*) from 5 to 10 parts by weight of sulfuric acid and (*c*) from 3 to 12 parts by weight of water, the elevated temperature being above 212° F. and at most the temperature at which the water and acid admixture boils, the concentration of acid in said water and acid admixture being from 35 to 70 percent prior to contact with the slag, and the slag being of a particle size no coarser than 100 mesh.

3,145,094
PROCESS AND APPARATUS FOR MAKING STEEL FROM POWDERED IRON ORE
Toitsu Nakajima, 1224 Fujisawa, Fujisawa-shi, Japan
Filed Sept. 6, 1960, Ser. No. 54,023
Claims priority, application Japan Sept. 12, 1959
3 Claims. (Cl. 75—38)



1. In a process for making steel from powdered iron ore comprising the steps of oxidation roasting said ore, reduction roasting said ore and melting the resultant reduced product, each step being effected in a separate zone, the improvement comprising

(1) oxidation roasting powdered iron ore-limestone fluidized mass to calcination in a first zone, said fluidized mass being created by blowing exhaust gas from said reduction roasting through said first zone, whereby said powdered iron ore-limestone mass is oxidized,

(2) cyclone separating said resultant oxidized fluidized mass, whereby oxidized powdered iron ore admixture is separated from fluidizing gas,

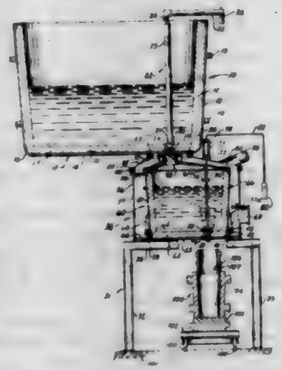
(3) reduction roasting the resultant powdered admixture from step (2) in fluidized mass in the presence of carbon, said fluidized mass being created by blowing elemental carbon-containing reducing gas of step (6) therethrough, whereby elemental iron is produced,

(4) cyclone separating the resultant reduced fluidized mass, whereby elemental iron is separated from said reducing gas,

(5) melting resultant elemental iron in a melting zone at about 1600° C., heat for said melting provided by combusting hydrocarbon with oxygen in said zone, whereby liquid iron and reducing gas are produced,

(6) admixing the resultant reducing gas with carbonaceous material to thereby form fluidizing gas for the reduction roasting of step (3).

3,145,095
METHOD AND APPARATUS FOR CONTINUOUSLY TAPPING AND DEGASSING MOLTEN METAL INTO INGOT MOLDS
Erwin F. Franzen, Lansing, Ill., assignor to A. Finkl & Sons Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 18, 1960, Ser. No. 15,875
13 Claims. (Cl. 75—49)



1. A continuous degassing-teeming process in which degassed molten metal is continuously teemed into a plurality of molten metal receptacles, said process including the steps of,

placing a quantity of undegassed molten metal which is greater than the quantity of molten metal to be received in any final receptacle into which the degassed molten metal is to be teemed above an intermediate receptacle,

passing molten metal downwardly from the reservoir into the intermediate receptacle,

removing at least a portion of the included deleterious gases from the downwardly passing molten metal by subjecting said downwardly passing molten metal to a vacuum sufficiently low to effectively degas it,

forming a pool of molten metal in the intermediate receptacle as long as undegassed molten metal remains in the reservoir by regulating the rate of admission of the molten metal from the reservoir to the intermediate receptacle, and the teeming rate of the molten metal from the intermediate receptacle to the teeming receptacles,

the minimum depth of the pool in the intermediate receptacle being the depth corresponding to the pressure differential between atmospheric pressure and the absolute pressure to which the pool is subjected, the pool having a depth of from 54.5 inches to 6 feet,

subjecting the pool of molten metal in the intermediate receptacle to a vacuum sufficiently low to effectively degas it, and,

teeming the degassed molten metal into a plurality of final receptacles each of which is of a smaller capacity than the reservoir.

3,145,096
METHOD OF DEGASSING OF MOLTEN METAL
Charles W. Finkl, Chicago, Ill., assignor to A. Finkl & Sons Co., Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 5, 1961, Ser. No. 114,651
8 Claims. (Cl. 75—49)

1. A method of vacuum degassing a bath of molten steel in a container within the permissible temperature

drop limitation of the metal, said method including the steps of removing a substantial quantity of the slag from the surface of the bath and thereafter, in the absence of a deoxidizer sufficiently active to deoxidize the molten metal to an appreciable extent prior to degassing, subjecting the molten metal to a vacuum approaching 2 mm. Hg or less for a period of time determined by the formula

$$T=\left(\frac{d \text{ in inches}}{10 \text{ to } 30}\right)^{2}$$

in which T=time in minutes at which the heat is subjected to the vacuum and d=depth of the molten metal in inches, and, during the subjection of the molten metal to vacuum, reducing heat transfer from the bath to a minimum by maintaining little temperature differential between the upper surface of the bath and a radiant heat intercepting surface located thereabove.

3,145,097
SHOCK-CHILLING CONDENSERS FOR A ZINC BLAST-FURNACE

Leslie Jack Derham, Avonmouth, England, assignor to Metallurgical Processes Limited, Nassau, Bahamas, a corporation of the Bahamas, and The National Smelting Company Limited, London, England, a British company, doing business as Metallurgical Development Company, Nassau, Bahamas

No Drawing. Filed June 26, 1961, Ser. No. 119,308
Claims priority, application Great Britain July 4, 1960
2 Claims. (Cl. 75—63)

1. In the blast furnace smelting of zinc, in which zinc vapour coming from the furnace is subjected to shock-chilling with circulating molten lead to condense the zinc vapour, metal impurities, arsenic and iron, present in the zinc vapour also being condensed with the zinc, the improvement in combination therewith which comprises adding an excess of aluminium to the circulating molten lead in the condensing system to cause the formation of compounds between the aluminium and said metal impurities, and to reduce the rate at which the molten zinc oxidizes, precipitating said compounds in the molten lead, allowing the precipitated compounds to gather at the surface of the circulating molten lead, removing the precipitated compounds from the surface of the molten lead to inhibit the formation of accretions of the compounds in the condensing system, and permitting said aluminium to form a protective oxide film over the molten lead-zinc mixture.

3,145,098
BERYLLIUM ALLOYS

Thomas Raine, Bramhall, and James Alan Robinson, Cheadle, England, assignors to Associated Electrical Industries Limited, London, England, a British company

No Drawing. Filed June 7, 1962, Ser. No. 200,633
Claims priority, application Great Britain June 27, 1961
3 Claims. (Cl. 75—150)

1. A corrosion resistant beryllium-base alloy consisting of 0.1% to 3%, by weight, of calcium, 0.1% to 2%, by weight, of a metal selected from the group consisting of zirconium, niobium, vanadium and titanium, and remainder beryllium including unavoidable impurities.

3,145,099
NON-GALLING BEARING ALLOY OF SILVER IN NICKEL BASE

William J. Parsons, Waukesha, Wis., assignor to Waukesha Foundry Company, Waukesha, Wis., a corporation of Wisconsin

No Drawing. Filed May 22, 1961, Ser. No. 111,469
4 Claims. (Cl. 75—170)

1. A non-galling nickel-base bearing alloy adapted for self-mating as well as other bearing usage and essentially consisting of the following ingredients in the indicated ranges of percentages by weight:

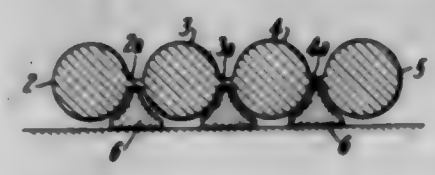
	Percent
Silver	3–8
Zinc	3–9
Tin	6–9
Manganese	Up to 3
Carbon	Up to .3

The balance essentially nickel.

3,145,100
PRODUCTION OF SINTERED SLENDER SHAPES

Stuart E. Tarlton, Massey, and Edward G. Wojtowicz, Lake Secor, N.Y., assignors to Chromalloy Corporation, West Nyack, N.Y., a corporation of New York

Filed Dec. 21, 1962, Ser. No. 246,415
13 Claims. (Cl. 75—200)

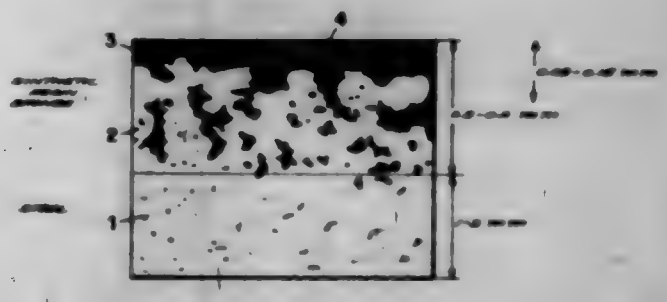


1. A method for inhibiting warpage in the production of a longitudinal slender shape from powdered ingredients consisting essentially of a mixture of at least one high melting point refractory material and a matrix metal of lower melting point by compressing said ingredients into a slender shape followed by sintering said shape at an elevated temperature between the melting point of the lower melting matrix metal and the melting point of the high melting point refractory material, said method characterized in the steps of forming as a unitary assembly a plurality of compressed slender shapes lying adjacent each other and supportably connected together via a thin severable longitudinal web between each shape, sintering the unitary assembly at said elevated temperature sufficient to form a dense structure, cooling said sintered assembly, and separating the sintered shapes from each other by severing the connecting webs along their lengths.

3,145,101
COMPOUND MATERIALS AND METHODS OF PRODUCING THE SAME

Hermann Franssen, Krefeld, Germany

Filed Mar. 30, 1961, Ser. No. 99,498
6 Claims. (Cl. 75—201)

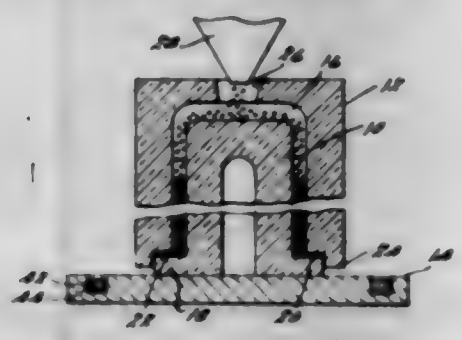


1. A method of producing a bearing comprising shaping into a moulded part on a still base a powder of at least one substance having a higher melting point than tin oxide selected from the group consisting of metals and metal alloys in admixture with tin oxide, subjecting such moulded part in the presence of a protective gas containing hydrogen to a temperature sufficient to reduce the tin oxide, whereby to solder the particles of such substance to one another and to leave residual pore spaces therebetween, and introducing poloxymethylene into said pore spaces.

3,145,102
METHOD OF AND APPARATUS FOR MAKING SINTERED POWDERED METAL PARTS

Hermann C. Simonich, 130 Barrington Place, Dearborn, Mich.

Filed Feb. 24, 1961, Ser. No. 91,458
9 Claims. (Cl. 75—214)



1. That method of making a sintered powdered metal part which comprises: positioning permeable ceramic molds so as to define a mold cavity, charging said cavity with a substantially homogeneous mass of powdered metal, compacting said mass of powdered metal in said cavity without substantial separation of particles thereof of different sizes, purging air from said molds and said compacted mass of powdered metal through the pores of said permeable molds, heating said molds with the compacted mass of powdered metal in the cavity thereof in a controlled non-oxidizing sintering atmosphere to an elevated temperature so as to bring said molds and such mass to a substantially uniform temperature at or just below the lower end of the sintering temperature range for said powdered metal, gradually and uniformly heating said molds and such mass through the lower portion of said sintering temperature range for a time period sufficient to sinter said mass and so that all of such mass will be uniformly sintered at substantially the same temperature level at substantially the same time during said period, venting gas from the mold cavity through the pores of said permeable molds as the heating proceeds, slowly cooling said hot sintered mass and molds in a neutral atmosphere, said method being characterized in that said molds are movable relative to each other and exert a yielding pressure on said mass in said mold cavity so that the adjacent surfaces of said molds and such mass remain in intimate contact with each other during the heating and cooling thereof, and that said molds heat and cool the mass solely by the conduction of heat through said molds which shield said mass from radiant heating and cooling.

3,145,103
HOT PRESSING BARRIER MATERIAL

Robert G. Carlson, Greenhills, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,289
2 Claims. (Cl. 75—214)

1. The process of hot-pressing powdered refractory metal in graphite die by interposing a carbon barrier of tantalum therebetween, and thereby minimizing the migration of graphite from the die to the metal during the hot pressing of the powdered refractory metal.

3,145,104
PHOTOGRAPHIC PROCESSES COMPRISING CROSS-LINKING OF THIOL POLYMERS

Gisela K. Oster and Gerald Oster, both of 36 Grove St., New York, N.Y.

No Drawing. Filed Aug. 7, 1959, Ser. No. 832,168
11 Claims. (Cl. 96—33)

9. A photo-reproduction process which comprises irradiating with a visible light image a polymer having a molecular weight of at least 10,000 and thiolated with sufficient synthetically produced sulfhydryl groups to cross-link the polymer by the formation of disulfide bonds upon oxidation containing a dissolved organic photo-reducible dye incapable of being reduced by said polymer in the absence of light, but capable of being reduced by the sulfhydryl groups of said polymer when photo-excited with visible light, said photo-reducible dye being present in an amount sufficient to, upon being irradiated with visible light, cause oxidation of sulfhydryl groups of said polymer, converting said groups to disulfide groups cross-linking the polymer said irradiation being of sufficient duration and intensity to photo-excite at least a portion of said dye, thereby cross-linking said polymer and thereafter washing out the uncross-linked portions.

3,145,105
SYNTHETIC FILM MATERIALS

Edward William Lee, Ilford, England, assignor to Ilford Limited, Ilford, England, a British company

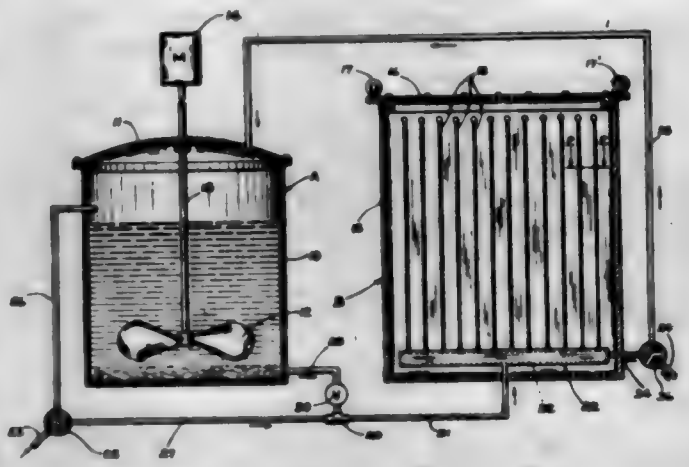
No Drawing. Filed Sept. 15, 1961, Ser. No. 138,253
Claims priority, application Great Britain Sept. 29, 1960
20 Claims. (Cl. 96—87)

12. A photographic material consisting of a film of synthetic linear polyester of highly hydrophobic character having superimposed thereon, in order, (1) a mixture consisting essentially of a polyamide resin and a curable epoxy resin directly adherent to the said film, (2) a partially hydrolysed polyvinyl chloride-polyvinyl acetate copolymer, (3) a copolymer of methyl methacrylate with a compound selected from the class consisting of maleic acid and itaconic acid, said copolymer containing free carboxyl groups, (4) a gelatin-containing layer, and (5) a layer of a photographic gelatino silver halide emulsion.

3,145,106
ADDITION OF DRY CLAY TO BEER

George F. Goerl, Orinda, Calif., assignor to American Tansul Company, San Francisco, Calif.

Filed Aug. 24, 1962, Ser. No. 219,308
6 Claims. (Cl. 99—48)



1. In the method of processing beer including the steps of forming a porous filter cake and passing the beer therethrough in order to pre-filter the beer after fermentation, the combination therewith of forming said filter cake by incorporating a swelling, gelling chill-proofing clay therein whereby the beer passing through said filter cake erodes at least portions of said clay from the cake into the beer to chill-proof the beer, and thereafter separating the chill-proofed beer from the clay.

3,145,107
SHORTENING PRODUCT

Norman Bratton Howard, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed May 4, 1961, Ser. No. 107,631
10 Claims. (Cl. 99—118)

1. A glyceride shortening composition which can be used in the preparation of recipe cake batters with single-stage mixing containing as additives from about 1% to about 8%, by weight, of the condensation product of a material selected from the group consisting of glycolic acid and lactic acid with a mixture of fatty acid mono- and diglycerides in ratios of from about 1:9 to about 9:1, said fatty acid mono- and diglycerides having fatty acid radicals containing from 14 to 22 carbon atoms, and from about 0.25% to about 4% by weight of material selected from the group consisting of (1) saturated fatty acids containing from 14 to 22 carbon atoms; (2) the condensation product of material selected from the group consisting of (*a*) a partial fatty acid glyceride containing an average of from one to two fatty acid radicals having from 14 to 22 carbon atoms, but not more than enough unsaturated fatty acid radicals to give a condensation product having an Iodine Value of 60, and (*b*) a monoester of a straight chain aliphatic diol with a saturated fatty acid, said diol containing from three to five carbon atoms and said saturated fatty acid containing from 14 to 22 carbon atoms with a polycarboxylic acid having from zero to four hydroxy groups, said polycarboxylic acid containing from three to six carbon atoms and said condensation product having at least one free carboxyl group per molecule; (3) the condensation product of a saturated fatty acid containing from 14 to 22 carbon atoms with a polycarboxylic acid having from one to four hydroxy groups, said polycarboxylic acid cotnaining from three to six carbon atoms and said condensation product having at least one free carboxyl group per molecule; (4) the condensation product of a saturated straight chain fatty alcohol containing from 14 to 22 carbon atoms with a dicarboxylic acid having no hydroxy groups and containing from 3 to 6 carbon atoms, said condensation product having at least one free carboxyl group per molecule; and (5) mixtures of the preceding materials.

3,145,108
SHORTENING PRODUCT

Norman Bratton Howard, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed May 4, 1961, Ser. No. 107,633
19 Claims. (Cl. 99—118)

1. A glyceride shortening composition which can be used in the preparation of recipe cake batters with single-stage mixing containing as additives from about 1.5% to about 12%, by weight, of monoester of straight chain aliphatic diol with saturated fatty acid, said diol containing from 3 to 5 carbon atoms and said saturated fatty acid containing from 16 to 22 carbon atoms, and from about 0.25% to about 4%, by weight, of material selected from the group consisting of (1) saturated fatty acids containing from 14 to 22 carbon atoms; (2) the condensation product of material selected from the group consisting of (*a*) a partial fatty acid glyceride, containing an average of from one to two fatty acid radicals having from 14 to 22 carbon atoms, but not more than enough unsaturated fatty acid radicals to give a condensation product having an Iodine Value of 60 and (*b*) a monoester of a straight chain aliphatic diol with a saturated fatty acid, said diol containing from three to five carbon atoms and said saturated fatty acid containing from 14 to 22 carbon atoms with a polycarboxylic acid having from zero to four hydroxy groups, said polycarboxylic acid containing three to six carbon atoms and said condensation product having at least one free carboxyl group per molecule; (3) the condensation product of saturated fatty acid containing from 14 to 22 carbon atoms with a polycarboxylic acid having from one to four hydroxy groups, said polycarboxylic acid containing from three to six carbon atoms and said condensation product having at least one free carboxyl group per molecule; (4) the condensation product of a saturated straight chain fatty alcohol containing from 14 to 22 carbon atoms with a dicarboxylic acid having no hydroxy groups and containing from 3 to 6 carbon atoms, said condensation product having at least one free carboxyl group per molecule; and (5) mixtures of the preceding materials.

3,145,109
SHORTENING PRODUCT AND METHOD OF MAKING THEREOF

Norman Bratton Howard, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 27, 1962, Ser. No. 182,955
14 Claims. (Cl. 99—118)

1. A glyceride shortening composition containing as additives:

(A) from about 1½% to about 16% by weight of the total shortening of material selected from the group consisting of

(1) 1,3-diglyceride containing a saturated fatty acid chain containing 16 to 22 carbon atoms and a saturated fatty acid chain containing from two to four carbon atoms;

(2) 1,2-diglyceride containing a saturated fatty acid chain containing 16 to 22 carbon atoms and a saturated fatty acid chain containing from 12 to 18 carbon atoms;

(3) mixtures of the said 1,3-diglyceride and 1,2-diglyceride containing a saturated fatty acid chain containing 16 to 22 carbon atoms and a saturated fatty acid chain containing from two to four carbon atoms in which the weight of the 1,2-diglyceride does not substantially exceed the weight of the 1,3-diglyceride; and

(4) mixtures thereof; and

(B) from about 0.25% to about 4% by weight of the total shortening of material selected from the group consisting of

(1) saturated fatty acids containing from 14 to 22 carbon atoms;

(2) a condensation product having at least one free carboxyl group per molecule of a polycarboxylic acid having from zero to four hydroxy groups and containing from three to six carbon atoms with a material selected from the group consisting of

(*a*) a partial fatty acid glyceride containing an average of from one to two fatty acid radicals having from 14 to 22 carbon atoms, but not more than enough unsaturated fatty acid radicals to give a condensation product having an Iodine Value of 60, and

(*b*) a monoester of a straight chain aliphatic diol with a saturated fatty acid, said diol containing from three to five carbon atoms and said saturated fatty acid containing from 14 to 22 carbon atoms;

(3) the condensation product of a saturated fatty acid containing from 14 to 22 carbon atoms with a polycarboxylic acid having from one to four hydroxy groups, said polycarboxylic acid containing from three to six carbon atoms and said condensation product having at least one free carboxyl group per molecule;

(4) the condensation product of a saturated straight chain fatty alcohol containing from 14 to 22 carbon atoms with a dicarboxylic acid having no hydroxy groups and containing from 3 to 6 carbon atoms, said condensation product having at least one free carboxyl group per molecule, and

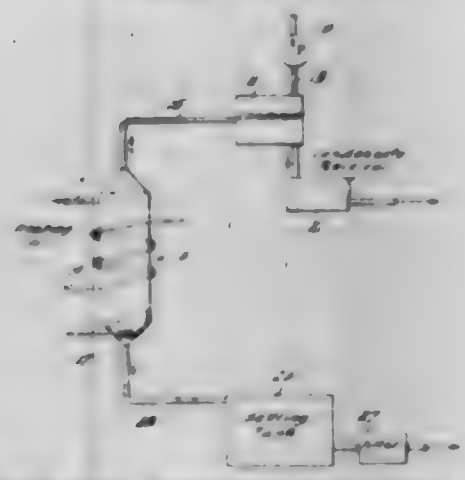
(5) mixtures of the preceding materials.

3,145,110

SHORTENING PRODUCT

Charles Theodoric Abbott, Jr., Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 27, 1962, Ser. No. 182,843
3 Claims. (Cl. 99—123)



1. A stable fluid shortening composition, suitable for use in the preparation of recipe cake batters with a single mixing step in large scale commercial baking operations, which comprises a normally liquid glyceride oil having therein from about 0.5% to about 8% by weight of the composition, of mono-ester of propylene glycol and saturated fatty acid containing from 14 to 22 carbon atoms, said shortening composition additionally comprising, by weight of the composition, from about 1% to about 5% normally solid triglyceride fat and from about 0.5% to about 10% of saturated fatty acid having from 14 to 22 carbon atoms, said triglyceride fat being at least 80% in beta phase.

3,145,111

COATING WITH HOT MELT C_3–C_4 POLYOLEFIN PACKAGING COMPOSITIONS AND ARTICLES OBTAINED THEREBY

Frederick H. Norton, Concord, Contra Costa, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 11, 1960, Ser. No. 42,151
23 Claims. (Cl. 99—169)

1. Method for coating the exposed surfaces of edible animal product selected from the group consisting of meat, fish and cheese, which method comprises applying to said surfaces a hot melt of a molten composition composed of an essentially amorphous polymer of an α-olefin monomer of 3 to 4 carbon atoms, said polymer having a molecular weight of from about 15,000 to about 40,000 and a degree of crystallinity of from 15 to 30 percent, then allowing the applied coating on the coated surfaces to cool to a hardened condition.

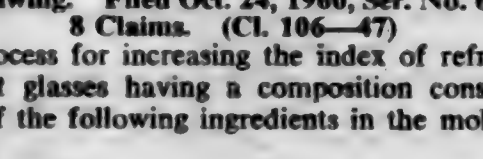
3,145,112

FOOD PACKAGE

Robert L. Boegershausen, Park Forest, Ill., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Sept. 9, 1958, Ser. No. 760,288
7 Claims. (Cl. 99—171)

1. A package comprising a pair of substantially similar pockets, each formed of light and air impervious sheet materials, each containing a food product that is sensitive to light and air and each of said pockets being surrounded by a respective rim structure, transparent film secured and sealed to the respective rim structure of each of said pockets and having bridging portions closing said pockets and covering said food products, said pockets



being placed against each other with said bridging portions of transparent film facing each other, said pockets being substantially surrounded by said light and air impervious material, and a hinge securing a portion of the rim structure of one pocket to a portion of the rim structure of the other pocket.

3,145,113

PRESSURIZED FOOD PACKAGE WITH HEXAFLUOROTRIMETHYLENE OXIDE AS THE PROPELLANT

Roy J. Mordaunt, North Oaks, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Mar. 14, 1961, Ser. No. 95,485
4 Claims. (Cl. 99—189)

1. A pressurized aerosol dispensing container in which is contained an aerosol dispensible, water-containing food product and a propellant consisting eccentrically of hexafluorotrimethylene oxide at least partially in liquefied form and sufficient volatile inert gas to adjust the container pressure to from about 50 to about 110 p.s.i.g. at 70° F.

3,145,114

PROCESS FOR INCREASING THE INDEX OF REFRACTION OF GLASS AND AN ARTICLE MADE THEREBY

Guy E. Rindone, State College, Pa. (% Prismo Safety Corporation, Huntingdon, Pa.)

No Drawing. Filed Oct. 24, 1960, Ser. No. 64,243
8 Claims. (Cl. 106—47)

1. A process for increasing the index of refraction of transparent glasses having a composition consisting essentially of the following ingredients in the mol percents indicated:

TiO_2	35.6–57.0
BaO	22.8–40.0
B_2O_3	5.5–26.9
ZnO	0–20

which comprises heating such glass to temperatures at which the viscosity of the glass lies in the range of log viscosity (poises) equals 3–14 for a period of time until the index of refraction has increased by 0.01–0.2 unit, and then cooling the glass.

5. Transparent glass articles made in accordance with the process of claim 1.

3,145,115

INFRARED TRANSMITTING GLASSES

Robert A. Weidel, Webster, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York

No Drawing. Filed May 15, 1959, Ser. No. 813,332
4 Claims. (Cl. 106—52)

1. An iron-stabilized calcium aluminate glass for the transmission of infrared radiation produced from the oxides and ingredients of a raw batch composition consisting essentially of the oxides of calcium, aluminum, alkalis, and minor quantities of alkaline earth oxides, and also including approximately one mole percent of iron oxide in the form of $FeO_{1.5}$ and 0.15 mole percent of copper oxide in the form of $CuO_{0.5}$.

3,145,116
INSOLUBILIZATION OF STARCHES WITH DIALDEHYDE POLYSACCHARIDES

Mitchell F. Zienty, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

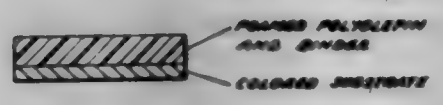
No Drawing. Filed July 7, 1960, Ser. No. 41,228
8 Claims. (Cl. 106—210)

1. A process for the insolubilization of starches which comprises adjusting the hydrogen ion concentration of an aqueous solution of starch to from about pH 4.5 to pH 6, and adding to said adjusted starch solution from about 2.5% to 10% of a dialdehyde polysaccharide by weight of said starch.

3,145,117
PROCESS FOR PRODUCTION OF PRESSURE SENSITIVE RECORDING MEDIUM

Aharon Katchalsky, 18 Dubnov St., Tel Aviv, Israel; David Vofsi, Meonot Volfson 4, Yad Weizmann, Rehovoth, Israel; and Saul Alexander Gassner, 17 Kokhavi St., Shikkunat Ephraim, Rehovoth, Israel

Filed Mar. 22, 1961, Ser. No. 97,444
4 Claims. (Cl. 117—36.7)



1. A process for the production of a pressure sensitive recording medium of the auto-copy paper type, which comprises

(*a*) dissolving a material selected from the group consisting of polyethylene having a molecular weight in the range of from 3,000 to 150,000 and polypropylene having a melt index of 1–9 and a specific gravity of 0.90–0.91, in a solvent selected from the group consisting of aromatic hydrocarbons, aliphatic hydrocarbons and halogenated hydrocarbons;

(*b*) adding an organic binder selected from the group consisting of natural rubber, synthetic rubber and polystyrene thereto, the resulting solution containing from 1% to 10% by weight of said material and from 0.2% to 5% by weight of said organic binder;

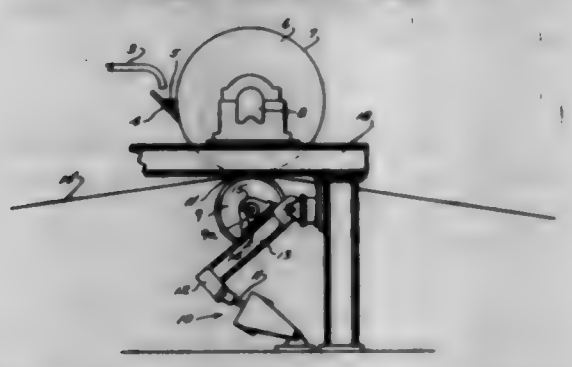
(*c*) applying said solution at an elevated temperature to a supporting sheet; and

(*d*) permitting said solvent to evaporate to produce an opaque layer adhered to the supporting sheet by said organic binder, said layer having a thickness of from 5 to 100 microns, and possessing a color distinct from that of said supporting sheet.

3,145,118
METHOD OF WAXING PAPER AND PAPER BOARD AND APPARATUS

Ralph P. Mahoney, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin

Filed Sept. 13, 1960, Ser. No. 55,755
4 Claims. (Cl. 117—65.2)

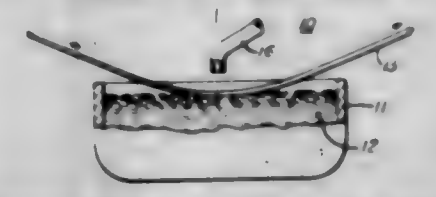


1. The method of wax-finishing surfaces of paper web materials and related web materials which comprises: applying wax to a finishing surface cooperating with a resiliently yieldable backing surface of a hardness less than 30 P. and J. (⅛" ball) to define a hard and narrow width finishing nip, maintaining the nip at a pressure within the range of from about 240–250 p.s.i. and about 2400 p.s.i. and at a temperature within the range from about 200° F. to about 400° F. to thereby finish a waxed surface in the nip, and passing a web material through the nip whereby the surface of the web material adjacent the finishing surface is waxed and finished in the nip.

3,145,119
FLOAT CASTING

Ronald P. Laforce, Schenectady, and Peter J. Clemm, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York

Filed Apr. 14, 1961, Ser. No. 103,050
1 Claim. (Cl. 117—114)

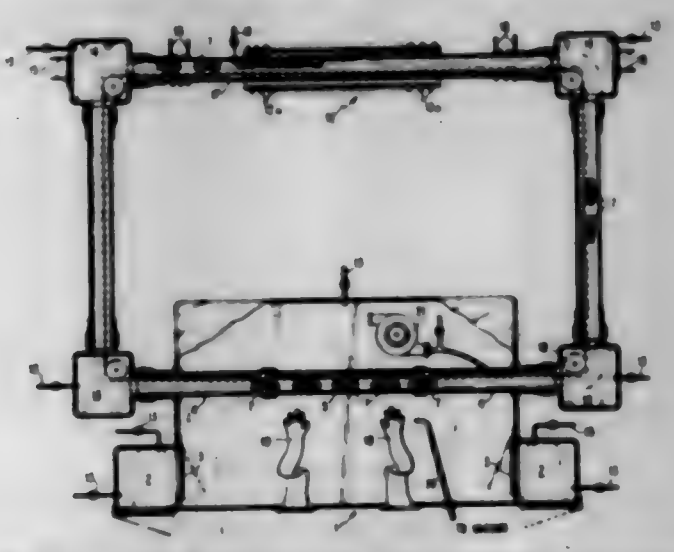


The continuous float casting method which comprises the steps of providing a body of molten casting metal, running an elongated strip continuously past the said metal body, deflecting the strip downwardly toward the molten metal body and thereby contacting the under side of successive portions of the strip with the molten metal while at the same time maintaining the upper surface of said successive portions of the strip above and out of contact with the said molten metal, deflecting the strip upwardly away from the said molten metal body so that said successive portions of the strip coated only on one side are removed from contact with the molten metal body and controlling the amount of metal accretion on the strip by contacting the upper surface of said successive portions of the strip with cooling means at a temperature substantially below the temperature of the molten metal.

3,145,120
METHOD FOR CONTROLLING FLUX PRESSURE DURING A SINTERING PROCESS

George Cheroff and Frederick Hochberg, Peekskill, Arnold Reisman, Yorktown Heights, and Sol Triebwasser, Peekskill, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 12, 1962, Ser. No. 172,699
19 Claims. (Cl. 117—201)



12. A process for fabricating sintered layer photoconductors which comprises:

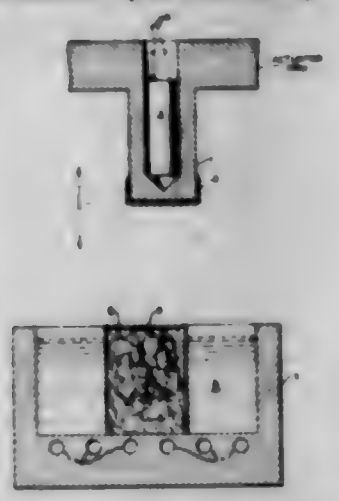
(1) doping an unsintered photoconductor material by mixing an impurity with said unsintered photoconductor material;

(2) mixing the doped material with a flux material;

(3) affixing this mixture to a suitable inert substrate;

(4) subjecting the substrate and the unsintered mixture affixed thereto to a sintering temperature cycle in an oxygen-nitrogen gas atmosphere for a time sufficient to accomplish grain growth to a desired size;
(5) controlling the flux vapor pressure in the ambient atmosphere over the mixture of sintering photoconductor material plus flux during the heat treatment at all temperatures in the sintering cycle so that the flux concentration of the sintering mixture is maintained at approximately its initial concentration during the entire sintering cycle;
(6) thereafter cooling.

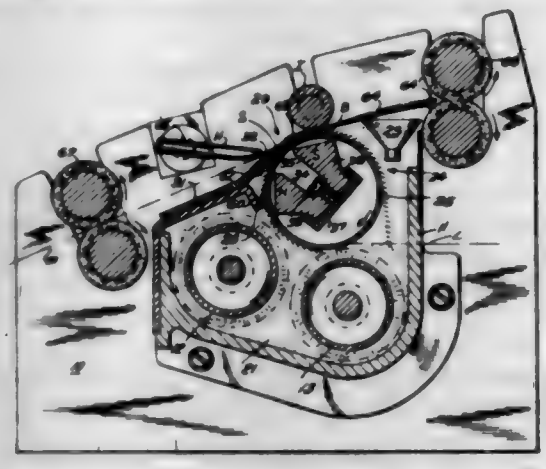
3,145,121
SELF-METERING LIQUID APPLICATOR
Donald L. Kraft and Jack T. Roark, both of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 4, 1961, Ser. No. 156,622
3 Claims. (Cl. 118—202)



3. Apparatus for applying liquid to a surface comprising a container for said liquid, said container having a base and upstanding side walls, heating means in the base of said container to maintain the liquid at a predetermined temperature, a wick of steel wool in said container of sufficient height to extend from the bottom of said container to a point above the level of liquid therein, wire mesh surrounding the top and sides of said wick, an applicator, an applicator tip on said applicator, wire mesh covering said applicator tip, said applicator tip having said wire mesh thereon adapted to contact said wire mesh on the top of said wick, the wire mesh on said wick and said applicator tip being wettable by the liquid but which does not absorb the liquid, heating means in said applicator adapted to maintain said applicator tip at a predetermined temperature, the mesh size of the wire mesh being sufficient to apply the desired amount of liquid, said amount of liquid being inversely proportional to said mesh size, and means to move said applicator tip to and from contact with said mesh surrounding said wick.

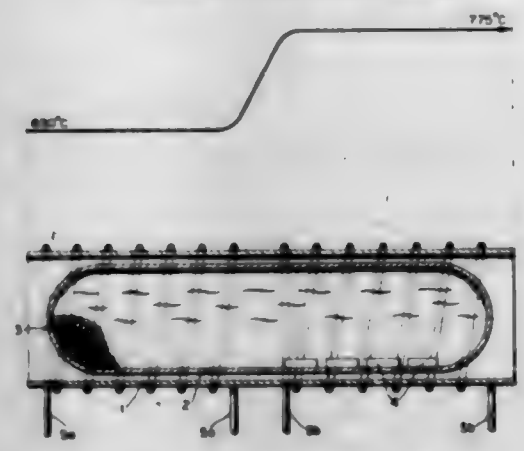
3,145,122
APPARATUS FOR APPLYING DEVELOPER POWDER TO PHOTO-CONDUCTIVE INSULATING MATERIAL
Paul B. Streich, Sr., Fox Lake, Ill., assignor to Addressograph-Multigraph Corporation, a corporation of Delaware
Filed Aug. 13, 1962, Ser. No. 216,632
4 Claims. (Cl. 118—637)

1. Apparatus for developing electrostatically charged latent images on photo-conductive insulating material, comprising an open top trough containing developer powder, applicator roller means mounted for rotation in said trough for feeding the developer powder to the open top portion of said trough, a flexible sealing cover extending across the open top of the trough and thus minimize escape of developer powder from said trough, said sealing cover being of a material in the triboelectric series carrying the same charge as is carried by the developer powder to repel the developer powder and thus minimize deposi-



tion of developer powder on said sealing cover and means for feeding said photo-conductive insulating material having the latent images thereon across said open top beneath said sealing cover to receive the developer powder from said applicator roller means.

3,145,123
DEGENERATE DOPING OF SEMICONDUCTOR MATERIALS
John C. Marinace, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 4, 1960, Ser. No. 67,400
4 Claims. (Cl. 148—33.1)



1. A semiconductor device comprising a germanium crystalline wafer having contiguous regions of opposite conductivity type which are degenerately doped so as to define a tunneling junction having a V–I characteristic with a well-defined negative resistance region separating two positive resistance regions, the region of *p* conductivity type having a concentration of zinc of approximately 2.6×10^{18} atoms/cc.

3,145,124
HEAT TREATMENT OF NICKEL-CHROMIUM-COBALT ALLOYS
Harold William George Hignett, Hereford, Ernest James Bradbury, Solihull, Ronald Alfred Smith, West Hagley, and David Marshall Ward, Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 13, 1962, Ser. No. 179,475
Claims priority, application Great Britain Feb. 17, 1961
6 Claims. (Cl. 148—162)

1. A heat treatment process for attaining improved impact strength characteristics together with good stress-rupture properties at elevated temperature in nickel-chromium-cobalt base alloys containing a total of at least

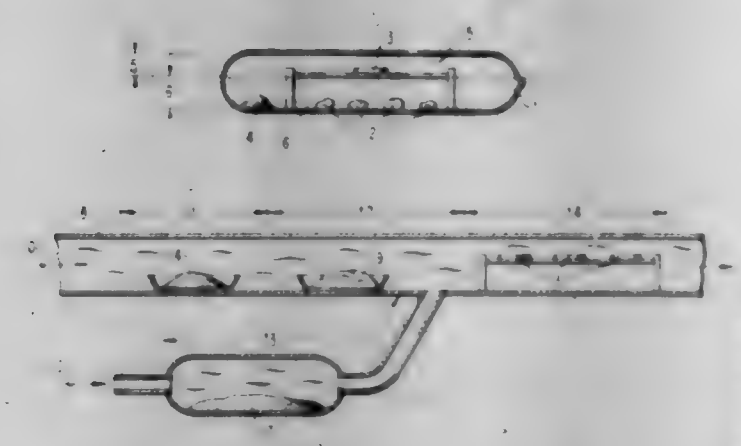
8% of aluminum plus titanium which comprises heating an alloy containing about 14.2% to about 15.8% chromium, about 14% to about 25% cobalt, about 3% to about 5.5% molybdenum, about 3% to about 4.6% titanium, about 4% to about 5.4% aluminum, the total of said aluminum plus said titanium being more than 8% and up to 9.5%, about 0.01% to about 0.2% carbon, about 0.01% to about 0.2% zirconium, about 0.003% to about 0.1% boron with the balance being essentially nickel at a temperature above the solubility temperature of the $Ni_3(Ti, Al)$ phase but below the solidus temperature of the alloy for at least 0.25 hour and thereafter precipitating the phase $Ni_3(Ti, Al)$ without the occurrence of detrimental carbide precipitation at the grain boundaries by substantially isothermally heating said alloy for at least 0.25 hour at a temperature below the solubility temperature of the $Ni_3(Ti, Al)$ phase and in excess of both 1075° C. and the temperature 50° C. below said solubility temperature of the $Ni_3(Ti, Al)$ phase.

3,145,125

METHOD OF SYNTHESIZING III–V COMPOUND SEMICONDUCTOR EPITAXIAL LAYERS HAVING A SPECIFIED CONDUCTIVITY TYPE WITHOUT IMPURITY ADDITIONS

Vincent J. Lyons, Mount Kisco, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 10, 1961, Ser. No. 123,406
19 Claims. (Cl. 148—175)



1. An epitaxially grown III–V semiconductor crystal selected from the group consisting of GaN, GaP, GaAs, GaSb, InN, InP, InAs, and InSb having a sufficient Group III constituent vacancy concentration to impart "p" conductivity type to said crystal.

12. A method of synthesizing III–V compound semiconductor crystals through epitaxial vapor growth involving a halogen vapor transport reaction in connection with a substrate which comprises the step of: increasing relative partial pressure of one of reactive constituents of said halogen vapor transport reaction in the immediate vicinity of the surface of said substrate to selectively control vacancy concentrations of the compound constituents of said semiconductor crystals so as to impart a specified conductivity type to said crystals.

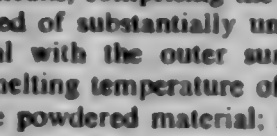
3,145,126

METHOD OF MAKING DIFFUSED JUNCTIONS

George F. Hardy, Framingham, Mass., assignor to Clevite Corporation, a corporation of Ohio

Filed Jan. 10, 1961, Ser. No. 81,833
3 Claims. (Cl. 148—187)

1. In a process of preparing a double diffused transistor, the process of preparing a slice of semiconductor material as the operative element in said transistor which comprises the steps of depositing a first impurity of a first conductivity type over both sides of said slice, oxidizing the surfaces of said sides by oxy-silane cracking, removing the oxide from one side of said slice, painting said one side of said slice with a second impurity of a second conductivity type opposite to said first conductivity



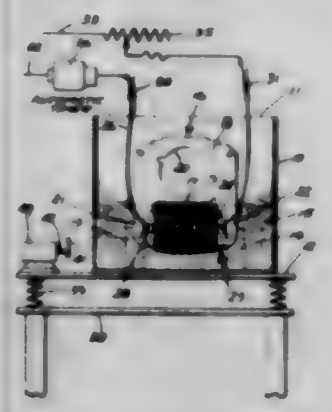
type, and diffusing said impurities into said slice, a junction being formed between said first impurity and said slice and a high surface concentration of said second impurity being developed at said one side of said slice.

3,145,127

METHOD OF INSULATING ELECTRICAL COMPONENTS, SUCH AS SMALL ELECTRIC MOTORS

Raymond F. Baun, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed June 28, 1961, Ser. No. 120,423
7 Claims. (Cl. 156—73)



4. A method of manufacturing a dynamoelectric machine including a stator core having windings formed of a number of turns of wire, a rotor and shaft assembly, and rotor supporting means, comprising the steps: placing the stator core in a bed of substantially unaerated powdered insulating material with the outer surface of windings being below the melting temperature of the material and surrounded by the powdered material; heating the outermost wires to a predetermined temperature above the melting point of the material but below the deleterious temperature of the wires to form at least a partially coalesced coating on the outer surface of the windings; discontinuing the heating of the wires and removing the stator core from the unaerated bed; partially hardening the coalesced coating; assembling the rotor and shaft assembly and the stator core in a predetermined relationship with the rotor supporting means positioned adjacent the stator core and with an unhardened adhesive bonding material in contact with said stator core and rotor supporting means; and hardening the coalesced coating and adhesive bonding material to provide a hardened continuous coating encasing the windings and to secure together the rotor supporting means with the stator core.

3,145,128

APPARATUS FOR CHEMICAL MILLING CONVEXO-CONCAVE BULKHEADS

Max H. Sharpe, 3118 Holmes Ave. NW., Huntsville, Ala.

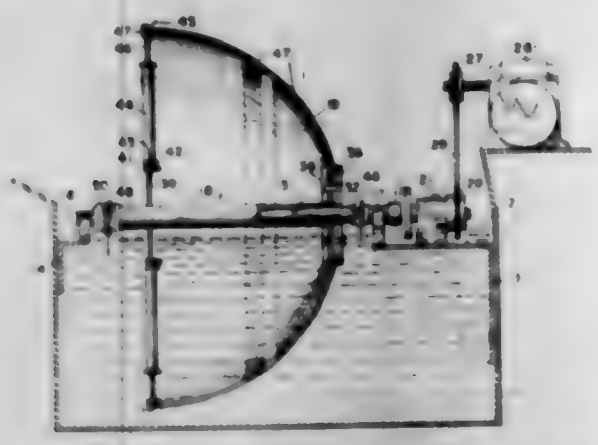
Filed Jan. 13, 1961, Ser. No. 82,657
4 Claims. (Cl. 156—345)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In an apparatus for chemical milling a convexo-concave bulkhead which converges from a large open end to an apex, the apex of the bulkhead having an aperture.

(*a*) a tank adapted to hold an etching bath,

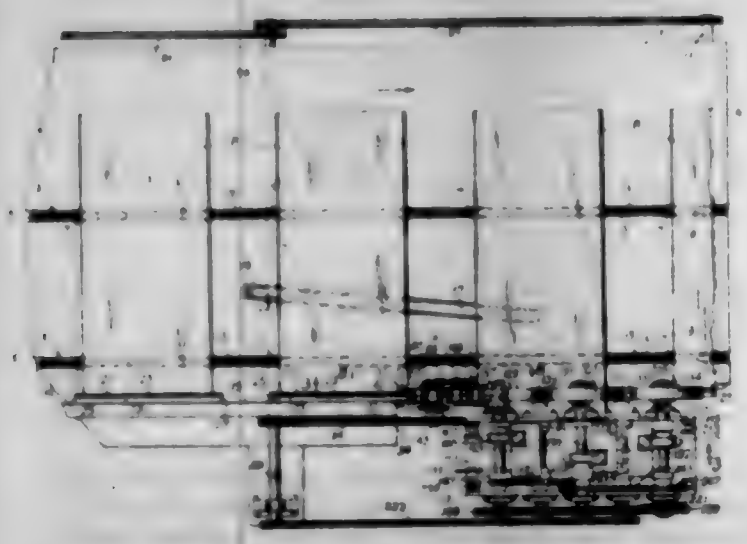
(*b*) said tank having two spaced and opposed sides;

(*c*) a pair of U-shaped bearings, one of said bearings being supported by one of said sides and the other of said bearings being supported by the other of said sides;
(*d*) an axle adapted to extend through the apex aperture of said bulkhead;
(*e*) said axle extending between and supported by said U-shaped bearings;
(*f*) said axle consisting of a first portion telescoped over a second portion;



(*g*) a first disc symmetrically secured to said first axle portion and having a face substantially flush with the end thereof telescoped over said second axle portion;
(*h*) a second disc symmetrically secured to said second axle portion spatially to the end thereof telescoped within said first axle portion;
(*i*) means for holding said first and second discs together so that they are adapted to abut the surface of said bulkhead about said aperture; and
(*j*) means for rotating said axle.

3,145,129
APPARATUS FOR MANUFACTURING BAGS
Russell J. Williams, Clayton, and Harold D. Reimer, St. Louis County, Mo., assignors to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri
Filed Aug. 8, 1960, Ser. No. 48,296
14 Claims. (Cl. 156—521)



1. Apparatus for applying tabs to bags having a single-thread unravelable stitch type closure at one end thereof, the stitching being unravelable by pulling one end of the thread, comprising means for feeding a succession of such bags in a forward direction one after another at a predetermined speed with the bags extending transversely to the direction of feed, spaced apart in the direction of feed, with their stitched ends in alignment, and with the said one end of the thread at the trailing end of the closure in respect to the direction of feed, means for feeding a strip of tab material toward the bags at a speed lower than the speed of bag feed with the strip in line with the stitching, means for providing transverse lines of weakness across the strip spaced at intervals along the length of the strip corresponding to the desired tab length, said strip feeding means operating in such timed relation to the feeding of the bags that the leading end of the strip engages a bag at a point spaced forward of the trailing end of the thread a distance less than the tab length, and means for accelerating the leading end portion of the strip up to the speed of bag feed, thereby snapping off said leading end portion of the strip at a line of weakness spaced from the leading end of the strip a distance corresponding to the desired tab length to segment a tab from the strip, and for adhering said tab to the bag over the trailing end portion of the stitching.

3,145,130
DRUM DRYING PROCESS FOR RECOVERING CONCENTRATED SODIUM HYDROSULFIDE
Ewald Wygasch, Helmut Zahn, and Werner Huehn, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Sept. 21, 1961, Ser. No. 139,597
Claims priority, application Germany Sept. 27, 1960
1 Claim. (Cl. 159—49)



A process for the recovery of high-percentage sodium hydrosulfide from dilute aqueous solutions of sodium hydrosulfide which comprises passing the solution into the feed reservoir of a double-drum drier maintained at a pressure less than atmospheric pressure and having a top feed wherein said solution is preconcentrated to a sodium hydrosulfide content of 75 to 85% whereby a crystal slurry is formed, applying said slurry in a thin layer to the heated surfaces of the two drums of said double-drum drier whereon substantially all of the remaining water is evaporated from said slurry, and discontinuing said drying on said drums after the moisture content of said slurry has been reduced to no greater than about 6% and before the temperature of said dried product on said drums exceeds a temperature of from about 100° C. to 105° C.

3,145,131
JOINT FOR CORRUGATED BOARD
Walter A. Finke, Saginaw, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 5, 1960, Ser. No. 27,204
2 Claims. (Cl. 161—36)

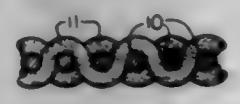
1. A joint formed between two pieces of corrugated paper board each having a corrugated filler sheet and an outer sheet affixed to each side of the filler sheet, which joint is formed so that a full section taken through any part of the joint will include, one of the outer sheets of

the first board affixed to one of the outer sheets of the second board, corrugated filler sheets of each board affixed



to each other, and the other outer sheet of the first board affixed to the other outer sheet of the second board.

3,145,132
WOVEN STRETCHABLE FABRICS
Norman L. Seltzer, Princeton, N.J., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Aug. 2, 1961, Ser. No. 128,810
13 Claims. (Cl. 161—90)



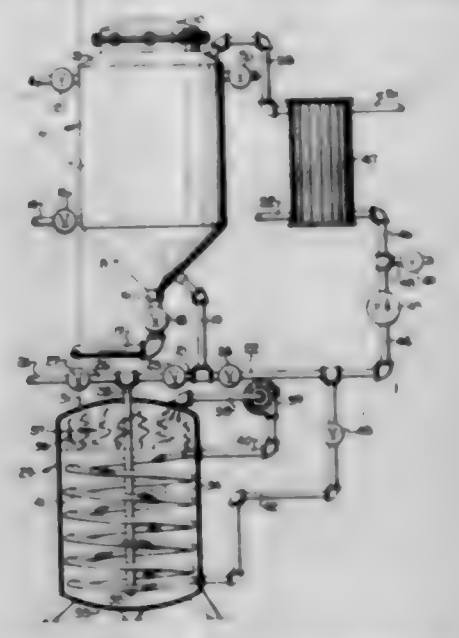
1. A woven stretchable fabric having relatively quick recoverability comprising interwoven groups of non-stretchable warp and filling yarns imparting a relatively smooth appearance to the fabric, the number of yarns per inch and the size of the yarns being sufficient to provide a cover factor of at least eight in the direction of each of said groups of yarns, and at least one group of said yarns being normally non-heat-shrinkable and having a twist multiple within the range of from 3.5 to 7 and following a sufficiently sinuous path that the fabric will stretch within the range of from 15 to 50 percent in a direction corresponding to said one group of yarns and recover therefrom, and a stabilizing material having been applied to the fabric and resiliently maintaining the fabric in non-stretched condition while still allowing the fabric to be stretched within its above-recited range of stretchability and for quickening the recovery therefrom, said stabilizing material being selected from the group consisting of thermosetting resins and cross-linking reactants.

3,145,133
POLYAMIDE FILAMENT
Bruce Arlyn Barton, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 21, 1962, Ser. No. 246,369
8 Claims. (Cl. 161—168)

1. A drawn, crimpable, composite filament comprising two continuous, adherent, polyamide components adapted to shrink differentially and thereby crimp as the filament first cools from an elevated temperature, one of said components being adapted to elongate reversibly and the other to shrink reversibly in subsequent heating-cooling cycles, said one component being of fiber-forming molecular weight and also having an initial shrinkage potential relatively higher than that of the other component.

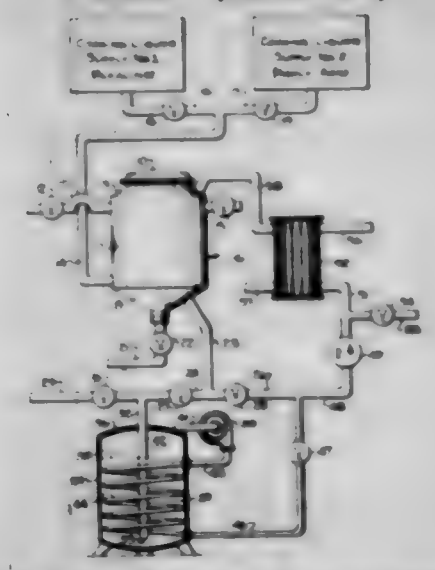
3,145,134
WOOD PULPING PROCESS
Julius D. Robertson and George M. Dickinson, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed June 4, 1962, Ser. No. 199,748
8 Claims. (Cl. 162—43)

1. A pulping process comprising the steps of, reacting wood chips in the presence of a cooking liquor in a digester by a sulfite pulping process to form solid lignosulfonates and partially complete the digestion of said wood chips, conducting the liquor from said digester to a reservoir in pressure equilibrium therewith whereby the liquor in said reservoir is isolated from the chips in said digester, evaporating the volatile components of the liquor in said reservoir to form a vapor, condensing said vapor to form a condensate, introducing said condensate into said digester in intimate contact with said wood chips to complete said digestion by hydrolytically solubilizing said



solid lignosulfonates and other components in said wood chips while simultaneously removing by leaching said solubilized wood components from said wood chips to form a liquor and adding said liquor to the liquor in said reservoir in a closed system to thereby transfer the solubilized material from said wood chips to said reservoir.

3,145,135
MULTI-STAGE PULPING PROCESS
Julius D. Robertson and Alfred M. Heald, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Sept. 4, 1962, Ser. No. 221,228
7 Claims. (Cl. 162—43)



1. A multi-stage pulping process comprising the steps of, reacting wood chips in a digester in the presence of a first stage cooking liquor at a selected ambient pH by a sulfite pulping process to form solid lignosulfonates and partially complete the digestion of said wood chips, removing the free liquor from said digester, recovering the volatile components in said liquor as a relatively clear condensate, introducing said condensate into said digester in intimate contact with said wod chips to complete said digestion by hydrolytically solubilizing said solid lignosulfonates and other components in said wood chips while simultaneously removing by leaching said solubilized wood components from said wood chips thereby forming a liquor, repeating said wood chips reacting step

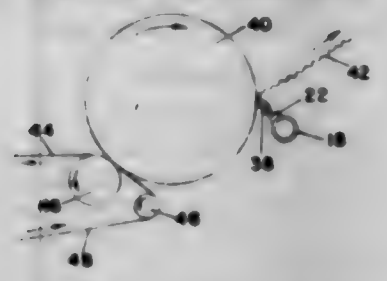
in the presence of a second stage cooking liquor selected to effect a shift in the ambient pH in the digester from the ambient pH of the first stage digestion and repeating said free liquor removing, condensate recovering and condensate introducing steps to complete said second stage digestion and to leach solubilized wood components from said wood chips thereby forming a liquor.

3,145,136

METHOD OF CREPING PAPER USING AIR JETS

Roger R. Borden, Worcester, Mass., assignor to Lodding Engineering Corporation, Auburn, Mass., a corporation of Massachusetts

Filed Oct. 28, 1961, Ser. No. 146,637
1 Claim. (Cl. 162—111)



The method of making creped paper comprising traveling a web of paper over a creping cylinder and applying thereto a stream of air at a supersonic velocity which impinges the surface of the creping cylinder with a supersonic velocity sufficient to crepe the paper and strip it from the creping cylinder, wherein the angle of the stream of air relative to the cylinder surface is approximately 25° from a tangent to the cylinder surface where the stream strikes it.

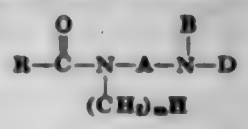
3,145,137

ALKANOYLAMIDOALKYLENEAMINES AND THEIR QUATERNARY AMMONIUM SALTS AS FUNGICIDES

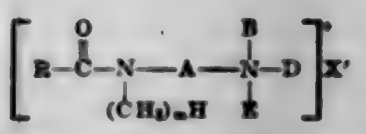
Peter E. Newallis, Crestwood, and Ernest G. Jaworski, Olivette, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 12, 1961, Ser. No. 109,500
9 Claims. (Cl. 167—22)

1. The method which comprises applying to fungal organisms in their horticultural habitats at least one compound selected from the group consisting of



and



where in the foregoing formulae R is long chain saturated acyclic hydrocarbon containing 7 to 17 carbon atoms, wherein *m* is an integer from 0 to 2, inclusive, wherein A is divalent aliphatic hydrocarbon containing 1 to 3 carbon atoms, wherein B, D and E respectively are alkyl containing 1 to 2 carbon atoms, and wherein X is halogen of atomic number in the range of 16 to 54.

3,145,138

METHOD OF KILLING NEMATODES AND FUNGI WITH TRICHLOROACRYLONITRILE

Don R. Baker, Pinole, and Thomas B. Williamson, Santa Clara, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 8, 1962, Ser. No. 164,975
2 Claims. (Cl. 167—22)

1. A method of controlling nematodes comprising applying a nematocidal amount of trichloroacrylonitrile to a nematode habitat.

3,145,139

LOW-FREEZING METHYL PARATHION SOLUTIONS

Ralph B. Fearing, Hammond, Ind., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 19, 1962, Ser. No. 238,762
3 Claims. (Cl. 167—30)

1. A non-phytotoxic methyl parathion composition comprising the following substances in approximately the indicated proportions:

	By weight, percent
Methyl parathion and technical impurities	80.0–85.0
Naphthalene	1.5–8.5
Acetonitrile	2.0–5.0
Acetone	3.0–7.0
Stabilizers	0.0–5.0

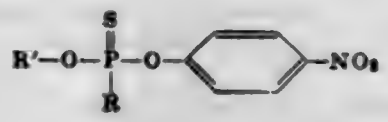
3,145,140

ALKYLPHOSPHONOTHIOATES

John P. Chupp, Kirkwood, Mo., and Peter E. Newallis, Morris Plains, N.J., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 3, 1962, Ser. No. 241,484
13 Claims. (Cl. 167—30)

1. An O-(4-nitrophenyl) alkylphosphonothioate of the formula



wherein R is lower alkyl and wherein R′ is a monohalogen substituted phenyl radical selected from the group consisting of 2-halophenyl and 3-halophenyl, the halogen substituent having an atomic weight in the range of 35 to 80.

12. The method of controlling insects which comprises contacting the insects with a toxic amount of a compound of claim 1.

3,145,141

WATER-SOLUBLE COMBINATION OF NORMALLY WATER-INSOLUBLE ZINC BACITRACIN WITH ANHYDROUS CITRIC ACID

Jerome L. Martin, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed June 25, 1959, Ser. No. 822,745
4 Claims. (Cl. 167—65)

1. A water-soluble zinc-bacitracin composition comprising normally water-insoluble zinc bacitracin and substantially anhydrous citric acid in the ratios of ¼ to 20 parts by weight of substantially anhydrous citric acid to 1 part by weight of substantially water-insoluble zinc bacitracin.

3,145,142

ANTICONVULSANT PROCESS AND COMPOSITION

Peter T. Lansbury, Williamsville, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 31, 1962, Ser. No. 198,715
7 Claims. (Cl. 167—65)

1. The process of controlling convulsive seizures which comprises administering to a warm blooded animal 1,3,5-trimethyl-s-triazine-2,4,6-(1H,3H,5H)-trione.

3,145,143

PREPARING OXYGENATED HIGH TITER VIRUS CULTURES IN NUTRIENT-FREE PHYSIOLOGICALLY BALANCED SALT SOLUTION

David Taylor-Robinson, % Harvard Hospital, Coombe Road, John Craig Nicholson Westwood, 73 St. Francis Road, and Harold Thomas Zwartouw, 15 Montague Road, all of Salisbury, Wiltshire, England

No Drawing. Filed Aug. 19, 1960, Ser. No. 50,591

Claims priority, application Great Britain Feb. 29, 1960

3 Claims. (Cl. 167—78)

1. A process for the production of a high titer suspension of a given virus and which comprises preparing a suspension of tissue cells capable of replicating said virus and having a concentration of between 5×10^7 cells/ml. and 10^8 cells/ml. in a nutrient-free physiologically balanced salt solution, infecting the cells with virus at a rate of at least one virus per cell, and incubating the suspension in the presence of a gas phase containing from 5 to 95% oxygen by volume to maintain an adequate oxygen solution rate until one cycle of virus replication has taken place.

3,145,144

PROCESS FOR MANUFACTURING CHROMIUM TREATED VACCINES

Koji Ando, 39 Kotakiche, Nakano-ku, Tokyo, Japan, assignor of one-half to Takeda Pharmaceutical Industries, Ltd., Osaka, Japan

No Drawing. Continuation of application Ser. No. 299,757, July 18, 1952. This application Sept. 28, 1960, Ser. No. 58,885

Claims priority, application, Japan, Aug. 9, 1951, 26/10,366

9 Claims. (Cl. 167—78)

1. A method for the preparation of stabilized bacterial vaccine which comprises subjecting a saline suspension of bacteria containing immunizing surface antigen to the action of a disinfectant selected from the group consisting of formalin and sodium ethylmercurithiosalicylate, admixing the disinfected suspension with aqueous solution containing 0.05 to 0.2% of a member selected from the group consisting of chrome alum, chromium sulfate, chromic chloride and chromic nitrate, maintaining the resulting admixture at a pH between 4 and 6 and at a temperature of about 37° C. for about 5 days, whereby the immunizing surface antigen is combined with chromium, thereafter centrifuging the resulting product and resuspending the so-collected bacteria in disinfectant-containing physiological salt solution.

3,145,145

MAGNESIA AND GOLD TEMPERATURE TELLTALE INDICATORS

Solomon Reznek and William G. Gorman, Albany, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 19, 1960, Ser. No. 76,460

7 Claims. (Cl. 167—78)

5. As an article of manufacture, a package comprising (*a*) a suspension of viable sporulated oocysts of a species of the coccidial genus Eimeria in a dilute aqueous possium dichromate solution and (*b*), in a container separate from but adjacent to said suspension and under comparable exposure to atmospheric temperature conditions, an aqueous colloidal gold sol subject to loss of its colloidal character when exposed to freezing temperatures.

3,145,146

MODIFIED MANNITOL FOR PHARMACEUTICAL TABLETS

Herbert A. Lieberman, Livingston, Daniel J. Mahar, Morristown, Ranjit Malaal, East Orange, and Morton W. Scott, Palisades Park, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,864

8 Claims. (Cl. 167—82)

1. In the method of forming mannitol into tablet binder particles having an average diameter of from 5 to 150 microns for subsequent compression tableting in combination with a medicament, the improvement which consists essentially of the steps of forming a solution of mannitol, spray-drying said solution of mannitol in the form of finely divided particles into a stream of heated inert gas, and separating the dry mannitol particles.

3,145,147

FILM FORMING COMPOSITION OF COPOLYMERS OF N-VINYL-ε-CAPROLACTAM

Samuel A. Glickman, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 20, 1961, Ser. No. 90,230

6 Claims. (Cl. 167—87.1)

1. A film forming composition comprising a copolymer of from 80 to 95% by weight of N-vinyl-ε-caprolactam and from 5 to 20% by weight of a polymerizable monomer selected from the class consisting of vinyl esters of from 3 to 6 carbon atoms, alkyl acrylates of from 4 to 5 carbon atoms, and acrylamides, acrylonitriles and alkyl vinyl ethers of from 3 to 4 carbon atoms, said copolymer dissolved in a solvent selected from the class consisting of lower alcohols, methylene chloride and acetone and said solution further dissolved in at least one liquefied propellant selected from the class consisting of chlorofluorohydrocarbons of the methane and ethane series.

3,145,148

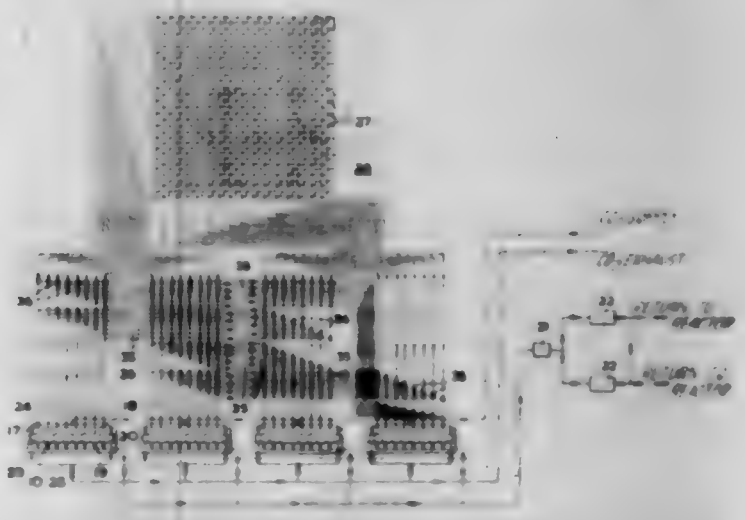
LEAK DETECTION APPARATUS FOR GAS COOLED REACTOR

Ronald Hugh Campbell, Bowden, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Apr. 13, 1960, Ser. No. 21,936

Claims priority, application Great Britain Apr. 27, 1959

3 Claims. (Cl. 176—19)



1. Apparatus for testing for the presence of a damaged fuel cartridge in a gas-cooled reactor, said apparatus comprising a bank of precipitation chambers, a precipitation electrode extending through the precipitation chambers,

means for moving the electrode therethrough, a bank of radiation detectors with which the electrode can be made to register after movement thereof out of register with the precipitation chambers, a pressure vessel enclosing in common the precipitation chambers, electrode and radiation detectors, and gas inlet and outlet ducting in respect of each precipitation chamber for flowing respectively through the chambers gas samples which have contacted different fuel cartridges, the ducting extending through the wall of the pressure vessel, and the spacing of the precipitation chambers and the spacing of the radiation detectors being similar such that when the electrode has been moved a signal occurring at a radiation detector can be identified with a particular precipitation chamber.

3,145,149

BOILING NUCLEAR REACTOR AND FUEL ELEMENT THEREFOR

Donald H. Imhoff, Los Gatos, Calif., assignor to General Electric Company, a corporation of New York

Filed Nov. 4, 1958, Ser. No. 771,861
14 Claims. (Cl. 176—54)



1. An improved nuclear fuel which comprises a plurality of axially aligned fuel pellets disposed to form an elongated nuclear fuel element, said plurality including solid fuel pellets and hollow fuel pellets having equivalent fissile atom contents, said solid and hollow fuel pellets being distributed along the length of said fuel element to provide a decrease in average total fissile and fertile atom content per unit length and a substantial increase in average enrichment of the fuel with distance along a substantial part of the length of said fuel element in one direction.

3,145,150

FUEL-MODERATOR ELEMENT FOR A NUCLEAR REACTOR AND METHOD OF MAKING

James D. Gylfe, Woodland Hills, Calif., assignor to North American Aviation, Inc.

Filed Jan. 4, 1960, Ser. No. 326
4 Claims. (Cl. 176—71)

1. A fuel pin for a nuclear reactor comprising a hollow, sealed, pressure container, said container being a hydride of at least one material selected from the class consisting of alkali metals, alkaline earth metals, and transition metals of subgroups III B, IV B, and V B of periods IV, V, and VI having a thermal neutron cross section of less than 10 barns, a fissionable fuel material



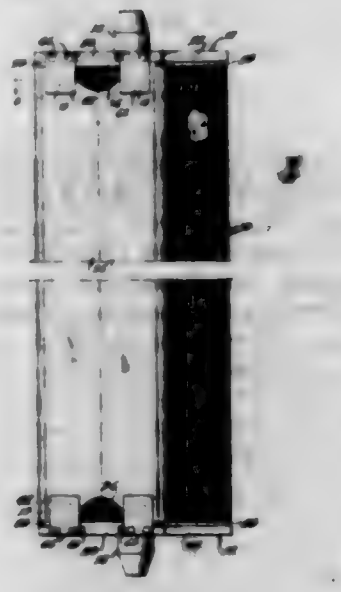
loosely contained within said sealed pressure container, and a thin corrosion resistant jacket enclosing said pressure container and sealed thereto.

3,145,151

FUEL ASSEMBLY FOR LOW POWER REACTORS

Edward F. Groh, Naperville, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 14, 1963, Ser. No. 280,476
8 Claims. (Cl. 176—75)



1. A fuel assembly for use in a nuclear reactor, comprising:

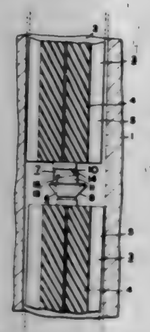
(*a*) a plurality of fuel plate assemblies, each having enlarged side edge portions for spacing one fuel plate assembly from another and having ends with anchor holes therein;

(*b*) a pair of end fittings having anchor tabs adapted to be positioned between adjacent fuel plate assemblies, said tabs having holes in registry with the anchor holes in the fuel plate assemblies;

(*c*) a plurality of anchor pins each of which is inserted in a set of said registered holes thereby locking an end fitting to the ends of said fuel plate assemblies;

(*d*) and means attached to said end fitting for retaining said anchor pins in place.

3,145,152
FUEL ELEMENTS FOR NUCLEAR REACTORS
Ian Hugh Morrison, Ashton, Preston, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Mar. 2, 1961, Ser. No. 92,938
Claims priority, application Great Britain Mar. 2, 1960
5 Claims. (Cl. 176—77)



1. A nuclear fuel element of elongate form for use in a vertically stacked column of similar nuclear fuel elements, disposed end-to-end in the column, the said element including: a cup-shaped locating member at one end thereof and a complementary locating member at the other end thereof, the locating members each engaging a locating member of an immediately adjacent fuel element; one of said locating members comprising a first part fixed relative to said fuel element, a second part displaceable relative to said first part, and means positively interconnecting the first and second parts and limiting the relative displacement to displacement in a predetermined plane inclined at an angle of about 15 degrees to the transverse plane of said column.

3,145,153
RECOVERY OF STREPTOKINASE FROM FERMENTATION MASHES
George Krupka, Nanuet, N.Y., Jerome Samson Schultz, Monsey, N.J., and Donald Theodore Wiuchl, Brooklyn, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 15, 1963, Ser. No. 251,478
4 Claims. (Cl. 195—66)

1. In a method of recovering streptokinase from fermentation mashes containing the same in which the pH of the mash is adjusted to between about 6 and 7.5, in which a quantity of a washed, activated, magnesium silicate is added thereto so as to preferentially adsorb the streptokinase thereon and in which the streptokinase is recovered therefrom by eluting with an alkaline aqueous solvent at a pH of between about 9.5–11.5, the improvement which comprises adding to the alkaline aqueous solvent from about 1 to 50% of a miscible organic liquid selected from the group consisting of ethanolamine, dimethylformamide and methyl lower alkyl ketone.

3,145,154
PRODUCTION OF CHLORTETRACYCLINE AND DEMETHYLCHLORTETRACYCLINE
Joseph Jacob Goodman, Nanuet, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Apr. 11, 1962, Ser. No. 186,631
4 Claims. (Cl. 195—80)

1. The process of producing chlortetracycline by aerobic fermentation of an aqueous fermentation medium with a strain of *Streptomyces aureofaciens* which will produce both chlortetracycline and tetracycline which comprises carrying out the fermentation in the presence of from about 10 to about 1,000 parts per million of D-methionine so as to increase the proportion of chlortetracycline to tetracycline produced.

3,145,155
HYDROBROMINATION OF ETHYLENE
Charles T. Pumpelly and Bruce W. Wilkinson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 24, 1962, Ser. No. 197,279
3 Claims. (Cl. 204—154)

1. A process for the production of ethyl bromide which comprises contacting ethylene and hydrogen bromide in a reaction zone filled with liquid ethyl bromide at a temperature from about −20° C. to about 100° C. and in the presence of a field of high energy ionizing radiation of an intensity of between about 5,000 and 10,000,000 rads per hour.

3,145,156
ELECTROPHORETIC PRINTING
Gerald Oster, New York, N.Y., assignor to The Carter's Ink Company, Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 15, 1961, Ser. No. 152,579
8 Claims. (Cl. 204—180)



1. The method of printing by the electrophoretic transfer of material, which comprises providing a source sheet having at one surface a fluid phase containing relatively charged mobile particles of a detectable material capable of electrophoretic transfer and a recipient sheet having at one surface a contiguous fluid phase in surface-to-surface contact with said one surface of said source sheet, and establishing an electrical field effective to establish electrophoretic migration across said sheets to cause said charged material to transfer from an origin within said source sheet to a destination within said recipient sheet, the charge of said material being unaltered between said origin and said destination, said material defining a predetermined figure which is transferred to said recipient sheet and forms an image thereon independently of any electrolytic process.

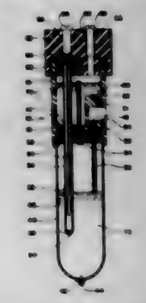
3,145,157
ION SENSITIVE ELECTRODE
Edwin P. Arthur and John E. Leonard, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Sept. 26, 1961, Ser. No. 140,945
10 Claims. (Cl. 204—195)



1. In a glass electrode for ion potential measurements, including an electrolyte and a half cell contacting the electrolyte, the combination of:
a metal supporting tube having an external glass coating and an internal glass coating with said internal and external coatings joined to cover an end of the tube;

and an ion sensitive glass membrane carried on said tube at said end, with said internal coating and membrane providing a chamber for the electrolyte.

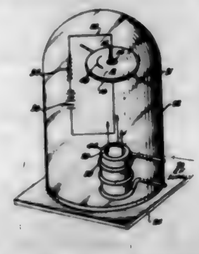
3,145,158
ELECTRODE ASSEMBLY
George Matsuyama, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed May 23, 1962, Ser. No. 197,070
2 Claims. (Cl. 204—195)



1. In an electrochemical testing apparatus, the combination comprising:
a first salt bridge tube adapted to hold a predetermined maximum level of a first salt solution, said first salt bridge tube having a lower end portion submergible in a medium to be tested, said lower end portion including liquid-junction means adapted to discharge a minute stream of said first salt solution from within said tube into said sample medium;
a second salt bridge tube adapted to hold a predetermined maximum level of a second salt solution having at least one polarity of its ions of different composition than the corresponding polarity ions of said first salt solution, said second salt bridge tube having a lower end portion, said lower end portion having liquid-junction means adapted to discharge a minute stream of said second salt solution;
means mounting said lower end portion of said second salt bridge tube in said first salt bridge tube and in sealing relationship therewith;
first means establishing fluid communication between the interior of said first salt bridge tube and the interior of said second salt bridge tube, said first means having a lower end disposed in said first salt bridge tube above said predetermined maximum level of said first salt solution and an upper end above said predetermined maximum level of said second salt solution; and
second means establishing fluid communication between the exterior and the interior of said first salt bridge tube, said second means having an open end disposed in said first salt bridge tube at a position below said lower end of said first fluid communication establishing means.

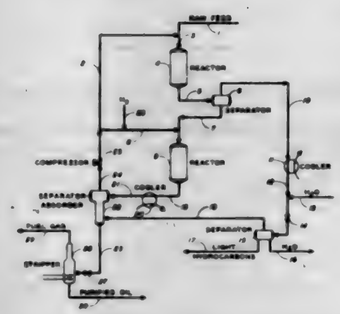
3,145,159
CIRCULARLY ORIENTED MEMORY ELEMENTS
Alvin L. Berg, Lawndale, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 30, 1961, Ser. No. 148,336
1 Claim. (Cl. 204—228)

A device for forming a circularly oriented magnetic core comprising a tank of an electrolyte including selected ions, a source of anode potential, a source of cathode potential, a cathode immersed in said electrolyte and coupled to said source of cathode potential, a substrate immersed in said electrolyte, said substrate including a conducting film thereon coupled to said source of cathode potential, a conductor passing through said conducting film at subtantially right angles thereto, and a source of



current coupled to said conductor to form a circular field at said conducting film to influence said ions deposited thereon to have circularly oriented magnetic characteristics.

3,145,160
HYDROGENATION OF HIGH BOILING OILS
Robert L. Jacobson, Pinole, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed June 30, 1961, Ser. No. 121,103
8 Claims. (Cl. 208—254)



1. A process for the removal of nitrogen compounds initially contained in a high boiling hydrocarbon oil boiling at least 90% above 600° F. and at least 10% above 750° F. in at least two stages of contacting with sulfactive hydrogenation catalyst, including a second stage and a first stage, which process comprises the steps:
(1) passing high boiling hydrocarbon oil in the liquid phase and hydrogen-rich gas through a first stage at elevated temperature and pressure to convert a major portion of the nitrogen compounds initially contained in said oil to ammonia,
(2) separating the effluent from step (1) into a liquid phase and a vapor phase at substantially said elevated temperature and pressure,
(3) passing hydrogen-rich gas and said liquid phase separated in step (2) through a second stage at elevated temperature and pressure, to convert a major portion of the remaining nitrogen compounds to ammonia,
(4) cooling said vapor phase separated in step (2) and removing ammonia and condensed light hydrocarbons therefrom to obtain a clean vapor comprising hydrogen and uncondensed light hydrocarbons,
(5) cooling the entire effluent from step (3) at substantially said elevated pressure to obtain a cooled liquid hydrocarbon effluent,

(6) contacting the clean vapor from step (4) with the cooled liquid hydrocarbon effluent from step (5) at substantially said elevated pressure to absorb light hydrocarbons from said clean vapor in said cooled effluent and thereby obtain a purified hydrogen-rich gas and a liquid hydrocarbon effluent containing dissolved light hydrocarbons,

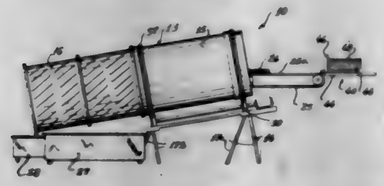
(7) recycling said purified hydrogen-rich gas from step (6) to at least one stage, and

(8) recovering purified high boiling hydrocarbon oil from the liquid hydrocarbon effluent from step (6).

3,145,161
PREPARATION OF ELECTRICAL AND REFRIGERATOR OILS
Frank E. Anderson, Springfield, and Ivor W. Mills, Glenolden, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Nov. 26, 1962, Ser. No. 240,146
12 Claims. (Cl. 208—275)

1. Method of preparing electrical and refrigerator oils comprising the steps of (1) treating a mineral distillate oil having a viscosity-gravity constant in the range of 0.84 to 0.92 with 5–30 pounds of concentrated sulfuric acid per barrel of oil, said treating being at a temperature in the range of 70°–200° F., (2) neutralizing the acid-treated oil, (3) contacting the acid-treated, neutralized oil in liquid phase at a temperature in the range of 100° F. to 500° F. with 0.3–5.0 percent by weight of copper metal based on the oil, said copper metal being deposited on an inert support, and (4) treating the acid-treated, neutralized, copper contacted oil with adsorptive clay.

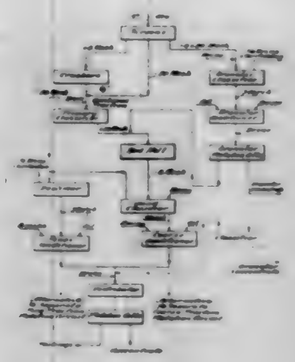
3,145,162
HEAT REACTION METHOD FOR SEPARATION OF PAPER SHEETS
Robert A. Caipen, Tallmadge, Ohio, assignor to Packaging Corporation of America, Dover, Del., a corporation of Delaware
Filed Dec. 14, 1961, Ser. No. 159,378
2 Claims. (Cl. 209—11)



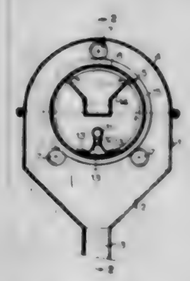
1. A method of sorting sheets of non-heat reactive paper from manifolds containing interleaved substantially flat sheets of heat reactive paper and non-heat reactive paper, said method including agitating said manifolds whereby the sheets thereof are separated from one another, applying heat to said separated sheets whereby said heat reactive sheets curl and said non-heat reactive sheets remain substantially flat, and agitating said heated separated sheets in a predetermined direction relative to a passageway whereby only the substantially flat sheets pass therethrough.

3,145,163
BENEFICIATION OF POTASH ORES
William B. Dancy and Clarence E. Pressnell, Carlsbad, N. Mex., assignors to International Minerals & Chemical Corporation, a corporation of New York
Filed Oct. 3, 1960, Ser. No. 59,978
19 Claims. (Cl. 209—12)

1. A process for beneficiating a potash ore which comprises dry sizing substantially uncomminuted mine run potash ore of substantially —5 inch size to separate out a substantially —6 +20 mesh granular flotation feed fraction and other fractions, separately from said other fractions and from comminuted ore, conditioning said granular fraction with a flotation reagent, and separately from said other fractions and from comminuted ore, subjecting the conditioned granular fraction to a froth flotation operation.

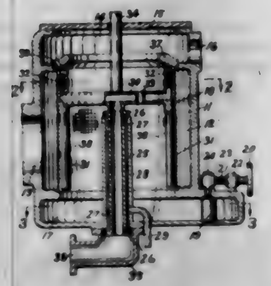


3,145,164
APPARATUS FOR WET-SCREENING A MIXTURE OF FINE ABRASIVE PARTICLES
Frederik H. Jonkman, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Feb. 7, 1961, Ser. No. 87,678
Claims priority, application, Netherlands, Feb. 12, 1960, 248,385
2 Claims. (Cl. 209—254)



1. Apparatus for wet-screening a mixture of fine abrasive particles and the like comprising: a rotatably mounted generally cylindrical screening desk having its axis substantially horizontal and defining a plurality of longitudinally disposed slots; means for feeding the mixture to be treated as a layer of substantially uniform thickness tangentially onto the concave side of said screening deck in opposite directions substantially perpendicular to the longitudinal axis thereof; means for rotating said cylindrical screening deck; means for collecting the oversize fractions of the mixture; means for collecting the undersize fractions of the mixture; said feeding means being above the lowest portion of said cylindrical screening deck and said feeding means including downwardly facing mouthpieces; and cleaning means for cleaning the bottom portion of the cylindrical screening deck including a brush, the hairs of which are operatively movable in the slots; and means to move said brush in a plane parallel to the slots.

3,145,165
PULP SCREENS
Alexander Greswolde Sandison, 546 14th St. W., Owen Sound, Ontario, Canada
Filed Oct. 23, 1961, Ser. No. 146,987
8 Claims. (Cl. 209—254)



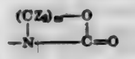
1. A pulp screen comprising a casing, a screen element mounted in the casing, means for distributing unscreened stock at high velocity along one side of the screen element, a system of vanes mounted for movement in the unscreened stock adjacent to the screen element, restraining means acting on the system of vanes, an outlet for stock that has passed through the screen element, and an outlet for stock that has failed to pass through the screen element; said system of vanes being driven only by the drag exerted by the high velocity flow of unscreened stock but restrained by said restraining means for acquiring a velocity as high as that of the stock, each vane being shaped and located to define between itself and the screen element a clearance passage of the shape of a venturi passage having a smoothly converging end and a slowly diverging end, the slowly diverging end being defined by the portion of the blade that leads in respect of its direction of travel.

3,145,166
DISPOSAL OF TOXIC CHEMICAL WASTES HAVING A HIGH CONCENTRATION OF CYANIDE ION
Robert H. L. Howe, West Lafayette, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Oct. 2, 1961, Ser. No. 141,978
1 Claim. (Cl. 210—16)

The method of disposing of a toxic chemical waste having a cyanide ion concentration of at least 670 p.p.m. which comprises subjecting said waste to an anaerobic digestion process, thereby reducing said cyanide ion content to below about 365 p.p.m., and then subjecting the effluent from said anaerobic digestion process to an aerobic decomposition process whereby the cyanide ion content of the effluent from said aerobic decomposition process is decreased to less than 0.1 p.p.m. of cyanide ion.

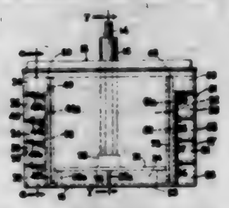
3,145,167
REMOVING PHENOLS FROM AQUEOUS MEDIA
Max E. Elder, Carl Moore, and William F. Tousignant, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 3, 1961, Ser. No. 121,352
5 Claims. (Cl. 210—41)

1. Process for removing a phenol from an aqueous solution thereof by contacting said solution with a particulate resinous copolymer of 0.9 to 4 mole percent of a crosslinking agent having two non-conjugated vinylidene groups and a balance of ar-vinylbenzyl moieties having attached at their benzylic carbon atoms substituent groups of the formula:



wherein Z is independently selected from the group consisting of H, alkyl groups having 1 to 4 carbon atoms and up to one aryl group having 6 to 10 carbon atoms, and *m* is an integer from 2 to 4, said resinous copolymer being present in amount sufficient to reduce the phenol content of said solution.

3,145,168
AQUARIUM TANK FILTER DEVICES
Victor E. Scafuro, Allendale, N.J., assignor to Sterneo Industries, Inc., Allendale, N.J., a corporation of New Jersey
Filed Dec. 10, 1962, Ser. No. 243,396
5 Claims. (Cl. 210—169)

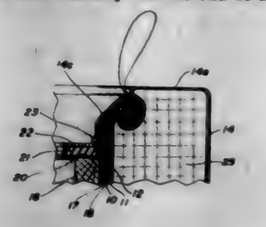


1. In an aquarium tank device, a casing comprising a filter chamber, two water inlet chambers on laterally opposite sides of said casing, said latter chambers having sides of stepped formation with stepped portions at different levels, said sides having a plurality of horizontally extending wall portions and water inlet ports at said stepped portions, said inlet ports being positioned in said horizontally extending wall portions, each of said water inlet chambers being laterally flanked by an outer wall with stepped edges and an inner wall, a panel adjacent each of said inner walls and having an upper weir edge in the region of the upper portion of the adjacent inlet chamber, a cover on said casing, the top of said cover being in spaced relation to said upper weir edges of said respective panels, water purifying means in said filter chamber, an apertured grate at the bottom of said filter chamber and in underlying supporting relation to said water purifying means, said grate being in spaced relation to the bottom of said casing and forming a water outlet chamber between said grate and said bottom of the casing, and pumping means operatively connected to said outlet chamber for drawing water from said latter chamber out of said device, whereby water will be operatively drawn through said inlet ports into said respective inlet chambers and upwardly to said respective weir edges and into said filter chamber.

3,145,169
OIL FILTER CARTRIDGES
Jesse A. Baldwin, Robert A. Schroeder, and Arnold L. Ender, Kearney, Nebr., assignors to J. A. Baldwin Manufacturing Company, Kearney, Nebr., a corporation of Wisconsin
Filed Jan. 5, 1963, Ser. No. 164,448
4 Claims. (Cl. 210—232)

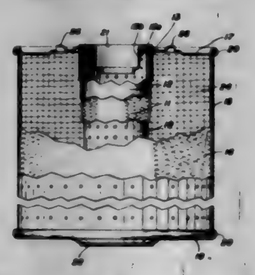
1. An oil filter element of the flexible container type comprising a perforated metallic center tube, a tubular knitted container member disposed about the center tube and having end portions which extend a substantial distance inwardly into the opposite ends of the center tube thereby forming therewith a closed-ended annular container, a densely compacted mass of vegetable fibers in said container, band-form plugs contained within the

center tube and securing the end portions of said knitted container member thereto at locations disposed axially inward from the ends of said tube, and combined end seal and retainer assemblies drive-fitted into the outer ends of the center tube to the depth of said plugs thereby clamping the container end portions to the ends of the center tube, each said assembly and the end of the center



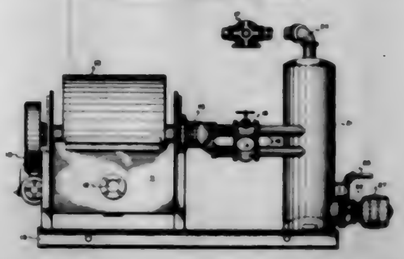
tube into which it is fitted having coextensive interlocking flange portions which flare radially outwardly and thence curl axially-inwardly, the flaring and curling of said tube end occurring as an incident to said assembly being drive-fitted into the tube as aforesaid, whereby mounting of said assemblies effects positive securement and sealing of the end portions of the knitted container member to the ends of the metallic center tube.

3,145,170
OIL FILTER CARTRIDGES
Jesse A. Baldwin, Robert A. Schroeder, and Arnold L. Ender, Kearney, Nebr., assignors to J. A. Baldwin Manufacturing Company, Kearney, Nebr., a corporation of Wisconsin
Filed Jan. 5, 1962, Ser. No. 164,449
3 Claims. (Cl. 210—232)



1. An oil filter element or cartridge employing chemically treated, short-length vegetable fibers as the filtering media comprising: a perforated, rigid can-body type container, a perforated rigid center tube coaxial therewith, end caps each having a center opening of diameter corresponding generally to that of the center tube and being seamed along their outer peripheries to the end edges of the container body, a densely compacted mass of said vegetable fibers contained in and filling the annular space between the center tube and container body, and means for securing the end caps along their respective center openings to the ends of the center tube and in manner as positively to prevent migration of said vegetable fibers from the interior of the container body over the center-tube ends and thence outwardly through the center tube, said means comprising cylindrical ferrules affixed to the center tube ends externally thereof and having radially inward flanges extending over and bearing on the tube ends and defining flat, annular seating surfaces which terminate inwardly in cylindrical flanges which project axially into the bore of the center tube, and retaining bushings having cylindrical bodies extending into and dimensioned so as to have force fit in the openings of said ferrules defined by their cylindrical flanges and being provided on their relatively axially-outer ends with radially outward flanges which bear on and clamp the ends caps along the edges of their center openings against the annular seating surfaces defined by the radially inward flanges of said ferrules as aforesaid.

3,145,171
VACUUM FILTRATION SYSTEM
Paul O. Richter, Salt Lake City, Utah, and John L. King, San Rafael, Calif., assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed June 9, 1960, Ser. No. 34,986
1 Claim. (Cl. 210—486)

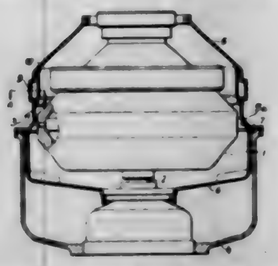


In apparatus for removing filtrate feed collected in a vacuum filtration system having a filter, feed means, a source of vacuum and a conduit connecting the source of vacuum to the filter and for carrying filtrate as well as gas therefrom; means interposed in said conduit between said filter and said vacuum source for effecting removal of filtrate from the system separately from said gas, said means comprising a closed vessel connected at the upper portion to said conduit for discharging gas and at an intermediate portion to said conduit for receiving gas and filtrate from said filter, and pump means for removing liquid filtrate from a lower portion of said vessel; said pump means comprising a base having a raised circular central section, a dome-shaped cover secured to said base concentrically around and spaced from said raised center section to thereby define both an annular volute about said central section and an adjoining central plenum space between the top of said central section and said cover, liquid discharge means in said volute, a vane type impeller mounted for rotation in said central plenum space between said base and said cover, said impeller being of substantially the same maximum diameter as said central section and having its vanes spaced closely adjacent the interior wall of said cover, said impeller having an unobstructed eye in its center providing access to the vanes thereof and said cover having a sharp edged central opening substantially aligned with said eye to provide direct access to said eye through said opening, means mounting said pump in the side wall of said vessel with said impeller in a substantially vertical plane with said sharp edged central opening facing inwardly of and in direct communication with the interior of said vessel and vent means in said cover above said central opening providing direct communication between said volute and the interior of said vessel.

3,145,172
FLUSHING DEVICE FOR CENTRIFUGAL SEPARATORS
Henric W. Thylefors, Stockholm, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed July 6, 1960, Ser. No. 41,191
Claims priority, application Sweden July 9, 1959
2 Claims. (Cl. 233—14)

1. In a centrifugal separator for separating sludge as a heavy component from a sludge-containing liquid, the

combination of a rotary centrifugal bowl having at its peripheral portion a generally radial outlet nozzle for discharge of the separated sludge component, said outlet nozzle being located at the outermost periphery of the bowl to prevent accumulation of a substantial body of sludge in said peripheral portion, a stationary hood surrounding the bowl in spaced relation thereto and having an annular inner wall including an annular portion toward which said separated sludge component is discharged from the outlet nozzle as the bowl rotates, an annular member forming with said annular inner wall of the hood an annular chamber located above said annular portion of the hood, said annular chamber having an outlet slot



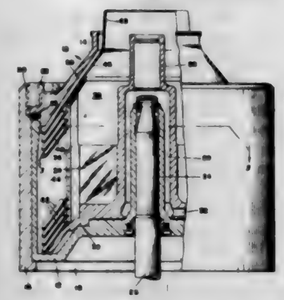
opening downwardly toward said annular portion of the hood, a source of flushing liquid, and nozzle means extending from said source into said annular chamber tangentially to said annular inner wall of the hood, said tangential nozzle means being disposed above said portion of the hood and operable to deliver thereto a rotating curtain of flushing liquid descending through said slot and between said outermost periphery of the bowl and said annular portion of the hood, whereby said rotating curtain prevents sludge discharging through said outlet nozzle from adhering to said annular portion of the hood and protects said annular portion against wear by the discharging sludge.

3,145,173
CENTRIFUGE HAVING FORCED SOLIDS DISCHARGE
Thomas D. Sharples, Lansdale, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Nov. 26, 1962, Ser. No. 240,082
16 Claims. (Cl. 233—20)



1. A centrifuge for concentrating solids into pasty consistency from a suspension, comprising a hollow imperforate-walled rotor having a solids discharge port spaced inward from the imperforate wall, means to discharge clarified liquid, a pair of coextensive radially spaced surfaces in said rotor extending from a region in the rotor remote from the solids discharge port and generally toward the solids discharge port, means for rotating the rotor, means for delivering the suspension to a zone in the rotor between the surfaces for centrifugation, means to move one of the surfaces in a substantially radial direction toward the other and substantially into contact therewith in a movement which progresses from said region and toward the solids discharge port, whereby concentrated pasty solids between the surfaces may be extruded inward to the solids discharge port for discharge.

3,145,174
CENTRIFUGE HAVING SELF-CLEANING SOLIDS DISCHARGE
Charles M. Ambler, Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Nov. 1, 1961, Ser. No. 149,363
2 Claims. (Cl. 233—29)



1. A centrifuge adapted especially for separating a cheese fluid from whey and heavy solids in a feed mixture while avoiding pluggage in the whey and heavy solids discharge comprising

(*a*) a rotor including a generally cup-shaped imperforate-walled shell having a vertical inside wall portion and a generally frusto-conical top element having a horizontal annular undersurface and mounted on the shell, the shell and the top partly defining a primary separating chamber,

(*b*) means for rotating the rotor about an axis,

(*c*) means for feeding the mixture into the rotor,

(*d*) a disc stack disposed within the primary separating chamber,

(*e*) a frusto-conical dividing cone supported by said disc stack and spaced under the top element to define a relatively abruptly angled heavy discharge passage between the top element and the dividing cone,

(*f*) radial vanes within the disc stack, the vanes extending from the lower end of the primary separating chamber to a level below the top of the primary separating chamber and adapted to help accelerate the feed in the rotor to the velocity of the rotor,

(*g*) a long annular slightly tapered zone on the inside surface of the shell, the zone extending from immediately adjacent the vertical portion and approximately the midpoint level in the primary separating chamber of the rotor continually upward to the horizontal annular undersurface of the top element and disposed entirely radially outward of the disc stack, the shell diameter in the zone decreasing as the upper end of the shell is approached,

whereby the whey portions and heavy solids adjacent the inside surface of the rotor in moving upward in the chamber toward the heavy discharge passage are guided gradually inward of the rotor by the tapered zone, and are thereby caused to move tangentially faster than the adjacent surface.

3,145,175
GREASE COMPOSITION

John H. Wright, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed June 25, 1962, Ser. No. 205,064
9 Claims. (Cl. 252—28)

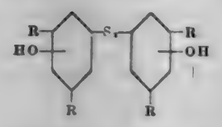
1. A grease composition consisting essentially of (1) an organopolysiloxane fluid in which the organo groups are selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals, (2) a trimethylsilyl chain-stopped methyl hydrogen polysiloxane fluid in an amount equal to from 0.1 to 2.0 percent by weight, based on the weight of (1), and (3) a thickening agent in an amount equal to from 2 to 25 percent by weight, based on the weight of (1).

3,145,176
ORGANIC MATERIALS STABILIZED WITH A MIXTURE OF THIOBISPHENOL AND DIALKYL PHOSPHONATES

Gordon G. Knapp, Royal Oak, and Harold D. Orloff, Oak Park, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 11, 1960, Ser. No. 21,139
29 Claims. (Cl. 252—48.2)

1. Organic material normally tending to undergo oxidative deterioration in the presence of air, oxygen or ozone selected from the group consisting of: hydrocarbon mineral oil; liquid synthetic lubricant; automatic transmission fluid having as its primary constituent from about 73.5 to about 97.5 percent by weight of a refined mineral distillate oil with a viscosity between 49 Saybolt Universal seconds at 210° F. and 7000 Saybolt Universal seconds at 0° F. and being lighter than an SAE–10 motor oil; normally solid polyolefin polymer; gasoline; tetraalkyllead antiknock composition; rubber; and fats and oils of animal and vegetable origin; protected by a small antioxidant quantity of a mixture consisting essentially of a phenol sulfide having the formula



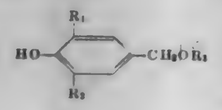
wherein x has a value of from 1–3 and the R's are selected from the group consisting of alkyl groups and alkoxy groups and a dialkyl phosphonate, said dialkyl phosphonate containing only phosphorus, hydrogen, oxygen and carbon atoms, said compositon containing from about 0.01 to about 5 weight percent of said phenol sulfide and from about 0.05 to about 1.5 weight percent of phosphorus as said phosphonate, based on the weight of the material to be protected.

3,145,177
SYNERGISTIC ANTIOXIDANTS

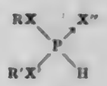
Harold D. Orloff, Oak Park, and Gordon G. Knapp, Royal Oak, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 2, 1960, Ser. No. 25,862
16 Claims. (Cl. 252—49.8)

1. Lubricating oil normally susceptible to oxidative deterioration protected by a small antioxidant quantity of a mixture of (A) a 3,5-dialkyl-4-hydroxybenzyl ether having the general formula:



wherein R_1 is an alkyl group containing from 3 to 8 carbon atoms and is branched on the alpha carbon atom, R_2 is an alkyl group containing from 1 to 8 carbon atoms, and R_3 is selected from the group consisting of alkyl of from 1 to 12 carbon atoms, cycloalkyl of from 6 to 8 carbon atoms, aralkyl of from 7 to 8 carbon atoms and alkenyl of from 3 to 8 carbon atoms and (B) a dialkyl phosphonate having hydrogen bonded to phosphorus, said phosphonate having the formula:



wherein R and R' are alkyl groups of from 1 to 12 carbon atoms and X, X' and X'' are selected from the group consisting of oxygen and sulfur, said composition containing from about 0.01 to about 5 weight percent of said hydroxybenzyl ether and from about 0.005 to about 1.5 weight percent of phosphorus as said phosphonate, based on the weight of the material to be protected.

3,145,178
ALKALINE METAL CLEANING COMPOSITIONS AND PROCESS OF USING SAME

Jean Dupré, Levittown, and Fred E. Boettner, Huntingdon Valley, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 19, 1960, Ser. No. 23,158
5 Claims. (Cl. 252—137)

1. A cleaning composition consisting essentially of about 88–99% by weight of a mixture of a salt from the class consisting of alkali metal hydroxides, silicates, carbonates, and phosphates, the alkali metal being selected from the group consisting of sodium and potassium, and about 1 to 12 percent by weight of a mixture of at least one each of sulfated and unsulfated t-carbinamine polyoxyethylene compounds, the alkyl groups in each of the amino compounds having a total of about 11 to 14 carbon atoms, the number of oxyethylene units per amine unit present being in the range of from 12.5 to 17.5, and the proportion of sulfated to unsulfated compounds being from about 75 to 85 percent of the former to about 25 to 15 percent of the latter.

3,145,179
COLOR STABILIZERS FOR DETERGENTS CONTAINING BACTERIOSTATS

Jane P. Mitoray and William G. Bauer, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 24, 1958, Ser. No. 775,714
3 Claims. (Cl. 252—107)

1. An antiseptic detergent composition consisting essentially of an alkali metal fatty acid soap, 2,2'-thiobis-(4,6-dichlorophenol), and from 0.01 to 10 percent by weight, based upon the combined weight of the soap and the 2,2'-thiobis(4,6-dichlorophenol), of zinc dibutyl dithiocarbamate.

3,145,180
PROCESS OF CLEANING METAL SURFACES

Jean Dupré, Levittown, and Fred E. Boettner, Huntingdon Valley, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 19, 1960, Ser. No. 23,159
1 Claim. (Cl. 252—137)

A process of cleaning metal surfaces involving the removal of soils therefrom which comprises treating such surfaces with a hot aqueous cleaning solution that consists essentially of water and from about 2 to 10 percent of a mixture of alkali and surface active materials, said mixture consisting of about 88–99 percent by weight of a salt from the class consisting of alkali metal hydroxides, silicates, carbonates, and phosphates, the alkali metal being selected from the class consisting of sodium and potassium, and about 1 to 12 percent by weight of a t-carbinamine polyoxyethylene sulfate, the alkyl groups in said amino compound having a total of about 11 to 14 carbon atoms, and the number of oxyethylene units per amine unit present being in the range of from 12.5 to 17.5.

3,145,181
RADIOACTIVE SOURCES

Guy Courtois and Pierre Le Clerc, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France, an organization of France

Filed Mar. 14, 1961, Ser. No. 95,700
Claims priority, application France Mar. 17, 1960
3 Claims. (Cl. 252—301.1)

1. A radioactive source resisting to mechanical, thermal and chemical severe conditions, constituted by a devitrified glass comprising essentially silica, alumina, titania and cobalt oxide, but devoid of potassium and sodium, at least part of the cobalt atoms in said cobalt oxide being radioactive cobalt–60 atoms.

3,145,182
METHOD FOR IMPROVING HYDROLYSIS RESISTANCE OF URANIUM CARBIDE CONTAINING COMPOSITION

Joseph P. Hammond and John D. Sease, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 21, 1962, Ser. No. 196,534
20 Claims. (Cl. 252—301.1)

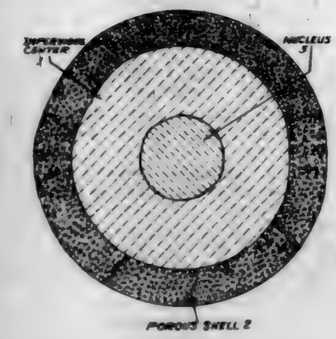
1. An improved method of fabricating a relatively corrosion resistant metal carbide selected from the group of uranium carbide, thorium carbide and plutonium carbide which comprises forming a homogeneous mixture of the powdered form of said carbide with at least more than 2 and no more than about 35% by weight of a silicide selected from the group uranium, thorium and plutonium and an organic binder, pressing said mixture to a desired green strength and to a desired preformed shape, heating said preformed shape in an inert atmosphere to above the eutectic which forms between said carbide and said silicide, maintaining said temperature for a sufficient time to sinter said carbide to a desired density up to the theoretical density of the resistant composite carbide, while said silicide wets and flows on the surface of said sintering carbide, and thereafter cooling the resultant sintered carbide to form a hard, smooth, continuous adherent coating thereon.

3,145,183
CATALYST CARRYING BALLS

Henry C. Fisher, Worcester, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed Dec. 16, 1958, Ser. No. 780,853
7 Claims. (Cl. 252—477)

1. A roughly spherical ball adapted for catalytic carrier purposes comprising an adequately strong, heat-resistant, thermal shock-resistant, stable impermeable center zone of substantially equidimensional shape composed of a ceramic material having a major constituent selected from the group consisting of alumina, magnesia, zirconia, silica, chromia, titania and silicon carbide, said center zone being totally enclosed by a shell, fired to be integral with and bonded to said center zone, said shell being of roughly spherical external shape comprising an adequately strong, heat-resistant, thermal shock-resistant, stable composition composed of material selected from the group



consisting of ceramic and metallic material, having porous structure containing from about 10% to about 85% by volume of anastomosing pores.

3,145,184
LEAD-CONTAINING CERAMIC STRUCTURES FOR RADIATION SHIELDING

Herbert Schumann, Munich, Germany, assignor to Firma Paul Rauschert Kommanditgesellschaft, Pressig-Rothenkirchen, Germany

No Drawing. Filed May 8, 1961, Ser. No. 108,277
Claims priority, application Germany June 14, 1960
2 Claims. (Cl. 252—478)

1. In a radiation shielding, lead-containing ceramic structure, the improvement which comprises that the structure contains about between 20 to 50% by weight of monazite sand and between about 50 to 80% by weight of a lead compound.

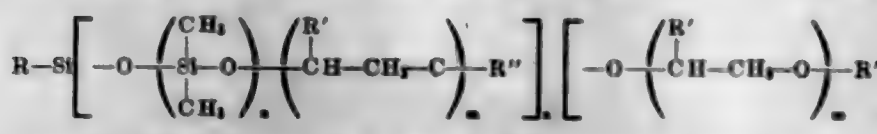
3,145,185
CELLULAR POLYURETHANE MATERIALS AND PROCESS FOR PREPARING SAME

Ward J. Remington, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 7, 1958, Ser. No. 746,681
11 Claims. (Cl. 260—2.5)

1. In the process for the formation of a cellular material from the reaction of water with a water-foamable polyisocyanate polyurethane composition having a free isocyanato content of from about 3.0 to 25.0% by weight, said polyurethane composition being obtained by reacting an organic polyisocyanate with an organic compound containing a plurality of alcoholic hydroxyl groups with the proportions of reactants being such that the ratio of the number of free isocyanato groups to the number of alcoholic hydroxyl groups is greater than one, said organic compound being selected from the group consisting of polyalkyleneether glycols, polyalkyleneether - thioether glycols, polyalkylene - aryleneether glycols, polyalkylene-aryleneether-thioether glycols, polyalkyleneethers having at least three hydroxyl groups, polyester polyols prepared from polyhydric alcohols and dicarboxylic acids, glycerine, fatty acid triglycerides having a hydroxyl number of at least about 49, and tetrols prepared by reacting ethylene diamine with ethylene oxide and propylene oxide, the improvement comprising mixing said polyurethane composition prior to the formation of the cellular material with from about 0.05 to 2.0% by weight of a water-soluble

organo-silicone polymer having a molecular weight of from about 2,800 to 6,000 and having the structure



wherein R is a lower alkyl radical; R′ is selected from the group consisting of hydrogen and methyl radicals; R″ is a lower alkyl radical; *a* is an integer having a value of 1 to 3; *b* is an integer having a value of 0 to 2; with the proviso that $a+b=3$; *n* is an integer having a value so that the molecular weight of the block of recurring siloxane units is not greater than about 1500; *m* is an integer having a value so that the molecular weight of the block of recurring oxyalkylene units ranges from about 750 to 2,000; with the proviso that at least half the weight of the said oxyalkylene units shall be made up of oxyethylene units.

3,145,186

PROCESS FOR PREPARING ACRYLONITRILE POLYMER FIBERS AND RESULTING PRODUCT

Fred J. Lowes, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 11, 1961, Ser. No. 158,592
6 Claims. (Cl. 260—17)

1. In the process of producing essentially non-fibrillating, dye receptive, shrinkable synthetic acrylonitrile polymer textile fibers by dissolving a fiber forming acrylonitrile polymer in an aqueous saline solvent therefor to form a salt spinning solution, which polymer contains in the polymer molecule at least about 85 weight percent of acrylonitrile with any balance being another monoethylenically unsaturated monomeric material that is copolymerizable with acrylonitrile; spinning said fiber forming acrylonitrile polymer containing salt spinning solution into an aquagel filamentary structure substantially free from residual salt; and subsequently irreversibly drying said aquagel structure to a synthetic characteristically hydrophobic textile structure; the improvement consisting of (1) dissolving in said fiber forming acrylonitrile polymer containing salt spinning solution, prior to spinning said solution into said aquagel filamentary structure, of between about 10 and 30 weight percent, based on the weight of said fiber forming acrylonitrile polymer, of at least one hydroxyalkyl alkyl cellulose ether selected from the group of hydroxyalkyl alkyl cellulose ethers having from 1 to 2 carbon atoms in each alkyl substituent, from 2 to 3 carbon atoms in each hydroxyalkyl substituent, from 15 to 35 percent alkoxyl substitution and from about 2 to 14 percent hydroxyalkoxy substitution, and (2) heating the fiber forming acrylonitrile polymer and hydroxyalkyl alkyl cellulose ether containing spinning solution for a period of at least about 30 hours at a temperature between about 60° C. and 80° C.

3,145,187

POLYMER BLENDS CONSISTING ESSENTIALLY OF AN INTIMATE TERNARY FUSION BLEND OF A VINYL CHLORIDE POLYMER, A CHLORINATED OLEFIN POLYMER, AND A SURFACTANT

Ernest H. Hankey and Ahmad Kianpour, Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 10, 1960, Ser. No. 14,001
19 Claims. (Cl. 260—23)

1. A composition of matter having a notched impact strength at 25° C. of at least 4 ft. lbs./in. of notch (ASTM D256–54T—Method B) and consisting essentially of an intimate ternary fusion blend of (*a*) 88–95 parts by weight of a vinyl chloride polymer, (*b*) 12–5 parts by weight of an after-chlorinated product of an olefin polymer, and (*c*) 0.1–10 parts by weight of a surfactant; said vinyl chloride polymer being selected from the group consisting of vinyl chloride homopolymers and interpolymers having polymerized therein at least 80% by weight of vinyl chloride and up to 20% by weight of an interpolymerizable vinylidene monomer; said chlorinated olefin polymer containing about 20–60% by weight of chlorine, said olefin polymer, before chlorination, having a molecular weight of at least 6,000 and being selected from the group consisting of (1) homopolymers of a 2–8 carbon atom alpha-olefin, (2) interpolymers having polymerized therein only 2–8 carbon atom alpha-olefins and (3) interpolymers having polymerized therein at least about 85% by weight of at least one 2–8 carbon atom alpha-olefin and up to 15% by weight of an interpolymerizable vinylidene monomer; said surfactant having a HLB value in the range of about 1–20 and containing in its structure both a hydrocarbon chain containing at least 8 carbon atoms and a hydrophilic group.

3,145,188

REFRACTORY CEMENT COMPOSITIONS

Jacques R. Martinet, San Jose, and William M. Hildinger, Campbell, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Nov. 4, 1960, Ser. No. 67,154
8 Claims. (Cl. 260—41)

4. A refractory mortar consisting essentially of a major portion of at least one finely divided material of the group consisting of chromite and aluminum, and magnesium oxides, a minor portion of sodium silicate and bentonite, and from 0.05% to 1.0% by weight of the total mix, of a water soluble polymer of the sodium salt of acrylic acid.

3,145,189

METHOD OF MAKING FREELY FLOWABLE RUBBER COMPOSITIONS

Walter Arthur Fourier, Crystal Lake, Ill., assignor to American Can Company, New York, N. Y., a corporation of New Jersey

No Drawing. Filed Dec. 23, 1960, Ser. No. 77,783
6 Claims. (Cl. 260—45.5)

1. A method of preparing a freely flowable rubber composition consisting essentially of a homogeneous two-phase liquid mass containing as its sole rubbery ingredients two classes of rubbery elastic polymers, each class having different solubility characteristics in the same solvent and a volatile organic liquid which is a solvent for one class of said polymers and a non-solvent for the other class thereof, one class of said polymers being dissolved in the solvent forming a solution which comprises the external phase and the other class being dispersed as fine undissolved particles in said solution which comprises the internal phase, comprising the steps of: intimately mixing a latex of said soluble class of rubbery polymer with a latex of said insoluble class of rubbery polymer; the latices being mixed in a proportion sufficient to provide a weight ratio of said soluble class of rubbery polymer to insoluble class of rubbery polymer of at least about 1.5; coagulating said rubbery polymers from said mixed latices to form a homogeneous rubbery coagulum of said solvent soluble and said solvent insoluble polymers in said weight ratio; subjecting said coagulum to nonmasticating agitation in the presence of said organic liquid until the soluble rubber is dissolved in the organic liquid and the insoluble rubber is disrupted and dispersed in the form of

fine discrete particles suspended in the solution of the soluble rubber.

3,145,190

POST-CHLORINATED VINYL CHLORIDE POLYMER COMPOSITIONS HAVING INCREASED IMPACT STRENGTH AND IMPROVED PROCESSABILITY

George Gateff, Lakewood, and Edward J. Leeson, Lorain, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 16, 1962, Ser. No. 238,264
6 Claims. (Cl. 260—45.5)

1. A composition comprising an intimate mixture of (*a*) 100 parts by weight of post-chlorinated polyvinyl chloride having a density of from 1.43 to 1.65 grams per cc. at 25° C., a heat distortion temperature which is at least about 20° C. higher than that of unchlorinated polyvinyl chloride, and a high heat stability such that it is not degraded if exposed to air at 375 to 400° F. for at least 10 minutes, and (*b*) from about 3 to about 15 parts by weight of a rubbery chlorinated polymer of isobutylene having a chlorine content of from about 12 to about 32 percent by weight selected from the group consisting of chlorinated homopolymers of isobutylene and chlorinated copolymers of isobutylene and which is obtained by the solution chlorination of a polymer of isobutylene containing from 95 to 100 percent by weight of isobutylene constituent and 0 to 5 percent by weight of another monomer constituent copolymerizable with isobutylene selected from the group consisting of styrene, acrylonitrile, methacrylonitrile, methacrylic acid, methyl methacrylate, ethyl methacrylate, butene, butadiene, dimethyl butadiene, chlorobutadiene, piperylene and isoprene, said polymer of isobutylene having a weight average Staudinger molecular weight of from about 8,000 to 200,000 prior to chlorination.

3,145,191

EPOXY COMPOSITIONS

Bruno M. Perfetti, Wilkinsburg, Pa., assignor, by mesne assignments, to Mobil Finishes Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 25, 1959, Ser. No. 822,755
11 Claims. (Cl. 260—47)

1. A method of producing resinous polyepoxides comprising co-reacting, in the liquid phase and in the presence of strong alkali, polyhydric phenol containing only phenolic hydroxyl groups with at least 0.125 mol of polyoxypropylene glycol per mol of phenolic hydroxyl and at least 2.0 mols of epichlorhydrin per mol of phenolic hydroxyl, said polyoxypropylene glycol having a molecular weight of at least about 150 up to about 2100 and said strong alkali being capable of dehydrohalogenating a halohydrin and being present at a concentration of from 1.0–1.15 mol per mol of phenolic hydroxyl.

3,145,192

ACETYLENIC POLYURETHANES USEFUL AS PROPELLANTS

Donald D. Perry, Morristown, and Rita M. Dudak, Hibernia, N.J., assignors, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

No Drawing. Filed July 1, 1957, Ser. No. 669,912
22 Claims. (Cl. 260—77.5)

1. The method of producing an acetylenic polyurethane which comprises, mixing a quantity of poly(2-butyne-1,4-dioxymethylene) with from one to two molar equivalents, based on said poly(2-butyne-1,4-dioxymethylene), of 2,4-toluene diisocyanate; dissolving the mixture in a solvent of the class consisting of benzene, ethylene bromide, and toluene; causing addition reaction of said poly(2-butyne-1,4-dioxymethylene with said diisocyanate by boiling the solution while refluxing the solvent; separating the solvent from the solution after a period of boiling exceeding 18 hours, and recovering a solid polyurethane.

3,145,193

POLYAMIDES FROM A MIXTURE OF ISOPHTHALIC ACID, TEREPHTHALIC ACID AND BRANCHED CHAIN ALIPHATIC DIAMINE

Rudolf Gabler, Zollikerberg, Zurich, Switzerland, assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed June 30, 1961, Ser. No. 120,944
Claims priority, application Switzerland Oct. 29, 1959
10 Claims. (Cl. 260—78)

1. A process for producing a linear, amorphous, film-forming polyamide which comprises condensing substantially equimolar amounts of an acid mixture of 90 to 95 percent terephthalic acid and 5 to 10 percent isophthalic acid with an aliphatic polymethylene diamine selected from the group consisting of 2-methyl-4-ethylheptamethylenediamine; 2-ethyl-4-methylheptamethylenediamine; 2,2,5,5 - tetramethylheptamethylenediamine; 3 - isopropylheptamethylenediamine; 3 - isooctylheptamethylenediamine; 3,3,5 - trimethyloctamethylenediamine; and 2,4-diethyloctamethylenediamine.

3,145,194

PROCESS FOR POLYMERIZATION OR COPOLYMERIZATION OF OLEFINICALLY-UNSATURATED ORGANIC COMPOUNDS

Joseph Heckmaier, Eduard Bergmeister, and Gerhard Beier, all of Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a firm of Germany

No Drawing. Filed Nov. 22, 1961, Ser. No. 154,323
Claims priority, application Germany Nov. 25, 1960
6 Claims. (Cl. 260—79.3)

1. A process for the production of a polymerizate selected from the group consisting of homopolymerizates and copolymerizates which comprises the steps of reacting olefinically unsaturated organic compounds polymerizable with the aid of free-radical forming compounds, in an aqueous dispersion in the presence of a redox polymerization catalyst system of (1) an oxidizing agent selected from the group consisting of inorganic per-compounds, organic peroxides and organic hydroperoxides and (2) free hydrogen in a partial pressure of from 0.01 to 100 atmospheres (absolute) with substantial exclusion of oxygen, in combination with a colloidally dispersed noble metal selected from the group consisting of platinum, palladium, rhodium, ruthenium, osmium and iridium in water, as a reducing agent, at a temperature between —100° C. and below the decomposition temperature of said oxidizing agent and recovering said polymerizate.

3,145,195

POLYAMIDE RESINS AND PROCESS

Kwan C. Tsou, Huntingdon Valley, Pa., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey

Filed May 25, 1960, Ser. No. 31,571
3 Claims. (Cl. 260—86.1)

1. The method of making a water soluble liquid linear polyamide resin having a viscosity of about 5,000 to 100,000 cps., comprising forming a mixture of substantially equimolar proportions of polyamine containing at least two primary amino groups and an acrylic ester having the formula

$$CH_2{=}CR{-}\overset{O}{\overset{\|}{C}}{-}OR'$$

wherein R is a component selected from the group consisting of hydrogen and C_1–C_3 alkyl groups and R′ is a

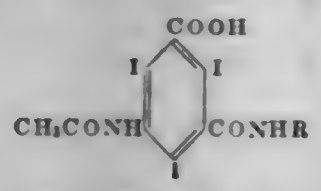
monovalent hydrocarbon radical selected from the group consisting of C_1–C_8 alkyls and C_6–C_8 aryls in a polar medium selected from the group consisting of water and methanol and maintaining the said mixture at a temperature ranging from —20° to 30° C. until the reaction that ensues is substantially completed.

3,145,196
PROCESS AND CATALYST FOR THE POLYMERIZATION OF OLEFINS
Willem F. Engel, Amsterdam, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 17, 1959, Ser. No. 840,531
Claims priority, application Netherlands Sept. 22, 1958
2 Claims. (Cl. 260—94.9)

1. A process for the polymerization of hydrocarbon olefins having from 2 to 8 carbon atoms which comprises contacting the olefins with a catalyst prepared by treating a carrier consisting essentially of alumina and silica in weight ratio in the range of from 15:85 to 40:60 with an alkali selected from the group consisting of an alkali metal hydroxide and alkaline earth metal hydroxide, said alkali being utilized in a quantity of from ⅛ to 5 times the quantity required to increase the pH of the carrier to 7.0 measured with the carrier at a concentration of 1 gram of said carrier for 75 milliliters of water, heating the combined alkali and carrier to a temperature in the range of 200° C. to 800° C., and thereafter adding a catalytically active component selected from the class consisting of oxide of chromium, oxide of vanadium and oxide of molybdenum to said carrier, the metals of the respective oxides being at least partially present in a valency lower than their respective highest valences.

3,145,197
5-ACETAMIDO-N-ALKYL-2,4,6-TRIIODOISOPHTHALAMIC ACID COMPOUNDS
George Brooke Hoey, Ferguson, Mo., assignor to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri
No Drawing. Filed June 26, 1961, Ser. No. 119,287
6 Claims. (Cl. 260—211)

1. A compound selected from the group consisting of 5 - acetamido-N-alkyl-2,4,6-triiodoisophthalamic acids of the formula:



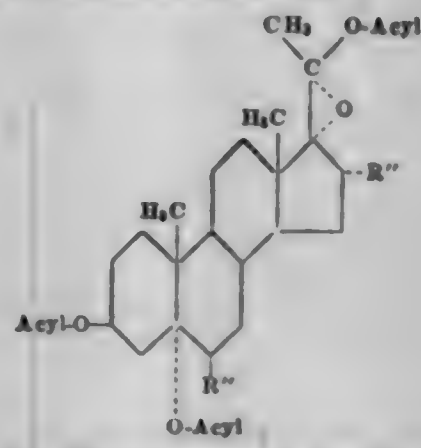
wherein R is selected from the group consisting of methyl and ethyl groups, lower alkyl esters thereof, and salts thereof with pharmaceutically acceptable cations.

3,145,198
PROCESS FOR THE PURIFICATION OF CAPROLACTAM
Giuseppe Morbidelli, Como, and Luciano Arosia, Lissone, Italy, and Luigi Notarbartolo, deceased, late of Milan, Italy, by Enza Pascalino, administratrix, and Paola Notarbartolo, heiress, both of Milan, Italy, assignors to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy
No Drawing. Filed Aug. 21, 1962, Ser. No. 218,808
Claims priority, application, Italy, Aug. 30, 1961, Patent 655,594
10 Claims. (Cl. 260—239.3)

1. A process for purifying crude caprolactam which has originated from an acid solution that has already undergone neutralization and extraction with an organic solvent, which comprises dissolving the crude caprolactam in water, treating the solution with an alkali, evaporating the so-treated solution and distilling it, dissolving the distillate in water, hydrogenating the solution, treating the hydrogenated solution with an ion exchange resin, oxidizing the so-treated solution, treating the oxidized solution with an alkali, and evaporating and distilling the solution to recover pure caprolactam.

3,145,199
17,20-OXIDO-6,16-DIALKYL-PREGNANES AND PROCESS FOR THE PREPARATION THEREOF
Robert P. Graber and Martin B. Meyers, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Feb. 9, 1961, Ser. No. 88,030
9 Claims. (Cl. 260—239.55)

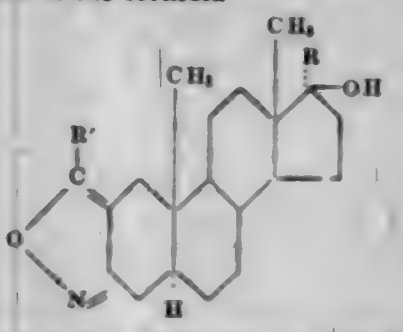
5. A steroid compound selected from the group consisting of the 20-cis and trans forms of



where Acyl is a hydrocarbon acyl group having from 1 to 12 carbon atoms and R'' is an alkyl group having from 1 to 8 carbon atoms.

3,145,200
STEROIDO[3.2-c]ISOXAZOLES AND PREPARATION THEREOF
Raymond O. Clinton, East Greenbush, and Andrew John Manson, North Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 11, 1961, Ser. No. 109,274
10 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of (A) compounds of the formula



wherein R is a member of the group consisting of hydrogen and an acyclic lower-hydrocarbon radical, and R' is a member of the group consisting of hydrogen and amino; (B) compounds of the above formula having a double bond in the 4,5-position; and (C) 17-carboxylic acid esters of (A) and (B) the acyl moieties of said esters having from one to about ten carbon atoms and having a molecular weight less than about 200.

3,145,201
PROCESS FOR THE MANUFACTURE OF 4-HYDROXY-3-KETO-Δ^4-STEROIDS
Bruno Camerino, Milan, Bianca Patelli, Stradella, and Roberto Sciaky, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed Aug. 4, 1961, Ser. No. 129,478
Claims priority, application Italy Aug. 11, 1960
15 Claims. (Cl. 260—239.55)

1. A process for the manufacture of a 4-hydroxy-3-keto-Δ^4-steroid, selected from the group consisting of 4-

hydroxy-3-keto-4-androstenes, 4-hydroxy-3-keto-19-nor-4-androstenes, 4,17α,21-trihydroxy-4-pregnene-3,20-diones and 4,17α-dihydroxy-4-pregnene-3,20-diones, which comprises dissolving the corresponding 3-keto-5β-steroid selected from the group consisting of the 3-keto-5β-androstanes, 3-keto-19-nor-5β-androstanes, the 17α-hydroxy-5β-pregnane-3,20-diones, the 17,20,20,21-bismethylenedioxy, 17α,21-dihydroxy-5β-pregnane-3,20-diones and the substituted 17,20,20,21-bismethylenedioxy, 17α,21-dihydroxy-5β-pregnane-3,20-diones in a tertiary aliphatic alcohol and oxidizing said 3-keto-5β steroid in the presence of the potassium salt of a t aliphatic alcohol, and separating the resulting 4-hydroxy-3-keto-Δ^4-steroid thus produced.

3,145,202

PROCESS FOR THE PRODUCTION OF 19-HYDROXY-Δ^4-3-KETO STEROIDS

Albert Bowers, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed June 12, 1962, Ser. No. 201,802
Claims priority, application Mexico May 16, 1962
14 Claims. (Cl. 260—239.55)

1. A process for the production of a 19-hydroxy-Δ^4-3-keto steroid, which consists of reacting the corresponding 3,19-dihydroxy-Δ^5-steroid, with an aluminum lower alkoxide and a lower aliphatic ketone in a non-polar organic solvent at reflux temperature for an approximate time of 5 to 15 minutes.

11. The process of claim 1 wherein the starting compound is 19-hydroxy diosgenin and the final compound is 19-hydroxy-diosgenone.

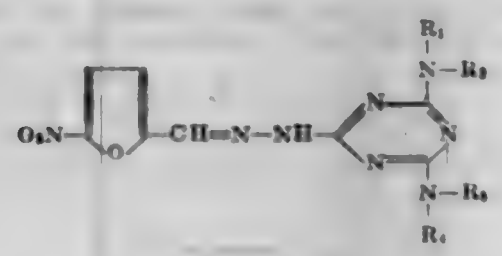
3,145,203

HYDRAZONES OF 5-NITRO-2-FURALDEHYDE

Wilfred Herbert Hook, Brooklands, Sale, and William Hoyle, Bramhall, England, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,163
Claims priority, application Great Britain Nov. 30, 1961
15 Claims. (Cl. 260—240)

1. A hydrazone of 5-nitro-furaldehyde selected from the class consisting of a free base and its non-toxic addition salts, said free base having the formula:



in which each of R_1 and R_3, independently, is a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, hydroxy-lower alkyl, lower alkoxy-lower alkyl, cyclohexyl, phenyl, halogenophenyl, trifluoromethylphenyl, lower alkylphenyl, lower alkoxyphenyl, phenyl-lower alkyl, halogenophenyl-lower alkyl, trifluoromethylphenyl-lower alkyl, lower alkylphenyl-lower alkyl, lower alkoxyphenyl-lower alkyl; each of R_2 and R_4, independently, is a member selected from the group consisting of hydrogen, lower alkyl and hydroxy-lower alkyl, and NR_1R_2 as well as NR_3R_4 can each be a member selected from the group consisting of 1-pyrrolidinyl, piperidino, hexamethyleneimino and morpholino.

3,145,204

THIENYL PHENYL ETHYL MORPHOLYL CARBINOL

Roland Yves Mauvernay, Riom, France, assignor to Laboratoire d'Analyses et de Recherches R. Y. Mauvernay, Riom (Puy-de-Dome), France

No Drawing. Filed Feb. 28, 1961, Ser. No. 92,127
Claims priority, application, France, Mar. 4, 1960, 820,425, Patent 1,306,610
4 Claims. (Cl. 260—247.1)

1. A compound selected from the group consisting of thienyl phenyl ethyl morpholyl carbinol and non-toxic quaternary ammonium halide salts thereof.

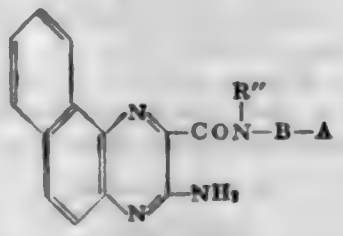
3,145,205

6-BENZOQUINOXALINE-CARBOXAMIDES

Thomas S. Osdene, West Chester, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,612
13 Claims. (Cl. 260—247.2)

1. A compound of the formula



wherein A is selected from the group consisting of —OR wherein R is lower alkyl, $-N(R')_2$ wherein R′ is lower alkyl; piperazino, pyrrolidino, piperidino and morpholino; R″ is selected from the group consisting of hydrogen and lower alkyl; and B is selected from the group consisting of $-CH_2CHOHCH_2-$ and $-(CH_2)_n-$ wherein *n* has a value of from 2 to 5 inclusive.

11. 3 - amino-N-(2-morpholinoethyl)benzo[f]quinoxaline-2-carboxamide.

3,145,206

METHOD OF STABILIZING DICHLOROCYANURIC ACID SALTS

Robert J. Fuchs, Clark, and Charles B. Miles, Westfield, N.J., assignors to FMC Corporation, a corporation of Delaware

No Drawing. Filed Mar. 28, 1960, Ser. No. 17,748
7 Claims. (Cl. 260—248)

1. The method of stabilizing dry alkali metal salts of dichlorocyanuric acid against self-sustaining, thermally-initiated decomposition which consists essentially of adding to said salts a compound selected from the group consisting of dichlorocyanuric acid and cyanuric acid in a dry state and in stabilizing amounts below about 25% by weight.

3,145,207

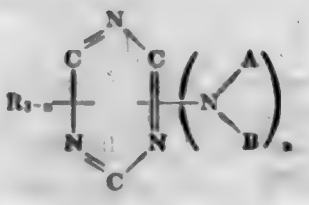
PROCESS FOR PREPARING EPOXY ALKYLOXY-METHYLAMINO-s-TRIAZINES

Henry P. Wohnsiedler, Noroton, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

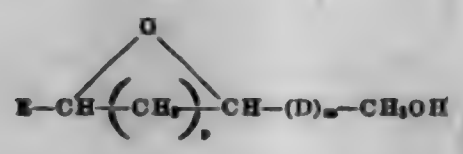
No Drawing. Filed Sept. 12, 1960, Ser. No. 55,192
5 Claims. (Cl. 260—249.6)

1. A process for the preparation of an epoxy alkyloxy-methylamino-s-triazine which comprises reacting:

(A) a methylolated amino-s-triazine of the general formula:



wherein R is a member selected from the group consisting of hydrogen, alkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, aralkyl, arkaryl and hydroxy, no more than one R being hydroxy, *n* is an integer of from 1–3, and A and B are members selected from the group consisting of hydrogen, alkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, alkaryl, aralkyl and $-CH_2OH$ groups, at least one of the total number of amino substituents represented by A and B containing at least one of said $-CH_2OH$ groups, with (B) an epoxy alkanol containing not more than ten carbon atoms represented by the structural formula:



wherein D is an alkylene radical, E is a member selected from the group consisting of hydrogen, alkyl and hydroxyalkyl, *m* is an integer of from 0–7, and *p* is an integer of from 0–2

at a temperature of from about 0° C. to about 60° C. in the presence of an acid catalyst and recovering the epoxy alkyloxymethylamino-s-triazine produced.

3,145,208

MANUFACTURE OF HERBICIDAL DERIVATIVES OF 2-MERCAPTO-4,6-BIS-AMINO-s-TRIAZINE

Enrico Knüsli, Riehen, near Basel, Wilfried Schäppi, Basel-Land, and Dagmar Berrer, Riehen, near Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed July 5, 1963, Ser. No. 293,201
Claims priority, application Switzerland Nov. 20, 1961
6 Claims. (Cl. 260—249.8)

1. In a process for preparing herbicidal derivatives of 2-mercapto-4,6-bis-amino-s-triazine from 2-halogeno-4,6-bis-amino-s-triazines, by replacing the halogen atom by the HS- group and transforming the latter into a herbicidally-active derivative, the improvement consisting essentially of mixing and thereby reacting a 2-halogeno-4,6-bis-amino-s-triazine in an aqueous medium, with thiourea, and saponifying the reaction product in an alkaline medium, thereby obtaining the corresponding 2-mercapto-4,6-bis-amino triazine compound.

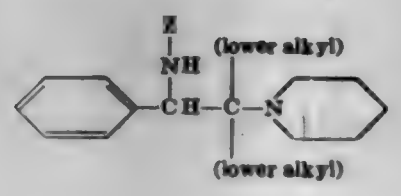
3,145,209

SUBSTITUTED AMINOPHENYL-ETHYLAMINE DERIVATIVES

John Krapcho, New Brunswick, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 31, 1961, Ser. No. 127,837
7 Claims. (Cl. 260—268)

1. A compound of the formula



wherein Z is selected from the group consisting of hydrogen, acetyl and phenacetyl.

5. 1 - (2 - amino - 1,1 - dimethyl - 2 - phenylethyl)-4-phenylpiperazine.

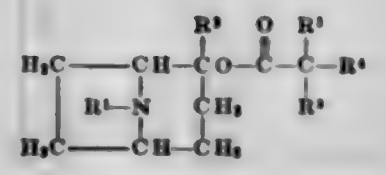
3,145,210

ESTERS OF 2-TROPANOL

Sydney Archer, Bethlehem, and Malcolm R. Bell, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 4, 1961, Ser. No. 157,018
14 Claims. (Cl. 260—292)

1. A compound selected from the group consisting of (A) compounds of the formula



wherein R^1 is a member of the group consisting of hydrogen, lower-alkyl and lower-alkenyl; R^2 is a member of the group consisting of hydrogen and lower-alkyl; R^3 is a member of the group consisting of hydrogen, hydroxy, lower-alkoxy and lower-alkanoyloxy; and R^4 and R^5 are members of the group consisting of monocarbocyclic aryl, thienyl, pyridyl, cycloalkyl having from 5 to 6 ring members and cycloalkenyl having from 5 to 6 ring members; (B) compounds of the above formula wherein R^4 and R^5 in the moiety CR^4R^5 are joined to form a member of the group consisting of fluorenyl, xanthenyl, thiaxanthenyl and 9,10-dihydroanthracenyl; (C) acid-addition salts of (A) and (B); and (D) lower-alkyl, lower-alkenyl and monocarbocyclic aryl-lower-alkyl quaternary ammonium salts of (A) and (B); monocarbocyclic aryl in each instance being a member of the group consisting of phenyl and phenyl substituted by from one to three radicals selected from the group consisting of lower-alkyl, lower-alkoxy, halogen, lower-alkylmercapto and trifluoromethyl.

3,145,211

TROPYL ESTERS OF α-CYCLOALKYL-ALKANOIC ACIDS

Rolland F. Feldkamp, Evansville, Ind., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 4, 1962, Ser. No. 164,383
8 Claims. (Cl. 260—292)

1. A member of the group consisting of (A) tropyl esters of lower-alkanoic acids having from three to eight carbon atoms, inclusive, and having attached to the alpha-position a cycloalkyl group of 5–6 ring members; (B) acid-addition salts thereof; and (C) lower-alkyl, lower-alkenyl and monocarbocyclic aryl-lower-alkyl quaternary ammonium salts thereof.

3,145,212

BENZOPHENONE-2-CARBOXYLIC ACID ADDITION SALTS OF 1-METHYL-3-(DI-2-THIENYLMETHYLENE) PIPERIDINE

Makoto Yamamoto, Yao, and Hiroshi Yoshikawa, Toyonaka, Japan, assignors to Tanabe Seiyaku Co., Ltd., Higashi-ku, Osaka, Japan

No Drawing. Filed Dec. 4, 1961, Ser. No. 156,940
Claims priority, application Japan Dec. 19, 1960
2 Claims. (Cl. 260—293.4)

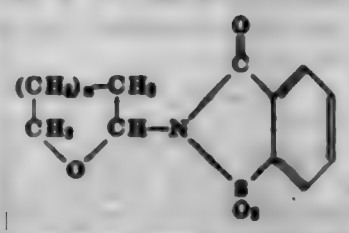
1. The benzophenone-2-carboxylic acid addition salt of 1-methyl-3-(di-2-thienylmethylene)piperidine.

3,145,213
SACCHARIN DERIVATIVES AND THEIR PRODUCTION

Angelo John Speziale, Creve Coeur, and Gino J. Marco, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware

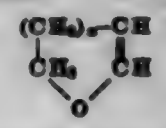
No Drawing. Filed Oct. 12, 1961, Ser. No. 144,563
5 Claims. (Cl. 260—301)

1. A compound of the formula



wherein *n* is a whole number from 1 to 2.

4. The method of making a compound of claim 1 which comprises reacting in a fluid medium saccharin with a compound of the formula



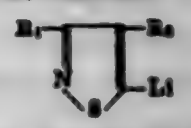
wherein *n* is a whole number from 1 to 2 in the presence of a catalytic amount of an acid catalyst selected from the group consisting of strong mineral acid, benzene sulfonic acid and p-toluene sulfonic acid.

3,145,214
ISOTHIAZOL-5-YL LITHIUM DERIVATIVES

Ronald Slack, Chelsea, London, Sydney Leonard Squires, East Ham, London, and Kenneth Robert Harry Woolridge, Brentwood, England, assignors to May & Baker Limited, Essex, England, a British company

No Drawing. Filed May 15, 1963, Ser. No. 283,657
9 Claims. (Cl. 260—302)

1. A compound of the formula:



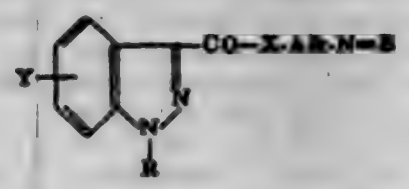
wherein R_1 represents a member of the class consisting of hydrogen, alkyl of up to 6 carbon atoms, and carboxyl, and R_2 represents a member of the class consisting of hydrogen, halogen, alkyl of up to 6 carbon atoms, and carboxyl.

3,145,215
INDAZOLE DERIVATIVES

Frederick K. Kirchner, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 19, 1961, Ser. No. 160,663
12 Claims. (Cl. 260—310)

1. A member of the group consisting of a compound having the structural formula



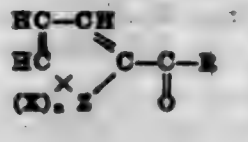
in which Y is a member of the group consisting of hydrogen, lower-alkyl, lower-alkoxy, lower-alkylmercapto, lower-alkylsulfinyl, lower-alkylsulfonyl, nitro, halogen, trifluoromethyl, and amino; R is a member of the group consisting of hydrogen, lower-aliphatic hydrocarbon, phenyl and benzyl; X is a member of the group consisting of O and NH; Alk is a member of the group consisting of alkylene having from two to six carbon atoms and having the free valences on different carbon atoms and oxa-alkylene having from four to eight carbon atoms; and N=B is a member of the group consisting of di-(lower-alkyl)amino, 1-pyrrolidinyl, lower-alkylated-1-pyrrolidinyl, piperidino, lower-alkylated-piperidino, morpholino, lower-alkylated-morpholino, thiomorpholino, lower-alkylated-thiomorpholino, 1-piperazinyl, 4-methyl-1-piperazinyl, 4-phenyl-1-piperazinyl, 1-hexamethyleniminyl, and 1-heptamethyleniminyl, and pharmaceutically acceptable lower-alkyl, lower-alkenyl and monocarbocyclicarylmethyl quaternary ammonium salts thereof.

3,145,216
FRIEDEL-CRAFTS KETONE SYNTHESIS

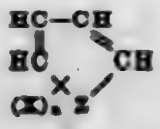
George A. Olah, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,142
20 Claims. (Cl. 260—332.3)

1. A process for preparing ketones having the formula:



wherein Z represents a member selected from the group consisting of chalcogens having an atomic number from 8 to 16 and the radical —C≡C—, R is a member selected from the class consisting of alkyl and phenyl, X represents a member selected from the group consisting of halogens having an atomic number from 9 to 17 and alkyl, and *n* is an integer from 0 to 3, said process comprising reacting by contacting a cyclic compound having the formula:



wherein Z, X and *n* have the same values as previously described, with a thiocyanate having the formula:



wherein R has the same value as previous described, in the presence of a Friedel-Crafts catalyst, and separating the thus-formed compound from the reaction mixture.

20. A process for preparing 2-acetyl thiophene comprising reacting by contacting thiophene with acetyl thiocyanate in the presence of a Friedel-Crafts catalyst.

3,145,217
USE OF A PARTIALLY OZONIZED HYDROCARBON LIQUID AS AN ABSORBENT LIQUID IN THE OZONOLYSIS OF OLEFINS

Joseph T. Horeczy and Robert H. Perry, Jr., Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

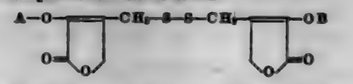
Filed Mar. 13, 1961, Ser. No. 95,341
6 Claims. (Cl. 260—339)

1. In the ozonolysis of an olefinic hydrocarbon by contacting said olefinic hydrocarbon in the liquid phase with an ozone-containing gas, wherein an ozonidic fog is generated during the ozonolysis of up to about 75% of the hydrocarbon,

the improvement of recovering said fog by contact with olefinic hydrocarbon which has been ozonized until said ozonidic fog no longer occurs.

3,145,218
CROTONOLACTONES
Josef Fried and Eugene E. Galantay, Princeton, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 2, 1962, Ser. No. 227,710
10 Claims. (Cl. 260—343.6)

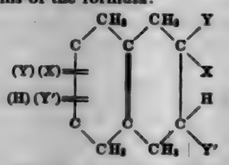
1. A compound of the formula



wherein A and B are each selected from the group consisting of hydrogen, alkali metal, alkaline earth metal, ammonium, substituted ammonium, lower alkyl, phenyl-lower alkyl, and the acyl radical of an unsubstituted hydrocarbon carboxylic acid of less than twelve carbon atoms.

3,145,219
$\Delta^{9,10}$-OCTALINS
Harry Norman Cripps, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 30, 1959, Ser. No. 843,360
6 Claims. (Cl. 260—346.3)

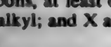
1. $\Delta^{9,10}$-octalins of the formula:



wherein X is selected from the group consisting of —COOH, COOR,



—CN, —$CONH_2$ and phenyl; Y and Y' are selected from the group consisting of X, hydrogen —CH_2COOR and alkyl of up to 12 carbons, at least one of Y and Y' being hydrogen; R is lower alkyl; and X and Y' on adjacent carbons jointly represent



2. $\Delta^{9,10}$-octalin-2,3,6,7-tetracarboxylic dianhydride.

3,145,220
METHOD OF OXIDIZING HYDROCARBON FEEDS EMPLOYING DISCONTINUOUS TRIGGERING MEANS
William Bartok, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 8, 1960, Ser. No. 68,073
2 Claims. (Cl. 260—348.5)

1. In a process for oxidizing a hydrocarbon feed selected from the group consisting of C_1 to C_4 paraffin, C_2 to C_4 monoolefins, C_5 to C_6 cycloparaffins and aromatic hydrocarbons containing up to 10 carbon atoms in which the feed is mixed with molecular oxygen-containing gas and the resultant mixture is preheated to a temperature between about 500° and 1000° F. and continually passed into a reaction zone at a pressure between about 20 and 500 p.s.i.g. and at a linear gas velocity of about 10 to 5000 ft./second so as to impart a swirling motion to said mixture whereby fresh incoming feed is back-mixed with at least a portion of the oxidation product formed in said reaction zone and oxidation products are continuously withdrawn from said zone after a residence time therein of about 0.01 to 10 seconds, the improvement which comprises triggering the oxidation of said feed by initially introducing a triggering agent comprising a more easily oxidizable organic compound relative to said hydrocarbon feed and selected from the group consisting of C_5 to C_{10} paraffins, C_5 to C_{10} monoolefins, C_1 to C_4 organic alcohols, and C_3 to C_6 carbonyl compounds into said reaction zone at a temperature below the threshold oxidation temperature of said hydrocarbon feed but at least equal to the threshold oxidation temperature of said triggering agent, ceasing to introduce the triggering agent into the reaction zone after the hydrocarbon feed commences to oxidize and thereafter oxidizing said feed in the absence of additional triggering reagent at a temperature below the ordinary oxidation threshold temperature of said hydrocarbon feed.

3,145,221
17α-LOWER ALKYL, 17α-LOWER ALKINYL AND 17α-LOWER ALKENYL DERIVATIVES OF 19-NOR-Δ^5-ANDROSTEN-17β-OL-3-ONE
Carl Djerassi and José Iriarte, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Dec. 12, 1958, Ser. No. 779,820
Claims priority, application Mexico Dec. 21, 1957
1 Claim. (Cl. 260—397.4)

The 17-mono hydrocarbon carboxylic acid esters of up to 12 carbon atoms of 17α-vinyl-19-nor-Δ^5-androsten-17β-ol-3-one.

3,145,222
ADDITION OF POLYFLUOROALKYL IODIDES TO UNSATURATED COMPOUNDS AND PRODUCTS PRODUCED THEREBY
Neal O. Brace, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 23, 1961, Ser. No. 90,911
7 Claims. (Cl. 260—408)

1. A composition having the structure $F(C_nF_{2n})Q$ wherein Y is selected from the group consisting of hydrogen, fluorine, chlorine and bromine, n is an integer from one to about twenty and Q is selected from the group consisting of (a) $—CH_2CHIO_2CR$

(b) $—CH_2CHI(CH_2)_mO(CH_2)_2CO_2H$

(c) $—CH=CH(CH_2)_mO(CH_2)_2CO_2H$

(d) $—CH_2CH_2(CH_2)_mO(CH_2)_2CO_2H$

and (e) $—CH=CI(CH_2)_mCO_2H$ wherein R of (a) is a lower alkyl group and m of (b), (c), (d) and (e) is an integer of from zero to about fourteen.

7. A process for reacting a polyfluoroalkyl iodide with a reactant taken from the group consisting of aliphatic olefins and acetylenes, said iodide having the structure selected from the group consisting of A—CFI—B and $I(C_rF_{2r})I$, said A and B being selected from the group consisting of F and $Y(C_nF_{2n})$, said Y being selected from the group consisting of F, Cl, Br, and H, said r being from 3 to about 20 and said n being from about 1 to about 20, said process being one wherein said polyfluoroalkyl iodide is reacted with an unsaturated compound taken from the group consisting of an aliphatic olefin, and an acetylene compound, said heating step being conducted at a temperature in the range of from about 50° C. to about 190° C. in the presence of a free radical generating compound selected from the group consisting of organic peroxides and organic azonitriles at a pressure of from about 1 to about 50 atmospheres, followed by recovering the reaction product.

3,145,223
WINTERIZING GLYCERIDE OILS
Thomas H. Little, Devon, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Sept. 22, 1961, Ser. No. 140,892
6 Claims. (Cl. 260—428)

1. The process of winterizing a glyceride oil in the absence of solution in a solvent including the steps of

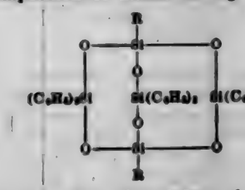
(a) lowering the temperature of the oil to a temperature within the range of about 50° F. to about 35° F. to solidify at least a portion of the higher-melting glycerides,
(b) continuously introducing a stream of the chilled oil and solids to a zone of centrifugation,
(c) building up the solids to a pre-established depth of at least ⅛ of the distance from the periphery of the zone to the axis at which depth the solids obstruct the entrance of a passage in the zone blocking the supply of oil to a segregated chamber, the chamber having a leak passage outward to the outside of the zone and the chamber and the zone having a common partition facing the outside of the zone and movable radially of the zone and carrying a valving surface normally closing an opening in the periphery of the zone, the blocking of supply of oil to the segregated chamber causing a pressure drop in the chamber to move the partition and valving surface inward exposing the peripheral opening,
(d) extruding a portion of the built-up solids out of the zone through the opening to reduce the depth of solids accumulated thereby unobstructing the entrance and restoring supply of oil to the segregated chamber to cause a pressure increase in the chamber, the partition and valving surface moving outward under centrifugal force to closethe peripheral opening to stop the extruding of solids,
(e) continually repeating the building up and extruding steps and
(f) continuously discharging winterized oil separated from the solids from a locus spaced inward from the periphery of the zone and spaced along the axis from the point of extrusion of solids, and whereby in building up to the pre-established depth the solids are compacted to displace inwardly of the zone entrained and occluded portions of the oil.

3,145,224
MANUFACTURE OF LEAD COMPOUNDS
Richard K. Scales, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Feb. 15, 1963, Ser. No. 258,982
3 Claims. (Cl. 260—437)

1. In the manufacture of tetramethyllead by the catalyzed reaction of monosodium lead alloy and methyl chloride, the improvement consisting of reacting in the presence of a reaction medium of from about 10 to 25 weight percent based on the alloy, said reaction medium including at least 8 percent 1,2-dichloroethane, and from 0 to about 10 weight percent of an inert liquid hydrocarbon having an atmospheric mid-boiling point of from about 90 to 150° C.

3,145,225
BICYCLO[3.3.3]PENTASILOXANES
John F. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed May 6, 1963, Ser. No. 278,490
3 Claims. (Cl. 260—448.2)

1. A composition of matter having the formula



where R is a member selected from the class consisting of the methyl and phenyl radicals.

3,145,226
PROCESS FOR PREPARING ORGANIC THIOLSULFONATES
Rudi F. W. Ritz, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
No Drawing. Filed Mar. 1, 1963, Ser. No. 262,231
6 Claims. (Cl. 260—453)

1. A process for the preparation of an organic thiolsulfonate which comprises reacting a compound having the formula

$RSCH_2Cl$

wherein R is selected from the class consisting of an alkyl group having 1–18 carbon atoms, a cyclohexyl group, a phenyl group, a chlorophenyl group, a nitrophenyl group and a tolyl group, with
an organic sulfoxide having the formula

$(R')_2S=O$

wherein R' is an alkyl group having 1–4 carbon atoms, at a temperature in the range of 0° to 180° C.

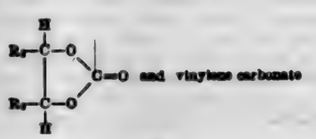
3,145,227
ORGANIC PHOSPHINE OXIDES AND METHODS OF PREPARING SAME
Martin Grayson, Norwalk, and Patricia Tarpey Keough, Ridgefield, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 14, 1961, Ser. No. 116,987
2 Claims. (Cl. 260—465.8)

1. A process which comprises reacting an organophosphorous compound of the formula



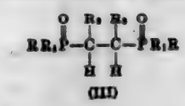
(I)

with a cyclic carbonic ester selected from the group consisting of



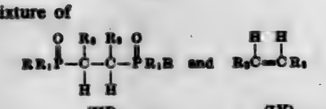
(II)

at a temperature in the range of 50° C. to 250° C. to produce a member selected from the group consisting of



(III)

and a mixture of



(IIII) (IV)

wherein n in Formula (I), above, is selected from 0 and 1; R and R_1 each represent a member selected from the group consisting of alkyl having from 1 to 20 carbon atoms, substituted alkyl having from 1 to 20 carbon atoms, cyclopentyl, cyclohexyl, phenyl, and R and R_1 taken together with P represent a member selected from the group consisting of 2,4,6-tris(3-heptyl)1,3-dioxa-5-phosphacyclohexyl, 2,4,6-tri(4-chlorophenyl)1,3-dioxa-5(2-cyanoethyl)phosphacyclohexyl, 2,4,6-tri(1-phenyl)1,3-dioxa-5(4-methylphenyl)phosphacyclohexyl, said substituents for alkyl, above, being selected from the group consisting of lower alkoxy, halogen, phenoxy, hydroxyl, carbamyl, cyano and phenyl; R_2 represents a member selected from the group consisting of hydrogen, alkyl having from 1

to 16 carbon atoms, and substituted alkyl having from 1 to 16 carbon atoms; R_3 represents a member selected from the group consisting of hydrogen, alkyl having 1 to 16 carbon atoms and substituted alkyl having from 1 to 16 carbon atoms; said substituents for R_2 and R_3 being selected from the group consisting of cyano and lower alkoxy.

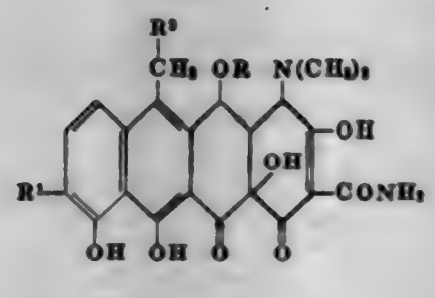
3,145,228

5-ALKOXY- AND 5-BENZYLOXY-TETRACYCLINE, DERIVATIVES AND ANALOGUES THEREOF

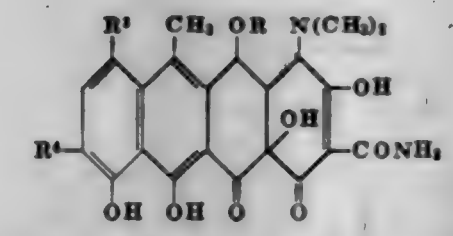
Manfred Schach von Wittenau, Gales Ferry, and Charles R. Stephens, Jr., Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 6, 1962, Ser. No. 221,869
21 Claims. (Cl. 260—559)

1. An anhydrotetracycline selected from the group consisting of

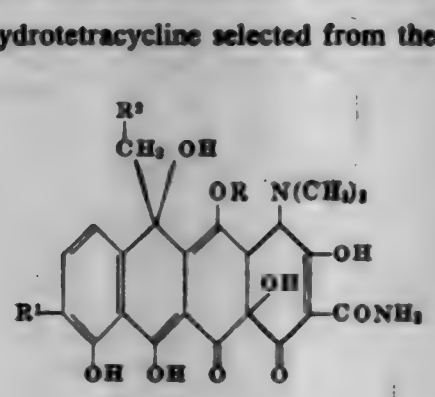


and

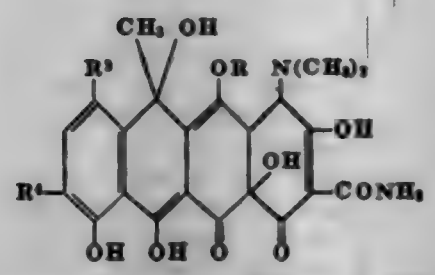


wherein R is selected from the group consisting of lower alkyl and benzyl; R^1 is selected from the group consisting of hydrogen, chloro, bromo, iodo and amino; R^2 is selected from the group consisting of chloro, bromo and iodo; R^3 is selected from the group consisting of hydrogen and chloro; R^4 is selected from the group consisting of hydrogen and amino; the acid addition salts thereof, and the pharmaceutically acceptable metal salts thereof.

8. A dehydrotetracycline selected from the group consisting of

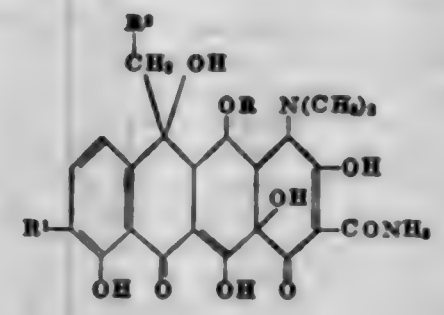


and

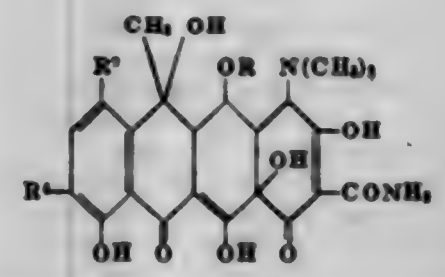


wherein R is selected from the group consisting of lower alkyl and benzyl; R^1 is selected from the group consisting of hydrogen, chloro, bromo, iodo and amino; R^2 is selected from the group consisting of chloro, bromo and iodo; R^3 is selected from the group consisting of hydrogen and chloro; and R^4 is selected from the group consisting of hydrogen and amino; and the alkali and alkaline earth metal salts thereof.

15. A tetracycline selected from the group consisting of



and



wherein R is selected from the group consisting of lower alkyl and benzyl; R^1 is selected from the group consisting of hydrogen, chloro, bromo, iodo and amino; R^2 is selected from the group consisting of chloro, bromo and iodo; R^3 is selected from the group consisting of hydrogen and chloro; and R^4 is selected from the group consisting of hydrogen and amino; the acid addition salts thereof, and the pharmaceutically acceptable metal salts thereof.

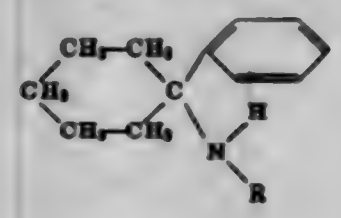
3,145,229

PROCESS FOR THE PRODUCTION OF N-SUBSTITUTED-1-PHENYLCYCLOHEXYLAMINES

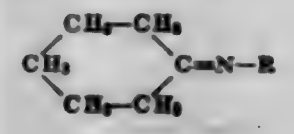
Erik F. Godefroi, Detroit, and Robert F. Parcell, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,477
3 Claims. (Cl. 260—570.5)

1. Process for the production of a 1-phenylcyclohexylamine compound having in the free base form the formula,



which comprises reacting a Schiff base compound of formula,



with a compound of formula,



under substantially anhydrous conditions in an inert organic solvent and decomposing the resulting product by treatment with an aqueous medium; where R is a member of the class consisting of alkyl radicals containing 1 to 4 carbon atoms, the allyl radical and alkoxyalkyl radicals containing 1 to 3 carbon atoms in the alkoxy group and 2 to 3 carbon atoms in the alkyl group and M is an alkali metal.

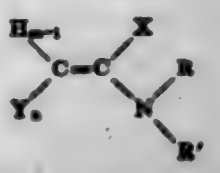
3,145,230

VINYL AMINES FROM HALOAMIDES

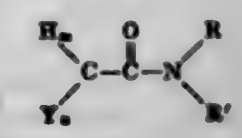
Angelo John Speziale, Creve Coeur, and Robert C. Freeman, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 16, 1962, Ser. No. 180,303
10 Claims. (Cl. 260—576)

1. The method of preparing compounds of the structure



wherein *m* is an integer from one (1) to three (3) and *n* is an integer from zero (0) to two (2), providing that the sum of *m* and *n* is three (3); wherein X is halogen selected from the class consisting of chlorine, and bromine; wherein Y is a halogen selected from the class consisting of chlorine, bromine and fluorine; and wherein R and R′ are organic radicals of the class consisting of hydrocarbon radicals of the group consisting of alkyl radicals from one to twelve carbon atoms, cycloalkyl radicals having 5 to 7 carbon atoms, phenyl and naphthyl radicals and the said hydrocarbon radicals having in addition substituents of the class consisting of chlorine, bromine, fluorine, alkyl radicals having up to four carbon atoms, alkoxy radicals having up to four carbon atoms, nitro, cyano, phenyl and naphthyl radicals, which comprises contacting a compound of the structure



with a phosphorus pentahalide, PX_5.

3,145,231

PROCESS FOR THE REDUCTION OF HALO NITRO AROMATIC COMPOUNDS

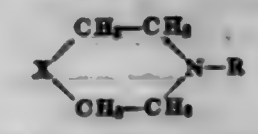
John Richard Kosak, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,866
12 Claims. (Cl. 260—580)

1. A process for minimizing the formation of dehalogenated products during the preparation of halogen substituted aromatic amines by the catalytic hydrogenation of nitro monocarbocyclic aromatic hydrocarbons bearing 1 to 2 halogens taken from the group consisting of Cl and Br, which process comprises effecting the reduction of said nitro compounds, at temperatures of from 30 to 150° C. and hydrogen gas pressures of at least about 100 p.s.i.g., in the presence of

(*a*) a platinum hydrogenation catalyst, in amount providing one part of Pt for every 10,000 to 100,000 parts by weight of said nitro compound, and

(*b*) a cycloaliphatic nitrogen base having the formula



where X is a radical selected from the group consisting of oxygen and N—R, and R is selected from the group consisting of hydrogen, methyl, and ethyl radicals, the quantity of said nitrogen compound corresponding to 0.01 to 1.5 moles per mole of said nitro compound.

3,145,232

OZONIZATION AND REDUCTION OF UNSATURATED ORGANIC COMPOUNDS

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 3, 1959, Ser. No. 850,512
5 Claims. (Cl. 260—586)

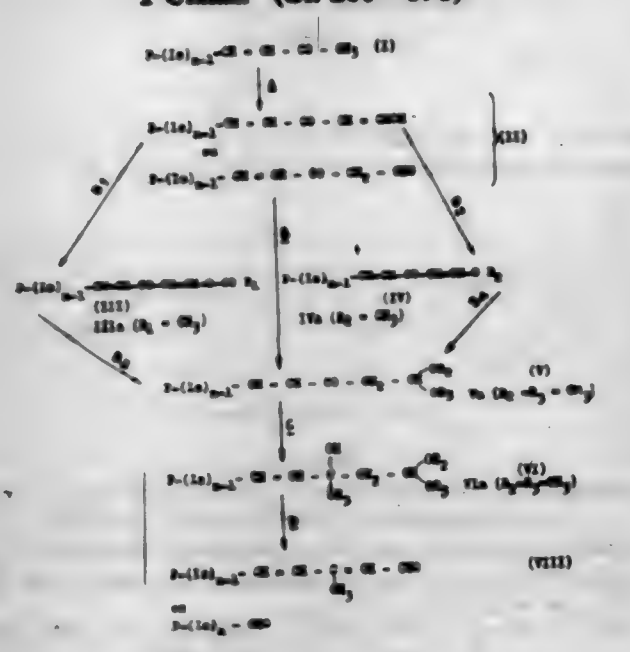
1. In a process for preparing a carbonyl derivative of the product resulting from the ozonization of an organic compound having carbon to carbon unsaturation, such ozonization being carried out in the presence of an inert hydroxylic solvent, the improvement of contacting said product with a lower trialkyl phosphite at a temperature of less than about —40° C., at least an equimolar quantity of phosphite, relative to said compound, being employed.

3,145,233

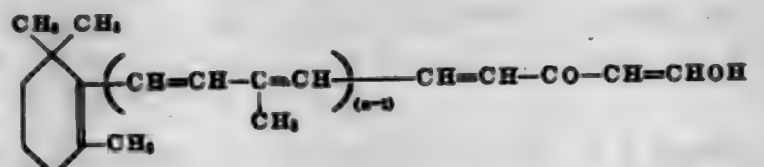
PROCESS FOR THE PREPARATION OF VITAMIN A TYPE ALDEHYDES

Geneviève Jeanne Mathilde Nicolaux, Ernest André Gay, and Jean Matet, Commentry, Robert Lucien Henri Monge, Aubervilliers, and Celestin Marie Joseph Sandeveir and Albert Jacques Antoine Wasmer, Commentry, France, assignors to Societe Anonyme dite: A.E.C. Societe de Chimie Organique and Biologique, Commentry (Allier), France

Filed June 20, 1960, Ser. No. 37,456
Claims priority, application, France, July 6, 1959, 799,395, Patent 1,243,824
1 Claim. (Cl. 260—598)



Reacting the compound:



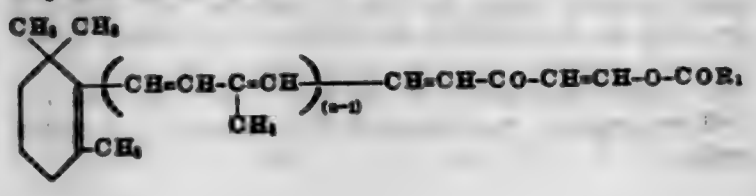
wherein *n* is an integer from 1 to 3, with a compound selected from the group consisting of acid anhydrides of the formula,

$$(R_1—CO)_2O$$

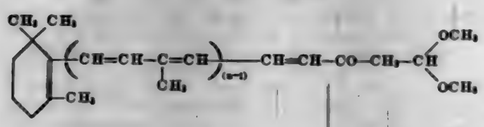
and acid chlorides of the formula,

$$R_1—COCl$$

wherein R_1 in the above formulas is a lower alkyl radical, to produce the ester:



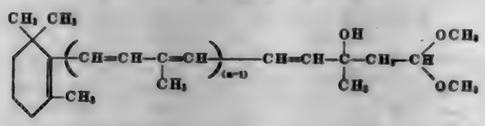
reacting said ester with methanol in the presence of traces of an acid catalyst to produce the acetal:



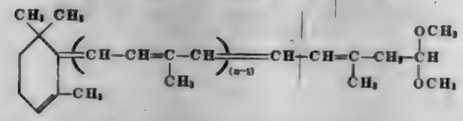
reacting said acetal with an excess of a Grignard reagent:

CH_3Z

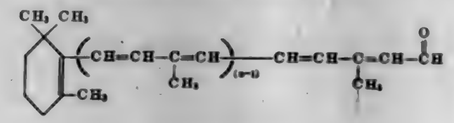
wherein Z is selected from the group consisting of lithium, halogenomagnesium radicals MgX and halogeno-zinc radicals MgX and halogeno-zinc radicals ZnX wherein X is a halogen, to produce the hydroxy acetal:



treating said hydroxy acetal with a trace of acid in methanol to produce the dehydrated acetal:



purifying said dehydrated acetal and then treating with aqueous hydrochloric acid in acetone to form:



3,145,234
ORGANIC PHOSPHINE DERIVATIVES AND METHODS OF PREPARING SAME
Sheldon A. Buckler and Martin Epstein, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed July 1, 1959, Ser. No. 824,169
10 Claims. (Cl. 260—606.5)

1. 2-cyanoethylphosphine oxide.

2. A method of preparing an organophosphorus primary oxide corresponding to the formula

$$R\overset{O}{\overset{\|}{P}}H_2$$

wherein R is a member selected from the group consisting of alkyl, substituted and unsubstituted, branched and straight chain; alkenyl; cycloalkyl; alkaryl; benzyl; and phenyl, substituted and unsubstituted; said alkyl and alkenyl having from 1 to 18 carbon atoms, and said substituents for alkyl and phenyl being selected from the group consisting of nitrile, alkoxy, hydroxy and carboxy, which comprises bringing together in intimate contact and in an inert atmosphere and at a temperature in the range of −50° C. to 60° C. a primary phosphine of the formula RPH_2, wherein R is the same as above, and an oxidizing agent selected from the group consisting of hydrogen peroxide, an organic hydroperoxide and dinitrogen tetroxide, said oxidizing agent being present in the ratio of 0.1 to 2 molar equivalents per mole of phosphine reactant, and recovering the corresponding primary phosphine oxide.

3,145,235
NITRATION PROCESS
Joseph E. Ashton, La Porte, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 15, 1963, Ser. No. 302,490
5 Claims. (Cl. 260—644)

1. The process for the nitration of 2,7-dimethylnaphthalene by reacting 2,7-dimethylnaphthalene with aqueous nitric acid at a temperature of from about 60° C. to about 150° C., to produce adjacent alpha mono- to dinitro-2,7-dimethylnaphthalene.

4. The compound 1,8-dinitro-2,7-dimethylnaphthalene.

3,145,236
PROCESS FOR PREPARATION OF VINYL CHLORIDE
Pierre Jean Leroux and Frederic Francois Albert Bracouler, Brussels, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Liege, Belgium
No Drawing. Filed Oct. 25, 1960, Ser. No. 64,707
Claims priority, application Great Britain Oct. 28, 1959
12 Claims. (Cl. 260—656)

1. In a process for producing vinyl chloride by direct and selective catalytic chlorination of ethylene in a gaseous mixture consisting essentially of a minor proportion of ethylene diluted and admixed with preponderantly larger proportions of hydrogen, methane, and carbon monoxide as components in said mixture also susceptible to reaction during said chlorination, the steps which comprise admixing chlorine gas with said gaseous mixture, passing the resulting admixture over and in contact with a chlorination catalyst selected from the group consisting of calcium chloride, strontium chloride, and mixtures thereof, effecting chlorination of said ethylene in said gaseous mixture to vinyl chloride while avoiding chlorination of said other gaseous components of said mixture, maintaining an elevated temperature during said chlorination reaction within the range of about 275° to 375° C. and maintaining the throughput velocity of said chlorine and ethylene-containing admixture within the range of about 14 to 50 liters of said admixture per liter of said catalyst per hour, and separating vinyl chloride thus formed from other gaseous components and products of said processes.

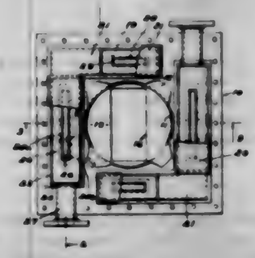
3,145,237
POLYNUCLEAR AROMATIC COMPOUNDS
Robert van Helden, Govert Verberg, and Bob Balder, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 13, 1962, Ser. No. 244,285
Claims priority, application Netherlands Dec. 22, 1961
12 Claims. (Cl. 260—670)

1. The process for the intermolecular condensation of aromatic compounds, which comprises contacting an aromatic compound having a labile hydrogen atom attached to an aromatic nucleus, in liquid phase, with a salt selected from the group consisting of the salts of the palladium and platinum group metals with an acid selected from the group consisting of mineral acids, aliphatic monocarboxylic acids and sulfonic acids, under substantially anhydrous conditions, at a temperature of from about 40 to about 200° C., in the presence of a member of the group consisting of the oxides and salts of the alkali metals and alkaline earth metals.

3,145,238
HYDRODEALKYLATION OF SPECIAL FEED STOCKS
William Newton Kestner, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 19, 1961, Ser. No. 117,808
7 Claims. (Cl. 260—672)

1. The combined steam cracking and hydrodealkylation process which comprises steam cracking at high conversions a product stream from catalytic cracking boiling in the range of 300 to 850° F., distilling the reaction products from the said steam cracking to separate an aromatic concentrate fraction boiling within the range of 160 to 600° F., hydrodealkylating the said aromatic concentrate fraction at temperatures in the range of 1100 to 1600° F., and separating a dealkylated aromatic from the reaction products from the said hydrodealkylation.

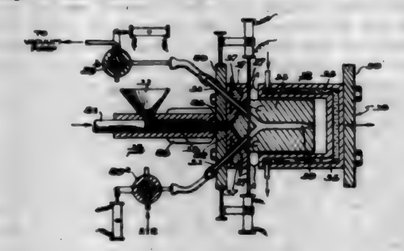
3,145,239
GAS SCRUBBER
Ralph R. Calaceto, Ridgewood, N.J., assignor, by mesne assignments, to Airetron Engineering Corporation, Ridgewood, N.J., a corporation of New Jersey
Filed Nov. 14, 1960, Ser. No. 68,999
6 Claims. (Cl. 261—112)



1. In a gas scrubber, a generally vertical inlet pipe through which a gas which is to be cleaned is adapted to flow downwardly beyond the bottom end of said inlet pipe, a converging tube surrounding the bottom end of said inlet pipe and having an endless converging side wall which converges downwardly to an elevation lower than said bottom end of said inlet pipe and which defines an orifice aligned with said inlet pipe, a compartment located outwardly of said inlet pipe over said converging tube forming an enclosure for receiving liquid, inlet means communicating with said compartment for directing liquid into the latter, said compartment having an elongated conduit providing communication to said converging tube, said conduit having side walls with upper edges in said compartment, one of which has an upper edge lower than the upper edge of the remaining side walls and substantially higher than said inlet means so that the liquid must overflow said one wall before being formed into a sheet which is diverted downwardly to said converging side wall and said orifice so as to mix with and clean the gas which enters through said inlet pipe.

3,145,240
INJECTION MOLDING OF FOAM POLYMERIC STRUCTURES
Victor W. Prouix, Pittsburgh, Pa., and Gerald F. Lafferty, North Leominster, Mass., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 7, 1961, Ser. No. 129,595
5 Claims. (Cl. 264—53)

1. A process for producing a foamed polymeric cup-shaped article having a base and a substantially cylindrical side, which comprises flowing a volume smaller than the volume of the mold of molten expandable but unexpanded polymeric material from an injection molding machine into the periphery of a cup-shaped mold cavity through a conical channel such that said material expands, flowing said expanding material along the side of said cup-shaped mold cavity, and flowing said expanding material to the base of said cup-shaped mold cavity while simultaneously removing gas from said cavity, thereafter cooling said material to a temperature at which the material becomes self-supporting, and removing the article from the mold.

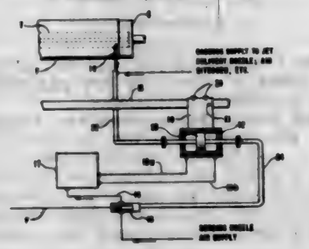


3,145,241
METHOD FOR PRODUCING DECORATIVE SHEET MATERIAL
William H. Powell, Livingston, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed June 24, 1960, Ser. No. 38,662
4 Claims. (Cl. 264—76)



1. In a method for producing a multicolored homogeneous composition sheet having a substantially non-directional decoration by feeding a mixture of colored granules through the nip of a consolidating sheeting calender thereby forming said granules into said homogeneous sheet, the improvement which comprises reducing the elongation of said granules by said calender by limiting the flow of said granules to said nip to a thin, uniform stream only sufficient to form said sheet and continuously oscillating said colored granules immediately above said nip by the application of an oscillating motion thereto in a direction perpendicular to the plane passing through said nip.

3,145,242
FLAME TREATMENT OF POLYMERIC FILM AND APPARATUS
William Locke Bryan, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 24, 1962, Ser. No. 225,639
6 Claims. (Cl. 264—80)



1. In a process for flame treating a polymeric film wherein continuous film of organic polymeric material is brought continuously into intimate contact with a rela-

tively highly thermally conductive surface and while in-contact therewith passes through the flame of an elongated burner spaced from and disposed parallel to said film and transversely to the direction of travel thereof whereby to heat the surface of said film exposed to said flame to an elevated temperature, said thermally conductive surface opposite said flame being maintained at a temperature substantially below said elevated temperature; the improvement which comprises, in combination, the step of directing a narrow stream of substantially inert gas through the gap between said film and said burner in the vicinity of the edge of said film and in a direction substantially paralleling the direction of travel thereof through said flame, whereby to cool said film in the vicinity of the edge thereof.

3,145,243
MANUFACTURE OF HOLLOW PLASTIC ARTICLES

Reinold Hagen, Hangelar über Siegburg, Rhineland, Germany

Filed Sept. 8, 1961, Ser. No. 136,846
Claims priority, application Germany Sept. 12, 1960
11 Claims. (Cl. 264—98)



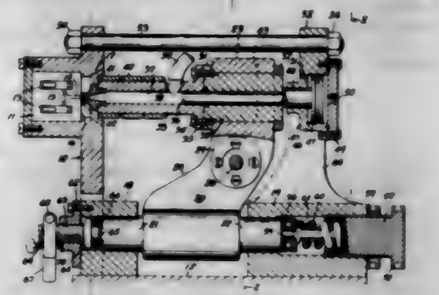
1. A process for the manufacture of hollow articles from plastics by blowing, using a sectional mold, blow pipe means, and means for tearing off flashing, comprising introducing at least a single preform of the plastic material used, in condition of plasticity, into the open space between the sections of said mold, closing said mold about at least a single segment of said preform, the closed mold having at least a single composite cavity conforming in shape to the article to be produced, admitting a fluid pressure medium to the mold-enclosed segment through said blow pipe means, thus expanding said segment into molding contact with the wall defining said mold cavity, and forming a blown article having flashing adhering thereto and being supported by said blow pipe means, opening said mold, withdrawing from said mold said blow pipe means with said blown article thereon, positioning stid blown article and said flashing-tearing means to be relatively movable along a straight path, grasping the flashing in the flashing-tearing means on opposite sides of the blow molded article, and effecting a relative straight movement of said blown article and said flashing-tearing means, thereby causing said flashing-tearing means to tear said flashing from said blown article.

3,145,244
METHOD AND APPARATUS OF OBTAINING PRECISE NOZZLE CONTACT ON PLASTIC INJECTION MOLDING MACHINES

Louis H. Morin, 125 Beechwood Ave., Bronx, N.Y.

Filed Oct. 9, 1961, Ser. No. 143,615
11 Claims. (Cl. 264—328)

11. In a method of molding in an injection molding machine employing a die, an injection cylinder having a nozzle end through which heated plastic material is pressure injected into a cavity portion of the die and a pivoted bracket for support of said cylinder, the method of controlling spacing and actuation of a nozzle with respect to the surface of a die, which consists in manually adjusting and controlling predetermined gap spacing of the surface of the nozzle with respect to the surface of the die,

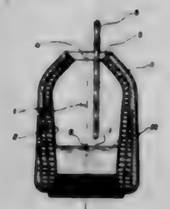


and then in applying pressure to the means supporting said nozzle to flex said supporting means to move the nozzle in position to close the gap spacing and firmly engage the surface of the die at the moment of pressure injecting material through the nozzle into a cavity of the die.

3,145,245
CONVERTER ARRANGEMENT

Jacques Chodaille, Le Pecq, France, assignor to Institut de Recherches de la Sidérurgie Française, Saint Germain-en-Laye, France, a professional institution of France

Filed June 22, 1961, Ser. No. 118,983
Claims priority, application, France, Aug. 2, 1960, 834,760, Patent 1,271,633
7 Claims. (Cl. 266—34)



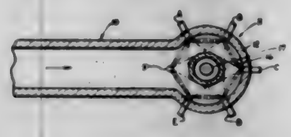
1. In a converter arrangement for treating molten metal, in combination, an upright chamber having an inner surface and a central upright axis and adapted to hold molten metal at a predetermined metal level; and a single vertical lance extending downwardly into said chamber and having a stationary vertical axis throughout that portion of its length which is located within said chamber, said lance terminating in said chamber in a downwardly directed orifice located in said stationary vertical axis above said predetermined metal level at a point laterally spaced from said central upright axis in a predetermined horizontal direction at a predetermined distance, said predetermined distance being within the range of between 15 and 75% of the horizontal distance of said inner surface from said central upright axis in said predetermined direction, whereby due to the lateral spacing of said single vertical lance from said axis mass oscillations in the molten metal will be slowed down and spattering of the latter will be reduced.

ELECTRICAL

3,145,246
ELECTRIC HEATING MEANS AND METHOD FOR HEATING GLASS NEAR THE PERIMETER OF THE WORKING ZONE OF A GLASS FEEDER

Herbert M. Angelberger, Sylvania, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Original application May 14, 1957, Ser. No. 659,091. Divided and this application Apr. 28, 1960, Ser. No. 35,859
4 Claims. (Cl. 13—6)

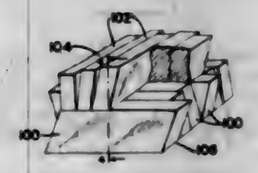


1. The method of maintaining a uniform temperature in molten glass contained in a working zone of a glass feeding device of a multi-compartment glass furnace where glass is fed into said feeding device and discharged from said feeding device at spaced points therein comprising passing a main electric heating current in a plurality of adjoining current paths through the glass near the perimeter of the working zone, one of the current paths of said main heating current extending transversely of the point where glass is fed into said working zone and having a lesser heating effect than the other current paths of said main heating current, passing a minor electric heating current in a plurality of adjoining current paths through the glass spaced inwardly in said working zone from the current paths of said main electric heating current, said minor current having a lesser heating effect on the glass than said main current, and maintaining the directions of the current paths of said currents to prevent current flow through the central portion of the working zone.

3,145,247
FIBER OPTICS CRYPTOGRAPHIC DEVICE

Robert J. Meltzer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Oct. 7, 1960, Ser. No. 61,188
2 Claims. (Cl. 88—1)

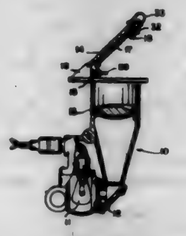


1. A cryptographic device comprising a first close packed array including angularly displaced coherent bundles, each of said bundles including a cohesive plurality of generally parallel image forming optical fibers which are parallel with respect to each other, the entrant and exit faces of a plurality of said bundles so constructed and arranged that the axis of light transmission through each bundle is angularly offset with respect to the axis of light transmission of the adjacent bundle and angularly related to the entrant and exit faces of said bundles by an angle different than 90°, and a second array of angularly displaced coherent bundles including a cohesive plurality of generally parallel image forming optical fibers which are parallel with respect to each other, the entrant and exit faces of a plurality of said bundles in said second array so constructed and arranged that the axis of light transmission through each bundle is angularly offset with respect to the axis of light transmission of the adjacent bundle and angularly related to the entrant and exit faces of said bundles by an angle different than 90°, the entrant faces of said bundles in said first array disposed operatively adjacent and angularly oriented with respect to the exit faces of said members in said second array to thereby form plural layers optically in series.

3,145,248
OPTICAL SIGHT DISPLACING GLASS

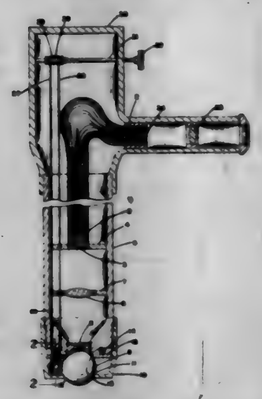
James A. Sharping, Albuquerque, N. Mex., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 14, 1960, Ser. No. 75,890
1 Claim. (Cl. 88—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



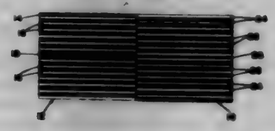
In an optical reflex type gun sight including, an illuminating source, a reticle, a collimating lens system, and a fixed reflex glass cooperating in a well known manner to present a first reticle image on the glass, the improvement comprising an attachment for said sight, said attachment comprising: an adjustable reflex glass, a top frame member mounted at one end of the adjustable glass, spring hinge means, a spring clip mount having a plurality of spring clips which engage said fixed reflex glass to secure said clip mount to said fixed reflex glass, one end of the spring hinge means mounted on the top frame member, the other end of the spring hinge means mounted on the spring clip mount; a bottom frame member, a spring follower mounted on the bottom frame member; a pair of mounting brackets secured to said gun sight, each bracket having a slot formed in one leg thereof, a cross arm extending between the mounting brackets being slidable and rotatable in the slots, an adjustment screw mounted on the cross arm, a cylindrically shaped follower nut threadably mounted on the adjustment screw, the follower nut having two grooves formed perpendicular to the nut axis, the spring follower having a slot formed in one portion thereof adapted to engage and slide in said follower nut grooves whereby the attachment is removably mounted on the fixed reflex glass of said gun sight so that the angle between the plane of the adjustable reflex glass and light emerging from the gun sight may be adjusted to present second reticle image on the glass which can be adjusted relative to the first reticle image by manipulation of the adjustment screw.

3,145,249
ENDOSCOPE WINDOW
Robert J. Meltzer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Jan. 2, 1962, Ser. No. 163,459
3 Claims. (Cl. 88—1)



1. An endoscope including a wiper device comprising, an elongated endoscope housing, a spherical window rotatably mounted in one end portion of said endoscope housing, an optical system optically aligned with said window for forming an image in combination with said window, a wiper supported on said endoscope housing engaging said window, a rotatable member supported in said housing and frictionally engaging said window, means accessible from the opposite end portion of said endoscope housing providing rotation of said member and thereby providing relative motion between said window and said wiper for removing foreign material from the external surface of said window.

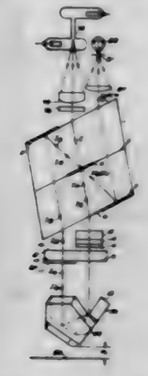
3,145,250
MOIRE FRINGE CONSTRUCTIONS INCLUDING A PHASE CHANGE
Leslie O. Vargady, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 1, 1962, Ser. No. 176,523
5 Claims. (Cl. 88—1)



1. A moire fringe construction comprising a superimposed pair of line grids each including parallel dark lines and clear intervals, the lines of one of said grids disposed at a slight angle with respect to the lines of the other of said grid to thereby form a predetermined angular orientation, means supporting said grids in the predetermined orientation and movable relative to each other in a direction transverse to the line structure and each of said grids including a regular pattern and a phase change in said pattern.

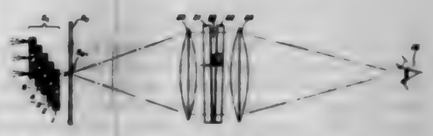
4. A moire fringe construction comprising a superimposed pair of line grids each including parallel spaced lines, the lines of one of said grids disposed at a slight angle with respect to the lines of the other of said grids to thereby form a predetermined angular orientation, and the pitch of said grids being gradient in a direction transverse to said lines, a phase change in the gradient wherein the progressively increasing line widths change to progressively decreasing line widths, and means mounting said grids in relatively movable relationship in a direction transverse to the line structure while maintaining their lines in the predetermined angular orientations to each other.

3,145,251
INTERFEROMETERS
Robert A. Woodson, Vestal, N.Y., assignor to Link Aviation, Inc., Binghamton, N.Y., a corporation of New York
Filed Oct. 7, 1959, Ser. No. 845,031
7 Claims. (Cl. 88—14)



1. An interferometer system comprising a beamsplitter assembly for splitting an incident beam into a first beam and a second beam that is substantially parallel to said first beam, said beamsplitter assembly comprising a beamsplitter embedded in an interface of a substantially parallel plate which interface is substantially parallel to a first face of said parallel plate, a first mirror disposed over a portion of said first face, said beamsplitter transmitting said second beam to a second face of said parallel plate whence it emerges, and reflecting said first beam to said first mirror which reflects it to said second face of said parallel plate whence it emerges substantially parallel to said emergent second beam, a bifacial reflector positioned to receive on one of its faces at substantially normal incidence said emergent first beam, and a retroreflector positioned to receive said emergent second beam and to retroreflect it to the second face of the bifacial reflector at substantially normal incidence.

3,145,252
POLYCHROMATIC INTERFEROMETRY
Donald R. Herriott, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 21, 1961, Ser. No. 90,832
7 Claims. (Cl. 88—14)



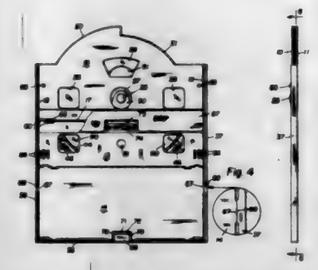
2. In a system for the inspection of a flat surface by the method of interference fringes, the combination which comprises a lamp constructed to radiate white light, an opaque shield disposed in a plane normal to the path of

the light of said lamp, said shield being pierced by *n* elongated slits, illuminated by said light, and thus constituting individual white light sources, said slits being disposed parallel with each other and spaced apart in a direction normal to their long dimensions, a common element for dispersing, in a direction normal to the long dimensions of the slits, light rays that emerge from all of the slits, means for focusing the dispersed rays in a second plane, thus to form a multiple rainbow image constituted of *n* like, continuous, partially superposed, similarly oriented rainbows, each of length L in the dimension normal to the long dimensions of the slits, the spacings among the several slits being so coordinated with the dispersive power of the dispersing element that said rainbows are mutually staggered in the direction of their lengths by distances no greater than *L/n*, whereby at each point of said multiple rainbow image, only *n* discretely different light wavelengths appear, one from each of the several constituent rainbows, means for selecting, for projection toward each single element of the surface under test, light rays from essentially a single point of said multiple rainbow image, including an essentially monochromatic segment of each of said rainbows, a reference surface disposed in optical relation to said flat surface, and means for directing said selected light rays onto both of said surfaces, thereby to develop a set of interference fringes that are representative of the geometrical contours of said flat surface.

7. Apparatus for illuminating each elemental area of a surface with essentially monochromatic light, the color of said light varying progressively in one direction across the surface, which comprises, in combination, a source of light, an opaque shield, pierced by an aperture, interposed in the path of the light of said source and illuminated thereby, a common element for dispersing light rays that emerge from said aperture, means for focusing said dispersed rays into a continuous rainbow image in an image plane, and means for selecting, for projection toward each single element of said surface, essentially monochromatic light rays from essentially a single point of said image, said selecting means comprising a lens having a preassigned focal length, said lens being so disposed in the path of light emanating from said rainbow image and at a distance therefrom slightly in excess of its entrance focal distance, as to form on the illuminated surface an image that is substantially magnified as compared with said rainbow image, said lens also being disposed at a distance from said dispersive element several times greater than said entrance focal distance, whereby, simultaneously, said lens forms an image of said dispersive element in a plane located between said lens and said surface and at a distance from said lens that is slightly in excess of its exit focal distance, whereby said last-named image constitutes an entrance pupil, for light incident on said surface, of a size sufficiently small to permit substantial collimation of said incident light, and means associated with said first defined surface for producing a set of interference fringes.

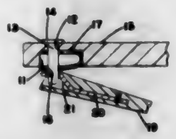
3,145,253
COLLAPSIBLE PLASTIC STEREOSCOPIC VIEWER
George H. Patten, Portland, Oreg., assignor to Sawyer's Inc., Progress, Oreg., a corporation of Oregon
Filed May 1, 1961, Ser. No. 106,866
5 Claims. (Cl. 88—39)

1. A collapsible stereoscopic viewer for viewing a stereo-pair of transparencies mounted in a flat carrier, said viewer comprising a carrier holding portion including a pair of molded plastic, platelike members including a front member and a rear member secured together in parallel relation and defining a slot therebetween for receiving said carrier, and a collapsible, lens-carrying housing of rectangular cross section when erected hingedly secured to said carrier holding portion, said housing comprising four molded plastic, rectangular plates hingedly secured to each other along their adjacent edges, lens means carried by one of the plates, apertures in one of the plates optically aligned with said lens means, said housing being secured to said carrier holding portion along the junction of two of said plates, a plurality of hinge means respectively securing said plates together and said housing to said carrier holding portion in such manner that the housing may be opened into extended condition with



adjacent plates at right angles with respect to each other and said lens carrying plate perpendicular to the plane of said members, and thereafter swung into an operative position in which the lens means are optically aligned with such a stereo-pair of transparencies, said hinge means permitting said housing to be collapsed and swung into a storage position lying flush against said carrier holding portion, means to maintain said housing in said extended condition with said plates at right angles to each other, and means releasably to maintain said housing in said operative position when erected.

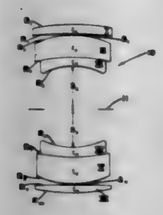
3,145,254
OPHTHALMIC MOUNTING
Donald J. McCulloch, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 2, 1962, Ser. No. 184,467
3 Claims. (Cl. 88—53)



1. Spectacle hinge structure for hingedly interconnecting a spectacle front and a spectacle temple and comprising a post retained by and projecting from the front surface through the rear surface of the temple portion of said front and having an outwardly opening hook portion at the end which projects through the rear surface of the temple portion, a U-shaped leaf spring member having apertures adjacent each end thereof, said post extending through said apertures, a hinge member secured to the end of said temple and having a cross portion seated beneath said post hook portion to form a pivotal connection between said temple and said front, and said temple hinge member including an eccentric portion projecting beyond said cross portion and disposed in sliding engagement with said leaf spring member whereby said leaf spring member exerts a biasing force on said temple

urging the latter toward a closed position with respect to the spectacle front.

3,145,255
PROJECTION OBJECTIVE FOR PHOTO MECHANISMS
Michael J. Buzawa, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 26, 1962, Ser. No. 190,369
5 Claims. (Cl. 88—57)

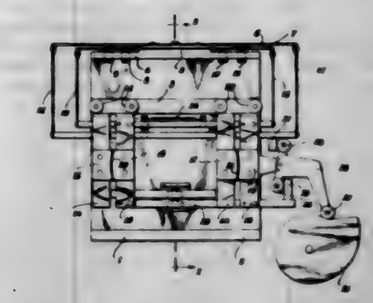


1. An optical system of the Gauss type for a projection objective working at low magnification, said system having a relative aperture as large as f/4.5 for infinity and being well corrected for color aberration for the transmission of radiant energy in the wavelength range from 3400 A. to 4400 A. as well as being diffraction limited in performance,

said system consisting of a front singlet meniscus lens member, a singlet double convex member most rearwardly, and a pair of substantially symmetrical compound convex-concavo lens members optically aligned between said front and rear members, the concave surfaces of the compound members enclosing a diaphragm centrally therebetween, the compound members each having a positive meniscus lens element and a negative meniscus lens element in contact therewith and nearest to said diaphragm, the radii R_1 to R_{10} of the successive lens surfaces on the lens elements I to VI, the successive lens thicknesses t_1 to t_6, the lens spacings S_1 to S_5 and the refractive indices n_D and Abbe numbers ν having values substantially as given in the table herebelow;

$R_1=.497F$
$R_2=1.773F$
$R_3=.204F$
$R_4=.414F$
$R_5=.167F$
$R_6=-.1785F$
$R_7=-.609F$
$R_8=-.2135F$
$R_9=4.140F$
$R_{10}=-.657F$
$t_1=.0254F$
$t_2=.0595F$
$t_3=.0254F$
$t_4=.0245F$
$t_5=.0631F$
$t_6=.0233F$
$S_1=.00424F$
$S_2=.1063F$
Diaphragm
$S_3=.1063F$
$S_4=.000833F$
$n_D\,(I)=n_D\,(II)=n_D\,(V)=n_D\,(VI)=1.517$
$n_D\,(II)=n_D\,(IV)=1.583$
$\nu\,(I)=\nu\,(II)=\nu\,(V)=\nu\,(VI)=64.2$
$\nu\,(III)=\nu\,(IV)=46.5$

3,145,256
OPTICAL SLITS
Wilhelm Holz, Uberlingen (Bodensee), Germany, assignor to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Uberlingen (Bodensee), Germany
Filed Nov. 10, 1961, Ser. No. 151,543
Claims priority, application Germany Nov. 22, 1960
4 Claims. (Cl. 88—61)



1. An adjustable optical slit mechanism comprising:
a base member;
first and second slit defining members;
means coupled to said slit defining members for varying the relative positions of said members to adjust the width of the optical slit defined by said members;
means for guiding the relative movement of said slit defining members in nonarcuate paths;
and first and second leaf spring means depending from said base member in substantially parallel planes which are parallel to the plane of said optical slit for supporting said first and second slit defining members, respectively, and for forcing said first and second slit defining members to abut against said guide means.

3,145,257
ADJUSTABLE REAR VISION MIRROR
Goro Suga, 45–129 Popoki St., Kaneohe, Hawaii
Filed Feb. 21, 1962, Ser. No. 174,773
3 Claims. (Cl. 88—87)



1. A rear vision mirror for automobiles or the like comprising

(a) a central mirror panel adapted to be mounted in a stationary position on an automobile,
(b) two further mirror panels hinged, respectively, to opposite ends, respectively, of said central panel to pivot relative to said central panel about parallel hinge axes,
(c) a member mounted on the rear of said central panel to rotate about an axis extending parallel to said hinge axes,
(d) first and second pivot pins extending parallel to and radially spaced from the axis of rotation of said member and carried by said member for rotation thereby about its axis of rotation,
(e) first and second means connecting, respectively, one of said pins to one of said further panels, and the other of said pins to the other of said further panels, and

(f) a motor mounted on the rear of said central panel and connected to said member to rotate said member and the pins carried thereby,
(g) said pins upon the rotation thereof being operative through said connecting means to impart oscillatory movement to said further panels relative to said central panel,
(h) said first and second connecting means being adjustable independently of one another to control the extent to which said further panels oscillate, and each of said connecting means comprising,
(i) a bracket secured to the rear of one of said further panels,
(j) said bracket having a plurality of holes therethrough the centerlines of which extend parallel to and are radially spaced different distances from the adjacent hinge axis,
(k) a first lever pivotally connected at one end to one of said pins,
(l) a second lever pivotally and removably engaged at one end in one of said holes in said bracket, and engageable in another of said holes to adjust the extent of the oscillation of said one further panel, and
(m) releasable locking means interposed between the opposite ends of said levers,
(n) said locking means being movable to locking position to fix said opposite lever ends relative to one another during oscillation of said one further panel, and movable to a released position to permit relative movement between said opposite ends thereby to interrupt the oscillation of the last-named panel, and
(o) first and second means for individually fixing each of said further panels, respectively, against movement relative to the central panel, when the corresponding releasable locking means is in released position.

3,145,258
TREATED INSULATION IMPREGNANT FOR HIGH VOLTAGE ELECTRICAL CABLE
George Felch III, Needham, and Walter F. Olds, Arlington, Mass., assignors, by mesne assignments, to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Aug. 21, 1959, Ser. No. 835,199
8 Claims. (Cl. 174—25)



8. In high voltage electrical apparatus in which metallic conductors are surrounded by insulation comprising a substantially saturated hydrocarbon oil, the improvement which comprises incorporating in the oil from about 0.5 to about 30 percent by weight of 2,2-diphenylpropane, thereby imparting a negative gassing coefficient to the oil and minimizing an increase in the power factor of the oil during operation of the apparatus.

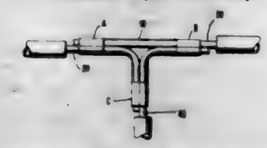
3,145,259
THREE PHASE ELECTRICAL POWER DISTRIBUTION SYSTEM
Harold C. Leonard, Electric Bldg., Jackson 5, Miss., and Vardaman K. Smith, Jackson, Miss.; said Smith assignor to said Leonard
Filed Jan. 7, 1963, Ser. No. 249,813
9 Claims. (Cl. 174—43)

1. In a three phase electrical power distribution system:
(a) a plurality of distribution poles;
(b) three primary phase conductors extending between said poles; and
(c) means suspending said conductors from said poles with each of said conductors substantially equidistantly spaced from the other two conductors and with two of said conductors in substantially the same horizontal plane and on opposite sides of the pole, comprising, at each pole:
(d) first and second insulators;



(e) means securing said first and second insulators in a substantially horizontal orientation to the associated pole, said insulators being oriented in oppositely extending back-to-back relationship and in substantially the same horizontal plane;
(f) means fixed to the outboard end of each of said insulators supporting said first and second conductors; and
(g) a third insulator secured to the pole and spaced above and substantially midway between said first and second conductors for supporting the third of said conductors.

3,145,260
METHOD AND MEANS FOR ELECTRICAL CONNECTION
Gilbert R. Reid, Camden, N.J., and Jacob Mueller, Philadelphia, and Francis B. Hannon, King of Prussia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 4, 1961, Ser. No. 129,398
7 Claims. (Cl. 174—72)

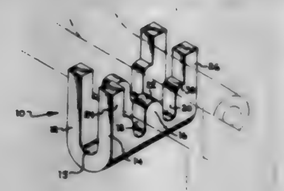


1. In combination, a plurality of electrical conductors, and a conductive connector having a like plurality of crimpable terminals, each of said terminals being crimped to mechanically and electrically join a different pair of said conductors together, each of said conductors being mechanically and electrically joined by a pair of said terminals, whereby said electrical conductors are electrically interconnected by a plurality of condutive paths.

3,145,261
ELECTRICAL CONNECTOR FOR INSULATED WIRES
Edgar W. Forney, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 9, 1962, Ser. No. 172,131
7 Claims. (Cl. 174—84)

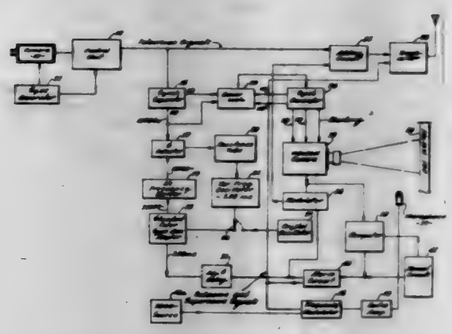
3. As an article of manufacture, an electrical connector for electrically joining a plurality of conductive

means having insulation thereon without requiring prestripping of the insulation therefrom, comprising an electrical conductive member having a plurality of recesses separated from each other by projection means, the width of said recesses being less than the diameter of the conductive means, the side of each recess opposite said projection means having an extension extending outwardly



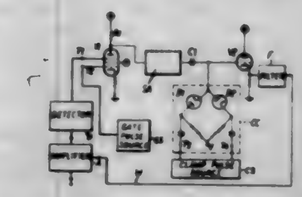
therefrom a distance at least equal to the width of the opening of said recess, said recesses adapted to receive therein said conductive means, in which the insulation thereof is stripped therefrom upon said extensions being bent inwardly toward said projection means across said recesses to engage, force and secure said conductive means therein.

3,145,262
TELEVISION SYSTEM FOR PRODUCING SUPERIMPOSED IMAGES
Francis C. Healey and Wayne R. Johnson, Los Angeles, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 11, 1959, Ser. No. 798,719
24 Claims. (Cl. 178—5.2)



1. In a multiplexing system, means for producing color television signals, including, luminance and chrominance signals representing a primary image, means coupled to said producing means for modifying said chrominance signals in accordance with signals representing an auxiliary image, a monochrome television receiver for receiving said luminance and said modified chrominance signals and including a single kinescope for providing an image in accordance with said luminance and said modified chrominance signals, and means operable in conjunction with said receiver for recovering from said modified chrominance signals the signal representing said auxiliary image and for introducing said recovered signal to said receiver to provide on the single kinescope an image which is a reproduction of said auxiliary image.

3,145,263
BLACK LEVEL STABILIZATION CIRCUIT
Clifford Albert Barnard, Cambridge, England, assignor to Pye Limited, Cambridge, England, a British company
Filed Sept. 7, 1961, Ser. No. 136,607
Claims priority, application Great Britain Sept. 3, 1960
10 Claims. (Cl. 178—7.3)



1. An automatic gain control circuit for controlling the gain of a television signal amplifier in order to stabilize the black level of a composite television waveform contained in a modulated carrier wave, comprising means for feeding the television waveform to said amplifier, means for detecting the television waveform obtained from the output of said amplifier, a gating device, means for D.C. coupling the detected waveform to the gating device, a source of gating pulses, means for feeding the gating pulses to said gating device to gate the television waveform at least during a portion of the television waveform which is capable of providing a reference potential, so as to produce from the gating device a pulse output waveform which extends between the gating periods and which has an amplitude depending upon the D.C. level of the reference portion of the television waveform, a clamp circuit, means for applying a D.C. potential to the clamp circuit, means for A.C. coupling the pulse output waveform from the gating device to the clamp circuit, a clamp pulse source for controlling said clamp circuit to clamp said pulse output waveform from the gating device to the D.C. potential applied to said clamp circuit during a part of said reference portion of the television waveform, a filter circuit, means for D.C. connecting the clamped waveform to said filter circuit to produce a D.C. control voltage and means for feeding said D.C. control voltage to control the gain of said amplifier.

3,145,264
DEVICE FOR THE REMOVAL OF THE LINE STRUCTURE OF TELEVISION PICTURES
Hans-Richard Schulz, Villingen, Black Forest, Germany, assignor to SABA Schwarzwälder Apparate-Bau-Anstalt August Schwer Sohne G.m.b.H., Villingen, Black Forest, Germany
Filed Dec. 28, 1960, Ser. No. 77,862
Claims priority, application Germany, Dec. 21, 1959
12 Claims. (Cl. 178—7.85)

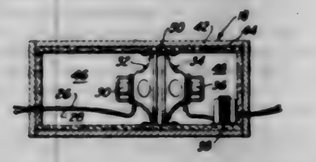


1. An optical device for the removal of visible line structure in pictures on the video screen of a television tube and comprising a transparent optical diaphragm between the viewer and the picture produced on the video screen, said diaphragm having a plurality of grooves parallel to the line structure on the video screen and spaced closer than the spacing between picture lines, said parallel grooves having curved profile p as a function of an ordinate q measured perpendicularly to the extension of said grooves, with the maximum value of the term

$$a(n-1)\frac{dp}{dq}$$

being of the order of magnitude of the distance between two neighboring scanning lines and at least half of said distance, in which term a is the distance between said video screen and the grooved portion of said diaphragm, and n is the index of refraction of said diaphragm.

3,145,265
SOUND REPRODUCTION APPARATUS
Yoshiaki Tamura, 2112 February Court, George W. Carmichael, 9360 Lavell St., and Panos D. Georgantas, 2924 Juniper St., all of San Diego, Calif.
Filed Apr. 10, 1961, Ser. No. 101,810
4 Claims. (Cl. 179—1)



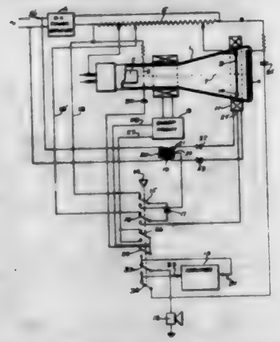
1. Acoustic delay apparatus for a sound reproduction system, said apparatus comprising: means defining an enclosure; a first loudspeaker and a second loudspeaker mounted in said enclosure in confronting, spaced relationship, said first and said second loudspeakers defining with said enclosure a first fluid column back of said first loudspeaker for backloading said first loudspeaker, a second fluid column back of said second loudspeaker for backloading said second loudspeaker, and a third fluid column between said first and said second loudspeaker for transmitting acoustical vibrations between said first and said second loudspeakers; means for applying audio-frequency electrical signals to one of said first and second loudspeakers; and means for transmitting audio-frequency electrical signals from the other of said first and said second loudspeakers.

3,145,266
A.C. STATIC SWITCHING CIRCUITS
Jack D. Owen, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed June 29, 1961, Ser. No. 120,760
10 Claims. (Cl. 179—84)



1. In combination, an alternating current potential source, a pair of oppositely poled rectifiers, a first capacitance connected between one set of opposite electrodes of said rectifiers, a load, a second capacitance connected in series between said load and the junction of the other set of opposite terminals of said rectifiers whereby said rectifiers are biased to nonconductivity upon the application thereto of potential from said source and substantially no current flows through said load, and means in circuit with said rectifiers and capacitances for statically controlling said biasing in response to an external control signal thereby applying the alternating signal from said source to said load.

3,145,267
SOUND RECORDING AND REPRODUCING APPARATUS
Wolf Samuel Pajes, 310 West End Ave., New York 23, N.Y.
Filed Mar. 28, 1958, Ser. No. 724,572
5 Claims. (Cl. 179—100.2)

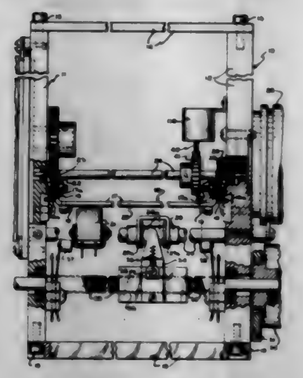


4. A recording and reproducing apparatus comprising a memory device, means for recording a sequence of electrical variations in said memory device, means for reading said sequence of variations from said memory device, a transducer, means for causing said transducer to control said recording means so as to record a sequence of electrical variations produced by said transducer, means for causing said reading means to control said transducer to translate a sequence of electrical variations produced by said reading means, means for operating one of said control means immediately after said other control means has completed its controlling action, and means operated by said last-mentioned means for removing electrical variations stored in said memory device, said memory device comprising a sheet of magnetizable material thin enough to be permeable by a beam of electrons, said recording means comprising means for generating a beam of electrons, means for directing it through said sheet, means for causing it to scan a predetermined path on said sheet, and means for modulating it, and said reading means including said beam generating means and said beam scanning means and further comprising an anode adapted to receive electrons from said beam after they have passed through said sheet.

3,145,268
MULTI-TRACK RECORD-REPRODUCE SYSTEM WITH SERVO CONTROLLED TRACK SELECTOR
William G. Whitney, Pines Lake, Wayne, and Bruce N. Whitlock, Orange, N.J., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Nov. 13, 1961, Ser. No. 151,666
9 Claims. (Cl. 179—100.2)

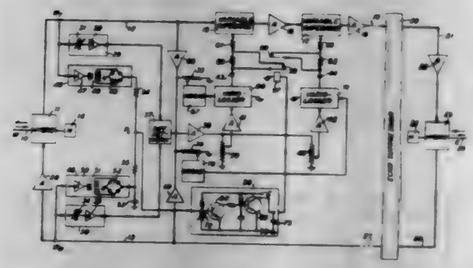
5. In a machine for reproducing selected characters or other information, comprising a record medium having a series of parallel tracks successive pairs of which have recordations of respective characters of which one recordation is in one direction along one track of the pair and the second recordation is in the opposite direction along the other track of the respective pair, a reproduce head cooperable with said record medium, drive means for producing a relative back and forth traveling movement between said head and record medium in directions along said tracks, means for stopping said drive means after each traversal of said record medium by said head, and shifting means selectively operable for producing a relative shifting movement between said head and said record medium in directions at right angles to the driven movement of said head to bring a track bearing a recordation

of a selected character in registration with said head including means controlled according to which end position the head occupies when said shifting means is operated for bringing into registration with the head a predeter-



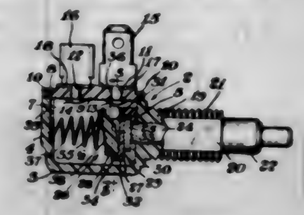
mined one of the respective pair of tracks when the head is at one end position and to bring the second one of the respective pair of tracks into registration with the head when the head is at its other end position.

3,145,269
CONTROL OF DYNAMIC RANGE AND SENSITIVITY OF ECHO SUPPRESSOR CIRCUITS
Mark B. Gardner, Chatham Township, Morris County, and John R. Nelson, Somerville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 16, 1962, Ser. No. 195,159
7 Claims. (Cl. 179—170.6)



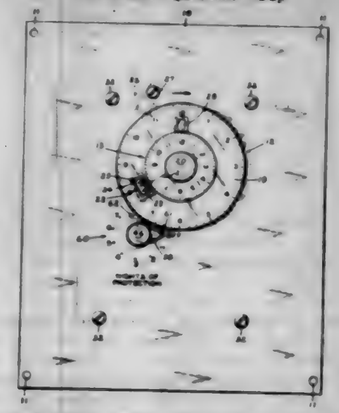
1. A system for suppressing echoes in a two-way signaling circuit including incoming and outgoing one-way paths, comprising, adjustable means for altering the transmission efficiency of said outgoing one-way path, first means for differentially responding to the amplitude of signals in both of said one-way paths, means responsive to said first differential response for establishing the dynamic range through which said adjustable means is operative, second means for differentially responding to the amplitude of signals in both of said one-way paths, means responsive to said second differential response for smoothly altering the transmission efficiency of said outgoing path within said pre-established dynamic range, means connected to said one-way paths for responding to the noise level in said two-way circuit, and means responsive to said noise response for adjusting the sensitivity of said adjustable means.

3,145,270
FOOT OPERATED KICK-DOWN SWITCH CONSTRUCTION
William L. Brown, Garden City, Mich., assignor to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan
Filed Oct. 6, 1960, Ser. No. 60,886
8 Claims. (Cl. 200—16)



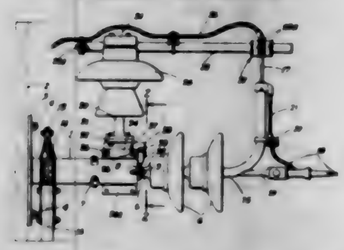
3. A switch construction comprising a casing; a first set of spaced apart contact elements supported by said casing; a second set of spaced apart contact elements supported by said casing, each of said sets of contact elements being spaced from one another along said casing; a bridging member adapted to bridge the contact elements of either of said sets; a carrier member composed of a pair of relatively movable parts defining therebetween a variable size, substantially V-shaped slot in which said bridging member is received, said carrier member mounting said bridging member in said casing for back-and-forth movements in opposite directions along a path adjacent and between said sets of contact elements and for movements in and out of said slot away from and toward the contacts of said sets of contacts; yieldable means reacting between said casing and said carrier member and constantly biasing the latter in one direction towards one end of said path and constantly urging said parts of said carrier member to move relatively to one another to reduce the size of said slot and urge said bridging member to move out of said slot; and means connected to said carrier member for shifting the latter along said path in a direction opposite to said one direction.

3,145,271
VAULT ALARM TIMER SWITCH
Fred O. Johnson, Northport, N.Y., assignor to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey
Filed Sept. 5, 1962, Ser. No. 221,472
11 Claims. (Cl. 200—38)



3. A vault alarm timer, comprising a constant speed motor mechanism, a first shaft coupled to said motor mechanism for rotation at a selected speed, a fixed dial calibrated in selected time units, a rotatable dial calibrated in said time units, means intercoupling said rotatable dial and said first shaft for rotating said rotatable dial at a speed fixedly related to said selected speed, indicator means arranged to rotate with said rotatable dial and to traverse said fixed dial so as to indicate the passage of time on said fixed dial relative to said rotatable dial, said indicator means being manually traversable along said rotatable dial, means to set said indicator means to any selected time unit on said rotatable dial, a second shaft, electrical switching means, cam means carried on said second shaft for rotation therewith, cam follower means intercoupling said switching means and said cam means, means selectively to set said second shaft in any one of a plurality of successive discrete angular positions including a final position, said cam means and said cam follower means being arranged to operate said switching means when said second shaft enters said final position thereof, and intermittent motion means intercoupling said first and second shafts and arranged to move said second shaft between successive ones of said discrete angular positions each time said indicator means passes a particular calibration on said fixed dial corresponding to the selected time unit on said rotatable dial.

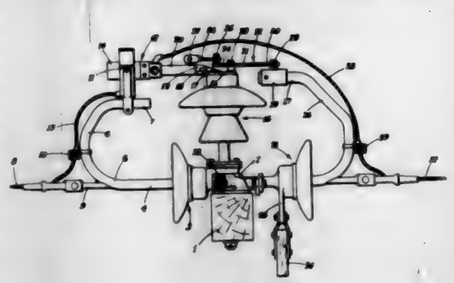
3,145,272
POLE TOP DISCONNECT SWITCH
John G. Pahl, P.O. Box 1257, Stockton, Calif.
Filed Oct. 5, 1962, Ser. No. 228,702
5 Claims. (Cl. 200—48)



1. A pole-top switch structure, between adjacent circuit cables, comprising a rigid elongated and tubular support, means to secure the support in connection with the pole on one side thereof so that the support projects lengthwise of one cable, a rigid unit connected at its outer end to the adjacent end of said one cable, said unit comprising a shank projecting into the support from the outer end thereof, means mounting the shank at its inner end in the support for limited rotation substantially about the axis of the support, an extension projecting rearwardly in the support from the inner end of the shank and connected thereto for rotation thereby, means mounting the extension in the support for rotation about the axis of the support, an arm projecting radially and laterally out from the extension through a side opening in the support, a push-pull rod depending from the outer end of the arm, and cooperating switch members connected to the cables, one member being connected to the support and the other member to the shank and functioning to open and close the switch upon rotation of the shank in one direction or the other.

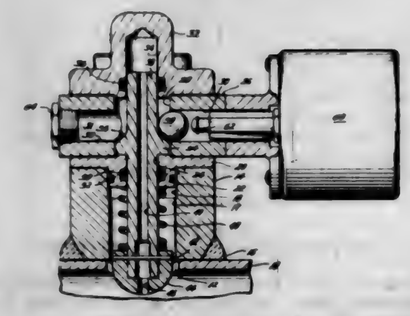
3,145,273
POLE-TOP SWITCH WITH VERTICALLY SWINGABLE SWITCHING ARM
John G. Pahl, Box 1257, Stockton, Calif.
Filed Oct. 15, 1962, Ser. No. 230,448
6 Claims. (Cl. 200—48)

1. A pole-top switch including, with a bracket adapted to be mounted on a cross-arm of the pole, and circuit-line supporting insulator units projecting in opposite directions from the bracket; a switch interposed between the circuit lines including a fixed member supported from one such unit and a movable blade disposed for cooperation therewith, means mounting the blade for swinging movement in a vertical plane transversely of the length of the cross-arm between switch opening and closing positions, a blade swinging mechanism supported from said one in-



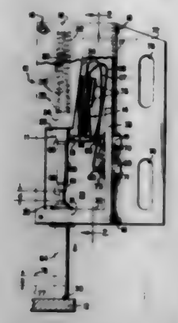
sulator unit and connected to the blade, and ground controlled means for actuating said mechanism, the other insulator unit being mounted for rotation about a horizontal axis at right angles to the length of the cross-arm; said ground controlled means including a connection between said other insulator unit and the mechanism and functioning upon rotation of the former to actuate such mechanism, and means including a push-pull rod to rotate said other insulator unit.

3,145,274
PIPELINE PIG DETECTOR
Davis A. Van Scoy and Gadsden M. Ford, Jr., Houston, Tex., assignors to F. H. Maloney Company, a corporation of Texas
Filed Mar. 28, 1961, Ser. No. 98,889
10 Claims. (Cl. 200—61.41)



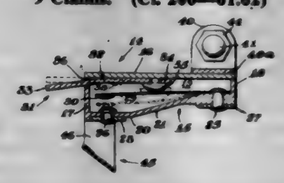
7. Apparatus for detecting the passage of a body through a pipeline carrying fluid under pressure which comprises a housing having an open end adapted to be attached to said pipeline to communicate said open end to the fluid pressure in said pipeline, a longitudinally slidable plunger in said housing having a first position in which one end of said plunger extends out said open end of said housing and a second position in which said one end is at least partially retracted, means communicating fluid pressure from said pipeline to both ends of said plunger, and means on said plunger adapted to cause actuation of a signal generating device upon movement of said plunger to said second position.

3,145,275
ELECTRICAL SWITCH AND ACTUATOR APPARATUS
Richard F. Gildart, Montebello, Calif., assignor to Rehrig Pacific Company, Los Angeles, Calif., a corporation of California
Filed Mar. 30, 1962, Ser. No. 183,822
4 Claims. (Cl. 200—61.41)



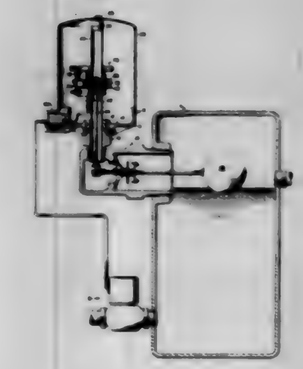
1. A switch structure comprising a frame member having the guide bore therein,
an actuator plunger reciprocable in said bore,
and a spring member in said bore biasing said plunger outwardly therefrom,
a plurality of stepped surfaces, more than two, formed on said plunger,
a plurality of resilient contact carriers mounted in a sandwich structure with intervening insulating inserts between the contact carriers, said sandwich structure being mounted on said frame member,
a follower member formed on one of said resilient contact carriers and in constant engagement with said plunger and moved thereby by the engagement of said follower with a different one of said stepped surfaces,
means between selected ones of said contact carriers intermediate the end ones for limiting the movement of said intermediate contact carriers relative to the movement of the other of said contact carriers, said means being effective to limit the movement of at least one of said contact carriers in one direction and at least another of said contact carriers in an opposite direction, said stepped surfaces being of a different extent along the longitudinal dimension of said plunger,
and electrical contacts on said contact carriers.

3,145,276
SELF-POSITIONING DOOR SWITCH CONSTRUCTION
William L. Brown, Garden City, and Robert Thomson, Dearborn, Mich., assignors to Boyne Products, Inc., Detroit, Mich., a corporation of Michigan
Filed Feb. 23, 1962, Ser. No. 175,244
9 Claims. (Cl. 200—61.62)



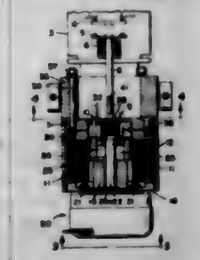
1. A self-positioning switch construction for use with a member movable in a path, said construction comprising a casing; contact means supported by said casing; bridging means movable into and out of bridging engagement with said contact means; actuating means operable to effect movement of said bridging means; support means; means movably mounting said casing on said support means with said actuating means in the path of movement of said member for operation thereby and for adjustment of said casing relative to said support means by said member; and frictional means reacting between said casing and said support means for frictionally but yieldably holding said casing in an adjusted position relative to said support means.

3,145,277
MAGNETIC CONTROL DEVICE HAVING A MAGNETIC FORCE FOCUSING MEANS
Jurg A. Senn, Milwaukee, Wis., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed Apr. 12, 1961, Ser. No. 102,513
2 Claims. (Cl. 200—84)



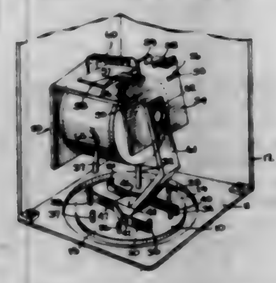
2. In a magnetic switch mechanism having a float responsive to control liquid level, the combination comprising nonmagnetic tube means, a stationary permanent magnet adjustably mounted on said tube, magnetic force focusing means comprising a pair of pole shoes mounted adjacent opposite poles of said permanent magnet for concentrating a portion of the magnetic flux emanating from said magnet, each of said pole shoes having a flange portion extending in opposite directions respectively in a common plane away from said magnet and parallel to the axis of said tube, an armature pivoted on one of said flange portions and movable between first and second controlling positions in response to a condition of said magnetic force means, means defining an adjustable air gap between said armature and said flange portion, said magnetic force focusing means concentrating a portion of the magnetic force in said gap for actuating said armature to one of said positions, resilient means mounted on said armature for urging said armature toward the other of said positions, magnetic shunt means mounted within said nonmagnetic tube and being operatively connected to said float for shunting a portion of said concentrated magnetic force away from said air gap in accordance with a liquid level condition whereby to cause said armature to move between positions in accordance with the tension of said resilient means and the degree of concentration of said magnetic force in said air gap, and actuator means mounted on said armature for movement therewith to control said liquid level in accordance with the position of said armature.

3,145,278
COMBINED LINEAR AND ROTARY ACTUATOR MEANS FOR SWITCH
Glenn E. Griggs, San Jose, Calif., assignor, by mesne assignments, to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Filed July 1, 1960, Ser. No. 40,267
5 Claims. (Cl. 200—102)



1. A mechanism for actuating a switch having a movable contact supported for movement along a line of action between a closed position and an open position and vice versa, comprising; a contact support for so supporting said movable contact, a linear solenoid for translating said support along said line of action from one of said positions to the other, a latch including a rotatable shaft having means thereon movable from a non-latching position when the contact support is in said one of said positions to a latching position when the contact support is in said other position for holding said support in said other position, and a rotary solenoid for actuating said latch to release said support from said other position.

3,145,279
ENCLOSED MULTIPOLE RELAY
Robert Vradenburgh, Yonkers, N.Y., assignor to Ward Leonard Electric Co., Mount Vernon, N.Y., a corporation of New York
Filed Apr. 7, 1961, Ser. No. 101,483
3 Claims. (Cl. 200—104)



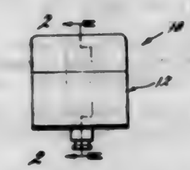
1. An enclosed electromagnetic relay comprising a base having at least two pairs of conductive pins extending from said base, two thin resilient metal contact members extending generally parallel to one another in spaced relation and secured at one end to a respective pin of one pair and extending to flex in and out of engagement with a respective pin of the other pair, an electromagnet having an armature having a free end positioned between said contact members and having the other end pivotally attached to the electromagnet to move said first end parallel to said contact members on actuation of the armature, said contact members having facing sloped surfaces and said armature having a wedge-shaped piece on the end of the armature between said contact members and engaging said surfaces to actuate said contact members in opposite directions to vary the relationship of the engagement of said contact members and the respective conductive pins.

3,145,280
GLOW SWITCH HAVING A CADMIUM COVERED ELECTRODE
Douglas Thomas Waigh, London, England, assignor to Thorn Electrical Industries Limited, London, England
Filed Aug. 7, 1959, Ser. No. 832,230
Claims priority, application Great Britain Aug. 19, 1958
1 Claim. (Cl. 200—113.5)



A glow switch comprising a sealed envelope, said envelope being evacuated of air and filled with an inert gas, two electrodes contained within the envelope, and leads for the two electrodes emerging from the envelope, at least one of the electrodes being a bi-metallic element having a thin layer of cadmium on at least one surface thereof.

3,145,281
MULTIPOLE CIRCUIT BREAKER WITH TRIP DEVICES LOCATED IN THE HOUSING OF A SINGLE POLE
Richard C. Ingwersen, Jackson, Mich., assignor, by mesne assignments, to Mechanical Products, Inc., Jackson, Mich., a corporation of Delaware
Filed Jan. 23, 1961, Ser. No. 84,244
1 Claim. (Cl. 200—116)



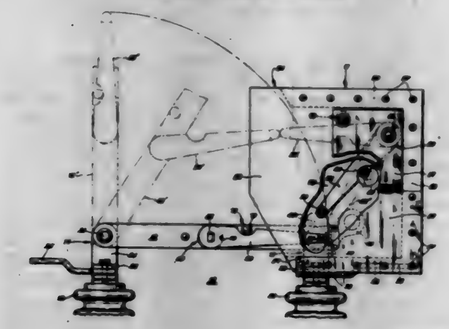
A multipole electric circuit breaker comprising a plurality of discrete electrically isolated laterally aligned poles in separate housings, a plurality of stationary contacts within said poles, respectively, a plurality of movable contacts engageable with the stationary contacts, a single releasable operating mechanism for effecting movement of the movable contacts out of engagement with the stationary contacts, respectively, a single trip device including a plurality of current responsive elements housed in only one of said poles and electrically connected in series with the movable contacts, respectively, and a common trip bar disposed within and extending transversely of said one of the poles, said common trip bar being engaged so as to be actuatable by any one of said elements in response to a predetermined electrical condition to release the operating mechanism thereby to effect movement of the movable contacts out of engagement with the stationary contacts.

3,145,282
MULTIPLE ELEMENT ELECTRIC FUSE
Vincent A. Grzeczkowski, Newtown Square, Pa., assignor to General Electric Company, a corporation of New York
Filed May 14, 1962, Ser. No. 194,326
5 Claims. (Cl. 200—131)



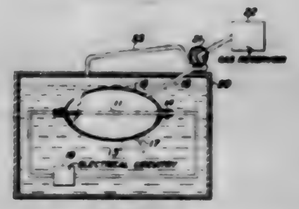
2. An electric fuse comprising:
(*a*) a tubular housing of insulating material having a a central axis extending longitudinally thereof,
(*b*) a plurality of elongated insulating cores mounted within said housing and extending longitudinally of said housing in angularly-spaced relationship about said central axis,
(*c*) each of said cores comprising a body portion extending longitudinally of said housing and a plurality of ribs each extending along the length of said body portion and radiating outwardly from said body portion,
(*d*) fusible elements wound helically about said cores with the fusible elements on each core being supported at the free end of said ribs,
(*e*) the ribs of each of said cores projecting from the body portion of said core by an amount that locates adjacent sections of the fusible elements on adjacent cores in reference planes that extend longitudinally of the fuse in substantially parallel relationship,
(*f*) said reference planes radiating outwardly from the central region of said fuse.

3,145,283
LOAD BREAK DEVICE HAVING INTERRUPTING QUICK BREAK BLADES OF SUBSTANTIALLY SAME LENGTH
Kazuo Henry Date, South Milwaukee, and Alwin G. Steinmayer, Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 14, 1960, Ser. No. 62,662
6 Claims. (Cl. 200—146)



1. In a load interrupting device, a disconnect switch, said disconnect switch including stationary contact means and switch blade means mounted for pivotal movement into and out of engagement with said stationary contact means, a circuit interrupter mounted adjacent said disconnect switch and including an arc chute, a first elongate contact element pivotally mounted about one end on said circuit interrupter with its other end disposed within said arc chute and electrically connected to said stationary contact means, a second elongate contact element pivotally mounted about one end on said disconnect switch externally of said arc chute and with its other end disposed within said arc chute, said second contact element being electrically connected to said switch blade means, spring means resiliently urging said contact elements to pivot in opposite directions toward their positions when said switch blade means is in its closed position, said contact elements being in engagement to provide an auxiliary current path around said stationary contact means prior to the disengagement therefrom of said switch blade means, pivotal movement of said switch blade means causing said contact elements to move against each other and said spring means and away from their initial positions, said contact elements disengaging after said switch blade means has pivoted through a predetermined angle whereby said contact elements are each free for rapid movement toward their initial positions under the influence of said spring means to interrupt said auxiliary current path, said contact elements being of substantially equal length.

3,145,284
SUPERCONDUCTIVE ELECTRIC SWITCH
Henry L. Laquer, Espanola, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 2, 1962, Ser. No. 227,967
2 Claims. (Cl. 200—166)

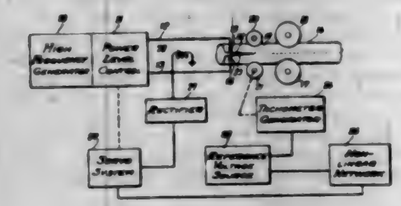


1. An electrical switch for superconducting apparatus comprising a conductor of superconducting material and an enclosing shell, said shell comprising two dish-shaped components having rim flanges and supported symmetrically about a portion of said conductor of superconducting material with the rim flanges affixed to and sealed with the conductor and to each other, means for admitting coolant having a temperature below the transition temperature of said superconducting material into said shell in contact with said conductor to render the same superconducting and means for admitting a gas having a temperature above the transition temperature of the superconducting material into said shell to expel the coolant therefrom to render the switch non-superconducting.

3,145,285
AUTOMATIC TEMPERATURE CONTROL FOR WELDING APPARATUS
Fred Kohler, New York, N.Y., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed June 19, 1963, Ser. No. 289,873
9 Claims. (Cl. 219—59)

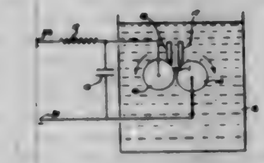
1. Means for welding together the edge portions of metal strip comprising means for moving said edge portions along a predetermined path in side-by-side but separated relation, means for forcing said portions together

at a weld point, means for supplying high frequency electrical currents to said edge portions at points in advance of said weld point, whereby the current flows from one of said points along an edge portion to the



weld point and from said weld point along the other edge portion to the other of said points and means controlled by the speed of movement of said edge portions for increasing said currents in non-linear, decreasing rate of change relation to increases in said speed.

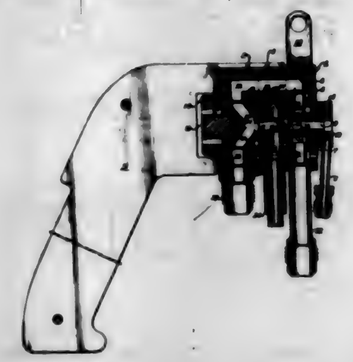
3,145,286
METHOD AND APPARATUS FOR PREPARING CRATERED BALLS
Hans Reinhard Fehlbaum, Zug, Switzerland, and Edward Henry Harvey, Finchley, England, assignors to I.R.C. Limited, London, England, a company of Great Britain
Original application May 17, 1960, Ser. No. 29,668. Divided and this application Nov. 28, 1961, Ser. No. 154,929
9 Claims. (Cl. 219—69)



1. A method for preparing a cratered ball comprising the steps of supporting an electrically conductive sphere on two electrodes having adjacent surface portions spaced by a distance less than the diameter of the sphere so that the sphere is free to move away from the electrodes under the mechanical influence of an electrical discharge, causing a series of electrical discharges to pass through the sphere, and changing the orientation of the sphere with respect to the electrode surface portions after each discharge.

3,145,287
PLASMA FLAME GENERATOR AND SPRAY GUN
Walter A. Siebein, Smithtown, and Anthony J. Rotolico, Lynbrook, N.Y., assignors to Metco Inc., a corporation of New Jersey
Filed July 14, 1961, Ser. No. 126,827
11 Claims. (Cl. 219—75)

1. In a plasma torch having a nozzle electrode, a rod electrode, means for passing an arc-forming electric current between said electrodes, and means for passing a plasma-forming gas in contact with the arc and through the nozzle electrode, the improvement which comprises said rod electrode extending into the entrance end of said nozzle electrode, and the laterally adjacent portions of said rod and nozzle electrodes being shaped and dimensioned to define an annular gas flow passage therebetween decreasing in cross-sectional flow area to a minimum size and then increasing in cross-sectional flow area in the downstream flow direction of gas through said nozzle, said torch including a passage for a cooling fluid, said nozzle



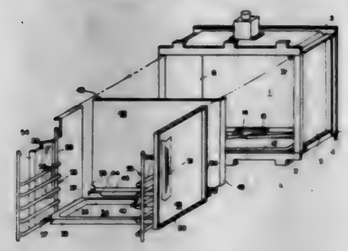
being a single walled nozzle having cooling ribs and extending as a wet liner directly in said cooling passage.

3,145,288
WELDABLE STUD HAVING LOCATION CENTERING MEANS
George V. Woodling, 22977 W. Lake Road, Rocky River, Ohio
Filed Apr. 12, 1961, Ser. No. 102,464
7 Claims. (Cl. 219—99)



1. In weldable stud means to be welded to a body member having a V-shaped punch mark therein with sloping sides, centering means on said stud means, said centering means comprising an end surface area larger than the opening of the V-shaped punch mark, said surface area in the weldable position of the stud means engaging a portion of said body member surrounding the opening of the V-shaped punch mark and thereby fixing the weldable position of the stud means relative to the body member in an axial direction, and a projection member extending in an axial direction from said surface area and adapted for protrusion into said V-shaped punch mark, said projection member having a cross-sectional area less than that of the opening of the V-shaped punch mark, said projection member having a length in the approximate range of .004 to .040 inch and a diameter in the approximate range of .040 to .090 inch, said projection member terminating in a flat surface defining an annular edge which is contactable with the sloping side of the V-shaped punch mark to resist the projection member from shifting in a lateral direction out of the V-shaped punch mark, said annular edge when said projection member is in the center of said punch mark being spaced from the sides of said punch mark, whereby the axial spacing of the weldable stud means with respect to said body member is fixed by said surface area resting on the portion of the body member surrounding the opening of the V-shaped punch mark.

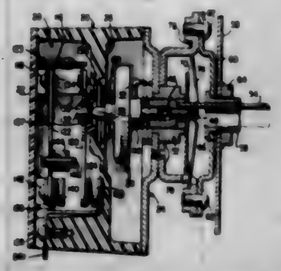
3,145,289
COOKING OVENS PROVIDED WITH REMOVABLE WALL PANELS
Myron Swetlitz, Skokie, Ill., assignor to General Electric Company, a corporation of New York
Filed Apr. 20, 1962, Ser. No. 189,006
10 Claims. (Cl. 219—395)



1. In a cooking oven comprising fixed box-like structure including top and bottom and rear walls and a pair of side walls and having a front access doorway thereinto, the combination of: a pair of removable rectangular side panels respectively substantially coextensive in area with said side walls; a removable rectangular bottom panel substantially coextensive in area with said bottom wall; a removable rectangular rear panel substantially coextensive in area with said rear wall; each of said panels having peripheral flange means for maintaining substantially the entire area thereof spaced from the adjacent one of said walls; each of said panels being of rigid metal to be self-supporting and capable of being washed or otherwise cleaned without distortion upon removal thereof from the oven; said bottom panel having a dished central portion and a marginal portion extending horizontally outwardly thereabout; said rear panel having a ledge at the base thereof abutting the adjacent horizontally extending marginal portion of said bottom panel to comprise a continuation thereof; said side panels being disposed immediately outwardly of and in confronting relation to the respective side flanges of said bottom panel and being in confronting relation to the respective side edges of said rear panel; and a pair of racks respectively adjacent to said side panels, each of said racks having vertical front and rear elements both engaging the adjacent one of said side panels to support the same, the upper ends of said elements removably entering apertures in said top wall and the lower ends of said elements removably entering apertures respectively in the outwardly extending marginal portion of said bottom panel at the sides thereof and in the abutting ledge of said rear panel at the sides thereof, said racks having longitudinally extending rails for the support of shelves or the like for foodstuffs being cooked in the oven.

3,145,290
CONTROL DEVICE FOR ELECTRICAL OVENS
Siegfried E. Manecke, Indiana, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 23, 1962, Ser. No. 168,042
6 Claims. (Cl. 219—413)

4. A control device for controlling energization of a first heating element and a second heating element of an electric oven comprising a housing, a thermally responsive means including an element mounted in said housing for movement along a first path in proportional response to the temperature within said oven, a first and a second normally closed contact means mounted in said housing in said first path to be opened by movement of said thermally responsive element in response to an increase in oven temperature, said first contact means being opened by said element at a first selected oven temperature and said second contact means being opened when the oven temperature increases to a second selected temperature which exceeds said first temperature by a selected amount, dial means mounted in said housing for rotation between an off position and an opposite angular end limit, means coupling said thermally responsive element to said dial means for movement along said first path upon rotation of said dial means between a first end limit corresponding to said off position wherein said thermally responsive element maintains both of said first and said second contact means open when said oven is at ambient temperature and a second end limit corresponding to said opposite angular end limit wherein a maximum thermally induced expansion of said thermally responsive element is required to open said first contact means, a third normally



closed contact means in said housing, said dial being operable at rotative positions intermediate said end limits to locate said element on said path at a selected distance from said first contact means to thereby select said first selected temperature, cam means on said dial for opening said third contact means when said dial means is at said off position and when said dial means is within a preselected range of angular movement from said opposite end limit, and circuit means for connecting said heating elements and said contact means in two parallel circuit branches with said first heating element and said first contact means connected in series in one of said branches and with said second heating element and said second and said third contact means connected in series in the other of said branches.

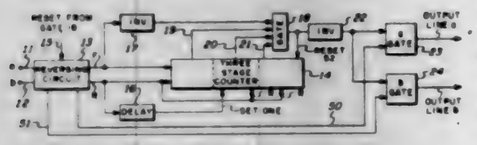
3,145,291
IDENTIFICATION SYSTEM
Henry Bowen Brainerd, 10 Upland Road, Wellesley 81, Mass.
Filed July 2, 1959, Ser. No. 824,542
12 Claims. (Cl. 235—61.11)



1. An identification system adapted to give positive identification of individual objects moving sequentially along a predetermined path, said system comprising an interrogating unit located at a fixed position along side said path, said interrogating unit including a light source and an optical system, said light source emitting a broad spectrum of light including at least two distinct and distinguishable bands of light, said optical system directing such light in a narrow oriented beam intercepting the path of travel of said objects; light reflecting markings positioned on said moving objects in position to intercept said beam of light, each said marking formed of a plurality of elongated strips of retro-reflective material adapted to reflect light substantially along the same axis as the axis of light incident thereon, said strips oriented parallel to

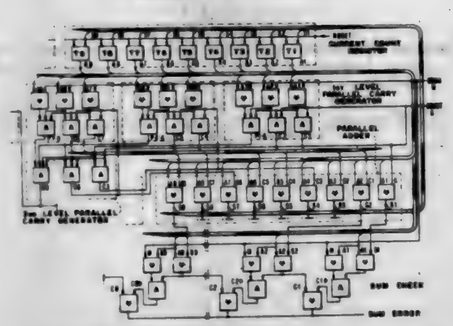
the orientation of said light beam and arranged as to be successively illuminated by said beam, the material in said strips being selected from retro-reflective material having reflection-absorption characteristics of a plurality of types, said types reflecting variously each of said bands while absorbing the other of said bands and reflecting a plurality of said bands simultaneously, said strips arranged by type in a predetermined code pattern, which code pattern may include operationally non-reflector strips as well as strips having said differing reflection characteristics; a sensing unit located at a fixed position alongside said path in close association with said interrogating unit and adapted to receive the retro-reflective light beam emitted from said interrogating unit and reflected from said light reflecting markings, said sensing unit including a light mask, a light splitting means and a plurality of photo-electric light sensing means, said light mask having an elongated light passing slit oriented parallel to the orientation of said light beam, and of said coded strips, said slit having a width such that only light of a beam width narrower tha nthe image of any given strip in said light reflecting marking is passed therethrough, said light splitting means comprising at least one dichroic mirror positioned in the path of said reflected beam and adapted to reflect light of one said band and to transmit light of any other said band to one of said photo-electric light sensing means positioned in each path of light emitted from asid light splitting means, each said photo-electric light sensing means adapted to convert an incident light input to an electrical output; and data processing means operative in response to the electrical output of said photo-electric light sensing means to convert and transmit such output in intelligent form.

3,145,292
FORWARD-BACKWARD COUNTER
Joseph W. Schwaninger, Huntington Station, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 18, 1961, Ser. No. 103,864
4 Claims. (Cl. 235—92)



1. Counting means for determining when the total number of received pulses in one series of pulses exceeds the total number of received pulses in another series by a given number, comprising a reversing circuit having two input terminals each adapted to receive a respective one of said series of pulses, said reversing circuit operating to couple to a reverse counting line any pulse which is from the series of pulses different from that of the immediately preceding pulse and to couple to a forward counting line any received pulse which is from the same series as the immediately preceding pulse, a multi-stage digital counter having said forward and reverse counting lines as input terminals and having a number of stages which is one greater than the number required to accumulate a count equal to said given number, said counter operating in response to pulses received on said forward counting line to perform a forward counting operation by increasing by one the count registered in said counter and operating in response to a pulse received on said reverse counting line to perform a 2's complement operation on the count in said counter and to increase the complemented count by one, means for monitoring the registering state of each stage of said counter to obtain a predetermined combination of output signals from the respective stages of said counter when the count registered therein is one less than said given number, a sampling gate coupled to said forward counting line and to said monitoring means and controllable by said monitored output signals to pass a pulse from said forward counting line only after the immediately preceding received pulse produced a count in said counter equal to one less than said given number.

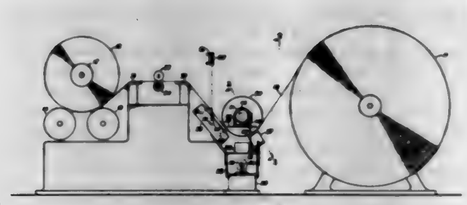
3,145,293
BI-DIRECTIONAL BINARY COUNTER
Merle E. Homan, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 5, 1961, Ser. No. 115,033
6 Claims. (Cl. 235—92)



1. Apparatus for selectively incrementing and decrementing a binary quality having a number of orders, including: a number of input means, each having an output for supplying a signal representative of one order of said binary quantity; a single control means for supplying one signal representative of an increment command and another signal representative of a decrement command; a number of orders of simultaneously functioning summing means, determined by the number of binary orders, each order having first and second inputs for receiving signals and each order having an output for supplying signals representative of the sum of the signals received by the corresponding first and second inputs, a number of orders of simultaneously functioning propagation means, determined by the number of binary orders, each order having first and second inputs for receiving signals and each order having an output for supplying propagate signals representative of the signals received by corresponding, and all lower order, ones of said first and second inputs; means for transferring said binary signals from said input means to corresponding orders of said first inputs of said summing means and to corresponding orders of said propagation means first inputs; means for transferring said control signal from said control means to said propagation means second inputs; and means for transferring said propagation means output signals to corresponding ones of said summing means second inputs.

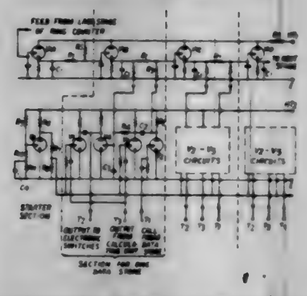
3,145,294
LINEAR FOOTAGE METER
Jesse A. Jackson, 5821 Dickson Road, Jacksonville, Fla.
Filed July 18, 1961, Ser. No. 124,941
10 Claims. (Cl. 235—151)

3. The method of accurately measuring the length of a material moving in a path and carrying spaced markings which comprises measuring the time it takes two successive marks to pass a given point, measuring the time it takes one of said marks to move an accurately measured distance of less than the distance between successive



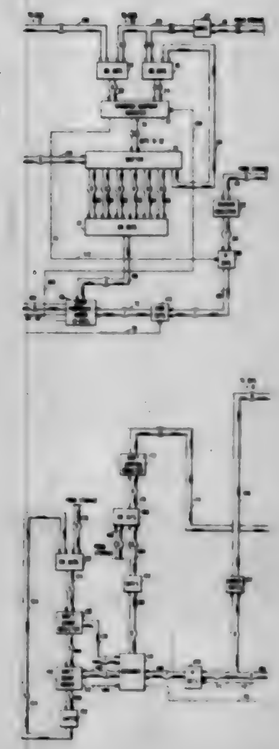
marks, then calculating a non-dimensional ratio between said times, multiplying the ratio by said distance, and totalizing the several products.

3,145,295
ELECTRONIC CALCULATORS
Donald Weighton, Cambridge, and Reginald Arthur Cosgrove, London, England, assignors to Pye Limited, Cambridge, England, a British company
Filed Apr. 14, 1960, Ser. No. 22,231
Claims priority, application Great Britain Apr. 20, 1959
4 Claims. (Cl. 235—152)



1. In an electronic calculator arrangement comprising a calculating unit, a plurality of data stores and switch means for selectively connecting any one of the data stores to the calculating unit, the improvement which comprises selector switch control means for controlling the connection of any one of the data stores to the calculating unit, said selector switch control means comprising a ring counter having one stage for each data store, and a control circuit for each data store associated with each stage of the counter, each control circuit comprising four cold cathode gas discharge tubes, the first of said tubes being normally extinguished and being connected to control the conductance of the second of said tubes which is normally conducting, the third of said tubes being normally extinguished and being connected to control the conductance of the fourth of said tubes which is normally conducting, connections between said first and third tubes and the associated stage of the ring counter, means for feeding a striking potential to the first tube from the associated data store when it is desired to connect that store to the calculating unit, means for applying a change in potential caused by the striking of said first tube to stop the cycling of the ring counter and to extinguish said second tube, means for feeding a potential from the ring counter to strike said third tube which in turn extinguishes said fourth tube and connects the associated data store to the calculating unit whereby data in the store may be fed to the calculating unit, means for feeding a signal from the calculating unit at the end of a calculation to cause the second and fourth tubes to strike, which in turn respectively extinguish the first and third tubes so that said control circuit reverts to its initial condition, and the extinguishing of said first tube applying a potential to the ring counter to allow it to continue its cyclic operation.

3,145,296
DIVIDER DEVICE FOR SKIPPING A STRING OF ZEROS OR RADIX-MINUS-ONE DIGITS
Dura W. Sweeney, Salt Point, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 19, 1961, Ser. No. 104,052
15 Claims. (Cl. 235—164)

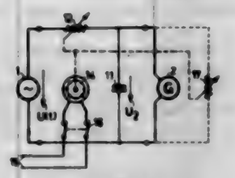


10. A divider circuit for skipping over a series of zeros or radix-minus-one digits in a partial dividend when developing a quotient, said divider circuit including a partial dividend storage means, a divisor storage means, and an arithmetic device coupled to the partial dividend storage means and the divisor storage means, said divider circuit further including means to provide a plurality of quotient orders whenever a series of zeros or radix-minus-one digits are disposed in the highest orders of a partial dividend.

3,145,297
MEANS FOR AVERAGING A VARIABLE FUNCTION
Ernst Felix, Uster, Switzerland, assignor to Zellweger Ltd., Uster Factories for Apparatus and Machines, Uster, Switzerland, a corporation of Switzerland
Filed Mar. 30, 1961, Ser. No. 99,613
Claims priority, application Switzerland Apr. 8, 1960
3 Claims. (Cl. 235—183)

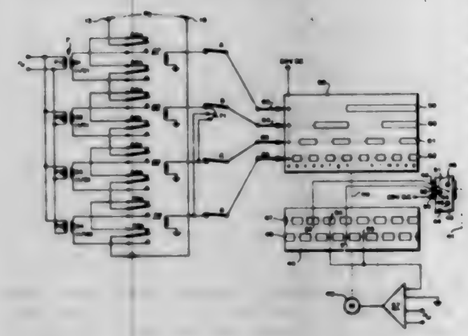
1. In apparatus for determining the mean value of a variable function, the combination with a network including a capacitor and a resistor, a source of potential varying in accordance with the variations in the function connected to the capacitor through the resistor and means

for measuring the potential across the capacitor, of means for automatically varying the time constant of the net-



work independently of said potential and at a predetermined rate.

3,145,298
SECANT FUNCTION GENERATOR
Glenn B. Shoemaker, Ivyland, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 3, 1962, Ser. No. 184,861
3 Claims. (Cl. 235—197)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A secant function generator providing an incrementally variable voltage proportional to the secant of the instantaneous latitude of an aircraft, comprising in combination:

a rotatable disc having a plurality of encircling channels thereon,

each of said channels comprising conductive and non-conductive portions,

power supply means applying a voltage to said conductive portions,

motor means for stepping said rotatable disc throughout a plurality of positions according to the secant function of the latitude,

a plurality of relays,

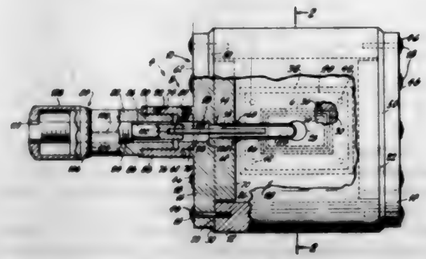
a plurality of conductors,

each of said conductors connected at one end to one of the coils of said plurality of relays and at the other end as a wiper arm to one of said plurality of channels,

a plurality of transformers having primary coils connected in parallel to a common source,

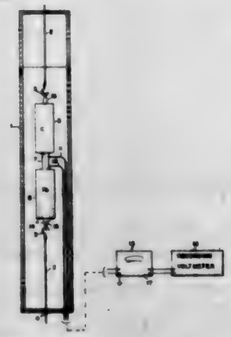
first switch means associated with each of said plurality of relays connecting various combinations of the secondary coils of said plurality of transformers in series according to the particular one of said plurality of positions that said disc occupies whereby the voltage across said various combinations of said secondary coils is proportional to the secant of the instantaneous latitude of the aircraft.

3,145,299
WAVEMETER
Cullen M. Crain, Santa Monica, Calif., and Charles E. Williams, Garland, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 29, 1960, Ser. No. 39,751
1 Claim. (Cl. 250—39)



In a wavemeter for use with a radar installation, a resonator chamber, a dielectric thimble dividing the cavity of the chamber into first and second spaces, the chamber having means for admitting attenuated high frequency electromagnetic energy into the first space, means sealing the first space against entry of moisture and dry air, a metal plunger reciprocable in the thimble, and means connected to the chamber and plunger for indicating the wavelength of the energy in the cavity, said indicating means being detachable from the chamber and having means replaceably mounting the plunger so that the plunger is replaceable with one of different diameter which can be accommodated by the thimble, without disturbing the sealing means.

3,145,300
DUAL SENSOR GAMMA RAY CALORIMETER
James R. Coss and Maurice J. Cote, Dayton, Ohio, and Philip B. Hemmig, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 7, 1961, Ser. No. 94,093
7 Claims. (Cl. 250—83)
(Granted under Title 35, U.S. Code (1952), sec. 266)



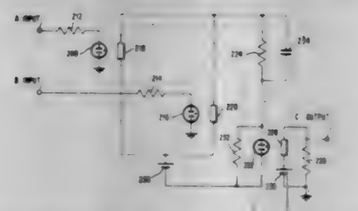
1. A gamma ray dosimeter comprising as a sensing element two spaced bodies of dissimilar materials joined by a thermally conductive connection, both bodies being subjected to the gamma radiation to be measured and means for producing an electrical output from said sensing element proportional to the difference in the temperatures of said bodies.

3,145,301
GATE CIRCUITS UTILIZING LIGHT SOURCES AND PHOTOCONDUCTORS
Wilhelm Spruth, Peekskill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1960, Ser. No. 79,337
3 Claims. (Cl. 250—209)



1. A gating circuit comprising in combination: signal input means,
a plurality of voltage dividers connected in cascade across said signal input means,
each of said voltage dividers comprising a first photoconductor device and a second photoconductor device connected in series,
an electrical load connected between the first and second photoconductor devices in the last cascaded voltage divider,
a first light source positioned to illuminate the first photoconductor device in each of said voltage dividers,
a second light source normally activated and positioned to illuminate the second photoconductor device in each of said voltage dividers,
gate signal input means for activating said first light source, and
means for deactivating said second light source when said first light source is activated.

3,145,382
ELECTRO-OPTICAL CIRCUITRY HAVING IMPROVED RESPONSE SPEED
Thomas G. Dunne, Yorktown Heights, John Heer, White Plains, and Sol Triebwasser, Peekskill, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 30, 1961, Ser. No. 99,401
5 Claims. (Cl. 250—213)



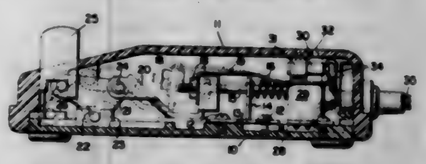
1. An electro-optic gate circuit comprising in combination
a voltage supply, a first light responsive resistor, a current limting resistor, and a light producing means connected in series;
said first light responsive resistor having a high resistance when dark and a low resistance when illuminated, said light producing means adapted to be activated by a critical voltage;
a second light responsive resistor positioned to receive light from said light producing means, said second light responsive resistor requiring a certain period of time (x) after being illuminated to change state;
means for illuminating said first light responsive resistor to cause it to assume its low resistance state, thereby activating said light producing means;
a capacitor shunting said current limiting resistor, whereby the voltage applied to said light producing means is increased during periods when said first light responsive resistor is changing from high to low resistance;
and whereby the intensity of the initial light output is greater than the steady state light output;
the magnitude of said shunting capacitor being such that the light intensity reaches its steady state value in a time period substantially equal to the time period (x).

3,145,383
AUTOMATIC STEREOPLOTTING SYSTEM AND METHOD
Gilbert Louis Hobrough, Scarborough, Ontario, Canada, assignor to Hunting Survey Corporation Limited
Filed Aug. 7, 1961, Ser. No. 129,583
19 Claims. (Cl. 250—220)



17. In a stereo image examining system including means for projecting stereo images having X and Y coordinates onto viewing platen means and in which the images are examined point by point by adjusting the intersection of the projection axes with the viewing platen means to remove parallax, the combination therewith of: means supporting each of said images rotatably on respective K, phi and omega axes; means for rotatably adjusting said support means about said axes including motors for rotating said support means about at least one each of said K, phi and omega axes; and means for selectively energizing said motors responsive to parallax in the direction of one of said coordinates to establish relative orientation of said images.

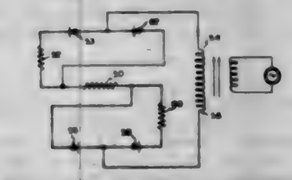
3,145,384
PHOTOELECTRIC MOTOR-SPEED FOOT CONTROLLER
Mark R. Bostrom, Dover, and Edward W. Taylor, Martinsville, N.J., assignors to The Singer Company, a corporation of New Jersey
Filed May 21, 1962, Ser. No. 196,390
1 Claim. (Cl. 250—239)



A photoelectric motor-speed controller comprising an opaque enclosure having a base and a cover, a photocell

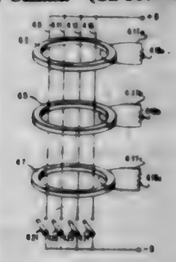
mounted on said base, a light source mounted on said cover adjacent to said photocell, a shutter mounted for movement between said light source and said photocell to variably control the amount of light transmission therebetween, an opaque resilient sleeve surrounding said photocell and forming with the movable shutter a light-tight wiping seal to minimize the effect of extraneous ambient light on the control characteristic, biasing means to normally position the shutter to cut off all light transmission, and means including an external operator-influenced element for moving said shutter against said biasing means to effect operator-controlled variable light transmission between the light source and the photocell.

3,145,385
D.C. POWER SUPPLY FOR ISOLATED LOADS
Lester Levy, 535 Parkside Ave., Brooklyn, N.Y.
Filed Sept. 18, 1961, Ser. No. 138,923
8 Claims. (Cl. 307—41)



1. A direct current power supply comprising a common alternating current source, first and second load means arranged in parallel with said source, a first pair of current rectifier means arranged one on each side of said first load to connect said source thereto, said first pair of rectifier means forming a series conduction path with said first load means permitting current flow during one alternate period of said source in one direction through said first load and preventing current flow in the opposite direction during the other alternate period, a second pair of current rectifier means arranged one on each side of said second load means to connect said source thereto, said second pair of rectifier means forming a series conduction path with said second load permitting reverse polarity current flow during said other alternate period of said source in one direction through said second load and preventing current flow in the opposite direction during said one alternate period, two of said rectifier means being connected together at each terminal of said source whereby said first and second parallel load means are substantially isolated from each other.

3,145,386
LOAD SHARING MAGNETIC SWITCHES
Robert T. Chien, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 10, 1960, Ser. No. 48,712
11 Claims. (Cl. 307—88)

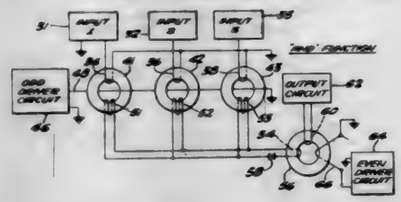


11. A magnetic load sharing switch consisting essentially of eleven magnetic elements, an output winding for each element, and twelve input windings each coupling all said elements, each of said input windings being coupled to each said element in one of two magnetizing senses designated as a "+1" and a "−1" value, respectively, said input windings being coupled to said elements in accordance with a pattern:

+1	+1	−1	+1	+1	+1	−1	−1	−1	+1	−1	−1
−1	+1	+1	−1	+1	+1	+1	−1	−1	−1	+1	−1
+1	−1	+1	+1	−1	+1	+1	+1	−1	−1	−1	−1
−1	+1	−1	+1	+1	−1	+1	+1	+1	−1	−1	−1
−1	−1	+1	−1	+1	+1	−1	+1	+1	+1	−1	−1
−1	−1	−1	+1	−1	+1	+1	−1	+1	+1	+1	−1
+1	−1	−1	−1	+1	−1	+1	+1	−1	+1	+1	−1
+1	+1	−1	−1	−1	+1	−1	+1	+1	−1	+1	−1
+1	+1	+1	−1	−1	−1	+1	−1	+1	+1	−1	−1
−1	+1	+1	+1	−1	−1	−1	+1	−1	+1	+1	−1
+1	−1	+1	+1	+1	−1	−1	−1	+1	−1	+1	−1

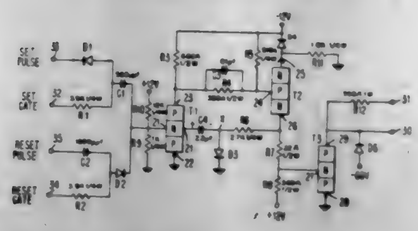
wherein each horizontal row of said pattern represents one of said magnetic elements and all values in a horizontal row of said pattern represents the sense which the input windings couple a given element and the values of each vertical column of said pattern represents a particular one of said twelve input windings in the switch coupling each of the elements, and means for applying current coincidently to selected ones of said windings, the selected windings being wound on one of said elements in such a manner that the magnetic field generated by the current in each of said selected windings is of a similar sense and effective to produce excitation of said one element while said selected windings are wound on all the remaining of said elements in such a manner that the magnetic field generated by the current in said selected windings is cancelled to produce no excitations of said remaining elements.

3,145,307
LOGICAL CIRCUITS
Salvadore J. Zuccaro, Los Angeles, Calif., assignor to Ampex Corporation, Culver City, Calif., a corporation of California
Filed May 22, 1961, Ser. No. 111,680
3 Claims. (Cl. 307—88)



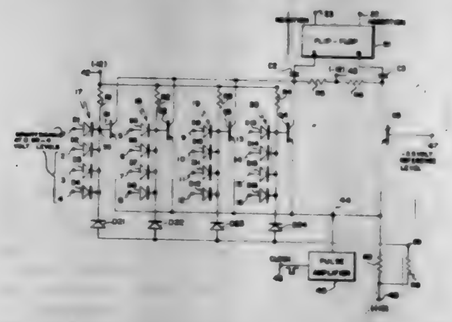
1. A logic device comprising a first, second, and third magnetic core each having two states of magnetic remanence and being drivable therebetween, means for applying magnetomotive forces alternately to said first and second cores and to said third core to drive them to one of said two states of magnetic remanence, separate means for applying a magnetomotive force to each of said first and second cores to drive them toward their other state of stable magnetic remanence, an output winding coupled on each of said first, second, and third cores, means connecting the output windings of said first and second cores in parallel for allowing said first and second cores to be driven to their other state of magnetic remanence only upon simultaneous operation of all said separate means, and means for applying output from said first and second cores when they are driven from their other to their one state of magnetic remanence to said third core to drive it to its other state of magnetic remanence.

3,145,306
MONOSTABLE MULTIVIBRATOR WITH EARLY RESET IF DESIRED
Abraham M. Gindi, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 30, 1960, Ser. No. 72,766
5 Claims. (Cl. 307—88.5)



1. Apparatus including: a number of transistors; setting means connected to a first transistor; resetting means connected to said first transistor; circuit means interconnecting said number of transistors; output means connected to a second transistor of said number of transistors; a source of set signals, connected to said setting means, operative in association with said circuit means to cause said transistors to assume a first set of states; a source of reset signals, connected to said resetting means, operative in association with said circuit means to cause said transistors to assume a second set of states immediately; and reactive means, connected between two of said number of transistors operative to cause said transistors to assume said second set of states, a predetermined time after said first set of states are assumed, in the absence of reset signals prior to set predetermined time.

3,145,309
UNIVERSAL LOGICAL PACKAGE HAVING MEANS PREVENTING CLOCK-PULSE SPLITTING
Theodore Paul Bothwell, Natick, and Joseph L. De Clue, Medfield, Mass., assignors to Computer Control Company, Inc., a corporation of Delaware
Filed Mar. 15, 1961, Ser. No. 95,948
4 Claims. (Cl. 307—88.5)



2. Universal logic circuit package comprising:
input gate means providing output signals of either a first or second level according to the conditioning thereof;
a flip-flop for providing output signals of said package and having set and reset inputs;
a first coincidence gate having its output coupled to one of said flip-flop inputs;
at least a second coincidence gate having its output coupled to the other of said flip-flop inputs;
means for simultaneously impressing a clock pulse directly upon respective inputs of both of said input gates;
means for so coupling another input of said first coincidence gate to said output signals of said input gate means that said first coincidence gate is biased by one of said first and second levels for passing said clock pulse to said flip-flop input and is biased by the other of said first and second levels for preventing passage of said pulse to said one input of said flip flop; and
means for impressing upon another input of said second coincidence gate a reference bias at a level intermediate said first and second levels so that when said first coincidence gate is biased for preventing passage of said pulse said second coincidence gate is biased by said reference bias for passing said clock pulse to said other input of said flip-flop and when said first coincidence gate is biased by said one of said levels for passing said clock pulse said second coincidence gate is biased for preventing passage of said clock pulse to said other of said flip-flop inputs.

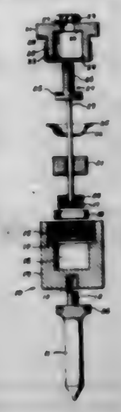
3,145,310
SUPERCONDUCTIVE IN-LINE GATING DEVICES AND CIRCUITS
Charles J. Bertsch, Somerset, N.J., and Norman H. Meyers, Chappaqua, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 23, 1961, Ser. No. 133,528
15 Claims. (Cl. 307—88.5)



1. A superconductive in-line gating device without inductive coupling comprising; a control conductor including first and second control conductor sections; a gate conductor including first and second gate conductor sections; said first control conductor section and said first gate conductor section being laid down one above the other extending in parallel-spaced relationship to form a first in-line cryotron; said second control conductor section and said second gate conductor section being laid down one above the other extending in parallel-spaced relationship to form a second in-line cryotron; means for applying control current to said control conductor and means for applying gating current to said gate conductor; said currents being applied to flow in the same direction in said first control conductor section and said first gate conductor section forming said first in-line cryotron and in opposite directions in said second control conductor section and said second gate conductor section forming said second in-line cryotron.

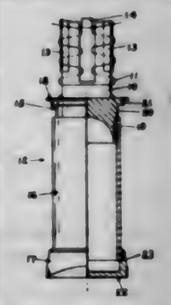
3,145,311
VIBRATION PICK-UP DEVICE
Clyde W. Dickey, State College, Pa., assignor to HRB-Singer, Incorporated, State College, Pa., a corporation of Delaware
Filed Mar. 2, 1961, Ser. No. 92,919
6 Claims. (Cl. 310—8.4)

1. A vibration pick-up device of the inertia driven variety for detecting the vibrational characteristics of a vibrating body comprising; a housing, means to transmit mechanical vibrations from said body to the housing, sensing means within said housing for converting said mechanical vibrations into an electrical signal, a conductor for transmitting the signal from said sensing means, and a single bell shaped biasing means for applying pressure to said sensing means, said biasing means being circum-



ferentially seated within said pick-up device and responsive only to forces applied axially of said pick-up device.

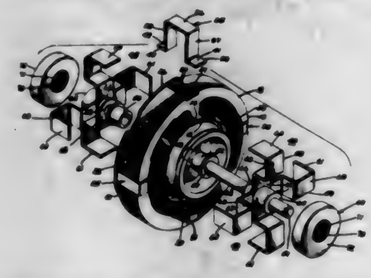
3,145,312
HIGH FREQUENCY SONIC TRANSDUCERS
James W. McAuley, Toledo, Ohio, assignor to Libby-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Apr. 13, 1959, Ser. No. 806,152
7 Claims. (Cl. 310—26)



1. A sound energy directing and amplifying means for use in a magnetostrictive sound generating transducer, comprising a metallic body member for attachment to a vibrating magnetrostrictive body and having a plug-like portion integral with said body member extending therefrom, a hollow cylindrical extension member having an opening therein for receiving the plug portion of the contacting member in one end thereof, a second body member provided with a circular opening for receiving the other end of the extension member therein and having an outer substantially flat operating face normal to the long dimension of said extension member, and adhesive bodies securing said metallic body member to said extension member and said extension member to said second body member.

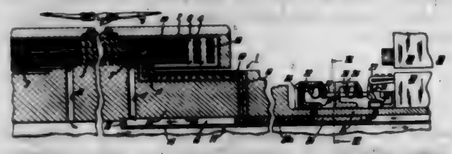
3,145,313
FRACTIONAL HORSEPOWER ELECTRIC MOTOR
Myron D. Tupper, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Jan. 6, 1960, Ser. No. 744
9 Claims. (Cl. 310—42)

2. A dynamoelectric machine comprising a plurality of laminations in juxtaposed relation to form a stack having side faces and a rotor receiving bore, a plurality of coils arranged on said stack with end turns extending beyond each side face thereof, a plurality of grooves extending axially across the outer periphery of said stack, an elongated strip member disposed in each of said grooves and having the side edges of a portion of said member in frictional engagement with the adjacent sides of said groove, said strip member formed with integral legs projecting axially beyond each end of said stack and bent over into axially compressing engagement with said end faces for firmly securing together said laminations in a predetermined position, said strip members having the free end portions thereof projecting axially away from said lamination end faces below said coil end turns in engage-



ment therewith for supporting said end turns away from said rotor receiving bore, a shaft, a rotor secured to said shaft and concentrically disposed within said bore with an accurate air gap therebetween, a pair of rotor supporting assemblies each including a portion spaced from and adjacent said strip member free end portion and a central bearing mounting means, said bearing mounting means having a shaft-carrying bearing fixedly secured thereto and having a recess surrounding said bearing, a lubricant reservoir removably maintained in said recess and communicating with said bearing for retaining and supplying lubricant to said bearing, and structural adhesive bonding means positioned between said respective adjacent portions rigidly securing said rotor supporting assemblies to said strip members.

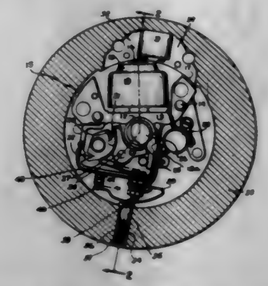
3,145,314
DYNAMOELECTRIC MACHINE WITH LIQUID-COOLED EXCITATION SUPPLY MEANS
Peter A. Becker, Frankfurt, Germany, assignor to General Electric Company, a corporation of New York
Filed June 27, 1961, Ser. No. 119,878
6 Claims. (Cl. 310—68)



1. In a generator of the type having an exciter alternator furnishing a regulated A.C. supply voltage from a rotating exciter armature, the combination of a rotor having a generator field winding thereon, a pair of electrically conductive insulated ring members mounted to turn with the rotor shaft, said ring members having annular portions radially spaced from the rotor shaft and defining gas-tight internal cooling passages, lead-in conductor means forming a series connection from one said ring member through said field winding to the other said ring member, means supplying liquid coolant to the field windings, the lead-in conductor means, and the ring member cooling passages, a plurality of rectifier means mount-

ed on the radially inner side of said cooled annular portions of the ring members and electrically connected thereto, said rectifier means being furnished with a regulated A.C. supply voltage, whereby the ring members serve both to cool and support the rectifier means while also serving as electrical D.C. supply buses for the field windings.

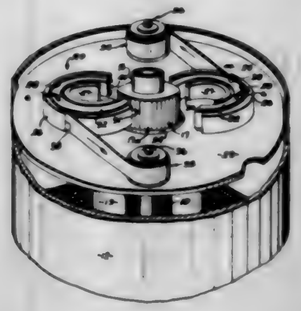
3,145,315
FLYWHEEL MAGNETO HAVING SHORT CIRCUITING MEANS
William O. Heuschkle, Longmeadow, Mass., assignor to R. E. Phelon Company, Inc., a corporation of Massachusetts
Filed Aug. 27, 1962, Ser. No. 223,864
9 Claims. (Cl. 310—70)



1. A flywheel magneto comprising in combination, a rotor including a flywheel and also including a field structure carried by the flywheel, a stator including a core having a plurality of circularly spaced pole faces in cooperative relationship with the field structure of the rotor and also including a primary coil and a secondary coil on the core, the said secondary coil being connectible with a sparking device, means operable during each rotation of the rotor for making and breaking a circuit through the said primary coil and normally serving upon the breaking of the said circuit to produce a spark forming voltage in the secondary coil, and a means operative at rotor speeds below a predetermined critical speed for short circuiting the said circuit making and breaking means, the said short circuiting means including a centrifugally movable element carried by the flywheel and constructed and arranged to move relatively thereto when the speed of rotor rotation equals or exceeds the said critical speed so as to cause the short circuiting means to be then inoperative, said short circuiting means also including a contact member connected to and carried by the stator, said contact member being operatively associated with said centrifugally movable element and actuated thereby.

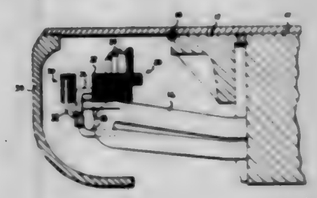
3,145,316
ELECTRICAL CURRENT CONDUCTING BRUSH ASSEMBLY
Oswald V. Page, Mansfield, Ohio, assignor to Barnes Manufacturing Company, Mansfield, Ohio, a corporation of Ohio
Filed Apr. 26, 1961, Ser. No. 105,617
1 Claim. (Cl. 310—246)

In an electric motive device having a rotatable commutating member, an electric current conducting brush assembly including a brush member having an arcuate conducting body portion of substantially constant radius, means for supporting said body portion adjacent said commutating member, a conducting surface on one end of said body portion for engagement with said commutating member, and means for urging said brush member into engagement with said commutating member including a normally wound spring having its one end secured to and in equilibrium with a shaft which is free to rotate, means securing the opposite end of said spring to the opposite end of said brush member, said spring continu-



ously tending to backwind upon said shaft effective to exert a substantially constant force on said brush member.

3,145,317
HARNESS CONNECTION FOR DYNAMOELECTRIC MACHINES
Edward G. Bloom, Scotia, Eugene F. McHale, Schenectady, and William L. Uzright, Altamont, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 21, 1960, Ser. No. 92,727
7 Claims. (Cl. 310—260)

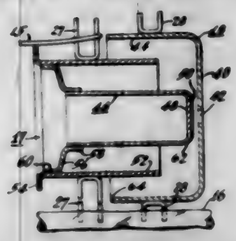


1. In a magnetic core for a dynamoelectric machine including coils having coil end turns and leads extending outwardly therefrom, the improvement comprising a connection harness including a detachable ring concentrically positioned around said end turns and secured to a frame of the machine for minimizing abrasive wear of the leads and end turns during machine operation, said ring comprising a body of insulating material encapsulating a plurality of leads employed for providing power to said winding, said ring further including insulated conductors embedded therein and connected to the coil leads to provide a predetermined mode of operation of said machine.

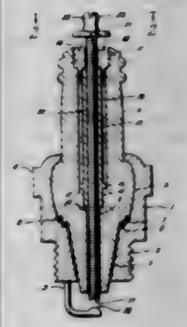
3,145,318
CATHODE GRID ASSEMBLY FOR ELECTRON GUN
Raymond C. Pauli, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 14, 1960, Ser. No. 68,977
4 Claims. (Cl. 313—82)

1. An electron gun comprising an insulator support rod, a tubular cathode, a tubular cathode shield coaxially surrounding said cathode, a cathode support ring concentrically fixed between said shield and one end of said cathode, mounting means fixed to said insulator rod and to the end of said shield adjacent said one end of said cathode for supporting said cathode and said shield relative to said rod, a control grid cup disposed coaxially with said cathode and shield with the other ends of said

cathode and shield extending thereinto, and mounting means fixed to said grid cup and said insulator rod for supporting said grid cup relative to but independently of said cathode and said shield.

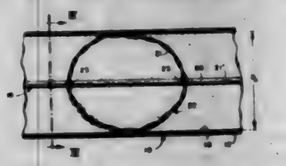


3,145,319
SPARK PLUG
Minor R. Ross, 9222 Atwood, Houston, Tex.
Filed Feb. 27, 1961, Ser. No. 91,866
2 Claims. (Cl. 313—125)



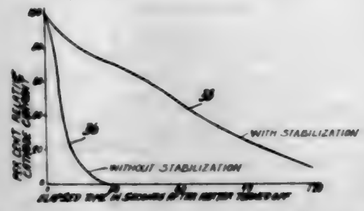
1. In a spark plug, a body member, a fixed electrode on said body member, an insulator mounted in and extending through said body member, an axial bore in said insulator, an internally threaded bushing mounted in said bore, means for sealing said bushing in said bore at its lower end, and an enlarged area in said bore and powdered cement packed in said enlarged area, a plug in the upper end of said enlarged area bearing against said powdered cement, and an externally threaded longitudinally adjustable electrode mounted in said bushing and extending through said insulator.

3,145,320
WIRE SUPPORT FOR A VITREOUS LONGITUDINAL ROD IN A FLUORESCENT LAMP
Louis L. Nicolaro, Roseland, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 16, 1962, Ser. No. 173,660
10 Claims. (Cl. 313—286)



10. In an electric discharge lamp having a tubular envelope that contains a pair of spaced electrodes, the combination of an elongated member that extends along the discharge space between said electrodes, and means suspending said member in a predetermined region of the discharge space remote from the walls of said envelope and from said electrodes, said suspension means comprising a plurality of resilient loop members that are attached to said elongated member and are compressively locked by diametrically-opposed portions of the envelope in planes that pass through and are aligned with the axis of said envelope.

3,145,321
BEAM CURRENT STABILIZATION IN A CATHODE RAY TUBE
Koichi Sadashige, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 16, 1961, Ser. No. 82,834
3 Claims. (Cl. 315—30)



1. In combination with a cathode ray image pickup tube having means including an electron-emitting cathode, an intensity control grid and an apertured accelerating and beam-forming electrode for producing an electron beam, and a target electrode toward which said beam is directed, means for stabilizing said electron beam current, comprising:

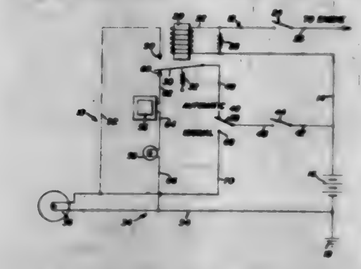
means including a resistor for biasing said apertured electrode positively relative to said cathode to cause the major portion of said cathode-emitted electrons to flow to the body of said apertured electrode and the remainder of said electrons to pass through the aperture of said apertured electrode in a small well-defined beam to said target electrode and to produce voltage variations at said apertured electrode resulting from any changes in the electron current flow to said apertured electrode and through said resistor;

and means consisting only of passive circuit elements coupling said apertured electrode to said control grid to apply said voltage variations to said control grid to vary the electron emission from said cathode oppositely to said changes in the electron current flow to said apertured electrode, thereby maintaining the intensity of said beam substantially constant.

3,145,322
AUTOMATIC HEADLIGHT SHUT-OFF AND WARNING SYSTEM
George M. Yazigi, 2060 Satterville Road, Sacramento 22, Calif.
Filed May 21, 1963, Ser. No. 281,897
2 Claims. (Cl. 315—82)

1. For use as an alarm system in a vehicle equipped with at least one headlight, an electric circuit including a headlight switch, a battery and an ignition switch, means connected in series with said battery and ignition switch for connecting the headlight and headlight switch in series with the battery upon closing of the ignition switch, alarm means, said first named means simultaneously disconnecting the headlight from the battery and connecting the alarm means in series with the battery through the headlight switch when said ignition switch is opened and said headlight switch is closed, said circuit including manually

operable switch means for simultaneously disconnecting said alarm means from the battery and connecting the



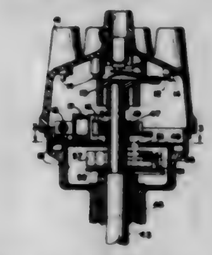
headlight thereto when the headlight switch is closed independent of the position of said ignition switch.

3,145,323
ELECTRIC CANDLE
René Klotz, 9 Rue de Belloy, Paris, France
Filed Oct. 31, 1962, Ser. No. 234,298
Claims priority, application, France, Apr. 16, 1959, 792,241, Patent 1,232,486
4 Claims. (Cl. 315—209)



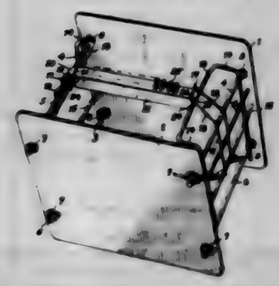
1. A candle-simulating electric light comprising in combination a light-transmitting, flame-shaped bulb, a filament resistance wire mounted within said bulb, an intermittent and non-uniform acting thermal switch including a first elongated thermal responsive element, a second elongated element, a non-conducting base, means in said base for supporting said elements by one of their respective ends in contiguous relationship and for allowing easy vibration of said elongated elements with respect to each other and to said base, a contact at each of the other ends of said elongated elements in cooperating relationship to each other, and a heat-producing resistance wire thermally engaged with one of said elongated elements and electrically interconnected between said elongated elements for producing heat when said contacts are disengaged, said elongated elements being sized to vibrate freely upon a break in contact between said contacts to produce alternate engagement and disengagement of said elongated elements in a random pattern, a first power lead connected to one side of said filament wire, conducting means connecting one of said elongated elements of said switch to the other side of said filament wire, and a second power lead connected to the other of said elongated elements of said thermal switch for supplying electric current to said switch and intermittently to said filament.

3,145,324
CENTRIFUGAL DISTRIBUTOR ADVANCE WHICH DOES NOT ADVANCE THE ROTOR
Richard T. Race, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed May 24, 1962, Ser. No. 197,525
6 Claims. (Cl. 315—212)



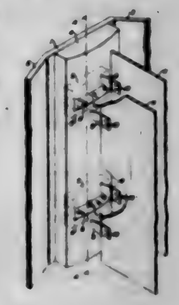
1. A distributor and timer unit for use with the magnetic ignition pulser of an internal combustion engine having cylinders with associated ignition means, said unit including in combination, a rotary drive shaft, rotary means driven by said shaft for operating the magnetic ignition pulser, advance means mechanically coupling said rotary means to said shaft for angularly displacing said rotary means with respect to said shaft as the speed of rotation of said shaft varies, and rotary conductor means electrically connectable to the ignition pulser and directly fixed to and driven by said shaft for selectively applying pulses from the ignition pulser to the ignition means of the cylinders.

3,145,325
CONNECTION BLOCK RETAINERS FOR PANEL BOARD HOLDERS
Thorston W. Whipple, Binghamton, N.Y., assignor to E. H. Titchener & Co., Binghamton, N.Y., a corporation of New York
Filed Oct. 19, 1962, Ser. No. 231,718
3 Claims. (Cl. 317—99)



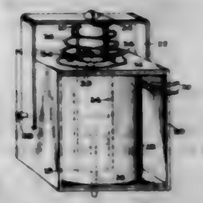
1. A connection block retainer for circuit board holders comprising, a circuit board holder having ends connected by a plurality of rods, means on the rods for engaging and holding panel boards, a pair of stationary U-shaped loops extending across the tops of the rods at the opposite ends of the holder and fixedly attached at their open ends remotely from their bights to some of the rods, whereby the bight portions of the loops are capable of flexure in a direction away from one another without bodily shift of said loops, a connection block extending between a rod at one side of the holder and a rod at the opposite side and resting against the said rods, the connection block having means abutting against the rods on which it is seated to hold the block against longitudinal shift and having its opposite end portions extending through the loops whereby said loops will springably retain the conection block securely against the tops of the rods between which it extends.

3,145,326
MAGNETIC SUPPORTING ARRANGEMENT
Patrick J. McGannon, 2797 Stevens St., Oceanside, N.Y.
Filed Mar. 7, 1961, Ser. No. 93,993
12 Claims. (Cl. 317—159)



1. An article supporting arrangement comprising magnetic material defining two walls forming therebetween a gap having a substantially wedge-shaped cross-section; means for maintaining magnetic potential across said gap between said walls; and, a thin relatively wide elongated tab, one end of said tab comprising means for attaching said tab to an article to be supported, the other end of said tab comprising magnetic material and being wedge-shaped so as to be insertable into said gap such that opposite thin tab edges of said other end substantially mate with opposite walls of said gap; whereby, said other end of said tab partially completes a magnetic circuit across said gap between opposite walls thereof and is magnetically supported within said gap by magnetic forces effective between mating portions of said other end of said tab and said walls due to said magnetic potential.

3,145,327
SOLENOID MAGNETIC DAMPER
George Leo Thayer, Jr., Santa Ana, Calif., and John C. Hewitt, Jr., deceased, late of Long Beach, Calif., by Dorothy V. Hewitt and Patricia A. Morrison, administratrices, Long Beach, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 6, 1962, Ser. No. 185,733
11 Claims. (Cl. 317—185)



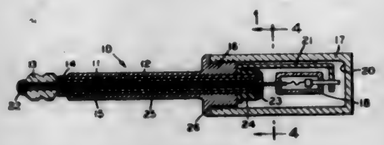
1. In a solenoid including an electrical coil and an armature mounted within said coil magnetically driven by energization of said coil, the combination comprising means magnetically drawn into engagement with said armature and damping vibration therein during energization of said coil.

3,145,328
METHODS OF PREVENTING CHANNEL FORMATION ON SEMICONDUCTIVE BODIES
Harry Letaw, Jr., and Warren T. Eriksen, Wayland, Mass., assignors to Raytheon Company, a corporation of Delaware
Filed Apr. 29, 1957, Ser. No. 655,727
5 Claims. (Cl. 317—234)



3. A semiconductive device comprising a body of semiconductive material having a plurality of regions of P-type electrical conductivity material and an intermediate region of an N-type electrical conductivity material, a housing enclosing said body, and a quantity of a donor-type impurity in the gaseous state contained in said housing and adapted to produce the same electrical conductivity-type material at the surface of said body as exists in said intermediate region.

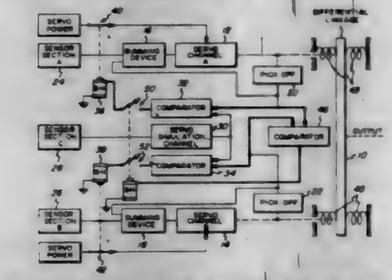
3,145,329
DIODE RECEPTACLE
Stanley Thomas Deakin, Walton-on-Thames, England, and Albert E. Powell, Old Greenwich, Conn., assignors to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York
Continuation of application Ser. No. 86,495, Feb. 1, 1961. This application Apr. 12, 1963, Ser. No. 273,801
Claims priority, application, Great Britain, Feb. 2, 1960, 3,689/60
6 Claims. (Cl. 317—234)



1. A diode receptacle plug comprising:
(1) an elongated cylindrical double conductor adapted to be inserted longitudinally into a plug holder having a pair of axially spaced contact elements therein for connection to an external circuit, said double conductor including a first conductive hollow member having a portion forming the forward end of said double conductor for providing a first contact adapted to make contact with one of said contact elements of said plug holder,
(2) a second conductive hollow member axially aligned with said first member and having its forward end displaced from said first contact for providing a second contact disposed along the length of said elongated double conductor adapted to make contact with the other of said contact elements of said plug holder,
(3) and an insulator between said hollow members for insulating between said contacts,
(4) a handle mounted at the rear of said double conductor to be held for inserting said double conductor into said plug holder,
(5) said members and handle constituting a unitary receptacle plug body,
(6) a diode rectifier within said plug body having a cathode lead and an anode lead,
(7) one of said leads extending within said first hollow member and being connected thereto,

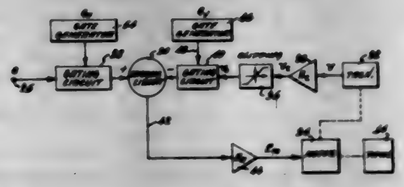
(8) and the other of said leads being connected to said second hollow member for providing a predetermined conductive relationship between said diode rectifier and said first and second contacts for facilitating the removal and insertion of said diode rectifier component in an operating circuit, a test circuit, and the like.

3,145,330
SERVOMECHANISM APPARATUS
Herbert Hecht, Los Angeles, Calif., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Nov. 16, 1962, Ser. No. 238,213
4 Claims. (Cl. 318—19)



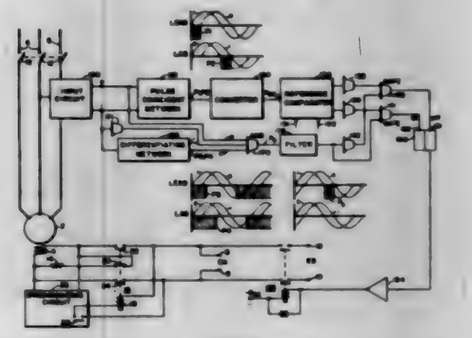
1. In a servo system having a pair of signal responsive channels each of which has an output part so connected to move simultaneously an output member for the system that should one channel become inoperative the other can still move said member, said channels being each respectively provided with malfunction detection means for deactivating them and restoring their respective output parts to neutral positions when malfunctions occur, apparatus for assuring against unwarranted deactivating of said channels comprising means connected to receive signals representative of the amount said output parts move, said means producing an output signal when one part moves a predetermined amount more than the other, and means responsive to said output signal to enable both said malfunction detection means, whereby said means connected to receive signals operates to monitor the operation of said servo system and assures that a system malfunction must be detected before one of said servo malfunction detection means can operate to deactivate a failed channel.

3,145,331
DETENT SERVO SYSTEM
Bela L. Romvari, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,750
5 Claims. (Cl. 318—28)



1. In combination with a servo system for positioning a magnetic head carrying carriage with respect to a toothed rack, an extendible and retractable pawl movable mounted to said carriage and disposed to engage one of the teeth of said rack when in an extended position and to be free of said rack when in a retracted position, a motor for urging said pawl against one of said teeth when said pawl is in an extended position, a source of driving voltage for driving said motor, a tachometer associated with said motor to produce a velocity voltage representative of the velocity of said carriage, means for applying said driving voltage to urge said pawl against a selected tooth of said rack when said pawl is in an extended position to maintain said carriage in a fixed position relative to said rack, a gating circuit, means for applying said velocity voltage through said gating circuit to said motor to provide damping of the movement of said carriage during the final stage of a positioning operation, a gate generator circuit to produce gating signals, and means for applying said gating signals to said gating circuit to inhibit the application of said velocity voltage to said motor for a predetermined time period to minimize the damping of said carriage movement during said predetermined time period.

3,145,332
POWER FACTOR SENSING SYSTEM FOR SYNCHRONOUS MACHINES
Dean J. MacGregor, Amherst, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1961, Ser. No. 89,494
28 Claims. (Cl. 318—179)

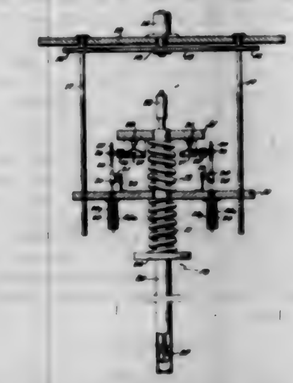


1. A power factor sensing circuit for an alternating current line comprising; first means for deriving a first signal proportional to the deviation of the power factor of said alternating current line from a reference value; first and second output lines; gating means operatively connecting said first means to said first and said second output lines; and third means for providing a gating signal functionally related to the slope and polarity of the line current and the polarity of the line voltage of said alternating current line; said gating means selectively allowing said first signal to said first and said second output lines in accordance with said gating signal.

3,145,333
FORCE LIMITING DEVICE FOR MOTOR CONTROL
John Anthony Pardini, Brookfield, and Victor Hutter, Chicago, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 29, 1962, Ser. No. 233,986
2 Claims. (Cl. 318—475)

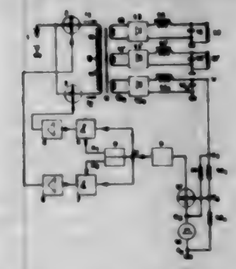
1. A drive system comprising
(I) a driving member;
(II) a driven member;
(III) spring means yieldingly transmitting motion of said driving member to said driven member;
(IV) a motor operatively connected with said driving member for moving the same; and

(V) means for causing the motor to stop moving said driving member in the event of excessive movement of said driving member with respect to said driven member, said last mentioned means comprising first and second relatively movable cooperating parts mounted on said driving member, means fixedly securing the first part to said driving member, means releasably securing the second part to said driven



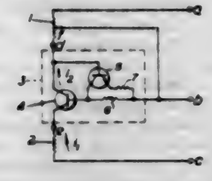
member, time delayed electromagnetic means to actuate said releasable means a predetermined time after initiation of motor operation, whereby energization of said electromagnetic means causes said second part to be secured to said driven member and said excessive movement of the members causes relative movement of said first and second parts, switch means responsive to said relative movement to stop said motor.

3,145,334
DEVICES SUPPLYING STABILISED FEED VOLTAGES
Léon Berman, Asnieres, France, assignor to C.I.T. Compagnie Industrielle des Telecommunications, Paris, France
Filed May 22, 1962, Ser. No. 196,830
Claims priority, application France May 26, 1961
1 Claim. (Cl. 321—2)



Device supplying, from a D.C. voltage source, stabilised voltages, comprising a multivibrator, in the input circuit of which a transistor is so connected that its impedance is a function of the difference between a reference D.C. voltage and a fraction of the stabilised D.C. voltage, the said multivibrator supplying an unsymmetrical square wave applied to a switching transistor device so designed that the ratio of the durations of the "conductive" level and of the "non-conductive" level is such that the stabilised D.C. voltage is proportional to the reference D.C. voltage, the said device comprising a transformer, the ends of the primary winding of which are connected respectively to the collectors of two transistors whose emitters are connected in parallel to one pole of the D.C. voltage source, the other pole of which is connected to the mid-point of the said primary winding, characterised in that the bases of these two transistors are connected respectively to direct-current amplifiers which are connected to the outputs of two AND circuits, and of which the first inputs are connected directly to the output of the multivibrator and the second inputs are connected respectively to the outputs of a bistable trigger circuit which changes over once to each cycle of the unsymmetrical square-wave voltage supplied by the multivibrator, so that during one cycle of the said voltage only one of the transistors is rendered conductive during one of the levels of this voltage, the other transistor being maintained in the non-conductive condition, while, during the succeeding cycle of the said voltage, the second transistor is rendered conductive during the same level as before, the first transistor being maintained in the non-conductive condition.

3,145,335
VARIABLE NEGATIVE IMPEDANCE CONVERTER CIRCUIT
Atsuyoshi Ouchi, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Jan. 27, 1960, Ser. No. 4,987
Claims priority, application Japan Feb. 18, 1959
2 Claims. (Cl. 323—74)

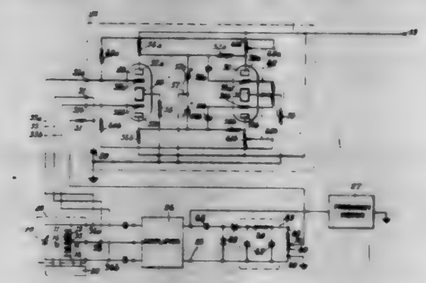


1. A circuit for simultaneously varying two impedances comprising: a negative impedance converter having a first and a second input-output port, and a third output port; a first impedance connected to said first port; a second impedance connected to said second port; and means for variably shunting said first impedance to said third port, whereby the second impedance and the shunted portion of the first impedance appear negatively at said third port and the unshunted portion of said first impedance appears without change at said third port.

3,145,336
APPARATUS FOR MEASURING MAGNETIC FIELDS
Georges Bonnet, Grenoble, and Antoine Salvi, Saint-Egreve, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Filed Dec. 11, 1959, Ser. No. 859,068
Claims priority, application France Dec. 16, 1958
5 Claims. (Cl. 324—.5)

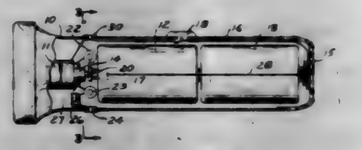
1. Apparatus for measuring magnetic fields which comprises, in combination, a container; in this container, a solution consisting of a solvent containing atomic nuclei having an angular momentum and a magnetic moment different from zero and of a paramagnetic substance having a hyperfine structure of the stationary type with at least one unpaired electron in S state, said substance being dissolved in said solvent, whereby said solution emits, when one of the electronic resonance lines of said paramagnetic substance is saturated, energy at the nuclear resonance frequency of said atomic nuclei; at least one high frequency coil disposed relatively to said container in such manner as to create therein a polarizing field for saturating said electronic resonance line when electric

current is passed through said coil; means for supplying said coil with electric current, at the frequency of said electronic resonance line, so as to saturate said line, at least one low frequency coil disposed, relatively to said container, in such manner as to collect said energy at said nuclear resonance frequency; an adjustable capacitor connected with said low frequency coil so as to constitute therewith, at said nuclear resonance frequency, a resonant circuit of high Q factor capable of sustaining oscillations in response to said energy collected by said low frequency coil; means for measuring the frequency of said oscillation; an electronic network having an input admittance constituted by the sum of a negative conductance and of a susceptance, said electronic network being constituted



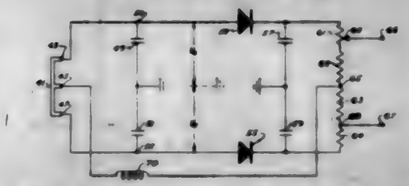
by an amplifier comprising a first amplification stage with a variable gain, a second amplification stage and an adjustable feedback loop between said second and said first stage; means for automatically adjusting said input conductance as a function of the amplitude of said oscillations, said means comprising means for deriving, from the amplitude of said oscillations generated in said resonant circuit, an unidirectional voltage having an amplitude which is proportional to the amplitude of said oscillations, and means for delivering said unidirectional voltage to said first amplification stage so as to reduce the gain of said first stage as said unidirectional voltage increases; and means for minimizing the input susceptance of said electronic network.

3,145,337
COMBINED FLASHLIGHT, EXTENSION LIGHT, CONTINUITY AND VOLTAGE TESTER
Milton Lipson, 16 Duncan Ave., Jersey City 4, N.J.
Filed Apr. 20, 1959, Ser. No. 807,595
2 Claims. (Cl. 324—53)



1. A combined flashlight and continuity tester, comprising a housing, a lamp mounted at one end of said housing and having first and second lamp terminals, a battery supported within said housing and having positive and negative terminals, one of said battery terminals being in contact with said first lamp terminal, a switch mounted through said housing, conductor means in the housing connecting said switch in series between the second lamp terminal and the other of said battery terminals, a first pin jack insulately separated from said housing and mounted therethrough to make electrical contact with the second lamp terminal, a second pin jack insulatedly separated from and mounted through said housing, said second jack making electrical connection with said first lamp terminal, in further combination with an extension cord having plugs at one end adapted for connection to said jacks, and having terminals at said other end, for connection with an external electrical circuit, whereby insertion of the said extension cord plugs into the said pin jacks, and connection of the extension cord terminals to an external circuit converts a conventional flashlight into a continuity tester, whereby the bulb and battery of the flashlight are used to test the continuity of the external circuit which has been connected to the extension cord, in further combination with an electric conductor disc interposed and in electrical contact with said one battery terminal and said first lamp terminal, including at least one additional pin jack mounted through the housing and in electrical contact with the said disc, and at least one electric resistance in series with the said conductor disc and last said pin jack, whereby the lamp can be operated from an external source of voltage by inserting one of the extension cord plugs into the first said pin jack, and the other extension cord plug into the pin jack which is serially connected to the conductor disc, resistance and lamp, whereby the device can be used as an extension light and voltage tester, in addition to its usages as a flashlight and continuity tester.

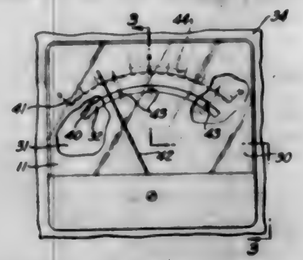
3,145,338
COMBINATION TRANSMISSION SYSTEM PHASE AND IMPEDANCE SENSOR HAVING A SINGLE CENTER-TAPPED PROBE
Neville L. Downs, Madeira Beach, Fla., assignor to Electronic Communications, Inc., St. Petersburg, Fla.
Filed Feb. 3, 1961, Ser. No. 86,964
3 Claims. (Cl. 324—58)



2. In a device for measuring an active characteristic of a transmission line, the combination of sensor means defining two sensor loops having a common center leg and two outer legs, said sensor means being arranged for operative association with a transmission line, first circuit means connected to said common leg and operative to derive from said sensor means an electrical quantity related to the potential within the transmission line, second circuit means connected between said outer legs and operative to derive from said sensor means an electrical quantity related to the current within the transmission line, said second circuit means including a serially connected inductance therein to compensate for increases of potential due to increase in frequency, and comparing means connected to said first and second circuit means to compare said derived electrical quantities and to derive from said comparison an electrical quantity proportional to the absolute magnitude of the impedance within the transmission line.

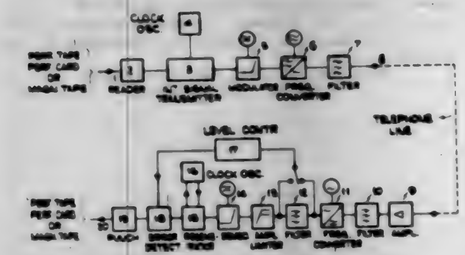
3,145,339
METER WITH ADJUSTABLE POINTER REFERENCE MARKERS
Douglas B. Gardner, La Puente, and Fernand B. Kuffer, Anaheim, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed July 12, 1960, Ser. No. 42,421
3 Claims. (Cl. 324—157)

1. In an indicating apparatus, the combination of: a meter mounting panel having an opening therein; an electrical meter having a face with a scale thereon and a pointer for movement along said scale, said face having an elongated opening therein substantially coextensive with said scale and traversed by said pointer; compressible means for mounting said meter on said panel with said scale, said pointer and the opening in said face visible from the front of said meter; marker means mounted in the opening in said panel and transversely movable



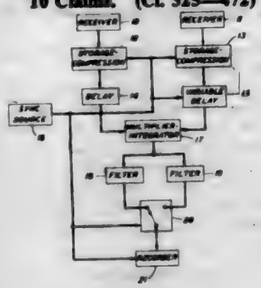
along the elongated axis of the opening in said face, at least a portion of said marker means being visible through the opening in said face from the front of said meter; said meter clamping said marker means against said panel when said compressible means is partially compressed, said marker means being movable in the opening in said panel when said compressible means is further compressed by movement of said meter away from said panel.

3,145,340
AUTOMATIC ERROR CONTROL ARRANGEMENT FOR PULSE TRANSMISSION
Knut Stig Torbjörn Jansson, Stockholm, Martin Vilhelm Ivan Jeppsson, Spanga, and Kurt Elof Samuel Silversjö, Stockholm, Sweden, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1962, Ser. No. 186,540
Claims priority, application Sweden, Apr. 10, 1961, 3,737/61
4 Claims. (Cl. 325—41)



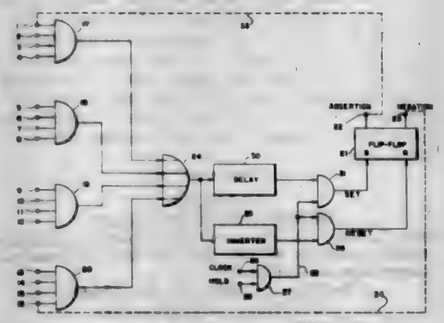
1. In an intelligence transmission system for transmitting a plurality of data signal elements from a sender terminal to a receiver terminal and for error-checking the said transmission, means in the sender terminal for receiving, modulating and frequency-shifting said data signal elements and for transmitting, at a constant amplitude, said resultant signal elements to said receiver terminal, means in said receiver terminal, for frequency-shifting the said transmitted signal elements, detecting the amplitude of said transmitted and frequency-shifted signal elements prior to demodulation, and for indicating a transmission error responsive to the amplitude of the last-said signal element lying outside of predetermined amplitude limits, the said means for detecting including signal integrating means having a period of integration not greater than the duration of one signal element.

3,145,341
CORRELATION MEANS FOR A DIRECTION FINDING SYSTEM
Harold B. Andrew, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 3, 1961, Ser. No. 80,490
10 Claims. (Cl. 325—472)



1. In combination first and second signal sources, means for continuously time compressing successive portions of the output of said first source to produce a first time compressed output in which each of the time-compressed portions is repeated at least once, means for continuously time compressing successive portions of the output of said second source to produce a second time-compressed output in which each of the time compressed portions is repeated at least once, means for correlating substantially only those components of alternate ones of said time-compressed portions in one of said time-compressed outputs that are within a first frequency band with substantially only those components of the corresponding time-compressed portions in the other of said time-compressed outputs that are within said first frequency band and substantially only those components of the remaining ones of said time-compressioned portions in one of said time-compressed outputs that are within a second frequency band less than said first frequency band with substantially only those components of the corresponding portions in the other of said time-compressed outputs that are within said second frequency band, and means for recording each of the outputs of said correlating means as a function of the delay introduced by said correlating means.

3,145,342
UNIVERSAL LOGICAL ELEMENT
Howard H. Hill, Northboro, Mass., assignor to Computer Control Company, Inc., a corporation of Delaware
Filed Mar. 15, 1961, Ser. No. 95,946
6 Claims. (Cl. 328—92)



1. A universal logic package comprising:
at least one AND gate adapted to provide either of

two input signal voltage levels depending upon the condition of said gate;

a flip-flop;

a pair of transistors of the same polarity type having their emitters connected to one another and having their collectors respectively coupled to separate inputs of said flip-flop, the base of a first of said transistors being connected to the output of said gate;

means for forwardly biasing said collectors with a predetermined voltage;

means for imposing a reference bias voltage on the base of the second of said transistors;

a pulse current source connected to said emitters; and

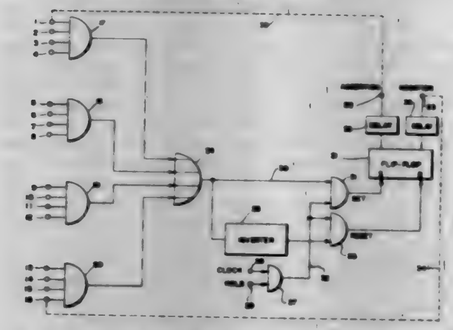
means connected to the base of said first transistor for delaying the application to said base of only one of said signal levels in the event said one of said signal levels arises during the period of a pulse when said pulse is being conducted by said second transistor to said flip-flop.

3,145,343

UNIVERSAL LOGICAL ELEMENT HAVING MEANS PREVENTING PULSE SPLITTING

William P. Horton, Natick, Mass., assignor to Computer Control Company, Inc., a corporation of Delaware

Filed Mar. 15, 1961, Ser. No. 95,947
4 Claims. (Cl. 328—92)



2. A universal logical package comprising a plurality of input gates, each input gate having a plurality of input terminals and providing one or the other of two D.C. levels at its output, a flip-flop providing the output signals of the logical package, an OR gate buffering the outputs of the input gate, an inverter having its input coupled to the OR gate's output, a first AND gate having one input coupled to the OR gate's output, a second AND gate having one input coupled to the inverter's output, means coupling other inputs of the first and second AND gates to a clock pulse input terminal, means coupling the outputs of the first and second AND gates to different inputs of the flip-flop, means connected to the flip-flop for delaying the output signals of the logical package and means for connecting the output signals of said logical package to input terminals of said input gates so as to prevent the arrival of said signals to said respective input terminals for an interval sufficient to ensure the decay of a clock pulse.

3,145,344

DEMODULATOR CIRCUIT

James C. Kyle, Glendora, and Glen Robinson, Pasadena, Calif., assignors to Physical Sciences Corporation, a corporation of California

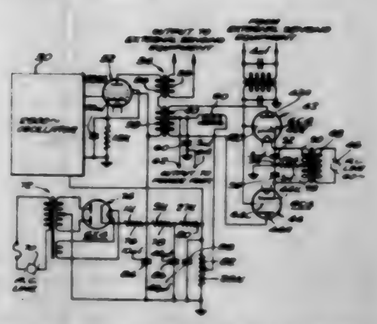
Filed Nov. 23, 1959, Ser. No. 854,682
13 Claims. (Cl. 328—134)

1. In combination,

first means for providing reference signals at a relatively high frequency wherein the reference signals have a variable phase,

second means for providing first control signals at a second frequency lower from the relatively high frequency,

third means responsive to the reference signals for producing second control signals at the relatively high frequency and with a phase variable with respect to the reference signals,



a control member connected to the first, second and third means to receive the first and second control signals and the reference signals and to produce resultant signals at the relatively high frequency in accordance with any difference in phase between the second control signals and the reference signals where such resultant signals are modulated at the second frequency, and

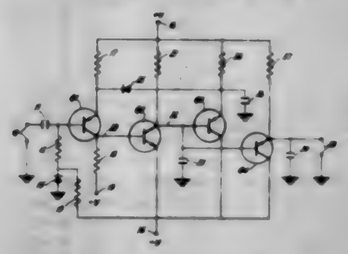
means operatively coupled to the control member and responsive to the resultant signals for obtaining the production of output signals at the second frequency in accordance with the difference in phase between the second control signals and the reference signals.

3,145,345

TRANSISTOR LINEAR PEAK DETECTOR FOR SIGNALS HAVING WIDE DYNAMIC RANGE

Jerome C. Squillaro, Glen Burnie, and Henry D. Tolj, Lutherville, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 28, 1962, Ser. No. 220,109
6 Claims. (Cl. 329—101)



1. A detector for detecting alternating current voltage signals of small signal strength and over a wide dynamic range comprising:

an input for an alternating current voltage signal to be detected;

an amplifier having first and second transistor stages, the first stage having the base coupled to said input and the emitter and collector each coupled through a resistor to the positive and negative sides, respectively, of a voltage source, and the second stage having the base coupled to the collector of the first stage and the emitter and collector coupled across the positive and negative sides, respectively, of said voltage source with said collector coupling being through a resistor;

a first emitter follower stage having the base thereof coupled to the collector of said second stage transistor amplifier, the emitter coupled through a diode to the emitter of said first transistor amplifier stage to provide a negative feedback and through a resistor to said positive voltage source, and the collector coupled to said negative voltage source;

a second emitter follower having the base coupled to the collector of said second transistor amplifier, the emitter coupled to an output and through a resistor to said positive voltage source, and the collector coupled to said negative voltage source; and

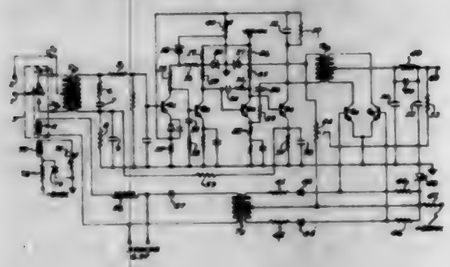
a storage means coupled to the common coupling of the collector of said second transistor amplifier and the bases of said first and second transistor emitter followers whereby input signals are rectified to produce a direct current output proportional to said input signals and said negative feedback varies the emitter bias of said first transistor amplifier to produce high gain for small input signals and low gain for large input signals.

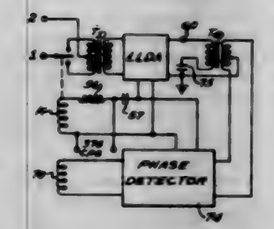
3,145,346

DIRECT-CURRENT AMPLIFIER

Eugene W. Henning, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed Mar. 13, 1961, Ser. No. 95,400
1 Claim. (Cl. 330—9)





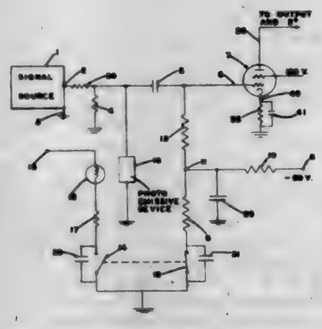
An amplifier for amplifying a direct current signal comprising a synchronous vibrator having a first contact, a second contact, and a transfer contact, a first transformer having a primary winding with a center tap and a secondary winding, means connecting said first and second contacts of said synchronous vibrator to said primary winding of said first transformer, means connecting the direct current signal to said transfer contact of said synchronous vibrator and to said center tap of said primary winding of said first transformer, an alternating current source producing an alternating current signal having a predetermined frequency, a first magnetic coil connected to said alternating current source and mounted on said synchronous vibrator to cause said transfer contact to alternatively engage and disengage said first and second contacts to modulate the direct current signal to an alternating current signal, an amplifier having a series of transistors, each transistor having a base, collector, and emitter electrodes, means connecting said secondary winding of said first transformer to the base of the first transistor of said amplifier, means connecting the collector of each transistor to the base of the succeeding transistor, a second transformer having a primary winding and a secondary winding with a center tap, means connecting the collector of the last transistor in said amplifier to said primary winding of said transformer, a demodulator having two transistors, each transistor having base, collector and emitter electrodes, means connecting said secondary winding of said second transformer to the collectors of said two transistors of said demodulators, means connecting the bases of said two transistors of said demodulators to said alternating current source to alternatively turn said transistors on and demodulate the signal amplified by said amplifier, a low pass filter connected to said center tap of said secondary winding of said second transformer for producing a series of rectified pulses, a phase shifting circuit having an inductance and a capacitor connected between said alternating current source and said demodulator to synchronize said synchronous vibrator and said demodulator, a direct current source, a second magnetic coil mounted on said synchronous vibrator connected to said direct current source for applying a magnetic field to said transfer contact, a third transformer having a primary winding and a secondary winding, means connecting the output circuit of said amplifier to said primary winding of said third transformer, a phase detector, means connecting said secondary winding of said transformer to said phase detector, and means connecting said second magnetic coil to said phase detector to control the magnetic field applied to said transfer contact for compensating for the imbalance of said synchronous vibrator and demodulator.

3,145,347

INTERRUPTER CIRCUIT

Alexander E. Martens, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

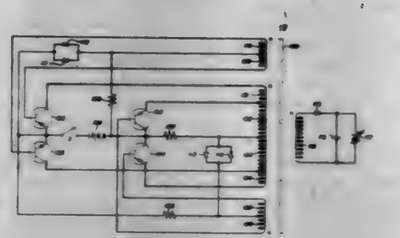
Filed Jan. 2, 1962, Ser. No. 163,456
3 Claims. (Cl. 330—51)



1. A photo interrupter circuit for use with an amplifier stage comprising, a signal source, an amplifier stage, a signal transmitting network connected between said signal source and amplifier stage, a signal shunting means including a photo emissive device connected intermediate said signal transmitting network and a neutral potential,

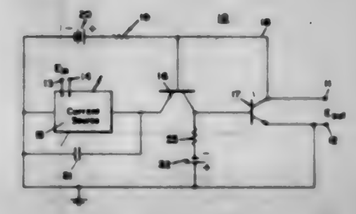
a radiation element having energizing means associated with said photo emissive device, a bias circuit connected to the control element of said amplifier stage including a source of high negative potential, switching means including a first switch selectively and alternatively connecting said bias circuit to a neutral potential and a second switch connecting said radiation element to a neutral potential thereby activating said photo emissive device to simultaneously shunt the signal in said signal transmitting network to a neutral potential while applying a rise in the negative potential on the control element of said amplifier stage as the signal transmission is interrupted.

3,145,348
TRANSISTOR CONVERTER WITH SELF STARTING CIRCUIT
Richard P. Massey, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 21, 1960, Ser. No. 16,248
6 Claims. (Cl. 331—113)



1. In a power supply system, a transformer having a saturable core with first, second, and third windings wound thereon, said first winding having first and second end terminals and third, fourth, and fifth terminals intermediate to said first and second end terminals, said second and third windings each having first and second end terminals and a third terminal intermediate to said first and second end terminals, a source of input potential having first and second terminals, first, second, third, and fourth transistors each having base, collector and emitter electrodes, said first and second transistors capable of passing large currents, said third and fourth transistors capable of passing only small currents, means for connecting the emitter electrodes of said first and fourth transistors to said first terminal of said source of input potential, means for connecting the collector electrodes of said second and third transistors to said second terminal of said source of input potential, means for connecting the collector electrode of said first transistor to the first end terminal of said first winding, means for connecting the emitter electrode of said second transistor to the second end terminal of said first winding, means for connecting the emitter electrode of said third transistor to the third intermediate terminal of said first winding, means for connecting the collector electrode of said fourth transistor to the fourth intermediate terminal of said first winding, means for connecting the base electrode of said fourth transistor to the first end terminal of said second winding, means for connecting the base electrode of said first transistor to the second end terminal of said second winding, means for connecting the base electrode of said second transistor to the first end terminal of said third winding, means for connecting the base electrode of said third transistor to the second end terminal of said third winding, means for connecting the third intermediate terminals of both said second and third windings to the first terminal of said source of input potential, means for connecting the fifth intermediate terminal of said first winding to the second terminal of said source of input potential, and means for connecting the third intermediate terminal of said third winding to the fifth intermediate terminal of said first winding whereby said first and second transistors are rendered simultaneously conductive during intermediate periods and said third and fourth transistors are rendered conductive during intervals separating said periods.

3,145,349
VARIABLE FREQUENCY OSCILLATOR
Douglas W. Turrell, North Wales, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 12, 1962, Ser. No. 187,099
6 Claims. (Cl. 332—16)



1. An oscillator having an output frequency proportional to the magnitude of an applied direct current input, comprising

a pair of transistors of opposite type,

a direct connection between the collector of the second of said transistors to the base of a first of said transistors forming a regenerative feedback connection,

a direct connection between the collector of said first transistor to the base of said second transistor for controlling the conductivity of the latter by the output of the former,

biasing means for normally maintaining non-conductive said second transistor,

an input circuit for said first transistor including in series a variable direct current source of supply, the emitter-base junction of said first transistor, a load resistor and a source of reference voltage of polarity to bias said first transistor to its non-conductive state,

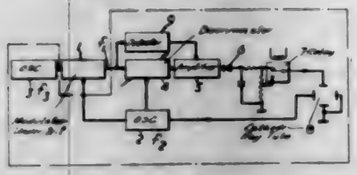
a capacitor connected across said direct current source of supply for receiving a charge therefrom to change the potential applied to said emitter-base junction to render said first transistor conductive when the potential of said capacitor rises to a value at least equal to said reference voltage for flow of current to the base of said second transistor for rendering it conductive,

said regenerative feedback connection thereupon producing operation of said transistors in their fully conductive current saturated states for discharge of said capacitor through a circuit including only the low internal resistances of said current saturated transistors,

the current flowing from said capacitor rapidly decreasing to a value which results in a rise in potential at the collector of said second transistor thereby causing a rise of potential on the base-emitter junction of said first transistor to render it non-conductive until the potential of said capacitor again rises to a value at least equal to said reference voltage, and

means including a connection to the collector of said second transistor for deriving output pulses at said output at a frequency proportional to the magnitude of said direct current input.

3,145,350
MICROWAVE MODULATOR MEASURING SYSTEM
Takaji Kuroda, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed July 15, 1960, Ser. No. 43,092
Claims priority, application Japan July 23, 1959
5 Claims. (Cl. 332—20)



1. A measuring system for determining the modulation characteristics of a frequency modulation device comprising:

(*a*) a first source of oscillations connected to said device for modulating its output over a small portion of its normal operating frequency range,

(*b*) a second source of oscillations, having a frequency lower than that of said first source, connected to said modulation device for further modulating its output over its normal operating frequency range,

(*c*) a variable center-frequency discriminator connected to the output of said device for deriving the variations in the first frequency as modified by the said device,

(*d*) means for deviating the center-frequency of said discriminator in synchronism with the lower frequency oscillations,

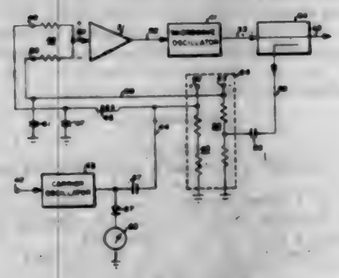
(*e*) a detector connected to the output of said modulation device for detecting amplitude variations in the modulated output,

(*f*) a cathode ray display tube coupled to said discriminator and said detector,

(*g*) means for obtaining the time axis trace of the display tube from said lower frequency oscillations, and

(*h*) means including said detector for eliminating the amplitude modulation component of said first frequency oscillations as modified by said modulator device.

3,145,351
SYSTEM FOR MODULATING POWER LEVEL OF MICROWAVE OSCILLATORS
Frederick W. Kruse, Jr., and Ralph H. Britton, Jr., Palo Alto, Calif., assignors to Alfred Electronics, Palo Alto, Calif., a corporation of California
Filed Aug. 27, 1962, Ser. No. 219,678
14 Claims. (Cl. 332—39)



9. A system for modulating the output power of a microwave device with a modulating signal, said system comprising;

(*a*) carrier oscillator means responsive to said modulating signal and operative to provide an amplitude modulated carrier signal;

(*b*) first bolometer transducer means responsive to said amplitude modulated carrier signal for developing a first transduced signal;

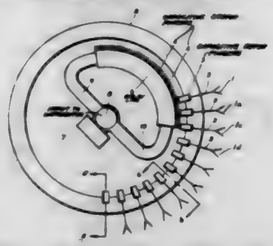
(*c*) a microwave oscillator responsive to an amplified error signal for providing an output power level corresponding to said modulating signal;

(*d*) second bolometer transducer means responsive to the output signal from said microwave oscillator for developing a second transduced signal;

(*e*) means responsive to said first and second transduced signals for deriving an error signal corresponding to the instantaneous difference between said transduced signals; and

(*f*) wideband highgain amplifier means responsive to said error signal for deriving said amplified error signal.

3,145,352
ROTARY DISTRIBUTOR, HAVING TIME-DELAY LINE IN ROTOR, FOR SIMULTANEOUSLY DISTRIBUTING INPUT, AT DIFFERENT DELAYS, TO SPACED STATOR POINTS
Lindsay Russell, Cambridge, Mass., assignor to Andrew Alford, Boston, Mass.
Filed Oct. 8, 1958, Ser. No. 766,643
10 Claims. (Cl. 333—7)



8. Phase shifting apparatus comprising, a plurality of insulatedly separated conducting plates spaced along a path, a tapped delay line having a conducting projection extending from each tap across said path with a group of said projections cooperating with a group of said plates to establish capacitive coupling therebetween, support means for maintaining said conducting plates in fixed relationship, means for maintaining said support means and said delay line in predetermined relatively movable relationship in which said projections and said plates are relatively displaceable along said path to change the composition of at least one of said groups, first means for exchanging energy with said delay line and a plurality of second means for exchanging energy with respective ones of said plates.

3,145,353
VARIABLE DELAY USING DIELECTRIC SCREW ROTATABLE INSIDE SURROUNDING HELICAL TRANSMISSION LINE
William J. Bleackley, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed May 21, 1962, Ser. No. 196,246
10 Claims. (Cl. 333—24.2)

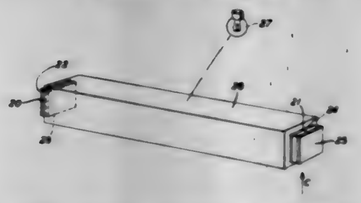
1. A microwave device comprising a cable having an inner and an outer conductor separated by a first dielectric material, said cable being in the form of a cylindrical helix of a predetermined pitch and having a central axis, said outer conductor and said first dielectric material having a chordal recess extending along said cable from end to end of said helix, the wall of said recess passing adjacent said inner conductor and constituting an interior

surface of said helix, and a worm core of a second dielectric material having a pitch of substantially said predetermined pitch and a longitudinal axis, said core being mounted within said helix for rotation about said longitudinal axis with said longitudinal and central axes being coinci-



dent between a first position in which the teeth of the core are substantially opposite the inner conductor of said cable and a second position in which the teeth of the core are substantially between adjacent turns of said inner conductor, the outer periphery of said core fitting snugly within said interior surface.

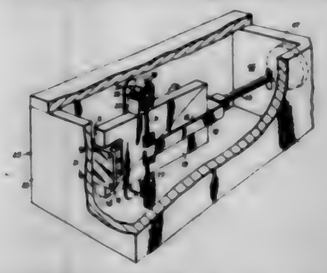
3,145,354
CIRCUIT ELEMENT
Andrew R. Hutson, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 20, 1960, Ser. No. 23,441
2 Claims. (Cl. 333—30)



1. A circuit element comprising in succession a first piezoelectric transducer, a conductivity modulable piezoelectric ultrasonic transmitting element of a material having a maximum room temperature resistivity of 10^{12} ohm-cm., the resistivity of the said material being in part dependent upon the amount of radiation impinging thereon, and a second piezoelectric transducer so arranged that an electric field applied across the said first piezoelectric transducer results in an ultrasonic signal which is transmitted through the said ultrasonic transmitting element and into the second piezoelectric transducer, so resulting in an electrical field across the said second transducer, and in which the direction of ultrasonic propagation through the said ultrasonic element is such as to result in a piezoelectric field in that element together with means for varying the illumination incident on a surface of the said ultrasonic transmitting element in such manner as to vary the electrical resistivity, the variation in electrical resistivity resulting in an attendant change in the velocity of propagation of an ultrasonic wave through the said ultrasonic element.

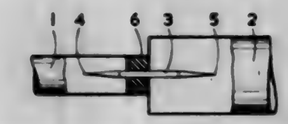
3,145,355
VARIABLE ULTRASONIC DELAY LINE
Holden P. Wright, Bolton, Conn., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Sept. 20, 1961, Ser. No. 139,454
3 Claims. (Cl. 333—30)

1. A solid variable ultrasonic delay line comprising an acoustic transmitting medium consisting of a first and a second generally wedge-shaped element disposed in intimate contact with each other to form a parallelepiped having an inclined interface formed therein and a pair of parallel opposing surfaces, the velocity of propagation of acoustic energy in the first wedge-shaped element being different from the velocity of propagation of acoustic energy in the second wedge-shaped element, a transmitting and a receiving acoustic transducer, and means for slidably mounting the transmitting and receiving acoustic



transducer respectively on separate ones of the pair of parallel opposing surfaces whereby acoustic energy from the transmitting transducer is coupled to the acoustic transmitting medium, refracted at the interface therein and directed to the receiving transducer, the time taken being a function of the position of the transmitting and the receiving transducer on the parallel opposing surfaces.

3,145,356
DIFFERENT SIZED WAVEGUIDES COUPLED BY A NARROW TAPERED DIELECTRIC ROD
Peter John Bell Clarricoats, Belfast, Northern Ireland, assignor to National Research Development Corporation, London, England, a British corporation
Filed Oct. 6, 1961, Ser. No. 143,499
Claims priority, application Great Britain Oct. 11, 1960
3 Claims. (Cl. 333—34)

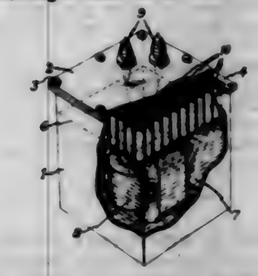


1. Apparatus for coupling together two electromagnetic waveguides of different cross-sectional dimensions comprising a rod of dielectric material extending between the two waveguides, the rod having such cross-section and permittivity that the wavelength of electromagnetic energy propagated in the rod is less than the wavelength of such energy in free space and in which the cross-section of the rod is sufficiently large to permit substantially the whole of the energy of a wave transmitted across the coupling to be concentrated in the rod, without being so large relative to the cross-section of the smaller waveguide as to allow the walls of said smaller waveguide to appreciably affect the propagation characteristics of the energy concentrated in the rod, whereby wave energy may be propagated through said coupling in either sense.

3,145,357
EXPANSION CHAMBER FOR ORIENTING LIQUID LEVEL
Nicholas A. Gettino, Syracuse, and Arthur F. Murphy, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 10, 1961, Ser. No. 122,903
2 Claims. (Cl. 336—94)

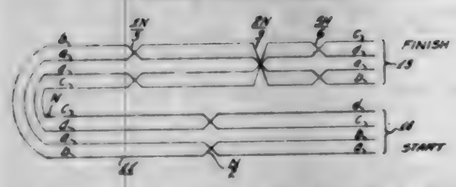
1. In combination, electrical apparatus, an enclosing casing for said apparatus, insulating and cooling liquid in said casing, said casing having a normal position in which

the level of said liquid is above said apparatus, expansion space in said casing above the normal level of said liquid, and means for maintaining a relatively fixed orientation of said apparatus and the effective level of said liquid when said casing is tilted away from said normal posi-



tion comprising a plurality of hollow cells extending from the top of said casing to the vicinity of the normal level of said liquid, said cells being closed at the top and open at the bottom, said cells collectively substantially filling said expansion space.

3,145,358
WINDING TRANSPOSITION
William C. Sealey, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 25, 1961, Ser. No. 105,477
5 Claims. (Cl. 336—187)



1. A cylindrically wound electrical winding in an induction apparatus, said winding comprising two layers of first and second pairs of stacked conductors transposed 180° at predetermined turns to occupy different height positions within a layer and said conductors in each said pair being further transposed 180° at predetermined turns to occupy different height positions within a layer, each said conductor disposed in less than all eight positions of said two layers and having equal flux linkage.

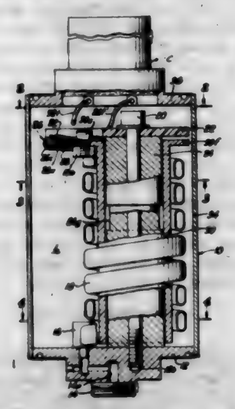
3,145,359
HELICAL BOURDON TUBE PRESSURE POTENTIOMETER
Robert C. Parkinson, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Apr. 13, 1964, Ser. No. 359,144
7 Claims. (Cl. 338—40)

1. A helical Bourdon tube pressure potentiometer comprising:

first means, including housing means providing an enclosed chamber and stationary means providing an elongate rigid member presenting an elongate stationary cylindrical surface disposed around an axis;

second means, including an axially rotatable member presenting a second elongate cylindrical surface concentric with said stationary cylindrical surface and spaced therefrom a small determined extent whereby to provide a rotary bearing relationship between said movable member and said stationary means;

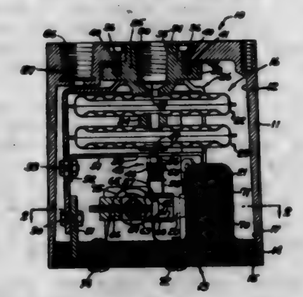
third means, including a helical Bourdon tube having a free end and a fixed end and disposed substantially coaxially with either of said cylindrical surfaces, said third means including means anchoring the fixed end of said Bourdon tube to said housing means and having provision for admission of fluid under pressure into the interior of the Bourdon tube, said third means including means sealing the free end of the Bourdon tube and securing the same to said rotatable member for rotational movement therewith about said axis;



fourth means, including fluid lubricating and damping means substantially immersing said Bourdon tube and disposed between said cylindrical surfaces to lubricate and dampen relative movements therebetween; and

fifth means, including potentiometer means comprising a first component affixed to said first means and a rotatable component affixed to said rotatable member to rotate therewith in contact with said first component to provide electrical repersentations of changes of pressure exhibited by fluid admitted to the Bourdon tube, and terminal means for said potentiometer means.

3,145,360
ELECTRIC PRESSURE-RESPONSIVE INSTRUMENT
Marian E. Bourns and Marvin E. Harrison, both of Riverside, Calif., assignors to Bourns, Inc., a corporation
Filed July 6, 1962, Ser. No. 207,940
14 Claims. (Cl. 338—41)



1. A pressure-responsive instrument comprising: first means, including a pressure-sensitive cell expansible and contractible in response to changes in the difference between pressures exhibited by fluids inside and outside the cell, and said cell including a portion movable substantially rectilinearly in response to changes in said difference between pressures, said first means including supporting means;

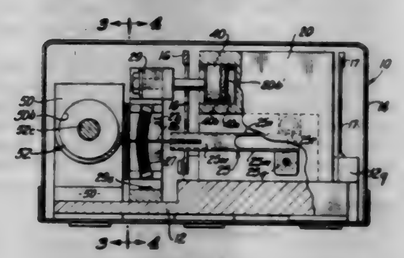
second means, comprising a rotatable member disposed for rotation about an axis generally transverse of the line of motion of said rectilinearly-movable portion of said cell, and means supporting said member on said supporting means;

third means, comprising a headed member adjustably affixed to said rotatable member for adjustment along an axis generally transverse to the axis of rotation of said rotatable member and having a circular head having a spherical surface;

fourth means, comprising rectilinearly movable means affixed to said portion of said cell for rectilinear movements therewith, said rectilinearly movable means comprising means engaging said spherical surface for rotating said head through an adjustable angle about the axis of rotation of said rotatable member incident to any prescribed expansion and contraction of said cell; and

fifth means, including a variable resistor comprising a contact member and a resistance element, one of the latter being affixed to said supporting means and the other to said rotatable member and positioned to wipe the other.

3,145,361
POTENTIOMETRIC TRANSDUCER
Robert C. Parkinson, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Apr. 16, 1964, Ser. No. 360,342
4 Claims. (Cl. 338—46)



1. An acceleration-sensing potentiometer comprising:

first means, including frame means adapted to be subjected to acceleration;

second means, including resilient spring means attached to said frame means and an inertial mass means resiliently supported by said spring means for movement in either of opposite directions relative to said frame means incident to acceleration of said frame means in one of said directions;

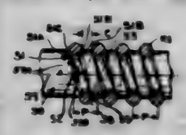
third means, including a potentiometer having electrical elements including a resistance element and a resilient wiper contact element said elements arranged for brushing interengagement and one of said electrical elements being supported by said frame means to move therewith and the other of said electrical elements being connected to said inertial mass for movement thereby to cause brushing coaction between said elctrical elements;

fourth means, including energizable electromagnet means having an armature means and auxiliary means whereby the armature means assumes first and second positions incident to energization and subsequent de-energization; and

fifth means, including mechanical means operated by said fourth means, movable to first and second positions by said fourth means in response to energization and de-energization of said electromagnet means, said mechanical means incident to movement to one of said positions engaging one of said electrical elements and moving it out of brushing interengagement with the other of said electrical elements and incident to movement to the other of said positions moving out of engagement with said one of said electrical elements and thus permitting return of said electrical elements into brushing interengagement,

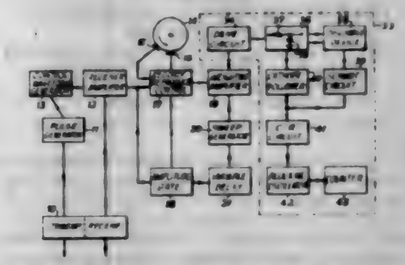
whereby brushing interengagement of said electrical elements can be controlled by said third means and restricted to time intervals during which sensing of acceleration of said first means is desired and whereby wear of said electrical elements during intervening time intervals is avoided.

3,145,362
ELECTRICAL RESISTANCE DEVICE
Lowell A. Kleven, Minneapolis, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Original application Jan. 4, 1961, Ser. No. 80,657, now Patent No. 3,107,950, dated Oct. 22, 1963. Divided and this application Jan. 21, 1963, Ser. No. 252,917
4 Claims. (Cl. 338—303)



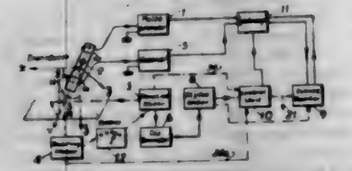
3. The combination comprising a cylindrical support having a spiral groove in the outer cylindrical surface thereof, said groove having a bottom and being outwardly divergent and characterized in that the intersection of the walls of the groove and a plane through the axis of the cylindrical support define lines which intersect each other at said axis and form equal and opposite angles with reference to said axis, and a spiral element composed of a rod of material different from the material composing the support, said rod having a cross-sectional shape and a size so as simultaneously to engage opposed sidewalls of the groove.

3,145,363
ECHO-SOUNDING EQUIPMENT
Roy William George Haslett, Hillington, Glasgow, Scotland, assignor to Kelvin & Hughes Limited, Hillington, Glasgow, Scotland, a British company
Filed Mar. 15, 1961, Ser. No. 95,962
Claims priority, application Great Britain Mar. 21, 1960
8 Claims. (Cl. 340—3)



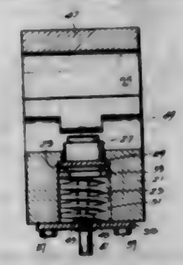
1. Echo-sounding equipment for the detection of fish having ultrasonic generating and receiving apparatus for transmitting pulses of ultrasonic wave energy into the sea and converting wave energy reflected from objects in the sea into electrical echo signals, a receiver amplifier connected to the said apparatus to amplify the echo signals, a correction circuit connected to apply an amplitude-correction waveform to the receiver amplifier to vary the amplification of the echo signals in accordance with the range from which they are received in such a manner as to compensate for the spread of the transmitted wave energy and its absorption in the sea, a selection circuit adapted to select from the echo signals a reference trigger signal originating from a reference depth, a weighting circuit connected to said selection circuit and responsive to the reference trigger signal to generate a weighting control waveform representative of the dependence of the probability of catch on depth and to modify the echo signals in accordance with this weighting signal, and an indicator constructed to indicate the accumulated magnitude of the echo signals which have been amplified by the receiver amplifier and supplied to said indicator by said weighting circuit.

3,145,364
ULTRASONIC SUBMARINE SOUNDING EQUIPMENTS
Alexandre Boudigues, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed July 6, 1961, Ser. No. 122,334
Claims priority, application France July 19, 1960
5 Claims. (Cl. 340—3)



1. An ultrasonic sounder comprising means for transmitting sonic signals, means for receiving echoes of said signals, means for scanning a predetermined area in elevation and in bearing by means of said signals, a single recording tape and stylus means for recording on said tape said elevation and bearing, and said echoes, means for driving said stylus along a path transversal to said tape at a speed proportional to the cosine of the elevation angle; and means for energizing said stylus in synchronism with said scanning elevation and said scanning in bearing respectively during its successive travels through a first and a second portion of said path and for applying thereto said echoes during its successive travels through the remainder of said path.

3,145,365
ACOUSTIC WATER PATH SIMULATOR
Richard K. Jacobs, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 26, 1962, Ser. No. 247,414
4 Claims. (Cl. 340—5)



1. An apparatus for simulating an acoustic water path between the transmitting and receiving posts of sonar equipment a fixture for securing a transducer to a pressure sensitive portion of either post said fixture comprising:

(*a*) an integral retaining ring secured to the circumference of the transducer;

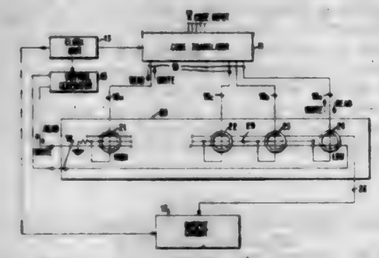
(*b*) a housing having a bore with a reduced diameter portion which forms an internal annular shoulder, the dimensions and disposition of the transducer, its retaining ring, the bore and its shoulder being such that when the transducer is positioned in the bore and the upper surface of its retaining ring will engage the shoulder and the pressure sensitive portion of the transducer extends a predetermined distance above the upper surface of the housing;

(*c*) means for biasing the transducer toward its extended position above the upper surface of the housing;

(*d*) a concave member hinged to the upper surface of the housing, the concavity of said member being such that it substantially follows the convex curvature of the post;

(*e*) and means for clamping and securing the post between the concave member and the housing.

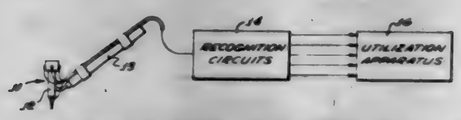
3,145,366
COMPARING MATRIX
Holger R. Jensen, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1961, Ser. No. 121,025
7 Claims. (Cl. 340—146.2)



7. A matrix for comparing two sequentially received factors comprising, in combination, a plurality of bistable magnetic cores; input lines for receiving bilateral current pulses of one-half select current amplitude in a one-out-of-*n* code representative of a factor to be compared; each of said input lines being energized to indicate receiving a factor of a respective value, a clock means for providing timing periods, said input lines arranged to be energized by a half-select current flowing in one direction during a first time period and a half-select current flowing in the opposite direction during a second time period, each said input line being wound in a first direction through a respective core to tend to shift the core toward one stable state in response to a current flow therethrough and being wound in an opposite direction through the cores receiving the higher valued factors inputs to tend to shift said higher valued cores toward the other stable state in response to the same current flow; a common control line and a common sense line wound through each of said cores; said control line being arranged to receive current pulses of a half-select amplitude during a first period to tend to set the cores to one stable state, no current pulses during a second time period, current pulses of a half-select amplitude during a third and a fourth period to tend to set the cores to an opposite stable state and a full select current pulse during a fifth period to set the cores to said opposite stable state; said clock means being effective to synchronize

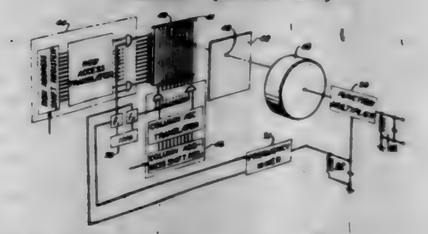
the factor inputs and said control current pulses to determine the timing period during which said output sensing circuits are activated; whereby, if the factor entered into the comparing matrix during one time period is of a higher value than a factor entered into the core matrix during a succeeding period an output will be obtained during a first clock time period if the two factors are of equal value an output will be obtained during a first clock time period, and if the second factor is of a lower value than the second an output will be obtained during a third clock time period.

3,145,367
CHARACTER RECOGNITION CIRCUIT
Hewitt D. Crane, Palo Alto, Calif., assignor to Stanford Research Institute, Palo Alto, Calif., a corporation of California
Filed July 27, 1959, Ser. No. 829,639
6 Claims. (Cl. 340—146.3)



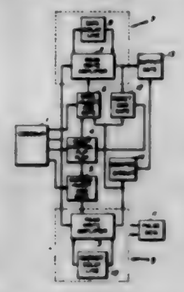
1. A system for recognizing a character being written by a writing instrument on a writing medium comprising a plurality of signal-generating means, means for energizing a separate one of said signal-generating means for each different direction moved by said writing instrument while writing a character to establish a unique energization sequence of said signal-generating means for each character, a different recognition means for each character for providing a recognition signal responsive to receiving the outputs of the signal generators energized in the unique sequence for each said character, and means for applying to the recognition means for each character the outputs of the signal generators uniquely energized when said character is written.

3,145,368
ELECTROLUMINESCENT STORAGE AND READOUT SYSTEM
Charles W. Hoover, Jr., Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 16, 1959, Ser. No. 853,843
8 Claims. (Cl. 340—173)



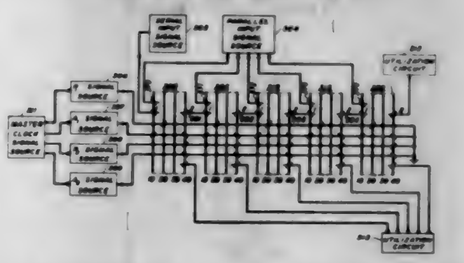
1. An information storage and read-out system comprising an electroluminescent device having access conductors arranged in rows and columns and defining a plurality of access crosspoints, means for selecting a row and a column conductor, means for applying an input signal at a first frequency to the selected row conductor, means for applying an input signal at a second frequency to the selected column conductor, an informaion storage slide positioned to receive light from said electroluminescent device, light-sensitive means for generating electrical signals in response to the light transmitted from said electroluminescent device through said slide, and a tuned circuit connected to said light-sensitive device and resonant at one of te distinct frequencies of light emitted from the crosspoint of said selected access row and column conductors.

3,145,369
MAGNETOSTRICTIVE STABILITY DEVICE
James A. Perachy, Silver Spring, Md. (1508 E. Crestview Drive, Laurel, Md.)
Filed May 31, 1962, Ser. No. 199,069
3 Claims. (Cl. 340—173)



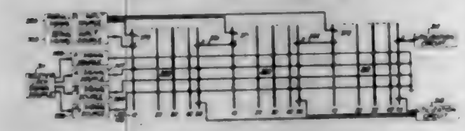
1. In a recirculating memory system of the type employing a magnetostrictive delay line for storing a plurality of data bits, a read transducer, and a write transducer, a stability device therefore, comprising, means for generating basic timing signals, each of said signals having an enabling period and an inhibiting period, an inverter connected to said timing means for generating an inverted timing signal having an inhibiting period corresponding to said enabling period of said basic timing signal and an enabling period corresponding to said inhibiting period of said basic timing signal, means for storing successive data bits during said enabling period of said basic timing signal and said corresponding inhibiting period of said inverted timing signal, a first gating means responsive to said read transducer and said inverter for passing data bits to said storing means during the enabling period of said inverted timing signal, and a second gating means responsive to said storing means and said generating means for removing the input to said write transducer from said storing means during the inhibiting period of said basic timing signal, whereby said write transducer rewrites the retimed data bit into said delay line.

3,145,370
MULTIAPERTURED MAGNETIC CORES
Umberto F. Gianola, Florham Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 25, 1962, Ser. No. 204,682
5 Claims. (Cl. 340—174)



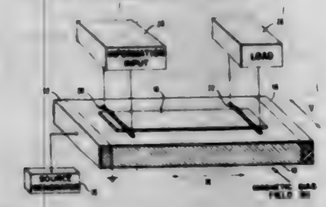
1. In combination in a magnetic shift register circuit, a plurality of cores arranged in a linear array, each of said cores being made of a rectangular hysteresis loop material and having three apertures therethrough which define four substantially parallel flux-carrying legs including an input leg and an output leg, means for setting said cores to an initial binary representation, inter-core winding means characterized by a step-down turns ratio coupling the output leg of one core to the input leg of the next adjacent core of said array, and four-phase clock signal means coupled to said cores for advancing said initial representation from core to core in a digit-by-digit manner, said four-phase clock signal means including first winding means comprising a winding inductively coupled in a first winding direction to the leg immediately adjacent the input leg of each core of said array, said four-phase clock signal means further including second winding means comprising a winding inductively coupled in the first winding direction to the input leg of each core of said array and a winding inductively coupled in the opposite winding direction to the output leg of each core of said array.

3,145,371
MULTIAPERTURED MAGNETIC CORES
Umberto F. Gianola, Florham Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 25, 1962, Ser. No. 204,683
13 Claims. (Cl. 340—174)



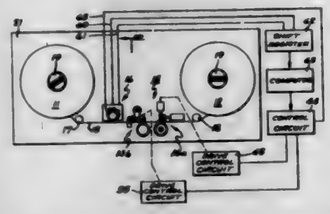
1. In combination in a magnetic shift register circuit, a plurality of cores arranged in a linear array, each of said cores being made of a rectangular hysteresis loop material and having four apertures therethrough which define five substantially parallel flux-carrying legs including an input leg and an output leg, means for setting said cores to an initial binary representation, inter-core winding means coupling the output leg of one core to the input leg of the next adjacent core of said array, and four-phase clock signal means coupled to said cores for advancing said initial representation from core to core in a digit-by-digit manner.

3,145,372
MAGNETOSTRICTIVE THIN FILM DELAY LINE
James C. Sults, Mount Kisco, and Arthur M. Yelon, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1962, Ser. No. 219,656
8 Claims. (Cl. 340—174)



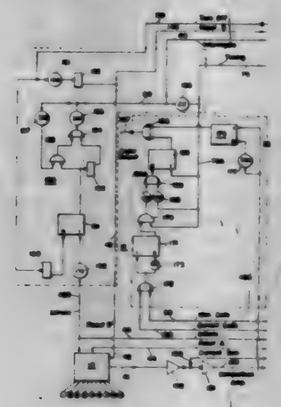
1. An information control circuit comprising:
an elongated planar biaxial anisotropic thin magnetic film having a first easy axis of remanent flux orientation transverse with respect to the longitudinal axis thereof and a second easy axis of remanent flux orientation along the longitudinal axis of said film;
said film exhibiting a first mechanically induced anisotropy directed along the first easy axis of said film and a second mechanically induced anisotropy directed along the second easy axis of said film in response to mechanical tension and compression applied along its longitudinal axis,
first means coupled to said film for propagating alternate stresses of compression and tension along the longitudinal axis of said film having a magnitude sufficient to orient the magnetization of each portion stressed along the first or second axis of induced anisotropy;
means for applying a magnetic bias field in the plane of said film directed along the first easy axis, coincidently operative, when any portions of said film exhibits said first mechanically induced anisotropy, to establish said portions in a datum stable state of magnetization along the first easy axis; and
circuit means coupled to different portions of said film for entering and providing an output for a binary value comprising;
an input circuit coupling a first portion of said film, operative when said first portion exhibits said second mechanically induced anisotropy, for applying a field directed along the second easy axis thereof to conjointly establish said first portion in one or an opposite stable state along said second easy axis to thereby define different binary values.

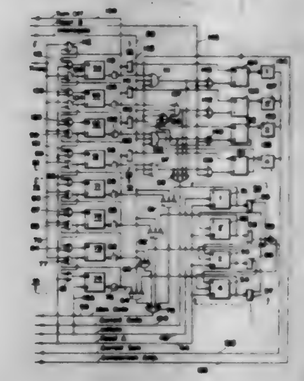
3,145,373
TAPE DRIVE AND INDEXING SYSTEM
Dennis D. Willard, Los Angeles, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 12, 1962, Ser. No. 230,873
4 Claims. (Cl. 340—174.1)



4. The combination of a computer having error detecting circuitry in the input circuit thereof, and a recording-reproducing device that includes a tape drive system for effecting the incremental advance of a tape medium along a predetermined path of travel and relative to a read-write head assembly of the recording-reproducing device, comprising:
a first drive unit disposed along the path of travel of the tape for advancing the tape in incremental steps corresponding substantially to individual bit positions at a first advancing rate;
a second drive unit disposed along the path of travel of the tape adjacent to said first drive unit for advancing the tape in steps corresponding to the length of the character information recorded thereon at a second advancing rate;
first circuit means responsive to a first signal for actuating said first drive unit to effect the initiation of the bit by bit advance of the tape; and
second circuit means electrically connected to the head assembly of the recorder-reproducer and responsive to signal information derived for rendering the first drive unit ineffective and for rendering said second drive unit effective during which period character information is derived from the tape.

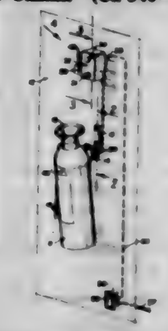
3,145,374
HIGH-SPEED MEASURING SYSTEM
Reuben H. Benner 2nd, Haddonfield, N.J., and Albert J. Williams, Jr., Philadelphia, Pa., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1958, Ser. No. 767,908
13 Claims. (Cl. 340—183)





1. A system including means for converting successively sampled magnitudes of the output of each of a plurality of condition-responsive devices into binary-coded pulse groups of type in which the two binary values are respectively represented by absence and presence of a pulse, means for producing for each sampled output of said condition-responsive devices binary-coded pulse groups of the aforesaid type for identification of the sampled one of said condition-responsive devices, and code-converter means responsive to the aforesaid binary pulse groups for producing between successive samplings a first group of electrical pulses whose number is the same for all of said devices and the duration of whose individual pulses is of one or the other of two finite values, the duration of the successive pulses of said first group defining a pattern uniquely identifying the device whose output has been sampled and for producing a second group of successive electrical pulses whose number is the same for all output magnitudes of the condition-responsive devices and the duration of whose individual pulses is of one or the other of two finite values, the durations of the successive pulses of said second group defining a pattern uniquely representative of the magnitude of the sampled output.

3,145,375
FIRE EXTINGUISHER WARNING SYSTEM
Vera B. Webb, Midvale, Utah
(4348 Detroiter Circle, Murray, Utah)
Filed May 29, 1961, Ser. No. 113,441
9 Claims. (Cl. 340—280)



1. In combination with a fire extinguisher and a hanger means for the same, a warning system adapted to indicate the presence, removal and return of a fire extinguisher on, from and to its hanger by emanation of selected, distinctive signals, and compriaing:

(*a*) a two-way switch having a switch leg associated with the hanger means and being adapted to close with a first contact when the fire extinguisher is on the hanger and to close with a second contact when the fire extinguisher is removed from the hanger;

(*b*) a two-lead power supply, having a first lead connecting with said switch leg and having a second lead bifurcated to form two circuit loops with a first circuit being connected with said first contact and with a second circuit being connected with said second contact, whereby movement of the switch leg onto the first contact energizes the first circuit and movement of the switch leg onto the second contact energizes the second circuit;

(*c*) a pulsing means and a first light in said first circuit with the pulsing means being adapted to flash the light when the switch leg closes against said first contact to energize the said first circuit;

(*d*) a second light in said second circuit adapted to burn steadily when the switch leg closes against said second contact to energize the said second circuit;

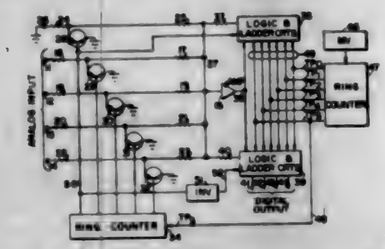
(*e*) a holding lead shunting the switch leg and said second contact of the two-way switch;

(*f*) a normally open holding switch in the holding lead adapted to remain closed once it is closed; and,

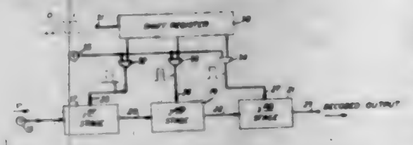
(*g*) a closing means therefor in said second circuit to close the holding switch whenever the said second circuit is energized.

3,145,376
ANALOG TO DIGITAL SIGNAL CONVERSION
Gerard Currie, Santa Clara, Calif., assignor to General Precision, Inc., Binghamton, N.Y., a corporation of Delaware
Filed Mar. 14, 1960, Ser. No. 14,874
11 Claims. (Cl. 340—347)

9. Apparatus for converting analog signals representative of numerical quantities into digital signals corresponding to the quantities, said apparatus comprising an input switching means, an amplifier having an input summing point, and a first digital ladder circuit and a second digital ladder circuit both coupled to the summing point of the amplifier, said input switching means including a plurality of impedance coupling devices each operable to pass a corresponding one of the analog signals to the summing point of the amplifier, a controllable conduction device coupled to each of the impedance coupling devices for selectively disabling the impedance coupling devices and blocking the analog signal from the summing point of the amplifier, a digital counter circuit coupled to each of the controllable conduction devices and operable to render non-conductive the controllable conduction devices in a sequential order, a first of the impedance coupling devices being coupled to a point of reference potential whereby the reference potential is impressed upon the summing point of the amplifier to initiate a cycle of operation, the first digital ladder circuit being responsive to signals from the amplifier and being operable to develop a correction voltage at the summing point to correct any error resulting from the input switching means and the amplifier, the second digital ladder circuit being responsive to signals from the amplifier and being operable to impress a voltage in accordance with a digital numbering system upon the summing point and being further operable to develop a digital output signal in accordance with the voltage impressed upon the summing point of the amplifier.

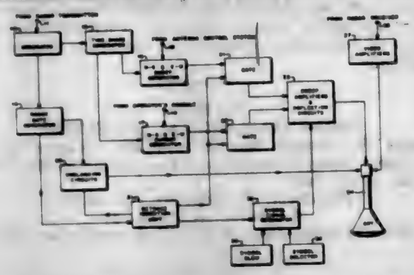


3,145,377
DIGITAL GRAY CODE TO ANALOG CONVERTER UTILIZING STAGE TRANSFER CHARACTERISTIC-TECHNIQUES
Frederick A. Seal, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 16, 1962, Ser. No. 210,166
4 Claims. (Cl. 340—347)



1. Translating apparatus for converting information in the form of a group of *n* digits into an electrical quantity whose amplitude is related to the value of said group of digits which comprises, in combination, *n* translating stages, each being provided with a digit input, an analog input and an analog output and each being characterized in that the signal appearing at the analog output of each stage is functionally related to the signal applied to the analog input by a first relationship whenever the digit applied to said digit input is a first symbol and by a second relationship whenever the applied digit is a second symbol, circuit means for connecting said stages in a tandem configuration, the analog output of one stage being connected to the analog input of the next stage, input means for applying each of said *n* digits to the digit input of the respective one of said *n* stages, and output means connected to the analog output of the last stage in said tandem configuration of stages for delivering a signal whose amplitude is representative of the value of said group of *n* digits.

3,145,378
RETRACE INSERTION SYSTEM
William F. Lyons, Jr., Chalfont, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 30, 1960, Ser. No. 18,774
21 Claims. (Cl. 343—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for use with a cathode ray tube indicator provided with a beam deflection control means and a beam intensity control means comprising: a gate generator providing a gate signal, a first terminal coupled to said gate generator; trigger generating means coupled to said first terminal operable to generate a pulse upon termination of the gate signal; first pulse generating means coupled to said trigger generating means operable to generate a first square wave of selected duration initiating with the generation of said trigger pulse; second pulse generating means coupled to said first pulse generating means operable to generate a second square wave of selected duration initiating upon termination of said first square wave; a second terminal coupled to said second pulse generating means and coupled to said beam intensity control means; third pulse generating means coupled to said trigger generating means and to said second pulse generating means operable to generate a third square wave initiating with the generation of said trigger pulse and terminating with the termination of said second square wave; third terminal means coupled to said third pulse generating means and coupled to said beam deflection control means.

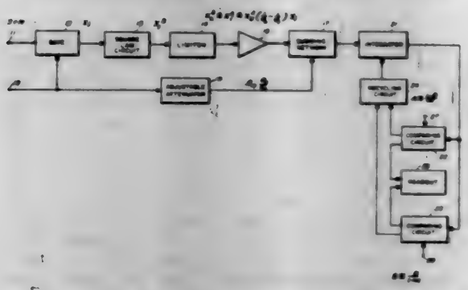
7. In a radar indicating system including a gate generator and a cathode ray tube indicator coupled through a beam intensity control means to said gate generator and having a beam deflection system coupled to a beam deflection control means, the apparatus improvement which comprises: a first terminal coupled to said gate generator; trigger generating means coupled to said first terminal operable to generate a pulse upon termination of the gate signal; first pulse generating means coupled to said trigger generating means operable to generate a first square wave of selected duration initiating with the generation of said trigger pulse; second pulse generating means coupled to said first pulse generating means operable to generate a second square wave of selected duration initiating upon termination of said first square wave; a second terminal coupled to said second pulse generating means and coupled to said beam intensity control means; third pulse generating means coupled to said trigger generating means and to said second pulse generating means operable to generate a third square wave initiating with the generation of said trigger pulse and terminating with the termination of said second square wave; a third terminal coupled to said third pulse generating means and coupled to said beam deflection control means; a fourth terminal coupled to said third pulse generating means; a sine wave oscillator including a triode and a tuned oscillatory circuit coupled in series with a cathode resistor between the cathode of said triode and a point of reference potential; circuit means coupling the grid of said triode to said fourth terminal; a fifth terminal; circuit

means coupling said fifth terminal to said tuned circuit; sixth and seventh terminals coupled to the deflection system of said cathode ray tube; first phase shifting means comprising a resistor connected between said fifth and sixth terminals and a capacitor connected between said sixth terminal and said point of reference potential; second phase shifting means comprising a capacitor connected between said fifth and seventh terminals and a resistor connected between said seventh terminal and said point of reference potential; and means to disable said oscillator.

3,145,379
SEQUENTIAL SIGNAL DETECTOR

James W. Caspers, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 27, 1960, Ser. No. 58,855
4 Claims. (Cl. 343—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



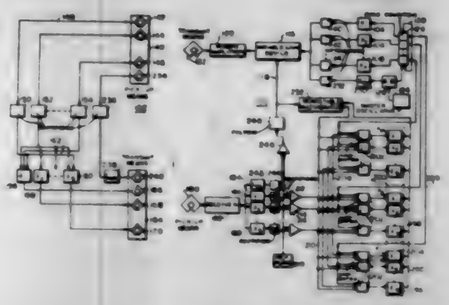
1. A sequential signal detector comprising a signal input terminal adapted to be connected to the output of a radar system receiver, gating means connected to said signal input terminal, said gating means operable to gate any signal applied to said signal input terminal, a square law responsive means connected to the output of said gating means, limiting means connected to the output of said square law responsive means, a summing network connected to the output of said limiting means for summing a predetermined signal with the output of said limiting means, integrating means connected to the output of said summing means, target presence determining means connected to the output of said integrating means, said target presence determining means operable to generate a first pulse if the output of said integrating means reaches a first predetermined level and a second pulse if the output of said integrating means reaches a second predetermined level, and recycling means having an input connected to said target presence determining means and an output connected to said integrating means, said recycling means operable upon receiving either pulse from said target presence determining means to recycle said integrating means to a start condition.

3,145,380
SIGNALLING SYSTEM

Gerard Carrie, Santa Clara, Calif., assignor to General Precision, Inc., a corporation of Delaware

Filed Oct. 24, 1958, Ser. No. 769,406
16 Claims. (Cl. 343—6.5)

10. An interrogator responder signalling system comprising a plurality of interrogators and a plurality of passive responders, said interrogators and responders being capable of relative motion with respect to each other, each interrogator including a means for generating a cyclically repeating sequence of successive interrogator signals of different frequencies, each responder including means responsive to selected ones of said sequence of pulse interrogator signals when said responder and an interrogator move into spaced relation with each other, said responder including means for generating simultaneous pulse coded signals in response to the selected ones of said sequence of pulsed interrogator signals, said

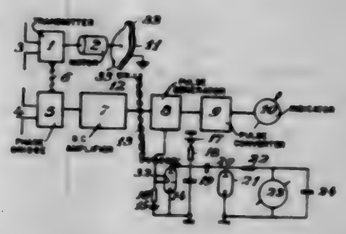


interrogator further including a receiver means for receiving the simultaneous pulse coded signals from the responder, said receiver means being operable to generate a separate output signal for each pulse of said simultaneous pulse coded signals.

3,145,381
DISTANCE MEASURING SYSTEM

Friedrich Hans Gustav Robert Herz, 42 Machnower Strasse, Berlin-Zehlendorf, Germany

Filed July 24, 1958, Ser. No. 750,682
Claims priority, application France, Dec. 31, 1957, 755,024, Patent 1,349,853
3 Claims. (Cl. 343—14)



1. A system for measuring the distance between a location and a distant object comprising, means for generating oscillations including means for periodically varying the frequency of oscillations substantially linearly with respect to time between a predetermined upper and lower frequency, means for radiating the oscillations, a network responsive to the simultaneous application to its input of reflected signals from the object and the varying frequency oscillations from the generator to produce output signals at each occurrence of a predetermined phase difference between the reflected signals and the varying frequency oscillations, voltage generating means normally operative upon energization thereof for generating a voltage which increases in amplitude with respect to time, means responsive to the output signals from the network for terminating generation of the voltage whereby a sawtooth voltage is produced between two successive signals from the output of the network, and cyclically operating means controlled by the means for repeatedly varying the frequency of oscillations at the respective upper and lower frequency for terminating the generated voltage.

3,145,382
MICROWAVE REFLECTOR

William R. Cuming, Sharon, and Elery F. Buckley, Concord, Mass., assignors to Emerson & Cuming, Inc., Canton, Mass., a corporation of Massachusetts

Filed Aug. 21, 1961, Ser. No. 132,960
1 Claim. (Cl. 343—18)

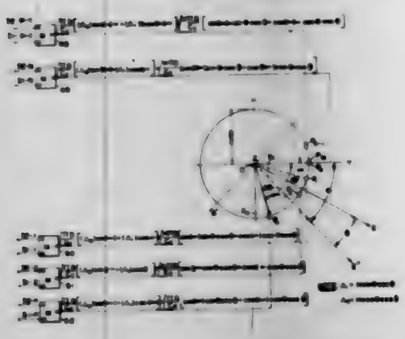


Microwave directive apparatus, comprising a spherical tank having a dielectric constant of about 2.4 filled with a liquid having a dielectric constant of about 2.4, a heat exchanger having connections to said tank, and means for circulating liquid from said tank through said heat exchanger to remove heat generated by electrical dissipation in said tank.

3,145,383
SIGNAL SYNTHESIZER SYSTEM

Bruce K. Nelson, Concord, William P. Goldberg, Woburn, and Maurice B. Haskam, Waltham, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Feb. 23, 1960, Ser. No. 11,406
12 Claims. (Cl. 343—100)

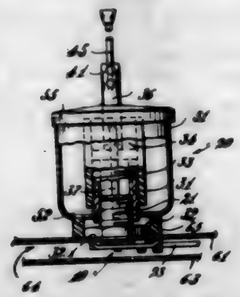


1. A signal synthesizing system for controlling the direction of propagation of an antenna array comprising a plurality of radiators in a predetermined arrangement with respect to a three dimensional coordinate system having a plurality of axes comprising: means for developing phase related signals, the phase angles of which are determined by the product of the direction cosines, with respect to each of the axes of the coordinate system, of two vectors, one extending from the origin of the coordinate system to the radiators and the other extending from the origin in the direction of propagation; and means for intermodulating phase related signals associated with each axis for developing output signals having phase angles which are determined by a function of the phase angles of the intermodulated phase related signals.

3,145,384
ELECTRICAL MOUNTING FOR SUPPORTING AN ANTENNA AND COUPLING CIRCUIT

Andrew C. Nuttle, Manchester, N.H., assignor to Gam Electronics, Inc., Manchester, N.H., a corporation of New Hampshire

Filed Jan. 16, 1962, Ser. No. 166,550
8 Claims. (Cl. 343—749)



1. A device for mounting electrical apparatus on the outside of a perforated sheet with connection through the perforation to electrical conductor means on the other side where only restricted space is available, comprising:
an oblong backing plate;
an inner connector sleeve fastened to said plate adjacent to one end thereof and extending transversely from one face of the backing plate;
first connector contact means within said inner connector sleeve;
conductor holding means extending substantially in the plane of said plate towards the other end thereof;
means on said plate face adapted for engaging a metal surface;
an outer connector sleeve for engagement with said inner connector sleeve;
second connector contact means within said outer connector sleeve and matching said first contact means, said sleeves and contact means together constituting a shielded connector;
shell means of insulating material for engaging on one side said outer connector sleeve and adapted for holding electrical apparatus on the other side; and
nut means for engaging said inner connector sleeve and the outside of the sheet for forcing the backing plate against the sheet;
whereby the backing plate and a conductor can be threaded from the outside of the sheet through the perforation with the inner sleeve remaining therein, the nut means tightened firmly to engage the sheet with the backing plate, and the two sleeves and contact means can be intereengaged to complete an electrical connection.

3,145,385
ADJUSTABLE SUPPORT TO MANIPULATE FEED WAVEGUIDE FROM REAR OF DISH

Bruce R. Jenkins, Earlville, N.Y., assignor to Technical Appliance Corporation, Sherburne, N.Y., a corporation of Delaware

Filed Dec. 21, 1961, Ser. No. 161,000
1 Claim. (Cl. 343—781)

An antenna comprising a main reflector having a rim, a relatively long and relatively heavy feed line and wave reverser assembly for illuminating said reflector, a plurality of flexible guy wires, each said wire fastened at one end thereof to said rim by means of an individually adjustable coupler, each said coupler including means to adjust the tension and length of said guy wire, said couplers being equidistantly spaced around said rim, said assembly

including a ring at the outermost end thereof, means to removably affix said ring to said assembly, each of said guy wires being fastened at the other end thereof to said ring by means of a loop in said guy wire making a loose



fit around said ring, and a central opening in said main reflector, said central opening being large enough to pass therethrough said assembly, said ring, said ring affixing means, and at least part of said guy wires, whereby said assembly may be withdrawn and installed while being supported at all times and automatically properly positioned in regard to the focus of said reflector by said guy wires, all operations being completely performable from said rear of said reflector.

3,145,386
INFORMATION STORAGE DEVICE
Walter G. Wadey, Wynnewood, and Reginald Tickell, Fort Washington, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1962, Ser. No. 173,647
5 Claims. (Cl. 346—74)



1. A magnetic storage device compriaing a plurality of substantially cylindrical hollow bodies of different diameter, said bodies being arranged in concentric spaced relationship, said bodies being adapted to receive magnetic information thereon.

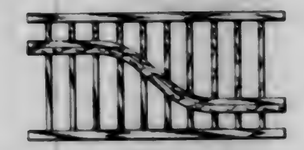
DESIGNS

AUGUST 18, 1964

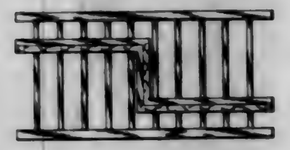
198,896
PREFORMED NECKTIE
Willis Moore Livingstone, 51 Cambridge Place, Brooklyn, N.Y.
Filed Mar. 7, 1962, Ser. No. 69,268
Term of patent 14 years
(Cl. D3—16)



198,897
SIDE FOR A CRIB OR SIMILAR ARTICLE
Aaron D. Spencer, Longmeadow, Mass. (% Baby Products Corp., 143 Shaker Road, East Longmeadow, Mass.)
Filed Oct. 31, 1963, Ser. No. 77,221
Term of patent 7 years
(Cl. D5—6)



198,898
SIDE FOR A CRIB OR SIMILAR ARTICLE
Aaron D. Spencer, Longmeadow, Mass. (% Baby Products Corp., 143 Shaker Road, East Longmeadow, Mass.)
Filed Oct. 31, 1963, Ser. No. 77,222
Term of patent 7 years
(Cl. D5—6)



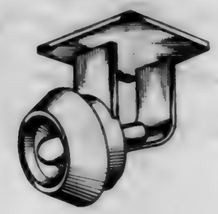
198,899
TOOTHBRUSH POWER HANDLE OR A SIMILAR ARTICLE
George H. Frost, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed May 29, 1963, Ser. No. 75,162
Term of patent 14 years
(Cl. D9—2)



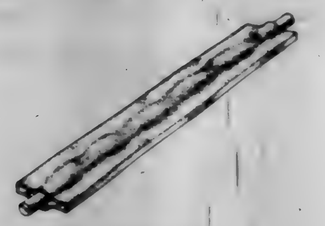
198,900
CLOTHES BRUSH
Bertrand N. Trombley, Bloomfield Hills, Mich., assignor to Helmac Products Corporation, Flint, Mich., a corporation of Michigan
Filed Mar. 12, 1964, Ser. No. 78,968
Term of patent 14 years
(Cl. D9—2)



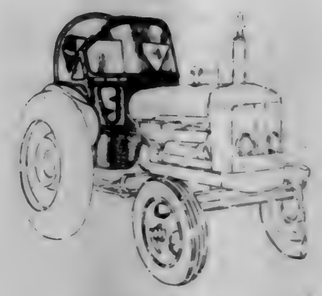
198,901
CASTER
James V. Bruckner, Jonesboro, Ark., assignor to The Colson Corporation, Chicago, Ill., a corporation of Ohio
Filed Apr. 18, 1963, Ser. No. 74,500
Term of patent 14 years
(Cl. D10—6)



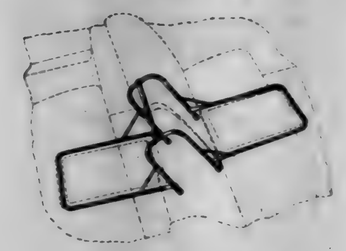
198,902
FLEXIBLE COMBINED CONTROL WIRE FOR REMOTE FORCE TRANSMISSION AND PLASTIC COVERED HOUSING THEREFOR OR SIMILAR ARTICLE
Alvin A. Cadwallader, Harboro, Pa., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed Nov. 28, 1961, Ser. No. 67,612
Term of patent 14 years
(Cl. D14—3)



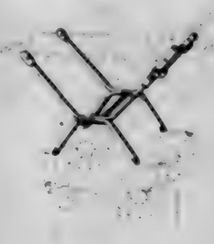
198,903
CAB FOR A TRACTOR OR THE LIKE
James Jones, Downend, Bristol, England, assignor to Sta-Dri (Cabs) Limited, Bristol, England, a British company
Filed May 28, 1963, Ser. No. 74,962
Claims priority, application Great Britain Nov. 22, 1962
Term of patent 14 years
(Cl. D14—3)



198,904
TWIN TRAY CARRIER
Alan Bedol, Shaker Heights, Ohio, assignor to The Marshallan Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 28, 1962, Ser. No. 69,028
Term of patent 14 years
(Cl. D14—6)



198,905
CARRIAGE
Sheldon Rutter, Miami, Fla., assignor to Thayer, Inc., Gardner, Mass., a corporation of Massachusetts
Filed Jan. 22, 1963, Ser. No. 73,273
Term of patent 14 years
(Cl. D14—14)



198,906
CHAIR
John E. McRee, Irving, Tex., assignor to Shampaine Industries, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 25, 1963, Ser. No. 74,101
Term of patent 3½ years
(Cl. D15—1)



198,907
CHAIR
Warren D. Petersen, Redondo Beach, Calif., assignor to Schlumberger Limited, Houston, Tex., a corporation of the Netherlands Antilles
Filed Mar. 31, 1964, Ser. No. 79,286
Term of patent 14 years
(Cl. D15—1)



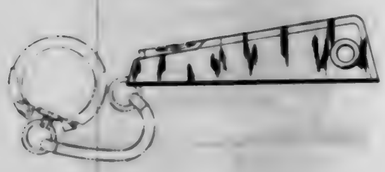
198,908
KNIFE OR SIMILAR ARTICLE
Jerome S. Hahn, East Hill, N.Y., assignor to Regent-Sheffield, Ltd., Whitestone, N.Y., a corporation of New York
Filed Aug. 28, 1961, Ser. No. 66,522
Term of patent 14 years
(Cl. D22—3)



198,909
COMBINED KEY RING AND KNIFE
Edward M. Stolarz, New York, N.Y., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut
Filed Jan. 3, 1964, Ser. No. 78,065
Term of patent 14 years
(Cl. D22—3)



198,910
COMBINED KEY RING AND KNIFE
Edward M. Stolarz, New York, N.Y., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut
Filed Jan. 3, 1964, Ser. No. 78,067
Term of patent 14 years
(Cl. D22—3)



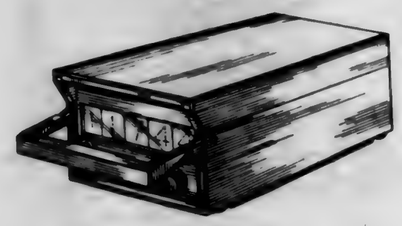
198,911
HEDGE SHEARS
Edward Albert Rogers, London, England, assignor to Wilkinson Sword Limited, London, England, a British company
Filed Apr. 11, 1963, Ser. No. 74,391
Claims priority, application Great Britain Nov. 17, 1962
Term of patent 14 years
(Cl. D22—4)



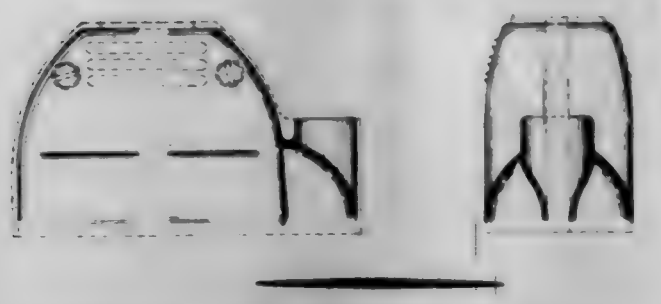
198,912
SCISSORS
John Albert Radford, Ashford, England, assignor to Wilkinson Sword Limited, London, England, a British company
Filed May 23, 1963, Ser. No. 75,029
Claims priority, application Great Britain Mar. 30, 1963
Term of patent 14 years
(Cl. D22—5)



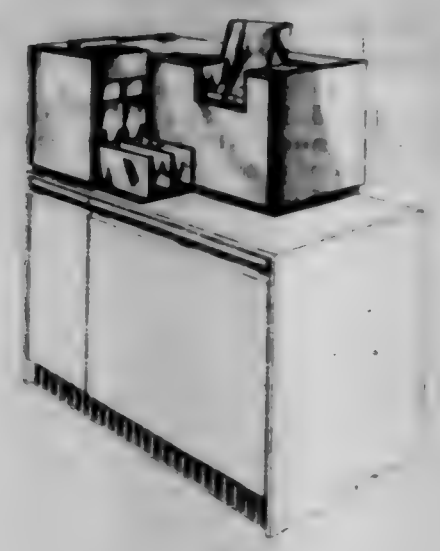
198,913
PORTABLE DIGITAL METER
William J. Smith, Littleton, Colo., assignor to Frost Engineering Development Corporation, Englewood, Colo., a corporation of Colorado
Filed June 13, 1963, Ser. No. 75,334
Term of patent 3½ years
(Cl. D26—1)



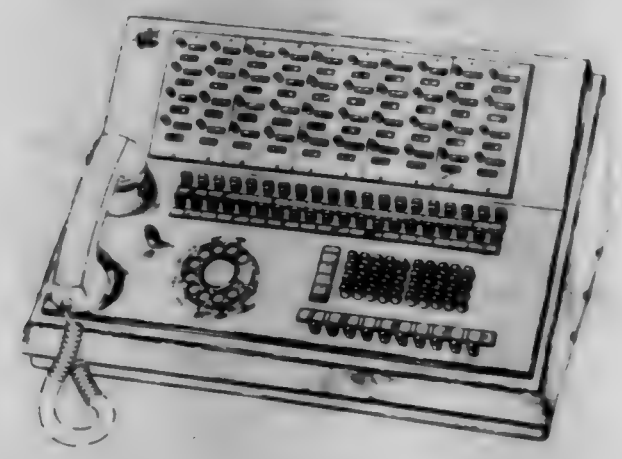
198,914
HOOD FOR AN ELECTRICAL CONNECTOR OR SIMILAR ARTICLE
Bengt J. Johnsson, Des Plaines, Ill., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed June 28, 1963, Ser. No. 75,582
Term of patent 14 years
(Cl. D26—1)



198,915
COMBINED CARD READER AND CARD PUNCH MACHINE OR SIMILAR ARTICLE
John David Jagger, Morgan Hill, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 23, 1962, Ser. No. 71,431
Term of patent 14 years
(Cl. D26—5)



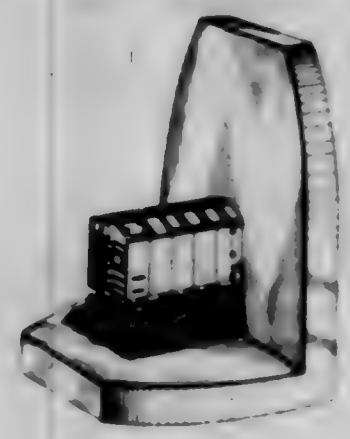
198,916
TELEPHONE SWITCHBOARD
Edward A. Praimer, Montclair, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 3, 1964, Ser. No. 78,502
Term of patent 14 years
(Cl. D26—14)



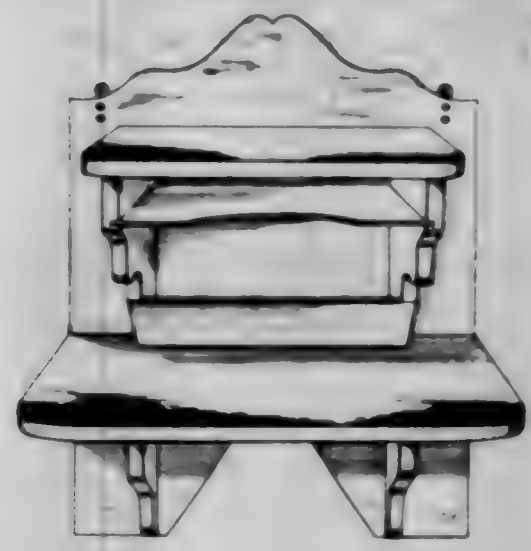
198,917
DISPLAY SHELF
William E. Crawford, 5428 Spring Road, Bladensburg, Md.
Filed Mar. 26, 1962, Ser. No. 69,434
Term of patent 14 years
(Cl. D33—3)



198,918
BOOK END
Karl E. Bislins, Chicago, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed June 21, 1962, Ser. No. 70,638
Term of patent 14 years
(Cl. D33—3)



198,919
WALL MOUNTED DESK AND TELEPHONE SHELF COMBINATION
Carl Smithamp, Vinton, Iowa
Filed July 11, 1963, Ser. No. 75,742
Term of patent 7 years
(Cl. D33—7)



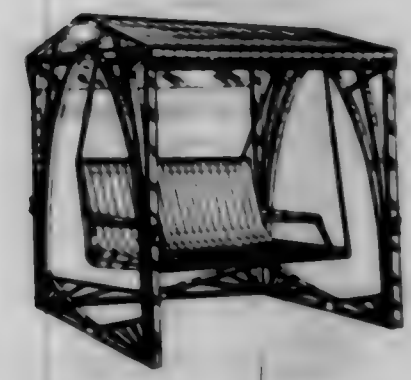
198,920
CARD CADDY FOR CARD TABLES AND THE LIKE
George M. Corbett, 2400 Via Semonna, Palos Verdes, Calif.
Filed Sept. 26, 1963, Ser. No. 76,749
Term of patent 14 years
(Cl. D33—14)



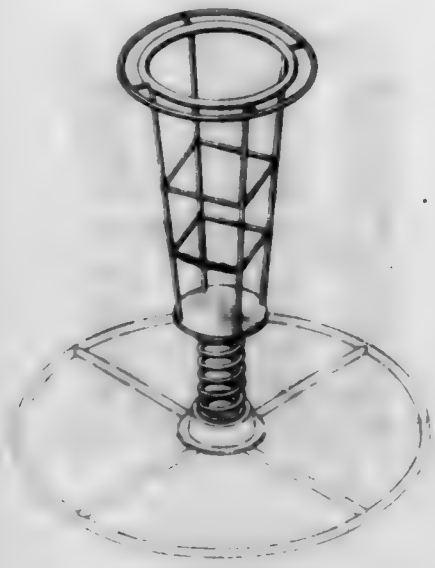
198,921
DOLL
Peter Trin, 166 Grove St., Windsor Locks, Conn.
Filed Aug. 29, 1963, Ser. No. 76,385
Term of patent 14 years
(Cl. D34—4)



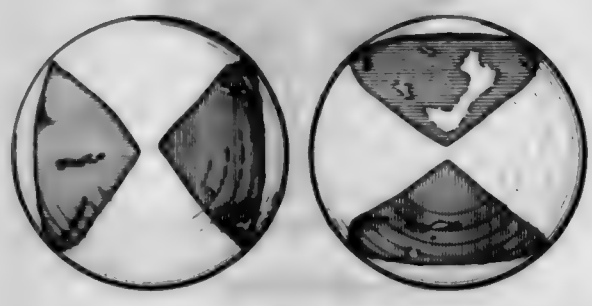
198,922
TOY LAWN SWING
John W. Ryan, Bel Aire, Calif., assignor to Mattel, Inc., a corporation of California
Filed Apr. 3, 1964, Ser. No. 79,328
Term of patent 14 years
(Cl. D34—5)



198,923
EXERCISING DEVICE
Duane E. Mitchell, Shandon Rte., Paso Robles, Calif.
Original design application Mar. 19, 1963, Ser. No. 74,035. Divided and this application Mar. 20, 1964, Ser. No. 79,371
Term of patent 14 years
(Cl. D34—5)



198,924
BOWLING BALL OR THE LIKE
Fred E. Satchell, Grand Haven, Mich., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 73,971
Term of patent 14 years
(Cl. D34—15)



198,925
ANIMAL FIGURE WHEELED TOY
Charles P. Hill, Nashville, Tenn., assignor to Kusan, Inc., Nashville, Tenn., a corporation of Kentucky
Filed Apr. 16, 1964, Ser. No. 79,521
Term of patent 14 years
(Cl. D34—15)



198,926
PLANTER
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Continuation of design applications Ser. Nos. 74,247 and 74,254, Apr. 1, 1963. This application Mar. 16, 1964, Ser. No. 79,822
Term of patent 14 years
(Cl. D35—3)



198,927
CHAMPAGNE GLASS OR SIMILAR ARTICLE
George L. Traner, Barrington, Ill., and Don A. Schreckengost, East Liverpool, Ohio, assignors to Royalon, Inc., Sebring, Ohio, a corporation of Ohio
Filed Apr. 6, 1964, Ser. No. 79,356
Term of patent 14 years
(Cl. D36—8)



198,928
GOBLET OR SIMILAR ARTICLE
George L. Traner, Barrington, Ill., and Don A. Schreckengost, East Liverpool, Ohio, assignors to Royalon, Inc., Sebring, Ohio, a corporation of Ohio
Filed Apr. 6, 1964, Ser. No. 79,370
Term of patent 14 years
(Cl. D36—8)



198,929
TONGS
Robert S. Wilkoff, 136—89 71st Road, [illegible], N.Y.
Original design application Sept. 30, 1963, Ser. No. 76,798, now Design Patent No. 198,335, dated June 2, 1964. Divided and this application Mar. 2, 1964, Ser. No. 78,955
Term of patent 14 years
(Cl. D44—4)



198,930
TEA CUP
Eva Zeisel, South Mountain Road, New City, N.Y.
Filed Feb. 3, 1964, Ser. No. 78,497
Term of patent 7 years
(Cl. D44—9)



198,931
DINNER PLATE
Eva Zeisel, South Mountain Road, New City, N.Y.
Filed Feb. 3, 1964, Ser. No. 78,495
Term of patent 7 years
(Cl. D44—15)



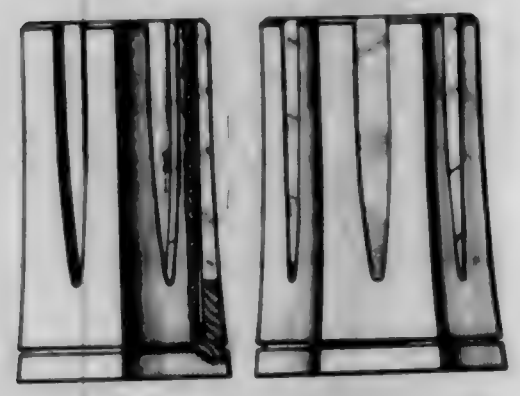
198,932
GRAVY BOWL
Eva Zeisel, 3 Mountain Road, New City, N.Y.
Filed Feb. 3, 1964, Ser. No. 78,496
Term of patent 7 years
(Cl. D44—21)



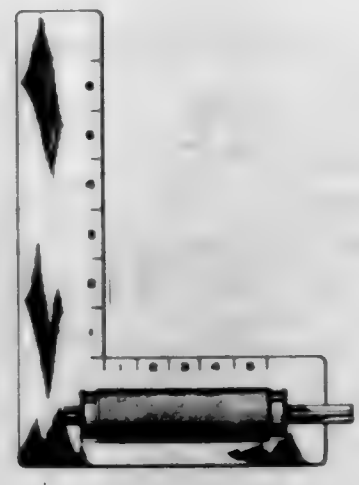
198,933
COFFEE MAKER
David L. Painter, Chicago, Ill., assignor to The West Bend Company, West Bend, Wis., a corporation of Wisconsin
Filed June 12, 1963, Ser. No. 75,318
Term of patent 14 years
(Cl. D44—26)



198,934
HOLDER FOR CUTLERY
Austin H. Munson, Arlington Heights, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 78,868
Term of patent 14 years
(Cl. D44—39)

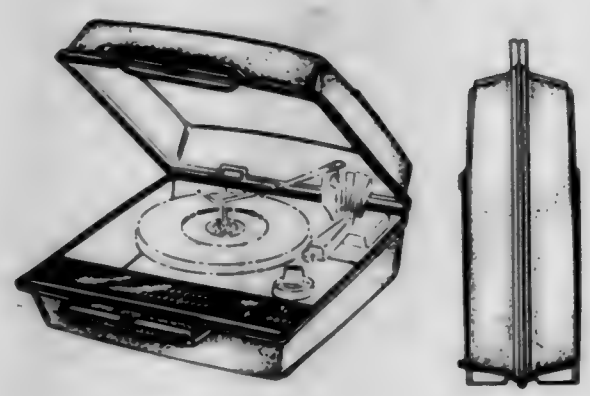


198,935
GUMMED PAPER MEASURING, TEARING AND MOISTENING TOOL
Lois D. Elkins, 1603 Caroline St., Fredericksburg, Va.
Filed Sept. 4, 1963, Ser. No. 76,474
Term of patent 14 years
(Cl. D52—1)

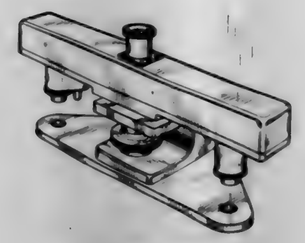


198,936
DISPENSER FOR ROLLED PAPER OR THE LIKE
Samuel S. Leotin, Hatboro, Pa., assignor, by mesne assignments, to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1961, Ser. No. 67,763
Term of patent 14 years
(Cl. D52—2)

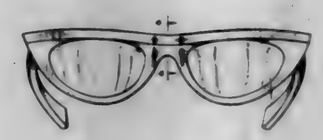
198,937
PORTABLE PHONOGRAPH
Keith D. Kitts, Glenview, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed July 3, 1963, Ser. No. 75,658
Term of patent 7 years
(Cl. D56—4)



198,938
OPTICAL COMPARATOR FOR PRINTED MATTER AND THE LIKE
George R. Kent, Minneapolis, Minn., assignor to Colight, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 27, 1963, Ser. No. 73,744
Term of patent 14 years
(Cl. D57—1)



198,939
PAIR OF SPECTACLES
Richard L. Huggins, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed May 31, 1963, Ser. No. 75,136
Term of patent 14 years
(Cl. D57—1)



198,940
JUG
Thomas W. Mullen, Claremont, Calif., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 13, 1962, Ser. No. 72,456
Term of patent 14 years
(Cl. D58—5)



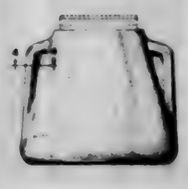
198,941
JUG
John Brady Campbell, Paramus, N.J., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 19, 1964, Ser. No. 78,690
Term of patent 14 years
(Cl. D58—5)



198,942
BOTTLE
Stanley K. Johns, Toronto, Ontario, Canada, assignor to St. Lawrence Manufacturing Company, Inc., Gifford, Quebec, Canada, a corporation of Quebec
Filed Aug. 16, 1963, Ser. No. 76,231
Term of patent 7 years
(Cl. D58—8)



198,943
BOTTLE
Doyle J. Morgan, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Jan. 31, 1964, Ser. No. 78,442
Term of patent 14 years
(Cl. D58—8)



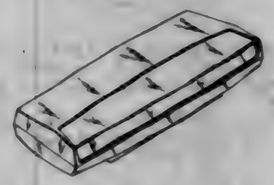
198,944
BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 29, 1963, Ser. No. 76,627
Term of patent 14 years
(Cl. D58—5)



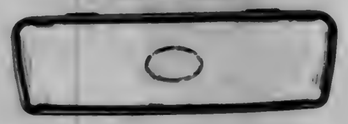
198,945
BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Aug. 1, 1963, Ser. No. 76,680
Term of patent 14 years
(Cl. D58—9)



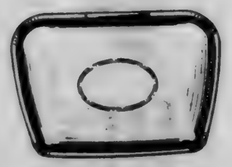
198,946
DISPLAY CONTAINER FOR PEN AND PENCIL SET
Samuel Braun, Rye, N.Y., assignor to B.C.N. Design Products Inc., Middle Village, N.Y., a corporation of New York
Filed Oct. 2, 1962, Ser. No. 71,977
Term of patent 14 years
(Cl. D58—12)



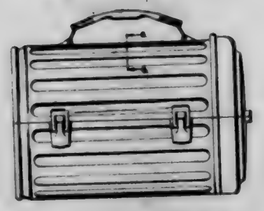
198,947
BOX
Samuel Braun, Rye, N.Y., assignor to B.C.N. Design Products Inc., Middle Village, N.Y., a corporation of New York
Filed Sept. 30, 1963, Ser. No. 76,794
Term of patent 14 years
(Cl. D58—12)



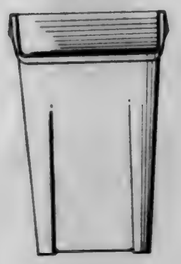
198,948
BOX
Samuel Braun, Rye, N.Y., assignor to B.C.N. Design Products Inc., Middle Village, N.Y., a corporation of New York
Filed Sept. 30, 1963, Ser. No. 76,795
Term of patent 14 years
(Cl. D58—12)



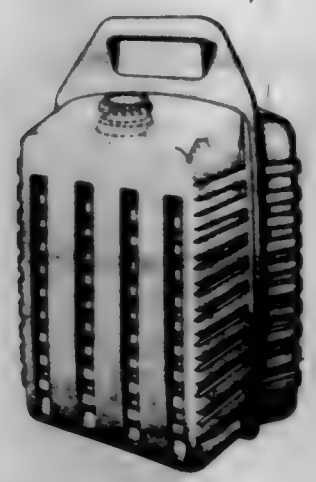
198,949
LUNCH PAIL
Francis J. Yodesky, 1765 Springdale Road, Cherry Hill, N.J.
Filed May 28, 1963, Ser. No. 74,947
Term of patent 14 years
(Cl. D58—17)



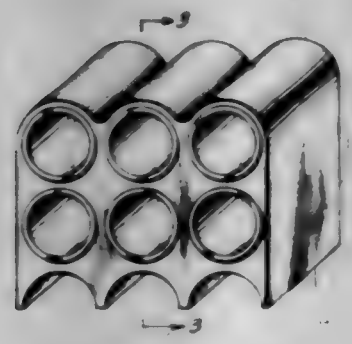
198,950
TRASH RECEPTACLE OR SIMILAR ARTICLE
Morton Hollis, West Newton, Mass., assignor to United Plastic Corporation, Fitchburg, Mass., a corporation of Massachusetts
Filed Dec. 16, 1963, Ser. No. 77,817
Term of patent 14 years
(Cl. D58—17)



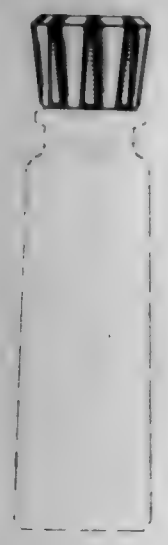
196,951
HANDLED CONTAINER FOR LIQUIDS
Albert B. Mojonnier, Rockford, Ill., assignor to Albert Mojonnier, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 7, 1964, Ser. No. 78,100
Term of patent 14 years
(Cl. D58—17)



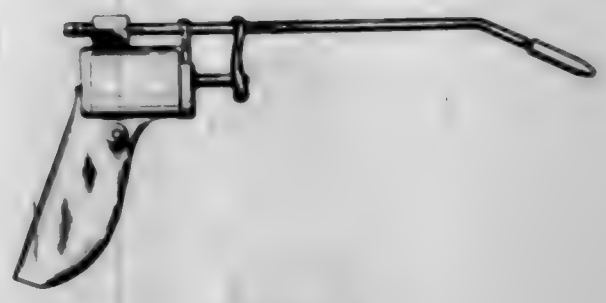
196,952
BOTTLE RACK
Ernest G. Mittelberger, San Francisco, Calif., assignor to Paul Masson, Inc., Saratoga, Calif., a corporation of California
Filed May 9, 1962, Ser. No. 70,060
Term of patent 14 years
(Cl. D58—26)



196,953
BOTTLE CAP
Duane J. Quintal, 32 Gramercy Park S., New York 3, N.Y.
Filed Jan. 15, 1964, Ser. No. 78,281
Term of patent 14 years
(Cl. D58—26)



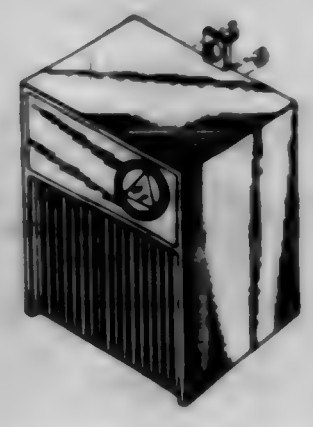
196,954
MASTER BRAKE CYLINDER FILLER
Frank H. Liljemark, Minneapolis, Minn., assignor to Electro-Specialty Manufacturing Co., Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 28, 1963, Ser. No. 73,333
Term of patent 14 years
(Cl. D65—1)



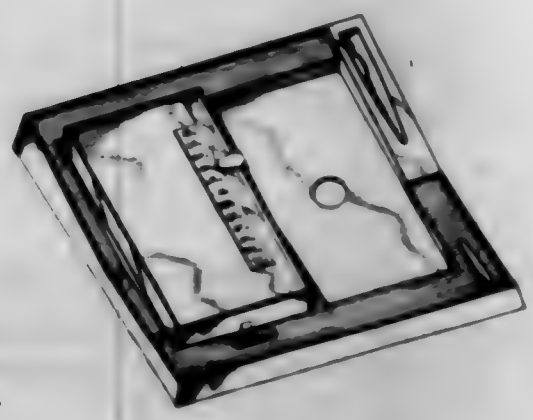
196,955
BURGLAR ALARM
James R. Harmon, 6845 SW. 17th St., Miami, Fla., and Harold G. Schneider, 8867 Carlyle Ave., Surfside, Fla.
Filed Aug. 29, 1962, Ser. No. 71,488
Term of patent 14 years
(Cl. D72—1)



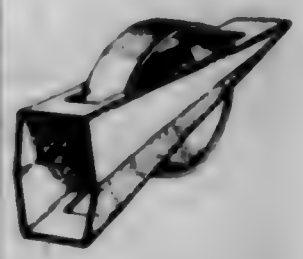
196,956
COMBINED RECEIVER AND WARNING SIGNAL
James J. Krem, Fort Wayne, Ind., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed June 28, 1963, Ser. No. 75,575
Term of patent 14 years
(Cl. D72—1)



198,957
COMBINED LIST FINDER AND MEMO PAD HOLDER
Manfred K. Hegemann, Englewood, N.J., assignor to The Bates Manufacturing Company, Orange, N.J., a corporation of New Jersey
Filed May 21, 1963, Ser. No. 74,994
Term of patent 7 years
(Cl. D74—1)



198,958
DISPENSER FOR TAPE
Bjorn A. Larsen, Oslo, Norway, assignor to Sterling Coated Materials Ltd., Stalybridge, England, a British corporation
Filed June 21, 1963, Ser. No. 77,818
Claims priority, application Great Britain Jan. 16, 1963
Term of patent 7 years
(Cl. D74—1)



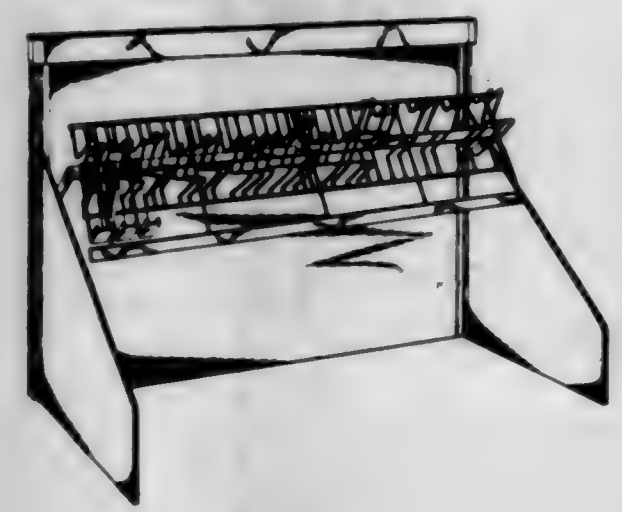
198,959
COMBINED PENCIL AND MEASURING TAPE
Daniel Di Fulvio and Raymond J. Fordyce, Reading, Pa., assignors to Mercury Machine & Tool Company, Inc., Muhlenberg Township, Pa.
Filed Mar. 1, 1963, Ser. No. 73,780
Term of patent 3½ years
(Cl. D74—24)



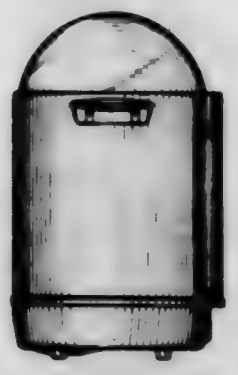
198,960
TIE AND BELT HANGER
Paul F. Bertram, St. Louis, Mo., assignor to Lee-Rowan Company, St. Louis, Mo., a corporation of Missouri
Filed Aug. 28, 1963, Ser. No. 76,375
Term of patent 14 years
(Cl. D80—8)



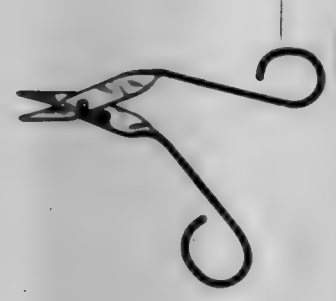
198,961
FLATWARE DISPLAY STAND
Elmer L. Reibold, Park Ridge, Leon E. Litzelman, Naperville, and Robert W. Masco, Chicago, Ill., assignors to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed May 1, 1963, Ser. No. 74,696
Term of patent 14 years
(Cl. D80—10)



198,962
ROTISSERIE OR SIMILAR ARTICLE
Chester H. Wickenberg, Elgin, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 27, 1963, Ser. No. 75,074
Term of patent 14 years
(Cl. D81—10)



198,963
SURGICAL SCISSORS
Richard E. Ericson, 127 E. Main St., Barrington, Ill.
Filed May 8, 1963, Ser. No. 74,809
Term of patent 14 years
(Cl. D63—12)



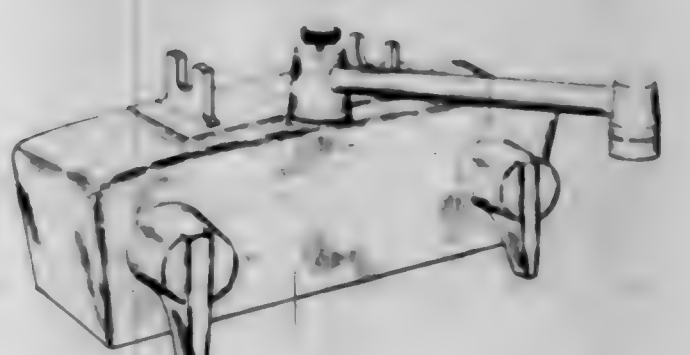
198,964
MEDICAMENT DISPENSER
Barry H. Dash, 168 Woods Road, Englewood Cliffs, N.J., and William T. Eldridge, 65 Baywater Drive, Darien, Conn.
Filed July 19, 1963, Ser. No. 75,887
Term of patent 14 years
(Cl. D63—12)



198,965
COMBINED NAIL CLIPPER AND KNIFE
Paul P. Lodi, Ansonia, Conn., assignor to The H. C. Cook Company, Ansonia, Conn., a corporation of Connecticut
Filed Feb. 11, 1963, Ser. No. 73,598
Term of patent 14 years
(Cl. D86—10)



198,966
COMBINED DISHWASHER AND FAUCET FIXTURE
Fred W. Hall, Toledo, Ohio, assignor to Gerity Products, Inc., Toledo, Ohio, a corporation of Michigan
Filed Oct. 31, 1963, Ser. No. 77,223
Term of patent 14 years
(Cl. D91—3)



198,967
FIRE HYDRANT
Verner J. Hagberg, San Francisco, Calif., assignor to M. Greenberg's Sons, Inc., San Francisco, Calif.
Filed Jan. 10, 1964, Ser. No. 78,156
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Allmanna Svenska Elektriska Aktiebolaget: *See*—
Forward, Haakon. Re. 25,691.

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Boyle, Willard S., and Thomas. Re. 25,632.

Boyle, Willard S., and D. G. Thomas, to Bell Telephone Laboratories, Inc. Optical maser. Re. 25,632, 8–18–64, Cl. 88—1.

Forward, Haakon, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit breaker. Re. 25,691, 8–18–64, Cl. 200—148.

Thomas, David G.: *See*—
Boyle, Willard S., and Thomas. Re. 25,632.

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Ball, George J., Inc.: *See*—
Duffett, William E. 2,437.
Duffett, William E. 2,438.

Duffett, William E., to George J. Ball, Inc. Chrysanthemum plant. 2,437, 8–18–64, Cl. 78.

Duffett, William E., to George J. Ball, Inc. Chrysanthemum plant. 2,438, 8–18–64, Cl. 78.

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Kitts, Keith D. 198,937.

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Braun, Samuel. 198,946.
Braun, Samuel. 198,947.
Braun, Samuel. 198,948.

Bates Mfg. Co., The: *See*—
Hegemann, Manfred K. 198,957.

Bausch & Lomb Inc.: *See*—
Huggins, Richard L. 198,939.

Bedol, Alan, to The Marshallan Mfg. Co. Twin tray carrier. 198,904, 8–18–64, Cl. D14—6.

Bell Telephone Laboratories, Inc.: *See*—
Praisner, Edward A. 198,916.

Bertram, Paul F., to Lee-Rowan Co. Tie and belt hanger. 198,960, 8–18–64, Cl. D80—8.

Biallas, Karl E., to W. H. Miner, Inc. Book end. 198,918, 8–18–64, Cl. D33—3.

Braun, Samuel, to B.C.N. Design Products Inc. Display container for pen and pencil set. 198,946, 8–18–64, Cl. D58—12.

Braun, Samuel, to B.C.N. Design Products Inc. Box. 198,947, 8–18–64, Cl. D58—12.

Braun, Samuel, to B.C.N. Design Products Inc. Box. 198,948, 8–18–64, Cl. D58—12.

Britton Corp., The: *See*—
Stolarz, Edward M. 198,909.
Stolarz, Edward M. 198,910.

Bruckner, James V., to The Colson Corp. Caster. 198,901, 8–18–64, Cl. D10—6.

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Satchell, Fred E. 198,924.

Cadwallader, Alvin A., to Teleflex Inc. Flexible combined control wire for remote force transmission and plastic covered housing therefor or similar article. 198,902, 8–18–64, Cl. D14—3.

Campbell, John B., to The Procter & Gamble Co. Jug. 198,941, 8–18–64, Cl. D58—5.

Celanese Corp. of America: *See*—
Mullen, Thomas W. 198,940.

Colight, Inc.: *See*—
Kent, George R. 198,938.

Colson Corp., The: *See*—
Bruckner, James V. 198,901.

Cook, H. C., Co., The: *See*—
Loda, Paul P. 198,965.

Corbett, George M. Card caddy for card tables and the like. 198,920, 8–18–64, Cl. D33—14.

Crawford, William E. Display shelf. 198,917, 8–18–64, Cl. D33—3.

Dash, Barry H., and W. T. Eldridge. Medicament dispenser. 198,964, 8–18–64, Cl. D83—12.

Di Fulvio, Daniel, and R. J. Fordyce, to Mercury Machine & Tool Co., Inc. Combined pencil and measuring tape. 198,959, 8–18–64, Cl. D74—24.

Ekco Products Co.: *See*—
Munson, Austin H. 198,934.

Eldridge, William T.: *See*—
Dash, Barry H., and Eldridge. 198,964.

Electro-Specialty Mfg. Co.: *See*—
Liljemark, Frank H. 198,954.

Elkins, Lois D. Gummed paper measuring, tearing and moistening tool. 198,935, 8–18–64, Cl. D52—1.

Ericson, Richard E. Surgical scissors. 198,963, 8–18–64, Cl. D83—12.

Essex Wire Corp.: *See*—
Kress, James J. 198,956.

Fordyce, Raymond J.: *See*—
Di Fulvio, Daniel, and Fordyce. 198,959.

Frost Engineering Development Corp.: *See*—
Smith, William J. 198,913.

Frost, George H., to Westinghouse Electric Corp. Toothbrush power handle or a similar article. 198,899, 8–18–64, Cl. D9—2.

Gerity Products, Inc.: *See*—
Hall, Fred W. 198,966.

Greenberg's, M., Sons, Inc.: *See*—
Hagberg, Verner J. 198,967.

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Hahn, Jerome S., to Regent-Sheffield, Ltd. Knife or similar article. 198,908, 8–18–64, Cl. D22—3.

Hall, Fred W., to Gerity Products, Inc. Combined dishwasher and faucet fixture. 198,966, 8–18–64, Cl. D91—3.

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Hamilton, Earl F. 198,926.

Hamilton, Earl F., to Hamilton Cosco, Inc. Planter. 198,926, 8–18–64, Cl. D35—3.

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Hegemann, Manfred K., to The Bates Mfg. Co. Combined list finder and memo pad holder. 198,957, 8–18–64, Cl. D74—1.

Helmac Products Corp.: *See*—
Trombly, Bertrand N. 198,900.

Hill, Charles P., to Kusan, Inc. Animal figure wheeled toy. 198,925, 8–18–64, Cl. D34—15.

Hollis, Morton, to United Plastic Corp. Trash receptacle or similar article. 198,950, 8–18–64, Cl. D58—17.

Huggins, Richard L., to Bausch & Lomb Inc. Pair of spectacles. 198,939, 8–18–64, Cl. D57—1.

International Business Machines Corp.: *See*—
Jagger, John D. 198,915.

Jagger, John D., to International Business Machines Corp. Combined card reader and card punch machine or similar article. 198,915, 8–18–64, Cl. D26—5.

Johanson, Bengt J., to United-Carr Fastener Corp. Hood for an electric connector or similar article. 198,914, 8–18–64, Cl. D26—1.

Johns, Stanley K., to St. Lawrence Mfg. Co., Inc. Bottle. 198,942, 8–18–64, Cl. D58—8.

Jones, James, to Sta-Dri (Cabs) Ltd. Cab for a tractor or the like. 198,903, 8–18–64, Cl. D14—3.

Kent, George R., to Colight, Inc. Optical comparator for printed matter and the like. 198,938, 8–18–64, Cl. D57—1.

Kitts, Keith D., to Admiral Corp. Portable phonograph. 198,937, 8–18–64, Cl. D56—4.

Kress, James J., to Essex Wire Corp. Combined receiver and warning signal. 198,956, 8–18–64, Cl. D72—1.

Kusan, Inc.: *See*—
Hill, Charles P. 198,925.

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Lee-Rowan Co.: *See*—
Bertram, Paul F. 198,960.

Leotta, Samuel S., to Scott Paper Co. Dispenser for rolled paper or the like. 198,936, 8–18–64, Cl. D52—2.

Liljemark, Frank H., to Electro-Specialty Mfg. Co. Master brake cylinder filler. 198,954, 8–18–64, Cl. D65—1.

Litzelman, Leon E.: *See*—
Reibold, Elmer L., Litzelman, and Masco. 198,961.

Livingstone, Willie M. Preformed necktie. 198,896, 8–18–64, Cl. D3—16.

Loda, Paul P., to The H. C. Cook Co. Combined nail clipper and knife. 198,965, 8–18–64, Cl. D80—10.

Marshallan Mfg. Co., The: *See*—
Bedol, Alan. 198,904.

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Masson, Paul, Inc.: *See*—
Mittelberger, Ernest G. 198,952.
Mattel, Inc.: *See*—
Ryan, John W. 198,922.
McRee, John E., to Shampaine Industries, Inc. Chair. 198,906, 8–18–64, Cl. D15—1.
Mercury Machine & Tool Co., Inc.: *See*—
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Miner, W. H., Inc.: *See*—
Biallas, Karl E. 198,918.
Mitchell, Duane E. Exercising device. 198,923, 8–18–64, Cl. D34—5.
Mittelberger, Ernest G., to Paul Masson, Inc. Bottle rack. 198,952, 8–18–64, Cl. D58—20.
Mojonnier, Albert B., to Albert Mojonnier, Inc. Handled container for liquids. 198,951, 8–18–64, Cl. D58—17.
Mojonnier, Albert, Inc.: *See*—
Mojonnier, Albert B. 198,951.
Morgan, Doyle J., to Owens-Illinois Glass Co. Bottle. 198,943, 8–18–64, Cl. D58—8.
Mullen, Thomas W., to Celanese Corp. of America. Jug. 198,940, 8–18–64, Cl. D58—5.
Munson, Austin H., to Ekco Products Co. Holder for cutlery. 198,934, 8–18–64, Cl. D44—29.
Oneida Ltd.: *See*—
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Plummer, James E. 198,945.
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Plummer, James E., to Owens-Illinois Glass Co. 198,945, 8–18–64, Cl. D58—9.
Praisner, Edward A., to Bell Telephone Laboratories, Inc. Telephone switchboard. 198,916, 8–18–64, Cl. D26—14.
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Hahn, Jerome S. 198,908.
Reibold, Elmer L., L. E. Litzelman, and R. W. Masco, to Oneida Ltd. Flatware display stand. 198,961, 8–18–64, Cl. D80—10.
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Royalon, Inc.: *See*—
Traner, George L., and Schreckengost. 198,927.
Traner, George L., and Schreckengost. 198,928.
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Ryan, John W., to Mattel, Inc. Toy lawn swing. 198,922, 8–18–64, Cl. D34—5.
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Johns, Stanley K. 198,942.
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Schlumberger Ltd.: *See*—
Petersen, Warren D. 198,907.
Schneider, Harold G.: *See*—
Harmon, James R., and Schneider. 198,955.
Schreckengost, Don A.: *See*—
Traner, George L., and Schreckengost. 198,927.
Traner, George L., and Schreckengost. 198,928.
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Leotta, Samuel S. 198,936.
Shampaine Industries, Inc.: *See*—
McRee, John E. 198,906.
Smith, William J., to Frost Engineering Development Corp. Portable digital meter. 198,913, 8–18–64, Cl. D26—1.
Smittkamp, Carl. Wall mounted desk and telephone shelf combination. 198,919, 8–18–64, Cl. D33—7.
Spencer, Aaron D. Side for a crib or similar article. 198,897, 8–18–64, Cl. D5—5.
Spencer, Aaron D. Side for a crib or similar article. 198,898, 8–18–64, Cl. D5—5.
Sta-Dri (Cabs) Ltd.: *See*—
Jones, James. 198,903.
Sterling Coated Materials Ltd.: *See*—
Larsen, Bjorn A. 198,958.
Stolarz, Edward M., to The Britton Corp. Combined key ring and knife. 198,909, 8–18–64, Cl. D22—3.
Stolarz, Edward M., to The Britton Corp. Combined key ring and knife. 198,910, 8–18–64, Cl. D22—3.
Sunbeam Corp.: *See*—
Wickenberg, Chester H. 198,962.
Teleflex Inc.: *See*—
Cadwallader, Alvin A. 198,902.
Thayes, Inc.: *See*—
Rutter, Sheldon. 198,905.
Traner, George L., and D. A. Schreckengost, to Royalon, Inc. Champagne glass or similar article. 198,927, 8–18–64, Cl. D36—8.
Traner, George L., and D. A. Schreckengost, to Royalon, Inc. Goblet or similar article. 198,928, 8–18–64, Cl. D36—8.
Tria, Peter. Doll. 198,921, 8–18–64, Cl. D34—4.
Trombley, Bertrand N., to Helmac Products Corp. Clothes brush. 198,900, 8–18–64, Cl. D9—2.
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Johanson, Bengt J. 198,914.
United Plastic Corp.: *See*—
Hollis, Morton. 198,950.
West Bend Co., The: *See*—
Painter, David L. 198,933.
Westinghouse Electric Corp.: *See*—
Frost, George H. 198,899.
Wickenberg, Chester H., to Sunbeam Corp. Rotisserie or similar article. 198,962, 8–18–64, Cl. D81—10.
Wilkinson Sword Ltd.: *See*—
Radford, John A. 198,912.
Rogers, Edward A. 198,911.
Witkoff, Robert S. Tongs. 198,929, 8–18–64, Cl. D44—4.
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LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Robinson, Lester E., Bradfield, and Johnson. 3,145,006.

ACH Fiber Service, Inc.: *See*—
Wollner, Herbert J. 3,144,724.
Wollner, Herbert J. 3,144,765.

A.E.C. Societe de Chimie Organique & Biologique, Societe Anonyme dite: *See*—
Nicolaux, Genevieve J. M., Gay, Matet, Mauge, Sandevoir, and Wasmer. 3,145,253.

AMP Inc.: *See*—
Forney, Edgar W., Jr. 3,145,261.

Abbott, Charles T., Jr., to The Procter & Gamble Co. Shortening product. 3,145,110, 8–18–64, Cl. 99—123.

Abramson, Harvey J., to Sears, Roebuck and Co. Combination of elongated fabric and package for same. 3,144,933, 8–18–64, Cl. 206—49.

Abreo, Kent A. Musical instrument. 3,144,801, 8–18–64, Cl. 84—380.

Acme Steel Co.: *See*—
McConnell, Kennedy. 3,144,944.

Addressograph-Multigraph Corp.: *See*—
Streich, Paul B., Sr. 3,145,122.

Airetron Engineering Corp.: *See*—
Calaceto, Ralph R. 3,145,239.

Aizawa, Tatsuo. Sensitive paper developing device. 3,144,817, 8–18–64, Cl. 95—89.

Aktieselskabet Brodrene Hartmann: *See*—
Hartmann, Louis M., and Hansen. 3,144,972.

Albert, Leroy F.: *See*—
Hilpman, Paul H., and Albert. 3,144,823.

Albert, William. Roll construction. 3,144,905, 8–18–64, Cl. 165—89.

Alford, Andrew: *See*—
Russell, Lindsay. 3,145,352.

Alfred Electronics: *See*—
Kruse, Frederick W., Jr., and Britton. 3,145,351.

Allegany Instrument Co., Inc.: *See*—
Minke, Charles M. 3,144,776.

Alleman, Ronald D. Animation device. 3,144,726, 8–18–64, Cl. 40—81.

Allis-Chalmers Mfg. Co.: *See*—
Brown, Royce N. 3,144,706.
Sealey, William C. 3,145,258.

Alofs, Herman G.: *See*—
Carter, Andrew G., and Alofs. 3,144,696.

Ambler, Charles M., to Pennsalt Chemicals Corp. Centrifuge having self-cleaning solids discharge. 3,145,174, 8–18–64, Cl. 233—29.

American Can Co.: *See*—
Asman, Norman J. 3,144,978.
Fourier, Walter A. 3,145,189.
Goff, Donald H., and Scheindel. 3,144,984.

American Cyanamid Co.: *See*—
Buckler, Sheldon A., and Epstein. 3,145,234.
Goodman, Joseph J. 3,145,154.
Grayson, Martin, and Keough. 3,145,227.
Krupka, George, Schultz, and Winski. 3,145,153.
Wohnsiedler, Henry P. 3,145,207.

American District Telegraph Co.: *See*—
Johnson, Fred O. 3,145,271.

American Enka Corp.: *See*—
Heijnis, James W. L. 3,144,984.

American Home Products Corp.: *See*—
Oedene, Thomas S. 3,145,205.

American Machine & Foundry Co.: *See*—
Hollander, Milton B., and Campo-Campins. 3,144,710.
Kohler, Fred. 3,145,285.

American Mfg. Co. of Texas: *See*—
Lott, John E. 3,144,778.

American Tansul Co.: *See*—
Goerl, George F. 3,145,106.

American Telephone and Telegraph Co.: *See*—
Hiestand, Irvin H. 3,144,707.

Ampex Corp.: *See*—
Willard, Dennis D. 3,145,373.
Zuccaro, Salvadore J. 3,145,307.

Anaconda Wire and Cable Co.: *See*—
Feick, George, III, and Olds. 3,145,258.

Anderson, David F.: *See*—
Stanton, Arthur J., Anderson, Taylor, Butterworth, and Shawen. 3,144,810.

Anderson, Edgar L., to Wilmot Castle Co. Control apparatus for doors. 3,144,956, 8–18–64, Cl. 220—55.3.

Anderson, Edgar L., to Wilmot Castle Co. Closure apparatus for pressure chamber. 3,144,957, 8–18–64, Cl. 220—55.3.

Anderson, Edgar L., to Wilmot Castle Co. Door locking apparatus. 3,145,021, 8–18–64, Cl. 268—65.

Anderson, Frank E., and I. W. Mills, to Sun Oil Co. Preparation of electrical and refrigerator oils. 3,145,161, 8–18–64, Cl. 208—275.

Anderson, John W. Method of making a pulley structure. 3,144,705, 8–18–64, Cl. 29—159.

Andersson, Gosta S. Sulky hitch. 3,144,741, 8–18–64, Cl. 54—23.

Ando, Koji, ½ to Takeda Pharmaceutical Industries, Ltd. Process for manufacturing chromium treated vaccines. 3,145,144, 8–18–64, Cl. 167—78.

Andrew, Harold B., to Bell Telephone Laboratories, Inc. correlation means for a direction finding system. 3,145,341, 8–18–64, Cl. 325—472.

Aoki, Kunio, to Daiwa Boseki. Carding engine. 3,144,685, 8–18–64, Cl. 19—105.

Aoki, Kunio, to Daiwa Boseki Kabushiki Kaisha. Carding engine having suction cleaning means between the licker-in and the carding cylinder. 3,144,686, 8–18–64, Cl. 19—105.

Archer, Sydney, and M. R. Bell, to Sterling Drug Inc. Esters of 2-tropanol. 3,145,210, 8–18–64, Cl. 260—292.

Armstrong Cork Co.: *See*—
Mayo, Ned H. 3,144,763.

Armstrong, James S., to Compania Swift de la Plato Sociedad Anonima Frigorifica. Tear strip structure for cans. 3,144,955, 8–18–64, Cl. 220—54.

Arnold, Kenneth W., and R. B. Britton, to Ion Physics Corp. Vacuum system cooling trap. 3,144,756, 8–18–64, Cl. 62—100.

Arosio, Luciano: *See*—
Morbidelli, Giuseppe, Arosio, and Notarbartolo. 3,145,198.

Arthur, Edwin P., and J. E. Leonard, to Beckman Instruments, Inc. Ion sensitive electrode. 3,145,157, 8–18–64, Cl. 204—195.

Ashton, Joseph B., to Shell Oil Co. Nitration process. 3,145,235, 8–18–64, Cl. 260—644.

Asman, Norman J., to American Can Co. Carton. 3,144,978, 8–18–64, Cl. 229—37.

Associated Electrical Industries Ltd.: *See*—
Raine, Thomas, and Robinson. 3,145,098.

Atlantic Research Corp.: *See*—
De Fries Myron G., and Rice. 3,144,830.

Augat, Inc.: *See*—
Damon, Neil F., and Hoy. 3,145,069.

Augsburger, Herbert M., to Owens-Illinois Glass Co. Electric heating means and method for heating glass near the perimeter of the working zone of a glass feeder. 3,145,246, 8–18–64, Cl. 13—6.

Automatic Canteen Co. of America: *See*—
Krukauer, Merrill, and Verbeke. 3,144,924.
Reynolds, Donald S. 3,144,962.

Avco Corp.: *See*—
Nelson, Bruce K., Goldberg, and Haslam. 3,145,383.

Avis Industrial Corp.: *See*—
Demrick, Carl J. 3,145,060.
Demrick, Carl J. 3,145,061.
Demrick, Carl J., Marshall, and Sanborn. 3,145,058.

Ayers, John S., to Jas. H. Matthews & Co. Type roll mounting for offset printers. 3,144,824, 8–18–64, Cl. 101—212.

Babcock & Wilcox Ltd.: *See*—
Picton, James S., and Taylor. 3,144,918.

Back, Carl F., to The Sanderson Cyclone Drill Co. Hoist control. 3,144,998, 8–18–64, Cl. 242—157.1.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Jockers, Kurt, and Meier. 3,145,080.
Reichert, Martin, and Unterstenhoefer. 3,145,076.
Wygasch, Ewald, Zahn, and Huehn. 3,145,130.

Bailey, George B., to The Garrett Corp. Method and apparatus for attenuating helical acoustic pressure waves. 3,144,913, 8–18–64, Cl. 181—46.

Baker, Don R., and T. B. Williamson, to Stauffer Chemical Co. Method of killing nematodes and fungi with trichloroacrylonitrile. 3,145,138, 8–18–64, Cl. 167—22.

Baker, Stanley W.: *See*—
Davis, Charles S., Jr., and Baker. 3,144,790.

Balder, Bob: *See*—
Van Helden, Robert, Verberg, and Balder. 3,145,237.

Baldwin, J. A., Mfg. Co.: *See*—
Baldwin, Jesse A., Schroeder, and Ender. 3,145,169.
Baldwin, Jesse A., Schroeder, and Ender. 3,145,170.

Baldwin, Jesse A., R. A. Schroeder, and A. L. Ender, to J. A. Baldwin Mfg. Co. Oil filter cartridges. 3,145,169, 8–18–64, Cl. 210—232.

Baldwin, Jesse A., R. A. Schroeder, and A. L. Ender, to J. A. Baldwin Mfg. Co. Oil filter cartridges. 3,145,170, 8–18–64, Cl. 210—232.

Balinski, Henry A., to United States Gypsum Co. Clip construction. 3,144,733, 8–18–64, Cl. 50—481.

Bank of America National Trust and Savings Association: *See*—
Warfel, George H., and Thorson. 3,144,989.

Barnsch, Buddy R.: *See*—
Duke, Alexander J. 3,145,049.

Barlow, Donald W.: *See*—
Savage, Harry A. 3,144,963.

Barnard, Clifford A., to Pye Ltd. Black level stabilization circuit. 3,145,263, 8–18–64, Cl. 178—7.3.

Barnes Mfg. Co.: *See*—
Page, Oswald V. 3,145,316.

Barnett, Louis H., and J. D. Davis, to Loma Industries. Foldable valet. 3,144,940, 8–18–64, Cl. 211—1.

Bartlett, Charles B.: *See*—
Strickland, Gerald, Johnson, Horn, and Bartlett. 3,145,078.

Bartok, William, to Esso Research and Engineering Co. Method of oxidizing hydrocarbon feeds employing discontinuous triggering means. 3,145,220, 8–18–64, Cl. 260—348.5.

Barton, Bruce A., to E. I. du Pont de Nemours and Co. Polyamide filament. 3,145,133, 8–18–64, Cl. 161—168.

Bassham, James H.: *See*—
Pickels, Edward G., and Bassham. 3,144,831.

Bastiaanse, Abraham G. Reciprocating engine. 3,144,813, 8–18–64, Cl. 91—329.

Bauer, William G.: *See*—
Mitoray, Jane P., and Bauer. 3,145,179.

Baumann, Hans D. Adjustable laminar flow restriction. 3,144,879, 8–18–64, Cl. 138—43.

Baun, Raymond F., to General Electric Co. Method of insulating electrical components, such as small electric motors. 3,145,127, 8–18–64, Cl. 156—73.

Bausch & Lomb Inc.: *See*—
Buckner, Dean A., and Hafner. 3,145,090.
Buzawa, Michael J. 3,145,255.
Cator, Edward J. 3,145,065.
Coombs, William F., Jr. 3,144,807.
Faas, Kenneth D. 3,144,737.
Martens, Alexander F. 3,145,347.
McCulloch, Donald J. 3,145,254.
Meltzer, Robert J. 3,145,247.
Meltzer, Robert J. 3,145,249.
Vargady, Leslie O. 3,145,250.
Weidel, Robert A. 3,145,115.

Beacon, John H. A. Apparatus for use in the cultivation of plants. 3,144,732, 8–18–64 Cl. 47—34.13.

Becker, Peter A., to General Electric Co. Dynamoelectric machine with liquid-cooled excitation supply means. 3,145,314, 8–18–64, Cl. 310—68.

Beckman Instruments, Inc.: *See*—
Arthur, Edwin P., and Leonard. 3,145,157.
Gardner, Douglas B., and Kuffer. 3,145,339.
Matsuyama, George. 3,145,138.
Pickels, Edward G., and Bassham. 3,144,831.

Beier, Gerhard: *See*—
Heckmaier, Joseph, Bergmeister, and Beier. 3,145,194.

Beisma, Louw A., to North American Philips Co., Inc. Cutting head for dry shaver. 3,144,714, 8–18–64, Cl. 30—43.92.

Belknap, Louis S., and C. L. Carpenter, to Cabot Corp. Production of silicon tetrachloride. 3,145,083, 8–18–64, Cl. 23—205.

Bell Aerospace: *See*—
Pascher, Robert L. 3,144,908.

Bell, Malcolm R.: *See*—
Archer, Sydney, and Bell. 3,145,210.

Bell Telephone Laboratories, Inc.: *See*—
Andrew, Harold B. 3,145,341.
Gardner, Mark B., and Nelson. 3,145,269.
Gianola, Umberto F. 3,145,870.
Gianola, Umberto F. 3,145,871.
Herriott, Donald R. 3,145,252.
Hoover, Charles W., Jr. 3,145,368.
Hutson, Andrew R. 3,145,354.
Massey, Richard P. 3,145,348.
Saal, Frederick A. 3,145,377.

Belohlav, Leo R., to Great Lakes Chemical Corp. Purification of liquid bromine contaminated with organic impurities. 3,145,084, 8–18–64, Cl. 23—216.

Beloit Iron Works: *See*—
Mahoney, Ralph P. 3,145,118.

Bemis Bro. Bag Co.: *See*—
Williams, Russell J., and Reimer. 3,145,129.

Bendix Corp., The: *See*—
Price, Earl R. 3,144,920.

Bendix-Westinghouse Automotive Air Brake Co.: *See*—
Turek, Thomas J. 3,145,032.

Bendl, Robert E. Releasable cargo coupling. 3,145,042, 8–18–64, Cl. 294—83.

Benner, Reuben H., 2nd, and A. J. Williams, Jr., to Leeds and Northrup Co. High-speed measuring system. 3,145,374, 8–18–64, Cl. 340—183.

Berchtold, Ludwig, A. Schuster, and H. Marker. Safety ski binding. 3,145,027, 8–18–64, Cl. 280—11.35.

Berg, Alvin L., to Hughes Aircraft Co. Circularly oriented memory elements. 3,144,159, 8–18–64, Cl. 204—228.

Bergandi, Frank, and H. E. Rohrbacher, to Bergandi Mfg. Co., Inc. Shaft positioning device. 3,144,887, 8–18–64, Cl. 140—926.

Bergandi Mfg. Co., Inc.: *See*—
Bergandi, Frank, and Rohrbacher. 3,144,887.

Bergen Research Engineering Corp.: *See*—
Davis, Charles S., Jr., and Baker. 3,144,790.

Bergmann, Joseph C. Multiple circular shear. 3,144,796, 8–18–64, Cl. 82—57.

Bergmeister, Eduard: *See*—
Heckmaier, Joseph, Bergmeister, and Beier. 3,145,194.

Berman, Léon, to C.I.T. Compagnie Industrielle des Telecommunications. Devices supplying stabilised feed voltages. 3,145,334, 8–18–64, Cl. 321—2.

Berrer, Dagmar: *See*—
Knusli, Enrico, Schappi, and Berrer. 3,145,208.

Bertuch, Charles J., and N. H. Meyers, to International Business Machines Corp. Superconductive in-line gating devices and circuits. 3,145,310, 8–18–64, Cl. 307—88.5.

Beschmann, Edwin T., to The Nivison-Weiskopf. Dispenser for roll of sheet material. 3,144,970, 8–18–64, Cl. 225—39.

Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung: *See*—
Engel, Georg. 3,144,996.

Biber, Albert, and O. A. Davis, Sr., to Gulf Research & Development Co. Oil burner apparatus. 3,144,897, 8–18–64, Cl. 158—28.

Billeter, Henry R., R. E. Campbell, and H. I. Tramblie, to Sloan Valve Co. Brake cylinder release valves. 3,145,064, 8–18–64, Cl. 303—69.

Bird Machine Co.: *See*—
Garner, Edward V. 3,144,784.

Bjorn, Thomas R., to Stewart-Warner Corp. Vibration detection apparatus. 3,144,774, 8–18–64, Cl. 73—466.

Black and Decker Mfg. Co., The: *See*—
Boehm, Arthur S., Riley, and Short. 3,144,912.
McCarty, George W., Shepa, and Bowen. 3,144,735.

Blackman, Arthur W., Jr., and C. R. Miller, to United Aircraft Corp. Hybrid rocket. 3,144,751, 8–18–64, Cl. 60—35.6.

Blahnik, David J., to J. H. Carter, Spring motor operated tilting toy dump truck. 3,145,056, 8–18–64, Cl. 298—22.

Blair, Ronald L. Undergarments. 3,144,800, 8–18–64, Cl. 128—498.

Blazon, Inc.: *See*—
Grudoski, Daniel P. 3,145,013.
Grudoski, Daniel P. 3,145,024.

Bleackley, William J., to National Research Council. Variable delay using dielectric screw rotatable inside surrounding helical transmission line. 3,145,353, 8–18–64, Cl. 333—24.2.

Block, Aleck, to Merit Products, Inc. Abrading apparatus. 3,144,738, 8–18–64, Cl. 51—193.5.

Blohm, Edward G., E. F. McHale, and W. L. Unright, to General Electric Co. Harness connection for dynamoelectric machines. 3,145,317, 8–18–64, Cl. 310—260.

Blom, Roy A., to Potter Instrument Co., Inc. Expandible key. 3,145,036, 8–18–64, Cl. 287—52.05.

Blough, Ronald S., to Fairfield Engineering and Mfg. Co. Automatic hog drinking cup. 3,144,853, 8–18–64, Cl. 119—75.

Bochan, John, to General Electric Co. Washing machine. 3,144,759, 8–18–64, Cl. 68—23.

Bodenseewerk Perkin-Elmer & Co. G.m.b.H.: *See*—
Hois, Wilhelm. 3,145,256.

Boegershausen, Robert L., to Reynolds Metals Co. Food package. 3,145,112, 8–18–64, Cl. 99—171.

Boehm, Arthur S., R. H. Riley, Jr., and H. O. Short, to The Black and Decker Mfg. Co. Masonry drilling apparatus. 3,144,912, 8–18–64, Cl. 175—213.

Boettner, Fred E.: *See*—
Dupre, Jean, and Boettner. 3,145,178.
Dupre, Jean, and Boettner. 3,145,180.

Bolton, John W., & Sons, Inc.: *See*—
Danforth, Donald W. 3,144,994.

Bonnet, Georges, and A. Salvi, to Commissariat a l'Energie Atomique. Apparatus for measuring magnetic fields. 3,145,336, 8–18–64, Cl. 324—5.

Borden Co., The: *See*—
Tsou, Kwan C. 3,145,195.

Borden, Roger R., to Lodding Engineering Corp. Method of creping paper using air jets. 3,145,136, 8–18–64, Cl. 161—111.

Bosch, Robert, G.m.b.H.: *See*—
Fehrenbach, Siegfried. 3,144,672.

Boston Herald-Traveler Corp.: *See*—
Evangelista, Anthony J. 3,144,990.

Bostrom, Mark R., and E. W. Taylor, to The Singer Co. Photoelectric motor-speed foot controller. 3,145,304, 8–18–64, Cl. 250—239.

Bothwell, Theodore P., and J. L. De Clue, to Computer Control Co., Inc. Universal logical package having means preventing clock-pulse splitting. 3,145,300, 8–18–64, Cl. 307—88.5.

Boudigues, Alexandre, to Compagnie Generale de Telegraphie Sans Fil. Ultrasonic submarine sounding equipments. 3,145,364, 8–18–64, Cl. 340—3.

Bourns, Inc.: *See*—
Bourns, Marlan E., and Harrison. 3,145,360.
Parkinson, Robert C. 3,145,359.
Parkinson, Robert C. 3,145,361.

Bourns, Marlan E., and M. E. Harrison, to Bourns, Inc. Electric pressure-responsive instrument. 3,145,360, 8–18–64, Cl. 338—41.

Boutwell, John T. Blank cartridge. 3,144,827, 8–18–64, Cl. 102—39.

Bowden, George F., to Symons Mfg. Co. Concrete wall form panel unit with facing-reinforcing and insulating means. 3,144,701, 8–18–64, Cl. 25—131.

Bowen, Lawrence H.: *See*—
McCarty, George W., Shepa, and Bowen. 3,144,735.

Bower, Thomas E.: *See*—
Walker, James H., and Bower. 3,144,816.

Bowers, Albert, to Syntex Corp. Process for the production of 19-hydroxy-3-keto steroids. 3,145,202, 8–18–64, Cl. 260—239.55.

Boyer-Schultz Corp.: *See*—
Bunnell, William S. 3,144,795.

Boyes, George M., and J. E. Watson, to Wisconsin Wire Works. Loom. 3,144,885, 8–18–64, Cl. 139—141.

Boyne Products, Inc.: *See*—
Brown, William L. 3,145,270.
Brown, William L., and Thomson. 3,145,276.

Brace, Neal O., to E. I. du Pont de Nemours and Co. Addition of polyfluoroalkyl iodides to unsaturated compounds and products produced thereby. 3,145,222, 8–18–64, Cl. 260—408.

Braconier, Frederic F. A.: *See*—
Leroux, Pierre J., and Braconier. 3,145,236.

Bradbury, Ernest J.: *See*—
Hignett, Harold W. G., Bradbury, Smith, and Ward. 3,145,124.

Bradfield, George K., Jr.: *See*—
Robinson, Lester E., Bradfield, and Johnson. 3,145,006.

Bradshaw Mfg. Co., Inc.: *See*—
Swinney, John J. 3,145,007.

Brainerd, Henry B. Identification system. 3,145,291, 8–18–64, Cl. 235—61.11.

Bramel, Hadley R. Sedimentation apparatus and method for determining particle size distribution. 3,144,773, 8–18–64, Cl. 73—432.

Brandt Automatic Cashier Co.: *See*—
Hoffman, Otis E., Wallman, and Buchholz. 3,144,987.

Breault, Homer H., to General Electric Co. Production of high purity nitrogen. 3,145,065, 8–18–64, Cl. 23—220.

Brehm, Paul D., to Miniature Precision Bearings, Inc. Radial play gauge. 3,144,718, 8–18–64, Cl. 33—174.

Bridges, George F.: *See*—
Shaver, William R., and Bridges. 3,144,836.

Briggs, Castling & Kelly: *See*—
Ellis, Albert L. 3,144,866.

Briles, Franklin S. Nut and washer assembly. 3,144,803, 8–18–64, Cl. 85—32.

British European Airways Corp.: *See*—
Morgan, Robert C. 3,145,052.

Britton, Ralph H., Jr.: *See*—
Kruse, Frederick W., Jr., and Britton. 3,145,351.

Britton, Richard B.: *See*—
Arnold, Kenneth W., and Britton. 3,144,756.

Brodrene Gram A/S: *See*—
Gram, Hans. 3,144,757.

Brooke, Edric R., to Molins Machine Co. Ltd. Collecting mechanism. 3,144,925, 8–18–64, Cl. 198—24.

Brooks, Arnold C.: *See*—
Uhlig, Edwin C., Buffington, King, and Brooks. 3,144,952.

Brooks Instrument Co., Inc.: *See*—
Francisco, Edward E., Jr. 3,144,769.

Broughton, Arthur E. Doctor blade retainer. 3,144,674, 8–18–64. Cl. 15—256.5.

Brown, Albert W., and D. R. Garrett, to Parker-Hannifin Corp. Closure device for tanks. 3,144,954, 8–18–64, Cl. 220—40.

Brown, John F., Jr., to General Electric Co. Bicyclo [3.3.3] pentasiloxanes. 3,145,225, 8–18–64, Cl. 260—448.2.

Brown, Royce N., to Allis-Chalmers Mfg. Co. Flow indicating means for impositive displacement machines. 3,144,760, 8–18–64, Cl. 73—168.

Brown, William L., to Boyne Products, Inc. Foot operated kick-down switch construction. 3,145,270, 8–18–64, Cl. 200—16.

Brown, William L., and R. Thomson, to Boyne Products, Inc. Self-positioning door switch construction. 3,145,270, 8–18–64, Cl. 200—61.62.

Bruninga, Willis J., to Keystone Steel & Wire Co. Self furring plaster mesh. 3,145,001, 8–18–64, Cl. 245—7.

Brunner, Alfred, to Sulzer Freres, S.A. Steam generating plant. 3,144,856, 8–18–64, Cl. 122—406.

Brutvan, William J., and C. F. Foster. Grinding wheel. 3,144,739, 8–18–64, Cl. 51—206.5.

Bryan, William L., to E. I. du Pont de Nemours and Co. Flame treatment of polymeric film and apparatus. 3,145,242, 8–18–64, Cl. 264—80.

Buccicone, Dario, to Bucciconi Engineering Co., Inc. Flexible magnetic conveyor. 3,144,927, 8–18–64, Cl. 198—41.

Bucciconi Engineering Co., Inc.: *See*—
Buccicone, Dario. 3,144,927.

Buchholz, Arnold R.: *See*—
Hoffman, Otis E., Wallman, and Buchholz. 3,144,987.

Buckingham, William T., to Foseco International Ltd. Exothermically reacting shaped products for use in foundry practice. 3,144,690, 8–18–64, Cl. 22—147.

Buckler, Sheldon A., and M. Epstein, to American Cyanamid Co. Organic phosphine derivatives and method of preparing same. 3,145,234, 8–18–64, Cl. 260—606.5.

Buckley, Elery F.: *See*—
Cuming, William R., and Buckley. 3,145,382.

Buckner, Dean A., and H. C. Hafner, to Bausch & Lomb Inc. Method of making body from glass particles. 3,145,090, 8–18–64. Cl. 65—18.

Budwig, Gilbert G. Mounting device. 3,144,695, 8–18–64, Cl. 24—213.

Buffington, Henry C.: *See*—
Uhlig, Edwin C., Buffington, King, and Brooks. 3,144,952.

Bunnell, William S., to Boyar-Schultz Corp. Tool. 3,144,795, 8–18–64, Cl. 82—35.

Burrell, William E. Directionally selective lubricating system. 3,144,915, 8–18–64, Cl. 184—3.

Burton, Paul F., P. F. Fleagle, and R. S. Steeley, to Dixie-Narco, Inc. Ice storage and dispensing hopper. 3,144,965, 8–18–64, Cl. 222—108.

Buser, Elizabeth A. Hospital garment. 3,144,661, 8–18–64, Cl. 2—114.

Butterworth, Robert: *See*—
Stanton, Arthur J., Anderson, Taylor, Butterworth, and Shawen. 3,144,810.

Büttner, Artur, to Schnellpressenfabrik Aktiengesellschaft Heidelberg. Apparatus for improving sheet delivery on automatic platen machines. 3,144,825, 8–18–64, Cl. 101—297.

Buzawa, Michael J., to Bausch & Lomb Inc. Projection objective for photo mechanisms. 3,145,255, 8–18–64, Cl. 88—57.

Byron, Elliot A. Eye shields. 3,144,658, 8–18–64, Cl. 2—12.

C.I.T. Compagnie Industrielle des Telecommunications: *See*—
Berman, Léon. 3,145,334.

Cabin Crafts, Inc.: *See*—
Elliott, Charles D., Hackney, and La Duke. 3,144,844.

Cabot Corp.: *See*—
Belknap, Louis S., and Carpenter. 3,145,083.

Caddoo, William H., to Continental Can Co., Inc. Book cover and machine and method for making same. 3,145,033, 8–18–64, Cl. 281—29.

Caipen, Robert A., to Packaging Corp. of America. Heat reaction method for separation of paper sheets. 3,145,162, 8–18–64, Cl. 209—11.

Calaceto, Ralph R., to Airetron Engineering Corp. Gas scrubber. 3,145,239, 8–18–64, Cl. 261—112.

California Research Corp.: *See*—
Jacobson, Robert L. 3,145,160.

Calia, Nick. Spring assisted foam cushion construction. 3,145,020, 8–18–64, Cl. 267—1.

Callaway Mills Co.: *See*—
Short, Joe T. 3,144,883.

Camerino, Bruno, B. Patelli, and R. Sciaky, to Societa' Farmaceutici Italia. Process for the manufacture of 4-hydroxy-3-keto-Δ4-steroids. 3,145,201, 8–18–64, Cl. 260—239.55.

Campbell, Curtis. Combined check and account book. 3,145,034, 8–18–64, Cl. 283—58.

Campbell, Robert E.: *See*—
Billeter, Henry R., Campbell, and Tramblie. 3,145,064.

Campbell, Ronald H., to United Kingdom Atomic Energy Authority. Leak detection apparatus for gas cooled reactor. 3,145,148, 8–18–64, Cl. 176—19.

Camps-Campins, Michael F.: *See*—
Hollander, Milton B., and Camps-Campins. 3,144,710.

Canaan, Richard A. Bowling shoe conditioner. 3,144,675, 8–18–64, Cl. 15—311.

Carlson, Robert G., to United States of America, Air Force. Hot pressing barrier material. 3,145,103, 8–18–64, Cl. 75—214.

Carlton, Raymond R., to Omark Industries, Inc. Saw chain semichisel bit cutter. 3,144,891, 8–18–64, Cl. 143—135.

Carmichael, George W.: *See*—
Tamura, Yoshiaki, Carmichael, and Georgantas. 3,145,205.

Carney, Rowe E., Jr.: *See*—
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Carpco Research & Engineering, Inc.: *See*—
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Carpenter, Clifford L.: *See*—
Belknap, Louis S., and Carpenter. 3,145,083.

Carpenter, James H., to Carpco Research & Engineering, Inc. Belt conveyor. 3,144,929, 8–18–64, Cl. 198—163.

Carter, Andrew G., and H. G. Alofs, said Carter assor. to A. G. H. T. Carter, a partnership d.b.a. Carter Engineering Co. Separable fastener biasing system. 3,144,696, 8–18–64, Cl. 24—230.

Carter Engineering Co.: *See*—
Carter, Andrew G., and Alofs. 3,144,696.

Carter, Harriett T.: *See*—
Carter, Andrew G., and Alofs. 3,144,696.

Carter, John W., to Caterpillar Tractor Co. Control system for tandem unconnected vehicles whereby rear vehicle controls work means of the forward vehicle. 3,144,723, 8–18–64, Cl. 37—129.

Carter, Joseph H.: *See*—
Biahnik, David J. 3,145,056.

Carter, Joseph H. Spring motor operated tilting dump truck. 3,145,055, 8–18–64, Cl. 298—22.

Carter's Ink Co., The: *See*—
Oster, Gerald. 3,145,156.

Caspers, James W., to United States of America, Navy. Sequential signal detector. 3,145,379, 8–18–64, Cl. 343—5.

Caterpillar Tractor Co.: *See*—
Carter, John W. 3,144,723.

Cator, Edward J., to Bausch & Lomb Inc. Bearing assembly. 3,145,065, 8–18–64, Cl. 308—6.

Cederholm, Curt: *See*—
Ljungström, Herbert, Cederholm, and Zetterberg. 3,144,983.

Celanese Corp. of America: *See*—
Palm, Clifford W., and Gibson. 3,144,747.
Stamps, William E., Merrill, and Livingston. 3,144,746.

Ceravolo, Philip J. Jig for locating cabinet latch components or the like. 3,144,719, 8–18–64, Cl. 33—194.

Cerf, Gustave D., and M. Krakinowski, to Sperry Rand Corp. Card-feeder mechanism. 3,145,023, 8–18–64, Cl. 271—41.

Chalmson, Robert K., to United States of America, Navy. Arm holding and extending means. 3,144,775, 8–18–64, Cl. 74—2.

Challenge-Cook Bros. Inc.: *See*—
Taggart, Percy R. 3,145,057.

Chedaille, Jacques, to Institut de Recherches de la Siderurgie Francaise. Converter arrangement. 3,145,245, 8–18–64, Cl. 266—34.

Chemical Sealing Corp.: *See*—
Muehleback, William D., and Paradise. 3,144,936.

Cheminser, Inc.: *See*—
Goodwiller, Elbert V. 3,145,018.

Cheroff, George, F. Hochberg, A. Reisman, and S. Triebwasser, to International Business Machines Corp. Method for controlling flux pressure during a sintering process. 3,145,120, 8–18–64, Cl. 117—201.

Cheung, Chan. Night light construction. 3,144,992, 8–18–64, Cl. 240—6.4.

Chiarello, Sesto L., to Packard-Bell Electronics Corp. Sonic signal. 3,144,851, 8–18–64, Cl. 116—137.

Chien, Robert T., to International Business Machines Corp. Load sharing magnetic switches. 3,145,306, 8–18–64, Cl. 307—88.

Christoff, James W., and R. A. Peppin, to Mannix Co., Ltd. Railroad track working equipment. 3,144,838, 8–18–64, Cl. 104—7.

Chromalloy Corp.: *See*—
Tarkan, Stuart E., and Wojtowicz. 3,145,100.

Chung, Jackson, to Dodge Mfg. Corp. Variable pitch sheaves for multiple V belt drive. 3,144,780, 8–18–64, Cl. 74—230.17.

Chupp, John P., and P. E. Newallis, to Monsanto Co. Alkylphosphonothioates. 3,145,140, 8–18–64, Cl. 167—30.

Cich, John L. Driver's daily log computer. 3,144,716, 8–18–64, Cl. 33—107.

Clardy, H. S.: *See*—
Witska, Thomas E. 3,144,880.
Clark, Clyde B.: *See*—
Ragsdale Mazera, Hazel M., and Clark. 3,144,666.
Clark, Joseph F.: *See*—
Daly, Paul J., and Clark. 3,145,072.
Clarricoats, Peter J. B., to National Research Development Corp. Different sized waveguides coupled by a narrow tapered dielectric rod. 3,145,356, 8–18–64, Cl. 333—34.
Clemm, Peter J.: *See*—
LaForce, Ronald P., and Clemm. 3,145,110.
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Tilden, Carleton D. 3,144,754.
Clevite Corp.: *See*—
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Clinton, Raymond O., and A. J. Manson, to Sterling Drug Inc. Steroido [3,2-c] isoxazoles and preparation threof. 3,145,200, 8–18–64, Cl. 260—239.55.
Clute, Francis H. Vacuum expansion exfoliator. 3,145,019, 8–18–64, Cl. 263—21.
Cognie, Emile A. Mechanical control system for the inward rocking of the independent shares of a plough removing spoil heaps in vineyards. 3,144,911, 8–18–64, Cl. 172—234.
Cole, Theodore H., to International Business Machines Corp. Transistor preparation machine. 3,144,889, 8–18–64, Cl. 140—140.
Collier, Thomas C.: *See*—
Girouard, Phillas H., Hickman, Kane, Nelson, Neuman, Randolph, and Collier. 3,144,809.
Combustion Engineering, Inc.: *See*—
Egbert, John T. 3,144,902.
Stockman, Richard. 3,144,900.
Stockman, Richard. 3,144,903.
Commercial Solvents Corp.: *See*—
Martin, Jerome L. 3,145,141.
Commissariat a l'Energie Atomique: *See*—
Bonnet, Georges, and Salvi. 3,145,338.
Courtois, Guy, and Le Clere. 3,145,181.
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Boudigues, Alexandre. 3,145,364.
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Armstrong, James S. 3,144,953.
Computer Control Co., Inc.: *See*—
Bothwell, Theodore P., and De Clue. 3,145,309.
Hill, Howard H. 3,145,342.
Horton, William P. 3,145,343.
Comstock, Russell E.: *See*—
Neubauer, Emil T., and Comstock. 3,144,982.
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Powell, William H. 3,145,241.
Continental Can Co., Inc.: *See*—
Caddoo, William H. 3,145,033.
Freshour, Oren A. 3,144,976.
Hansson, Ants, and Ripling. 3,144,709.
Long, Florren E. 3,144,931.
Ripling, Edward J. 3,144,712.
Continental Gummi-Werke Aktiengesellschaft: *See*—
Michels, Peter. 3,144,930.
Controls Co. of America: *See*—
Queever, Lawrence. 3,144,898.
Cook, Ralph J., to Semco Research Inc. Cartridge for mixing and dispensing sealant compound. 3,144,966, 8–18–64, Cl. 222—136.
Coombs, William F., Jr., to Bausch & Lomb Inc. Optical electric system for use with measuring instrument. 3,144,807, 8–18–64, Cl. 88—24.
Copeland Refrigeration Corp.: *See*—
Neubauer, Emil T., and Comstock. 3,144,982.
Cortina, Anthony. Cushion heel construction for women's shoes. 3,144,722, 8–18–64, Cl. 36—36.
Cosgrove, Reginald A.: *See*—
Weighton, Donald, and Cosgrove. 3,145,295.
Coss, James R., M. J. Cote, and P. B. Hemmig, to United States of America, Air Force. Dual sensor gamma ray calorimeter. 3,145,300, 8–18–64, Cl. 250—83.
Cote, Maurice J.: *See*—
Coss, James R., Cote, and Hemmig. 3,145,300.
Courtois, Guy, and P. Le Clere, to Commissariat a l'Energie Atomique. Radioactive sources. 3,145,181, 8–18–64, Cl. 252—301.1.
Coyne, Francis H., Jr. Mail stacker. 3,144,985, 8–18–64, Cl. 232—24.
Crain, Cullen M., and C. E. Williams, to United States of America, Navy. Wavemeter. 3,145,299, 8–18–64, Cl. 250—39.
Crane, Hewitt D., to Stanford Research Institute. Character recognition circuit. 3,145,367, 8–18–64, Cl. 340—146.3.
Crane, Jack W., to Sperry Rand Corp. Hay pelleter. 3,144,840, 8–18–64, Cl. 107—14.
Crass, Rosa A.: *See*—
Koenig, Nathan H., and Crass. 3,145,074.
Cripe, Robert W., and N. M. Greene. Monorail system. 3,144,836, 8–18–64, Cl. 104—103.
Cripps, Harry N., to E. I. du Pont de Nemours and Co. $\Delta^{9,10}$-octalins. 3,145,219, 8–18–64, Cl. 260—346.3.
Cross, Enson, Jr., and E. K. Mills, Jr. Plastic deformable mounting. 3,144,694, 8–18–64, Cl. 24—213.
Crown Foundry Co. Ltd.: *See*—
Salmons, John A. 3,144,800.
Cubberley, Mitchell H. Safety ski binding of the strap or long thong harness type. 3,145,028, 8–18–64, Cl. 280—11.35.
Cuming, William R., and E. F. Buckley, to Emerson & Cuming, Inc. Microwave reflector. 3,145,382, 8–18–64, Cl. 343—18.
Curby, William A. Transducer temperature-sensing unit. 3,144,629, 8–18–64, Cl. 338—28.
Currie, Gerard, to General Precision, Inc. Analog to digital signal conversion. 3,145,376, 8–18–64, Cl. 340—347.
Currie, Gerard, to General Precision, Inc. Signalling system. 3,145,380, 8–18–64, Cl. 343—6.3.
Dahms, Francis A., to Emhart Mfg. Co. Bacon slicer having automatic feed adjustment. 3,144,893, 8–18–64, Cl. 146—95.
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Aoki, Kunio. 3,144,685.
Daiwa Boseki Kabushiki Kaisha: *See*—
Aoki, Kunio. 3,144,686.
Dale, Robert A. Anti-friction type mounting means for connecting rods. 3,144,786, 8–18–64, Cl. 74—579.
Daly, Paul J., and J. F. Clark, to United States of America, Air Force. Photographic recorder. 3,145,072, 8–18–64, Cl. 346—110.
Damon, Nell F., and R. C. Hey, to Augat, Inc. Electrical connector. 3,145,089, 8–18–64, Cl. 339—218.
Dancy, William B., and C. E. Pressnell, to International Minerals & Chemical Corp. Beneficiation of potash ores. 3,145,163, 8–18–64, Cl. 209—12.
Danforth, Donald W., to John W. Bolton & Sons, Inc. Apparatus for refining paper stock. 3,144,994, 8–18–64, Cl. 241—260.
Date, Kazuo H., and A. G. Steinmayer, to McGraw-Edison Co. Load break device having interrupting quick break blades of substantially same length. 3,145,283, 8–18–64, Cl. 200—146.
Davis, Charles S., Jr., and S. W. Baker, to Bergen Research Engineering Corp. Gear type transmissions. 3,144,790, 8–18–64, Cl. 74—801.
Davis, John D.: *See*—
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Davis, John S., to Equitable Paper Bag Co. Inc. Burst resistant paper shopping bag. 3,144,815, 8–18–64, Cl. 93—35.
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Biber, Albert, and Davis. 3,144,897.
Davis, Willie T.: *See*—
Rager, Edgar A., Davis, and Day. 3,144,812.
Davis, Ralph A.: *See*—
Rausch, Douglas A., Kroon, and Davis. 3,145,082.
Day, Franklin P.: *See*—
Rager, Edgar A., Davis, and Day. 3,144,812.
Deakin, Stanley T., and A. E. Powell, to Sealectro Corp. Diode receptacle. 3,145,329, 8–18–64, Cl. 317—234.
Dean, Robert V. Safety diaper pins. 3,144,691, 8–18–64, Cl. 24—1.
De Caro, Charles J., and R. J. Kopf, to Olin Mathieson Chemical Corp. Extractor and deformable plastic cartridge. 3,144,727, 8–18–64, Cl. 42—25.
Decker, Alfred S., and J. W. Johnsose, to Owens-Illinois Glass Co. Lehr for glassware. 3,145,092, 8–18–64, Cl. 65—351.
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Lee, John G. W. 3,144,761.
De Maire, Joseph H.: *See*—
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Herpich, William A., and Longmire. 3,145,006.
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Demrick, Carl J., to Avis Industrial Corp. Wheel cover. 3,145,061, 8–18–64, Cl. 301—37.
Demrick, Carl J., C. J. Marshall, and V. A. Sanborn, to Avis Industrial Corp. Wheel cover. 3,145,038, 8–18–64, Cl. 301—37.
Derham, Leslie J., to Metallurgical Processes Ltd., and National Smelting Co. Ltd. d.b.a. Metallurgical Development Co. Shock-chilling condensers for a zinc blast-furnace. 3,145,097, 8–18–64, Cl. 75—63.
De Souza, John E., and R. L. Rice, to Imperial Tobacco Co. of Canada, Ltd. Treatment of tobacco with organic solvents in the vapour phase. 3,144,871, 8–18–64, Cl. 131—140.
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Dickey, Clyde W., to HRB-Singer, Inc. Vibration pick-up device. 3,145,311, 8–18–64, Cl. 310—8.4.
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Djerassi, Carl, and J. Iriarte, to Syntex Corp. 17α-lower alkyl, 17α-lower alkinyl and 17α-lower alkenyl derivatives of 19-nor-Δ^4-androsten-17β-ol-3-one. 3,145,221, 8–18–64, Cl. 260—397.4.
Dobbs, Donald G. Inflatable neck band life preserver. 3,144,667, 8–18–64, Cl. 9—316.
Dodge Mfg. Corp.: *See*—
Chung, Jackson. 3,144,780.
Douglas, John E.: *See*—
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Finke, Walter A. 3,145,131.
Gould, Arthur S., and Nathanson. 3,144,671.
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Pumpelly, Charles T., and Wilkinson. 3,145,155.
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Dowdy, Ralph F. and L. F. Baby walker. 3,145,048, 8–18–64, Cl. 297—5.

Downs, Neville L., to Electronics Communications, Inc. Combination transmission system phase and impedance sensor having a single center-tapped probe. 3,145,338, 8–18–64, Cl. 324—58.

Drejza, John E., to International Business Machines Corp. Printer apparatus having print force control. 3,144,821, 8–18–64, Cl. 101—93.

Dryer, Charles D.: *See*—
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Dubendorfer, Herman R. Tapping attachment. 3,144,763, 8–18–64, Cl. 74—376.

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Duke, Alexander J., ¼ to R. R. Barasch. Convertible chair lounge. 3,145,049, 8–18–64, Cl. 297—105.

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Bryan, William L. 3,145,242.
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Heighton, Harold H. 3,144,680.
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Dupre, Jean, and F. E. Boettner, to Rohm & Haas Co. Alkaline metal cleaning compositions and process of using same. 3,145,178, 8–18–64, Cl. 252—137.

Dupre, Jean, and F. E. Boettner, to Rohm & Haas Co. Process of cleaning metal surfaces. 3,145,180, 8–18–64, Cl. 252—137.

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Edelman, Abraham. Installation for selectively dispatching articles. 3,144,926, 8–18–64, Cl. 198—38.

Edmonds, James T., Jr., and C. R. Scott, to Phillips Petroleum Co. Polycyclic alcohols as hypergolic fuels. 3,144,750, 8–18–64, Cl. 60—35.4.

Edmundson, Tillson H. Chain saw driving sprocket assembly. 3,144,782, 8–18–64, Cl. 74—243.

Edwards, Robert L., to National Seating Co. Flexible handle. 3,145,050, 8–18–64, Cl. 297—183.

Egbert, John T., to Combustion Engineering, Inc. Heat exchanger arrangement. 3,144,902, 8–18–64, Cl. 165—7.

Eichner, Frank L., M. A. Grogel, and W. M. Korman, to Reynolds Metals Co. Manufacture of food container and the like from aluminum foil or other thin metallic material. 3,144,974, 8–18–64, Cl. 229—3.5.

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Einaudi, Giacomo, and G. Ficco, to RIV Officine Divillar Perosa Societa per Azioni. Method of manufacturing roll cages for needle bearings. 3,144,702, 8–18–64, Cl. 29—148.4.

Elder, Max E., C. Moore, and W. F. Tousignant, to The Dow Chemical Co. Removing phenols from aqueous media. 3,145,167, 8–18–64, Cl. 210—41.

Electronics Communications, Inc.: *See*—
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Electro-Way Corp.: *See*—
Moore, Herbert C., and Trautmann. 3,144,873.

Elliott, Charles D., R. F. Hackney, and L. C. La Duke, to Cabin Crafts, Inc. Portable machine for tufting cut pile. 3,144,844, 8–18–64, Cl. 112—80.

Ellis, Albert L., to Briggs, Castling & Kelly. Disposable douche syringe and bag. 3,144,866, 8–18–64, Cl. 128—232.

Ellis, George M. Pole fitting for clothes hanger rack. 3,144,946, 8–18–64, Cl. 211—182.

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Baldwin, Jesse A., Schroeder, and Ender. 3,145,170.

Engel, Georg, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung. Winding drum. 3,144,996, 8–18–64, Cl. 242—72.1.

Engel, Willem F., to Shell Oil Co. Process and catalyst for the polymerization of olefins. 3,145,196, 8–18–64, Cl. 260—94.9.

Epstein, Martin: *See*—
Buckler, Sheldon A., and Epstein. 3,145,234.

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Erickson, Gerald T. and R., to Snap Pac Corp. Continuous orienting and packaging machine for cans or the like. 3,144,740, 8–18–64, Cl. 53—48.

Erickson, Richard: *See*—
Erickson, Gerald T. and R. 3,144,740.

Eriksen, Warren T.: *See*—
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Ernst, Paul, and W. Fischer, to Wacker-Chemie G.m.b.H. Process for chemically curling cellulose acetates. 3,145,075, 8–18–64, Cl. 8—131.

Espino, Carlos. Cuff link. 3,144,892, 8–18–64, Cl. 24—97.

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Orloff, Harold D., and Knapp. 3,145,177.
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Evangelista, Anthony J., to Boston Herald-Traveler Corp. Type size calculator. 3,144,990, 8–18–64, Cl. 235—79.5.

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Foote, Charles M., Evard, and Gordon. 3,144,919.

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Kahn, Frank, and Everett. 3,144,904.

Explorer Research Co.: *See*—
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FMC Corp.: *See*—
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Faas, Kenneth D., to Bausch & Lomb Inc. Aluminum foil lens grinding pad. 3,144,737, 8–18–64, Cl. 51—185.

Faber, Lawrence P., Jr., and K. S. Kirkwood. Tuning apparatus. 3,144,802, 8–18–64, Cl. 84—454.

Fairbairn, Howard W.: *See*—
Jones, Arthur B., and Fairbairn. 3,144,731.

Fairchild Camera and Instrument Corp.: *See*—
Hilpman, Paul H., and Albert. 3,144,823.

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Fairmont Railway Motors, Inc.: *See*—
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Farquhar, Melville T., to Reynolds Metals Co. Collapsible receptacle and blank therefor or the like. 3,144,077, 8–18–64, Cl. 229—16.

Fearing, Ralph B., to Stauffer Chemical Co. Low-freezing methyl parathion solutions. 3,145,139, 8–18–64, Cl. 167—80.

Federal-Huber Co.: *See*—
Williams, Frank N. 3,144,878.

Fehling, Hans R., and E. H. Harvey, to I.R.C. Ltd. Method and apparatus for preparing cratered balls. 3,145,286, 8–18–64, Cl. 219—69.

Fehrenbach, Seigfried, to R. Bosch, G.m.b.H. Windshield wiper assembly. 3,144,672, 8–18–64, Cl. 15—250.14.

Feick, George III, and W. F. Olds, to Anaconda Wire and Cable Co. Treated insulation impregnant for high voltage electrical cable. 3,145,258, 8–18–64, Cl. 174—25.

Felburn, John P. Animal hauling vehicles. 3,145,045, 8–18–64, Cl. 296—24.

Feldkamp, Rolland F., to Sterling Drug Inc. Tropyl esters of a-cycloalkylalkanoic acids. 3,145,211, 8–18–64, Cl. 260—292.

Felix, Ernst, to Zellweger Ltd., Uster Factories for Apparatus and Machines. Means for averaging a variable function. 3,145,297, 8–18–64, Cl. 235—183.

Fibreboard Paper Products Corp.: *See*—
Walker, James H., and Bower. 3,144,816.

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Ficher, Hermann: *See*—
Lang, William B., and Reinarts, and Ficher. 3,144,826.

Ficken, Leonard A.: *See*—
Holstein, Alvin W., and Ficken. 3,144,959.

Field, Robert B.: *See*—
Kamborian, Jacob S., and J. S., Jr., and Field. 3,144,870.

Fielding, Harold C., to Imperial Chemical Industries Ltd. Preparation of phosphoryl isocyanates. 3,145,077, 8–18–64, Cl. 23—14.

Finke, Walter A., to The Dow Chemical Co. Joint for corrugated board. 3,145,131, 8–18–64, Cl. 161—36.

Finkl, A., & Sons Co.: *See*—
Finkl, Charles W. 3,145,096.
Franzen, Erwin F. 3,145,095.

Finkl, Charles W., to A. Finkl & Sons Co. Method of degassing of molten metal. 3,145,096, 8–18–64, Cl. 75—49.

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Ernst, Paul, and Fischer. 3,145,075.

Fisher, Henry C., to Norton Co. Catalyst carrying balls. 3,145,183, 8–18–64, Cl. 252—477.

Fleagle, Paul F.: *See*—
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Fonken, William A., to Hold Corp. Attachment for a toilet flushing means. 3,144,684, 8–18–64, Cl. 4—57.

Fontaine, Paul J., to Goodman Mfg. Co. Wood chipper. 3,144,995, 8–18–64, Cl. 241—298.

Foote, Charles M., C. W. Evard, and E. A. Gordon, to The Weatherhead Co. Push-pull shaft assembly. 3,144,919, 8–18–64, Cl. 188—67.

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Forney, Edgar W., Jr., to AMP Inc. Electrical connector for insulated wires. 3,145,261, 8–18–64, Cl. 174—84.

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Foster, Carl F.: *See*—
Brutvan, William J., and Foster. 3,144,739.

Foster, James L. Power driven sucker rod wrench. 3,144,794, 8–18–64, Cl. 81—56.

Foundation for Medical Technology: *See*—
Mallina, Rudolph F., and Miller. 3,144,854.

Fourier, Walter A., to American Can Co. Method of making freely flowable rubber compositions. 3,145,189, 8–18–64, Cl. 260—45.5.

Fox, Homer M., to Phillips Petroleum Co. Solid propellant charge. 3,144,829, 8–18–64, Cl. 102—98.

Frampton, D. B., & Co.: *See*—
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Francisco, Edward E., Jr., to Brooks Instrument Co., Inc. Means for measuring mass flow rate of fluid flow. 3,144,769, 8–18–64, Cl. 73—231.

Franssen, Hermann. Compound materials and methods of producing the same. 3,145,101, 8–18–64, Cl. 75—201.

Franzen, Erwin F., to A. Finkl & Sons Co. Method and apparatus for continuously tapping and degassing molten metal into ingot molds. 3,145,095, 8–18–64, Cl. 75—49.

Free, Alfred H., and G. D. Lower, to Miles Laboratories, Inc. Diagnostic composition. 3,145,086, 8–18–64, Cl. 23—253.

Freeman, Robert C.: *See*—
Speziale, Angelo J., and Freeman. 3,145,280.

Freeman Supply Co., The: *See*—
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French, Henry C., and N. F. Wender, to Dempster Bros., Inc Containers for vehicles. 3,145,009, 8–18–64, Cl. 248—150.

Freshour, Oren A., to Continental Can Co., Inc. Liquid filled pouch with straw. 3,144,976, 8–18–64, Cl. 229—7.

Freudenberg, Carl: *See*—
Fuchs, Hermann. 3,144,760.

Fridley, Ernest S.: *See*—
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Fried, Josef, and E. E. Galantay, to Olin Mathieson Chemical Corp. Crotonolactones. 3,145,218, 8–18–64, Cl. 260—343.6.

Frye, James A., to Halliburton Co. Swing-type check valve. 3,144,876, 8–18–64, Cl. 137—454.5.

Fuchs, Hermann, to Carl Freudenberg. Surface of suede leather. 3,144,760, 8–18–64, Cl. 69—21.

Fuchs, Robert J., and C. B. Miles, to FMC Corp. Method of stabilizing dichlorocyanuric acid salts. 3,145,206, 8–18–64, Cl. 260—248.

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Gabler, Rudolf, to W. R. Grace & Co. Polyamides from a mixture of isophthalic acid, terephthalic acid and branched chain aliphatic diamine. 3,145,193, 8–18–64, Cl. 260—78.

Gagliardi, Domenick D. Treatment of polyolefin articles and resulting products. 3,145,073, 8–18–64, Cl. 8—100.

Galantay, Eugene E.: *See*—
Fried, Josef, and Galantay. 3,145,218.

Gam Electronics, Inc.: *See*—
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Ganguet, William A., and G. D. McKenzie. Cotton harvester. 3,144,744, 8–18–64, Cl. 56—31.

Gardner, Douglas B., and F. B. Kuffer, to Beckman Instruments, Inc. Meter with adjustable pointer reference markers. 3,145,339, 8–18–64, Cl. 324—157.

Gardner, Mark B., and J. R. Nelson, to Bell Telephone Laboratories, Inc. Control of dynamic range and sensitivity of echo suppressor circuits. 3,145,269, 8–18–64, Cl. 179—170.6.

Garner, Edward V., to Bird Machine Co. Centering of rotary members. 3,144,784, 8–18–64, Cl. 74—471.

Garrett Corp., The: *See*—
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Gateff, George, and E. J. Leeson, to The B. F. Goodrich Co. Post-chlorinated vinyl chloride polymer compositions having increased impact strength and improved processability. 3,145,190, 8–18–64, Cl. 260—45.5.

Gaunt, James K., J. Wood, and J. E. Douglas, to Massey-Ferguson (Australia) Ltd. Topping device for sugar cane harvester. 3,144,743, 8–18–64, Cl. 56—17.

Gay, Ernest A.: *See*—
Nicolaux, Genevieve J. M., Gay, Matet, Mauge, Sandevoir, and Wasmer. 3,145,233.

Gehre, Hans. Fluid meter construction. 3,144,768, 8–18–64, Cl. 73—231.

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Baun, Raymond F. 3,145,127.
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La Force, Ronald P., and Clemm. 3,145,119.
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Sheely, Edward J. 3,144,770.
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General Mills, Inc.: *See*—
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Gettinger, Lillian L. Bonnet-type head covering. 3,144,662, 8–18–64, Cl. 2—204.

Gettino, Nicholas A., and A. F. Murphy, to General Electric Co. Expansion chamber for orienting liquid level. 3,145,357, 8–18–64, Cl. 336—94.

Geyler, Arthur E. Key holder. 3,144,935, 8–18–64, Cl. 206—56.

Gianola, Umberto F., to Bell Telephone Laboratories, Inc. Multiapertured magnetic cores. 3,145,370, 8–18–64, Cl. 340—174.

Gianola, Umberto F., to Bell Telephone Laboratories, Inc. Multiapertured magnetic cores. 3,145,371, 8–18–64, Cl. 340—174.

Gibson, William B.: *See*—
Palm, Clifford W., and Gibson. 3,144,747.

Gilbride, Andrew J., to United Shoe Machinery Corp. Heel attaching machines. 3,144,636, 8–18–64, Cl. 1—338.

Gildart, Richard F., to Rebrig Pacific Co. Electrical switch and actuator apparatus. 3,145,275, 8–18–64, Cl. 200—61.41.

Gindl, Abraham M., to International Business Machines Corp. Monostable multivibrator with early reset if desired. 3,145,308, 8–18–64, Cl. 307—88.5.

Girouard, Phillias H., C. V. Hickman, deceased (by J. W. Hickman, administratrix), G. A. Kane, J. I. Nelson, M. C. Neuman, H. Randolph, and T. C. Collier, to United States of America, Navy. Breech block operating mechanism. 3,144,809, 8–18–64, Cl. 89—4.

Glickman, Samuel A., to General Aniline & Film Corp. Film forming composition of copolymers of N-vinyl-e-caprolactam. 3,145,147, 8–18–64, Cl. 167—87.1.

Gluckin, William, & Co., Inc.: *See*—
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Godefrol, Erik F., and R. F. Parcell, to Parke, Davis & Co. Process for the production of N-substituted-1-phenylcyclohexylamines. 3,145,229, 8–18–64, Cl. 260—570.5.

Goerl, George F., to American Tansul Co. Addition of dry clay to beer. 3,145,106, 8–18–64, Cl. 99—48.

Goff, Donald H., and C. T. Scheundel, to American Can Co. Outset for a collapsible tube. 3,144,964, 8–18–64, Cl. 222—92.

Goldberg, William P.: *See*—
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Goldtrap, Charley L., to Twentieth Century Products Corp. Toilet tank supply valve assembly. 3,144,874, 8–18–64, Cl. 137—414.

Goldtrap, Charley L., to Twentieth Century Products Corp. Toilet tank supply valve assembly. 3,144,875, 8–18–64, Cl. 137—414.

Goodman, Joseph J., to American Cyanamid Co. Production of chlortetracycline and demethylchlortetracycline. 3,145,154, 8–18–64, Cl. 195—80.

Goodman Mfg. Co.: *See*—
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Goodrich, B. F., Co., The: *See*—
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Goodwillier, Elbert V., to Chemineer, Inc. Shaft locking device. 3,145,018, 8–18–64, Cl. 259—135.

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Gould, Arthur S., and P. Nathanson, to The Dow Chemical Co. Dust cloth. 3,144,671, 8–18–64, Cl. 15—1.5.

Graber, Robert P., and M. B. Meyers, to General Mills, Inc. 17,20-oxido-6,16-dialkyl-pregnanes and process for the preparation thereof. 3,145,199, 8–18–64, Cl. 260—239.55.

Grace, W. R., & Co.: *See*—
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Gram, Hans, to Brodrene Gram A/S. Apparatus for the production of bits of ice. 3,144,757, 8–18–64, Cl. 62—354.

Grayson, Martin, and P. T. Keough, to American Cyanamid Co. Organic phosphine oxides and methods of preparing same. 3,145,227, 8–18–64, Cl. 260—465.8.

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Griessl, Rudolf, to Markes & Co. Kommanditgesellschaft. Driving arrangements for toy devices and the like. 3,144,787, 8–18–64, Cl. 74—665.

Griggs, Glenn K., to Jennings Radio Mfg. Corp. Combined linear and rotary actuator means for switch. 3,145,278, 8–18–64, Cl. 200—102.

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Groh, Edward F., to United States of America, Atomic Energy Commission. Fuel assembly for low power reactors. 3,145,151, 8–18–64, Cl. 176—75.

Grolig, Richard A. Zipper hook. 3,145,041, 8–18–64, Cl. 294—19.

Groot, John K., to Wilson Athletic Goods Mfg. Co., Inc. Accessory pad for use on football shoulder pads. 3,144,657, 8–18–64, Cl. 2—2.

Grudoski, Daniel P., to Blazon, Inc. Playground swing. 3,145,013, 8–18–64, Cl. 248—370.

Grudoski, Daniel P., to Blazon, Inc. Glider-type playground swing. 3,145,024, 8–18–64, Cl. 272—87.

Grzeczkowski, Vincent A., to General Electric Co. Multiple element electric fuze. 3,145,282, 8–18–64, Cl. 200—131.

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Gumaelius, Robert L. B. Child height measuring and status recording device. 3,144,717, 8–18–64, Cl. 33—138.

Gumperts, Donald G. Automatic warehousing machine. 3,144,938, 8–18–64, Cl. 221—7.

Gylle, James D., to North American Aviation, Inc. Fuel-moderator element for a nuclear reactor and method of making. 3,145,150, 8–18–64, Cl. 176—71.

Gyori, Emery A., and L. J. Hammons. Trailer for hauling vehicles. 3,145,043, 8–18–64, Cl. 296—1.

Gyrotor Inc.: *See*—
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HRB-Singer, Inc.: *See*—
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Hammond, Joseph P., and J. D. Sease, to United States of America, Atomic Energy Commission. Method for improving hydrolysis resistance of uranium carbide containing composition. 3,145,182, 8–18–64, Cl. 252—301.1.

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Harbaugh, Max L., to E. du Pont de Nemours and Co. Process for the preparation of purified hydrogen bromide gas by the use of activated carbon as catalyst. 3,145,079, 8–18–64, Cl. 23—154.

Hardy, George F., to Clevite Corp. Method of making diffused junctions. 3,145,126, 8–18–64, Cl. 148—187.

Harley, William J., to Harley-Davidson Motor Co. Vehicle transmission and control. 3,144,860, 8–18–64, Cl. 123—179.

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Harmon, William C., to Republic Steel Corp. Ultrasonic inspection system. 3,144,764, 8–18–64, Cl. 73—67.8.

Harrison, Charles J., and E. S. Fridley, Camper. 3,145,044, 8–18–64, Cl. 296—23.

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Hart, Dexter R., and K. O. W. Moebius, to McCulloch Corp. Propeller retention means. 3,144,909, 8–18–64, Cl. 170—177.

Hartmann, Louis M., and A. B. A. Hansen, to Aktiesselskabet Brodrene Hartmann. Container of fibrous material for hens' eggs. 3,144,972, 8–18–64, Cl. 229—2.5.

Harvey, Edward H.: *See*—
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Haugwitz, Otto, to Geoffroy-Delore, Societe Anonyme. Cable hauling apparatus. 3,144,949, 8–18–64, Cl. 214—338.

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Haw, Sherwood G. Wire clip for ingot mold sideboard. 3,144,698, 8–18–64, Cl. 24—261.

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Haynes Richard H. Portable self-priming floor drainer pump assembly. 3,144,832, 8–18–64, Cl. 103—113.

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Hecht, Herbert, to Sperry Rand Corp. Servomechanism apparatus. 3,145,330, 8–18–64, Cl. 318—19.

Heckmaier, Joseph, E. Bergmeister, and G. Beier, to Wacker-Chemie G.m.b.H. Process for polymerisation or copolymerisation of olefinically-unsaturated organic compounds. 3,145,194, 8–18–64, Cl. 260—79.3.

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Heighton, Harold H., to E. I. du Pont de Nemours and Co. Apparatus for heating undrawn yarn for drawing. 3,144,080, 8–18–64, Cl. 18—8.

Heijnis, James W. L., to American Enka Corp. Melting apparatus. 3,144,864, 8–18–64, Cl. 126—343.5.

Heintzelman, Leo A., ½ to H. Wilbert. Carton latch. 3,144,973, 8–18–64, Cl. 229—2.5.

Heitzel, Robert E. Road form and incorporated load transfer unit. 3,144,700, 8–18–64, Cl. 25—118.

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Hendrickson, Ralph G. Mailbox signalling apparatus. 3,144,986, 8–18–64, Cl. 232—35.

Henig, Seymour, to United States of America, Commerce. Collocating machine using a time-position code. 3,144,948, 8–18–64, Cl. 214—11.

Henning, Eugene W., to General Electric Co. Direct-current amplifier. 3,145,346, 8–18–64, Cl. 330—9.

Henschke, William O., to R. E. Phelon Co., Inc. Flywheel magneto having short circuiting means. 3,145,315, 8–18–64, Cl. 310—70.

Herpich, William A., and D. R. Longmire, to Dempster Bros., Inc. Vehicle body loading and unloading mechanism. 3,145,008, 8–18–64, Cl. 248—150.

Herriott, Donald R., to Bell Telephone Laboratories, Inc. Polychromatic interferometry. 3,145,252, 8–18–64, Cl. 88—14.

Herz, Friedrich H. G. R. Distance measuring system. 3,145,381, 8–18–64, Cl. 343—14.

Hesselberg, Howard E., to Ethyl Corp. Diesel engine operation. 3,144,857, 8–18–64, Cl. 123—27.

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Thayer, George L., Jr., and Hewitt. 3,145,327.

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Girouard, Phillias H., Hickman, Kane, Nelson, Neuman, Randolph, and Collier. 3,144,809.

Hiestand, Irvin H., to American Telephone and Telegraph Co. Dismantling tool. 3,144,707, 8–18–64, Cl. 29—203.

Hignett, Harold W. G., E. J. Bradbury, R. A. Smith, and D. M. Ward, to The International Nickel Co., Inc. Heat treatment of nickel-chromium-cobalt alloys. 3,145,124, 8–18–64, Cl. 148—162.

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Hilpman, Paul H., and L. F. Albert, to Fairchild Camera and Instrument Corp. Pre-wetting device for printing press. 3,144,823, 8–18–64, Cl. 101—147.

Hobrough, Gilbert L., to Hunting Survey Corp. Ltd. Automatic stereoplotting system and method. 3,145,303, 8–18–64, Cl. 250—220.

Hochberg, Frederick: *See*—
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Hoey, George B., to Mallinckrodt Chemical Works. 5-acetamido-N-alkyl-2,4,6-triiodoisophthalamic acid compounds. 3,145,197, 8–18–64, Cl. 260—211.

Hoffman, Otis E., C. J. Wallman, and A. R. Buchholz, to Brandt Automatic Cashier Co. Coin dispensing tray. 3,144,987, 8–18–64, Cl. 232—65.

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Hollander, Milton B., and M. F. Campo-Campins, to American Machine & Foundry Co. Friction sealing. 3,144,710, 8–18–64, Cl. 29—470.3.

Holstein, Alvin W., and L. A. Ficken, to Universal Match Corp. Cigarette vending machine with book match accumulation control. 3,144,959, 8–18–64, Cl. 221—13.

Holz, Wilhelm, to Bodenseewerk Perkin-Elmer & Co. G.m.b.H. Optical slits. 3,145,256, 8–18–64, Cl. 88—61.

Homan, Merle E., to International Business Machines Corp. Bi-directional binary counter. 3,145,293, 8–18–64, Cl. 235—92.

Hook, Wilfred H., and W. Hoyle, to Geigy Chemical Corp. Hydrazones of 5-nitro-2-furaldehyde. 3,145,203, 8–18–64, Cl. 260—240.

Hoover, Charles W., Jr., to Bell Telephone Laboratories, Inc. Electroluminescent storage and readout system. 3,145,368, 8–18–64, Cl. 340—173.

Horecky, Joseph T., and R. H. Perry, Jr., to Esso Research and Engineering Co. Use of a partially ozonized hydrocarbon liquid as an absorbent liquid in the ozonolysis of olefins. 3,145,217, 8–18–64, Cl. 260—339.

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Horning, Wayne F., and R. W. Jones, to Inboard Marine, Inc. Air-cooled inboard engine. 3,144,856, 8–18–64, Cl. 123—41.31.

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Hottenroth, Fred W., and R. C. Spooner, to Hupp Corp. Fuel burning heaters. 3,144,862, 8–18–64, Cl. 126—110.
Howard, Norman B., to The Procter & Gamble Co. Shortening product. 3,145,107, 8–18–64, Cl. 99—118.
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Howe, Robert H. L., to Eli Lilly and Co. Disposal of toxic chemical wastes having a high concentration of cyanide ion. 3,145,166, 8–18–64, Cl. 210—16.
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Jacobson, Robert L., to California Research Corp. Hydrogenation of high boiling oils. 3,145,160, 8–18–64, Cl. 208—254.
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Janson, Knut S. T., M. V. I. Jeppsson, and K. E. S. Silversjo, to International Standard Electric Corp. Automatic error control arrangement for pulse transmission. 3,145,340, 8–18–64, Cl. 325—41.
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Kannegiesser, Herbert, and Juraschek. 3,144,969.
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Katchalsky, Aharon, D. Vofsi, and S. A. Gassner. Process for production of pressure sensitive recording medium. 3,145,117, 8–18–64, Cl. 117—36.7.
Kattis, Theodore. Small block ice making machine. 3,144,755, 8–18–64, Cl. 62—137.
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Kehl, Leslie L. Teaching machine. 3,144,720, 8–18–64, Cl. 35—9.
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Knop, James C., to The Fulton Co. Chain hook assemblage. 3,144,748, 8–18–64, Cl. 59—88.

Knott, Sydney T., and W. E. Witsell, to United States of America, Navy. Lightweight towed transducer housing. 3,144,848, 8–18–64, Cl. 114—235.

Knusli, Enrico, W. Schappi, and D. Berrer, to J. R. Geigy, A.-G. Manufacture of herbicidal derivatives of 2-mercapto-4,6-bis-amino-s-triazine. 3,145,208, 8–18–64, Cl. 260—249.8.

Koenig, Nathan H., and R. A. Crass, to United States of America, Agriculture. Isocyanate treatment of wool in presence of methylpyrrolidone. 3,145,074, 8–18–64, Cl. 8—127.6.

Kohen, Sheldon L., to Swingline Inc. Stapling machine. 3,144,653, 8–18–64, Cl. 1—3.

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Kools, Edward V., to Kools Brothers, Inc. Forage blower. 3,145,063, 8–18–64, Cl. 302—37.

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Krakauer, Merrill, and H. E. Verbeke, to Automatic Canteen Co. of America. Regulated coin released locking mechanism. 3,144,924, 8–18–64, Cl. 194—18.

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Kyle, James C., and G. Robinson, to Physical Science Corp. Demodulator circuit. 3,145,344, 8–18–64, Cl. 328—134.

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La Casse, Roger. Color edge. 3,144,678, 8–18–64, Cl. 16—16.

Ladin, Eli M. High torque planetary drive. 3,144,789, 8–18–64, Cl. 74—798.

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Lamy, Paul A. Inner sole spotter and retainer. 3,144,669, 8–18–64, Cl. 12—141.

Landon, James H. Edge straightening tool. 3,144,896, 8–18–64, Cl. 153—32.

Lang, William B., R. Reinartz, and H. Ficher, to Maschinenfabrik Augsburg-Nurnberg A.G. Device for removing hickies from printing plates. 3,144,826 8–18–64, Cl. 101—425.

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Ledergerber, Karl, and M. Eugster, to Fulghum Enterprises. Solenoid operated can opener. 3,144,713, 8–18–64, Cl. 30—4.

Lee, Edward W., to Ilford Ltd. Synthetic film materials. 3,145,105, 8–18–64, Cl. 96—87.

Lee, James H., to Wedgelock Corp. of California. Releasable fastener having retaining means for a drive nut. 3,144,805; 8–18–64, Cl. 85—81.

Lee, John G. W., to The De Havilland Aircraft Co. Ltd. Lock release systems. 3,144,761, 8–18–64, Cl. 70—277.

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Leithiser, George L., Jr. Pulley assemblage for supporting electrical transmission lines. 3,145,016, 8–18–64, Cl. 254—134.3.

Leonard, Harold C., and V. K. Smith, said Smith assor. to said Leonard. Three phase electrical power distribution system. 3,145,259, 8–18–64, Cl. 174—43.

Leonard, John E.: *See*—
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Letaw, Harry, Jr., and W. T. Eriksen, to Raytheon Co. Methods of preventing channel formation on semiconductive bodies. 3,145,328, 8–18–64, Cl. 317—234.

Leupold, Henry G., to United Electric Controls Co. Indicating and recording control. 3,144,771, 8–18–64, Cl. 73—368.

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Lieberman, Herbert A., D. J. Maher, R. Maiani, and M. W. Scott, to Warner-Lambert Pharmaceutical Co. Modified mannitol for pharmaceutical tablets. 3,145,146, 8–18–64, Cl. 167—82.

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Lipson, Milton. Combined flashlight, extension light, continuity and voltage tester. 3,145,337, 8–18–64, Cl. 824—53.

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Ljungstrom, Herbert, C. Cederholm, and H. Zetterberg, to Svenska Flaktfabriken, Aktiebolaget. Self-cleaning blower vane structure. 3,144,983, 8–18–64, Cl. 230—132.

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Lubben, George F., J. J. Schauble, and G. A. McCoubrey, to Kaman Aircraft Corp. Helicopter rotor and method of making a blade member thereof. 3,144,907, 8–18–64, Cl. 170—160.25.

Ludwig, Arthur L., to Hastings Mfg. Co. Windshield wipers. 3,144,673, 8–18–64, Cl. 15—250.32.

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Lyons, Vincent J., to International Business Machines Corp. Method of synthesizing III–V compound semiconductor epitaxial layers having a specified conductivity type without impurity additions. 3,145,125, 8–18–64, Cl. 148—175.

Lyons, William F., Jr., to United States of America, Navy. Retrace insertion system. 3,145,378, 8–18–64, Cl. 343—5.

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Mackie, William L., to United States of America, Navy. Light weight-high thermal resistant airfoil. 3,145,000, 8–18–64, Cl. 244—123.

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Malani, Ranjit: *See*—
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Mallina, Rudolph F., and T. R. Miller, to Foundation for Medical Technology. Medical staplers. 3,144,654, 8–18–64, Cl. 1—50.

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Mallory, P. R., & Co., Inc.: *See*—
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Maloney, F. H., Co.: *See*—
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Marchant, Henry F. Hot water heating system having a wide range temperature equalizer control. 3,144,991, 8–18–64, Cl. 237—8.

Marchis, Carlos, 15% to T. P. Mahoney. Boring head. 3,144,792, 8–18–64, Cl. 77—58.

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Marinace, John C., to International Business Machines Corp. Degenerate doping of semiconductor materials. 3,145,123, 8–18–64, Cl. 148—33.1.

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Martens, Alexander E., to Bausch & Lomb Inc. Interrupter circuit. 3,145,347, 8–18–64, Cl. 330—51.

Martin, Jerome L., to Commercial Solvents Corp. Water-soluble combination of normally water-insoluble zinc bacitracin with anhydrous citric acid. 3,145,141, 8–18–64, Cl. 167—65.

Martinek, Thomas W., to The Pure Oil Co. Electrofluid coupling. 3,144,921, 8–18–64, Cl. 192—21.5.

Martinet, Jacques E., and W. M. Hildinger, to Kaiser Aluminum & Chemical Corp. Refractory cement compositions. 3,145,188, 8–18–64, Cl. 260—41.

Martino, Louis J., W. E. Moll, and R. E. Weimer, to McDonald's Systems, Inc. Fluid dispenser. 3,144,968, 8–18–64, Cl. 222—380.

Maschinenfabrik Augsburg-Nurnberg A.G.: *See*—
Lang, William B., Reinartz, and Ficher. 3,144,826.

Maser, Robert K. Self-propelled water skis. 3,144,849, 8–18–64, Cl. 115—70.

Massey-Ferguson (Australia) Ltd.: *See*—
Gaunt, James K., Wood, and Douglas. 3,144,743.

Massey, Richard P., to Bell Telephone Laboratories, Inc. Transistor converter with self starting circuit. 3,145,348, 8–18–64, Cl. 331—113.

Matet, Jean: *See*—
Nicolaux, Genevieve J. M., Gay, Matet, Mauge, Sandevoir, and Wasmer. 3,145,233.

Matsuyama, George, to Beckman Instruments, Inc. Electrode assembly. 3,145,158, 8–18–64, Cl. 204—195.

Matthews, Clinton A. Hospital gown. 3,144,650, 8–18–64, Cl. 2—83.

Matthews, Jas. H., & Co.: *See*—
Ayers, John S. 3,144,824.

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Nicolaux, Genevieve J. M., Gay, Matet, Mauge, Sandevoir, and Wasmer. 3,145,233.

Mauvernay, Roland Y., to Laboratoire d'Analyses et de Recherches R. Y. Mauvernay. Thienyl phenyl ethyl morpholyl carbinol. 3,145,204, 8–18–64, Cl. 260—247.1.

May & Baker Ltd.: *See*—
Slack, Ronald, Squires, and Wooldridge. 3,145,214.

Mayo, Ned H., to Armstrong Cork Co. Freeness tester. 3,144,768, 8–18–64, Cl. 73—63.

McAuley, James W., to Libbey-Owens-Ford Glass Co. High frequency sonic transducers. 3,145,312, 8–18–64, Cl. 310—26.

McCarty, George W., M. I. Shepa, and L. H. Bowen III, to The Black and Decker Mfg. Co. Bench grinder. 3,144,735, 8–18–64, Cl. 51—166.

McClain, Marshall A. Dispensing device. 3,144,967, 8–18–64, Cl. 222—144.5.

McConnell, Kennedy, to Acme Steel Co. Drive-in pallet rack. 3,144,944, 8–18–64, Cl. 211—148.

McCoubrey, George A.: *See*—
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McCulloch Corp.: *See*—
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Hart, Dexter R., and Moebius. 3,144,909.

McCulloch, Donald J., to Bausch & Lomb Inc. Ophthalmic mounting. 3,145,254, 8–18–64, Cl. 88—53.

McDonald's Systems, Inc.: *See*—
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McGannon, Patrick J. Magnetic supporting arrangement. 3,145,324, 8–18–64, Cl. 317—159.

McGraw-Edison Co.: *See*—
Date, Kazuo H., and Steinmayer. 3,145,283.
Whitney, William G., and Whitlock. 3,145,268.

McKay, Dwight L., to Phillips Petroleum Co. Rubber drying. 3,145,088, 8–18–64, Cl. 34—4.

McKenzie, George D.: *See*—
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McKinstry, William S. Ear muff. 3,144,663, 8–18–64, Cl. 2—209.

McLeod, Paul C.: *See*—
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Testerman, Maurice K., and McLeod. 3,144,767.

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Meek, George W., to Linenzia A.G. Movable air conditioning apparatus. 3,144,901, 8–18–64, Cl. 165—6.

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Meitzer, Robert J., to Bausch & Lomb Inc. Endoscope window. 3,145,249, 8–18–64, Cl. 88—1.

Membrino, Hercules. Bag holding and dispensing means. 3,144,960, 8–18–64, Cl. 221—26.

Menge, Theodore L., Sr., ⅓ to A. H. Temple, ⅓ to W. C. Randolph, and ⅓ to Temple Iron Works, Inc. Speed reducer. 3,144,791, 8–18–64, Cl. 74—804.

Menzimer, L. W.: *See*—
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Merrill, Allen R.: *See*—
Stamps, William E., Merrill, and Livingston. 3,144,746.

Messeas, James. Portable knock-down animal housing structure. 3,144,852, 8–18–64, Cl. 119—19.

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Metallurgical Processes Ltd.: *See*—
Lerham, Leslie J. 3,145,097.

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Meyer, Albert. Swimming pool cover. 3,144,665, 8–18–64, Cl. 4—172.

Meyers, Martin B.: *See*—
Graber, Robert P., and Meyers. 3,145,199.

Meyers, Norman H.: *See*—
Bertuch, Charles J., and Meyers. 3,145,310.

Michels, Peter, to Continental Gummi-Werke Aktiengesellschaft. Conveyor belt structure. 3,144,930, 8–18–64, Cl. 198—193.

Midwest Supply and Mfg. Co.: *See*—
Thiel, Otto, and Hackert. 3,144,777.

Migneault, Fernand W.: *See*—
Migneault, Romuald and F. W. 3,144,689.

Migneault, Romuald and F. W. Glazing strip and article embodying same. 3,144,689, 8–18–64, Cl. 20—56.4.

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Free, Alfred H., and Lower. 3,145,086.
Zienty, Mitchell F. 3,145,116.

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Miller, Monroe A., and Stegenga. 3,145,070.

Miller, Charles R.: *See*—
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Miller, Monroe A., and J. A. Stegenga, to Milgo Electronic Corp. Multiple symbol graphical recorder. 3,145,070, 8–18–64, Cl. 346—29.

Miller, Ralph. Two cycle supercharged diesel engine. 3,144,749, 8–18–64, Cl. 60—13.

Miller, Theodore R.: *See*—
Mallina, Rudolph F., and Miller. 3,144,654.

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Anderson, Frank E., and Mills. 3,145,161.

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Miskelevich, Benjamin, and D. D. Rinehart, to North Electric Co. Position-and-lock jack. 3,145,087, 8–18–64, Cl. 254—75.

Mitoray, Jane P., and W. G. Bauer, to Monsanto Co. Color stabilizers for detergents containing bacteriostats. 3,145,179, 8–18–64, Cl. 252—107.

Mobil Finishes Co., Inc.: *See*—
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Moebius, Kurt O. W.: *See*—
Hart, Dexter R., and Moebius. 3,144,909.

Molding Engineers, Inc.: *See*—
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Molins Machine Co. Ltd.: *See*—
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Mitoray, Jane P., and Bauer. 3,145,179.
Newallis, Peter E., and Jaworski. 3,145,137.
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Moore, Herbert C., and H. L. Trautmann, to Electro-Way Corp. Diverter valve for dishwashing apparatus. 3,144,873, 8–18–64, Cl. 137—119.
Morrison, Horace F.: *See*—
Morrison, Jimmie H. and H. F. 3,145,025.
Morrison, Patricia A.: *See*—
Thayer, George L., Jr., and Hewitt. 3,145,327.
Morbidelli, Giuseppe, L. Arosio, and L. Notarbartolo, deceased (E. Pascalino, administratrix, and P. Notarbartolo, heiress), to Snia Viscosa Societa' Nazionale Industria Applicazion Viscosa S.p.A. Process for the purification of caprolactam. 3,145,198, 8–18–64, Cl. 260—239.3.
Mordaunt, Roy J., to Minnesota Mining and Mfg. Co. Pressurized food package with hexafluorotrimethylene oxide as the propellant. 3,145,113, 8–18–64, Cl. 99—189.
Morgan, Robert C., to British European Airways Corp. Airplane seats. 3,145,032, 8–18–64, Cl. 297—354.
Morin, Louis H. Trim machine for performing supplementary piercing operation and an interlocked safety stop on a slider cast. 3,144,789, 8–18–64, Cl. 83—555.
Morin, Louis H. Method and apparatus of obtaining precise nozzle contact on plastic injection molding machines. 3,145,244, 8–18–64, Cl. 264—328.
Morrison, Ian H., to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,140,152, 8–18–64, Cl. 176—77.
Morrison, Jimmie H. and H. F. Bowling ball speed measuring and indicating device. 3,145,025, 8–18–64, Cl. 273—54.
Motorola, Inc.: *See*—
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Murray, William L., to United States Steel Corp. Supporting structure. 3,144,842, 8–18–64, Cl. 110—90.
Nakajima, Toitsu. Process and apparatus for making steel from powdered iron ore. 3,145,094, 8–18–64, Cl. 75—38.
Nathanson, Philip: *See*—
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National Cash Register Co., The: *See*—
Stork, Edward S., and Stark. 3,144,822.
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Bleackley, William J. 3,145,353.
National Research Development Corp.: *See*—
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National Seating Co.: *See*—
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National Smelting Co. Ltd.: *See*—
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Neale, Herbert S. Wire connector. 3,145,068, 8–18–64, Cl. 339—200.
Nelson, Bruce K., W. P. Goldberg, and M. B. Haslam, to Avco Corp. Signal synthesizer system. 3,145,383, 8–18–64, Cl. 343—100.
Nelson, John L.: *See*—
Girouard, Phillas H., Hickman, Kane, Nelson, Neuman, Randolph, and Collier. 3,144,809.
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Neubauer, Emil T., and R. E. Comstock, to Copeland Refrigeration Corp. Compressor unloading means. 3,144,982, 8–18–64, Cl. 230—30.
Neuman, Milton C.: *See*—
Girouard, Phillas H., Hickman, Kane, Nelson, Neuman, Randolph, and Collier. 3,144,809.
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Newallis, Peter E., and E. G. Jaworski, to Monsanto Co. Alkanoylamidoalkyleneamines and their quaternary ammonium salts as fungicides. 3,145,137, 8–18–64, Cl. 167—22.
Newton, Harold B., to James B. Lansing Sound, Inc. Spring fastener. 3,145,037, 8–18–64, Cl. 292—17.
Nicolaro, Louis L., to Westinghouse Electric Corp. Wire support for a vitreous longitudinal rod in a fluorescent lamp. 3,145,320, 8–18–64, Cl. 313—286.
Nicolaux, Genevieve J. M., E. A. Gay, J. Matet, R. L. H. Mauge, C. M. J. Sandevoir, and A. J. A. Wasmer, to Societe Anonyme dite: A.E.C. Societe de Chimie Organique & Biologique. Process for the preparation of vitamin A type aldehydes. 3,145,233, 8–18–64, Cl. 260—598.
Nielsen, Helmer B., to Eddy Match Co. Ltd. Draught excluder. 3,144,688, 8–1–64, Cl. 20—52.
Niino, Kunitaro. Filing rack for card and the like. 3,144,941, 8–18–64, Cl. 211—10.
Nippon Electric Co., Ltd.: *See*—
Kuroda, Takaji. 3,145,350.
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Nivison-Weiskopf, The: *See*—
Beschmann, Edwin T. 3,144,970.
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North American Philips Co., Inc.: *See*—
Beisma, Louw A. 3,144,714.
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Fisher, Henry C. 3,145,183.
Norton, Frederick H., to The Dow Chemical Co. Coating with hot melt C_8—C_4 polyolefin packaging compositions and articles obtained thereby. 3,145,111, 8–18–64, Cl. 99—169.
Norton, Orlo C. Corrosion preventing air drier. 3,145,089, 8–18–64, Cl. 55—281.
Notarbartolo, Luigi: *See*—
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Notarbartolo, Paola: *See*—
Morbidelli, Giuseppe, Arosio, and Notarbartolo. 3,145,198.
Nuttle, Andrew C., to Gam Electronics, Inc. Electrical mounting for supporting an antenna and coupling circuit. 3,145,384, 8–18–64, Cl. 343—749.
Ofield, Robert J.: *See*—
Hawkins, John C., and Ofield. 3,144,910.
Olah, George A., to The Dow Chemical Co. Friedel-crafts ketone synthesis. 3,145,216, 8–18–64, Cl. 260—332.3.
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Feick, George, III, and Olds. 3,145,258.
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Fried, Josef, and Galantay. 3,145,218.
Krapcho, John. 3,145,209.
Ratz, Rudi F. W. 3,145,226.
Ollanketo, Clifford A. Tandem sleds. 3,145,029, 8–18–64, Cl. 280—16.
Olson, Rudolph E., to Paul E. Hawkinson Co. Tire buffing and truing machine. 3,144,734, 8–18–64, Cl. 51—33.
Omark Industries, Inc.: *See*—
Carlton, Raymond R. 3,144,891.
O'Neal, Wilbert O., to L. W. Menzimer. Vending machines. 3,145,066, 8–18–64, Cl. 312—45.
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Knapp, Gordon G., and Orloff. 3,145,176.
Orloff, Harold D., and G. G. Knapp, to Ethyl Corp. Synergistic antioxidants. 3,145,177, 8–18–64, Cl. 252—49.8.
Orn, Victor T., and C. D. Dryer. Transportable cabin construction. 3,145,046, 8–18–64, Cl. 296—26.
Osdene, Thomas S., to American Home Products Corp. 6-benzoquinoxaline-carboxamides. 3,145,205, 8–18–64, Cl. 260—247.2.
Oster, Gerald, to The Carter's Ink Co. Electrophoretic printing. 3,145,156, 8–18–64, Cl. 204—180.
Oster, Gerald: *See*—
Oster, Gisela K. and G. 3,145,104.
Oster, Gisela K. and G. Photographic processes comprising cross-linking of thiol polymers. 3,145,104, 8–18–64, Cl. 96—33.
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Overseas Service Corp.: *See*—
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Owens-Illinois Glass Co.: *See*—
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Decker, Alfred S., and Johnesee. 3,145,092.
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Owens, John J.: *See*—
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Caipen, Robert A. 3,145,162.
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Packers Supply Co. Ltd.: *See*—
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Page, Oswald V., to Barnes Mfg. Co. Electrical current conducting brush assembly. 3,145,316, 8–18–64, Cl. 310—248.
Page, Ralph G. Butter pat dispensers. 3,144,715, 8–18–64, Cl. 31—21.
Pahl, John G. Pole top disconnect switch. 3,145,272, 8–18–64, Cl. 200—48.
Pahl, John G. Pole-top switch with vertically swingable switching arm. 3,145,273, 8–18–64, Cl. 200—48.
Pajes, Wolf S. Sound recording and reproducing apparatus. 3,145,267, 8–18–64, Cl. 179—100.2.
Palesotti, Carolyn D. Safety play suit. 3,144,668, 8–18–64, Cl. 9—329.
Pall Corp.: *See*—
Rosenberg, David J. 3,144,850.
Palm, Clifford W., and W. R. Gibson, to Celanese Corp. of America. Apparatus for producing a composite novelty slub yarn. 3,144,747, 8–18–64, Cl. 57—34.
Palmer, Basil S., to Packers Supply Co. Ltd. Tool for applying binding strapping, wire and the like about articles. 3,144,888, 8–18–64, Cl. 140—93.2.
Palsson, Kristjan H., to Pacific Car and Foundry Co. Lading separator for railway cars and other vehicles. 3,144,839, 8–18–64, Cl. 105—376.
Paradise, Alfred J., Jr.: *See*—
Muehlebach, William D., and Paradise. 3,144,936.

Parana, William J., to Waukesha Foundry Co. Non-galling bearing alloy of silver in nickel base. 3,145,099, 8-18-64, Cl. 75—170.

Parcell, Robert F.: *See*—
Godefroi, Erik F., and Parcell. 3,145,220.

Pardini, John A., and V. Hutter, to United States of America, Atomic Energy Commission. Force limiting device for motor control. 3,145,333, 8-18-64, Cl. 318—473.

Parke, Davis & Co.: *See*—
Godefroi, Erik F., and Parcell. 3,145,229.

Parker-Hannifin Corp.: *See*—
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Parkinson, Robert C., to Bourns, Inc. Helical Bourdon tube pressure potentiometer. 3,145,359, 8-18-64, Cl. 338—40.

Parkinson, Robert C., to Bourns, Inc. Potentiometer transducer. 3,145,361, 8-18-64, Cl. 338—46.

Pascalino, Enza: *See*—
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Pascher, Robert L., to Bell Aerospace. Selective second harmonic control. 3,144,908, 8-18-64, Cl. 170—160.25.

Patelli, Bianca: *See*—
Camerino, Bruno, Patelli, and Sciaky. 3,145,201.

Patton, George H., to Sawyer's Inc. Collapsible plastic stereoscopic viewer. 3,145,253, 8-18-64, Cl. 88—29.

Patton, Roy C. Work apparatus for use on railroads and the like. 3,144,837, 8-18-64, Cl. 105—1.

Paull, Raymond C., to Radio Corp. of America. Cathode grid assembly for electron gun. 3,145,318, 8-18-64, Cl. 313—82.

Peebles, David M. Filing unit. 3,144,942, 8-18-64, Cl. 211—11.

Pehoski, Walter L., J. J. Stariha, and C. D. Johnson, to Fairmont Railway Motors, Inc. Railway tie hole-plugging machine. 3,144,835, 8-18-64, Cl. 104—17.

Pennsalt Chemicals Corp.: *See*—
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Little, Thomas H. 3,145,223.
Sharples, Thomas D. 3,145,173.

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Perfetti, Bruno M., to Mobil Finishes Co., Inc. Epoxy compositions. 3,145,191, 8-18-64, Cl. 260—47.

Perry, Donald D., and R. M. Dudak, to Thiokol Chemical Corp. Acetylenic polyurethanes useful as propellants. 3,145,192, 8-18-64, Cl. 260—77.5.

Perry, Robert H., Jr.: *See*—
Horeczy, Joseph T., and Perry. 3,145,217.

Perschy, James A. Magnetostrictive stability device. 3,145,-369, 8-18-64, Cl. 340—173.

Pfizer, Chas., & Co., Inc.: *See*—
Schach von Wittenau, Manfred, and Stephens. 3,145,-220.

Phelon, R. E., Co., Inc.: *See*—
Henschke, William O. 3,145,315.

Phelps, Malcolm T., to Weber-Knapp Co. Latch mechanism. 3,145,040, 8-18-64, Cl. 292—304.

Phenner, Lewis E., to Kimberly-Clark Corp. Tissue dispensing carton with floating control element. 3,144,961, 8-18-64, Cl. 221—48.

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Edmonds, James T., Jr., and Scott. 3,144,750.
Fox, Homer M. 3,144,829.
Kraft, Donald L., and Roark. 3,145,121.
McKay, Dwight L. 3,145,068.
Testerman, Maurice K., and McLeod. 3,144,762.
Testerman, Maurice K., and McLeod. 3,144,767.

Physical Science Corp.: *See*—
Kyle, James C., and Robinson. 3,145,344.

Pickels, Edward G., and J. H. Bassham, to Beckman Instruments, Inc. Fluid gradient engine. 3,144,831, 8-18-64, Cl. 103—6

Picton, James S., and A. J. Taylor, to Babcock & Wilcox Ltd. Shock absorbers. 3,144,918, 8-18-64, Cl. 188—1.

Pitner, John L.: *See*—
Pitner, Lloyd E. 3,144,797.

Pitner, Lloyd E., deceased, by J. L. Pitner, administrator. Slitter device tilting webs in accordance with the tilt of the receiving tray. 3,144,797, 8-18-64, Cl. 83—87.

Pittwood, Donald G., to International Business Machines Corp. Mechanical object manipulator. 3,144,947, 8-18-64, Cl. 214—1.

Pollock, Earl S., to The Tappan Co. Removable oven door. 3,144,863, 8-18-64, Cl. 126—191.

Poorman, Albert L. Fluid operated device for starting the movement of shafts from hubs. 3,144,708, 8-18-64, Cl. 29—252.

Portaro, Romana. Combination garment. 3,144,660, 8-18-64, Cl. 2—88.

Potter Instrument Co., Inc.: *See*—
Blom, Roy A. 3,145,036.

Powell, Albert E.: *See*—
Deakin, Stanley T., and Powell. 3,145,329.

Powell, William H., to Congoleum-Nairn Inc. Method for producing decorative sheet material. 3,145,241, 8-18-64, Cl. 264—76.

Pressnell, Clarence E.: *See*—
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Procter & Gamble Co., The: *See*—
Abbott, Charles T., Jr. 3,145,110.
Howard, Norman B. 3,145,107.
Howard, Norman B. 3,145,108.
Howard, Norman B. 3,145,109.

Proulx, Victor W., and G. F. Lafferty, to Koppers Co., Inc. Injection molding of foam polymeric structures. 3,145,240, 8-18-64, Cl. 264—53.

Prybylski, John R., and C. J. Turansky, to United States of America, Air Force. Clustered dual valve control for rocket liquid fuel system. 3,144,877, 8-18-64, Cl. 137—595.

Pullman Inc.: *See*—
Shaver, William R., and Bridges. 3,144,838.

Pumpelly, Charles T., and R. W. Wilkinson, to The Dow Chemical Co. Hydrobromination of ethylene. 3,145,155, 8-18-64, Cl. 204—154.

Punt, Neal. Rack for storing phonograph records within the standard jacket envelopes. 3,144,943, 8-18-64, Cl. 211—40.

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Pye, Aloysius J., Sr. Deflector for motor vehicles. 3,145,-047, 8-18-64, Cl. 296—91.

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Weighton, Donald, and Cosgrove. 3,145,295.

Queever, Lawrence, to Controls Co. of America. Direct ignition system. 3,144,898, 8-18-64, Cl. 158—125.

Quinn, Daniel J., III, to International Business Machines Corp. Method of making couplings to super-conductor circuits. 3,144,704, 8-18-64, Cl. 29—155.5.

RIV Officine Divillar Perosa Societa per Azioni: *See*—
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Race, Richard T., to Motorola, Inc. Centrifugal distributor advance which does not advance the rotor. 3,145,324, 8-18-64, Cl. 315—212.

Radio Corp. of America: *See*—
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Sadashige, Koichi. 3,145,321.

Rager, Edgar A., W. T. Davis, and F. F. Day, to Explorer Research Co. Emergency actuator for air brake system. 3,144,812, 8-18-64, Cl. 91—170.

Ragon, Robert C. Gas starting means for diesel engines. 3,144,861, 8-18-64, Cl. 123—187.5.

Ragsdale Mazera, Hazel M., and C. B. Clark, to M.C.D.C. Corp. Bedspread. 3,144,666, 8-18-64, Cl. 5—338.

Rail Trailer Co., The: *See*—
Robinson, Lester E., Bradfield, and Johnson. 3,145,006.

Raine, Thomas, and J. A. Robinson, to Associated Electrical Industries Ltd. Beryllium alloys. 3,145,095, 8-8-64, Cl. 75—150.

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Randolph, William C.: *See*—
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Rausch, Douglas A., J. L. Kroon, and R. A. Davis, to The Dow Chemical Co. Stabilized hydroxylamine and its method of preparation. 3,145,082, 8-8-64, Cl. 23—190.

Rausch, William L. Airplane passenger seat. 3,145,051, 8-18-64, Cl. 297—216.

Rauschert, Paul, Kommanditgesellschaft, Firma: *See*—
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Reelfoot Alfalfa Mill: *See*—
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Rehrig Pacific Co.: *See*—
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Reichert, Martin, and L. Unterstenhoefer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Oxidation of substances suspended or dissolved in a liquid resistant to oxidation. 3,145,076, 8-18-64, Cl. 23—1.

Reid, Gilbert R., J. Mueller, and F. B. Hannon, to Sperry Rand Corp. Method and means for electrical connection. 3,145,260, 8-18-64, Cl. 174—72.

Reimer, Harold D.: *See*—
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Eichner, Frank L., Grogel, and Korman. 3,144,974.
Farquhar, Melville T. 3,144,977.
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Reznek, Solomon, and W. G. Gorman, to Sterling Drug Inc. Magnesia and gold temperature telltale indicators. 3,145,-145, 8-18-64, Cl. 167—78.

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Rice, Robert L.: *See*—
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Richter, Philip, to Fuller Co. Locking mechanism. 3,145,080, 8-18-64, Cl. 292—256.5.

Riddell, Leonard H. Apparatus for treating water-borne refuse. 3,144,819, 8-18-64, Cl. 100—112.

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Riley, Robert H., Jr.: *See*—
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Ripling, Edward J., to Continental Can Co., Inc. Preparation of non-homogeneous metal stock having regions of relatively low notch sensitivity. 3,144,712, 8–18–64, Cl. 29—529.
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Robertson, Julius D., and A. M. Heald, to Sonoco Products Co. Multi-stage pulping process. 3,145,135, 8–18–64, Cl. 162—43.
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Dupre, Jean, and Boettner. 3,145,180.
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Rosenberg, David J., to Pall Corp. Gas detecting method and apparatus. 3,144,850, 8–18–64, Cl. 116—67.
Rosenberg, Herbert O. Safety belt buckle for vehicle occupants. 3,144,697, 8–18–64, Cl. 24—242.
Rosenheim, David J., to Laurel Plastics, Inc. Combination handle and trifoil wand device for blowing bubbles from a soap solution. 3,144,950, 8–18–64, Cl. 215—100.
Ross, Howard C. Weather shield for a newspaper box. 3,144,984, 8–18–64, Cl. 232—17.
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SABA Schwarzwalder Apparate-Bau-Anstalt August Schwer Sohne G.m.b.H.: *See*—
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Saal, Frederick A., to Bell Telephone Laboratories, Inc. Digital gray code to analog converter utilising stage transfer characteristic techniques. 3,145,377, 8–18–64, Cl. 340—347.
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Shuping, James A., to United States of America, Air Force. Optical sight displacing glass. 3,145,248, 8–18–64, Cl. 88—1.

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Slack, Ronald, S. L. Squires, and K. R. H. Wooldridge, to May & Baker Ltd. Isothiazol-5-yl lithium derivatives. 3,145,214, 8–18–64, Cl. 260—302.

Slemmons, Charles O., to The General Tire & Rubber Co. Apparatus for the manufacture of vinyl floor coverings. 3,144,679, 8–18–64, Cl. 18—1.

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Smith, Lewis K. Liquid heater. 3,144,854, 8–18–64, Cl. 122—136.

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Robertson, Julius D., and Heald. 3,145,135.
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Sopko, John, Jr. Portable chair seat with a back-supporting pneumatic cushion. 3,145,034, 8–18–64, Cl. 297—460.

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Speziale, Angelo J., and G. J. Marco, to Monsanto Co. Saccharin derivatives and their production. 3,145,213, 8–18–64, Cl. 260—301.

Speziale, Angelo J., and R. C. Freeman, to Monsanto Co. Vinyl amines from haloamides. 3,145,230, 8–18–64, Cl. 260—576.

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Sproull, Wayne T., to Joy Mfg. Co. Construction element. 3,144,881, 8–18–64, Cl. 138—117.

Spruth, Wilhelm, to International Business Machines Corp. Gate circuits utilizing light sources and photoconductors. 3,145,301, 8–18–64, Cl. 250—209.

Squillaro, Jerome C., and H. D. Tolj, to United States of America, Navy. Transistor linear peak detector for signals having wide dynamic range. 3,145,345, 8–18–64, Cl. 329—101.

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Stapp, Walter B., and F. W. Dietsch, to United States of America. Recoilless rifle firing mechanism. 3,144,808, 8–18–64, Cl. 89—1.7.

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Stevens, Robert G., to Molding Engineers, Inc. Method of forming at least partially molded elements. 3,144,711, 8–18–64, Cl. 29—529.

Stewart, John K. Means for determining roadbed level and super elevation. 3,144,834, 8–18–64, Cl. 104—12.

Stewart, La Mar R. and P. H. Portable motion picture screen. 3,144,899, 8–18–64, Cl. 160—24.

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Stockman, Richard, to Combustion Engineering, Inc. Retractable cleaner for rotary regenerative heat exchanger. 3,144,900, 8–18–64, Cl 165—5.

Stockman, Richard, to Combustion Engineering, Inc. Rotary heat exchange apparatus with support therefor. 3,144,903, 8–18–64, Cl. 165—7.

Stork, Edward S., and W. J. Stark, to The National Cash Register Co. Symbol printing control for accounting machines. 3,144,822, 8–18–64, Cl. 101—93.

Streich, Paul B., Sr., to Addressograph-Multigraph Corp. Apparatus for applying developer powder to photoconductive insulating material. 3,145,122, 8–18–64, Cl. 118—637.

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Suga, Goro. Adjustable rear vision mirror. 3,145,257, 8–18–64, Cl. 88—87.

Suits, James C., and A. M. Yelon, to International Business Machines Corp. Magnetostrictive thin film delay line. 3,145,372, 8–18–64, Cl. 340—174.

Sullivan, Ivan S., 40% to Reelfoot Alfalfa Mill. Combined feeder, conditioner, and dewaterer for a dehydrator. 3,144,818, 8–18–64, Cl. 100—98.

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TRADEMARKS

NOTICES

Oppositions Under Section 13 of the Trademark Act of 1946

Section 13 of the Trademark Act of 1946 provides that any person who believes that he would be damaged by the registration of a mark upon the Principal Register may, upon payment of the required fee, file a verified opposition in the Patent Office, stating the grounds therefor, within thirty days after publication under Section 12(a) of the mark sought to be registered.

An unverified opposition may be filed by a duly authorized attorney, but the opposition will be null and void unless verified by the opposer within a reasonable time after such filing to be fixed by the Commissioner.

An opposition will not be accepted unless it complies with the statutory requirements, namely, it must be filed in the Patent Office within thirty days after publication under Section 12(a) of the mark opposed, be accompanied by a fee in the proper amount, must state the grounds therefor and, if filed by the opposer, must be verified.

A request to extend the time for filing an opposition under Rule 2.102 must be received in the Patent Office before the expiration of thirty days from date of publication under Section 12(a) of the mark sought to be registered. The request should specify the period of extension desired and be accompanied by a showing of good cause for the extension requested, but in the event circumstances do not permit submission of the showing of good cause with the request, it must be furnished within ten days after filing the request for extension.

Two or more parties may be joined in opposition to the registration of a mark, but separate fees for each party so joined must be paid. Likewise, a mark may be opposed in each of a plurality of classes, but a separate fee of $25.00 for each class in which opposition is sought, must accompany the opposition. To be complete, oppositions accompanied by fees insufficient to cover each class named in the application, must specify the particular classes in which opposition is sought.

HORACE B. FAY, Jr.
Assistant Commissioner.

July 15, 1964.

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
Commissioner of Patents.

July 16, 1964.

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15,462
Date of oldest new application	Dec. 1, 1963
Date of oldest amended application	Nov. 18, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	1-2-64	12-3-63
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	12-1-63	11-18-63
Renewals (All Classes)	6-4-64	6-26-64
Sec. 12 (c) Publications (All Classes)	6-8-64	

Applications filed during the month of June 1964—2,380

Registrations Issued	421—No. 775,154 to No. 775,574
Renewals Issued	61

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Harold R. Sibner, d.b.a. H. R. Sibner Co., New York, N.Y., Reg. No. 431,828, Canc. No. 8259.

Ivor Rich, New York, N.Y., Reg. No. 415,388, Canc. No. 8275.

Medi-Kote Co., Inc., New York, N.Y., Reg. No. 434,250, Canc. No. 8290.

Fluordent, Inc., New Orleans, La., Reg. No. 419,823, Canc. No. 8292.

HORACE B. FAY, JR.,
Assistant Commissioner of Patents.

Change of Price

TRADEMARK SECTION OF THE OFFICIAL GAZETTE

Effective with volume 805, No. 1, August 4, 1964, issue, the subscription price of the publication listed above will be changed as follows:

Old Rate	*New Rate*
$10.00 domestic	$12.00 domestic
3.75 additional for foreign mailing	4.00 additional for foreign mailing
.20 per single copy	.25 per single copy

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 112,291 (LIBBY'S in script), Libby, McNeill & Libby, Canned meats, canned sausage, canned soups, and canned boneless chicken; **Reg. No. 122,013**, same, Fresh, prepared, pickled, and canned beef, veal, pork, mutton and poultry and their products, etc.; **Reg. No. 176,588** (LIBBY in script AND DESIGN), same, Pork and beans, meat extracts, boullion cubes, canned soups, etc.; **Reg. No. 186,522** (LIBBY'S in script AND DESIGN), same, Fresh, prepared, pickled and canned beef, veal, pork, mutton and poultry, etc.; **Reg. No. 220,977** (LIBBY'S in script), same, Beer; **Reg. No. 706,172**, same, Canned goods—namely, fruits, fruits and grain, vegetables, vegetables and grain, meats and products thereof, etc., filed Sept. 25, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1796, *Libby, McNeill & Libby* v. *Libby Furniture and Appliance Co.* Final consent judgment; defendant enjoined Mar. 5, 1964.

Reg. No. 122,013. (See Reg. No. 112,291.)

Reg. No. 176,588. (See Reg. No. 112,291.)

Reg. No. 178,253 (TOKHEIM), Tokheim Oil Tank & Pump Co., Oil and gasoline measuring pumps; **Reg. No. 416,630**, same, Liquid fuel tanks; **Reg. No. 422,955**, same, Oil, liquid, and fuel measuring and dispensing pumps and parts thereof, and oil, liquid and fuel meters, and parts thereof; **Reg. No. 515,859**, same, Liquid fuel tanks used for storage purposes; **Reg. No. 573,140**, same, Measuring pumps, meters, computers, registers, etc.; **Reg. No. 599,612**, same, Air compressors, separately and in combination with motors or engines, parts thereof and accessories therefor—namely, spray guns, grease guns, etc.; **Reg. No. 666,999**, same, Tokheim Corporation, Valves and nozzles, filed Oct. 31, 1963, D.C. Oreg. (Portland), Doc. 63–521, *Tokheim Corporation* v. *Chester A. Dillinger.* Consent decree Mar. 16, 1964.

Reg. No. 186,522. (See Reg. No. 112,291.)

Reg. No. 208,857 (RED AND WHITE), S. M. Flickinger Co., Inc., Wheat flour, macaroni, food-flavoring extracts, egg noodles, etc.; **Reg. No. 278,307** (RED & WHITE), same, Men's and boys' coats, pants, vests, dress and work shirts, jackets, etc.; **Reg. No. 719,825**, same, Bushey & Wright, Inc., Lye and bleach; **Reg. No. 720,012**, same, Paper towels, facial tissues, toilet paper, waxed paper and napkins; **Reg. No. 720,117**, same, Household detergent; **Reg. No. 727,825**, same, Retail grocery service; **Reg. No. 728,904**, same, Wheat flour, macaroni, food-flavoring extracts, egg noodles, etc., filed Mar. 23, 1964, D.C., S.D.N.Y., Doc. 64/914, *Red & White Foundation et ano.* v. *Red & White Markets, Inc. et al.*

Reg. No. 278,307. (See Reg. No. 208,857.)

Reg. No. 317,704 (METAMUCIL), G. D. Searle & Co., Preparation in powder form for the treatment of gastro-enterological conditions, filed Mar. 11, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c454, *G. D. Searle & Co.* v. *E. J. Korvette, Inc.*

Reg. No. 329,877. (See Reg. No. 112,291.)

Reg. No. 360,794 (GOLDEN DIPT), Meletio Sea Food Co., Food preparation for ready-mixed breading for pan frying; **Reg. No. 681,598**, same, Meletio Company, Batter mix for coating foods preparatory to cooking, seasoned milled grain mixture for combining with ground meats, etc. in preparing loaves, patties and the like, tarter sauce, and cocktail sauce; **Reg. No. 761,490** ("GOLDEN LOCK"), Golden-Dipt-Meletio Corporation, Breading mix, filed Mar. 6, 1964, D.C. Kans. (Wichita), Doc. W–3107, *Golden-Dipt-Meletio Corp.* v. *Arnholts Coffee & Supply Co., Inc.*

Reg. No. 407,777 (NORELCO), North American Philips Company, Inc., Testing apparatus for testing hermetic seals, and X-ray apparatus for industrial inspection and testing and laboratory experimentation; **Reg. No. 412,436**, same, Electronic tubes; **Reg. No. 415,823**, same, Electric razors; **Reg. No. 430,230**, same, Radio-receiving sets, loudspeakers, radio-phonograph combinations, and record changers; **Reg. No. 678,198**, same, Dictating machines; **Reg. No. 697,866**, same, Motion picture projection apparatus; **Reg. No. 751,264**, same, Hearing aid devices and parts and accessories, filed Mar. 11, 1964, D.C., S.D.N.Y., Doc. 64/766, *North American Philips Co., Inc.* v. *Morris Boyds et ano.* Consent judgment; defendants enjoined June 24, 1964.

Reg. No. 412,436. (See Reg. No. 407,777.)

Reg. No. 416,630. (See Reg. No. 178,253.)

Reg. No. 422,955. (See Reg. No. 178,253.)

Reg. No. 515,859. (See Reg. No. 178,253.)

Reg. No. 554,225. (See Reg. No. 407,777.)

Reg. No. 590,906 (ESTEE LAUDER), Estee Lauder, doing business as Estee Lauder Cosmetic Co., Lipstick, face powder, cream rouge, cake rouge, mascara, eye shadow, etc., filed Mar. 6, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–298 WB, *Estee Lauder, Inc.* v. *Louis d'Or of France, Inc. et al.*

Reg. No. 648,100 (YOUNG LAND (in script) FASHIONS), Sam Landorf & Co., Inc., Children's dresses, filed Jan. 8, 1963, D.C., S.D.N.Y., Doc. 63/70, *Sam Landorf & Co., Inc.* v. *E. J. Korvette, Inc.* Stipulation and order of discontinuance with prejudice Mar. 17, 1964.

Reg. No. 573,140. (See Reg. No. 178,253.)

Reg. No. 576,271 (TRAVELODGE), Travelodge Corporation, Lodging services, filed Feb. 28, 1963, D.C., M.D. Tenn. (Nashville), Doc. 3410, *The Travelodge Corporation* v. *W. D. Martin.* Final consent judgment; trademark infringed; defendant enjoined Feb. 11, 1964.

Reg. No. 599,612. (See Reg. No. 178,253.)

Reg. No. 666,999. (See Reg. No. 178,253.)

Reg. No. 616,290 (VANITY FAIR), Groveton Papers Co., Toilet paper, paper napkins, paper towels, facial tissue, tissue paper, and waxed paper; **Reg. No. 665,163** (VANITY FAIR in script AND DESIGN), same, Facial tissue, toilet paper, and paper napkins, filed Mar. 25, 1964, D.C., S.D.N.Y., Doc. 64–941, *Groveton Papers Co.* v. *Georgia Pacific Corp. et al.*

Reg. No. 618,191 (DETECTRON in script), The Detectron Corporation, Radiation sensing and measuring instruments, filed Mar. 17, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–348 YY, *Tinker & Rador* v. *J. L. Cassingham & Raytron Co.*

Reg. No. 618,949 (SNAP-A-WAY), Wilson Jones Company, Manifold forms; **Reg. No. 620,886** (SPEED), Swingline, Inc., Paper fasteners, filed Oct. 12, 1962, D.C., N.D. Ill. Chicago), Doc. 62c1904, *Wilson Jones Co.* v. *Mattick Printing Co.* Stipulation of dismissal without prejudice Mar. 16, 1964.

Reg. No. 622,228. (See Reg. No. 407,777.)

Reg. No. 661,737 (FAMIGLIA CRIBARI AND DESIGN), Alta Vineyards Company, doing business as B. Cribari & Sons, Wines, filed Oct. 17, 1963, D.C. Oreg. (Portland), Doc. 64–490, *B. Cribari & Sons* v. *National Beer & Wine Company.* Judgment by consent Mar. 16, 1964.

Reg. No. 665,139 (TACH-E-Z), Whaledent, Inc., Attachments for partial dentures, filed Mar. 11, 1964, D.C., S.D.N.Y., Doc. 64/781, *Whaledent, Inc. v. Weinbaum Dental Supply Co., Inc. et al.*

Reg. No. 678,188. (See Reg. No. 407,777.)

Reg. No. 681,890. (See Reg. No. 389,794.)

Reg. No. 695,162. (See Reg. No. 616,220.)

Reg. No. 699,663 (BARBIE), Mattel, Incorporated, Doll; **Reg. No. 704,555** (CHATTY CATHY), same, filed Sept. 25, 1962, D.C., S.D.N.Y., Doc. 62/3240, *Mattel, Inc. v. Progressive Doll Accessories Corp.* Stipulation and order of dismissal without prejudice Mar. 17, 1964.

Reg. No. 699,664. (See Reg. No. 648,949.)

Reg. No. 697,866. (See Reg. No. 407,777.)

Reg. No. 704,555. (See Reg. No. 699,055.)

Reg. No. 704,778 (SERVICEMASTER AND DESIGN), Wade, Wenger & Associates, Inc., General household, office, and institutional cleaning and renovating services, such as wall and window washing, window shades, etc., filed Mar. 18, 1964, D.C., N.D. Ohio (Cleveland), Doc. C-64-43, *Wade, Wenger Servicemaster Company v. Gene O. Cleary et al.*

Reg. No. 708,171. (See Reg. No. 112,291.)

Reg. No. 715,884 (WINDCHASER), Durlacher & Co., Inc., Ladies' head covering in the nature of a kerchief, filed Nov. 15, 1962, D.C., S.D.N.Y., Doc. 62/3765, *Durlacher & Co., Inc. v. Selom Goldberg et ano.* Action dismissed Mar. 25, 1964.

Reg. No. 719,853. (See Reg. No. 203,957.)

Reg. No. 720,012. (See Reg. No. 203,957.)

Reg. No. 720,117. (See Reg. No. 203,957.)

Reg. No. 727,285. (See Reg. No. 203,957.)

Reg. No. 727,813 (KNOWLEDGE THROUGH READING AND DESIGN), Evelyn Wood Reading Dynamics Corporation, Conducting courses of instruction in rapid and perceptive reading and carrying out research in reading techniques; **Reg. No. 731,962** (READING DYNAMICS), Evelyn Wood Reading Dynamics Institutes of America, Inc., Conducting courses of instruction in rapid and perspective reading techniques; **Reg. No. 748,155** (EVELYN WOOD), same, filed Sept. 28, 1963, D.C., Dist. of Columbia, Doc. 2410-63, *Evelyn Wood Reading Dynamics Institutes of America, Inc. v. Frederick W. Babbel & Associates, Inc.* Case dismissed with prejudice Jan. 30, 1964.

Reg. No. 728,904. (See Reg. No. 203,957.)

Reg. No. 731,962. (See Reg. No. 727,813.)

Reg. No. 748,155. (See Reg. No. 727,813.)

Reg. No. 731,141 (SHEPHERD), Shepherd Casters, Inc., Furniture Casters, filed Mar. 16, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c490, *Shepherd Casters, Inc. v. Leath & Company.* Consent judgment: trademark held valid and infringed; case dismissed with prejudice (notice Apr. 2, 1964.)

Reg. No. 751,964. (See Reg. No. 407,777.)

Reg. No. 761,498. (See Reg. No. 389,794.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 166,282. American Tansul Company, Las Vegas, Nev., assignee of The Inerto Company, Las Vegas, Nev. Filed Apr. 8, 1963.

PROPALOID-T

Owner of Reg. No. 571,002.
For Chemically Modified Clays for Use as Thickening and Suspending Agents.
First use about July 3, 1962.

SN 171,752. Calcium Carbonate Company, Quincy, Ill. Filed June 25, 1963.

SILAGE-BOOSTER

For Ground Limestone.
First use Aug. 10, 1962.

SN 174,541. H. C. Spinks Clay Co., Inc., Paris, Tenn. Filed Aug. 6, 1963.

HC PELLBIND

Owner of Reg. No. 660,467.
For Clay Binding Material for Binding Feed Pellets and for Similar Uses.
First use Mar. 11, 1963.

SN 177,957. Blu-Chilla, Incorporated, Nampa, Idaho. Filed Sept. 30, 1963.



The drawing is lined to indicate the color blue.
For Natural Furs.
First use May 29, 1962.

TM 82

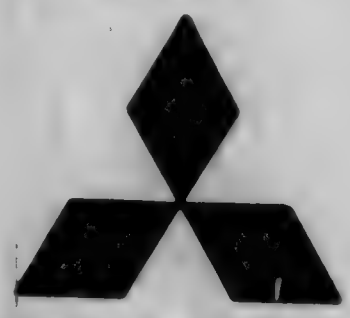
SN 181,862. Tine W. Davis, Montgomery, Ala. Filed Nov. 26, 1963.



The mark consists of a stylized version of the letters "TWD."
For Polled Cows.
First use Jan. 18, 1960.

Class 2—Receptacles

SN 174,892. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 12, 1963.



Owner of Japanese Reg. No. 83,578, dated Jan. 11, 1917.
For Boxes, Bags, and Cases Used for Packing and Preserving Foodstuffs, Made of Polyvinyl Chloride, Melamine Resins, Phenolic Resins, Polyester Resins, Polyethylene Resins, Styrene Resins, Polyurethane Resins, Acrylic Resins and Epoxy Resins.

Class 4—Abrasives and Polishing Materials

SN 156,976. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.

HOOVER

Owner of Reg. Nos. 165,890, 715,708, and others.
For Liquid Wax To Polish Surfaces.
First use July 6, 1961.

SN 156,978. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.



Owner of Reg. Nos. 165,890, 715,708, and others.
For Liquid Wax To Polish Surfaces.
First use July 6, 1961.

SN 168,846. Penny-Pak, Inc., Danville, Ill. Filed May 7, 1963.

PENNY PAK

For Spray Furniture Polish.
First use Feb. 21, 1963.

SN 171,442. Jeffrey L. Fried, d.b.a. Walton-March, Highland Park, Ill. Filed June 20, 1963.

SHOO

For Self-Adhesive Scouring Pad for Application to Shoe Sole To Abrasively Remove Scuff Marks, Wax and Floor Finish Build-Ups on Wood or Like Floors, Sold Exclusively for Industrial and Institutional Use.
First use May 6, 1963.

SN 177,320. Universal Shellac & Supply Co., Brooklyn, N.Y. Filed Sept. 18, 1963.

UNI-OXIDE C

For Polishing Materials in Powder Form Used To Polish Glass and Glass Products and as a Tumbling Compound Used With Semi-Precious Stones.
First use at least as early as 1926.

SN 182,680. Texaco Inc., New York, N.Y. Filed Dec 9, 1963.



The drawing is lined for red and green, but the mark is not limited to the colors shown.
For Automobile Polishes, Cleaner and Wax, and Metal Polish.
First use Jan. 4, 1963.

Class 5—Adhesives

SN 165,390. Velveray Corporation, Passaic, N.J. Filed Mar. 25, 1963.

VELVERAY

Owner of Reg. Nos. 287,011, 690,475, and others.
For Flock Printing Adhesives, Including Modified Starch, Dextrin, Resins, and Solvents.
First use 1929.

SN 184,509. R-H Products Co., Inc., South Acton, Mass. Filed Jan. 18, 1964.

CLEAR-TITE

For Bond Cement To Bond Formica and Decorative Laminates to Wood, Composition Boards, and Metal.
First use 1960.

SN 184,857. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Jan. 17, 1964.

VALTAC

For Pressure-Sensitive Adhesives, Including Vinyl and Acrylic Polymer Resins Dispersed in Aqueous and Solvent Based Media, for Application to Self-Adhesive Decorative Surface Covering Material in Sheet Form for Walls, Shelves, Furniture, Home Furnishings, and the Like.
First use on or about Nov. 27, 1963.

SN 185,127. General Tape & Supply, Inc., Detroit, Mich. Filed Jan. 22, 1964.



For Industrial Tape—Namely, Tape Having One Side Thereof Either Blank or Imprinted and Having the Other Side Coated With an Adhesive Such as a Pressure-Sensitive Type of Adhesive or Gummed Type of Adhesive.
First use Nov. 1, 1963.

Class 6—Chemicals and Chemical Compositions

SN 149,968. Southern Instruments Limited, Camberley, Surrey, England. Filed July 27, 1962.

NILOX

Priority is claimed under Sec. 44(d) on British Reg. No. 832,486, dated Mar. 26, 1962.
For Naphthoquinone, Chromic Sulphate, Sulphuric Acid and Chromous Sulphate; All Being Chemical Products for Use With Gas Purification Apparatus.

SN 156,808. Fama & Famin Gesellschaft mit Beschrankter Haftung, Hannover-Hainhois, Germany. Filed Nov. 7, 1962.

FAMA

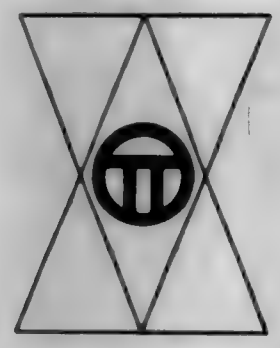
Owner of German Reg. No. 453,558, dated Feb. 21, 1933.
For Chemical Wood Preservatives.

SN 157,805. International Flavors & Fragrances Inc., New York, N.Y. Filed Nov. 23, 1962.

OLIFFAC

For Aromatic Chemicals, That Is Chemicals Having an Aroma, Natural and Artificial Perfume Materials, Mixtures of the Same, and Chemicals Employed for Masking Odors.
First use May 1, 1962.

SN 160,551. The Ott Chemical Company, Muskegon, Mich. Filed Jan. 11, 1963.



For Organic Chemical Compounds.
First use Nov. 5, 1959.

SN 162,438. Glyco Chemicals, Inc., New York, N.Y. Filed Feb. 11, 1963.

DANTOIN

For Chemical Compound Useful as a Bleaching, Deodorizing, Sanitizing, Textile Finishing, and Viscosity Modifying Agent; as a Depolarizing Agent in Certain Electrolytic Cells, as a Halogen Donor in Chemical Reactions, Accelerator for Certain Organic Chemical Reactions, Retarder of Halogen Release From Some Organic Chemical Compounds, Purifying Agent for Some Organic Chemical Compounds, and as an Intermediate for Preparation of Certain Organic Chemical Halogen Derivatives.
First use Feb. 14, 1962.

SN 162,721. Foseco International Limited, Birmingham, England. Filed Feb. 14, 1963.

CUPREX

For Oxidizing and Covering Compounds for Addition to Melts of Non-Ferrous Metals Such as Copper, Copper Alloys, and Nickel Alloys.
First use Jan. 28, 1955; in commerce Jan. 28, 1955.

SN 162,722. Foseco International Limited, Birmingham, England. Filed Feb. 14, 1963.

FERRUX

Owner of British Reg. No. 734,767, dated Oct. 6, 1954.
For Exothermic Chemical Preparations for Use in the Foundry Industry To Delay the Setting of Metal in the Feeding Heads of Castings.
First use Dec. 29, 1954; in commerce Dec. 29, 1954.

SN 162,723. Foseco International Limited, Birmingham, England. Filed Feb. 14, 1963.

INOCULIN

For Graphitizing Compounds for Addition to Molten Cast Iron.
First use Mar. 17, 1960; in commerce Mar. 17, 1960.

SN 162,760. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Feb. 14, 1963.

FLOWCO

Owner of Reg. No. 743,263.
For Metallic Soaps Sold as Paper Coating Additives.
First use Jan. 17, 1963.

SN 162,834. Foseco International Limited, Birmingham, England. Filed Feb. 15, 1963.

FEEDOL

For Exothermic Hot-Topping Compounds for Use in the Casting of Metals.
First use July 12, 1955; in commerce July 12, 1955.

SN 163,435. Velsicol Chemical Corporation, Chicago, Ill. Filed Feb. 25, 1963.

ESTAB

For Soil Stabilizing Resinous Composition.
First use Feb. 5, 1963.

SN 163,447. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Feb. 25, 1963.

RONGAL

For Chemicals Used as Reducing Agents, Especially for the Textile Industry, and Particularly for Printing Vat Dyes, Discharging, Bleaching and Stripping.
First use Aug. 22, 1957; in commerce Aug. 30, 1962.

SN 163,540. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. Filed Feb. 27, 1963.

LANIGAN

Owner of German Reg. No. 522,205, dated June 15, 1940; and U.S. Reg. No. 697,961.
For Chemical Milling and Washing Agents for the Wool Industry, Lubricants for Worsted and Carded Yarn Spinning.

SN 170,022. Colloids, Inc., Newark, N.J. Filed May 31, 1963.

NEOSYN

For Family of Synthetic Tanains Based on Cresol and Naphthalene and Are Particularly Adapted to the Needs of the Heavy and Light Leather Tanner and Which May Also Have Application as a Dispersing Agent, Used Commercially as Tanning Agent for Leather and Related Products.
First use Mar. 24, 1962.

SN 171,661. Howard H. Hersberger, d.b.a. Hersberger's, Bay City, Mich. Filed June 24, 1963.

RE-GEN-ALL

For Preparation for Regenerating Water Conditioning Equipment.
First use Jan. 12, 1963.

SN 172,243. S. E. Rykoff & Co., Los Angeles, Calif. Filed July 1, 1963.

Golden Rey

Owner of Reg. Nos. 667,835, and 676,798.
For Household Deodorants and Insect Bombs.
First use Jan. 14, 1958.

SN 172,349. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 1, 1963.

SHAMROCK

For Pool Chlorine and Algaecide.
First use on or about Feb. 21, 1963.

SN 172,774. Prairie States Corporation, Danville, Ill. Filed July 10, 1963.

UDS

For Anti-Freeze Compound.
First use July 8, 1963.

SN 173,115. Lumin Chemical Company, Wilson, N.C. Filed July 16, 1963.

LUMINSOL

For Chemical Compositions Useful as Thickeners, Emulsifiers, Foam Boosters in Detergent Compositions.
First use Oct. 2, 1961.

SN 174,804. Stecker Chemicals, Inc., Ho-Ho-Kus, N.J. Filed Aug. 9, 1963.

FLUOROPHENE

For Bactericide and Fungicide Sold in Bulk Form To Provide Bacterial and Fungal Inhibition in Liquid and Solid Detergents and Soaps.
First use Aug. 7, 1962.

SN 178,892. The Dayton Bright Copper Company, Dayton, Ohio. Filed Oct. 14, 1963.

CuFLEX

For Addition Agents Used in Copper Electro-Plating Solutions To Improve the Brightness of Electrodeposited Copper.
First use Mar. 4, 1963.

SN 182,096. Martens Chemical Corp., College Point, N.Y. Filed Nov. 29, 1963.

FLEXITE

For Laundry Starch.
First use Jan. 12, 1959.

SN 182,380. United States Rubber Company, New York, N.Y. Filed Dec. 4, 1963.

OCTAMINE

For Antioxidant.
First use 1953.

SN 182,382. United States Rubber Company, New York, N.Y. Filed Dec. 4, 1963.

TUEX

For Vulcanization Accelerator.
First use in or before 1941.

SN 182,386. United States Rubber Company, New York, N.Y. Filed Dec. 4, 1963.

AMINOX

For Antioxidant.
First use in or before 1957.

SN 182,475. A. M. Todd Company, Kalamazoo, Mich. Filed Dec. 23, 1963.

IDAMINT

For Essential Vegetable Oils.
First use Dec. 9, 1963.

SN 184,558. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Jan. 13, 1964.

VAN-GLO

For Liquid Aluminum Brightener Especially for Truck Trailers and Mobile Homes.
First use Nov. 5, 1963.

SN 184,655. Savin Business Machines Corporation, New York, N.Y. Filed Jan. 15, 1964.

ELECTROMIX

For Developing Liquid for Office Copiers.
First use Nov. 27, 1963.

SN 184,869. Allied Chemical Corporation, New York, N.Y. Filed Jan. 20, 1964.

LANAMOL

For Dyeing Assistant.
First use June 1960.

SN 184,946. Miles Laboratories, Inc., Elkhart, Ind. Filed Jan. 20, 1964.

TAKATEX

Owner of Reg. Nos. 595,049, 661,212, and others.
For Enzyme Textile Desizing Agent.
First use on or before Aug. 30, 1963.

SN 184,976. Shell Oil Company, New York, N.Y. Filed Jan. 20, 1964.

CIOVAP

For Insecticide.
First use Dec. 9, 1963.

SN 185,167. Todd Chemical Company, Inc., Great Neck, N.Y. Filed Jan. 22, 1964.

SNO-BAN

For Chemical Composition for Melting Ice and Snow.
First use Mar. 15, 1963.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 166,703. S. M. Frank & Co., Inc., New York, N.Y. Filed Apr. 15, 1963.

INJECTO-REFUEL

Applicant disclaims the word "Refuel" apart from the mark as shown.
For Refuel Cartridges for Cigarette Lighters.
First use Mar. 15, 1963.

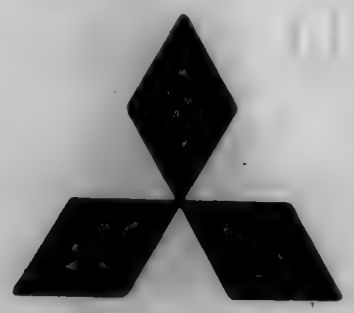
SN 174,685. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

The English translation for the Japanese word "Mitsubishi," is "three rhomboids." Owner of Japanese Reg. No. 575,090, dated June 20, 1961.

For Table Lighters, Cigarette Lighters, Cigar Lighters, and Cigarette Cases.

SN 174,894. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 12, 1963.



Owner of Japanese Reg. No. 98,025, dated Nov. 13, 1918.

For Table Lighters, Cigarette Lighters, Cigar Lighters, and Cigarette Cases.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 183,754. Garmon Specialty Company, North Little Rock, Ark. Filed Dec. 30, 1963.



For Fireworks.
First use Oct. 15, 1963.

Class 10 — Fertilizers

SN 190,010. J. & L. Adikes, Inc., Jamaica, N.Y. Filed Mar. 31, 1964.

SOLU-PELL

For Fertilizer.
First use Mar. 5, 1964.

SN 191,074. Pope & Talbot, Inc., San Francisco, Calif. Filed Apr. 14, 1964.

LOAMITE

For Fertilizers.
First use Feb. 18, 1959.

SN 192,501. Monsanto Company, St. Louis, Mo. Filed May 1, 1964.

TRI-UNA-SOL

For Fertilizers.
First use Sept. 26, 1959.

Class 11 — Inks and Inking Materials

SN 165,391. Velveray Corporation, Passaic, N.J. Filed Mar. 25, 1963.

VELVERAY

Owner of Reg. Nos. 287,011, 690,475, and others.
For Textile Film and Paper Printing Inks.
First use 1929.

SN 188,493. Wikoff Color Corporation, Charlotte, N.C. Filed Mar. 11, 1964.

MULTRA-TRAP

For Printing Inks.
First use Dec. 7, 1962.

SN 188,587. The Sherwin-Williams Company, Cleveland, Ohio. Filed Mar. 12, 1964.

VERSATYL

For Inks and Inking Materials in the Nature of Flushed Colors for Inks as Well as for a Vehicle Used To Improve the Quality of Inks Already Manufactured.
First use Oct. 11, 1963.

SN 189,715. Manifold Supplies Company, Brooklyn, N.Y. Filed Mar. 26, 1964.

EVR-FLAT

Owner of Reg. No. 409,446.
For Carbon Paper.
First use Apr. 25, 1943.

SN 190,105. Nerco, Inc. of Deerfield Beach, Deerfield Beach, Fla. Filed Apr. 1, 1964.



For Inked Ribbons, Carbon Papers, and Master Units.
First use Feb. 1, 1961.

Class 12 — Construction Materials

SN 156,620. Keelcraft Corporation, Palisades Park, N.J. Filed Nov. 5, 1962.

RONDETTE

For Prefabricated Housing Units.
First use October 1958.

SN 156,808. Fama & Famin Gesellschaft mit beschrankter Haftung, Hannover-Hainholz, Germany. Filed Nov. 7, 1962.

FAMA

Owner of German Reg. No. 453,858, dated Feb. 21, 1933.

For Natural Stones, Cast Stones, Lime, Gravel, Gypsum, Pitch, Wood Fibres and Chips, Xylolith, and Tar Used for Construction; Prepared Asphalt Used for Paving, Portland Cement, Roofing Paper, Prefabricated Houses and Chimneys; Precast Floor Tile, Slabs, Plates, Wall Panels, and Molding Made of Xylolith.

SN 182,458. Balsa Products Inc., Miami, Fla. Filed Dec. 6, 1963.

BALCOR

For Core Material for Making Laminated Plastic Sandwich Constructions and the Like.
First use Sept. 17, 1962.

SN 183,053. The Globe Brick Company, Newell, W. Va. Filed Dec. 16, 1963.

GLOBE

For Refractory Products—Namely, Bricks, Shapes, Mixes and Other Such Goods for Use in the Construction of Heat Resistant Structures.
First use June 12, 1920.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 165,345. McCullough & Fisher, Las Vegas, Nev. Filed Mar. 25, 1963.

TI-IT

For Stress Maintaining Fastener Coupling and Release Type Fasteners for General Application in Connecting Various Items While Maintaining an Imposed Tensile Stress of Predetermined Amplitude.
First use December 1962.

SN 166,544. Flexicraft Industries, Inc., Chicago, Ill. Filed Apr. 11, 1963.

SURGE Master

For Mechanical Device Used for Controlling Pulsations or Sharp Increases in Pressure in Piping Systems.
First use May 3, 1962.

SN 172,249. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 1, 1963.

SHAMROCK

For Life Preserver Rings, Leaf Skimmers, Rope Hooks, Racing Lane Rope, Life Line Rope, Brushes, Coco Mats for Diving Boards.
First use during the first half of May 1962.

SN 174,972. W. H. Mase Company, Peru, Ill. Filed Aug. 13, 1963.

LEAD GASKET

For Roofing Nails.
First use July 26, 1963.

SN 175,092. Anchor Post Products, Inc., Baltimore, Md. Filed Aug. 15, 1963.



Owner of Reg. No. 607,824.
For Metallic and Non-Metallic Fencing, Including Residential Fencing, Fencing for Industrial Plants, Playgrounds, Athletic Fields, Stadiums, Swimming Pools, Right-of-Way Fencing Along Highways and Highway Guard Rails and Related Components; Fencing for Security and Decorative Purposes; Area Security Systems of Various Types and for Marking Boundary Lines.
First use July 5, 1963.

SN 175,878. Ritchie Manufacturing Company, Conrad, Iowa. Filed Aug. 27, 1963.

YELLO-JACKET

For Plastic Shield of Indeterminate Length for a Pipe for Use With a Yard Hydrant.
First use Aug. 31, 1962.

SN 179,120. Cleveland Wash Tray Mfg. Co., Inc., Cleveland, Ohio. Filed Oct. 16, 1963.

FIBRA-BASE

For Fiberglass Shower Receptors.
First use Mar. 1, 1963.

SN 183,078. Ted Lederer, Santa Monica, Calif. Filed Dec. 16, 1963.



For Adjustable Sink and Lavatory Hangers.
First use Dec. 31, 1961.

SN 185,927. Pacer Plumbing Products Company, Incorporated, Moberly, Mo. Filed Feb. 3, 1964.

MIRACLE

For Toilet Flush Valve Renewal Kit.
First use Aug. 1, 1962.

SN 187,711. Allied Chemical Corporation, New York, N.Y. Filed Mar. 2, 1964.

EASTON

For Plastic Pipe Products.
First use at least as early as January 1955.

SN 188,155. Swinyar Enterprises, Incorporated, Collegedale, Tenn. Filed Mar. 6, 1964.

PHARMA-SAVER

For Pharmaceutical Bottle Holder.
First use Jan. 6, 1963.

Class 14—Metals and Metal Castings and Forgings

SN 117,159. Armco Steel Corporation, Middletown, Ohio. Filed Apr. 5, 1961.

PH 15-7 MO

The term "Mo" is disclaimed apart from the mark.
For Stainless Steel.
First use Jan. 31, 1957.

SN 178,696. Gries Reproducer Corporation, New Rochelle, N.Y. Filed Oct. 10, 1963.

Intermold

For Die Castings and Moldings Made of Metal or a Combination of Plastic and Metal.
First use Nov. 9, 1962.

Class 15—Oils and Greases

SN 151,503. Molecular Chemicals, Inc., New Orleans, La. Filed Aug. 20, 1962.

MOLEX

For Additives for Petroleum Fuels and Lubricating Oils.
First use June 20, 1962.

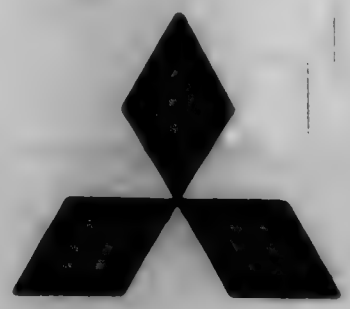
SN 174,687. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

The English translation of the Japanese word "Mitsubishi" is "three rhomboids." Owner of Japanese Reg. No. 185,454, dated Oct. 9, 1926; and U.S. Reg. No. 379,111.

For Crude Petroleum; Motor Gasoline; Industrial Naphtha; Kerosene; Gas Oil; Fuel Oil; Insulating Oil; Lubricating Oil—Namely, Spindle Oil, Dynamo Oil, Turbine Oil, Machine Oil, Marine Engine Oil, Mobile Oil, Diesel Engine Oil, Cylinder Oil, Axle Oil, Cutting Oil, and Liquid Paraffin; Quenching Oil; and Grease.

SN 174,896. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 12, 1963.



Owner of Japanese Reg. Nos. 62,124, dated Dec. 24, 1913; 168,518, dated Mar. 4, 1925; and U.S. Reg. No. 379,111.

For Crude Petroleum; Motor Gasoline; Industrial Naphtha; Kerosene; Gas Oil; Fuel Oil; Insulating Oil; Lubricating Oil—Namely, Spindle Oil, Dynamo Oil, Turbine Oil, Machine Oil, Marine Engine Oil, Mobile Oil, Diesel Engine Oil, Cylinder Oil, Axle Oil, Cutting Oil, and Liquid Paraffin; Quenching Oil; and Grease.

SN 186,835. Eugene D. Day, d.b.a. National Chemical Company, Lubbock, Tex. Filed Feb. 10, 1964.

NUT KRAKER



For Penetrating Oil.
First use Oct. 29, 1963.

SN 189,742. Texaco Inc., New York, N.Y. Filed Mar. 26, 1964.

SEA CHIEF

Owner of Reg. Nos. 300,073, 305,574, and 668,900.
For Gasoline.
First use Nov. 22, 1963.

SN 190,143. Applied Chemicals Corp., Hoboken, N.J. Filed Apr. 2, 1964.

ATR

For Additive to Automatic Transmission of Internal Combustion Engines for Solvent and Cleaning Action.
First use 1946.

SN 190,160. Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. Filed Apr. 2, 1964.

SEA SAW

For Lubricating Oil.
First use Jan. 9, 1962.

SN 190,165. Eastman Kodak Company, Rochester, N.Y. Filed Apr. 2, 1964.

DPI

Owner of Reg. Nos. 536,721, 549,216, and others.
For Synthetic Machining Fluids.
First use July 24, 1962.

Class 16—Protective and Decorative Coatings

SN 174,280. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Aug. 1, 1963.

GHP

For Paints.
First use at least as early as Dec. 11, 1962.

SN 176,019. Pittsburgh Chemical Company, Pittsburgh, Pa. Filed Aug. 29, 1963.

C-200

For Bituminous Coatings of the Amide Coal Tar Epoxy Type for Protecting Pilings, Locks, Dams, Penstocks, and Water and Sewage Plants Against Corrosion.
First use June 14, 1963.

SN 181,434. Vi-Cly Industries, Inc., Compton, Calif. Filed Nov. 18, 1963.

AMERITONE

For Exterior and Interior House Paints, Varnishes, and Lacquers.
First use on or about May 1, 1949.

SN 184,179. Alfred J. Russack, d.b.a. Madison Chemical Company, White Plains, N.Y. Filed Jan. 7, 1964.

PUFCOTROL

For Chemical Additive for Increasing Viscosity and Thixotropy in Paints, Varnishes, and Lacquers.
First use Nov. 15, 1963.

SN 185,027. Dutch Masters Paint & Varnish Company, Inc., Brooklyn, N.Y. Filed Jan. 21, 1964.

SMOOTH-X

Owner of Reg. No. 760,901.
For Ready-Mixed Exterior Paints, Including House Paints.
First use Sept. 18, 1960.

Class 17—Tobacco Products

SN 181,904. P. Lorillard Company, New York, N.Y. Filed Nov. 26, 1963.

BURGUNDY

For Smoking Tobacco.
First use Sept. 12, 1963.

Class 18—Medicines and Pharmaceutical Preparations

SN 152,683. Golden Cough Tablets, Inc., Brooklyn, N.Y., by mesne assignments of Irving Ehrlich, d.b.a. Golden Cough Tabs Products, Brooklyn, N.Y. Filed Sept. 7, 1962.

GOLDEN COUGH TABS

No claim is made to the words "Cough Tabs" apart from the combination.
For Cough Drops.
First use Jan. 10, 1949.

SN 161,581. Strunol Products Limited, London, England. Filed Jan. 24, 1963.

OTODEX

For Veterinary Preparations for Use in the Treatment of Ear Irritation and Canker in Domestic Animals.
First use Nov. 20, 1952; in commerce Sept. 20, 1955.

SN 169,065. Revlon, Inc., New York, N.Y. Filed May 16, 1963.

MEDI-SOOTHE

For Medication for Relief of Hemorrhoids.
First use Apr. 30, 1963.

SN 170,767. Roussel Corporation, New York, N.Y. Filed June 11, 1963.

TUSSICALM

For Cough Syrup.
First use on or about May 27, 1963.

SN 171,750. Joseph William Brink, d.b.a. Busse's Pharmaceutical Company, Seabrook, Md. Filed June 25, 1963.

LENSAL

For Preparation Recommended for Athlete's Foot and Other Fungi Infections.
First use Sept. 27, 1962.

SN 172,384. Garrett Laboratories, Inc., Baltimore, Md. Filed July 3, 1963.

GARRETT

For Medicinal Preparations for Human Use.
First use June 6, 1963.

SN 175,313. Norden Laboratories, Inc., Lincoln, Nebr. Filed Aug. 19, 1963.

TELODRON

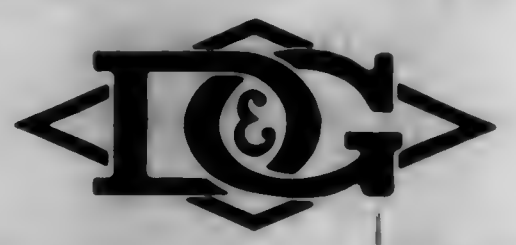
For Antihistamine Preparation Used in Veterinary Medicine.
First use May 1963.

SN 176,743. The Norwich Pharmacal Company, Norwich, N.Y. Filed Sept. 11, 1963.

AEROFILM

For Medicinal Preparations for the Topical Treatment of Skin Ailments.
First use Dec. 27, 1962.

SN 177,599. American Cyanamid Company, Wayne, N.J. Filed Sept. 24, 1963.



For Topical Preparation for Use as a Skin Protectant.
First use July 19, 1963.

SN 180,585. Margaret Krop, Chicago, Ill. Filed Nov. 6, 1963.

HAYSMA

For Preparation for Hay Fever and Asthma.
First use June 1, 1931.

SN 180,819. American Cyanamid Company, Wayne, N.J. Filed Nov. 12, 1963.

DIRAHIST

Owner of Reg. No. 706,218.
For Steroid Antihistamine Preparation.
First use Oct. 25, 1963.

SN 181,260. J. R. Nevin Co., Inc., Buffalo, N.Y. Filed Nov. 15, 1963.

QUIEBAR

For Butabarbital Sodium in Liquid and Solid Form for Use as a Sedative and Hypnotic.
First use on or about Nov. 12, 1963.

SN 181,818. ICAR, Industria di Ricerca e Produzione del Farmaco, S.p.A., Rome, Italy. Filed Nov. 22, 1963.

MEGACLOR

Owner of Italian Reg. No. 161,340, dated Apr. 24, 1963.
For Antibiotics of the Cycline Type.

SN 183,084. Menley & James Laboratories, Ltd., Philadelphia, Pa. Filed Dec. 16, 1963.

AQUADERM

Owner of Reg. No. 690,662.
For Topical Preparation for the Treatment of Dry Itching Skin.
First use Oct. 25, 1963.

SN 183,092. N.V. Laboratoria Pharmaceutica Dr. C. Janssen, Turnhout, Belgium. Filed Dec. 16, 1963.

DIPIPERON

Owner of Belgian Reg. No. 1,883, dated Feb. 6, 1962.
For Pharmaceutical Preparations.

SN 183,094. N.V. Laboratoria Pharmaceutica Dr. C. Janssen, Turnhout, Belgium. Filed Dec. 16, 1963.

TRIPERIDOL

Owner of Belgian Reg. No. 1,879, dated Feb. 6, 1962.
For Pharmaceutical Preparations.

SN 183,352. Acme Markets, Inc., Philadelphia, Pa. Filed Dec. 23, 1963.



Owner of Reg. Nos. 50,065, 767,649, and others.
For Vitamin Tablets for Adults and Children and Family.
First use Oct. 30, 1963.

SN 184,543. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

MEPHSTRAM

For Antispasmodic Preparation.
First use October 1952.

SN 184,544. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

LEBONATE

For Appetite Depressant Preparation.
First use April 1960.

SN 184,550. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

A-4

For Laxative Preparation.
First use April 1945.

SN 184,551. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

A-3

For Laxative Preparation.
First use April 1945.

SN 184,552. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

A-2

For Laxative Preparation.
First use April 1945.

SN 184,929. International Latex Corporation, Dover, Del. Filed Jan. 20, 1964.

TRISTACOL

For Pharmaceutical Preparations for the Treatment of Symptoms of Coughs, Nasal Congestion, Hay Fever, and Colds.
First use Jan. 2, 1964.

SN 184,944. Merck & Co., Inc., Rahway, N.J. Filed Jan. 20, 1964.

RUMESTROL

For Growth Promoting Hormone Substance for Use as an Animal Feed Supplement.
First use Jan. 10, 1964.

SN 185,307. Merck & Co., Inc., Rahway, N.J. Filed Jan. 24, 1964.

DECADERM-N

For Medicinal Preparation for Dermatologic use.
First use Jan. 2, 1964.

SN 185,308. Merck & Co., Inc., Rahway, N.J. Filed Jan. 24, 1964.

DECADERM

For Medicinal Preparation for Dermatologic Use.
First use Jan. 2, 1964.

SN 185,479. American Home Products Corporation, New York, N.Y. Filed Jan. 28, 1964.

LISALBA

For Medicinal Preparation for Relief and Treatment of Irritations of the Skin and for Diaper Rash.
First use Jan. 6, 1964.

SN 185,480. American Home Products Corporation, New York, N.Y. Filed Jan. 28, 1964.

SEREPAX

For Medicinal Preparation in the Nature of a Psychotropic Agent.
First use Jan. 8, 1964.

SN 185,963. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Feb. 3, 1964.

URALGIC

For Urinary Antispasmodic Sedative.
First use Jan. 16, 1964.

SN 186,267. Organon Inc., West Orange, N.J. Filed Feb. 7, 1964.

CORTROSYN

Owner of Reg. No. 651,659.
For Adrenocorticotropic Medicinal Preparation.
First use Nov. 6, 1963.

SN 186,511. Bristol-Myers Company, New York, N.Y. Filed Feb. 12, 1964.

BRILOX

For Antacid.
First use Nov. 18, 1963.

SN 186,827. Eli Lilly and Company, Indianapolis, Ind. Filed Feb. 17, 1964.

THIZODRIN

For Bacteriostatic and Bactericidal Decongestant for Topical Application to Mucous Membranes.
First use Mar. 20, 1943.

SN 187,056. Wallace & Tiernan Inc., Belleville, N.J. Filed Feb. 19, 1964.

VITAMEXOL

For Nutritional Supplement Containing Vitamins and Minerals.
First use Mar. 20, 1919.

SN 187,439. Schering Corporation, Bloomfield, N.J. Filed Feb. 25, 1964.

TREMIN

For Anti-Parkinson Drug.
First use Jan. 29, 1964.

SN 187,449. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Feb. 25, 1964.

THONZEL

Owner of Reg. No. 633,502.
For Anti-Asthma Preparation in Aerosol Form.
First use June 28, 1963.

SN 188,523. Eli Lilly and Company, Indianapolis, Ind. Filed Mar. 12, 1964.

ELVAC-ND

For Virus Vaccine Used in the Immunization of Poultry.
First use Feb. 26, 1964.

SN 189,184. Eli Lilly and Company, Indianapolis, Ind. Filed Mar. 20, 1964.

EL-ADE

For Injectable Preparation for the Prevention and Treatment of Vitamin Deficiencies in Animals.
First use Mar. 10, 1964.

SN 189,185. Eli Lilly and Company, Indianapolis, Ind. Filed Mar. 20, 1964.

ELBOLUS-C.D.

For Medicinal Preparation for Treatment of Bacterial Diarrhea in Livestock.
First use Mar. 10, 1964.

SN 190,117. The Reducine Company Limited, Dublin, Ireland. Filed Apr. 1, 1964.



Owner of U.S. Reg. No. 709,549.
For Uterine Preparation for Veterinary Use.
First use November 1962; in commerce November 1962.

SN 191,237. Affiliated Laboratories Corporation, White Hall, Ill. Filed Apr. 16, 1964.

MONOVET

For Hog Cholera Vaccine.
First use Feb. 28, 1964.

SN 191,361. The Chattanooga Medicine Company, d.b.a. Chattem Laboratories, Chattanooga, Tenn. Filed Apr. 17, 1964.

FINGERS OF FIRE

For Preparation for External Application for Temporary Relief of Minor Pains of Arthritis, Rheumatism, Sore Muscles, and Chest Cold Discomforts.
First use Mar. 20, 1964.

SN 191,362. The Chattanooga Medicine Company, d.b.a. Chattem Laboratories, Chattanooga, Tenn. Filed Apr. 17, 1964.

MAG-2

For Liquid Preparation for Upset Stomach, Indigestion, Sour Stomach, Nausea, and Gas.
First use Mar. 20, 1964.

SN 191,728. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Apr. 21, 1964.

DOLONIL

Owner of Reg. No. 670,137.
For Urinary Antispasmodic Tablets.
First use June 18, 1963.

Class 19—Vehicles

SN 128,323. Bridgestone Tire Company Limited, Chuo-ku, Tokyo, Japan. Filed Sept. 20, 1961.

JET WIND

Priority claimed under Sec. 44(d) on Japanese application filed Sept. 7, 1961; Reg. No. 640,329, dated Apr. 7, 1964.
For Motorcycles, Bicycles, and Their Parts.

SN 174,323. Atlas International Company, Chicago, Ill. Filed Aug. 5, 1963.

SUPER "C"

For Convertible Tops for Automotive Vehicles.
First use sometime in the year 1955.

SN 175,041. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Aug. 14, 1963.

AMERON

For Automobile Seat Covers.
First use Apr. 23, 1963.

SN 175,950. Manufacture Industrielle de Cycles & Motocycles (MICMO), Machecoul, Loire-Atlantique, France. Filed Aug. 28, 1963.

Gitane

The English translation of the word "Gitane" is "gipsy."
For Bicycles, Tricycles, and Motorcycles for Use by Adults.
First use 1928; in commerce Nov. 14, 1961.

SN 182,822. Pemco Wheel Company, Kalamazoo, Mich. Filed Dec. 11, 1963.

SERVITA

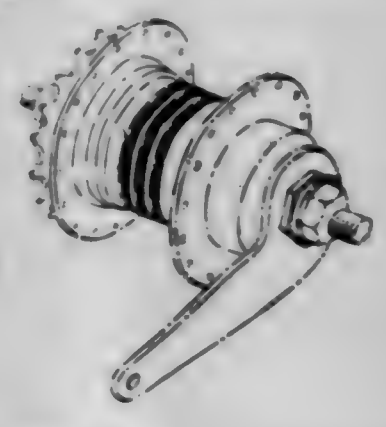
For Relatively Small Wheels and Parts Thereof, Such as Caster Wheels and Wheels Used on Relatively Small Wheeled Vehicles.
First use May 1963.

SN 184,257. River Queen Boat Works, Inc., Gary, Ind. Filed Jan. 6, 1964.



The representation of the marine vessel is disclaimed separate and apart from the mark as shown.
For Boats.
First use Feb. 14, 1955.

SN 184,346. The Bendix Corporation, Detroit, Mich. Filed Jan. 10, 1964.



The mark consists of three transverse red bands on a bicycle brake hub.
For Bicycle Brakes.
First use July 5, 1960.

SN 187,187. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Feb. 21, 1964.

"SS"

For Bicycles and Parts Thereof.
First use Dec. 12, 1963.

SN 187,637. Wheel Goods Corporation, Minneapolis, Minn. Filed Feb. 27, 1964.

HOSTELLER

For Bicycles.
First use Feb. 24, 1964.

SN 187,769. Marlette Coach Company, Marlette, Mich. Filed Mar. 2, 1964.

MARVELLE

For Mobile Homes.
First use Jan. 9, 1964.

SN 187,812. Symington Wayne Corporation, Salisbury, Md. Filed Mar. 2, 1964.

XL

For Railway Trucks and Parts Thereof.
First use in or about July 1947.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 156,976. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.

HOOVER

Owner of Reg. Nos. 165,890, 715,708, and others.
For Kit Containing Attachments for Converting a Floor Polisher to a Waxing Unit.
First use Nov. 12, 1963.

SN 156,978. The Hoover Company, North Canton, Ohio. Filed Nov. 9, 1962.



Owner of Reg. Nos. 165,890, 715,708, and others.
For Kit Containing Attachments for Converting a Floor Polisher to a Waxing Unit.
First use Nov. 12, 1963.

SN 172,249. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 1, 1963.



For Pool Magnets and Pool Lights.
First use during the first half of May 1962.

SN 174,417. Mucon Corporation, Newark, N.J. Filed Aug. 5, 1963.

SLIM-CAPS

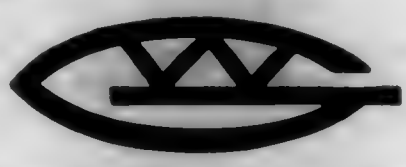
For Subminiature Ceramic Capacitors.
First use March 1963.

SN 186,520. Electronic Specialty Co., Los Angeles, Calif. Filed Feb. 12, 1964.



The drawing is lined for the color red, but no claim is made to color except as shown.
For Power Amplifiers, Sensing Elements, Signal Amplifiers, Motors, and Alternators.
First use 1913.
Subj. to Intf. with SN 157,781.

SN 189,521. World Generator Co., South Holland, Ill. Filed Mar. 23, 1964.



For Automotive Replacement Parts—Namely, Generators, Starter Motors, Alternators, Voltage Regulators, Starter Solenoid Switches, Starter Drives, and Distributors.
First use Sept. 15, 1963.

SN 190,099. Midwec Corporation, Oshkosh, Nebr. Filed Apr. 1, 1964.

MIDWEC

For Electrolytic Capacitors and Building-Out Capacitor Stubs.
First use Feb. 1, 1960.

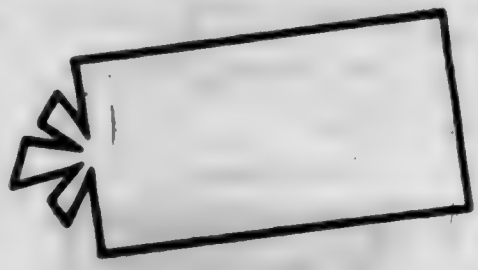
Class 22—Games, Toys, and Sporting Goods

SN 152,870. Abercrombie & Fitch Company, New York, N.Y. Filed Sept. 11, 1962.

SAFARI

Owner of Reg. Nos. 358,781, 703,279, and others.
For Camping Tents.
First use April 1959.

SN 169,361. Fisher-Price Toys, Inc., East Aurora, N.Y. Filed May 21, 1963.



For Toys—Namely, Push or Pull Toys Either With or Without Sounding Means, Figure Toys, Musical Toys, Construction and Manipulative Toys, Comprising Blocks, Beads and Similar Materials, and Toy Lunch Kits.
First use Jan. 4, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 147,568. Foseco Trading A.G., Chur, Switzerland. Filed June 25, 1962.

PROFAX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 189,861, dated Feb. 26, 1962.

For Hot Topping Materials—Namely, Heat Insulating Shapes and Parts for Use in Metal Casting Assemblies.

SN 154,191. Amway Corporation, Ada, Mich., assignee of Amway Sales Corporation, Ada, Mich. Filed Oct. 1, 1962.

AMWAY

Owner of Reg. Nos. 707,656, 736,656, and others.

For Coin-Operated Bleach and Detergent Vending Machines.

First use Sept. 9, 1960.

SN 157,566. Harold W. Scholin and Carl W. Scholin (joint owners), d.b.a. Scholin Industries, Chicago, Ill. Filed Nov. 19, 1962.

HYDROSTOP

For Buffers of the Sort Adapted To Bring a Moving Object Yieldingly to Standstill Condition.

First use on or about Oct. 19, 1962.

SN 160,543. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Jan. 11, 1963.

FASHION FLAIR IN KITCHEN WARE

The words "In Kitchen Ware" are disclaimed apart from the mark as shown.

For Stainless Steel Flatware, Tableware and Kitchen Cutlery, Utensils, and Tools.

First use Dec. 18, 1962.

SN 161,518. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Jan. 28, 1963.

FASHION FLAIR IN STAINLESS WARE

The words "In Stainless Ware" are disclaimed apart from the mark as shown.

For Stainless Steel Flatware, Tableware and Kitchen Cutlery, Utensils, and Tools.

First use Dec. 18, 1962.

SN 164,779. Signode Steel Strapping Company, Chicago, Ill. Filed Mar. 15, 1963.

GUN-NAILER

For Nailing Tools and Machines.

First use Sept. 27, 1962.

SN 165,808. Columbus McKinnon Corporation, Tonawanda, N.Y. Filed Apr. 1, 1963.

LOAD LIMITER

For Brake and Clutch Units for Hoists.

First use on or about Feb. 7, 1963.

SN 170,943. Oneida Ltd., Oneida, N.Y. Filed June 13, 1963.

SPRING LEAF

For Stainless Steel Flat Tableware.

First use May 23, 1963.

SN 172,249. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 1, 1963.

SHAMROCK

For Thermometers, Pumps and Pump Motor for Filters, Skimmers, Chemical Test Sets, Pool Alarms.

First use during the first half of May 1962.

SN 177,967. Chris-Craft Corporation, Pompano Beach, Fla. Filed Sept. 30, 1963.

CHRIS-CRAFT

Owner of Reg. No. 420,837 and 737,045.

For Engines.

First use June 1, 1922.

SN 182,001. Southwest Welding & Manufacturing Co., Alhambra, Calif. Filed Nov. 27, 1963.

SOUTHWEST

For Construction Equipment—Namely, Sheepsfoot Rollers, Pneumatic Tired Rollers, Mobile Sprinkler Tanks, and Towed Type Rippers.

First use on or about June 1, 1934.

SN 182,447. Tuthill Pump Company, Chicago, Ill. Filed S.R. Dec. 5, 1963; Am. P.R. June 16, 1964.

TUTHILL

For Positive Displacement Pumps for Pumping Oil, Water, Gasoline and the Like, and Sanitary Pumps.

First use Nov. 22, 1963.

SN 183,408. Hi-Lo Powered Stirrups, Inc., Cincinnati, Ohio. Filed Dec. 23, 1963.

HI-LO

For Powered Stirrups for Swing Stage Scaffolds.

First use on or about Apr. 1, 1958.

SN 184,070. Imperial International Corp., New York, N.Y. Filed Jan. 6, 1964.

DURALON

Owner of Reg. No. 720,290.

For Cutlery and Flatware—Namely, Knives, Forks, and Spoons of All Kinds.

First use Feb. 8, 1960.

SN 185,926. Otis Elevator Company, New York, N.Y. Filed Feb. 3, 1964.

TRAV-L-AIRE

Owner of Reg. No. 682,834.
For Passenger Conveyers and Parts Thereof.
First use at least as early as Oct. 24, 1963.

SN 185,941. Royal Zenith Corporation, New York, N.Y. Filed Feb. 3, 1964.

WEBMATIC

For Offset Printing Machines.
First use Jan. 16, 1962.

SN 186,255. Paul J. Kordes Co., Inc., Butler, Wis. Filed Feb. 7, 1964.

SKID-ROL

For Dollies Which Are Used for Moving or Transporting Heavy Items.
First use July 6, 1944.

SN 186,559. The Osborn Manufacturing Company, Cleveland, Ohio. Filed Feb. 12, 1964.

OSBORN

Owner of Reg. Nos. 127,357, 745,621, and others.
For Power-Driven Rotary Brushes.
First use Dec. 30, 1963.

SN 187,337. Rival Manufacturing Company, Kansas City, Mo. Filed Feb. 24, 1964.

KNIFE-O-MATIC

Owner of Reg. Nos. 633,900 and 633,972.
For Carving Knives of the Type Having a Vibratory Blade.
First use Feb. 14, 1964.

SN 187,389. Bid-Well Corporation, Canton, S. Dak. Filed Feb. 25, 1964.

BID-WELL

For Machines—Namely, Construction Machinery—Namely, Bridge Deck Finishers, and Parts Therefor.
First use Sept. 23, 1963.

SN 187,444. The Tait Manufacturing Company, Dayton, Ohio. Filed Feb. 25, 1964.

GUARDIAN

For Submersible Cellar Drainers.
First use July 25, 1963.

SN 187,672. Kendrick & Davis Co., Lebanon, N.H. Filed Feb. 28, 1964.

K & D

For Watchmakers' Tools and Small Fractional H.P. Motors.
First use in 1900.

SN 187,681. The Monarch Marking System Company, Dayton, Ohio. Filed Feb. 28, 1964.



Owner of Reg. No. 507,603.
For Machines for Printing and Dispensing Price Marking Tags, Tickets, and Labels.
First use May 1962.

SN 188,605. AMP Incorporated, Harrisburg, Pa. Filed Mar. 13, 1964.

TERMI-FOIL

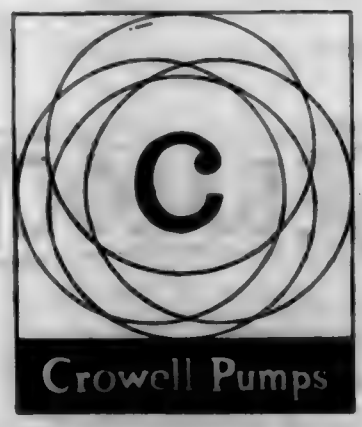
Owner of Reg. No. 748,710.
For Hand Tools To Apply Electrical Connectors.
First use Mar. 6, 1964.

SN 188,923. Specialty Engineering Corporation, Dallas, Tex. Filed Mar. 17, 1964.

SERVASODA

For Soft Drink Dispensers.
First use May 30, 1957.

SN 188,967. Crowell Manufacturing Corporation, Brooklyn, N.Y. Filed Mar. 18, 1964.



No claim is made to the exclusive use of the word "Pump" apart from the mark as shown.
For Rotary Pumps, Vacuum Pumps, Positive Pressure Blowers, Air Compressors, Gas Boosters, and Air Motors.
First use beginning of November 1963.

SN 189,325. L & L Manufacturing, Inc., North Wilkesboro, N.C. Filed Mar. 23, 1964.

AUTO SEAM

For Sewing Machine.
First use on or about Mar. 10, 1964.

SN 189,328. Samuel M. Langston Company, Camden, N.J. Filed Mar. 23, 1964.

LANGSTON

For Corrugated Box Machines and Paper Mill Equipment.
First use at least by 1940.

SN 189,521. World Generator Co., South Holland, Ill. Filed Mar. 23, 1964.



For Carburetors, Water Pumps and Master Cylinders.
First use Sept. 15, 1963.

SN 189,845. Fr. Mettler's Sons Ltd. Engineering Works, Arth, Arth, Switzerland. Filed Mar. 30, 1964.

ME-CO-MAT

Owner of Swiss Reg. No. 190,918, dated Sept. 11, 1963.
For Spooling Machines, Doubling Winders and Singeing Machines as Well as Textile Machines of All Kinds.

SN 189,932. Owatonna Tool Company, Owatonna, Minn. Filed Mar. 30, 1964.

PUSH-PULLER

For Mechanically and Hydraulically Operated Bar-Type Devices for Installing and Removing Gears, Bearings, Wheel, Etc.
First use Mar. 2, 1964.

SN 189,934. Owatonna Tool Company, Owatonna, Minn. Filed Mar. 30, 1964.

SLIM-TWINS

For Giant Sized Wrenches.
First use Mar. 2, 1964.

Class 25—Locks and Safes

SN 174,037. Marshall Tool Co., Norwalk, Conn. Filed July 30, 1963.

SEGALOCK

For Keys and Locks.
First use June 15, 1920.

SN 183,287. Sargent & Company, New Haven, Conn. Filed Dec. 19, 1963.

FORE LINE

For Locks.
First use June 1, 1962.

Class 26—Measuring and Scientific Appliances

SN 149,969. Southern Instruments Limited, Camberley, Surrey, England. Filed July 27, 1962.

NILOX

Priority claimed under Sec. 44(d) on British Reg. No. 832,487, dated Mar. 26, 1962.
For Apparatus and Instruments for the Purification of Gases by the Utilisation of Gas-Liquid Exchange Process, and Parts and Fittings Therefor.

SN 156,111. Textron Inc., Rochester, N.Y. Filed Nov. 28, 1962.

MONO-CENTRIC SEG

For Ophthalmic Lenses and Lens Blanks.
First use August 1956.

SN 159,785. Soiltest, Inc., Chicago, Ill. Filed Dec. 26, 1963.

SOILTEST

For Instruments for Measuring Asphalt, Ceramics, Concrete, Fabrics, Fasteners, Metals, Mortar, Plastics, Soils, Wire, Wood and Twine, Including Accessories Therefor.
First use in 1945.

SN 163,223. The Rapids-Standard Company, Inc., Grand Rapids, Mich. Filed May 6, 1963.

RAPISTAN

Owner of Reg. Nos. 528,069, 726,161, and others.
For Automatic Control Systems, Panels, and Parts Thereof for Use in Conveying Systems.
First use on or about Jan. 1, 1957.

SN 169,524. Dalto Electronics Corp., Norwood, N.J. Filed May 23, 1963.

AVITRONICS

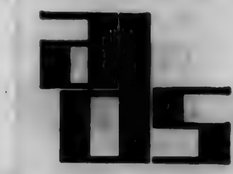
For Electronic Devices—Namely, Closed Circuit Television Equipment, Aero Space Simulation Equipment, and Computers.
First use May 7, 1963.

SN 174,176. Duro Instrument Corporation, Brooklyn, N.Y. Filed Aug. 1, 1963.

DURO INSTRUMENT CORP. DANTON BROOKLYN, N.Y.

Applicant hereby disclaims the words "Duro Instrument Corp." and "Brooklyn, N.Y."
For Pressure Indicating Instruments and Gauges, Stainless Steel Gauges, Alarm Gauges, Altitude Gauges, Ammonia Gauges, Refrigeration Gauges, and Vacuum Gauges.
First use Mar. 14, 1963.

SN 175,005. Pronto File Corporation, New York, N.Y., assignee of Advance Data Systems Corporation, Los Angeles, Calif. Filed Aug. 14, 1963.



Owner of Reg. No. 763,871.
For Electronic Data Processing Equipment.
First use Feb. 6, 1962.

SN 175,590. Visual Graphics Corporation, New York, N.Y. Filed Aug. 21, 1963.

PhotoMan

For Amateur and Professional Photographic Accessories—Namely, Film Cleaning Machine, Film Drying Racks, Print Straighteners, and Portable Dark Rooms.
First use July 12, 1963.

SN 179,551. J. I. Morris Company, Southbridge, Mass. Filed Oct. 22, 1963.

CUSHION-REST

For Nose Pads for Eyeglasses.
First use Mar. 10, 1958.

SN 179,890. The Electric Storage Battery Company, Philadelphia, Pa. Filed Oct. 28, 1963.

sportsarama

For Sunglasses.
First use July 3, 1963.

SN 182,612. The Frederick Post Co., Chicago, Ill. Filed Dec. 9, 1963.

DIAZO/MATIC

For Copy Making Machines—Namely, Dry Diazo Copiers.
First use Nov. 11, 1963.

SN 184,282. The Harlequin Corporation, New York, N.Y. Filed Jan. 8, 1964.

SPECTACULARS

For Ophthalmic Mountings and Lenses and Parts Thereof.
First use Apr. 19, 1955.

SN 184,752. Richmond Photomechanical Company, East Greenwich, R.I. Filed Jan. 16, 1964.

MICRO PERFECT

Applicant hereby disclaims the word "Perfect" apart from the mark.
For Photomechanical Equipment for Offset Lithography and Supplies Therefor.
First use 1948.

SN 184,799. Endevco Corporation, Pasadena, Calif. Filed Jan. 17, 1964.

ENDEVCO

For Measuring Systems and Components Therefor—Namely, Accelerometers, Voltmeters, Pressure and Force Transducers, Electrical Power Supplies, Amplifiers, and Electrical Switches.
First use June 1952.

SN 185,187. Atmoore and Company, Evanston, Ill. Filed Jan. 23, 1964.

INFOGRAPH

For Dial Charts With Movable Parts for Providing Information on Various Subjects.
First use December 1962.

SN 185,529. Planetary Sciences Incorporated, Santa Clara, Calif. Filed Jan. 28, 1964.

HYPO RE U

For Instrument for the Recovery of Silver From Used Photographic Fixing Solutions.
First use Dec. 26, 1963.

SN 185,826. Thomas Publishing Company, New York, N.Y. Filed Jan. 31, 1964.

THOMAS MICRO-CATALOGS

Owner of Reg. No. 679,299.
For Microfilm Readers.
First use Mar. 15, 1963.

SN 185,962. Verebes & Co., Ltd., London, England. Filed Feb. 3, 1964.

MAGNIRAY

For Self-Illuminated Magnifying Glasses.
First use July 18, 1961; in commerce July 18, 1961.

SN 186,110. National Instrument Laboratories, Inc., Rockville, Md. Filed Feb. 5, 1964.

DENSIMATIC

For Mass Flowmeter.
First use Oct. 5, 1960.

SN 186,176. Kollsman Instrument Corporation, Elmhurst, N.Y. Filed Feb. 6, 1964.

DELPHIC-I

For Data Projector, a System for Presenting Data To View as the Data Are Created, Written, Scribed or Marked.
First use June 1963.

SN 186,632. G. C. Murphy Company, McKeesport, Pa. Filed Feb. 13, 1964.

TRIPLE CHECK

For Measuring Tape.
First use Oct. 30, 1963.

SN 187,095. Electronic Processes Corporation of California, San Carlos, Calif. Filed Feb. 20, 1964.

TRIMODE

For Temperature Controllers.
First use Aug. 1, 1960.

SN 187,365. Varo, Inc., Garland, Tex. Filed Feb. 24, 1964.

DETECTRSCOPE

For Infrared Viewers.
First use Feb. 17, 1964.

SN 193,251. Imperial Camera Corporation, Chicago, Ill. Filed May 15, 1964.

DEBONAIR

For Cameras.
First use in or about March 1955.

Class 29 — Brooms, Brushes, and Dusters

SN 176,943. Ox Fibre Brush Company, Inc., Frederick, Md. Filed Sept. 13, 1963.

SPONGE-IT

Owner of Reg. No. 644,902.
For Cellulose Sponge Yarn Floor Mops.
First use Oct. 5, 1955.

SN 183,823. E. Wright Co., Decatur, Ill. Filed Dec. 30, 1963.

LINT MITT

No claim is made to the word "Mitt" apart from the mark as shown.
For Plastic Clothes Brush.
First use Oct. 18, 1963.

Class 31 — Filters and Refrigerators

SN 124,696. True Manufacturing Company, Inc., St. Louis, Mo. Filed July 17, 1961.

PORTABAR

For Refrigerated Beverage Coolers.
First use July 11, 1961.

SN 172,249. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 1, 1963.

SHAMROCK

For Filters, Diatomaceous Earth for Filters, and Time Clocks for Filters.
First use during the first half of May 1962.

Class 32 — Furniture and Upholstery

SN 172,795. E. G. Arts, Inc., Milwaukee, Wis. Filed July 11, 1963.

VISUALTAINER

For Portable Metal Stacking Containers for Handling and Storage of Diverse Materials and Supplies in Commercial Establishments.
First use on or about Apr. 1, 1957.

SN 174,390. The Lane Company, Inc., Altavista, Va. Filed Aug. 5, 1963.

LANE STOWAWAY

Owner of Reg. Nos. 341,498, 682,876, and others.
For Chests.
First use June 1963.

SN 187,409. J. B. Liebman & Co., Inc., Philadelphia, Pa. Filed Feb. 26, 1964.

LADY JOAN

For Bedroom, Dining Room, Living Room, and Fibre Suites; Beds, Day Beds; Studio Couches; Sofas; Bed Springs; Mattresses; Pillows and Cushions; Tailored Furniture Covers; Upholstered and Unupholstered Chairs; Footstools; Dining Tables; Serving Tables; Odd Tables; Dressing Tables; Bureaus; Highboys; Lowboys; Buffets; Cupboards; China Closets; Kitchen Cabinets; Mirrors; Book Cases; Desks; Secretaries; Shoe Cabinets; Chair Ladders; Magazine Racks; Hanging Shelves; Cribs; and Juvenile Furniture Such as High Chairs; Chifforobes, Chests of Drawers and Clothes Trees, Made in Designs Specifically for Use in Children's Rooms.
First use June 18, 1926.

SN 187,648. Borg-Warner Corporation, Chicago, Ill. Filed Feb. 28, 1964.

FIBERMOLD

For Furniture Comprising Chairs and Tables.
First use on or prior to Mar. 10, 1957.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 188,096. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 6, 1964.

XTRA-TRAC

For Tires Made Wholly or Principally of Rubber.
First use Dec. 10, 1963.

SN 188,101. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 6, 1964.

WIRE TRACTION

For Tire Retread Material.
First use Aug. 19, 1963.

Class 36 — Musical Instruments and Supplies

SN 169,297. Nippon Gakki Seiso Kabushiki Kaisha, Hamamatsu, Japan. Filed May 20, 1963.

YAMAHA ELECTONE

Owner of Japanese Reg. No. 537,154, dated June 15, 1959; and U.S. Reg. No. 678,446.
For Electronic Organs.

SN 175,993. Grado Laboratories, Inc., Brooklyn, N.Y. Filed Aug. 29, 1963.

TRACER BEAM

For Phonograph Pickup Cartridge.
First use Aug. 21, 1963.

SN 180,883. M. Hohner, Inc., Hicksville, N.Y. Filed Nov. 12, 1963.

VISTA

For Mouthpieces for Wind Musical Instruments of the Multiple Reed Type Such as Harmonicas and the Like.
First use Oct. 15, 1963.

SN 185,788. Kohler & Campbell, Inc., Granite Falls, N.C. Filed Jan. 31, 1964.

STRATFORD

For Pianos.
First use July 22, 1963.

SN 185,889. Gosho Trading Company, Inc., New York, N.Y. Filed Feb. 3, 1964.

LE SABRE

For Tape Recorders.
First use Nov. 30, 1963.

SN 186,149. Cameo-Parkway Records, Inc., Philadelphia, Pa. Filed Feb. 6, 1964.

WYNCOTE

For Grooved Phonograph Records.
First use Jan. 23, 1964.

SN 186,167. Geniseo, Incorporated, Compton, Calif. Filed Feb. 6, 1964.

COBELT

For Magnetic Tape Transport, Recording and Playback Apparatus, and Component Parts Thereof.
First use on or about Aug. 14, 1963.

SN 186,203. Taurus Records, Inc., Brooklyn, N.Y. Filed Feb. 6, 1964.

TAURUS

For Phonograph Records.
First use Dec. 28, 1959.

SN 186,756. Pentron Electronics Corporation, Chicago, Ill. Filed Feb. 14, 1964.

ASTRA-SONIC

For High Fidelity Tape Recorders and Players and Parts Therefor.
First use Aug. 10, 1949.

SN 187,032. Minaret Records, Inc., Val Paraiso, Fla. Filed Feb. 19, 1964.

TURRET

For Phonograph Records.
First use on or about Sept. 14, 1963.

Class 37 — Paper and Stationery

SN 165,889. American Greetings Corporation, Cleveland, Ohio. Filed Apr. 2, 1963.

TO REMEMBER SOMEONE TOO NICE TO FORGET

For Date Books.
First use at least as early as 1950.

SN 172,244. S. E. Rykoff & Co., Los Angeles, Calif. Filed July 1, 1963.

Golden Rey

Owner of Reg. Nos. 667,835 and 676,798.
For Paper Bags, Toilet Tissue and Garnishettes.
First use on or about June 1, 1958.

SN 174,689. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 8, 1963.

MITSUBISHI

An English translation of the Japanese word "Mitsubishi" is "three rhomboids."

Owner of Japanese Reg. No. 579,190, dated Aug. 19, 1961.

For Paper Products—Namely, Letter Paper, Envelope, Note-Book, Carbon Paper, and Carton Box.

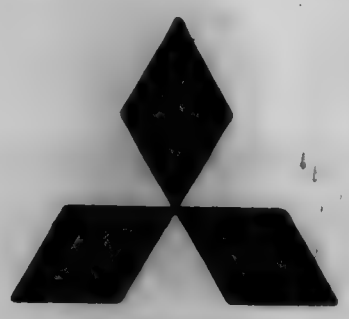
SN 174,780. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 9, 1963.

THREE DIAMONDS

Owner of Japanese Reg. Nos. 188,919, dated Feb. 22, 1927; and 564,381, dated Jan. 16, 1961.

For Paper Products—Namely, Letter Paper, Envelope, Note-Book, and Carbon Paper.

SN 174,898. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 12, 1963.



Owner of Japanese Reg. No. 98,702, dated Dec. 13, 1918.

For Paper Products—Namely, Letter Paper, Envelope, Note-Book, and Carbon Paper.

SN 182,462. Abernathy G. Bull, d.b.a. States-Wide Economy Systems, Sterling, Ill. Filed Dec. 6, 1963.

STATES-WIDE ECONOMY SYSTEMS

The word "Systems" is disclaimed apart from the mark as a whole. Owner of Reg. No. 699,430.

For Account Books, Forms and Schedules for Bookkeeping and Accounting Systems, Tax Schedules and Good Will Advertising.

First use Aug. 9, 1963.

SN 184,749. The Ray-Block Stationery Co., Inc., Queens Village, N.Y. Filed Jan. 16, 1964.

ISLANDER

For Carbon Paper, Pens, and Pencils.

First use December 1952.

Subj. to Intf. with SN 174,226.

SN 185,200. Weyerhaeuser Company, Tacoma, Wash., assignee of Crocker Hamilton Papers, Inc., New York, N.Y. Filed Jan. 28, 1964.

POLYHIDE

For Polyethylene Coated Paper for Wrapping Skids and Rolls of Paper.

First use Feb. 25, 1963.

SN 185,201. Weyerhaeuser Company, Tacoma, Wash., assignee of Crocker Hamilton Papers, Inc., New York, N.Y. Filed Jan. 28, 1964.

POLYCLOSURE

For Polyethylene Coated Paper for Use as a Barrier and Seal in Cap Liners.

First use Jan. 17, 1963.

SN 192,070. Pacific Paper Products, Inc., Tacoma, Wash. Filed Apr. 27, 1964.

SANIDRAPE

For Disposable Paper Drape Sheets for Use on Medical Examination Tables.

First use Mar. 19, 1959.

Class 38—Prints and Publications

SN 148,272. Union Tank Car Company, Chicago, Ill. Filed July 2, 1962.

THE LINDSAY sparkle

For Informational Bulletin Issued Randomly.

First use May 29, 1962.

SN 169,726. Americo L. Giannicchi, New York, N.Y. Filed May 27, 1963.

Arcanum

For Art Work and Photographs.

First use January 1954.

SN 170,227. Benjamin Saben, d.b.a. Saben Safety Enterprises, Los Angeles, Calif. Filed June 3, 1963.

"CAR MED-I-DENT"

For Personal Identification Label To Be Carried in an Automobile.

First use Feb. 28, 1963.

SN 171,723. Robert C. Thompson, d.b.a. The Trend Analyst, Glendale, Calif. Filed June 24, 1963.

The

T

A

For Publications Pertaining to Investments and Financial Matters.

First use May 24, 1963.

SN 178,420. The Delta Sigma Phi Fraternity, Denver, Colo. Filed Oct. 7, 1963.

THE CARNATION

For Quarterly Magazine.
First use Jan. 19, 1905.

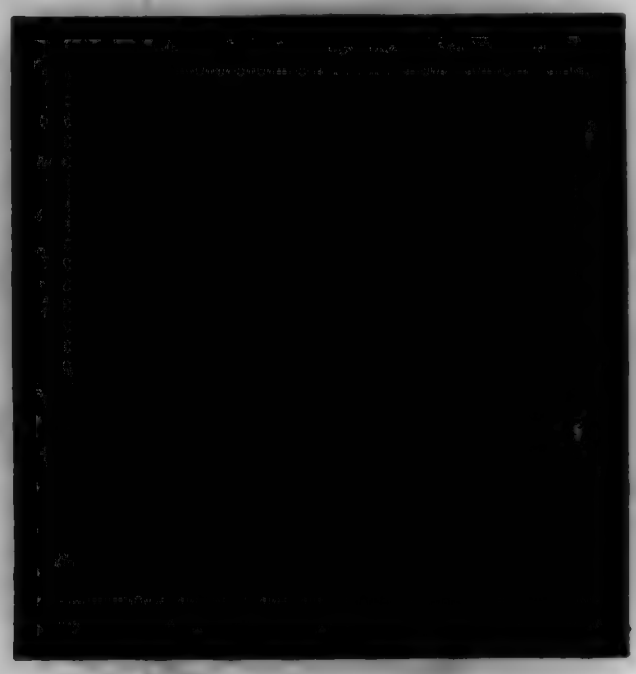
SN 180,107. McGraw-Hill, Inc., New York, N.Y., by change of name from McGraw-Hill Publishing Company, Inc., New York, N.Y. Filed Oct. 30, 1963.

FLEET INTERNATIONAL

For Monthly Trade Magazine.
First use Oct. 7, 1963.

Class 39 — Clothing

SN 130,601. M. Wolosin Inc., New York, N.Y. Filed Oct. 24, 1961.



The English translation of the Hebrew letters is "star of Zion." The "Star of David" is disclaimed apart from the mark as shown.
For Prayer Shawls.
First use about 1930.

SN 141,988. S.A. Galbline, Luxembourg, Luxembourg. Filed Apr. 10, 1962.

GALBLINE

Owner of Luxembourg Reg. No. 13,985, dated Nov. 26, 1956.
For Swimsuits With Built-In Brassieres.

SN 144,825. Europe Craft Imports Inc., New York, N.Y. Filed May 17, 1962.

EUROPE CRAFT

Without waiving any of its common-law rights and for purposes of this registration only, applicant disclaims the words "Europe Craft" apart from the mark as shown. Owner of Reg. No. 646,142.
For Men's, Ladies', Boys' and Girls' Suits and Outer Garments, Including Coats, Capes, Raincoats, Sport Jackets, and Suit Jackets.
First use Feb. 15, 1962.

SN 153,795. Miss Couture, Inc., Kansas City, Mo. Filed Sept. 24, 1962.

MISS COUTURE

For Ladies' Dresses.
First use Nov. 4, 1957.

SN 163,175. Reliance Manufacturing Company, New York, N.Y. Filed Feb. 20, 1963.

ENSENADA

"Ensenada" is Spanish for small bay, inlet, cove or creek.
For Men's, Women's and Children's Wearing Apparel—Namely, Shirts, Skirts, Jackets, Coats, Raincoats, Mackinaws, Slacks, Slack Suits, Shorts, Overalls, Dungarees, Scarfs, Hats, Caps, Neckties, Apparel Belts, Gloves, Socks, Stockings, Shoes, Bathing Suits, Robes, Pajamas, Undershirts and Undershorts.
First use June 1, 1938.

SN 165,892. Dan River Mills, Incorporated, Danville, Va. Filed May 10, 1963.

ROYAL DAN

For Fabrics Made Up Into Men's Wearing Apparel, Including Men's Sport Shirts.
First use Apr. 8, 1963.

SN 171,690. Richard Paul, Inc., Wilmington, Del. Filed June 24, 1963.



Owner of Reg. No. 589,648.
For Foot Covers.
First use on or about Feb. 1, 1963.

SN 172,138. Schappe A.G. (Schappe S.A.) (Schappe Ltd.), Geneva, Switzerland. Filed June 25, 1963.

LASCARA

Owner of Swiss Reg. No. 178,310, dated Nov. 20, 1959; and U.S. Reg. Nos. 737,580 and 737,595.

For Underwear for Men, Women, and Children—Namely, Men's Shirts; Women's and Children's Blouses; Cardigans and Pullovers for Men, Women, and Children; Women's Dresses; Neckties, and Waist Coats.

SN 172,492. Hudson Hosiery Company, Charlotte, N.C. Filed July 5, 1963.

DEB TEEN

For Hosiery.
First use Dec. 13, 1962.

SN 179,732. Plymouth Wholesale Corporation, New York, N.Y. Filed Oct. 24, 1963.

Corla d'Italia

No claim is made to the word "Italia" apart from the mark as shown.

For Dresses, Sweaters, Hats, Shirts, Blouses, Slacks, Outer Shorts and Hosiery for Women and Young Women.
First use May 29, 1963.

SN 181,327. Jane Colby Inc., New York, N.Y. Filed Nov. 18, 1963.

JILL COLBY

The name "Jill Colby" is fanciful and is not the name of a particular living individual or designer.

For Children's T-Shirts, Shorts, Pants, Skirts; Two-Piece Sets—Namely, Short Sets and Slacks Sets; and Dresses.
First use 1947.

SN 181,576. Sprouse-Reitz Co., Inc., Portland, Oreg. Filed Nov. 20, 1963.

ROSE QUEEN

For Foot Socks and Hosiery.
First use March 1955.

SN 182,018. The Westminster Mfg. Co., Inc., New York, N.Y. Filed Nov. 27, 1963.

WEATHER JAMMERS

For Men's and Boys' Outerwear—Namely, Jackets.
First use Oct. 1, 1963.

SN 182,038. Simon Cohen, d.b.a. Whistle Stop Footwear, Pomona, Calif. Filed Nov. 29, 1963.

CALIFORNIA STORIES

Applicant disclaims the word "California" apart from the balance of the mark as shown.

For Women's Shoes.
First use Oct. 29, 1963.

SN 182,517. United Sheeplined Clothing Company, Inc., New York, N.Y. Filed Dec. 6, 1963.

ROBERT LEWIS

Owner of Reg. No. 670,276.

For Coats and Jackets for Men and Young Men, and Women and Young Women.
First use Nov. 14, 1957.

SN 182,530. Murray Graham, Inc., New York, N.Y. Filed Dec. 5, 1963.

GARI

For Men's Shirts.
First use Nov. 1, 1962.

SN 183,030. J. D. Carrier Shoe Co. Limited, Toronto, Ontario, Canada. Filed Dec. 16, 1963.

BALSINI

Owner of Canadian Reg. No. 132,925, dated Oct. 4, 1963.
For Women's Shoes.

SN 183,164. Embassy Enterprises, Inc., Metter, Ga. Filed Dec. 17, 1963.

Firecracker

For Ladies' Blouses.
First use Oct. 24, 1963.

SN 183,341. I. Amsterdam Co., Inc., New York, N.Y. Filed Dec. 19, 1963.

IACO

For Clothing—Namely, Men's, Women's, and Children's Undergarments.
First use July 31, 1963.

SN 183,415. H. R. Kaminsky & Sons, Inc., Fitzgerald, Ga. Filed Dec. 23, 1963.



The representation of the trousers is disclaimed apart from the mark as shown.

For Men's and Boys' Slacks and Trousers.
First use Sept. 15, 1960.

SN 184,683. S. Augstein & Co., Inc., College Point, N.Y. Filed Jan. 16, 1964.

SACONY SACONCETTE

Owner of Reg. Nos. 380,610, 719,364, and others.

For Women's and Children's Dresses, Suits, Playsuits, Skirts, Shorts, Jackets, and Slacks.
First use on or about Dec. 16, 1963.

SN 185,283. Frederic J. Dormer, Bloomfield, N.J. Filed Jan. 24, 1964.



For Men's, Women's, Boys', and Girls' Ski Boots, Slippers, Suits and Pants, Hats and Caps, Shirts, Underwear, Sweaters, Socks, Mittens, Headbands, Jackets, Scarves, and Hoods.
First use Oct. 13, 1938.

SN 185,430. Parade Dress Co., Inc., New York, N.Y. Filed Jan. 27, 1964.

RAG-TAG

For Dresses.
First use Nov. 26, 1963.

SN 185,482. The B.V.D. Company, Inc., New York, N.Y. Filed Jan 28, 1964.

MR. WONDERFUL

For Neckties.
First use Jan. 15, 1964.

SN 185,646. Betty Best, Inc., New York, N.Y. Filed Jan. 30, 1964.

WORLD'S FAIREST

For Coats.
First use Jan. 20, 1964.
Subj. to Intf. with SN 187,075.

SN 186,122. Rudin & Roth, Inc., New York, N.Y. Filed Feb. 5, 1964.

VAL-U-WISE

For Girls' and Misses' Socks.
First use Jan. 15, 1964.

SN 186,194. Riegel & Dechter, Inc., New York, N.Y. Filed Feb. 6, 1964.

Peggy Carter

The name "Peggy Carter" is not known to be that of a particular living individual.

For Children's Dresses, Blouses, Skirts, Jackets, and Jumpers.
First use Nov. 6, 1963.

SN 187,075. Caprini Shoe Corp., Philadelphia, Pa. Filed Feb. 20, 1964.

WORLD'S FAIR

For Ladies' and Misses' Shoes.
First use Oct. 10, 1963.
Subj. to Intf. with SN 185,646.

Class 40—Fancy Goods, Furnishings, and Notions

SN 141,287. G-V Company, Inc., Oklahoma City, Okla. Filed Apr. 2, 1962.

THE PROFESSIONAL

GLAMOUR VOGUE

The word "Professional" is disclaimed apart from the mark as shown.

For Hair Curler Rollers.
First use Feb. 12, 1962.

SN 141,988. S.A. Galbline, Luxembourg, Luxembourg. Filed Apr. 10, 1962.

GALBLINE

Owner of Luxembourg Reg. No. 13,965, dated Nov. 26, 1956.
For Cup Wires for Brassieres.

SN 148,419. Quaker Hair Goods Company, Philadelphia, Pa. Filed July 5, 1962.

U-REE-KA

For Combs.
First use January 1960.

SN 187,391. William Arnold Edwin Fulco Bommel, d.b.a. Bovi Industrie-en Handelsonderneming, Diemen, Netherlands. Filed Feb. 25, 1964.

Butofix

Owner of Dutch Reg. No. 138,458, dated Sept. 7, 1960.
For Button Fasteners.

SN 193,984. Revlon, Inc., New York, N.Y. Filed May 21, 1964.

TORTOISELLA

For Combs.
First use May 15, 1964.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 174,782. Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Aug. 9, 1963.

THREE DIAMONDS

Owner of Japanese Reg. Nos. 356,007, dated Jan. 15, 1943; 356,010, dated Jan. 15, 1943; 446,873, dated June 25, 1954; 191,383, dated June 17, 1927; 191,388, dated June 18, 1927; 191,384, dated June 17, 1927; and 186,886, dated Nov. 29, 1926.
For Cotton Fabrics, Silk Fabrics, Woolen Fabrics, Hemp Fabrics, Linen Fabrics, Rayon Fabrics, Acetate Fabrics, Polyamide Fabrics, Polyester Fabrics, and Interwoven Fabrics of Cotton, Wool and Polyester in the Piece.

SN 179,954. Societe Rhovyl, Paris, France. Filed Oct. 28, 1963.

MAILLISETTE

Priority claimed under Sec. 44(d) on French Reg. No. 514,405, dated June 27, 1963 (Paris); Natl. Inst. No. 208,044.
For Textile Fabrics of Synthetic Fibers for Making Into Bed and Table Covers, Curtains and Draperies, Laces, Braid, Ribbon and Embroidery, and Textile Rugs and Carpets.

SN 180,781. Societe Rhodiaceta, Paris, France. Filed Nov. 8, 1963.

RHODIANYL

Owner of French Reg. No. 426,125, dated Feb. 26, 1953 (Paris); Natl. Inst. No. 6,564; and U.S. Reg. Nos. 179,750 and 585,769.
For Textile Fabrics Used for Making Into Dresses, Suits, Coats, Underwear, and Bed and Table Covers.

SN 182,373. Tanbro Fabrics Corporation, New York, N.Y. Filed Dec. 4, 1963.

TANISHEEN

Owner of Reg. No. 540,847.
For Cotton Fabric.
First use Feb. 21, 1950.

SN 185,276. Deering Milliken, Inc., New York, N.Y. Filed Jan. 24, 1964.

SHARKSPUR

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Sept. 18, 1963.

SN 185,279. Deering Milliken, Inc., New York, N.Y. Filed Jan. 24, 1964.

CIRRUS

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Oct. 21, 1963.

SN 185,280. Deering Milliken, Inc., New York, N.Y. Filed Jan. 24, 1964.

DOE-IKEN

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 16, 1963.

SN 185,282. Deering Milliken, Inc., New York, N.Y. Filed Jan. 24, 1964.

MILLITRIM

For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use Nov. 26, 1963.

SN 185,422. Klopman Mills, Inc., New York, N.Y. Filed Jan. 27, 1964.

CATAPULT

For Greige and Finished Fabrics in the Piece of All Types for Use in Men's, Women's, and Children's Apparel, in Home Furnishings, and in the Industrial Field.
First use Jan. 8, 1964.

SN 185,423. Klopman Mills, Inc., New York, N.Y. Filed Jan. 27, 1964.

HIDDEN POWER

For Greige and Finished Fabrics in the Piece of All Types for Use in Men's, Women's and Children's Apparel, in Home Furnishings, and in the Industrial Field.
First use Oct. 4, 1963.

Class 43—Thread and Yarn

SN 179,955. Societe Rhovyl, Paris, France. Filed Oct. 28, 1963.

MAILLISETTE

Priority claimed under Sec. 44(d) on French Reg. No. 514,405, dated June 27, 1963 (Paris); Natl. Inst. No. 208,044.
For Threads and Yarns of Synthetic Fibers.

SN 180,783. Societe Rhodiaceta, Paris, France. Filed Nov. 8, 1963.

RHODIANYL

Owner of French Reg. No. 426,125, dated Feb. 26, 1953 (Paris); Natl. Inst. No. 6,564; and U.S. Reg. Nos. 179,750, 182,400, and 585,769.
For Threads and Yarns of Synthetic Fibers.

SN 182,338. Madison Throwing Company, Inc., Madison, N.C. Filed Dec. 4, 1963.

FABOUCLÉ

For Yarns.
First use Oct. 28, 1963.

Class 44—Dental, Medical, and Surgical Appliances

SN 179,385. American Home Products Corporation, New York, N.Y. Filed Oct. 21, 1963.

ANALETTE

For Disposable Rectal Applicator.
First use Aug. 9, 1963.

SN 182,896. Pro-Tex Inc., Houston, Tex. Filed Dec. 12, 1963.

BB
Bingle
Bond

The word "Bond" is disclaimed apart from the mark as shown.
For Adhesive Composition for Use in Manufacturing and Repairing False Teeth.
First use on or before Sept. 27, 1963.

SN 182,956. Matthews Research, Inc., Alexandria, Va. Filed Dec. 13, 1963.

PERICANNULA

For Peritoneal Insertion Device Comprising a Cannula and Sealing Means.
First use June 25, 1963.

SN 185,808. One Wilkinson Avenue, Inc., Jersey City, N.J. Filed Jan. 31, 1964.

DURODENT

For Dental Filling Material for Teeth.
First use May 1936.

SN 186,765. Rocky Mountain Dental Products Co., Denver, Colo. Filed Feb. 14, 1964.

RM

Owner of Reg. Nos. 659,435, 667,965, and 705,646.
For Dental Supplies, Equipment, and Materials, Particularly Those Usable for Children's Dentistry and Orthodontia Such as Bands, Etc.
First use on or about Jan. 1, 1955.

SN 188,276. Julius Schmid, Inc., New York, N.Y. Filed Mar. 9, 1964.

"VAGINOSTIC"

For Diagnostic Kits for Vaginal Infections.
First use on or about Feb. 27, 1964.

SN 188,797. R and D Corporation, Chicago, Ill. Filed Mar. 16, 1964.

RandD

For Warning Temperature Indicators for Blood, and Containers for Medical and Chemical Specimens.
First use Oct. 28, 1960.

Class 45—Soft Drinks and Carbonated Waters

SN 173,508. Tahitian Products Co. Inc., El Segundo, Calif., assignee of James Robertson Company, d.b.a. Tahitian Products Co., El Segundo, Calif. Filed July 22, 1963.

TAHITI JOE

For Nonalcoholic Fruit-Flavored Mix To Be Used in the Preparation of Alcoholic Cocktails.
First use Mar. 29, 1963.

Class 46—Foods and Ingredients of Foods

SN 116,234. Jahn's Since 1897, Inc., Brooklyn, N.Y. Filed Mar. 22, 1961.

JAHN'S
SINCE 1897

Owner of Reg. No. 642,154.
For Ice Cream.
First use 1897.

SN 138,778. The Cudahy Packing Company, Omaha, Nebr. Filed Feb. 28, 1962.

GOLD COIN

For Bacon, Smoked Ham, Cheese, and Poultry (Either Fresh Dressed for Shipping or Quick Frozen After Dressing for Storage and Later Shipment).
First use on or about July 1, 1936, on bacon.

SN 147,616. Pay Way Feed Mills, Inc., Kansas City, Mo. Filed June 25, 1962.

MARVEL

For Poultry and Livestock Feeds and Feed Supplements.
First use August 1948.

SN 156,221. Dalton's Best Maid Products, Inc., d.b.a. Mrs. Dalton's Best Maid Products, Inc., and Mrs. Dalton's Mayonnaise Co., Forth Worth, Tex. Filed Oct. 30, 1962.

Best Maid

For Salad Dressing, Apple Butter, Grape Jelly, Peach Preserves, Blackberry Preserves, Strawberry Preserves, Red Plum Jam, Chow-Chow, Hot Relish, Dill Pickles, Sweet Relish, Sour Pickles, Table Syrups, Mayonnaise, Sandwich Spread, and Honey.
First use Sept. 20, 1931.

SN 157,152. W. H. Schwartz & Sons, Limited, Halifax, Nova Scotia, Canada. Filed Mar. 7, 1963.

SCHWARTZ

Owner of Canadian Reg. No. 189 NS/48,238, dated Mar. 13, 1954.
For Peanut Butter, Coffee, Mustard, Dry Mustard, Cream of Tartar, Spices and Herbs for Culinary Purposes.

SN 157,683. Continental Baking Company, Rye, N.Y. Filed Nov. 21, 1962.

FUDGEES

For Cake.
First use Feb. 27, 1961.

SN 159,725. Growers Exchange, Inc., Salinas, Calif. Filed Dec. 26, 1962.

DE TOROS
Plaza

The mark translated into English means "plaza of bulls."
For Fresh Vegetables.
First use Apr. 3, 1962.

SN 162,086. Drew Chemical Corporation, New York, N.Y. Filed Feb. 5, 1963.

The lining is part of the mark and does not indicate color.
For Margarine, Vegetable Shortening and Cake Pan Release Preparations, Food Emulsifiers and Stabilizers, Vegetable Oils and Meals for Use as Additives to Livestock, Poultry and Pet Feeds, Edible Vegetable Fats and Oils in Various Forms.
First use March 1962.

SN 162,572. Mars Incorporated, Chicago, Ill. Filed Feb. 12, 1963.

MARS
Astrojet

Owner of Reg. Nos. 304,055, 763,649, and others.
For Candy.
First use Feb. 4, 1963.

SN 164,029. Alemagna Panettoni di Gioachino Alemagna & C., Milan, Italy. Filed Mar. 6, 1963.

The lining shown in the drawing is part of the mark and does not represent color.
For Cakes, Candies, Italian Cakes, Biscuits, Candied Chestnuts, Ice Cream, Cocoa, Cooking and Baking Chocolate.
First use January 1947; in commerce October 1952.

SN 165,776. Herald House, Inc., Oakland, Calif. Filed Apr. 1, 1963.

YEGGS

For Refrigerated Hardboiled Eggs.
First use Dec. 7, 1962.

SN 165,777. Herald House, Inc., Oakland, Calif. Filed Apr. 1, 1963.

YEGGS
HARDBOILED FOR IMMEDIATE USE

No claim is made to the words "Hardboiled for Immediate Use" and to the representation of the eggs, apart from the mark as shown. No claim to a specific color of background is made, it is shown solely for purposes of contrast.

For Refrigerated Hardboiled Eggs.

First use Dec. 7, 1962.

SN 167,098. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Apr. 19, 1963.

MISS MINNEAPOLIS

Owner of Reg. No. 176,735.

For Wheat Flour.

First use November 1922.

SN 167,602. Armour and Company, Chicago, Ill. Filed Apr. 26, 1963.

SUPREME

Owner of Reg. Nos. 89,284, 539,827, and others.

For Oleomargarine.

First use as early as 1927.

SN 170,474. Hodgson Bee Supplies, Ltd., New Westminster, British Columbia, Canada. Filed June 6, 1963.

Bee Cee

For Honey.

First use August 1952; in commerce on or about May 1, 1963.

SN 173,172. Jo Bi Farms, Inc., Council Bluffs, Iowa. Filed July 17, 1963.

Jo-Bi
FARMS

For Frozen Breakfasts, Comprising French Toast, Sausage Links, and Potatoes.

First use on or about May 23, 1963.

SN 173,618. B-F Industries, Inc., Hurst, Tex. Filed July 24, 1963.

PRETZ-"O"

For Ring-Shaped Pretzels.

First use June 1, 1962.

SN 175,921. Illinois Baking Corporation, Chicago, Ill. Filed Aug. 28, 1963.

TOP KOTE

For Sauce for Ice Cream and Similar Frozen Confections.

First use on or about Aug. 5, 1963.

SN 176,455. Leo and Robert Meyer, d.b.a. Meyer Tomatoes, King City, Calif. Filed Sept. 6, 1963.

MEYER'S PRIDE

Owner of Reg. No. 704,728.

For Fresh Vegetables.

First use at least as early as July 1958.

SN 178,830. Societe "Astra-Calve," Paris, France. Filed Oct. 11, 1963.

ST BRICET

Owner of French Reg. No. 481,997, dated July 24, 1959 (Seine); Natl. Inst. No. 129,624.

For Meat, Fish, Poultry, and Game; Meat Extracts; Preserved, Dried and Cooked Fruits and Vegetables; Jellies, Jams; Fresh Eggs and Eggs in Powdered Form, Milk and Other Dairy Products; Edible Oils and Fats; Pickles, Coffee, Tea, Cocoa, Sugar, Rice, Tapioca, Sago, Coffee Substitutes; Flour, Breakfast Cereals, Bread, Biscuits, Cakes, Pastry and Candies, Ice-Cream; Honey, Molasses; Yeast, Baking Powder; Salt, Mustard, Pepper, Vinegar, Fruit Sauces, Spices; Icing, Fresh Fruits and Vegetables; Foodstuffs for Animals, and Malt for Food Purposes.

SN 178,927. Lakeland Grocery Co., Hopkins, Minn. Filed Oct. 14, 1963.

ROSE O'LEE

The name "Rose O'Lee" is not the name of any particular living individual.

For Food Products—Namely, Cookies.

First use Sept. 16, 1963.

Subj. to Intf. with SN 189,081.

SN 179,531. General Foods Corporation, White Plains, N.Y. Filed Oct. 22, 1963.

SOUTHERN SELECT

No claim of exclusive right is made to the word "Select."

For Rice.

First use Sept. 19, 1963.

SN 179,565. Societe "Astra-Calve," Paris, France. Filed Oct. 22, 1963.

Calvé

Owner of French Reg. No. 474,165, dated Aug. 14, 1958 (Seine); Natl. Inst. No. 112,186.

For Meat, Fish, Poultry and Game; Meat Extracts; Preserved, Dried and Cooked Fruits and Vegetables; Jellies, Jams; Eggs, Milk and Other Dairy Products; Edible Oils and Fats; Preserves, Pickles, Mayonnaise, Coffee, Tea, Cocoa, Sugar Rice, Tapioca, Sago, Coffee Substitutes; Flour and Preparations Made From Cereals, Bread, Biscuits, Cakes, Pastry and Confectionery, Ice-Cream; Honey, Molasses; Yeast, Baking Powder; Salt, Mustard, Pepper, Vinegar, Sauces; Spices, Fresh Fruits and Vegetables; Foodstuffs for Animals; and Malt.

SN 179,775. Court-Leigh Corp., Brooklyn, N.Y. Filed Oct. 25, 1963.



For Frozen Desserts—Namely, Ice Cream, Sherbet, Ice Cream Pops, and Ice Cream Cups.
First use July 9, 1962.

SN 180,409. J. D. Jewell, Inc., Gainesville, Ga. Filed Nov. 4, 1963.

DRUMETTES

For Fresh, Frozen Pre-Cooked Chicken Parts.
First use Feb. 22, 1958.

SN 180,796. Valley Fruit & Vegetable Company, Inc., d.b.a. Valley Fruit & Vegetable Co., Pharr, Tex. Filed Nov. 8, 1963.

GRAND PRIZE

For Fresh Fruits and Fresh Vegetables.
First use at least as early as the year 1936.

SN 180,862. Fabrica de Dulces Colombina Limitada, Cali, Valle del Cauca, Colombia. Filed Nov. 12, 1963.



Owner of Colombian Reg. No. 52,922, dated Dec. 17, 1962.
For Candies, Bonbons and Other Confectionery Products.

SN 181,196. Wayne Candies, Inc., Fort Wayne, Ind. Filed Nov. 14, 1963.

Wayne

Owner of Reg. No. 514,365.
For Candies.
First use Sept. 1, 1930.

SN 181,197. Wayne Candies, Inc., Fort Wayne, Ind. Filed Nov. 14, 1963.

Lady Wayne

The mark refers to no particular living person. Owner of Reg. No. 514,365.
For Candies.
First use Apr. 1, 1929.

SN 182,355. M. L. Ringoot, d.b.a. Select Foods Co., La Sierra, Riverside, Calif. Filed Dec. 4, 1963.



The drawing is lined for red, but no claim is made to color. The words "Instant" and "100% Caffein Free" are disclaimed.
For Coffee-Like Beverage.
First use July 3, 1963.

SN 182,718. Frosty Pet Food Co., Santa Ana, Calif. Filed Dec. 10, 1963.



For Pet Food.
First use as early as March 1963.

SN 183,476. A. M. Todd Company, Kalamazoo, Mich. Filed Dec. 23, 1963.

IDAMINT

For Essential Vegetable Oils for Use as Flavors in Foods.
First use Dec. 9, 1963.

SN 183,718. Williamson Candy Company, d.b.a. Williamson Candy Co., Chicago, Ill. Filed Dec. 27, 1963.

choc-O-nuts!
by Oh Henry!

Owner of Reg. Nos. 152,550, 733,500, and others.
For Chocolate Flavored Candy.
First use September 1961.

SN 183,887. Dairy Technics, Inc., Kalamazoo, Mich. Filed Jan. 2, 1964.

FARGO

For Frozen Bacteria Culture Concentrate for Making Food.
First use Aug. 13, 1963.

SN 184,441. M. S. Cowen Company, d.b.a. M. S. Cowen Co., San Francisco, Calif. Filed Jan. 13, 1964.



No claim is made to the word "Frog" apart from the mark as shown.
For Frozen Fresh Frog Legs.
First use Nov. 19, 1963.

SN 186,453. Sunkist Growers, Inc., Los Angeles, Calif. Filed Jan. 27, 1964.

CAL-GROVE

Owner of Reg. No. 744,183.
For Frozen Fruit Juice Bars and Fruit Juice Concentrates for Making the Same, and Frozen Fruit Juices.
First use Nov. 26, 1945.

SN 186,367. Klarer of Kentucky, Incorporated, d.b.a. The Klarer Company, Louisville, Ky. Filed Feb. 10, 1964.

OUR Gold ★ Star

The word "Our" is disclaimed, except as shown.
For Cooked Ham.
First use January 1957.
Subj. to Intf. with SN 176,609.

SN 187,868. Hulman & Company, Terre Haute, Ind. Filed Mar. 3, 1964.

CLABBER GIRL

Owner of Reg. No. 181,239.
For Baking Powder.
First use Jan. 1, 1899.

SN 188,025. Meat Industry Suppliers, Inc., Northfield, Ill. Filed Mar. 5, 1964.

LIQUASMOKE

For Smoke Flavorings for Food Purposes.
First use on or about Nov. 21, 1955.

SN 188,192. Buffalo Nut Shops, Inc., Buffalo, N.Y. Filed Mar. 9, 1964.

BNS

For Packaged Nutmeats.
First use Feb. 3, 1964.

SN 188,566. Nopco Chemical Company, d.b.a. Vitex Laboratories, Newark, N.J. Filed Mar. 12, 1964.

VITEXTURE

Owner of Reg. Nos. 306,141, 554,721, 745,204, and 761,022.
For Stabilizers and Food Acids Useful in Preparing Dairy Products.
First use Feb. 19, 1964.

SN 189,219. Tandy Snacks, Inc., Orlando, Fla. Filed Mar. 20, 1964.



For Potato Chips, Corn Chips, Cheese Twists, Popcorn and Caramel Corn.
First use May 1, 1963.

SN 189,229. Wagner Industries, Inc., Cicero, Ill. Filed Mar. 20, 1964.

DIET ★ GUARD

For Low-Calorie Vitamin C Enriched Orange Drink.
First use Jan. 7, 1964.

SN 189,267. Blue Goose, Inc., Fullerton, Calif. Filed Mar. 23, 1964.

Blue Goose

Owner of Reg. Nos. 212,033, 720,421, and others.
For Canned Vegetables, Canned Fruits and Berries, Frozen Vegetables, Frozen Fruits and Berries, Spiced Apple Rings, Spiced Crabapples, Apple Sauce, and Apple Juice.
First use at least as early as July 12, 1955.

SN 189,762. Aronimink Products, Inc., Philadelphia, Pa. Filed Mar. 27, 1964.

PARDNER

For Non-Dairy Products for Use in Coffee, on Cereals and on Fruit.
First use Feb. 4, 1964.

SN 189,767. Central Nebraska Packing Co., d.b.a. Crown Prince Pet Food Co., North Platte, Nebr. Filed Mar. 27, 1964.

LITTLE STARS

For Cat Food.
First use Feb. 10, 1964.

SN 189,981. Borun Bros., Los Angeles, Calif. Filed Mar. 31, 1964.

ROSA LEE

The trademark is not the name of a particular living individual.
For Candy.
First use Sept. 28, 1936.
Subj. to Intf. with SN 178,927.

Class 47 — Wines

SN 174,087. Distillers Corporation (S.A.) Limited, Stellenbosch, Cape Province, Republic of South Africa. Filed July 31, 1963.

CATHERINA DA BRAGANZA

The name "Catherina da Braganza" is a historical character. Owner of South African Reg. No. 565/55, dated Feb. 25, 1955.
For Red and White Wines.

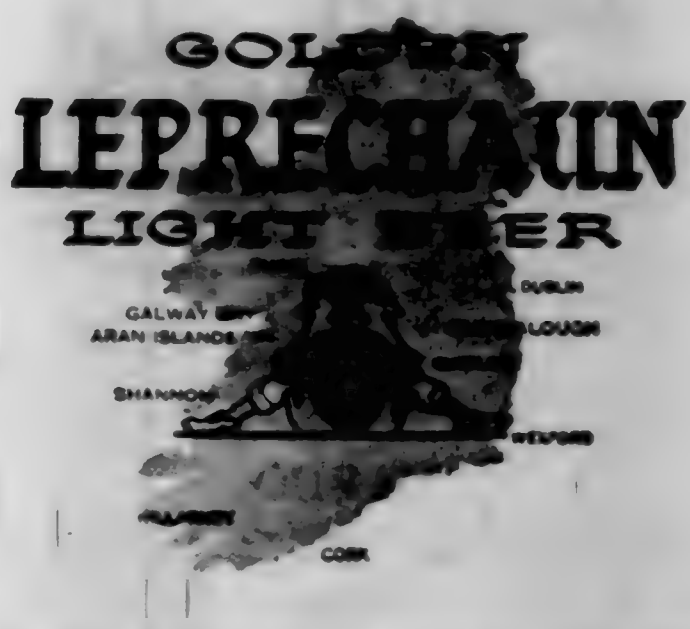
SN 185,160. Schenley Industries, Inc., New York, N.Y. Filed Jan. 22, 1964.

THREE SISTERS

Owner of Reg. No. 405,085.
For Wine.
First use August 1936.

Class 48 — Malt Beverages and Liquors

SN 183,629. Reiter's Beer Distributors, Brooklyn, N.Y. Filed Dec. 26, 1963.



No claim is made to the map of Ireland and to all wording, except "Leprechaun," apart from the association shown. Owner of Reg. No. 695,027.
For Beer.
First use Mar. 27, 1957.

Class 49 — Distilled Alcoholic Liquors

SN 157,964. Arthur Bell & Sons Ltd., Perth, Scotland. Filed Nov. 27, 1962.

BELL'S 6

The numeral "6" is disclaimed apart from the mark shown. Owner of U.S. Reg. Nos. 401,242, 721,450, and others.
For Scotch Whisky.
First use July 1, 1962; in commerce Aug. 5, 1962; early in 1933 as to "Bell's."

SN 168,538. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed May 9, 1963.

KERRIGAN'S

Owner of Reg. Nos. 352,066 and 410,740.
For Gin.
First use on or about Mar. 28, 1963.

SN 174,087. Distillers Corporation (S.A.) Limited, Stellenbosch, Cap Province, Republic of South Africa. Filed July 31, 1963.

CATHERINA DA BRAGANZA

The name "Catherina da Braganza" is a historical character. Owner of South African Reg. No. 565/55, dated Feb. 25, 1955.
For Brandy.

SN 181,785. Maison E. Remy Martin & Co., Cognac, France. Filed Nov. 22, 1963.

QUALITE DU CENTAURE

The mark Qualité du Centaure" is translated "quality of the centaur."
For Cognac.
First use Apr. 15, 1963; in commerce Apr. 15, 1963.

SN 182,334. London & Company, Inc., Elizabeth, N.J. Filed Dec. 4, 1963.

Clan MacIver

For Scotch Whisky.
First use Oct. 1, 1963.

SN 185,035. The Alfred Hart Company, d.b.a. Distillery Distributors, Los Angeles, Calif. Filed Jan. 21, 1964.

Old Bronze

For Bourbon Whiskey.
First use Aug. 8, 1934.

Class 50—Merchandise Not Otherwise Classified

SN 173,400. R. D. Werner Co., Inc., Greenville, Pa. Filed July 19, 1963.

TRIP-L-LOK

For Ladders and Accessories Therefor.
First use July 10, 1963.

SN 175,876. Ritchie Manufacturing Company, Conrad, Iowa. Filed Aug. 27, 1963.



The drawing is lined for red, but color is not claimed as a part of the mark. Applicant makes no claim to the words "The Ritchie Line" apart from the mark as shown.
For Livestock and Poultry Waterers.
First use Oct. 31, 1961.

SN 177,615. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 24, 1963.

DU PONT

Owner of Reg. Nos. 371,580, 584,358, and others.
For Fiber-Reinforced Plastic Film Sold in Sheet Form for Use as a Protective and Decorative Covering for Such Items as Office and Household Furniture, Doors, Kitchen Cabinets, Counter Tops, and Wood Paneling.
First use July 16, 1963.

SN 184,490. Monogram Models, Inc., Morton Grove, Ill. Filed Jan. 13, 1964.

MONOGRAM

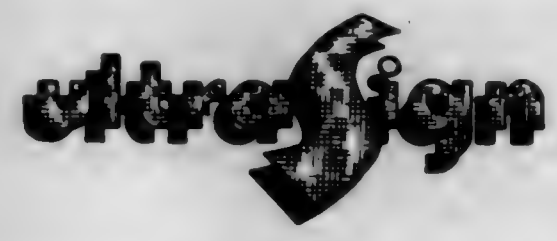
Owner of Reg. No. 768,144.
For Scientific Model Assembly Kits of Airplanes, Automobiles, Ships, Military and Space Equipment, and Finished Models Thereof for Educational Use.
First use prior to December 1945.

SN 187,245. Chron-O-Dye Incorporated, Berlin, N.J. Filed Feb. 24, 1964.

CHRON-O-DYE

For Coated Plastic Film for Use in Making Plates for Printing in Color.
First use June 15, 1962.
Subj. to Intf. with SN 173,226 and SN 173,230.

SN 190,542. Prismo Safety Corporation, Huntingdon, Pa. Filed Apr. 7, 1964.



The drawing is lined for yellow. Owner of Reg. No. 745,944.
For Reflectorized Blanks, Letters, and Numerals.
First use at least as early as July 31, 1962.

Class 51—Cosmetics and Toilet Preparations

SN 133,134. Helene Curtis Industries, Inc., d.b.a Lentheric, Chicago, Ill. Filed Dec. 1, 1961.

FRENCH FLAIR

For Cold Permanent Wave Lotion, Neutralizer Therefor and a Lotion Additive, and for Packages Containing the Same, Suitable Only for Use by Professional Beauticians in the Practice of Their Profession.
First use on or about Aug. 24, 1961.

SN 148,954. Carolina Company, Inc., d.b.a. The Carolina Soap and Candle Makers, Southern Pines, N.C. Filed July 13, 1962.



Carolina

For Toilet Water, Sachet, and Perfumed Spray.
First use on or about June 30, 1952.

SN 157,806. International Flavors & Fragrances Inc., New York, N.Y. Filed Nov. 23, 1962.

OLIFFAC

For Aromatic Chemicals, That Is Chemicals Having an Aroma, Natural and Artificial Perfume Materials, Mixtures of the Same, and Chemicals Employed for Masking Odors, Combined With a Solid or Liquid Diluent and Used as Cosmetic and Toilet Preparations.
First use May 1, 1962.

SN 157,807. International Flavors & Fragrances Inc., New York, N.Y. Filed Nov. 23, 1962.

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The drawing is lined for gray and orange, but no claim is made to color. Owner of Reg. No. 729,532.
For Aromatic Chemicals, That Is Chemicals Having an Aroma, Natural and Artificial Perfume Materials, Mixtures of the Same, and Chemicals Employed for Masking Odors, Combined With a Solid or Liquid Diluent and Used as Cosmetic and Toilet Preparations.
First use Dec. 8, 1959.

SN 163,561. Krauth Chemicals Limited, Chertsey, Surrey, England. Filed Feb. 27, 1963.

DENCLEN

Owner of British Reg. No. 758,932, dated Oct. 25, 1956.
For Denture Cleaner in an Applicator Container.
First use Oct. 25, 1956; in commerce Oct. 25, 1956.

SN 168,349. Penny-Pak, Inc., Danville, Ill. Filed May 7, 1963.

PENNY PAK

For Hair Spray.
First use Feb. 21, 1963.

SN 170,160. Samuel Bonat & Bro., Inc., West Paterson, N.J. Filed June 3, 1963.

BONAT SUPER CREME RINSE

The words "Super Creme Rinse" are disclaimed apart from the mark as shown. Owner of Reg. No. 685,712.
For Creme Rinse Used on the Hair.
First use Mar. 17, 1958.

SN 172,422. Mary Sherman, Inc., St. Louis, Mo. Filed July 3, 1963.

RELAX-A-BATH

For Bath Oil.
First use August 1960.

SN 174,044. Camille Clément René Pacaud, Paris, France. Filed July 30, 1963.

GANDHOUR

Owner of French Reg. No. 467,730, dated Oct. 18, 1957 (Seine); Natl. Inst. No. 96,903.
For Slimming Lotion for External Application to the Body.

SN 180,162. Alberto-Culver Company, Melrose Park, Ill. Filed Oct. 31, 1963.



For Fluoride Toothpaste.
First use Dec. 3, 1962.

SN 181,152. Sidney Klein, d.b.a. Leon Hirsh and Son, New York, N.Y. Filed Nov. 14, 1963.

Evangeline

Owner of Reg. No. 427,540.
For Liquid, Solid and Cream Toilet Preparations, as Follows: Eau de Cologne, Astringent, Skin Freshener, Bay Rum, Quinine Hair Tonic, Lilac Face Lotion, After Bath Lotion, Cream Deodorant, Stick Deodorant, Solid Stick Deodorant, Hair Dressing, Hair Conditioner, and Hair Sprays.
First use Sept. 16, 1963.

SN 181,944. Mark Allen Co., Detroit, Mich. Filed Nov. 27, 1963.

Good Morning!

Owner of Reg. No. 815,340.
For Brushless Shaving Cream and Lather Shaving Cream.
First use May 26, 1927.

SN 183,271. Michel Kazan, New York, N.Y. Filed Dec. 19, 1963.

TRUEHOLD

For Hair Spray.
First use Nov. 1, 1963.

SN 184,557. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 13, 1964.

FASHION TIPS

For Hair Coloring.
First use Sept. 15, 1963.

SN 184,634. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics, Bloomfield, N.J. Filed Jan. 15, 1964.

SUN-BRERO

For Sun Tanning Lotion.
First use Dec. 20, 1963.

SN 184,709. Estee Lauder, Inc., New York, N.Y. Filed Jan. 16, 1964.

ARAMIS

For Men's Toiletries—Namely, Cologne, Bath Oil, Skin Lotion, and Deodorant.
First use Nov. 15, 1963.

SN 184,723. Holland-Rantos Company, Inc., New York, N.Y. Filed Jan. 16, 1964.

KORO

Owner of Reg. No. 878,710.
For Sanitary Napkin Deodorant Spray.
First use Jan. 8, 1964.

SN 184,772. Wolff Freres, Inc., New Preston, Conn. Filed Jan. 16, 1964.

ARCTIC LOTION

No claim is made to the word "Lotion" apart from the mark as shown.
For After Shave Lotion and Cologne.
First use Feb. 8, 1954.

SN 184,912. Germaine Monteil Cosmetiques Corp., New York, N.Y. Filed Jan. 20, 1964.

MADAME DE

For Perfume, Face Powder, and Creme Make-Up.
First use Jan. 2, 1964.

SN 185,055. Maradel Products, Inc., New York, N.Y. Filed Jan. 21, 1964.

LOOK ALIVE

For Moisturiser.
First use Dec. 3, 1963.
Subj. to Intf. with SN 185,198.

SN 185,057. Maradel Products, Inc., New York, N.Y. Filed Jan. 21, 1964.

SHINING ARMOR

For Nail Enamel.
First use Dec. 3, 1963.

SN 185,105. Mrs. Rica Juliette Sebbah Baudecroux, for herself and as legal guardian of her minor children, Jean-Paul Baudecroux and Micheline-Rosemonde Baudecroux (co-owners), Paris, France. Filed Jan. 22, 1964.

LE BAISE-MAIN DE PARIS

The French words "Le Baise-Main de Paris" translated into English language means "the handkiss of Paris." Owner of French Reg. No. 195,062, dated Nov. 20, 1962; and U.S. Reg. No. 577,834.
For Cream for the Skin (Non-Medicated).

SN 185,178. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 22, 1964.

BODY SATIN

For Bath Oil.
First use Oct. 1, 1963.
Subj. to Intf. with SN 193,680.

SN 185,179. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 22, 1964.

GLAMOUR EYES

For Eye Shadow.
First use Oct. 1, 1963.

SN 185,189. Avon Products, Inc., New York, N.Y. Filed Jan. 23, 1964.

STIMU-CLEAN

For Facial Cleanser.
First use Jan. 10, 1964.

SN 185,198. Cosmetically Yours, Inc., Yonkers, N.Y. Filed Jan. 23, 1964.

LOOK ALIVE

For Lipstick.
First use Dec. 2, 1963.
Subj. to Intf. with SN 185,055.

SN 195,199. Cosmetically Yours, Inc., Yonkers, N.Y. Filed Jan. 23, 1964.

EXPRESSO EYES

For Eye Makeup.
First use September 1962.

SN 185,343. Alexandra de Markoff Sales Corporation, New York, N.Y. Filed Jan. 27, 1964.

ALLEVIA

For Night Cream.
First use Dec. 30, 1963.

SN 185,404. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Jan. 27, 1964.

VERVE

For Cologne and Color Rinse.
First use Jan. 10, 1964.

SN 185,405. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Jan. 27, 1964.

UNLOCKS

For Hair Relaxer.
First use Jan. 10, 1964.

Class 52 — Detergents and Soaps

SN 148,893. Richard Hudnut, Morris Plains, N.J. Filed July 12, 1962.

CLEER SHEEN

For Hair Shampoo.
First use June 11, 1962.

SN 148,954. Carolina Company, Inc., d.b.a. The Carolina Soap and Candle Makers, Southern Pines, N.C. Filed July 13, 1962.



Carolina

For Perfumed Soap.
First use on or about June 30, 1952.

SN 171,687. Sep-Ko Chemicals, Inc., Minneapolis, Minn., assignee of Monarch Chemicals, Inc., Minneapolis, Minn. Filed June 24, 1963.

SEP-KO

Owner of Reg. No. 505,059.
For Cleaning Compound To Be Added to Water for Use in Removing Scum, Milk Stone, Water Scale, Calcium, Magnesium, and Other Hard Elements in the Water From Dairy Processing Equipment.
First use Aug. 1, 1947.

SN 180,813. Abco Dealers, Inc., New York, N.Y. Filed Nov. 12, 1963.

TOWEL-EZE

For Towel Saturated With an Antiseptic Cleanser for Use on the Hands, Face, and Body.
First use on or about Oct. 4, 1963.

SN 181,804. Rougier Incorporated, Montreal, Quebec, Canada. Filed Nov. 22, 1963.

PROVIODINE

Owner of Canadian Reg. No. 181,068, dated May 17, 1963.
For Antiseptic Medicinal Soap.

SN 182,213. William R. Robertshaw, d.b.a. Robertshaw & Company, Phoenix, Ariz. Filed Dec. 2, 1963.



For Chemical Sweeping Compound for Removing Crusts and Stains From Industrial Flooring.
First use Oct. 31, 1963.

SN 182,680. Texaco Inc., New York, N.Y. Filed Dec. 9, 1963.



The drawing is lined for red and green, but the mark is not limited to the colors shown.
For White Tire Cleaner and Automobile Cleaner and Windshield Washer.
First use Jan. 4, 1963.

SN 182,821. Paula Payne Products Company, Charlotte, N.C. Filed Dec. 11, 1963.

BLENSOL

For Color Shampoo.
First use May 28, 1963.

SN 184,710. Estee Lauder, Inc., New York, N.Y. Filed Jan. 16, 1964.

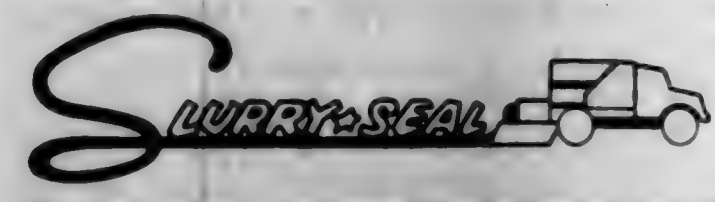
ARAMIS

For Toilet Soaps.
First use Nov. 15, 1963.

SERVICE MARKS

Class 100 — Miscellaneous

SN 122,478. Slurry Seal, Inc., Waco, Tex. Filed June 20, 1961.



The words "Slurry Seal" are disclaimed apart from the mark as shown.

For Applying Coatings to Road and the Like Surfaces; Furnishing to Customers, Under Lease, Machines for Applying Coatings to Road and the Like Surfaces; Training Said Customers in the Use of Machines So Furnished; Giving Technical Assistance to Said Customers in Connection With Unusual Problems Arising in Applying Such Coatings; and Furnishing Specifications of Materials Used by Said Customers for Applying Coatings With So Furnished Machines.

First use Oct. 10, 1960.

SN 155,723. Kiwanis International, Chicago, Ill. Filed Oct. 23, 1962.

CIRCLE K

Owner of Reg. Nos. 285,049, 672,949, and others.

For Sponsoring Civic Projects in Youth Welfare Work, in Medical and Recreational Programs for Children, and Promoting Patriotism, Good Will and Ethical Standards.

First use November 1955.

SN 180,233. Phillips Petroleum Company, Bartlesville, Okla. Filed Oct. 31, 1963.

PLAZA 66

For Restaurant Services.

First use Aug. 1, 1963.

SN 180,812. Frank G. Shattuck Company, New York, N.Y. Filed Nov. 15, 1963.

SCHRAFFT'S

Owner of Reg. Nos. 70,540, 722,384, and others.

For Services Involved in Operating and Managing Motels.

First use February 1961.

Class 101 — Advertising and Business

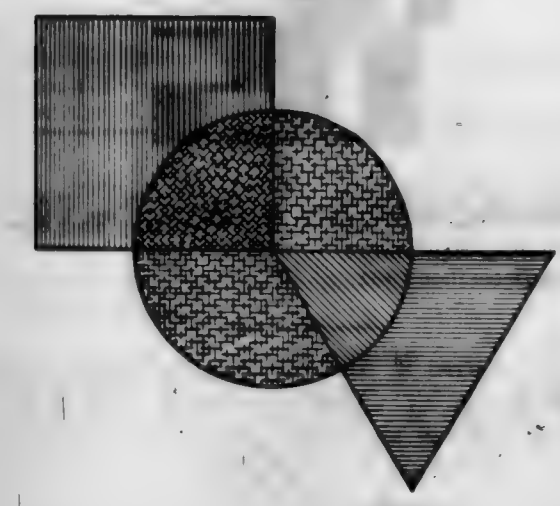
SN 146,020. Coast-To-Coast Stores (Central Organization), Incorporated (Delaware corporation), Minneapolis, Minn., assignee of Coast-To-Coast Stores (Central Organization), Incorporated (Minnesota corporation), Minneapolis, Minn. Filed June 4, 1962.



For Assisting Owners of Retail Stores in the Conduct of Their Businesses—Namely, Providing Advice and Materials Relative to Accounting, Advertising, Store Planning, Merchandising, Sales Training, Store Display, and Management; and Retail Department Store Services.

First use on or about Nov. 26, 1928.

SN 150,451. K. Alfred Pfetsch, d.b.a. K. Alfred Pfetsch Company, New York, N.Y. Filed Aug. 3, 1962.



The drawing is lined for the colors red, orange, yellow, green, and blue.

For Specially Prepared Creative Displays and Point of Sale Materials for Advertisers.

First use July 18, 1962.

SN 152,075. The Manitowoc Company, Inc., Manitowoc, Wis. Filed Aug. 28, 1962.

Fashion Care

Owner of Reg. No. 741,937.

For Coin Controlled Dry Cleaning or Laundry Services of Others.

First use June 1961.

SN 157,714. Manpower Inc., Milwaukee, Wis. Filed Nov. 21, 1962

"THE GIRL IN THE WHITE GLOVES"

For Business Service—Namely, Furnishing of Its Female Employees on a Contract Basis to Persons and Places of Business Requiring Part-Time or Temporary Office Help; Including Stenographers, Typists, Office Machine Operators, and File Clerks.

First use Mar. 13, 1962.

SN 164,887. Ralphabet Enterprises, Fresno, Calif. Filed Mar. 18, 1963.

RALPHABET

For Advice and Consultation in Product and Sales Promotion, and Pertaining to Product Advertising and Offering of Sales Promotion Items of Intrinsic Value Adapted for Independent Sale to Facilitate Marketing of a Selected Principal Product.

First use Feb. 23, 1963.

SN 175,006. Pronto File Corporation, New York, N.Y., assignee of Advance Data Systems Corporation, Los Angeles, Calif. Filed Aug. 14, 1963.



Owner of Reg. No. 763,871.
For Consultation and Advice in Instituting and Operating Data Processing Equipment.
First use December 1961.

SN 178,861 Alfred B. Anthony, Seattle, Wash. Filed Oct. 14, 1963.



Applicant hereby disclaims the words "Striping Service" apart from the mark.
For Marking Parking Areas.
First use March 1963.

SN 179,719. The Kroger Co., d.b.a. Bi-Lo, Cincinnati, Ohio. Filed Oct. 24, 1963.

BI-LO

For Retail Grocery Store Service.
First use Aug. 27, 1962.

SN 180,291. Chicken Delight, Inc., Rock Island, Ill. Filed Nov 1, 1963.

CHICKEN DELIGHT

The word "Chicken" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 578,807, 578,808, and 764,374.
For Supplying Technical Advice to Operators of Take-Out Food Establishments in Such Fields as the Training of Employees and Advertising.
First use on or about Jan. 15, 1952.

SN 182,390. Western Girl Inc., San Francisco, Calif. Filed Dec. 4, 1963.



Owner of Reg. No. 702,384
For Supplying Office Personnel on a Temporary Basis.
First use Aug. 1, 1961.

Class 102 — Insurance and Financial

SN 143,964. Insurance Company of North America, Philadelphia, Pa. Filed May 7, 1962.

INA CRUISER

No exclusive claim is made to the word "Cruiser" apart from the mark as shown. Owner of Reg. Nos. 713,296 and 713,297.
For Underwriting of Marine Insurance.
First use Jan. 10, 1962.

SN 177,278. The North American Company for Life, Accident and Health Insurance, Chicago, Ill. Filed Sept. 18, 1963

NACOLAH

For Advisory, Brokerage, Underwriting and Related Insurance Services.
First use May 10, 1963.

SN 181,451. Bank of the Southwest National Association, Houston, Houston, Tex. Filed Nov. 19, 1963.



Without waiving its common law rights, applicant disclaims the exclusive right to use the word "Service" apart from the mark as shown.
For Fiduciary and Trust Services.
First use Sept. 25, 1963.

SN 182,207. Peninsular Life Insurance Company, Jacksonville, Fla. Filed Dec. 2, 1963.

PENINSULAR

For Underwriting Life, Disability, Property and Title Insurance.
First use at least as early as 1902; 1901 on underwriting of life and disability insurance.

SN 182,267. Imperial Casualty and Indemnity Company, Omaha, Nebr. Filed Dec 3, 1963.



For Underwriting Fire and Casualty Insurance.
First use Aug. 2, 1955.

SN 182,269. Imperial Casualty and Indemnity Company, Omaha, Nebr. Filed Dec. 3, 1963.



The drawing is lined for red and pink.
For Underwriting Fire and Casualty Insurance.
First use Aug. 2, 1955.

SN 182,270. Imperial Casualty and Indemnity Company, Omaha, Nebr. Filed Dec. 3, 1963.

IMPERIAL

For Underwriting Fire and Casualty Insurance.
First use Jan. 1, 1955

SN 184,160. Industrial Finance & Thrift Corporation, New Orleans, La. Filed Jan. 7, 1964.

TERMPLAN

For Money Lending.
First use July 9, 1958.

Class 103 — Construction and Repair

SN 135,502. Getz Exterminators, Inc., St. Louis, Mo. Filed Jan. 10, 1962.

GETS 'EM

Owner of Reg. Nos. 297,145, 653,904, and others.
For Exterminating Services.
First use 1906.

Class 106 — Material Treatment

SN 181,023 Eastern Tool and Manufacturing Co., Belleville, N.J. Filed Nov. 18, 1963.

ETAMCO

For Manufacturing Shaped Metal Components to the Specifications of Others.
First use Apr. 1, 1963.

Class 107 — Education and Entertainment

SN 142,931. Dallas Texans Football Club, Inc., Dallas, Tex. Filed Apr. 24, 1962.

THE ZING TEAM OF PRO FOOTBALL...

THE DALLAS TEXANS!

The words "The Dallas Texans" are disclaimed apart from the mark as shown.
For Entertainment in the Form of Professional Football Games Played in the Several States.
First use Mar. 2, 1962.

SN 172,701. Goldie Zelkowitz, Brooklyn, N.Y. Filed July 9, 1963.



Goldie and the Gingerbreads
Female Twist Band

Applicant disclaims the words "Female Twist Band," apart from the mark as shown.
For Instrumental and Vocal Musical Entertainment Services Presented Through Personal Appearances and Through Recorded and Phonographic Devices.
First use August 1962.

SN 176,898. Festival Associates, Inc., New York, N.Y. Filed Sept. 13, 1963.

THE FESTIVAL ORCHESTRA

Applicant declaims exclusive appropriation of the word "Orchestra" except in the precise relation and association in which it appears in "The Festival Orchestra."
For Pertaining to Musical Performances as an Orchestral Group.
First use on or about Nov. 15, 1960.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 115,705. National Little Britches Rodeo Association, Inc., Littleton, Colo., assignee of The Arapahoe County Fair Association, Inc., Littleton, Colo. Filed Mar. 15, 1961.

NATIONAL Little Britches RODEO ASSOCIATION

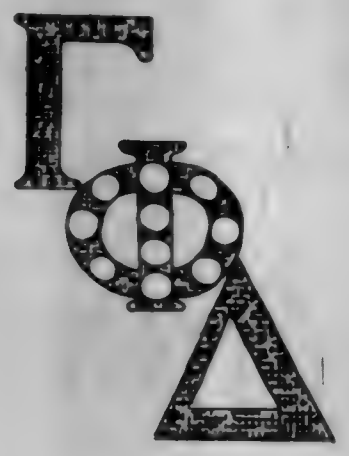
For Indicating Membership in the Applicant.
First use on or about Aug. 1, 1952.

SN 141,466. National Court of the Royal Order of Jesters, Pittsburg, Kans. Filed Apr. 8, 1962.



For Indicating Membership in an Organization Formed for Fraternal Purposes.
First use January 1919.

SN 160,537. Gamma Phi Delta Sorority, Incorporated, Indianapolis, Ind. Filed Jan. 11, 1963.



The drawing is lined for gold.
For Indicating Membership in the Applicant Sorority.
First use Aug. 1, 1956.

TM 118

SN 166,662. Skate-Sailing Association of America, Verona, N.J. Filed Apr. 12, 1963.

SKATE-SAILING ASSOCIATION OF AMERICA

For Indicating Membership in Applicant.
First use 1922.

SN 168,660. Alpha Kappa Lambda Fraternity, Emporia, Kans. Filed May 13, 1963.

ALPHA KAPPA LAMBDA

For Indicating Membership in Applicant Fraternity.
First use Apr. 22, 1914.

SN 168,661. Alpha Kappa Lambda Fraternity, Emporia, Kans. Filed May 13, 1963.



The English translation of the Greek words appearing on the drawing is "The Truth and the Word."
For Indicating Membership in the Applicant Fraternity.
First use Apr. 22, 1914.

SN 171,071. American Academy of Matrimonial Lawyers, Chicago, Ill. Filed June 17, 1963.

AMERICAN ACADEMY OF MATRIMONIAL LAWYERS

For Indicating Membership in Applicant.
First use Nov. 15, 1962.

SN 173,650. Liberty Distributors, Philadelphia, Pa. Filed July 24, 1963.



For Indicating Membership in and Association With the Applicant.
First use 1951.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

775,154. PERBUL. Daido Keori Kabushiki Kaisha, d.b.a. Daido Worsted Mills Ltd. MULTIPLE CLASS (Classes 1, 39, 42, and 48). SN 169,356. Pub. 6–2–64. Filed 8–14–63.

775,155. SHOW LAWN. Jonathan Green & Sons. SN 171,771. Pub. 8–24–64. Filed 6–25–63.

775,156. MOLYKOTE. The Alpha Molykote Corporation. MULTIPLE CLASS (Classes 1 and 15). SN 175,626. Pub. 6–2–64. Filed 8–23–63.

Class 2—Receptacles

775,157. PLASTA-REEL. Dare Products, Incorporated. MULTIPLE CLASS (Classes 2, 7, 18, 21, and 22). SN 130,704. Pub. 6–2–64. Filed 10–27–61.

775,158. CHEM-TEK. Stainless Products Corporation. SN 187,281. Pub. 10–2–62. Filed 2–5–62.

775,159. DUBL-PANEL. Bagcraft Corporation of America. SN 147,788. Pub. 6–2–64. Filed 6–27–62.

775,160. CPB AND DESIGN. Crown Paper Box Corporation. SN 163,127. Pub. 6–2–64. Filed 2–20–63.

775,161. IDEAL AND DESIGN. Ideal Fishing Float Company, Inc. MULTIPLE CLASS (Classes 2 and 22). SN 164,047. Pub. 6–2–64. Filed 3–6–63.

775,162. MICROFLUTE. Columbia Corrugated Container Corp. SN 167,119. Pub. 6–2–64. Filed 4–19–63.

775,163. TOTE SHUTTLE. Bird & Son, Inc. SN 168,801. Pub. 1–14–64. Filed 5–14–63.

775,164. DUO-CAP. Jacob A. Glassman. SN 171,980. Pub. 6–2–64. Filed 6–27–63.

775,165. PRETTYWARE PW AND DESIGN. Pretty Products, Inc. SN 175,679. Pub. 6–2–64. Filed 8–23–63.

775,166. ILLUSTRASLEEVE. Fluted Paper Products Company, Inc. SN 176,785. Pub. 6–2–64. Filed 9–12–63.

775,167. A SPECO PRODUCT. Specialty Sheet Metal Manufacturing Co., Inc., d.b.a. Speco Products. SN 177,921. Pub. 6–2–64. Filed 9–27–63.

775,168. KUP-KIT. Thomas B. Moore Co., Inc. SN 179,246. Pub. 6–2–64. Filed 10–17–63.

775,169. FORT ORANGE. KVP Sutherland Paper Company. SN 179,426. Pub. 6–2–64. Filed 10–21–63.

775,170. TRIPLE C. Continental Can Company, Inc. SN 182,471. Pub. 6–2–64. Filed 12–6–63.

775,171. SERV-A-PAK. Anheuser-Busch, Incorporated. SN 182,560. Pub. 6–2–64. Filed 12–6–63.

775,172. CUT-PAK. KVP Sutherland Paper Company. SN 184,931. Pub. 6–2–64. Filed 1–20–64.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

775,173. ARMORCLAD. Knickerbocker Case Corporation. SN 179,799. Pub. 6–2–64. Filed 10–25–63.

775,174. MIRACLEHYDE. Centra Leather Goods of Oklahoma, Inc. SN 181,209. Pub. 6–2–64. Filed 11–15–63.

775,175. HERITAGE. Eager-Kress Company. SN 185,587. Pub. 6–2–64. Filed 1–29–64.

775,176. DELTA. Storage Industries, Inc. SN 188,158. Pub. 6–2–64. Filed 3–6–64.

Class 4—Abrasives and Polishing Materials

775,177. HAZE CREAM. Lustur-Seal Corporation. SN 169,381. Pub. 6–2–64. Filed 5–21–63.

775,178. LUZOSTELLA ETC. AND DESIGN. Ferreira & Irmao Sucrs, Limitada. SN 169,623. Pub. 6–2–64. Filed 5–24–63.

775,179. VAR-WAX. L. W. Sharp, d.b.a. Var-Wax Products Co. SN 182,506. Pub. 6–2–64. Filed 12–6–63.

775,180. 'JAB.' John A. Bespole, d.b.a. Scientific Abrasives Co. SN 182,766. Pub. 6–2–64. Filed 12–11–63.

775,181. X-TRA AID. Bissell Inc. SN 182,769. Pub. 6–2–64. Filed 12–11–63.

Class 5—Adhesives

775,182. HAWKINS. Hawkins-Hawkins Co., Inc. SN 143,390. Pub. 6–2–64. Filed 4–30–62.

775,183. TOMAHAWK ETC. AND DESIGN. Tomahawk Paper Products Corporation. SN 176,330. Pub. 6–2–64. Filed 9–4–63.

Class 6—Chemicals and Chemical Compositions

775,184. MIRASOL. Texize Chemicals, Inc. SN 156,450. Pub. 12–31–63. Filed 11–1–62.

775,185. SUN-GLO. Texize Chemicals, Inc., d.b.a. Beacon Products Div. SN 159,927. Pub. 6–2–64. Filed 12–28–62.

775,186. ZATARAIN'S. Pa-Poose Products Co., Inc. SN 165,616. Pub. 6–2–64. Filed 3–28–63.

775,187. VERDOPOL. The American Oil Company. SN 166,509. Pub. 12–10–63. Filed 4–9–63.

775,188. BAFFON. Saprise Chemicals, Inc. SN 168,037. Pub. 6–2–64. Filed 5–2–63.

775,189. SPLASH. Diamond Alkali Company. SN 168,907. Pub. 6–2–64. Filed 5–15–63.

775,190. DUROTEX. Scientific Chemicals, Inc. SN 174,014. Pub. 6–2–64. Filed 8–12–63.

775,191. X-73. The Monroe Company, Incorporated. SN 175,127. Pub. 6–2–64. Filed 8–15–63.

775,192. TRITIAC. Canrad Precision Industries, Inc. SN 175,973. Pub. 6–2–64. Filed 8–29–63.

775,193. WALKER. Walker Manufacturing Company. MULTIPLE CLASS (Classes 6 and 15). SN 179,752. Pub. 6–2–64. Filed 10–24–63.

Class 7—Cordage

775,167. (See Class 2 for this trademark.)

775,194. QUIK-CURL. Papercraft Corporation. SN 171,272. Pub. 6–2–64. Filed 6–18–63.

775,195. BLACK STALLION. Ponit Trading Company. SN 178,975. Pub. 6–2–64. Filed 10–14–63.

775,196. WHITE STALLION. Ponit Trading Company. SN 178,976. Pub. 6–2–64. Filed 10–14–63.

775,197. DESIGN OF HORSE'S HEAD. Ponit Trading Company. SN 178,977. Pub. 6–2–64. Filed 10–14–63.

Class 10 — Fertilizers

775,198. PREP. Floridin Company. SN 186,245. Pub. 6-2-64. Filed 2-7-64.

775,199. VITA RAIN. Fra-Marc Corporation. SN 186,524. Pub. 6-2-64. Filed 2-12-64.

Class 11 — Inks and Inking Materials

775,200. KODAK. Eastman Kodak Company. SN 181,870. Pub. 6-2-64. Filed 11-26-63.

775,201. F AND DESIGN. N.V. Drukinktfabriek Furbianca. SN 182,254. Pub. 6-2-64. Filed 12-3-63.

Class 12 — Construction Materials

775,202. PORTLAND CEMENT ETC. AND DESIGN. Onoda Cement Company Limited. SN 151,513. Pub. 6-2-64. Filed 8-20-62.

775,203. STAY-TITE AND DESIGN. Stay-Tite Products Co., Inc. MULTIPLE CLASS (Classes 12 and 52). SN 157,336. Pub. 6-2-64. Filed 11-15-62.

775,204. CHINA-GLAZE. United States Gypsum Company. SN 158,404. Pub. 6-2-64. Filed 12-3-62.

775,205. TOPCO FLOOR PATCH AND DESIGN. Templar Oil Products Co., Inc. SN 162,369. Pub. 6-2-64. Filed S.R. 2-8-63; Am. P.R. 3-16-64.

775,206. IVY LEAGUE. United States Plywood Corporation. SN 170,783. Pub. 6-2-64. Filed 6-11-63.

775,207. OCTO DUCT. American Cement Corporation. SN 171,947. Pub. 6-2-64. Filed 6-27-63.

775,208. GLASS-FLEX. Pittsburgh Plate Glass Company. SN 177,720. Pub. 6-2-64. Filed 9-25-63.

775,209. REPRESENTATION OF A STRONG MAN HOLDING A TIE ROD. Burke Concrete Accessories, Inc. SN 177,960. Pub. 6-2-64. Filed 9-30-63.

775,210. ROL-LOK. Walcon Corporation. SN 180,624. Pub. 6-2-64. Filed 11-6-63.

775,211. DECORIB. H. H. Robertson Company. SN 180,769. Pub. 6-2-64. Filed 11-8-63.

775,212. VEL-GUARD. Johns-Manville Corporation. SN 180,896. Pub. 6-2-64. Filed 11-12-63.

775,213. METAL-ON. Johns-Manville Corporation. SN 180,897. Pub. 6-2-64. Filed 11-12-63.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

775,157. (See Class 2 for this trademark.)

775,214. VINYL-GARD. The Gilbert & Bennett Manufacturing Company. SN 121,558. Pub. 2-27-62. Filed 6-7-61.

775,215. FLO-TORK. Stewart-Warner Corporation. SN 163,892. Pub. 11-5-63. Filed 3-4-63.

775,216. VANGUARD SENTRI AND DESIGN. Interstate Engineering Corporation. SN 168,825. Pub. 6-2-64. Filed 5-14-63.

775,217. SILVA-CHROME. Forman Family Inc. SN 171,767. Pub. 6-2-64. Filed 6-25-63.

775,218. TUB 'N TUB. Century Products, Inc. SN 179,611. Pub. 6-2-64. Filed 10-28-63.

775,219. IN-TER-LINE. Republic Steel Corporation. SN 180,234. Pub. 6-2-64. Filed 10-31-63.

Class 14 — Metals and Metal Castings and Forgings

775,220. CONSUMABLE VACUUM MELTED AND DESIGN. Vanadium-Alloys Steel Company. SN 123,712. Pub. 6-25-63. Filed 7-10-61.

775,221. MONO-FINISH. Lukens Steel Company. SN 175,046. Pub. 6-2-64. Filed 8-14-63.

775,222. MARSHALLCRAT. The Marshall Steel Company. SN 176,056. Pub. 6-2-64. Filed 8-6-63.

775,223. USSR & M CO AND DESIGN. United States Smelting Refining and Mining Company. SN 178,235. Pub. 6-2-64. Filed 10-2-63.

775,224. UNIVERS. The Monotype Corporation Limited. SN 180,520. Pub. 6-2-64. Filed 11-5-63.

775,225. PHOS-PAK AND DESIGN. H. Kramer & Co. SN 182,489. Pub. 6-2-64. Filed 12-6-63.

775,226. HPD. Metallurgical International Inc. SN 183,183. Pub. 6-2-64. Filed 12-17-63.

775,227. MOLY-KWIK. Metallurgical International Inc. SN 183,184. Pub. 6-2-64. Filed 12-17-63.

775,228. HARDA-METAL. American Type Founders Co., Inc. SN 183,302. Pub. 6-2-64. Filed 12-20-63.

775,229. DEEPA-CAST. American Type Founders Co., Inc. SN 183,303. Pub. 6-2-64. Filed 12-20-63.

Class 15 — Oils and Greases

775,156. (See Class 1 for this trademark.)

775,198. (See Class 6 for this trademark.)

775,230. ALBAPLEX. The Western Petrochemical Corporation. SN 122,671. Pub. 6-2-64. Filed 6-22-61.

775,231. TEXACO AND DESIGN. Texaco Inc. SN 166,952. Pub. 3-3-64. Filed 4-17-63.

775,232. X-106. Herb W. Wolfe, d.b.a. Herb Wolfe Equipment & Rubber Company. SN 177,129. Pub. 6-2-64. Filed 9-16-63.

Class 16 — Protective and Decorative Coatings

775,233. THANE. Rutland Fire Clay Company. SN 134,271. Pub. 5-14-63. Filed 12-18-61.

775,234. FLACOOL. Frank L. Adams Co., Inc. SN 139,368. Pub. 6-2-64. Filed 3-8-62.

775,235. HAWKINS AND DESIGN. Hawkins-Hawkins Co. Inc. SN 143,393. Pub. 6-2-64. Filed 4-30-62.

775,236. SUPRA-COAT 63 AND DESIGN. Supradur Manufacturing Corporation. SN 159,922. Pub. 6-2-64. Filed 12-28-62.

775,237. CARO-COAT. Carolina Coatings, Inc. SN 164,947. Pub. 6-2-64. Filed 3-19-63.

775,238. NEW MODE. Sapolin Paints Inc. SN 175,692. Pub. 6-2-64. Filed 8-23-63.

775,239. SPARK GARD. Nic-L-Silver Battery Co., d.b.a. Sun Power Battery. SN 181,389. Pub. 6-2-64. Filed 11-18-63.

Class 17 — Tobacco Products

775,240. SOCRATES. F. X. Smith's Sons Co. SN 177,303. Pub. 6-2-64. Filed 9-18-63.

775,241. STETSON. The S. Frieder & Sons Company. SN 180,006. Pub. 6-2-64. Filed 10-29-63.

775,242. ACTRON. Brown & Williamson Tobacco Corporation. SN 171,957. Pub. 6-2-64. Filed 11-27-63.

Class 18—Medicines and Pharmaceutical Preparations

775,243. GOOD DAY. U.S. Health Club, Inc. SN 160,394. Pub. 10-29-63. Filed 1-8-63.

775,244. VISCO-GIENE 30 AND DESIGN. National Remedy Products Company, Inc. SN 160,738. Pub. 6-2-64. Filed 1-2-63.

775,245. PROPELL 10. Moorman Manufacturing Company. SN 165,697. Pub. 6-2-64. Filed 3-20-63.

775,246. FUZZY'S. Farm Service & Supply, Inc. MULTIPLE CLASS (Classes 18 and 46). SN 168,896. Pub. 6-2-64. Filed 5-10-63.

775,247. TO-LAX. Ainsworth Laboratories Inc. SN 169,898. Pub. 4-14-64. Filed 5-20-63.

775,248. MK AND DESIGN. Moore Kirk Laboratories, Inc. SN 170,089. Pub. 6-2-64. Filed 5-31-63.

775,249. CO-LORMIN. Eli Lilly and Company. SN 174,393. Pub. 2-4-64. Filed 8-5-63.

775,250. CHLO-AMINE. Hollister-Stier Laboratories. SN 178,280. Pub. 6-2-64. Filed 10-3-63.

775,251. MEGA-GRO. The Borden Company. SN 178,408. Pub. 6-2-64. Filed 10-7-63.

775,252. H8 ETC. AND DESIGN. Hollister-Stier Laboratories. SN 179,422. Pub. 6-2-64. Filed 10-21-63.

775,253. JERNOX. Kemovit A/S. SN 179,540. Pub. 6-2-64. Filed 10-22-63.

775,254. MICRO-A. Nopco Chemical Company. SN 181,261. Pub. 6-2-64. Filed 11-15-63.

775,255. ALAXIVE. A. Allen Horton, d.b.a. Acid-Eze Company. SN 181,357. Pub. 6-2-64. Filed 11-18-63.

775,256. DONNAGESIC NO. 2 EXTENTABS. A. H. Robins Company, Inc. SN 182,528. Pub. 6-2-64. Filed 12-6-63.

775,257. V-DONNA. First Texas Pharmaceuticals, Inc. SN 182,872. Pub. 6-2-64. Filed 12-12-63.

775,258. HEXO PHENA. C. J. Martin & Sons, Inc. SN 183,431. Pub. 6-2-64. Filed 12-23-63.

775,259. HAN-OVER. Margaret Ann Krikker. SN 183,845. Pub. 6-2-64. Filed 12-31-63.

775,260. MARTY'S. Ralph E. Martinez, d.b.a. Topa-Topa Drug. SN 183,851. Pub. 6-2-64. Filed 12-31-63.

Class 19—Vehicles

775,261. CADILLAC BOATS ETC. AND DESIGN. Cadillac Marine & Boat Co. SN 697,271. Pub. 3-20-56. Filed 10-28-55.

775,262. TUBAR. Uhrden, Incorporated. SN 138,996. Pub. 6-2-64. Filed 3-2-62.

775,263. E-Z AWN. Albert W. Bender. SN 147,074. Pub. 6-2-64. Filed 6-18-62.

775,264. EAST WIND. Industrial Shipping Company Limited. SN 178,455. Pub. 6-2-64. Filed 10-7-63.

775,265. RED ARROW PANEL ETC. AND DESIGN. National Automotive Parts Association, assignee of Red Arrow Panel Corporation. SN 178,639. Pub. 6-2-64. Filed 10-9-63.

775,266. DURA-STOP. Mid-States Distributing Company, Inc. SN 180,019. Pub. 6-2-64. Filed 10-29-63.

Class 21—Electrical Apparatus, Machines, and Supplies

775,157. (See Class 2 for this trademark.)

775,267. ERIK. Clark Walter Corporation. SN 126,972. Pub. 9-11-62. Filed 8-30-61.

775,268. HV AND DESIGN. Globe-Union Inc. SN 145,827. Pub. 3-12-63. Filed 5-31-62.

775,269. SWING-ALONG. Channel Master Corporation. MULTIPLE CLASS (Classes 21 and 36). SN 152,678. Pub. 6-2-64. Filed 9-7-62.

775,270. D8. Dowsmith Inc. SN 156,279. Pub. 6-2-64. Filed 10-31-62.

775,271. DRYFIT AND DESIGN. Accumulatorenfabrik Sonnenschein G.m.b.H. SN 157,957. Pub. 1-28-64. Filed 11-27-62.

775,272. POWERTRON. Powertron Corporation, assignee of Powertron Ultrasonics Corporation. SN 158,177. Pub. 11-12-63. Filed 11-29-62.

775,273. BETA-KOTE. Hi-En-Co., Inc. SN 164,843. Pub. 6-2-64. Filed 3-18-63.

775,274. AUTODRAPE. Automatic Devices Company. SN 165,668. Pub. 6-2-64. Filed 3-29-63.

775,275. SILVER SERVICE. Automatic Devices Company. SN 165,670. Pub. 6-2-64. Filed 3-29-63.

775,276. EPL. Electric Pipe Line, Inc. SN 165,759. Pub. 6-2-64. Filed 4-1-63.

775,277. WARRINGTON. Prescolite Manufacturing Corporation. SN 167,754. Pub. 6-2-64. Filed 4-29-63.

775,278. JUBILEE. Fieldcrest Mills, Inc. SN 168,311. Pub. 11-26-63. Filed 5-7-63.

775,279. R-E-A. Ransburg Electro-Coating Corp. SN 168,535. Pub. 6-2-64. Filed 5-9-63.

775,280. PRODUCT LINER. Square D Company. SN 168,867. Pub. 6-2-64. Filed 5-14-63.

775,281. SAFEGUARD. Yardney Electric Corp. SN 168,977. Pub. 6-2-64. Filed 5-15-63.

775,282. ECI AND DESIGN. Electronic Communications, Inc. SN 170,529. Pub. 6-2-64. Filed 6-7-63.

775,283. GREEN ARROW AND DESIGN. The O'Donnell Rubber Products Company. SN 171,373. Pub. 6-2-64. Filed 6-19-63.

775,284. SAV-A-HARP. Bruce Laurie Co., Inc. SN 176,154. Pub. 6-2-64. Filed 9-3-63.

775,285. THE STINGER. Minneapolis Scientific Controls Corp., d.b.a. Electric Service Systems. SN 176,213. Pub. 6-2-64. Filed 9-3-63.

775,286. CHARG-RITE. Minneapolis Scientific Controls Corp. SN 176,214. Pub. 6-2-64. Filed 9-3-63.

775,287. DUTCH BOY (DESIGN). National Lead Company. SN 176,457. Pub. 6-2-64. Filed 9-6-63.

775,288. WOODLINE. Globe Illumination Company. SN 176,520. Pub. 6-2-64. Filed 9-9-63.

775,289. DURA-CHARGE. Mid-States Distributing Company, Inc. SN 176,560. Pub. 6-2-64. Filed 9-9-63.

775,290. DURA SHOCK AND DESIGN. Mid-States Distributing Company, Inc. SN 176,561. Pub. 6-2-64. Filed 9-9-63.

775,291. TWIN 30. General Motors Corporation. SN 177,095. Pub. 6-2-64. Filed 9-25-63.

775,292. BENKSON. B. Benkert Limited. SN 177,753. Pub. 6-2-64. Filed 9-26-63.

775,293. ECLATEC. Societe Anonyme l'Eclairage Technique. SN 178,572. Pub. 6-2-64. Filed 10-8-63.

775,294. E-1000. Anaconda Wire and Cable Company, by assignment and change of name from Anaconda Wire and Cable Company. SN 178,577. Pub. 6-2-64. Filed 10-9-63.

775,295. CERAMELEC. Erie Technological Products, Inc., by change of name from Erie Resistor Corporation. SN 179,625. Pub. 6-2-64. Filed 10-23-63.

775,296. CIRCLES AND ARROW DESIGN. United States Instrument Corporation. SN 180,341. Pub. 6-2-64. Filed 11-1-63.

775,297. SPEEDOTRON AND DESIGN. Don A. Comunale, d.b.a. The Speedotron Company. SN 180,492. Pub. 6-2-64. Filed 11-5-63.

775,298. ASTRODOME. General Electric Company. SN 182,075. Pub. 6-2-64. Filed 11-29-63.

775,299. HRO. National Radio Company, Inc. SN 184,646. Pub. 6-2-64. Filed 1-15-64.

Class 22 — Games, Toys, and Sporting Goods

775,157. (See Class 2 for this trademark.)

775,161. (See Class 2 for this trademark.)

775,300. WIL-GRIP. Awtco Corporation. SN 160,155. Pub. 6–2–64. Filed 1–4–63.

775,301. ON THE BALL AND DESIGN. Eric O. Sonneman. SN 160,337. Pub. 6–2–64. Filed 1–7–63.

775,302. TRIM-N-TONE. Coach's Sporting Goods Corporation. SN 177,767. Pub. 6–2–64. Filed 9–26–63.

775,303. LINE-A-GROOV. Raymon W. Cook. SN 177,862. Pub. 6–2–64. Filed 9–27–63.

775,304. TEL-A-GROOV. Raymon W. Cook. SN 177,863. Pub. 6–2–64. Filed 9–27–63.

775,305. VI-BRA-GROOV. Raymon W. Cook. SN 177,864. Pub. 6–2–64. Filed 9–27–63.

775,306. VELVOTAN. Wilson Sporting Goods Co. SN 177,935. Pub. 6–2–64. Filed 9–27–63.

775,307. LINE GUARD. Ideal Fishing Float Company, Inc. SN 178,200. Pub. 6–2–64. Filed 10–2–63.

775,308. NUTTY MADS. Louis Marx & Co., Inc. SN 178,291. Pub. 6–2–64. Filed 10–3–63.

775,309. SUMMER SNOWBALLS. Grant J. Wilson, d.b.a. Snowball Company of California. SN 178,514. Pub. 6–2–64. Filed 10–7–63.

775,310. PRO SHOT. Frabill Manufacturing Co. SN 178,755. Pub. 6–2–64. Filed 10–10–63.

775,311. IDEAL AND DESIGN. Ideal Toy Corporation. SN 179,230. Pub. 6–2–64. Filed 10–17–63.

775,312. GOLIATH AND DESIGN. Goliath, Inc. SN 179,789. Pub. 6–2–64. Filed 10–25–63.

775,313. WISHMAKER. Uneeda Doll Co., Inc. SN 179,831. Pub. 6–2–64. Filed 10–25–63.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

775,314. HOTSTIK AND DESIGN. Pitman Manufacturing Company. SN 164,382. Pub. 6–2–64. Filed 3–11–63.

775,315. JIFFY-LIFT. Harold Clifford Lewis. SN 167,390. Pub. 6–2–64. Filed 4–23–63.

775,316. TRANSLOADER. Pines Engineering Co. Inc. SN 167,571. Pub. 3–3–64. Filed 4–25–63.

775,317. DD3. Bendix-Westinghouse Automotive Air Brake Company. SN 168,066. Pub. 6–2–64. Filed 5–3–63.

775,318. –223–. Bendix-Westinghouse Automotive Air Brake Company. SN 168,067. Pub. 6–2–64. Filed 5–3–63.

775,319. CHANNELLOCK. Channellock, Inc. SN 168,391. Pub. 6–2–64. Filed 5–8–63.

775,320. WELCO AND DESIGN. Wells-Nassau Company, Inc. SN 169,331. Pub. 6–2–64. Filed 5–20–63.

775,321. UNION. Union Tank Car Company. SN 169,794. Pub. 6–2–64. Filed 5–27–63.

775,322. LUMBER STRETCHER. Automated Building Components, Inc. SN 170,275. Pub. 6–2–64. Filed 6–4–63.

775,323. ELWELL-PARKER. The Elwell-Parker Electric Company. SN 171,763. Pub. 6–2–64. Filed 6–25–63.

775,324. BMS. Indiana General Corporation. SN 172,314. Pub. 6–2–64. Filed 7–2–63.

775,325. FF AND DESIGN. Consolidated Engineering Company. SN 178,335. Pub. 6–2–64. Filed 10–4–63.

775,326. GYRO. Sensation Mower, Inc. SN 179,270. Pub. 6–2–64. Filed 10–17–63.

775,327. WAQUA. Abrasive Developments Limited. SN 179,303. Pub. 6–2–64. Filed 10–18–63.

775,328. VAQUA. Abrasive Developments Limited. SN 179,305. Pub. 6–2–64. Filed 10–18–63.

775,329. HYDROGRITTER. Arthur G. McKee & Company. SN 181,290. Pub. 6–2–64. Filed 11–12–63.

775,330. SWORD BRAND AND DESIGN. Camillus Cutlery Company. SN 182,463. Pub. 6–2–64. Filed 12–6–63.

775,331. AERONAUT. Young Spring & Wire Corporation. SN 182,522. Pub. 6–2–64. Filed 12–6–63.

775,332. SOLNA. AB Printing Equipment. SN 183,013. Pub. 6–2–64. Filed 12–16–63.

775,333. QUIL-A-MATIC. The Aro Corporation. SN 184,601. Pub. 6–2–64. Filed 1–15–64.

775,334. BUFF-O-MATIC. Salsbury Corporation. SN 184,971. Pub. 6–2–64. Filed 1–20–64.

775,335. CARTER CLIMATIC CONTROL. ACF Industries, Incorporated. SN 185,097. Pub. 6–2–64. Filed 1–22–64.

775,336. CARTER CLIMATIC CONTROL. ACF Industries, Incorporated. SN 185,098. Pub. 6–2–64. Filed 1–22–64.

775,337. S/L. Hurst-Campbell, Inc. SN 185,337. Pub. 6–2–64. Filed 12–16–63.

Class 24 — Laundry Appliances and Machines

775,338. PROSPERITY PRESS ATRONIC AUTOMATOR AND DESIGN. Ametek, Inc., assignee of Ward Industries Corporation. SN 118,309. Pub. 6–2–64. Filed 4–20–61.

Class 25 — Locks and Safes

775,339. BANKIT. Le Febure Corporation. SN 165,438. Pub. 6–2–64. Filed 3–26–63.

Class 26 — Measuring and Scientific Appliances

775,340. SIGNA-PROBE. Turbotronics Corporation. SN 145,005. Pub. 6–2–64. Filed 5–18–62.

775,341. HOWE. Howe Richardson Scale Company, by change of name from Howe-Richardson Corporation. SN 146,725. Pub. 6–2–64. Filed 6–12–62.

775,342. DYNAGUIDE. GPE Controls, Inc. SN 167,707. Pub. 6–2–64. Filed 4–29–63.

775,343. FROM THE DRAWING BOARDS OF THE NATION SOMES PROGRESS AND DESIGN. L. L. Ridgway Enterprises, assignee of L. L. Ridgway Company, Inc. MULTIPLE CLASS (Classes 26 and 37). SN 170,110. Pub. 6–2–64. Filed 5–31–63.

Class 27 — Horological Instruments

775,344. ENWCO. Elgin National Watch Company. SN 166,268. Pub. 6–2–64. Filed 4–8–63.

775,345. DIAMOND FIERO. The Pan American Barter Co., Inc. SN 178,800. Pub. 6–2–64. Filed 10–25–63.

775,346. DELAMONT. Benrus Watch Company, Inc. SN 183,957. Pub. 6–2–64. Filed 1–3–64.

Class 28 — Jewelry and Precious-Metal Ware

775,347. LE JE. Guild Arts & Crafts, Inc. SN 179,941. Pub. 6–2–64. Filed 10–15–63.

775,348. LA MODE. Ripley and Gowen Company Incorporated. SN 183,630. Pub. 6–2–64. Filed 12–20–63.

775,349. COVER-LINK. Thomas R. Ryan. SN 185,722. Pub. 6–2–64. Filed 1–30–64.

Class 29 — Brooms, Brushes, and Dusters

775,350. TANK-U. Dorothy F. Rodgers. SN 183,111. Pub. 6–2–64. Filed 12–16–63.

Class 30—Crockery, Earthenware, and Porcelain

775,351. F FURSTENBERG AND DESIGN. Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur. SN 180,348. Pub. 6-2-64. Filed 10-28-63.

Class 31—Filters and Refrigerators

775,352. PESCO ICER. Borg-Warner Corporation. SN 147,432. Pub. 6-2-64. Filed 6-22-62.

Class 32—Furniture and Upholstery

775,353. DURA. Dura Corporation. SN 168,810. Pub 9-24-63. Filed 5-14-63.

775,354. BILL BERRY'S PILLOW AND DESIGN. William H. Berry. SN 181,004. Pub. 6-2-64. Filed 11-13-63.

775,355. KOLUM. Kasparians, Inc. SN 181,984. Pub. 6-2-64. Filed 11-27-63.

775,356. CROWNLAST. Kay Manufacturing Corp. SN 182,333. Pub. 6-2-64. Filed 12-4-63.

775,357. 7D. Howard Parlor Furniture Company. SN 183,064. Pub. 6-2-64. Filed 12-16-63.

775,358. MONTISA. Browne-Morse Company. SN 183,310. Pub. 6-2-64. Filed 12-20-63.

775,359. SLIM-A-PEDIC. Crown Rest Bedding Company. SN 183,523. Pub. 6-2-64. Filed 12-18-63.

Class 34—Heating, Lighting, and Ventilating Apparatus

775,360. HEAT CONTROLLER. Heat Controller, Inc. SN 114,701. Pub. 6-2-64. Filed 3-1-61.

775,361. QUALITY CONTROLLED . . . . . FROM ORE TO FINISHED PRODUCT. Calumet & Hecla, Inc. SN 128,335. Pub. 6-2-64. Filed 9-21-61.

775,362. SUNDINER ETC. AND DESIGN. Carmer Industries, Inc. SN 158,788. Pub. 6-2-64. Filed 12-10-62.

775,363. WEATHER SYMBOLS (DESIGN). Fishers Climate Distributors, Inc. SN 160,628. Pub. 6-2-64. Filed 1-14-63.

775,364. LIMIT EYE. Coen Company, Inc. SN 183,376. Pub. 6-2-64. Filed 12-23-63.

775,365. CHATEAU. Magic Chef, Inc. SN 183,428. Pub. 6-2-64. Filed 12-23-63.

775,366. ASTRO-LITER. Marathon Battery Company. SN 183,432. Pub. 6-2-64. Filed 12-23-63.

775,367. MAGIGLOW. Magikitch'n Equipment Corp. SN 183,540. Pub. 6-2-64. Filed 12-23-63.

775,368. POLLY-GAZ. Borneo Sumatra Trading Company, Inc. SN 183,561. Pub. 6-2-64. Filed 12-26-63.

775,369. VAPO-FLUX. Wall Colmonoy Corporation. SN 183,818. Pub. 6-2-64. Filed 12-30-63.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

775,370. REMA TIP TOP. Stahlgruber Otto Gruber & Co. SN 157,020. Pub. 6-2-64. Filed 11-9-62.

775,371. CORONET. The Armstrong Rubber Company. SN 182,564. Pub. 6-2-64. Filed 12-9-63.

775,372. OMNI-GRID. Ashworth Bros., Inc. SN 182,700. Pub. 6-2-64. Filed 12-10-63.

Class 36—Musical Instruments and Supplies

775,260. (See Class 21 for this trademark.)

Class 37—Paper and Stationery

775,343. (See Class 26 for this trademark.)

775,373. VULCAN. Union Bag-Camp Paper Corporation. SN 160,081. Pub. 8-17-64. Filed 1-2-63.

775,374. CLINTON. Strathmore Paper Company, Inc. SN 166,947. Pub. 6-2-64. Filed 4-17-63.

775,375. AUSTEN. Austen Display, Inc. SN 176,771. Pub. 6-2-64. Filed 9-12-63.

775,376. GLIDE GRIP. Raymon W. Cook. SN 177,865. Pub. 6-2-64. Filed 9-27-63.

Class 38—Prints and Publications

775,377. THE DAIRYMAN. Robert M. McCune. SN 129,379. Pub. 6-2-64. Filed 10-6-61.

775,378. RAINBOW PARCHMENT. Norcross, Inc. SN 129,969. Pub. 12-24-63. Filed 10-16-61.

775,379. DIRECTO-LETTER. Direct Mail Envelope Co. Inc. SN 142,021. Pub. 6-2-64. Filed 4-19-62.

775,380. NUCLEAR NEWS. American Nuclear Society Incorporated. SN 154,007. Pub. 6-2-64. Filed 9-27-62.

775,381. SOUND MERCHANDISING. Sound Publishing Company, Inc. SN 154,162. Pub. 6-2-64. Filed 9-28-62.

775,382. AMERICAN NUDIST LEADER. Outdoor American Corporation. SN 156,020. Pub. 6-2-64. Filed 10-26-62.

775,383. McGRAW-HILL PAPERBACKS AND DESIGN. McGraw-Hill, Inc., by assignment and change of name from McGraw-Hill Book Company, Inc. SN 161,349. Pub. 6-2-64. Filed 1-24-63.

775,384. PVP. Powell Magazines, Inc. SN 162,282. Pub. 6-2-64. Filed 2-7-63.

775,385. ATA. Le Roy Turner Shoemaker, d.b.a. ATA System. SN 163,969. Pub. 6-2-64. Filed 3-5-63.

775,386. SPACE PROPULSION. Space Propulsion Reports, Inc. SN 164,569. Pub. 6-2-64. Filed 3-13-63.

775,387. SCIENCE TRENDS. Trends Publishing, Incorporated. SN 164,581. Pub. 6-2-64. Filed 3-13-63.

775,388. BIOASTRONAUTICS REPORT. Trends Publishing, Incorporated. SN 165,968. Pub. 6-2-64. Filed 4-2-63.

775,389. ABC AND DESIGN. International Merchandising Systems, Inc., assignee, by mesne assignments, of U.S. Research, Inc. SN 174,460. Pub. 6-2-64. Filed 8-5-63.

775,390. BARRY'S GREEN SHEET. Barry Electronics Mail Order Corporation. SN 176,478. Pub. 6-2-64. Filed 9-9-63.

775,391. SIGNAL DEALER NEWS AND DESIGN. Standard Oil Company of California, d.b.a. Signal Oil Company. SN 176,756. Pub. 6-2-64. Filed 9-11-63.

775,392. TEACHER'S PET AND DESIGN. Times Publishing Company. SN 179,830. Pub. 6-2-64. Filed 10-25-63.

775,393. TORCH & OVAL. The American Oil Company. SN 180,273. Pub. 6-2-64. Filed 11-1-63.

775,394. THE COUNTRYSIDE PRESS AND DESIGN. Farm Journal, Inc. SN 180,570. Pub. 6-2-64. Filed 11-6-63.

775,395. SEAL. Dell Publishing Co., Inc. SN 180,653. Pub. 6-2-64. Filed 11-7-63.

775,396. TRUDY. The Hearst Corporation. SN 180,739. Pub. 6-2-64. Filed 11-8-63.

775,397. OMNIBUS. Omnibus, Inc. SN 180,948. Pub. 6-2-64. Filed 11-12-63.

775,398. HERALD EXPRESS EXAMINER AND DESIGN. Hearst Publishing Company, Inc. SN 181,639. Pub. 6-2-64. Filed 11-21-63.

775,390. TRANS-ACTION. The Washington University. SN 181,936. Pub. 6-2-64. Filed 11-26-63.

Class 39—Clothing

775,154. (See Class 1 for this trademark.)

775,400. DONNA GAY. Bressler Bros., Inc. SN 133,630. Pub. 6-2-64. Filed 12-8-61.

775,401. TWISTEE. Henry Pollak, Inc. SN 138,047. Pub. 6-2-64. Filed 2-15-62.

775,402. GLEN DOUGLAS. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes. SN 138,861. Pub. 6-2-64. Filed 3-1-62.

775,403. FABULON. Moore-Roming Industries, Inc. SN 152,958. Pub. 6-2-64. Filed 9-10-62.

775,404. DFC. Johnston & Murphy. SN 155,159. Pub. 6-2-64. Filed 10-15-62.

775,405. DI DEE LUXE. Di Dee Luxe Diaper, Inc. SN 159,702. Pub. 6-2-64. Filed 12-26-62.

775,406. DURA-GRIP. Duracraft Corporation. SN 160,619. Pub. 6-2-64. Filed 1-14-63.

775,407. H2. The Londontown Manufacturing Company. SN 160,712. Pub. 6-2-64. Filed 1-15-63.

775,408. ESPRIT. Mistee Lingerie Inc. SN 166,736. Pub. 6-2-64. Filed 4-15-63.

775,409. ELISABETH DE VERAC. Metal-Club S.A.R.L. SN 167,646. Pub. 6-2-64. Filed 4-26-63.

775,410. SPOOTS. Clark Shoe Company, Inc. SN 167,800. Pub. 6-2-64. Filed 4-30-63.

775,411. MAISONETTE. Neiman-Marcus Company. SN 168,947. Pub. 6-2-64. Filed 5-15-63.

775,412. LEVI'S AND DESIGN. Levi Strauss & Co. SN 171,282. Pub. 6-2-64. Filed 6-18-63.

775,413. LORD LANTIC AND DESIGN. Virginia Dare Stores Corporation. SN 171,289. Pub. 6-2-64. Filed 6-18-63.

775,414. LADY LANTIC AND DESIGN. Virginia Dare Stores Corporation. SN 171,290. Pub. 6-2-64. Filed 6-18-63.

775,415. HUGGINS 'N HOSE. Chadbourn Gotham, Inc. SN 171,616. Pub. 6-2-64. Filed 6-24-63.

775,416. VALU-PAK. Sheffield Hosiery Mills, Inc. SN 172,421. Pub. 6-2-64. Filed 7-3-63.

775,417. ACCENTIQUE. Junior Accent, Inc. SN 173,658. Pub. 6-2-64. Filed 7-24-63.

775,418. GREEN LABEL. P. H. Hanes Knitting Company. SN 174,368. Pub. 6-2-64. Filed 8-5-63.

775,419. INSUL-MATES. P. H. Hanes Knitting Company. SN 174,370. Pub. 6-2-64. Filed 8-5-63.

775,420. NEIMETTE COUTURE. Neiman-Marcus Company. SN 174,424. Pub. 6-2-64. Filed 8-5-63.

775,421. ZERMATT. Neiman-Marcus Company. SN 174,425. Pub. 6-2-64. Filed 8-5-63.

775,422. SF AND DESIGN. Mangel Stores Corporation. SN 174,518. Pub. 6-2-64. Filed 8-6-63.

775,423. SUPERSTORE. National Bellas Hess, Inc. SN 174,704. Pub. 6-2-64. Filed 8-8-63.

775,424. COIN DESIGN. Damon Creations, Inc. SN 175,256. Pub. 6-2-64. Filed 8-19-63.

775,425. HYANNI SPORT. Hyannisport, Inc. SN 175,291. Pub. 6-2-64. Filed 8-19-63.

775,426. BAY HILL SPORTSWEAR. Blue Bell, Inc. SN 175,835. Pub. 6-2-64. Filed 8-27-63.

775,427. HI-PLAY. The Mayer Company, Inc. SN 176,381. Pub. 6-2-64. Filed 9-5-63.

775,428. R. C. QUINN AND DESIGN. Ralph Cohen Sportswear, Inc. SN 176,630. Pub. 6-2-64. Filed 9-10-63.

775,429. VILLA SANTE. Baker Clothes, Inc. SN 176,706. Pub. 6-2-64. Filed 9-11-63.

775,430. SPORTSCAR. M. Serman & Co., Inc. SN 176,751. Pub. 6-2-64. Filed 9-11-63.

775,431. JOVI. Cambridge Casuals, Inc. SN 176,809. Pub. 6-2-64. Filed 9-12-63.

775,432. CHIRRUP AND DESIGN. Joan Deborah, Inc. SN 177,010. Pub. 6-2-64. Filed 9-16-63.

775,433. FLUSH-A-BYES. Facelle Company Limited. SN 177,243. Pub. 6-2-64. Filed 9-18-63.

775,434. DORMITORY DOZERS. Geisha Robe Co. Inc. SN 177,247. Pub. 6-2-64. Filed 9-18-63.

775,435. DRI-TOE. Struble & Moffitt Company. SN 177,381. Pub. 6-2-64. Filed 9-19-63.

775,436. LAZY LACER. A. E. Nettleton Company. SN 177,719. Pub. 6-2-64. Filed 9-25-63.

775,437. DOUBLE TWO. The Wakefield Shirt Company Limited. SN 177,733. Pub. 6-2-64. Filed 9-25-63.

775,438. DOUBLE 2 (DESIGN). The Wakefield Shirt Company Limited. SN 177,734. Pub. 6-2-64. Filed 9-25-63.

775,439. FUN TRAIL. Blue Bell, Inc. SN 177,853. Pub. 6-2-64. Filed 9-27-63.

775,440. CRADLE KNIT. Harry J. Rashti & Co. SN 178,565. Pub. 6-2-64. Filed 10-8-63.

775,441. FABRIZZIO. Dial Shoe Company, Inc. SN 179,024. Pub. 6-2-64. Filed 10-15-63.

775,442. GOLDEN R AND DESIGN. Rough Rider, Inc. SN 179,468. Pub. 6-2-64. Filed 10-21-63.

775,443. GOLDEN WEST. Westmoor Mfg. Co., d.b.a. Ranch & Town. SN 179,497. Pub. 6-2-64. Filed 10-21-63.

775,444. LOOPER BY H.I.S. Henry I. Siegel Co., Inc. SN 180,130. Pub. 6-2-64. Filed 10-30-63.

775,445. CHARTWELL. Standard Garments, Inc. SN 180,536. Pub. 6-2-64. Filed 11-5-63.

775,446. SUSAN STRONG. Clarise Sportswear Co., Inc. SN 180,845. Pub. 6-2-64. Filed 11-12-63.

775,447. LIVING FORMULA X-1000. Endicott Johnson Corporation. SN 189,782. Pub. 6-2-64. Filed 3-27-64.

Class 40—Fancy Goods, Furnishings, and Notions

775,448. DIAMON KING. The Kuriash Company, Inc. SN 162,167. Pub. 6-2-64. Filed 2-6-63.

775,449. INSTANT COIFFURES. Pauline M. Adamson, d.b.a. Beau Monde Hair Fashions. SN 170,016. Pub. 6-2-64. Filed 5-31-63.

775,450. JOYCE CHRISTOPHER. Joyce O. Markson, d.b.a. Joyce Christopher. SN 181,245. Pub. 6-2-64. Filed 11-15-63.

775,451. PATTI. Patti Products Corporation. SN 181,271. Pub. 6-2-64. Filed 11-15-63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

775,154. (See Class 1 for this trademark.)

775,452. MARDI GRAS COLORS. Cannon Mills Company. SN 159,694. Pub. 10-1-63. Filed 12-26-62.

775,453. MILHAM MARQUEE CREATIONS. Milham Products Co., Inc. SN 160,063. Pub. 6-2-64. Filed 1-2-63.

775,454. JUBILEE. Cannon Mills Company. SN 163,222. Pub. 12-3-63. Filed 2-21-63.

775,455. TANISSA. Soptra Fabrics Corporation, d.b.a. Soptra Fabrics. SN 164,272. Pub. 6-2-64. Filed 3-8-63.

775,456. SUN & SUDS AND DESIGN. Courtaulds (Canada) Limited. SN 169,521. Pub. 6-2-64. Filed 5-23-63.

775,457. CYRIL JOHNSON. The Cyril Johnson Woolen Company. SN 174,871. Pub. 6-2-64. Filed 8-12-63.

775,458. ENTRAMAT. Textiles, Inc. SN 175,814. Pub. 6-2-64. Filed 8-26-63.

775,459. SOMERSET. M. Lowenstein & Sons, Inc. SN 180,926. Pub. 6-2-64. Filed 11-12-63.

775,460. QUEEN'S ROSE. Fieldcrest Mills, Inc. SN 181,345. Pub. 6-2-64. Filed 11-13-63.

Class 43 — Thread and Yarn

775,154. (See Class 1 for this trademark.)

775,461. REGATTA. N.V. Koninklijke Veenendaalsche Sajet- en Vijfschacht-Fabriek Voorheen Weduwe D. S. Van Schuppen en Zoon. SN 174,380. Pub. 6-2-64. Filed 8-5-63.

Class 44 — Dental, Medical, and Surgical Appliances

775,462. SANAPAK. Doeskin Products, Inc. SN 137,899. Pub. 6-2-64. Filed 2-14-62.

775,463. REPRESENTATION OF A FANCIFUL RADIO WAVE. Gamma Sterilization Pty. Limited. SN 171,249. Pub. 6-2-64. Filed 6-18-63.

775,464. CABA. Fluid Power, Inc. SN 179,038. Pub. 6-2-64. Filed 10-15-63.

775,465. EDWALL. Edwall Company, d.b.a. The Edwall Company, Inc. SN 185,028. Pub. 6-2-64. Filed 1-21-64.

775,466. DESIGN OF A ROSE. Kimberly-Clark Corporation. SN 185,974. Pub. 6-2-64. Filed 2-5-64.

Class 45 — Soft Drinks and Carbonated Waters

775,467. MR. JEFF AND DESIGN. Franklin Beverage Company. SN 153,269. Pub. 7-30-63. Filed 9-17-62.

775,468. VESS DIET COLA AND DESIGN. Vess Dry Company of Ohio. SN 176,052. Pub. 6-2-64. Filed 8-29-63.

775,469. SENORITA. Bernard D. Sweet, d.b.a. Senorita Trading Co. SN 179,476. Pub. 6-2-64. Filed 10-21-63.

Class 46 — Foods and Ingredients of Foods

775,246. (See Class 18 for this trademark.)

775,470. ZIP. Zip Feed Mills. SN 128,494. CONCURRENT USE. Pub. 6-2-64. Filed 9-22-61.

775,471. TWINKLE CUTS. Strasser Candy Company, Inc. SN 135,402. Pub. 6-2-64. Filed 1-8-62.

775,472. TEMPO. Henry Thayer Company. SN 138,250. Pub. 10-2-62. Filed 2-19-62.

775,473. PUNCH 'N JUICY AND DESIGN. Holly-Pak, Inc. SN 141,305. Pub. 6-2-64. Filed 4-2-62.

775,474. LONICOT. Centromint Company (Establishment). SN 141,574. Pub. 6-2-64. Filed 4-5-62.

775,475. Q-POP. American Dairy Queen Corporation, assignee of Marian Company. SN 143,150. Pub. 6-2-64. Filed 4-26-62.

775,476. ROKEACH AND DESIGN. I. Rokeach & Sons, Inc. SN 152,655. Pub. 6-2-64. Filed 8-15-62.

775,477. CLASSIC. The Southland Corporation, by change of name from The Southland Corporation of Texas, d.b.a. 7-Eleven Stores and as Cahell Minit Markets. SN 153,853. Pub. 6-2-64. Filed 9-24-62.

775,478. DANISH CHEF AND DESIGN. Otto Monsted A/S. SN 156,168. Pub. 6-2-64. Filed 11-29-62.

775,479. MOGEN DAVID. Mogen David Wine Corporation. SN 164,328. Pub. 6-2-64. Filed 3-11-63.

775,480. TAYLOR BISCUIT CO. Taylor Biscuit Company. SN 168,546. Pub. 6-2-64. Filed 5-9-63.

775,481. LAND O'GOSHEN. Polo Produce, Inc. SN 169,140. Pub. 6-2-64. Filed 5-17-63.

775,482. VIGOR. Martin Ranch, d.b.a. J. D. Martin. SN 170,216. Pub. 6-2-64. Filed 6-3-63.

775,483. DIXIE HOME. Dixie Grain Co., Inc. SN 170,620. Pub. 6-2-64. Filed 6-10-63.

775,484. SNO-CAPPED AND DESIGN. N. L. and Lucille E. Carty. SN 170,731. Pub. 6-2-64. Filed 6-11-63.

775,485. DELNOR. Royal City Foods Ltd. SN 171,830. Pub. 6-2-64. Filed 6-25-63.

775,486. HI TOO AND DESIGN. Borelli Produce Distributors. SN 172,564. Pub. 11-26-63. Filed 7-8-63.

775,487. FROM DELLWOOD WITH LOVE. Deltown Foods Incorporated. SN 172,879. Pub. 6-2-64. Filed 7-12-63.

775,488. TREASURE HOUSE. Community Shops, Inc. SN 175,845. Pub. 6-2-64. Filed 8-27-63.

775,489. ROUN-DEE. J. S. Hershey Baking Company. SN 176,795. Pub. 6-2-64. Filed 9-12-63.

775,490. FRUITY TOOT. Castle & Cooke, Inc., assignee of Dole Corporation. SN 178,268. Pub. 6-2-64. Filed 10-3-63.

775,491. KUR-BRITE. Basic Food Materials, Inc., by change of name from Spicene Company of America, Inc. SN 178,743. Pub. 6-2-64. Filed 10-10-63.

775,492. SUPER HUMOR. Good Humor Corporation. SN 179,413. Pub. 6-2-64. Filed 10-21-63.

775,493. OLD VIENNA. Sunshine Biscuits, Inc., d.b.a. Old Vienna. SN 180,540. Pub. 6-2-64. Filed 11-5-63.

775,494. FRIAR TUCK'S. Friars' Products Company. SN 180,660. Pub. 6-2-64. Filed 11-7-63.

775,495. FROST PACK. The Borden Company. SN 183,365. Pub. 6-2-64. Filed 12-23-63.

775,496. FANCIFUL TOUCAN (DESIGN). Kellogg Company. SN 183,416. Pub. 6-2-64. Filed 12-23-63.

775,497. KERN'L KOOKY AND DESIGN. The Quaker Oats Company. SN 183,621. Pub. 6-2-64. Filed 12-26-63.

775,498. MAIN DISH. The Quaker Oats Company. SN 183,622. Pub. 6-2-64. Filed 12-26-63.

775,499. ARCTIC STAR. William B. Markey & Associates, Inc. SN 183,772. Pub. 6-2-64. Filed 12-30-63.

775,500. PADDLE. James H. Momjian, d.b.a. Atlantic Candy Co. SN 183,773. Pub. 6-2-64. Filed 12-30-63.

775,501. NICKLES ALL-A-ROUND. Alfred Nickles Bakery, Inc. SN 183,781. Pub. 6-2-64. Filed 12-30-63.

775,502. BIT-O-PEANUT BUTTER. Schutter Candy Company. SN 183,799. Pub. 6-2-64. Filed 12-30-63.

775,503. PARISIEN. Foremost Dairies, Inc. SN 183,943. Pub. 6-2-64. Filed 12-9-63.

775,504. PRIZE. General Mills, Inc. SN 184,057. Pub. 6-2-64. Filed 1-6-64.

775,505. CA ALL THE WAY AND DESIGN. Western Growers Distributors, Inc., d.b.a. Western Growers Distributors. SN 184,534. Pub. 6-2-64. Filed 1-13-64.

775,506. WINTER HILL. Rowse Company of N.H., Inc. SN 184,652. Pub. 6-2-64. Filed 1-15-64.

775,507. WINTER HILL. Rowse Company of N.H., Inc. SN 184,653. Pub. 6-2-64. Filed 1-15-64.

Class 47 — Wines

775,508. CHATEAU LA FRANCE. Chatean La France. SN 149,538. Pub. 6-2-64. Filed 7-23-62.

775,509. CHATEAU-LASCOMBES AND DESIGN. Societe Viticole de Chateau Lascombes. SN 169,575. Pub. 6-2-64. Filed 5-23-63.

775,510. EDMUNDO. Bodegas Morera Wine Purveyors. SN 176,621. Pub. 6-2-64. Filed 9-10-63.

775,511. KARL JEREMY. Pastene Wine & Spirits Co., Inc. SN 179,251. Pub. 6-2-64. Filed 10-17-63.

775,512. EARLY SETTLER. E. & J. Gallo Winery, d.b.a. Gallo Vineyards. SN 179,528. Pub. 6-2-64. Filed 10-22-63.

Class 48 — Malt Beverages and Liquors

775,513. CARTA BLANCA AND DESIGN. Cerveceria Cuauhtemoc, S.A. SN 166,158. Pub. 6-2-64. Filed 4-5-63.

775,514. STERLING ETC. AND DESIGN. Sterling Brewers, Inc. SN 177,309. Pub. 6-2-64. Filed 9-18-63.

Class 50—Merchandise Not Otherwise Classified

775,515. TICO. Textile Industrial Components Limited. SN 154,299. Pub. 6-2-64. Filed 10-1-62.

775,516. ANCHOR HOCKING. Anchor Hocking Glass Corporation. SN 180,059. Pub. 6-2-64. Filed 10-30-63.

775,517. DOCTOR SHINY-TEETH. H.R.B., Inc. SN 180,574. Pub. 6-2-64. Filed 11-6-63.

775,518. BO-KEEP. Beatty & Co. SN 180,642. Pub. 6-2-64. Filed 11-7-63.

775,519. ECONO-COVER. Econo-Cover Company. SN 180,654. Pub. 6-2-64. Filed 11-7-63.

775,520. FIBERBRITE. CAH Industries, Inc. SN 180,709. Pub. 6-2-64. Filed 11-8-63.

775,521. MINETERIA. Feed Service Corporation. SN 181,467. Pub. 6-2-64. Filed 11-19-63.

775,522. LIQUITERIA. Feed Service Corporation. SN 181,468. Pub. 6-2-64. Filed 11-19-63.

775,523. E AND DESIGN. Everyday Manufacturing Company. SN 183,260. Pub. 6-2-64. Filed 12-19-63.

775,524. HACK-O-PAD. Nathan Hack. SN 184,621. Pub. 6-2-64. Filed 1-15-64.

Class 51—Cosmetics and Toilet Preparations

775,525. PINOXOL. Jakob Recktenwald, d.b.a. J. Recktenwald Pinoxol-Fabrik. SN 58,953. Pub. 5-9-61. Filed 9-15-58.

775,526. JUNIOR ROUNDUP. Schratz Products, Inc. SN 148,916. Pub. 6-2-64. Filed 7-12-62.

775,527. LOVE-LAY. Jabez H. Whittlesey. SN 155,463. Pub. 6-2-64. Filed 10-18-62.

775,528. NATURALLY YOURS. Richards Laboratories, Inc. SN 165,706. Pub. 11-26-63. Filed 3-29-63.

775,529. NIKE. Angel Fernandez Mateos. SN 169,558. Pub. 6-2-64. Filed 7-16-63.

775,530. SUN SAFE. Avon Products, Inc. SN 170,975. Pub. 6-2-64. Filed 6-14-63.

775,531. AVON PREMIUM. Avon Products, Inc. SN 174,566. Pub. 6-2-64. Filed 8-7-63.

775,532. WP. Wickman Pharmaceuticals. SN 177,128. Pub. 6-2-64. Filed 9-16-63.

775,533. LLEWELLYN'S ROSAMYR AND DESIGN. Roses & Myrrh, Inc. SN 177,373. Pub. 6-2-64. Filed 9-19-63.

775,534. EVASION. Bourjois, Inc. SN 178,870. Pub. 6-2-64. Filed 10-14-63.

775,535. REMEMBRANCE. John H. Breck, Inc. SN 179,110. Pub. 6-2-64. Filed 10-16-63.

775,536. KNOW HOW. Clairol Incorporated. SN 179,116. Pub. 6-2-64. Filed 10-16-63.

775,537. ONE UP. Clairol Incorporated. SN 179,117. Pub. 6-2-64. Filed 10-16-63.

775,538. WORLD'S FAIREST. Helena Rubinstein, Inc. SN 179,267. Pub. 6-2-64. Filed 10-17-63.

Class 52—Detergents and Soaps

775,203. (See Class 12 for this trademark.)

775,539. SONODET. Sonneborn Chemical and Refining Corporation. SN 148,088. Pub. 6-2-64. Filed 6-29-62.

775,540. SUN-GLO. Texize Chemicals, Inc., d.b.a. Beacon Products Div. SN 159,926. Pub. 6-2-64. Filed 12-28-62.

775,541. 20 MULE TEAM. United States Borax & Chemical Corporation. SN 176,047. Pub. 6-2-64. Filed 8-29-63.

775,542. U.S. BORAX. United States Borax & Chemical Corporation. SN 176,051. Pub. 6-2-64. Filed 8-29-63.

775,543. COLUMBIA ETC. AND DESIGN. United States Borax & Chemical Corporation. SN 177,113. Pub. 6-2-64. Filed 9-16-63.

775,544. TARNI-SHIELD. Minnesota Mining and Manufacturing Company. SN 179,053. Pub. 6-2-64. Filed 10-15-63.

775,545. TILCON. Wyandotte Chemicals Corporation. SN 179,288. Pub. 6-2-64. Filed 10-17-63.

775,546. OBSERVE. Wyandotte Chemicals Corporation. SN 179,289. Pub. 6-2-64. Filed 10-17-63.

775,547. K.B.X. Wyandotte Chemicals Corporation. SN 179,290. Pub. 6-2-64. Filed 10-17-63.

775,548. CONQUER. Wyandotte Chemicals Corporation. SN 179,294. Pub. 6-2-64. Filed 10-17-63.

775,549. STANDOUT. The Procter & Gamble Company. SN 179,457. Pub. 6-2-64. Filed 10-21-63.

775,550. SERVANT. The Procter & Gamble Company. SN 179,458. Pub. 6-2-64. Filed 10-21-63.

775,551. P & G. The Procter & Gamble Company. SN 185,072. Pub. 6-2-64. Filed 1-21-64.

Service Marks

Class 100—Miscellaneous

775,552. SERVOMATION IN CIRCLES DESIGN. Servomation Corp., by change of name from United Servomation Corp. SN 143,062. Pub. 11-19-63. Filed 4-25-62.

775,553. DUS-TROL. Golden Star Polish Manufacturing Company. SN 144,614. Pub. 6-2-64. Filed 5-15-62.

775,554. SECURE DESTRUCT AND DESIGN. Anderson Enterprises Incorporated. SN 171,840. Pub. 6-2-64. Filed 6-26-63.

Class 101—Advertising and Business

775,555. B CIRCLE FOOD STORES AND DESIGN. Barnes Grocer Company, Inc. SN 152,196. COLLECTIVE MARK. Pub. 6-2-64. Filed 8-30-62.

775,556. COMPAR. Compar Corporation (California corporation), assignee of Compar Corporation (Washington corporation). SN 154,563. Pub. 4-14-64. Filed 10-5-62.

775,557. FURY. Independent Television Corporation. SN 177,257. Pub. 6-2-64. Filed 9-19-63.

775,558. KING KORN AND DESIGN. King Korn Stamp Company. SN 177,428. Pub. 6-2-64. Filed 9-20-63.

Class 102—Insurance and Financial

775,559. MR. INSURANCE AND DESIGN. John P. Sayers. SN 168,859. Pub. 6-2-64. Filed 5-14-63.

775,560. TRIP-SURANCE. The Employers' Liability Assurance Corporation Ltd., d.b.a. The Employers' Group of Insurance Companies. SN 175,740. Pub. 6-2-64. Filed 8-26-63.

Class 107—Education and Entertainment

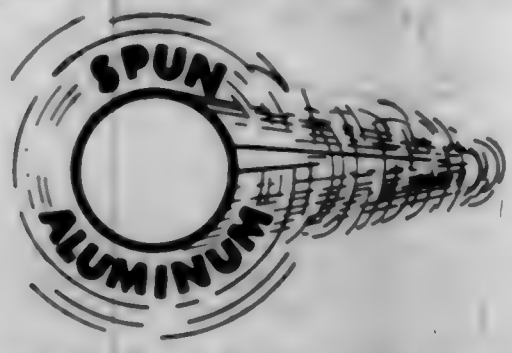
775,561. TOP STAR BOWLING. Brunswick Corporation. SN 173,805. Pub. 6-2-64. Filed 7-22-63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

775,562. Kerrigan Iron Works Company, Nashville, Tenn. SN 154,253. Filed P.R. 10–1–62; Am. S.R. 2–6–64.



The words "Spun" and "Aluminum" are disclaimed apart from their combination with the design in the mark as shown.

For Lighting Standards.

First use on or about Aug. 9, 1962.

Class 15 — Oils and Greases

775,563. The American Oil Company, Chicago, Ill. SN 153,921. Filed 9–26–62.

MY ADVICE, SIR— GET DE-ICER

For Gasoline Ingredient.

First use Nov. 1, 1956.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

775,564. Induma Industria Lombarda Macchine Attrezzamenti S.R.L., Milan, Italy. SN 137,235. Filed P.R. 2–5–62; Am. S.R. 4–20–64.

KRAFT

Priority claimed under Sec. 44(d) on Italian application filed Sept. 28, 1961; Reg. No. 157,535, dated Dec. 13, 1961.

For Milling Machines of Any Type, Both Universal, Vertical, and Horizontal Ones and Their Parties.

775,565. Washington Forge, Incorporated, Englishtown, N.J. SN 157,583. Filed P.R. 11–19–62; Am. S.R. 6–23–64.

VANDERBILT

For Stainless Steel Knives, Forks and Spoons.

First use Mar. 19, 1962.

775,566. F. D. Kees Manufacturing Company, Beatrice, Nebr. SN 153,177. Filed 12–17–63.

POWERAKE

For Power Raking Device Capable of Pulling Out the Accumulation of Thatch, and Thus Opening Up the Turf to Air and Sunlight.

First use June 1, 1961.

Class 25 — Locks and Safes

775,567. Albert E. Mintz, Flushing, N.Y. SN 173,027. Filed P.R. 7–15–63; Am. S.R. 6–22–64.

SURE LOK

For Door Safety Chain Lock.

First use June 3, 1963.

Class 26 — Measuring and Scientific Appliances

775,568. Henry D. Gold Associates, Inc., Merrick, N.Y. SN 172,658. Filed P.R. 7–9–63; Am. S.R. 6–12–64.

CENTER FINDER

For Measuring Device for Centering, Off-Center Locating and Squaring Copy and Art Work.

First use Oct. 9, 1962.

775,569. Princeton Applied Research Corp., Princeton Junction, N.J. SN 178,978. Filed 10–14–63.

PRINCETON APPLIED RESEARCH

For Electronic Apparatus—Namely, Laboratory Instrumentation, Laboratory Test Equipment, Process Control Equipment—Namely, Controlling Digital Thermometer, Magnetic Field Controller, Pressure Controller, Controlling Chart Recorder, Signal Processing Equipment, Voltmeters, Magnotometers, Digital Thermometers and Densitometers.

First use Apr. 9, 1962.

Class 32 — Furniture and Upholstery

775,570. Century Products, Inc., Cleveland, Ohio. SN 181,751. Filed P.R. 11–22–63; Am. S.R. 6–9–64.

tot toter

For Portable Infant's Seat.
First use in or about February 1962.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

775,571. Carlisle Corporation, Carlisle, Pa. SN 172,639. Filed P.R. 7–9–63; Am. S.R. 6–4–64.

TURF-SAVER

For Tires.
First use May 13, 1963.

Class 39 — Clothing

775,572. Phillips-Van Heusen Corporation, New York, N.Y. SN 111,540. Filed P.R. 1–9–61; Am. S.R. 1–31–64.

SIZE-SET

For Men's Shirts, Men's Under Shirts, Men's Under Pants, and Women's Lingerie.
First use Aug. 15, 1960.

775,573. Anthony J. Evans, Wendel Depot, Mass. SN 148,856. Filed P.R. 4–30–62; Am. S.R. 6–9–64.

Shu Aid

For Shoe Accessory in the Nature of Shoe Horns To Be Attached to the Shoe for Assisting the Wearer To More Easily Place the Shoes on the Feet.
First use Apr. 16, 1962.

775,574. Agan Mills, Incorporated, Malden, N.C. SN 176,766. Filed P.R. 9–12–63; Am. S.R. 6–19–64.

AGAN

For Men's and Boys' Sweater-Shirts and Slip-Over Shirts.
First use June 15, 1963.

TRADEMARK REGISTRATIONS RENEWED

181,354. GREEN MOUNTAIN AND DESIGN. Cl. 18. 3–18–24.
182,503. AMERICAN MARSH PUMP. Cl. 23. 4–8–24.
184,015. DETEX. Cl. 27. 5–13–24.
184,091. L'ORIGAN. Cl. 51. 5–20–24.
185,008. 1000. Cl. 37. 6–3–24.
185,527. IRV-O-SLOT. Cl. 21. 6–17–24.
185,693. VITOGRO. Cl. 10. 6–24–24.
185,821. CARNATION AND DESIGN. Cl. 46. 6–24–24.
186,659. DU PONT AND DESIGN. Cl. 6. 7–22–24.
186,943. HEXATONE. Cl. 18. 7–22–24.
187,435. PURITINE AND DESIGN. Cl. 52. 8–5–24.
187,818. SATINARA. Cl. 42. 8–12–24.
188,590. S AND DESIGN. Cl. 35. 9–2–24.
189,194. CONDOR. Cl. 39. 9–16–24.
189,295. ELITE. Cl. 37. 9–16–24.
189,529. SILKELEE. Cl. 42. 9–23–24.
189,657. NUCHAR. Cl. 31. 9–23–24.
190,231. ELK MASTER TIP AND DESIGN. Cl. 22. 10–7–24.
190,443. DAILY. Cl. 46. 10–14–24.
191,520. HOMELAWN. Cl. 1. 11–11–24.
191,610. GLASCO. Cl. 21. 11–11–24.
191,809. ELASTEX. Cl. 42. 11–18–24.
191,990. CLEERO. Cl. 52. 11–25–24.
192,523. WRIGLEY'S. Cl. 46. 12–9–24.
192,610. SCIENCE AND DESIGN. Cl. 52. 12–9–24.
192,611. OAKITE. Cl. 4. 12–9–24.
407,069. SOLO. Cl. 8. 5–16–44.
407,193. CRUMCOID AND DESIGN. Cl. 34. 5–23–44.
407,653. WONDER SEAL. Cl. 6. 6–20–44.
407,895. MAN SMOKING (DESIGN). Cl. 17. 7–4–44.
408,104. SANFORIZADO. Cl. 42. 7–18–44.
408,105. SANFORIZADO. Cl. 39. 7–18–44.
408,113. QUATRESIN. Cl. 18. 7–18–44.
408,166. CHEMSTONE. Cl. 12. 7–25–44.
408,304. BOILEEZERS. Cl. 6. 8–1–44.
408,457. MARVEL. Cl. 23. 8–15–44.
408,458. HAIRTAINERS. Cl. 40. 8–15–44.
408,459. HAIRTAMERS. Cl. 40. 8–15–44.
408,546. MARVECO. Cl. 23. 8–15–44.
408,563. TREMCOTE. Cl. 16. 8–15–44.
408,664. CARDINAL. Cl. 28. 8–22–44.
408,755. LA FLOR DE LUIS MARTINEZ. Cl. 17. 8–29–44.
408,763. BLACLASTIC. Cl. 12. 8–29–44.
408,766. PHILROOCO. Cl. 12. 8–29–44.
408,840. FLOWER-TAINER. Cl. 40. 8–29–44.
408,841. BOW-TAINER. Cl. 40. 8–29–44.
408,842. HAT-TAINER. Cl. 40. 8–29–44.
409,345. SATIN-LUX. Cl. 16. 10–3–44.
409,514. JOCKEY BOY STATUETTE (DESIGN). Cl. 39. 10–10–44.
409,900. NEMOW. Cl. 18. 10–31–44.
409,934. SEPTO-LORIS. Cl. 18. 10–31–44.
409,974. PENN SEAL. Cl. 15. 10–31–44.
410,271. VITULES. Cl. 18. 11–21–44.
410,284. SOPRONOL. Cl. 18. 11–21–44.
410,525. HIL-MIST. Cl. 16. 11–28–44.
410,527. HYDER. Cl. 21. 11–28–44.
410,565. WHELCO. Cl. 40. 12–5–44.
410,639. DEEP WELL. Cl. 22. 12–5–44.
410,673. DR. GUILD'S GREEN MOUNTAIN. Cl. 18. 12–12–44.
410,710. SPOT-LITE. Cl. 3. 12–12–44.
410,830. BORNATE. Cl. 18. 12–19–44.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

721,992. CONTI. Cl. 39. 9-26-61.
722,272. CONTI VKL. Cl. 39. 10-3-61.

Section 8

55,096. DELTA AND DESIGN. Cl. 14. 8-7-06.
121,589. BUTCHER'S LIQUID POLISH. Cl. 4. 5-14-18.
293,002. GOLD BOND. Cl. 32. 4-5-32.
351,989. PEP-ER-UP. Cl. 39. 11-16-37.
355,069. DESIGN OF CARTON. Cl. 6. 3-8-38.
356,563. BRIDGEPORT AND DESIGN. Cl. 26. 5-3-38.
444,673. HOSTESS. Cl. 2. 3-25-52.

The following registrations issued July 1, 1958

663,615. BEAVER BRAND AND DESIGN. Cl. 1.
663,617. TOP FLIGHT AND DESIGN. Cl. 1.
663,621. MAISONETTE. Cl. 1.
663,622. DANDY DEAL. Cl. 1.
663,623. PRIDE OF THE WEST. Cl. 1.
663,625. SUN TUBE AND DESIGN. Cl. 2.
663,626. STYLE TRENDS. Cl. 2.
663,627. PACKERS PACKAGE INC. Cl. 2.
663,628. FUL-DOT. Cl. 2.
663,629. STIFFY. Cl. 2.
663,630. FX-100. Cl. 3.
663,635. INDUR. Cl. 6.
663,637. NORMADOL. Cl. 6.
663,641. THIS. Cl. 6.
663,642. VITA WHITE. Cl. 6.
663,643. SPAB. Cl. 6.
663,648. BIG MIX AND DESIGN. Cl. 10.
663,650. STORMS. Cl. 11.
663,653. BORNE SCRYMSER. Cl. 12.
663,654. GRAV-L-TITE. Cl. 12.
663,656. GLIDE-FOLD. Cl. 12.
663,662. SAV-A-TIR. Cl. 13.
663,665. ISOCERIN. Cl. 15.
663,672. PHELAN'S FLEX-TRETE AND DESIGN. Cl. 16.
663,673. REFLECTOLITE. Cl. 16.
663,682. HETEROZYME. Cl. 18.
663,688. TEVIROL. Cl. 18.
663,694. BUTAPARNIT. Cl. 18.
663,690. E-Z-OFF. Cl. 18.
663,705. AMYLOPAX. Cl. 18.
663,706. DEXTEN. Cl. 18.
663,708. N.K.C. Cl. 18.
663,710. CC AND DESIGN. Cl. 19.
663,714. INGERSOLL KALAMAZOO B-W ETC. AND DESIGN. Cl. 19.
663,719. ZIP FLASHER. Cl. 21.
663,724. CAVALIER. Cl. 21.
663,729. STEPPAK. Cl. 21.
663,732. THE BONNET BOX. Cl. 21.
663,734. LANCO LOZENGE. Cl. 21.
663,739. R.G.D. Cl. 21.
663,745. MERCURY WORM. Cl. 22.
663,746. PFLUEGER "88." Cl. 22.
663,747. LITTLE MISS MARY-ANNE. Cl. 22.
663,748. SKORT. Cl. 22.
663,753. SMOOTHIE. Cl. 23.
663,755. MAGNI STAMP AND DESIGN. Cl. 23.
663,758. AMPULCO. Cl. 23.
663,760. WESCO. Cl. 23.
663,763. GEMCO. Cl. 23.
663,765. ORNAMENTA. Cl. 23.
663,766. SNO-WHIZZER AND DESIGN. Cl. 23.
663,769. ONE HAND AND DESIGN. Cl. 23.
663,776. ANALYTIKIT. Cl. 26.
663,781. GALVATRON. Cl. 26.
663,793. FAMILY FAIR. Cl. 29.
663,794. "DAZZLE." Cl. 29.
663,806. VIBRA-REST. Cl. 32.
663,821. ONE-WRITE SYSTEM. Cl. 37.
663,823. PHILADELPHIA STORY. Cl. 38.
663,825. PROF ZIP. Cl. 38.
663,830. A GRIFFIN ORIGINAL AND DESIGN. Cl. 38.
663,832. YOUR TEETH. Cl. 38.
663,834. KO-KO THE KLOWN AND DESIGN. Cl. 38.
663,839. LEATHER VOGUE ORIGINALS AND DESIGN. Cl. 39.
663,840. TWINSURANCE. Cl. 39.
663,845. BABY KITTENS AND DESIGN. Cl. 39.
663,854. BEAUTIPEARL. Cl. 40.
663,856. PAMPOO 8000. Cl. 42.
663,858. LUNAIRE. Cl. 42.
663,859. "GLAZETTE AGP." Cl. 42.
663,870. BOL D'AIR JACQUIER. Cl. 44.
663,900. SATIN. Cl. 46.
663,901. STANBI. Cl. 46.
663,904. HANDI-SNAK AND DESIGN. Cl. 46.
663,911. TUDOR CASTLE. Cl. 49.
663,912. SEE-MOR-PAK. Cl. 50.
663,918. K-LAN. Cl. 50.
663,917. JEWELBASE. Cl. 51.
663,922. WAVE MAGIC. Cl. 51.
663,925. IN. Cl. 52.
663,928. REVOPON. Cl. 52.
663,932. CHROMALLOY AND DESIGN. Cl. 18.
663,934. HI-HEEL 'TEEN. Cl. 22.
663,936. AD-HITE-HATS. Cl. 39.

Section 18

675,516. PHILLIPS ETC. AND DESIGN. Cl. 36. 1-27-60.
679,070. LIQUITAINER. Cl. 2. 5-26-59.
691,315. GRO-BRA. Cl. 39. 1-12-60.
725,826. EPOLOID. Cl. 16. 1-2-62.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

329,082. CANADIAN CLUB ETC. AND DESIGN. Cl. 49. 10–15–35. Hiram Walker & Sons, Inc., Detroit, Mich. Amended: In the statement, column 2, line 7, change the period to a comma and *and the name of applicant's affiliate, Hiram Walker Importers Inc.* is inserted, lines 9 and 10, "19,652, dated June 2, 1891; 19,653, dated June 2, 1891;" is deleted, line 12, the semi-colon, second occurrence, is deleted and *and* is inserted, lines 13 and 14, ", and 324,020, dated May 7, 1935" is deleted, and the drawing is amended to appear:

"Canadian Club"

Blended Canadian Whisky

Distilled and bottled under Canadian Government supervision by

Hiram Walker & Sons Limited

Walkerville Ontario Canada

THIS WHISKY IS 6 YEARS OLD

627,748. BLAKESLEE. Cl. 23. 5–29–56. G. S. Blakeslee & Co., Chicago, Ill. Amended: In the statement, column 2, line 1, "electrically powered glass and" is deleted, lines 2 through 4 are deleted, line 5, "peelers of the abrasive disk type;" is deleted, lines 8 and 9 are deleted and *The mark was first used on metal parts washers at least as early as 1918; and was first used on metal parts washers in interstate commerce at least as early as 1918* is inserted, and line 11 is deleted.

677,582. EXTRACTOR. Cl. 13. 4–28–59. Nixdorff-Krein Manufacturing Company, St. Louis, Mo. Corrected: In the statement, column 1, line 1, "Missouri" should be deleted and *Delaware* should be inserted.

677,583. NU-WAY. Cl. 13. 4–28–59. Nixdorff-Krein Manufacturing Company, St. Louis, Mo. Corrected: In the statement, column 1, line 1, "Missouri" should be deleted and *Delaware* should be inserted.

730,086. TROPICOOL. Cl. 31. 4–17–62. Remington Corporation, Auburn, N.Y. Corrected: In the statement, column 1, line 1, "Corp." should be deleted and *Corporation* should be inserted and "New York" should be deleted and *Delaware* should be inserted.

740,516. AUXILEC. Cl. 10. 11–13–62. Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. Corrected: In the statement, column 1, line 1 should be deleted and in line 2, "S.A.R.L." should be deleted and *Societe a Responsabilite Limitee Francaise Auxilec* should be inserted.

740,864. AUXILEC. Cl. 21. 11–20–62. Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. Corrected: In the statement, column 1, line 1 should be deleted and in line 2, "S.A.R.L." should be deleted and *Societe a Responsabilite Limitee Francaise Auxilec* should be inserted.

740,878. AUXILEC. Cl. 23. 11–20–62. Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. Corrected: In the statement, column 1, line 1 should be deleted and in line 2, "S.A.R.L." should be deleted and *Societe a Responsabilite Limitee Francaise Auxilec* should be inserted.

740,907. AUXILEC. Cl. 26. 11–20–62. Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. Corrected: In the statement, column 1, line 1 should be deleted and in line 2, "S.A.R.L." should be deleted and *Societe a Responsabilite Limitee Francaise Auxilec* should be inserted.

741,197. AUXIVAR. Cl. 21. 11–27–62. Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. Corrected: In the statement, column 1, lines 1 and 2 should be deleted and *Societe a Responsabilite Limitee Francaise Auxilec* should be inserted.

744,371. INLAID. Cl. 23. 1–29–63. J. Wise & Sons Co., Newark, N.J. Corrected: In the certificate the mark should appear as follows instead of as in the original registration:

INLAID

754,416. MAYSPERSE. Cl. 6. 8–13–63. Otto B. May, Inc., Newark, N.J. Corrected: In the statement, column 2, line 1, after "For:" *dyes and* should be inserted.

769,096. LO-X BUSTRIBUTION. Cl. 21. 5–5–64. I-T-E Circuit Breaker Company, Philadelphia, Pa. Corrected: In the statement, column 1, line 1, "The" should be deleted.

772,113. UNION CARBIDE AND DESIGN. Cl. 14. 6–30–64. Union Carbide Corporation, New York, N.Y. Corrected: In the statement, column 2, line 6, "columbian" should be deleted and *columbium* should be inserted.

INDEX OF REGISTRANTS

AUGUST 18, 1964

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AB Printing Equipment, Solna, Sweden. 775,332, pub. 6–2–64. Cl. 23.
ACF Industries, Inc., St. Louis, Mo. 775,335–6, pub. 6–2–64. Cl. 23.
ATA System: *See*—
Shoemaker, Le Roy T.
Abrasive Developments Ltd., Solihull, England. 775,327–8, pub. 6–2–64. Cl. 23.
Accumulatorenfabrik Sonnenschein G.m.b.H., Budingen/Hessen, Germany. 775,271, pub. 1–28–64. Cl. 21.
Acid-Ese Co.: *See*—
Horton, A. Allen.
Adams, Frank L., Co., Inc., Worcester, Mass. 775,234, pub. 6–2–64. Cl. 18.
Adams-Millis Corp., High Point, N.C. 663,840, canc. Cl. 39.
Adamson, Pauline M., d.b.a. Beau Monde Hair Fashions, Billings, Mont. 775,449, pub. 6–2–64. Cl. 40.
Agan Mills, Inc., Maiden, N.C. 775,574. Cl. 39.
Ainsworth Laboratories, Inc., Perryton, Tex. 775,247, pub. 4–14–64. Cl. 18.
Allied Industries, Inc.: *See*—
American Steam Pump Co.
Alpha Molykote Corp., The, Stamford, Conn. 775,156, pub. 6–2–64. Multiple Class (Classes 1 and 15).
Aluminum Marine Hardware Co. Inc., Auburn, N.Y. 663,932, canc. Cl. 13.
American Cement Corp., Los Angeles, Calif. 775,207, pub. 6–2–64. Cl. 12.
American Cyanamid Co., New York, N.Y. 663,682, canc. Cl. 18.
American Cyanamid Co., New York, N.Y. 663,708, canc. Cl. 18.
American Dairy Queen Corp., Moline, from Marian Co., Chicago, Ill. 775,475, pub. 6–2–64. Cl. 46.
American Home Products Corp.: *See*—
Bovinine Co., The.
Colloidal Laboratories.
Van Ess Laboratories, Inc.
Wyeth Inc.
American Nuclear Society Inc., Hinsdale, Ill. 775,380, pub. 6–2–64. Cl. 38.
American Oil Co., The, Chicago, Ill. 775,187, pub. 12–10–63. Cl. 6.
American Oil Co., The, Chicago, Ill. 775,563. Cl. 15.
American Oil Co., The, Chicago, Ill. 775,393, pub. 6–2–64. Cl. 38.
American Pulley Co., The, Philadelphia, Pa. 663,758, canc. Cl. 23.
American Steam Pump Co., Battle Creek, to Allied Industries, Inc., Lansing, Mich. 182,503, ren. 8–18–64. Cl. 23.
American Type Founders Co., Inc., Elizabeth, N.J. 775,228–9, pub. 6–2–64. Cl. 14.
Ametek, Inc., New York, from Ward Industries Corp., Syracuse, N.Y. 775,338, pub. 6–2–64. Cl. 24.
Anamonda Wire and Cable Co., from Anaconda Wire and Cable Co., New York, N.Y. 775,294, pub. 6–2–64. Cl. 21.
Analytikit Co.: *See*—
Meyers, Fred P.
Anchor Hocking Glass Corp., Lancaster, Ohio. 775,516, pub. 6–2–64. Cl. 50.
Anderson Enterprises Inc., Arlington, Va. 775,554, pub. 6–2–64. Cl. 100.
Anheuser-Busch, Inc., St. Louis, Mo. 775,171, pub. 6–2–64. Cl. 2.
Animated Lighting Co.: *See*—
Clement, Clyde H.
Armar Mfg. Co., Inc., New York, N.Y. 663,859, canc. Cl. 42.
Armour and Co., Chicago, Ill. 663,621, canc. Cl. 1.
Armstrong Rubber Co., The, West Haven, Conn. 775,371, pub. 6–2–64. Cl. 35.
Arc Corp., The, Bryan, Ohio. 775,383, pub. 6–2–64. Cl. 23.
Ashworth Bros., Inc., Fall River, Mass. 775,372, pub. 6–2–64. Cl. 35.
Atlantic Candy Co.: *See*—
Momjian, James H.
Austen Display, Inc., New York, N.Y. 775,375, pub. 6–2–64. Cl. 37.
Automated Building Components, Inc., Miami, Fla. 775,322, pub. 6–2–64. Cl. 23.
Automatic Devices Co., Allentown, Pa. 775,274–5, pub. 6–2–64. Cl. 21.
Avon Products, Inc., New York, N.Y. 775,530–1, pub. 6–2–64. Cl. 51.
Awteo Corp., Portland, Oreg. 775,300, pub. 6–2–64. Cl. 22.
Bagcraft Corp. of America, Chicago, Ill. 775,150, pub. 6–2–64. Cl. 2.
Baker Clothes, Inc., Philadelphia, Pa. 775,429, pub. 6–2–64. Cl. 39.
Banks Bros. Corp., New York, N.Y. 722,272, canc. Cl. 39.
Banks Bros. Corp., New York, N.Y. 721,992, canc. Cl. 39.
Barnes Grocer Co., Inc., Poplar Bluff, Mo. 775,555, pub. 6–2–64. Cl. 101.
Barry Electronics Mail Order Corp., New York, N.Y. 775,390, pub. 6–2–64. Cl. 38.
Basic Food Materials, Inc., from Spicene Co. of America, Inc., North Bergen, N.J. 775,491, pub. 6–2–64. Cl 46.
Basic-Witz Furniture Industries, Inc., The, Waynesboro, Va. 663,806, canc. Cl. 32.
Bauman-Massa Jewelry Co., to Cardinal Diamond Syndicate, Inc., St. Louis, Mo. 408,664, ren. 8–18–64. Cl. 28.
Beacon Products Div.: *See*—
Texize Chemicals, Inc.
Beatty & Co., Fort Lauderdale, Fla. 775,518, pub. 6–2–64. Cl. 50.
Beau Monde Hair Fashions: *See*—
Adamson, Pauline M.
Beehler Arts Ltd., New York, N.Y. 663,934, canc. Cl. 22.
Belle-Mode Brassiere Inc., New York, N.Y. 691,315, canc. Cl. 39.
Bender, Albert W., Buena Park, Calif. 775,268, pub. 6–2–64. Cl. 19.
Bendix-Westinghouse Automotive Air Brake Co., Elyria, Ohio. 775,317–8, pub. 6–2–64. Cl. 23.
Benkert, B., Ltd., London, England. 775,292, pub. 6–2–64. Cl. 21.
Benrus Watch Co., Inc., New York, N.Y. 775,346, pub. 6–2–64. Cl. 27.
Berry, William H., Arlington, Mass. 775,354, pub. 6–2–64. Cl. 32.
Bespole, John A., d.b.a. Scientific Abrasives Co., Chicago, Ill. 775,180, pub. 6–2–64. Cl. 4.
Billik, Samuel, Flushing, N.Y., to Commerce Drug Co., Inc., Brooklyn, N.Y. 409,900, ren. 8–18–64. Cl. 18.
Bird & Son, Inc., East Walpole, Mass. 755,168, pub. 1–14–64. Cl. 2.
Bissell Inc., Grand Rapids, Mich. 775,181, pub. 6–2–64. Cl. 4.
Blakeslee, G. S., & Co., Chicago, Ill. 627,748. Am. 7(d). Cl. 23.
Blue Bell, Inc., Greensboro, N.C. 775,426, pub. 6–2–64. Cl. 39.
Blue Bell, Inc., Greensboro, N.C. 775,439, pub. 6–2–64. Cl. 39.
Blumenthal, B., & Co., Inc., New York, N.Y. 663,854, canc. Cl. 40.
Bodegas Morera Wine Purveyors, Hialeah, Fla. 775,510, pub. 6–2–64. Cl. 47.
Bogen, David, Co., Inc., Paramus, N.J. 663,720, canc. Cl. 21.
Borden Co., The, New York, N.Y. 775,251, pub. 6–2–64. Cl. 18.
Borden Co., The, New York, N.Y. 775,495, pub. 6–2–64. Cl. 46.
Borelli Produce Distributors, Fresno, Calif. 775,486, pub. 11–26–63. Cl. 46.
Boreva Sportswear Co., Chicago, Ill. 663,748, canc. Cl. 22.
Borg-Warner Corp., Chicago, Ill. 775,352, pub. 6–2–64. Cl. 31.
Borg-Warner Corp., Chicago, Ill. 663,714, canc. Cl. 19.
Borne Chemical Co., Inc.: *See*—
Borne, Scrymser Co.
Borneo Sumatra Trading Co., Inc., East Rutherford, N.J. 775,368, pub. 6–2–64. Cl. 34.
Borne, Scrymser Co., to Borne Chemical Co., Inc., Elizabeth, N.J. 663,653, canc. Cl. 12.
Bourjois, Inc., New York, N.Y. 775,534, pub. 6–2–64. Cl. 51.
Bovinine Co., The, Jersey City, N.J., to Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 410,271, ren. 8–18–64. Cl. 18.
Breck, John H., Inc., Springfield, Mass. 775,535, pub. 6–2–64. Cl. 51.
Brenner Sign and Stamp Service, The, Oakland Park, Fla. 663,755, canc. Cl. 23.
Bressler Bros., Inc., Atlanta, Ga. 775,400, pub. 6–2–64. Cl. 39.
Bridgeport Thermostat Co., Inc., Bridgeport, Conn. 356,563, canc. Cl. 26.
Brooks Brothers, New York, N.Y., to Julius Garfinckel & Co., Inc., Washington, D.C. 407,895, ren. 8–18–64. Cl. 17.
Brooks Paper Co., St. Louis, Mo. 189,295, ren. 8–18–64. Cl. 37.
Brown & Williamson Tobacco Corp., Louisville, Ky. 775,242, pub. 6–2–64. Cl. 17.
Browne-Morse Co., Muskegon, Mich. 775,358, pub. 6–2–64. Cl. 32.
Brunswick Corp., Chicago, Ill. 775,561, pub. 6–2–64. Cl. 107.
Burke Concrete Accessories, Inc., San Francisco, Calif. 775,209, pub. 6–2–64. Cl. 12.
Butcher Polish Co., Boston, Mass. 121,589, canc. Cl. 4.
Butler, Frank W., d.b.a. Wesco Tool & Mfg. Co., Burbank, Calif. 663,760, canc. Cl. 23.
CAH Industries, Inc., Franklin Park, Ill. 775,520, pub. 6–2–64. Cl. 50.
Cabell Minit Markets: *See*—
Southland Corp., The.
Cadillac Marine & Boat Co., Cadillac, Mich. 775,261, pub. 8–20–56. Cl. 19.
Calumet & Hecla, Inc., Allen Park, Mich. 775,361, pub. 6–2–64. Cl. 34.
Cambridge Casuals, Inc., New York, N.Y. 775,431, pub. 6–2–64. Cl. 39.
Cambridge Corp., Lowell, Mass. 663,710, canc. Cl. 19.
Camillus Cutlery Co., Camillus, N.Y. 775,330, pub. 6–2–64. Cl. 23.

Cannon Mills Co., Kannapolis, N.C. 775,452, pub. 10–1–63. Cl. 42.
Cannon Mills Co., Kannapolis, N.C. 775,454, pub. 12–3–63. Cl. 42.
Canrad Precision Industries, Inc., New York, N.Y. 775,192, pub. 6–2–64. Cl. 6.
Cardinal Diamond: *See*—
Bauman-Massa Jewelry Co.
Carlisle Corp., Carlisle, Pa. 775,571. Cl. 35.
Carmer Industries, Inc., Kenilworth, N.J. 775,362, pub. 6–2–64. Cl. 34.
Carnation Co.: *See*—
Carnation Milk Products Co.
Carnation Milk Products Co. of Chicago, Ill.: *See*—
Carnation Milk Products Co.
Carnation Milk Products Co., to Carnation Milk Products Co. of Chicago, Ill., Seattle, Wash., to Carnation Co., Los Angeles, Calif. 185,821, ren. 8–18–64. Cl. 46.
Carolina Coatings, Inc., Charlotte, N.C. 775,237, pub. 6–2–64. Cl. 16.
Carrier, Frank H.: *See*—
Marvel Tool and Machine Co.
Carty, N. L. and Lucille E., Pleasantville, N.J. 775,484, pub. 6–2–64. Cl. 46.
Castle & Cooke, Inc., from Dole Corp., Honolulu, Hawaii. 775,490, pub. 6–2–64. Cl. 46.
Centra Leather Goods of Okla., Inc., Frederick, Okla. 775,174, pub. 6–2–64. Cl. 3.
Central States Seed Service, Inc., Lima, Ohio. 663,623, canc. Cl. 1.
Centromint Co. (Establishment), Vaduz, Liechtenstein. 775,474, pub. 6–2–64. Cl. 46.
Century Products, Inc., Cleveland, Ohio. 775,570. Cl. 32.
Century Products, Inc., Cleveland, Ohio. 775,218, pub. 6–2–64. Cl. 13.
Cerveceria Cuauhtemoc, S.A., Monterrey, Nuevo Leon, Mexico. 775,513, pub. 6–2–64. Cl. 48.
Channel Master Corp., Ellenville, N.Y. 775,269, pub. 6–2–64. Multiple Class (Classes 21 and 36).
Chateau La France, Beychac, near Bordeaux, France. 775,508, pub. 6–2–64. Cl. 47.
Chesebrough Mfg. Co., Consolidated, New York, N.Y. 355,069, canc. Cl. 6.
Christopher, Joyce: *See*—
Markson, Joyce O.
Clairol Inc., New York, N.Y. 775,536–7, pub. 6–2–64. Cl. 51.
Clarise Sportswear Co., Inc., New York, N.Y. 775,446, pub. 6–2–64. Cl. 39.
Clark Shoe Co., Inc., Auburn, Maine. 775,410, pub. 6–2–64. Cl. 39.
Clayton Industrial Products Co.: *See*—
Meyer, Jerrold B.
Clement, Clyde H., to Animated Lighting Co., Phoenix, Ariz. 663,719, canc. Cl. 21.
Cluett, Peabody & Co., Inc., Troy, N.Y. 408,104–5, ren. 8–18–64. Cl. 42.
C-Mor Co., The, Bronx, N.Y. 663,656, canc. Cl. 12.
C-Mor Co., The, New York, N.Y. 663,912, canc. Cl. 50.
Channellock, Inc., Meadville, Pa. 775,319, pub. 6–2–64. Cl. 23.
Coach's Sporting Goods Corp., Marion, Ind. 775,302, pub. 6–2–64. Cl. 22.
Coen Co., Inc., San Francisco, Calif. 775,304, pub. 6–2–64. Cl. 34.
Cohen, Ralph, Sportswear, Inc., New York, N.Y. 775,428, pub. 6–2–64. Cl. 39.
Colloidal Laboratories, to Mycoloid Laboratories, Inc., Little Falls, N.J., to American Home Products Corp., New York, N.Y. 410,284, ren. 8–18–64. Cl. 18.
Columbia Corrugated Container Corp., Syosset, N.Y. 775,162, pub. 6–2–64. Cl. 2.
Commerce Drug Co., Inc.: *See*—
Billik, Samuel.
Community Shops, Inc., Chicago, Ill. 775,488, pub. 6–2–64. Cl. 46.
Compar Corp., Burlingame, Calif., from Compar Corp., Seattle, Wash. 775,556, pub. 4–14–64. Cl. 101.
Comunale, Don A., d.b.a. The Speedotron Co., Chicago, Ill. 775,297, pub. 6–2–64. Cl. 21.
Conant, Houghton & Co., Inc., New York, N.Y., to United Elastic Corp., Easthampton, Mass. 191,809, ren. 8–18–64. Cl. 42.
Con-Lux Paint Corp., Metuchen, N.J. 725,826, canc. Cl. 16.
Connor, J. & K., Ltd., London, England. 189,194, ren. 8–18–64. Cl. 39.
Consolidated Electrodynamics Corp., Pasadena, Calif. 663,781, canc. Cl. 26.
Consolidated Engineering Co., Houston, Tex. 775,325, pub. 6–2–64. Cl. 23.
Continental Can Co., Inc., New York, N.Y. 775,170, pub. 6–2–64. Cl. 2.
Cook, Raymon W., San Antonio, Tex. 775,303–5, pub. 6–2–64. Cl. 22.
Cook, Raymon W., San Antonio, Tex. 775,376, pub. 6–2–64. Cl. 37.
Cooper's Inc., Kenosha, Wis. 409,514, ren. 8–18–64. Cl. 39.
Coty, Inc., Wilmington, Del., and New York, N.Y., to Chas. Pfizer & Co., Inc., New York, N.Y. 184,091, ren. 8–18–64. Cl. 51.
Courtaulds (Canada) Ltd., Cornwall, Ontario, Canada. 775,456, pub. 6–2–64. Cl. 42.
Crown Paper Box Corp., Indianapolis, Ind. 775,160, pub. 6–2–64. Cl. 2.
Crown Rest Bedding Co., Pittsburgh, Pa. 775,359, pub. 6–2–64. Cl. 32.
Crumpton, W. D., & Co., to W. D. Crumpton & Co. Inc., Englewood, N.J. 407,193, ren. 8–18–64. Cl. 34.
Crumpton, W. D., & Co., Inc.: *See*—
Crumpton, W. D., & Co.
Curtis, Helene, Industries, Inc., Chicago, Ill. 663,922, canc. Cl. 51.
Curtis 1000, Inc., St. Paul, Minn. 185,008, ren. 8–18–64. Cl. 37.
Daido Keori Kabushiki Kaisha, d.b.a. Daido Worsted Mills Ltd., Chiyoda-ku, Tokyo-to, Japan. 775,154, pub. 6–2–64. Multiple Class (Classes 1, 39, 42, and 43).
Daido Worsted Mills Ltd.: *See*—
Daido Keori Kabushiki Kaisha.
Daily Orchards Co.: *See*—
Elliot, David J.
Daly, Tom, Electric Inc., Barberton, Ohio. 663,925, canc. Cl. 52.
Damon Creations, Inc., New York, N.Y. 775,424, pub. 6–2–64. Cl. 39.
Dandy Deal Co., Pomona, Calif. 663,622, canc. Cl. 1.
Dare Products, Inc., Battle Creek, Mich. 775,157, pub. 6–2–64. Multiple Class (Classes 2, 7, 13, 21, and 22).
Dare, Virginia, Stores Corp., New York, N.Y. 775,413–14, pub. 6–2–64. Cl. 39.
David, Mogen, Wine Corp., Chicago, Ill. 775,479, pub. 6–2–64. Cl. 46.
Day-Brite Lighting, Inc., to Emerson Electric Co., St. Louis, Mo. 410,527, ren. 8–18–64. Cl. 21.
Deborah, Joan, Inc., Elizabeth, N.J. 775,432, pub. 6–2–64. Cl. 39.
Dell Publishing Co., Inc., New York, N.Y. 775,395, pub. 6–2–64. Cl. 38.
Deltown Foods Inc., Yonkers, N.Y. 775,487, pub. 6–2–64. Cl. 46.
Deseghers: *See*—
Fay, Kenneth C.
Detex Watchclock Corp.: *See*—
Newman Clock Co., Inc.
D'Exploitation des Brevets Jacquier, Societe, Lyons, Rhone, France. 663,870, canc. Cl. 44.
Diadem, Inc., Leominster, Mass. 408,840–3, ren. 8–18–64. Cl. 40.
Diadem, Inc., Leominster, Mass. 408,458–9, ren. 8–18–64. Cl. 40.
Dial Shoe Co., Inc., Philadelphia, Pa. 775,441, pub. 6–2–64. Cl. 39.
Diamond Alkali Co., Cleveland, Ohio. 775,189, pub. 6–2–64. Cl. 6.
DiDeeLuxe Diaper, Inc., Phoenix, Ariz. 775,405, pub. 6–2–64. Cl. 39.
Direct Mail Envelope Co., Inc., New York, N.Y. 775,379, pub. 6–2–64. Cl. 38.
Dixie Grain Co., Inc., Shelbyville, Tenn. 775,483, pub. 6–2–64. Cl. 46.
Doeskin Products, Inc., New York, N.Y. 775,462, pub. 6–2–64. Cl. 44.
Dole Corp.: *See*—
Castle & Cooke, Inc.
Dowsmith Inc., Milwaukee, Wis. 775,270, pub. 6–2–64. Cl. 21.
Duchess Doll Corp., Richmond Hill, N.Y. 663,747, canc. Cl. 22.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 186,659, ren. 8–18–64. Cl. 6.
Dura Corp., Oak Park, Mich. 775,353, pub. 9–24–63. Cl. 32.
Duracraft Corp., Salt Lake City, Utah. 775,406, pub. 6–2–64. Cl. 39.
Eastman Kodak Co., Rochester, N.Y. 775,200, pub. 6–2–64. Cl. 11.
Econo-Cover Co., Dowagiac, Mich. 775,510, pub. 6–2–64. Cl. 50.
Edwall Co., d.b.a. The Edwall Co., Inc., San Mateo, Calif. 775,465, pub. 6–2–64. Cl. 44.
Edwall Co., Inc., The: *See*—
Edwall Co.
Electric Pipe Line, Inc., Saddle Brook, N.J. 775,276, pub. 6–2–64. Cl. 21.
Electric Service Systems: *See*—
Minneapolis Scientific Controls Corp.
Electronic Communications, Inc., St. Petersburg, Fla. 775,282, pub. 6–2–64. Cl. 21.
Elgin National Watch Co., Elgin, Ill. 775,344, pub. 6–2–64. Cl. 27.
Elliot, David J., & Son: *See*—
Elliot, David J.
Elliot, David J., d.b.a. Daily Orchards Co., to David J. Elliot & Son, Courtland, Calif. 190,443, ren. 8–18–64. Cl. 46.
Elwell-Parker Electric Co., The, Cleveland, Ohio. 775,323, pub. 6–2–64. Cl. 23.
Emerson Electric Co.: *See*—
Day-Brite Lighting, Inc.
Employers' Liability Assurance Corp., Ltd., The, Boston, Mass. 775,560, pub. 6–2–64. Cl. 102.
Enger-Kress Co., West Bend, Wis. 775,175, pub. 6–2–64. Cl. 3.
Enterprise Mfg. Co., The, Akron, Ohio. 663,746, canc. Cl. 22.
Erie Resistor Corp.: *See*—
Erie Technological Products.
Erie Technological Products, from Erie Resistor Corp., Erie, Pa. 775,295, pub. 6–2–64. Cl. 21.
Evans, Anthony J., Wendel Depot, Mass. 775,573. Cl. 39.
Everyday Mfg. Co., Sidney, Ohio. 775,523, pub. 6–2–64. Cl. 50.
Faeelle Co. Ltd., Toronto, Ontario, Canada. 775,433, pub. 6–2–64. Cl. 39.
Farm Journal, Inc., Philadelphia, Pa. 775,394, pub. 6–2–64. Cl. 38.
Farm Service & Supply, Inc., Florence, Ala. 775,246, pub. 6–2–64. Multiple Class (Classes 18 and 46).
Fay, Kenneth C., d.b.a. Deseghers, New York, N.Y. 663,630, canc. Cl. 3.
Feed Service Corp., Crete, Nebr. 775,521–2, pub. 6–2–64. Cl. 50.

Ferreira & Irmao Sucrs, Limitada, Avairo, Portugal. 775,178, pub. 6–2–64. Cl. 4.
Fieldcrest Mills, Inc., Spray, N.C. 775,278, pub. 11–26–63. Cl. 21.
Fieldcrest Mills, Inc., Spray, N.C. 775,400, pub. 6–2–64. Cl. 42.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 775,257, pub. 6–2–64. Cl. 18.
Fishers Climate Distributors, Inc., Rockford, Ill. 775,363, pub. 6–2–64. Cl. 34.
Fisher Scientific Co., Pittsburgh, Pa. 408,804, ren. 8–18–64. Cl. 6.
Fleischer, Max, New York, N.Y. 663,834, canc. Cl. 38.
Floridin Co., Hancock, W. Va. 775,198, pub. 6–2–64. Cl. 10.
Florsheim Farms: *See*—
Florsheim, Peter.
Florsheim, Peter, d.b.a. Florsheim Farms, San Jose, Calif. 663,804, canc. Cl. 46.
Fluid Power, Inc., Hudson, Ohio. 775,464, pub. 6–2–64. Cl. 44.
Fluted Paper Products Co., Inc., South Norwalk, Conn. 775,166, pub. 6–2–64. Cl. 2.
Foremost Dairies, Inc., San Francisco, Calif. 775,508, pub. 6–2–64. Cl. 46.
Forman Family Inc., Brooklyn, N.Y. 775,217, pub. 6–2–64. Cl. 13.
Frabill Mfg. Co., Milwaukee, Wis. 775,310, pub. 6–2–64. Cl. 22.
Fra-Marc Corp., Industry, Calif. 775,199, pub. 6–2–64. Cl. 10.
Franklin Beverage Co., Elizabeth, N.J. 775,467, pub. 7–30–63. Cl. 45.
Friars' Products Co., Jersey City, N.J. 775,494, pub. 6–2–64. Cl. 46.
Frieder, S., & Sons Co., The, Philadelphia, Pa. 775,241, pub. 6–2–64. Cl. 17.
Fulton Bag & Cotton Mills, Atlanta, Ga., to West Virginia Pulp and Paper Co., New York, N.Y. 663,628, canc. Cl. 2.
Furstenberg Ehemalige Herzoglich Braunschweigische Porzellanmanufaktur, Furstenberg (Weser), Germany. 775,351, pub. 6–2–64. Cl. 30.
Gallo, E. & J., Winery, d.b.a. Gallo Vineyards, Modesto, Calif. 775,512, pub. 6–2–64. Cl. 47.
Gallo Vineyards: *See*—
Gallo, E. & J., Winery.
Gamma Sterilization Pty. Ltd., Dandenong, Victoria, Australia. 775,463, pub. 6–2–64. Cl. 44.
Garfinckel, Julius, & Co., Inc.: *See*—
Brooks Brothers.
Geigy Chemical Corp., Ardsley, N.Y. 663,694, canc. Cl. 18.
Geisha Robe Co. Inc., New York, N.Y. 775,434, pub. 6–2–64. Cl. 39.
General Aniline & Film Corp., New York, N.Y. 663,637, canc. Cl. 6.
General Electric Co., East Cleveland, Ohio. 775,298, pub. 6–2–64. Cl. 21.
General Features Corp., New York, N.Y. 663,832, canc. Cl. 38.
General Mills, Inc., Minneapolis, Minn. 775,504, pub. 6–2–64. Cl. 46.
General Mower Corp., Buffalo, N.Y. 663,763, canc. Cl. 23.
Gilbert & Bennett Mfg. Co., The, Georgetown, Conn. 775,214, pub. 2–27–62. Cl. 13.
Glasco Electric Co., St. Louis, Mo. 191,610, ren. 8–18–64. Cl. 21.
Glassman, Jacob A., Miami Beach, Fla. 775,164, pub. 6–2–64. Cl. 2.
Globe Illumination Co., Gardena, Calif. 775,286, pub. 6–2–64. Cl. 21.
Globe-Union Inc., Milwaukee, Wis. 775,268, pub. 8–12–63. Cl. 21.
General Motors Corp., Detroit, Mich. 775,291, pub. 6–2–64. Cl. 21.
Gold, Henry D., Associates, Inc., Merrick, N.Y. 775,568, Cl. 28.
Golden Star Polish Mfg. Co., Kansas City, Mo. 775,553, pub. 6–2–64. Cl. 100.
Goliath, Inc., Denver, Colo. 775,312, pub. 6–2–64. Cl. 22.
Good Humor Corp., Englewood Cliffs, N.J. 775,492, pub. 6–2–64. Cl. 46.
Gotham, Chadbourn, Inc., Charlotte, N.C. 775,415, pub. 6–2–64. Cl. 39.
GPE Controls, Inc., Morton Grove, Ill. 775,342, pub. 6–2–64. Cl. 26.
Green, Jonathan, & Sons, Kearny, N.J. 775,155, pub. 3–24–64. Cl. 1.
Gruber, Stahlgruber Otto, & Co., Munich, Germany. 775,370, pub. 6–2–64. Cl. 35.
Guild Arts & Crafts, Inc., Farmingdale, N.Y. 775,347, pub. 6–2–64. Cl. 28.
Guild, J. H., Co., Inc., The, Rupert, Vt. 181,354, ren. 8–18–64. Cl. 18.
Guild, J. H., Co., Inc., Rupert, Vt. 410,673, ren. 8–18–64. Cl. 18.
Guild Radio and Television Co., Inglewood, Calif. 663,732, canc. Cl. 21.
H.R.B., Inc., Rydal, Pa. 775,517, pub. 6–2–64. Cl. 50.
Hack, Nathan, Santa Monica, Calif. 775,524, pub. 6–2–64. Cl. 50.
Hacksaw Pruning Blade Co.: *See*—
Leonard, George A.
Hall, Robert, Clothes: *See*—
Hall, Robert, Clothes, Inc.
Hall, Robert, Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. 775,402, pub. 6–2–64. Cl. 39.
Hanes, P. H., Knitting Co., Winston-Salem, N.C. 775,418–19, pub. 6–2–64. Cl. 39.
Hawkins-Hawkins Co., Inc., Berkeley, Calif. 775,182, pub. 6–2–64. Cl. 5.
Hawkins-Hawkins Co. Inc., Berkeley, Calif. 775,235, pub. 6–2–64. Cl. 16.
Hearst Corp., The, New York, N.Y. 775,396, pub. 6–2–64. Cl. 38.
Hearst Publishing Co., Inc., New York, N.Y. 775,398, pub. 6–2–64. Cl. 38.
Heat Controller, Inc., Jackson, Mich. 775,360, pub. 6–2–64. Cl. 34.
Heller Co., The, White Plains, N.Y. 444,673, canc. Cl. 2.
Heller, R. C., Co., Inc., Baltimore, Md. 293,002, canc. Cl. 32.
Hershey, J. S., Baking Co., York, Pa. 775,489, pub. 6–2–64. Cl. 46.
Hi-En-Co., Inc., Detroit, Mich. 775,273, pub. 6–2–64. Cl. 21.
Hillyard Chemical Co., to Hillyard Enterprises, Inc., St. Joseph, Mo. 410,525, ren. 8–18–64. Cl. 16.
Hillyard Enterprises, Inc.: *See*—
Hillyard Chemical Co.
Holcomb, J. I., Mfg. Co., Inc.: *See*—
Holcomb, J. I., Mfg. Co.
Holcomb, J. I., Mfg. Co., to J. I. Holcomb Mfg. Co., Inc., Indianapolis, Ind. 187,435, ren. 8–18–64. Cl. 52.
Hollister-Stier Laboratories, Spokane, Wash. 775,252, pub. 6–2–64. Cl. 18.
Hollister-Stier Laboratories, Spokane, Wash. 775,250, pub. 6–2–64. Cl. 18.
Holly-Pak, Inc., Anaheim, Calif. 775,478, pub. 6–2–64. Cl. 46.
Horton, A. Allen, d.b.a. Acid-Eze Co., Trion, Ga. 775,255, pub. 6–2–64. Cl. 18.
Howe-Richardson Corp.: *See*—
Richardson, Howe, Scale Co.
Hurst-Campbell, Inc., Glenside, Pa. 775,387, pub. 6–2–64. Cl. 23.
Hyannisport, Inc., New York, N.Y. 775,425, pub. 6–2–64. Cl. 39.
Ideal Fishing Float Co., Inc., Richmond, Va. 775,161, pub. 6–2–64. Multiple Class (Classes 2 and 22).
Ideal Fishing Float Co., Inc., Richmond, Va. 775,307, pub. 6–2–64. Cl. 22.
Ideal Toy Corp., Hollis, N.Y. 775,311, pub. 6–2–64. Cl. 22.
Imco Co., The: *See*—
Kohn, Julius.
Independent Television Corp., New York, N.Y. 775,557, pub. 6–2–64. Cl. 101.
Indiana General Corp., Valparaiso, Ind. 775,324, pub. 6–2–64. Cl. 23.
Induma Industria Lombarda Macchine, Milano, Italy. 775,564. Cl. 23.
Industrial Shipping Co. Ltd., Mahone Bay, Nova Scotia, Canada. 775,264, pub. 6–2–64. Cl. 19.
International Merchandising Systems, Inc., from U.S. Research, Inc., Dallas, Tex. 665,389, pub. 6–2–64. Cl. 38.
Interstate Engineering Corp., Anaheim, Calif. 775,216, pub. 6–2–64. Cl. 13.
Irvington Varnish & Insulator Co., Irvington, N.J., to Minnesota Mining and Mfg. Co., St. Paul, Minn. 185,527, ren. 8–18–64. Cl. 21.
I-T-E Circuit Breaker Co., Philadelphia, Pa. 769,096, cor. Cl. 21.
Johns-Manville Corp., New York, N.Y. 775,212–3, pub. 6–2–64. Cl. 12.
Johns-Manville Corp., New York, N.Y. 408,166, ren. 8–18–64. Cl. 12.
Johnson, Cyril, Woolen Co., The, Stafford Springs, Conn. 775,457, pub. 6–2–64. Cl. 42.
Johnson, Endicott, Corp., Endicott, N.Y. 775,447, pub. 6–2–64. Cl. 39.
Johnson, J. Oliver, Seed Co., Chicago, Ill. 663,617, canc. Cl. 1.
Johnston & Murphy, Nashville, Tenn. 775,404, pub. 6–2–64. Cl. 39.
Junior Accent, Inc., New York, N.Y. 775,417, pub. 6–2–64. Cl. 39.
K-L Sporting Goods Co., Chicago, Ill. 663,745, canc. Cl. 22.
K-P Shoe Co., to Ben Palmer, Portage, Wis. 663,845, canc. Cl. 39.
KVP Sutherland Paper Co., Kalamazoo, Mich. 775,169, pub. 6–2–64. Cl. 2.
KVP Sutherland Paper Co., Kalamazoo, Mich. 775,172, pub. 6–2–64. Cl. 2.
Kandell, Inc., New York, N.Y. 663,858, canc. Cl. 42.
Kasparians, Inc., Los Angeles, Calif. 775,355, pub. 6–2–64. Cl. 32.
Katz Drug Co., Kansas City, Mo. 409,934, ren. 8–18–64. Cl. 18.
Kay Mfg. Corp., Brooklyn, N.Y. 775,356, pub. 6–2–64. Cl. 32.
Kees, F. D., Mfg. Co., Beatrice, Nebr. 775,566. Cl. 28.
Kellogg Co., Battle Creek, Mich. 775,496, pub. 6–2–64. Cl. 46.
Kemovit A/S, Copenhagen, Denmark. 775,253, pub. 6–2–64. Cl. 18.
Kerrigan Iron Works Co., Nashville, Tenn. 775,562. Cl. 12.
Kimberly-Clark Corp., Neenah, Wis. 775,446, pub. 6–2–64. Cl. 44.
King Korn Stamp Co., Chicago, Ill. 775,558, pub. 6–2–64. Cl. 101.
Kirk, Moore, Laboratories, Inc., Worcester, Mass. 775,248, pub. 6–2–64. Cl. 18.
Knickerbocker Case Corp., Chicago, Ill. 775,173, pub. 6–2–64. Cl. 3.
Kohn, Julius, d.b.a. The Imco Co., New York, N.Y. 407,069, ren. 8–18–64. Cl. 3.
Kramer, H., & Co., Chicago, Ill. 775,225, pub. 6–2–64. Cl. 14.
Krikker, Margaret A., Albany, N.Y. 775,259, pub. 6–2–64. Cl. 18.
Kurlash Co., Inc., The, Rochester, N.Y. 775,448, pub. 6–2–64. Cl. 40.

Lagmay, Leonard W., Los Angeles, Calif. 663,825, canc. Cl. 38.
Landers Corp., The, Toledo, Ohio. 663,913, canc. Cl. 50.
La Pine, Arthur S., & Co., Chicago, Ill. 663,734, canc. Cl. 21.
Laurie, Bruce, Co., Inc., New York, N.Y. 775,284, pub. 6-2-64. Cl. 21.
LeFebure Corp., Cedar Rapids, Iowa. 775,339, pub. 6-2-64. Cl. 25.
Leonard, George A., d.b.a. Hacksaw Pruning Blade Co., Fayetteville, N.C. 663,769, canc. Cl. 23.
Lewis, Harold C., Sunland, Calif. 775,315, pub. 6-2-64. Cl. 23.
Lewis, Samuel, New York, N.Y. 663,936, canc. Cl. 39.
Lilly, Eli, and Co., Indianapolis, Ind. 775,249, pub. 2-4-64. Cl. 18.
Loblaw, Inc., Buffalo, N.Y. 663,793, canc. Cl. 29.
Londontown Mfg. Co., The, Baltimore, Md. 775,407, pub. 6-2-64. Cl. 39.
Lowenstein, M., & Sons, Inc., New York, N.Y. 775,459, pub. 6-2-64. Cl. 42.
Lowy & Mund, New York, N.Y. 410,710, ren. 8-18-64. Cl. 3.
Lukens Steel Co., Coatesville, Pa. 775,221, pub. 6-2-64. Cl. 14.
Lustur-Seal Corp., Jackson, Mich. 775,177, pub. 6-2-64. Cl. 4.
M & N Cigar Manufacturers, Inc., Tampa, Fla. 408,755, ren. 8-18-64. Cl. 17.
Magic Chef, Inc., Cleveland, Tenn. 775,365, pub. 6-2-64. Cl. 34.
Magikitch'n Equipment Corp., Quakertown, Pa. 775,367, pub. 6-2-64. Cl. 34.
Mangel Stores Corp., New York, N.Y. 775,422, pub. 6-2-64. Cl. 39.
Marathon Battery Co., Wausau, Wis. 775,366, pub. 6-2-64. Cl. 34.
Marglen, Juliette, Inc., to Juliette Marglen, Inc., Ridgefield, N.J. 663,917, canc. Cl. 51.
Markey, William B., & Associates, Inc., Burlingame, Calif. 775,499, pub. 6-2-64. Cl. 46.
Markson, Joyce O., d.b.a. Joyce Christopher, New York, N.Y. 775,450, pub. 6-2-64. Cl. 40.
Marlan Co.: *See*—
American Dairy Queen Corp.
Marshall Steel Co., The, La Grange, Ill. 775,222, pub. 6-2-64. Cl. 14.
Martin, C. J., & Sons, Inc., Austin, Tex. 775,258, pub. 6-2-64. Cl. 18.
Martin, J. D.: *See*—
Martin Ranch.
Martin Ranch, d.b.a. J. D. Martin, Fresno, Calif. 775,482, pub. 6-2-64. Cl. 46.
Martinez, Ralph E., d.b.a. Topa-Topa Drug, Oak View, Calif. 775,260, pub. 6-2-64. Cl. 18.
Marvel Tool and Machine Co., Ecorse, to F. H. Carrier, d.b.a. Marvel Tool & Machine Co., St. Clair, Mich. 408,457, ren. 8-18-64. Cl. 23.
Marvel Tool and Machine Co., River Rouge, to F. H. Carrier, d.b.a. Marvel Tool & Machine Co., St. Clair, Mich. 408,546, ren. 8-18-64. Cl. 23.
Marx, Louis, & Co., Inc., New York, N.Y. 775,308, pub. 6-2-64. Cl. 22.
Mateos, Angel F., Almeria, Spain. 775,529, pub. 6-2-64. Cl. 51.
May, Otto B., Inc., Newark, N.J. 754,416, cor. Cl. 6.
Mayer Co., Inc., The, New York, N.Y. 775,427, pub. 6-2-64. Cl. 39.
McCune, Robert M., Paramount, Calif. 775,377, pub. 6-2-64. Cl. 38.
McGraw-Hill Book Co., Inc.: *See*—
McGraw-Hill, Inc.
McGraw-Hill, Inc., from McGraw-Hill Book Co., Inc., New York, N.Y. 775,383, pub. 6-2-64. Cl. 38.
McKee, Arthur G., & Co., San Francisco, Calif. 775,329, pub. 6-2-64. Cl. 23.
Meloy Container Corp., Kansas City, Mo. 663,629, canc. Cl. 2.
Metal-Club S.A.R.L., Paris, France. 775,409, pub. 6-2-64. Cl. 39.
Metallurgical International Inc., Passaic, N.J. 775,226-7, pub. 6-2-64. Cl. 14.
Meyer, Jerrold B., d.b.a. Clayton Industrial Products Co., Chicago, Ill. 663,766, canc. Cl. 23.
Meyers, Fred P., d.b.a. Analytikit Co., Denver, Colo. 663,776, canc. Cl. 26.
Mid-South Chemical Corp., Memphis, Tenn. 663,648, canc. Cl. 10.
Mid-States Distributing Co., Inc., St. Paul, Minn. 775,266, pub. 6-2-64. Cl. 19.
Mid-States Distributing Co., Inc., St. Paul, Minn. 775,289-90, pub. 6-2-64. Cl. 21.
Milham Products Co., Inc., Quincy, Mass. 775,453, pub. 6-2-64. Cl. 42.
Miller Mfg. Co., Camden, N.J. 407,653, ren. 8-18-64. Cl. 6.
Minneapolis Scientific Controls Corp., d.b.a. Electric Service Systems, Minneapolis, Minn. 775,285, pub 6-2-64. Cl. 21.
Minneapolis Scientific Controls Corp., Minneapolis, Minn. 775,286, pub. 6-2-64. Cl. 21.
Minnesota Mining and Mfg. Co.: *See*—
Irvington Varnish & Insulator Co.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 663,673, canc. Cl. 16.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 775,544, pub. 6-2-64. Cl. 52.
Mintz, Albert E., Flushing, N.Y. 775,567. Cl. 25.
Mistee Lingerie Inc., Boyertown, Pa. 775,408, pub. 6-2-64. Cl. 39.
Mitchell, Art E., Los Alamitos, Calif. 663,654, canc. Cl. 12.
Momjian, James H., d.b.a. Atlantic Candy Co., Atlantic City, N.J. 775,500, pub. 6-2-64. Cl. 46.
Monotype Corp. Ltd., The, Salfords, Redhill, England. 775,224, pub. 6-2-64. Cl. 14.
Monroe Co., Inc., The, Cleveland, Ohio. 775,191, pub. 6-2-64. Cl. 6.
Moore-Roming Industries, Inc., Lawton, Okla. 775,403, pub. 6-2-64. Cl. 39.
Moore, Thomas E., Co., Inc., St. Louis, Mo. 775,168, pub. 6-2-64. Cl. 2.
Moorman Mfg. Co., Quincy, Ill. 775,245, pub. 6-2-64. Cl. 18.
Mycoloid Laboratories, Inc.: *See*—
Colloidal Laboratories.
N.V. Drukinktfabriek Farbiance, Amsterdam, Netherlands. 775,201, pub. 6-2-64. Cl. 11.
N.V. Koninklijke Veenendaalsche Sajet-en Vijfschacht-Fabriek voorheen Weduwe D. S. Van Schuppen en Zoon, Veenendaal, Netherlands. 775,461, pub. 6-2-64. Cl. 48.
National Automotive Parts Association, Chicago, Ill., to Red Arrow Panel Corp., Wickliffe, Ohio. 775,265, pub. 6-2-64. Cl. 19.
National Bellas Hess, Inc., North Kansas City, Mo. 775,423, pub. 6-2-64. Cl. 39.
National Church Supply Co., Inc., The, Chester, W. Va. 663,821, canc. Cl. 37.
National Lead Co., New York, N.Y. 775,287, pub. 6-2-64. Cl. 21.
National Radio Co., Inc., Melrose, Mass. 775,299, pub. 6-2-64. Cl. 21.
National Remedy Products Co., Inc., Springfield, Mo. 775,244, pub. 6-2-64. Cl. 18.
Neiman-Marcus Co., Dallas, Tex. 775,411, pub. 6-2-64. Cl. 39.
Neiman-Marcus Co., Dallas, Tex. 775,420-1, pub. 6-2-64. Cl. 39.
Neoco Corp., Los Angeles, Calif. 663,690, canc. Cl. 18.
Nettleton, A. E., Co., Syracuse, N.Y. 775,436, pub. 6-2-64. Cl. 39.
New England Textile Co., Inc., New York, N.Y. 663,956, canc. Cl. 42.
Newman Clock Co., Inc., to Detex Watchclock Corp., New York, N.Y. 184,015, ren. 8-18-64. Cl. 27.
Nickles, Alfred, Bakery, Inc., Navarre, Ohio. 775,501, pub. 6-2-64. Cl. 46.
Nic-L-Silver Battery Co., d.b.a. Sun Power Battery, Santa Ana, Calif. 775,239, pub. 6-2-64. Cl. 16.
Nixdorff-Krein Mfg. Co., St. Louis, Mo. 677,582-3, cor. Cl. 13.
Nopco Chemical Co., Newark, N.J. 775,254, pub. 6-2-64. Cl. 18.
Norcross, Inc., New York, N.Y. 775,378, pub. 12-24-63. Cl. 38.
Northrup, King & Co., Minneapolis, Minn. 191,520, ren. 8-18-64. Cl. 1.
Oakite Products, Inc.: *See*—
Oakley Chemical Co.
Oakley Chemical Co., to Oakite Products, Inc., New York, N.Y. 192,610-11, ren. 8-18-64. Cl. 52.
O'Donnell Rubber Products Co., The, Cincinnati, Ohio. 775,283, pub. 6-2-64. Cl. 21.
Old Vienna: *See*—
Sunshine Biscuits, Inc.
Omnibus, Inc., Kenilworth, Ill. 775,397, pub. 6-2-64. Cl. 38.
Onoda Cement Co. Ltd., Onoda City, Yamaguchi, Japan. 775,202, pub. 6-2-64. Cl. 12.
Orteig, Jules, Ltd., Long Island City, N.Y. 663,911, canc. Cl. 49.
Otto Monsted A/S, Copenhagen, Denmark. 775,478, pub. 6-2-64. Cl. 46.
Outdoor American Corp., Spokane, Wash. 775,382, pub. 6-2-64. Cl. 38.
Packers Package, Inc., Muncie, Ind. 663,627, canc. Cl. 2.
Palmer, Ben: *See*—
K-P Shoe Co.
Pan American Barter Co., Inc., The, New York, N.Y. 775,345, pub. 6-2-64. Cl. 27.
Papercraft Corp., Pittsburgh, Pa. 775,194, pub. 6-2-64. Cl. 7.
Pa-Poose Products Co., Inc., Gretna, La. 775,186, pub. 6-2-64. Cl. 6.
Paramount Service, d.b.a. Smooth-Tone Muffler Co., San Francisco, Calif. 663,753, canc. Cl. 23.
Parlor, Howard, Furniture Co., Chicago, Ill. 775,357, pub. 6-2-64. Cl. 32.
Pastene Wine & Spirits Co., Inc., Boston, Mass. 775,311, pub. 6-2-64. Cl. 47.
Patterson-Sargent Co., The, Cleveland, Ohio, to H. K. Porter Co., Inc., Pittsburgh, Pa. 409,345, ren. 8-18-64. Cl. 16.
Patti Products Corp., Mount Vernon, N.Y. 775,451, pub. 6-2-64. Cl. 40.
Pfaff, G. M., A.G., Kaiserslautern, Germany. 663,765, canc. Cl. 23.
Pfizer, Chas., & Co., Inc.: *See*—
Coty, Inc.
Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 663,672, canc. Cl. 16.
Phillips Roofing Co., Inc., Baltimore, Md. 408,766, ren. 8-18-64. Cl. 12.
Phillips, Sam C., International Corp., Memphis, Tenn. 673,316, canc. Cl. 36.
Phillips-Van Heusen Corp., New York, N.Y. 775,572. Cl. 39.
Phosphor-Bronze Smelting Co. Ltd., The, Philadelphia, Pa. 55,096, canc. Cl. 14.
Pines Engineering Co. Inc., Aurora, Ill. 775,216, pub. 2-2-64. Cl. 23.
Pitman Mfg. Co., Grandview, Mo. 775,314, pub. 6-2-64. Cl. 28.
Pitt-Consol Chemical Co., Newark, N.J. 663,635, canc. Cl. 6.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 775,208, pub. 6-2-64. Cl. 12.

Pollak, Henry, Inc., New York, N.Y. 775,401, pub. 6–2–64. Cl. 39.
Polo Produce, Inc., New Paris, Ind. 775,481, pub. 6–2–64. Cl. 46.
Ponit Trading Co., St. Louis, Mo. 775,195–7, pub. 6–2–64. Cl. 7.
Popular Mfg. Co., Inc., New York, N.Y. 662,839, canc. Cl. 39.
Porter, H. K., Co., Inc.: *See*—
Patterson-Sargent Co., The.
Powell Magazines, Inc., New York, N.Y. 775,384, pub. 6–2–64. Cl. 38.
Powertron Corp., Plainview, N.Y., from Powertron Ultrasonics Corp., Plainview, N.Y. 775,272, pub. 11–12–63. Cl. 21.
Powertron Ultrasonics Corp.: *See*—
Powertron Corp.
Prescolite Mfg. Corp., San Leandro, Calif. 775,277, pub. 6–2–64. Cl. 21.
Pretty Products, Inc., Coshocton, Ohio. 775,165, pub. 6–2–64. Cl. 2.
Princeton Applied Research Corp., Princeton Junction, N.J. 775,569. Cl. 26.
Procter & Gamble Co., The, Cincinnati, Ohio. 775,549–51, pub. 6–2–64. Cl. 52.
Quaker Oats Co., The, Chicago, Ill. 775,497–8, pub. 6–2–64. Cl. 46.
Quaker State Oil Refining Corp., Oil City, Pa. 409,974, ren. 8–18–64. Cl. 15.
Radio Gramophone Development Co. Ltd., Romford, Essex, England. 663,739, canc Cl. 21.
Ranch & Town: *See*—
Westmoor Mfg. Co.
Ransburg Electro-Coating Corp., Indianapolis, Ind. 775,279, pub. 6–2–64. Cl. 21.
Rashti, Harry J., & Co., New York, N.Y. 775,440, pub. 6–2–64. Cl. 39.
Rawlings Corp., The: *See*—
Rawlings Mfg. Co.
Rawlings Mfg. Co., to The Rawlings Corp., St. Louis, Mo. 410,639, ren. 8–18–64. Cl. 22.
Ray Industries, Inc., Oxford, Mich. 663,615, canc. Cl. 1.
Recktenwald, Jakob, d.b.a. J. Recktenwald Pinoxol-Fabrik, Bad Kreusnach, Germany. 775,525, pub. 5–9–61. Cl. 51.
Recktenwald Pinoxol-Fabrik: *See*—
Recktenwald, Jakob.
Red Arrow Panel Corp.: *See*—
National Automotive Parts Association.
Remington Corp., Auburn, N.Y. 730,086, cor. Cl. 31.
Republic Steel Corp., Cleveland, Ohio. 775,219, pub. 6–2–64. Cl. 13.
Richards Laboratories, Inc., Babylon, N.Y. 775,528, pub. 11–26–63. Cl. 51.
Richardson, Howe, Scale Co., from Howe-Richardson Corp., Rutland, Vt. 775,341, pub. 6–2–64. Cl. 26.
Ridgway, L. L., Co., Inc.: *See*—
Ridgway, L. L., Enterprises.
Ridgway, L. L., Enterprises, from L. L. Ridgway Co., Inc., Houston, Tex. 775,343, pub. 6–2–64. Multiple Class (Classes 26 and 37).
Ripley and Gowen Co., Inc., Attleboro, Mass. 775,348, pub. 6–2–64. Cl. 28.
Robertson, H. H., Co., Pittsburgh, Pa. 775,211, pub. 6–2–64. Cl. 12.
Robins, A. H., Co., Inc., Richmond, Va. 775,256, pub. 6–2–64. Cl. 18.
Rodgers, Dorothy F., New York, N.Y. 775,350, pub. 6–2–64. Cl. 29.
Rokeach, L., & Sons, Inc., Long Island City, N.Y. 775,476, pub. 6–2–64. Cl. 46.
Roses & Myrrh, Inc., New York, N.Y. 775,533, pub. 6–2–64. Cl. 51.
Rough Rider, Inc., Napa, Calif. 775,442, pub. 6–2–64. Cl. 39.
Rowe Co. of N.H., Inc., Greenville, N.H. 775,506–7, pub. 6–2–64. Cl. 46.
Royal City Foods Ltd., New Westminster, British Columbia, Canada. 775,485, pub. 6–2–64. Cl. 46.
Rubinstein, Helena, Inc., New York, N.Y. 775,538, pub. 6–2–64. Cl. 51.
Rutland Fire Clay Co., Rutland, Vt. 775,233, pub. 5–14–63. Cl. 16.
Ryan, Thomas R., Santa Monica, Calif. 775,349, pub. 6–2–64. Cl. 28.
SDK Publications, Inc., Philadelphia, Pa. 663,823, canc. Cl. 38.
Salsbury Corp., Los Angeles, Calif. 775,334, pub. 6–2–64. Cl. 23.
Sanolin Paints Inc., New York, N.Y. 775,238, pub. 6–2–64. Cl. 16.
Sanrise Chemicals, Inc., Greer, S.C. 775,188, pub. 6–2–64. Cl. 6.
Sav-A-Tir, Atlanta, Ga. 663,662, canc. Cl. 13.
Savers, John P., Springfield, Ohio. 775,559, pub. 6–2–64. Cl. 102.
Schering Corp., Bloomfield, N.J. 663,688, canc. Cl. 18.
Schliemann's, Ernst, Export-Cerealn-Fabrik, Hamburg-Billstedt, Germany. 663,665, canc. Cl. 15.
Schrats Products, Inc., Detroit, Mich. 775,526, pub. 6–2–64. Cl. 51.
Schutter Candy Co., Chicago, Ill. 775,502, pub. 6–2–64. Cl. 46.
Scientific Abrasives Co.: *See*—
Bespole, John A.
Scientific Chemicals, Inc., Chicago, Ill. 771,190, pub. 6–2–64. Cl. 6.
Seiberling Rubber Co., Barberton, Ohio. 188,580, ren. 8–18–64. Cl. 35.
Senorita Trading Co.: *See*—
Sweet, Bernard D.
Sensation Mower, Inc., Ralston, Nebr. 775,326, pub. 6–2–64. Cl. 23.
Serman, M., & Co., Inc., New York, N.Y. 775,430, pub. 6–2–64. Cl. 39.
Servomation Corp., from United Servomation Corp., New York, N.Y. 775,552, pub. 11–19–63. Cl. 100.
7-Eleven Stores: *See*—
Southland Corp., The.
Sharp, L. W., d.b.a. Var-Wax Products Co., Dallas, Tex. 775,179, pub. 6–2–64. Cl. 4.
Sheffield Hosiery Mills, Inc., Miami, Fla. 775,416, pub. 6–2–64. Cl. 39.
Shoemaker, Le Roy T., d.b.a. ATA System, Atlanta, Ga. 775,385, pub. 6–2–64. Cl. 38.
Siegel, Henry L., Co., Inc., New York, N.Y. 775,444, pub. 6–2–64. Cl. 39.
Signal Oil Co.: *See*—
Standard Oil Co. of Calif.
Smith's, F. X., Sons Co., McSherrystown, Pa. 775,240, pub. 6–2–64. Cl. 17.
Smooth-Tone Muffler Co.: *See*—
Paramount Service.
Snowball Co. of California: *See*—
Wilson, Grant J.
Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. 740,516, cor. Cl. 19.
Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. 740,864, cor. Cl. 21.
Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. 740,878, cor. Cl. 23.
Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. 740,907, cor. Cl. 26.
Societe a Responsabilite Limitee Francaise Auxilec, Colombes, France. 741,197, cor. Cl. 21.
Societe Anonyme l'Eclairage Technique, Meurthe-et-Moselle, France. 775,293, pub. 6–2–64. Cl. 21.
Societe Viticole de Chateau Lascombes, Margaux, Gironde, France. 775,509, pub. 6–2–64. Cl. 47.
Sonneborn Chemical and Refining Corp., New York, N.Y. 775,539, pub. 6–2–64. Cl. 52.
Sonneman, Eric O., Chicago, Ill. 775,301, pub. 6–2–64. Cl. 22.
Soptra Fabrics: *See*—
Soptra Fabrics Corp.
Soptra Fabrics Corp., d.b.a. Soptra Fabrics, New York, N.Y. 775,455, pub. 6–2–64. Cl. 42.
Sound Publishing Co., Inc., New York, N.Y. 775,381, pub. 6–2–64. Cl. 38.
Southland Corp. of Texas, The: *See*—
Southland Corp., The.
Southland Corp., The, from The Southland Corp. of Texas, d.b.a. 7-Eleven Stores and as Cabell Minit Markets, Dallas, Tex. 775,477, pub. 6–2–64. Cl. 46.
Space Propulsion Reports, Inc., Washington, D.C. 775,386, pub. 6–2–64. Cl. 38.
Spalsbury-Steis-Deevers Shoe Co., Fredericktown, Mo. 351,989, canc. Cl. 39.
Specialty Sheet Metal Mfg. Co., Inc., d.b.a. Speco Products, Chicago, Ill. 775,167, pub. 6–2–64. Cl. 2.
Speco Products: *See*—
Specialty Sheet Metal Mfg. Co., Inc.
Speedotron Co., The: *See*—
Comunale, Don A.
Spicene Co. of America, Inc.: *See*—
Basic Food Materials, Inc.
Square D Co., Park Ridge, Ill. 775,280, pub. 6–2–64. Cl. 21.
Stainless Products Corp., Belding, Mich. 775,158, pub. 10–2–62. Cl. 2.
Standard Brands Inc., New York, N.Y. 663,641–3, canc. Cl. 6.
Standard Brands Inc., New York, N.Y. 663,900–1, canc. Cl. 46.
Standard Garments, Inc., Baltimore, Md. 775,445, pub. 6–2–64. Cl. 39.
Standard Oil Co. of Calif., d.b.a. Signal Oil Co., Los Angeles, Calif. 775,391, pub. 6–2–64. Cl. 38.
Stay-Tite Products Co., Inc., Cleveland, Ohio. 775,203, pub. 6–2–64 Multiple Class (Classes 12 and 52).
Sterling Brewers, Inc., Evansville, Ind. 775,514, pub. 6–2–64. Cl. 48.
Sternco Industries, Inc., Allendale, N.J. 775,176, pub. 6–2–64. Cl. 3.
Stevens, J. P., & Co., Inc.: *See*—
Turner & Walls.
Stewart-Warner Corp., Chicago, Ill. 775,215, pub. 11–5–63. Cl. 13.
Storms, H. M., Co., Brooklyn, N.Y. 663,650, canc. Cl. 11.
Strathmore Paper Co., Inc., West Springfield, Mass. 775,374, pub. 6–2–64. Cl. 37.
Strauer Candy Co., Inc., Denver, Colo. 775,471, pub. 6–2–64. Cl. 46.
Strauss, Levi, & Co., San Francisco, Calif. 665,412, pub. 6–2–64. Cl. 39.
Struble & Moffitt Co., Philadelphia, Pa. 775,485, pub. 6–2–64. Cl. 39.
Style Trends Inc., Canton, Ohio. 663,626, canc. Cl. 2.
Suchar Process Corp., Dover, Del., to West Virginia Pulp and Paper Co., New York, N.Y. 189,657, ren. 8–18–64. Cl. 31.
Sun Power Battery: *See*—
Nic-L-Silver Battery Co.
Sun Tube Corp., Hillside, N.J. 663,625, canc. Cl. 2.
Sunshine Biscuits, Inc., d.b.a. Old Vienna, Long Island City, N.Y. 775,493, pub. 6–2–64. Cl. 46.
Supradur Mfg. Corp., Windgap, Pa. 775,236, pub. 6–2–64. Cl. 16.
Sweet, Bernard D., d.b.a. Senorita Trading Co., Los Angeles, Calif. 775,469, pub. 6–2–64. Cl. 45.
Swift & Co.: *See*—
Vitogro Chemical Co.

Taylor Biscuit Co., Raleigh, N.C. 775,480, pub. 6–2–64. Cl. 46.
Templar Oil Products Co., Inc., South River, N.J. 775,205, pub. 6–2–64. Cl. 12.
Texaco Inc., New York, N.Y. 775,231, pub. 3–3–64. Cl. 15.
Texize Chemicals, Inc., d.b.a. Beacon Products Div., Greenville, S.C. 775,185, pub. 6–2–64. Cl. 6.
Texize Chemicals, Inc., d.b.a. Beacon Products Div., Greenville, S.C. 775,540, pub. 6–2–64. Cl. 52.
Texize Chemicals, Inc., Greenville, S.C. 775,184, pub. 12–31–63. Cl. 6.
Textiles, Inc., Newark, N.J. 775,458, pub. 6–2–64. Cl. 42.
Textile Industrial Components Ltd., Manchester, England. 775,515, pub. 6–2–64. Cl. 50.
Thayer, Henry, Co., Cambridge, Mass. 775,472, pub. 10–2–62. Cl. 46.
Times Publishing Co., St. Petersburg, Fla. 775,392, pub. 6–2–64. Cl. 38.
Tomahawk Paper Products Corp., Chicago, Ill. 775,183, pub. 6–2–64. Cl. 5.
Topa-Topa Drug: *See*—
Martinez, Ralph E.
Tremco Mfg. Co., The, Cleveland, Ohio. 408,563, ren. 8–18–64. Cl. 16.
Tremco Mfg. Co., The, Cleveland, Ohio. 408,763, ren. 8–18–64. Cl. 12.
Trends Publishing, Inc., Washington, D.C. 775,337–8, pub. 6–2–64. Cl. 38.
Turbotronics Corp., Cleveland, Ohio. 775,340, pub. 6–2–64. Cl. 26.
Turner & Walls, to J. P. Stevens & Co., Inc., New York, N.Y. 187,818, ren. 8–18–64. Cl. 42.
Turner & Walls, to J. P. Stevens & Co., Inc., New York, N.Y. 189,529, ren. 8–18–64. Cl. 42.
Tweeten Fibre Co., Inc.: *See*—
Tweeten, Oscar H.
Tweeten, Oscar H., d.b.a. Tweeten Fibre Co., to Tweeten Fibre Co., Inc., Chicago, Ill. 190,231, ren. 8–18–64. Cl. 22.
Uhrden, Inc., Dennison, Ohio. 775,262, pub. 6–2–64. Cl. 19.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 775,313, pub. 6–2–64. Cl. 22.
Union Bag-Camp Paper Corp., New York, N.Y. 775,373, pub. 3–17–64. Cl. 37.
Union Carbide Corp., New York, N.Y. 772,113, cor. Cl. 14.
Union Tank Car Co., Chicago, Ill. 775,321, pub. 6–2–64. Cl. 23.
United Cigar-Whelan Stores Corp., to United Whelan Corp., New York, N.Y. 410,565, ren. 8–18–64. Cl. 40.
United Elastic Corp.: *See*—
Conant, Houghton & Co., Inc.
United Servomation Corp.: *See*—
Servomation Corp.
United States Borax & Chemical Corp., Los Angeles, Calif. 775,541–3, pub. 6–2–64. Cl. 52.
United States Gypsum Co., Chicago, Ill. 775,204, pub. 6–2–64. Cl. 12.
U.S. Health Club, Inc., Bergenfield, N.J. 775,243, pub. 10–20–63. Cl. 18.
United States Instrument Corp., Charlottesville, Va. 775,296, pub. 6–2–64. Cl. 21.
United States Plywood Corp., New York, N.Y. 775,206, pub. 6–2–64. Cl. 12.
U.S. Research, Inc.: *See*—
International Merchandising Systems, Inc.
United States Smelting Refining and Mining Co., Boston, Mass. 775,223, pub. 6–2–64. Cl. 14.
United Whelan Corp.: *See*—
United Cigar-Whelan Stores Corp.
Unit-Tainer Corp., White Plains, N.Y. 679,070, canc. Cl. 2.
Upjohn Co., to The Upjohn Co., Kalamazoo, Mich. 186,943, ren. 8–18–64. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 408,113, ren. 8–18–64. Cl. 18.
Van Ess Laboratories, Inc., Chicago, Ill., to American Home Products Corp., New York, N.Y. 191,990, ren. 8–18–64. Cl. 52.
Vanadium-Alloys Steel Co., Latrobe, Pa. 775,220, pub. 6–25–63. Cl. 14.
Var-Wax Products Co.: *See*—
Sharp, L. W.
Verona Chemical Co., Newark, N.J. 663,928, canc. Cl. 52.
Vess Dry Co. of Ohio, Columbus, Ohio. 775,468, pub. 6–2–64. Cl. 45.
Victoria Laboratories Ltd., London, England. 663,705–6, canc. Cl. 18.
Vitogro Chemical Co., Lowell, Mass., to Swift & Co., Chicago, Ill. 185,693, ren. 8–18–64? Cl. 10.
Von Lilienfeld, Felix, Flushing, N.Y. 663,794, canc. Cl. 29.
Wakefield Co., The, Vermilion, Ohio. 663,724, canc. Cl. 21.
Wakefield Shirt Co. Ltd., The, Wakefield, England. 775,437–8, pub. 6–2–64. Cl. 39.
Walcon Corp., Ecorse, Mich. 775,210, pub. 6–2–64. Cl. 12.
Walker, Hiram, & Sons, Inc., Detroit, Mich. 329,062. Am. 7(d). Cl. 49.
Walker Mfg. Co., Racine, Wis. 775,193, pub. 6–2–64. Multiple Class (Classes 6 and 15).
Wall Colmonoy Corp., Detroit, Mich. 775,369, pub. 6–2–64. Cl. 34.
Walter, Clark, Corp., Newark, N.J. 775,267, pub. 9–11–62. Cl. 21.
Ward Industries Corp.: *See*—
Ametek, Inc.
Washington Forge, Inc., Englishtown, N.J. 775,565. Cl. 23.
Washington University, The, St. Louis, Mo. 775,399, pub. 6–2–64. Cl. 38.
Wells-Nassau Co., Inc., Westbury, N.Y. 775,320, pub. 6–2–64. Cl. 23.
Wesco Tool & Mfg. Co.: *See*—
Butler, Frank W.
West Virginia Pulp and Paper Co.: *See*—
Fulton Bag & Cotton Mills.
Suchar Process Corp.
Western Growers Distributors, Inc., Glendale, Ariz. 775,505, pub. 6–2–64. Cl. 46.
Western Petrochemical Corp., The, New York, N.Y. 775,280, pub. 6–2–64. Cl. 15.
Westmoor Mfg. Co., d.b.a. Ranch & Town, Omaha, Nebr. 775,443, pub. 6–2–64. Cl. 39.
Wetmore and Sugden, Inc., Fairport, N.Y. 663,830, canc. Cl. 38.
Whittlesey, Jabez H., Greensboro, Ala. 775,527, pub. 6–2–64. Cl. 51.
Wickman Pharmaceuticals, Glendale, Calif. 775,532, pub. 6–2–64. Cl. 51.
Wilson, Grant J., d.b.a. Snowball Co. of California, Bell Gardens, Calif. 775,309, pub. 6–2–64. Cl. 22.
Wilson Sporting Goods Co., River Grove, Ill. 775,306, pub. 6–2–64. Cl. 22.
Wiss, J., & Sons Co., Newark, N.J. 744,371, cor. Cl. 23.
Wolfe, Herb, Equipment & Rubber Co.: *See*—
Wolfe, Herb W.
Wolfe, Herb W., d.b.a. Herb Wolfe Equipment & Rubber Co., Park Ridge, Ill. 775,232, pub. 6–2–64. Cl. 15.
Wrigley, Wm., Jr., Co., Chicago, Ill. 192,523, ren. 8–18–64. Cl. 46.
Wyandotte Chemicals Corp., Wyandotte, Mich. 775,545–8, pub. 6–2–64. Cl. 52.
Wyeth Inc.: *See*—
Bovinine Co., The.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 410,830, ren. 8–18–64. Cl. 18.
Yardney Electric Corp., New York, N.Y. 775,281, pub. 6–2–64. Cl. 21.
Young Spring & Wire Corp., Beverly Hills, Calif. 775,231, pub. 6–2–64. Cl. 23.
Zip Feed Mills, Sioux Falls, S. Dak. 775,470, pub. 6–2–64. Cl. 46.

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U.S. Department of Commerce

LUTHER H. HODGES, *Secretary*

Patent Office

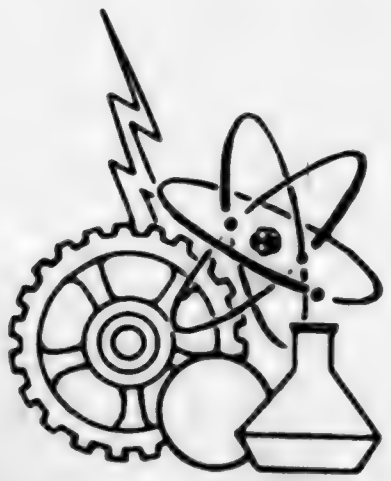
EDWARD J. BRENNER, *Commissioner*

Official Gazette

UNITED STATES PATENT OFFICE

Containing Patents, Designs & Trademarks issued

August 25, 1964 • Volume 805 • Number 4



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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

August 25, 1964 Volume 805 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1964

Examiner affirmed	282
Examiner affirmed in part	44
Examiner reversed	93
Total	419

Disclaimers

2,975,409.—*Edward John Petherick*, Rowledge, near Farnham, England. DIGITAL ENCODERS AND DECODERS. Patent dated Mar. 14, 1961. Disclaimer filed May 25, 1964, by the assignee, *International Business Machines Corporation*.

Hereby enters this disclaimer to claims 1, 14 and 16 of said patent.

3,060,277.—*John F. Baker, Dusan S. Gelletich*, and *William J. Wasylenko*, Philadelphia, Pa. MAGNETIC HEAD SUSPENSION. Patent dated Oct. 23, 1962. Disclaimer filed May 28, 1964, by the inventors and assignee, *Burroughs Corporation*.

Hereby enter this disclaimer to claim 1 of said patent.

3,128,011.—*Howard W. Bleiman*, Philadelphia, Pa. COIN OPERATED VENDING MACHINE. Patent dated Apr. 7, 1964. Disclaimer filed June 9, 1964, by the assignee, *Frank H. Fleer Corporation*.

Hereby enters this disclaimer to claims 1 and 3 of said patent.

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
Commissioner of Patents.

July 16, 1964.

Department of Commerce

Patent Office

[37 CFR Part 1]

RULES OF PRACTICE IN PATENT CASES

Petition and Action by the Commissioner

Notice is hereby given that the United States Patent Office proposes to amend one of its rules relating to patents. The amendment is proposed pursuant to the authority contained in Title 35 U.S.C., section 6.

All persons who desire to submit written data, views, arguments or suggestions for consideration in connection with the proposed amendment, are invited to forward the same to the Commissioner of Patents, Washington 25, D.C., within 60 days of publication in the Federal Register. An oral hearing will not be scheduled.

The text of the proposed amendment is as follows:

Section 1.181 of Title 37 CFR (Patent Rule 181) is proposed to be amended by deleting paragraph (f) thereof and replacing it with new paragraph (f) reading as follows:

§ 1.181 *Petition to the Commissioner.*

* * * * *

(f) Except as otherwise provided in these rules, any such petition not filed within 30 days from the action complained of, may be dismissed as untimely. The mere filing of a petition will not stay the period for reply to an Examiner's action which may be running against an application, nor act as a stay of other proceedings.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: July 21, 1964.

J. H. HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 64-7432; Filed, July 27, 1964; 8:47 a.m.]

Published in 29 F.R. 10472, July 28, 1964

Citation of Prior Art

It is found that citations of prior art pursuant to the notices dated December 10, 1963 (797 O.G. 733), and April 24, 1964 (802 O.G. 601), in some instances have comprised lists of more than fifty patents without any indication as to their supposed pertinence. Such citations are not helpful to the Patent Office and serve only to encumber the records without producing any useful result. It was the object of the notices referred to, to elicit citations which would be

New Applications Received During June 1964

Patents	8,168
Designs	447
Plant Patents	6
Reissues	27
Total	8,648

Issue—August 25, 1964

Patents	1072—No.	3,145,387 to No.	3,146,458, incl.
Designs	52—No.	198,968 to No.	199,019, incl.
Plant Patents	5—No.	2,439 to No.	2,443, incl.
Reissues	1—No.	25,633	
Total	1130		

helpful to the Examiner in considering the application, and that result is not obtained by voluminous citations unaccompanied by explanation. Since such citations, similarly, are not helpful to the public, it has been concluded not to publish extensive lists of citations in the manner set forth in the notice dated June 22, 1964 (804 O.G. 521), and the publication of such citations will be limited to cases in which not more than ten references have been cited.

EDWARD J. BRENNER,
July 24, 1964. *Commissioner of Patents.*

Patents Available for Licensing or Sale

3,132,628. Signalling Device. Caribeins Gehlsen, Heidelberg, Germany. Correspondence to: Hans Berman, 15 Park Row, New York, N.Y., 10038.

3,133,558. Reagent Feeding Mechanism. Jack Fajans, et al., Douglaston, N.Y. Correspondence to: Hans Berman, 15 Park Row, New York, N.Y.

3,134,186. Fishing Device and Mountings Therefor. Mark T. Krueger, 3619 Dutch Mill Road, Madison, Wis., 53716.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,123,783. Mobile Transformer Apparatus.

Applications for license under the following 11 patents may be addressed to: Patent Counsel, Turbine Division, General Electric Company, 1 River Road, Bldg. #53, Schenectady 5, N.Y.

2,601,000. Combustor for Thermal Power Plants Having Toroidal Flow Path in Primary Mixing Zone.

2,774,722. Process for Removing Ash-Forming Impurities From Petroleum Oils.

2,840,989. End Cap for Combustor.

2,974,485. Combustor for Fluid Fuels.

3,077,334. Pin-Bushed Turbine Wheel.

3,081,241. Method and Apparatus for Introducing Hydrogen Into a Steam Atmosphere.

3,131,321. Liquid-Cooled Rotor for a Dynamoelectric Machine.

3,132,731. Pivotally Disengageable Coupling With Indexing Means.

3,133,145. Flexible Insulated Joint for Electrical Conductors With Means for Fluid-Cooling.

3,135,888. Structure for Retaining Generator End Windings.

3,139,550. Slot Wedge Retainer for Electrical Windings.

Patent Withdrawn From Register

General Electric Company hereby withdraws the following patent from the Register of Patents Available for Licensing or Sale. The patent was listed as being available, in the OFFICIAL GAZETTE as indicated below:

3,054,361. Inter-Truck Guiding Control. May 5, 1964.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,773,992, L. R. Ullery, Display amplifier and method of making same, decided June 18, 1964, Interference No. 90,474, claims 10, 16, 17, 18, 19 and 20.

Patent No. 2,832,064, S. Lubkin, Cyclic memory system, decided May 13, 1964, Interference No. 91,027, claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 14 and 15.

Patent No. 2,847,425, N. G. Brink, E. A. Ham, R. E. Harman, L. H. Sarett, 18-oxygenated-Δ^4-etiocholene-17β-carboxylic acid derivatives, decided Feb. 20, 1964, Interference No. 91,204, claim 1.

Patent No. 2,868,498, E. Kaiser, Shut-off cock with annular piston sealing means for the ball plug, decided Mar. 26, 1964, Interference No. 93,063, claim 1.

Patent No. 2,878,154, G. W. Cheney and A. L. Stark, Method of sealing vinylidene chloride polymer surfaces to one another, decided Mar. 20, 1964, Interference No. 92,406, claims 1 and 2.

Patent No. 2,885,095, J. H. Guyton, Electronic D.C. meter, decided June 25, 1964, Interference No. 92,322, claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12.

Patent No. 2,897,451, R. B. Hammett, Multifrequency devices and systems associated therewith, decided Jan. 17, 1964, Interference No. 91,375, claims 25 and 27.

Patent No. 2,898,330, H. Isbenjian, Novel catalyst for the polymerization of ethylene, decided Feb. 27, 1964, Interference No. 91,759, claims 1, 2, 3, 4, 5, 7, 9 and 10.

Patent No. 2,898,890, C. Karpiej, Fuel control for spark ignition internal combustion engines, decided May 18, 1964, Interference No. 90,985, claims 8 and 9.

Patent No. 2,900,374, R. S. Aries, Aluminum halide catalysis of ethylene polymerization, decided Feb. 27, 1964, Interference No. 91,760, claims 5, 6, 9, 10, 11 and 12.

Patent No. 2,902,685, A. F. D'Amico, Polarized electrical connectors, decided Mar. 25, 1964, Interference No. 92,175, claims 1 and 3.

Patent No. 2,907,216, R. E. Smith, Reversible engine starter gearing, decided Feb. 27, 1962, Interference No. 90,956, claims 1, 2, 3 and 4.

Patent No. 2,907,895, A. J. W. M. van Overbeek, Transistor trigger circuit, decided Mar. 23, 1964, Interference No. 93,243, claim 3.

Patent No. 2,927,987, H. R. Uhl, Level switches, decided May 24, 1962, Interference No. 91,322, claims 1, 2, 3, 4 and 5.

Patent No. 2,931,742, D. D. Hicks, Process of coating substrate with composition comprising carboxyl-containing copolymer and amine-aldehyde condensate, decided Dec. 16, 1963, Interference No. 92,177, claim 1.

Patent No. 2,946,924, K. A. Gerlach and K. Wittig, Capacitor discharge circuit, decided Jan. 29, 1964, Interference No. 92,170, claim 2.

Patent No. 2,950,608, A. R. Crouch and D. W. Pound, Chemical process for making O,O-dialkyl-S-carbamoylmethylphosphorodithioates, decided Apr. 6, 1964, Interference No. 92,325, claims 1, 2, 3, and 15.

Patent No. 2,967,206, A. P. Stuart and H. M. Kheighatian, Method of preparing polypropylene with a sub chloride of zirconium or titanium activated by mono alkyl aluminum dihalide, decided May 27, 1964, Interference No. 91,914, claims 1, 2, 3, 4, 5 and 6.

Patent No. 2,971,259, R. F. Hahman and E. D. O'Toole, Method and apparatus for determining the position of sewer leaks, decided June 11, 1964, Interference No. 93,851, claim 6.

Patent No. 2,974,133, E. Wiberg and R. Hartwimmer, Catalyst of heavy metal compound and polysiloxane and use thereof in olefin polymerization, decided May 13, 1964, Interference No. 92,908, claims 1, 3, 4, 5, 6, 8, 9, 11 and 12.

Patent No. 2,974,916, S. C. Richey, Flexible retainer, decided July 2, 1964, Interference No. 93,260, claims 1 and 2.

Patent No. 2,975,339, J. A. Irvine and G. M. Rendall, Electronic counters, decided June 22, 1964, Interference No. 93,356, claims 1 and 4.

Patent No. 2,975,409, E. J. Petherick, Digital encoders and decoders, decided Mar. 26, 1964, Interference No. 91,942, claims 1, 14 and 16.

Patent No. 2,976,447, J. T. McNaney, Image storage apparatus, decided June 19, 1964, Interference No. 93,975, claim 1.

Patent No. 2,978,459, J. M. Farrell and E. F. Weller, Jr., Digital computer, decided June 22, 1964, Interference No. 93,355, claims 1, 2, 4, 8, 9, 10, 11, 12 and 13.

Patent No. 2,978,617, H. Dorendorf, Diffusion transistor, decided July 8, 1964, Interference No. 93,330, claims 1, 4 and 7.

Patent No. 2,980,834, R. A. Kaasa, Apparatus for measuring the time between seismic events with a counter, decided Apr. 2, 1964, Interference No. 92,237, claims 1, 4 and 5.

Patent No. 2,986,009, J. J. Gayewski, Thermo-electric refrigerators, decided June 3, 1964, Interference No. 92,933, claims 5 and 6.

Patent No. 2,991,173, B. Trentini and P. Vayssière, Metal refining method and apparatus, decided June 9, 1964, Interference No. 93,857, claims 1, 2, 4, 6, 8, and 10.

Patent No. 2,993,814, W. Epprecht and F. Held, Heating conductor and method of making the same, decided Feb. 13, 1964, Interference No. 92,360, claims 1 and 2.

Patent No. 2,994,504, C. L. Reed, Jr., Plug valve, decided July 2, 1964, Interference No. 92,564, claim 1.

Patent No. 2,999,482, J. L. Bower, Digital fluid control system, decided Apr. 2, 1964, Interference No. 93,324, claims 1, 2, 3 and 4.

Patent No. 3,017,714, D. K. Slosberg and E. Nakoniecznv, Method of making plastic terrazzo and resultant product, decided June 9, 1964, Interference No. 92,921, claims 1, 2, 3 and 4.

Patent No. 3,033,173, R. H. Bauman, Brake booster, decided May 21, 1964, Interference No. 93,729, claims 3, 4 and 5.

Patent No. 3,062,241, R. E. Brumbach, Composite nylon tube, decided June 11, 1964, Interference No. 93,619, claim 1.

Erratum

In the OFFICIAL GAZETTE, issue of March 4, 1958, vol. 728, p. 1, under the heading "Adverse Decisions in Interferences," Pat. 2,750,532, A. L. Samuel, Cathode-ray devices, particularly for electronic computers, decided Nov. 14, 1957, Interference No. 88,342, claims 15 and 16 were inadvertently published and should be deleted.

PATENT EXAMINING CORPS

H. B. WHITMORE, Superintendent

PATENT EXAMINING OPERATIONS AND GROUPS	Oldest Application	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Supervisory Examiner Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	7-12-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Supervisory Examiner Heterocyclic; Amides; Alkaloids; Aso; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	11-30-62	12- 6-62
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Supervisory Examiner Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1-25-63	1-25-63
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Supervisory Examiner Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	7-24-62	7- 9-62
COMPOSITIONS AND MOLDING, GROUP 150—L. H. GASTON, Supervisory Examiner Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-19-62	10-29-62
COATING AND LAMINATING, GROUP 160—J. REBOLD, Supervisory Examiner Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	6-19-62	7-31-62
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Supervisory Examiner Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	9-12-62
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Supervisory Examiner Gas, Liquid and Solid Separation; Centrifugal Bowl Separators; Gas and Liquid Contact Apparatus; Distillation; Drying; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	11-23-62	11-13-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Supervisory Examiner Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 3-62	9-11-62
SECURITY, GROUP 230—S. BOYD, Supervisory Examiner Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-18-62	11-23-62
INFORMATION TRANSMISSION, GROUP 250—S. W. CAPELLI, Supervisory Examiner Communications; Multiplexing Techniques; Facsimile and Related Art.	9-19-62	10- 9-62
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Supervisory Examiner Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	7- 3-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Supervisory Examiner Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	8- 9-62	9-24-62
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Supervisory Examiner Optics; Radiant Energy; Measuring.	9-10-62	9-13-62
ELEMENTS, GROUP 270—E. J. SAX, Supervisory Examiner Conductors; Switches; Miscellaneous.	1-10-63	1-10-63

CONDITION OF PATENT APPLICATIONS AS OF JUNE 30, 1964

Total number of pending applications (excluding Designs)	211,565
Total number of Design applications pending	6,014
Total number of applications awaiting action (excluding Designs)	127,154
Total number of Design applications awaiting action	1,997
Date of oldest new application awaiting action	June 19, 1962
Date of oldest amended application awaiting action	July 3, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during August 1964, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1958*

Patents	Numbers 2,424,925 to 2,426,290, inclusive
Plant Patents	Numbers 751 to 788, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Oldest Application	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—R. A. WAHL, Director.		
MATERIAL OR ARTICLE HANDLING AND DISPENSING, GROUP 310—A. BERLIN, Supervisory Examiner Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6- 6-63	7- 2-63
METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Supervisory Examiner Metal Bending, Drawing, Extruding, Forging, Rolling; Sheet Metal Working; Wireworking; Chain, Staple, Horseshoe Making; Metal Founding; Wire Fabrics; Plastic Working Apparatus; Plastic Block, Earthenware Apparatus.	12-13-62	1-21-63
MANUFACTURING AND ASSEMBLING MISCELLANEOUS ARTICLES, GROUP 330—A. M. HORTON, Supervisory Examiner Special Article Making; Assembling, Tool and Implement Making; and Metal Working.	10-23-62	10-1-62
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—F. H. BRONAUGH, Supervisory Examiner Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	1-22-63	1-14-63
HARDWARE, TOOLS AND JOINTS, GROUP 350—T. J. HICKEY, Supervisory Examiner Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	10-19-62
FLUID HANDLING, GROUP 360—E. PAUL, Supervisory Examiner Fluid Handling; Valves; Pipes and Tubular Conduits; Fluid Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing.	1-28-63	3- 6-63
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GARRAU, Supervisory Examiner Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	1-28-63	3- 4-63
HEATING, COOLING AND VENTILATING, GROUP 380—P. L. PATRICK, Supervisory Examiner Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation, Refrigeration, Ventilation, and Illumination.	4-12-63	4- 8-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AGRICULTURE, GROUP 410—A. RUEGG, Supervisory Examiner Animal Husbandry; Butchering; Fishing, Trapping and Vermin Destroying; Plant Husbandry; Tobacco, Earth Working.	5-31-63	6- 4-63
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Supervisory Examiner Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 1-63	3-18-63
PHYSICS, GROUP 430—R. L. EVANS, Supervisory Examiner Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	11-14-62	11-26-62
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Supervisory Examiner Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	1-31-63	4-11-63
TRANSPORTATION, GROUP 450—P. ARNOLD, Supervisory Examiner Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-26-63	3-11-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Supervisory Examiner Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	2-19-63	4-15-63
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Supervisory Examiner Printing; Typewriters; Stationery; Material Treatment.	2- 5-63	12-12-62
PERSONAL TREATMENT, ADORNMENT AND AMUSEMENTS, GROUP 480—L. R. PRINCE, Supervisory Examiner Surgery; Dentistry; Artificial Body Members; Toiletry; Amusement Devices; Jewelry; Mechanical Guns; Projectors.	4- 1-63	3-23-63
DESIGNS, GROUP 490—J. A. MANIAN, Supervisory Examiner Industrial Arts; Household, Personal and Fine Arts.	2- 8-64	2- 2-64

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE GLENN T. SEABORG

No. 7060. Decided March 19, 1964

[51 CCPA —; 328 F.2d 993; 140 USPQ 659]

1. PATENTABILITY—COMPOUND—INHERENT PRODUCTION—CURIUM.

The rejection in appellant's application of claim 1, to element 96 (curium), and of claim 2, to an isotope thereof of mass number 242, "under the 'doctrine of inherency' because of the inference that such products would inherently be produced by processes of the prior art," is reversed.

2. SAME—PROCESS—PRODUCTION OF ISOTOPE OF ELEMENT 96 (CURIUM).

In reversing the rejection of appellant's claims 28, 30, and 31, directed to the process of producing an isotope of element 96 (curium), *Held* that the "Rule 131 affidavit and exhibits show that appellant discovered curium and curium 242 and irradiated uranium and plutonium in nuclear reactors prior to December 19, 1944" and that "We think, therefore, that the showing made in the Rule 131 affidavits is sufficient to overcome Fermi et al. as a reference."

APPEAL from the Patent Office. Serial No. 75,064.

REVERSED.

Roland A. Anderson, *John A. Horan*, for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

The specification of the application [1] and the claims at issue relate to a new element having atomic number 96,[2] also known as curium (Cm), to isotopes thereof, and to methods of producing and purifying said elements. Two isotopes, curium 240 and curium 242, are disclosed, as well as two general methods of synthesis: (1) the bombardment of isotopes of the actinide group of heavy metals (the transuranic elements of atomic numbers 90 through 96) with charged nuclear particles, exemplified by the bombardment of plutonium 239 with helium ions in a cyclotron and (2) the bombardment of the same type of isotope with uncharged nuclear particles, exemplified by the bombardment of americium 241 in a neutronic reactor of the pile type. Examples of each method are disclosed, and it is indicated that the most convenient method of synthesis is by the neutron-irradiation of heavy metal isotopes, such as americium 241, plutonium 239, and uranium 238. The reactor used for the purpose is said to be that described in Fermi et al. application, Serial No. 568,904, filed December 19, 1944, which issued as Patent No. 2,708,656.

The amount or percentage of the isotope of element 96 in the transuranic fraction is controlled by varying the time of bombardment, the time of aging susequent to bombardment, or both. The curium is recovered from the irradiated mass by dissolution in sulfuric acid, followed by evaporation of the solution to dryness, re-solution of the sulfate in nitric acid, and precipitation of the curium from solution as a fluoride.

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[1] Serial No. 75,064, filed February 7, 1949, entitled "Element 96 and Compositions Thereof."

[2] As appellant states in his specification, "The expression 'element 96,' when used throughout this specification and claims, designates the element having atomic number 96, also known as curium, having the symbol Cm."

Of the five claims on appeal, two are directed to the product, element 96 (claim 1), and an isotope thereof of mass number 242 (claim 2), while the other three are directed to the process of producing the isotope of element 96 by bombardment of plutonium 240 (claim 28), or plutonium 239 (claim 30), or americium 241 (claim 31) with neutrons, aging the bombarded mass, and recovering the curium 242.

The following references are relief upon:

Fermi et al., 2,708,656, May 17, 1955.
Swiss patent, 233,011, October 2, 1944.
Smyth Report "A General Account of the Development of Methods of Using Atomic Energy for Military Purposes under the Auspices of the U.S. Government," Government Printing Office, August 1945. (Release date Aug. 11–12, 1945.) Pages 26, 41, and 94–99.
McMillan et al., Physical Review, vol. 57 (1940), pages 1185–86.

The issues before the court in this appeal are: (1) the propriety of the rejection of claims 1 and 2 as fully met by the Fermi et al. patent and the Smyth publication; and (2) the propriety of the rejection of claims 28, 30 and 31 as unpatentale over the Fermi et al. patent and the Smyth publication, in view of the McMillan et al. publication.

Product claims 1 and 2, like the product claims in companion appeal PA 7061 were rejected under the "doctrine of inherency" because of the inference that such products would inherently be produced by processes of the prior art.

The addition of the Smyth report to Fermi in rejecting product claims 1 and 2 does not affect this ground of rejection. The Smyth report, published August 1945, is the official report of the development of the atomic bomb under the auspices of the United States Government during the period 1940–1945. It reports that a reactor was built and became operative on December 2, 1942. The power level was one-half watt, which on December 12, was raised to 200 watts. It also reports that other reactors were built and operated to produce plutonium. One such reactor is described in the Fermi et al. patent. The maximum amount of curium that can be produced by operation of a reactor containing a given amount of uranium fuel can be calculated by one skilled in the art. Such calculations, appellant asserts, show that if the original reactor described in the Smyth report were operated continuously for one year at one-half watt power, the odds against a single atom of curium 242 being present in the reactor are greater than 1,000,000,000,000 to 1 (actually one chance in 8×10^{13}). The chance that one atom of curium 242 would be present in the reactor if operated continuously for one year at 200 watts is 1 in 50. The Smyth report does not mention curium, and it seems clear from the above calculations that curium could not have been produced in the original reactor.

If the statements in Fermi et al. are accepted as factual on the basis of the Smyth Report, appellant asserts (and the Solicitor does not deny) the maximum amount of curium 242 that could have been produced in the Fermi et al. reactor operated for 100 days at 500 kilowatts power can be calculated to be 6.15×10^{-13} gram. Thus appellant asserts that the reactor could have produced no more than one one-thousand-billionth of a gram of curium 242, and this one one-thousand-billionth of a gram would have been distributed throughout forty tons of intensely radioactive uranium reactor fuel. This

amount, of an unknown, unconcentrated isotope, if present, would have been undetectable.

[1] Under these circumstances and for the reasons more fully set forth in our opinion in companion appeal PA 7061, the rejection of claims 1 and 2 is reversed.

This leaves for further consideration the rejection of process claims 28, 30 and 31.

Claim 28 is the broadest of the three process claims on appeal and is directed to a process of producing curium 242 by bombarding Pu^{240} with neutrons until a substantial amount of Pu^{241} is formed, then aging, whereby Am^{241} is produced, bombarding the Am^{241} with neutrons to produce Am^{242}, aging the Am^{242}, whereby Cm^{242} is produced, and recovering the Cm^{242}. Claims 30 and 31 add to the basic process of claim 28 specific procedures for recovering the Cm^{242} produced in the bombardment and aging operations.

These claims were held to be unpatentable over Fermi et al. in view of the McMillan publication, for the reason that the specific procedure set forth in claims 30 and 31 for recovering the curium content of the irradiated material is conventional. It is the Solicitor's position that the steps of the claimed process down to the step of recovering the products of irradiation is what inherently occurs in the operation of the Fermi reactor. McMillan is said to utilize the claimed recovery procedure for transuranic element 93. Operating McMillan's recovery procedure with Fermi's 100 days irradiated product will bring down not only element 93 but also element 96.

In order to produce curium in the operation of a nuclear reactor such as that of Fermi et al., it appears that it is necessary to operate the reactor for such a period of time and with such an intensity of neutron irradiation that the uranium 238 is transmitted through the entire chain of seven precursor elements or isotopes. Plutonium 239, the isotope desired in the operation of the Fermi et al. reference reactor, appears to be automatically produced by decay after the first neutron irradiation step has been carried out on uranium 238. There is, however, no teaching in the references that the irradiation of uranium in a reactor should be carried beyond this step; in fact, appellant asserts that such irradiation would not be desired in the Fermi et al. reactor since the presence of higher precursors of the chain are deleterious to the uses to which plutonium 239 produced therein was put during the war.

In order to swear back of Fermi et al. appellant submitted an affidavit under Rule 131. This affidavit asserts conception and reduction to practice of curium (curium 242) prior to December 19, 1944, the filing date of the Fermi et al. patent. The conception of curium and curium 242 was set forth in appellant's notebook in 1942 and 1943. The exhibits show the irradiation of plutonium targets with alpha particles in a cyclotron, the radioactive identification of a new radioactive isotope and its chemical identification as a new element in July and August 1944. The new isotope was thus made, and it was identified as an isotope of a new element by its radioactive and chemical characteristics. Additional work was done to establish all of the physical, radioactive and chemical properties of the new element, but there appears to have been no doubt after August 30, 1944 that the positively identical isotope was an isotope of a new transplutonic element, even though additional work was required to determine exactly which isotope it was.

The Rule 131 affidavit also shows a continuing program of work on the products of the cyclotron and neutron irradiation of plutonium during the period from July 1944 through September 1945 (just prior to the official announcement to the world in November 1945). The reported work shows extensive radioactive and chemical examination of the irradiated samples to establish the exact chemical and isotopic structure of the new isotope which had been identified as element 96.

The Rule 131 affidavit and exhibits show that appellant discovered curium and curium 242 and irradiated uranium and plutonium in nuclear reactors prior to December 19, 1944. We think, therefore, that the showing made in the Rule 131 affidavits is sufficient to overcome Fermi et al. as a reference. Cf. *In re Wilkinson and Boothe*, 50 CCPA 701, 304 F.2d 673, 134 USPQ 171.

[2] In view of the foregoing, the rejection of process claims 28, 30 and 31 is reversed.

REVERSED.

WORLEY, *Chief Judge*, sat but did not participate in decision.

U.S. Court of Customs and Patent Appeals

IN RE GLENN T. SEABORG

No. 7061. Decided March 19, 1964

[51 CCPA —; 328 F.2d 996; 140 USPQ 662]

1. PATENTABILITY—COMPOUND—PRODUCT PRODUCED BY PRIOR ART PROCESS—*In re Wiegand et al.* DISTINGUISHED.

"We • • • find nothing in the *Wiegand* case [37 CCPA 1101] which warrants the extrapolation of a 'doctrine of inherency' and its application to the claims on appeal. The record before us, unlike the record in the *Wiegand* case, is replete with showings that the claimed product, if it was produced in the Fermi process, was produced in such minuscule amounts and under such conditions that its presence was undetectable. There was no question in the *Wiegand* case but that carbon black had been produced by the furnace process of the prior art as shown by the Brownlee carbon black product patent, and the problem there presented seems to us to come down to whether or not the appealed claims defined over that product or the products inherently produced in the prior art process."

2. SAME—PARTICULAR SUBJECT MATTER—ELEMENT 95 (AMERICIUM) AND ISOTOPE.

The decision of the Board of Appeals, refusing claims to element 95 (americium) and an isotope thereof, as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 692,730.

REVERSED.

Roland A. Anderson, *John A. Horan*, for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

The application [1] and the claims in issue relate to a new transuranic element having atomic number 95,[2] now known as americium (Am),

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[1] Appellant's application involved in this appeal is Serial No. 692,730, filed August 23, 1946, entitled "Composition of Matter and Preparation Thereof." Several process claims were allowed by the Patent Office.

[2] As appellant states in his specification, "The expression 'element 95' is used throughout this description to designate the element having atomic number 95."

to isotopes thereof, and to methods of producing and purifying said element and compositions thereof. Two isotopes of americium are disclosed, americium 241 and 242. Two general methods of synthesizing element 95 are set forth, namely (1) bombardment of plutonium with deuterons or neutrons; and (2) in a neutronic reactor operated at a relatively high power level (about 200 kw.) for an extended period of time (approximately 100 days). A suitable reactor is said to be that described in Fermi et al. application Serial No. 568,904, filed December 19, 1944, which is now U.S. Patent No. 2,708,656.

The claims in issue read simply:

1. Element 95.
2. The isotope of element 95 having the mass number 241.

There is but a single ground of rejection involving the above claims, i.e., unpatentability over the Fermi et al. patent, for the reason that element 95 must be inherently produced in the operation of the reactor disclosed therein.

The Fermi et al. patent discloses several nuclear reactors. The patent does not mention elements 95 and 96. The claims in issue were first rejected on the Fermi patent in the Examiner's letter of May 25, 1955. The specific basis for the Examiner's rejection on Fermi was the exemplary statement of reactor operation contained in the patent, namely:

> After operation of the reactor for a sufficient length of time for an amount of 94^{239} to be created sufficient for chemical separation, such as, for example, 100 days at 500 kilowatts, the reactor is shut down by inserting the control rod fully into the reactor. After about one-half hour's wait, during which all delayed neutron emission will have ceased and the more highly radioactive materials decayed sufficiently, the reactor may be unloaded.
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> • • • • • • •
>
> After 100 days' operation the aging period may be about 30 days.

Appellant, however, asserts in his brief:

> • • • The statements are exemplary only. If, however, the statements are accepted on the basis of the Smyth Report as factual, the maximum amount of americium 241 that could have been produced in the reactor operated for 100 days at 500 kilowatts power can be calculated to be 6.15×10^{-9} gram. Thus the reactor could have produced no more than one billionth [sic][1] of a gram of americium-241, and this one billionth of a gram would have been distributed throughout forty tons of intensely radioactive uranium reactor fuel. This amount of an unknown, unconcentrated isotope, if present, would have been undetectable. • • •

The Solicitor has taken no issue with appellant's assertion that the Fermi reactor in the exemplary operation relied on by the Examiner "could have produced no more than one billionth of a gram of americium-241, and this one billionth of a gram would have been distributed throughout forty tons of intensely radioactive uranium reactor fuel." In fact, the Solicitor states in his brief:

> • • • The facts are relatively simple and not actually in dispute. The rejection is not based upon a finding that the patent expressly discloses the formation of the claimed element, but rather upon the conclusion reached that that product is inherently produced in the operation of the Fermi reactor. This conclusion is based upon a comparison of the method disclosed in appellant's application for producing the product with the method of operation described in the patent. Such comparison has been sanctioned by this court in *In re Wiegand et al.* 37 CCPA 1101, 182 F.2d 633.

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[1] It would appear that appellant meant "one one-hundred millionth" rather than "one billionth," since 6.15×10^{-9} gram amounts to more than *six* billionths of a gram.

The position of the Patent Office is further stated in the Solicitor's brief as follows:

> • • • Since the products produced in a neutronic reactor depend upon the manner of operation, and appellant does not and cannot really challenge the findings of similarity between appellant's process and Fermi's process, the inference that the claimed product is inherently produced is reasonable and logical. That finding merits this court's approval, as in *In re Wiegand et al.*, supra.

The issue here arises by application of what both the appellant and the Solicitor term the "inherency doctrine," which, as we understand it, is a Patent Office doctrine which infers a lack of novelty in a product under 35 U.S.C. 101 if a comparable process for making the product is found to exist in the art. When so stated and applied to the facts here this doctrine establishes a broader basis for refusing a patent than is required by the courts in finding anticipation of an issued patent. It goes beyond the rule as stated by Judge Learned Hand in *Dewey & Almy Chemical Co.* v. *Mimex Co.*, 124 F.2d 986, 989, 52 USPQ 138 (2d Cir. 1942):

> No doctrine of the patent law is better established than that a prior patent or other publication to be an anticipation must bear within its four corners adequate directions for the practice of the patent invalidated. If the earlier disclosure offers no more than a starting point for further experiments, if its teaching will sometimes succeed and sometimes fail, if it does not inform the art without more how to practice the new invention, it has not correspondingly enriched the store of common knowledge, and it is not an anticipation.

The "inherency doctrine" we are here urged to apply appears to have been extrapolated by the Patent Office from language found in the *Wiegand* case. Whatever validity the general language used may have had in the field of carbon black production, its validity is much more doubtful when applied as it has been in the present case. The *Wiegand* case involved claims to a furnace carbon black as a product. They were rejected on references showing the production of carbon black by furnace processes and on a prior product patent covering the furnace carbon black produced by one of the furnaces. This court affirmed the action of the Board and summarized the position of the Examiner and the Board in the following language (37 CCPA at 1105):

> Both the Primary Examiner and the Board were of the opinion that Brownlee's patent product, Patent No. 1,920,352, would inherently possess the same properties as those embraced in the product defined in appellants' claims because of the similarity of the process of appellants to that of Brownlee, Patent No. 1,909,163.

The court recognized the difficulties in such cases and stated (37 CCPA 1106):

> The situation presented here is somewhat unusual and not free from perplexity, because its determination is dependent to such a great extent upon inferences rather than upon definitely established facts.

In concluding its opinion we think the court stated the problem in the *Wiegand* case as being based, at least in good part, on the indefinite nature of the claimed distinctions, i.e., the particle size of the carbon black. Thus the court stated (37 CCPA 1108):

> Appellants concede • • • that "it is not possible to go as far as might be desired in defining a new carbon black by its physical properties alone," and hence they say, "Beyond that, one must resort, for purposes of definition, to the *results* flowing from the use of the new black, such as the properties of a rubber product made with the black." • • •
>
> We are not prepared to accept this as sound law and we do not think it is supported by the Supreme Court decision—*General Electric Co.* v. *Wabash*

Appliance Corp. et al., 304 U.S. 364—cited by appellants. That decision seems to us to be directly to the contrary.[1]

But even if we be in error in that respect, the fact remains that, as obviously found by both tribunals of the Patent Office, whatever difference from the prior art exists in the claims on appeal is no more than a difference of degree.

As we view it, there is nothing in the record, nor is there any reasoning extraneous the record, which would justify reversal of the Board, and its decision is therefore affirmed.

[1] We therefore find nothing in the *Wiegand* case which warrants the extrapolation of a "doctrine of inherency" and its application to the claims on appeal. The record before us, unlike the record in the *Wiegand* case, is replete with showings that the claimed product, if it was produced in the Fermi process, was produced in such minuscule amounts and under such conditions that its presence was undetectable. There was no question in the *Wiegand* case but that carbon black had been produced by the furnace process of the prior art as shown by the Brownlee carbon black product patent, and the problem there presented seems to us to come down to whether or not the appealed claims defined over that product or the products inherently produced in the prior art process.

In the campanion appeal, PA 7060, the Board in reviewing the affidavits which had been submitted under Rule 131 to antedate the Fermi reference stated what we consider to be the fact here, that:

> • • • The exhibits submitted, considered in the most favorable light, do not show that appellant could predict with any degree of definiteness the properties or characteristics of the new elements or specify with any certainty the exact procedures which could be followed, without the exercise of more than the ordinary skill of the art, to prepare these elements. Indeed, in view of the unpredictability both as to the character of the product elements and of the processes by which they might be achieved, it is particularly reasonable to hold, as the court did in *Smith* v. *Bousquet*, 27 CCPA 1136, 1940 C.D. 474, 519 O.G. 800, 111 F. (2d) 157, that conception and reduction to practice are necessarily concurrent for an invention of this kind. • • •

We also agree with the summary statement in appellant's brief that:

> • • • There is no positive evidence that americium was produced inherently in the natural uranium fuel by the operation of the reactor for the times and at the intensity mentioned in the exemplary statement relied upon by the Patent Office. The calculations, however, that the maximum amount of americium-241 which could have been produced by the operation of the reactor disclosed in the Fermi patent for 100 days at 500 kilowatts would have been one billionth of one gram (1/1,000,000,000), show that the element, if produced, was produced in the most minute quantities. If the one billionth of a gram were produced, it would have been completely undetectable, since it would have been diluted with the 40 tons of intensely radioactive uranium fuel which made up the reactor. The possibility that although a minute amount of americium may have been produced in the Fermi reactor, it was not identified (nor could it have been identified) would preclude the application of the Fermi patent as a reference to anticipate the present invention.

Since we reject the position of the Board in affirming the rejection on the Fermi patent, there is no reason to here consider the sufficiency of the Rule 131 affidavits as establishing for appellant a date of invention prior to the date of the Fermi reference.

[2] For the foregoing reasons, the decision of the Board is reversed.

REVERSED.

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[1] The Supreme Court, in *United Carbon Co.* v. *Binney & Smith Co.*, 317 U.S. 228, 237 (1942), a case which also involved the carbon black art, had this to say with respect to the problem of indefiniteness:

> • • • Whether the vagueness of the claim has its source in the language employed or in the somewhat indeterminate character of the advance claimed to have been made in the art is not material. An invention must be capable of accurate definition, and it must be accurately defined, to be patentable, Cf. *General Electric Co.* v. *Wabash Corp.*, supra, at 372–373.

We are convinced, although it was not stated in so many words, that this was the principal difficulty which the court in *Wiegand* found with the subject matter there claimed.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM H. MARRA, TYRRELL H. WERNER AND WARREN B. GILMAN

No. 7117. Decided April 9, 1964. Petition for rehearing denied June 18, 1964

[51 CCPA —; 329 F.2d 970; 141 USPQ 221]

1. WORDS AND PHRASES—"APPLYING" INCLUDES BOTH "COATING AND "IMPREGNATING."

"The method claim merely recites 'applying' the composition which would appear to include both 'coating' processes and 'impregnating' processes, even if there is a distinction between 'coating' and 'impregnating,' and there is no evidence that the art recognizes a distinction."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"MINERAL-COATED PRINTING PAPER."

The decision of the Board of Appeals, refusing the claims in an application entitled "Mineral-Coated Printing Paper" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 25,186.

AFFIRMED.

Robert B. Russell, Russell, Chittick & Pfund, for appellants.

Clarence W. Moore (*J. E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the affirmance by the Board of Appeals of the Examiner's rejection of appellants' patent application.[1]

The invention relates to a method of coating paper with an aqueous composition containing a mineral pigment, an adhesive and a water repellent dimer of an aliphatic ketene. In discussing the prior art, the specification states:

It has been known for many years to make mineral-coated printing paper by applying to the paper base, an aqueous suspension or slurry containing mineral pigment, such as clay or calcium carbonate, and which also contains water-dispersible binding material or adhesive, such as starch adhesive or casein. The dry weight of adhesive used in a coating composition generally is small in comparison to the weight of pigment in such coating composition, since ordinarily it is desired to use the smallest amount of adhesive which will bind the coating pigment securely to the paper base. Consequently the final layer of dry coating contains capillary pores into which ordinary aqueous ink and printing ink can easily penetrate.

In addition it was found desirable to "size" the paper to make it water repellent. Ordinarily, according to the specification, sizing was accomplished by precipitating rosin with alum, but alum had several disadvantages. The specification notes:

* * * The purposes of the invention are accomplished by including in the aqueous mineral-coating composition, a sizing agent which has not hitherto been used in mineral-coating compositions.

The sizing agents disclosed are dimers of aliphatic ketenes having hydrocarbon chains of from six to twenty carbon atoms. The ketene dimers are said to "migrate" from the coating to the underlying paper to render it water repellent.

Claim 12 is drawn to a process of applying the composition after preparing an unsized web and thereafter aging the coated web. The remaining claims, 13 and 14, claim the resultant mineral coated paper.

Claim 12 reads:

A process for sizing paper comprising the steps of: preparing a substantially unsized fibrous cellulose paper web, preparing an aqueous coating composition

[1] Serial No. 25,186, filed April 28, 1960, for "Mineral-Coated Printing Paper."

consisting essentially of a mineral pigment selected from the group consisting of clay, calcium carbonate, magnesium carbonate, talc, titanium dioxide, barium sulfate, zinc sulfide, satin-white and ochre, an adhesive binder for said pigment selected from the group consisting of starch, casein, soy protein, gelatin, animal glue, British gum, dextrin, polyvinyl alcohol, synthetic latex, and water soluble and alkali soluble cellulose esters, and between 0.25% to 4% by weight of total solids in said coating composition of a water repellent dimer of an aliphatic ketene having from 6 to 20 carbon atoms in its aliphatic hydrocarbon group; applying said coating composition to said web; and thereafter aging said coated web; whereby during said application said coating composition and the water therein penetrate the surface of said web, with said coating composition affixing itself firmly to said web, and said dimer thereafter and during said aging step migrates from said coating composition to the fibers of said sheet and sizes the same.

The issue is whether the Board of Appeals erred in rejecting the claims as unpatentable over the prior art.

The Examiner and the Board relied on the following references:

Ruff, 2,140,394, December 13, 1938.
Downey, 2,627,477, February 3, 1953.
Keim et al., 2,762,270, September 11, 1956.

The Ruff patent discloses a method of coating paper with an aqueous composition of starch and a mineral pigment and an adhesive of starch or casein. The patent states:

• • • A starch alkaline material as prepared according to this invention may be mixed directly with a solution of casein; and may be sized with rosin and alum with practically no loss in sizing efficiency or excessive use of alum.

The Downey patent relates to a higher alkyl ketene dimer emulsion as a substitute for rosin in the sizing of paper. The ketene dimer is said to be reactive with the hydroxyl groups of the cellulose fibers. The Downey patent states:

• • • For the purpose of sizing paper, which is one of the ultimate processes to which the composition may be applied, the effectiveness of the emulsion as containing organic thickening agents such as, for example, starch, cellulose derivatives, or the like, is particularly surprising inasmuch as the ketene dimer which exhibits reactivity toward the carbohydrate cellulose molecule of the paper fibers is at the same time substantially unreactive both toward the hydroxyl groups of the aqueous medium and toward the hydroxyl groups of a carbohydrate thickening agent.

The Downey patent refers to a copending application which matured into the Keim et al. patent. The latter patent discloses a process of sizing paper with a ketene dimer emulsion, "the new sizing agent being used in an amount astonishingly less than that needed with rosin and rosin substitutes."

The Examiner found that Downey "fully anticipates this claim (12) except for the fact that it does not disclose the use of one of the applicant's claimed nine mineral pigments in the patentee's aqueous sizing composition of starch and aliphatic ketene dimer," and that "it would not be unobvious to merely add some clay or calcium carbonate to the sizing composition in Downey since it is conventional in the paper coating art to use mineral pigments as evidenced by Ruff, page 3, column 1, lines 10–27 and admitted by applicants in the specification, page 3, lines 7–11."

The Board affirmed, stating:

We find nothing unobvious for one skilled in the art in incorporating in the sizing composition containing the ketene dimer and starch of Downey, the pigment material of Ruff. Appellants urge that one skilled in the art would think that the pigment would absorb the ketene dimer. Since Downey, column 3, states that the ketene dimer is substantially unreactive toward the starch, from this it is not unexpected that the ketene dimer does not react with the pigment.

Downey indicates that other substances, such as soaps, detergents, wetting and dispersing agents and the like can be included in his dimer sizing composition, which substances would necessarily cause more trouble with the action of the ketene dimer than would an inert pigment. Appellants have also urged that the aging step is critical. As the Examiner has pointed out, however, Keim et al. show this in sizing paper with a ketene dimer.

Appellants contend that the term "sizing" is used in the specification as referring to a water repellent agent and that the disclosure of "a sizing agent" in the prior art does not necessarily mean that it is "a sizing agent of a type suitable for appellants' purposes." Another distinction urged is between "coating" of paper and "impregnating" of paper. Appellants argue that Downey and Keim et al. are concerned with paper sized by *impregnating* it with ketene dimer and not by *coating*. Although Ruff contemplates either coating a paper web or impregnating it, appellants submit that rosin size is used only with an impregnating process and not with a coating process. It is argued that adding mineral pigment to the Downey composition does not change the impregnating composition into a coating composition; that it would be expected that the mineral pigment would prevent the ketene dimer from "migrating" into the paper; that combining ketene dimer with a coating composition is unobvious in the absence of knowledge of the extraordinary migrating ability of the ketene dimer; that the prior art did not appreciate the migrating ability of the ketene dimer; and that it is unobvious to age the coated paper.

We agree with the Solicitor that it would be obvious to substitute the ketene dimer sizing agent of Downey or Keim et al. for the rosin sizing agent in the aqueous compositions of mineral pigment and starch disclosed in Ruff.

Whatever definitions have been given to the term "sizing agent" in the art, it seems clear that Downey and Keim et al. use the term in the same manner as appellants for the same purpose and for the same material, viz. ketene dimer. The Keim et al. reference specifically suggests substituting ketene dimer for rosin or rosin substitutes in sizing paper. Even a narrow definition of "sizing agent" cannot avoid the fact that the same ketene dimers used by appellants, by any name, are disclosed in the prior art for sizing paper.

We have difficulty accepting the distinction urged by appellants that "coating" differs from "impregnating" in this case. It would appear that a porous material like paper would be impregnated to some extent by an aqueous composition applied "by various coating techniques" as Keim et al. suggests, whether the composition is called "coating" or "impregnating." It seems doubtful that a clearly defined interface between the paper and the coating would result. The differences between coating compositions and impregnating compositions, according to appellants, are in dilution and viscosity. That is, a "coating composition usually has a high-solids content and a relatively high viscosity." It is clear that none of the claims have any limitations on dilution (solids content) or viscosity. [1] The method claim merely recites "applying" the composition which would appear to include both "coating" processes and "impregnating" processes, even if there is a distinction between "coating" and "impregnating," and there is no evidence that the art recognizes a distinction. Accordingly, we see no justification for concluding that it is unobvious to employ a sizing agent in either a "coating" composition or an "impregnating" composition.

We also see no reason for expecting that mineral pigment should prevent the ketene dimer from sizing the paper. Downey states that the ketene dimer is unreactive towards other ingredients of the sizing composition there disclosed, although it is reactive toward the paper fibers. One skilled in the art would hardly expect the inert clay or other mineral pigment to reduce the effectiveness of the Downey ketene dimer in reacting with cellulose paper fibers. While some of a very thick coating composition would be expected to stay on the surface of even a porous paper, we find nothing unobvious in the fact that some of the ketene dimer reacts with the paper fibers to render them water repellent in view of the Downey disclosure. We note that appellant states that "some of the ketene dimer remains with" the coating. Since only minute amounts of the ketene dimer are used in the first place, and the claims fail to indicate what proportion goes into the fibers, there appears to be nothing which would not be obvious to one of ordinary skill in the art. Since Downey teaches that the ketene dimer will not react with anything present in the coating composition, yet will react with the paper, it seems entirely within the realm of the expected that appellants' composition, containing in addition an inert mineral pigment, behaves in the same fashion as the Downey composition.

The Keim et al. patent specifically states that sizing of the treated paper improves on standing after application of the ketene dimer. We think this is a clear suggestion of the claimed "aging" step and that one working in the art would find it obvious to age the ketene dimer treated paper.

We do not consider it unobvious to combine a ketene dimer sizing agent with a coating composition because the Ruff patent shows that other sizing agents (which ketene dimers were intended to replace) were used in coating compositions. Even if the "migrating ability" is "extraordinary" as alleged by appellants, the claims before us fail to define subject matter which, when considered as a whole, would not be obvious to a person having ordinary skill in the art.

[2] Accordingly, the decision of the Board is affirmed.

AFFIRMED.

SMITH, *J.* (dissenting) with whom RICH, *J.*, joins.

The majority opinion seems to be predicated on what is essentially a hindsight reconstruction of the prior art. I cannot rationalize it except as I ignore what seems to me to be the scope of the invention set forth in the specification and claims. I shall, therefore, begin this dissent by stating what I understand to be the invention.

The specification discloses that "According to this invention, a web or sheet of paper is simultaneously sized and coated." This is accomplished in a single operation by applying to the paper web an aqueous coating composition which contains *both* the pigment and the sizing material. The sizing materials which appellants disclose are dimers of aliphatic ketenes. Appellants' mixture of dimer, pigment and an aqueous dispersing medium thus provides in a *single step* a coating for and a sizing of the paper web. The specification also discloses:

> • • • Tests have shown that the dimer is uniformly distributed in the *combination sizing and coating composition*, and that, when such *combination sizing and coating composition* is applied to an unsized or partially sized or wholly sized paper web, at least part of the dimer ingredient migrates to the paper web to provide sizing or additional sizing thereon, and part of said dimer ingredient

will, in certain formulas of the improved combination composition later disclosed herein, remain in the final dried coating, thus decreasing the absorption of water by the final dried coating. [Emphasis added.]

The specification discloses further:

Tests have shown that these *dimers, when included in a coating composition*, migrate or are transferred from the coating composition to the paper base and provide *sizing* in the paper base. In prior *coating* compositions which contain a *sizing* agent, said sizing agent remains wholly or substantially wholly in the dried coating so that the paper base is not appreciably sized. [Emphasis added.]

Rejected process claim 12 particularly claims:

* * * preparing an aqueous coating composition consisting essentially of a mineral pigment * * *, an adhesive binder for said pigment * * *, and between 0.25% to 4% by weight of total solids in said coating composition of a water repellent dimer of an aliphatic ketene having from 6 to 20 carbon atoms in its aliphatic hydrocarbon group * * *.

Rejected claim 13 calls for the mineral-coated paper per se in which *both* its *fibers* and its *pigmented coating* are sized by a sizing agent defined as "a water repellent dimer of an aliphatic ketene." The claim further requires that the sizing agent is uniformly admixed with the mineral pigment in the coating and that the fibers of the paper web are uniformly sized when the sizing agent migrates from the pigment to the paper fibers.

In claim 14, the paper of the claim is further characterized:

* * * by said dimer uniformly coating the said pigment at the surface of said coating whereby said pigment is protected by said dimer from the acidity of an acid fountain solution of a lithographic printing press having a pH of about 3.5.

It is to be noted that in all appealed claims, migration of the dimer from the coating to the paper fibers is recited.

Dealing as we are here with highly technical concepts of physical chemistry, I do not think we should ignore, as the majority appears to have done, this physical phenomenon which has been thus stressed by appellants. We are told that the dimer and the aqueous vehicle may be mixed to form a particular type of emulsion and that the pigment is then added thereto. Thus, the specification states:

If desired, the ketene dimer in liquid form, heated if necessary for convenient use, may be stirred into an aqueous coating composition which includes pigment and adhesive, with or without the addition of an emulsifying agent. The preferred practice is to make an aqueous emulsion of the dimer, and to mix said emulsion into the aqueous coating composition.

The emulsion containing the dimer is, however, disclosed as a particular type of emulsion. Thus appellants state:

* * * The initial emulsion which is thus formed has a yellow color, and it is an emulsion of water in oil. When about half of the water has been added, the emulsion becomes an emulsion of oil in water, and the original yellow color changes to a white color.

One of ordinary skill in the emulsion art would recognize that the properties of such an emulsion can be affected by the presence of finely divided solids in the continuous phase, and particularly so by such solids as may be present at the interface between the continuous and disperse phases of the emulsion. Here, it seems to me, is a substantial difference between the invention for which appellants seek a patent and the disclosures of the prior art. Here, also, we are dealing with an area of technical skills which can well be beyond those of one ordinarily skilled in the paper sizing and coating field. The particle size of the pigments which are a part of the coating composition is described by appellants as preferably being "in a range from 0.2 to 8 microns." Such a pigment is known to be a fine powder

having a large specific surface area per unit of weight. Such large specific surfaces are known to cause various physical changes in emulsion type vehicles. However, as described in the specification:

> * * * The dimer is uniformly distributed in said aqueous composition, either in the water thereof, or as a coating on a pigment, or both in the water and on said pigment. In the case of our preferred practice of mixing the mineral pigment with at least part of the adhesive material prior to addition of the ketene dimer to the coating composition we believe that a large part of said dimer remains suspended in the aqueous component of said coating composition up to and including the time that the aqueous coating composition is applied to the paper base. We do not however wish to be limited to this theory, because the essential factor is to provide a sizing agent which enters and sizes the paper from the combination composition.

The disclosed invention, therefore, is the provision of a single sizing and coating material which can be placed on the paper web in a single step and in which the dimer used as the sizing agent will be transferred from the coating and can migrate into the paper.

I would agree with appellants that this migration is an unobvious phenomenon in physical chemistry. Normally it would seem that a dimer maintained in the disperse phase of an aqueous emulsion would remain there, or if not, that the forces of attraction and adsorption exhibited by the pigment would prevent the migration of the dimer from the coating to the pigment fibers. Or the presence of such solids at the interface of the oil in water emulsion might cause an inversion of the phases in which case it would be expected that the dimer would be freed and thus would no longer be uniformly distributed in the coating composition.

It is noted further that appealed process claim 12 requires an aging step during which "said dimer * * * migrates from said coating composition to the fibers of said sheet and sizes the same."

The majority opinion concludes that the claimed process and the claimed product are obvious and states:

> We agree with the Solicitor that it would be obvious to substitute the ketene dimer sizing agent of Downey or Keim et al. for the rosin sizing agent in the aqueous compositions of mineral pigment and starch disclosed in Ruff.

Undoubtedly this conclusion has its premise in the further statement of the majority that:

> We have difficulty accepting the distinction urged by appellants that "coating" differs from "impregnating" in this case. It would appear that a porous material like paper would be impregnated to some extent by an aqueous composition applied "by various coating techniques" as Keim et al. suggests, whether the composition is called "coating" or "impregnating." It seems doubtful that a clearly defined interface between the paper and the coating would result. The differences between coating compositions and impregnating compositions, according to appellants, are in dilution and viscosity. That is, a "coating composition usually has a high-solids content and a relatively high viscosity." It is clear that none of the claims have any limitations on dilution (solids content) or viscosity. The method claim merely recites "applying" the composition which would appear to include both "coating" processes and "impregnating" processes, even if there is a distinction between "coating" and "impregnating," and there is no evidence that the art recognizes a distinction. Accordingly, we see no justification for concluding that it is unobvious to employ a sizing agent in either a "coating" composition or an "impregnating" composition.

It seems to me that appellants' position is more realistic than that of the majority on the question of obviousness and I would agree with the position, stated in appellants' brief, that:

> * * * while the art had appreciated that the ketene dimer was an excellent paper sizing agent, the art was totally unappreciative of the ability of the ketene

dimer to migrate from a coating composition containing a large amount of mineral pigment prior to appellants' discovery of this property of the ketene dimer and that as a consequence the feasilibity and utility of the claimed process were not apparent to the art. One skilled in the art with the cited references on hand would not be induced to carry out the claimed process, i.e., to apply the ketene dimer to a paper sheet through the agency of a pigmented coating composition.

Turning to the references, it is seen that Keim is concerned only with the sizing of the paper web by *impregnating* it with the ketene dimer. He sizes water-leaf paper sheets with a dilute emulsion of the ketene dimer, thoroughly wetting the sheets to the point where the excess emulsion can be removed by squeezing. Admittedly Keim teaches the sizing effectiveness of the ketene dimer. He does not teach, however, that the ketene dimer can and will *migrate* from an applied paper coating to the paper stock, nor does he indicate that the ketene dimer could be applied in admixture with a paper coating pigment to a paper web in a *one-step coating and sizing operation.*

The Downey reference relates to an improvement on the teachings of Keim. Downey teaches that the ketene dimer emulsion can have added to it an organic thickening agent for the purpose of preserving the emulsion. Downey, like Keim, is concerned only with *impregnating* compositions and not *coating* compositions. There is no indication that mineral pigment could be added to the impregnating emulsions, and, more importantly, there is no teaching that the ketene dimer is capable of migrating from a pigmented coating composition into a paper web.

Ruff discloses an improved type of starch sizing agent and adhesive which is admixed with mineral pigment and can be used for either coating a paper web or impregnating (filling) it.

On what basis then can the majority properly conclude from the disclosures of these references that one skilled in the art would be aware of the property discovered by appellants, i.e., that the ketene dimer would migrate from a pigmented coating into the paper web and size it? I find nothing in these references to indicate such a phenomenon. One skilled in this art would, I think, in fact expect the opposite, i.e., that the ketene dimer would *not* migrate, in view of the very minute amounts used, the nature of the emulsion in which it forms the disperse phase, and the very large surface area presented by the pigment of the coating.

The claims can be met by the art only as one indulges in a hindsight combination of the references. Appellants grant that if the combination of references is justified,

> • • • one can then turn to the question of what its inherent properties would be. Appellants' position is, however, that in the absence of knowledge of the extraordinary migrating ability of minute amounts of the ketene dimer the teachings of these references would not induce one skilled in the art to attempt the combination. His knowledge and experience would in fact turn him away from doing so. Only by careful experimentation did the appellants come across the surprising discovery of the ability of the ketene dimer to migrate from highly pigmented coating compositions. These references which they were well acquainted with did not tell them this!

I agree with the statement in appellants' brief:

> The principal point for decision is whether one skilled in the art, in the absence of knowledge about the unusual migrating ability of the ketene dimers and with the knowledge of the effect that a mineral pigment of high surface area has on minor ingredients in coating compositions, would be induced by these references to formulate a pigmented paper coating composition containing the ketene dimer.

In my opinion, neither the claimed process nor the claimed sized, pigmented paper product is obvious within the meaning of 35 U.S.C. 103 and I would, therefore, reverse the appealed decision.

U.S. Court of Customs and Patent Appeals

IN RE ARTHUR L. MALOT, CHARLES R. MALONEY AND JAMES O. HAMBRICK

No. 7137. Decided March 12, 1964

[51 CCPA —; 328 F.2d 933; 140 USPQ 599]

1. REJECTION—BASIS—35 U.S.C. 103, 102.

"We are unable to agree that the Board relied on 35 U.S.C. 102 in rejecting the claims, since it relied on the indication in Hunter et al. of 'the expected equivalence of substituted phenyl methyl carbinols and the claimed unsubstituted phenyl methyl carbinol in reactions involving dehydration of the carbinol group' with the process disclosed in Seymour et al. and its British counterpart, Monsanto. The Board stated it would 'be obvious to the chemist of ordinary skill' to carry out the claimed process. The use of the language of 35 U.S.C. 103 by the Board rebuts appellants' argument that it relied on 35 U.S.C. 102. Moreover, on reconsideration the Board stated 'we combined references' which sounds very unlike a rejection predicated on section 102 of the statute."

2. PATENTABILITY—OBVIOUSNESS—STATEMENT BY BOARD UNCHALLENGED—KNOWN SCIENTIFIC FACT.

"The statement by the Board that the potassium and sodium bisulfate catalysts of Seymour et al. produce vaporous sulfuric acid at the temperatures employed in the patent remains unchallenged. The Solicitor states that it 'is a known scientific fact.' Since Seymour et al. do in fact show the claimed vapor phase catalyst to be old in dehydrating substituted derivatives of phenyl methyl carbinol, we agree with the Board that it would be obvious to dehydrate other unsubstituted phenyl methyl carbinols in the vapor phase to produce unsubstituted styrenes. The Hunter et al. reference discloses that substituted and unsubstituted phenyl methyl carbinols may each be dehydrated using a somewhat different catalyst. To employ either the substituted derivative or the unsubstituted carbinol in the Seymour et al. process, would be obvious to one of ordinary skill in the art in view of the suggestion in Hunter et al."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—REFUSAL BY BOARD OF APPEALS TO REMAND.

In passing adversely upon the question presented by appellants as to whether or not the Board of Appeals, in affirming the Examiner, made a new rejection under Rule 196(b) so as to afford appellants the opportunity to amend their claims in view of the new rejection, *Held* that the "Rules of Practice of the Patent Office have provided what we consider to be a 'fair and full hearing' to appellants"; that "We do not pass judgment on the administrative policies embodied in the Rules of Practice"; and that "Matters of practice should be decided by petition to the Commissioner."

4. PATENTABILITY—PARTICULAR SUBJECT MATTER—"PRODUCTION OF STYRENE FROM PHENYL METHYL CARBINOL."

The decision of the Board of Appeals, refusing claims in an application entitled "Production of Styrene From Phenyl Methyl Carbinol" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 622,837.

AFFIRMED.

J. Hart Evans, *Paul A. Rose*, for appellants.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals refusing claims in patent application Serial No. 622,837, filed November 19, 1956, for "Production of Styrene From Phenyl Methyl Carbinol."

The invention relates to a method of producing styrene. The prior art taught the dehydration of phenyl methyl carbinol with the aid of a catalyst to form styrene. The claimed invention here appealed is "the discovery that phenyl methyl carbinol can be dehydrated to styrene with sulfuric acid as the catalyst in the vapor phase."

Claim 1 is illustrative and reads as follows:

> Process for producing styrene which comprises heating phenyl methyl carbinol in the vapor phase and in the presence of sulfuric acid at a temperature sufficiently elevated to cause dehydration of said phenyl methyl carbinol.

Three rejections were sustained by the Board of Appeals: (1) unpatentable over prior art; (2) undue breadth and functionality; and (3) undue multiplicity.

As to (1), the Board relied on the following references:

Seymour et al., 2,634,302, April 7, 1953.
Hunter et al. (British), 589,015, June 9, 1947.
Monsanto (British), 633,646, December 19, 1949.

Appellants state, and the Solicitor agrees, that the Seymour et al. patent is the United States counterpart of the Monsanto British patent, and the two are substantially identical. Therefore, only Seymour et al. will be discussed here.

The Seymour et al. patent discloses the dehydration of dimethyl-biphenyl-carbinol to isopropenyl biphenyl in the vapor phase in the presence of one of a number of catalysts at temperatures "above 225° C. and preferably in the neighborhood of 250° C. to 320° C." Included in the catalysts disclosed are sodium and potassium bisulfate.

The Hunter et al. patent discloses the vapor phase dehydration of phenyl methyl carbinol and substituted phenyl methyl carbinols in the presence of one of a variety of catalysts. Included in the catalysts disclosed is phosphoric acid, but not sulfuric acid. Hunter et al. notes that the dehydration process had been carried out in the liquid phase with sulfuric acid in the prior art. Substituted phenyl methyl carbinols are contemplated as shown by the following:

> According to the invention therefore phenyl methyl carbinol or a substitution derivative thereof is heated in the vapour phase under a pressure below 300 mm. of mercury in contact with a dehydration catalyst. The term "substitution derivative" is employed to denote both alkyl substitution derivatives (i.e., homologues) and derivatives containing other substituting groups or atoms, for example aryl groups and/or halogen atoms, either in the nucleus or in the side chain or in both.

The Examiner rejected the claims "as unpatentable over Fenoglio et al., Hunter et al., McKeever et al., Kern, Seymour et al. and the Monsanto (British) patent." The Examiner considered the dimethyl biphenyl carbinol of Seymour et al. to be "a similar alcohol" to phenyl methyl carbinol. He said:

> * * * It is not deemed inventive to employ any specific compound capable of yielding sulfuric acid in the process of the references in the absence of a showing of any new and unexpected results. Furthermore, it is not inventive to conduct a reaction in the vapor phase which formerly had been carried out in the liquid phase.

On appeal, the Board disagreed with the rejection "based upon McKeever et al., Kern, Fenoglio et al. or Hunter et al. alone." It drew a distinction between vapor phase dehydration and liquid phase dehydration. However, Hunter et al. was found to provide an "art

recognition of the relationship between the starting carbinol of Seymour et al. or Monsanto and of appellants." That is, dimethyl biphenyl carbinol, as in Seymour et al., was considered a "substituted phenyl methyl carbinol." With this relationship in mind, the Board found it obvious "to apply the vapor phase dehydration employing potassium or sodium bisulphate as the catalyst to appellants' starting material."

The Board found the catalysts of Seymour et al. to correspond to the terms of the claims relating to catalysts, stating:

> Since it is clear that under the conditions of dehydration at temperatures up to 320° C. taught in these references, the potassium or sodium bisulphate will, in accordance with the reaction mechanism pointed out in pages 4 and 5 of appellants' specification, produce vaporous sulfuric acid and sulphur trioxide as well as mixtures of sodium or potassium sulphate and sodium or potassium bisulphate and of such sulphates in admixture with sulfuric acid, the dehydrating catalyst of Seymour et al. and Monsanto corresponds with that employed by appellants.

Two questions are posed by appellants with respect to the rejection on prior art. They are:

> The first question presented in this case is whether or not the Board, in affirming the Examiner, made a new rejection under Rule 196(b) of the Patent Office Rules of Practice so as to afford appellants the opportunity to amend their claims in view of the new rejection. The second question is whether the Hunter et al. reference really teaches the equivalency of phenyl methyl carbinol with substituted phenyl methyl carbinols.

It is appellants' contention that further prosecution of the case should have been permitted by remanding to the Examiner in order that an amendment could be considered in which

> • • • the number of claims was reduced, the type of compound capable of yielding sulfuric acid was much more narrowly defined and, most important, the claims were limited by the recitation of the absence of a solid catalyst.

Appellants argue that the Examiner never found that Seymour et al. discloses compounds which yield sulfuric acid as a vapor phase dehydration catalyst; that this finding by the Board constitutes a new rejection; that the Examiner rejected the claims under section 103 of the statute, whereas the Board relied on section 102; that the rejection is based on hindsight; and that refusal of the opportunity for appellants to amend the application after the decision of the Board "would deprive them of a fair and full hearing."

We find no support for the contention that the Examiner and the Board relied on different sections of the statute in rejecting the claims. Appellants state:

> Neither the Examiner nor the Board ever identified the statutes under which rejection was made. It is apparent, however, that the Examiner's action is taken under 35 U.S.C. 103 and is a rejection for obviousness in view of the prior art. • • •
>
> The rejection by the Board, however, appears to be under 35 U.S.C. 102 inasmuch as the Board contradicts the Examiner and holds that the use of sulfuric acid produced *in situ* is shown in the Seymour et al./Monsanto reference.

[1] We are unable to agree that the Board relied on 35 U.S.C. 102 in rejecting the claims, since it relied on the indication in Hunter et al. of "the expected equivalence of substituted phenyl methyl carbinols and the claimed unsubstituted phenyl methyl carbinol in reactions involving dehydration of the carbinol group" with the process disclosed in Seymour et al. and its British counterpart, Monsanto. The Board stated it would "be obvious to the chemist of ordinary skill" to carry out the claimed process. The use of the language

of 35 U.S.C. 103 by the Board rebuts appellants' argument that it relied on 35 U.S.C. 102. Moreover, on reconsideration the Board stated "we combined references" which sounds very unlike a rejection predicated on section 102 of the statute.

[2] The statement by the Board that the potassium and sodium bisulfate catalysts of Seymour et al. produce vaporous sulfuric acid at the temperatures employed in the patent remains unchallenged. The Solicitor states that it "is a known scientific fact." Since Seymour et al. do in fact show the claimed vapor phase catalyst to be old in dehydrating substituted derivatives of phenyl methyl carbinol, we agree with the Board that it would be obvious to dehydrate other unsubstituted phenyl methyl carbinols in the vapor phase to produce unsubstituted styrenes. The Hunter et al. reference discloses that substituted and unsubstituted phenyl methyl carbinols may each be dehydrated using a somewhat different catalyst. To employ either the substituted derivative or the unsubstituted carbinol in the Seymour et al. process, would be obvious to one of ordinary skill in the art in view of the suggestion in Hunter et al.

The fact that the Examiner did not point out that Seymour et al. disclose "a sulfur compound in the vapor phase capable of yielding sulfuric acid" does not convince us that the claimed process is not obvious. We agree with the Board that this is not a new rejection. Clearly, appellants had adequate notice of the Seymour et al. patent since the record shows it was cited at least as early as August 1, 1958.

[3] It appears to us that appellants are "attempting to make a mountain out of a mole-hill by arguing at great length * * * to the effect that we should do something about the failure of the Board to remand the case back to the Examiner." *In re Cowles*, 33 CCPA 1236, 156 F.2d 551, 70 USPQ 419; *In re Bush*, 49 CCPA 752, 296 F.2d 491, 131 USPQ 263.

The Rules of Practice of the Patent Office have provided what we consider to be a "fair and full hearing" to appellants. We do not pass judgment on the administrative policies embodied in the Rules of Practice. *In re Chromy et al.*, 50 CCPA 1330, 318 F.2d 937, 137 USPQ 884. Matters of practice should be decided by petition to the Commissioner. See *In re Jewett et al.*, 45 CCPA 714, 247 F.2d 953, 115 USPQ 134.

Having found no error in the holding of the Board that the claimed invention is obvious in view of the prior art, it is unnecessary to consider the other grounds of rejection advanced below.

[4] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

In the United States Patent Office
Before the Board of Appeals

EX PARTE KENNETH REINER

Appeal No. 241—95. Decided March 31, 1964

1. *Philco* v. *Admiral* DISTINGUISHED—TERMINAL BOX FACE PLATE.

Upon considering a claim in a design patent application calling for "The ornamental design for a terminal box face plate assembly as shown" which was rejected by the Examiner for "lack of complete disclosure since the back of the claimed article has not been shown," on the authority of *Philco* v. *Admiral*, 131 USPQ 413, where the court found that the failure to disclose some particular configuration for the back of a television receiver was a fatal defect, *Held* that "We think that here the figures of the drawing, particularly FIGURES 3 and 4 and the absence of any dotted line denotations

therein, when considered in relation to the other figures, would give rise to an inference * * * that the back of appellant's device was intended to be flat and unadorned"; that "* * * in the instant situation, in contradistinction from that in *Philco* v. *Admiral*, there is nothing to disturb this inference, there being no technical factors connected with the type of device here involved presenting any particular configurational requirements"; and that "* * * as denoted by appellant, the rear portion of the instant design would be essentially irrelevant and of no significant import, since it would be hidden in the normal use of the device."

2. SAME—PARTICULAR SUBJECT MATTER—"TERMINAL BOX FACE PLATE ASSEMBLY."

The decision of the Examiner, refusing the single claim of appellant's application for a design patent for a "Terminal Box Face Plate Assembly" because of the lack of a complete disclosure since the back of the claimed article has not been shown, is reversed.

APPEAL from the Examiner (E. H. Hunter) of Group 400. Serial No. D. 64,584.

REVERSED.

T. L. Stam for appellant.

Before MCCANN, FRIEDMAN and KREEK, *Examiners-in-Chief*

FRIEDMAN, *Examiner-in-Chief*.

[1] This is an appeal involving a design. Since appellant's proposed amendment submitted October 15, 1963 has not been entered by the Examiner, the claim on appeal reads as follows:

The ornamental design for a terminal box face plate assembly as shown.

While the Examiner has listed six patents and a publication item at page 1 of his answer, he indicates unequivocally that these are "not relied on for rejection." Therefore, we will not burden this decision with their listing herein.

The purposes and appearance aspects of the instant design are described at pages 1 and 2 of appellant's brief.

As stated by the Examiner:

"The claim stands finally rejected because of lack of complete disclosure since the back of the claimed article has not been shown. Failure to disclose the back is believed to preclude one skilled in the art from making and using such an article."

The Examiner bases this position on the decision of *Philco Corp.* v. *Admiral Corp.*, 131 USPQ 413.

Upon careful consideration of the issues involved, we are not inclined to agree with the instant rejection.

We do not find the case of *Philco* v. *Admiral*, supra, relied upon by the Examiner, to be persuasive or controlling here. In that case, there was involved a design patent for a portable television receiver, having a front perspective view of the receiver as the sole figure of the patent, and a description stating that "the back is unornamented." The court found that while from such presentation in the patent there would arise a reasonable inference that the back of the receiver was intended to be plain and relatively flat, this would be inconsistent with technical requirements for a television receiver such as picture tube length and the size of other components. Accordingly, it was reasoned that a back "of substantial configuration" would be required, and that this might have several different forms. It was held that under these circumstances the configuration of the receiver back would constitute a significant part of a design such as that involved, and that the failure to disclose some particular such configuration was a fatal defect of disclosure. Manifestly, an inherent factor forming part of the basis for such holding was the visibility in normal use of the

back portion of the particular type of entity which was the subject of the design in suit.

We do not have a similar situation before us. We think that here the figures of the drawing, particularly FIGURES 3 and 4 and the absence of any dotted line denotations therein, when considered in relation to the other figures, would give rise to an inference as in the *Philco* v. *Admiral* case that the back of appellant's device was intended to be flat and unadorned. However, in the instant situation, in contradistinction from that in *Philco* v. *Admiral*, there is nothing to disturb this inference, there being no technical factors connected with the type of device here involved presenting any particular configurational requirements. Moreover, as denoted by appellant, the rear portion of the instant design would be essentially irrelevant and of no significant import, since it would be hidden in the normal use of the device.

Under the circumstances outlined, we are impelled to the conclusion that the instant rejection is untenable, and accordingly, we will not sustain said rejection.

[2] The decision of the Examiner is reversed.

REVERSED.

REISSUES

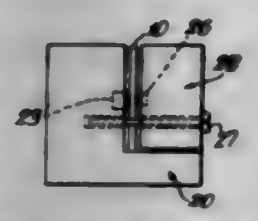
AUGUST 25, 1964

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,633
PROCESS FOR MAKING FUSED JUNCTION SEMICONDUCTOR DEVICES

Matt F. Schmich, Scottsdale, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Original No. 2,850,413, dated Sept. 2, 1958, Ser. No. 459,045, Sept. 29, 1954. Application for reissue May 16, 1962, Ser. No. 197,223
4 Claims. (Cl. 148—179)



1. The method of forming a planar junction between an electrode and a semiconductor wafer having a face in a plane parallel with a Miller *Indices* (111) crystallographic plane, which comprises *providing a mold for receiving a semiconductor wafer therein and having an electrode-defining mold cavity bounded by a side wall surface and a plane surface both in a one-piece portion of said mold, said mold cavity corresponding in cross-sectional dimension to the ultimate desired cross-section of the electrode to be provided on the semiconductor wafer, and said cavity having a volume such that when a disc of impurity metal of appropriate volume is melted therein for alloying to such wafer the impurity metal fills the mold cavity at the face of the wafer against which the disc of impurity metal is positioned,* holding one face of *such* a disc of impurity metal against said face of the wafer with [a] *said* plane surface of [a] *the* mold *cavity* in engagement with the opposite face of the disc, heating the disc and the wafer *in the mold* to melt the disc *for alloying* while *it is* so held, *with the molten impurity metal of the disc filling the electrode-defining mold cavity at said wafer face and covering an area of the semiconductor wafer corresponding to the area of said cavity at said wafer face,* and cooling the disc and the wafer to solidify the disc while so holding the disc *in order to form an electrode on the wafer face and provide a planar junction within the wafer while the disc and wafer are maintained in the mold and the disc portion is in the mold cavity.*

PLANT PATENTS

GRANTED AUGUST 25, 1964

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,439
PEACH TREE

John F. Duke, John F. Duke, Jr., and Lemuel P. Duke, Fort Valley, Ga., assignors to Charles L. Shepard, Jr., Fort Valley, Ga.

Filed July 30, 1963, Ser. No. 298,810
1 Claim. (Cl. Plt.—43)

A new and distinct variety of peach tree of the yellow-fleshed, semi-freestone, fruit bearing type, substantially as herein shown and described, characterized particularly as to novelty by the fact that it matures two to three weeks earlier than its parent variety, Coronet, an unpatented variety.

2,440
APPLE TREE

Frank L. Rypczynski, Hood River, Oreg., assignor to Stark Bro's Nurseries & Orchards Company, Louisiana, Mo., a corporation of Missouri

Filed Apr. 17, 1962, Ser. No. 188,290
1 Claim. (Cl. Plt.—35)

A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a general resemblance of the fruit to that of the Mood Apple variety (unpatented), but having a much earlier coloring habit, with the coloring developing to a full red color approximately thirty days before maturity, said fruit coloring having a striped pattern, with the stripes narrower and more obscure than those of the variety "Red King" (Plant Patent No. 1,411), and the over all fruit color effect being substantially solid red with obscure stripes of a darker red shade at maturity.

2,441
ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Oct. 16, 1963, Ser. No. 316,787
1 Claim. (Cl. Plt.—14)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a large plant size, prolific flower production, long flower stems, green-yellow buds in which the greenish tint persists to the half open bud stage, a large, high-centered, open flower form, a distinctive and attractive white flower color in the open stage, and long lasting qualities of the flowers.

2,442
ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Oct. 16, 1963, Ser. No. 316,788
1 Claim. (Cl. Plt.—16)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, strong, and upright plant habit, a striking contrast between the color of the foliage and the color of the open flowers, very distinctive, attractive and highly colored buds which are basically Light Orange Yellow, lightly overcast with Capucine-Orange, and a distinctive, attractive and rich general color tonality of the open flowers corresponding to Apricot Yellow, lightly overcast with Deep Chrome.

2,443

ROSE PLANT

Robert G. Jelly, Richmond, Ind., assignor to E. G. Hill Co., Inc., Richmond, Ind., a corporation of Indiana

Filed Oct. 18, 1963, Ser. No. 317,394
1 Claim. (Cl. Plt.—20)

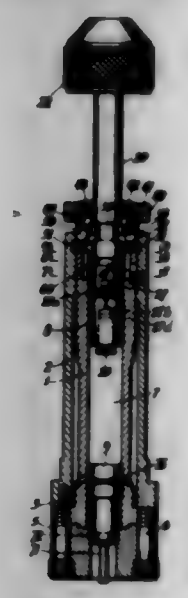
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of vigorous and upright habits of growth, good flower productivity, long, pointed buds, with stiff and erect necks, a distinctive and attractive red flower color, and excellent keeping quality of the flowers as cut flowers.

PATENTS

GRANTED AUGUST 25, 1964

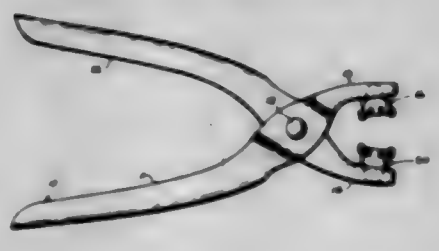
GENERAL AND MECHANICAL

3,145,387
EXPLOSIVE POWER ASSISTED HAMMER DRIVEN TOOL
John Lester Adolph, 76 Donald St., Mount Waverley, Victoria, Australia
Filed Nov. 24, 1959, Ser. No. 855,126
Claims priority, application Australia Nov. 27, 1958
13 Claims. (Cl. 1—44.5)



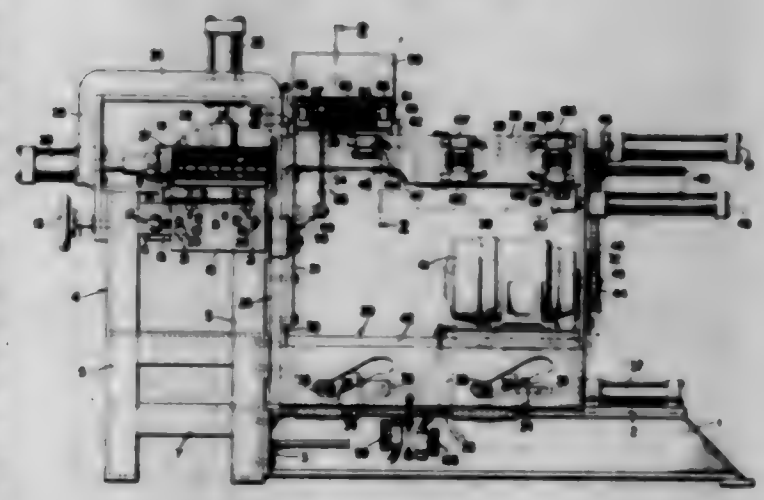
1. In an explosive power assisted hammer driven tool for driving an element such as a nail, pin or stud into material, and having a body with a cylindrical bore therethrough, a cartridge plunger and a drive plunger slidably mounted in said bore and adapted for independent reciprocating movement therein, one end of said cartridge plunger extending out of one end of said bore and being adapted to be hammer driven towards the drive plunger, the drive plunger being movable toward the other end of said bore for only a limited distance and having an abutting surface at the one end thereof opposed to said cartridge plunger for firing a cartridge upon percussive contact of the detonator end thereof with the said abutting surface and being adapted at its other end to operatively engage the element to be driven; that improvement comprising a cartridge holding means on the other end of said cartridge plunger and adapted to hold a cartridge therein in a fully inserted position such that the cartridge has its detonator end extending toward the drive plunger a short distance from said other end of the cartridge plunger with the rim of the cartridge spaced from and completely clear of and unsupported by the cartridge plunger, whereby only when an element is operatively engaged in the drive plunger and disposed against the workpiece and the cartridge plunger is hammer driven with sufficient force to cause the extending portion of the cartridge to be crushed and thereafter drive the detonator end of the cartridge into contact with said abutting surface, will there be sufficient impact force on the detonator to cause the explosive charge to detonate and drive the drive plunger for the extent of its limited movement and thus force the element into the material, and when the tool is dropped, even on the said one end of the cartridge plunger, the detonator end of the cartridge is not crushed sufficiently to fire the cartridge.

3,145,388
PLIERS FOR ATTACHING SNAP FASTENERS
Michael J. Carpinello, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Apr. 20, 1962, Ser. No. 189,857
2 Claims. (Cl. 1—317)



1. In a hand-operated tool for setting snap fasteners upon sheet material consisting of a pair of pliers having jaws movable toward and away from each other, the improvement consisting of a pair of plastic dies carried by the ends of said jaws and adapted to detachably receive parts of a snap fastener member, each of said dies consisting of a body having a recess extending axially into one of its ends, a pair of opposed lugs formed as a firm integral part with and radially outwardly from the opposite sides of said body and extending upwardly from the recessed end, said lugs having gripping means for detachably receiving a fastener part, and one or more slots extending entirely across said body intermediate said lugs and of sufficient depth to afford some degree of resiliency to those portions of the body supporting the lugs.

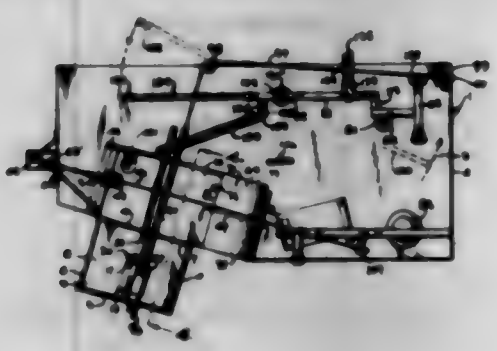
3,145,389
DOWELING MACHINE
Ralph Hughes, Graysville, Tenn., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 26, 1962, Ser. No. 168,283
4 Claims. (Cl. 1—345)



1. In a doweling machine, a dowel-feeding mechanism comprising a block having a stepped top including an upper surface and a lower surface and a shoulder between said surfaces, said lower surface having an upwardly-open dowel-receiving groove adjacent said shoulder, a dowel-feeding unit having a dowel-feeding portion on said

upper surface and having a dowel-receiving slot and a dowel-supporting portion on said lower surface, means for mounting said dowel-feeding unit for lateral movement between a dowel-driving position in which said slot is disposed over and is closed at the bottom by said upper surface and in which said dowel-supporting portion is disposed over and closes the open upper portion of said groove and a dowel-feeding position in which said slot is disposed over said groove and said dowel-supporting portion is retracted from over said groove for permitting a dowel to drop from said slot into said groove, an undercut groove in said shoulder for seating therein an edge portion of said dowel-feeding unit in the dowel-driving position, means for imparting actuation to said dowel-feeding unit, and a hopper disposed above said dowel-feeding portion and adapted to feed dowels into said slot when in the dowel-driving position.

3,145,390
NEWSPAPER FOLDING, TYING AND THROWING MACHINE
Ronald G. Puckett, 204 S. Troost, Olathe, Kans.
Filed Dec. 10, 1962, Ser. No. 243,365
10 Claims. (Cl. 1—107)



1. A device for throwing newspaper and the like comprising:

(*a*) a frame, support means rotatably mounted on said frame, drive means for selectively rotating said support means in a forward direction,

(*b*) a first member operatively fixed to said support means and rotatable therewith,

(*c*) a second member having an inner end and an outer end, means for supporting said second member at said inner end thereof for free pivotal motion about said support means,

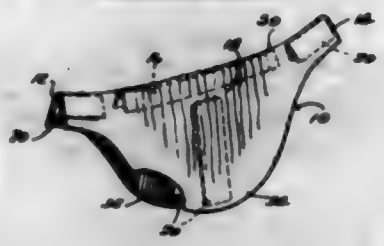
(*d*) a resilient member operatively connected between said frame and said second member for resiliently urging said second member outer end toward a circumferential rest position and away from a circumferential top-dead-center position,

(*e*) engaging means operatively located between and movable with said first and second members for rotating said second member outer end with said first member out of said rest position against the force of said resilient member and through a circumferential path, said engaging means being constructed to provide disengagement between said first and second members upon forward rotation of said second member with respect to said first member, and

(*f*) means on said frame and located in said path for feeding a foldable newspaper and the like into said path for engagement about and movement with said second member outer end through said top-dead-center position,

(*g*) whereby when said second member outer end passes said top-dead-center position said resilient member induces a rapid free rotation of said second member outer end toward said rest position whereupon the newspaper is centrifugally urged radially from said outer end.

3,145,391
DISPOSABLE DRESS SHIELD AND METHOD OF MANUFACTURE THEREOF
Wallace Bradley Tyrrell, Jr., Venice, Fla., assignor, by mesne assignments, to Tyrrell Industries, Inc., a corporation of Florida
Filed Aug. 6, 1962, Ser. No. 214,938
5 Claims. (Cl. 2—56)



1. A dress shield comprising integrally connected web portions defined by an intervening fold line and having gathers transversely spanning the fold line, the fold line being of arcuate form, folded tabs integral with both web portions and spanning the fold line, the shield being provided on said tabs with transfer tapes for attaching the shield to a garment, each of said tapes comprising a release ply and pressure sensitive adhesive, the release ply protecting the adhesive against premature adhesion, the gathers being substantially centered on the fold line between said tabs and terminating at said tapes.

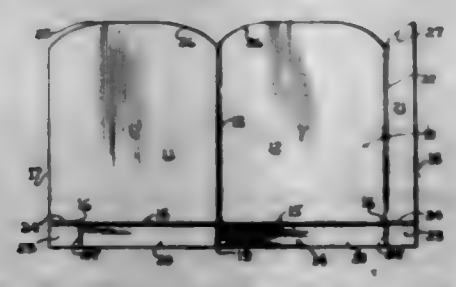
3,145,392
METHOD OF MAKING COLLARS FOR SHIRTS
Arthur William Lockwood and Lajos Bihaly, London, England, assignors to Trubenised Company (registered trust)
Filed Mar. 19, 1962, Ser. No. 180,760
Claims priority, application Great Britain Apr. 27, 1961
3 Claims. (Cl. 2—143)



1. A method of making a one-piece, multiple-ply turn down collar for shirts and like garments which comprises the steps of supporting in flat condition a lining blank and a face ply blank superimposed on the lining blank, each of said blanks including a top portion and a band portion, positioning a spacer member on the band portion of the face ply blank intermediate the ends thereof while leaving the remainder of the face ply blank exposed, laying a back ply blank over the face ply blank and the spacer member, said back ply blank including a top portion and a band portion which contains a greater length of material than the back portions of the lining and face ply blanks, clamping the back ply blank against

the exposed parts of the face ply blank to hold the back ply blank humped over the spacer member, stitching the clamped blanks together around a major part of the periphery of the collar, removing the spacer member from the assembly thus formed, turning the assembly, and stitching together the constituent plies of the turned assembly at a position adjacent the foldline of the collar while holding the collar curved as in wear.

3,145,393
DISPOSABLE PROTECTIVE HEAD COVERING
Doris Mulich, 7337 Coles Ave., Chicago 49, Ill.
Filed May 10, 1963, Ser. No. 279,527
1 Claim. (Cl. 2—202)



A disposable protective head covering formed of a blank of highly porous material,

(*a*) said blank having a center fold line defining opposite sectors folded upon themselves with their top edges secured together to form a hood,

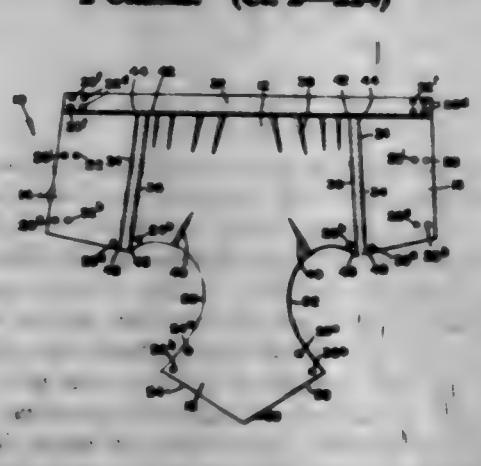
(*b*) a side flap integral with one of said sectors and extending along one longitudinal edge thereof and folded back upon said one sector,

(*c*) the corresponding side edge portion of the other sector loosely positioned beneath said flap, when said blank is formed into said hood,

(*d*) each of said sectors having a bottom edge portion partially separated by a cut formed in the center fold line adjacent the bottom edge of said sectors and a slit extending in opposite directions from the junction of said fold line and said cut toward said flap provided by one of said sectors and said side edge portion of said other sector so as to provide elongated tying strips,

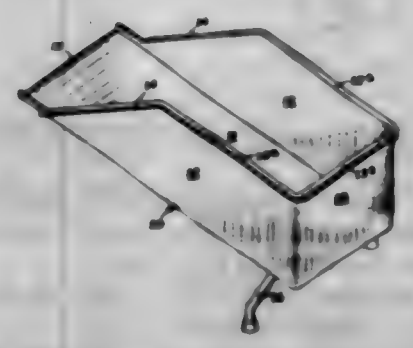
(*f*) said strips extending from the corresponding lower corner portions of each of said sectors and about the bottom edges of said sectors for constricting the head covering about the neck of the wearer.

3,145,394
INVALID DIAPER
Gladys A. Melton, Melton Rest Home, Hamburg, Iowa
Continuation of application Ser. No. 859,408, Dec. 14, 1959. This application Dec. 22, 1961, Ser. No. 161,712
2 Claims. (Cl. 2—224)



1. Adjustable pants comprising: a rear panel, side panels, and a crotch panel attached to said rear panel and when in use extending through the crotch of the wearer and having a forward end which extends upwardly in front of the user in lapping relationship with said side panels, said side panels having forward edges which overlap one another in use, upper and lower sets of side panel first pairs of mutually cooperative fasteners on said overlapping edges of said side panels, said upper set of pairs being spaced apart horizontally and aligned in a horizontal straight row and said lower set of pairs being horizontally spaced an equal horizontal distance to said upper pair and being also aligned in a horizontal straight row, said fasteners being so arranged that a fastener on one of said overlapping side panels and in one of said sets can be connected with either one of those fasteners of the same set which are on the other panel whereby the horizontal size of the pants is adjustable, upper and lower crotch panel attachment fasteners, said crotch panel attachment fasteners being arranged on the crotch panel and also on those parts of the remainder of said pants which are lapped by said crotch panel in positions for fixing said crotch panel to those parts of the remainder of said pants which lap said crotch panel in a plurality of positions corresponding to the horizontal size adjustment of said pants established by a selected amount of overlapping of said side panels.

3,145,395
INFANT CAR BED
Frank G. Reeman, Creston, Wash.
Filed Feb. 28, 1962, Ser. No. 174,638
2 Claims. (Cl. 5—94)



1. An infant bed for use on the seat of an automobile, comprising:

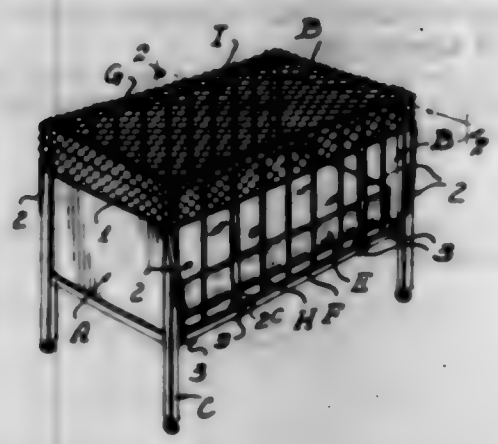
a rigid unitary body having a plain bottom section adapted to rest on a seat cushion and integral side and front walls extending upwardly therefrom, the rear edges of said side wall being angularly directed upwardly and forwardly from a location slightly forward of the rear edge of said bottom section so as to allow ample clearance for motion of a pivoted seat back rest;

a single supporting leg structure mounted on the underside of said bottom section at the front end thereof and extending downwardly therefrom, said leg structure being divided in an inverted Y-shaped configuration adapted to straddle raised areas in the floor of an automobile.

3,145,396
SAFETY NET FOR CRIBS
Jean B. Zindell, 2304 Independence Blvd., Ann Arbor, Mich.
Filed July 28, 1961, Ser. No. 127,653
6 Claims. (Cl. 5—97)

1. A safety attachment for cribs that are greater in length than in width and have end boards, said panels meeting said end boards in right-angle corners and side rails, said attachment comprising a main flexible part of

a size and rectangular shape to spread over the top edges of said end boards and side panels with marginal portions depending along the end boards and side panels, the length and width of said attachment being greater than the length and width of the crib, respectively, and a plurality of connectors spaced apart along the edges of said main part



for separably attaching said main part to the crib, each connected at one end to said main part and including means at its other end for connection to the crib, and there being a connector connected to each corner of the main part in diagonal relation thereto to extend in either direction around a corner of the crib.

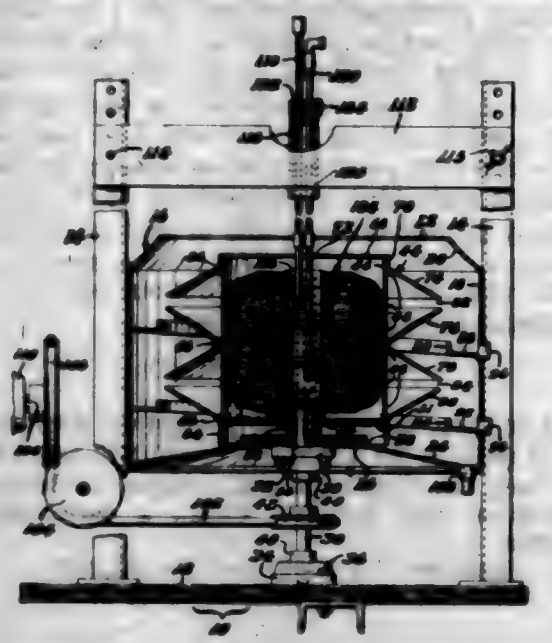
3,145,397
LEG SUPPORT
David Liftman, 15 Reede Ave., Lynn, Mass.
Filed May 21, 1962, Ser. No. 196,216
5 Claims. (Cl. 5—327)



1. A device for supporting a leg of a person in a position across but not bearing on the other leg, comprising an arcuate member adapted to span one foot and a leg support member which is positioned above and attached to said arcuate member with attaching means permitting movement of said support member with respect to said arcuate member.

3,145,398
DYEING OF YARN PACKAGES
William K. Wyatt, Lansdale, Pa., assignor to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania
Filed Dec. 11, 1961, Ser. No. 158,486
2 Claims. (Cl. 8—155.1)

1. In a method of dyeing a package of yarn having a hollow core extending therethrough, the steps comprising simultaneously introducing a plurality of different dye liquids respectively to axially spaced zones in said core, restricting flow of each dye liquid to its zone of introduction, and rotating said package to drive each dye



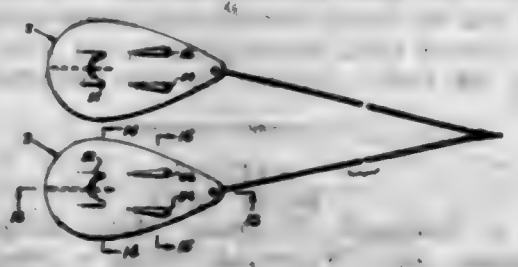
liquid radially outwardly by centrifugal force through the yarn wrapped about its zone of introduction.

3,145,399
WATER SKI CONSTRUCTION
Harvey C. Jackson, P.O. Box 143, Escalon, Calif.
Filed Oct. 8, 1962, Ser. No. 229,033
11 Claims. (Cl. 9—310)



1. A ski construction comprising an elongated ski body including a narrow forward end portion terminating rearwardly in a wider center section defined by a pair of opposite side stub portions projecting laterally outwardly beyond the opposite sides of said forward end portion, the forward ends of said forward end portion and the opposite side portions each including a forwardly and upwardly curving toe portion, said ski body, rearwardly of the forward ends of the center section, including stub wings projecting outwardly beyond the remote side edges of said stub portions and having lower surfaces raised relative to the adjacent lower surfaces of said stub portions.

3,145,400
MARINE VEHICLE
John D. Yeakum, 1910 E. Elm, Springfield, Mo.
Filed Apr. 8, 1963, Ser. No. 271,326
3 Claims. (Cl. 9—310)



1. A vehicle for towing on the surface of a body of water comprising a horizontally disposed tear-drop shaped body portion having a forward end and a rearward end, said body portion being of uniform thickness and having

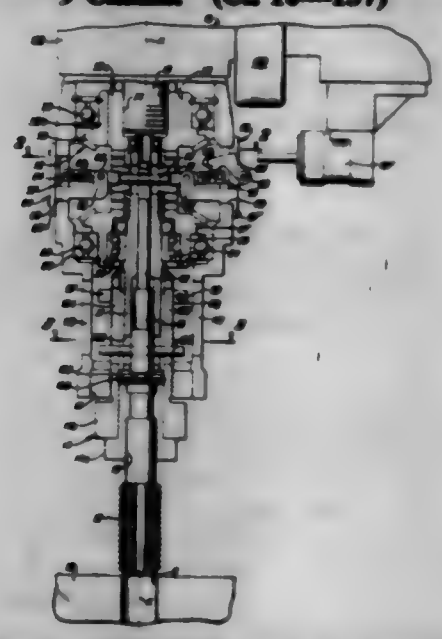
a concave upper surface and a convex lower surface, said body portion being symmetrical on each side of a longitudinally extending center line, and a fin depending from the lower surface of said body portion and extending from a point contiguous to the rearward end to a point substantially midway between the rearward end of said body portion and the forward end, said body portion being provided with a cut-out portion adjacent the forward end, a means embedded in the portions of the perimeter of said body portion on each side of said cut-out portion and having a part bridging said cut-out portion so as to provide with the edges of said cut-out portion a loop for attachment thereto of a towing line.

3,145,491

LEAD SCREW OPERATED TAPPING SPINDLE WITH QUICK ACTING REVERSING MEANS

Fred G. Burg, Los Angeles, Calif., assignor to Burgmaster Corporation, Los Angeles, Calif., a corporation of California

Filed July 11, 1960, Ser. No. 42,832
9 Claims. (Cl. 10—137)



1. In an automatic attachment to a power spindle of a machine tool: a body, one end of the body having provisions for non-rotary attachment to the tool in circumscribing relationship about its said power spindle with the end of the spindle terminating short of the other end of the body; a lead nut mounted at the other end of the body opposite the spindle and at the axis of said spindle as determined by said attachment provisions; a lead screw received in the lead nut and having a tool holding part at its outer end; a tool shaft mounted by the body for rotation about said axis and in line with said spindle, said tool shaft having an axially slidable driving connection with said lead screw; said tool shaft being confined against axial movement; a pair of spaced opposed drive members mounted by said body for angular movement about said axis; means deriving power from said spindle for oppositely rotating said drive members; a clutch rotatably coupled to said tool shaft and slidable along the tool shaft and between said drive members to engage and be driven thereby; and means operated upon predetermined spiral movement of said lead screw for moving the clutch between its drive members.

3,145,492

BOOT TREE

Henry J. Kaminski, Hingham, Mass., assignor to Le Trappeur, Inc., Westwood, Mass., a corporation of Massachusetts

Filed Mar. 19, 1963, Ser. No. 266,343
4 Claims. (Cl. 12—120.5)

1. A boot tree comprising a pair of spaced U-shaped channels providing two opposed boot sole support surfaces, adjustable boot heel securing means mounted at one end of said spaced channels,
and adjustable boot toe clamping means mounted on said spaced channels in spaced relation to said heel securing means,
said toe clamping means including two support plates disposed between and slidable along said spaced channels,
a pair of bracket ears extending outward from each said support plate,
each pair of ears defining a first pivot axis,
a clamping element mounted for rotation about each said first pivot axis,



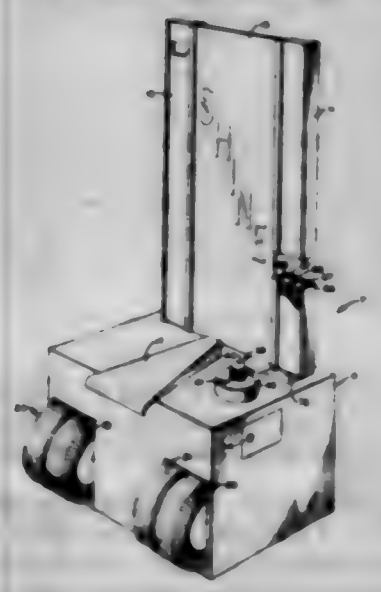
said clamping element having a sole engaging portion on the side of said first pivot axis nearer said heel securing means and a rotatable bar element mounted on the other side of said first pivot axis for rotation about a second pivot axis parallel to said first pivot axis,
said rotatable bar carrying a threaded cam element extending in a direction perpendicular to said second pivot axis,
said cam element being adapted to engage said support plate so that said cam element moves along said support plate as said bar is rotated,
and means to stop rotation of said bar in said clamp position.

3,145,493

SHOESHINE MACHINE WITH PAD DISPENSING MEANS

Kimball W. Allen, 3181 Turk St., San Francisco, Calif.

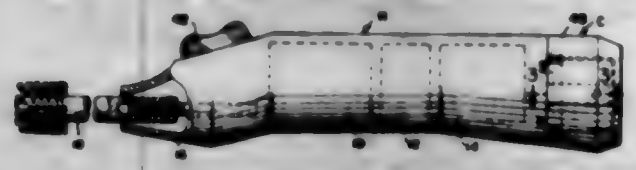
Filed Mar. 21, 1961, Ser. No. 97,241
7 Claims. (Cl. 15—4)



1. A coin-operated shoeshine device comprising in combination, a pad-dispensing device having means for eject-

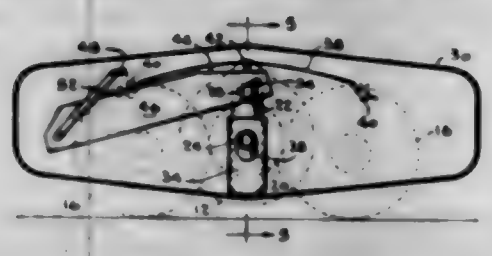
ing a single pad at a time, an electrically-operated shoe brush and a coin-operated mechanism, first means connected to said coin operated mechanism and to said pad dispenser and actuated by said coin-operated mechanism whereby a pad is dispensed upon the insertion of a coin and second means connected to said electrically-operated shoe brush and connected to and released from said coin-operated mechanism upon the insertion of a coin whereby said electrically-operated shoe brush can be turned on manually and when so turned on will run for a predetermined length of time.

3,145,404
ELECTRIC TOOTHBRUSH
Edward Donald Fiedler, Lemay, Mo., assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 4, 1963, Ser. No. 262,716
5 Claims. (Cl. 15—23)



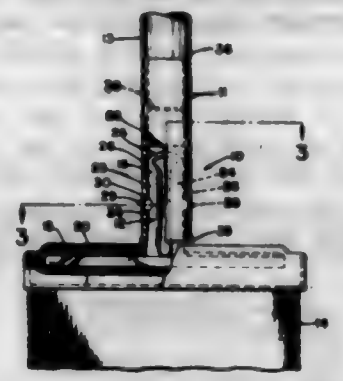
1. In a rechargeable cordless electrical appliance, a housing, a motor therein, an implement driven by said motor, a low voltage rechargeable source of electricity within said housing for energizing said motor, means carried by said housing and electrically connected to said rechargeable source for recharging said voltage source including exposable connector prongs carried by said housing, a cover for said connector prongs which requires removal to permit said connector prongs to be connected with a high voltage source for recharging said low voltage source, a circuit between said low voltage source and said motor, said circuit having a gap therein, and means carried by said cover for bridging said gap to permit said low voltage source to energize said motor.

3,145,405
MECHANISM FOR ADJUSTING THE BRUSH HEIGHT IN CARPET SWEEPERS
John M. Hinson, Hartford, and Jerry W. Pond, Milwaukee, Wis., assignors to E. R. Wagner Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 24, 1963, Ser. No. 289,922
9 Claims. (Cl. 15—41)



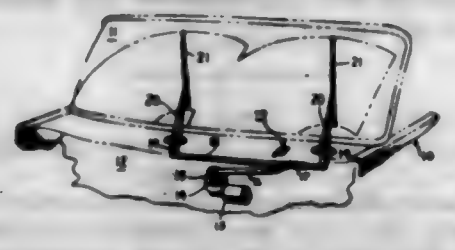
1. A carpet sweeper comprising, a wheeled housing, a brush and two slides, said brush being rotatably mounted at each end on one of said slides and said slides being secured for limited vertical motion to said housing to thereby permit said brush to ride over small obstructions which might be encountered on the surface to be swept, biasing means urging said brush and slides downwardly, stop means limiting the extent of permissible downward travel of said brush, a knob rotatably carried by said housing, and a crankshaft operably connected to said stop means and said knob to vary the position of said stop means to a plurality of positions to thereby selectively change the lowest position to which said brush may be biased by said biasing means yet to permit the upward travel required to ride over said small obstructions.

3,145,406
COUPLING CONNECTOR FOR DETACHABLE MOPS AND THE LIKE
Carlton E. Ley, 2617 Robindale Ave., Akron 12, Ohio
Filed June 22, 1961, Ser. No. 118,800
9 Claims. (Cl. 15—147)



8. A coupling connector for attaching a cleaning head to a handle, said coupling connector comprising, two portions adapted to be grippingly interlocked, one said portion having a cylindrical receptacle, the other said portion having a pair of spaced apart parallel flexible legs forming a bayonet, said legs at one end of said bayonet being fixed in spaced relationship, said legs at the other end of said bayonet being joined by a bridge, the end of said bayonet at which said bridge is located being insertably received within said receptacle, locking lugs projecting transversely outwardly of said legs, cammed surfaces defining the lateral edges of each of said lugs, a niche for each of said lugs recessed into the interior surface of said receptacle and adapted lockingly to engage said lugs.

3,145,407
WINDSHIELD WIPER
Raymond D. Page, Eggertsville, and Frederick R. Weymouth, Jr., Buffalo, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Aug. 14, 1963, Ser. No. 302,020
12 Claims. (Cl. 15—250.12)

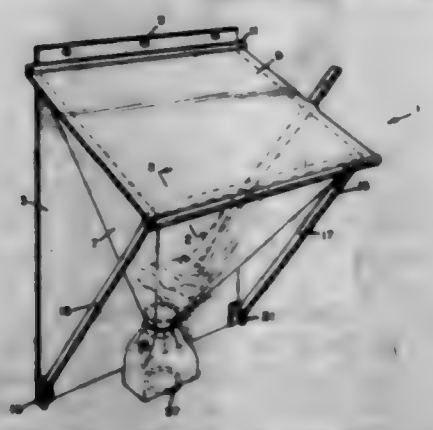


10. A windshield wiper motor for driving a windshield wiper continuously or for driving a windshield wiper intermittently with an intervening dwell period between successive cycles of wiper operation, comprising a reversible motor, first means for causing said motor to cycle said wiper when said wiper motor is operating in a first direction and second means for causing said wiper motor to have intervening dwell periods between said cycles of wiper operation when said wiper motor is operating in a second direction which is opposite to the said first direction.

3,145,408
DUST COLLECTOR RECEPTACLE
Richard R. Hertzel, 15 Breen Court, Rensselaer, N.Y., and Charles H. Hertzel, 312 Colonie St., Albany, N.Y.
Filed May 15, 1963, Ser. No. 280,631
2 Claims. (Cl. 15—257)

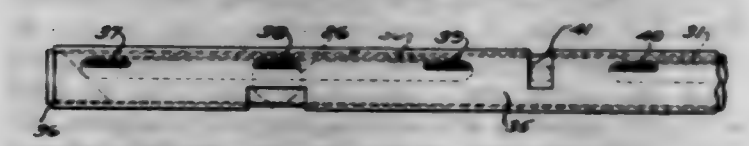
1. A device to collect and direct dust and lint shaken from a dust mop, said device comprising a mounting bracket, frame member, dust collector receptacle, adapter member, cover flap and paper bag holding member; said mounting bracket having in its upper portion holes formed

therethrough for mounting of same upon a closet door or wall, said frame member comprising a main web and depending legs, said depending legs being pivotally mounted on leg brackets carried by said mounting bracket, said mounting bracket and said frame member carrying said dust collector receptacle for arrangement and disposition of said dust collector receptacle at its open position, and to permit the collapse and folding of said dust collector receptacle when same is not in use, said dust collector receptacle being of plastic material, and being arranged and disposed in its open position in the form of an inverted pyramid, and carrying at its apex portion said adapter member through which the deposited and collected dust and lint from the shaken dust mop is directed, said



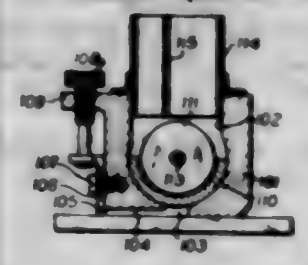
adapter member having a cylindrical lower portion complemental to the shape of a conventional hose attachment of a vacuum cleaner to thereby receive said hose attachment within said cylindrical lower portion, said cover flap being of plastic material, and having one end thereof secured together with the upper portion of one side of said dust collector receptacle to said mounting bracket by disposition and arrangement beneath a cross piece secured to said mounting bracket, said paper bag holding member being pivotally mounted at the lower portion of said mounting bracket relative to said adapter member that the bottom of an ordinary paper bag may be disposed to rest on said paper bag holding member to permit thereby the arrangement and disposition of said adapter member inwardly of said paper bag.

3,145,409
LINT COLLECTING DEVICE FOR TEXTILE MACHINE
John P. Davey, 6 Douglas Circle, Greenville, R.I.; Herve E. Dionne, 828 Main Ave., Warwick, R.I.; and Frank J. Phillips, 24 Marconi St., North Providence, R.I.
Filed Oct. 25, 1963, Ser. No. 318,852
3 Claims. (Cl. 15—306)



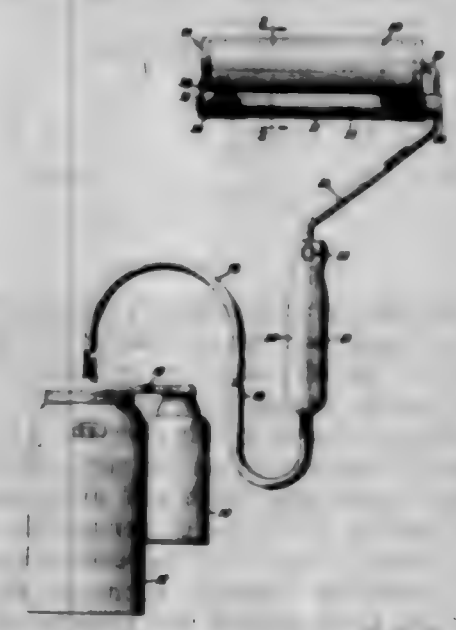
1. In a textile machine, a suction system to pick up lint comprising a tubular conduit, said conduit having an opening therein with the length of the opening extending axially of the conduit and the width of the opening extending circumferentially of the conduit sufficiently to prevent the use of the opening as a suction pick up for lint but such as to permit access to the interior of the conduit for cleaning, a cover over said opening having a slot therein communicating with said opening, said slot having its length extending axially of the conduit and its width extending circumferentially of the conduit, the width of said slot being such as to limit the width of the opening sufficiently to permit the use of said slot and opening as a suction pick up for lint the circumferential extent of said opening being many times greater than the corresponding extent of said slot, and means to mount said cover over said opening for movement of the cover to substantially completely expose said opening for access to the interior of said conduit for cleaning.

3,145,410
APPLICATOR APPARATUS
Egon Stahl, Saarbrucken, Germany, assignor to C. Deutgen G.m.b.H. Nachf. Erich Focht, Heidelberg, Germany
Filed May 7, 1962, Ser. No. 192,651
Claims priority, application Germany, Dec. 6, 1961, St 18,646
14 Claims. (Cl. 15—510)



1. Apparatus for applying thin, uniform thickness layers of flowable material to the relatively flat upper surfaces of plural plates of equal thickness comprising, in combination, means providing a substantially flat support surface on which said plates are positioned in adjacent relation; a relatively elongated applicator body positionable to extend transversely of the support surface and having a substantially flat undersurface engageable with said plates; said undersurface being undercut to form a substantially horizontal discharge notch opening through a longitudinal edge of the body, and said body having a substantially cylindrical bore extending longitudinally thereof and being formed with an elongated slot connecting said bore to said discharge notch for flow of material from the interior of said bore outwardly through said discharge notch; and means, including said discharge notch, regulating the thickness of the layer material discharged through said discharge notch.

3,145,411
PRESSURE FED LIQUID APPLICATOR
Donald M. Fischer, Buffalo, and David L. Kayser, Kenmore, N.Y., and William L. Kennedy, Norwalk, Conn., assignors to Union Carbide Corporation, a corporation of New York
Filed June 22, 1961, Ser. No. 118,968
6 Claims. (Cl. 15—552)



1. In combination with a pressurized liquid reservoir; a liquid applicator comprising a handle, a support member secured to said handle; a roller rotatably mounted on said

support member; a cylindrical liquid feeder member fixedly mounted on said support member and extending parallel to said roller; said feeder member having a longitudinal passageway open at one end and closed at the other end and having a longitudinal slot connecting the passageway with the surface of said feeder member, the slot being located on the side of said feeder member facing said roller, the longitudinal slot being characterized by having a resistance to liquid flow which is uniform from one end to the other; a cylindrical sleeve of screen material rotatably mounted on and encircling said feeder member in engagement with the surface of said cylindrical member, said sleeve being in contact with said roller; and conduit means connecting the open end of said passageway with said pressurized liquid reservoir.

3,145,412
WRITING INSTRUMENT
Morris D. Levy, Teaneck, N.J., assignor to David Kahn, Inc., North Bergen, N.J., a corporation of New Jersey
Filed July 26, 1961, Ser. No. 126,917



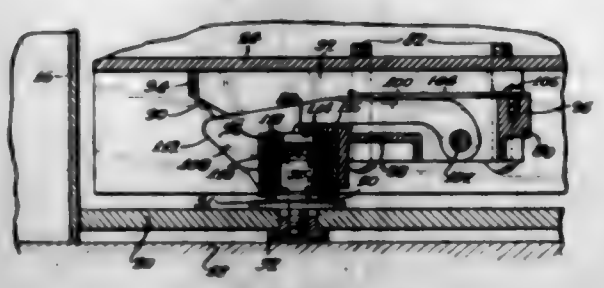
1. A pen section assembly comprising a pen holder having a longitudinal bore therethrough, a writing tip slidably mounted in the forward end of said bore, a valve seat in said bore, a valve member slidably mounted in said bore, said valve member having a hollow resilient valve plug fashioned of one piece of material and comprising an outwardly flaring relatively thin annular wall for engaging said seat to close said bore, and resilient means biasing said valve plug towards said valve seat, said writing tip and valve member being so positioned in said bore than rearward pressure on said writing tip will force said valve plug away from said seat against the force of said resilient means.

3,145,413
NOZZLES
Günther Alsleben, Wiesbaden, Germany, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Jan. 2, 1963, Ser. No. 248,912
Claims priority, application Germany Jan. 17, 1962
6 Claims. (Cl. 15—393)



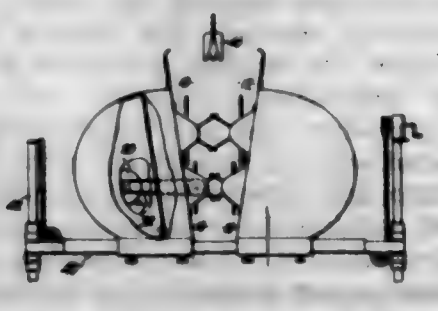
1. A nozzle for applying sealants under pressure to a groove, said nozzle having an orifice, a wide portion of which is of approximately the width of the groove to be worked on and so placed as to be at the trailing end of said orifice as the nozzle is moved along the groove in the applying process, the leading end of said orifice being narrower than the trailing end, and a flexible slide foot mountable on said nozzle and extending laterally outwardly around said orifice and cooperative therewith to distribute sealant.

3,145,414
LOWER PIVOT ASSEMBLY FOR SWINGING DOORS
Paul W. Martin, Des Plaines, Ill., assignor to Republic Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 27, 1961, Ser. No. 148,258
5 Claims. (Cl. 16—151)



1. A swinging door pivot assembly comprising a first mechanism to be secured in a doorway and a second mechanism to be secured to the door, said first mechanism comprising means providing a stationary member adapted for rigid securement, a rotatable cap, and means providing bearing surfaces between the stationary member and the cap to provide for rotation of the cap relative to the stationary member about a vertical axis, said second mechanism comprising a member adapted for attachment to a door, the last said member having means providing a socket for said cap, said socket being open to the rearward edge of the door to permit entrance of said cap into said socket as the rearward edge of said door slides over said cap, and means providing surfaces for guiding said cap into said socket.

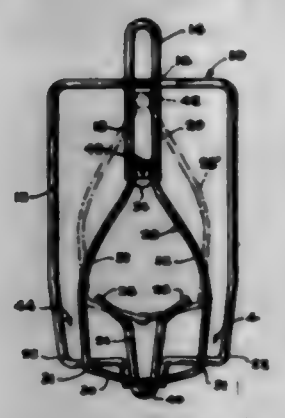
3,145,415
MULTIPLE REEL POULTRY PICKER
Ralph S. Zoberis, Kansas City, Richard L. Lewis, Independence, and John E. Frantz, Kansas City, Mo., assignors to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
Original application Apr. 1, 1960, Ser. No. 19,344. Divided and this application May 15, 1961, Ser. No. 110,197
8 Claims. (Cl. 17—11.1)



1. A poultry picker comprising a pair of lower reels having elongated axes disposed in horizontally spaced relationship, adapting the same to receive a bird therebetween as the bird moves along a predetermined path of travel; a pair of upper reels having elongated axes disposed in horizontally spaced relationship, adapting the same to receive said bird therebetween, the axes of said reels being substantially parallel with said path of travel,

each upper reel being above a corresponding lower reel with said axes of the upper reels spaced vertically from said axes of the lower reels, each reel being provided with a plurality of flexible, feather-removing fingers engageable with the bird when the latter is between the reels; and means supporting the reels for rotation about their respective axes.

3,145,416
POULTRY SHACKLE
Donald P. Smith, 4534 Woodlin Drive, Dallas 20, Tex.
Filed July 20, 1962, Ser. No. 211,225
2 Claims. (Cl. 17—44.1)



1. An improved automatic fowl-releasing shackle adapted to be suspended on a traveling conveyor and effective to release the fowl from the shackle at a predetermined point of conveyor travel, said shackle comprising:

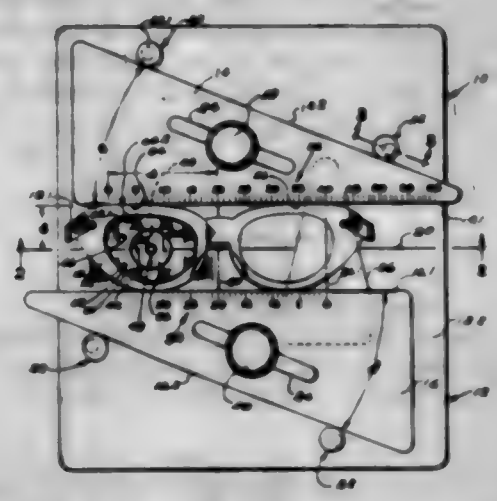
a frame member defining top, bottom and side portions, said top portion having conformations adapted to be received on said conveyor to suspend the shackle therefrom;

a substantially V-shaped fowl head receiving member affixed to the bottom portion of the frame and extending therefrom toward the top portion of the frame, said head receiving member being defined by spaced arms in varying relative spaced relation, said arms being in close spaced relation adjacent the bottom of the frame member and diverging toward the frame top to greater spaced relation;

a fowl retaining member mounted for reciprocal movement on said frame, said fowl retaining member being defined by a pair of formed members joined to each other at their mid-sections, respectively, and in relative spaced relation at the terminals thereof, one of said terminals defining a saddle-like portion received by the bottom of the frame to define the stop for fowl-retaining position of the movable member, the saddle-like portion having a guide member thereon receivable between the arms of the fowl head receiving member, said movable member in combination with the sides and bottom of said frame defining fowl-retaining nips when in a first, fowl-retaining position, said nips being defined by a predetermined spacing between the movable member and frame sides, respectively, to prevent injury to the fowl, and defining fowl-releasing spaces when the movable member is in a second position wherein the saddle-like portion is spaced from the bottom of the frame; and

a lift bar integrally affixed to the upper spaced terminal portion of the movable member, the length of said lift bar being substantially equal to the space defined at the upper section of said movable member, said lift bar being effective to raise the fowl-retaining members upon the application of an external force thereto to release the fowl at a predetermined position of conveyor travel.

3,145,417
APPARATUS FOR MAKING AND BOXING A LENS PATTERN
Norman W. Shatzel, Williamsville, N.Y., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Oct. 28, 1963, Ser. No. 319,229
8 Claims. (Cl. 18—5)



1. Apparatus for making and boxing a lens pattern comprising

a base,

a pair of clamp means mounted in spaced relation to each other, said clamp means being adjustable to hold an ophthalmic frame therebetween with a lens opening of the frame extending over said base,

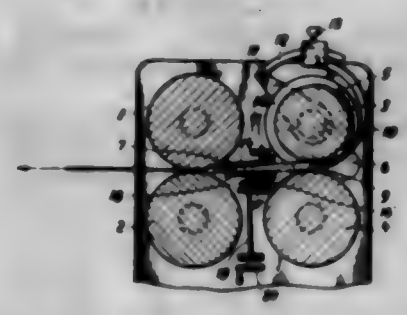
a lining to be arranged around the periphery of said lens opening in abutting relation to said base for defining an open-ended mold cavity corresponding in configuration to said lens opening,

means for introducing moldable material into said mold cavity to form a lens pattern therein, and

means indicating the spacing between said clamp means,

whereby a lens pattern can be formed in said mold cavity and can thereafter be held between said clamp means for determining the box dimensions of the pattern by reference to the spacing between said clamp means.

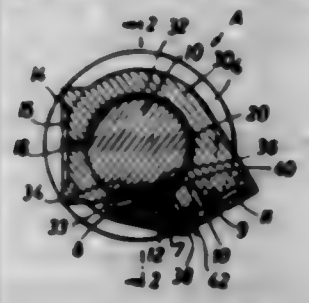
3,145,418
APPARATUS FOR DRAWING OUT FOILS FROM PLASTIC MATERIAL
Eduard Küsters, Krefeld, Germany, assignor to Eduard Küsters Maschinenfabrik, Krefeld, Germany
Filed Mar. 17, 1961, Ser. No. 141,926
Claims priority, application Germany, Nov. 12, 1960, K 43,137
8 Claims. (Cl. 18—9)



1. Apparatus for drawing foils from plastic material comprising draw rollers with an intake nip between them and an obtuse angle at said nip, and rollers directly engaging each other mounted in front of the draw rollers and having means to effect quantitatively uniform feed of the material across the working width of the draw rollers, simultaneously feed said material between said draw rollers and to maintain a uniform volume of material filling

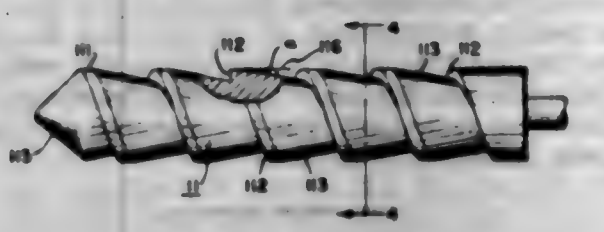
the intake nip during drawing, said means including peripheral grooves spaced along the length of at least one of said front-mounted rollers, in combination with guides comprising sleeve-like bodies to feed material to the draw rollers in individual strings, and mounting means to swing the guides about their ends adjacent the front-mounted rollers in the intake plane, and means for fixing the guides in any position of swing.

3,145,419
NOZZLE FOR A PLASTIC EXTRUDER
Fritz Reifenhauser, Troisdorf, Bezirk Cologne, Germany, assignor to Reifenhauser K.G., Troisdorf, Bezirk Cologne, Germany
Filed May 9, 1963, Ser. No. 279,125
Claims priority, application Germany May 10, 1962
8 Claims. (Cl. 18—12)



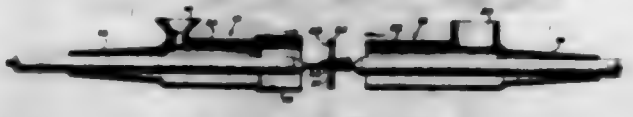
1. A nozzle device for a plastic extruder having an outlet orifice comprising a generally cylindrical core, a casing having a cylindrical bore for receiving said core, an extruding channel extending around the circumference of said core from a first position where the width of said channel substantially matches the width of the outlet orifice to a second position where the width of said channel is substantially greater than the width at said first position, means communicating said orifice to said first position of the channel through said casing and means for allowing plastic to pass from said second position through said casing.

3,145,420
APPARATUS FOR MELT EXTRUDING FIBER-FORMING THERMOPLASTIC POLYMERS
Arnold S. Jonkhaiess, Wilmington, and Hugh R. Ortt, Sanford, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 28, 1963, Ser. No. 283,884
3 Claims. (Cl. 18—12)



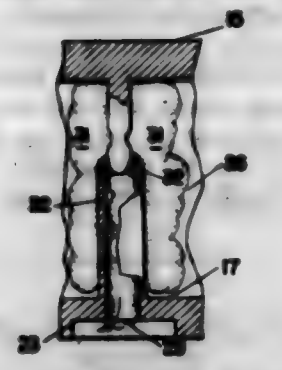
1. An apparatus for melt-extruding fiber-forming, thermoplastic synthetic polymers, comprising in combination a stationary cylindrical casing having a smooth circular bore of constant diameter extending lengthwise for essentially the full length of said casing, an inlet for feeding comminuted solid thermoplastic material near one end of said casing, an outlet for molten material near the other end of said casing, and a helical extruding screw within said circular bore extending essentially for the full length thereof, said helical screw being of a tapered root structure wherein the trailing side of the flights and the root of the screw between flights merge to form a single quasi-conical, helically winding surface which tapers rearwards from the trailing edge of the land of any given flight to a minimum radius in the vicinity of the leading face of the next rearward flight, said taper having an angle not less than 3° and not greater than 8° with respect to a line parallel to the axis of the helix, the radius of the land of the helical flight being constant throughout the helix and differing from the radius of said smooth circular bore by an amount selected to provide a total clearance volume between helix and casing, for the entire length of the apparatus exclusive of the conical tip portion, equal to not less than 5% and not more than 10% of the volume of the empty casing in the same length.

3,145,421
CABLE SPLICING DEVICE
Lee J. Colbert, 58 Smallwood Drive, Snyder, N.Y.
Filed Dec. 27, 1961, Ser. No. 162,475
2 Claims. (Cl. 18—36)



1. A member for potting splices, comprising
a pair of sections adapted to be engaged at their inner ends to form a pod encapsulating a spliced conductor,
each section including a cylindrically tubular main body portion and a gradually tapered outer end portion joined to the main body portion,
one section having a filling neck adjacent the juncture between its main body and outer end portions and the other section having a vent neck adjacent the juncture between its main body and outer end portions,
the inner end of one of said sections being enlarged to receive the inner end of the other section and the two sections having outwardly deformed wall portions extending from their inner ends to their respective necks to (*a*) align said necks when the sections are engaged and (*b*) form an internal vent channel extending between said necks.

3,145,422
MOLDING APPARATUS
Charles J. Daubenberger, Santa Monica, and Michael M. Neals, Venice, Calif., assignors to Deco Rubber, Inc., a corporation of California
Filed June 28, 1961, Ser. No. 120,232
1 Claim. (Cl. 18—39)



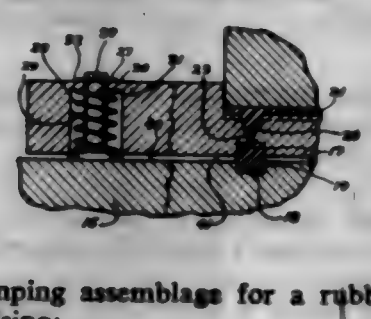
A molding apparatus to form a body having holes passing therethrough for housing electrical connectors, comprising, in combination: a top plate having downwardly projecting pins to define portions of said holes; a center plate having a central opening to define the peripheral portion of said body; a bottom plate; upwardly projecting pin receiving tubes secured to said bottom plate to define other portions of said holes; and spring means biasing said plates apart, the tips of said pins being brought into partially telescoping position within the upper openings of said pin receiving tubes when said plates are moved together, each of said upper openings having an inner wall defined by a straight entrance portion of given distance and thence a diverging beveled

portion, said bottom plate including passage means connecting the interior of said tubes to the exterior of said plate to provide egress means for material placed in said mold and urged into said tubes, whereby flash tending to form in said holes adjacent to the telescoping portions of said tube when said body is molded is removed by material between said diverging beveled portions of said pin receiving tubes and end surface of said pins, said material pulling on said flash when said bottom plate is moved away from said top plate.

3,145,423
AIR-RELEASING MOLD

Wells J. Hervereid, Minneapolis, Minn., assignor to Precision Associates, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Sept. 25, 1961, Ser. No. 140,482
1 Claim. (Cl. 18—42)



A mold bumping assemblage for a rubber mold and the like comprising:

(*a*) a pair of cooperating mold plates having generally planar confronting surfaces,

(*b*) at least one of said plates having its planar surface recessed to define a mold cavity located laterally inwardly from the marginal edges thereof and one of said mold plates having a recess portion for the accommodation of molten material with a connecting sprue leading to said mold cavity;

(*c*) means biasing said mold plates apart;

(*d*) retainer means limiting to a slight separation the distance to which the mold plates are biased apart so as to maintain substantially the shape and size of said cavity, and

(*e*) a molding ram having one end movable into said recess portion, upon application of force thereto, to act against said material to force said molten material into said mold cavity via said sprue and to overcome the force of said biasing means and to bring the confronting surfaces of said mold plates into abutment for a molding operation,

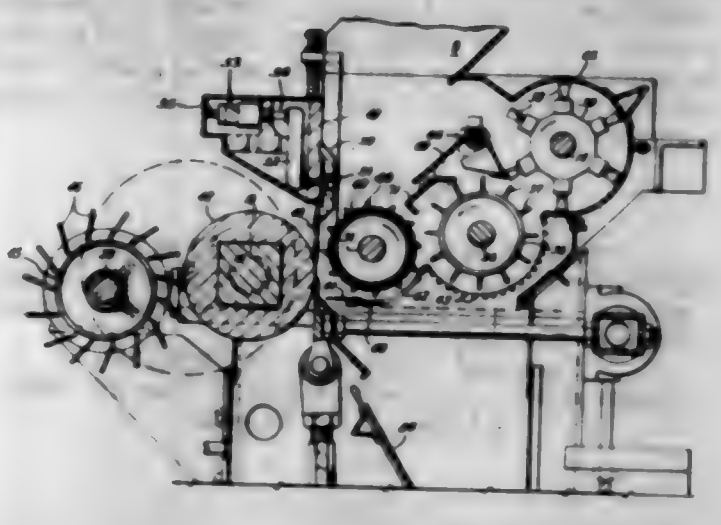
(*f*) the slight separation of said mold plates produced by said biasing means and said retainer means upon momentary removal of force upon said ram allowing entrapped air to be released from said cavity for escape between said surfaces in various lateral directions.

3,145,424
ROLLER GIN AND METHOD OF GINNING COTTON

Woodrow W. Bledsoe, Mesquite, Tex., assignor to The Murray Company of Texas, Inc., Dallas, Tex., a corporation of Delaware

Filed Nov. 23, 1960, Ser. No. 71,218
10 Claims. (Cl. 19—52)

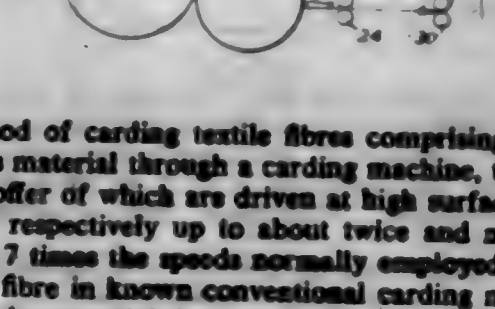
6. In a roller gin, a ginning roller, a feed roller abreast the same, a stationary grating beneath said feed roller for permitting the escape of released seeds while confining cotton carried away from said ginning roller to the immediate vicinity of said feed roller, a reclaiming roller adjacent said feed roller for removing from said feed roller cotton adhering thereto, means for rotating said reclaiming roller at a speed sufficient to separate lumped seed by centrifugal force, a feed chute for delivering cotton to said feed roller, and doffing means located between said reclaiming roller and a portion of said chute spaced substantially from said feed roller for releasing cotton from said reclaiming roller and returning the same to said chute and then to said feed roller.



3,145,425
CARDING MACHINES

André Varga, Toronto, Ontario, Canada, assignor to Carding Specialists (Canada) Limited, Toronto, Ontario, Canada

Filed Oct. 31, 1961, Ser. No. 149,859
Claims priority, application Great Britain, Nov. 2, 1960, 37,609/60
1 Claim. (Cl. 19—98)



A method of carding textile fibres comprising passing the fibrous material through a carding machine, the cylinder and doffer of which are driven at high surface speeds which are respectively up to about twice and more and from 3 to 7 times the speeds normally employed for any particular fibre in known conventional carding machines, removing the material from the doffer as a thin carded web, passing the thin web of carded fibres leaving the doffer through the nip of a pair of ironing rollers and subjecting the uncondensed web leaving the ironing rollers to a drafting action sufficient to cause relative longitudinal fibre movement in the web.

3,145,426
AUTOMATIC RAW MATERIAL FEED FOR CARDING MACHINES

Kenji Hijiya, Amagasaki, Hyogo Prefecture, Yasuhiro Nakano, Tarumi-ku, Kobe, Hyogo Prefecture, and Ichizaburo Kaino, Noyagawa, Osaka, Japan, assignors to Nihon Spindle Mfg. Co., Ltd., Amagasaki, Japan, and Nitto Boseki Co., Ltd., Fukushima, Japan

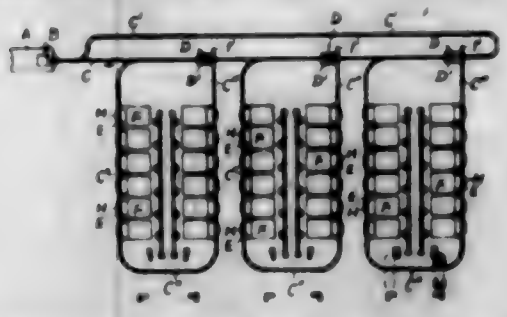
Filed Jan. 22, 1962, Ser. No. 167,865
Claims priority, application Japan Jan. 25, 1961
6 Claims. (Cl. 19—105)

1. An automatic, pneumatic raw material feed for carding machines comprising:

a mixing and scutching means,

a main looped air duct having entrance and exit ends connected to said mixing and scutching means to receive incoming raw material and return any excess for recirculation.

plural controlling receiving means in communication with said main air duct intermediate its ends at spaced locations, therealong,



plural branch looped air ducts, each having an entrance end connected to a respective controlling receiving means and an exit end communicated with said main duct to receive an allotment of raw material from the respective controlling receiving means and return any excess to the main duct,

at least one feeding box attached to each branch duct to receive a sub-allotment of raw material; and

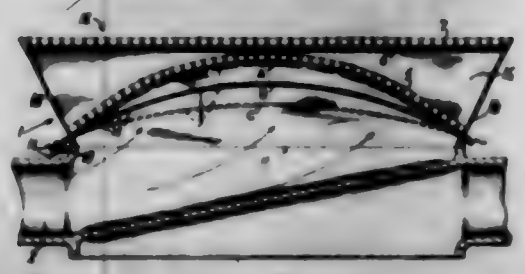
a respective carding machine receiving raw material from each feeding box.

3,145,427

CONTROLLED FLOW DISTRIBUTION NOZZLE

Ferdinand Reiterer, Rueil-Malmaison, France, assignor, by direct and mesne assignments, to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts

Filed July 17, 1961, Ser. No. 124,547
Claims priority, application France July 30, 1960
14 Claims. (Cl. 19—166)



1. A fluid nozzle providing controlled fluid flow distribution at an outlet opening comprising a nozzle housing having an internal cavity forming a passageway for fluid with an outlet opening at one end and an intake opening at the other end, a perforated partition mounted transversely across the nozzle cavity to control the distribution of fluid flow in the nozzle cavity, and a member formed with a plurality of openings having side surfaces extending parallel to the desired direction of flow through the openings mounted transversely across the nozzle located farther from the intake opening than the perforated partition to control the direction of fluid flow, wherein the perforated partition is made of flexible material and including means for imparting a curvature to the partition in at least one transverse direction with respect to the nozzle axis.

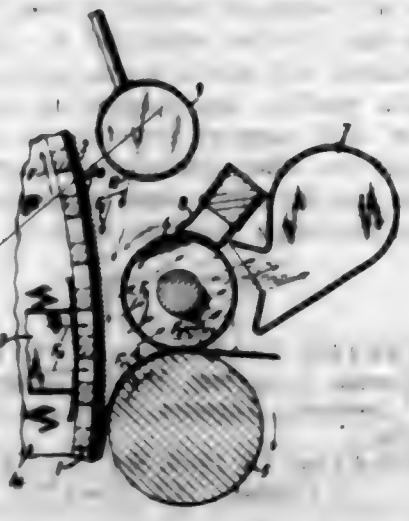
3,145,428

PNEUMATIC WEB REMOVAL IN CARDING MACHINES

Ferdinand Reiterer, Rueil-Malmaison, France, assignor, by direct and mesne assignments, to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts

Filed Sept. 27, 1961, Ser. No. 141,133
Claims priority, application France Nov. 2, 1960
13 Claims. (Cl. 19—106)

1. Apparatus for detaching a web of fibers from a hollow web-carrying rotary cylinder in a fiber processing machine having a perforated outer wall and including means within the cylinder for directing an air blast outwardly through the perforated wall comprising a primary detaching roller adjacent to the cylinder and adapted to turn in the direction opposite to that of the cylinder so as to carry a fiber web which passes between it and the cylinder away from the cylinder, and at least on sec-



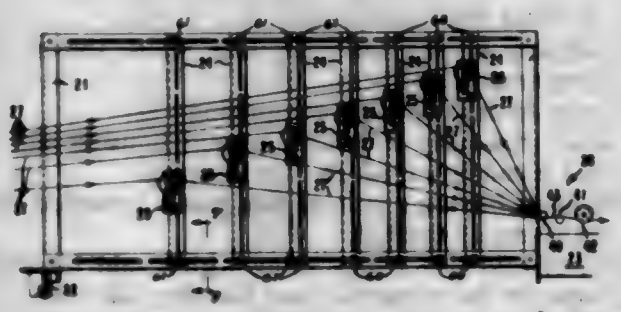
ondary detaching roller spaced from the cylinder and adjacent to the primary roller at a location in the path of the air blast from the cylinder so as to receive the web of fibers between itself and the primary detaching roller, one of the primary and secondary detaching rollers being hollow and perforated to permit the air blast to carry dust and short fibers away from the web.

3,145,429

APPARATUS FOR COMBINING A PLURALITY OF RIBBON-LIKE FILAMENT BUNDLES INTO A SINGLE SHEET OF FILAMENTS

John Charles Reese, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 13, 1962, Ser. No. 244,443
5 Claims. (Cl. 19—157)



1. An improved apparatus for continuously receiving a plurality of separate moving filament bundles proceeding from a given source, guiding, and deflecting said bundles to form a single unitary tow of controlled uniform width and thickness suitable for crimping, said apparatus comprising, in combination; a first means for engaging and supporting each moving filament bundle at separated positions sequentially staggered in three dimensions in space, said means constructed and arranged to establish a ribbon-like configuration for each bundle at each position, and a second means operatively associated with said first means for receiving in a given zone spaced from said positions each of said bundles having the ribbon-like configurations and laterally combining such bundles into a single coherent moving sheet of filaments, said sheet having a controlled uniform width and thickness, said second means also supporting and maintaining said moving sheet in its controlled form in said zone for forwarding to a subsequent treatment; said apparatus further comprising a supporting structure, said first means comprising a plurality of first stage bundle guiding and supporting units adjustably mounted on said support structure at said sepa-

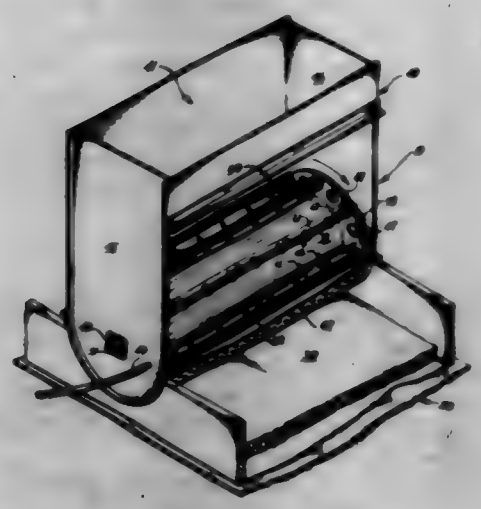
rated sequentially staggered positions in spaced and positioned so that in any three dimensional coordinate system each unit has different coordinates, each of said units adjustably mounted on said structure for limited movement along the line of movement of the moving bundles and in two dimensions transverse to the line of bundle movement, each said unit cooperating with said other units to laterally align said bundles in one dimension while maintaining said bundles separated in each of the two other dimensions, said second means comprising a second stage bundle guiding and supporting unit adjustably mounted on said support structure to converge said bundle in said two other dimensions, engage and combine said bundles into the single sheet of filaments, and laterally position the single resultant sheet of filaments.

3,145,430

FELTER HEAD AND AGITATOR

Philip E. Caron, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Dec. 14, 1960, Ser. No. 75,742
4 Claims. (Cl. 19—155)



1. A felter head comprising
a housing having an inlet, side walls and a curved apertured outlet,
a rotor in said housing comprising
a shaft rotatably mounted in said housing side walls and extending through said housing,
said shaft having a pair of side plates mounted thereon transversely thereof,
each of said side plates being within said housing and adjacent its respective said housing side wall,
brush units extending between and peripherally of said side plates to move in a path coinciding with said outlet, and
a tubular member extending between said side plates and surrounding said shaft and spaced radially inwardly from said brush units and substantially enclosing the dead air space surrounding said shaft.

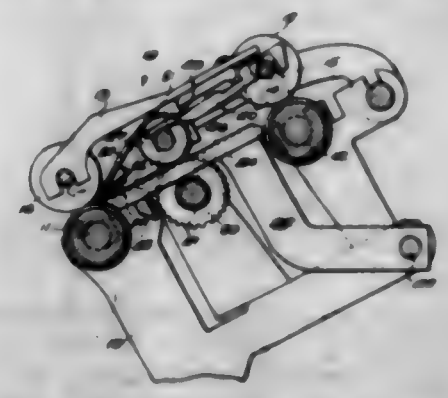
3,145,431

MEANS FOR CONTROLLING THE FIBERS IN A STRAND OF A TEXTILE DRAFTING APPARATUS

Robert Bulen-Miller and Warner H. Taber, Bristol, R.I., assignors, by mesne assignments, to Dixie Machine & Tool Company, Greensboro, N.C., a corporation of North Carolina

Filed Oct. 17, 1960, Ser. No. 63,039
4 Claims. (Cl. 19—247)

1. In a drafting apparatus for textile strands a pair of front rolls, means back of said pair of rolls for controlling a strand as it approaches said rolls comprising a relatively rigid plate presenting a surface to be contacted by the textile strand, an additional roll directly above said plate, means for applying pressure through said additional roll to the strand to provide an area of nip between the additional roll and the plate for attenuating the strand, and a belt extending about said additional roll



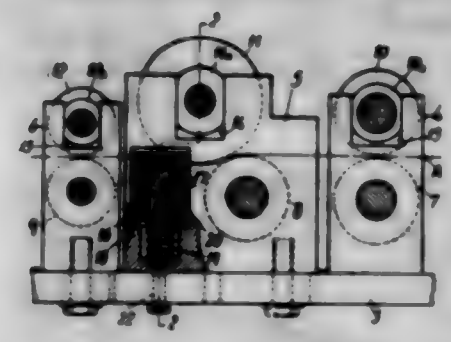
extending toward said front rolls and means to guide said belt to present a surface of a stretch thereof parallel to and in close proximity to the surface of the plate for controlling fibers of the strand as it passes between the said surfaces.

3,145,432

SLIP DRAFT DEVICE IN A SPINNING MACHINE

Kunio Aoki, Osaka, Japan, assignor to Daiwa Boseki Kabushiki-Kaisha, Osaka, Japan, a company of Japan

Filed Apr. 5, 1960, Ser. No. 20,161
4 Claims. (Cl. 19—259)



1. In a drafting mechanism, the combination of a pair of top and bottom front rollers, a slip roller immediately behind the top front roller, a bottom roller against which said slip roller runs and having a diameter smaller than the diameter of said slip roller for gripping a sliver as it is drawn toward the front rollers, an intermediate roller between said bottom front roller and said bottom roller and contacting said slip roller and being driven by said slip roller, and resilient mounting means on which said intermediate roller is mounted resiliently urging said intermediate roller against said slip roller, whereby the clearance between the slip roller and the intermediate roller is varied by the resilient mounting means during the operation of the mechanism depending on the thickness of the sliver which is passing between the slip roller and the intermediate roller, and the fibers are always nipped at a substantially constant pressure.

3,145,433

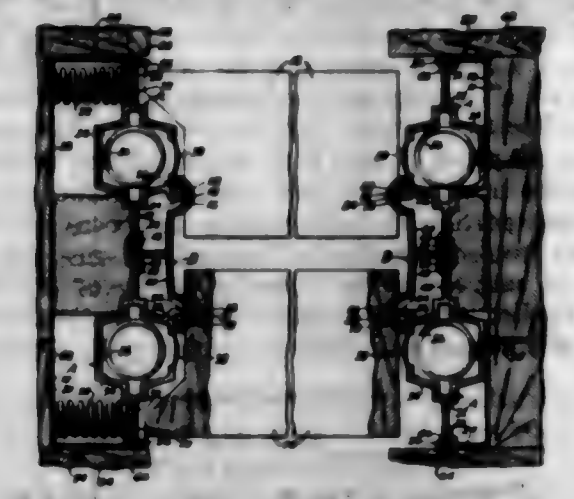
WEATHERSTRIP ASSEMBLY FOR DOUBLE HUNG WINDOWS

Merlin K. Jones, Clinton, Iowa, assignor to Curtis Companies, Inc., Clinton, Iowa, a corporation of Iowa

Filed June 4, 1962, Ser. No. 199,836
20 Claims. (Cl. 20—62)

1. In a weatherstrip assembly for a double hung window having a window frame and sashes therein, a pair of elongated metal members and an elongated hard plastic member assembled together so that the plastic member forms a thermal barrier between the two metal members, said plastic member having a pair of guide beads longi-

tudinally thereof and rigidly spaced apart relative to each other throughout their length, adjacent window sashes having cooperating guide grooves receiving said guide beads, and means biasing said beads toward said grooves.



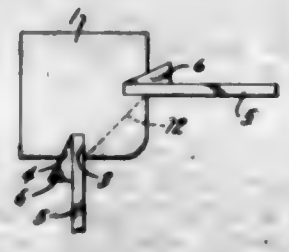
3,145,434
WEATHERSTRIP ASSEMBLY
Steven A. Major, Troy, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 4, 1961, Ser. No. 107,786
2 Claims. (Cl. 20—69)



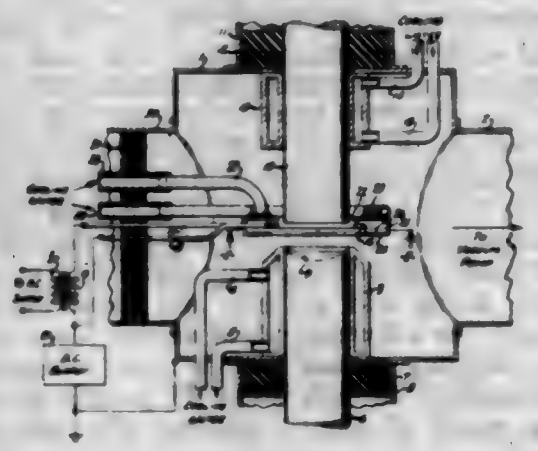
2. A weatherstrip assembly adapted to be mounted on a support having flange structure extending laterally thereto comprising, in combination, a generally U-shaped mounting member including a pair of legs receiving said flange structure therewithin, said member including a flange extending laterally from each leg thereof and located generally laterally to said flange structure and in spaced juxtaposed relationship to said support, said legs and said mounting member flanges being slotted, tangs struck from the edge portions of said slots at said legs and said mounting member flanges, said leg tangs engaging said support flange structure, a weatherstrip member surrounding said mounting member and including pairs of interconnected flanges, each pair being respective to and receiving a mounting member flange therebetween, one of said weatherstrip flanges of each pair being located between a respective mounting member flange and said support and being clamped therebetween, said tangs on said mounting member flanges engaging said one weatherstrip flanges to prevent said one weatherstrip flanges from being pulled out from between said mounting member flanges and said support.

3,145,435
WOOD JOINTS
Robert F. Loetscher, P.O. Box 244, Dubuque, Iowa
Filed May 28, 1962, Ser. No. 198,046
3 Claims. (Cl. 20—92)

1. A wood joint including a relatively thick, heavy wood stile having a plane surface, a V-shaped groove extending longitudinally of the stile inwardly from the plane surface, having one plane wall perpendicular to the plane surface of the stile, the bottom of the groove being bounded by a plane surface parallel to the plane surface of the stile, the other side of the groove being bounded by a plane wall inclined outwardly from the bottom of the groove toward the plane surface of the stile, a relatively thin, flat sheet of wood perpendicular to the plane face of the stile, penetrating the groove and contacting the perpendicular wall thereof, a tapered wedge penetrating the groove and having a plane surface in contact with the sheet and a plane surface inclined thereto in contact with the inclined wall of the groove, glue within the groove in contact with stile, sheet and wedge, the wedge being out of contact with the bottom of the groove and compressing and locking the glue, the stile and the plate together.

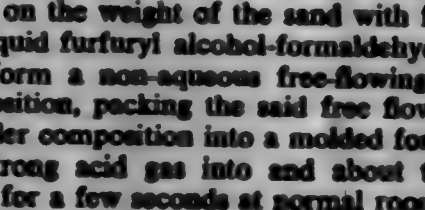


3,145,436
FOCUSED ELECTRON-BEAM MELTING AND CASTING
Charles W. Hanks, Orinda, and Hugh R. Smith, Jr., Piedmont, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 862,129, Dec. 28, 1959. This application Nov. 13, 1962, Ser. No. 239,393
10 Claims. (Cl. 22—57.2)



1. An electron-beam furnace comprising an evacuable enclosure, an annular focusing structure of inwardly opening channel-shaped cross-section, the structure being within the enclosure and including a first annular focusing plate, an outer cylinder secured at one end to the outer edge of the first plate, and a second annular focusing plate secured at its outer edge to the other end of the cylinder, an annular thermionic cathode disposed coaxially within the focusing structure, a focusing cylinder secured at one end to the inner edge of the first annular plate and extending toward the cathode, the other end of the focusing cylinder being of smaller diameter than the cathode and being approximately coplanar with the cathode, the inner edge of the second focusing plate being spaced substantially farther from the the plane of the cathode than the said other end of the focusing cylinder, means for supporting a body of material to be treated in axial alignment with the cathode, and electrical circuit means for supplying a negative potential to the focusing structure and cathode relative to the body.

3,145,437
HOT TOP WIPER STRIPS
John G. Sommer, New Castle, Pa., assignor to New Castle Refractories Inc., New Castle, Pa.
Filed Apr. 17, 1962, Ser. No. 188,134
3 Claims. (Cl. 22—167)

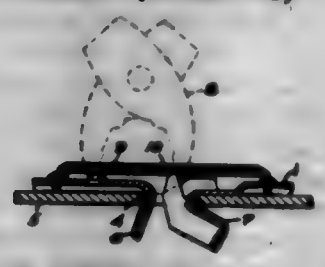


1. A wiper strip for use with hot tops and ingot molds comprising a unitary flexible metal strip having a central strip portion with a lower flange portion and an upper flange portion extending along the length thereof, said lower flange portion extending angularly from one side of the plane of said central strip portion, said upper flange portion extending angularly from the other side of the plane of said central strip portion, said flange portions having uniformly spaced cuts therealong to form a multiplicity of flange segments discreet from each other and integral with said central strip portion, the adjacent edges of said flange segments being offset with respect to each other whereby said wiper strip is wrappable around the base of a hot top.

3,145,438
GAS CURE OF ORGANIC BONDS FOR SAND AND ABRASIVE GRANULES
Roger H. Kottke and James J. Engel, Minneapolis, Minn., assignors to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Filed Sept. 18, 1958, Ser. No. 761,677
5 Claims. (Cl. 22—193)

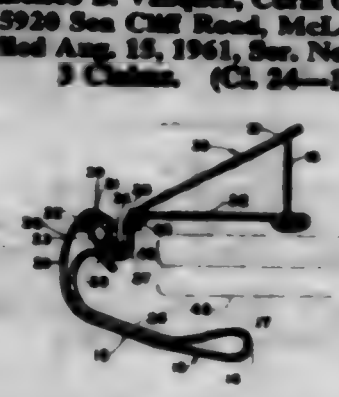
1. The method of cold-set converting, under normal room temperature conditions, a free flowing sand body to a rigid sand form of mold and core sand material comprising the steps of mixing from about 95% to 99% sand having a moisture level no greater than about ½ of 1% based on the weight of the sand with from about 1% to 5% liquid furfuryl alcohol-formaldehyde resinous material to form a non-aqueous free-flowing sand and binder composition, packing the said free flowing mixed sand and binder composition into a molded form, passing a catalytic strong acid gas into and about the packed molded form for a few seconds at normal room temperature, and effecting at said normal room temperature a tensile strength of at least about 55 pounds per square inch in a period of about 5 minutes after said gassing treatment.

3,145,439
MOLDING FASTENER
David R. Knowlton, Ipswich, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Jan. 19, 1962, Ser. No. 167,305
1 Claim. (Cl. 24—73)



A unitary fastener device for holding an article to a support, said fastener device having a base portion, article engaging means provided as a part of said base portion and attaching means extending from said base portion formed to make attaching engagement with a suitable support, said attaching means extending from said base portion and continuously presented at the underside of said base portion and said attaching means being divided into two opposed portions, one of which is in the form of a hook portion and the other of which is in the form of a locking portion spaced from said hook portion and being provided with an extension which protrudes above the plane of said base portion on the opposite side from the main part of said locking portion, and an upstanding portion extending from said base portion and spaced from said extension and on the same side of said base as said extension, whereby a pair of pliers or the like applied to said extension and said upstanding portion will engage said locking portion with a support.

3,145,440
SAFETY DIAPER PIN
Francisco B. Vazquez, Coral Gables, Fla. (5920 Sea Cliff Road, McLean, Va.)
Filed Aug. 15, 1961, Ser. No. 131,666
3 Claims. (Cl. 24—160)



1. A safety pin clasping device having a one-piece relatively wide spring steel base member folded back double upon itself in a manner forming an outer and inner layer having a raised looped portion formed between said layers at the outer end thereof, the outer layer of said base member being curved upwardly at its back and arcuately downwardly above said back at its inner end to form a downwardly depending hook extending across the width of the extreme inner edge portion of the outer layer of said base member, the inner layer of the base member being folded back upon the outer layer thereof and following the upwardly curved back portion of said outer layer and being curved inwardly from said back portion to form a resilient spring lip, a two-piece top member operatively connected to said base member, by hinge means the outer piece of said two-piece top member having a downwardly extending portion with an upturned hook portion extending across the width of its extreme inner edge and adapted to engage the downwardly depending hook of the base member when the top member and base member are pressed together in a manner to hold the safety pin clasp in closed position, the inner piece of said two-piece top member being pivotally connected to the outer piece of said two-piece top member by second hinge means, adapted to operate independently of the first described hinge means and inwardly and upwardly extending curved inner portion of the inner piece of said two-piece top member being interlockingly and operatively engaged with the upwardly curved back of the base member to form the first hinge means, a downwardly extending pin fixed near the outer end of the outer piece of the top member, a loop portion formed along the outer edge of the inner piece of said top member, there being a pair of holes in the top and bottom of said loop portion adapted to guard the lower pointed end of the pin when the safety pin clasp is open and the outer and inner pieces of said two-piece top member are separated and to permit the pin to pass therethrough when the safety pin clasp is closed, and there being a hole formed in the top of the loop of the base member to receive the point of the pin when the safety pin clasp is closed in a manner to guard said pin point.

3,145,441
QUICK RELEASE LOCKING ELEMENT PIN
Theodore E. Strandrud, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 186,982
4 Claims. (Cl. 24—211)



1. A quick-release locking device of the character described for support in a hole in a supporting body, said locking device comprising a pin body having a locking end and a control end, and bored in the axial direction, and having a transverse aperture at its locking end, a locking element reciprocatively guided in said transverse aperture for retraction and protrusion into locking position, beyond the inner end of the hole in the supporting body a spindle rotatively supported in said bore, means interconnecting the locking end of said spindle and said locking element for converting rotative movement of the spindle into reciprocative movement of the locking element, a plunger guided at the control end of the pin body for axial reciprocation, and cam means for converting reciprocative movement of the plunger into rotative movement of the spindle.

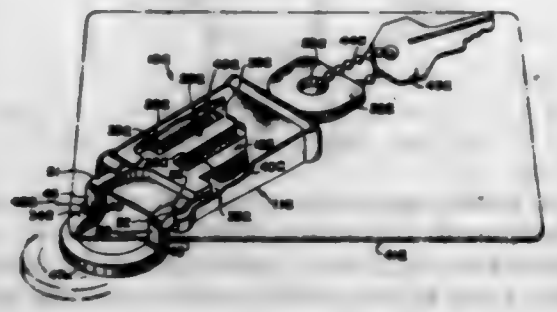
3,145,442
SAFETY BELT BUCKLE
Ray Brown, 910 N. Orange Drive, Los Angeles, Calif.
Filed Dec. 7, 1962, Ser. No. 242,948
11 Claims. (Cl. 24—230)



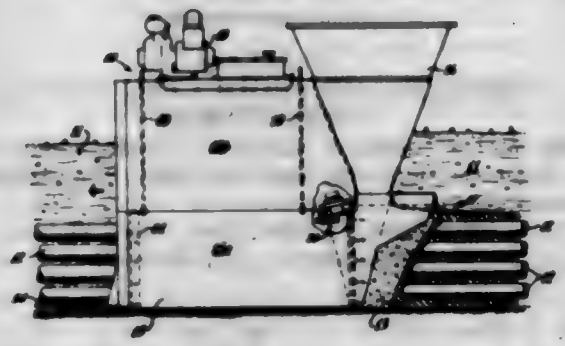
1. In a belt buckle, the combination comprising:
a frame assembly;
a link plate;
a spring biased elongated locking bar within said frame assembly movable between link locking and link releasing positions, said locking bar having its longitudinal axis parallel to the plane of said link plate;
a first raised surface extending obliquely from said link plate for camming said locking bar to the link releasing position;
a second raised surface upon said link plate for camming said locking bar to the link locking position;
a spring biased handle pivotally secured to said frame assembly and movable between extended and retracted positions;
and means to move said locking bar to the link releasing position when said handle is pivoted to an extended position with respect to said frame assembly.

3,145,443
CONNECTOR
Robert T. Gallagher, Philadelphia, Pa., assignor to Carey-McFall Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 25, 1963, Ser. No. 297,575
1 Claim. (Cl. 24—239)

A connector comprising a generally flat tubular casing having its opposite ends open, a generally flat slide member slidable longitudinally in said casing, said slide member being provided with a pair of longitudinally extending cutouts opening through opposite side edges, a pair of internal lugs projecting from said casing into respective cutouts of said slide member and each engageable with one end of a respective cutout to limit slide movement of said slide member in one direction relative to said casing, a coil compression spring disposed in each of said cutouts and each having its opposite ends engaging the adjacent lug and the other end of the respective cutout to urge said slide member in said one direction, and a pair of extensions on opposite ends of said slide member projecting outward from respective ends of said casing and each extendible and retractable upon back-and-forth sliding movement of said slide member, one of said extensions comprising a hook having a side opening located interiorly and exteriorly of said casing upon respective retracting and extending of said one extension, whereby said hook is adapted to be closed and opened upon retracting and extending of said one extension, said hook having its distal region offset beyond one side of said casing, whereby a card receiving said hook is adapted to underlie said casing.

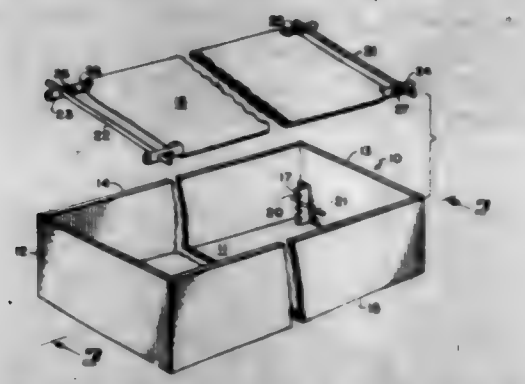


3,145,444
APPARATUS FOR ENCASEMENT OF CONDUIT MATERIAL
Cyrus L. Brown, Auburn, John A. Madill, Arcadia, and David I. Swope, North Hollywood, Calif., assignors to Plasti-Con Pipe Company, Auburn, Calif., a corporation of California
Filed Sept. 8, 1960, Ser. No. 54,717
7 Claims. (Cl. 25—32)



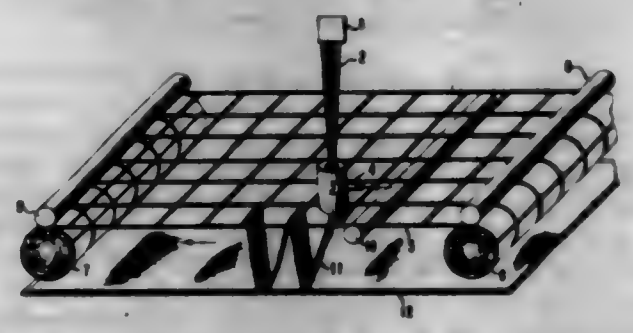
1. Apparatus for encasing one or more tubular members in cementitious material, comprising: an elongated sled having front and rear ends; hopper means mounted to the rear of said sled; a vibrating support for tubular members disposed upon said sled forwardly of said hopper means and including a vertically mounted vibrated support frame having one or more openings therein for receiving tubular members horizontally therethrough and supporting said tubular members in spaced relationship to a trench; means for mounting said vibrating support and frame upon said sled independently of said hopper means, said mounting means defining a substantially vertical guide and permitting relatively free upward movement of said support frame relative to said sled; and means mounted to said support frame for vibrating said frame and tubular members supported thereon.

3,145,445
BODY REST ADJUSTMENT FOR COFFIN
Robert L. Hegmann and Clinton L. Weber, Cincinnati, Ohio, assignors to Safeguard Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 26, 1962, Ser. No. 240,875
1 Claim. (Cl. 27—12)



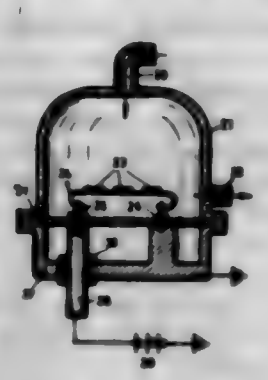
In a coffin comprising a bottom, ends and sides, the combination of: A platform providing repose for the body, and means for adjustably positioning said platform comprising: a first pair of spaced brackets disposed at one end of said coffin, a second pair of spaced brackets disposed at the other end of said coffin, said brackets being formed with open notches definitive of available elevational levels, the open notches of the first pair facing toward the open notches of the second pair, and all the notches facing in the direction of the platform, a first transversely extending rod adpated to project into corresponding notches in the first pair of brackets, a second transversely extending rod adapted to project into corresponding notches on the second pair of brackets, a pair of spaced support members for said platform extending lengthwise of said platform and formed with slots adjacent their ends, one of said rods extending through each pair of said slots, said slots being formed to permit displacement of said rods and manual release of said rods from said notches, and coil spring means disposed at each end of each support means and inboard of said transversely extending rods and effectively between said rods and said support means for biasing said rods outwardly toward and into said notches, the rods being biased into the notches to support the platform in any selected position and being manually released from said notches against the force of said coil spring means to permit adjustment of the platform elevation.

3,145,446
PROCESS FOR PRODUCING TUFTED STRUCTURES
Martin Victor Sussman, Medford, Mass., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 21, 1962, Ser. No. 239,143
19 Claims. (Cl. 28—72)



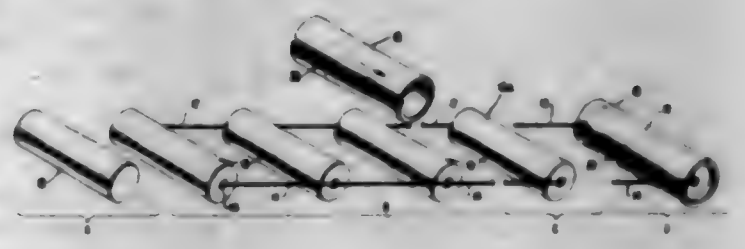
1. A process for producing tufted structures which comprises propelling a filamentary strand by means of a high velocity fluid into contact with an apertured backing material, said fluid having sufficient velocity to force the strand through openings in the backing material to form tufts, and forming a series of tufts by relative lateral movement between the strand and backing material to cause the strand to alternately penetrate openings in the backing material and suspend itself from the walls of the openings, thereby forming tuft loops in each opening.

3,145,447
METHOD OF PRODUCING A SEMICONDUCTOR DEVICE
Theodor Rummel, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Feb. 1, 1961, Ser. No. 86,389
Claims priority, application Germany Feb. 12, 1960
14 Claims. (Cl. 29—25.3)



1. The method of producing a p-n junction semiconductor device, which comprises placing a number of bodies of monocrystalline semiconductor material upon a common metallic support, heating the bodies on said support by directly heating said support, pyrolytically precipitating semiconductor material from a gaseous compound of the same semiconductor material on said bodies and support thus growing at least one stratum upon each of said bodies and simultaneously bonding said bodies to said support, thereafter severing said support into respective parts of which each remains integral with one of the then separated semiconductor devices respectively and forms an electric terminal thereof.

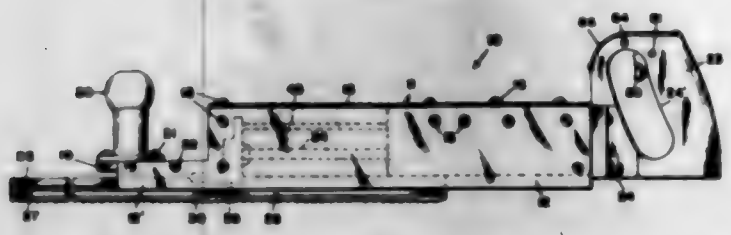
3,145,448
CAPACITOR FABRICATION
James Henry Cotton, London, England, assignor to Cornell-Dubilier Electric Corporation, a corporation of Delaware
Filed July 5, 1960, Ser. No. 40,905
8 Claims. (Cl. 29—25.42)



1. In the fabrication of encapsulated electrical capacitors, the steps of: transversely positioning unencapsulated capacitor sections in spaced relation intermediate two parallel lengths of wire with their electrode elements selectively connected thereto to form a ladder-like series thereof, positioning the lead capacitor section in said series relative to the walls of a mold by interposition of a longitudinally slotted sleeve of insulating material intermediate said section and the mold walls of a thickness at least equal to the minimal desired depth of encapsulation and introducing compatible liquid encasing material into said mold to fill all voids therewithin and to merge, upon

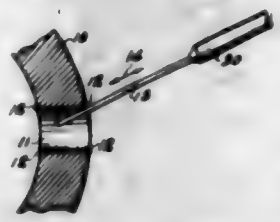
solidification thereof, with said slotted sleeve to form a unitary enclosed casing for said capacitor.

3,145,449
POWER OPERATED RECIPROCATING TOOL
William E. Johnson, 906 Sunalland Drive, and George F. Dalby, 904 Sunalland Drive, both of Orlando, Fla.; Emma Cone Johnson, administratrix of William E. Johnson, deceased
Filed Apr. 18, 1962, Ser. No. 188,310
2 Claims. (Cl. 29—76)



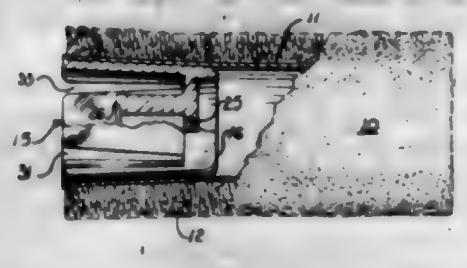
1. In a fluid pressure operated reciprocating tool, the combination of a horizantally elongated housing having an open bottom and inner and outer ends, a cylinder block disposed horizontally in the inner end portion of said housing, said housing comprising a pair of side plates and a top plate secured respectively to the opposite sides and the top of said cylinder block and projecting longitudinally outwardly beyond the same, an end plate secured to the outer ends of said side plates and top plate, a handle secured to said cylinder block at the inner end of the housing, said side plates also projecting downwardly below the bottom of said cylinder block, a pair of opposing inturned flanges provided at the lower edges of said side plates, a horizontally elongated reciprocable tool holder disposed in the open bottom of the housing and provided in opposite sides thereof with a pair of grooves slidably receiving said flanges, said cylinder block being formed with a horizontal cylinder, a piston reciprocable in said cylinder, a piston rod connected to said piston and projecting outwardly from the cylinder into the outer end portion of said housing, a bracket rigidly secured to the top of said tool holder and disposed in the outer end portion of the housing, said bracket having the outer end of the said piston rod rigidly connected thereto whereby reciprocation of said piston in said cylinder may reciprocate said tool holder along said flanges, said cylinder block being provided above said cylinder with a horizontal valve chamber having a compressed air inlet, a set of ports communicating with opposite ends of said cylinder and a set of ports vented to the atmosphere, a reciprocable spool type valve member slidable in said valve chamber between an inwardly slid position wherein compressed air may be delivered to the inner end of said cylinder while the outer end of the cylinder is vented to the atmosphere and an outwardly slid position wherein compressed air may be delivered to the outer end of the cylinder while the inner end of the cylinder is vented, a reciprocable valve actuating rod rigidly connected to said valve member and extending horizontally in the outer end portion of said housing above said piston rod, said bracket being formed with an aperture slidably receiving said valve actuating rod, resilient abutment means provided on said rod in longitudinally spaced relation from each other and at opposite sides of said bracket, said abutment means being engageable by said bracket at the opposite ends of the reciprocating movement of said piston rod whereby to alternately slide said valve actuating rod between its inwardly and outwardly slid positions, passage means for delivering compressed air to the inlet of said valve chamber, and manually operated valve means in said handle for controlling the flow of air through said passage means.

3,145,450
METHOD OF ULTRASONIC REMOVAL OF MATERIAL BY FATIGUE FAILURE
Lewis Balamuth, New York, N.Y., assignor to Cavitron Ultrasonics Inc., New York, N.Y., a corporation of New York
Filed May 23, 1962, Ser. No. 197,089
10 Claims. (Cl. 29—81)



1. A method for removing material of relatively low fatigue strength bonded to a body of relatively higher fatigue strength comprising applying mechanical vibrations at a frequency in the range between 1000 and 100,000 cycles per second and with an amplitude selected from the range between .0001 and .1 inch to provide peak accelerations of at least 1000 *g* to said material for a time sufficient to effect fatigue fracture of said material and of the bond of the latter to said body.

3,145,451
SLEEVE MOUNTING MEANS
James Christensen, Lancaster, Pa., assignor to Schick Electric Inc., a corporation of Delaware
Filed Dec. 26, 1962, Ser. No. 247,973
3 Claims. (Cl. 29—117)

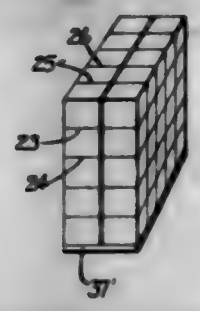


3. The combination of a sleeve member having a hollow, semi-rigid, normally cylindrical core and means deforming one end of the core to elliptical cross sectional form comprising a one-piece mounting member disposed in said one end of the core, the mounting member at its leading end being of circular cross section dimensioned to fit the core and from that end toward and at its trailing end being of generally elliptical cross sectional form incorporating diametrically opposite curved surfaces comprising the major axis arcuate ends of the elliptical form, the length of said major axis at the trailing end of the mounting member being greater than the normal internal diameter of the core and the length of the minor axis of the mounting member at its trailing end being less than the normal internal diameter of the core and the mounting member in the central longitudinal section through said major axis presenting a uniform taper from its trailing end to its leading end.

3,145,452
METHOD OF MAKING A MAGNETIC HEAD
Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois
Filed Mar. 24, 1958, Ser. No. 723,304
13 Claims. (Cl. 29—155.5)

1. The method of making pole piece assemblies for magnetic heads which comprises polishing to a flat planar configuration surfaces of a pair of blocks of ferrite material, placing said surfaces in confronting relation with a magnetic gap therebetween, securing said blocks to each other by means of a non-magnetic bonding material which is substantially rigidly connected with said blocks

and which extends continuously therebetween over substantially the entire area of said confronting surfaces, subdividing the blocks into units each including a portion of one block and a portion of the other block directly across said gap therefrom with a portion of the bonding



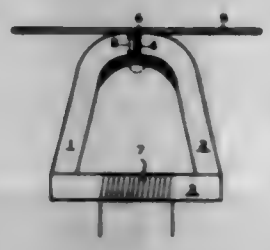
material being rigidly connected with said portions and extending continuously therebetween to rigidly maintain the dimension of the portion of said magnetic gap therebetween, and shaping said units to provide completed pole piece assemblies for magnetic heads.

3,145,453

METHOD OF PRODUCING MAGNETIC HEADS WITH BONDING GLASS GAP SPACERS

Simon Duinker and Jules Bos, Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Original application Sept. 11, 1956, Ser. No. 609,284, now Patent No. 3,024,318, dated Mar. 6, 1962. Divided and this application May 8, 1961, Ser. No. 114,273
Claims priority, application Netherlands Oct. 4, 1955
6 Claims. (Cl. 29—155.5)



1. A method of manufacturing an annular magnetic head having at least two circuit parts composed of ferrite and an effective gap between said parts, each of said parts having at least one gap surface, comprising the steps of polishing the gap surfaces on said circuit parts, interposing a glass shim directly between and contacting the polished gap surfaces, said shim having a thickness slightly exceeding the desired gap width, heating the resultant assembly to a temperature lying in the softening range of the glass and compressing the two circuit parts against the glass shim at a temperature in said softening range until the desired gap width is achieved, said glass acting upon hardening as a gap spacer and as a bonder for the circuit parts.

3,145,454

FABRICATION OF LOW IMPEDANCE DIODE STRUCTURES

George C. Dacey, Murray Hill, and Robert L. Wallace, Jr., Warren Township, Somerset County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application Nov. 25, 1959, Ser. No. 855,426, now Patent No. 3,063,023. Divided and this application July 14, 1960, Ser. No. 42,894
8 Claims. (Cl. 29—155.5)

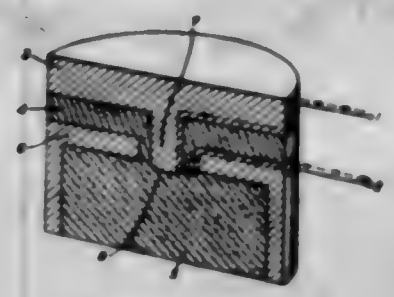
1. The method of fabricating a low impedance diode assembly comprising the following steps:

(1) spreading a layer of metal on the surface of a semiconductor wafer;

(2) superimposing on said layer a separator of dielectric material;

(3) placing upon said separator a photo-resistant mask having an aperture therein;

(4) etching away through said aperture, a minute channel through said separator by means of an acid that is selectively solvent of said dielectric material;



(5) removing said mask and etching through said channel a region of said layer underlying said separator by means of an acid that is selectively solvent of said metal to form a cavity in said layer that is of substantially greater dimensions, in the plane of said layer, than said channel;

and (6) depositing a metallic film which covers said separator and forms a protuberance extending into said channel and into contact with said wafer;

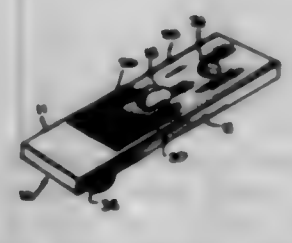
thereby to achieve for said assembly a composite impedance effect which allows the diode portion of said assembly to be operative at ultrahigh frequencies.

3,145,455

METHOD OF PRODUCING ELECTRIC CONTACT FINGERS

Michael J. Zaleski, Union City, N.J., assignor to Automatic Switch Co., Florham Park, N.J., a corporation of New York

Filed July 10, 1961, Ser. No. 122,710
2 Claims. (Cl. 29—155.55)



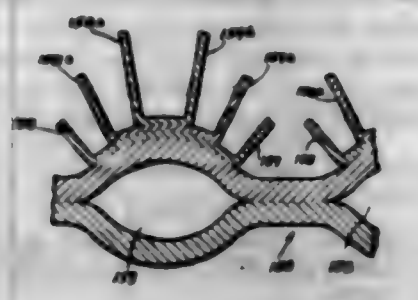
1. In a method of producing an electric contact finger, the steps which comprise: providing a flat bar of hard drawn copper, producing through openings in the bar in accurate locations prescribed by the mounting upon which the finger is to be supported when in use, brazing a contact button to a face of the bar, the heat of said brazing having an annealing effect upon the copper, securing the bar in a rigid holder that snugly confines opposite side edges and plugs said openings with rigid unyielding material, and then, while so secured against dimensional changes, subjecting at least one face of the bar to simultaneous perpendicularly applied pressure in a multiplicity of minute closely adjacent spots, the pressure being of sufficient magnitude to cause deformation of the metal into a pattern of depressions and to cause cold flow into the regions between and directly adjacent to said depressions, said pressure treatment serving to reharden the copper, confining of the side edges of the bar serving to prevent alteration in the width of the bar as a result of the application of said pressure and to harden said side edges by restraining their normal tendency to expand outwardly.

3,145,456
METHOD OF MANUFACTURING FINNED STRUCTURE

Wallace C. Johnson, St. Davids, Pa., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

Original application June 21, 1956, Ser. No. 592,785. Divided and this application Oct. 11, 1960, Ser. No. 66,373

2 Claims. (Cl. 29—157.3)



1. The method of making a finned heat exchanger plate comprising superposing a pair of inside component sheets with weldable surfaces in juxtaposition with an intervening first pattern of weld preventing material applied to one of said component sheets, said pattern including stripes spaced from each other and from the lateral edges of said sheets, applying a plurality of edge-to-edge contiguous outside component sheets to the outside surface of at least one of said pair of inside sheets with a second pattern of weld preventing material consisting of spaced bands each extending from one edge to an opposite edge intervening between said outside surface and the applied outside sheet along and adjacent said contiguous edges which form lines of subdivision of said outside component sheet, unifying adjacent component sheets together except at the areas occupied by said pattern of weld preventing material to form a tube sheet having exposed along its peripheral edges the ends of said bands of said second patterns, bending those portions of said outside component sheets adjacent each of said lines of subdivision outwardly to form integral fins and then applying fluid inflation pressure along said first pattern of weld preventing material so as to erect heat exchanger fluid passageways in said plate structure extending from adjacent one end of the tube sheet to the other end of the tube sheet.

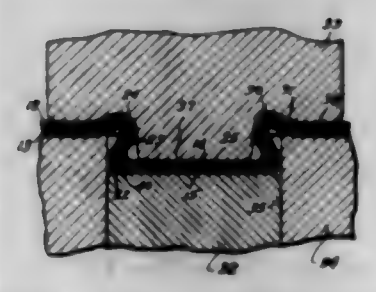
3,145,457
METHOD OF FASTENING THE RIM AND BODY OF A VEHICLE WHEEL

Paul Lemmerz, Koenigswinter (Ittlar), Germany, assignor to Lemmerz-Werke G.m.b.H., a corporation

Original application Dec. 8, 1958, Ser. No. 778,798, now Patent No. 2,992,857, dated July 18, 1961. Divided and this application Jan. 19, 1961, Ser. No. 93,282

Claims priority, application Germany Dec. 28, 1957

2 Claims. (Cl. 29—159.01)



1. In a method of making a wheel structure including a tire rim having a base flange and a wheel body having a peripheral attachment flange,

assembling the base flange and the attachment flange by telescopically interfitting the same,

simultaneously pressing an unbroken generally cup-shaped integral button-like stud protuberance from one of said flanges and a complementary nested socket protrusion in and from the other of said flanges,

dishing the internested base walls of the stud protuberance and socket protrusion in the opposite direction from which the stud projects,

pressing the material of said flanges about the junctures of said stud protuberance and socket protrusion into a substantial radius juncture slightly offset from the planes of the flanges in the opposite direction from the projection of the stud protuberance and in the same direction as said dished base walls,

while maintaining said substantial radius juncture flattening out said dished base walls and collapsing the nested stud protuberance and socket protrusion into flaring interlocked dovetail tongue and groove relation,

and crowding and massing the material of the stud protuberance into a reinforcing rib within the dovetail of the collapsed socket protrusion.

3,145,458
IRON-NITRIDE-CARBIDE POWDER AND METHOD FOR ITS PRODUCTION

Harry Kloepfer, Frankfurt am Main, Johannes Müller, Neu-Isenburg, and Fritz Sperr, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Feb. 8, 1963, Ser. No. 257,686

Claims priority, application Germany, Feb. 13, 1962, D 38,148

7 Claims. (Cl. 29—182.5)

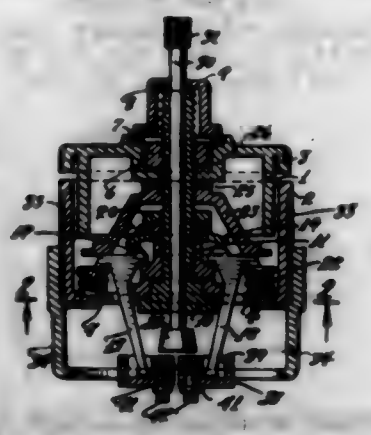
1. Iron-nitride-carbide powder the individual particles of which have a carbon content of 1–3% by weight and a maximum nitrogen content of 7% by weight, said iron-nitride-carbide powder being free of α-rion and having the nitrogen content essentially only in the ε-iron nitride phase.

3,145,459
TOOLS FOR REMOVING AND FITTING BACK PLATES OF WATCHES AND WATCH CRYSTALS

Jerome Shiffman, 128 Carthage Road, Scarsdale, N.Y.

Filed Sept. 13, 1962, Ser. No. 223,444

1 Claim. (Cl. 29—210)



A device for removing and fitting watch back plates and crystals comprising a first casing, a plurality of fingers pivotally mounted in said first casing and in ring formation, said fingers being movable toward or away from the axis of their said ring formation and adapted to engage a watch crystal or a watch back plate between them, an adjusting head axially movable in said first casing and engaging the fingers to move the same, a stem threadably mounted in the first casing and having threaded engagement with the adjusting head to move the same axially of said first casing, a second casing below said first casing

and removably held thereby, a lower normally horizontal wall member carried by the second casing and having a plurality of radial slots leading to a central aperture in said wall member, a plurality of lug-holders insertable through said central aperture and movable in said slots, each lug holder having a base wall and a top wall with an open-end aperture in said base wall, and an open-end aperture in said top wall, the latter aperture receiving an appropriate one of said fingers, and a lug removably held in said base aperture of the lug holder for insertion and removal by endwise movement.

3,145,460

DRAPERY SLIDE FEEDING MACHINE

John Benedetto, 7441 Garden Grove Ave., Reseda, Calif., and Manfred Mandelbaum, 8641 Cadillac Ave., Los Angeles, Calif.

Filed Oct. 12, 1962, Ser. No. 230,212
10 Claims. (Cl. 29—241)



1. A feeding machine for hanger slides having stud hanger portions, comprising

(*a*) a hopper to loosely hold a supply of slides and having a front opening,

(*b*) a rotational rotor in said hopper provided with members having outwardly directed edges that are sloped to a point directed toward and adjacent said opening and on the axis of rotation of the rotor, said edges engaging and hanging slides thereon to slide downwardly toward said rotor point, and

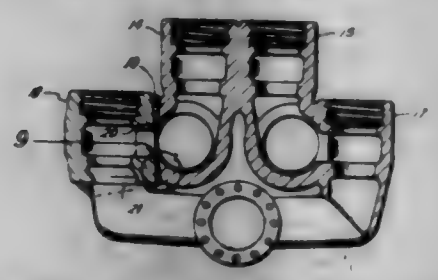
(*c*) a slideway extending in a forwardly and downwardly sloping direction from said point and receptive of slides sliding off said rotor edges.

3,145,461

METHOD OF REPAIRING HIGH PRESSURE SLUSH PUMPS

Virdean R. Mattingly, 6502 Country Club, Houston, Tex.

Filed May 28, 1963, Ser. No. 283,838
10 Claims. (Cl. 29—402)



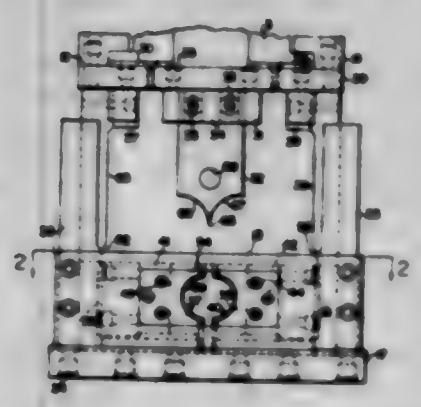
1. The method of repairing a high-pressure, heavy-duty, piston-type oil field slush pump that has a crack in the neck extending between a pump barrel and one of its valve pots comprising the steps of cutting the defective neck and one of at least the adjacent part of the pump barrel and the adjacent valve pot from the remainder of the pump; machining a surface on a heavy walled replacement element for the cutaway of the pump barrel part and the valve pot, the thickness of the replacement element at and adjacent to the machined surface being such as to replace the damaged and removed neck part; machining narrow land parts on the remaining one of the pump barrel part and the valve pot to provide a land for the machined surface of the replacement element placing the center line of the replacement element in the same position relative to the center line of the remaining one of the pump barrel part and the valve pot that the center lines of the originals bore to each other with the machined surface landed thereagainst; placing the replacement element in said landed position; and welding said replacement element, while maintaining it in said landed position, to the remaining one filling the spaces between the machined surface and the body of the remaining one adjacent the narrow land parts with weld material to completely enclose the connection therebetween and to fuse the narrow land parts to the machined surface of the replacement part.

3,145,462

METHOD OF SEVERING TUBES AND REFORMING DEFORMED PORTION CAUSED BY SEVERING ACTION

Charles J. Bogner, Parma, Ohio, assignor to The Yoder Company, Cleveland, Ohio, a corporation of Ohio

Filed May 1, 1961, Ser. No. 106,857
15 Claims. (Cl. 29—417)



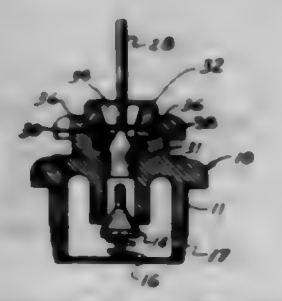
1. A flying shear for elongated moving stock and the like comprising a horizontally movable punch and die, means thus to move said punch and die with such stock, means to move said punch transversely of such stock to sever such stock while thus horizontally moved, said punch having a pointed end which deforms such stock on movement thereof transversely of such stock, said punch including transverse opening means operative to reform such stock after completion of the severing stroke thereof, and means operative to urge the severed section of such tube against such opening.

3,145,463

METHOD AND TOOL ARRANGEMENT FOR INSTALLING AN O-RING IN A RECESS OF A BORE

Donald D. Heckett, Marshalltown, Iowa, assignor to Fisher Governor Company, Marshalltown, Iowa, a corporation of Iowa

Filed July 27, 1961, Ser. No. 127,385
3 Claims. (Cl. 29—451)



3. The method of inserting a resilient O-ring in a recess located intermediate the ends of a small bore which is normally closed at one end by a valve member, said O-ring being deformable and having an outer diameter greater than the diameter of said small bore so that the

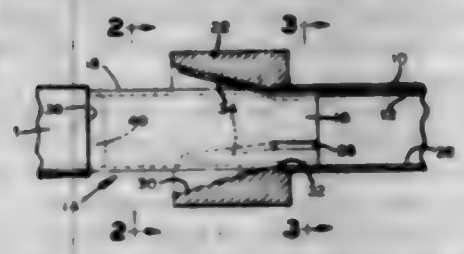
O-ring is subject to flexing and twisting as it is inserted into said small bore, said method comprising the steps of inserting a stem member having a cam surface thereon terminating in a widened portion substantially filling said small bore into said small bore until the cam surface is adjacent the recess, placing an O-ring about the stem member, applying pressure against the O-ring for compressing the O-ring to the diameter of said small bore and for pushing the O-ring into engagement with the recess, and withdrawing said stem member to cam outwardly and properly seat said O-ring in said recess.

3,145,464

METHOD OF POSITIONING A DAMPING INSERT INTO A TUBULAR SHAFT

Thomas Francis Green, Hurst Green, Blackheath, England, assignor to Birfield Engineering Limited, London, England

Filed Mar. 8, 1962, Ser. No. 178,438
2 Claims. (Cl. 29—464)



1. The method of positioning a damping insert in a tubular shaft comprising the steps of obtaining a tubular shaft and a tubular insert therefor with the insert having damping characteristics and a greater original outer diameter than the inner diameter of the shaft, obtaining a die having a frusto-conical opening therein with the small end of the opening at least as small as the inner diameter of the shaft and the opening having groove forming means therein, placing the die in abutting relationship with an end of the tubular shaft with the small end of the opening adjacent the opening in the tubular shaft and in alignment therewith, and forcing the tubular insert into the tubular shaft through the frusto-conical opening in the die forming a longitudinal groove therein and reducing the diameter thereof to that of the internal diameter of the shaft with the ungrooved portion of the tubular insert in engagement with the inner diameter of the shaft.

3,145,465

TUBULATION SEALING APPARATUS AND METHOD

Arthur W. Coolidge, Jr., and Marion J. Silvia, both of Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed Aug. 24, 1961, Ser. No. 133,695
8 Claims. (Cl. 29—481)



1. Apparatus for sealing a device including a tubulation adapted for being pinched off comprising means for supporting said device, operating means for effecting fluid flow through said tubulation, means for pinching off said tubulation, and an axially retractable and laterally flexing conduit means effective for both interconnecting said tubulation and said operating means and introducing axially directed stresses in said tubulation for separating the severed sections of said tubulation following pinch-off.

7. In the manufacture of a device requiring the sealing of a tubulation attached thereto, the steps of interconnecting the end of said tubulation with operating means adapted for effecting fluid flow through said tubulation with a laterally flexible, axially retractable conduit connector, moving said device and operating means relatively oppositely a distance effective for extending said connector axially a predetermined amount thereby to introduce a predetermined axial stress in said tubulation, and pinching off said tubulation with said stress therein so that said axially retractable connector retracts a portion of said tubulation for separation thereof.

3,145,466

DIFFUSION BONDING OF METAL MEMBERS

William Feduska, Ensworth, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 27, 1959, Ser. No. 855,530
4 Claims. (Cl. 29—488)

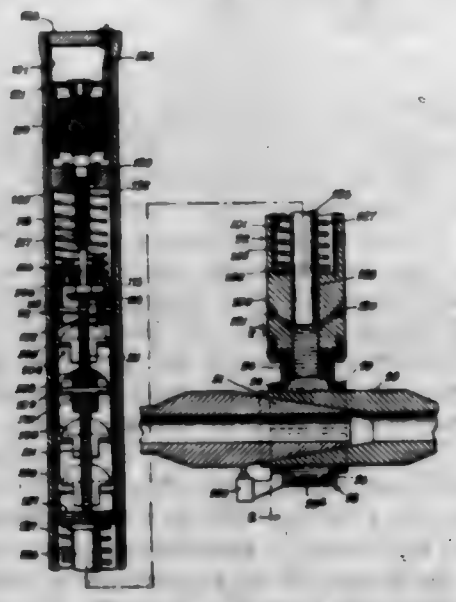
1. A diffusion bonding process for joining alloy members into a structure suitable for use at elevated temperatures, the faying surfaces of the members to be joined being clean and closely conforming to each other, the steps comprising placing a thin substantially continuous layer of beryllium on at least one of said surfaces, positioning said members in positive engagement for joining with the faying surfaces in intimate face-to-face relation and the beryllium layer therebetween, and heating said members to a temperature of at least 1,000° C. for a period of at least 20 seconds in vacuum, thereby providing a bond having essentially the composition of the alloy members and characterized by grain growth across the interface of the members.

3,145,467

METHOD OF MAKING SHAFT JOINT

Albert G. Bodine, Sherman Oaks, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)

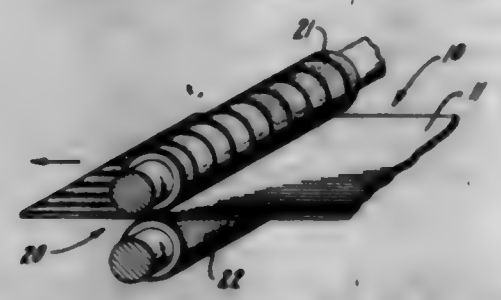
Original application Aug. 19, 1957, Ser. No. 678,905, now Patent No. 3,063,143, dated Nov. 13, 1962. Divided and this application Mar. 16, 1962, Ser. No. 180,290
1 Claim. (Cl. 29—525)



The method of coupling the taper pin and taper members of a threadless taper pin and box shaft coupling joint, that comprises: introducing said taper pin member into said taper box member, cyclically elastically expanding said taper box member by subjecting it exteriorly to a

pulsating fluid pressure, and simultaneously therewith forcing said members together.

3,145,468
SHEET MARKING METHOD
Alfred L. Johnson, Cedar Lake, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 5, 1961, Ser. No. 143,176
7 Claims. (Cl. 29—552)



1. A method of characteristically marking a differentially coated piece of galvanized strip or sheet stock to facilitate ready identification of a relatively more heavily coated side of the stock, comprising the steps of; treating the surface of at least one roll in a set of finishing rolls to define an area of said surface having a distinctive texture, passing the stock through the set of rolls with a predetermined side of the stock facing said one roll to impress a pattern in the galvanized coating of the predetermined side of the stock engaged by the surface having a distinctively textured area, whereby the relatively more heavily coated side of the stock is readily identifiable.

3,145,469
PIPE CUTTER
Thorvald Petersen, Erie, Pa., assignor to Reed Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed July 3, 1962, Ser. No. 207,228
1 Claim. (Cl. 30—102)



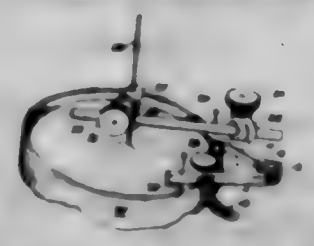
A pipe cutter having a C-shaped frame with means at one end for guiding the cutter for relative rotation with respect to the pipe in a plane perpendicular to the longitudinal axis of the pipe, a wheel having a cutting edge in said plane, an arm having one end pivoted on the frame and the other end mounting the wheel for movement toward and away from the pipe, spring means urging the arm in the direction to move the wheel away from the pipe, said other end of the frame having a bore presented toward the first end of the frame and a longitudinal slot intersecting the bore, a pressure screw slidably mounted in said bore and having its outer end provided with a handle and its inner end in thrust relation to said arm, said screw having a thread with an abrupt shoulder presented toward the handle, a pawl in said slot, a pivot for the pawl on the frame on an axis crosswise of the pressure screw, said pawl having a threaded end extending and first engaging the pressure screw forward of the pivot, means urging the threaded end of the pawl into engagement with the pressure screw, and provisions for pivoting the threaded end of the pawl away from the pressure screw.

3,145,470
BUTCH COMB CLIPPER ATTACHMENT
Ray C. Hoffman, 1302½ 12th Ave., Sterling, Ill.
Filed July 3, 1961, Ser. No. 121,424
7 Claims. (Cl. 30—200)



1. A hair clipper attachment for use in combination with the stationary clipper comb of a hair clipper, comprising an auxiliary butch comb for attachment on the underside of the clipper comb, a generally U-shaped spring clip mounted on top of said butch comb providing an attaching cross-portion and arms on the ends thereof for embracing the ends of said clipper comb to secure the butch comb releaseably thereon, a pair of vertical screws threadedly adjustable in threaded holes provided in the butch comb in laterally spaced relation at the middle portion thereof, said screws having beaded ends where the shanks are received loosely in holes provided in the middle portion of the cross-portion of said clip, the cross-portion of said clip having projections on opposite sides of said holes therein which by fulcrum engagement on top of the butch comb normally space the middle portion of the cross-portion from the top of the butch comb, whereby said cross-portion upon adjustment of said screws is adapted to be variably flexed so that the arms on the ends of said cross-portion are adjusted slightly to different lateral spaced relationship for close variation accordingly in the tightness of hold of the clip on the clipper comb.

3,145,471
CENTER FINDING TOOL
Paul W. Zander, 4711 Norquest Blvd., Youngstown, Ohio
Filed July 21, 1961, Ser. No. 125,813
3 Claims. (Cl. 33—42)



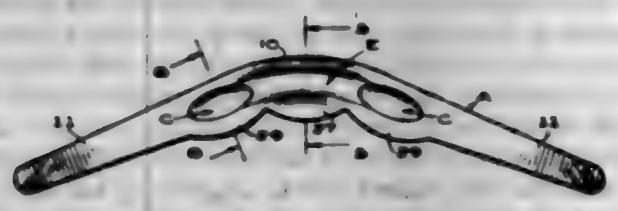
1. A center finding tool comprising a pair of arms pivoted to one another at one of their ends, guide pins positioned in openings in said arms adjacent their opposite ends, an interconnecting member engaged in transverse openings in said arms intermediate their ends and means adjustably securing said interconnecting member to said arms, a clamping member pivotally mounted on one of said arms, a rod adjustably positioned in said clamping member in spaced relation to said arm, a secondary clamping member movably mounted on said rod and an indicating pin positioned in said secondary clamping member.

3,145,472
PRE-CONTOURED DENTAL MATRIX BAND
Benjamin F. Tollemire, P.O. Box 677, Lafayette, Calif.
Filed June 4, 1962, Ser. No. 199,769
7 Claims. (Cl. 32—63)

1. In a pre-contoured dental matrix band:
(a) a strip of pliable material having an arcuate con-

tral portion and arms extending from the arcuate central portion, with the arms diverging relative to one another when the strip is flat;

(*b*) the strip having an inner surface;



(*c*) the strip having a pair of preformed elongated concavities in its inner surface which are spaced apart;

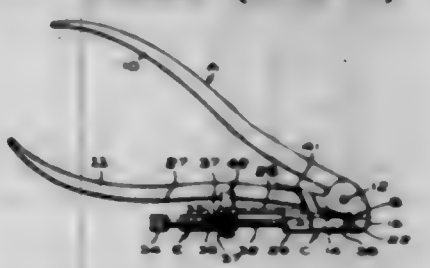
(*d*) each of the preformed concavities being substantially oval in face view, with the major axis of the oval extending generally lengthwise of the strip.

3,145,473

DENTAL INSTRUMENT WITH MATRIX RETAINER AND CRIMPING PLIERS FOR BAND RETAINING CLAMP

Benjamin F. Tollemire, P.O. Box 677, Lafayette, Calif.

Filed Jan. 14, 1963, Ser. No. 251,181
4 Claims. (Cl. 32—63)



1. In a dental instrument with matrix retainer and crimping pliers for band retaining clamp;

(*a*) crimping pliers having a pair of operating handles swingably secured together for closing and opening movement;

(*b*) a mesial jaw fixed to one of the handles and a distal jaw fixed to the other handle;

(*c*) these jaws projecting in offset relation relative to their respective handles;

(*d*) a matrix retainer mounted on one of the handles to extend generally lengthwise of this handle, with the retainer being disposed on the gingival-facing aspect of this handle, and the retainer having a matrix band loop-constricting means connected to the retainer rearwardly of the mesial jaw;

(*e*) and the matrix retainer being provided with a shield at its forward end, the mesial jaw being disposed within the confines of this shield and the shield having a laterally-arranged convex matrix band guide surface disposed forwardly of the loop-constricting means.

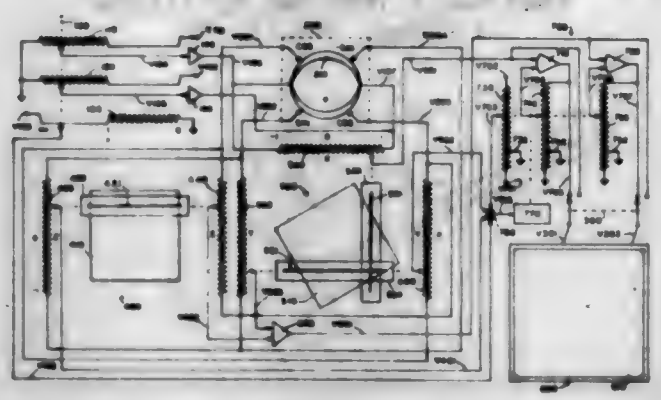
3,145,474

PERSPECTIVE OR ORTHOGRAPHIC PLOTTER

Bernard M. Taylor, Jr., 2604 6th St.,
Santa Monica, Calif.

Filed Mar. 5, 1962, Ser. No. 177,576
14 Claims. (Cl. 33—18)

4. A system for selectively providing a two-dimensional orthographic or perspective representation of objects specified by three-dimensional dimensions including: plan tracing means for producing plan signals representative of the plan position coordinates of the specified object with respect to a particular three-dimensional coordinate system; elevation tracing means for producing elevation signals representative of the elevation coordinates of the specified object with respect to the three-dimensional coordinate system; first circuit means coupled to said plan tracing means and to said elevation tracing means and responsive to said plan and elevation signals therefrom for producing a first pair of control signals respectively related to the coordinates of a particular orthographic representation of the specified object with respect to a particular two-dimensional coordinate system; second circuit means coupled to said plan tracing means and to said elevation tracing means and responsive to said plan and elevation signals therefrom for producing a second pair of control signals relates to the coordinates of a particular



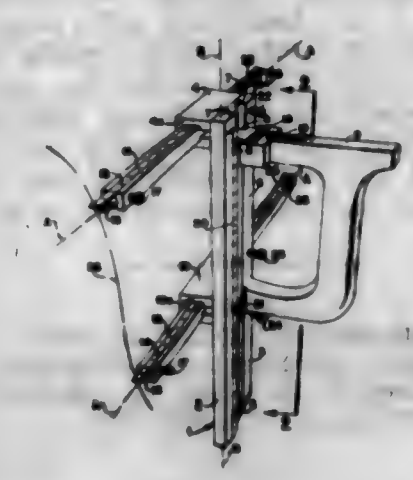
perspective representation of the specified object with respect to a particular two-dimensional coordinate system; display means responsive to said first pair of control signals for providing the particular orthographic representation of the specified object and responsive to said second pair of control signals for providing the particular perspective representation of the specified object; and selection means coupled to said first and second circuit means for selectively applying said first and second pairs of control signals to said display means.

3,145,475

MEASURING AND MARKING DEVICE

James C. Alford, 244 Old Post Road, Southport, Conn.

Filed Jan. 31, 1962, Ser. No. 170,083
4 Claims. (Cl. 33—41)

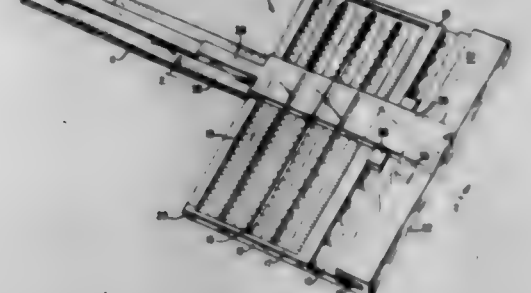


1. A measuring device comprising a frame, having its longitudinal axis vertical when in operative position, a spacing member in slidable guided connection with the frame, an upper measuring bar in slidable connection with the frame having its axis at right angles to the longitudinal axis of the frame, a lower measuring bar in slidable connection with the spacing member having its axis parallel to the axis of and in the same plane as the axis of the upper measuring bar, said upper and lower measuring bars having adjustable pointed tips, slidable measuring members on the bars and measuring indices on the spacing member to measure the distances each bar projects from the frame and the distance between the bars, and leveling means on the device to set the frame in its operative position with its longitudinal axis vertical and two leveling bars with their axes horizontal.

ERRATUM

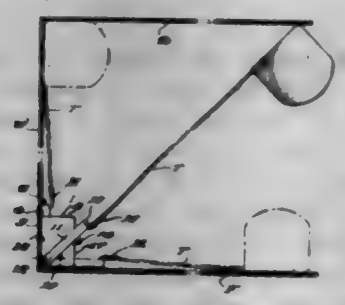
For Class 33—42 see:
Patent No. 3,145,471

3,145,476
COMPOSITOR'S GAUGE
Walter C. Hester, Jr., 914 N. Iverson St., Alexandria, Va., assignor, by direct and mesne assignments, of one-half to Laurence C. Turner, Jr., Wheaton, Md.
Filed Aug. 9, 1962, Ser. No. 215,898
4 Claims. (Cl. 33—76)



3. A compositor's gauge for measuring line lengths comprising; a rectangular scale frame, said frame having a straight plane guide edge, a slide channel formed in said frame adjacent the edge opposite said guide edge, said channel being parallel to said two edges; an elongated slide bar having a first portion slideable over the entire face of said frame and a second portion extending outwardly therefrom and in line therewith, a vertical runner formed at the juncture of said first and second portions, said runner being slideable along said frame guide edge, a slide member depending from and transverse to said first portion of said slide bar and adapted to be slideably received in said slide channel; a retaining flange spaced from said scale frame and overlying said slide channel to restrain the slide bar from upward movement; a plurality of scales, each representing a different type size in said frame, said scales being in side-by-side relation and having indicia running vertically indicating the bottom of lines of that type size; a pica scale on said second slide bar portion, said pica scale running horizontally with its zero indicia overlying said guide edge; and said second portion of said slide bar overlying each of said scales and serving as an indicating means.

3,145,477
TAPE END HOLDING MEANS
John C. Morrison, 1126 Fries Ave., Wilmington, Calif.
Filed Sept. 21, 1961, Ser. No. 139,804
2 Claims. (Cl. 33—137)



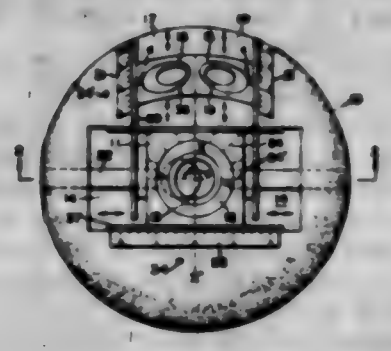
1. A tape holding means for steel structural workers, said means comprising a rectangular block of para-magnetic material having a magnetized area on one face thereof and having a plurality of separate, optionally usable, tape hook engaging means; one of said tape hook engaging means comprising a rigid member fixed to said block and having a tape hook engaging run disposed spaced from and parallel to a corner edge of said block which is formed by the juncture of two faces of said block and including said one face and the other of said tape hook engaging means comprising a bail pivotally mounted on said block for swinging movement about an axis which is parallel to said one face of said block and which is disposed in close adjacency to that corner edge of said block which borders said one face of said block and which, with reference to said one face, is diametrically opposite said first named corner edge; said bail having a second tape hook engaging run disposed parallel to the tape hook engaging run of said first named tape hook engaging means.

3,145,478
SCRIBER
Charles A. Leach, P.O. Box 1155, Tulare, Calif.
Filed May 16, 1962, Ser. No. 195,053
5 Claims. (Cl. 33—153)



1. A scriber of the character described comprising a star-shaped member having a plurality of equally spaced points each one of which is bent at right angle and diametrically opposite another one of the points, and a disk on each side of the said star-shaped member against which its points are in pressure contact, and means of adjustably holding the said star-shaped member and said disk together and a leg having a threaded upper end adapted to engage an internally threaded sleeve secured to each one of the said disks and a tube having a compression spring at the upper end thereof adapted to receive each said leg and extending downward, each leg having a recess in the lower end thereof in which there is an angularly disposed depression in which is placed the blunt end of a needle point which is both removable and adjustable.

3,145,479
BOWLING BALL DEVICE
Louis Rassner, 602 82nd St., North Bergen, N.J., assignor of three percent to Robert I. Fearinson
Filed June 21, 1962, Ser. No. 204,107
3 Claims. (Cl. 33—174)



2. A measuring device for fitting bowling balls which comprises: a ball-shaped structure simulating a bowling

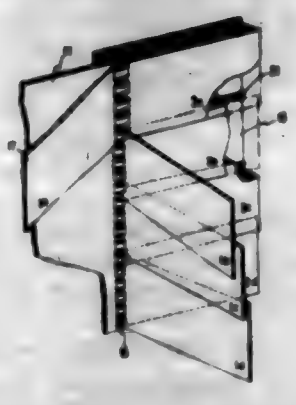
ball; a recess cut therein adapted to receive a thumb carrier and to permit lateral movement thereof along the line of curvature of said ball-shaped structure; said thumb carrier being adapted to receive a thumb plug retainer having a passageway bored therein and to allow said retainer to be rotated about its axis within said carrier; a plurality of thumb plug retainers each adapted to be fitted within said carrier, each of said thumb plug retainers having a passageway bored therethrough which is characterized by being concentrically positioned with respect to the top of said thumb plug retainer and eccentrically positioned with respect to the bottom of said thumb plug retainer, said thumb plug retainers having a graduated series of pitches for said passageways bored therethrough; and a series of thumb plugs adapted to be fitted into said passageways of said thumb plug retainers, said thumb plugs having graduated sized passageways bored therein so as to fit various thumb sizes; a second recess cut adapted to receive a plurality of finger carriers and to permit movement of said finger carriers along the line of curvature of said ball-shaped structure substantially at a right angle to said thumb carrier recess cut; said thumb carrier and said finger carriers being pivotably mounted on a common axial rod, said thumb carrier being adapted to pivot about said axial rod and move within its recess cut while said finger carriers are adapted to pivot about said axial rod at right angles to the pivotal movement of said thumb carrier and move within said second recess cut, the mounting connection of said finger carriers to said axial rod being spaced sufficiently apart and defining an open area about the mounting connection of said thumb carrier so as to permit free pivotable movement of said thumb carrier about said axial rod.

3,145,480
SPACE PLEAT FANFOLD INDICATOR AND CALCULATOR DEVICE
Antone D. Carscoos, 924 Kawaihae, Honolulu 14, Hawaii
Filed Nov. 22, 1961, Ser. No. 154,230
10 Claims. (Cl. 33—192)



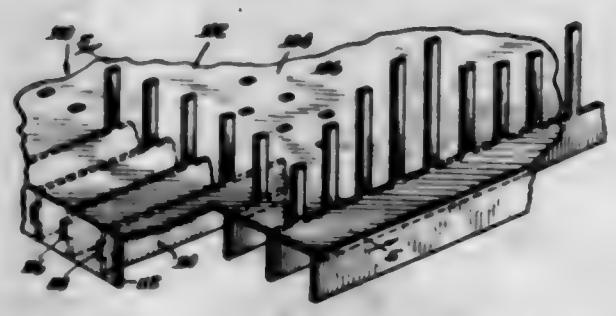
1. A space pleat fanfold indicator and calculator device comprising a frame, a series of pointers, jointed links, a stud, a pair of end blocks, a pair of moving blocks, a center block, coordinated scales, a hand crank, and a pair of supports, said frame is placed on the supports, said pointers are connected to each other by the said jointed links and pivots, said stud has two end portions, a right hand threaded portion, a center portion, and a left hand threaded portion, said end blocks are secured to the end portions of said frame and have the end portions of said stud fitted within a hole in each block, one of said moving blocks rides on the right hand threaded portion of said stud while the other rides on the left hand threaded portion of said stud, each of said moving blocks is secured to the intersection of two jointed links by a pivot, said center block is secured to the center of the frame and has a hole through which the center portion of the stud fits, one of said coordinated scales is secured at one end by a bolt and nut to said center block and is slidably secured at the other end along with an end of the other scale by a pivot which extends through two holes in intersecting links, said hand crank is operatively connected to one of the end portion of said stud.

3,145,481
PROGRAMMED INSTRUCTION FORMAT AND BOOK
Kent L. Alderhof, Haddonfield, N.J., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 3, 1961, Ser. No. 149,972
2 Claims. (Cl. 35—8)



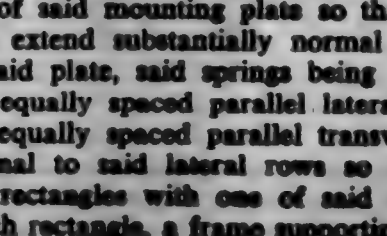
1. An arrangement of record forms of substantially uniform width comprising a plurality of sets of forms and a back cover member bound together at one side thereof by removable binding means, said sets of forms being approximately superimposed upon one another, similar to pages of a book, each of said sets comprising a plurality of forms shingled together with an upper portion of each of said forms other than the top form underlying the lower portion of the form immediately above, overlapping areas of corresponding ones of the various sets of forms substantially overlying each other, whereby turning over a particular form entrains and carries along all those forms overlying the particular form in shingled relation, and a plurality of ridges secured to said back cover each underlying an overlapping area of said sets of forms to facilitate grasping of the forms by digital pressure between said overlapping areas to slightly raise a corner of a particular form to be grasped.

3,145,482
THREE-DIMENSIONAL PROPERTY INDICATING DEVICE
Russell K. Edwards, Chesterton, Ind.
Filed Sept. 22, 1961, Ser. No. 139,898
6 Claims. (Cl. 35—18)



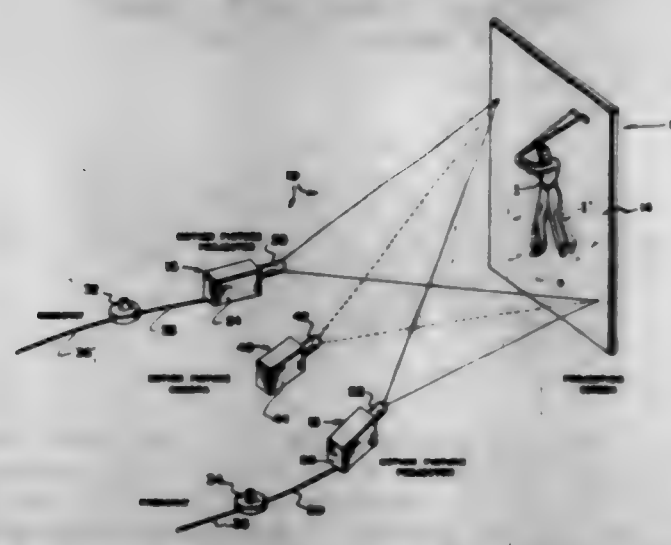
1. A three-dimensional property indicating device comprising, in combination, a base having indicia associated with a flat surface indicating a plurality of materials, said base having a plurality of apertures extending therethrough and each of said apertures being positioned adjacent to indicia for a selected material, an elongated property indicator positioned in each of selected apertures, each of said elongated property indicators having a length proportional to the quantity of a given property for the material indicated by its adjacent indicia and said quantity being relative to the same property of all of the other materials indicated on the surface, and a connector interconnecting a number of said indicators for facile insertion and removal of the indicators into and from the apertures in the base.

3,145,483
TEST BOARD FOR ELECTRONIC CIRCUITS
Ruben A. Cruz, 14435 2nd SW., Seattle, Wash.
Filed May 4, 1961, Ser. No. 107,793
3 Claims. (Cl. 35—19)



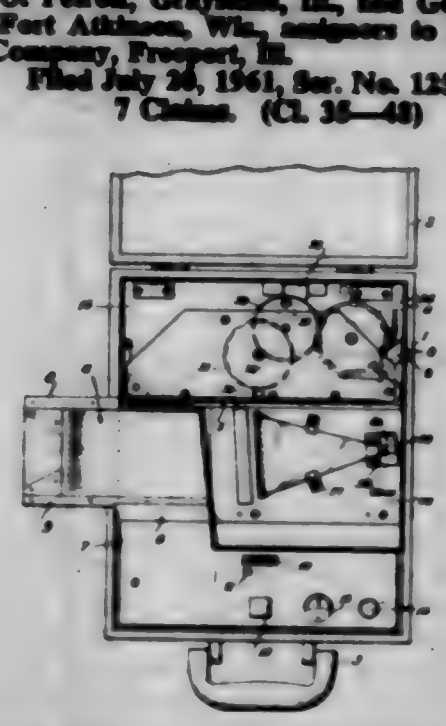
1. An electrical device comprising a transparent mounting place, a plurality of coil springs mounted on an upper surface of said mounting plate so that the axes of said springs extend substantially normal to the upper surface of said plate, said springs being arranged in a plurality of equally spaced parallel lateral rows and a plurality of equally spaced parallel transverse rows extending normal to said lateral rows so as to form a plurality of rectangles with one of said springs at the corner of each rectangle, a frame supporting said mounting plate, a tray slidably and removably supported on said frame directly below and parallel to said mounting plate, said tray having an electrical circuit diagram on its surface adjacent said mounting plate, a plurality of electrical circuit components above the upper surface of said mounting plate and above corresponding electrical symbols of said circuit diagram, each of said components having spaced ends extending substantially parallel to said upper surface, each of said ends extending between and frictionally gripped by adjacent convolutions of one of said coil springs, whereby said components may be easily detached from said springs.

3,145,484
METHOD AND APPARATUS FOR IMPARTING AND RECORDING COMPARATIVE INSTRUCTION OF A MOTION SKILL
Volney P. Bayley, 19135 Glendale Ave., Detroit 23, Mich.
Filed Sept. 15, 1961, Ser. No. 138,388
5 Claims. (Cl. 35—29)



1. A method of imparting and recording comparative instruction of a particular motion skill from an instructor to a pupil, comprising making a cinematographic record of the performance of said particular motion skill by the instructor, making a cinematographic record of the performance of the same particular motion skill by the pupil from substantially the same viewing point, simultaneously cinematographically projecting the images of said records in superimposed synchronized relationship upon a projection image-receiving surface, and maintaining corresponding points in the thus-superimposed images approximately coincident with one another during the simultaneous synchronized superimposed projection thereof.

3,145,485
EXAMINATION GRADING MACHINE
Merlin O. Petroff, Grayslake, Ill., and George L. Congdon, Fort Atkinson, Wis., assignors to Burgess Cellulose Company, Freeport, Ill.
Filed July 28, 1961, Ser. No. 125,483
7 Claims. (Cl. 35—48)



2. An apparatus for grading multiple choice perforated examination answer cards by comparing each card with a perforated master card, comprising card transport means including a carriage adapted to retain an answer card and a master card in superimposed position, a traverse drum, rewind means, a flexible tape having one end affixed to said drive drum and the other end affixed to said rewind means, said carriage being adjustably affixed to said tape, a motor, means for engaging said traverse drum and transmitting motion from said motor to said drum including clutch means for disengaging said drum when said carriage has completed its forward travel, said rewind means being spring-loaded to return said carriage to the starting position when said drum is disengaged from said transmission means, optical scanning means including a light source arranged on one side of said carriage and photoelectric means arranged at the other side of said carriage, means interposed between said light source and said photoelectric means for successively scanning the perforations in each row of perforations of the cards to be graded, and means for counting the electrical impulses generated by said photoelectric means.

3,145,486
SHOE HAVING COMBINED COUNTER SUPPORT AND INSOLE
Constantinos Petsios, "Groomcroft," 11 Tynedale Road, South Shields, England
Filed May 11, 1961, Ser. No. 109,387
Claims priority, application Great Britain Mar. 23, 1961
1 Claim. (Cl. 36—2.5)



In a shoe structure of the type having heel, shank and toe portions, and comprising a combined counter-support and insole member, said counter-support and insole member including a base, sides, a junction between the base and sides and a front edge, said counter-support

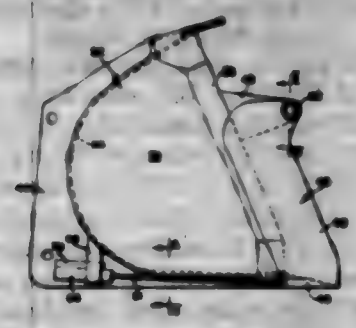
and insole member being of such length as to overlie only the heel and shank portions of said shoe, said sides of said combined counter-support and insole member also being adapted to encircle the heel and the longitudinal arch of a wearer's foot and having a portion sloping downwards towards the front edge of said counter-support and insole member, the material of said counter-support and insole member adjacent the junction between said base and sides being relatively rigid and the material of the portion sloping downwards being relatively flexible, a fore insole of flexible material secured to the front edge of said counter-support and insole member for completing the shoe insole, an upper of flexible material having upper and lower edges, a lining secured to the upper edge of said upper with the sides of said combined counter-support and insole member being located between the upper and the lining, means securing the lower edge of said upper to the counter-support and insole member and to the fore insole, a heel attached to that portion of the counter-support and insole member overlying the heel portion of said shoe, a reinforcing plate underlying said fore insole for preventing curling of the toe portion of said shoe, and an outer sole secured to the counter-support and insole member and to the fore insole.

3,145,487
LIGHT SHOE SOLE ASSEMBLY
Denis W. Cronin, 140 Chestnut St., Englewood, N.J.
Original application June 15, 1959, Ser. No. 820,282, now Patent No. 2,995,839, dated Aug. 15, 1961. Divided and this application July 28, 1961, Ser. No. 127,578
2 Claims. (Cl. 36—9)



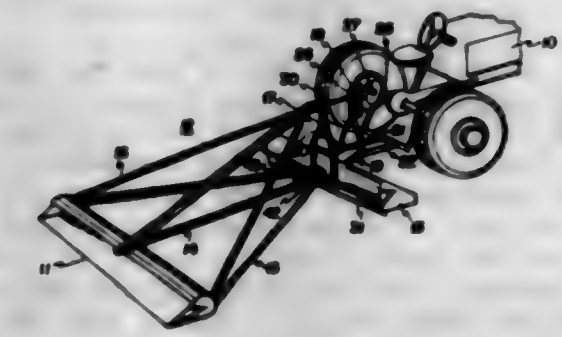
1. In a fabric top shoe, a fabric top having an open bottom edge conforming basically to the outline of a foot, an insole fitted within said outline, a layer below said insole matching the thickness of said fabric top and forming a butting joint around the insole, a vulcanized rubber layer applied to said second layer and overlapping said layer to extend onto the upper edge thereof, an outer wearing layer of leather applied to said rubber layer, edges of said leather being extended to overlap said fabric top, and provided with notches, a rubber finish foxing of substantial width extending onto the fabric top, and integral rubber connections extending through the notches in said leather sole and uniting the rubber foxing and said rubber layer.

3,145,488
VIBRATING BUCKET
John L. French, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Dec. 26, 1962, Ser. No. 246,883
6 Claims. (Cl. 37—141)



1. In a power loader having a loader bucket composed of opposed upright transversely spaced sides with front edge portions and lower edge portions respectively and a floor having a front edge and extending between the lower edge portions of the sides and defining therewith a bucket section of U-shaped cross section, the improvement comprising: a U-shaped cutter having a horizontal cutting portion adjacent to and continuing forwardly of the front edge of the floor and a pair of upright sides lying adjacent the front edge portions of the sides; means pivotally mounting the cutter sides to the front edge portions of the bucket sides whereby said cutter may move fore and aft; an hydraulic cylinder supported on the bucket and having a ram extending toward the cutter; valve means associated with the cylinder effecting continuous and uninterrupted reciprocation of the ram; means connecting the ram to the cutter whereby the horizontal cutting portion will vibrate between a closely proximate abutting position relative the front edge of the bucket and a position spaced forwardly of the front edge.

3,145,489
LAND LEVELERS
Rawlen T. Smith, 4170 Dover Court, Arvada, Colo.
Filed Jan. 25, 1962, Ser. No. 168,753
5 Claims. (Cl. 37—179)

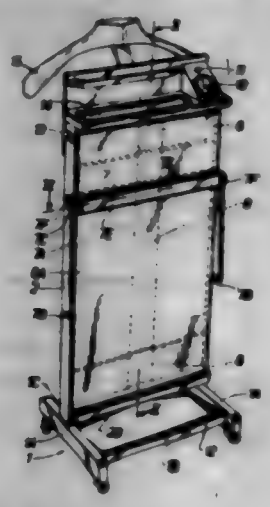


1. In a land leveler including a prime mover, a leveling blade, a float interconnected so as to form a bridge, and a joint in the bridge allowing relative pivotal sidewise movement between adjacent portions of the bridge but preventing vertical movement therebetween, the improvement comprising a pair of side frame members, respective rear portions of the side frame members being in fixed relation to opposed end portions of the float, respective forward and lower portions of the side frame members pivotally connected adjacent a lower portion of the joint and arranged to follow the relative horizontal movements of the bridge, respective upper and forward portions of the same side frame members disposed adjacent an upper portion of the joint and interconnected thereto through lost motion means, whereby limited twisting movement is allowed between the respective upper portions of the side frame members and the joint without transmission of such movement to the blade.

3,145,490
TROUSERS PRESS
Peter John Siddons Corby, Windsor, England, assignor to Corbys Limited, Windsor, England
Filed Apr. 11, 1962, Ser. No. 186,758
9 Claims. (Cl. 38—71)

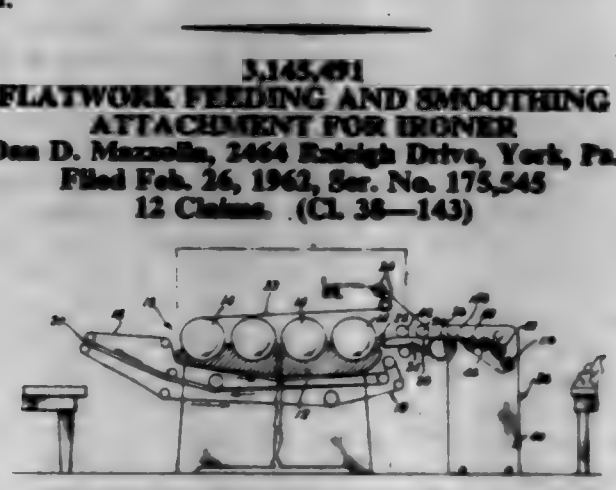
1. A trousers press comprising a frame having supported thereon a rear member, a front member mounted on said frame for selective movement toward and away from said rear member, said front and rear members having opposite ends and also flat facing surfaces which are operatively engageable with each other, a cuff board located adjacent to one end of said rear member and having a flat surface which is aligned with the flat surface of said rear member, means resiliently mounting said cuff board in said location for movement in a direction away from said front member, a stretcher board positioned adjacent to the other end of said rear member

and having a flat surface, a stretchable rubber mat covering the flat surfaces of said stretcher board, said rear member and said cuff board, an electrical resistance heating element embedded in said mat to provide heat for pressing trousers when said front member is moved into operative engagement with said mat and said flat surfaces, the surface of said front member being of a size sufficient to overlie all said flat surfaces, means yieldably urging the stretcher board to a first position in which its flat surface is substantially parallel to and is spaced



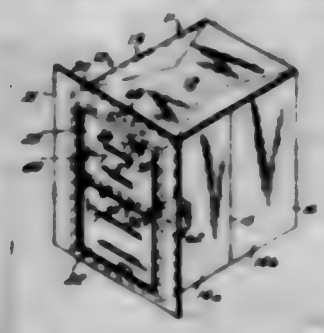
forwardly from the flat surface of said rear member, means for supporting said stretcher board for movement from said first position to a second position in which the flat surface of said stretcher board is in substantial alignment and parallelism with the flat surface of said rear member and said rubber mat is stretched, whereby said mat in stretched form provides a backing for trousers laid thereagainst which extends over the flat surfaces of said stretcher board, said rear member and said cuff board.

3,145,691
FLATWORK FEEDING AND SMOOTHING ATTACHMENT FOR IRONER
Dan D. Mazzella, 2464 Raleigh Drive, York, Pa.
Filed Feb. 26, 1962, Ser. No. 175,545
12 Claims. (Cl. 38—143)



1. A smoothing attachment for use with a flatwork ironer provided with ironing rolls and arranged to iron individual pieces fed thereto and having an entrance end and a feed apron adjacent said entrance to receive flatwork pieces to be ironed and feed them to the ironing rolls of the ironer, said smoothing attachment comprising in combination supporting means positionable forwardly of and adjacent and parallel to the entrance end of said feed apron of said ironer, elongated spreading roll means extending along said supporting means and rotatably supported at opposite ends thereby forwardly of and in parallel relationship to the outermost edge of said feed apron, a plurality of projecting means extending spirally around said spreading roll means and respectively spiralling substantially continuously in opposite directions from an intermediate location on said roll means toward the opposite ends of said roll means, the upper surface of said spiral projecting means being exposed to have separate pieces of flatwork draped thereover with the trailing ends thereof depending freely incident to feeding the leading edge of the flatwork pieces to said feed apron of said ironer, drive means to rotate said spreading roll means in a direction to permit said spiral projecting means to spread flatwork pieces outwardly from the intermediate portion of said spreading roll means toward the opposite ends thereof as said roll means rotates and the flatwork pieces are draped thereover by gravity, and means supported stationarily relative to said supporting means and positioned outwardly of said spreading roll means relative to said entrance end of said ironer and having an outer surface positioned at a lower level than the upper surface of said roll means over which the draped flatwork pieces extend incident to being draped over said roll means and operable to impose a drag in addition to normal friction upon said flatwork pieces in opposition to the feeding movement thereof by the feed apron of said ironer, whereby spreading engagement of said flatwork pieces by said spreading roll means to spread said pieces laterally is facilitated and the drag effect imposed upon said pieces stretches and smooths the same longitudinally.

3,145,692
DISPLAY DEVICE
Carl G. Moller, 30 E. 37th St., New York 17, N.Y.
Filed Oct. 26, 1962, Ser. No. 233,215
2 Claims. (Cl. 40—103)

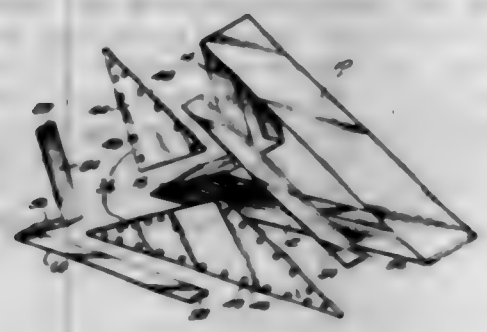


1. A display device comprising in combination a casing having an opening at the front thereof, a rotatably mounted pivot rod extending across said opening, hinge means secured to said pivot rod and extending across said opening, a plurality of leaves supported by said hinge means, said leaves having indicia bearing areas aligned with said opening and movable therethrough, a sheet supporting plate secured to said pivot rod and normally lying in back of said leaves, each of said leaves having a leaf retaining portion and a leaf releasing portion adjacent said indicia bearing areas, a leaf engaging member mounted for movement on said casing from said leaf retaining portion to said leaf releasing portion, motor means coupled to said leaf engaging member to move the same between its limiting position for successive release of said leaves, drive means coupled to said rod to effect rotation thereof, switch means controlling the operation of said motor means and a member controlled by the last of said leaves to actuate said switch to energize said motor means to rotate said pivot rod through 360° whereby said leaves will be repositioned for display.

3,145,693
ILLUMINATED SIGN
Conrad J. Escalante, 1251 Gaylord St., Long Beach 13, Calif.
Filed Apr. 10, 1962, Ser. No. 186,435
2 Claims. (Cl. 40—130)

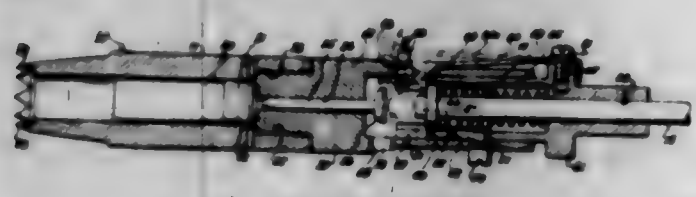
1. In an outdoor illuminated sign: a rim member defining the external configuration of the sign and made of bent sheet material, said rim having an outer wall part and two inner wall parts formed integrally with the rim and extending inwardly from the respective edges of the rim along the inside of the rim, said inner wall parts having ends spaced from each other and bent outwardly to form parallel stop flanges; a pair of plates having external configurations corresponding to the rim and fitted in

the rim on opposite sides of the sign, said plates abutting and secured to the flanges of the respective inner wall parts; said flanges maintaining said plates in spaced



relationship; lamp sockets mounted on the plates; and wiring for the lamp sockets and located along the inner sides of said plates and in the space between the plates.

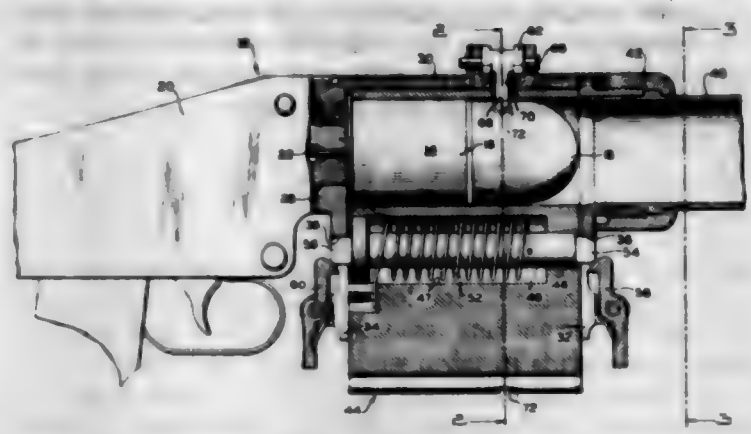
3,145,494
MUZZLE-TRIGGERED GUN
Charles E. Wilcox, 451 N. Doheny Drive, Beverly Hills, Calif., and Donald G. Setty, 1632 Mountcrest Drive, Los Angeles 69, Calif.
Filed July 22, 1963, Ser. No. 296,882
4 Claims. (Cl. 42—1)



1. A gun triggered by muzzle contact, which gun includes: a breech block member having an axial firing pin means and a rearwardly projecting sleeve; a piston housing telescopically received into said sleeve; a piston reciprocable within said piston housing; a spring within said piston housing urging said piston towards said firing pin means; a firing tube means on the forward end of said breech block member; a piston-retaining latch mounted on said piston housing rearward of said sleeve, and located to hold said spring in a condition of compression; a latch cam on said latch having a camming surface extending forwardly at an angle with respect to the axis of said telescoping sleeve and piston housing; and a mating breech block camming surface on said breech block member formed to move said latch cam out of latching engagement with said piston when said breech block member is telescoped rearwardly over said piston housing, whereby said piston is released, and driven by said spring, against said firing pin means.

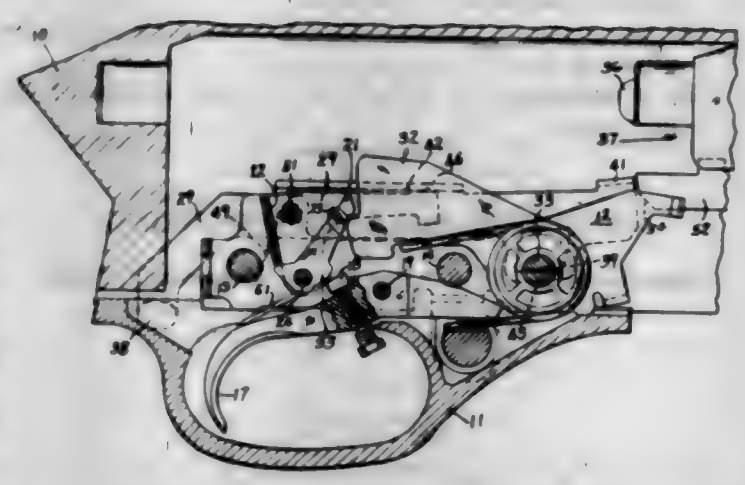
3,145,495
EXCHANGEABLE REVOLVER CYLINDER AND CARTRIDGE INDEXING DEVICE
David L. Katz, Longmeadow, and Cyril A. Moore, Springfield, Mass., assignors to the United States of America as represented by the Secretary of the Army
Filed July 6, 1962, Ser. No. 208,148
4 Claims. (Cl. 42—59)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The combination including a cartridge having a projectile at the front end thereof, a firearm housing, a barrel mounted on said housing so as to extend forwardly therefrom, a cylinder rotatingly mounted in said housing, a plurality of chambers formed in said cylinder so as to respectively receive said cartridge and so as to be successively positionable at a firing station in alignment with said barrel when said cylinder is rotated, spring means, means for transferring the energy in said spring to said cylinder for rotation thereof, and a pawl arranged for contact with said cartridge when in the firing position and for cooperation with said spring means to automatically position the



next one of said chambers at the firing station when said cartridge in said chamber at the firing station is fired.

3,145,496
TRIGGER MECHANISM
Edward L. Morrow, Fairfield, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed July 11, 1963, Ser. No. 294,441
4 Claims. (Cl. 42—69)



1. A trigger assembly for a firearm comprising a frame member, a hammer means rotatably mounted in said frame member, said hammer means being movable from a cocked position to a fired position, a sensing element pivoted in said frame and a sear carried by said sensing element, said sensing element being movable from an operative position in which the sear is operative to an inoperative position in which the sear is inoperative, and cooperating cam means formed integral with the hammer means and said sensing element effective to render said sear inoperative when the hammer means moves from the cocked position to the fired position.

3,145,497
TROLLING LURE
Eino K. Abe, P.O. Box 123, Ashby, Mass.
Continuation of application Ser. No. 863,347, Dec. 31, 1959. This application Feb. 8, 1963, Ser. No. 258,113
1 Claim. (Cl. 43—42.5)

A fishing lure particularly adapted to high speed trolling comprising:

(*a*) an elongated, narrow lure body;

(*b*) the lure body including forward and rear portions integrally connected at their proximal ends and being tapered from their proximal ends toward their distal ends whereby the lure body is of elliptical form;

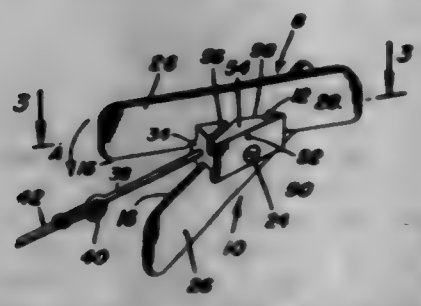
(*c*) means at the forward end of the lure body for securing a fishing line thereto;

(*d*) the forward and rear portions of the lure body each having only one centrally located concave-convex section, the concavities of said sections being oppositely facing the respective concave-convex sections being merged into one another at an intermediate portion of the lure body;



(*e*) the side and forward edges of said forward section lying in a single plane, and the side and rear edges of said rear section lying in a single plane;
(*f*) the edges of the forward and rear sections being in spaced and parallel planes;
(*g*) the plane of the rear section being offset from the plane of the forward section; and
(*h*) a trailing hook secured to the rear section of the lure body.

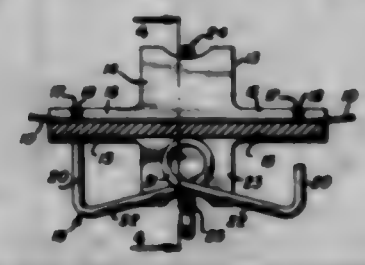
3,145,496
LINE TWISTING AND UNTWISTING ATTACHMENT
John Kochis, 18818 Allen Road, Melvindale, Mich.
Filed Dec. 21, 1962, Ser. No. 246,691
3 Claims. (Cl. 43—43.13)



1. A device of the class described comprising a substantially rectangular body having diametrically opposite sides each provided with X-shaped slots defining selectively usable kerfs, and reversible interchangeable elongated blades constituting vanes, said blades having inner lengthwise edge portions keyed in selected kerfs, fastening means carried by said body and connected with coacting median portions of said blades for retaining the blades in place, line-attaching means joined to and adapted to be rotated by said blade-equipped body, said means being secured to an axial portion of the forward end of said body, and a fishing line having an end thereof attached to said means.

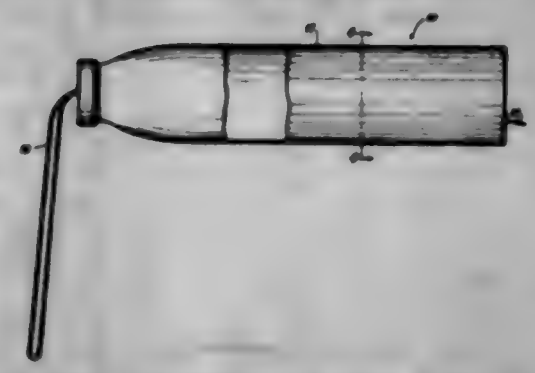
3,145,499
FISHING LINE AND FLOAT CONNECTOR
Robert F. Stoll, 2115 14th St. Road, Greeley, Colo.
Filed Feb. 5, 1962, Ser. No. 171,982
2 Claims. (Cl. 43—44.91)

1. A connector for separably coupling a float having an attaching eye to a fishing line comprising a fitting formed with a laterally-opening channel extending the full length and intruding to the center of the fitting adapted to receive and seat a smooth, uninterrupted length of fishing line centrally of and in longitudinally-reciprocable relation through the fitting, a peripherally-grooved, cylindrical body fixedly concentric with said fitting formed with spacedly-parallel circular sides and a radial slot registered in communication with the channel of the fitting, an interrupted annulus loosely and revolubly embracing and retained on said body in coaction with the peripheral groove thereof, the interruption of said annulus being registrable with the slot of the body to provide passage to and from the fitting for the uninterrupted length of fishing line whereto the float is to be coupled, means on said annulus operatively connectible with the



attaching eye of a float, and means carried by the fitting selectively actuable to detachably interclamp the fitting and a length of line centrally therethrough at both sides of said body, wherein said fitting extends at each side of said body in the form of like, longitudinally-channeled hubs coaxial with the body having each a transverse notch intersecting the hub channel and correspondingly opening laterally of the hub, and the means for interclamping the fitting and an associated length of line is a hook resiliently biased in a mounting on the fitting to seat in the transverse notch of each hub over and against the line segment traversing the intersection of the hub channel and notch.

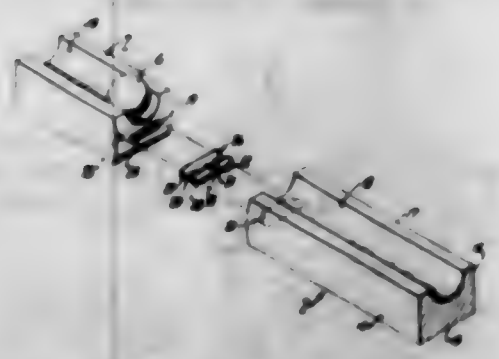
3,145,500
FISH OR MINNOW TRAP
Gerald H. French, 9530 Theodosia Ave., Overland, Mo., James E. Rawlings, 9074 Pallardy Lane, Overland, Mo., and Albert G. Eschrich, 838 Teson Ave., Hazelwood, Mo.; said Eschrich assignor of one-sixth to said French and one-sixth to said Rawlings
Filed Apr. 3, 1961, Ser. No. 102,116
1 Claim. (Cl. 43—103)



A minnow trap comprising a flexible, hollow body of pliable material having a hollow sleeve with a pair of spaced, opposed ends, one end defining a relatively stiff and rigid wall having water inlet perforations through it of insufficient size to permit the passage of minnows, the other end comprising a funnel-like minnow passage terminating in an opening of smaller size than the total area of the perforations, the water inlet wall being sufficiently rigid to maintain a substantially constant peripheral shape when subjected to water currents, the funnel-like minnow passage being formed of relatively stiff material for maintaining a substantially constant peripheral shape when subjected to water currents, the funnel-like minnow passage, nevertheless, being sufficiently pliable to permit manual inversion of it from a position of extension inward of the aforesaid other body end to a position of extension outward thereof, the hollow sleeve of the body being of thin foldable and bendable material to

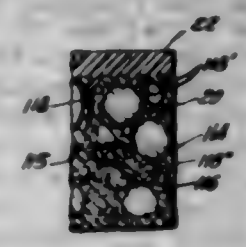
permit folding the trap into a compact flat package by collapsing opposite sides of the sleeve against one another to flatten all but the perforated wall and folding or rolling the flattened sleeve upon itself, the sleeve being sufficiently pliable to be readily unfoldable for expansion of the body.

3,145,501
KNOCKDOWN MARBLE RAILWAY TOY
Edward Morton Greener, 2038 Santa Cruz Ave., Menlo Park, Calif.
Filed June 7, 1961, Ser. No. 115,505
1 Claim. (Cl. 46—17)



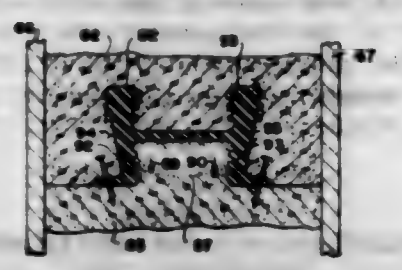
A knockdown marble railway toy comprising a pair of elongated, rigid blocks having curved ends, having substantially continuous, alignable grooves extending longitudinally in the upper face thereof and adjacent to but spaced from the curved ends thereof having transversely extending, cylindrical chambers substantially circular in longitudinal cross section and closed at the transversely opposite ends thereof, said blocks also having apertures of lesser height than said chambers and of lesser transverse length than said chambers establishing communication between said chambers and said curved ends; and a yieldable connector dumbbell-shaped in side elevation and dumbbell-shaped in plan disposed substantially to fill said chambers, said connector having a pair of transversely extending cylindrical members substantially circular in longitudinal cross section connected by a reduced portion of a transverse cross section and length substantially to fill both of said apertures when said blocks are disposed with said curved ends substantially in abutment, at least one of said cylindrical members having a longitudinally extending notch therein closable by transverse approaching movement of the two parts of said member on either side of said notch.

3,145,502
STRUCTURAL ELEMENT AND METHOD OF MAKING
David Rabenstein, 2750 2nd Ave., San Diego 3, Calif.
Filed Apr. 1, 1955, Ser. No. 498,715
13 Claims. (Cl. 50—128)



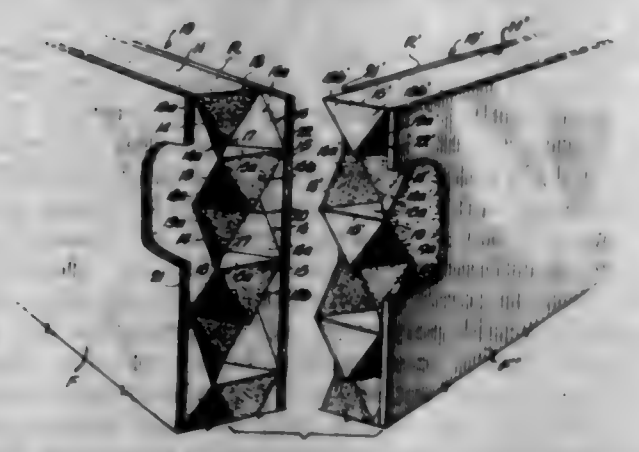
1. A composite prestressed structure which comprises a preformed porous body of relatively high compressive strength and relatively low tensile strength, and an integrally bonded reinforced plastic composition layer, and having as a component of said combination, a high impact resistant set polymeric resin composition providing force systems, said force systems providing a state of internal stress, said reinforced plastic composition layer being bonded in and to said porous body at its surface interface by portions of said set polymeric resin composition in a state of internal stress, and said reinforced plastic composition being additionally bonded by projecting portions of said set polymeric resin composition extending into portions of said porous body and integrally permeated, penetrated, anchored, and bonded in a state of internal stress into pores and interstices of said porous body structure to a depth of at least 1/32 of an inch, and reaching around and gripping the grains and particles of said porous body material in compressive stress, like fingers, substantially increasing the impact strength of the porous body material, said polymeric resin composition having a high stiffness, toughness, and tensile strength in its cured state and having a low order of shrinkage during set, and in which said porous body has an induced compressive prestressed preload provided by mechanical means prior to combination with the said polymeric resin composition, said polymeric resin composition and said reinforced plastic composition layer providing tensile strength reinforcement at least in excess of the compressive strength of the porous body and said induced compressive prestressed preload provided by mechanical means prior to combination with said reinforced plastic composition layer is substantially held in the body of said composite structure by said set high tensile strength polymeric resin composition after the removal of said mechanical means, whereby said combination of materials and force systems provides said composite prestressed structure.

3,145,503
JOINT WATER STOP
Gordon L. Brechin, 3408 W. 40th Ave., Vancouver, British Columbia, Canada
Filed June 27, 1961, Ser. No. 119,926
5 Claims. (Cl. 50—346)



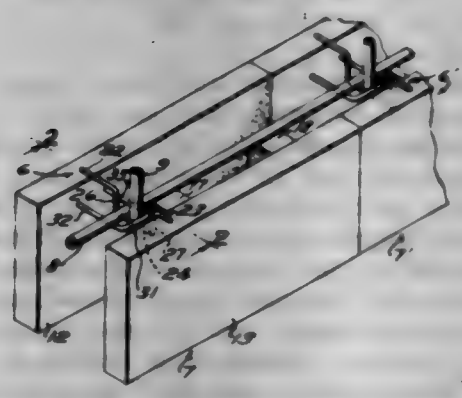
1. A water stop for joints in pourable plastic materials such as concrete, comprising a web strip having first and second planar faces, a pair of laterally spaced anchor legs integral with said web strip and projecting outwardly from said first surface, a pair of key legs integral within said web strip and projecting outwardly from said second surface in substantial alignment with said anchor legs, said water stop being adapted to be imbedded in a first pour of plastic material such that the anchor legs, first web face and outer surface of said key legs are covered with said first pour, projecting means on each anchor leg to anchor said legs in said first pour, each of said key legs having an outer surface disposed at an angle of less than 90° with respect to said second web face and an inner surface disposed at an angle of less than 90° with respect to said second web face to form a dovetail keyway between said key legs adapted to receive a portion of a second pour of plastic material such that a formed dovetail of said second pour material is disposed within said keyway, projections on the inner surface of each key leg to anchor said inner surface to said second pour material, and said outer surface being smooth and free of projections opposite said projections whereby on relative movement of said second pour away from said first pour, each key leg remains disposed between said first and second pours with the inner surface of said key leg anchored to said second pour through said projections and with the outer surface free to move relative to said first pour due to the absence of projections on said outer surface.

3,145,594
WALL PANEL AND INTERLOCKING JOINT CONSTRUCTION
Jon B. Dunnington, Leawood, Kans., assignor to Butler Manufacturing Company, a corporation of Missouri
Filed Mar. 24, 1961, Ser. No. 98,251
2 Claims. (Cl. 50—453)



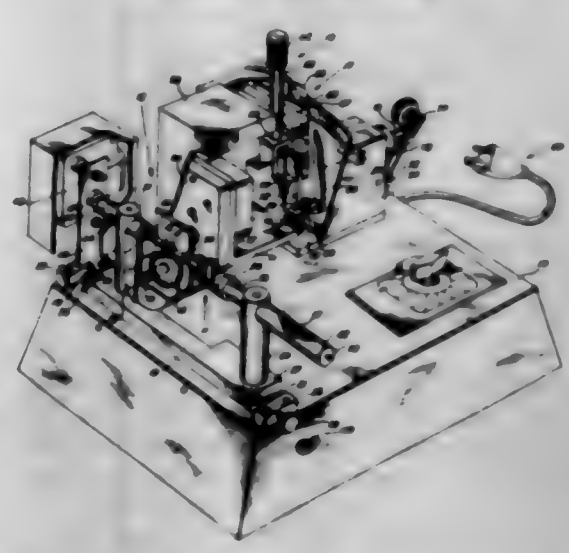
1. In a panel assembly, a first elongate panel member having an edge, said edge being formed with a pattern of longitudinally recurring alternating and contiguous tongues and sockets, each socket having four triangular side faces forming a rectangular pyramidal concavity and each tongue having four triangular side faces forming a rectangular pyramidal projection, one side face of each tongue having a common base edge with a side face of the adjacent socket, said side faces which have a common base edge lying in planes substantially normal to one another and which intersect along said common base edge, and a second panel member having an edge formed with similar tongues and sockets, the tongues and sockets of the second panel member interfitting with the tongues and sockets of the first member whereby to cause the tongues of one panel member to nest in the sockets of the other panel member with the side faces of each in parallel confronting relationship.

3,145,595
REINFORCEMENT ROD POSITIONING AND SUPPORT CLIP
Ivan G. Cornelius, 9807 Elmar Ave., Oakland, Calif.
Filed Nov. 30, 1960, Ser. No. 72,775
4 Claims. (Cl. 50—479)



4. A clip of the character described comprising a rod-like member having opposed aligned end portions adapted for seating on spaced coplanar horizontal surfaces, said member having an offset intermediate portion disposed in a plane parallel to that of said end portions and a pair of spaced elements disposed adjacent the ends of said intermediate portion connecting the latter with the respective end portions, said elements being disposed generally perpendicular to said intermediate portion and end portions, and a second U-shaped rod-like member secured adjacent its intermediate portion to the intermediate portion of said first member and having a pair of spaced leg portions disposed generally parallel to the intermediate portion of said first member, said leg portions extending longitudinally beyond one of said elements and terminating at points longitudinally short of the end of said end portion corresponding to said one element.

3,145,596
CONTACT LENS CONTOURING AND POLISHING MACHINE
Stanley H. Vegors, 6 Hampshire Court, and Frank L. Arnold, 1023 N. Pennsylvania, both of Mason City, Iowa
Filed Mar. 21, 1962, Ser. No. 181,401
6 Claims. (Cl. 51—33)

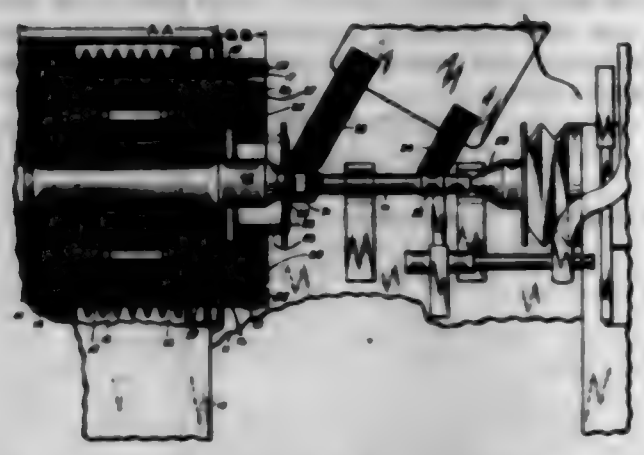


1. An apparatus for contouring and polishing the peripheral edge and adjacent side portions of a contact lens comprising:
(*a*) a rotatable buffer member,
(*b*) rotatable spindle means for holding a contact lens having a peripheral edge and adjacent side portions for rotation in a vertical plane normal to the plane of rotation of said buffer member,
(*c*) means for adjustably vertically moving said buffer member toward and away from the peripheral edge of the contact lens,
(*d*) means for horizontally adjustably moving said spindle means to move the lens relative to said buffer member, and
(*e*) means for oscillating said buffer member about an axis parallel to the axis of rotation thereof such that said buffer member, concurrently with rotation thereof, is oscillated in an arc about the peripheral edge and adjacent side portions of the lens.

3,145,597
AXIAL LOCATING MEANS FOR WORKPIECES
Ralph E. Price and William E. Happel, Waynesboro, Pa., assignors to Landis Tool Company, Waynesboro, Pa.
Filed Mar. 1, 1962, Ser. No. 176,561
5 Claims. (Cl. 51—105)

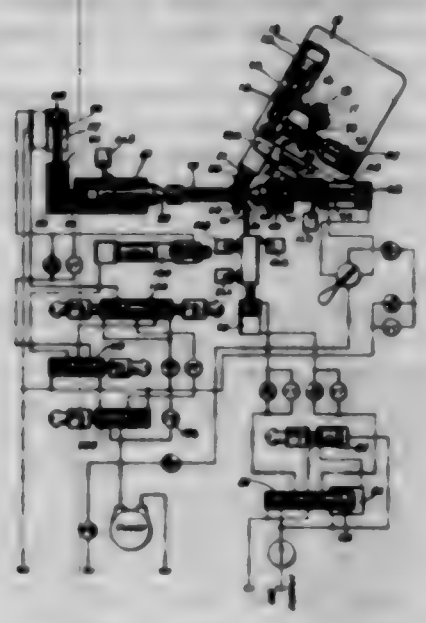
1. In a grinding machine, a grinding wheel, means for rotatably supporting and locating a cylindrical workpiece having a locating surface at one end for a grinding operation comprising a headstock and a footstock, a center in said headstock, a center in said footstock, a first resilient means for urging said headstock center toward said footstock center, a second resilient means for urging said footstock center toward said headstock center, said second resilient means exerting a greater force than said first resilient means, means for axially locating said workpiece relative to said grinding wheel comprising a face plate on said headstock, a first member pivotally mounted on said face plate on a first radial axis, a second member pivotally mounted in said first member on a radial axis at right angles to said first radial axis, said second mem-

ber having locating means for engaging said locating surface of said workpiece, said workpiece and said head-



stock center being adapted to be moved axially by said footstock center until said locating surface engages the locating means on said second member.

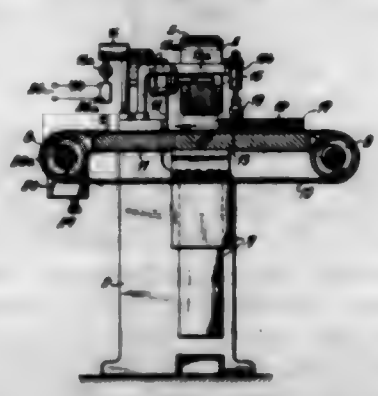
3,145,503
APPARATUS FOR GRINDING INTERSECTING ANNULAR AND CYLINDRICAL SURFACES
Ralph E. Price, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.
Filed Feb. 21, 1963, Ser. No. 260,247
4 Claims. (Cl. 51—105)



1. In a grinding machine for grinding adjacent annular and cylindrical portions of a workpiece, a headstock and a footstock, each having a center for engaging and rotatably supporting a workpiece, a grinding wheel, means for feeding said grinding wheel toward and from said workpiece, means to effect endwise movement of said centers and said workpiece relative to said grinding wheel including a pistoe and cylinder, and means operable after a predetermined feeding movement of said grinding wheel for directing a measured amount of fluid under pressure to said cylinder to reverse said endwise moving means, to separate said annular portion of said workpiece from said grinding wheel a predetermined amount.

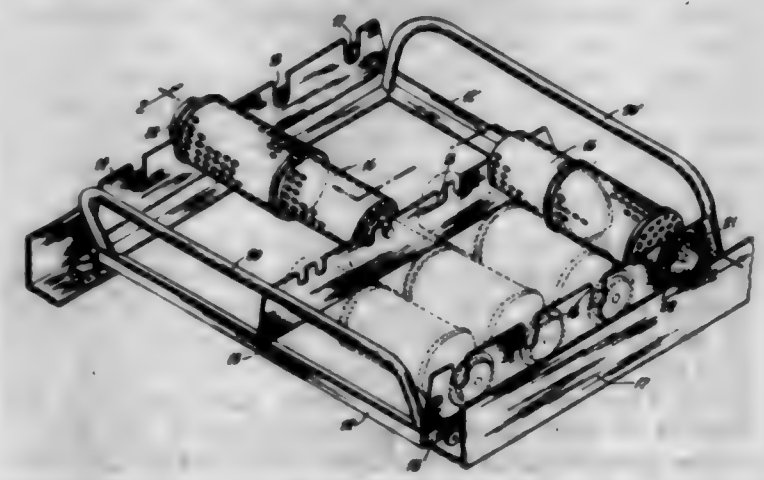
3,145,509
CONTROLLING DEVICE FOR AUTOMATIC MACHINES ESPECIALLY WOODWORKING MACHINES
Karl Hesse[illegible], 54 Friedens[illegible], Rehme, Via Bad Oeynhausen, Germany
Filed July 11, 1961, Ser. No. 123,386
5 Claims. (Cl. 51—141)

1. In a belt grinder or the like, a power conveyor means for feeding a workpiece through a path of travel past a work station, tool means at said work station, power means operatively connected to tool means for moving said tool means with respect to said path of travel for engagement with a workpiece on said conveyor means; the improvement comprising a timing switch control device operatively connected to said power conveyor means for operation in relation to operation of said power conveyor means and a workpiece thereon, said timing switch control device including timing switches for sequentially controlling the operative and inoperative positions of said power means for said tool means, and an actuator switch means disposed adjacent the path of travel of said power conveyor means for engaging said workpiece there-



on, said actuator switch means including control portions sequentially operating said timing switches of said control device for moving said tool means through a cycle of operation, said timing switch control device including control rod element means operated by said power conveyor for controlling actuation of said switches controlling operation of said tool means, said conveyor comprising a rotatable shaft, said control device comprising rod element means adjacent said rotatable shaft, mechanical coupling means operatively connected to and operated by said actuator switch means for drivingly connecting said rod element means to said rotatable shaft whereby said rod element means is made responsive to movement of said conveyor means shaft.

3,145,510
ROTARY CUTLERY CARRIERS
Mitchell L. Mayer, 9 Crosby Ave., Deal, N.J.; Howard T. Brey, 497 Gansevoort Blvd., Staten Island, N.Y.; and Harry Stein, 60 Twin Oaks Oval, Springfield, N.J.
Filed July 17, 1962, Ser. No. 210,600
15 Claims. (Cl. 51—164)
(Granted under Title 35, U.S. Code (1952), sec. 266)



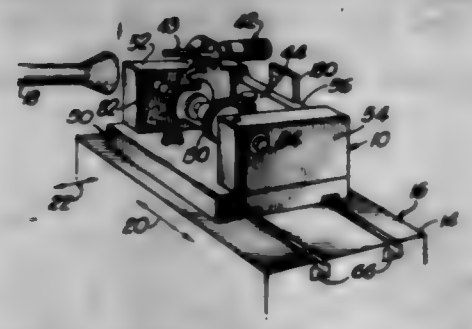
2. An apparatus for use in washing cutlery comprising, in combination:
a pair of parallel elongated frame members;
a pair of upright support members transversely disposed between said frame members; and
a plurality of perforated cylinders rotatably carried between said support members on individual shafts provided with friction wheel drive for rotation.

3,145,511
GRINDING OR ABRADING TOOL
Joseph L. Bird, 450 Lahser Road, Birmingham, Mich., and Lloyd R. Oliver, 8636 Robinwood, Utica, Mich.
Filed Dec. 4, 1961, Ser. No. 156,676
9 Claims. (Cl. 51—206)



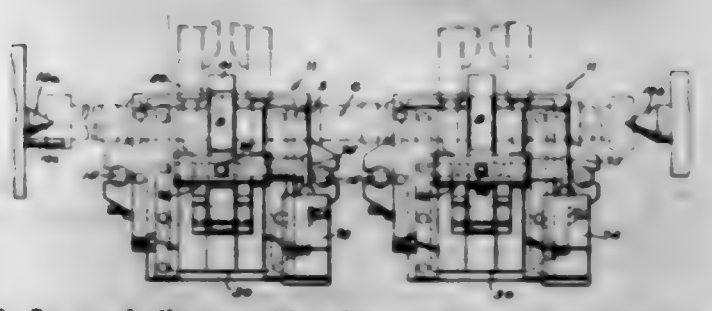
1. A grinding wheel comprising an axially extending hub having a bore therein adapted to receive a drive shaft, a pair of annular radially extending thin-walled metal cheek plates in axially spaced relationship along said hub, an annular axially extending thin-walled metal rim plate extending axially between the radially outer ends of said cheek plates and including radial flanges at each end thereof, means connecting said hub, cheek plates and rim plate for rotation together and to form a chamber within said wheel, an abrasive, thermally conductive means securing said abrasive to said rim plate between said flanges externally of said chamber, air inlet means in said wheel communicating with said chamber, and air outlet means in at least one of said flanges of said rim plate communicating with said chamber whereby, during rotation of said wheel by a drive shaft, air may flow through said air inlet means into said chamber and across the surface of said rim plate internally of said chamber and through said air outlet means to dissipate heat from said rim plate.

3,145,512
FIXTURE FOR HOLDING AND POSITIONING TOOL
Richard A. Hirchert, Hinsdale, Ill., assignor to Crafts Tool and Gage Corp., a corporation of Massachusetts
Continuation of application Ser. No. 12,010, Mar. 1, 1960. This application Jan. 15, 1963, Ser. No. 253,519
4 Claims. (Cl. 51—225)



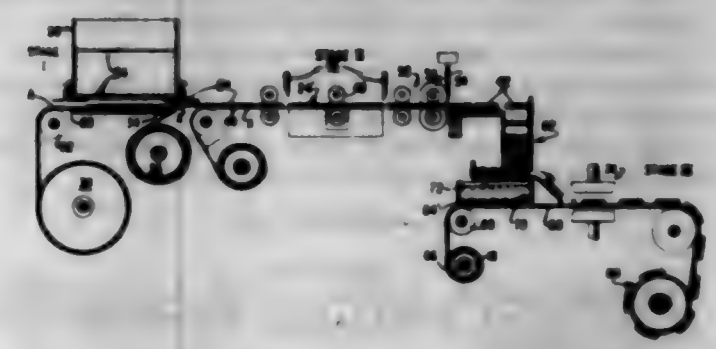
1. A fixture for holding a tool in a grinding machine, said fixture comprising frame means, adjustable centering means supported from said frame means and adapted to be drivingly connected to an arbor means by which said tool is supported, and means including a worm gear-worm wheel arrangement for fixedly positioning said tool relative to said machine, said arrangement including a worm wheel adapted to be fixedly connected to said arbor means and a worm gear assembly pivotally supported from said frame means, said worm gear assembly being movable between a first position in driving engagement with said worm wheel for effecting fine adjustment of said tool so that it can be sharpened by a grinding wheel of the machine independently of the machine's cross feed mechanism, and a second position out of driving engagement with said worm wheel for permitting coarse adjustment of said tool preparatory to a grinding operation, and resilient stop means supported from said frame means opposite said worm gear assembly from said worm wheel, said stop means normally urging said worm gear assembly into said first position in intimate engagement with said worm wheel.

3,145,513
STEADY RESTS
Gordon H. Perrin, 6101 Concord, Detroit, Mich.
Filed Dec. 13, 1962, Ser. No. 244,467
28 Claims. (Cl. 51—238)



1. In a grinding machine for grinding the surfaces of an engine camshaft or the like, the combination comprising
a grinding machine,
a plurality of steady rests positioned on said machine for supporting the engine camshaft at longitudinally spaced points during grinding,
each said steady rest having a cylindrical opening adapted to receive and surround a portion of said engine camshaft,
said steady rest having a plurality of circumferentially spaced pressure pads about said opening,
an orifice associated with each pressure pad,
and means for supplying liquid under pressure to each said orifice,
the pressure of liquid in the pads of each steady rest being equal,
such that when an engine camshaft is placed in position with the opening surrounding said portions of the cam shaft, a pressurized film of liquid flows continuously through the pressure pads between the surfaces defining the opening and the surfaces of the portions of the engine camshaft surrounded thereby so that forces are applied to the engine camshaft to remove any axial distortion therein and maintain the axis of the engine camshaft in a stable position relative to the steady rest.

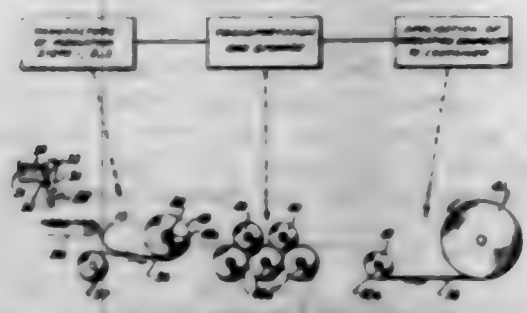
3,145,514
METHOD FOR PACKAGING APPLIQUES
Edmund A. Stuffey, Chicago, Ill.
(14475 Waverly Ave., Midlothian, Ill.)
Filed July 6, 1962, Ser. No. 208,861
3 Claims. (Cl. 53—3)



1. The method of packaging appliques or the like in continuous strip form, each of said appliques having adhesive on the reverse side, which comprises taking a sheet of integrally joined appliques, coating the reverse side of such sheet with said adhesive, laminating

said adhesive coated sheet with a liner treated on the one side only contacting said adhesive with a release agent for ready release of said adhesive, cutting said laminated sheet, adhesive and liner into individual applique assemblies, placing said applique assemblies in series fashion on a package tape with the respective liner facing the tape, and adhering said appliques to said package tape by adhesively tacking the respective liner to said tape.

3,145,515
MANUFACTURE OF MULTI-LAYER INSULATED STRUCTURE
Leo J. Clapendle, Croton-on-Hudson, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Apr. 24, 1962, Ser. No. 189,872
6 Claims. (Cl. 53—27)



1. A method for manufacturing a structure comprising a container having an outer curved surface wrapped with alternate layers of thin, flexible radiant heat reflecting shields and elastically compressible fibrous web material, which method comprises the steps of:

(1) forming an insulation composite of a thin, reflecting shield backing sheet and elastically compressible fibrous web material at least coextensive with and superimposed upon and continuously supported by said backing sheet;

(2) winding said insulation composite into a roll; and

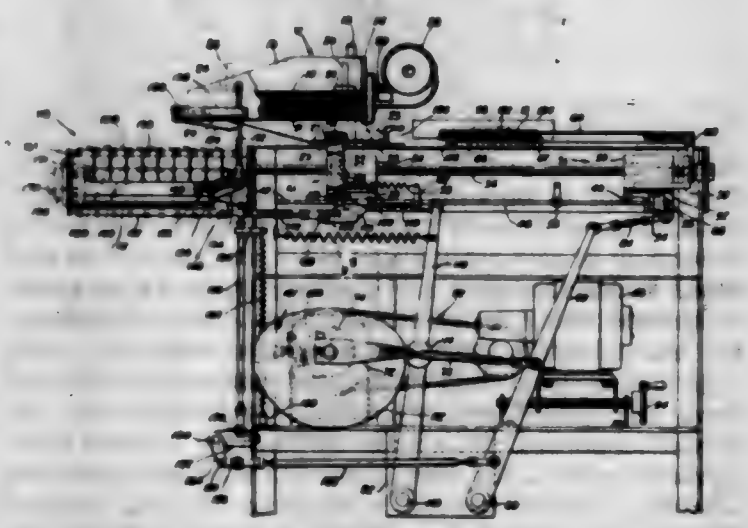
(3) providing said container having an outer curved surface, and wrapping such container with said insulation composite by simultaneously unwinding said roll in such manner that said reflecting shield backing strip continuously supports said fibrous web material, tensioning the reflecting shield backing sheet, and applying the insulation composite on the curved surface of said container in such manner that said reflecting shield backing sheet continuously supports said fibrous web material.

3,145,516
APPARATUS FOR THE PACKAGING OF NEWSPAPERS OR THE LIKE
Charles N. Hannon, Olathe, Kans., and Warren W. Hannon, 501 S. Chestnut, Olathe, Kans.; said Charles N. Hannon assignor to said Warren W. Hannon
Filed Mar. 6, 1961, Ser. No. 93,769
36 Claims. (Cl. 53—120)



1. Apparatus for packaging newspapers comprising means for receiving a number of newspapers in stacked relationship; means for receiving a stack of protective wrappers for said newspapers; means engageable with one of the newspapers and one of the wrappers in respective stacks thereof for shifting the same into superimposed relationship with one margin of the wrapper projecting outwardly from the adjacent edge of the newspaper; means positioned to engage said one newspaper and said one wrapper and fold the same in half transversely thereof in a direction to cause the wrapper to be disposed on the normally outer face of the folded newspaper; means operable to fold said one margin of the wrapper over the adjacent superimposed edges of the newspaper and against the normally outer face of the wrapper; means positioned to engage the face of the wrapper having said one margin folded thereover and operable to again fold the newspaper in half transversely thereof in a direction with the wrapper still disposed on the outer face of the folded newspaper and said one margin of the wrapper located between the last formed folds in the newspaper; and means for applying a member to the outer face of the one wrapper around said one newspaper to maintain the latter in the fully folded condition thereof.

3,145,517
PACKAGING MACHINE
Robert W. Sassaniegie, Lexington, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed May 13, 1960, Ser. No. 28,997
13 Claims. (Cl. 53—198)

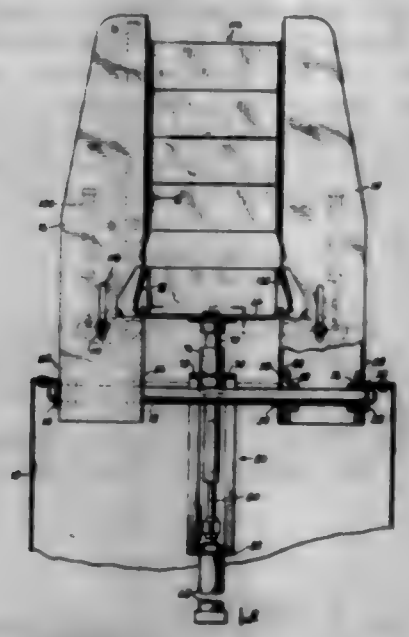


11. In a packaging machine, in combination, a magazine for supporting a flat envelope type bag, said bag having one edge of its mouth portion exposed, means for directing a stream of air against said exposed edge to effect partial opening of the mouth, a pair of pivotally mounted opposed bag spreader arms, means for rocking said arms into the partially open mouth and into engagement with the longitudinal side edges of the flat bag for expanding the bag and effecting withdrawal of the bag from the magazine, said spreader arms forming a guide for receiving an article to be inserted into the bag, a reciprocable carrier movable into the bag between said arms to insert the article into the bag while the latter is supported on said spreader arms, and a bag support remote from said bag opening means, said carrier continuing its movement to strip the bag from the spreader arms and to deposit the bag on said support before coming to rest.

3,145,518
CARTON CLOSING AND SEALING MACHINE
Anton Ricca, East Paterson, N.J., assignor to Europak, Ltd., Ridgefield Park, N.J., a corporation of Delaware
Filed Mar. 21, 1962, Ser. No. 181,356
2 Claims. (Cl. 53—387)

1. In a carton sealing machine, a base frame, a pressure face assembly and a pressure platen assembly hav-

ing parallel confronting faces forming therebetween a carton throat adapted to receive and apply pressure to a series of cartons being sealed, said assemblies having base portions in generally rectangular tubular configuration including a pair of spaced generally parallel confronting base walls by which said assemblies are adapted to be mounted in an operative upright position, a first and a second pair of aligned bearing passages in said confronting base walls in each of said assemblies adapted to slide in operative relation on a respective pair of spaced parallel guide rods, a pair of spaced parallel guide rods mounted in said base frame, said guide rods extending through respective pairs of said aligned bearing passages and providing the principal support for said assemblies whereby



said assemblies provide free access to said carton throat from a pair of opposite sides thereof when in operative position on said guide rods, means for effecting relative movement of said assemblies toward and away from each other to accommodate said pressure throat to the length of cartons being sealed therebetween, a carton supporting and advancing platform supported from said guide rods in one end of said throat, and means also supported from said guide rods in operative association with said carton supporting and advancing platform adapted to reciprocate said carton supporting and advancing platform whereby a carton thereon is advanced into said pressure throat and cartons in said throat in advance thereof are urged through said throat.

3,145,519
ROTARY LAWN MOWER
Donald G. Pearson, Newark, Ohio, assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed June 18, 1962, Ser. No. 203,260
4 Claims. (Cl. 56—25.4)

1. A rotary mower, comprising

(*a*) a housing having a substantially flat cover and a peripheral skirt depending from said cover,

(*b*) said skirt having a discharge opening therein,

(*c*) a drive shaft extending through said cover into said housing,

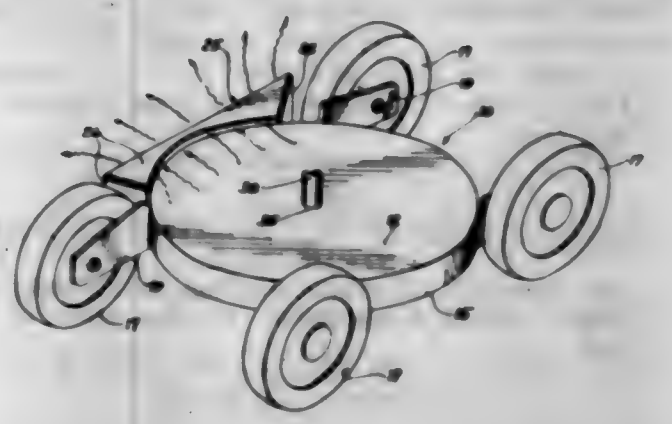
(*d*) an upper and a lower blade in said housing axially spaced on said shaft for rotation therewith,

(*e*) the upper blade being disposed close to said cover and extending close to said skirt, functioning to prevent substantial accumulation of cuttings on the inside of said cover and skirt,

(*f*) the lower blade being a cutter,

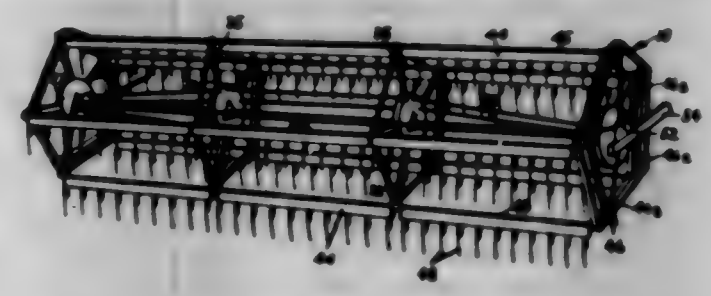
(*g*) at least one of said blades also creating a current of air upwardly and centrifugally of the housing to discharge the cuttings through said discharge opening,

(*h*) a chute extending laterally from said housing adjacent said discharge opening for discharging cuttings remotely from the housing,



(*i*) said chute in conjunction with said housing defining a slot opening into said chute, whereby air is sucked into said chute when the mower is in operation to accelerate the discharge of cuttings as the cuttings are discharged from the mower housing.

3,145,520
HARVESTER REEL
James D. Hume and Earl L. Scheidenhelm, Mendota, Ill., assignors to Horace D. Hume, Mendota, Ill.
Filed Feb. 25, 1963, Ser. No. 260,360
4 Claims. (Cl. 56—228)



1. In a harvester reel:

a central supporting shaft;

a plurality of triangular brackets fixed to said shaft and spaced from one another along the length thereof;

a plurality of rigid spiders corresponding in number to said brackets, each spider comprising a hub consisting of two plates mounted back to back and adapted to fit at each side of a bracket, said plates being provided with aligned central triangular apertures complementary to, and adapted to receive, said brackets, each spider further comprising a plurality of equiangularly spaced radial arms projecting radially outward therefrom;

means adapted to connect each hub to the bracket on which it is mounted;

and brace means joining the outer ends of each adjacent pair of arms on each spider and forming a shaft-receiving bearing therewith.

3,145,521
SELF-PROPELLED FRUIT CATCHING APPARATUS
Benjamin T. Herbst, P.O. Box 17, Esparto, Calif.
Filed Apr. 3, 1961, Ser. No. 100,374
7 Claims. (Cl. 56—329)

1. A self-propelled harvester comprising:

a. a chassis supported on ground-engaging wheels;

b. a pair of fore and aft fixed frames mounted on said chassis and inclined laterally from one side of said chassis downwardly toward the other side thereof;

c. a pair of movable frames each having one side pivotally and movably mounted on a corresponding one of said fixed frames, said movable frames being inclined laterally upwardly in an operative position substantially in mirror symmetry with respect to said



fixed frames, said movable frames being adapted to assume a lowered position adjacent the ground and an inoperative position adjacent to and overlying said fixed frames; and

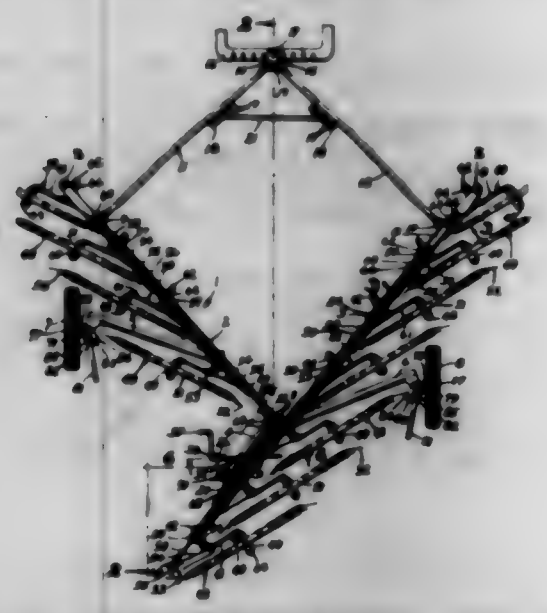
d. means on said chassis for moving each of said movable frames independently of the other.

3,145,522

CENTER DELIVERY WHEEL RAKE

Phillip L. Zink, Marshalltown, Iowa, assignor to Dolfin Corporation, Hopkins, Minn., a corporation of Delaware

Filed Apr. 30, 1962, Ser. No. 191,985
4 Claims. (Cl. 56—377)



1. In a center delivery wheel rake,

(*a*) a frame having means for attachment to a prime mover and comprising a pair of generally horizontally disposed elongated frame members having front and rear end portions and arranged in rearwardly converging relationship relative to the normal direction of travel of the prime mover,

(*b*) a rigid link having one end pivotally connected to the rear end portion of one of said frame members on a generally vertical axis and having an opposite end pivotally connected to the rear end portion of the other of said frame members on a generally vertical axis whereby said frame members may be pivotally moved relative to said link and relative to each other to vary the angular relationship between said frame members and to vary the lateral spacing between said rear end portions of the frame members,

(*c*) means for imparting pivotal movements to said link relative to one of said frame members to vary the angular relationship therebetween and for locking said link against said pivotal movement in desired positions of said pivotal movement,

(*d*) a plurality of rotary raking means carried by one of said frame members and arranged in echelon in substantially parallel erect planes angularly displaced from the normal direction of movement of the frame,

(*e*) a plurality of rotary raking means carried by the other of said frame members and arranged in echelon in substantially parallel erect planes angularly displaced from said normal direction of movement of the frame and converging rearwardly with said first-mentioned planes,

(*f*) said means for attachment to a prime mover comprising a pair of forwardly converging draft arms each having front and rear ends and each pivotally connected at its rear end to the front end portion of a different one of said frame members on a generally vertical axis, a coupling element having a rear end pivotally connected to the front ends of said draft arms on generally vertical axes and having a front end for connection to the prime mover, and a transverse rigid tie having opposite ends one each for connection to a different one of said draft arms at selected ones of a plurality of longitudinally spaced points on said draft arms to releasably lock said frame members in different angularly displaced positions relative to each other,

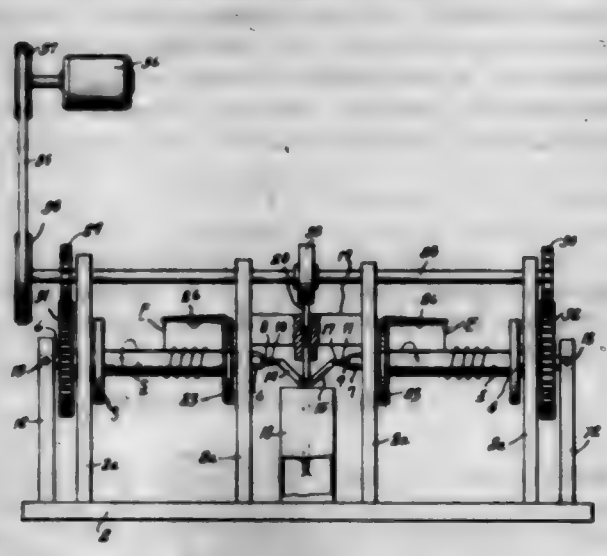
(*g*) said forwardly converging draft arms and coupling element being the sole draft connection between said frame and said prime mover.

3,145,523

METHOD OF AND APPARATUS FOR MAKING AND MATING COILS OF FILAMENTARY MATERIAL

John E. Burbank, Stamford, Conn.
(Middlebury Road, Middlebury, Conn.)

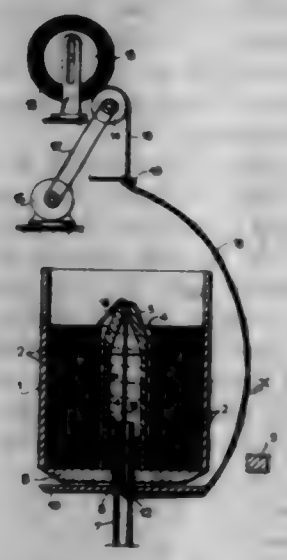
Filed Mar. 25, 1963, Ser. No. 268,854
13 Claims. (Cl. 57—1)



1. In apparatus for coiling and mating filaments and the like, a pair of oppositely disposed stationary mandrels arranged substantially in alignment with one another with their inner ends being spaced apart from one another, a pair of spools adapted to carry a supply of filament with one associated with each of said mandrels and concentric therewith, means for guiding the filament from each of said spools to the respective mandrels, means for rotating said spools about their respective axes, whereby the filament is wrapped around the respective mandrels so as to

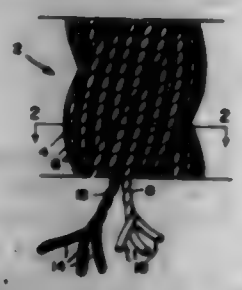
coil the same, means arranged adjacent each of said mandrels for receiving the coiled filaments for shaping the same, and means arranged adjacent said last mentioned means for curing and sizing the coiled filaments.

3,145,524
PROCESS AND APPARATUS FOR THE MANUFACTURE OF PAPER YARN AND THE LIKE
Claude Hubert Augustin Dewelle, Eeklo, Belgium (5a Rue du Nouveau Monde, Nivelles, Belgium)
Filed Feb. 13, 1962, Ser. No. 172,963
Claims priority, application Belgium Feb. 14, 1961
2 Claims. (Cl. 57—58.49)



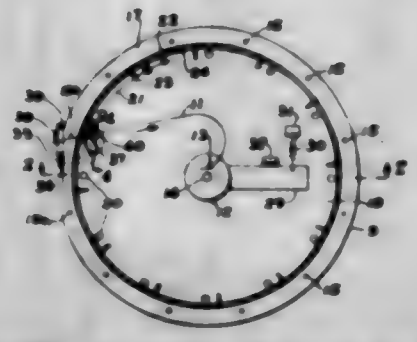
1. A method of manufacturing paper yarn and the like from a ribbon of paper and the like comprising the steps of supplying said ribbon from a stack of ribbon rolls where the outer end of said ribbon is attached to the inner end of the adjacent lower roll so that each roll supplies ribbon from its center to its periphery, disposing said stack of ribbon rolls coaxially with respect to a hollow sleeve member of a holding means for the stack of ribbon rolls; maintaining said holding means stationary to thereby render the sleeve member and stack of ribbon rolls coaxial therewith also stationary, drawing said ribbon through said hollow sleeve member and a hollow rotating spindle disposed within said hollow sleeve member which hollow rotating spindle subjects said ribbon to a first twist, and drawing the partially twisted ribbon out of said hollow rotating spindle while causing the partially twisted ribbon to form a balloon so as to subject the partially twisted ribbon to a second twist.

3,145,525
ROPES OF SYNTHETIC FIBERS
Remo J. Laureti, Moorestown, N.J., assignor to Wall Rope Works, Inc., Beverly, N.J., a corporation of New Jersey
Filed Nov. 23, 1962, Ser. No. 239,428
8 Claims. (Cl. 57—140)



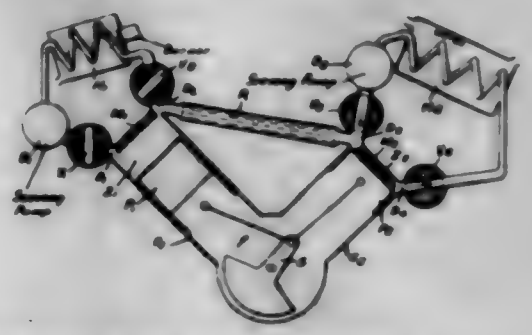
1. A rope of polypropylene and polyethylene filaments comprising a plurality of strands, each strand being formed of an outer layer of plies and interior plies, the interior plies being formed primarily of polypropylene, and the outer layer of each strand presenting exteriorly of the rope one or more polypropylene areas interrupted by areas of polyethylene and presenting to a curved surface engaged under stress by the rope areas of both polypropylene and polyethylene.

3,145,526
LUMINOUS ELECTRIC CLOCK
John J. Kroon, 1415 W. Troy, Ferndale 20, Mich.
Filed July 13, 1961, Ser. No. 123,742
12 Claims. (Cl. 58—50)



1. For use with a conventional electric clock movement having concentric minute arbor and hour arbor, the combination comprising a first resilient electrical contact brush mounted on the minute arbor for rotation therewith, a disk rotatably mounted on the hour arbor, a second resilient electrical contact brush mounted on said disk for rotation with said disk, a plurality of circumferentially spaced electrical contact members associated with each of said brushes, luminous indicia means associated with each said contact member, yieldable means extending between said hour arbor and said disk tending to rotate said disk, means for releasably mechanically locking said disk in one of a plurality of angular positions, said means actuated by engagement with said first brush once during each revolution thereof to release said locking means and permit said disk to rotate a predetermined angular distance.

3,145,537
SCAVENGING FLOW CIRCUIT FOR STIRLING CYCLE ENGINE
Henri Mergenroth, 3090 Hidden Valley Lane, Santa Barbara, Calif.
Filed June 22, 1962, Ser. No. 204,382
9 Claims. (Cl. 60—24)



3. A Stirling Cycle Engine, comprising:
(*a*) a hot zone; and
(*b*) a cold zone;
(*c*) a gas flow circuit between said hot zone and said cold zone, said circuit including, a regenerator; and
(*d*) at least one additional closed loop gas circuit, said additional circuit including an inlet and an outlet to the zone and an exterior heat exchanger and means to recirculate the gas charge through said closed loop gas circuit and said additional circuit arranged to scavenge at least one of said zones in such a manner that at least part of the zone gas charge is replaced by the scavenge gas charge at least once each cycle;
(*e*) means to heat a scavenge gas charge in said additional circuit before said charge enters said hot

zone to a temperature above the hot zone temperature in the case of the hot zone scavenging circuit, and means to cool the temperature of said additional gas charge below the cold zone temperature in the case of the cold zone scavenging circuit to such an extent that the scavenging gas charge serves as the carrier for heat addition in the case of the hot zone and heat rejection in the case of the cold zone; and

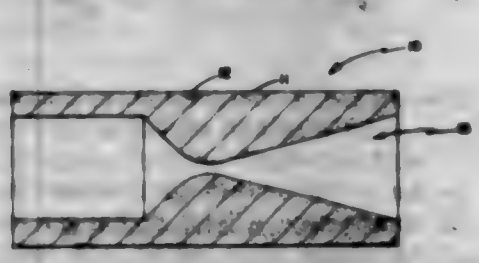
(*f*) at least two shut off devices for said additional gas circuit which control the inlet and outlet of the scavenging circuit to the zone; and

(*g*) means to control said shut off devices so that they open at least once during each cycle during the portion of the cycle of relatively small pressure change.

3,145,528
IRRADIATED POLYMERS
Gaetano F. D'Alelio, South Bend, Ind., assignor to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Apr. 24, 1958, Ser. No. 730,526
23 Claims. (Cl. 60—35.4)

20. A process of propelling rockets comprising the step of combusting an irradiated crosslinked mass consisting essentially of a polymeric hydrocarbon, and 1–95 percent by weight of an oxidizing agent selected from the class consisting of potassium perchlorate, potassium, nitrate, potassium permanganate, potassium iodate, potassium dichromate, ammonium perchlorate, ammonium nitrate, ammonium persulfate, manganese dioxide, perchloric acid, chloric acid, and aryl perchloryl compounds, said mass being contained in the fuel chamber of a rocket and having a tubular shaped having substantially uniform cross-section throughout its length, said tubular shape being adapted to permit escape of combustion products from only one end of the linear opening therein, and said mass having been exposed to at least two megareps and no more than about 100 megareps of high energy, ionizing radiation derived from an energy source equivalent to at least 100,000 electron volts.

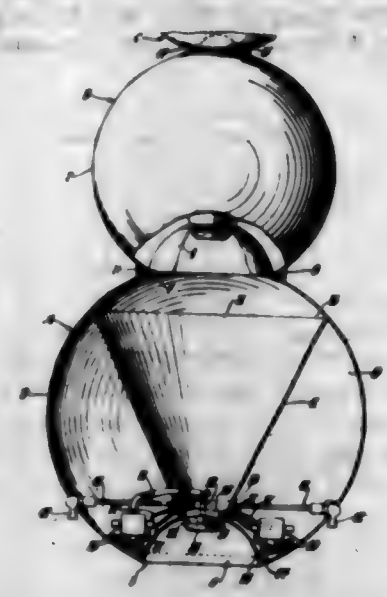
3,145,529
REFRACTORY COMPOSITE ROCKET NOZZLE AND METHOD OF MAKING SAME
Samuel R. Maloof, Belmont, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Mar. 10, 1960, Ser. No. 13,989
11 Claims. (Cl. 60—35.6)



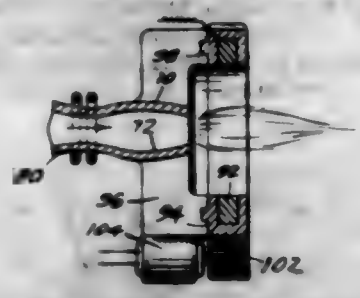
9. A rocket nozzle comprising: a dimensionally shaped peripheral wall formed from a refractory composite material comprising pressed and sintered porous tungsten which has been impregnated with copper in the proportion of 70–90% tungsten and 30–10% copper by weight, respectively.

3,145,530
MULTISTAGE ROCKET
Albert J. Sobey, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,594
4 Claims. (Cl. 60—35.6)

1. A multistage rocket vehicle comprising a plurality of rocket stages each comprising a globular case adapted to contain propellant and a propulsion nozzle disposed within the outline of the case, the case being open at the end opposite the nozzle, the nozzle of one stage being disposed over and closing the said opening of the next preceding stage, and completing the propellant enclosure so that the volume within the nozzle is available to contain propellant for the next preceding stage, and a separation joint between the said stages at the juncture thereof.



3,145,531
AUTOMATIC STEERING OF SPACE CRAFT
Alexander T. Deutsch, 1604 19th St. NW., Washington 9, D.C.
Filed July 28, 1961, Ser. No. 127,657
5 Claims. (Cl. 60—35.54)

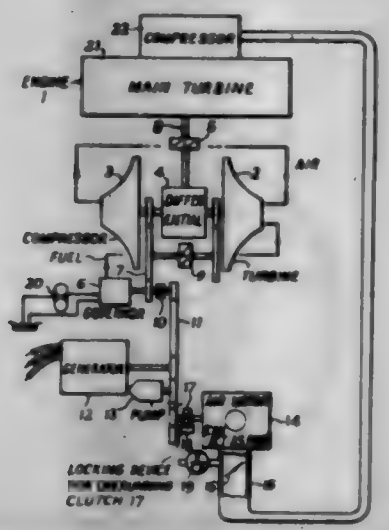


1. In a means for steering a jet propelled device, comprising elongated annular walls, a main outlet jet coaxial with the body of said device to pass a propelling gas outwardly coaxial with the direction of movement of said device, means in said device for ionizing propellant gases passed therethrough as a jet, magnetic means for concentrating the ionized gas centrally of said device inward from the annular confining walls thereof, magnetic means for diverting the axial direction of flow of the concentrated jet as it is propulsively emitted from said device, and means for varying the direction of said magnetic field to effect steering of said device.

3,145,532
GAS-TURBINE OPERATED ENGINE STARTERS
Norman Moss, Ilford, England, assignor to The Plessey Company Limited, Ilford, England, a British company
Filed July 24, 1962, Ser. No. 215,476
Claims priority, application Great Britain July 27, 1961
6 Claims. (Cl. 60—39.14)

1. A combined engine-starter and constant-speed drive unit which comprises a gas-turbine, a turbo-compressor supplying the gas turbine with combustion air, a starter output shaft for connection to a combustion engine, a three-leg differential gear drive the legs of which are respectively operatively connected to the turbine, the output shaft, and the compressor, a fuel governor controlling the fuel supply to the gas turbine to maintain its speed con-

stant driven by one of those legs of the differential gear drive which are respectively connected to the gas turbine and the compressor, means operable to disconnect the starter output shaft from the differential gear drive, and a one-way clutch in a gear drive which, in parallel with those legs of the differential that are connected to the tur-



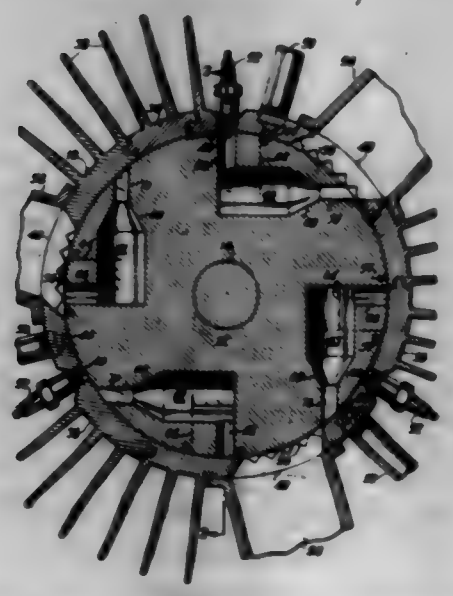
bine and compressor, connects the turbine to the compressor to bypass the differential gear drive and couple the turbine to the compressor when the turbine speed exceeds a pre-determined ratio to the compressor speed, and a constant-speed output shaft drivingly connected to that leg of the differential gear drive by which the governor is driven.

3,145,533

JET-THRUST INTERNAL COMBUSTION ENGINE

George Batchelder Ollinger, 93 Shore Road, Old Greenwich, Conn.

Filed July 13, 1962, Ser. No. 209,566
4 Claims. (Cl. 60—39.34)



1. A rotary engine comprising a hollow cylindrical stator having groups of ports extending from the interior to the exterior thereof, said groups each comprising an exhaust port, an intake port and an ignition port, the exhaust and the ignition ports all lying in a first common plane, the intake ports lying in a second plane parallel to but axially displaced from said common plane, the size of the opening of each exhaust port increasing in a given circumferential direction, a cylindrical rotor mounted for rotation in said given direction within the interior of said cylindrical stator, said rotor having therein a plurality of circumferentially spaced and aligned combustion chambers, each of said combustion chambers being formed with an exhaust nozzle and an ignition channel which open peripherally of said rotor in said first common plane, the exhaust nozzle and ignition channel openings of each combustion chamber being mutually displaced by an amount equal to the displacement between the exhaust and ignition ports of each group in said stator, each of said combustion chambers being further formed with an intake channel which opens peripherally of said rotor in said second plane, circumferential pressure sealing means between said rotor and said stator between and on either side of said first and second planes, further sealing means extending axially of said rotor and disposed on circumferentially opposite sides of each of said intake openings and between said rotor and said stator for providing gas type isolation of said intake openings, fuel injection means controlled by said rotor and connected to said intake ports for injecting a combustible mixture into a combustion chamber having its intake opening aligned with an intake port, and ignition means controlled by said rotor and connected to said ignition ports for igniting the combustible mixture in a chamber having its ignition opening aligned with an intake port in its nozzle opening aligned with an exhaust port.

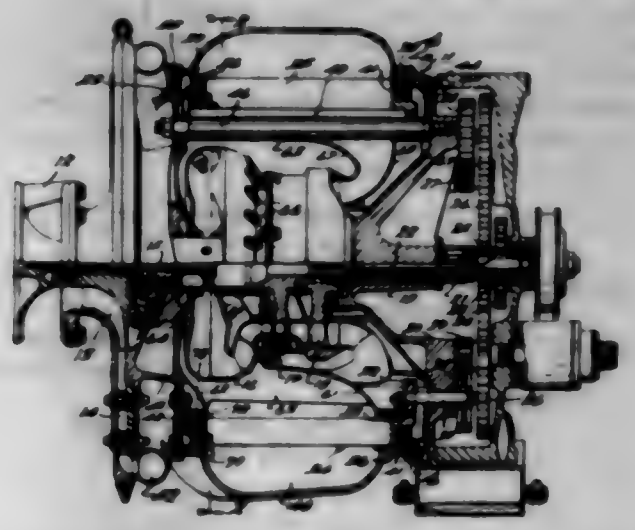
3,145,534

HEAT EXCHANGER FOR GAS TURBINES

Sam B. Williams and John F. Jones, Birmingham, Mich., assignors to Williams Research Corporation, Birmingham, Mich., a corporation of Michigan

Original application Jan. 20, 1960, Ser. No. 3,691. Divided and this application Jan. 6, 1961, Ser. No. 87,478

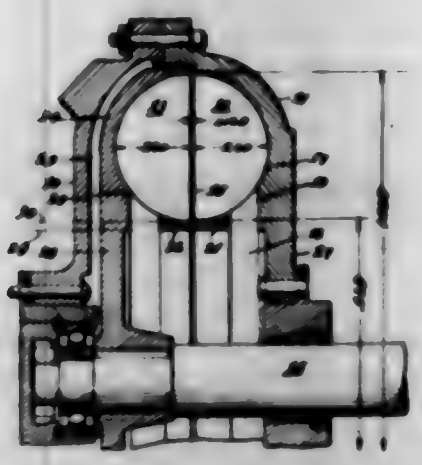
1 Claim. (Cl. 60—39.51)



In a gas turbine, a compressor, an annular combustion chamber co-axial with and spaced axially from said compressor, a turbine wheel spaced axially from and connected to the outlet of said combustion chamber remote from said compressor, a heat exchanger matrix of annular cylindrical shape surrounding said combustion chamber and turbine wheel, the axial length of said matrix being substantially greater than the thickness thereof between its inner and outer surfaces and also substantially greater than the axial length of the combustion chamber which it surrounds, a substantial portion of said matrix being disposed between two imaginary parallel planes extending at right angles to the turbine axis and just containing said combustion chamber, high pressure inlet chambers formed outwardly of said matrix and facing the outer surface thereof, means connecting said compressor to said chambers, a pair of heated air chambers formed radially inwardly of said high pressure chambers and facing the inner matrix surface, annular shield means connecting said heated air chambers to said combustion chamber and forming a continuous annular space exposed to the combustion chamber, a pair of exhaust plenum

chambers circumferentially spaced from said heated air chambers and facing the inner matrix surface, duct means connecting the outlet of said turbine wheel to said plenum chambers, and a pair of exhaust collector chambers formed outwardly of the matrix and aligned with said plenum chambers.

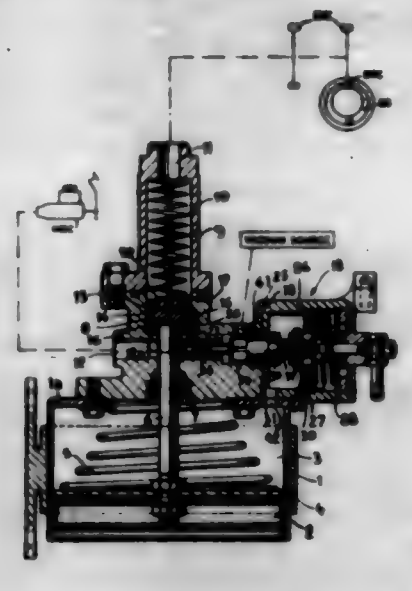
3,145,535
HYDRAULIC COUPLING
Raymond C. Schneider, Rockford, Ill., assignor to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed Apr. 11, 1961, Ser. No. 102,279
2 Claims. (Cl. 60—54)



1. An hydraulic coupling comprising coaxial, rotatable, first and second, annular bladed members arranged in facing and axially spaced relation to provide an annular gap defined by the opposed edges of the blades and including therebetween a torus for the hydraulic transmission of power, the members being identically shaped and each having the same number and shapes of blades to enable either member to serve as the input of the coupling, the torus having outer and inner diameters of D and .52D, respectively, an axial width of .48D plus the gap, and the width of the gap being uniform and being not less than .008D and not more than .020D, the quantity D being expressed in inches, an annular chamber inwardly of the torus and having an axial width not greater than that of the torus, and free passage means in each member connecting the inner part of the associated torus portion with and symmetrically related to the annular chamber whereby the working liquid under a drag torque condition flows to the annular chamber through the passage means of that member which is stalled, the other passage means providing for quick return of the working liquid from the annular chamber to the torus portion of the input member of the coupling when the drag torque condition ceases.

3,145,536
VACUUM TYPE POWER UNIT FOR MOTOR VEHICLES HYDRAULIC BRAKE SYSTEMS
Paolo Mazzardi, 118 Corso Duate, Turin, Italy
Filed Sept. 4, 1962, Ser. No. 221,064
Claims priority, application Italy Sept. 14, 1961
1 Claim. (Cl. 60—54.5)

In a power assisted hydraulic braking system of the type comprising a manually operated primary master cylinder and wheel brake cylinders, a secondary servo-actuated master cylinder inserted between said primary master cylinder and said brake cylinders, a pneumatic motor unit operated by a pneumatic pressure difference, acting on the secondary master cylinder and setting up from a primary hydraulic pressure, an amplified secondary hydraulic pressure, and a control valve responsive to said primary hydraulic pressure and connecting said pneumatic motor unit with the atmosphere when the braking system is inoperative and with a vacuum source when the primary hydraulic pressure reaches a predetermined value; the said valve comprising; a casing with three aligned chambers, a piston slidably mounted in a bore provided in said casing and having one face exposed to the action of said primary hydraulic pressure, a stepped rod valve stem coaxial with said piston and extending through the three aligned chambers provided in said casing, the first of which is constantly connected with a source of vacuum and communicates with said bore in which said piston slides, the second chamber being constantly connected with said pneumatic motor, and the third chamber being constantly connected to the atmosphere, a movable wall interposed between said second and third chamber, said wall being slidable in said third chamber, a spring being provided for urging said movable wall towards said second chamber and a stop for limting the displacement of said wall towards the second chamber, a first valve comprising a valve ring arranged in said second chamber and slidably mounted between two radial

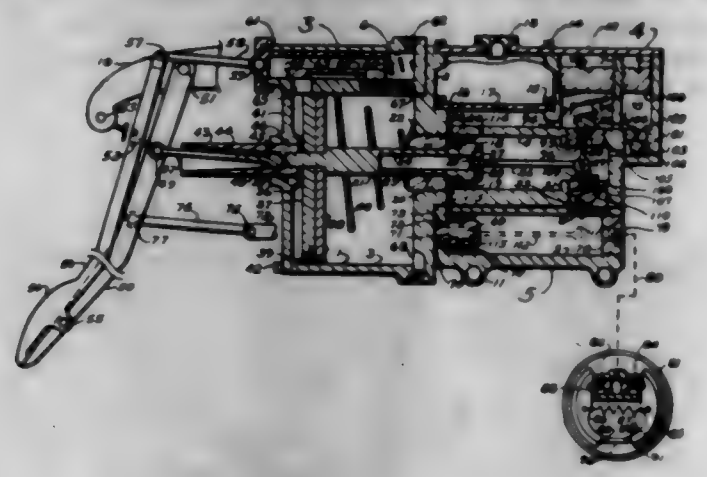


shoulders on said stepped rod and cooperating with an annular valve seat interposed between said first and second chambers, a second valve comprising a valve ring arranged in said second chamber and fastened to said stepped rod and cooperating with an annular valve seat mounted in said movable wall interposed between said third and second chamber, a first spring interposed between said stepped rod and said piston and a second spring interposed between said stepped rod and said casing and urging said rod towards said piston, the said two springs maintaining said rod when the primary pressure has not reached a predetermined value, in a position in which the first valve is closed and the second is open, and in which the radial shoulders on said rod are so arranged with respect to said valve ring and the annular seat of the first valve that upon displacement of the stepped rod towards said third chamber before opening of the communication between said first and second chamber closure of said second valve and a displacement of said movable wall away from the stop limiting its stroke towards said second chamber occur.

3,145,537
VEHICLE CONTROLS
Raymond C. Strauss, 301 W. Lenawee, Lansing, Mich.
Original application Oct. 22, 1959, Ser. No. 848,144. Divided and this application Aug. 22, 1963, Ser. No. 304,304
5 Claims. (Cl. 60—54.6)

1. In a vehicle braking system the combination of a brake arm carrying pedal yieldable to bottom on said brake arm, a fluid reservoir connecting with the lines of said system, first and second cylinders and plungers between said reservoir and the operably responsive wheel

brake shoes of said system, first and second rods attached to their respective plungers and projecting through seals for endward alignment with said brake arm and for contact therewith so that in the respectively released positions of said plungers with attached rods and said brake arm a slack space appears between said brake arm and pedal, power assisting means connected to said first plunger and instantly operable at full capacity throughout its path of travel when said slack space is manually eliminated by shifting a control valve connected to said pedal whereby said first plunger is moved by said power assisting means to propel into the system a volume of fluid for bringing the wheel brake shoes into contact with the wheel drums, relief valve means to hold the propelled fluid against return to the reservoir until the shoes have contacted the drums whereupon the relief valve means yields to per-



mit excess fluid to return to the reservoir, locking off means to hold said fluid used to hold said shoes and drums in contact, said locking off means being located between said first and second plungers so that with further manual pressure applied to said brake pedal the said second plunger and rod will be moved manually against said locked fluid backpressuring against said locking off means to firmly engage said shoes and drums for a vehicle stop, and fluid compensating valve means to allow unrestricted return of the first plunger to its released position, and projections on said relief valve means and locking off means for engaging a protrusion on one of said plungers when in its released position so that these valve means become tilted and their seals are broken for re-establishment of fluid connection between said reservoir and brake shoes.

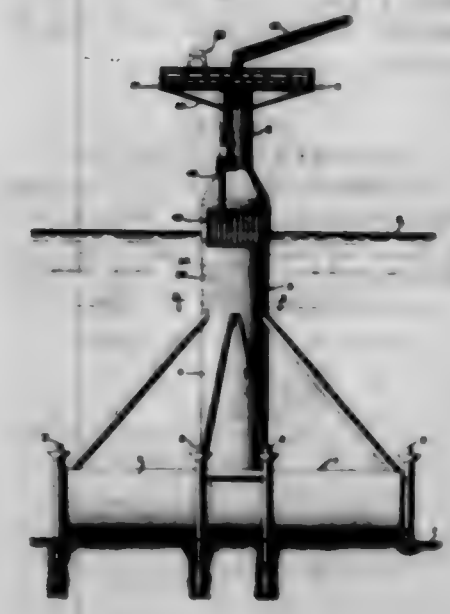
3,145,538

UNDERWATER STORAGE APPARATUS

Charles E. Young, New Orleans, La., assignor, by direct and mesne assignments, of fifty percent each to Phillips Petroleum Co., Bartlesville, Okla., a corporation of Delaware, and J. Ray McDermott & Co., Inc., Houston, Tex., a corporation of Delaware

Filed Mar. 14, 1960, Ser. No. 14,597
10 Claims. (Cl. 61—46)

1. In apparatus for storing, under a body of water, a water-immiscible liquid having a specific gravity less than 1.0, the combination of storage tank means submerged in the body of water and including a substantially horizontal base portion disposed adjacent the floor of the body of water, said base portion comprising two spaced parallel elongated cylindrical tank portions and at least one cylindrical cross-tank portion connected at its ends to said parallel tank portions at points intermediate the ends thereof and extending therebetween, said storage tank means further including an elongated cylindrical vertical tank portion secured at its base to such cross-tank portion and disposed between said parallel tank portions, the interiors of all of said tank portions being in communication, said vertical tank portion extending to a point substantially above the surface of the body of water; a plurality of horizontally spaced piles extending downwardly into the floor of the body of water and lo-



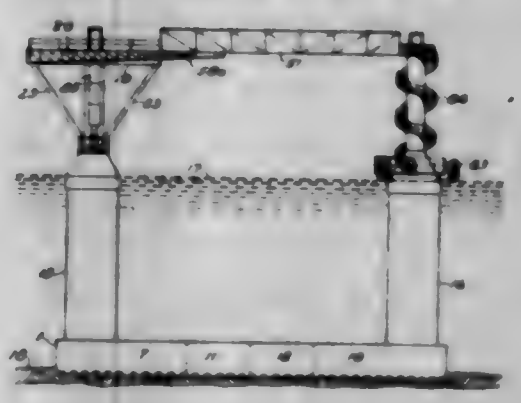
cated adjacent to said parallel tank portions; and means securing said piles rigidly to said parallel tank portions.

3,145,539

OFFSHORE STORAGE UNIT

John C. Estes and Ray S. Lacy, Jr., Beaumont, Tex., assignors to Bethlehem Steel Company, a corporation of Pennsylvania

Filed Oct. 23, 1959, Ser. No. 848,466
55 Claims. (Cl. 61—46.5)

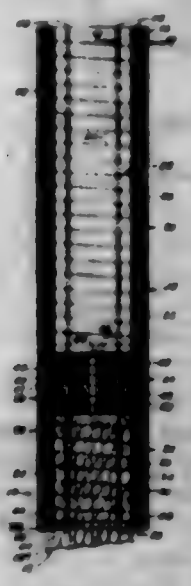


1. An offshore storage apparatus for the storage of oil in marine locations and for the discharge of stored oil to a tanker vessel by means of a hose, comprising a submersible ballastable hull adapted to be floated to location and submerged to engagement with the marine floor, liquid-tight bulkheads in said hull, corner compartments and a central compartment in said hull defined by said liquid-tight bulkheads, columns secured to said hull and extending upwardly therefrom to project above the surface of the water when said hull has been submerged to engagement with the marine floor, said columns communicating with said corner compartments, tank means supported on one of said columns, an oil receiver compartment associated with said tank means, a weir in said oil receiver compartment, a fluid passageway communicating between said tank means and said oil receiver compartment over said weir, a water receiver compartment in one of said columns, first means to introduce sea water into said water receiver compartment, second means to introduce sea water from said water receiver compartment to said columns, corner compartments and central compartment, third means to introduce oil into said tank means, and fourth means to introduce oil from said oil receiver compartment to said columns and central compartment.

ERRATUM

For Class 61—46.5 see:
Patent No. 3,146,458

3,145,540
PRESTRESSED COMPOSITE PILE
Jack R. Baittinger, 2 Wheatley Court, Scotch Plains, N.J., assignor of one-half to John J. Dougherty, Cedar Grove, N.J.
Filed Mar. 14, 1962, Ser. No. 179,700
1 Claim. (Cl. 61—53)



A composite pile comprising an elongated sectional body constituted by a wooden lower section and an upper concrete section, said upper concrete section having a top portion, a bottom portion and an intermediate portion, said bottom portion being shorter than the top portion, a reinforcing wire cage embedded in the concrete in each of the top and bottom portions, said intermediate portion consitituting a joint between the top and bottom portions, said intermediate portion composed of a solid round block of concrete having a central air tube embedded in the concrete and extending vertically through the block, pairs of wires tangentially arranged with respect to the tube and being welded to the tube at the top and bottom ends thereof, said wires being embedded in the concrete and serving as reinforcements, said top, bottom and intermediate body portions having aligned passages therethrough adjacent the peripheries thereof, a cable extending through each set of aligned passages, concrete in the passages anchoring the cables in position, a metal bushing embedded in the bottom end of the bottom body portion, and a perforated flange extending about the lower edge of the bottom body portion and about the bushing on the inner surface of the bottom body portion, said perforated flange having a shearing edge on its inner end, the rods in the cage being prestressed.

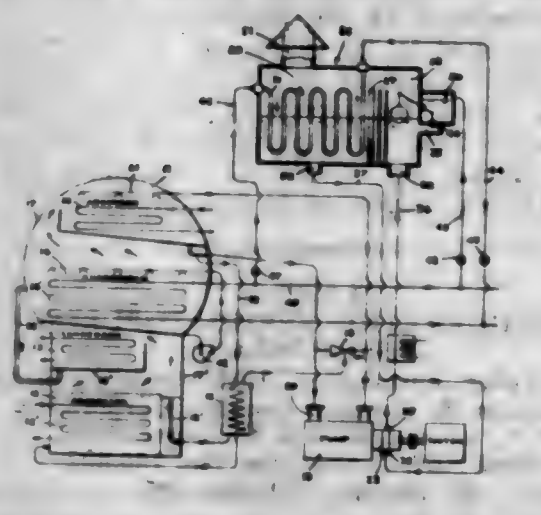
3,145,541
EXPANDABLE MANDREL
Clem B. Binnings, New Orleans, La., assignor, by mesne assignments, to Whitney National Bank of New Orleans
Filed Feb. 27, 1961, Ser. No. 92,678
9 Claims. (Cl. 61—53.72)

1. A mandrel for transmitting driving forces to a hollow pile casing comprising a plurality of elongated transversely movable segments, each of at least some of the segments having an upper bearing surface, a recess in the inner side of each segment adjacent the upper end thereof, a thrust plate received within the recesses, a jacking screw threaded through the thrust plate and having articulate connections to the segments for expanding the segments against the inner surface of a pile casing, means for transmitting a driving force against the bearing surfaces of the expanded segments, and means comprising wedging surfaces on the segments engageable by



opposed wedging surfaces on the force transmitting means for biasing the segments toward their expanded conditions each time the driving force is transmitted.

3,145,542
SELF-SUSTAINED LIQUID CIRCULATING SEAL SYSTEM
David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,368
12 Claims. (Cl. 62—141)



1. In a closed refrigeration system circulating absorbent solution incorporating a refrigerant in liquid and vapor phase at pressure below atmospheric and comprising; an evaporator having a coil including upstream and downstream sides and carrying chilled liquid, a generator, a condenser and an absorber, a motor driven pump pumping at least a portion of the absorbent solution in liquid phase, said motor driven pump including a liquid seal associated therewith preventing leakage of air to the closed system, a liquid seal cooling circuit comprising:

(*a*) a reservoir forming separate chambers for storage and cooling of a liquid sealant,

(*b*) said respective storage and cooling chambers being communicated to pass liquid therebetween and being positioned substantially equidistant above the pump liquid seal,

(*c*) a coil carried in the cooling chamber having inlet and outlet openings and circulating a chilled medium,

(*d*) a sealant liquid carrying loop having conduit legs communicating the pump liquid seal with the respective storage and cooling chambers,

(*e*) liquid sealant flowing in one of the conduit legs in communication with the cooling chamber being normally at a lower temperature than liquid sealant flowing in the other of said legs,

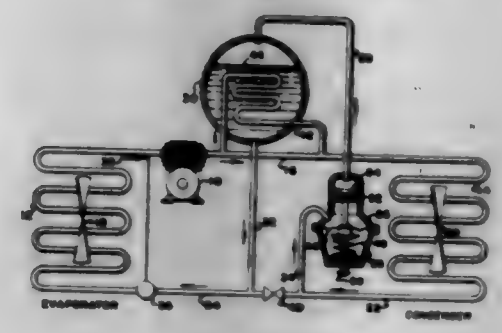
(*f*) whereby chilled sealant flowing in said one leg having a greater density than warmer coolant in the other leg will induce continuous liquid circulation in the liquid carrying loop.

3,145,543

MEANS FOR CONTROLLING THE HEAD PRESSURE IN REFRIGERATING SYSTEMS

Robert G. Miner, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed Feb. 1, 1960, Ser. No. 5,900
7 Claims. (Cl. 62—149)



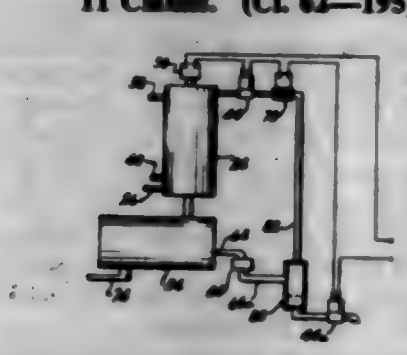
1. In a refrigeration system comprising interconnected compressor, condenser, evaporator, receiver, and an expansion device in operative relationship to the inlet to the evaporator, means for preventing the head pressure in the system upstream of the expansion device from falling below a predetermined minimum regardless of of the temperature of the condenser coolant or rate of heat absorption by the evaporator, by controlling the level of liquid refrigerant in the condenser, said means comprising means for vaporizing liquid refrigerant in the receiver to force liquid refrigerant from the receiver to the condenser and means for controlling said last mentioned means responsive to head pressure.

3,145,544

REFRIGERATION SYSTEM IMPURITY PURGE MEANS

Peter A. Weller, Farmington, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 7, 1961, Ser. No. 150,802
11 Claims. (Cl. 62—195)



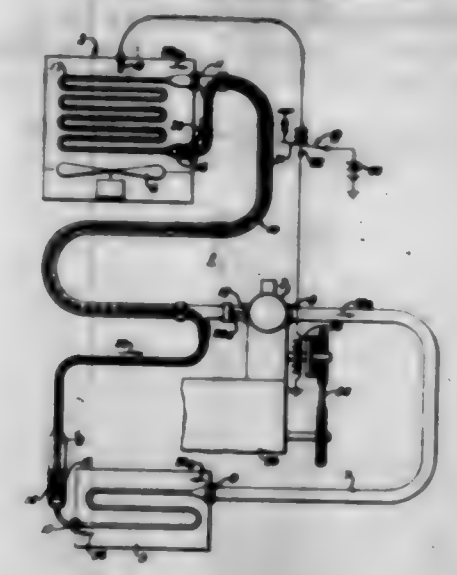
1. In combination, a mechanical refrigeration system; means connected with said system for purging same of non-condensable gases; means connected with said system for separating water from the system refrigerant; means for directing high pressure non-condensable gas accumulations against the separated water to expel same from the water separator means without exposing the refrigeration system to the atmosphere; and an electrically-operated means controlled by the pressure of the non-condensable gases to control the expelling operation.

3,145,545

AIR CONDITIONING AND REFRIGERATION APPARATUS FOR MOTOR VEHICLES

Wilbert J. Jaeger, 348 N. Flower St., Orange, Calif.

Filed Oct. 10, 1962, Ser. No. 229,571
2 Claims. (Cl. 62—323)



1. In air conditioning and refrigeration apparatus for motor vehicles having an evaporator with a single tube which has a refrigerant inlet and a refrigerant outlet, the invention comprising a variable speed engine of said vehicle for operating same, a variable speed compressor driven by said engine of said vehicle, a condenser with a refrigerant inlet and a refrigerant outlet and a pipe joining said compressor to said refrigerant inlet of said condenser, an accumulator means in refrigerant connection with liquid refrigerant from said outlet of said condenser, at least two capillary tubes in refrigerant connection with said accumulator, each of said two capillary tubes extending to and said two capillary tubes having a common refrigerant connection with said inlet of said single tube of said evaporator to effect delivery of liquid refrigerant from said two capillary tubes directly into said evaporator, a conduit extending between said refrigerant outlet of said evaporator and said compressor to form a suction connection for refrigerant between said evaporator and said compressor, a portion of the length of each of said two capillary tubes being disposed inside a part of the length of said conduit to form a heat exchanger between said two capillary tubes and said conduit, said heat exchanger being so located that it extends to a position adjacent said refrigerant outlet of said evaporator, said accumulator means having a refrigerant storage capacity such that it holds an amount of liquid refrigerant which evaporates shortly after said compressor stops operation and it provides a temporary storage of excess refrigerant due to acceleration of the compressor.

3,145,546

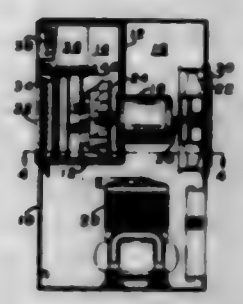
AIR CONDITIONER

Clifford N. Johnson and Oswald J. Wiggins, both of La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed Apr. 6, 1962, Ser. No. 185,635
4 Claims. (Cl. 62—427)

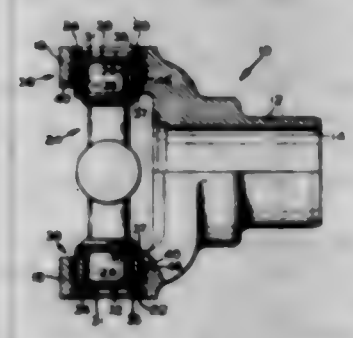
1. An air conditioner comprising: a casing, means dividing said casing into a condenser compartment and an evaporator compartment, a condenser in said condenser compartment, an evaporator in said evaporator compartment, a return air opening and a discharge air opening in said casing in fluid communication with said evaporator, condenser air inlet and outlet openings in said casing in fluid communication with said condenser compartment, first fan means in said evaporator compartment between said return air opening and said discharge opening to circulate air therebetween, second fan means in said con-

denser compartment to circulate air from said inlet opening to said outlet opening, a first aperture in said casing, a second aperture in said casing, filter means in said evaporator compartment between said return air opening and said discharge opening, a first duct means for providing



fluid communication from said first aperture to a point between said return air opening and said filter, and a second duct means for providing fluid communication from said second aperture to a point between said filter and first fan means.

3,145,547
ALIGNMENT DEVICE
James M. Lyons, Toledo, Ohio, assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Dec. 28, 1961, Ser. No. 162,869
1 Claim. (Cl. 64—17)



An aligning device for use in a universal joint comprising,

(A) a universal joint member having a longitudinal axis,

(B) axially extending lug means carried by said joint member,

(C) a bearing race means,

(D) said lug means having a bearing receiving opening therein extending radially with respect to said axis,

(E) said bearing race means being disposed in said bearing receiving opening,

(F) an annular metallic resilient device disposed in said opening and compressed between said lug means and said bearing race means and engaging the same and cushioning movement of said race means toward said lug means,

(G) said resilient device having flat lateral edges and a plurality of projections intermediate said edges engaging one of said means,

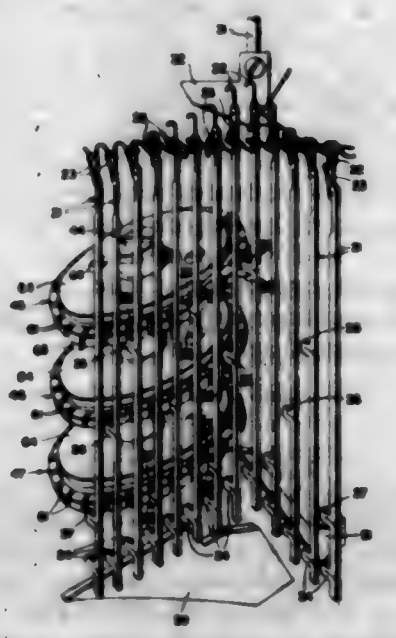
(H) the other of said means having an annular groove therein,

(I) the edges of said resilient device being disposed in and abuttingly positioned by said groove with said plurality of projections thereon extending from said groove,

(J) whereby said bearing race means is resiliently connected to said lug means,

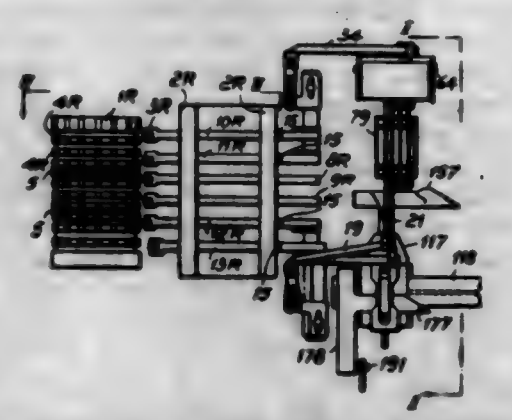
(K) and abutment means carried by said lug means and engaging said bearing means and maintaining the latter against radial movement outwardly with respect to said axis.

3,145,548
PATTERN MECHANISM FOR CIRCULAR KNITTING MACHINES
Lester Mishcon, Miami Beach, Fla., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 28, 1962, Ser. No. 176,277
5 Claims. (Cl. 66—50)



1. A knitting machine having a circularly arranged bank of evenly spaced knitting needles, a hook formed on each knitting needle and a butt associated with each knitting needle in spaced relation to the hook, said knitting needles being arranged in said bank in a plurality of like groups, each group having a spaced relation between the knitting needle hook and the butt differing from that of the other groups, a yarn feeding station for said knitting needles, a plurality of pattern wheels at said yarn feeding station, one for each of said groups of knitting needles, said pattern wheels each provided with jack accommodating slots having an even spacing at least as closely spaced as said bank of knitting needles, jacks arranged in selected ones of said jack accommodating slots, the jack accommodating slots of each of said pattern wheels cooperating with the butts of one of said groups of knitting needles, and each of said pattern wheels having a total number of jack accommodating slots which is not divisible exactly by any prime factor of said number of groups of knitting needles.

3,145,549
APPARATUS FOR PRODUCING A KNITTED FABRIC HAVING AN INLAY OF WEFT THREADS
Francesco Siccardi, 9 Via Paola Bassi, Milan, Italy
Filed Dec. 16, 1958, Ser. No. 780,778
Claims priority, application Germany, Aug. 6, 1958, S 59,307
5 Claims. (Cl. 66—84)



3. An apparatus for producing, in co-operation with a knitting machine having a needle-holding plate provided with an array of needles, a knitted fabric inlaid with a

plurality of weft threads, comprising a thread-guiding carriage transversely movable with respect to the movement of the needles of the needle-holding plate; a thread guide fixed on said carriage for transversely inlaying a weft thread in said fabric upon a transverse displacement of said carriage; transmission means engageable with said carriage for transmitting a controlled reciprocating movement thereto; a plurality of juxtaposed shiftable weft-thread guide bars adjacent said plate, each of said bars having means for guiding a distinct weft thread and inserting it into said thread guide; a plurality of rods respectively positioned for engaging and shifting said guide bars; control means for periodically activating said rods in a predetermined sequence, said control means including a rotating drum having circumferential central and lateral grooves, and weft-control chains engaging said lateral grooves on both sides of said central grooves and having cam-shaped links intermittently engaging and shifting respective ones of said rods.

3,145,550
LATCH NEEDLE

William Bennett, Aalen, Wurttemberg, Germany, assignor to Haase & Kühn KG, Leinzell, Wurttemberg, Germany

Filed Jan. 25, 1962, Ser. No. 168,725
Claims priority, application Germany Jan. 27, 1961
9 Claims. (Cl. 66—121)

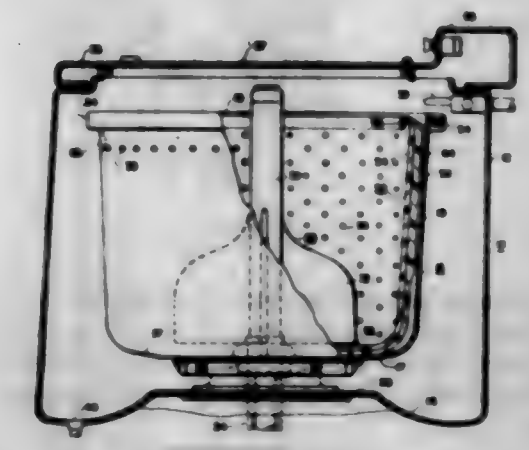


1. A latch needle comprising a stem; a hook connected with said stem and having an elongated hook end portion spaced from said stem, said hook end portion having an outer surface facing away from said stem, and being formed with an elongated groove extending in the longitudinal direction of said hook end portion and having an elongated longitudinally extending bottom face parallel to said outer surface; a pivot means mounted on said stem; and a latch mounted on said pivot means for turning movement to and from a hook-closing position, said latch having an inner abutment face abutting said bottom face of said groove, and an outer surface extending in said hook-closing position in the direction of, and substantially flush with said outer surface of said hook end portion, said latch having a transverse latch end face between said outer surface thereof and said inner abutment surface, said latch end face being located in said groove in said hook-closing position so that when said latch abuts said hook end portion in a displaced hook-closing position in which said abutment face is longitudinally displaced along said bottom face, said outer surface of said latch remains flush with said outer surface of said hook end portion while said latch end face remains in said groove and cannot engage and damage a thread passing over said hook and over said flush outer surfaces of said hook end portion and of said latch.

3,145,551
CLOTHES WASHING MACHINE

Edwin R. Ziegler, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 16, 1962, Ser. No. 209,834
6 Claims. (Cl. 68—4)



1. In a clothes washing machine having an upstanding, open-topped, substantially imperforate, basket within which clothes may be washed and rinsed,

means for admitting water thereinto to provide a washing and rinsing medium, and

an agitator within said basket arranged to be operated to create pulsations in said water, said basket being arranged to be rotated at relatively high speed for removing said water therefrom,

the improvement comprising:

a combination basket liner and clothes hamper for optional use within said basket, said liner having approximately the axial and radial dimensions of the basket and conforming substantially to the shape thereof,

means in the bottom wall of said liner accommodating the passage of the agitator therethrough whereby said liner may be inserted wholly into said basket for subsequent operation of the agitator therein,

and means including rib members projecting from exterior wall surfaces of said liner to establish relatively narrow water flow passages between said basket and said liner.

3,145,552
WATER CONDITIONER DISPENSER FOR CLOTHES WASHING MACHINE

Stephen L. McMillan, Wheaton, and Daniel E. Stelli, Lombard, Ill., assignors to General Electric Company, a corporation of New York

Filed June 28, 1963, Ser. No. 291,375
12 Claims. (Cl. 68—17)



2. In combination:

a washing machine tub arranged to receive water and clothes to be washed therein,

an upstanding agitator within said tub,

means for effecting a first and a second operation of said agitator,

means for effecting a recirculation of water within said tub during each said agitator operation, said means withdrawing water from said tub and returning it thereto at a level above the surface of the water,

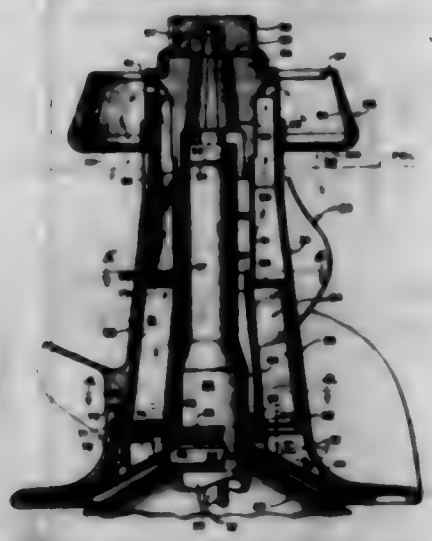
means for rotating said agitator and said tub intermediate said first and second agitator operations to centrifugally extract water from the clothes therein, means for refilling said tub,

an open-topped bowl releasably disposed about said agitator at a first level above the said return level of said recirculating water, said bowl accommodating a quantity of detergent,

centrifugally responsive latch means effective to release said bowl for gravity fall upon rotation of said agitator during said centrifugal extraction,

and means for interrupting said fall at a second level above the surface of the water but in the path of said recirculating water whereby a detergent solution may be formed within said bowl and washed from said bowl into said tub.

3,145,553
CLOTHES WASHING MACHINE
Stephen L. McMillan, Wheaton, Ill., assignor to General Electric Company, a corporation of New York
Filed May 1, 1963, Ser. No. 277,236
10 Claims. (Cl. 68—18)



3. In a washing machine having a basket to receive articles to be washed and rinsed in a body of water, an upstanding agitator having a tubular post structure adapted to telescope over an upstanding central member within said basket and means for oscillating said agitator relative to said central member, the improvement in pumping means for circulating said water within said basket, comprising:

an outer tubular pump casing arranged to be secured to said agitator within the tubular post structure thereof,

an inner tubular pump casing,

said outer casing being mounted for rotation relative to said inner casing and providing therewith a pump chamber having top and bottom annular walls,

a water inlet valve disposed in said annular bottom wall,

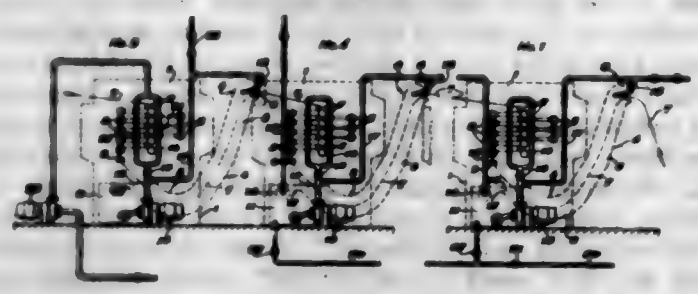
a water outlet valve disposed in said annular top wall,

means for immobilizing said inner casing relative to said outer casing,

means interposed between said inner and outer casings to create alternating suction and discharge pumping compartments upon oscillation of said outer casing,

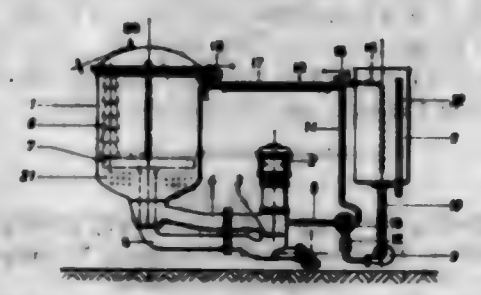
and means affording inflow and outflow passages communicating between said tubular agitator post structure and said basket to accommodate passage of water through said pumping compartments.

3,145,554
MACHINES FOR WASHING CONTINUOUS TEXTILE LENGTHS
Robert Charles Grimes, 46 Gerrard St., London W. 1, England
Filed Aug. 29, 1963, Ser. No. 305,499
3 Claims. (Cl. 68—22)



1. Machine for washing continuous lengths of textile and other material including a framework, a roll assembly consisting of a plurality of horizontally disposed rotatable squeezing rolls mounted in vertical alignment and two columns of horizontal jockey rolls also in vertical alignment laterally spaced from said squeezing rolls, one column on each side thereof, all said rolls being mounted on said framework, a liquid supply and distributory system for pre-soaking the material prior to passing into the squeezing roll assembly and re-soaking the material as it loops between said squeezing and jockey rolls, said liquid supply distributory system comprising a reception tank for pre-soaking the incoming soiled material, a control tank for receiving overflow from the reception tank, a supply pipe for filling the control tank with cleansing liquid, means to control the level in the control tank, a valve-controlled spraying device adjacent the squeezing rolls arranged to direct jets of re-soaking cleansing liquid on to the material in the region of the squeezing rolls, a pump for drawing liquid from the control tank and forcing it into the spraying device and also into a pipe feeding the reception tank under valve control and also acting as a discharge pipe.

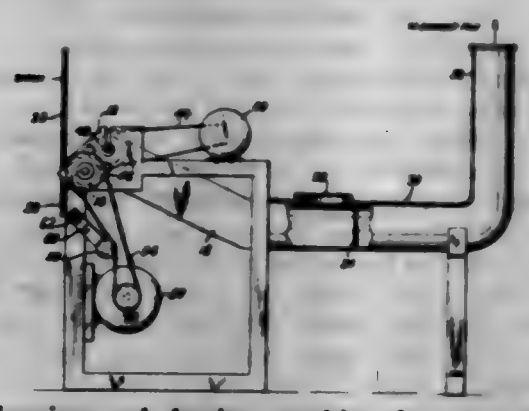
3,145,555
CLOSED APPARATUS FOR THE WET TREATMENT AND PARTICULARLY DYEING OF TEXTILES WITH LIQUOR HEATED TO ABOVE 100° C.
Hubert Krantz, Postschliessfach 130, Aachen, Germany
Filed Oct. 5, 1960, Ser. No. 60,752
10 Claims. (Cl. 68—189)



4. A closed apparatus for wet treatment of textile material with hot treating liquor at about 100° C., including a completely filled closed vessel containing the textile material to be treated with the hot treating liquor under pressure, internal conduits extending through said textile material to carry liquor passing through said textile material, a reversible circulating pump to circulate liquor through the closed vessel, external conduits respectively connecting said pump to said vessel and to said internal conduits to feed liquor from said pump through said internal conduits and through said vessel between the inlet and outlet of said pump, a supplemental pressure pump, an auxiliary fresh treating liquor containing vessel, said pressure pump serving to feed fresh liquor to the closed vessel and alternatively to short circuit

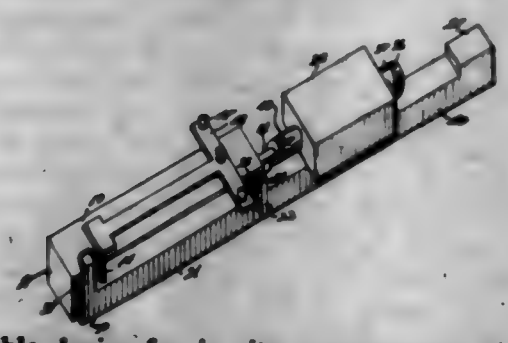
treating liquor from said pressure pump back to the auxiliary vessel, additional external conduits connected to and leading from said pressure pump to receive liquor from the bottom of the auxiliary vessel and feed it to said pressure pump and from the pressure pump to the first mentioned external conduits and return conduit leading back to the upper part of the auxiliary vessel and valve means on said additional conduits to connect said pressure pump alternately to said additional external conduits and to said return conduits to said auxiliary vessel, a connecting conduit connecting the closed vessel to discharge treating liquor from said closed vessel to the auxiliary vessel, said discharge taking place when said pressure pump is feeding fresh liquor to the closed vessel and a pressure relief valve on said connecting conduit to relieve liquor from the first vessel to the auxiliary vessel through said connecting conduit.

3,145,556
MACHINE FOR THE TREATMENT OF LEATHER
Howard D. Teetz, Gloversville, N.Y., assignor to Glove City Abrading Co., Inc., Gloversville, N.Y., a corporation of New York
Filed Dec. 18, 1962, Ser. No. 245,466
11 Claims. (Cl. 69—37)



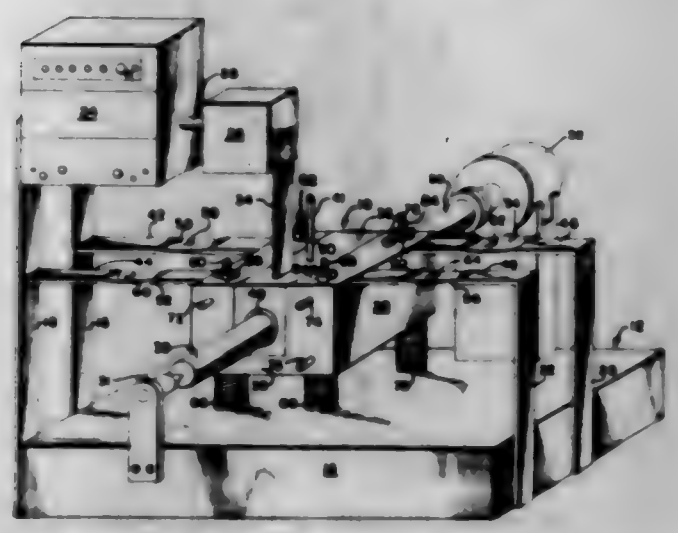
1. A cleaning and dusting machine for an individual skin held in the hands of an operator, said machine comprising an upper cleaning roll, a lower cleaning roll disposed collaterally of the upper cleaning roll with a substantial space between said rolls, a suction chamber extending rearwardly of said rolls, a suction duct extending from said chamber, motor means to rotate the rolls in opposite direction such that the adjacent surfaces move rearwardly toward the suction chamber, the arrangement being such that an operator standing in front of the machine and holding the trailing edge of a skin located between the rolls may raise the skin against the upper roll, or may lower the skin against the lower roll.

3,145,557
CONTACT GAP MEASURING DEVICES
Evert A. Hedlund, 119 Westgate, Winnipeg 1, Manitoba, Canada
Filed Oct. 24, 1960, Ser. No. 64,617
1 Claim. (Cl. 73—1)



A portable device for in situ measurement of contact gaps of a relay having a relatively stationary yoke portion and a relatively movable contact actuating armature portion spaced from said yoke portion, said device comprising an elongated bar-like member forming a handle at one end thereof, a laterally projecting finger provided integrally at the other end of said member and adapted to abut the armature portion of a relay, a block secured to the intermediate portion of said member on the same side thereof to which said finger projects, a plug slidable in said block toward and away from said finger, said plug having a first end in said block and a second end projecting from the block in the direction of the finger, a clamping screw coaxial with and operatively connected to the outer end of said plug, a slotted clamp adapted to receive therein the yoke portion of a relay, said clamp having a screw-threaded aperture receiving said screw whereby the entire device may be clamped into position on the relay in situ when the screw is tightened, and micrometrical adjustment means carried by said block coaxially with said plug and engaging said first mentioned end of the plug for moving the latter and the associated clamp toward and away from said finger.

3,145,558
LUBRICANT TEST APPARATUS
Joseph Borrino, Park Forest, Ill., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed June 24, 1960, Ser. No. 38,520
11 Claims. (Cl. 73—10)

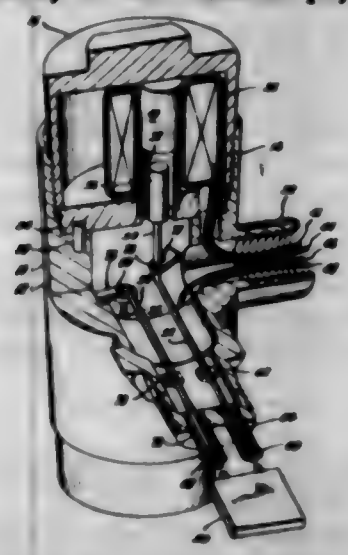


1. A lubricant testing device comprising a stationary base, a body mounted on resilient loading means supported by said base which means when loaded to testing position applies a vertical force to the said body, means attached to said body to substantially prevent horizontal and rotational movement of said body while allowing vertical movement, a shaft which is rotatable about an axis generally perpendicular to the movement plane of said body, means to substantially prevent vertical and horizontal movement of said shaft, a bearing in which said shaft rotates, the bearing being mounted in said body, means for supplying oil to the space between the shaft and the bearing, and means responsive to the vertical movement of said bearing to measure the oil thickness between the said shaft and said bearing.

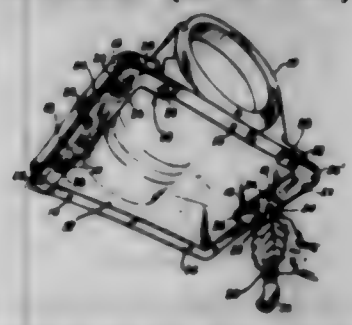
3,145,559
METHOD OF AND APPARATUS FOR DETERMINING PHYSICAL PROPERTIES OF MATERIALS
William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 14, 1959, Ser. No. 859,302
23 Claims. (Cl. 73—32)

1. A method of determining the physical properties of a material comprising, placing a material physical characteristic sensing means connected to one end of each of two vibratory elements into position for contact with

the material, vibrating the free end of one of the vibratory elements at a frequency different from the natural resonant frequency of the material physical characteristic sensing device, and measuring a change in one of the characteristics of vibration of the free end of the second vibratory element thereby indicating a measured physical property of the material.



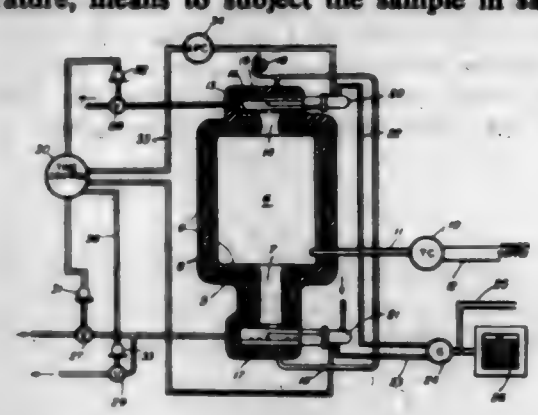
3,145,560
TESTING MEANS FOR AUTOMOTIVE EQUIPMENT
Thomas L. Williams, 32 Stanmore Road, Warwick, R.I.
Filed Jan. 4, 1963, Ser. No. 249,469
10 Claims. (Cl. 73—49.7)



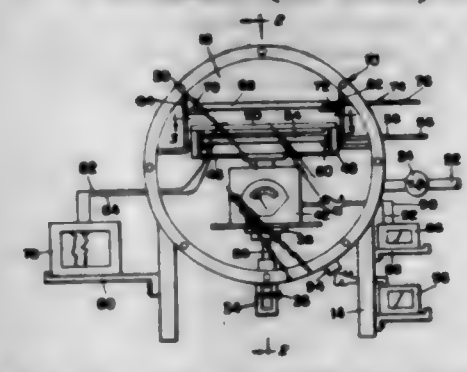
3. Adaptor means for testing the operation of automatic automotive transmissions normally operated by hydraulic fluid transmitted through passages and conduits of different cross-sectional areas and shapes within or upon a housing having a separable valve body assembly and the removal of which exposes open ends of said passages and conduits, said adaptor means comprising a plate-like member having at least two similar nozzle-receiving openings extending therethrough and positioned to communicate with a corresponding number of open ends of said passages and conduits when said valve body assembly is removed from said housing and said adaptor means is connected to said housing, and nozzle means complementary in shape to said receiving openings in said plate-like member and receivable selectively in said openings in relatively gas-tight relationship to permit the application of gaseous fluid under pressure to a selected passage or conduit to cause the operation of part of a transmission connected thereto and permit visual or audio observation of such operation.

3,145,561
APPARATUS FOR DETERMINATION AND CONTROL OF VOLATILITY OF A LIQUID
Kevin N. Thompson, Whitestone, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Aug. 7, 1961, Ser. No. 129,664
3 Claims. (Cl. 73—53)

1. Apparatus for determining the volatility of a liquid at preselected temperature and pressure comprising a closed chamber, means for introducing a sample portion of the liquid to be examined into said chamber, means to subject the sample in said chamber to a preselected temperature, means to subject the sample in said chamber to a preselected pressure, means to sense the ratio of vapor volume to liquid volume in said chamber at said preselected conditions, and means to generate a signal proportional to said ratio.



3,145,562
APPARATUS AND METHOD FOR ASCERTAINING OPTIMUM DRYING CONDITIONS
William H. Hamilton, Philadelphia, Pa., and Manuel E. Fuentevilla, Haddonfield, N.J., assignors, by mesne assignments, to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 18, 1961, Ser. No. 124,964
6 Claims. (Cl. 73—76)

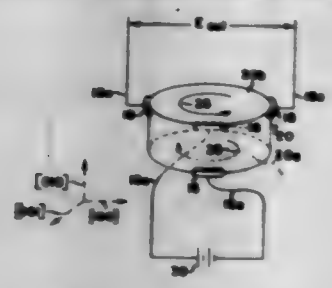


1. Testing apparatus comprising a housing having a chamber therein, a removable portion of said housing hermetically sealed thereto for providing access to said chamber, a tray thermally isolated from and supported within said chamber and adapted to contain specimens, means for vacuum drying specimens adapted to be disposed within said tray, said last-mentioned means including vacuum means for evacuating said housing and heating means for heating specimens contained within said tray, weight responsive means operatively associated with respect to and thermally isolated from said tray for ascertaining the weight of the specimens while they are being dried, means for indicating the temperature of said specimens while they are being dried, means for indicating the temperature of said heating means while the specimens are being dried, and means for indicating the pressure within said chamber while the specimens are being dried, whereby the optimum temperature, pressure and time period for drying substantially any type of specimen may be ascertained.

3,145,563
PIEZORESISTIVE TRANSDUCER EMPLOYING P-TYPE LEAD TELLURIDE (PbTe) AS THE PIEZORESISTIVE MATERIAL
Lewis E. Hollander, Jr., Los Altos Hills, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 11, 1960, Ser. No. 21,308
5 Claims. (Cl. 73—134)

1. Means for measuring shear strain comprising a piece of single crystal p-type lead telluride, a first pair of op-

positely disposed electrodes provided on said piece in a direction substantially parallel to one of the crystal axes thereof, a second pair of oppositely disposed electrodes provided on said piece in a direction substantially parallel to another of the crystal axes thereof, means applying a bias voltage to said first pair of electrodes, said piece and said electrodes thereon being constructed and ar-

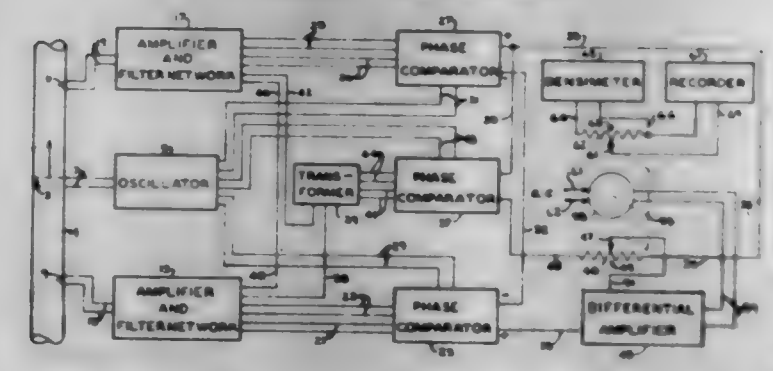


ranged so that the bridge circuit formed thereby is unbalanced by the piezoresistive variations in said piece appearing in response to the applied shear strain being measured, and means connected to said second pair of electrodes for measuring the change in output voltage appearing thereacross in response to the applied shear strain as a measure thereof.

3,145,564
SYSTEM FOR MEASURING CHARACTERISTICS OF FLUIDS

Foster M. Poole, University Park, and Harold T. Westerheim, Garland, Tex., assignors, by direct and mesne assignments, of one-half to Foster M. Poole, University Park, Tex., and one-half to Carl Casey, Dallas, Tex.

Filed Feb. 12, 1962, Ser. No. 172,571
11 Claims. (Cl. 73—194)



1. Apparatus for determining the velocity of a fluid flowing through a conduit comprising:

transmitting means disposed in said conduit for introducing an acoustic signal into the fluid,

receiving means disposed in said conduit and spaced along the axis of flow from said transmitting means for receiving the acoustic signal after passage through the fluid,

phase comparing means responsive to said transmitting means and said receiving means for measuring the phase angle between the transmitted signal and the received signal and producing a first electrical signal having a magnitude proportional to said phase angle,

means for measuring the velocity of propagation of the acoustic signal in the fluid and producing a second electrical signal proportional thereto, and

means responsive to both said first and second electrical signals to provide a representation of the actual velocity of the fluid flowing in said conduit between said transmitting means and said receiving means, said last recited means including:

a potentiometer constituted by a first fixed resistance and a first movable contact,

means for applying the second electrical signal across the first fixed resistance of said potentiometer,

a motor for positioning said first movable contact, and

means for balancing said first electrical signal against the portion of said second electrical signal present across the portion of said first resistance between one end thereof and said first movable contact,

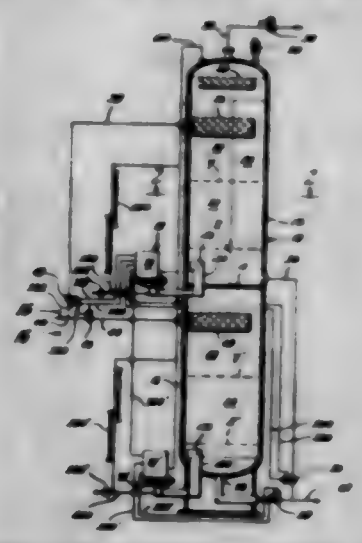
said motor being responsive to said balancing means to actuate said first movable contact until said first signal and said portion of said second signal are balanced,

whereby variations in the first signal caused by variations in said propagation velocity are compensated and the position of said movable contact is representative of the actual velocity of the fluid flowing between said transmitting means and said receiving means.

3,145,565
CONTINUOUS FLOW SEPARATING AND METERING ASSEMBLY

Horace V. Smith and Jack Whiteman, Houston, Tex., assignors to Metrol Corporation, a corporation of Texas

Filed Feb. 18, 1960, Ser. No. 9,504
9 Claims. (Cl. 73—200)



9. A separating and metering assembly for separating liquids and gases and metering the liquids, said assembly comprising a vessel adapted to hold liquid, a substantially horizontal partition secured to and extending across the interior of the vessel dividing the vessel into upper and lower separating and metering containers, a gas outlet in an upper part of each container, an outlet flow line connected to each container at a point on a lower portion of the container, an inlet flow line connected to each container at a point above the connection of the outlet flow line to the container, and flow control means alternately directing fluid to one container through the inlet flow line connected to said container while draining a measured volume of liquid from the other container through the outlet flow line connected to said other container.

3,145,566
METER FOR MEASURING THE RATE OF FLOW BY WEIGHT OF A FLUID

Carlo d'Amelio, Naples, Italy, assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 16, 1959, Ser. No. 799,684
Claims priority, application Italy Apr. 1, 1958
13 Claims. (Cl. 73—230)

6. In a fluid meter for measuring the rate of flow of fluid by weight:

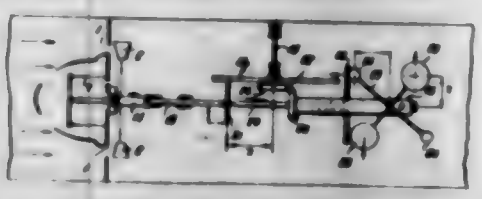
(*a*) a rotatable peripherally bladed rotor rotatable in response to movement of fluid through said blades;

(*b*) means for directing the fluid to be metered through said rotor blades substantially axially of the rotational axis of said rotor including means for causing a

pressure differential proportional to the fluid density in the flowing fluid upstream of said rotor;

(*c*) a rotatable member driven by said rotor and adapted to be connected to means responsive to the rotational velocity of said member for indicating the weight rate of fluid flowing through said meter;

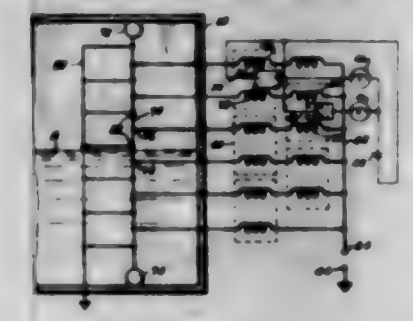
(*d*) a centrifugal governor mounted for rotation with said member about the axis thereof, said governor having a plurality of flyweights movable radially with respect to the member rotational axis;



(*e*) means producing a force having a magnitude substantially proportional to the magnitude of said pressure differential; and

(*f*) means for coordinating said pressure-differential-derived force in opposition to the centrifugal force derived from rotation of said governor to govern the speed of said member in such a manner that the ratio of fluid velocity generated by said pressure differential to the angular velocity of said member is established by the distance of said flyweights from the member rotational axis when the centrifugal force derived from said flyweights and the force produced by said pressure differential are in equilibrium.

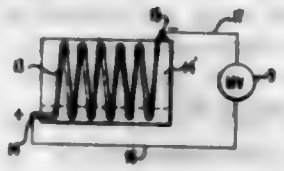
3,145,567
LIQUID LEVEL INDICATOR
Alfred R. Bobrowsky, Florham Park, N.J., assignor to Nuclear Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 17, 1958, Ser. No. 774,391
8 Claims. (Cl. 73—295)



4. Apparatus for detecting the level of liquid in a tank including in combination a support extending generally upwardly in said tank, a conductor helically wound around said support, a plurality of taps connected to said conductor at spaced points within said tank intermediate the length of said support to divide said conductor into a plurality of resistive elements and means connected to said taps for producing a signal in response to a change in the relative resistance of a pair of adjacent resistive elements to indicate the level of said liquid.

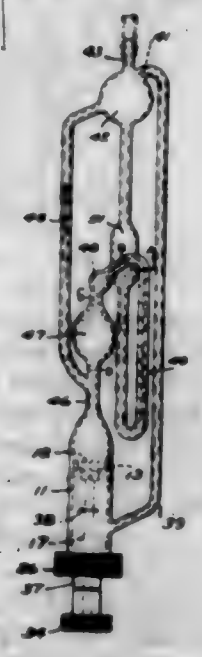
3,145,568
SOLAR RADIATION MEASURING DEVICE
John I. Yellott, Phoenix, Ariz., assignor to John Yellott Engineering Associates, Inc., Phoenix, Ariz.
Filed Aug. 15, 1961, Ser. No. 131,531
4 Claims. (Cl. 73—355)

4. An electric circuit for measuring solar radiation intensity comprising a single, silicon photovoltaic semiconductor cell responsive to variations in intensity of solar radiation, a low resistance element having a negative temperature coefficient connected across the cell to compensate the output thereof from variations due to changing temperatures of the cell during operation, said resistance element having a resistance value on the order of a half an ohm, means to connect the resistance element to said cell in thermal conducting relationship, and a millivoltmeter connected across the resistance element, so that the



short-circuit current of the cell is read in terms of millivolts, said short circuit current being proportional to the intensity of the solar radiation to which the cell is exposed.

3,145,569
OPEN END McLEOD-TYPE GAUGE AND METHOD
Roger Gilmont, Douglaston, N.Y., assignor to Monostat Corporation, New York, N.Y.
Filed Sept. 29, 1960, Ser. No. 59,269
8 Claims. (Cl. 73—400)



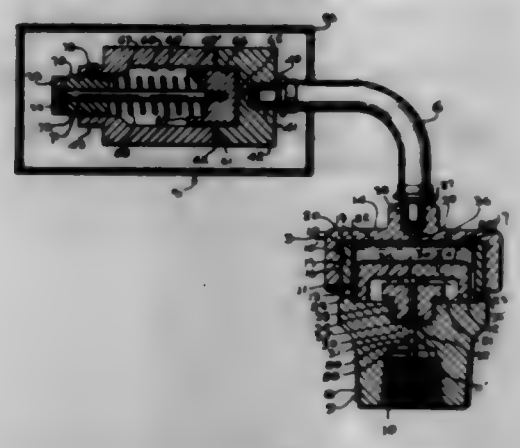
1. In the method of measuring absolute pressure of an attenuated gaseous fluid, the combination of steps which comprises trapping a specific volume of said attenuated gaseous fluid (at its unknown attenuated pressure to be determined) between the opposed meniscuses of two separated portions of a non-volatile and inert compressing liquid confined with said trapped gaseous fluid thus between them in a continuous conduit extending in opposite directions and communicating from each with the source body of said attenuated gaseous fluid whose pressure is being measured; allowing the opposed meniscus of a first one of said separate portions of compressing liquid to be at a lower starting level than the starting level of the exposed meniscus of the second portion of said liquid; exposing both of said opposed meniscuses and the remote meniscus of said second portion of said liquid to the same subatmospheric pressure as that of the source body of said attenuated gaseous fluid; the initial specific volume of the attenuated gas being determined by the respective relative starting locations of the opposed meniscuses; moving the first of said liquid portions in a manner to raise its opposed meniscus toward the opposed meniscus of the second one of them and thereby compressing the gaseous fluid trapped between them and leaving a remote meniscus of each of said compressing liquid portions exposed to said subatmospheric pressure of the source body of said gaseous fluid; continuing such compressing of the trapped gaseous fluid to reduce its volume to a smaller specific

final compressed volume and with resultant depressing of the opposing meniscus of the second liquid portion from its starting level to a lower level for it when the trapped gaseous fluid has been compressed to said compressed volume; and using the difference from the starting level of said meniscus to its thus attained final lower level as an indication of the attenuated pressure of the gaseous fluid when originally trapped.

3,145,570
PRESSURE GAGE

Perry Grundstaff, Oklahoma City, Okla., assignor to Drilling Equipment Manufacturing Co., Oklahoma City, Okla., a corporation of Oklahoma

Filed May 16, 1961, Ser. No. 110,372
4 Claims. (Cl. 73—419)



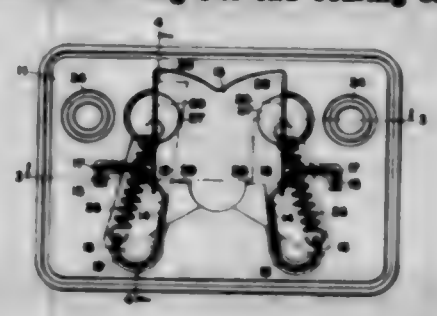
1. A fluid pressure gage comprising, a frame having a dial face secured thereto, a gage pointer mounted on said frame and adapted to visually exhibit a reading on said dial face, a rod axially reciprocally movable with respect to said frame, means operatively connecting said pointer and rod for translating the axial position of said rod with respect to said frame into a dial reading, a piston secured to said rod and adapted to move therewith, means adapted to displace said piston in response to a pressure signal for moving said rod, a collar spaced axially of said piston, means for axially adjustably securing said collar with respect to said frame without rotation of said collar, said collar having an axial bore therethrough for slidably receiving said rod, a helical compression spring acting on said rod, said spring having a plurality of active wire coils surrounding said rod and having one end thereof contacting said piston, a helical groove on said collar and leading axially of said rod, said groove adjustably receiving said coils at the other end of said spring in response to relative rotations between said collar and said spring to change the number of active wire coils extending between said collar and said piston, said means for axially adjustably securing said collar permitting variations in the compression of said spring without alteration of the number of active wire coils on said spring, whereby said gage is adjustable to provide a variation in pointer deflection rate as well as load range.

3,145,571
IMPACT DETECTOR

Wheeler D. Maynard, Menlo, and Kurt W. Abendroth, Rochester, N.Y., assignors to General Signal Corporation

Filed May 15, 1961, Ser. No. 110,128
4 Claims. (Cl. 73—492)

1. A device for detecting excessive acceleration or deceleration on a vehicle comprising a casing, a pair of over center trip mechanisms mounted within said casing, said casing comprising a base member and a cover member each of which is hollowed out and provided with grooves to receive and hold said trip mechanisms, each of said trip mechanisms comprising a substantially C-shaped supporting member, a weighted lever arm and a biasing coil spring, the extending legs of said supporting member lying within said grooves with the end of one leg and the central portion of the supporting member exposed in said hollowed out portions of said casing members and said central portion of the supporting member having a bearing seat located substantially midway thereon, said lever arm having one end bearing on said bear-

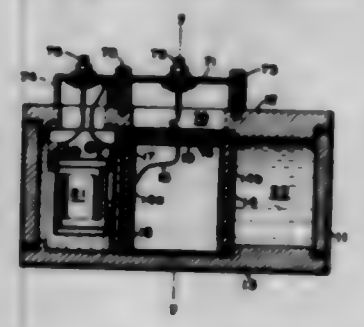


ing seat of said supporting member and having weights mounted on its free end, said coil spring being fastened between said free end of said lever arm and the exposed end of said supporting member, preformed surfaces within said casing to limit the movements of said lever arm to either of its over center positions, said coil spring acting to bias said lever arm in its last operated over center position, and a window in said casing behind which said lever arm is positioned only when tripped in response to excessive acceleration or deceleration of said vehicle.

3,145,572
ROTATION SENSOR

William E. Brindley, Reading, Mass., assignor to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Nov. 24, 1958, Ser. No. 776,136
10 Claims. (Cl. 73—505)



1. In combination in a sensor for detecting rotation, a cylindrical housing capable of reflecting acoustic energy, a liquid medium within said housing, a cylindrical transducer in said medium concentric with and fixed relative to said housing for establishing standing waves within said medium having pressure nodes and antinodes concentric with said cylindrical transducer, and means including a detector within said medium for detecting Coriolis forces associated with said waves as a result of rotation of said housing, said detector being fixed relative to said housing.

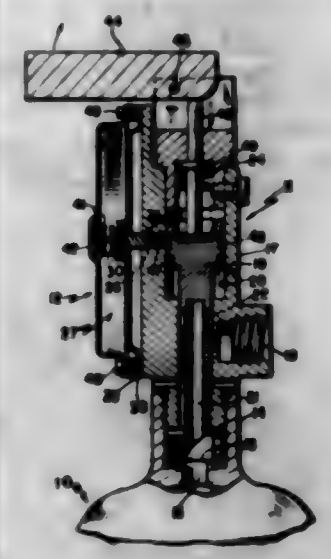
3,145,573
CONTROL HEAD

Lester V. Hohenstreit, Bloomfield, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Dec. 21, 1962, Ser. No. 246,599
6 Claims. (Cl. 74—2)

1. A control head comprising a movably mounted member, means for effecting movement of said member, locking means for engaging and restraining said member against movement, a casing, and a diaphragm mounted in said casing and connected to said locking means to effect movement thereof and to render the same ineffective, said

diaphragm being constructed of material pervious to gas and impervious to liquid and said casing having aperture means at one side of said diaphragm for admitting gas and liquid, whereby said diaphragm is unaffected by



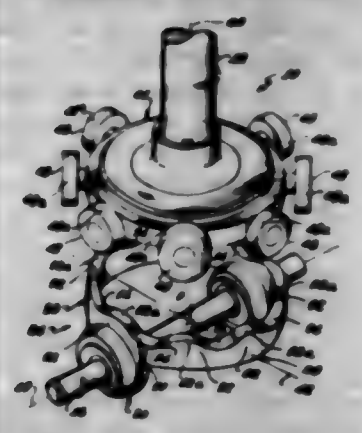
changes in gas pressure but said diaphragm responds to the pressure of liquid entering said aperture means upon immersion of said casing in a body of liquid to thereby render said locking means ineffective.

3,145,574

ROTARY REACTION TRANSMISSION

John S. Morgan, Lynwood, Calif., assignor to Western Gear Corporation, Lynwood, Calif., a corporation of Washington

Filed May 3, 1962, Ser. No. 192,899
8 Claims. (Cl. 74—63)



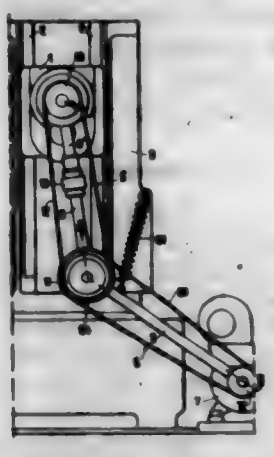
1. A rotary reaction transmission comprising a rotary axially restrained driven shaft, a driven reaction cage fixed on said shaft including a coaxial circular row of first convexly curved, axially facing reaction surfaces uniformly spaced about the axis of said shaft, a driving reaction cage opposite said driven cage including a circular row of second convexly curved, axially facing reaction surfaces uniformly spaced about said axis and axially engaging said first reaction surfaces, respectively, said row of second reaction surfaces being centered on said driven shaft axis and the number of said first reaction surfaces being different from the number of said second reaction surfaces, a driving shaft, and coacting means on said driving shaft and driving cage for driving the latter cage with a compound motion involving a universal wobble motion of the latter cage with respect to the driving shaft approximately about a center along said driven shaft axis and a synchronous oscillatory motion of the latter cage about said driven shaft axis, all in such manner that said second reaction surfaces are successively thrust against successive first reaction surfaces with an axial component of motion generally parallel to said driven shaft axis and with a rotary component of motion in one direction about the latter axis, whereby said driven cage and shaft are driven in one direction of rotation by the interference between the successively engaging reaction surfaces and by the torque exerted directly on the successively engaged first reaction surfaces from their respective engaging second reaction surfaces.

3,145,575

MAIN DRIVES FOR THE TRANSLATORILY DISPLACEABLE WORK SPINDLE OF MACHINE-TOOLS

Reinhold Bellmann, Le Locle, Switzerland, assignor to Dixi S.A., Le Locle, Switzerland

Filed July 19, 1961, Ser. No. 125,274
Claims priority, application Switzerland Sept. 5, 1960
11 Claims. (Cl. 74—228)



1. In a machine tool, in combination:
(*a*) frame means;
(*b*) spindle head means;
(*c*) work spindle means mounted on said head means for rotation about an axis;
(*d*) guide means connecting said spindle head means to said frame means for translatory movement in a radial direction relative to said axis;
(*e*) a drive motor in fixed spatial relationship to said frame means; and
(*f*) motion transmitting means operatively connecting said motor to said work spindle means for actuating said rotation of the latter, said motion transmitting means including
(1) vibration absorbing means interposed between said motor and said work spindle means for absorbing torsional vibrations generated by said motor, and
(2) multiple speed transmission means including
(2_1) an input member operatively connected to said motor,
(2_2) an output member operatively connected to said spindle means,
(2_3) a train of meshing gears, and
(2_4) control means alternatively operative for interposing said gear train between said input and output members, and for directly connecting said input and output members.

3,145,576

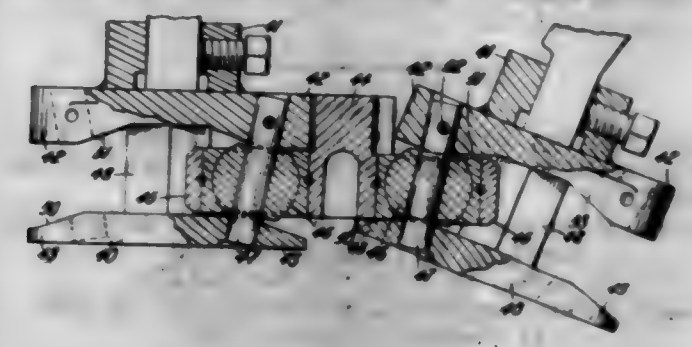
UNIVERSAL JOINT FOR CHAIN LINKS

Sidney Ernest Proctor, High Wycombe, England, assignor to Austin Hoy and Company Limited, High Wycombe, England, a British company

Filed June 14, 1961, Ser. No. 117,237
Claims priority, application Great Britain June 14, 1960
1 Claim. (Cl. 74—246)

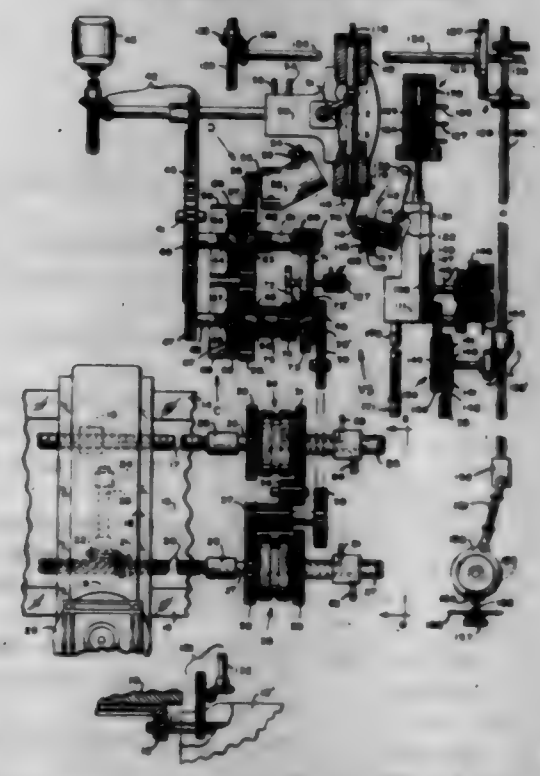
In a coal cutter chain the combination of a first link, a second link and a joint between said first and second links comprising a part spherical socket near an end of said first link, two fork arms spaced apart extending from said second link, a stem extending laterally between said fork arms, inclined to the normal therebetween and ex-

tending through said part spherical socket, a ball member on said stem between said fork arms and within said socket, said first link near said socket extending laterally, said fork arms extending laterally to engage both sides



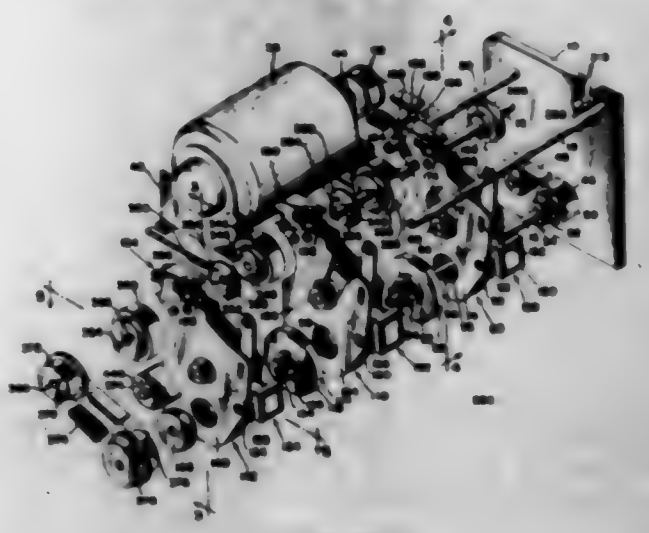
of said first link where it extends laterally so as to prevent relative twisting of the links, said fork arms being bevelled to permit relative bending of said links in a longitudinal plane through said stem as well as relative bending about said stem.

3,145,577
SEMI-AUTOMATIC CONTROL FOR MACHINE TOOLS
Edward P. Bullard III, Cherry Lane, and Edward P. Bullard IV, 220 Birch Road, both of Fairfield, Conn.
Filed Apr. 24, 1961, Ser. No. 104,985
13 Claims. (Cl. 74—335)



1. Apparatus comprising in combination, a member; engageable and disengageable means drivingly connected to said member for moving said member in either direction along a path of travel a plurality of times within a program of operations; control means connected to and movable in response to the movement of said member for terminating the movement of said member along said path of travel comprising a first set of separate presettable means, one for each movement of said member along its path of motion within said program, all of said presettable means being movable in proportion to the movement of said member; a second set of separate presettable means, one for each of the first mentioned presettable means; means for drivingly connecting said second set of presettable means to said first set but such that said second set is driven at a substantially slower speed than said first mentioned set; electrical switches for each corresponding presettable means in each set, wired in series relation with respect to each other; and distributor means connected to said switches for successively connecting said series arranged switches with means for disengaging the means that is drivingly connected to said member for causing the movement of said member.

3,145,578
RECORDER
Richard S. Kampf, Denver, Colo., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 16, 1962, Ser. No. 166,498
14 Claims. (Cl. 74—354)

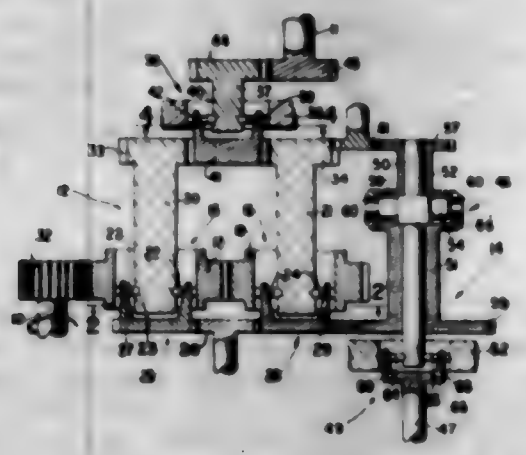


14. A self-lubricating, multi-speed, transmitting apparatus, comprising a first series of units each containing range gears, a second series of units each containing speed gears, a stationary shaft, each of the gears in said units being supported by plates that are pivotally mounted for movement about the statioanry shaft, a second stationary shaft, a first series of gears positioned adjacent one of said units and operably connected to rotate as a single gear on one longitudinal portion of the second stationary shaft, a second series of gears positioned adjacent the other of said units and operably connected to rotate as a single gear on another opposite longitudinal end portion of the last-mentioned stationary shaft, interlocking means connected to each of the units to rotate a selected one of the range gears and a selected one of the speed gear units into engagement with one of each series of gears with which each unit is associated, a driving means for rotating a gear of one of said gear units and the gears of the range and speed gear units, and the first and second series of gears being constructed of glass-filled nylon and substantially four percent molydisulfide material and the gear supporting plate being constructed of an oil-impregnated molydisulfide-filled nylon material.

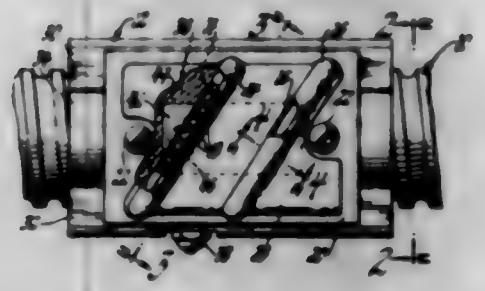
3,145,579
MECHANICAL POWER TRANSMISSION UNIT
William T. Fleming, Roseland, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed July 6, 1961, Ser. No. 122,284
8 Claims. (Cl. 74—388)

4. In a mechanical power transmission unit, the combination of a first rotatable input power member continuously rotated in one direction, a second rotatable input power member continuously rotated in the opposite direction, a first rotatable output power member concentric with said first input power member, a second rotatable output power member concentric with said second input power member, a first wedge member positioned between said first input member and said first output member, a second wedge member positioned between said second input member and said second output member, said first wedge member being pivotally mounted on said first output member to be movable between a first position where-

in said first input member and said first output member are free to rotate relative to each other and a second position wherein said first input and first output members are locked against rotation, said second wedge member being pivotally mounted on said second output member to be movable between a first position wherein said second input member and said second output member are free to rotate relative to each other and a second position wherein said second input member and said second output member are locked against rotation, wedge positioning means for moving said wedge members between said first and second positions in a manner to place one of said wedge members in said first position when the other of said wedge members is in said second position, a control shaft, and controlling means for operatively connecting said control shaft to said wedge positioning means to place one of said wedge members in said second position when said control shaft is rotated in one direction and to place the other of said wedge members in said second position when said control shaft is rotated in the opposite direction and for operatively connecting said output power members to said wedge positioning means to drive said wedge members from said second position to said first position when the rotation of said control shaft is stopped.

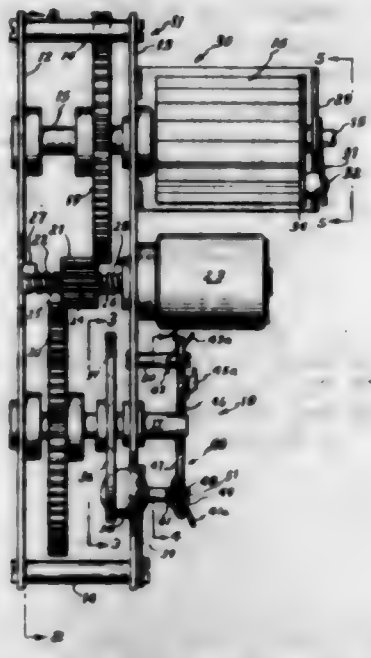


3,145,589
BALL BEARING NUT AND SCREW ASSEMBLY
David A. Galonska and George A. Widmoyer, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 29, 1963, Ser. No. 254,787
7 Claims. (Cl. 74—459)



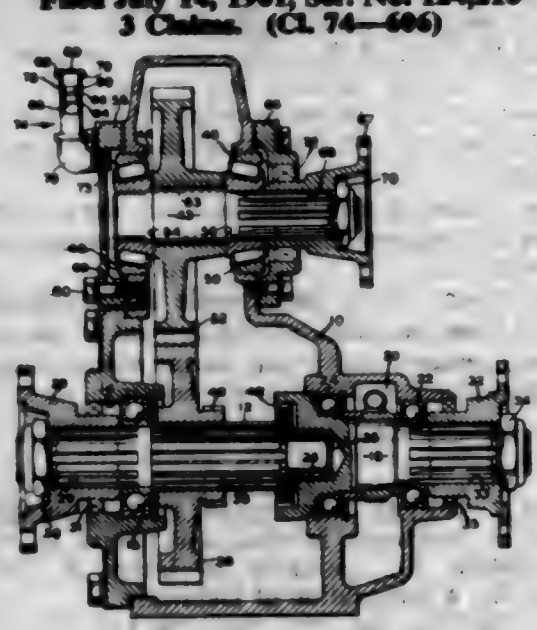
1. A ball nut and screw assembly comprising, a screw having an internal helical groove, a nut circumjacent said screw having an internal helical groove, said grooves mating with each other to provide a race having terminal ends, a train of balls loaded in said race to provide a driving connection between said nut and screw, ball return means secured to said nut providing a confined path for returning the balls from one terminal end to the other terminal end of said race and lubricating means secured to said nut and arranged to cooperate with said ball return means to provide said confined path and to lubricate the balls being returned by said ball return means.

3,145,581
POWER TRANSMISSION MECHANISM
Ray B. Schrecongost, Park Ridge, and Reuben C. Carlson, Bensenville, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 16, 1961, Ser. No. 88,564
8 Claims. (Cl. 74—472)



1. In a mechanism for selectively coupling a bidirectional driving member to either of two driven members, a spirally grooved drive shaft selectively rotatable in clockwise and counterclockwise directions, follower nut means mounted on said drive shaft and axially movable therealong between two predetermined positions, said nut means being urged into one of said positions during clockwise rotation and into the other of said positions during counterclockwise rotation, stop means for limiting the axial movement of said nut means between said two predetermined positions, said nut means having means extending therefrom for engagement with said stop means, first utilization means rotationally coupled to said nut means when said nut means is in one of said positions, and second utilization means rotationally coupled to said nut means when said nut means is in the other of said positions.

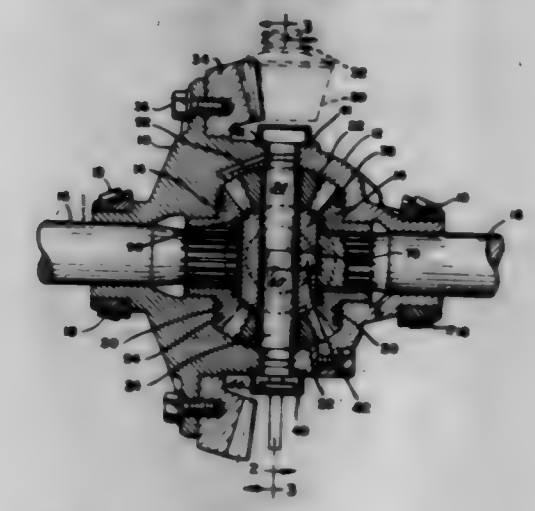
3,145,582
POSITIONABLE BREATHER FOR A GEAR CASE
Robert W. Wagner, Chelsea, Mich., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed July 14, 1961, Ser. No. 124,218
3 Claims. (Cl. 74—606)



1. The combination with a transmission having a housing with an axially extending axis and being rotatable

about said axis to assume a plurality of operative positions and having lubricant therein the level of which assumes various positions as said housing is rotated about said axis and having an axially extending opening therein at least a portion of which is adapted to be maintained above the lubricant level when said housing is in its various positions, of cover means for said opening, breather means positioned eccentrically in said cover means, symmetrically arranged attaching means for attaching said cover means to said housing for covering the opening therein, said cover means being adapted to be rotated and attached to said case in a plurality of positions whereby said breather means may be positioned in a plurality of positions relative to said case and disposed above the lubricant level.

3,145,583
DIFFERENTIAL
Herman C. Frentzel, % Frentzel Engineering Company, 125 W. Melvina St., Milwaukee 12, Wis.
Filed Aug. 22, 1962, Ser. No. 218,707
13 Claims. (Cl. 74—711)



1. A differential comprising,
a housing mounted for rotary motion and adapted to contain oil,
a pair of axles extending into said housing,
driven gears positioned within the housing and secured to the axles,
a tubular spindle carried by the housing,
pinion gears rotatably mounted on the spindle and meshing with the driven gears,
a single block positioned on the spindle within the confines of the pinion gears and driven gears and defining areas of engagement and disengagement between the teeth of the pinion and driven gears whereby the meshing of each driven gear with a pinion serves as a gear pump drawing oil into the area of disengagement and delivering oil at the area of engagement,
passage means in the housing and block connecting areas of engagement and areas of disengagement with the spindle,
control means within the spindle for regulating flow of oil from the areas of engagement to the areas of disengagement, and pump means within the spindle for maintaining oil within the housing.

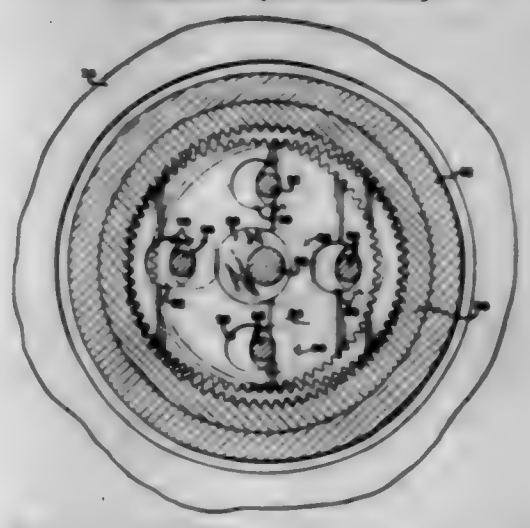
3,145,584
VARIABLE SPEED REVERSIBLE TRANSMISSION
Raymond H. Fairbank, Moline, and Yngve O. Carlson, East Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 26, 1962, Ser. No. 168,971
7 Claims. (Cl. 74—722)

1. A variable-speed reversible transmission, comprising: an input shaft; first and second countershafts parallel to and spaced respectively to opposite sides of the input shaft; first and second output shafts respectively adjacent to and paralleling the first and second countershafts; first forward-reverse drive means interconnecting the first countershaft and first output shaft; second forward-reverse drive means interconnecting the second countershaft and second output shaft; first and second variable-speed drive means respectively independent of the two forward-reverse drive means and connecting the input shaft respectively to the first and second countershafts and including first and second similar variable-speed sheaves coaxially connected to and driven by the input shaft,



first and second countershaft sheaves respectively coaxially fixed to the first and second countershafts, and first and second belts trained respectively about the input shaft and countershaft sheaves; a single first control means connected to and for simultaneously and similarly adjusting the input shaft sheaves irrespective of the status of the two forward-reverse drive means so as to cause like variations in the speeds of the countershafts; and a single second control means connected to and for simultaneously and reversely adjusting the input shaft sheaves irrespective of the status of the two forward-reverse drive means so as to inversely vary the speeds of the countershafts.

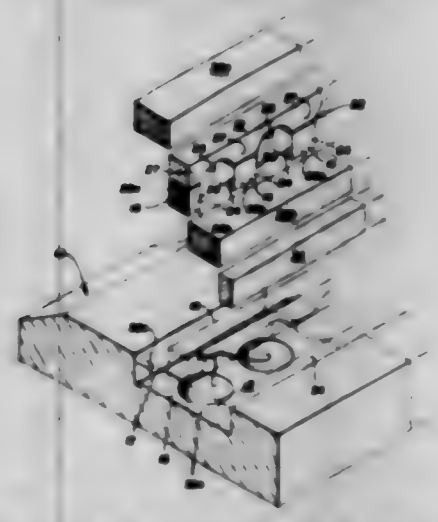
3,145,585
EPI-CYCLE GEAR TRAIN FOR FLOOR POLISHER MOTOR
Steffen S. Brown, Dayton, Ohio, assignor to The Brown-Brockmeyer Company, Dayton, Ohio, a corporation of Ohio
Filed Oct. 18, 1962, Ser. No. 231,350
8 Claims. (Cl. 74—805)



1. In a geared speed reducing drive; a non-rotatable frame member, a housing supported on said frame member for rotation on the central axis of the housing, an internal gear in said housing concentric with said axis, external gears inside said internal gear eccentrically located relative to said axis and meshing with said internal gear, each external gear having a central bore and circumferentially spaced holes located radially outwardly from the said central bore therein, frame elements in said housing on opposite sides of said external gears, studs inter-

connecting said frame elements and extending through the said holes in said external gears, a shaft journaled in said frame elements and extending through the said central bores in said external gears, eccentrics on said shaft fitting said central bores of the said external gears, and means fixedly connecting said frame elements to said frame member to hold the frame elements and the said studs and therefore said external gears against rotation relative to said frame member.

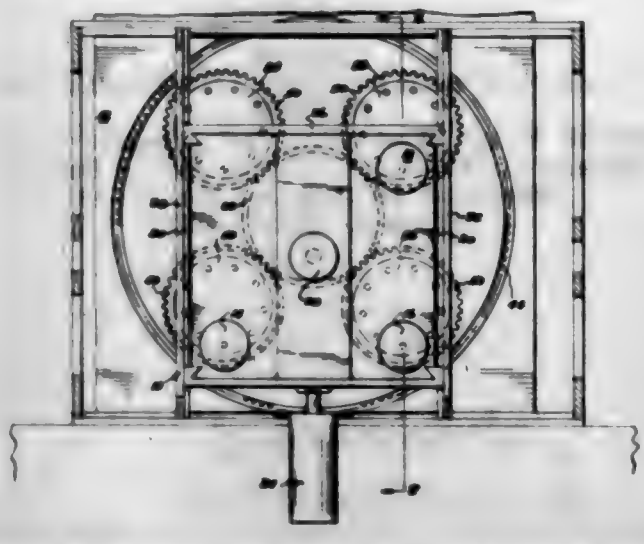
3,145,586
PROCESS FOR MAKING A TUNGSTEN CARBIDE DIE
Donald W. Brearley, Vestal, N.Y., and Donald K. Rex, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 19, 1961, Ser. No. 161,341
4 Claims. (Cl. 76—107)



1. The method of producing a die having shearing surfaces formed by a hard metal such as tungsten carbide, which comprises forming an aperture in a base of a softer metal than said hard metal, securing a pair of blocks of said hard metal in spaced relation onto a bar of a softer metal than said hard metal, grinding the confronting end surfaces of said blocks to produce an interval of precisely predetermined size, placing the resultant component onto said base with said blocks thereof resting upon said base at opposite sides of said aperture thereof, placing bars of said hard metal onto said base at opposite sides of and in close contact with said blocks, securing said component and said bars permanently in their proper positions and removing the bar of said component.

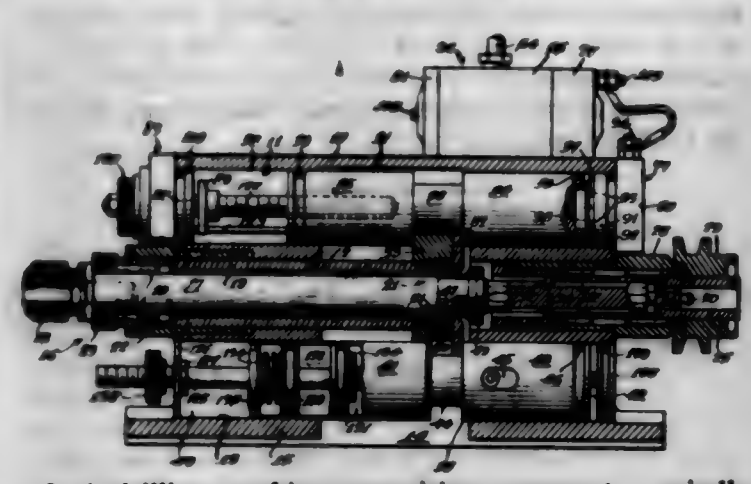
3,145,587
MULTIPLE STATION MACHINE
Llewellyn A. Hanton, 16918 Littlefield, Detroit 35, Mich.
Filed Feb. 15, 1963, Ser. No. 173,579
8 Claims. (Cl. 77—32.2)

1. A machine of the type described, comprising:
a plurality of cutting tools having parallel axes and being rotatable about said axes, said tools being disposed at equally spaced points about the circumference of a first imaginary circle lying in a first plane;
a plurality of rotatable chucks disposed at equally spaced points along a second imaginary circle lying in a second plane parallel to said first plane, said second circle being equal in diameter to said first circle, the axes of said chucks extending perpendicularly to said planes, the distance between the axes of adjacent chucks being equal to the distance between the axes of adjacent tools, and the axis of each of said chucks being laterally displaced from the axis of the corresponding cutting tool when said chucks and tools are disposed in cutting position;
means for rotating said tools;
means for incrementally rotating each of said chucks about its central axis;



means for achieving relative rotational motion between said tools and said chucks whereby said tools are disposed in operating position before successive chucks;
and means for achieving relative motion between said tools and said chucks in the direction parallel to the extension of said tools.

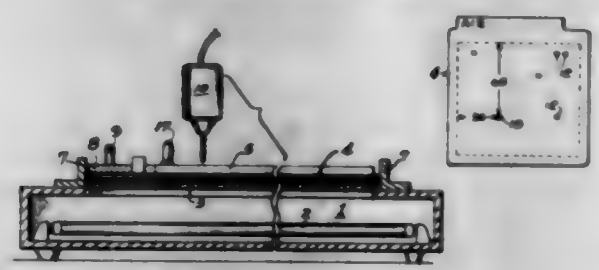
3,145,588
DRILLING MACHINE WITH A FLUID PRESSURE FEED MOTOR
Don R. King, Milwaukee, Wis., assignor to Precise Products Corporation, Racine, Wis., a corporation of Wisconsin
Filed Aug. 28, 1958, Ser. No. 756,134
7 Claims. (Cl. 77—33.5)



6. A drilling machine comprising a support, a spindle member rotatable and longitudinally slidable in said support, a first means operatively associated with the spindle member for imparting rotation to the spindle member on its long axis, one end of the spindle member being adapted to mount a drill axially thereof, a collar fixed around the spindle member and having a hub portion thereof in engagement with the spindle member, a cylinder mounted on the support and extending parallel to the spindle member, the wall of the cylinder having a slot formed therein, a piston member in the cylinder and having a circumferential groove therearound, the collar extending through said slot and having a rim portion thereof in engagement with the groove in said piston member whereby movement of the piston member axially in the cylinder will impart axial movement to the spindle member, said spindle member being rotatable with respect to the collar, fluid passage means communicating with the cylinder for introducing fluid pressure behind the piston member to move the piston member in the direc-

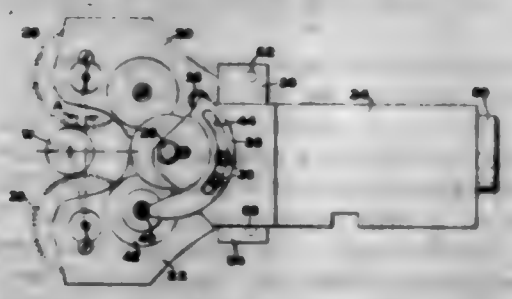
tion of said one end of the spindle member, and further means operatively associated with the support and with the piston member to urge the piston member in an opposite direction.

3,145,589
COMBINED DRILL GUIDE AND INSPECTION DEVICE
Frederick Jonker, Washington, D.C., assignor to Jonker Business Machines, Inc., a corporation of Delaware
Filed Mar. 14, 1961, Ser. No. 95,640
3 Claims. (Cl. 77—62)



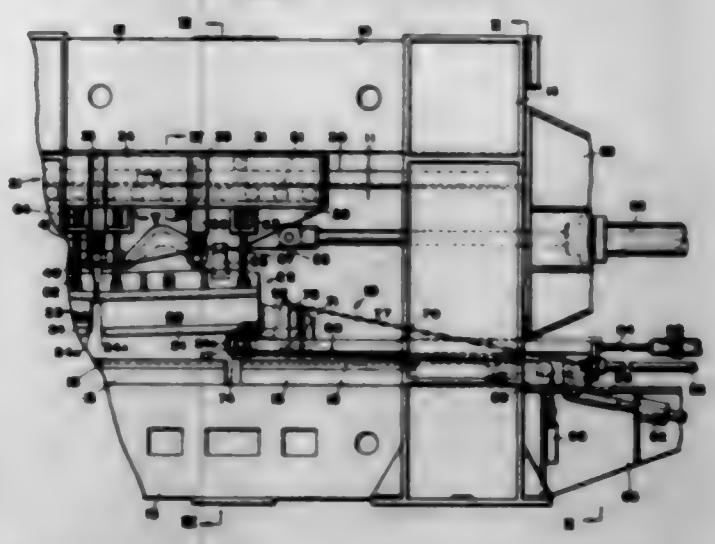
1. A combined drilling guide and inspection read-out device for systems of the perforated matrix card type, comprising a support for holding a plurality of superposed matrix cards in edge wise alignment, and card locating formations carried by said support; a rigid bar extending adjacent and parallel to one of said locating formations along one lateral edge of said support, means defining a row of tooth-like serrations fixed on said bar and extending parallel to its length, a cursor slidably mounted for motion along said bar and having an arm extending perpendicular to said bar substantially across said support, and a retractable toothed element on said cursor for selective engagement with said serrations to establish the position of said cursor along said bar; one longitudinal edge of said cursor arm being provided with spaced semicircular indentations along its length and a numerical scale corresponding to said indentations to provide a precise numerical position read-out for card perforations occurring along the edge-line of said arm; and a row of circular drill-guiding holes parallel to said edge of said arm and inward thereof, each hole being aligned with one of said indentations and with the subdivisions of said scale.

3,145,590
PROFILE ROLLING ATTACHMENT
Frederic Neil, Waynesboro, Pa., assignor to Landis Machine Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1959, Ser. No. 803,531
9 Claims. (Cl. 80—6)



1. Apparatus for rolling splines or like formations on a cylindrical work piece by movement laterally onto said workpiece comprising a support, a pair of frame sections pivotally carried by said support, a die rotatably carried by each of said frame sections, said dies having appropriate surface configurations for forming said splines or like formations on said work piece, means operatively connected to said dies for maintaining said dies in predetermined angular relation, adjustable abutment means carried by the frame sections for limiting the relative pivotal movement of said frame sections in one direction to thereby determine the maximum spacing between said dies, a toggle mechanism operatively connected to said frame sections and adapted when moved in one direction to move said frame sections together to decrease the spacing between said dies, spring means resiliently urging said toggle mechanism in said one direction, said toggle mechanism having a part engageable with said support to limit the extension of said spring, and means for adjusting the relative spacing of said dies when said spring is at its fully extended position and said part is engaged with said support.

3,145,591
LEAF SPRING TAPERING APPARATUS
Frank R. Krause, 1503 Highland Ave., New Castle, Pa.
Filed Oct. 6, 1958, Ser. No. 765,656
10 Claims. (Cl. 80—19)



1. Apparatus for tapering the end portions of elongated leaf springs and the like comprising a rigid frame having an opening therein, an elongated anvil die extending along one wall of said opening and adapted to support an elongated metal blank, a track on said frame extending along an opposite side wall of said opening in generally parallel relation to said anvil die, said track having a surface facing away from said anvil die and another surface facing said anvil die, a carriage mounting a plurality of anti-friction rollers for engaging said outwardly facing surface of said track and said carriage also including an elongated member having a flat surface facing the second mentioned surface of said track, an assembly comprising an open frame mounting a plurality of force transmitting rolls which are interposed between the facing surfaces of said track and carriage, a cam member adjustably and pivotally mounted on said elongated member and having its camming surface facing said anvil die, power means to move said carriage longitudinally along said track, and a reducing roll mounted for contact both with said cam face and with the blank held in said die to roll down said blank upon longitudinal movement of said carriage.

3,145,592
REPAIR PLUG APPLICATOR FOR TUBELESS TIRES
Thomas H. Kline, 1344 E. 14th St., Apt. E, Santa Monica, Calif.
Filed Feb. 17, 1961, Ser. No. 90,016
6 Claims. (Cl. 81—15.7)

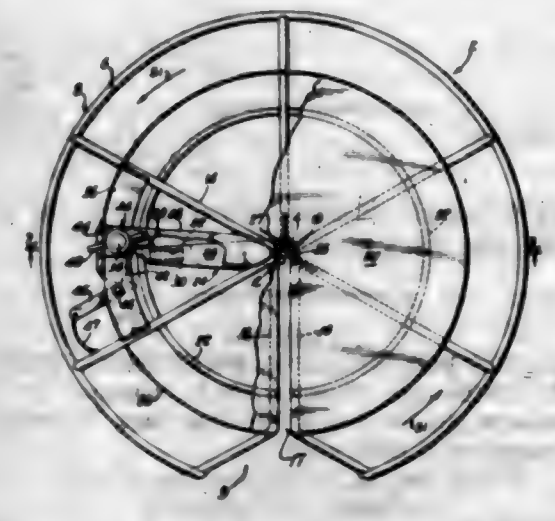
1. A repair plug applicator for tubeless tires and the like: a tubular housing having a bore therein closed at one end by a housing end wall and open at the opposite end, said housing having a transverse opening therethrough intermediate the ends thereof and an axial opening in said end wall; a rounded wall and end walls defin-

ing a chamber at the outer side of said transverse opening, one end wall of said chamber having a shaft opening therethrough and the other end wall having a relatively larger opening coaxial with the shaft opening; a radially extending annular flange at the closed end of the housing, said flange having a recess therein; a plunger movable longitudinally in the interior passage of said tubular housing, said plunger having an axial passage therethrough and having teeth along one side defining a rack, the outer end portion of said plunger having a notch extending from the free end and from one side, said notch having the inner side arcuate, the arcuate part of said notch having its radius based on the axis of said plunger, said notch having an enlarged inner end portion for removable reception of the head of a sealing plug tube, the smaller part of said notch being adapted to removably receive an adjacent portion of said tube; a pressure rod in said housing having its inner end secured in the axial opening in the end wall of said housing and extending axially in said housing and in the plunger passage for entrance into the enlarged part of said notch when the plunger is moved inwardly to a predetermined position; means for longitudinally actuating said plunger including a rotatable member having a pinion gear at one end operably mounted in said chamber and transverse opening with its teeth meshing with the teeth of said rack; a stub shaft at the free end of said gear, said shaft being operably mounted in the first mentioned opening in an end wall of said chamber, said rotatable member being received in the large opening in the opposite end wall of said chamber; a boss at the outer end of said member and of greater diameter, said boss having a diametrical opening therethrough; means on said shaft releasably locking said rotatable member in the chamber; a rod slidable in the diametrical opening in the boss, said rod having a reduced end portion removably receivable in the recess in the flange of said housing, an annular groove adjacent the other end of the rod, and an annular groove intermediate said ends; a latch member in said boss releasably receivable in said grooves; and a spring urging said latch member toward said diametrical bore in the boss.



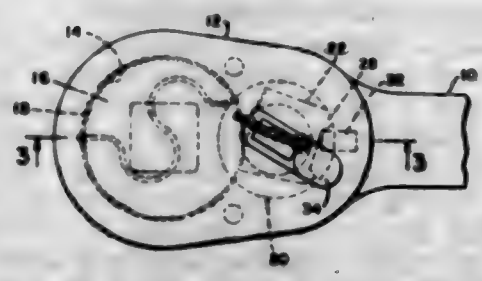
3,145,593
IMPACT WRENCH DEVICE UTILIZING THE TORSIONAL STRAIN OF THE WORKPIECE
Howard C. Humphrey, Liberty, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 10, 1961, Ser. No. 94,866
4 Claims. (Cl. 81—52.3)

1. A tool for loosening an element resisting rotative movement comprising in combination a wheel axially rotatable about said element, a wrench member including a gripping means positively engageable with said element, retaining means associated with said wheel for engaging said wrench member and imparting rotation thereto upon rotation of said wheel when said wrench member is engaged, and means for disengaging said wrench member from said retaining means to permit rotary movement of said wrench member independently of said wheel, and means for suddenly stopping the rotary movement of said



wrench member thereby imparting a rotary jarring action to said element.

3,145,594
RATCHET WRENCH
Edwin E. Peters, Schaefferville, Pa., assignor to Bonney Forge & Tool Works, Allentown, Pa., a corporation of Pennsylvania
Filed Dec. 28, 1962, Ser. No. 247,935
8 Claims. (Cl. 81—63)

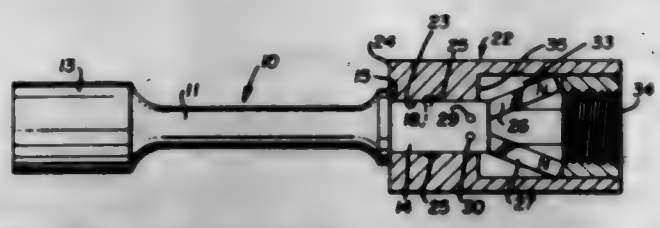


1. A reversible ratchet wrench, comprising a handle secured to an operative head having an interior cavity, a cylindrical ratchet mounted rotatably within said cavity, said ratched having a plurality of ratchet teeth on its periphery and being secured to a work piece engaging member projecting to the exterior of the head, a movable pawl having a plurality of teeth adapted to cooperate with the ratchet teeth to limit the movement of the ratchet to selectively reversible uni-directional rotary movement, a shift plate mounted movably adjacent to the pawl, an exterior angularly movable shift lever connected to the shift plate for manual shifting thereof, and an elongated spring extending between and engaging opposite sides of the shift plate and connecting said plate to a projection on the pawl, whereby the pawl is mounted for floating movement with its teeth constantly maintained in resilient engagement with the ratchet teeth and the angular movement of the shift lever imparts corresponding shifting movement to the pawl through the spring connection therewith.

3,145,595
SOCKET WRENCH HAVING MAGNETIC NUT-HOLDING MEANS
Robert J. Mauck, 36 N. Union Ave., Alliance, Ohio, assignor of one-half to Dr. Robert V. Fisher, Carrollton, Ohio
Filed Aug. 15, 1963, Ser. No. 302,303
5 Claims. (Cl. 81—125)

1. A driver for a socket or the like having a fastener receiving recess in one end thereof communicating with a drive connector recess on the other end thereof, said driver having a drive connector for operative insertion within said drive connector recess, at least one pair of

magnets, pivotal means for securing the magnet to said drive connector in adjacent relation with each other and



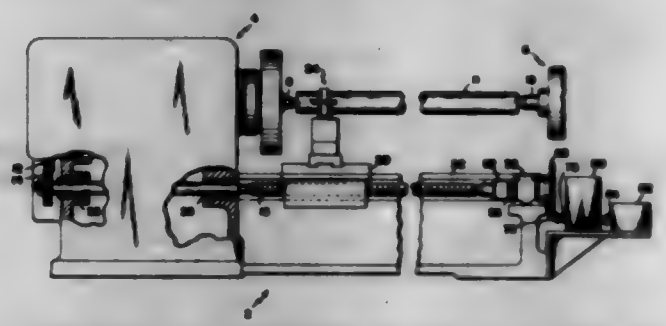
extending forwardly of said drive connector, the polarity of said magnets being parallel.

3,145,596

APPARATUS FOR MAKING PRECISION THREADS

Archie J. Brilliantine, Trenton, N.J., assignor, by mesne assignments, to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware

Filed Jan. 12, 1961, Ser. No. 82,262
4 Claims. (Cl. 82—5)



1. Apparatus for machining threads in a work piece comprising a machine tool having means for supporting the work piece, a carriage for a tool to machine the threads and a lead screw for advancing said carriage to cause machining of the threads, means operable in response to advancement of said carriage axially adjusting said leading screw through definite set amounts to compensate for errors in the lead of said screw, said means for axially adjusting said lead screw including a thrust bearing for said leading screw for carrying loads in either axial direction and a movable member cooperable with said thrust bearing to move the same along said lead screw axis, said thrust bearing movement causing a corresponding movement of said lead screw, means for moving said member including a reversible motor having an output shaft rotatable in either direction and means for moving said member to cause lead screw axial movement in one sense in response to rotation of said shaft in one direction and to cause lead screw movement in the opposite sense in response to rotation of said shaft in the opposite direction, said last-mentioned means including a threaded mounting for said member and an operative connection between said shaft and said member for rotating said member within said mounting, said motor being a constant speed motor, and means for intermittently energizing said motor to cause step-by-step compensation of said lead screw error.

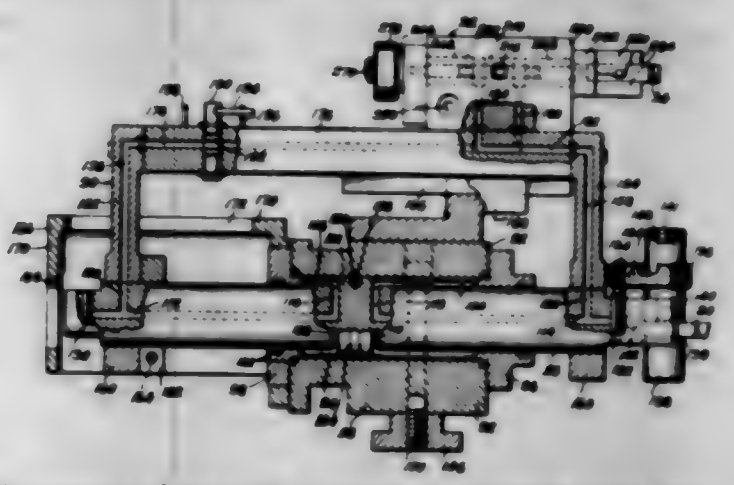
3,145,597

HYDRAULICALLY OPERATED TRACER ASSEMBLY FOR ENGINE LATHES

Clarence W. Tydeman, Thumath, Colo., assignor to Tydeman Machine Works, Inc., Redwood City, Calif., a corporation of California

Filed Apr. 6, 1961, Ser. No. 101,297
8 Claims. (Cl. 82—14)

1. A tracer attachment for mounting upon the carriage of a lathe bearing a template and workpiece, said tracer attachment comprising: a stylus adapted to be borne in contiguous relationship with the template, an hydraulically operated control valve intimately associated with the stylus and responsive to reciprocal movement imparted to the stylus, for reciprocal movement therewith, biasing means urging said control valve toward said stylus, and urging said stylus towards the template, an hydraulically operated double-acting piston for reciprocal movement in response to said movement of the control valve, composed of a head and quill, said quill having on each side of the head an axial fluid passage and at least two radial fluid passages, being a head side passage and a tail side passage, for ingress to and egress from said axial fluid passage to a side of the head, a housing for the control valve, a housing for the piston, a cutting tool detachably carried at one end of the quill, a bridge mounted upon the quill at the other end thereof and at said one end thereof behind the cutting tool, bridging the housing for the piston and mounting the housing for the control valve, bridge fluid passage means for hydraulic fluid communication between the housing for the control valve and each tail



side passage of the quill, a source of hydraulic fluid pressure and reservoir therefor, hydraulic fluid intake and exhaust means for the housing for the control valve respectively connected to said source and said reservoir, an hydraulic fluid circuit interconnecting both housings, the bridge fluid passage means and each said axial and radial fluid passages to the source and reservoir; wherein hydraulic fluid under pressure directed initially from the source to the hydraulic fluid intake means for the housing for the control valve, adjacent said control valve, is caused to be fed to the housing for the piston via the circuit for pressure engagement with either side of said head in response to substantially identical movement of the control valve thereby to advance or retract the cutting tool with respect to the longitudinal axis of the workpiece in conformity with the template and thereby to force residual hydraulic fluid on the opposite side of said either side of the head to the reservoir.

3,145,598

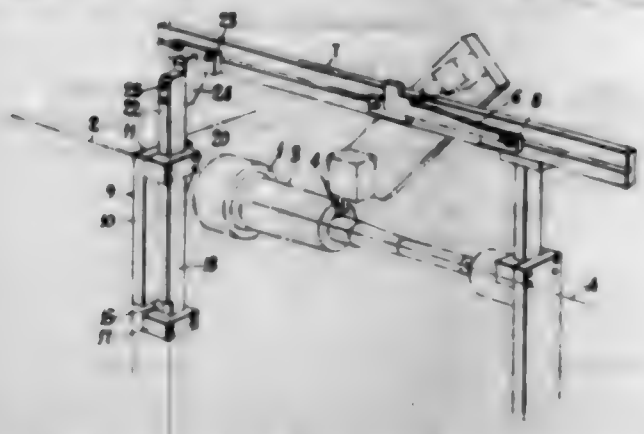
SUPPORT

Constantine F. Cafolla, Waterloo, N.Y., assignor to Seneca Falls Machine Company, Seneca Falls, N.Y.

Filed May 25, 1961, Ser. No. 112,581
5 Claims. (Cl. 82—14)

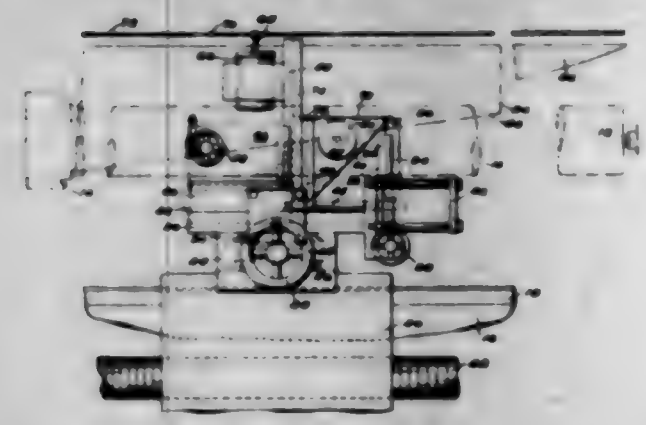
1. Support means for maintaining a predetermined spaced relation between a first machine tool part and a second machine tool part during changes in ambient temperature comprising, a first elongated mounting member secured adjacent one end portion thereof in fixed relation to said first machine tool part, said first mounting member having an opposite end portion free to expand and contract linearly, a second elongated mounting member secured adjacent one end portion thereof in fixed relation to said opposite end portion of said first mounting member for movement therewith during expansion and contraction thereof, said second mounting member extending from said one end thereof generally toward said one end portion of said first mounting member and having an opposite end portion free to expand and contract linearly

relative to said first mounting member, the relative lengths and coefficients of linear expansion of said first and second mounting members being balanced whereby expansion of said first mounting member is countered by the expansion of said second mounting member upon a rise in ambient temperature, and means securing said second machine tool part to said opposite end portion of said second mounting member for being supported thereby, together with a first



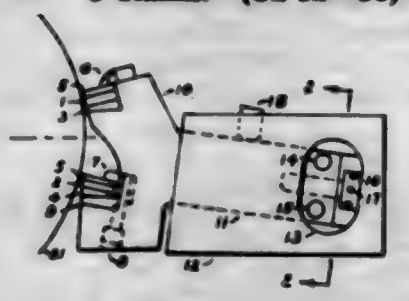
guide member fixed relative to said first machine tool part and slidably engaging said first and second mounting members adjacent said one end portion of said second mounting member, and a second guide member fixed relative to said first mounting member adjacent said one end thereof and slidably engaging said second mounting member, said guide members constraining said mounting members against lateral movement while enabling linear expansion thereof.

3,145,599
METHOD AND MACHINE FOR CUTTING THREADS OF VARYING PITCH
Leo F. Doran, Clawson, Mich., assignor to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Michigan
Filed June 15, 1962, Ser. No. 202,736
5 Claims. (Cl. 82—14)



1. In a machine or cutting a thread, the lead of which varies along the axis of the thread, the combination comprising a base, means on the base for supporting a workpiece to be threaded and for rotating the workpiece about a horizontal axis, a carriage on said base, means for moving the carriage horizontally on the base in a direction axially of the rotating workpiece and at a uniform rate in timed relation to the speed of rotation of the workpiece so that the carriage moves lengthwise of the thread to be cut at a rate corresponding to the initial lead of the thread to be cut, a cross slide on said carriage and movable horizontally thereon in a direction normal to the direction of travel of the carriage, a support member mounted on the cross slide for movement horizontally in a direction parallel to the path of movement of the carriage, a cutting tool on said support member, a hydraulic cylinder interconnecting the cross slide and said support member for moving the support member on said cross slide in said direction parallel to the path of movement of the carriage, a template on said base having a tracing edge extending generally in a vertical plane and lengthwise of the thread to be cut, a vertically movable slide on said support member, a tracer mounted on the vertical slide and having a stylus extending generally horizontally and adapted to follow the tracing edge of the template, said tracer being operably connected with said cylinder to move the support member together with the vertical slide on the carriage in said parallel direction and said tracing edge having a smooth, continuous contour for gradually and progressively changing the position of the support member and the vertical slide on the carriage, whereby as the carriage travels axially of the workpiece at said uniform rate, the cutting tool cuts a thread on the workpiece, the lead of which varies in accordance with the relative movement between the support member and the carriage in the direction of the carriage travel, said vertical slide having a straight cam edge extending in a vertical plane and inclined to the horizontal at an angle of less than 90°, said cross slide having an abutment thereon adapted to engage said cam edge such that relative horizontal movement between the support member and the cross slide produces sufficient vertical movement of the vertical slide to maintain the tracer stylus in contact with said tracing edge.

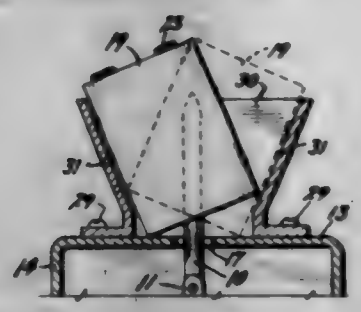
3,145,600
TANDEM LATHE TOOLS THAT ADJUST THE THICKNESS OF THE CHIP BY ROTATING
Carlise M. Sweet, 1000 E. Montana St., Milwaukee, Wis.
Filed July 15, 1960, Ser. No. 43,218
8 Claims. (Cl. 82—36)



1. A lathe turning tool, comprising a tandem tool holder that has a cutting element holder that can rotate, said cutting element holder having a shank that can be rotated about its longitudinal axis, said cutting element holder having at least two cutting elements mounted one above the other, said cutting element holder having means of holding said cutting elements substantially the same distance from the lathe's center of rotation at the correct angle for cutting, at least one of said cutting elements being offset from the cutting element above it in the direction the cutting elements move when cutting whereby said cutting elements will cut adjacent helical sections from the workpiece when the proper lathe feed is used, and mechanical means of rotating said shank about its longitudinal axis to offset said lower cutting element from the cutting element above it in a direction the cutting elements move whereby the lathe feed can be divided substantially equally between the cutting elements or one cutting element can be adjusted to cut a thick chip and another cutting element can be adjusted to cut a thin chip.

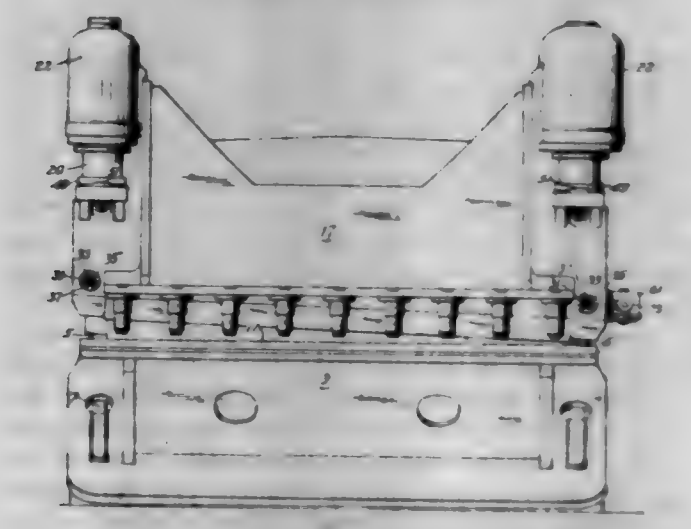
3,145,601
MEANS FOR FORMING A SOAP-RECEIVING CAVITY IN A SPONGE
Michael R. McDunnal, 4840 E. Kentucky Circle, Denver 22, Colo.
Filed Apr. 16, 1962, Ser. No. 187,771
1 Claim. (Cl. 83—1)
Means for medially cavitating a sponge comprising:
(*a*) a table plate;

(*b*) a knife blade of greater width than thickness extending through and projecting vertically upward from said table plate;
(*c*) means for vertically reciprocating said knife blade;
(*d*) a rectangular, open-topped guide sleeve fixedly mounted upon said table plate, said guide sleeve having relatively wide, parallel side walls equally spaced from and parallel to the sides of said knife blade and relatively narrow end walls equally spaced from the edges of said knife blade; and



(*e*) an open-bottomed sponge containing box positioned on said table plate about said knife blade and between said side walls and in spaced relation to said end walls so that it may be manually moved on said table top guided by said side walls and between the confines of said end walls to form a medial cavity of greater width than said blade in the lower extremity of said sponge, said end walls being inclined away from each other as the top of said sleeve is approached to allow the upper portion of said box to be moved a greater distance than the lower portion thereof to produce a cavity of minimum width adjacent said table plate and a maximum width adjacent the upper extremity of said knife blade.

3,145,642
RAKE ANGLE CONTROL MEANS FOR POWER SHEARS AND LIKE MACHINES
Eugene W. Pearson, Orinda, and Arthur L. Pedersen, Oakland, Calif., assignors to Pacific Industrial Manufacturing Co., a corporation of California
Filed Dec. 14, 1961, Ser. No. 160,415
8 Claims. (Cl. 83—62)



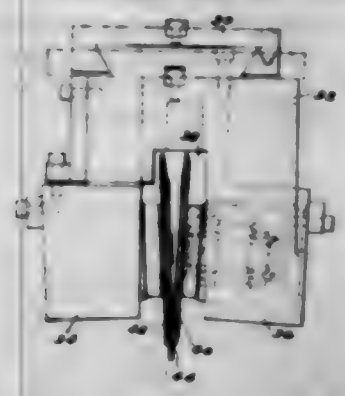
1. A machine having a pair of spaced guideways and reciprocable drive pistons,
a ram assembly including a slide element slidably maintained on each of said guideways and coupled to one of said drive pistons,
a ram element pivotally supported with respect to said slide elements, at each upper corner from one of said drive pistons and maintained adjacent said slide elements, to permit change in the rake angle of said ram element,
and means for initiating a change in such rake angle, said means including a pair of switches carried by one of said elements, and
means carried by another of said elements in proximity to said switches and selectively preadjustable to actuate one of said switches for a period of time necessary to angularly shift said ram element from a prevailing rake angle to a different but desired rake angle.

3,145,683
LABEL FORMING AND FEEDING DEVICE
Edward Biben, Hi-Nella, N.J., assignor to Dumatic Industries, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 6, 1960, Ser. No. 895
10 Claims. (Cl. 83—154)



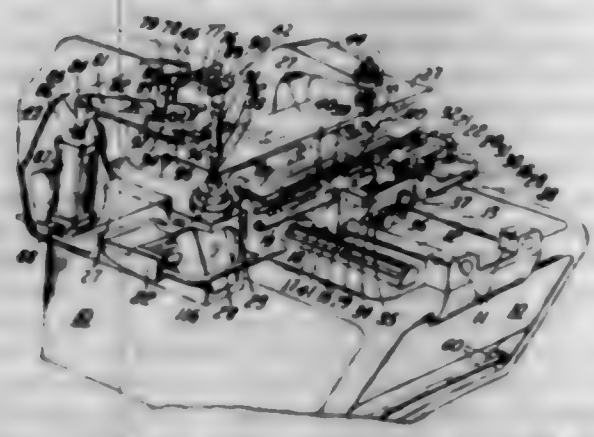
1. In a label forming device for forming individual labels from a continuous strip of printed labels comprising a frame, a feed roll on said frame, drive means operatively connected to said feed roll for continuous rotation of said feed roll at selectively variable speeds, a supply roll supporting shaft on said frame, said shaft being constructed to releasably support a supply roll having a continuous strip wound thereon, said shaft also rockably supporting a control arm, said control arm having an idler roll at one end and a mercury switch intermediate its ends, said mercury switch being mounted on a finger which is itself pivotally connected to said control arm, a transverse bracket on said finger, a lateral flange on each of the opposite ends of said bracket, a pair of stops on said frame, said stops being on opposite sides of said control arm and in a position where they may be engaged by an abutment means on said finger upon corresponding rocking movement of said control arm, and a spring on said arm, said spring being in engagement with said finger and exerting a force radial to the pivot of said finger whereby it acts to snap said finger into opposite pivoted positions upon movement of said finger beyond its dead center position in either direction, said mercury switch being in electrical circuit with a solenoid, said drive means being operatively connected to two sets of gears, one of said sets of gears being constructed and arranged to drive said feed roll relatively slow and the other of said sets of gears being constructed and arranged to drive said feel roll relatively fast, a clutch means to selectively and alternatively engage and disengage said sets of gears to and from operative connection with said drive means, said solenoid having a plunger in operative connection with said clutch means, and said plunger being actuated into clutch engaging and disengaging positions by movement of said control arm and the mercury switch thereon.

3,145,604
BAND SAW GUIDE
John Foley, Hazel Park, Mich., assignor to Permanent Mold Die Co., Inc., Hazel Park, Mich., a corporation of Michigan
Filed Dec. 14, 1961, Ser. No. 159,276
3 Claims. (Cl. 83—201)



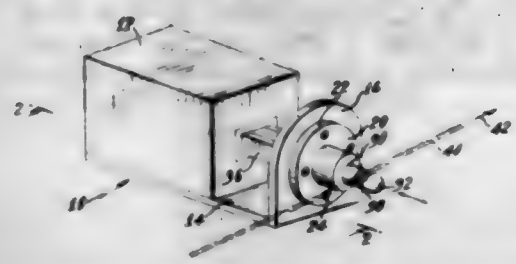
1. A band saw guide comprising two relatively thin wheels disposed on axes wherein the wheels are each disposed in a plane which is approximately 5° to the plane of the saw having peripheral edges which overlie the back edge of the saw, each of said wheels having a radial surface of relatively short radial extent in contact with a side surface of the saw and one of said wheels having an axial surface in direct contact with the back edge of the saw, said radial contacting surfaces of the said respective wheels being spaced radially and lying directly adjacent surfaces of the wheel which are spaced from the saw surface, the surfaces of said wheels adjacent said radial surfaces being relieved to avoid contact with said saw.

3,145,605
APPARATUS FOR SETTING UP AND TOOLING WORKPIECES
Frederick Henry Langmead and Peter Norman Langmead, both of Ashford Common, England, assignors to Zealand Engineering Company Limited, Ashford, England, a British company
Filed Jan. 16, 1961, Ser. No. 82,915
4 Claims. (Cl. 83—413)



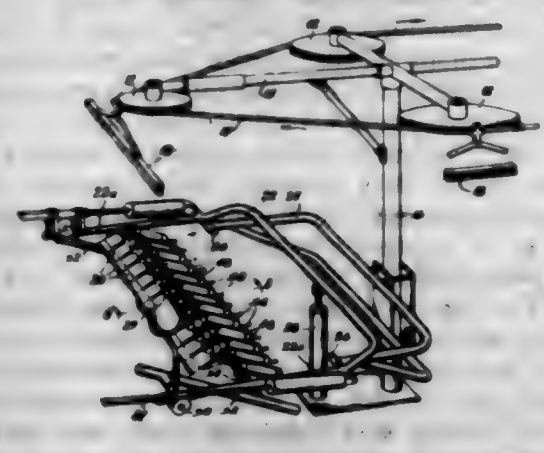
1. An apparatus for setting up and tooling a workpiece comprising a fixed support, a work holder and a template holder connected together, a template having a number of holes therein secured in said template holder, a mounting between said support and the connected holders, which mounting has guideways constraining the connected holders to move in each of two directions at right angles to one another, a positioning mechanism at a single location on the support and having two movable parts insertable successively into any of the holes in the template from the opposite sides thereof the first of which parts to enter a hole being a loose fit therein and the other of which is an exact fit, a tool holder at another location on said support, mountings for the positioning mechanism and tool holder constraining them to move towards and away from the template and work holder respectively, a motor for effecting movement of the tool holder, control means for said motor, means responsive to the movement of the close fit part of the positioning mechanism and which responsive means operates the control means for the motor when said close fit part has entered a hole.

3,145,606
CUTTING DEVICE
Vincent E. Lynch, Huntington, N.Y., assignor to Jolyn Electronics Manufacturing Corporation, Westbury, N.Y., a corporation of New York
Filed July 31, 1962, Ser. No. 213,704
1 Claim. (Cl. 83—577)



A device for cutting a strand of flimsy material during the movement thereof comprising a member movable axially in a direction transverse to that of the moving strand, a recessed substantially U-shaped seat defined in and on a side of said movable member intermediate the axial ends thereof, said U-shaped seat being perpendicular to the axis of said movable member and positioned in a direction transverse to the axial direction of movement of said member in alignment with the direction of movement of the strand to receive and engage the strand therein and to move the same axially with said movable member, the outer side walls of said seat defining spaced cutting surfaces between which a portion of the strand is adapted to be cut from the remainder of the moving strand, and a cutter member having a cutting surface positioned perpendicular to the axis of movement of said movable member to progressively cooperate with each of the spaced cutting surfaces to engage the moving strand therebetween and to cut said portion of the moving strand located in said seat when said movable member is moved axially to move said cutting surfaces of said seat progressively into cooperation with said cutting surface of said cutter member.

3,145,607
SHEARING APPARATUS FOR ANIMALS; ESPECIALLY SHEEP
William Richard Clifford Geary, La Bibby Court, Moorabbin, Victoria, Australia
Filed Feb. 26, 1962, Ser. No. 175,687
Claims priority, application, Australia, Mar. 1, 1961, 2,038/61; Dec. 14, 1961, 12,407/61
13 Claims. (Cl. 83—578)



1. Shearing apparatus for animals—especially sheep—comprising elongated wool-severing means of variable shape, said severing means conforming approximately to the varying contours of an animal when arranged longi-

tudinally in contact therewith and pressed thereagainst, means for moving said severing means at least partly around the body of the animal while disposed substantially longitudinally with respect thereto, and means for maintaining said severing means in approximate shape-conforming contact with the animal as said severing means moves therearound, said severing means progressively severing the wool from said animal.

3,145,608

MOUTHPIECE OPERATED WIND MUSICAL INSTRUMENT WITH PIANO KEYBOARD

Franz Lindermeier, Trossingen, Wurttemberg, Germany, assignor, by mesne assignments, to M. Hohner Inc., Hicksville, N.Y., a corporation of New York

Filed Aug. 7, 1962, Ser. No. 215,351
Claims priority, application Germany Aug. 31, 1961
6 Claims. (Cl. 84—375)



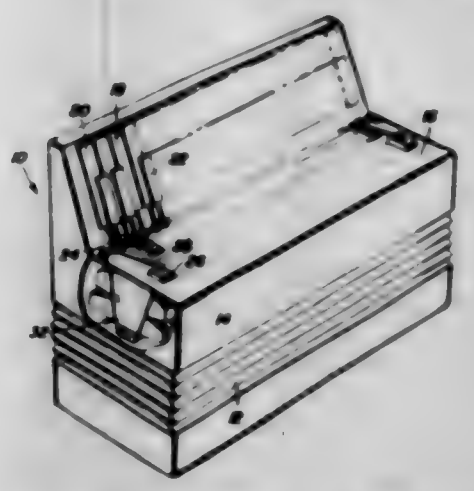
1. A musical wind instrument comprising an elongated fairing carrying a mouthpiece at one end of the instrument and being open at one side of the instrument throughout substantially the entire width of the instrument, wrest plank means connected to said fairing means and extending in the same general direction as said fairing means, said wrest plank means defining with the other side of said fairing means, opposite to the side thereof which is open, an elongated shallow space, means in said elongated shallow space dividing the latter into a pair of elongated cavities located beside and maintained by said means out of communication with each other, one of said cavities being a resonance cavity and the other of said cavities communicating with said mouthpiece so that the operator can blow into said other cavity, said wrest plank means being formed with a plurality of cells and with a plurality of apertures respectively communicating with said cells and with said resonance cavity, a plurality of reed plates respectively communicating with said cells and with said other cavity into which the operator can blow through said mouthpiece, a keyboard located at the side of said wrest plank means opposite from said cavities and substantially filling the opening in said fairing means so that said keyboard extends substantially across the entire width of the instrument, said keyboard including a plurality of elongated keys arranged in side-by-side relation along the instrument and having free ends respectively adapted to be engaged by the operator, pivot means extending longitudinally of said fairing means at the ends of said keys opposite from said free ends thereof and supporting said keys for turning movement, a plurality of valves arranged respectively in alignment with and between said keys and the side of said fairing means which is closed and defines said elongated space with said wrest plank means, said valves having closed positions respectively closing said apertures and open positions displaced at least slightly from and opening said apertures, and a plurality of arms respectively fixed to said keys adjacent said pivot means and respectively extending therefrom to and carrying said valves so that when said keys are depressed at their free ends the valves respectively connected thereto will turn with said keys to positions opening said apertures.

3,145,689

MULTI-RESONATOR ACCORDION

Vincent Santini, 2337 N. Booth St., Milwaukee, Wis.

Filed Feb. 2, 1962, Ser. No. 170,620
5 Claims. (Cl. 84—376)



1. A piano-accordion acoustic unit embodying a horizontally elongated body having top and bottom walls, opposed side walls and end walls adjoining the top, bottom and side walls, a centralized lengthwise partition located between the top, bottom, side and end walls and provided on opposite sides thereof with complemental transversely disposed longitudinally spaced staggered partitions cooperating with the top, bottom and side walls and defining two rows of individual sound reinforcing and resonating chambers, the chambers of one row on one side of said longitudinal partition being for whole-step tones and the chambers on the other side for half-step tones, each chamber being dimensionally and proportionally different from all other chambers and defining a sound resonating and reinforcing chamber distinct unto itself, each chamber being permanently closed at its bottom and interior sides and provided at its top in said top wall with a valved tone wave discharge port of a size in keeping with the dimensional size thereof, a cooperating portion of the side wall of said chamber having sound wave inlet openings in its upper half-portion and separate additional sound wave inlet openings in its lower half-portion, a first hollow reed box mounted on the exterior of said side wall, the hollow portion of said box providing a chamber and registering with said first-named inlet openings, and a second similarly constructed hollow reed box wholly detached from said first box and likewise mounted on said exterior directly below and spaced a significant distance from said first-named reed box, the hollow portion providing a second chamber registering with said additional inlet openings, the respective top and bottom walls of said boxes having typical reeds.

3,145,610

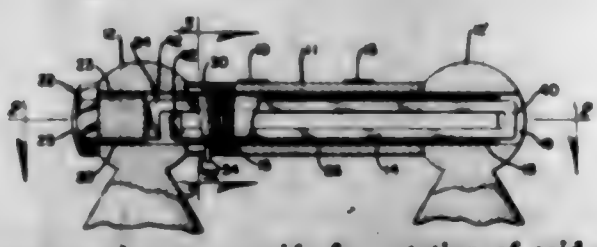
KEY MOUNTING FOR MUSICAL INSTRUMENTS

Thomas M. Anderson, 944 Highland Ave., Glen Ellyn, Ill., and Byron E. Good, 9158 W. Grand Ave., Franklin Park, Ill.

Filed Feb. 16, 1962, Ser. No. 173,685
14 Claims. (Cl. 84—380)

1. In a musical instrument wherein there is provided at least one tone hole together with a pair of stationary supports disposed in spaced relation and being adapted for mounting of a key member in hinged relation to the tone hole, the combination of means for mounting the

key in hinged relation to each tone hole comprising, inner and outer concentric members with the key being connected to the outer member, a tensioning member within the inner member being connected at one end to one of the supports and at the other end to said inner member, and clutch means interposed between said inner



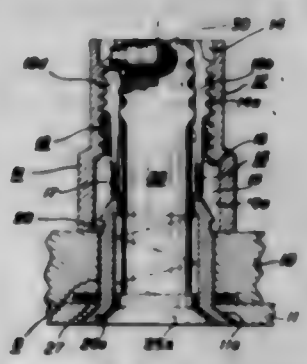
and outer members to provide for rotation of said outer member independently of said inner member in one direction and to key said inner and outer members together for rotation in the opposite direction whereupon the key is selectively biased in normally closed relation with the tone hole.

3,145,611

QUICK-ACTING BOLT AND NUT TYPE FASTENER HAVING CONTRACTIBLE BOLT-GRIPPING SLEEVE

Melvin Millheiser, Rockaway, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York

Filed Apr. 22, 1960, Ser. No. 23,968
7 Claims. (Cl. 85—1)



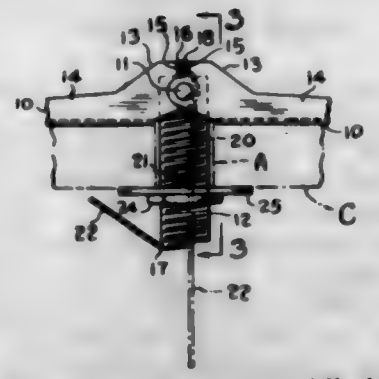
1. A bolt and nut-type fastener for releasably securing panels and the like provided with bolt-receiving openings in tight face engagement comprising, in combination, a nut assembly coaxial with the opening of one panel and including a nut housing affixed to the rearward face of said one panel and having a forward large-diameter non-threaded bore portion and a coaxial rearward, internally threaded bore portion having smaller diameter than said non-threaded bore portion, and a bolt-receiving sleeve whose forward end portion has fixed internal diameter which is normally such as enables free insertion of a fastener bolt thereinto for substantially the full length of the sleeve, at least the rearward end portion of said sleeve comprising circumferentially spaced, axially extending segments and being provided with external threads adapted to interengage with the threads of said threaded bore portion and said rearward end portion further having an unstressed internal diameter greater than that of said forward end portion thereof and correspondingly of said fastener bolt and an unstressed external diameter greater than that of said threaded bore portion but said rearward end portion being contractible by virtue of its segmental construction to an external diameter substantially equal to that of such threaded bore portion and to an internal diameter corresponding substantially to that of the fastener bolt, said sleeve being disposed coaxial with said nut housing and having a normal axial position with respect thereto in which its externally threaded rearward end portion is contained in said large diameter, non-threaded bore portion and hence forwardly of said rearward threaded bore portion of said housing, a bolt freely insertible through the other panel opening and thence into said one panel opening and sleeve, coacting means on the rearward ends of said sleeve and bolt, respectively, and being also operative initially to transmit axial thrust imparted to the bolt to said sleeve, thereby to initiate rearward axial movement of the latter from the non-threaded into the threaded bore portion of that nut housing, and means responsive to such rotation and initial axial movement for effecting contraction of the segmental rearward end portion of the sleeve into the small-diameter threaded bore portion of the nut housing and into gripping engagement with the bolt within the sleeve, the construction and arrangement being such that continued rotation of the bolt effects axial translation of the sleeve into the threaded bore portion of the nut housing and corresponding axial movement of the bolt into said housing.

3,145,612

COLLAPSIBLE FIXTURE HANGER HAVING MEANS TO INDICATE THE LOCKED POSITION

Willis G. Pettit, 915 Kenmore Blvd., Akron 14, Ohio

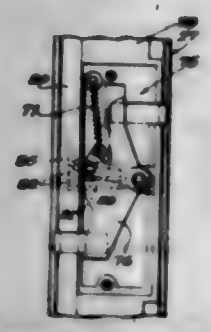
Filed Nov. 23, 1960, Ser. No. 71,307
2 Claims. (Cl. 85—3)



1. A collapsible fixture hanger for blind attachment to an apertured structure having an exposed inner side and a concealed outer side, comprising; a hollow externally threaded member having nut means thereon engageable with the exposed inner side of the apertured structure; oppositely disposed anchoring elements pivoted on said member to swing from radially extending positions toward collapsed axially extended positions for reception thereof outwardly through the aperture in the structure and gravitationally extensible inwardly against the concealed outer side of the structure, said elements in the concealed extended positions thereof having aligned diametrically opposite slots each defined by inwardly opposed shoulder portions on the opposite elements; a lock including a stem portion and oppositely out-turned locking extensions at one end thereof for gravitational reception of the stem within the upper end of said hollow member to a locking position of the stem in which said extensions engage between the opposed shoulders of the slots, and thereby to prevent subsequent collapse of said extended elements; said stem in said locking position of the same having an inward extension movable therewith and including a visibly identifiable portion exposed inwardly beyond the inner end of said member, said portion including a mark spaced from said out-turned extensions a distance corresponding to the distance from the bottom of said slots to the inner end of said hollow member, such that when said out-turned extensions are bottomed in said slots, said mark is in a predeterminately located indicating position with respect to said inner end of the threaded member, and when said extensions are not bottomed in said slots, said mark is in another predeterminately located indicating position with respect to said inner end of the threaded member and above the first named indicating position; whereby the visibly apparent location of said visibly identi-

fiable portion and mark with respect to said inner end of the member indicates whether or not said elements are anchoringly locked by said out-turned locking extensions.

3,145,613
MOTION PICTURE CAMERA
Arthur C. Mueller, Niles, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 23, 1962, Ser. No. 175,034
5 Claims. (Cl. 88—16)



1. In a motion picture camera of a type adapted for use with double-run film and including means for transporting film past an aperture in said camera, the improvement comprising;

(*a*) a cartridge for holding said film, said cartridge including a body portion and a cover portion adapted to be held in locking engagement with the body portion,

(*b*) an indicator plate mounted for limited movement on one of said portions,

(*c*) means for biasing said indicator plate toward one limit of its movement when the cover is out of locking engagement,

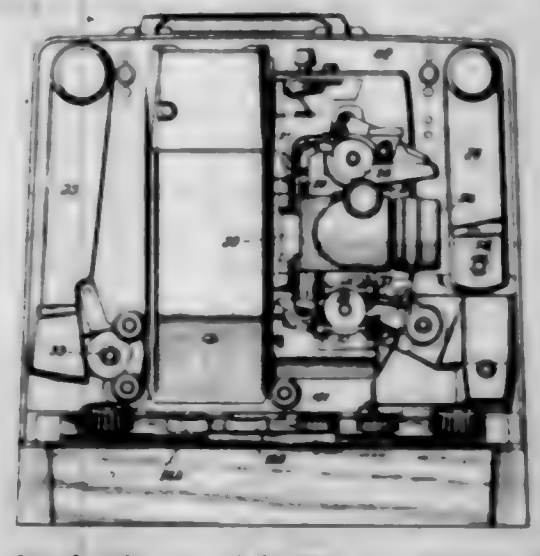
(*d*) a pair of cam surfaces on opposite sides of said indicator plate,

(*e*) a cam actuating member in said camera adapted to engage and move one of said cam surfaces and thereby move said indicator plate when the cartridge is inserted in the camera prior to exposing the first side of a double-run film, said cam actuating member further being adapted to engage and move the other of said cam surfaces when the cartridge is inserted in the camera prior to exposing the second side of a double-run film,

(*f*) means on the indicator plate adapted, when the cover is closed, to engage means on the other of said portions to hold the indicator plate in the positions to which it is moved when the cam surfaces are engaged by the cam actuating member.

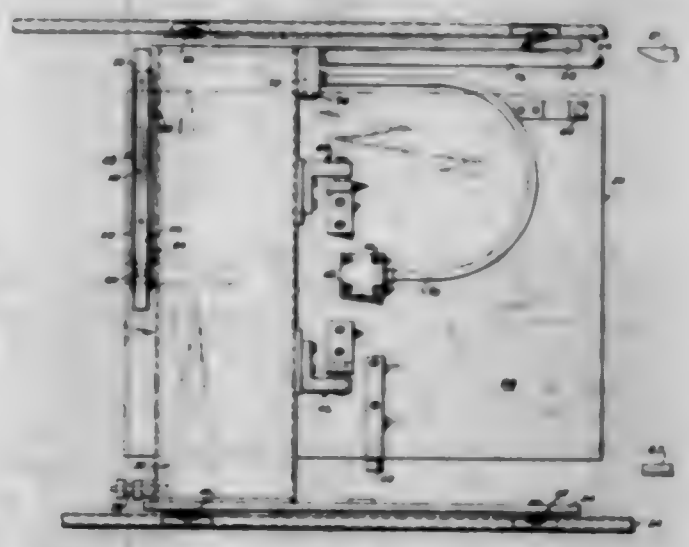
3,145,614
MOTION PICTURE PROJECTOR HAVING A SINGLE FRAME CLUTCH
Marvin F. Royston, Skokie, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 20, 1959, Ser. No. 800,877
7 Claims. (Cl. 88—17)

1. In a motion picture projector including an aperture plate, an upper sprocket, a lower sprocket and a shuttle for advancing film past the gate, the improvement comprising a drive shaft rotatable continuously selectively in either direction, a worm mounted rotatably on the shaft, sprocket driving gears meshing with the worm, cam means driven continuously by the shaft for reciprocating the shuttle along the aperture plate, means urging the shuttle toward feeding engagement with film lying along the aperture plate, second cam means driven continuously by the shaft for intermittently permitting the urging means to move the shuttle into feeding engagement with the film, a first clutch member keyed to the shaft, a second clutch member keyed to the worm, detent means normally operable to connect the clutch members together, actuating means for moving the detent means to an inoperative position and holding the detent means in its inoperative position, shuttle throwout means operable by the detent means to hold the shuttle against the action of the urging means



to keep the shuttle out of feeding engagement with the film at the end of a revolution of the worm, and latching means for latching the shuttle throwout means in its operable position.

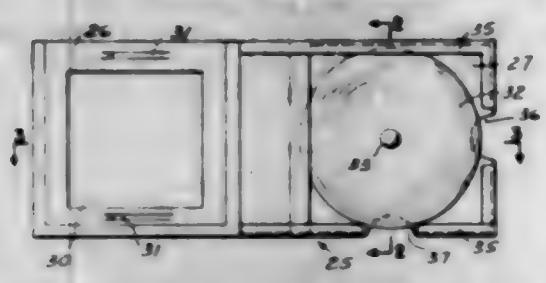
3,145,615
VALVE AND HOSE REEL COMBINATION FOR VACUUM PLATEN IN PHOTOGRAPHIC APPARATUS
Walter Wanielista, Westchester, Ill., assignor to Robertson Photo-Mechanix, Inc., Chicago, Ill., a corporation of Illinois
Filed June 23, 1961, Ser. No. 119,236
9 Claims. (Cl. 88—24)



1. In a system for transporting sheet articles and the like through an operational cycle, a carriage, horizontally disposed track means guiding said carriage through a predetermined path, multiple spaced apart stations on an extended vacuum platen for carrying the sheet material or the like, pivot means pivotally securing said vacuum platen to said carriage, latch means releasably securing said vacuum platen in predetermined angular relation to said carriage, cam means for releasing said latch means at a predetermined point of travel along said track means, cam means controllably tilting said vacuum platen upon release of said latch means, a first flexible conduit connected to said vacuum platen to communicate a vacuum condition thereto, said first flexible conduit being connected to said carriage, a passage in said carriage for transmitting a vacuum condition to said first flexible conduit, a second flexible conduit connected to said passage in said carriage, reel means mounted in predetermined relation to said track means including a stationary support and a

rotatable drum journalled in said support, means on the support affording connection to a source of vacuum, means on said drum communicating with said means affording connection to a source of vacuum and means on said drum connecting said second flexible conduit to said means communicating with said means affording connection to a source of vacuum whereby to afford winding and unwinding of the second flexible conduit on said drum during movement of said carriage along said track means while transmitting a vacuum condition to said vacuum platen.

3,145,616
SLIDE AND SOUND RECORD CARRIER
Morris Schwartz and Edward K. Kaprelian, Plainville, Conn., assignors to The Kalart Company, Inc., Plainville, Conn.
Original application July 9, 1954, Ser. No. 442,362, now Patent No. 2,961,922, dated Nov. 29, 1960. Divided and this application Sept. 14, 1960, Ser. No. 63,710
8 Claims. (Cl. 88—28)



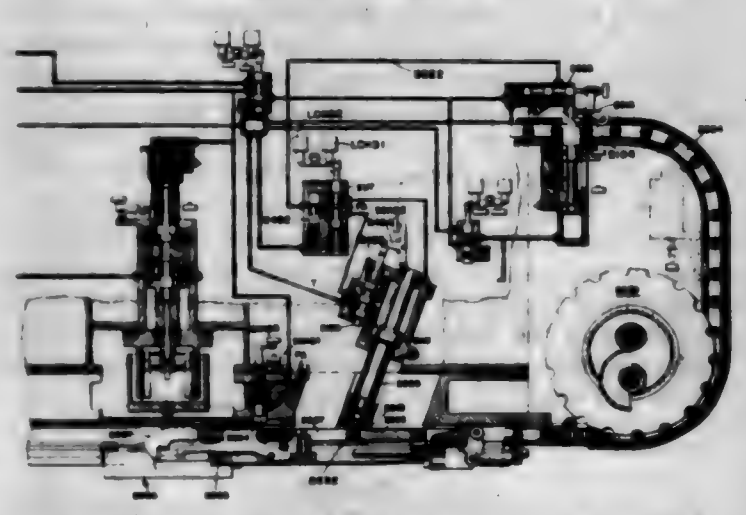
1. A holder for a photographic slide and a disk-shaped sound record carrier, said holder comprising a frame having side by side a slide-supporting portion and a sound-track carrier supporting portion disposed in coplanar, spatially fixed relationship for supporting the slide and the carrier independently of each other, said slide-supporting portion having a window therethrough and including guide tracks forming a pocket in the respective frame portion for receiving a slide and holding the same with reference to the window for projecting a slide inserted in said frame portion through the window, and said sound-track carrier-supporting frame portion including guiding and holding means engageable with a sound track carrier placed upon said carrier-supporting frame portion for guiding and retaining said carrier rotatably about its center axis on said frame portion.

3,145,617
TORPEDO TUBE COVER
John T. Gosdek, Minneapolis, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Mar. 22, 1956, Ser. No. 573,306, now Patent No. 3,109,343, dated Nov. 5, 1963. Divided and this application May 22, 1957, Ser. No. 660,989
1 Claim. (Cl. 89—1)



A casing for enclosing a torpedo launching tube mechanism of a character including an elongated tube adapted to receive a torpedo, mechanisms for launching a torpedo from said tube, a closure member for the breech end of said elongated tube and a muzzle door for the muzzle end thereof, said casing comprising a generally rectangular deicing and insulating member of flexible material, said member having pieces of said material permanently secured thereto along one side of said pieces and removably secured thereto at their other sides, said pieces extending over projecting parts on said tube, said member having a removable portion covering the breech end of said tube, said portion having a part extending substantially around the tube at its breech end and having a lower portion extending downwardly therefrom and being of subs.antially rectangular form and an additional door-like cover portion at the end of said casing remote from the breech enclosing end thereof for accessible enclosure of the muzzle door end of a torpedo launching tube, said door-like portion enclosing the muzzle door being further characterized by an irregularly shaped portion for enclosure of the muzzle door operating mechanism of a character including a closure door and a linkage means, said irregularly shaped portion providing coverage of said linkage means while permitting opening of the door closure portion of the casing so that the door can be opened.

3,145,618
RAMMER MECHANISM FOR A LOADER
Richard C. Wilson, Champlin, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Oct. 22, 1959, Ser. No. 848,163. Divided and this application Nov. 30, 1959, Ser. No. 856,319
7 Claims. (Cl. 89—1.7)

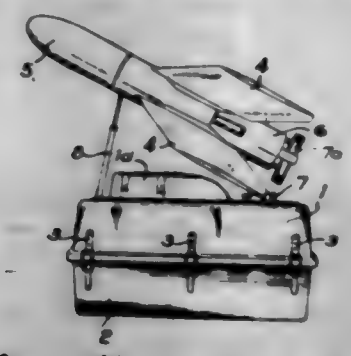


1. A terminated chain driven system for the transfer of a missile having a shoe thereon from a ready service mechanism to a missile launcher, comprising, a chain movable between a first position wherein said missile is received by said chain from said ready service mechanism and a second position wherein said missile is released by said chain onto said launcher, a terminating pawl mounted on one end of said chain for sequentially capturing and releasing said shoe, a pair of intermediate links pivotally connecting said chain to said pawl and having an articulated joint therebetween, and a housing for confining said chain and pair of intermediate links, said housing having a section thereof mounted for transverse movement of the longitudinal axis of said chain so as to move said articulated joint substantially transversely to the longitudinal axis of said chain when said chain is in said first position to move said pawl into position to capture said shoe.

3,145,619
ROCKET PACKAGE ASSEMBLY
Jean-Claude Ozanne, Salbris, France
Filed May 11, 1962, Ser. No. 193,942
Claims priority, application France May 15, 1961
3 Claims. (Cl. 89—1.7)

1. A packaged rocket assembly of a general parallelepiped configuration comprising a rocket including a tail assembly and an ogival head, said tail assembly having

radiating tail fins and said ogival head being detachable from said tail assembly, and casing means for carrying said rocket therein in its disassembled condition, said casing including an upper part and a lower part, said upper part having in the upper surface thereof a pair of hollow, longitudinal wing-like extensions each of which is comprised of an outer wall which defines the upper part of one longitudinal side of said parallelepiped and an inner wall which extends radially from the center region of said casing to the upper edge of said outer wall, said upper surface also having a hollow protrusion spaced between said extensions and extending above them, said protrusion defining a region which conforms to the shape of said ogival head and having a longitudinal extent which is less than that of said parallelepiped so that, at at least one end of



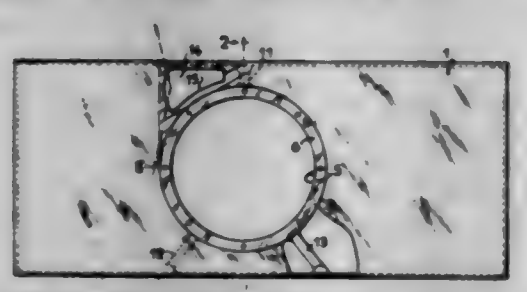
said upper surface, said extensions are separated by a first recess; said lower part having in the lower surface thereof a further pair of hollow, longitudinal wing-like extensions each of which is comprised of an outer wall which defines the lower part of a respective one of said longitudinal sides of said parallelepiped and an inner wall which extends radially from the center region of said casing, whereby the space between said last recited inner walls defines a longitudinal recess for receiving the protrusion in the upper surface of a similar casing; the interior portions of said casing defined by said wing-like extensions constituting enclosures for housing respective ones of said tail fins and the interior portion defined by said protrusion constituting an enclosure for housing said ogival head when said rocket is in its packaged condition.

3,145,620

DIMINUTIVE TWO-MEN TANK VEHICLE BODY

Georges Even, 7 Ave. Pierre Grenier, Boulogne, Seine, France

Filed Mar. 9, 1962, Ser. No. 178,672
Claims priority, application France Apr. 10, 1957
4 Claims. (Cl. 89—36)



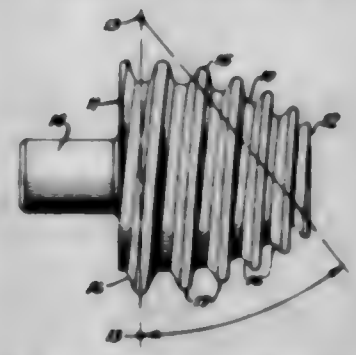
1. In a diminutive tank vehicle defined by a hollow body adapted to be operated by two occupants, said hollow body having a bottom wall, two opposite spaced apart side walls and a top wall including a substantially horizontal flat median portion extending between said two side walls, said flat top wall portion being provided with a circular opening the radius of which is substantially equal to one third of the width of said flat top wall portion, a ring mounted within the opening adapted for supporting a turret, three radially extending supporting elements supporting the ring at three circumferentially spaced points, one of said elements being secured to one of said side walls and the other two elements being secured to the other side wall, the flat top wall portion also being provided with an observation opening through which the head of one of the two occupants may pass, said observation opening being located within a zone of said flat top wall portion defined between a first vertical transverse plane extending substantially tangential to said ring, a second vertical transverse plane extending substantially through the center of said ring, an edge portion of the flat top wall portion between said first and second transverse planes and a portion of substantially 90° of said ring between said first and second transverse planes, said observation opening having an edge which is arcuate and concentric with respect to said ring with the radius of said arcuate edge being only slightly greater than the radius of said ring so as to leave a narrow strip of material between said observation opening and the turret opening, and said circumferentially spaced points lying outside said portion of substantially 90° of the ring.

3,145,621

METHOD OF AND TOOL FOR CUTTING ANNULAR FACE GEARS

Richard B. Ransom, 629 S. Carroll St., South Bend, Ind.

Filed Dec. 22, 1961, Ser. No. 161,600
8 Claims. (Cl. 90—4)



1. The method of cutting a gear with a cutting tool having a barreled tapered hob body and a series of cutting teeth arranged in a spiral track and gradually decreasing in size from the larger to the smaller end of the body, said method comprising rotating the body about its own axis, bringing the cutting teeth at the larger end of the body into cutting engagement with the peripheral outer portion of a blank while the body is rotating to cut teeth in the peripheral portion of the blank, and simultaneously moving the body relative to the face of the blank in a line parallel to the teeth to be cut in the blank and tilting the axis of the body relative to the face of the blank to bring progressively smaller cutting teeth into cutting engagement with the blank as the body moves.

3,145,622

FIELD MACHINING APPARATUS

Frank P. Rust and Edwin S. Olsen, Salt Lake City, Utah, assignors to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 5, 1962, Ser. No. 177,488
10 Claims. (Cl. 90—13)

1. In apparatus for field machining a surface of a workpiece:

a boom;

a frame at one end of said boom;

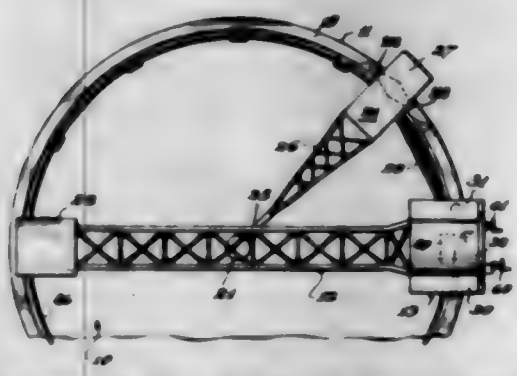
said frame being located adjacent said surface to be machined when the apparatus is in an operative position;

means for moving said frame-end of the boom along said surface;

a pair of wheel means each at an opposite end of said frame and each for riding on the surface to be machined at a spaced interval from the other wheel means;

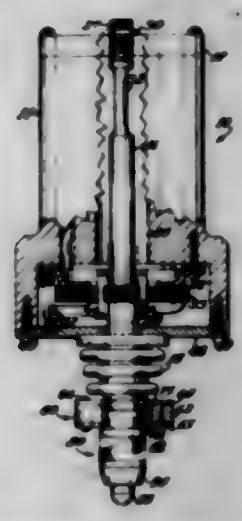
a pair of fluid operated cylinder means on said frame, one for each wheel means;

each of said cylinder means being axially disposed transverse to the axis of said wheel means;
a piston in each cylinder means;
a piston rod extending from each cylinder means to a respective wheel means and connected thereto;



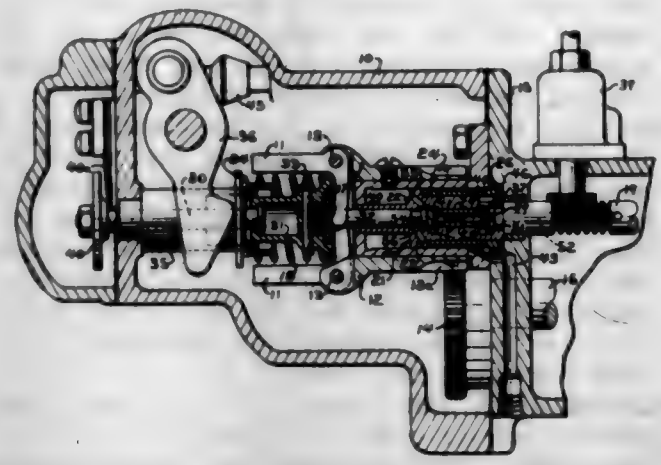
means, mounted on said frame between said wheel means, for machining said surface at the interval between said wheel means;
means for sensing a predetermined surface configuration;
and means, connected to said sensing means, responsive to a variation in said surface to be machined from said predetermined configuration for urging each of said pistons in the direction of said variation.

3,145,623
TRACER HEAD WITH DAMPER
Robert L. Fillmore, Mound, and Stanley S. Kintigh, Hopkins, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 4, 1963, Ser. No. 262,411
6 Claims. (Cl. 90—62)



1. A tracer apparatus for a machine tool, comprising; a housing, a signal producing transducer having a pair of relatively movable parts, means mounting one of said parts on and within said housing, a flexible shaft having a feeler means end associated therewith, means mounting said shaft for pivotal movement on said housing such that the feeler means end of said shaft is displaceable in a plane perpendicular to the axis of said shaft, means mounting the other of said relatively movable parts of said transducer on said shaft for movement relative to said one of said parts for operation of said transducer, and damper means including a pair of relatively movable parts connected by an element of compressible cellular material, one of said damper parts being connected to and mounted on the feeler means end of said shaft, the other of said damper parts being supported by said compressible cellular material and serving to remain relatively fixed in space as acceleration is imparted to said one of said damper parts.

3,145,624
DOUBLE ACTING HYDRAULIC SERVO GOVERNOR
John H. Parks, Peoria, and John G. Wellwood, Pekin, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 29, 1961, Ser. No. 141,857
1 Claim. (Cl. 91—366)

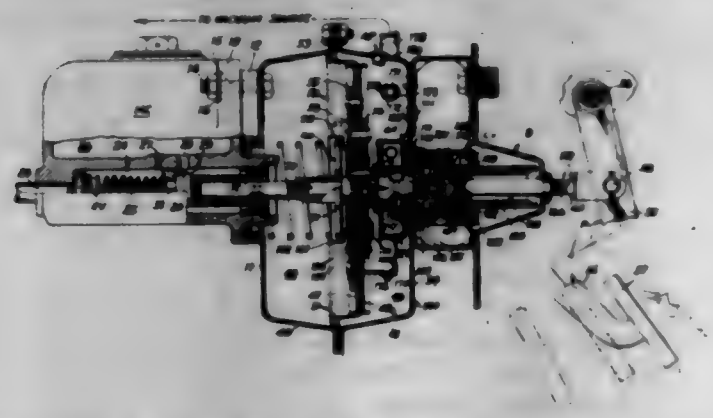


In an engine governor for controlling the position of a fuel control member and having rotatable flyweights opposed by a spring, comprising in combination:
hydraulic servo means operatively disposed between the flyweights and the fuel control member whereby the flyweights do not operate the fuel control member directly except when there is a loss of hydraulic fluid pressure, said servo means including;
a cylinder disposed coaxially with the axis of rotation of the flyweights;
a piston reciprocably mounted in the cylinder and connected with the fuel control member, said piston having an axial bore extending therethrough and valve ports therein;
a valve spool slidably disposed in the bore of said piston, said spool extending beyond the end of the axial bore adjacent the fuel control member, the portion of spool extending out of the bore having a flange thereon wherein the flange is larger in diameter than the bore, said flanged end abutting the control member when said spool is urged toward the control member relative to said piston;
means connecting said spool for adjustment by said flyweights and spring such that movement of said flyweights outwardly urges said spool in one direction while movement inwardly urges said spool in the other direction;
a source of fluid under pressure in communication with one side of said piston; and
co-acting valving elements between the spool and the piston for communicating the fluid source with the other side of said piston in response to movement of the spool in one direction and communicating a fluid reservoir with the other side of said piston in response to movement of said spool in the other direction.

3,145,625
CONTROL VALVE ADAPTED FOR PRESSURE DIFFERENTIAL MOTOR USE
Glenn T. Randol, P.O. Box 275, 2nd Ave. and Paull St., Mountain Lake Park, Md.
Original application Sept. 2, 1958, Ser. No. 758,405. Divided and this application May 4, 1961, Ser. No. 107,747
12 Claims. (Cl. 91—374)

1. In a control valve mechanism adapted to control a power member movable from normal position to perform work under influence of a pressure differential, said mechanism having a pair of complementary valve elements, one of which is displaceable relatively to the other, a

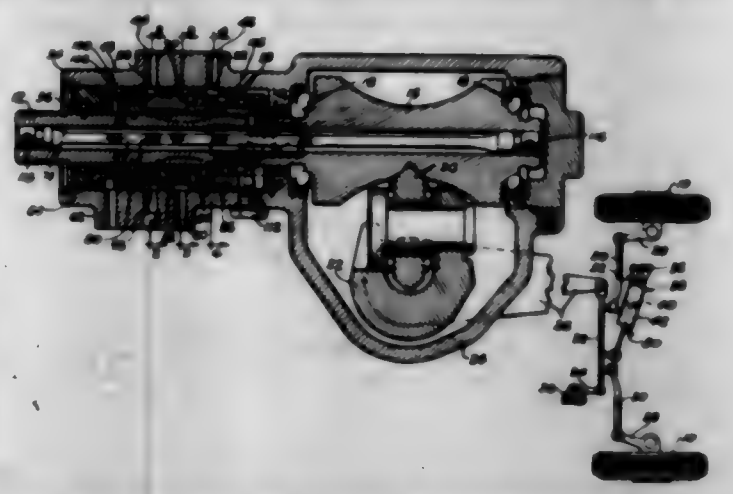
source of pressure different from atmosphere communicating with one of said valve elements, a fluid chamber between said valve elements in continuous communication with said source, an atmospheric chamber coaxially disposed with respect to said fluid chamber between said valve elements, a working land on the other of said valve elements cooperating with a control port in the one valve element to selectively connect said port to said fluid chamber and to said atmospheric chamber, a fluid connection between said port and power member, a normally preloaded spring reacting between said valve elements to establish the same in a relative normal position, another normally preloaded spring reacting continuously on said one valve element only to assist the first named spring in establishing the valve mechanism in said normal position in cooperation with said first-named spring, means on the other valve element in continuous follow-up engagement with the power member, a support extension fixed with respect to said power member for slidably receiving a portion of said one valve element whereby both of said valve elements are operatively mounted as a unit independently of said power member, a pair of normally engaged abutment-engaging portions on said valve elements respectively to define their normal relative position, an-



other pair of normally spaced abutment-engaging portions on said one valve element and power member respectively for defining the relative displacement of said valve elements out of normal position, an operator-operated member adapted to act directly on said one valve element to effect said relative displacement thereof in opposition to the two springs aforesaid, the resistance provided by said work to movement of said power member under initial operator-actuation thereof as a unit with said valve elements in said normal relative position as a function of the thrust-transmitting capacity of the first-named spring in normally preloaded status to oppose such unitary movement, produces said relative displacement accommodated by yielding of said first-named spring under additional operator-actuation of said one valve element, the improvement which comprises: an auxiliary air control valve having an element displaceable from normally open position to closed position in synchronism with said one valve element under influence of said additional operator-actuation to render said relative displacement control by said complementary valve elements effective; and a third normally preloaded spring operatively associated with said air control valve element for biasing the same toward its closed position.

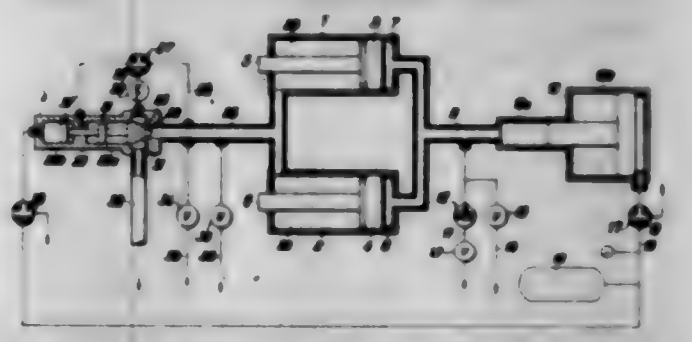
3,145,626
POWER STEERING MECHANISM
James L. Vickers and Farlow B. Bert, both of South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Sept. 18, 1961, Ser. No. 138,755
14 Claims. (Cl. 91—375)

1. In a fluid operated servo device including an input member, an output member, and a fluid motor operatively connected to said output member, the combination within a housing, of a pair of relatively rotatable telescoped tubular elements through which fluid flow to and from said motor is controlled, said elements having a normally



neutral position, and adjustment means operatively connected to said elements for rotating one of said elements relative to the other of said elements until said elements are in said normally neutral position.

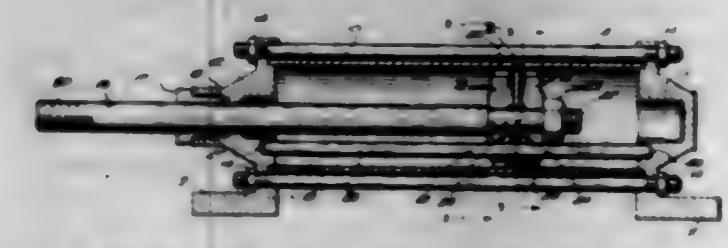
3,145,627
CONTROL APPARATUS FOR WELDING MACHINES AND THE LIKE
Alfred Neukom, Dubendorf, Zurich, Switzerland, assignor to H. A. Schlatter A.G., Zollikon, Zurich, Switzerland
Filed Oct. 24, 1961, Ser. No. 147,314
Claims priority, application Switzerland Oct. 24, 1960
6 Claims. (Cl. 91—442)



1. In a control apparatus adapted to be used in a machine, such as a welding machine, requiring first a relatively slow feed and then a sudden rapid feed, in combination, first piston-and-cylinder means including at least one piston member and at least one cylinder member defining with each other a working chamber adapted to receive fluid under pressure to move one of said members in a given directions with respect to the other of said members, and a return chamber adapted to receive fluid under pressure to return said one member with respect to said other member to a given starting position; high pressure discharge conduit means and low pressure discharge conduit means respectively communicating with said return chamber of said first cylinder-and-piston means, the fluid in said return chamber discharging at a relatively slow rate through said high pressure discharge conduit means during relatively slow advance of said one member when fluid under pressure is supplied to said working chamber and said one member advancing at a high rate of speed when said return chamber communicates with said low pressure discharge conduit means while fluid under pressure is supplied to said working chamber; valve means controlling the communication between said return chamber and said low pressure conduit means, said valve means when it is in a closed position cutting off communication between said low pressure conduit means and said return chamber and when it is in an open position providing communication between said return chamber and said low pressure condit means, the fluid

under pressure in said return chamber urging said valve means to said open position thereof; second cylinder-and-piston means cooperating with said valve means and having a piston member and a cylinder member defining a working chamber, said second cylinder-and-piston means maintaining said valve means in said closed position thereof in opposition to the pressure in said return chamber when said working chamber of said second cylinder-and-piston means is provided with fluid under pressure; and means cooperating with said working chamber of said second cylinder-and-piston means for placing said latter working chamber at a relatively low pressure freeing said valve means for movement by the pressure in said return chamber suddenly to said open position where said return chamber then communicates with said low pressure discharge conduit means to provide a sudden rapid advance of said one member of said first cylinder-and-piston means.

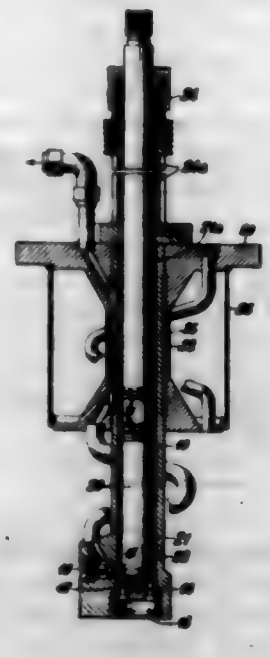
3,145,628
SHAFT STABILIZER
Ronald D. Medley, Overland Park, Kans., assignor to Consolidated Thermoplastics Company, Stamford, Conn., a corporation of Delaware
Filed Aug. 3, 1962, Ser. No. 214,743
2 Claims. (Cl. 92—166)



1. A shaft stabilizer comprising a cylindrical elongated housing, a member affixed to and closing each end of the housing, a central opening in one of said members; a piston reciprocable in said housing; means supplying pressure to said housing to reciprocate said piston; a piston rod affixed centrally to said piston and slidable in the central opening in said member upon reciprocation of said piston thereby normally permitting rotation of the piston and piston rod within the housing; a rigid stationary rod positioned in said housing, one end of the rod being affixed to one member, the other end of the rod being affixed to the other of said members; an opening in said piston radially displaced from the center of the piston; said stationary rod passing through the opening in the piston, said piston sliding on the stationary rod upon reciprocation of the piston; said piston including two circular discs positioned in face-to-face relationship, a spacer between said discs; fastening means engaged with the piston rod to maintain the discs tightly against the spacer; an opening in said spacer in alignment with said opening in the piston; said stationary rod passing through said openings, the opening in the spacer being slightly larger than the cross section of the stationary rod, gasketing members positioned around and tightly engaging the stationary rod, said gasketing means being positioned in the opening in the spacer and squeezed tightly around the stationary rod and between said discs by said fastening means.

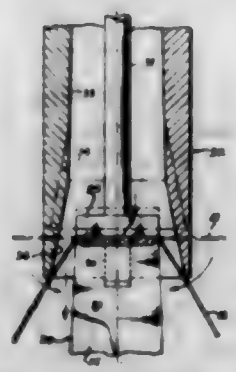
3,145,629
CRYOGENIC PUMP SEALING RINGS
Christian F. Gottzmann, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 13, 1960, Ser. No. 75,598
18 Claims. (Cl. 92—155)

1. In a reciprocating plunger pump for cryogenic liquids boiling below 273° K. pumped to pressures above 200 p.s.i., and having cold and warm end portions, the improvement comprising a metal pump barrel having an inner mating surface; a pump plunger slideably fitting in the barrel and having an external annular groove; a self-lubricating annular sealing ring within the annular groove having an outer surface which engages the barrel mating



surface; and first and second self-lubricating plunger guiding means disposed in the cold and warm pump end-portions respectively such that the sealing ring and grooves are positioned therebetween.

3,145,630
APPARATUS FOR MAKING CONTAINERS
George Arlington Moore, 230 E. 48th St., New York 17, N.Y.
Filed Oct. 18, 1962, Ser. No. 231,468
9 Claims. (Cl. 93—51)



1. Apparatus for forming a substantially rectangular container from a pair of crossed blanks, said blanks having central end-forming panels in superposed relation and side-forming panels extending outwardly from said end-forming panels, and one of said blanks having longitudinally extending lateral flanges adapted to be folded upon and bonded to the outer faces of the side-forming panels of said other blank, comprising:

a pair of elongated cooperable male and female dies and means for producing relative longitudinal movement between said dies,

said male die having an upper horizontal face substantially conforming in size and shape to the cross-sectional area of said container,

two pairs of substantially vertical side walls, the walls of each pair being substantially parallel to each other and perpendicular to the other pair, said side walls extending downwardly from said horizontal face a distance at least equal to the height of said container,

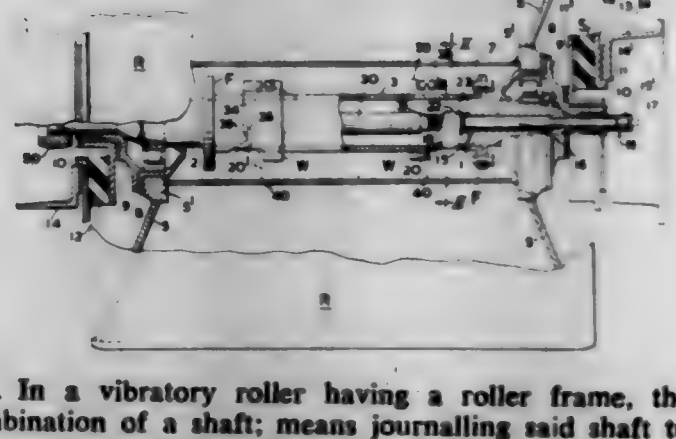
a head movable with respect to said male die and cooperable with said horizontal face for clamping the superposed end-forming panels of a pair of crossed blanks between them preparatory to formation of the container; and

said female die having two pairs of substantially vertical inner walls corresponding to the side walls of said male die, said inner walls extending vertically for a distance at least equal to the height of said container from a lower horizontal margin where said horizontal face of said male die first engages said substantially vertical inner walls, and said two pairs of inner walls of said female die terminating at their lower ends in four side walls which are flared outwardly and downwardly from said margin to engage the flanges of said one blank and thereby initiate the turning of said flanges over the outer faces of the side-forming panels of said other blank as said dies move into nesting relationship completing said turning at said margin.

3,145,631
VIBRATORY ROLLER

Rowland Percy Green, Bath, Somerset, England, assignor to Stothert & Pitt, Limited, Bath, Somerset, England, a corporation of Great Britain

Filed July 30, 1962, Ser. No. 213,199
Claims priority, application Great Britain Sept. 18, 1961
6 Claims. (Cl. 94—50)



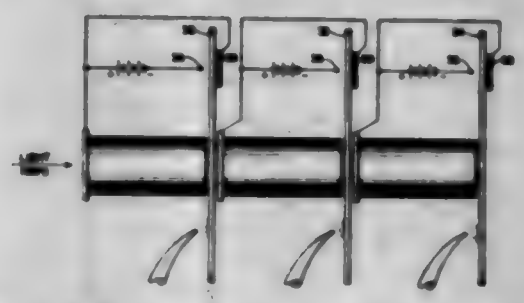
1. In a vibratory roller having a roller frame, the combination of a shaft; means journalling said shaft to rotate with respect to the roller frame; a roll shell journalled to revolve on the shaft; pairs of eccentrically operating weights mounted on said shaft to set up an unbalance, the weights of each of said pairs being mounted respectively on opposite sides of the shaft for pivotal movements about an axis transverse to the axis of said shaft whereby to move in the axial direction of the shaft; means for effecting adjustment of said weights including a rotatable control rod extending through said shaft, said rod being provided with oppositely threaded portions proximate to each pair of weights; and means on each of said weights cooperating with the respective threaded portions of the control rod, whereby rotation of the said rod will angularly adjust the weights in equal and opposite directions.

3,145,632
PRINTING APPARATUS

Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif.

Filed Jan. 22, 1962, Ser. No. 167,508
9 Claims. (Cl. 95—1.7)

1. A multiple copy printer comprising in combination: a plurality of serially positioned printing structures, each comprising bundled optical fibers whose ends form the front and back surfaces of said structures, each said fiber having a circumjacent photoconductive sleeve; a transparent electrically conductive coating positioned on the front surface of each said printing structures; strips of light transmitting recording media positioned adjacent the back surface of each said structure whereby said strips are adjacent the distal ends of the sleeves; means for applying a uniform charge on the surface of said recording mediums; and means for causing an electric field to occur at the distal ends of selected

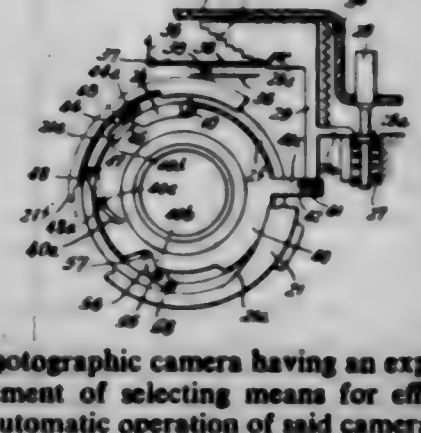


sleeves to neutralize portions of the uniform charge, and produce substantially identical charge patterns on the surfaces of each of said recording media, said electric field producing means comprising means for projecting light onto said front surface of the first said structure, said light passing through each of said printing structures in sequence.

3,145,633
PHOTOGRAPHIC CAMERA WITH BUILT-IN EXPOSURE METER

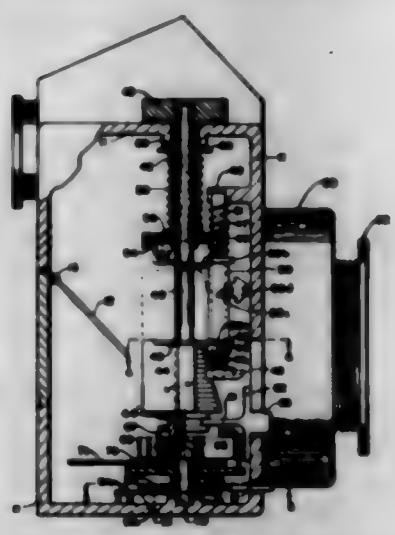
Waldemar T. Reutschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed July 3, 1962, Ser. No. 207,224
Claims priority, application Germany July 8, 1961
5 Claims. (Cl. 95—10)



1. In a photographic camera having an exposure meter, the improvement of selecting means for effecting either manual or automatic operation of said camera, said selecting means including an exposure time setting member and a diaphragm setting member, each of said setting members being independently operable for setting the exposure time and aperture size respectively in the manual setting range thereof, shutter means, a shutter control device operatively connecting said exposure time setting member to said shutter means whereby the latter is rendered responsive to the setting of said exposure time setting member, a diaphragm means, a diaphragm control device operatively connecting said diaphragm setting member to said diaphragm means whereby the latter is rendered responsive to the setting of said diaphragm setting member, an automatic setting member responsive to the light intensity of said exposure meter when in the automatic setting of said selector means, a first and second transmission means, said first transmission means being operatively connected between said automatic setting member and said shutter control device and said second transmission member being operatively connected between said automatic setting member and said diaphragm control device in the automatic setting of said selector means so that an automatic exposure takes place according to a predetermined time-diaphragm program, and means for locking said automatic setting member in starting position in the manual setting range of said selector means.

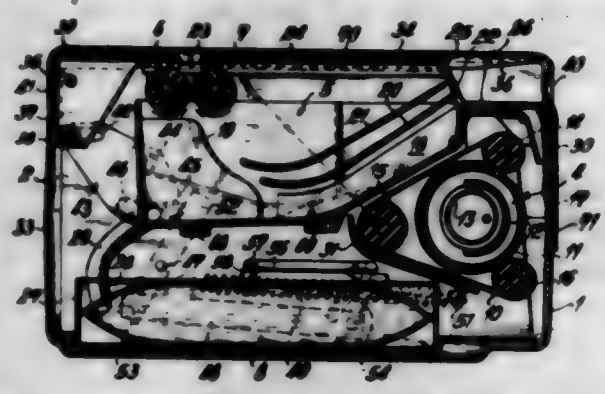
3,145,634
PHOTOGRAPHIC CAMERA WITH UNITARY SHUTTER AND DIAPHRAGM
Allen A. Dicke, R.R. 1, New Bremen, Ohio
Filed May 21, 1959, Ser. No. 814,704
21 Claims. (Cl. 95—42)



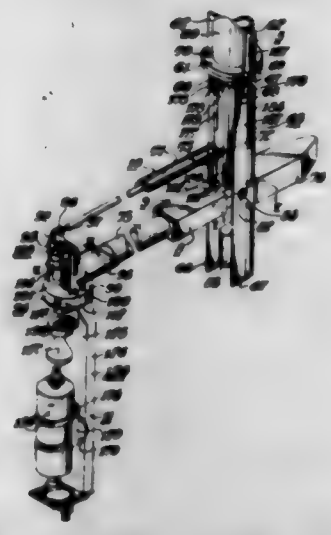
1. Exposure control mechanism for photographic cameras of the type having a camera body containing means for supporting a photosensitive sheet and a lens body carried by the camera body and having a lens adapted to form on the photosensitive sheet an image of the object to be photographed, and which camera body contains a movable mirror which in normal position obstructs light from reaching the photosensitive sheet and reflects the light transmitted through said lens to the eye of the user for viewing and focusing, together with means for moving said mirror away from said light obstructing position and later back to light obstructing position, comprising the combination of a single set of fully closable light controlling blades supported within said lens body adjacent said lens, an oscillatable driven member within said lens body drivingly connected to said blades to close said blades when oscillated in one direction to a certain position and to move said blades toward open position when said driven member is oscillated in the other direction, the extent of opening of said blades being proportional to the extent of oscillation of said driven member, normally arrested motive power operated means within said camera body including means to move said mirror, and an oscillatable driving member in the camera body drivingly connected to said driven blade operating member carried by the lens body, said power operated means including means within the camera body for oscillating the oscillatable driving member and consequently the driven member to variable extents and in either direction in such a way that said driven member normally holds said blades in fully open position, then closes said blades fully, then opens said blades to an adjustable predetermined extent, then closes said blades fully and then opens said blades fully.

3,145,635
PHOTOCOPYING DEVICE
Johannes Gegalet and Hans Sukopp, Neu-Ulm, Germany, assignors to Lumoprint Zindler KG., Hamburg, Germany
Filed Feb. 20, 1963, Ser. No. 260,016
Claims priority, application Germany Mar. 31, 1962
10 Claims. (Cl. 95—75)

9. A device for the production of copies, comprising a housing with two inlet apertures and an outlet aperture; a treatment vessel in said housing provided with guide means for directing sheets of copy material through a treatment bath therein, said guide means extending from said inlet apertures; an exposure device in said housing; a pair of squeezing and transport rollers for said sheets rotatably supported within said housing ahead of said outlet aperture beyond said guide means; drive means for concurrently operating said squeezing and transport rollers and said exposure device; switch means on said housing for actuating said drive means; a collapsible storage container of flexible materal disposed below the level of said treatment bath in said housing for the storage of treatment liquid; conduit means extending from a location at the bottom of said vessel to said container; a pressure element movably supported in said housing for effecting transfer of treatment liquid between said vessel and said container; a cover movably supported on said housing and extending in a position of closure over said inlet and outlet apertures; and link means operatively coupling said cover with said pressure element and said switch means for actuating said drive means and delivering liquid from said container to said vessel in response to opening of said cover.



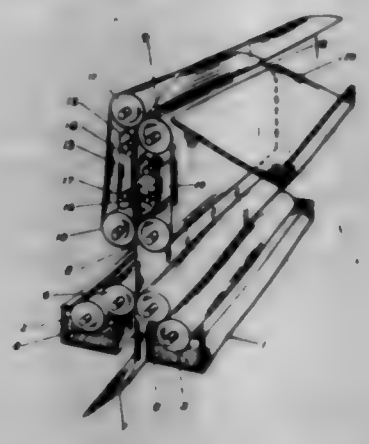
3,145,636
SERVICING EQUIPMENT FOR NUCLEAR REACTORS
Robert Hugh Hall, Harwell, Didcot, and Geoffrey Howard and Cyril Charles Ovens, Culcheth, Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Apr. 13, 1959, Ser. No. 805,918
Claims priority, application Great Britain Apr. 15, 1958
11 Claims. (Cl. 95—86)



1. Viewing apparatus comprising elongated support means having a suspension section and a head section interconnected by an arm, said arm being connected to one end portion of the suspension section by a joint for pivotal movement about an axis transverse to the longitudinal axis of the suspension section and said head section being connected to one end portion of the arm by a joint for pivotal movement about an axis transverse to the longitudinal axis of the arm, said joints connecting said arm to said head section and said suspension section being so formed and operable with the sections connected thereto to permit the suspension section, arm and head section to assume common alignment along an axis ex-

tending in the same direction as the longitudinal axis of said suspension section, television camera means mounted on the head section for pivotal movement about an axis transverse to the longitudinal axis of the head section, means for operating said arm, head section and camera means so that in one operable position said suspension section, arm, head section and camera means are in common alignment and in other operable positions are out of common alignment, and actuator means operating said means and connected with the other end portion of the suspension section for causing said pivotal movement of the arm, of the head section, and of the camera means.

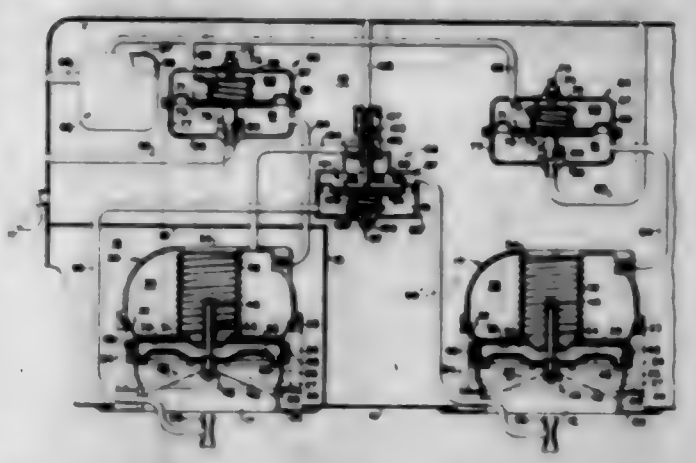
3,145,637
DIAZOTYPE DEVELOPMENT APPARATUS
Frederick H. Frantz, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1960, Ser. No. 42,369
1 Claim. (Cl. 95—94)



An apparatus for developing and drying diazotype paper comprising two elongated trays, adapted to contain a liquid, positioned side by side in spaced relation to each other, a transfer roller positioned in each tray and adapted to be partially immersed in the liquid, an applicator roller positioned parallel to each transfer roller and in contact therewith, two sets of adjacent parallel rotatable rollers vertically spaced and positioned with both the bites between the two sets of rollers in substantial alignment with the bite between the two applicator rollers, an endless belt supported and moved by each set of said two sets of rollers, stationary heating means positioned in the space between the two runs of each belt to heat said paper as it is being moved by the belts and an arcuately curved plate positioned to press against the run of one of the belts which is in contact with said paper to press the paper between the two belts and to impart a curvature to said paper while it is being dried.

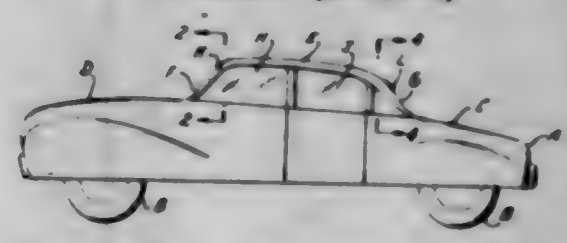
3,145,638
FLOW BALANCING DEVICE FOR PRESSURE CONTROL SYSTEMS
Richard A. Fischer, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 3, 1959, Ser. No. 831,261
8 Claims. (Cl. 98—1.5)

1. Mechanism for controlling the pressure in an enclosure having a continuous flow of fluid therethrough, including: a plurality of outflow valves for controlling flow of fluid from the enclosure, each of said valves having walls defining a chamber; control pressure setting mechanism connected to said chambers for establishing a preselected operating pressure in each of said chambers; and means including a pressure controller means adapted to modify the operating pressure in the chamber of one of said valves to effect a predetermined proportional flow through said valves, said pressure controller means sensing a pressure differential indicative of the differential between the flow of fluid through one of said plurality of outflow



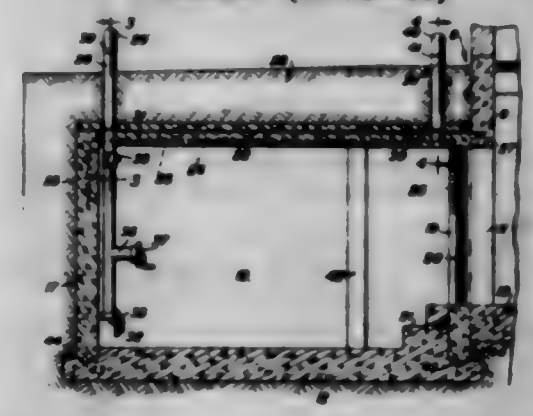
valves and the flow of fluid through another of said plurality of outflow valves.

3,145,639
AUTOMOBILE VENTILATING SYSTEM
Samuel R. Warner, 72—48 141st St., Flushing 67, N.Y.
Filed Aug. 14, 1961, Ser. No. 131,331
4 Claims. (Cl. 98—2)



1. A ventilating hot air escapement system for an automotive vehicle of the type having a closed body with a windshield and side and rear windows, said system having forward and rearward laterally widened slots extending across and forming laterally elongated narrow recesses in the upper edges of the windshield and the rear window adjacent the top thereof to assure a through stream of ventilating air, there being two separated front slots at the sides of the windshield and a central slot in the central portion of the rear window so that the stream of ventilating air will enter at the sides of the windshield and exit at the central portion of the rear window and said windshield being in an inclined plane extending upwardly and rearwardly and said rear window being in an inclined plane extending upwardly and forwardly and said slots respectively being positioned in said inclined planes.

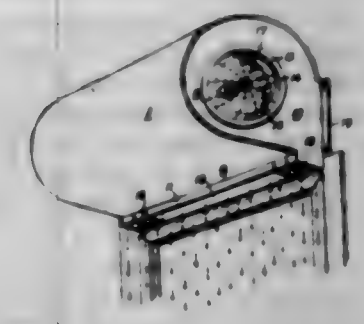
3,145,640
UNDERGROUND SHELTER
Ahmed Jaha, Stanley, N. Dak.
Filed May 18, 1962, Ser. No. 195,831
2 Claims. (Cl. 98—33)



1. In combination, a building structure embodying a basement having a floor and at least one vertical wall, said vertical wall being provided with an escape opening.

an underground fallout shelter cooperable with said basement wall and comprising a floor, front, rear and side walls and a roof cooperating with said walls, said front wall abutting the vertical wall of said basement and having an entrance and exit doorway therein in communication with said escape opening, said doorway being provided with a fire door, a vertical baffle wall marginally joined to the floor, roof and one side wall and spaced from said doorway and having one vertical edge spaced from an interior surface of the other side wall and permitting occupants to gain access to said shelter, the level of said floor being in a plane below the level of the basement floor and that portion of the shelter and floor thereof which is adjacent to and in alignment with said doorway being provided with steps, and ventilating means for the interior of said shelter comprising an atmospheric air intake and supply conduit extending from a point above ground level and vertically downward through said roof and into the interior of said shelter, an air exhaust conduit extending through the roof and affording communication between the interior of said shelter and the atmosphere, the upper end of said exhaust pipe likewise extending to a level above the ground, the upper end of each conduit having an integrally mounted tubular horizontal crosshead communicatively connected to said upper end, the respective outward ends of said crosshead having downturned screen-covered end portions, an air suction fan communicatively connected to said air intake conduit and adapted to deliver atmospheric air therethrough into the interior of said shelter, a readily insertable and removable filter cartridge fitted through an opening provided therefor in said intake conduit, and a door hingedly mounted on said conduit and normally closing said opening and affording access to said cartridge, said opening, door and cartridge being disposed in a plane above the plane of said suction fan.

3,145,641
AIR SCREEN CREATING APPARATUS
John Maynard Morrison, Brighton, near Sydney, New South Wales, Australia, assignor to Centrifio Pty. Limited, Brighton, near Sydney, New South Wales, Australia, a company of the Commonwealth of Australia
Filed Jan. 30, 1961, Ser. No. 85,883
2 Claims. (Cl. 98—36)



1. Air screen creating apparatus adapted to be positioned adjacent a door opening or the like comprising a hollow casing including a generally cylindrical side wall forming a volute casing, axial end walls, and a flat base plate forming an extension of said side wall, one edge of said cylindrical side wall being spaced from the lower edge of said base plate to form therebetween an outlet port in said casing, means defining inlet openings in said axial end walls of said casing, a tapered shroud extending inwardly from each of said inlet openings, a centrifugal blower mounted interiorly of said casing adjacent each inlet opening, a motor mounted on said base plate between said centrifugal blowers and operatively connected thereto to actuate them simultaneously, a triangularly shaped baffle mounted interiorly of the casing adjacent said one edge of said cylindrical side wall whereby air drawn into the interior of the housing by said centrifugal blowers engages said baffle and is directed through said outlet port, said outlet port being disposed adjacent a door opening or the like so that the air discharged therethrough provides an air screen and at least one vane adjacent a terminal end of said outlet port which is selectively adjustable so that the width of the air screen created may be varied selectively.

3,145,642
MULTI-LOUVER GRILL
Alan L. Radcliff, % Air Guide Plastics Corp., 20 SE. 3rd Ave., Miami 32, Fla.
Filed June 8, 1960, Ser. No. 34,822
6 Claims. (Cl. 98—40)



1. In a diffuser apparatus comprising a frame, a plurality of substantially parallel louvers rotatably supported at their ends by said frame, each louver including an aperture therein, an arm extending across each aperture, a connector member, means coupling each louver to said member, said means including pairs of spaced fingers projecting from one edge of said member and defining jaws, each jaw embracing the arm on one of said louvers at a point spaced to one side of the axis of rotation of each respective louver, the space between the fingers of each jaw at the mouth thereof being less than the transverse dimension of said arms, and each arm being rotatably disposed within its jaw.

3,145,643
RANGE HOOD
Robert L. Strouth, Waterloo, Ontario, Canada, assignor to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 27, 1963, Ser. No. 304,799
2 Claims. (Cl. 98—115)



1. A kitchen range hood comprising adjoining rear and top panels for mounting against the vertical and horizontal walls respectively of a building structure, means defining first and second rectangular openings in said rear and top panels respectively being substantially identical in configuration and size, said first and second openings both being disposed adjacent the junction of

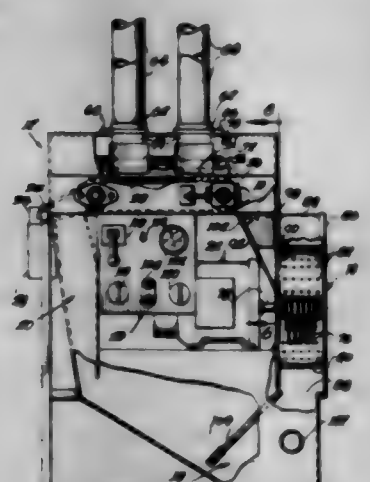
said rear and top panels to form a single aperture in the hood, a damper attachment for mounting on said rear and top panels in alignment with said openings including a flat covering plate having a configuration similar to and a size larger than either of said openings, a rectangular frame secured to one edge of said plate at right angles thereto and having an outlet aperture therein, said frame having an outer periphery similar in configuration to and larger in size than said openings, a duct secured to said frame and extending perpendicularly therefrom parallel to said covering plate in communication with said aperture, a resilient foam damper strip secured to said duct around the periphery of said outlet aperture, a lightweight damper pivotally mounted in said duct on the downstream side of said strip for movement between an open position wherein said damper is spaced from said strip and a closed position wherein the periphery of said door engages said strip to seal against air flow into the hood, a flat elongated baffle on said damper attachment extending from said damper strip and parallel to said covering plate and terminating in a support panel between said plate and said baffle, said baffle and said plate being spaced apart a distance equal to the distance between said covering plate and the innermost surface of said strip along the edge of said outlet aperture nearest said junction for eliminating turbulence at the entrance to said outlet aperture and insuring smooth flow outwardly of said hood, and means for securing said damper attachment to said top and rear panels with said plate covering said first opening and said frame surrounding said second opening or for alternatively securing said attachment to said panels with said plate covering said second opening and said frame surrounding said first opening thus providing the capability of easily adapting the hood to exhaust through the vertical or horizontal wall of the building structure.

3,145,644

BLENDING AND GRINDING APPARATUS

John L. Johnson, Decatur, Ill., assignor, by mesne assignments, to The Wyatt Manufacturing Co., Inc., Salina, Kans., a corporation of Kansas

Filed July 20, 1961, Ser. No. 125,452
8 Claims. (Cl. 99—235)



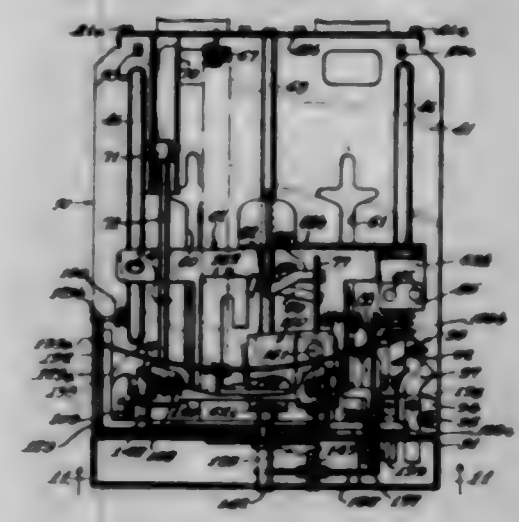
6. In a mill adapted for metering, blending and comminuting a plurality of dry flowable ingredients, a conveyor, a plurality of conduits terminating adjacent said conveyor, means for metering dry flowable material from each of said conduits to said conveyor, grinding apparatus adjacent one end of said conveyor, a discharge hopper beneath said grinding apparatus for receiving material from said grinding apparatus, material receiving means communicating with the other end of said conveyor, and means for selectively driving said conveyor for movement of material from said conduits toward either said one or said other end.

3,145,645

TOASTER

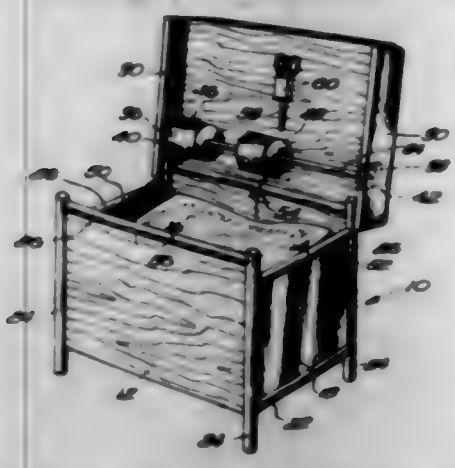
Ivar Jepsen, Oak Park, Ludvik J. Koci, Hinsdale, Fred O. Ottosen, Chicago, and Chester H. Wickenberg, Elgin, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 30, 1959, Ser. No. 862,936
3 Claims. (Cl. 99—329)



1. An automatic electric toaster comprising a frame, first electrical heating means carried by said frame, second electrical heating means, a first support having a vertically extending arm, a second support having a resilient vertically extending arm, a bimetallic element supported by said arms and arranged to be heated by said second electrical heating means, spring means biasing at least one of said arms toward the other to exert a compressive force on said bimetallic element whereby said bimetallic element will move between a first and a second position at predetermined temperatures, means for pivoting one of said supports for exerting additional variable compressive force on said bimetallic element thereby to vary the temperatures at which said bimetallic element moves between said first and second positions, a bread carriage vertically movable with respect to said frame, biasing means biasing said carriage upwardly, manually operable means for moving said carriage downwardly, switch means including a first plurality of normally open contacts adapted to be closed to electrically connect said first heating means across a source of electrical power and a second set of normally closed contacts adapted to be opened to connect said second heating means in series with said first heating means, means responsive to the position of said carriage for actuating said switch means, hook means on said carriage, a one-piece latch member pivoted to said frame having a pair of projecting fingers disposed in spaced parallel relationship for receiving a portion of said bimetallic element therebetween whereby said latch member is actuated by said bimetallic element, said latch member having a first latch bolt means engageable with said hook means to hold said carriage in its lowermost position against the return bias of said biasing means so that said switch means energizes both of said heating means until said bimetallic element is heated to one of said predetermined temperatures whereby it moves to its second position, said latch member having a second latch bolt means engageable with said hook means while said bimetallic element is in its second position to hold said carriage in an intermediate position so that said switch means energizes only said first heating means until said bimetallic element is cooled to the other of said predetermined temperatures so that it returns to its initial position thereby releasing said carriage for return to its uppermost position by the bias of said biasing means.

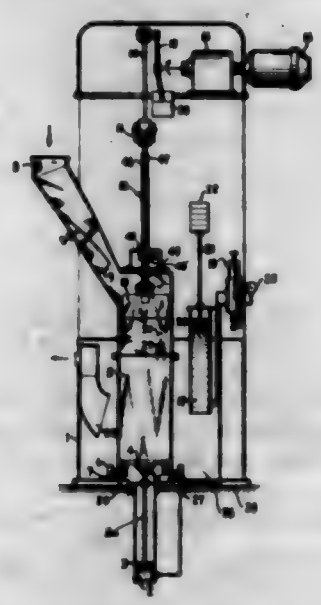
3,145,646
UTILITY BOX SEAT
William G. Levy, P.O. Box 179, North Conway, N.H.
Filed Oct. 1, 1963, Ser. No. 312,955
1 Claim. (Cl. 190—34)



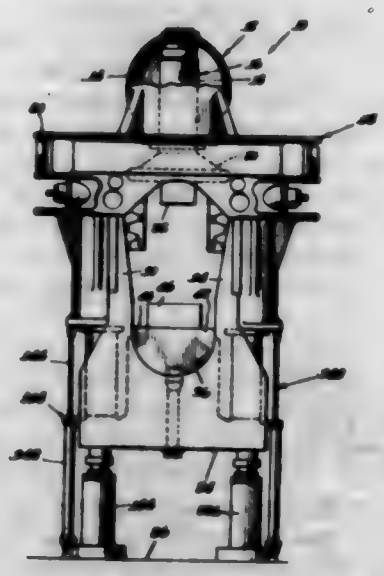
A utility box seat fitted for the storage and packaging of accumulated papers in flat form comprising a box having side, end and bottom panels providing an oblong interior storage space for papers laid flat in said box, and a cover overlying the top of said box hinged along one side panel thereof, and a packaging device comprising a twine package supporting rod secured to the underside of said cover extending lengthwise thereof adjacent the hinged edge, means confining a twine package to one end of said rod, means confining a second twine package to a central portion of said rod, twine guides centrally located at the upper edge of each end panel to receive a length of twine passing from said end supported package through the twine guide at the upper edge of the adjacent end panel, thence in a U-shaped loop downwardly along the length of the bottom panel and up to the other said end panel supported twine guide, and twine guides centrally located at the upper edge of each said side panel to receive a length of twine passing from said centrally confined twine package through said centrally located twine guide on the upper edge of the side panel carrying said hinge, thence in a U-shaped loop downwardly across said bottom panel and up to the other said side panel supported twine guide.

3,145,647
CART FILLING AND BALING MACHINE
Ivan V. Dinkov, Stanke Dimitrov, Pencho C. Rusev, Plovdiv, and Stephan L. Stephanov and Konstantin N. Nitchev, Sofia, Bulgaria, assignors to Bulgartabac, State commercial enterprise, Sofia, Bulgaria
Filed May 7, 1962, Ser. No. 192,927
6 Claims. (Cl. 100—53)

1. An improved leaf baling machine comprising, in combination, a cart having a bottom movable vertically between an upper empty position and a lower full position, leaf feeding means having a vertical lower section for feeding leaves into said cart, locking means for releasably locking said cart in position to receive leaves delivered to said vertical lower section of the leaf feeding means, a pressing piston having bottom cover flaps pivotally mounted thereon so as to be movable between an open position providing a vertical passageway through said piston, and a closed position for pressing leaves in said cart, said piston being mounted to vertically reciprocate in said vertical lower section of the leaf feeding means, said piston being movable to its lowermost position with the cover flaps in their closed position, driving means for reciprocably driving said pressing piston vertically in timed reciprocating motion, linkage means connecting said bottom cover flaps of said pressing piston to said driving means and including means relatively movable for closing said cover flaps on the down stroke of said piston and for opening said flaps on the upstrokes of said piston, hydraulically operated supporting means for movably supporting said movable bottom between said upper empty and lower full positions, control means comprising means for selectively controlling said supporting means manually in moving the movable bottom from said lower full position to said upper empty position, said control means including means operated by pressure of the downstrokes of said pressing pistons for controlling movement of said movable bottom from said upper empty position to said lower full position in successive steps, said control means including means adjustable to provide for the successive displacements downward of said supporting means when a selected pressing piston pressure is reached during each downstroke of said piston, whereby a layer of leaves from the leaf feeding means fed into said cart through said pressing piston with its cover flaps open on each up-stroke is compressed by said pressing piston with its cover flaps closed on each down-stroke and said movable bottom is displaced on each downward stroke a distance equal to the compressed layer of leaves admitted in the previous up-stroke and said layers are of substantially the same density.



3,145,648
HIGH ENERGY IMPACT FORMING MACHINE
Josef Karl Marek, San Diego, Calif., and Christopher Zellenga, Chicago, Ill., assignors to Trans Energy Corp., New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,359
17 Claims. (Cl. 100—264)



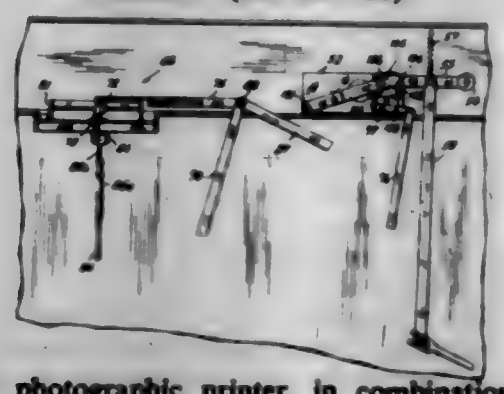
1. A machine of the type described, comprising a one-piece completely metal frame including a head portion, a

relatively heavy base portion spaced from said head portion and side elements extending from said head portion and having integral junctions with said base portion, a ram disposed for reciprocal movement between said head and base portions, sealed high pressure pneumatic means on said head portion for actuating said ram through a working stroke at a high velocity and directing the ram against a workpiece with a high impact force, means for recocking and releasably retaining said ram including a latch structure mounted for movement along said frame between said head and base portions, means for actuating said latch structure between said head and base portions, said base portion including a rounded seat oppositely from said ram and substantially merging with said junctions, and a metal pad member separate from and substantially complementary to and fitting within said seat for supporting a workpiece to be processed and for distributing impact loads across said base portion in a manner which minimizes stress concentrations at said junctions.

3,145,649
FILM FEEDING, NUMBERING AND CUTTING DEVICE

Wilhelm Baumer, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany

Original application Mar. 22, 1960, Ser. No. 16,753. Divided and this application Nov. 21, 1960, Ser. No. 70,542
Claims priority, application Germany, Mar. 26, 1959, A 31,686
7 Claims. (Cl. 101—80)



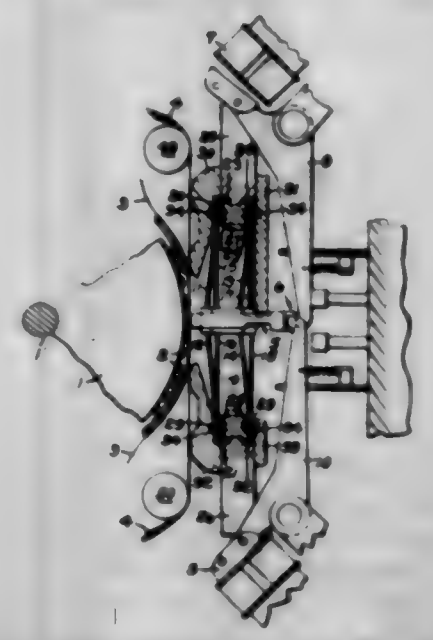
5. In a photographic printer, in combination cutter means for cutting across a strip of lightsensitive paper between a pair of prints thereon support means supporting said cutter means for movement longitudinally of the strip of paper; adjusting means operatively connected to said cutter means for selectively placing the latter in a selected one of a plurality of positions; driving means having an oscillatory driving member for driving said cutter means; coupling means for coupling said driving member with said cutter means in all of said positions, whereby said cutter means is actuated at each oscillation of said driving member, when said coupling means is closed irrespective of the adjusted position of said cutter means relative to the strip of paper; control means for controlling said coupling means; manually operable means for operating said control means; and delaying means connected with said manually operated means and said control means, which delaying means delays the operation of said control means over a predetermined number of oscillations of said driving member.

7. In a photographic printer as recited in claim 5 wherein said delaying means adjustable; stamping means for stamping the same number on each print of one series of photographic prints; switching means for switching the number of said stamping means, said switching means being connected with said manually operable means; and connecting means for connecting said cutter means with said manually operated means and for thereby adjusting said delaying means in relation of the position of said cutter means when said manually operable means is operated.

3,145,650
RECORDING APPARATUS

Gerard C. Wright, Grosse Pointe, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 3, 1962, Ser. No. 241,878
4 Claims. (Cl. 101—93)

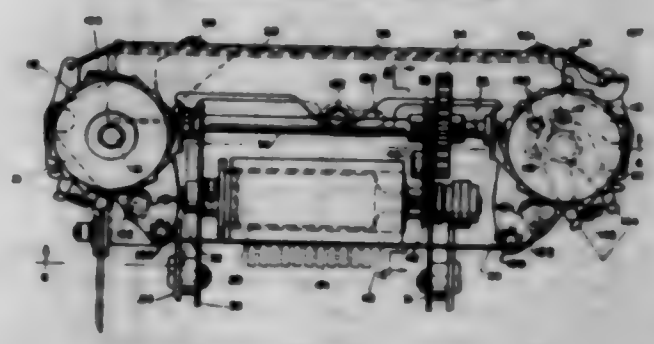


1. In a recording apparatus, a recording element, means for positioning a record member adjacent said recording element, an interposer, means for actuating said interposer to effect a recording impression from said recording element onto said record member, a first plurality of wire mounts affixed to said interposer and a second plurality of wire mounts affixed to said interposer means for rigidly securing the ends of said mounts, the plane formed by said first plurality of mounts intersecting the plane formed by said second plurality of mounts, the line formed by the intersecting plane being parallel to the longitudinal axis of said element.

3,145,651
CARRIAGE AND RIBBON MECHANISM FOR CALCULATING MACHINES

Ralph L. Schultz, Chicago, Ill., assignor to Victor Comptometer Corporation, a corporation of Illinois

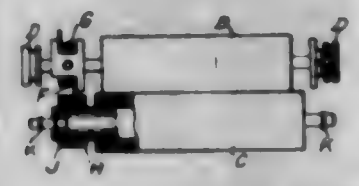
Filed Nov. 1, 1960, Ser. No. 66,635
9 Claims. (Cl. 101—336)



1. In a calculating machine having a pair of spaced spools carrying a ribbon adapted to be fed alternately for winding on one spool and then the other, a ribbon feeding and reversing mechanism comprising a deck having means rotatably supporting the spools, a pair of ratchet wheels each connected for rotation with a respective spool, a power slide mounted on the deck for reciprocable movement in the direction of one spool and then the other, a reversing slide mounted on the power slide for limited reciprocable movement relative thereto and having a pair of spaced notches, a pair of pawls pivotally carried by the power slide each having a lug engageable with a respective ratchet wheel and each having a stud engageable with a respective notch in the reversing slide, a pair of springs each secured to the power slide and to a respec-

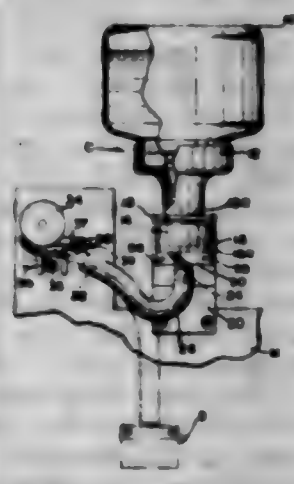
tive pawl urging the pawls toward normal positions for stepping engagement with the ratchet wheels upon reciprocable movement of the power slide, and cam surfaces on the reversing slide cooperating with the springs to urge one or the other pawl from its normal position into an inoperative non-stepping position for engagement of its stud in the respective notch latching the reversing slide to the power slide to cause reciprocable movement of the reversing slide with the power slide and to urge the opposite pawl into its normal position so that on reciprocation of the power slide only one pawl steppingly engages its respective ratchet wheel to feed the ribbon.

3,145,652
AXIALLY RECIPROCATING INK ROLLER MECHANISM
Mendel Schwartz, Nof Carmel St., Kfar Ata, Israel
Filed Oct. 5, 1961, Ser. No. 152,374
2 Claims. (Cl. 101—348)



1. An ink spreading device for use in a printing machine, comprising a first rotatable roller, a second rotatable roller parallel with and contacting said first roller and having a diameter larger than said first roller, collar means mounted on said second roller and having a left-hand and a right-hand threaded surface portion, resilient finger means mounted on said first roller for engagement into the threads of said collar means for axially moving said second roller in one direction when said finger means engage in said left-hand threaded portion and in the opposite direction when said finger means engage in said right-hand threaded portion.

3,145,653
LIQUID SUPPLY SYSTEM
Francis K. Lake, Euclid, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 265,113
7 Claims. (Cl. 101—364)

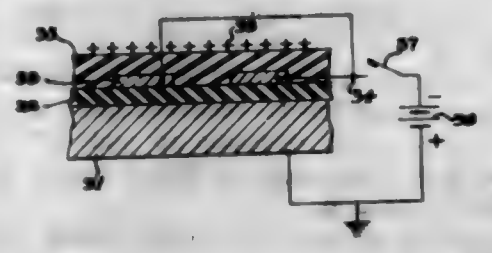


1. A liquid supply system comprising a reservoir; a support mounted at substantially the same level as said reservoir; an open-topped primary liquid reception and liquid level determining receptacle having its top opening free of outflow-impairing configurations, said receptacle being carried by said support in a normal, erect, liquid reception position and readily engageable with and disengageable from said support; a flexible conduit connecting said reservoir and said receptacle; means for supplying liquid to said receptacle and for maintaining a predetermined liquid level therein; and readily releasable retention means for retaining said receptacle engaged with said support in said normal position, whereby the receptacle may be conveniently withdrawn from the support and inverted and lowered to drain said reservoir.

3,145,654
PRINTING PLATES
Stephen W. Johnson, Jr., Lafayette, Charles G. Harford, San Mateo, and Gordon W. Allen, San Francisco, Calif., assignors to Printing Plates Research, Inc., Columbus, Ohio, a corporation of Ohio
Filed Apr. 8, 1957, Ser. No. 651,190
3 Claims. (Cl. 101—401.1)

1. The method of forming a plastic backed electrotype which comprises: making a vinyl resin impression of an original type form; separating said vinyl impression from said original type form, thereby producing an impression mold; depositing a thin layer of silver on the face of said mold; electrodepositing a copper shell on the silvered face of said mold; electrodepositing tin on the exposed portion of said copper shell; bending up the peripheral edges of said mold to form a dam around said mold; applying a liquid sensitizing agent to the said copper shell; applying an epoxy resin composition to the sensitized copper shell while retaining said mold against a substantially flat plane by vacuum means; curing the said epoxy resin composition while retaining said mold against said substantially flat plane; stripping the vinyl resin mold from the resulting epoxy resin backed copper shell to provide an unfinished plastic backed electrotype; finishing said plastic backed electrotype with conventional metal working electrotype equipment; and mounting the finished plastic backed electrotype.

3,145,655
EQUIPOTENTIAL XEROPRINTING MEMBER AND PROCESS OF PRINTING THEREWITH
William D. Hope and Christopher Snelling, Rochester, N.Y., assignors to Xerox Corporation, a corporation of New York
Filed June 23, 1959, Ser. No. 822,306
7 Claims. (Cl. 101—426)

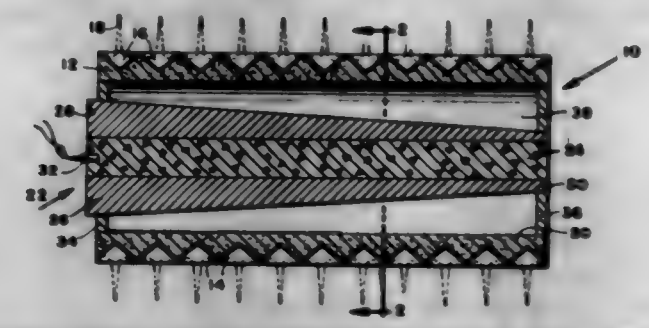


2. A process of xeroprinting comprising uniformly charging the surface of a xeroprinting master, varying the surface electrostatic energy distribution in image configuration while maintaining said uniform potential, thereafter contacting said surface with electrostatically attractable marking particles to form a visible image corresponding to said energy distribution and transferring said marking particles to an image support member.

3,145,656
EXPLOSIVE WARHEAD
Melvin A. Cook and Wayne O. Urrenbach, Salt Lake City, Utah, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 14, 1959, Ser. No. 833,652
7 Claims. (Cl. 102—24)

1. In a warhead having a first explosive material with a cylindrical bore therein co-extensive with its length and an elongated cylindrical initiator disposed within said bore extending between opposite ends thereof, means

for detonating said initiator substantially at a point along its length, said initiator being of such a character that when detonated at said point it produces a detonation front which propagates in axial and radial directions, a first tube disposed between the initiator and the wall of the bore surrounding and engaging said initiator and having decreasing wall thickness in a direction away from said point and constructed of a material having the property of delaying the propagation of said detonation front,



said first tube and the wall of the bore being radially spaced to protect the first explosive material from damage by outward propagation of shock wave and particles of said first tube which emerge from the first tube ahead of the detonation wave, whereby a detonation front is effected in which all parts of the radially propagating portions of the front substantially simultaneously reach the wall of the bore to cause simultaneous initiation of the warhead along its length.

3,145,657
MISSILE ASSEMBLY
James E. Shrout, Middletown, and Alton Z. Hallum, Cleveland, Ohio, assignors to Aeronca Manufacturing Corporation, Middletown, Ohio, a corporation of Ohio
Filed Oct. 9, 1962, Ser. No. 229,367
8 Claims. (Cl. 102—37.8)



1. A target missile comprising a forebody section and a booster section,

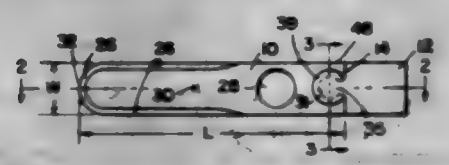
said forebody section including a hollow nose cone,

a ceramic coated metal recovery spike mounted within said nose cone operable to sink into the ground and slow dissipation of kinetic energy upon impact with the ground,

flare means mounted on said missile adjacent said spike, and

means to separate said nose cone from the remaining portion of said missile body during a missile flight whereby said recovery spike will be exposed to the atmosphere.

3,145,658
PROJECTILE AND WEAPON FOR FIRING SAME
Alan Glasser, South Acton, Mass., assignor to Creative Consultants Corp., West Acton, Mass., a corporation of Massachusetts
Filed July 20, 1962, Ser. No. 211,168
12 Claims. (Cl. 102—38)



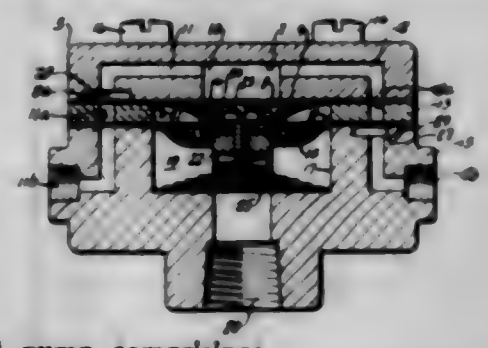
1. A round of ammunition comprising

a substantially thin and flat metal body approximately 1.50 inches long and .28 inch wide and .060 inch thick and capable of being stacked in face to face contact with like rounds of ammunition,

a flat percussion cap coplanar with and secured to one end of the body and housing a propellent,

and a primer carried by the cap and adapted to be ignited by a firing pin.

3,145,659
SUCTION ACTUATED FUEL PUMP
Ib H. Svendsen, Milwaukee, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 31, 1962, Ser. No. 220,844
14 Claims. (Cl. 103—37)



1. A fuel pump comprising:

(A) a body having a wall surface and a cavity opening to said surface;

(B) a flexible pumping diaphragm larger than the mouth of the cavity overlying said wall surface and having its medial portion extending across the mouth of the cavity to close the same when the diaphragm is in sealing engagement with the edge of the cavity;

(C) means sealing the peripheral portion of the pumping diaphragm to said body so that the pumping diaphragm and the body together form a pumping chamber of either small or large maximum volume depending upon whether said diaphragm is in sealing engagement with the edge of the cavity or spaced therefrom;

(D) means forming valved inlet and outlet passages leading into and from said cavity;

(E) means yieldingly biasing the pumping diaphragm toward said body and holding the same in sealing engagement with the edge of the cavity so that the maximum volume of the pumping chamber is normally small, and only said medial portion of the pumping diaphragm is operative to effect pumping;

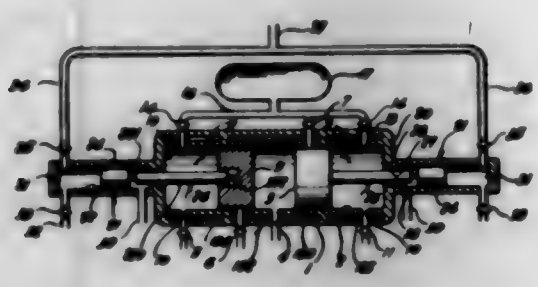
(F) a pulsation motor operable upon being energized by fluid pressure pulsations to effect reciprocating motion of a magnitude proportional to the magnitude of the energizing pressure pulsations; and

(G) means drivingly connecting said motor with the medial portion of the pumping diaphragm to flex it back and forth without disturbing the sealing engagement between said diaphragm and the edge of the cavity as long as the magnitude of the fluid pressure pulsations by which the motor is energized is less than a predetermined value, but to withdraw said pumping diaphragm from its sealing engagement with the edge of the cavity and thus increase the maximum volume of the pumping chamber and the displacement of the pump when the magnitude of the fluid pressure pulsations energizing the motor is in excess of said predetermined value.

3,145,660
FREE PISTON HYDRAULIC PUMP
Vannevar Bush, 304 Marsh St., Belmont 78, Mass.
Filed Feb. 15, 1963, Ser. No. 173,000
16 Claims. (Cl. 103—54)

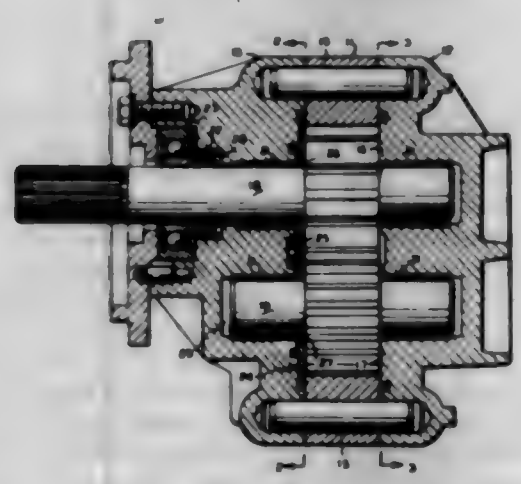
1. A free piston hydraulic pump unit, comprising in combination, a free piston engine and a hydraulic pump,

the output of the engine providing the input for the pump, said engine and pump each including a cylinder, an engine piston reciprocable in the engine cylinder and having a uniform radial clearance, a pump piston reciprocable in the pump cylinder and defining therewith an expansible oil chamber, means interconnecting the engine and pump pistons for related dependent movements,



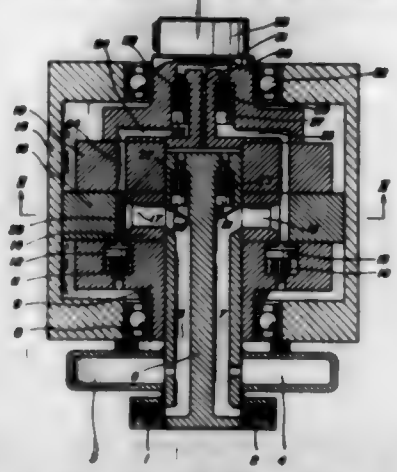
means adjustable relative to the stroke of the pump piston for adjusting the hydraulic output of the unit when operating at a constant piston stroke and cyclic frequency, and means including a thermostat, coolant, and coolant passage means within the engine piston, cylinder and interconnecting means operable to maintain related temperatures thereof for maintaining said radial clearance uniform throughout the operating conditions of the unit.

3,145,661
PUMP
Walter E. Marietta, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Dec. 19, 1962, Ser. No. 245,819
3 Claims. (Cl. 103—126)



1. In a hydraulic pump of the gear type including a housing formed with inlet and discharge ports and with a working chamber containing a pair of meshing gears, the meshing teeth of the two gears forming a closed pocket alternately in one gear and then in the other as the two gears rotate, shafts for the gears journalled in bearings supported in the housing, and means defining a restricted bearing feed passage which registers with said closed pockets but otherwise is isolated from free communication with the intertooth spaces of the gears for leading fluid from the closed pockets to and through at least one of the bearings, the improvement which comprises means defining a noise reduction chamber that is isolated from free communication with the inlet and discharge ports and communicates with said closed pockets as they approach, move through, and leave the full mesh position of the gears.

3,145,662
DEVICE FOR DAMPING VIBRATIONS, FLUCTUATIONS OF PRESSURE AND FLUCTUATION OF DELIVERY VOLUME OR SUCTION VOLUME OF ROTARY PISTON MACHINES
Karl Eickmann, 2420 Ishiki, Hayama-machi Miuragun, Kanagawa-ken, Japan
Filed Sept. 6, 1960, Ser. No. 54,111
17 Claims. (Cl. 103—223)

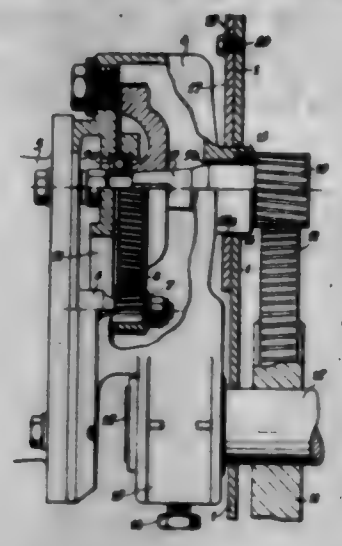


1. Rotary vane device comprising in combination a casing having an inner cylindrical wall, a cam ring disposed in said wall and having a radially inner sliding surface, a rotor disposed in said ring, said rotor being eccentrically rotatably mounted with relation to the inner surface of said ring, rotor side walls connected to the axial ends of said rotor for rotation therewith and having medial wall surfaces adjacent the rotor ends, which extend radially outwardly past the ring inner surface, slots formed in said rotor, vanes disposed in said slots for reciprocation therewith, to define between the vanes, the ring inner surface, the outer radial surface of said rotor and the medial surfaces of said rotor side walls, intervane spaces, control means having an inlet conduit for passing fluid to said intervane spaces and an outlet conduit for passing fluid from said intervane spaces, and damping means provided in at least one rotor side wall in immediate and direct flow communication with said intervane spaces, said damping means being pressure responsive to the fluid pressure fluctuation in said intervane spaces caused by the fluid volume fluctuation during operation of the device for damping the fluid pressure by adjusting the volume during peak fluctuations.

3,145,663
GEAR BOX MOUNTINGS FOR CRANES
Peter Duncforth Matterson, Rochdale, England, assignor to Doity Cranes Limited, Manchester, England, a British company
Filed Apr. 26, 1961, Ser. No. 105,721
Claims priority, application Great Britain Apr. 27, 1960
1 Claim. (Cl. 105—136)

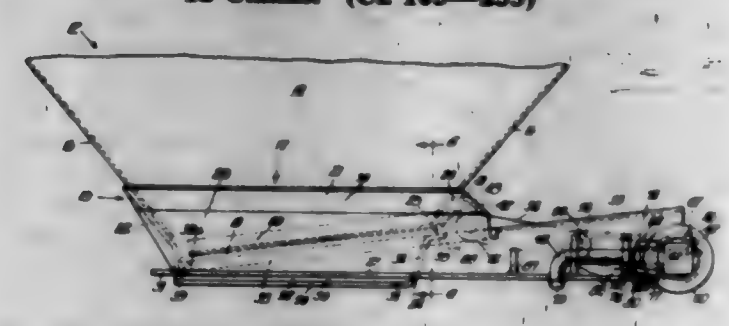
In a drive transmission of a crane, the crane being traversible along a trackway and including a crane carriage having a frame for supporting a non-rotary axle of a track wheel and a driven wheel with the track and driven wheels being driven unisonly for traversing the crane along its trackway; the improvement comprising, a power unit positioned at one side of the frame of the crane carriage and constituted by a gear housing supporting a driving motor with an output shaft extending from the driving motor and into the gear housing and fitted with a driving pinion, a toothed wheel mounted on a driving axle journalled in the gear housing of said power unit and meshing with the driving pinion of said power unit, the driving axle of said toothed wheel extending outwardly of the gear housing of said power unit and carrying a driving pinion meshing with the driven wheel on the non-rotary axle of the crane carriage, means for securing the gear housing of said power unit angularly relative to the non-rotary axle,

the gear housing having a boss through which the driving axle is extendable, and clip means receivable axially of the boss of the gear housing for securement to the frame of the crane carriage and holding the gear housing in se-



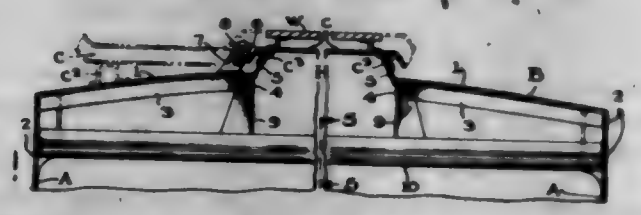
lected position of adjustment relative to the frame and resisting torque generated around the non-rotary axle by the driving pinion, and means securing said clip means to said frame.

3,145,664
GATE LATCHING MEANS FOR A HOPPER DISCHARGE OUTLET STRUCTURE
George B. Dorey, 540 Cote St. Antoine Road, Westmount 6, Quebec, Canada
Filed Sept. 26, 1962, Ser. No. 226,338
12 Claims. (Cl. 105—253)



1. In a discharge outlet assembly for a hopper having a discharge opening and a sliding gate for the opening:
(*a*) means for moving the gate including a rotatable shaft and interengaging means between the shaft and gate for moving the latter by rotation of the shaft,
(*b*) an operating member on the shaft, and
(*c*) an elongated sealing pin lineally movable along its axis in the general direction of movement of the gate and adapted to be moved transversely of the axis of rotation of the shaft into the path of movement of a part of the operating member for preventing rotation of the shaft.

3,145,665
LOADING HATCH FOR FREIGHT CARS
Samuel C. Hamilton, Clifton, N.J., assignor to Magor Car Corporation, Clifton, N.J., a corporation of Delaware
Filed July 25, 1961, Ser. No. 126,605
1 Claim. (Cl. 105—377)



A freight car, including, in combination,
fixed side walls,
a permanent roof structure comprising,
a series of roof plates supported by reinforcing ribs, said plates and ribs secured at their outer ends directly to said side walls,
inwardly and upwardly inclined converging walls constituting a part of said permanent roof structure and spaced to provide a central medial longitudinally disposed unobstructed hatchway extending substantially throughout said permanent roof from one end to the other,
cross members spaced beneath the roof structure and hatchway and having their outer ends secured directly to the side walls below said ribs,
laterally spaced upright members for each cross member and having their lower ends supported thereon,
said upright members also having their upper ends disposed in supporting relation to and beneath the lower portions of said converging walls,
cover means for said hatchway,
said cover means including aligned sections with gaps between the transverse ends thereof,
a seal pivotally connected at one end to said roof plates and including a T-section whose flange constitutes the exposed face of the seal and whose web is provided with a flexible member to span said gap between said adjacent sections,
and means at the free end of the seal opposite its pivotal connection of the roof to secure the free end to the roof.

3,145,666
RAILWAY CAR CENTER SILL
John H. Spence, Chicago Heights, and William Van Der Sluys, Homewood, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 29, 1962, Ser. No. 183,447
6 Claims. (Cl. 105—416)



1. A center sill for a railway car comprising a center portion, opposite end portions, and transition portions between said center and end portions, each of said portions including laterally spaced vertical webs and top and bottom cover plates fixed to said webs, said center portion being of greater depth than said end and transition portions with said bottom cover plate extending horizontally along said center portion and sloping upwardly from said center portion through said transition portions and continuing horizontally outwardly along said end portions, said bottom cover plate in each of said transition portions including a flat section which is inclined relative to adjacent bottom cover plate portions and which joins the bottom cover plate portion of said transition portion with the bottom cover plate portion of the adjacent end portion, opposite transverse margins of said flat section defining relatively distinct angles with the adjacent bottom cover plate portions for localization of stress applied to said section, and transverse plate means fixed to said webs and margins of said section and extending transversely of said section between said webs continuously fixed to said margins at said angles to rigidify said section.

3,145,667
THRESHOLD STRUCTURE AND METHOD FOR FORMING THE SAME
William R. Shaver, Hammond, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 28, 1961, Ser. No. 141,454
3 Claims. (Cl. 105—422)

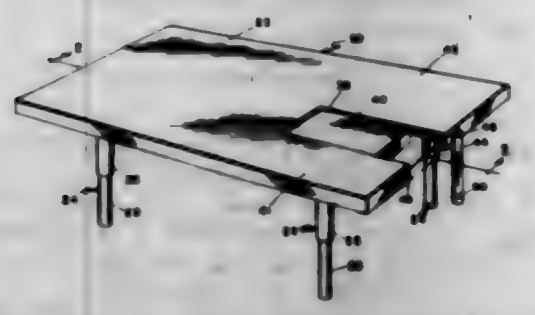
1. In a railway box car having opposed doorway frames extending upwardly from side sills, said car fur-

ther including a metal floor plank structure having a plurality of planks extending transversely of said car between said frames with opposite ends of said plank structure being spaced inwardly of said side sills, the provision of a threshold arrangement extending longitudinally of each side sill within said frames, said threshold arrangement comprising a longitudinal metal threshold support member in the space between an end of said plank structure and a side sill, said support member being of lesser width than said space and including a horizontal top surface portion substantially coplanar with the top surface of said plank structure and in abutment with adjacent ends of the planks of said plank structure, a longitudinal metal threshold plate including a horizontal web and outer edge depending web co-extensive with said support member, said depending web being outboard of said side sill and said horizontal web extending over said side sill in resting relation thereon and into overlapping engagement with the top surface portion of said support



member in longitudinally spaced relation with the ends of the planks of said plank structure, means connecting said threshold plate and side sill against vertical displacement of said threshold plate, the continuity of said threshold plate and side sill being uninterrupted by said connecting means, and longitudinally extending weld means marginally fixing said support member to said plank structure along the coplanar surfaces thereof and marginally fixing said horizontal web to said top surface portion of said support member, whereby the space between an end of said plank structure and a side sill is spanned and sealed and said threshold plate is fixedly mounted over said side sill through a doorway frame, said weld means constituting the sole means for fixing of said support member and for fixed attachment of said threshold arrangement to said plank structure, the weld means fixing said horizontal web extending accessibly along the exposed top surface area of said threshold arrangement.

3,145,668
CONVERTIBLE IRONING ASSISTANCE TABLE
Iwanse Pantazes, 520 E St., San Diego 1, Calif.
Filed Nov. 20, 1962, Ser. No. 239,030
4 Claims. (Cl. 108—93)



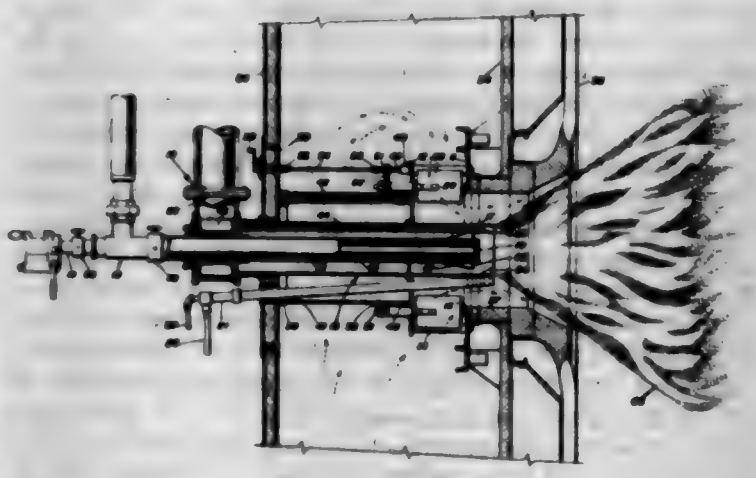
1. An ironing assistance table having at least two side edges and two end edges, a comparatively narrow and deep slot extending from one of said end edges toward the other of said end edges, said slot being adjacent to one of said longitudinal side edges, the depth of said slot being several times its width and being thereby proportioned to receive the legs of a leg-supported ironing board to place a substantial portion of the surface of the ironing board above said table in longitudinal alignment therewith, guide means beneath said table and being disposed parallel to said side edges, and extending longitudinally beneath said table beyond the inner end of said slot, a closure means slidably carried in said guide means and adapted to selectively close and open said slot, and a locking means secured to said table and adapted to selectively overlie the end of said slot adjacent said one end edge.

3,145,669
LOCKING MECHANISM
Joseph Kupski, North Chicago, Ill., assignor to The Chicago Hardware Foundry Company, North Chicago, Ill., a corporation of Illinois
Filed Jan. 26, 1962, Ser. No. 169,057
5 Claims. (Cl. 108—148)



1. In combination with a tubular member, an expansion ring, means securing the expansion ring to said tubular member at one point therein, a split in the expansion ring opposite said point, a camming surface formed internally around the expansion ring and extending inwardly from the outer edge thereof, a drive cone having a complementary camming surface formed thereabout, and means for driving the drive cone into the camming surface on the expansion ring to expand the expansion ring against the tubular member so that the tubular member may lock against a snugly fitting collar on a table, said means including a plain cone having a peripheral inwardly inclined camming surface, said expansion ring having a corresponding oppositely facing inwardly inclined camming surface, and bolt means extending through said cones and including threaded means for drawing the cones together and into camming engagement with the expansion ring.

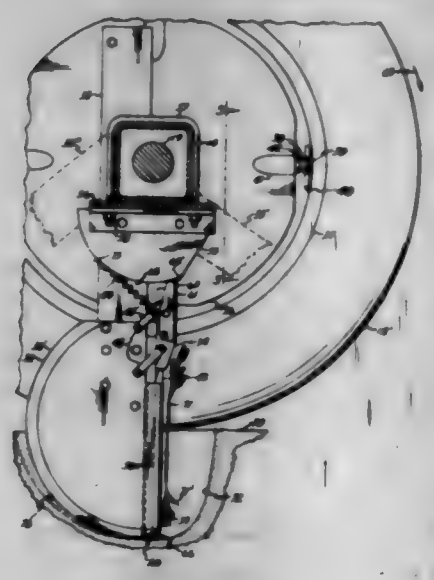
3,145,670
BURNER
Louis P. Copim, Worcester, Russell C. Rivers, Boylston, and Earle C. Miller, Worcester, Mass., assignors to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 16, 1961, Ser. No. 96,132
3 Claims. (Cl. 110—28)



1. A burner for steam generating unit having a combustion chamber wall and an air duct wall spaced out-

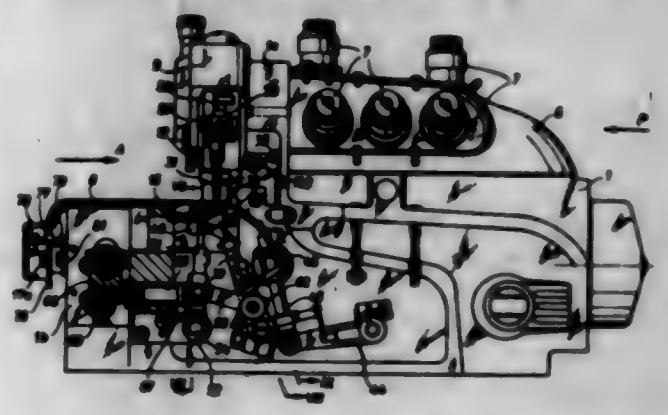
wardly therefrom, comprising a throat section adapted to be mounted on the chamber wall, an outer section adapted to be mounted on the duct wall, an intermediate section located between the throat section and the outer section, a fuel gun supported by the outer and intermediate sections and extending through an opening in the throat section, secondary air vanes extending between the intermediate and throat sections, a series of shafts each of which carries one vane and constitutes the sole support for its vane, a series of bearings mounted on the intermediate section, each of the bearings carrying the outer end of one of the said shafts, each of the shafts protruding from both sides of the intermediate section, one of the said vanes mounted on the portion of each shaft which extends toward the throat section, a chain drive mounted on the portion of each shaft extending away from the furnace, the chain drive extending around each of the shafts, means for driving the chain drive for the rotation of the shafts and the vanes simultaneously, and means for adjusting each vane shaft relative to the chain drive without disturbing the other vane shafts and vanes.

3,145,671
PLANTING APPARATUS
George W. Mosely, P.O. Box 6277, Jacksonville 5, Fla.
Filed Feb. 26, 1962, Ser. No. 175,689
7 Claims. (Cl. 111—3)



1. Apparatus for planting a seedling comprising a rotating ground engaging wheel, a narrow and flat ground penetrating shoe having a sharpened leading edge for opening a seedling receiving furrow in the ground without substantially disturbing the ground, mounting means connecting said shoe to said wheel for rotation therewith, channel means connected to said shoe for carrying the seedling on said shoe during rotation thereof, said shoe being adapted and arranged to rotate from a position above the ground to a penetrated position below the ground, said penetrated position of said shoe being within the ground a predetermined depth to dispose the seedling carried by said shoe with its roots below the ground level, and ejecting means including a cam and a cam follower, means supporting said cam follower on said shoe for simultaneous rotation therewith, said cam being connected to said apparatus and fixed relative to said cam follower, said cam actuating said cam follower upon rotation of said cam follower and of said shoe to its said penetrated position within the ground, said cam follower upon actuation by said cam being operable to engage and to forcibly discharge the seedling in a direction substantially opposite to the direction of rotation of said wheel and shoe from said carrying means.

3,145,672
OVEREDGE STITCHING MACHINE
Nerino Marferio, Milan, Italy, assignor to S.p.A. Virginio Rimoldi & C., Milan, Italy
Filed Mar. 20, 1962, Ser. No. 180,996
Claims priority, application Italy Apr. 6, 1961
2 Claims. (Cl. 112—162)

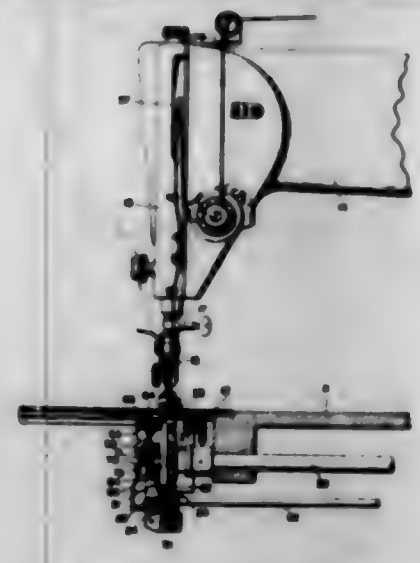


1. A sewing machine of the overedge stitching type comprising, means to sew work together comprising, means to sew a three-thread overedge stitch along an edge of said work, and means to simultaneously sew a two-thread chain stitch on said work spaced from said overedge stitch and parallel therewith comprising, a needle bar reciprocably driven, two needles on said bar, a plurality of loopers cooperatively actuated in timed relationship with each other and the reciprocably travel of said needles for effecting said two stitches simultaneously, means for actuating said needle bar, means for actuating said loopers in timed relationship relative to each other and said needles, said plurality of loopers comprising one looper actuated to cooperate with one of said needles to sew said chain stitch during advancement of said work and other loopers actuated to cooperate jointly with another of said needles to sew said overedge stitch, a given one of said other loopers actuated to cooperate with the remainder of said other loopers to form said overedge stitch, said means for actuating said loopers in timed relationship relative to each other comprising a pivotally mounted arm carrying said one looper, another pivotally mounted arm carrying said given looper of said other loopers, a connecting rod pivotally connected between said arms for actuating one of said arms from the other of said arms and in timed relationship therewith along a predetermined path, means to vary the angular position of the first-mentioned arm to cause said one looper to operate synchronously with said one needle comprising two pins eccentrically mounted relative to the pivotal axis of said another arm, means mounting one of said pins extending parallel with the pivotal axis of said another arm, the other pin being disposed pivotally connecting said connecting rod to said another arm, and means for varying the eccentric position of said pins relative to said pivotal axis of said another arm.

3,145,673
CONTROL DEVICE FOR LOCK STITCH SEWING MACHINE
Arthur S. Meloy, Jr., Stratford, Conn., assignor to The Singer Company, a corporation of New Jersey
Filed Oct. 2, 1962, Ser. No. 227,771
5 Claims. (Cl. 112—181)

1. In a lock stitch sewing machine having a thread carrying needle, a circularly movable loop-taker, a loop seizing beak and a thread loop manipulating surface formed on said loop taker, actuating means operatively connecting said needle and loop taker for cooperating movement as is required for the formation of lock stitches, a bobbin case journaled in said loop taker, a rotatable bobbin constrained against axial movement relatively to said bobbin case, spring detent means effective between said bobbin

case and said loop taker to constrain said bobbin case with said bobbin in a sewing position disposed completely within the path of a thread loop being manipulated by said thread loop manipulating surface of said loop taker, means for shifting said bobbin axially relatively to said loop taker from said sewing position into a winding position spanning the path of a thread loop being manipulated by said thread loop manipulating surface of said loop taker comprising, a bobbin case positioning member, means supporting said member for movement in substantially perpendicular paths one path parallel to the axis of circular movement of said loop taker and the perpendicular path into and out of positive engagement with said bobbin case, an operator influenced means for imparting movements in said substantially perpendicular paths to said bobbin case positioning member, and interlock means between said bobbin case positioning member and said sewing machine permitting movement of said member parallel to the axis of circular movement of said loop taker only when in positive engagement with said bobbin case and permitting movement of said member into and out of positive engagement with said bobbin case only when in a position corresponding to said sewing position of said bobbin.

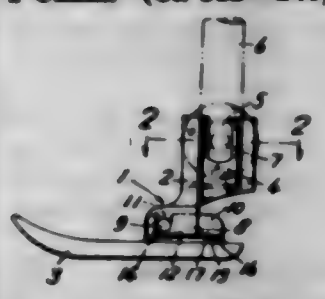


3,145,674

PRESSURE FOOT FOR SEWING MACHINES

Michio Kurihara, Tokyo, Japan, assignor to Kashin Seimitsu Kikai Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Jan. 2, 1963, Ser. No. 248,962
Claims priority, application Japan June 12, 1962
1 Claim. (Cl. 112—240)



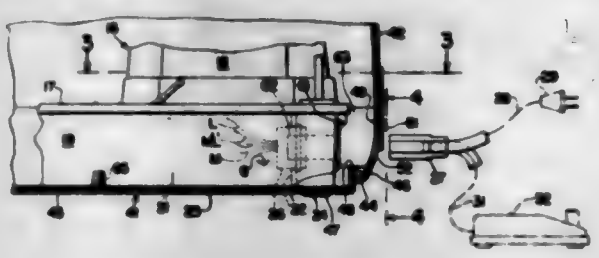
A pressure foot for a sewing machine having a pressure foot bar comprising a shank detachably connectable to the sewing machine pressure foot bar, an axle carried by said sank, a pressure shoe, a pair of spaced-apart ears extending from said pressure shoe each having a top recess capable of receiving a portion of said axle and an end slit, a spring having a flat portion with a pair of laterally projecting portions each inserted in one of said ear slits connecting said spring to said pressure shoe and a curved free end portion extending laterally of and between said ear recesses and capable of detachably engaging and retaining said axle when in said ear recesses for connecting said pressure shoe to said shank.

3,145,675

SEWING MACHINE AND CARRYING CASE WITH ELECTRICAL ADAPTER

James W. Momberg, Somerville, and Robert W. Graft, Bridgewater Township, N.J., assignors to The Singer Company, a corporation of New Jersey

Filed May 18, 1961, Ser. No. 110,936
4 Claims. (Cl. 112—258)



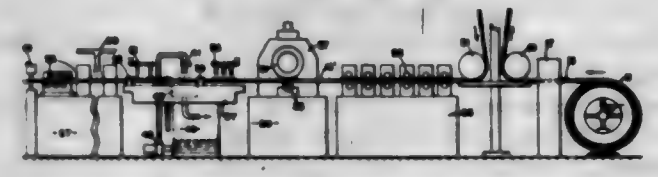
1. In combination a sewing machine, a bed portion formed as part of said sewing machine, an apertured bed skirt enclosing a portion of said bed, an electrical receptacle carried by said bed skirt, an adapter designed to be connected to said electrical receptacle, a carrying case having an apertured base member adapted to be connected to said sewing machine and to encompass a portion of said bed and bed skirt, to encompass said electrical receptacle and completely to encompass said adapter, means including the aperture in said base member accessible while said base member is connected to said sewing machine for engaging said adapter and thereby attaching electrical connections to said sewing machine without removing said bed from said base member, and means permitting removal of said sewing machine and said adapter as a unit from said base member.

3,145,676

MANUFACTURE OF METAL TUBING

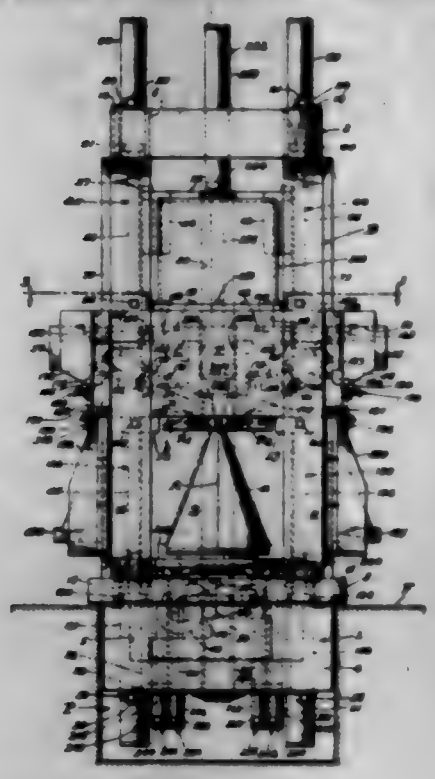
Isadore Caplan, 336 Laburnum Crescent, Rochester 20, N.Y., assignor of one-half to Markin Tubing, Inc., Rochester, N.Y., a corporation of New York

Filed June 14, 1960, Ser. No. 35,975
2 Claims. (Cl. 113—33)



1. The continuous process of manufacturing butt-welded and non-annealed steel tubing in continuous lengths having a bright and substantially scale-free exterior surface, comprising the steps of advancing steel stock continuously past successive stations at which the stock is formed to an approximately circular cross section with a longitudinal seam, butt welding the seam, applying cooling liquid to the welded tubing to cause partial cooling thereof in the area of the welded seam, applying pickling acid to the partially cooled tubing to remove any scale resulting from oxidation caused by the heat of the welding operation, and sizing the tubing to true the cross sectional shape thereof, said process being characterized by the novel feature that the pickling acid is applied to the tubing while the tubing is still relatively hot from the welding operation, thus promoting the speed of the pickling reaction without requiring reheating after welding, and that the pickling acid is applied to the tubing in advance of the sizing operation, so that the pickling reaction is not impeded by any oil used as a lubricant in the subsequent sizing operation.

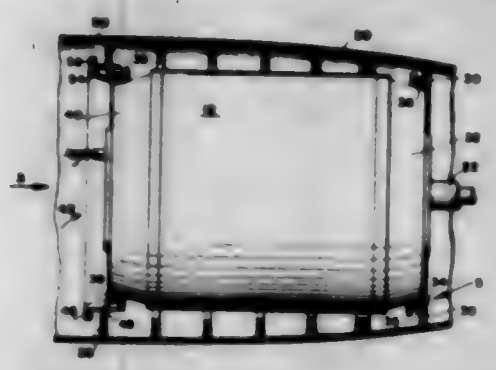
3,145,677
SHEET METAL WORKING
Claus L. Sporck, Cincinnati,, Ohio, assignor to The Lodge & Shipley Company, Inc., Cincinnati, Ohio, a corporation of Ohio
Continuation of application Ser. No. 823,984, June 30, 1959. This application Aug. 15, 1963, Ser. No. 303,471
19 Claims. (Cl. 113—52)



1. In a machine tool:
a frame;
a spindle rotatably mounted on said frame, the spindle being for mounting a blank to be worked;
a carriage mounted on said frame for movement in a direction along the rotational axis of said spindle;
means for moving said carriage during a working operation;
a first slide;
means mounting said first slide on said carriage for rectilinear movement relative to the carriage along a path oriented at an angle to said rotational axis;
means connected between said carriage and said first slide for moving the first slide along said path when the carriage is moving during the working operation;
a second slide;
a roller mounted on said second slide, the roller being for working a blank on the spindle;
means mounting said second slide on said first slide for rectilinear movement relative to the first slide along a second path oriented at an angle to said rotational axis different from first said angle; and
means connected between said first slide and said second slide for moving the second slide along said second path when the carriage is moving during a working operation, the relative motion between the spindle, the carriage and the first and second slides defining a path of motion for the roller during a working operation.

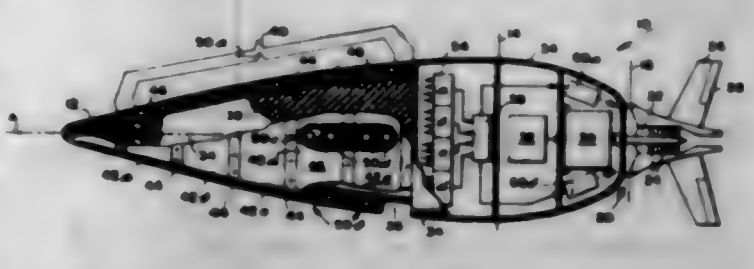
3,145,678
TORPEDO MOTOR MOUNTING STRUCTURE
John G. Shmorhun and Elbert H. Lenker, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 21, 1961, Ser. No. 154,081
3 Claims. (Cl. 114—20)

1. A torpedo motor mounting structure comprising, in combination: a torpedo section; a propulsion motor positioned entirely within said torpedo section and having end-bells of substantially frusto-conical configuration; said torpedo section having a pair of ring-shaped ribs at the motor end-bell stations; a clamp-ring member making sliding fit into one of said ring-shaped ribs and having an annular flange which is conically tapered to parallel the lateral surface of the end-bell adjacent thereto; the other of said ribs having a conically-tapered annular seat facing the lateral surface of the end-bell adjacent thereto; a pair of conically-tapered ring-shaped noise-isolation members, one sandwiched between the conically-tapered annular



flange of said clamp-ring member and the end-bell adjacent thereto, the other sandwiched between said seat of said other rib and the end-bell adjacent thereto; said clamp-ring member further having a peripheral flange confronting the rib adjacent thereto; and bolt means passing through said peripheral flange and threading into the rib adjacent thereto for drawing said clamp-ring member toward said other rib and thereby clamping said motor in place.

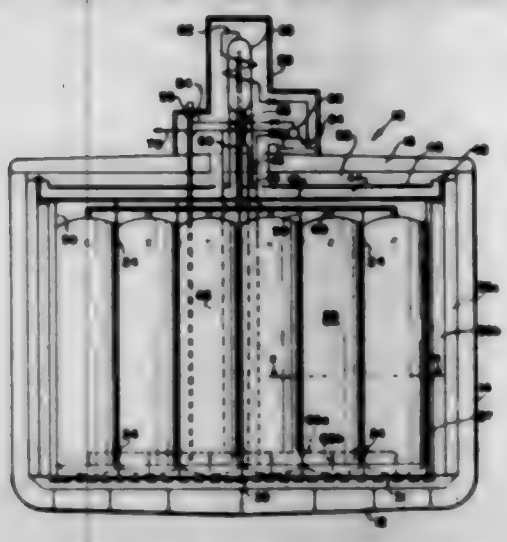
3,145,679
ACOUSTIC TORPEDO WARHEAD AND TRANSDUCER APPARATUS
John D. Brooks, Alhambra, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 13, 1963, Ser. No. 324,601
6 Claims. (Cl. 114—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In transducer apparatus for use in an acoustic torpedo having a high explosive warhead,
(*a*) a transducer element,
(*b*) an acoustic window medium disposed between the transducer element and the water medium to couple acoustic energy between the transducer element and the water medium, the improvements, in combination, comprising;
(*c*) said window medium being made of an explosive material forming an amorphous mass including a rubbery binder chosen to provide an acoustic impedance which approximates that of the water medium and including a high explosive chosen to be safe under normal handling of the torpedo and to detonate in response to explosion of the warhead to thereby augment its explosive capacity.

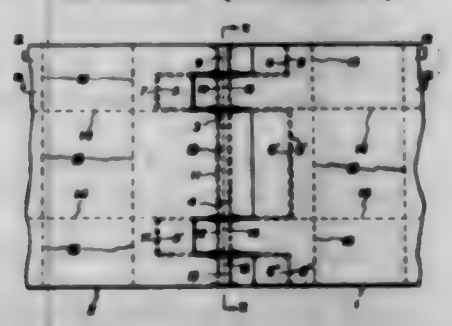
ERRATUM
For Class 114—66.5 see:
Patent No. 3,146,457

3,145,680
TRANSPORT OF LIQUEFIED GASES
George B. Parkas, Jackson Heights, N.Y., and Andrew D. Korin, Oakland, and John D. Milligan, Little Silver, N.J., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Filed Feb. 24, 1961, Ser. No. 91,586
1 Claim. (Cl. 114—74)



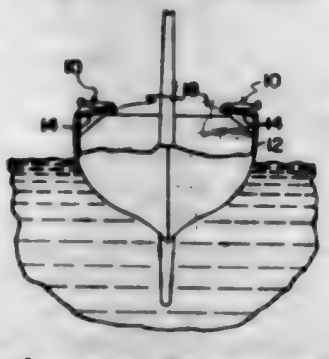
In combination with a tanker for transporting liquefied gases at temperatures below —40° F. wherein the tanker has a hull structure, walls in said hull structure forming holds, and heat insulating material on the inside of some of said walls, the improvement in a liquid containing assembly adapted to be mounted in at least one of said holds, which assembly comprises a nest of at least four vertical cylindrical containers, each having a diameter of between six and fourteen feet, said nest of containers being mounted on square pitch with the walls of the containers in contact, means to secure said containers one to another, a common supporting means to support the nest of containers, said containers having nozzles interconnected through the walls thereof in the areas of contact, said liquid containing assembly being spaced from the insulation on the wall of the hold to permit inspection of the external surfaces of the containers, the space in the area between the containers forming an access space for an inspector.

3,145,681
HULL CONSTRUCTION
Etsuo Nakagawa, Tarumi-ku, Kobe, Japan, assignor to Shin-Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan
Filed June 24, 1963, Ser. No. 290,118
Claims priority, application Japan June 25, 1962
10 Claims. (Cl. 114—77)



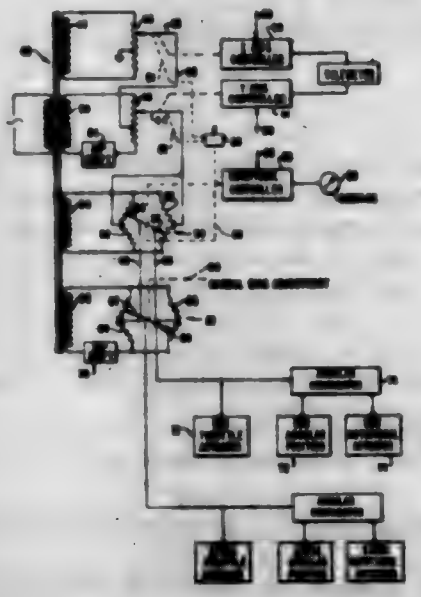
1. A hull construction comprising at least two hull sections in longitudinally aligned relationship, each of said hull sections including longitudinal extending bulkhead plates and shell plates, said sections including facing end portions, one of said end portions including at least one semi-cylindrical projection having side members, said side members being integral extensions of the plates of said one section, the other of said end portions including at least one semi-cylindrical recess having side members, said side members of said recess being integral extensions of the plates of said other section, said projection and said recess being in substantially mating relation and defining a common horizontal axis located at about the center of the hull with respect to the height thereof, and means for coupling the hull sections together for relative rotation about said axis.

3,145,682
BUOYANT PROTECTIVE DEVICE FOR BOATS
Louis Marie Alberic Truffert, 29 Blvd. Bourdon, Paris, France, and Louis Marie Paul Walter, 50 Rue de Londres, Paris, France
Filed July 5, 1962, Ser. No. 207,723
Claims priority, application France, July 6, 1961, 867,109, Patent 1,309,192
6 Claims. (Cl. 114—121)



1. Apparatus for preventing water flowing over the gunwale of a vessel from entering the interior thereof, comprising a band of floating material extending along said gunwale having a longitudinal edge and a surface adjacent said edge for engaging the water flowing over said gunwale, hinge means extending along the length of said longitudinal edge for pivotally securing said edge of said band along said vessel in water-tight engagement therewith for permitting said band to pivot from an outwardly lying position to an upstanding position in response to the inward flow of water over said gunwale against said surface.

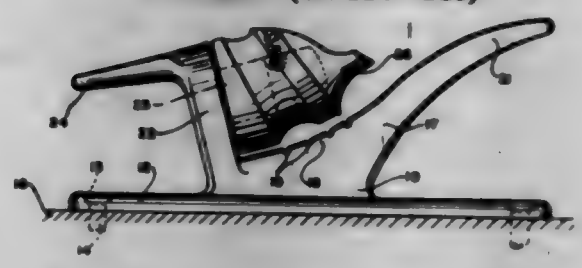
3,145,683
SHIP CONTROL SYSTEM
Robert H. Kolb, Houston, Tex., and Howard L. Shatto, Jr., Palos Verdes, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 22, 1961, Ser. No. 133,119
3 Claims. (Cl. 114—144)



1. A system for positioning a floating vessel over a desired location comprising: propulsion means located at the bow and stern of said vessel, each of said propulsion means having a variable thrust and a variable direction of thrust, tiltmeter means disposed to determine in two planes at an angle to each other the angular deflection

of an axis passing from the vessel through the desired location, said tiltmeter means supplying separate electrical signals proportional to each of the determined angles, a controller means coupled to the tiltmeter to receive the two separate electrical signals; a first circuit means coupled to said controller means for vectorially adding said separate electrical signals and supplying an output signal proportional to the vector sum of said separate signals; compass means disposed on the vessel for determining the heading of the vessel and supplying an electrical signal related to said heading, a compass controller means coupled to said compass means to provide a signal to restore the vessel to the desired heading, a second circuit means coupled to said compass controller means and to said first circuit means to vectorially add the compass controller output signal to the output signal of said first circuit means and supply a first control signal proportional thereto, a said second circuit means in addition vectorially subtracting the compass controller output signal from the output signal of said first circuit and supply a second control signal proportional thereto; said second circuit means being coupled to a third circuit means, said third circuit means including a means for generating a signal representing the desired biasing of the system, said third circuit means adding said biasing signal to said first control signal and subtracting the biasing signal from said second control signal to supply first and second command signals representing for each propulsion unit the required thrust and thrust direction to return said vessel to its desired location and actuating means disposed on said bow and stern propulsion unit for controlling the thrust and its direction, the bow actuating means being responsive to said first command signal and the stern actuating means being responsive to the second command signal.

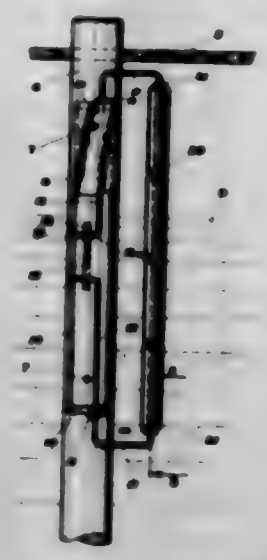
3,145,684
LOCKING CLEAT
Ora Bolton, Jr., Box 600, River Road, Cold Spring, Campbell City, Ky., and Charles Wade, 5422 Eastwood Drive, Cincinnati 27, Ohio
Filed Feb. 27, 1962, Ser. No. 176,076
6 Claims. (Cl. 114—218)



1. A cleat which comprises a body, a pulley having a conic face rotatably mounted on the body, the pulley having a small end, the small end being exposed, the body having a line-gripping portion adjacent the conic face of the pulley, the base of the conic face being closely spaced from the line-gripping portion of the body, the small end of the conic face being further spaced therefrom, there being a spiral groove in the conic face, the line-gripping portion and the conic face being adapted to grip a line received in the spiral groove.

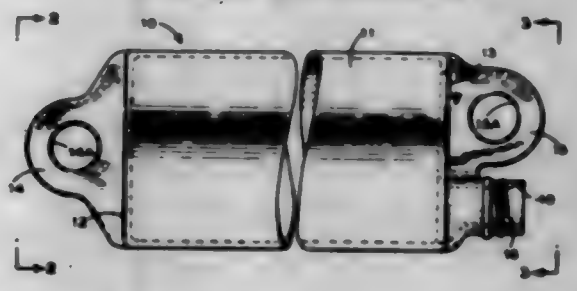
3,145,685
SHOCK ABSORBING BUMPER FOR BOATS AND DOCKS
Edward L. Kulick, Sr., 4516 SW. 28th Terrace, Fort Lauderdale, Fla.
Filed Oct. 1, 1963, Ser. No. 313,029
4 Claims. (Cl. 114—220)

1. A bumper device for yieldably opposing a boat that is moving in a path toward a piling of a dock, the bumper device being vertically arranged and parallel with the piling, the bumper device embodying a plurality of cushion rollers that are rotatable upon a tubular shaft, a channel member that is fixed to the outer side of a dock piling, torque rods disposed within the channel and with the torque rods extending from the upper and lower ends of the channel and journaled in bearings carried at the upper and lower ends of the channel, the outer ends of the torque rods being bent to an angle outwardly beyond the face of the channel and with the free ends of the rods



being bent downwardly to engage into the opposite ends of the tubular shaft of the rollers, the opposite ends of the torque rods being bent at a right angle and clamped upon the base of the channel whereby the rods are caused to create a torque action when the rollers are engaged by a boat, the tubular shaft and the rollers being parallel to the channel member and with the rollers constituting an abutment that is elongated and extends above and below the surface of the water to form a bumper for all degrees of tide levels.

3,145,686
BOAT BUMPER AND CONTAINER
John B. Blythe, 71 Richard St., Tenafly, N.J.
Filed Mar. 29, 1963, Ser. No. 269,108
1 Claim. (Cl. 114—219)



A boat bumper comprising
(*a*) an elongated hollow container having closed end walls, said end walls being formed integral with the side wall,
(*b*) a lug formed integral wtih at least one of said end walls, said lug having an aperture formed therein, and
(*c*) said lug being formed along the central axial plane of said container,
(*d*) one of said end walls having formed integral therewith an externally threaded spout defining an opening for said container,

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3,145,687
JET TYPE MOTOR
James A. Conley, Meadville, Pa., assignor to Revley Corporation, Meadville, Pa., a corporation of Pennsylvania
Filed Apr. 26, 1962, Ser. No. 190,273
3 Claims. (Cl. 115—12)

1. A jet outboard motor and means for installing it

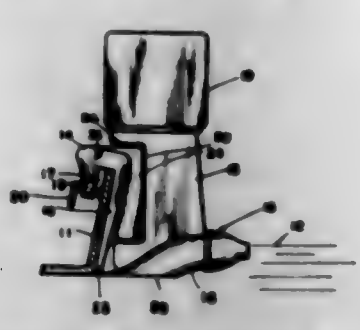
comprising: a first bracket having spaced legs adapted to rest against the outside of the transom of a boat,

clamping means for clamping said legs to said transom,

a second bracket having a downwardly extending arm adapted to extend substantially to the bottom of said transom.

pivot means attaching an outboard motor to said arm, said arm being pivotally atached to said legs adjacent the bottom of said transom.

a plurality of spaced holes in the top of said second bracket,



a hole in said first bracket adapted to be selectively aligned with said holes in said second bracket, a pin extending through said hole in said first bracket and one of said holes in said second bracket,

a channel in the bottom of said motor, said channel having an inlet being adapted to be disposed in a plane substantially parallel with the bottom of said boat, a jet discharge from said channel,

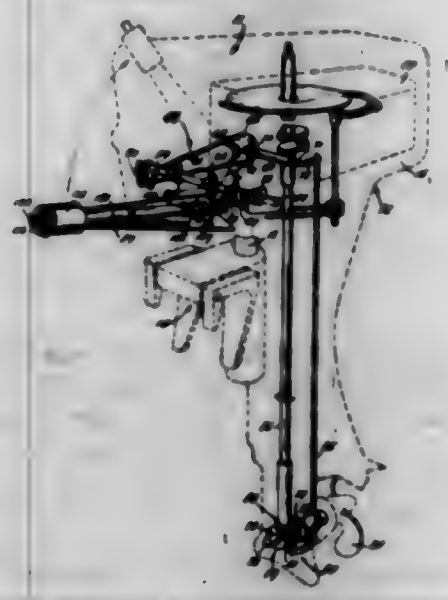
said inlet remaining adjacent the bottom of said transom irrespective of the said hole in said second bracket in which said pin is received.

3,145,688

SHIFT CONTROL BY MANIPULATION OF TILLER HANDLE

Leo T. Kincannon, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Mar. 12, 1962, Ser. No. 178,987
7 Claims. (Cl. 115—18)



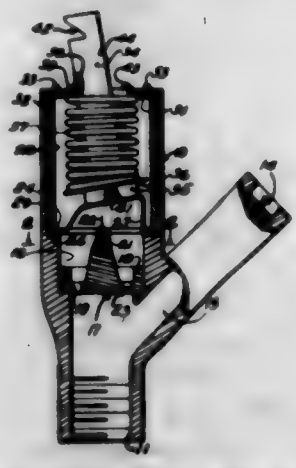
7. The combination in an outboard motor of steering means including a tiller, a propeller, a power shaft, a propeller shaft, power transmission means including clutch means for selectively connecting said power shaft to said propeller shaft for operation in forward drive connection and in rearward drive connection, means mounting said tiller for vertical pivotal movement between a neutral position and a predetermined clutch engaging position, and means connecting said tiller with said clutch means for selective actuation of said clutch means to connect said power shaft to said propeller shaft in a selected one of said forward drive and said rearward drive connections in response to movement of said tiller from said neutral position to said same predetermined clutch engaging position and for disconnecting said propeller shaft from said power shaft in response to movement of said tiller to said neutral position.

3,145,689

PRESSURE WARNING DEVICE FOR A PNEUMATIC TIRE

James C. O'Neal, 2806½ Ensley Ave., Birmingham, Ala.

Filed Feb. 1, 1963, Ser. No. 255,564
9 Claims. (Cl. 116—34)



1. In a pressure warning device for a pneumatic tire having a valve stem:

(*a*) a housing adapted to be connected at one end to the valve stem,

(*b*) a movable diaphragm extending transversely of said housing,

(*c*) means securing the periphery of said diaphragm to said housing to provide an air tight connection therewith and permit flexing of an inner portion of said diaphragm,

(*d*) a sharp projection carried by said housing in position to rupture said inner portion of the diaphragm upon a predetermined amount of movement of said inner portion of the diaphragm toward said projection,

(*e*) resilient means urging said diaphragm toward said projection with a force to move said diaphragm into contact with said projection upon a predetermined change in pressure within the tire whereby said projection ruptures said diaphragm to permit the escape of air through said diaphragm,

(*f*) warning means carried by the device in position to be actuated by the air escaping through said diaphragm, and

(*g*) a lateral air inlet conduit communicating with said housing between said diaphragm and said one end of the housing which is adapted to be connected to the valve stem.

3,145,690

WEIGHT DISCRIMINATING AUTOMATIC BIRD FEEDER

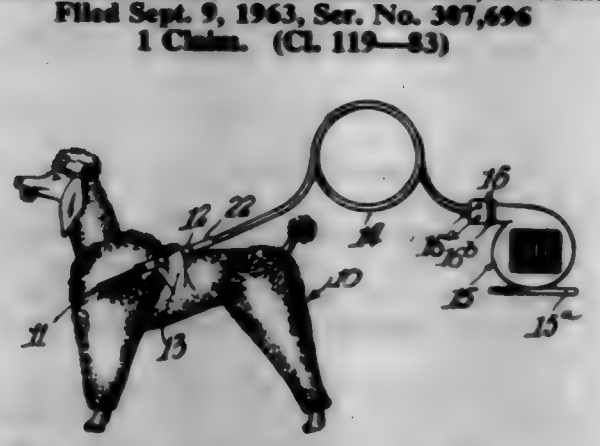
William S. Bachman, 26 Spruce St., Southport, Conn.

Filed Apr. 2, 1962, Ser. No. 184,167
5 Claims. (Cl. 119—51)

1. In a bird, or the like, feeding device, the combination comprising a feed container means arrangement having an area for holding feed so as to be accessible for feeding, platform means cooperating with said container means adapted to receive feed therefrom, support means fixedly mounting said container arrangement means and platform means on said support means, hood means slidably movable relative to said support means and surrounding said container means and selectively closing said feed area, resilient means supporting said hood means

in an upper position so that normally said area is open, perch means mounted in fixed relation to said hood means so that when an object exceeding a predetermined weight is on said perch means, said hood means will slide relative to said container means and said area to block access to said area platform means, and connecting means located outside of said platform connecting said hood means and said perch means.

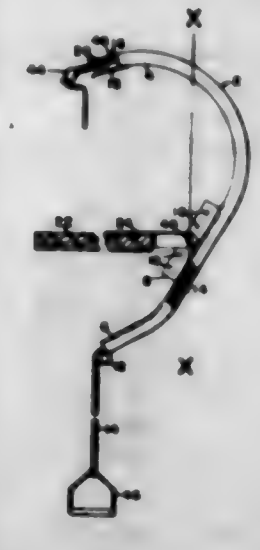
3,145,691
GROOMING APPARATUS
Charles Howard Yates, 902 S. Austin Blvd., Oak Park, Ill.
Filed Sept. 9, 1963, Ser. No. 307,696
1 Claim. (Cl. 119—83)



Apparatus for simultaneously grooming and drying the hair of a poodle, or the like, comprising a dryer adapted to deliver heated air under pressure, a flexible hose coupled at one end thereof to said dryer and providing a heated air outlet at the other end, a brush mounted on said hose other end, said brush including a rigid, plate-like back having a plurality of generally parallel rows of elongated bristles depending therefrom, an insulated tubular handle securing said back with said hose other end, said handle having a flat, projecting portion secured to said back and a generally circular air discharge opening disposed substantially below said back and in confronting relation with an adjacent portion of said rows of bristles whereby air issuing from said opening flows generally transversely to the length of said bristles and to said adjacent portion, said back when said brush is moved in a generally reciprocatory fashion in grooming a dog confining said air in and about said bristles.

3,145,692
HOLDING DEVICE
Carol D. Litwiller, R.F.D. 2, Delavan, Ill.
Filed Dec. 26, 1962, Ser. No. 247,234
6 Claims. (Cl. 119—103)

1. An animal holding device comprising: a clamp having pivot-providing means adapted to be secured to a work table, an animal-engaging portion adapted to overhang said table, a lever portion adapted to underhang the table, and guide means; a tension device movable relative to the clamp along a path defined by the guide means; leg-



holding means secured to the tension device in a position overhanging the table and supported by the animal-engaging portion; and an operator-operable control device secured to the tension device.

3,145,693
PULVERIZED FUEL FURNACE OF THE VERTICAL AXIS CYCLONE TYPE
Josef Walter, Esslingen (Neckar), Germany, assignor to Kohlenscheidungs-Gesellschaft m.b.H., a corporation of Germany
Filed May 22, 1962, Ser. No. 196,660
Claims priority, application Germany June 9, 1961
4 Claims. (Cl. 122—235)



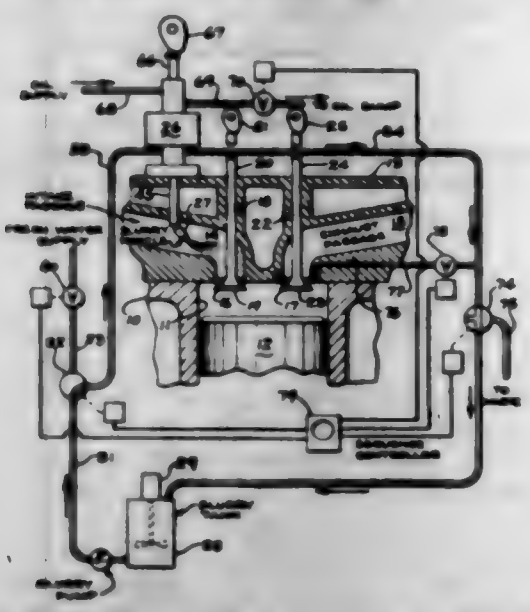
1. A pulverized fuel furnace having a vertical cyclone type combustion chamber including a top gas outlet duct axially immersed in said cyclone type chamber with the walls of said duct being spaced from the walls of said chamber and comprising internally cooled tubes in side-by-side relation; means for tangentially discharging fuel and air into the space between said duct and the wall of said combustion chamber for burning said fuel in said chamber and for producing a rotating stream of combustion gases; the wall of said gas outlet duct having a lower edge defining an axial opening for receiving said rotating stream of gases; said duct wall comprising a wave-like surface provided on the inside thereof with alternate ridges and valleys generally extending in an axial direction and uniformly distributed over the periphery of said duct wall; means forming in the bottom of said valleys restricted openings surrounded by duct wall portions; said openings extending through said wall, being longitudinally elongated and of such size as to permit only a minor flow of gases therethrough.

3,145,694

SLURRY SYSTEM FOR INTERNAL COMBUSTION ENGINES

William R. Crooks, Mount Vernon, Ohio, assignor to The Cooper-Bessemer Corporation, Mount Vernon, Ohio, a corporation of Ohio

Filed Sept. 6, 1963, Ser. No. 307,119
8 Claims. (Cl. 123—25)



1. The method of preventing corrosive attack to internal surfaces of four cycle internal combustion engines of the type having a gas flow passage that includes a combustion chamber, an intake passage leading to the top surfaces of said combustion chamber, an intake valve and valve seat controlling said intake passage, an exhaust passage leading from said combustion chamber, an exhaust valve and valve seat controlling flow through said exhaust passage, and a piston which reciprocates toward and away from the top of said combustion chamber, said method comprising: providing means which causes said intake valve and said exhaust valve to be off of their seats simultaneously for a period of time when said piston is adjacent the top of said combustion chamber, and providing means which introduces a slurry of a material which is non-catalytic with respect to the conversion of sulfur dioxide to sulfur trioxide into a portion of said gas flow passage when said piston is adjacent the top of said combustion chamber and said intake and exhaust valves are off of their seats.

3,145,695

CYLINDER BLOCK FOR AN INTERNAL COMBUSTION ENGINE

George W. Conover and Kenneth L. Huising, Plymouth, and Joseph G. Koehler, Farmington, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application June 8, 1960, Ser. No. 34,728, now Patent No. 3,094,190, dated June 18, 1963. Divided and this application June 17, 1963, Ser. No. 288,376
30 Claims. (Cl. 123—41.74)

1. A cylinder block for a two-stroke uniflow scavenged internal combustion engine having a plurality of inline cylinders, said cylinder block having substantial symmetry about a longitudinally extending median plane and comprising:

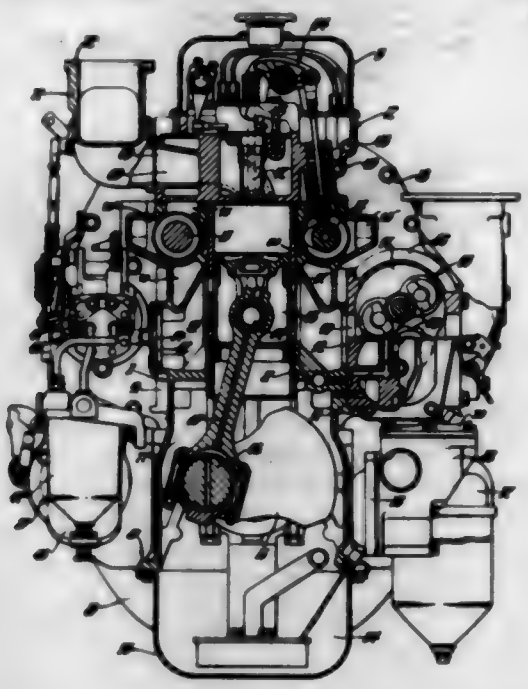
a pair of end walls;

a pair of side walls structurally connected to said end walls;

a lower crankcase portion within said walls receiving and supporting said cylinders;

an upper portion within said walls receiving and supporting said cylinders and having parallel cam and balance shaft mounting galleries extending longitudinally thereof and symmetrically disposed on opposite sides of said cylinders, either of said galleries being adapted to receive a camshaft or a balance shaft;

and a plurality of paired transversely spaced parallel columns inwardly spaced from said side walls for



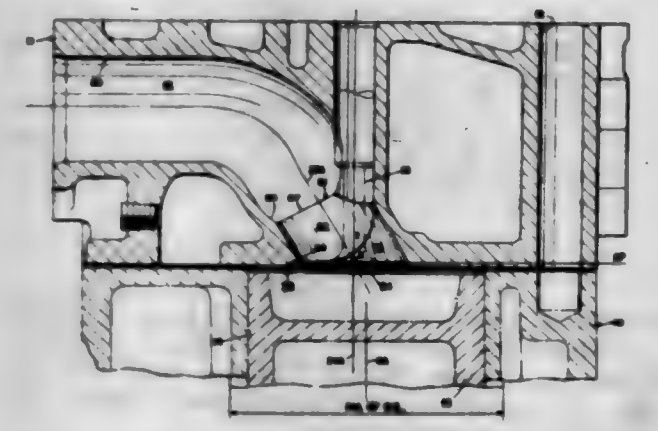
supporting and connecting said upper and lower portions.

3,145,696

INTERNAL COMBUSTION ENGINE

Forest S. Baxter, Beachwood, Ohio, assignor to The White Motor Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 31, 1962, Ser. No. 220,678
24 Claims. (Cl. 123—59)



1. An internal combustion engine having head and block members defining a combustion chamber and a valved exhaust port in communication with the chamber, the combination of:

(*a*) one of said members having an intake port formed therein;

(*b*) said port having an exit communicating with the chamber;

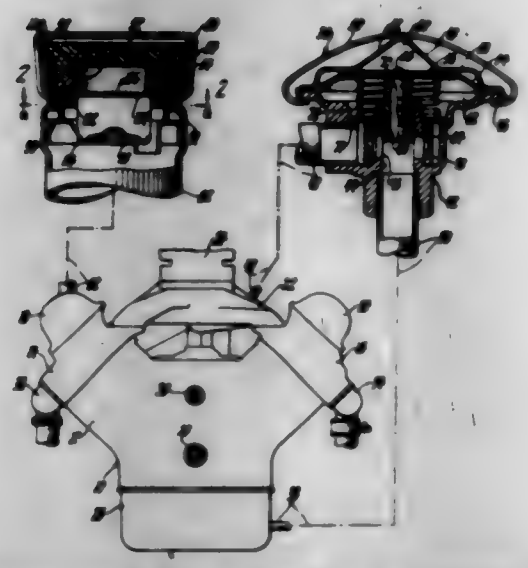
(*c*) said one member including a valve seat circumscribing said exit;

(*d*) a valve member reciprocably carried by said one member and coactable with the seat to close said exit;

(*e*) said port including a flow directing outlet portion terminating adjacent the exit;

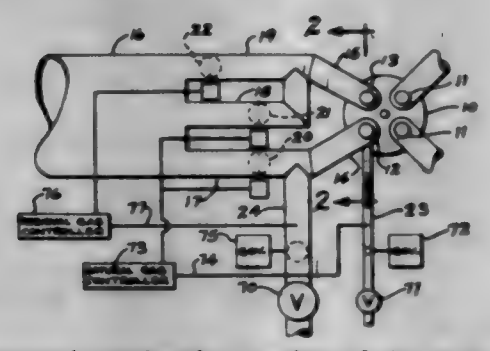
(*f*) said portion including a first section at a skew angle with the outlet and having a substantially smooth wall free of irregularities defining a nonconvergent passage and a second section having a wall defining a solid of revolution tapering outwardly from the first section to the seat.

3,145,697
CRANKCASE REGULATING SYSTEM
John M. Barr and Howard H. Dietrich, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 2, 1963, Ser. No. 292,324
4 Claims. (Cl. 123—119)



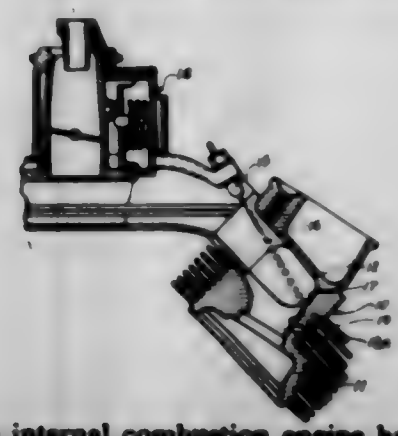
1. Crankcase regulating means for an internal combustion engine having a crankcase and an inlet manifold and comprising:
conduit means between said inlet manifold and said crankcase;
a regulator valve assembly in said conduit means and operable to maintain a subatmospheric pressure in said crankcase during normal operation of said engine;
and fresh air inlet means for supplying air to said crankcase, said air inlet means including a housing containing a filter element and a valve plate, said valve plate having a calibrated orifice formed therein to permit passage of a predetermined amount of air therethrough and into said crankcase and being biased in valve closed position by said filter element, said valve plate being adapted to open when abnormal pressures are created in said crankcase to relieve said abnormal pressures.

3,145,698
COMBUSTION ENGINE FOR BURNING EITHER HIGH OR LOW SPECIFIC HEAT FUELS
William R. Crooks, Mount Vernon, Ohio, assignor to The Cooper-Bessemer Corporation, Mount Vernon, Ohio, a corporation of Ohio
Filed July 15, 1963, Ser. No. 295,130
4 Claims. (Cl. 123—120)



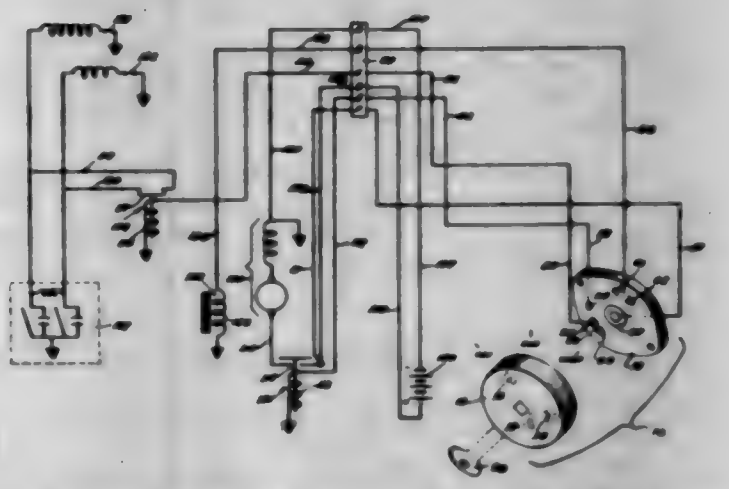
1. In an internal combustion engine of the type having a cylinder chamber fed by a pair of intake ports that are controlled by separate intake valves: means providing separate intake manifolds to each intake valve, a supply header for a high specific heat fuel, a supply header for a low specific heat fuel, means for supplying air to both of said intake manifolds when gas from said high specific heat fuel header is supplied to said cylinder chamber, and means for valving off air flow through one of said intake manifolds while communicating said low specific heat fuel header to the other of said intake manifolds, whereby both intake manifolds are used to supply air to said cylinder chamber when the engine is run on high specific heat fuel, and the flow capacity of one of the intake manifolds is used to supply low specific heat fuel when the engine is run on the low specific heat fuel.

3,145,699
FUEL INJECTION ENGINE
Carl F. High, 17581 Appoline Ave., Detroit, Mich.
Filed Jan. 22, 1962, Ser. No. 167,773
13 Claims. (Cl. 123—133)



1. In an internal combustion engine having a combustion chamber, an intake manifold and an exhaust manifold, an intake port and an exhaust port connecting said combustion chamber respectively with said intake and said exhaust manifolds, a wall having a portion in common with said intake manifold and said exhaust manifold whereby heat is conducted from said exhaust manifold along said wall, said wall having a second portion closely adjacent said intake port, said second portion substantially arcuately encompassing said intake port, and fuel injecting means directing a stream of liquid fuel to angularly impinge upon said second wall portion whereby said fuel stream will deflect angularly around said second wall portion.

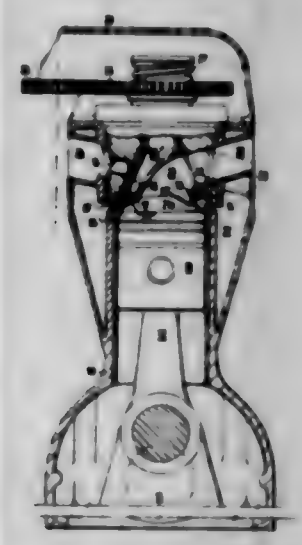
3,145,700
ELECTRICAL APPARATUS
Charles W. Root, Sidney, N.Y., assignor to The Bendix Corporation, Sidney, N.Y., a corporation of Delaware
Original application Feb. 28, 1958, Ser. No. 718,177, now Patent No. 3,013,129, dated Dec. 12, 1961. Divided and this application Feb. 27, 1961, Ser. No. 91,854
5 Claims. (Cl. 123—179)



1. A control system comprising a first circuit, a second circuit, a third circuit, and a switch operable selectively to deenergize said three circuits simultaneously, to energize only the first circuit, or to energize the first and second circuits simultaneously, and operable se-

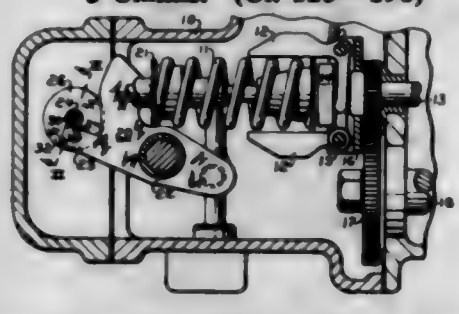
lectively to energize the third circuit simultaneously with either the energization of the first circuit or with the simultaneous energization of the first and second circuits, said switch comprising a stator having a first set of contacts comprising a first contact in said first circuit, a second contact in said second circuit, and a third contact in said third circuit, a switch element which may be selectively moved relative to the stator to first, second, and third positions, said movable switch element having a second set of contacts at least one of which engages the first contact in the third position of the movable switch element and at least one of which engages the second and first contacts in the third and second positions respectively of the movable switch element, the movable switch element having a fourth contact confronting the third contact when the movable switch element is in its third and second positions, means connecting the second set of contacts and the fourth contact to one side of a current source, the movable switch element being mounted for relative axial movement toward and away from the stator, the contacts of both sets being so constructed and arranged as to maintain the recited engagement therebetween at said second and third positions regardless of the axial movement of the movable switch element toward and away from the stator, the third and fourth contacts being so constructed and arranged that in the third and second positions they are out of engagement when the movable switch element is moved axially to a first terminal position with respect to the stator and are in engagement when the movable switch element is moved axially to the second terminal position with respect to the stator.

3,145,701
ROTARY VALVES FOR INTERNAL COMBUSTION ENGINES
Frank Metcalf Aspin, Barnacre, Bexton Lane, Bexton, Knutsford, England
Filed Nov. 27, 1961, Ser. No. 155,092
Claims priority, application Great Britain Nov. 30, 1960
7 Claims. (Cl. 123—190)



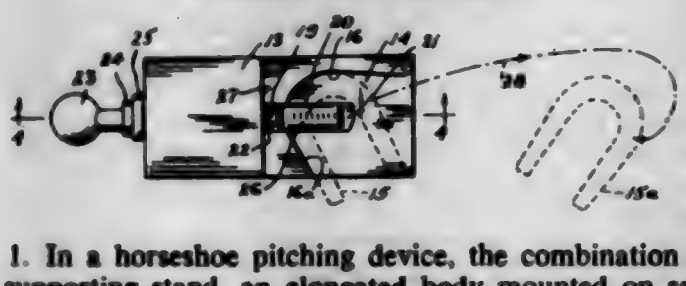
1. A rotary valve for an internal combustion engine, comprising a stationary valve housing, a cylinder below said housing, a piston in said cylinder, a rotary valve of conical shape rotatably mounted in said housing, said housing having a complementary conical shaped seating, said valve being disposed with its larger end exposed to gaseous pressure in the working end of the cylinder, characterized in that the valve is provided at its lower end with a cylindrical outer surface of lesser diameter than and concentric with the bore of said cylinder, the cylinder being provided with a cylinder liner formed with an upward extension receiving the valve housing and an inwardly directed flange separating the piston containing portion of the cylinder liner from said extension, said flange terminating in a cylindrical surface in engagement with the cylindrical outer surface of the valve, the lower faces of said flange and valve being in alignment with each other and in proximity to the upper face of said piston when said piston is in its uppermost position, gas sealing means at said engaging cylindrical surfaces, said rotary valve being so constructed that the pressure plan area of the valve exposed to the pressure in the cylinder is smaller than the overall end area of the valve and is so proportioned that the unit area pressure is slightly greater than the unit area gas pressure on the conical surface of the valve.

3,145,702
ENGINE SPEED LIMITER CONTROLLED BY LUBRICATING OIL PRESSURE
John H. Parks, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 25, 1962, Ser. No. 190,149
3 Claims. (Cl. 123—198)



1. In engine speed control mechanism including a governor and having a governor control element movable between low and high speed positions, means normally positioned to block movement of said element toward high speed position and means actuated by engine oil pressure existing during operation of the engine to retract the blocking means to permit such movement of said element.

3,145,703
HORSESHOE PITCHING DEVICES
Vincent S. Hrovat, 2203 41st Ave. SW., Seattle 16, Wash.
Filed May 4, 1961, Ser. No. 107,768
3 Claims. (Cl. 124—16)

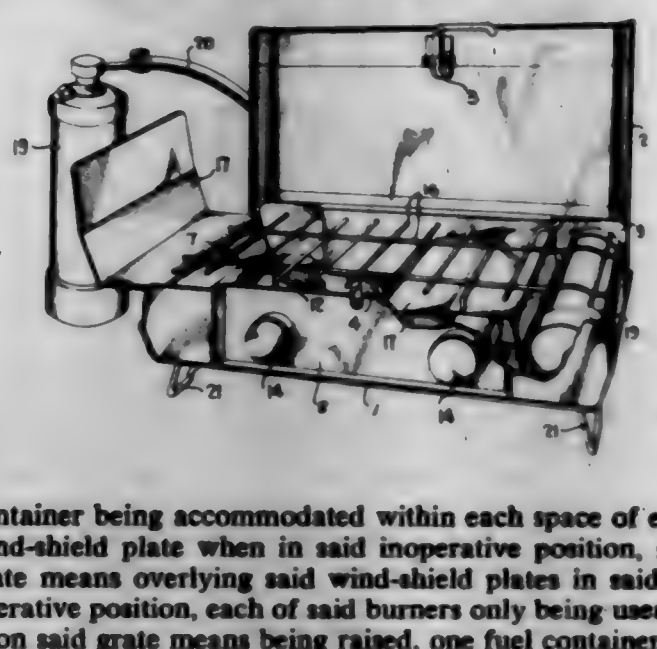


1. In a horseshoe pitching device, the combination of a supporting stand, an elongated body mounted on said stand and provided in the upper surface of one of its end portions with a horseshoe receiving recess open at the adjacent end and at one side of said body, and a spring-loaded plunger slidably mounted in said body and projectable longitudinally of the body into said recess in the direction of its open end, said body being disposed on said stand in a compound inclined plane ascending in the directions of the open end and of the open side of said recess.

3,145,704
PORTABLE STOVES FOR BURNING GASEOUS FUEL
Ernst Reinhold Albert Friedrich Broecker, Schwabisch Hall, Germany, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed Feb. 15, 1962, Ser. No. 173,380
Claims priority, application Sweden Mar. 27, 1961
4 Claims. (Cl. 126—38)

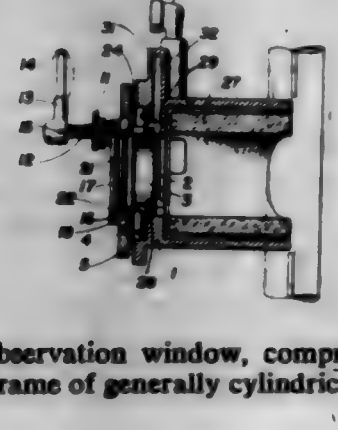
1. A portable stove for burning gaseous fuel comprising a bottom of rectangular shape, end walls of substan-

tially equal height extending from margins of said bottom, a front wall, a back wall, two burners disposed within an area defined by said walls, control means operatively connected to said burners, pipe means connected to said burners to supply gaseous fuel thereto, grate means pivotally mounted to one of said front and back walls to overlie said burners when at least one of said burners is burning gaseous fuel, a lid plate for movement from a horizontal to a vertical position and pivoted on an axis perpendicular to said end walls and pivotally connected to at least one of said walls, wind-shield plates each pivotally connected to said bottom adjacent an end wall on an axis extending parallel to said end wall, each wind-shield plate defining when in an inoperative position a space disposed between the adjacent end wall and one of said burners disposed adjacent thereto and a portion of said wind-shield plate overlying said burner, a gaseous fuel



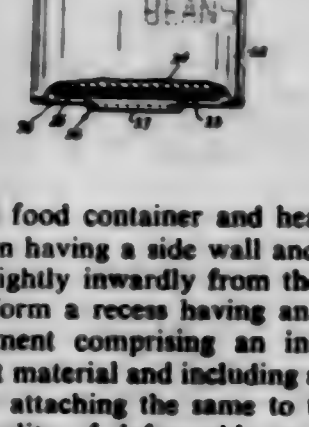
container being accommodated within each space of each wind-shield plate when in said inoperative position, said grate means overlying said wind-shield plates in said inoperative position, each of said burners only being useable upon said grate means being raised, one fuel container removed from its space, the wind-shield plate from whose space the fuel container was removed being raised to an operative position to form a wind-shield together with said lid plate, and expose the burner while the other wind-shield plate can remain in said inoperative position, said grate then being replaced to overlie the exposed burner and other wind-shield plate if in said inoperative position, and means for connecting the removed fuel container with said pipe means to supply the gaseous fuel to the exposed burner while the other wind-shield plate if in said inoperative position protects the other fuel container in its space from radiation emanating when the exposed burner is burning.

3,145,705
FURNACE OBSERVATION WINDOW
Lester D. Bruce and George Parmakian, Worcester, Mass., assignors to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 25, 1962, Ser. No. 233,013
1 Claim. (Cl. 126—193)



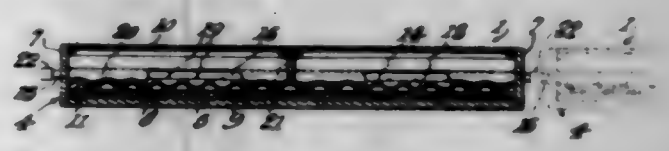
A furnace observation window, comprising
(*a*) a main frame of generally cylindrical form adapted to be mounted in an opening in the furnace wall and having an axial passage extending therethrough,
(*b*) a cover carrying a glass plate mounted on the frame in gas-tight relationship over the outer end of the passage,
(*c*) an orifice plate mounted in the frame and having a bore extending therethrough, the plate having an axially-extending annular shoulder defining a surface extending radially outwardly from the bore,
(*d*) a plate-like door extending transversely of the passage and mounted in the body,
(*e*) an axial pivot on which the door is mounted for sliding movement on an axial pivot over the said radial surface of the shoulder from a first position in the passage to a second position entirely removed from the passage,
(*f*) means supplying air under pressure to the frame inwardly of the door, and
(*g*) a fin-like secondary body extending upwardly from the main frame transversely of the passage and having a thin recess for receiving the door when it is in the said second position.

3,145,706
COMBINED FOOD CONTAINER AND HEATER
Percy L. Saunders, P.O. Box 183, Reidsville, N.C.
Filed Apr. 4, 1961, Ser. No. 100,727
18 Claims. (Cl. 126—262)



1. A combined food container and heater, comprising a conventional can having a side wall and a substantially flat end spaced slightly inwardly from the lower edge of the side wall to form a recess having an outer rim, and a heating attachment comprising an integral stamping formed from sheet material and including a fuel receptacle having means for attaching the same to the can bottom, comprising a plurality of deformable arms integral with the fuel receptacle, said receptacle being adapted to be initially housed in said recess in the can bottom but being retractable therefrom.

3,145,707
SOLAR HEAT COLLECTOR
Harry E. Thomason, 6911 Walker Mill Road SE., Washington 27, D.C.
Filed Apr. 25, 1958, Ser. No. 731,864
4 Claims. (Cl. 126—271)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a solar heat collector having an insulated base, a heat-collecting sheet mounted on the base, transparent cover means above and in close proximity with the heat-collecting sheet, means for uniformly distributing fluid to

and retrieving fluid from said sheet, and supporting and securing means holding the elements in predetermined relationships, the improvement wherein the heat-collecting sheet is distorted to present an irregular surface having raised portions spaced uniformly across said sheet, the means for distributing the fluid has a regularly spaced plurality of fluid discharge ports along an end of the heat-collecting sheet, said transparent cover means includes a transparent outer protective cover substantially parallel to said sheet and a transparent inner flexible cover loosely secured to said supporting and securing means over said means for distributing fluid and drooping toward a position of contact with said raised portions but not extending to the depressed surfaces of said irregular surface of the heat-collecting sheet and fluid distributed to said sheet is restricted to flow between said raised portions and beneath said transparent inner flexible cover.

3,145,708
BREWING VESSEL AND PROTECTOR THEREFOR
Kenneth J. Fischer, Pittsburgh, Pa., assignor to Carson Mfg. Co., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1962, Ser. No. 225,587
8 Claims. (Cl. 126—390)



1. In a protector cup for an upright relatively thin-wall brewing vessel body of a material in the nature of ceramic or vitreous material that is subject to breakage in brewing liquids on a heater, a relatively-thin flexible and substantially smoothly rounded metal wall part of somewhat bowl-shape for snap-on and off positioning about an opposed outer side and bottom area of the vessel body, an in-turned side framing flange about an upper portion of said metal wall part and a bottom framing support flange projecting upwardly from a lower portion of said metal wall part and defining an open central bottom area in said metal wall part, said side and bottom flanges defining an inner bowl-shaped vessel-body-engagement area therebetween that is located inwardly along and in a spaced relation with respect to said metal wall part, said side flange having flexible tabs therealong, and a trough-like portion connecting said bottom flange with a side area of said metal wall part and projecting downwardly with respect to said bottom flange.

3,145,709
MOBILE TRACTION UNIT
Avon L. Pinegar, P.O. Box 442, Hot Springs, Mont.
Filed Dec. 6, 1962, Ser. No. 242,715
4 Claims. (Cl. 128—84)

1. A mobile traction unit comprising a vertically extending standard member having a lower portion and a co-axially extending upper portion,

(1) a flat base member fixed to said lower portion of said standard member, and at least three spaced apart caster wheels fixed on the underside of said base member,

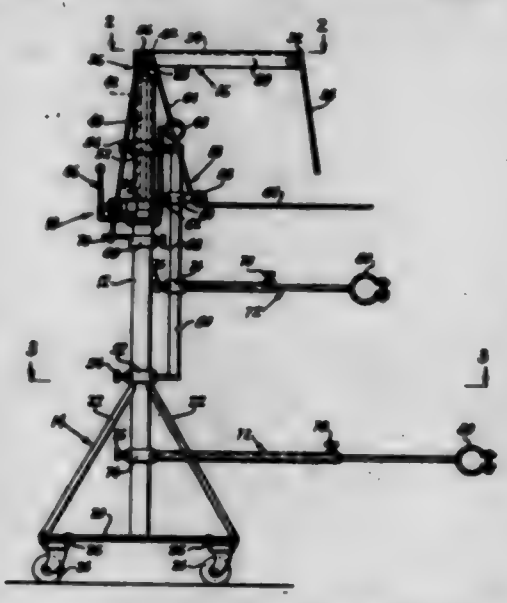
(2) said upper portion of said standard member including a full length fluid cylinder unit having therein a piston rotatable within said cylinder, an axially upwardly extending piston rod connected to said piston and having an upper end which extends vertically beyond said fluid cylinder in all positions of said piston,

(3) fluid supply and exhaust means connected to said fluid cylinder and located adjacent thereto to selectively control the raising and lowering of said piston and piston rod,

(4) pressure indicating means independently operatively connected to the inside of said fluid cylinder and also located adjacent said fluid cylinder,

(5) a horizontal arm fixed at one end to said upper end of said piston rod so as to partake of its vertical movements and so as to rotate in a horizontal plane,

(6) a clamping means adjustably secured for vertical movement around the lower portion of said standard and near said fluid cylinder, said clamping means so designed as to selectively secure either a single traction cable or a plurality of traction cables thereon,



(7) a horizontal axis axle means fixed transversely in said end of said horizontal arm which is fixed to said upper end of said piston rod, said axle including a portion extending beyond said horizontal arm and journalling a first pulley means capable of passing thereover portions of a single traction cable such as one which could be secured to said clamping means,

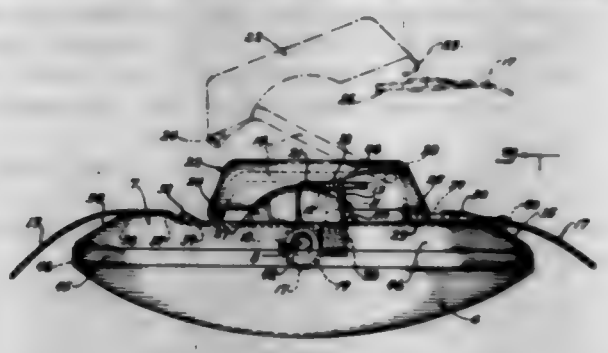
(8) another pulley means also journalled on said horizontal axis axle means at a spaced distance from said first pulley and capable of passing thereover portions of another traction cable such as one of the plurality of traction cables which could be secured to said clamping means,

(9) whereby a plurality of such traction cables with tractive connections below the top of the unit may be simultaneously shortened by one action of said single fluid cylinder and the total pull thereon may be instantly determined.

3,145,710
ABDOMINAL RESTRAINER
Lawrence A. Schott, 1757 Puritan, Detroit, Mich.
Continuation of application Ser. No. 98,945, Mar. 28, 1961. This application Mar. 5, 1963, Ser. No. 263,007
5 Claims. (Cl. 128—100)

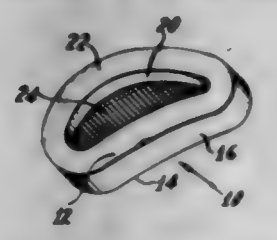
3. An abdomen restrainer comprising a main body portion, a rotatable member supported within said main body portion, a continuous webbing strip having one end extending through said main body portion and secured to said rotatable member, means for rotating and

locking said rotatable member, a toggle linkage secured to said main body portion for detachable engagement



with the opposite end of said webbing strip, and a conical abdomen pressure cap for the under side of said main body portion.

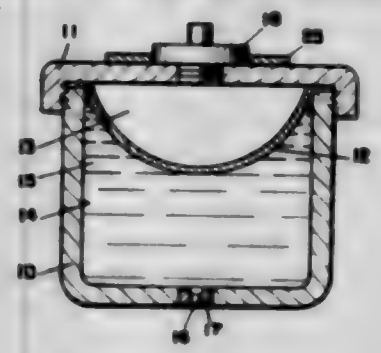
3,145,711
DISPOSABLE NASAL FILTER
Arthur Beber, 127 15th St., Garden City, N.Y.
Filed Dec. 8, 1961, Ser. No. 158,025
1 Claim. (Cl. 128—148)



A disposable nasal filter comprising filter means of flexible porous material, a body molded integral with said filter means about the periphery thereof, said body having a rim shaped substantially to the contour of the nasal passage and being constructed of a glycerine gelatin which is a flexible, pliable, non-toxic, inert material to conform to the contour of the nasal passage when inserted thereinto, said rim having two sides each molded integral with the other and having a smooth planar outer peripheral wall, said rim fully encompassing and being molded integral with the edge portion of said filter means with said filter means being positioned between said peripheral wall and said sides, whereby said sides and peripheral wall of said rim space said filter means inwardly of the edge and sides respectively of said rim to prevent touching engagement of said filter means with the nasal passage mucous membranes when the disposable nasal filter is inserted into a nasal passage, and an air passageway in said body interrupted by said filter, said filter means being a mesh having a plurality of closely spaced interwoven lines of flexible pliable material forming a plurality of filter openings.

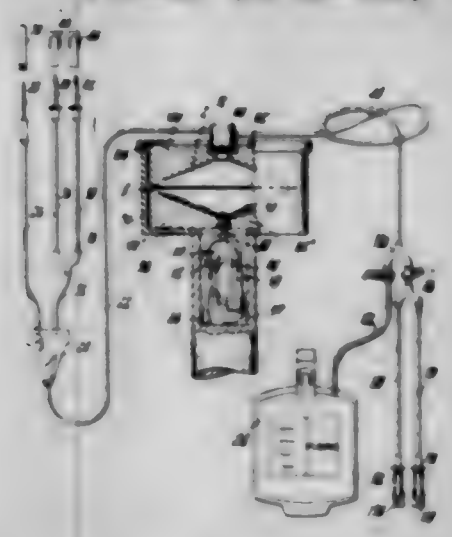
3,145,712
PERCUTANEOUS MEDICATION DEVICE
Charles J. Litz, Jr., Philadelphia County, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 13, 1963, Ser. No. 265,318
2 Claims. (Cl. 128—173)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The combination of, a medication device comprising a hollow container, means forming firing and medication chambers in said container separated by an expandable diaphragm, means providing an orifice opening out of said medication chamber, said orifice being of a size to prevent premature loss of medication and to permit percutaneous injection thereof, a gas detector, means operable by and connected with said detector to generate an electric signal in response to a predetermined gas, an electroresponsive gas pressure generator extending into said firing chamber and adapted to be energized by said signal to generate a gas pressure in said firing chamber



and expand said diaphragm, and means connected to transfer said signal from said generating means to energize said gas pressure generator.

3,145,713
METHOD AND APPARATUS FOR PROCESSING BLOOD
Allen Latham, Jr., Boston, Mass., assignor, by mesne assignments, to Protein Foundation, Incorporated, Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 12, 1963, Ser. No. 308,559
11 Claims. (Cl. 128—214)



1. A disposable kit for receiving blood, separating heavier from lighter components thereof, storage and subsequent administration of the heavier components of the blood, comprising an integral airtight flexible plastic container, of a shape generally symmetrical about an axis, adapted with the blood therein to be placed in and removed from a centrifuge bowl to be supported thereby and rotated therewith about said axis for continuous centrifugal processing of blood received in the container to separate heavier components from lighter components, a rotary seal member having a rotatable part permanently joined to the top of said container concentric with said axis to form an integral structure with said container for rotation about said axis, and a stationary part adapted to remain stationary during said rotation, a seal coaxial with said axis hermetically connecting said rotatable and stationary parts for high speed relative rotation therebetween and permitting removal of the kit from a centrifuge bowl without breaking of said seal, an inlet connection on said stationary part adapted to be connected to a source of blood, an inlet passageway in said stationary part connected at its upper end to said inlet connection and opening at its lower end along said axis, means fixed to said container for conducting entering liquid transversely of the container from said inlet passageway through a restricted passageway to the extreme peripheral part of the interior of said container, an outlet passageway in said stationary part, and means containing a stationary conduit supported on said

stationary part and extending outwardly therefrom for continuously removing lighter liquid components upwardly through said outlet passageway when said container is rotated at high speed about said axis with respect to said stationary part, while heavier components accumulate within said container.

3,145,714
BRASSIERE

William D. Brown, Glendale, Calif., assignor to Munsingwear, Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 27, 1961, Ser. No. 119,895
1 Claim. (Cl. 128—484)



In a brassiere: a body-encircling member having an upper edge provided with a pair of arcuate portions defining spaced upwardly opening arcuate cup recesses, each of said arcuate cup recesses having a lateral terminus on one side and a frontal terminus on the other side respectively located adjacent the side and front of the body-encircling member; a pair of cup structures respectively attached to the cup recesses, each cup structure including

a pair of partially overlapping cup-shaped segments, one of the cup segments being located at one side of the cup recess and secured along the said arcuate edge portion of the cup recess from the frontal terminus of the cup recess to a point adjacent but spaced from the lateral terminus of the cup recess, and the other of the cup segments being located at the other side of the cup recess and secured along the said arcuate edge portion of the cup recess from the lateral terminus of the cup recess in overlapping relationship to said one cup segment to a point adjacent but spaced from the frontal terminus of the cup recess; said cup segments substantially overlapping each other at the center of the cup structure; said segments having substantially diagonally extending free overlapping arcuate edges intersecting each other at a point located at the upper central portion of the cup structure; the segments being attached to each other only along the arcuate edge portion of the cup recess;

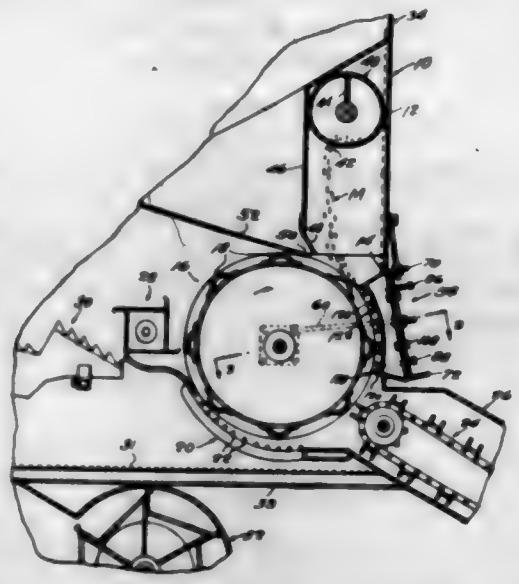
and a shoulder strap for each of the cup structures and having parts secured respectively to the upper portions of the cup segments at places spaced laterally from the said intersecting point of said free edges.

3,145,715
AUXILIARY CONCAVE FOR A THRESHING CYLINDER

Elmer W. Horn, R.R. 2, Box 20, Forest, Ohio

Filed Aug. 2, 1963, Ser. No. 299,503
5 Claims. (Cl. 130—27)

1. A combine comprising a housing having a front wall, an intake conduit in the lower portion of said front wall, said conduit containing a material feeding conveyor, a cylinder mounted within said housing and having a peripheral surface adjacent said front wall and said intake conduit, a lower concave supported beneath the cylinder in material-receiving relationship to the feeding conveyor, conveyor delivering means positioned above the cylinder and adapted to drop material onto the upper periphery of the cylinder, and an extra cutting concave mounted on the front wall between the conveyor delivery means

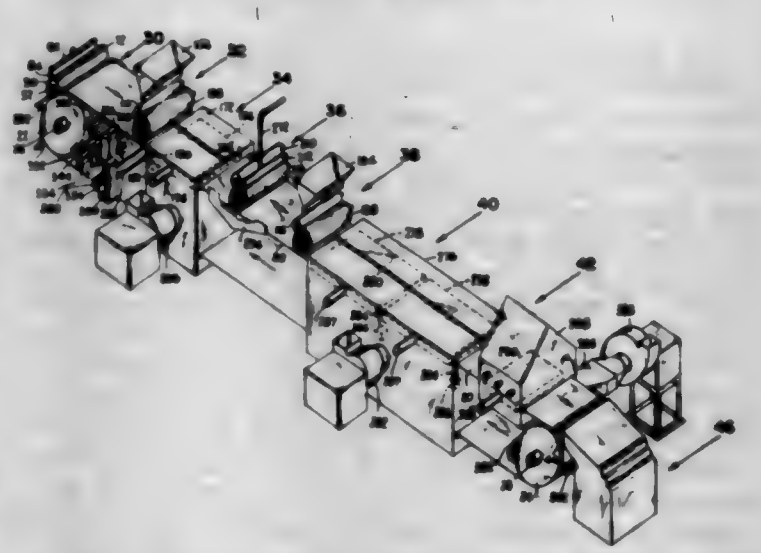


and the intake conduit in threshing relationship with the cylinder.

3,145,716
TOBACCO SHEET FORMING APPARATUS

Robert Charles Geitz, Darien, Conn., Alberto Islas, Mexico City, Mexico, and Joseph Brendan Farrell, Westport, and John Edward Lee, Byram, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

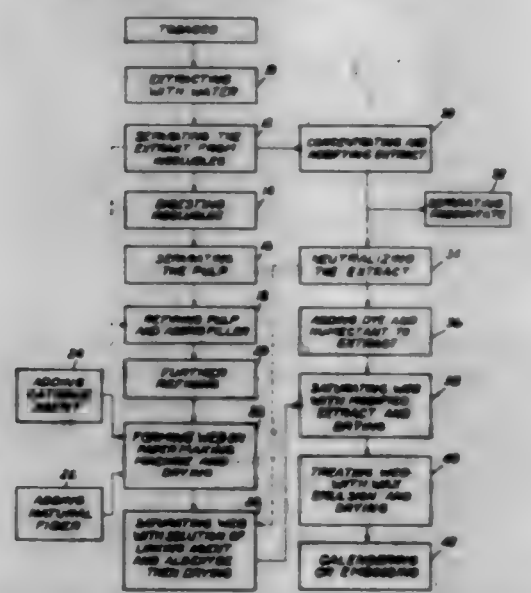
Filed Aug. 9, 1960, Ser. No. 55,106
16 Claims. (Cl. 131—133)



1. An apparatus for forming continuous self-sustainable sheet material comprising a moving endless belt, means to deposit a thin film of liquid on said belt, at least one means to apply a layer of dry finely divided material to the wet belt, said means for applying the layer of dry material comprising in combination a knurled rotatable roller and a rotatable cylindrical brush contacting said knurled roller, means for applying said dry material supply to said knurled roller so that material picked up by said brush from said knurled roller is cast downward, said knurled roller and said brush being disposed transversely above said belt, at least one heating means for drying wet layers of material deposited on said belt, means to apply a layer binding material onto said belt, said means for applying the layer binding material comprising a rotating feed drum, a rotating refuser drum disposed with a light clearance alongside said feed drum, said feed drum rotating with its upper surface moving downward toward said refuser drum and said refuser drum rotating with its upper surface moving upward away from said feed drum, means to introduce liquid binding

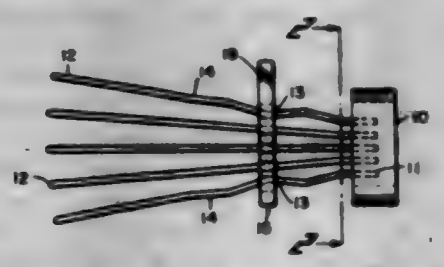
material between said drums, a rotating high speed cylindrical brush disposed across said belt and contacting said feed drum to cast a second layer of finely divided material downward onto said belt, and means to remove the integrated bound layers of material from said belt as a continuous self-supportable flexible sheet.

3,145,717
METHODS OF MAKING TOBACCO WEB MATERIAL
Fay H. Osborne, Windsor Locks, Conn., and Warren J. Bodendorf, Montgomery, Mass., assignors to C. H. Dexter & Sons, Inc., Windsor Locks, Conn., a corporation of Connecticut
Filed Oct. 22, 1959, Ser. No. 847,952
15 Claims. (Cl. 131—140)



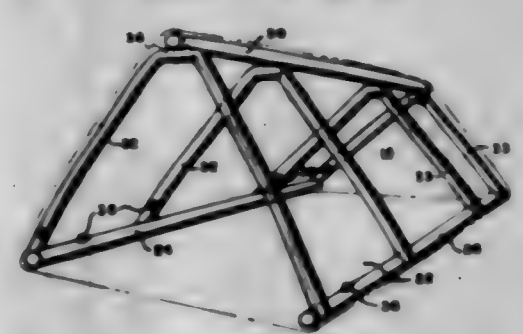
13. The method of forming a continuous tobacco web material comprising extracting water-soluble constituents from natural tobacco, separating the insoluble portion of the tobacco from the extract, digesting the insoluble portion of the tobacco with a chemical agent selected from the group consisting of sodium hydroxide and nitric acid to form a fibrous pulp, refining said pulp to tobacco fibers, forming a dilute aqueous slurry containing a major proportion of tobacco fibers and a minor proportion of conventional papermaking fibers, forming a thin web of said tobacco fibers and conventional papermaking fibers, removing moisture from said web, acidifying the water-soluble portion of the tobacco to a pH of about 4 to 6, neutralizing the acidified extract with potassium carbonate to a pH of about 6.5 to 7.2, adding humectant and dye to at least a portion of the neutralized extract, impregnating said web with at least a portion of the dye containing extract, removing moisture from the impregnated web, impregnating the web with a water-wax emulsion, and compacting said web under pressure.

3,145,718
FINGER COMB WITH TOOTH SPACING SLIDER
Lewis Pigo, 1526 Grand Ave., Spring Valley, Calif.
Filed Nov. 2, 1962, Ser. No. 235,859
3 Claims. (Cl. 132—148)



1. A light weight finger comb constructed to fit tightly on the end of an operator's index finger and to be drawn through the hair by merely bending said finger, comprising in combination: a short cylindrical plastic tube having a thin continuous wall of uniform thickness throughout; a plurality of spaced apart thin cylindrical metal teeth whose length is much greater than that of said tube, said teeth having parallel inner ends that pass through one end surface of said tube and are embedded in the wall thereof, said teeth being of substantially the same length and shaped so that the distance between the axes of adjacent teeth progressively increases towards the outer free ends of said teeth whereby the free ends of said teeth can be easily inserted into the hair; and a thin slider around said teeth, the bottom portion of said slider having a set of aligned holes therethrough and one only of said teeth passing through each hole, the distance between adjacent holes being substantially less than the distance between the outer ends of the teeth passing therethrough whereby the outer ends of said teeth are drawn closer together in response to movement of said slider outwardly along said teeth.

3,145,719
CONVERTIBLE SHELTER
Jacob N. Johnson, 2231 Webster Drive, Schenectady, N.Y.
Filed June 1, 1961, Ser. No. 114,238
5 Claims. (Cl. 135—1)

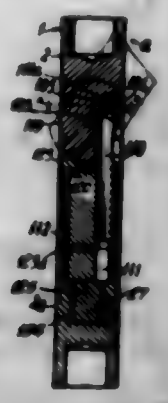


1. A convertible shelter comprising a hollow tubular casing of weather-resistant material having inside dimensions appropriate for receiving the human body and a supporting structure within said material casing, said supporting structure comprising a plurality of individually inflatable elongated tubes including first and second tubes extending longitudinally within said tubular casing and defining a flat portion of said casing between said first and second tubes for alternative placement on the ground, third tubes substantially normal to said first and second tubes secured to the inside of said casing opposite said flat side for distending said side when said third tubes are inflated against the restraining effect of said material and a fourth long straight tube substantially parallel to said first and second tubes and secured to the approximate middle of the distended side, said third tubes extending under said fourth tube for supporting the same.

3,145,720
CANOPY TILTING DEVICE
Gikhi Torii, 103 Funinoomte 3-chome, Osaka, Japan
Filed Nov. 29, 1962, Ser. No. 240,972
1 Claim. (Cl. 135—20)

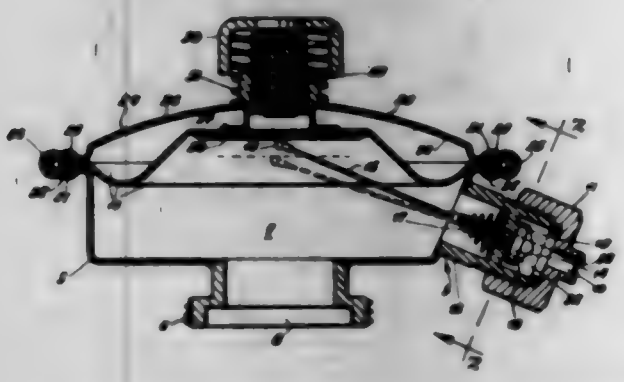
A canopy tilting device for a beach umbrella or the like, comprising an upper pole member adapted to carry the umbrella canopy, a lower pole member, said pole members having extensions extending toward each other and pivotally engaged with each other for pivoting of the pole members relative to each other, said lower pole member having a portion with a reduced cross-sectional area, an internally threaded hollow cylindrical sleeve rotatably mounted around said reduced cross-sectional area portion, said lower pole member having a groove along the surface thereof extending along said reduced cross-sectional area and said upper pole member having a

groove along the surface thereof for a short distance into the lower end thereof, a toothed plate slidably mounted in said grooves and having the teeth engaged in the threads of said sleeve, the end of said plate adjacent said upper pole member having a laterally elongated aperture therein, and a pin mounted in said upper pole member eccentrically of the pivotal engagement of said pole members and extending through said aperture to pivotally engage



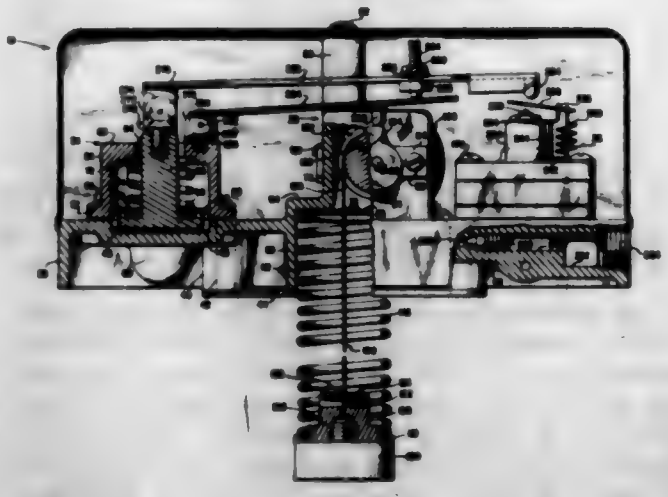
the end of said plate and said upper pole member, the end of said groove in said upper pole member being deeper than the remainder of the groove to accommodate the end of said toothed plate when said upper pole member is at a relatively large angle to said lower pole member, whereby rotation of said sleeve moves said toothed plate up and down and pivots said upper pole member relative to said lower pole member.

3,145,721
DEMAND VALVE
Arthur E. Miller, Buffalo, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y.
Filed Dec. 8, 1961, Ser. No. 158,037
2 Claims. (Cl. 137—64)



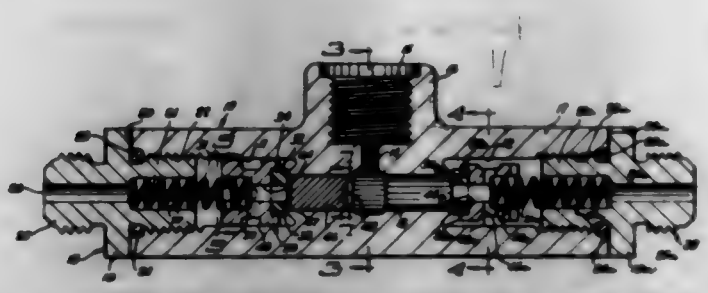
1. In a breathing apparatus having a compartment, a flexible diaphragm moved by variations in pressure in said compartment, and a valve seat having a bore communicating with said compartment, a demand valve comprising a valve head engageable with said seat, a valve centering web in said bore having an aperture coaxial with said seat, a valve stem extending from said head through said aperture for being moved by said diaphragm in a plane containing the axis of said stem to tilt said head and thereby open said valve, said web having substantially diametrically opposed slender end portions intersected by said plane, and a pair of arcuate passageways providing fluid flow through said seat when said valve is open, said passageways being symmetrically disposed on opposite sides of said plane and each extending from one of said web end portions to the other thereof, the cross-sectional area of said passageways being several times the cross sectional area of said web end portions, whereby said web end portions provide minimum restriction to fluid flow through said seat.

3,145,722
PNEUMATIC CONTROLLER
Klaus P. Mueller, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 28, 1962, Ser. No. 176,210
9 Claims. (Cl. 137—85)



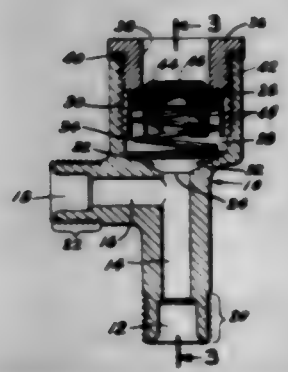
9. Apparatus for controlling a variable condition by varying the position of a control element upon a deviation of the condition from a desired value comprising;
a pneumatic motor including a hollow casing with a pressure responsive movable wall therein connected to the control element,
a horizontal base member mounted on said casing,
an expansible control chamber on said base adjacent one end thereof,
means for controlling supply and waste of air to one side of the pressure responsive movable wall of the pneumatic motor in response to expansion and contraction of the control chamber,
means supplying air under pressure to the control chamber,
a leak port for the control chamber,
a pivoted flapper movable relative to the leak port to vary the pressure in the control chamber,
an expansible signal chamber on said base adjacent the opposite end thereof from said control chamber,
a shaft rotatably mounted on said base between said control chamber and said signal chamber,
means biasing said shaft against rotation,
a cam fixedly mounted on said shaft,
a sensing lever pivoted about a fixed axis on said base on the same side of said shaft as said signal chamber, said sensing lever being fulcrumed intermediate its ends against the cam and pivotally movable about its fixed axis upon rotation of said cam,
a control lever pivotally connected to the movable wall of the signal chamber and fulcrumed intermediate its ends on said sensing lever with its free end engageable with the flapper to move the flapper relative to the leak port,
a spring plate biased into engagement with the movable wall of said pneumatic motor and movable with said movable wall;
an element position sensing wire wound around said shaft and having its free end attached to said spring plate;
and means for establishing a signal pressure in the signal chamber in accordance with variations in the condition being controlled to pivot the control lever about its fulcrum to establish a control pressure in the pneumatic motor, said sensing wire causing rotation of the cam upon movement of the movable wall of the pneumatic motor to pivot the control lever about its movable axis and adjust the position of the flapper relative to the leak port in accordance with the position of the element.

3,145,723
COMBINATION SHUTTLE-RELIEF VALVE
William J. Chorkey, Farmington, Mich., assignor to Bochan Manufacturing Co., Inc., Madison Heights, Mich., a corporation of Michigan
Filed June 9, 1961, Ser. No. 116,102
3 Claims. (Cl. 137—112)



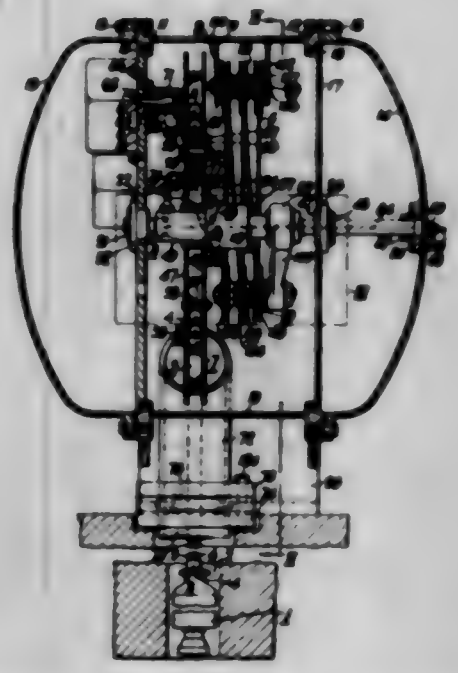
1. A combination shuttle and relief valve, comprising: a valve housing having a pair of valve chambers; a first passageway in said valve housing interconnecting the inner ends of said chambers; a valve seat formed on the inner end of each of said chambers around the interconnecting end of said first passageway; each of said chambers being provided with port means for admitting and exhausting fluid under pressure; a valve movably mounted in each of said chambers; a spring means in each of said chambers for normally biasing said valves against said seats; each of said valves being provided with an orifice therethrough for communicating said first passageway with the chamber in which each of the respective valves is disposed when the valve is seated on said seats; a movable shuttle valve member in said first passageway for selective closing of said valve orifices in accordance with the direction of fluid flow through said first passageway and the fluid pressures exerted thereon; an outlet port formed in said valve housing; a second passageway in said housing connecting said outlet port to said first passageway; said movable valves in said valve chambers each being provided with a sealing ring on the inner end thereof for engagement with said valve seats; said shuttle valve member being provided with an annular seat on each end thereof for sealing engagement with the sealing rings on the inner ends of said movable valves for overlapping and closing the orifices formed therethrough when the shuttle valve is moved by fluid pressure into engagement with the movable valves.

3,145,724
VACUUM BREAKING DEVICE
Harold H. Pelzer, Long Island City, N.Y., assignor to Harry Karp, Harrison, N.Y.
Filed Nov. 14, 1960, Ser. No. 68,984
3 Claims. (Cl. 137—217)



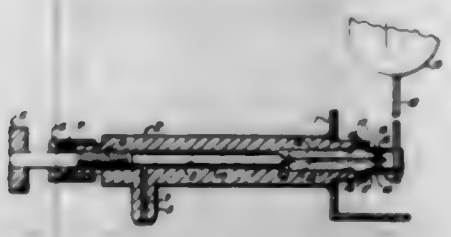
1. A vacuum breaking valve assembly comprising a first body portion shaped to provide a fluid communicatable conduit intermediate a fluid inlet opening normally subject to fluid pressures in excess of atmospheric pressure along its entire length and a fluid outlet opening, an integral second body portion shaped to provide a valve chamber having one end thereof disposed in constant fluid communication with said conduit and a second end open to the atmosphere, a bushing member removably mounted in the second end of said chamber defining an axial bore, a valve member positioned within said chamber normally disposed in sealing relation with the bore defining peripheral edge of said bushing against the action of atmospheric pressure by the fluid pressure within said conduit to close the end of said valve chamber open to the atmosphere and an auxiliary spring member disposed within said valve chamber normally biasing said valve member into sealing relationship with the bore defining edge of said bushing against atmospheric pressure, said valve member being displaceable out of sealing relationship with the bore defining peripheral edge of said bushing member to permit air flow therepast in response to a predetermined pressure in said conduit less than that of atmospheric pressure.

3,145,725
WINDING APPARATUS FOR FLUID CONDUCTING HOSE COMBINED WITH ELECTRICITY CONDUCTING WIRES
Herbert Chilvers Knights, Culcheth, near Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 3, 1961, Ser. No. 80,334
Claims priority, application Great Britain Jan. 15, 1960
2 Claims. (Cl. 137—355.17)



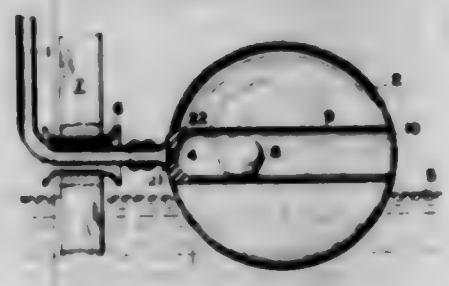
1. Winding apparatus comprising first and second winding reels on a first common axis and arranged to be rotated together, a first group of pulleys on a second common axis disposed parallel to the first common axis, means for supporting said first group of pulleys for oscillation about said first common axis, a second group of pulleys on a third common axis disposed parallel to the second common axis, means for supporting said second group of pulleys with the third common axis in fixed relationship to the first common axis, a cable in the form of a fluid conducting hose having an electrically conducting lead inside the hose, the hose part of the cable being terminated on the first reel at a rotatable fluid coupling, the said electrically conducting lead of the cable continuing from the first reel, around the second reel, then to and around a first pulley of the first group of pulleys, to and around a first pulley of the second group of pulleys and in series manner to and around the remaining pulleys of each group thence tangentially from the final pulley of the second group of pulleys to a fixed supply point.

3,145,726
LIQUID FLOW CONTROL VALVE
James M. Denaton, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed July 30, 1962, Ser. No. 213,555
7 Claims. (Cl. 137—398)
(Granted under Title 35, U.S. Code (1952), sec. 266)



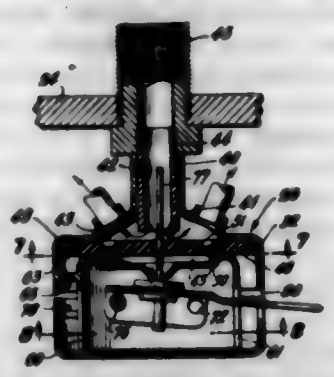
1. A valve for controlling the flow of liquid from a tank to a utilization device comprising a valve body, a valve stem mounted within said body for movement toward and from a valve seat to establish flow through the valve at a selected rate, a valve seat element embodying a valve seat mounted within said body for movement toward and from said valve stem and means responsive to the level of liquid in said tank connected to said valve seat element whereby said valve seat element moves away from said valve stem as the level of liquid in said tank is lowered.

3,145,727
AUTOMATIC LIQUID LEVEL CONTROL DEVICE
Sunao Yamashita, Tokyo, Japan, assignor to Ajinomoto Co., Inc., Tokyo, Japan
Filed Aug. 14, 1963, Ser. No. 302,032
Claims priority, application Japan Aug. 17, 1962
8 Claims. (Cl. 137—413)



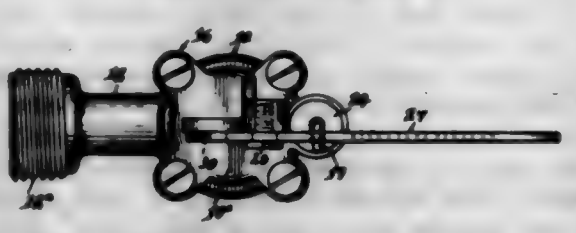
1. An arrangement for controlling the level of a liquid comprising, in combination:
(*a*) a container for holding the liquid to be controlled;
(*b*) a float member;
(*c*) pivot means interposed between said float member and said container, said pivot means fastening said float member in said container for pivotal movement in a vertically extending plane;
(*d*) outlet means mounted on said float member;
(*e*) an outlet blocking member movable on said float member responsive to said pivotal movement of said float member toward and away from a blocking position in which said blocking member obstructs said outlet means;
(*f*) a liquid supply conduit communicating with said tank;
(*g*) control valve means in said conduit;
(*h*) fluid pressure operated valve actuating means operatively connected to said control valve means;
(*i*) a pressure fluid conduit connecting said actuating means and said outlet means; and
(*j*) supply means communicating with said pressure fluid conduit for supplying pressure fluid to said conduit at a predetermined rate.

3,145,728
WATER FEED CONTROL VALVE FOR WATERING TROUGHS
Vance C. Sterrett, 501 W. Linden Ave., Logansport, Ind., and William H. Peters, 218 N. East St., Montpelier, Ohio
Filed Aug. 19, 1960, Ser. No. 50,754
13 Claims. (Cl. 137—414)



1. A valve construction, comprising a housing embodying two separable parts, meanse detachably coupling said parts together, said parts when coupled together forming an enclosed area, one of said parts having a wall with an outwardly extending central dome portion, tubular means extending into the center of the domed portion from the wall thereof and providing a liquid inlet and an inwardly directed annular seat, a diaphragm within the said one part of the housing and extending across said domed portion and forming therewith a first liquid chamber, said diaphragm when flexed in one direction engaging said seat to shut off admission of liquid into said chamber, the diaphragm having a central aperture aligned with the liquid inlet, means for conducting liquid out of said chamber, a cylindrical shell positioned in said enclosed area and having a wall at one end in spaced opposed relation with the side of the diaphragm opposite the first chamber and said end wall having a peripheral axially directed flange bearing against the diaphragm and maintaining the wall portion circumscribed by the flange spaced from the diaphragm to form a second liquid chamber, said shell end wall having a central opening therethrough defined on the side of the wall remote from the second chamber by a valve seat, the other end of the cylindrical shell being opened, means carried by the shell and the housing parts for securing the shell and the two parts of the housing together, a valve button adapted for engagement with said valve seat, a body pivotally supported within the shell and supporting the valve button, a float arm connected with said pivoted body and extending outwardly through openings in the shell and housing, and a float carried by said arm exteriorly of the housing.

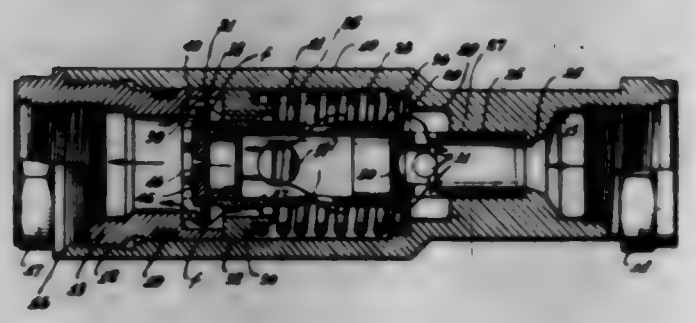
3,145,729
INSTANT ACTION VALVE AND RESERVOIR CONTROL THEREFOR
Nat Cordis, Silver Lake, Wis.; Gladys S. Cordis, executrix of Nat Cordis, deceased, assignor of two-thirds to Carl F. Jensen and one-third to Gerald T. Dobie, both of Crowa Industries, Chicago, Ill.
Filed Jan. 31, 1962, Ser. No. 170,047
9 Claims. (Cl. 137—414)



1. A valve providing on-off control which comprises a housing, a valve chamber, a flexible diaphragm dividing said chamber into a first sub-chamber and a second sub-

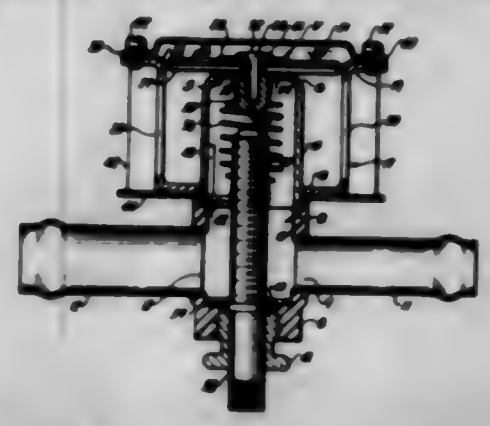
chamber, an inlet to said housing and said valve chamber, an outlet extending into said second sub-chamber and adapted to be closed by said diaphragm, a valved vent communicating with said first sub-chamber, a valved pressure line between said first and second sub-chambers, dual port means in fluid communication with said vent and with said pressure line, a plunger plug means shiftable between said dual port means and controlling said vent and pressure lines, said plunger plug means having upper and lower dual plugs in axial alignment, and shifting means operatively connected to said plunger for shifting said plunger between two extreme positions whereby said first sub-chamber is alternately vented to the atmosphere or maintained under line pressure thereby to position said diaphragm and control flow through said valve.

3,145,730
CONTROL VALVE
Frank G. Premell, 2818 Laurel Canyon Place, Los Angeles 46, Calif.
Filed Mar. 7, 1963, Ser. No. 263,537
7 Claims. (Cl. 137—493.2)



1. A valve body member having an inlet at one end, an outlet at the other, and an intermediate longitudinally disposed bore, a tubular means coaxial with said bore, fixed with said body member and having a lateral throttling port communicating with said outlet, a throttling sleeve member telescopically slidable relative to said tubular means and having a portion varying the effective size of said port, a wall member across said sleeve member exposed to fluid from said inlet, an enlarged head on the inlet end of said sleeve member presenting a seat facing toward the valve outlet, an annular piston member slidably fitted in said bore, said piston member having a seating surface engageable with said seat on said head of said sleeve member, abutment means on said body member providing a stop for said piston member in movement toward said inlet, a coil compression spring in said body member urging said piston member in the direction of said first-mentioned abutment means, and a second abutment means on said body member providing a stop for said sleeve member in movement toward said inlet when said seat on said head has separated from said seating surface on said piston member with said piston member in engagement with said first-mentioned abutment means, there being, in at least one of said members, a fluid passageway with an orifice therein providing communication between said inlet and said bore on the outlet side of said piston member, said second abutment means and said sleeve member being cooperatively formed to afford, when in engagement, a fluid passage between said inlet and the space between the then separated seat on said head and seating surface on said piston member, at least one of said piston and sleeve member being formed to provide a fluid passage from said bore on the outlet side of said piston member past said piston member to the region between the inlet side of said piston member and the head of said sleeve member, radially inward of said seat on said head.

3,145,731
VACUUM REGULATING VALVE
Herbert W. Kantz, Elyria, and Leo Tobecman, Cleveland Heights, Ohio, assignors to Randolph Mfg. Co., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 29, 1961, Ser. No. 155,758
13 Claims. (Cl. 137—510)



1. A regulating valve for delivering a desired maximum level of vacuum when supplied a pulsating vacuum of correspondingly varying frequency and mean pressure level, said valve comprising

a vacuum chamber having a supply port, a delivery port and an atmospheric port opening to atmosphere,

a valve seat surrounding said atmospheric port,

a valve closure mounted on a diaphragm for oscillatory movement of varying amplitude and frequency toward and away from said valve seat for throttling air flow through said atmospheric port,

pneumatic spring means having ready response to the mean pressure level in said vacuum chamber for tending to draw said diaphragm and said valve closure away from said valve seat in accordance with the mean pressure differential across said atmospheric port and having limited response to transient pulsations in the pressure level in said vacuum chamber and

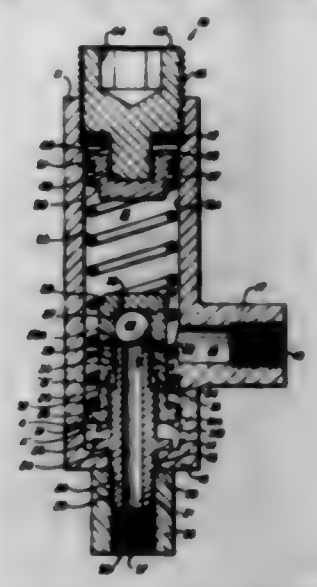
mechanical spring means tending to urge said valve closure toward said valve seat with a substantially constant and predetermined force

whereby greater or lesser amounts of air at atmospheric pressure are admitted to said vacuum chamber as the mean of the pulsating vacuum level in said chamber departs more or less from and above the desired level.

3,145,732
HYDRAULIC PRESSURE RELIEF VALVE
Edward C. Jolas, Mossey, N.Y., assignor to Spartan Hydraulics, Inc., Yonkers, N.Y., a corporation of New York
Filed Aug. 27, 1962, Ser. No. 219,460
3 Claims. (Cl. 137—514.3)

1. A hydraulic pressure relief valve consisting of a housing having a chamber wall defining a chamber, screw threads in one end of said housing, a flange in the other end of said housing and an outlet aperture in communication with said chamber, a tubular conduit having an inlet aperture and a valve seat, means securing said tubular conduit in said flange with said tubular coduit projecting into said chamber, a piston having a circular projection and a plurality of ports connecting said inlet aperture with said chamber, a valve element fixed to said piston, a spring adjusting collar rotatively engaging said screw threads, a circular cap provided with fluid tight packing slidably mounted in said chamber with said fluid tight packing engaging said chamber wall, resilient means interposed between said piston and said circular cap, said spring adjusting collar engaging to slide said circular cap along said chamber wall to vary the tension of said resilient means, said resilient means forcing said valve element into engagement with said valve seat for closing said plurality of

ports from said inlet aperture, and means for preventing vibration of said piston and chatter between said valve element and said valve seat which includes a first dash pot space defined by said flange and said circular projection and a first narrow escape passage between said circular projection and said chamber wall and a second dash pot space defined by a shoulder on said tubular conduit



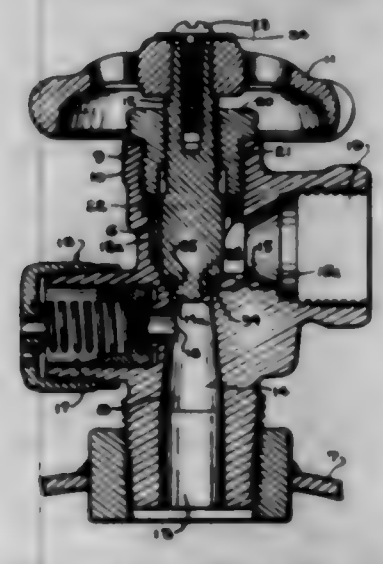
and a rim on said piston a second and narrow annular escape passage between said piston and said tubular conduit, said last mentioned passage connecting said first and second dashpot spaces, at least a portion of a fluid contained in said first dashpot space being forced through said second passage to thereby flow through said second dashpot space as said resilient element forces said valve element into engagement with said valve seat.

3,145,733

SWIVEL RING VALVE

Harry N. Shaw, Lake Forest, and Herbert G. Hansen, Chicago, Ill., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois

Filed July 7, 1960, Ser. No. 41,332
5 Claims. (Cl. 137—583)



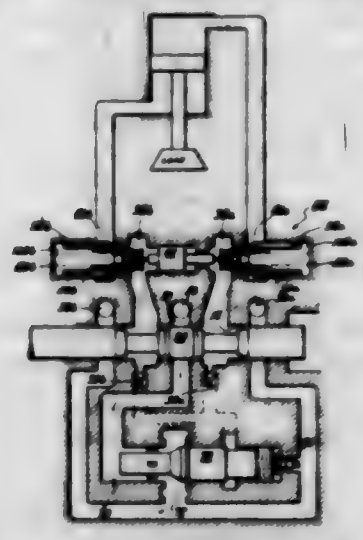
1. A control valve comprising a housing, said housing having an inlet, outlet and relief ports integrally formed therein, a connecting passage between said inlet and outlet ports defining a venturi throat over a portion of a length thereof, a valve seat positioned within said passage, a rotatable valve stem, means for rotating the valve stem secured to the upper portion thereof, a conical shaped surface formed on the other end portion of said valve stem, an annular groove recessed in the lower portion of the valve stem adjacent to said conical surface, said groove having a retaining lip in juxtaposition with said conical surface, said groove having a side wall tapering inwardly, relative to the center line of the valve stem and an upper wall angling upwardly relative to a horizontal plane, and a flexible plastic sealing member, said sealing member swivelly disposed in said groove to present a substantially different surface area to engage the valve seat, said flexible plastic sealing member consists of a circular ring of resilient plastic of low co-efficient of friction which is substantially quinquelateral in cross section and has an upper contoured sealing surface which rotatably engages the upper wall of said groove in sealing relationship and a side contoured sealing surface which engages the valve seat and side wall of the groove to effect a leak-proof closure between the inlet and outlet ports when the valve is in an extreme closed position, stem surfaces above and below the groove maintaining a spaced relationship with the valve seat whereby said ring is retained from flow between the valve seat and said upper wall as an axial force is applied thereto whereby a perfect leak-proof seal is attained when the valve stem is in the extreme closed position.

3,145,734

PRESSURE COMPENSATED FLOW CONTROL VALVE

John C. Lee, Mount Prospect, Yunus E. Moochhala, Northfield, and Herbert N. Underwood, Chicago, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 6, 1961, Ser. No. 143,383
8 Claims. (Cl. 137—596.13)



1. A flow control valve comprising a body having a spool bore formed therein a fluid inlet passage, a fluid sump passage, a first port branch and a second port branch in communication with said spool bore; a valve spool slidably positioned within said spool bore; a by-pass valve having an inlet chamber in communication with said fluid inlet passage, a sump chamber in communication with said fluid sump passage and a control chamber; and an equalizing line adapted to communicate fluid from said first port branch and from said second port branch to said control chamber; and throttling means responsive to the pressure differential between fluid in said first port branch and fluid in said second port branch to govern the flow of fluid through said first port branch and through said second port branch.

3,145,735

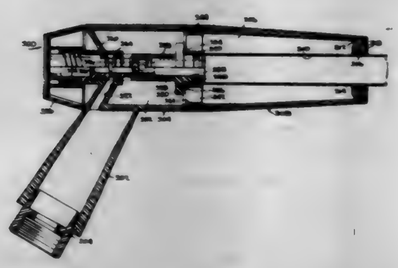
VARIABLY PROPORTIONING AND VARIABLY METERING PLURAL-LIQUID VALVED DISPENSING UNITS

Leonard Osrow, Great Neck, and Harold Osrow, Roslyn Heights, N.Y., assignors to Osrow Products Company, Inc., Glen Cove, N.Y.

Filed Dec. 20, 1960, Ser. No. 77,202
24 Claims. (Cl. 137—604)

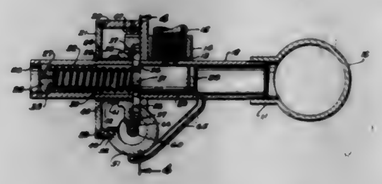
12. A dispensing unit comprising an inlet chamber for primary liquid under source pressure, an outlet cham-

ber for primary liquid, a chamber for storing secondary liquid under the average pressure prevailing in the unit, said storage chamber being structurally integral with said inlet chamber, and a single valve, said valve including a cage member and a spindle member rotatable in the cage member, one of said members having a helical thread and an element on the other of said members meshing with the thread so that turning of the spindle member within the cage member will cause



axial movement of the spindle member within the cage member, said members and said chambers having cooperating ports and sealing rings so related that responsive to such axial movement they variably control the flow of primary liquid from the inlet chamber to the outlet chamber between full flow and cut-off and variably control the introduction of the secondary liquid through a singular opening into the primary liquid while the primary liquid is flowing.

3,145,736
AUTOMATIC IRRIGATION VALVE WITH DAMPING DEVICE
Lyndle G. Gheen, Eugene, Oreg., assignor to R. H. Pierce Manufacturing Company, Eugene, Oreg., a corporation of Oregon
Filed Sept. 24, 1962, Ser. No. 225,745
24 Claims. (Cl. 137—624.13)



8. In an irrigation valve adapted to be actuated by a drop in pressure of water supplied thereto, a valve casing member having an inlet and an outlet,

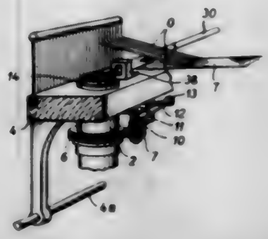
a valve member biased toward a closed position closing the outlet from the inlet and urged by water pressure at the inlet toward an open position in which the water may flow from the inlet to the outlet,

blocking means having a blocking position in which the valve member is urged against the blocking means,

the blocking means also being movable from the blocking position thereof to a second position permitting movement of the valve member to the open position thereof,

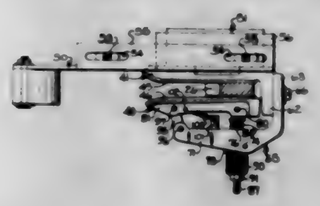
and means responsive to a drop in water pressure at the inlet to move the blocking means from its blocking position to its second position so that force on the blocking means from the valve member is relieved as the blocking means is so moved.

3,145,737
DEVICE FOR PICKING-OUT AND FEEDING WEFT HAIR IN LOOMS
Giorgio Adolfo Grandi, 5/3 Via P. Muratori, Bologna, Italy
Filed May 6, 1963, Ser. No. 278,248
Claims priority, application Italy, May 12, 1962, 9,657/62
2 Claims. (Cl. 139—130)



1. In a device for picking-out and feeding hair weft on looms, a slay, a weft inserter movable along the slay, a pick-out head carried by said weft inserter, at least one pot containing a hair bunch rotatably mounted on said slay and abutment means fixed to the slay to effect opening of said head for pick-out of the hairs from said bunch, said pick-out head comprising a bushing formed at its free end with a re-entering, substantially conical seat and a rod-like member movable longitudinally with respect to said bushing and having a hook like terminal portion provided with a concave tip arranged in front of said seat in said bushing, spring means being interposed between said rod-like member and bushing.

3,145,738
LOOM PICKER STICK CHECK
John G. Williamson, Jr., and Edwin C. Shaw, Charlotte, N.C., assignors to Perfecting Service Company, Charlotte, N.C., a corporation of North Carolina
Filed Sept. 5, 1962, Ser. No. 221,465
10 Claims. (Cl. 139—169)



1. A checking apparatus for checking a picker stick in a rest position relative to the lay of a loom and wherein said picker stick moves inwardly from the rest position to an active position in propelling a shuttle across said lay, said apparatus comprising

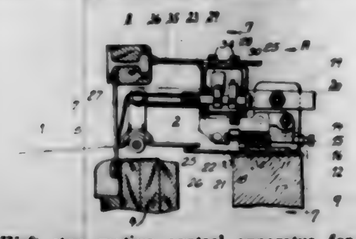
(*a*) a pair of spaced substantially parallel elongate first and second jaws adapted to be mounted on the lay and adapted to receive said picker stick therebetween,

(*b*) means yieldably urging at least one of said jaws toward the other such as to yieldably grip the picker stick in rest position therebetween upon impact of the picker stick with said jaws,

(*c*) means limiting relative movement of said jaws toward each other such as to maintain said jaws in spaced relationship in the absence of a picker stick therebetween, and

(*d*) means responsive to inward active movement of the picker stick for moving at least the first jaw to an angular position with respect to the path of travel of the picker stick and in the course of which movement the inner end of the first jaw is moving away from said path while a portion of the first jaw adjacent its outer end remains and moves in engagement with the picker stick to thereby relieve the grip of the jaws on said picker stick upon initiation of each inward active movement of said picker stick.

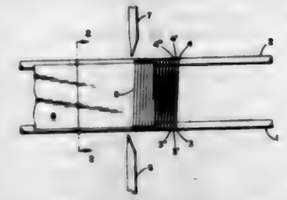
3,145,739
WEFT SENSING MEANS
Kurt Metzler, Duwockskamp 15, Hamburg-Bergedorf, Germany
Filed Mar. 1, 1961, Ser. No. 92,601
Claims priority, application Germany Mar. 9, 1960
7 Claims. (Cl. 139—370)



1. Weft stop motion control apparatus for a loom having a reciprocating slay, comprising, in combination, actuating means moving in synchronism with the slay; a circuit-preparing switch operated by said actuating means to assume an operative position during the passage of a shuttle through a warp shed; control switch means including a spring and having an operative position, said control switch means being connected with said circuit-preparing switch; electric operating means operable for instantaneously actuating a loom stop motion and being connected with said circuit-preparing switch and said control switch means to be actuated when said circuit-preparing switch and said control switch means assume the operative positions thereof; feeler means movable between a sensing position close to the selvedge warp threads and a retracted position, and also movable in said sensing position in the direction between a normal position and an actuating position, and being connected to said control switch means to move the same out of said operative position when moving to said actuated position; adjustable spring means acting on feeler means for varying and adjusting the force required by said feeler means to move said control switch means out of said operative position against the action of said spring; and shifting means connected to said feeler means and being operated in timed relation with said slay and actuating means to hold said feeler means in said sensing position only during the passage of the shuttle with a weft thread through a warp shed so that the weft thread engages said feeler means in said sensing position and moves the same to said actuated position so that said electric operating means is not operated whereas said loom stop motion is actuated by said operating means if said feeler means is not engaged by a weft thread.

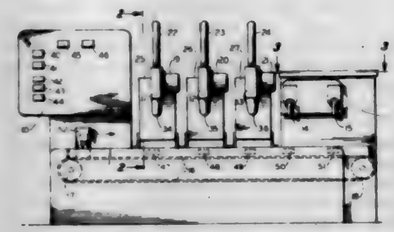
3,145,740
GRID MANUFACTURE
Curtis S. MacArthur, Watertown, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Massachusetts
Filed May 31, 1961, Ser. No. 113,799
4 Claims. (Cl. 140—71.5)

1. The method of making a grid structure comprising supporting a pair of side rods in substantially parallel relation in a given fixed plane, disposing a cutting tool for movement along a given path in said plane toward and away from a side rod, moving said tool along said path in said plane into engagement with said rod to form a notch therein, guiding a grid wire into said notch, moving said side rod longitudinally in said plane to position an unnotched surface opposite the tool, moving the tool



in said given path in said plane into engagement with the unnotched surface of the rod to form a succeeding notch in the rod sufficiently close enough to the preceding notch to simultaneously cause the material of the rod to be forced toward the preceding notch whereby the grid wire is wedged in the notch, and repeating the steps of moving the tool and guiding the grid wire to form successive notches in the rod having the grid wire secured therein.

3,145,741
ELECTRICALLY CONTROLLED FLUID DISPENSER
Traver J. Smith, San Jose, Calif., assignor of one-half to Genevieve I. Magnuson and one-half to Genevieve I. Magnuson, Robert Magnuson, and Lois J. Fox, as trustees
Filed Mar. 20, 1961, Ser. No. 97,049
10 Claims. (Cl. 141—104)



1. In apparatus for dispensing predetermined amounts of selected fluids or mixtures thereof the combination comprising a conveyor on which a container into which fluid is to be dispensed is adapted to be positioned, a plurality of fluid dispensing means disposed at stations positioned along said conveyor, a plurality of fluid reservoirs, means for connecting different ones of said dispensing means to different ones of said reservoirs so that different fluids may be dispensed from the different stations, electrical control means comprising a switch at each of said stations, said switch being adapted to be actuated by the container as it is moved on said conveyor, manually actuated means for selecting the reservoir from which fluid is to be dispensed, means controlled by said manually actuated means for activating the switch at the station corresponding to the selected fluid, and timing means, said electrical control means having means for initiating the timing operation of said timing means when the switch thereof is actuated, and a relay connected to the output of said timing means to control said dispensing means.

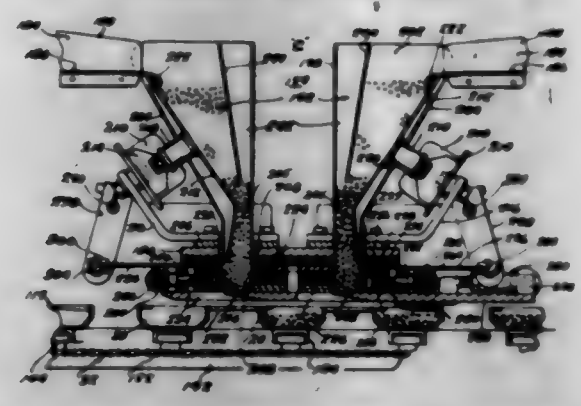
3,145,742

PACKAGING APPARATUS INCLUDING A HOPPER, A METERING ASSEMBLY AND MOVABLE TRAYS

Roland E. Miller, Orangeville, and Carmen G. Tumino, Elk Grove Village, Ill., assignors to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware

Original application June 18, 1959, Ser. No. 819,333, now Patent 3,027,699. Divided and this application June 16, 1961, Ser. No. 125,022

5 Claims. (Cl. 141—191)



1. A packaging apparatus of the type described, comprising a plurality of spaced apart trays, means for continuously moving the trays along a predetermined path of travel, each of said trays having a forward extending lip on the rear wall thereof, and metering means for depositing brittle articles in the trays, said metering means comprising means defining a generally vertically extending conduit, a lower horizontally extending retractable closure plate in said conduit, an upper horizontally extending retractable closure plate spaced above said lower plate in said conduit, said upper closure plate and said lower closure plate being movable between an extended position wherein the conduit is closed and a retracted position wherein the conduit is open, first means for reciprocating said upper closure plate between its extended position and its retracted position, second means for reciprocating said lower closure plate between its extended position and its retracted position, third means connected to said first means and to said second means for correlating the movement of the upper and lower closure plates so that the upper and lower closure plates are reciprocated in alternately opening and closing relationship, so that said upper closure plate remains in its extended position until said lower plate reaches its extended position, and so that said lower plate remains in its extended position until said upper plate reaches its extended position, hopper means disposed above said conduit and in communication therewith, a generally vertically extending wall dividing said hopper means into two chambers which are in communication with each other at the lower end of the hopper, and means for feeding a plurality of brittle articles into only one of said chambers, the other chamber receiving articles displaced by said upper plate moving from its retracted position to its extended position while said lower plate is in its extended position thereby preventing breakage of said articles, and means connected to said third means and to said tray moving means for operating said third means in timed relation with the continuous movement of the trays so that the lower plate remains in its extended position until one of the trays is below the conduit.

3,145,743

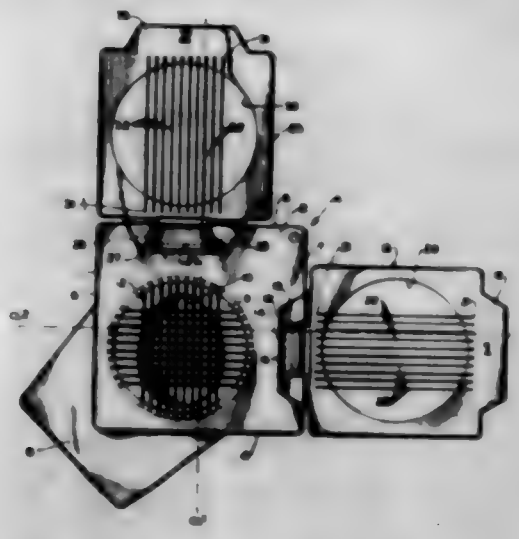
HARD-BOILED EGG CUTTER

Richard B. Cronheim, 411 N. 7th St., St. Louis 1, Mo.

Filed Apr. 4, 1962, Ser. No. 185,932

3 Claims. (Cl. 146—2)

1. An egg cutter comprising a base, an egg support mounted on said base, first hinge means operatively mounted on said base and having an elongated groove, a first cutter mounted on said first hinge means and having an element which is shiftable in said elongated groove, second hinge means operatively mounted on said base and having an elongated groove, and a second cutter mounted on said second hinge means, said second cutter having an element which is shiftable in the elongated groove of said second hinge means, said first and second



elongated grooves extending from the lower margins of the first and second hinge means to a point wherein their upper ends are located approximately in the same horizontal plane which passes through the approximate center of an egg which is to be cut, said first and second cutters being capable of being shifted to cutting position when the elements are disposed at the upper ends of the first and second grooves at the initiation of the cutting operation.

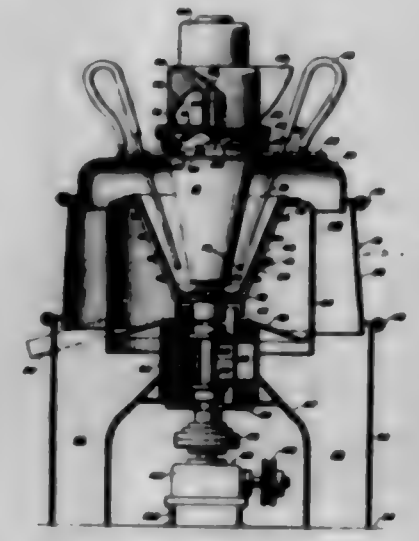
3,145,744

APPARATUS FOR PROCESSING CITRUS FRUIT

Aubrey O. T. Ostrus, Los Angeles, Calif., assignor to Freshway Products Company, Los Angeles, Calif., a corporation of California

Original application Feb. 19, 1960, Ser. No. 9,828. Divided and this application Aug. 28, 1962, Ser. No. 219,857

6 Claims. (Cl. 146—3)



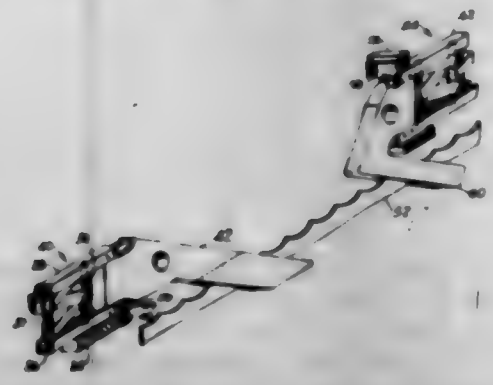
1. A device of the character described, comprising:

means for shredding fruit produce containing volatile flavors and other potable fluids and solids,

means for spraying said shredded fruit with an aqueous liquid to aid in the retention of such volatile flavors and to produce a flowable mass containing fluids and entrained solids,

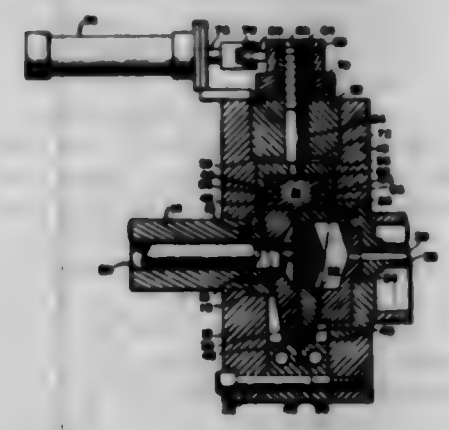
means for filtering said flowable mass including a centrifugal type of filter having an upwardly and outwardly flared foraminous wall with a free upper edge,
means for directing said flowable mass into said filter,
means for rotating said filter to cause an upward and outward flow of solids over said upper edge and thereby effect a continuous separation of solids from fluids, and
means for collecting the resulting filtrate separately from said solids.

3,145,745
BLADE GUIDE HOLDER FOR BAND SLICER FOR BREAD
Benedict R. Benith, Westbury, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 1, 1962, Ser. No. 227,156
4 Claims. (Cl. 146—88)



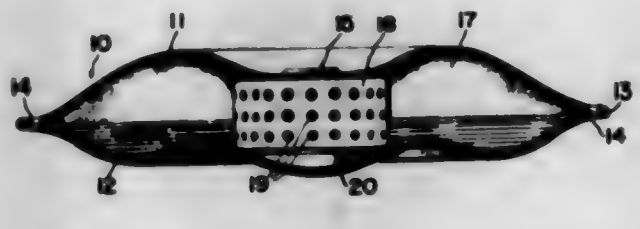
1. In combination in a bread slicing machine, a "Lazy Susan" type lattice and a blade guide assembly, said lattice having two individual sets of aligned opposed pins for each said assembly, one of said sets projecting from the front and the other from the rear of said lattice, each said assembly having an individual mounting frame for mounting the assembly on the lattice, said frame comprising a pair of channel members, each of said members having a U-shaped cross section, said U-shaped sections having their open ends opposed one to another, each of said channels arranged to slide over an individual set of said pins, for ready individual mounting on and demounting from said lattice to facilitate maintenance.

3,145,746
SCREEN CHANGING APPARATUS
Stanford S. Scher, Baltimore, Md., assignor to National Plastic Products Co., Inc., Odenton, Md., a corporation of Maryland
Filed Feb. 25, 1963, Ser. No. 260,503
5 Claims. (Cl. 146—174)



1. An apparatus for changing screens comprising a body portion having a bore formed therein and a wedge-shaped opening in said body portion, a wedge-shaped screening frame seated in said wedge-shaped opening and a screen mounted in said frame and in communication with said bore, said frame comprising a pressure plate extending in a direction transverse to the axis of said bore with the extremity of said pressure plate being T-shaped in cross section, means for unseating said wedge-shaped frame and said screen therein from the wedge-shaped opening of said body portion including means operatively positioned in said apparatus for moving said wedge-shaped frame in a direction transverse to said bore and towards the wide end of said wedge-shaped opening, said moving means comprising an undercut carrier block slidably engaging the head of said T-shaped pressure plate and a single screw means for reciprocating said undercut block in said direction transverse to said bore to move said frame towards the wide end of said wedge-shaped opening, and automatic means for ejecting said screen and frame upon unseating from said body portion and simultaneously inserting a replacement screen and frame.

3,145,747
FREE DROP CONTAINER
Jess H. Nourse, Ypsilanti, Mich., and William R. Crawford, Mishawaka, Ind., assignors to the United States of America as represented by the Secretary of the Army
Filed June 18, 1962, Ser. No. 203,413
9 Claims. (Cl. 150—1)



1. In a free drop container, the combination with a container body comprising a central portion and a hollow annular fin surrounding said central portion concentrically thereof; of an upright cylindrical wall fixed in said container and defining said central portion, said wall being formed with a plurality of restricted openings therethrough providing communication between said central portion and said fin, a filling opening for partially filling said central portion and fin with liquid, said fin being directed upwardly during free drop in embracing relation to said central portion whereby to partially flatten said fin and force liquid therein radially inwardly into said central portion to fill the same, said fin stabilizing said container during free drop to insure landing of said container on said central portion, and said openings in said wall comprising means for retarding flow of liquid in said central portion outwardly thereof into said fin upon impact of said container with the ground so as to protect said fin from bursting stresses.

3,145,748
HANDBAG FRAME
Salvatore A. Leonardi, 154 N. Seneca St., Woodsport, N.Y.
Filed Nov. 16, 1961, Ser. No. 152,856
7 Claims. (Cl. 150—29)

5. For use in the construction of a handbag, at least one handbag frame member formed from rod stock bent into desired U-shaped form and embodying a bight portion between and connecting corresponding ends of leg portions, said leg portions having free laterally bent offset terminal end portions, and hinge means embodying at least one pair of substantially flat coplanar hinge leaves,

the offset terminal portions being superimposed upon and affixed to median portions of their respective leaves



midway between the lengthwise marginal edge portions of said leaves.

3,145,749
GOLF CLUB COVER
Monroe H. Rosenow, Brookfield, Wis., assignor to ABC Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed May 29, 1963, Ser. No. 284,144
3 Claims. (Cl. 150—52)



3. A non-rigid, form-fitting cover for the head and adjacent shank portion of a golf club, characterized by:

(A) connected, top, bottom and side walls to respectively overlie the top, bottom and sides of a golf club head and to define a body portion to receive the head of a golf club;

(B) an elongated tubular shank-receiving portion smaller in girth than the body portion and having walls which merge smoothly with those of the body portion,

the body and shank-receiving portions forming an obtuse angle;

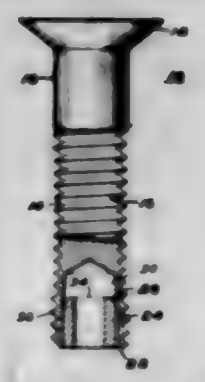
(C) a placket in the cover extending uninterruptedly from a point near that portion of the side wall which is most remote from the tubular shank-receiving portion medially along the bottom wall and the adjacent wall of the tubular shank-receiving portion to the open end thereof; and

(D) separable fastening means to close the placket in a manner enabling the placket to be closed or opened from one end thereof to the other,

said cover being further characterized by the fact that the side wall of its body portion is of substantially uniform width for the entire length thereof, and is substantially perpendicular to the top and bottom walls,

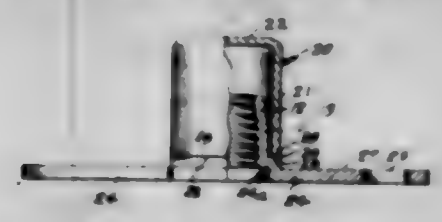
said side wall further having sufficient stiffness to resist edgewise collapse under relatively light pressure, so that when the placket is open, pressure applied on the bottom wall near the closed end of the placket and toward the top wall spreads apart the edges of the placket to facilitate application of the cover to a golf club.

3,145,750
SELF-LOCKING STUD HAVING AN OVAL EXPANSION INSERT SEATED IN A CENTRAL BORE
William C. Wootton, Fremont, Calif., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Oct. 16, 1959, Ser. No. 846,947
3 Claims. (Cl. 151—14)



1. A self-locking bolt including a threaded shank, said shank having a central bore axially extending thereinto from one end thereof forming a continuous wall portion of reduced thickness, and a resilient insert non-circular in cross-section mounted wholly within said bore whereby said wall portion enveloping said insert is flexed to a configuration generally non-circular in cross-section.

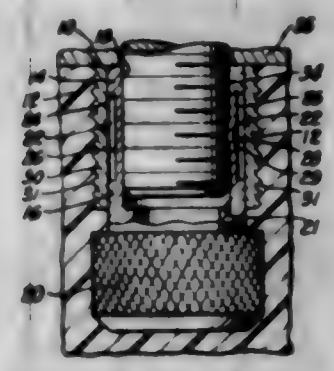
3,145,751
SELF-LOCKING NUT WITH SEALING CAP
Jay Sheridan Bootr, North Stamford, Conn., assignor, by mesne assignments, to Textron Industries, Inc., Norwalk, Conn., a corporation of Delaware
Filed Mar. 6, 1959, Ser. No. 797,727
1 Claim. (Cl. 151—21)



A sealed self-locking nut comprising: a tubular barrel made of a flexible material and having an internal screw thread; one end of said barrel being deformed by having equally spaced circumferential portions displaced inwardly and intermediate equally spaced circumferential portions displaced outwardly and thereby providing self-locking means that is arranged to flex and cooperate with a bolt that is threaded into said barrel to automatically lock the bolt to the barrel; a laterally extending flange integrally formed at the other end of said barrel; an offset portion at the junction of said barrel and flange providing an annular shoulder at the outer side of said barrel spaced a short distance above the top of the remainder of said flange and an enlarged entrance to said barrel; and a closure cap in the form of an inverted cupped member that is disposed to enclose said barrel and has the edge about its open end seated on, secured and sealed to said shoulder throughout its periphery; the remainder of said cap being unattached to said barrel, rigid relative thereto and non-deformable in normal operation, whereby the entire length of said barrel within said cap is free to move relative to said cap and said self-locking means is thereby free to

flex within and independently of said cap to permit the threading and locking of a bolt in said barrel.

3,145,752
SELF-LOCKING INSERT HAVING A PROTECTIVE COLLAR COVERING THE LOCKING MEANS
James N. Dupree, West Covina, Calif.
(1710 Potrero St., South El Monte, Calif.)
Filed Dec. 5, 1960, Ser. No. 73,863
2 Claims. (Cl. 151—21)



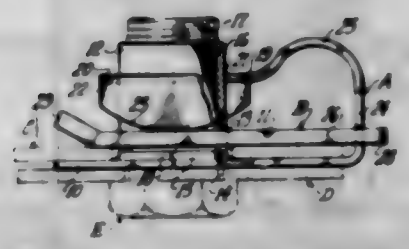
1. In a self-locking insert for molding in place in a molded body, the combination of:

a head located within said molded body and having a knurled exterior surface for engagement with the body to prevent both rotational and axial movement thereof within said molded body;

a pin-receiving stem formed integral with said knurled head and extending therefrom within said molded body and including a cylindrical wall having an open end and a closed end and defining a threaded chamber therewithin communicating with said open end, an annular groove extending circumferentially about the exterior of said cylindrical wall and defining a circumferential air space, and a conically shaped inwardly extending recess located in the bottom of said groove and indented a distance sufficient to deflect a portion of said wall into the thread pattern of said chamber; and

a collar having a cylindrical inner wall and opposing open ends, said collar surrounding the cylindrical wall of said pin-receiving stem in a push-fit relationship and having a width greater than the width of said groove and sufficient to completely cover said groove so as to seal said circumferential air space from said molded body, and said collar having a knurled exterior surface for engagement with the body to prevent both rotational and axial movement thereof within said molded body.

3,145,753
SPRING CLIP AND NUT ASSEMBLY
David B. Kreider, Anaheim, Calif., assignor to Frederick W. Roha, Placentia, Calif.
Filed Jan. 24, 1961, Ser. No. 84,573
5 Claims. (Cl. 151—41.75)



1. In a clip nut assembly for attachment to a work sheet having a bolt aperture, in combination: a yoke comprising opposed spaced arms one of which constitutes a base jaw having a bolt opening for alignment with said aperture, and a guide integrally joining the rear ends of said arms and extending transversely therebetween, the other arm embodying a spring finger extending from said guide and a retainer loop formed as a free end portion of said spring finger, said retainer loop being coaxial with said bolt opening and having spaced lateral wings extending substantially at right angles from respective side margins thereof toward said base jaw and terminating in convex arcuate edges in opposed relation to said base jaw; and a floating jaw having a rear end embodying retainer means having an open shallow transverse notch slidably receiving said guide, and a nut carried by said floating jaw, projecting through said retainer loop, guided therein for axially sliding movement coaxial with said bolt opening, and cooperating with said retainer means and guide to guide said jaws in free-floating closing movement against opposite faces of a work sheet in self-adjusting full contact therewith while maintaining longitudinal registration of the jaws, said lateral wings having their said arcuate edges engaged against said floating jaw on opposite sides of said nut and spring-loading said floating jaw for yielding gripping engagement with said work sheet.

3,145,754
PNEUMATIC TIRES AND TUBES
Rennes Nicolaou Sarris, 38 Blvd. Lefebre, Paris, France, assignor of one-third to James C. Gault, Antony, France
Continuation of application Ser. No. 547,199, Nov. 14, 1955, which is a division of application Ser. No. 389,819, Nov. 2, 1953. This application June 19, 1959, Ser. No. 821,573
Claims priority, application Great Britain Nov. 21, 1952
6 Claims. (Cl. 152—342)



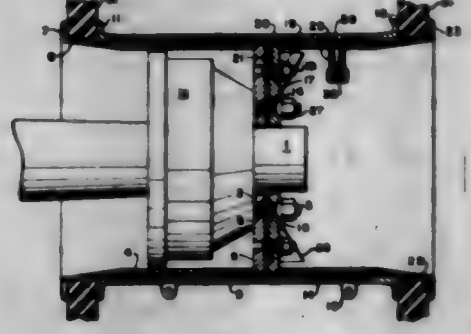
1. In a pneumatic type of tubeless tire, a tire casing to fit on the rim of a wheel and having beads to be mounted upon the bead seats and at the side flanges of said rim, a separable annular partition member dividing the space within said tire casing into a plurality of compartments and comprising U-shaped bead-seating members merging into the marginal annular ends of said partition member to closely receive the beads of said tire casing, said bead-seating members having resilient metallic reinforcing members embedded therein extending substantially radially of said tire casing to exert a gripping action on said tire casing beads, and comprising wire rings embedded at the extremity of each of said U-shaped bead-seating members, said rings being fastened to said metallic reinforcing members to provide an integral reinforcing structure.

3,145,755
WHEEL AND RIM CONSTRUCTION
James B. Turner, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 22, 1961, Ser. No. 111,641
2 Claims. (Cl. 152—401)

1. A vehicle wheel assembly for low pressure tires comprising:

a first wheel spool having an inner flange at one end, the outer portion of said wheel spool at the other end tapering radially outwardly and terminating in an outer flange;

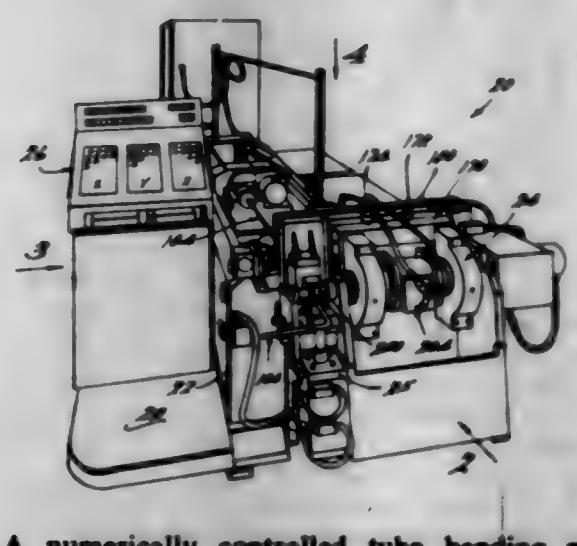
a second wheel spool having an inner flange at one end, the outer portion of said wheel spool at the other end tapering radially outwardly and terminating in an outer flange;



said wheel spools having the said inner flanges secured together so that said tapered portions are positioned outwardly from the mating inner flange faces of said spools, the distance between said outer flanges when said wheel spools are secured together being substantially greater than the inner diameter of said wheel spools;

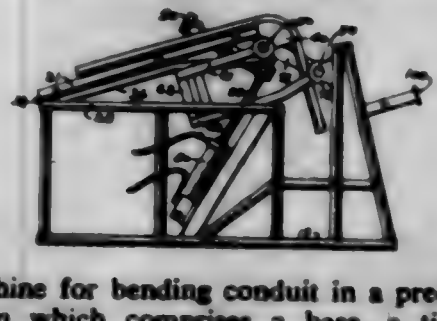
a flanged cylindrical rim of uniform diameter comprising a plurality of rigid segments held in position on said wheel spools solely by contact with the outward tapered portions of said wheel spools, each of said rigid segments being firmly bolted one to the other.

3,145,756
NUMERICALLY CONTROLLED TUBE BENDING MACHINE
Walter P. Hill, Detroit, Mich., assignor, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1961, Ser. No. 139,286
14 Claims. (Cl. 153—28)



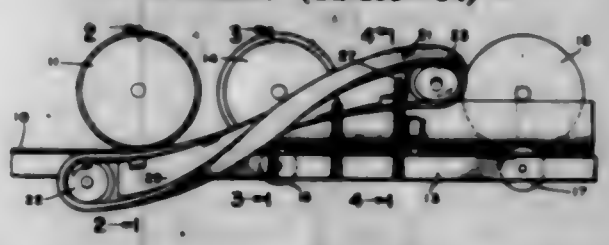
1. A numerically controlled tube bending machine comprising a numerical positioning control system including means for accepting numerical intelligence relating to the longitudinal position of a bend, the angle of a bend, the radial plane of bend, and means for translating the numerical intelligence into control outputs, a bending head, means responsive to a control output from said translating means for moving the tube longitudinally with respect to said bending head, means for sensing the longitudinal position of the tube connected in feed-back relationship with said translating means, means responsive to a control output from said translating means for rotating the tube relative to the bending head, means for sensing the rotational position of the tube connected in feed-back relationship with said translating means, said bending head comprising means for gripping the tube on one side of an adjacent to the longitudinal bend position, a bending arm including means for gripping the tube on the opposite side of and adjacent to the longitudinal bend position from said one side, means responsive to a control output from said translating means for rotating said bending arm to bend the tube, and means for sensing the angle of bend of the tube connected in feed-back relationship with said translating means whereby the tube is bent at a longitudinal position, to an angle and in a radial plane dictated by the numerical intelligence inserted into said control system.

3,145,757
CONDUIT BENDING MACHINE
Jeremiah Sheehan, Brooklyn, N.Y., assignor to Simpson Electric Corp., New York, N.Y.
Filed June 15, 1960, Ser. No. 36,358
7 Claims. (Cl. 153—40)



1. A machine for bending conduit in a predetermined arcuate form which comprises a base, a tilting work table pivotally supported at one end thereof on said base, a forming die rigidly supported on said tilting table at the other end thereof, a pivot point on said table at a point removed from said forming die, a link pivotally mounted at said pivot point and having an extension thereof extending over the upper surface of said table, a rolling die fixedly mounted on said base in operative alignment with said forming die, power means on said machine suitable for supplying a single linear stroke, said power means being operatively connected with said link for pivoting said link and for tilting said table, and linkage pivotally connecting said forming die to said rolling die in fixed spaced relation thereto, whereby with the placing of conduit on said table with the portion to be bent disposed between said forming die and said rolling die and upon operation of said power means to provide the application of a power stroke to said link, said link is pivoted to contact and hold said conduit on said table and said forming die is moved in the direction of said power stroke, while said table is tilted to bend said conduit between said dies.

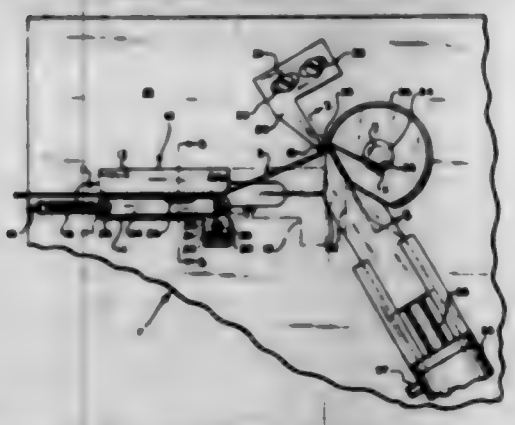
3,145,758
APPARATUS FOR CONTINUOUS FORMING OF METAL SHAPES
Douglas L. Sprung, Brea, and Clyde W. Vanner, Whittier, Calif., assignors to Mobile Pipe Corporation, Whittier, Calif., a corporation of California
Filed Jan. 23, 1961, Ser. No. 84,337
6 Claims. (Cl. 153—54)



1. For use with transition apparatus for continuously forming flat strip material to change it to generally cylindrical tubular shape, the improvement comprising, in combination: continuous stationary tracks extending in a direction generally longitudinally of the length of the strip material and each curved to follow an inclined and curved path corresponding to the path of one of the margins of the strip material in changing from a flat cross-section to a generally cylindrical tubular shape, and forming means

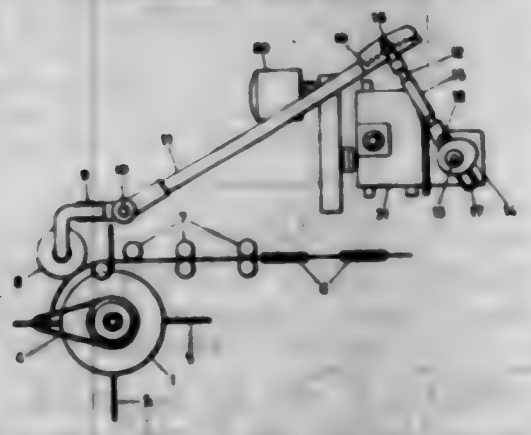
guided for movement along said tracks and each adapted to contact and move with a margin of the strip material and without relative movement therebetween, said forming means being continuously supported by said tracks along the length thereof.

3,145,759
APPARATUS FOR MAKING POWER SPRINGS
Charles Zelnick, Henry A. Doster, and Alden D. Swartz, Saginaw, Mich., assignors to Lufkin Rule Company, Saginaw, Mich., a corporation of Michigan
Filed June 11, 1959, Ser. No. 819,719
6 Claims. (Cl. 153—64)



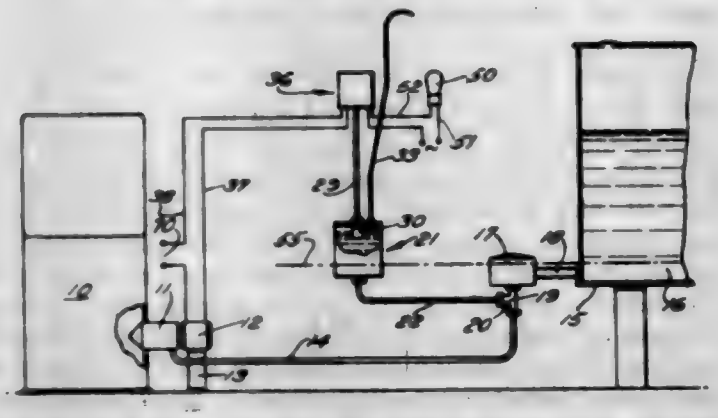
1. Apparatus for making a power spring comprising frame means; generally parallel guide means through which a spring strip is to pass mounted for reciprocating movement in a pathway on said frame means to and fro; a first pin of small diameter on said frame means adjacent the pathway of movement of said guide means, a second pin of small diameter mounted for substantially reciprocating movement on said frame means in a path angular to said pathway from a position remote from said first pin to a position side-by-side with said first pin to form therewith a curvilinear track for the strip passing between said pins; an arbor of large diameter relative to said pins rotatably supported adjacent said pins outward thereof; means for revolving said arbor in a direction to backwind said strip after it has been permanently set in a curvature in passing between said pins; means connected with said guide means for gripping the end of said strip which last passes through said guide means and permitting the strip to draw said guide means toward said pins at the end of the forming operation; means for withdrawing said second pin to its remote position; and means actuatable to release said gripping means from the trailing end.

3,145,760
WIRE COILING
Olof August Brautigam, Goteborg, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden
Filed Nov. 28, 1960, Ser. No. 72,048
Claims priority, application Sweden Dec. 4, 1959
3 Claims. (Cl. 153—64)



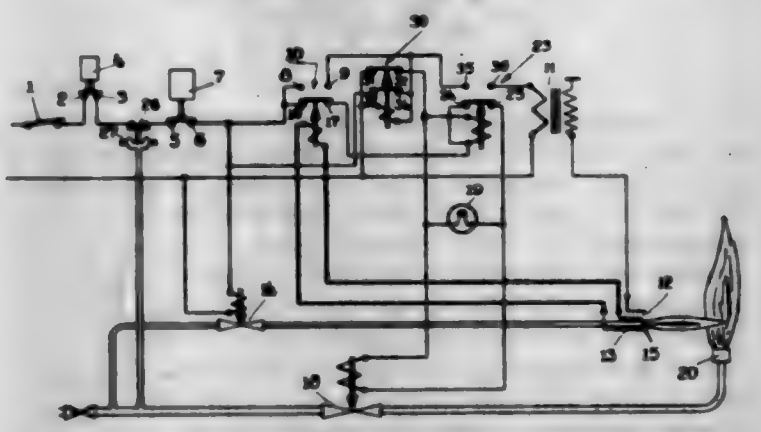
1. In a wire coiling machine, continuous wire bending means for imparting a permanent curvature to the wire, a freely rotatable coil carrier adapted to receive the curved wire emerging from said wire bending means, and means for periodically modifying the action of said bending means in such a manner as to cause said bending means to shape series of wire turns of successively increasing width alternately with series of wire turns of successively decreasing width, each of said series forming a flat spiral.

3,145,761
CONTROL SYSTEM FOR AN OIL BURNER
Frederick J. Rensch, Sr., 637 Church St., New Bedford, Mass.
Filed Jan. 2, 1962, Ser. No. 163,796
1 Claim. (Cl. 158—42.1)



In an oil burner system, an oil burner, an electric motor for operating the burner, an electric circuit therefor, an oil supply tank at an elevation to supply oil to said burner by gravity, an oil conduit from said tank to said burner, a control apparatus comprising a switch in said electric circuit to disconnect said electric motor and located at an elevation no higher than the top of the oil supply tank, means responsive to a low level of oil in said tank to operate said switch prior to exhausting oil from said oil conduit, said means comprising a tank with a float therein connected to the supply tank and at such location as to cause the level of the liquid therein to follow the level of the liquid in the supply tank, said float being connected to operate said switch, said second tank having a top with an opening therein, said top being located below the top of the supply tank, a rod carried by said float extending upwardly through said opening and a conical plug on said float to enter said opening and seal the same as the float rises in said tank and a vent tube from the top of the second tank extending to a height above said supply tank.

3,145,762
CONTROL RELAY AND VALVE
Richard Hasse, Osnabruck, Germany, assignor to G. Kromschroder Aktiengesellschaft, Osnabruck, Germany
Filed Apr. 11, 1961, Ser. No. 102,273
Claims priority, application Germany Apr. 16, 1960
7 Claims. (Cl. 158—123)



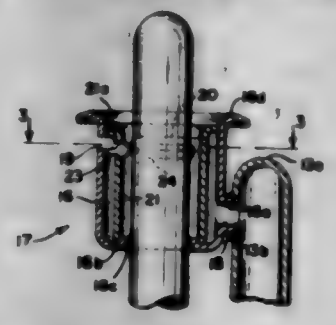
2. In an automatic protection device to be connected to electric mains and for a gas burner having a main

burner and an electrically operated valve therefor, a pilot burner and an electrically operated valve therefor, and an electrically operated ignition device, the improvement comprising: thermoelectric means mounted to be heated by said pilot burner when the pilot burner is on, said means producing an electric current when heated; a first relay having a coil, normally opened contacts and normally closed contact means, said coil being connected to said thermoelectric means to be energized by said current; a temperature responsive switch; means connecting said switch, said normally closed contact means, said ignition device, and said electric mains in series; a monitor relay means having a coil and two pair of normally opened contacts which are closed upon the actuation of the monitor relay means; means connected in series with said switch and said mains and connecting the normally closed contact means of the first relay and said coil of the monitor relay means in series to actuate the monitor relay means upon the closing of the switch when the normally closed contact means of the first relay are closed, whereby the coil of the monitor relay means will not be energized when the first relay is energized and said normally closed contact means are opened, the last means also connecting said coil of the monitor relay means and one of said two pair of normally opened contacts of the monitor relay means in series to hold said monitor relay means in the actuated position, after actuation and until the electric current to said coil of the monitor relay means is interrupted other than by said one of said two pair of contacts opening; means connected to the monitor relay means and the pilot valve to open the pilot valve when the coil of the monitor relay means is energized; and means connected in series with said mains and said switch and connected to the normally opened contacts of the first relay, the other pair of normally opened contacts of the monitor relay means and to the main burner valve to open the burner valve upon the switch and contacts closing and to close said valve upon the occurrence of any one of, the failure of electric power in the mains, the opening of the switch, the opening of the normally opened contacts the first relay and the opening of the other pair of contacts of the monitor relay means.

3,145,763
SAFETY PILOT

Roger S. Loveland, Torrance, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed May 15, 1961, Ser. No. 109,979
5 Claims. (Cl. 158—123)

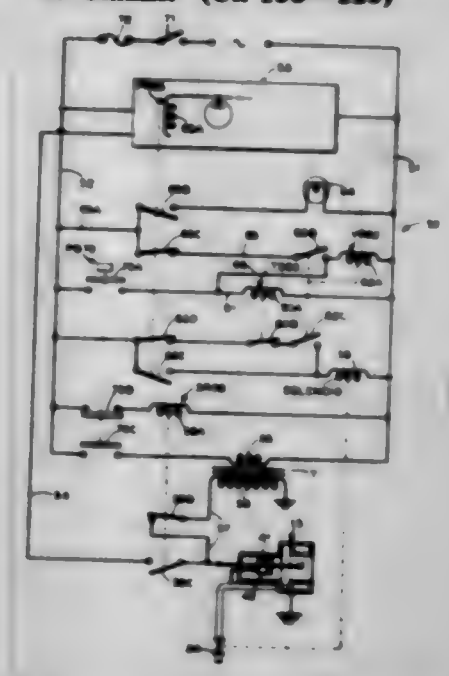


1. A safety pilot comprising a mounting bracket, means on said bracket for supporting a flame sensing unit thereon, a flame sensing unit on said means, a pilot burner surrounding said unit intermediate its ends and radially spaced therefrom, and conduit means mounted on said bracket and connected to said pilot burner for conducting gas thereto, said pilot burner having inner and outer annular walls providing an annular chamber therebetween, means providing a gas flow connection between said annular chamber and said conduit means, said outer wall having an outwardly extending annular flange at its upper end, means closing the spaces between the upper and lower ends of said walls, a plurality of arcuate slots near the upper end of said inner wall and positioned to direct flames onto said flame sensing unit, and a plurality of arcuate slots in said outer wall near said outwardly extending annular flange with their longitudinal axes axially offset slightly with respect to the longitudinal axes of the arcuate slots in said inner wall.

3,145,764
GASEOUS FUEL BURNER AND CONTROL THEREFOR

John M. Rackley, Alliance, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 9, 1961, Ser. No. 130,434
15 Claims. (Cl. 158—125)



1. A gas burner comprising concentrically disposed and mutually spaced inner and outer conduits to define therebetween a gas manifold having closed end portions, said manifold defining a mixing chamber, means for supplying raw gas to said manifold, means defining a plurality of gas discharge orifices formed in the opposed wall portions of the inner conduit for discharging streams of gas into said mixing chamber, means forming an inlet to said chamber through which combustion air is introduced thereinto to mix with the gas discharged from said manifold, a pilot burner disposed in lighting relationship to the gas and air mixture within said chamber, means for supplying gas to said pilot burner, means to permit the introduction of air to said pilot burner to form an ignitable mixture with the gas in said pilot burner, a pair of electrodes within said pilot burner defining therebetween a sparking gap disposed in igniting relationship to the gas mixture of said pilot burner, an electrical circuit for energizing said electrodes to create a spark across the gap to ignite the gas and air mixture of said pilot burner, one of said electrodes being extended into said mixing chamber, an electrical circuit including a flame detector of the type responsive to the immersion of the last named electrode in a flame in said mixing chamber, and switching means for sequentially connecting said last named electrode to each of the above named electrical circuits.

3,145,765
SCREEN ASSEMBLY

Gordon Spongberg, Milford, Brook J. Tarbox, Cheshire, and Ralph A. Sittnick, Wallingford, Conn., assignors to Wallace Silversmiths, Inc., Wallingford, Conn., a corporation of Connecticut

Filed Aug. 15, 1961, Ser. No. 131,578
5 Claims. (Cl. 160—19)

1. A device for supporting a screen between two vertical walls of varying degrees of separation comprising two

rigid integral support members, one of which is adapted to engage one of said walls, the other of which is adapted to engage the other of said walls; each of said support members including at least three spaced apertures, elongated means connecting said support members to one another; said support member connecting means being alternatively adjustable to increase the spacing between said support members to force them into locking engage-



ment with said walls and to decrease said spacing to permit withdrawal of said support members from between said walls; a cornice; and screen support means; the opposite ends of said support member connecting means, said cornice, and said screen support means all being loosely received for limited three-dimensional movement through respective ones of said apertures in said support members.

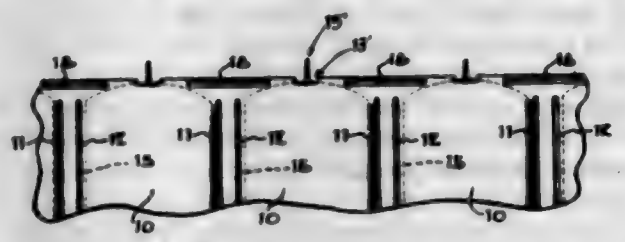
3,145,766
COLLAPSIBLE BARRICADE
Ray M. Wickham and Edgar W. Bleam, Jr., Jacksonville, Fla., assignors to Gator Trailers Corp., a corporation of Ohio
Filed May 4, 1961, Ser. No. 107,678
7 Claims. (Cl. 160—135)



1. A collapsible barricade comprising a multiplicity of pivotally connected bars forming lazy tongs sections, means pivoting one of said sections to an adjacent section to form a desired angle therebetween, and ground engaging supports for each of said sections spaced from the pivoting means, said pivoting means having formed therewith a leg section which in conjunction with the ground engaging supports, in the extended condition of the barricade, maintains the barricade in position in desired angular relationships between the sections, the lower end of the leg section terminating short of a line joining the lower ends of the ground engaging supports in the collapsed condition of the lazy tongs.

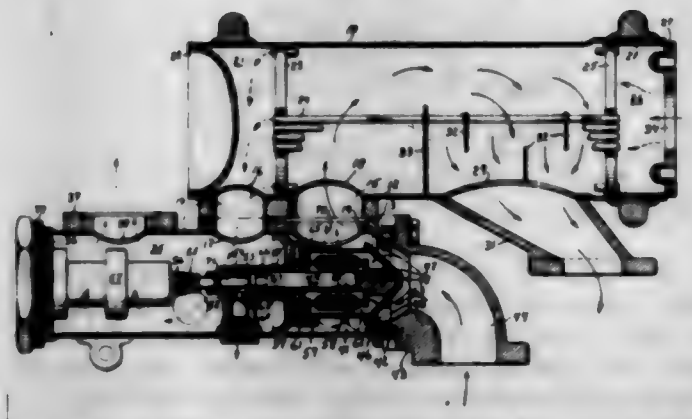
3,145,767
ACCORDION FOLDING DOOR
Alf Martin Yahrmil de Jong, Stockholm, Sweden, assignor to Clopay Corporation, Cincinnati, Ohio, a corporation of Maryland
Filed Apr. 24, 1962, Ser. No. 189,775
1 Claim. (Cl. 160—231)

In an accordion folding door of the type comprising a cover sheet of plastic material that is doubled over to provide an upper edge for the door and that has vertical heat seal lines to provide a series of pockets and hinge lines between said pockets, said vertical heat seal lines extending from points adjacent to said upper edge to the bottom of said cover, a series of panels freely received in said pockets, a support rivet extending vertically upwardly from the upper ends of said slats to suspend said panels from an overhead track whereby the panels support said cover sheet, said upper edge of said cover sheet formed



with a plurality of openings through which said support rivets extend, that improvement comprising a horizontal heat seal line at the upper edge of said cover above each of said hinge lines and between said openings, and said horizontal heat seal lines projecting inwardly of the side edges of said panels.

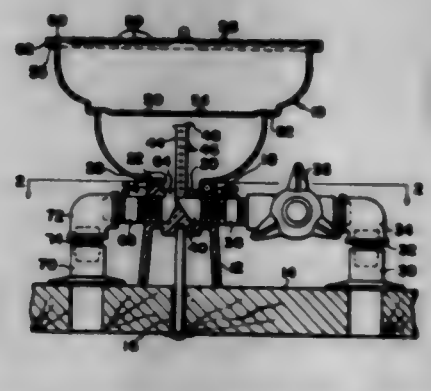
3,145,768
VALVE AND HEAT EXCHANGER ASSEMBLY
Kenneth O. Parker and Robert L. Campbell, Dayton, Ohio, assignors to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed June 2, 1958, Ser. No. 739,224
2 Claims. (Cl. 165—39)



1. A fuel heater or like device to be interposed in lines flowing high temperature air under pressure and relatively cool fuel under pressure, including a heat exchanger casing, a valve casing in parallel adjacent relation to said heat exchanger casing, said casings being joined together in a unitary assembly, a pair of spaced apart lateral passes intercommunicating the interiors of said casings, tube sheets installed in said heat exchanger casing on opposite sides of one of said passes, one of said tube sheets being made fast relatively to the heat exchanger casing and the other being slidable therein, the other one of said passes being located between one of said tube sheets and corresponding ends of said casings, said ends being closed, tubes having their opposite ends installed in and secured to respective tube sheets, means to introduce the relatively cool fuel between the other one of said tube sheets and the opposite end of said heat exchanger casing, said fuel flowing through said tubes to the said other one of said passes and being communicated thereby to the interior of said valve casing, an outlet from said valve casing for said fuel, a partition in said valve casing between the said other one of said passes and the opposite end of said casing, said one pass communicating with the interior of said valve casing between the said opposite end thereof and said partition, means to introduce the high temperature air into said valve casing at said opposite end thereof, including a passage in said valve casing through which said air flows, a valve controlling the rate of flow through said passage, thermally sensitive means in said valve casing

responding to a changing temperature of said fuel therein, a connection between said thermally sensitive means and said valve through said partition to adjust said valve under control of said thermally sensitive means relatively to said passage, an outlet for said air from the interior of said heat exchanger casing between said tube sheets, said outlet for air being located adjacent to the said other one of said tube sheets while said one pass admitting air to said heat exchanger casing is located adjacent to said one tube sheet, said outlet for air and said one pass being on the same side of said heat exchanger casing, and a baffle in said heat exchanger casing projecting from said same side thereof intermediate said outlet for air and said one pass in transverse relation to said tubes, the movement of air in said heat exchanger casing being counter to the direction of flow of the fuel and around said baffle in generally cross-flow relation to said tubes.

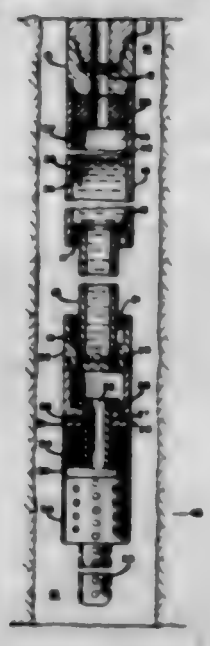
3,145,769
STEAM RECEPTACLE
John M. Lipsy, Manhasset, N.Y., assignor to Laboratory Furniture Company, Inc., Mineola, N.Y., a corporation of New York
Filed Feb. 28, 1961, Ser. No. 90,549
2 Claims. (Cl. 165—67)



1. A steam receptacle comprising a support, a bowl-shaped receptacle mounted on said support and having a normally open end remote from said support, fluid inlet supply means in said support, fluid outlet means in said support, a fluid outlet opening defined in said one end of said receptacle communicating with said fluid outlet means, an annular support ledge defined in said receptacle vertically spaced from said support, a perforated strainer removably seated on said support ledge, and a pipe secured at one of its ends in said support and connected thereat with said fluid inlet means, said pipe being perforated along its length and extending upward from said support into said receptacle and vertically spaced below said perforated strainer.

3,145,770
METHOD AND APPARATUS FOR STIMULATING AND TESTING EARTH FORMATIONS
Don H. Flickinger, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 27, 1961, Ser. No. 85,383
11 Claims. (Cl. 166—3)

1. A method of stimulating and testing the productivity of a formation penetrated by a well containing a contaminating fluid, including the steps of lowering in the well on a tubular member a test tool containing a stimulating fluid, discharging a first portion of said stimulating fluid from said test tool whereby said contaminating fluid near said test tool is displaced, isolating from said contaminating fluid a zone in said well containing said stimulating fluid, displacing under pressure a second portion of stimulating fluid into said isolated zone and into said formation, thereafter establishing fluid communication between said tubular member and said test tool whereby fluids from said isolated zone and said formation can



enter said test tool, and then withdrawing a sample of said fluids.

3,145,771
WELL OPERATION DEPTH CONTROL METHOD
Eugene S. Pennebaker, Jr., Corpus Christi, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Dec. 19, 1960, Ser. No. 76,741
4 Claims. (Cl. 166—4)



1. A method for perforating in a well penetrating at least two vertically spaced, upper and lower productive formations and containing at least two juxtaposed pipe strings, one of which contains at least one radioactivity marker positioned along the length thereof comprising running in said one pipe string a radioactivity survey tool together with a collar locator tool, and preparing therefrom a correlation log showing the locations of said productive formations, the locations of the pipe collars of said one pipe string, and the position of said radioactivity marker relative to each other; lowering in said other pipe string a device provided with a perforator having a selected direction of perforation, and with radiation means having a selected direction of pipe detection including a source of radiation and a detector of both radiation resulting from interactions of said source radiation and direct radiation emanating from said marker, and with means for causing rotation of said device, to the depth of said radioactivity marker by detection of said radioactivity marker by said detector; moving said

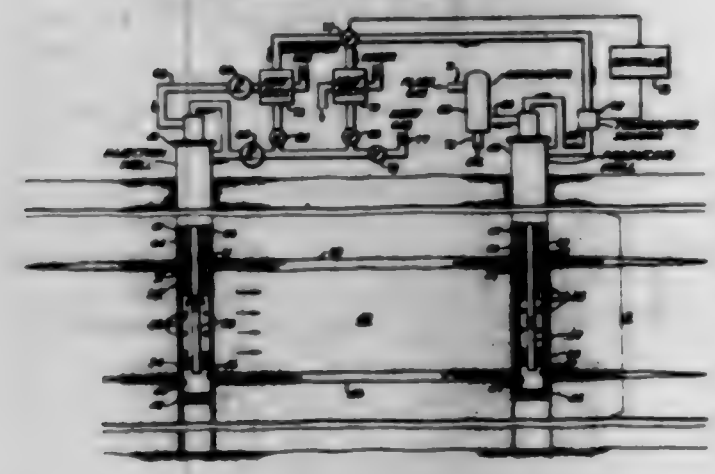
device the distance between said radioactivity marker and said upper formation as shown on said correlation log to position said device adjacent said upper formation; rotating said device, to locate the position of said one pipe string relative to a reference position of said device, and accordingly, to said direction of pipe detection and said direction of perforation, with said radiation means; further rotating said device to direct the direction of perforation away from said one pipe string; and then actuating said perforator to perforate said upper formation.

3,145,772

TEMPERATURE CONTROLLED IN-SITU COMBUSTION PROCESS

Jimmie L. Hoitt, Shaler Township, Allegheny County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 13, 1962, Ser. No. 223,432
4 Claims. (Cl. 166—4)



1. An in-situ combustion process for extracting petroleum from a petroliferous subterranean formation which comprises

providing an input well penetrating the formation,

providing an output well penetrating the formation,

isolating a relatively thin section of the formation by producing at least one propped fracture that provides a path of low resistance communication between said input well and said output well,

providing in said input well an independent flow channel to said fracture,

packing off said fracture from said thin section of formation in said input well,

injecting through said input well combustion gas into said isolated thin section of formation, initiating an in-situ combustion reaction in said thin section of formation,

injecting into said fracture through said independent flow channel of said input well inert gas of controlled temperature, and

extracting through said output well spent combustion gas and petroleum from said isolated thing section of formation.

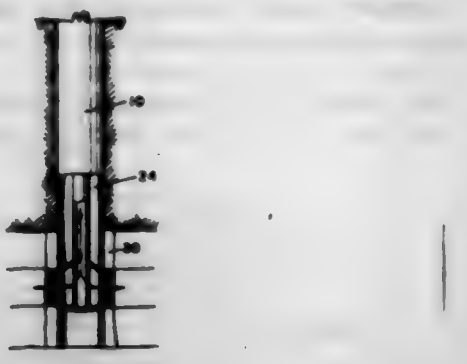
3,145,773

METHOD OF SEALING FORMATIONS IN COMPLETED WELLS

Robert M. Jorda and William T. Thompson, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Apr. 12, 1960, Ser. No. 21,983
3 Claims. (Cl. 166—27)

1. In the production of oil and gas wells wherein a well traverses a hydrocarbon-producing formation as well as a lower and more permeable second formation to be sealed off, the method of sealing off said second formation in a well containing a casing string which has been provided with perforations at least at a level adjacent said hydrocarbon-producing formation and the formation to be sealed, said method comprising inserting through said casing string a pipe string having packer means carried at the lower end thereof, positioning said packer means against said casing wall in a fluidtight manner to isolate a portion of the casing string at a level opposite the formation to be sealed, pumping down through said pipe string a fluid containing a quantity of particulate solid material sufficient in volume to fill the elongated annular space outside the well casing adjacent the formation to be sealed, the particles of said solid material being made of a plastic polymer capable of expansion upon



further polymerization and being of a size and shape such that they are adapted to pass through the isolated perforations of said well casing, forcing said particulate solid material under fluid pressure through said isolated perforations of said casing string, subsequently pumping a polymerizing fluid down said pipe string and through said isolated perforations and into the interstices of said mass of particulate solid material causing said particles of solid material to expand to form an impermeable mass effectively sealing off said formation to be sealed, and withdrawing said pipe string and packer means from said well casing.

3,145,774

CEMENT FOR WELLS

Freeman D. Patchen, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Jan. 17, 1963, Ser. No. 252,052
9 Claims. (Cl. 166—31)

1. A slurry comprising a water-in-oil emulsion as the entire liquid phase of said slurry, said emulsion containing between 10 and 75 percent by volume of oil, an emulsifier for water-in-oil emulsion in an amount sufficient to effect a temporary emulsification in said water-in-oil emulsion but not to exceed 10 percent by weight of said emulsion, a hydraulic cement and finely ground silica, the amount of said water-in-oil emulsion in said slurry being between 30 and 70 parts to 100 parts by weight of said hydraulic cement and finely ground silica combined, said finely ground silica being capable of passing through a 100-mesh screen and being in an amount between 20 and 200 percent by weight of said hydraulic cement effective to reduce the fluid loss and increase the setting time of said slurry and to increase the initial compressive strength of said cement.

3,145,775

METHOD AND APPARATUS FOR CONDUCTING OFFSHORE DRILLING OPERATIONS

Shile D. McCarty, Los Angeles, Calif., assignor to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Jan. 30, 1958, Ser. No. 712,106
5 Claims. (Cl. 166—46)

1. A method for conducting offshore drilling operations in which a borehole is formed in the ground under-

lying water by rotating a drilling tool attached to the lower end of drill pipe while circulating drilling fluid through the drilling tool and drill pipe comprising the steps of: suspending open ended conductor and casing pipes from an offshore drilling structure, the upper ends of said conductor and casing pipes being initially positioned above the water level, said casing pipe being of smaller diameter than said conductor pipe and being adapted to extend into and through said conductor pipe, said casing pipe being initially suspended in a manner such that it extends through said conductor pipe with its lower end positioned adjacent the ground underlying the water; lowering a drill pipe of smaller diameter than said casing pipe and suspended from said offshore structure through said casing pipe in a manner such that it extends through said casing pipe with its lower end positioned adjacent the ground underlying the water; forming a borehole in the ground underlying the water of a diameter sufficient to accommodate said conductor pipe with a rotating drilling tool attached to the lower end of said



drill pipe to a selected depth, said drill pipe moving into said borehole as it is being drilled; lowering one of said pipes other than said drill pipe into said borehole; continuing forming said borehole of a diameter sufficient to accommodate conductor pipe to a deeper selected depth with a rotating drilling tool attached to the lower end of said drill pipe; lowering said conductor pipe into said borehole; continuing forming said borehole of a diameter only sufficient to accommodate casing pipe to a deeper selected depth with a rotating drilling tool attached to the lower end of said drill pipe; lowering said casing pipe into said borehole; and then continuing forming said borehole of a diameter only sufficient to accommodate drill pipe to a deeper desired depth with a rotating drilling tool attached to the lower end of said drill pipe; and during said forming of said borehole to accommodate said conductor and casing pipes which operation includes removing the lower end of said drill pipe and the lower end of said casing pipe from said borehole and adding sections of drill pipe and casing pipe maintaining at least one of said pipes in said borehole.

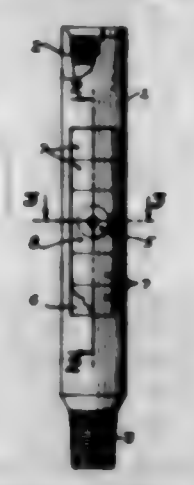
3,145,776

HYDRA-JET TOOL

Forest C. Pittman, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed July 30, 1962, Ser. No. 213,440
1 Claim. (Cl. 166—55)

An abrasive fluid jetting tool for well bores, comprising: a tubular body member including means at its extremities for attachment to a tubing string, one side of said body member having an outwardly extending nozzle bore and a flat face encircling said nozzle bore and extending axially from said nozzle bore on only said one side of said tubular body member, a wear resistant nozzle insert received in said nozzle bore and arranged to direct abrasive material against the well bore; and a plurality of wear plates substantially coextensive with and secured to said flat face and placed to intercept abrasive material rebounding from said well bore, one of



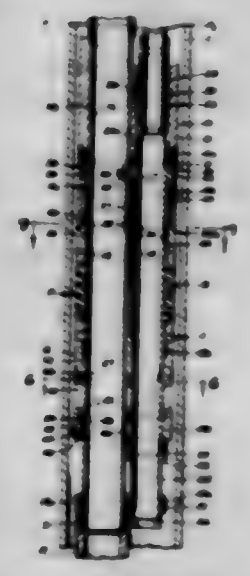
said wear plates having an opening receiving said nozzle insert, all of said wear plates having an external surface shaped to conform to the external surface of said tubular body member whereby said plates taper in thickness from their midportions to their lateral edges.

3,145,777

COMBINATION HYDRAULIC AND WEIGHT-SET DUAL STRING WELL PACKERS

Chandleigh B. Cochran, Houston, Tex., assignor to Cicero C. Brown, Houston, Tex.

Filed Aug. 6, 1962, Ser. No. 215,126
7 Claims. (Cl. 166—122)



1. A dual pipe string well packer, comprising upper and lower body sections having parallel first and second longitudinal passages therethrough, first and second tubular mandrels slidably received in the respective passages and adapted for connection respectively to a first pipe string and to said upper body section, a resilient seal portion disposed about the mandrels between the body sections and adapted to be radially expanded by end-wise compression therebetween to seal with a surrounding well wall, said lower body section including a downwardly and inwardly tapering expander means slidably mounted on the mandrels beneath the seal portion and movable downwardly therewith, anchor elements including radially movable slips mounted on the mandrels below the expander means expansibly engageable by the expander means in response to relative downward movement of the upper body section to engage the well wall whereby further downward movement of the upper body section will produce said end-wise compression of said seal portion, said upper body section comprising a piston member slidably disposed on the mandrels in abutting engagement

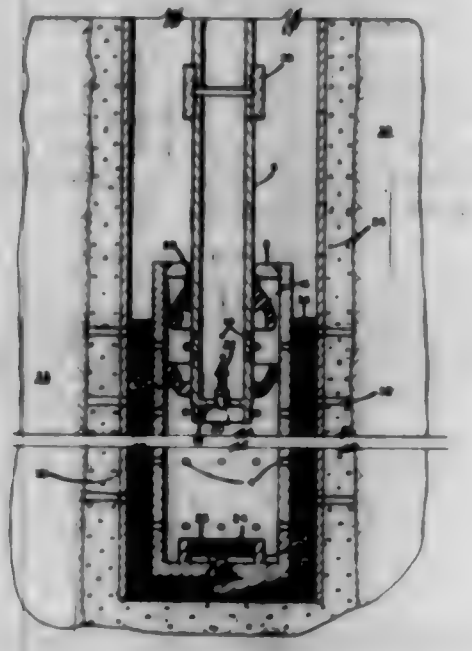
with the upper end of said seal portion, a cylinder mounted on the mandrels slidably enclosing the piston member and cooperating therewith to define an expansible pressure chamber, cooperating conduit means disposed in the piston member and in said second mandrel to provide fluid pressure communication between said pressure chamber and the bore of said second mandrel for directing fluid pressure from said second mandrel into said pressure chamber to move said piston member downwardly whereby to set the packer, and releasable means initially connecting said anchor elements to said first mandrel releasable by straight upward pull applied to the first mandrel to release the packer.

3,145,778

WELL COMPLETION APPARATUS

Howard Grekel, George C. Howard, and Karol L. Hujsak, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Nov. 2, 1961, Ser. No. 149,670
4 Claims. (Cl. 166—157)



1. Apparatus for use in a well comprising tubing,

a perforated liner surrounding said slidably mounted on said tubing which opens into said liner, means for opening and closing the base of said tubing,

sealing means at the upper end of said liner and between said tubing and said liner,

means on said tubing for engaging said sealing means when said tubing is moved upwardly with respect to said liner,

means defining passageways through the side of said tubing communicating directly with the interior of said liner,

means mounted on said tubing for confining the flow of a fluid from said passageways to a given level of perforations in said liner,

means for affixing the lower end of said tubing to the bottom of said liner, and means at the bottom of said liner for the control of fluid flow therefrom when said tubing is secured to the bottom of said liner.

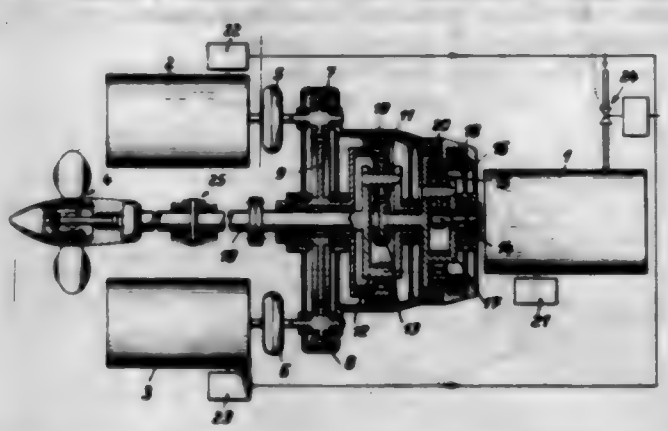
3,145,779

MULTI-ENGINE MAIN PROPULSION GEARING ARRANGEMENTS

Wilhelm G. Stoerkicht, 4 Rugendestrasse, Munich-Solln, Germany

Filed June 18, 1962, Ser. No. 203,043
Claims priority, application Germany July 12, 1961
4 Claims. (Cl. 170—135.75)

1. A marine propulsion unit comprising in combination a first and second driving engine; a planetary gearing driven either in unison or selectively by either one of said driving engines; a variable pitch propeller mounted on a shaft driven by said planetary gearing; said planetary gearing comprising a first central gear mounted on the drive shaft of said first driving engine, first planet gears meshing with said first central gear and a first ring gear the latter being lockable against rotation by first brake means, a first planet gear carrier carrying said first planet gears and being lockable against rotation by second brake means, a second central gear coaxially aligned with said first central gear and rigidly connected to said first planet gear carrier, second planet gears meshing with said second central gear and a second ring gear the latter being lockable against rotation by third brake means and rigidly connected to a third central gear coaxially aligned with said first and said second central gears and driven via releasable coupling means by said second driving engine,



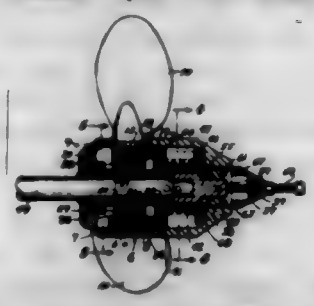
said planetary gearing forming a two step reduction gearing, in which in a selective first gear train said first and said second driving motors are connected at high speed to said propeller shaft by engaging said first brake means and said coupling means of said second driving engine and releasing said second and said third brake means, in which in a selective second gear train said first driving engine only is connected at low speed to said propeller shaft by engaging said first brake means and said third brake means and releasing said coupling means of said second drive motor, and in which in a selective third gear train said second driving engine only is connected at low speed to said propeller shaft by engaging said coupling means of said second driving engine and said second brake means and releasing said first and said third brake means, said variable pitch propeller including actuating means for adjusting the pitch of the propeller blades.

3,145,780

VARIABLE PITCH PROPELLER

George W. Kean, Woodland Drive, Granby, Conn., assignor of fifty percent to Angelo J. Roncari, East Granby, and Albert J. Roncari and Raymond A. Roncari, both of Windsor Locks, Conn.

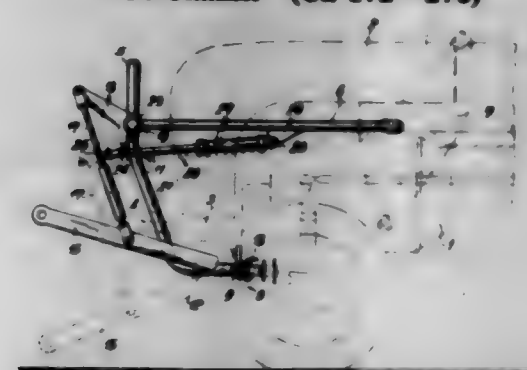
Filed Jan. 12, 1962, Ser. No. 165,966
11 Claims. (Cl. 170—160.13)



1. An automatically adjustable propeller adapted to be mounted on an engine drive shaft, said propeller including a mounting member adapted to be affixed to said drive shaft coaxially thereof, a gear slidable axially on said mounting member in forward and rearward directions and secured against rotation relatively thereto, a body

portion slidable axially on said mounting member with said gear and rotatable relatively thereto, propeller blades extending radially from said body portion and mounted therein for rotation between positions of maximum and minimum pitch, said propeller blades having pinion portions engageable with said gear, a rack engageable with said pinion portions, and a spring biasing said rack to rotate said propeller blades toward a position of maximum pitch and said body portion in the direction of forward rotation of said propeller through engagement of said pinion portions with said gear, and stop means for limiting the rotation of said body portion relative to said gear.

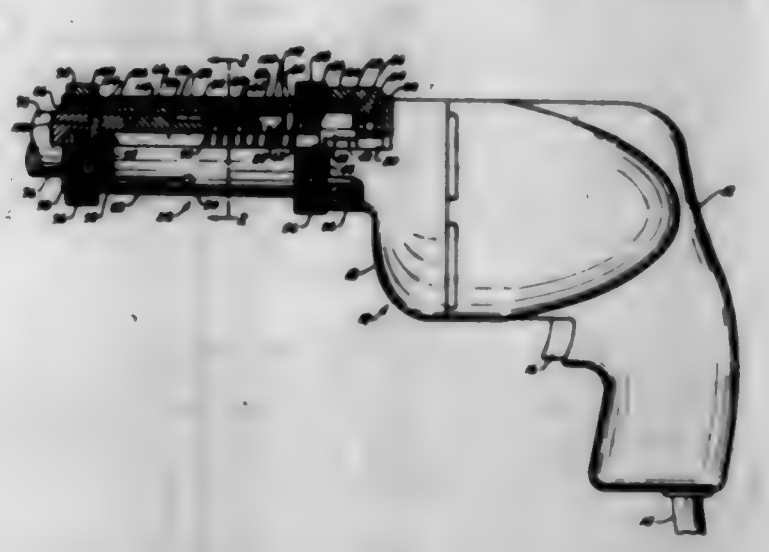
3,145,781
TRACTOR ARRANGEMENT
Heinz Rogler, Lindau-Hege (Bodensee), Germany, assignor to Firma Porsche-Diesel-Motorenbau G.m.b.H., Friedrichshafen (Bodensee), Germany
Filed Sept. 20, 1961, Ser. No. 139,439
14 Claims. (Cl. 172—276)



1. A suspension arrangement for suspending agricultural implements from a tractor in front thereof as viewed in the driving direction by means of a three-point suspension linkage, comprising three point suspension means including a plurality of connecting members, said connecting members comprising an upper connecting member and two lower connecting members adapted to be connected to an agricultural implement, means to enable selectively raising and lowering of the agricultural implement including fluid-pressure actuated piston and cylinder means and rotatable lifting shaft means operatively connected to said piston and cylinder means for operation thereby, means including lifting rod means operatively connecting said two lower connecting members with said rotatable lifting shaft means, protective bow-shaped means arranged in front of the tractor body and extending substantially transversely to the driving direction thereof, means including securing parts for mounting said protective bow-shaped means on said tractor, and pivotal connecting means for pivotally connecting the suspension elements of said suspension means including said upper member and said two lower members, said connecting members, said working cylinder and piston means and said lifting shaft means at said protective bow-shaped means and at least at some of the securing parts thereof, said protective bow-shaped means including a frame having an essentially rectangular configuration as viewed in plan view, of which the lower relatively shorter side is open and of which the relatively longer side members are angularly bent rearwardly at an approximately right angle.

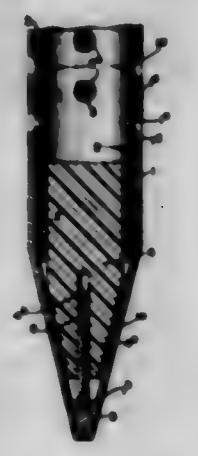
3,145,782
UNITARY PERCUSSION HAND DRILL
Hugo J. De Bruin, Esmond, Ill., assignor to Samuel J. Forbes, Cleveland, Ohio
Continuation of application Ser. No. 685,487, Sept. 23, 1957. This application Aug. 3, 1962, Ser. No. 214,654
9 Claims. (Cl. 173—48)

1. In a drilling assembly, a housing, a power source in the housing a shaft rotatably mounted in the housing and connected at one end to the power source, a chuck for releasably receiving a drill bit connected to the other end of the shaft, said shaft constructed so said one end and other end rotate at the same speed, means for



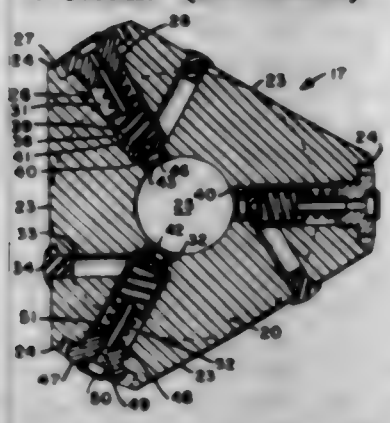
cyclically applying percussion blows to the chuck at a predetermined rate, and manually operable means independent of the power source for varying the rate of the percussion blows from the predetermined rate to a different blow-applying rate.

3,145,783
WATER-WELL SCREEN DRIVE POINT
David L. Sibley, 1120 Walnut St., Newport, Ark.
Filed Dec. 24, 1962, Ser. No. 246,786
8 Claims. (Cl. 175—19)



1. A water-well screen drive-point comprising an outer tube having its lower portion conically shaped to provide a relatively small axial circular opening at its lower end, and having series of spaced holes in its upper portion; an inner tube within the outer tube and extending from the upper portion of the outer tube to the conically shaped portion, said inner tube having another series of spaced holes therein registering with those of the outer tube; a screen closely fitting the exterior of the inner tube and contacting the inner wall of the outer tube; a plug of cylindrical shape fitted within the lower end of the inner tube and having its lower end portion conically formed to conform with the conical portion of the outer tube and terminating above the circular opening, said plug having an axial bore therein extending upwardly from its lower end; a detachable point member having a conical head forming a continuation of the conical portion of the outer tube and having a threaded shank engaging the walls of the bore in the plug; and means for locking the inner tube within the outer tube.

3,145,784
UNDERGAGE HOLE INDICATOR
Wilfred S. Crake, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1961, Ser. No. 161,668
7 Claims. (Cl. 175—40)



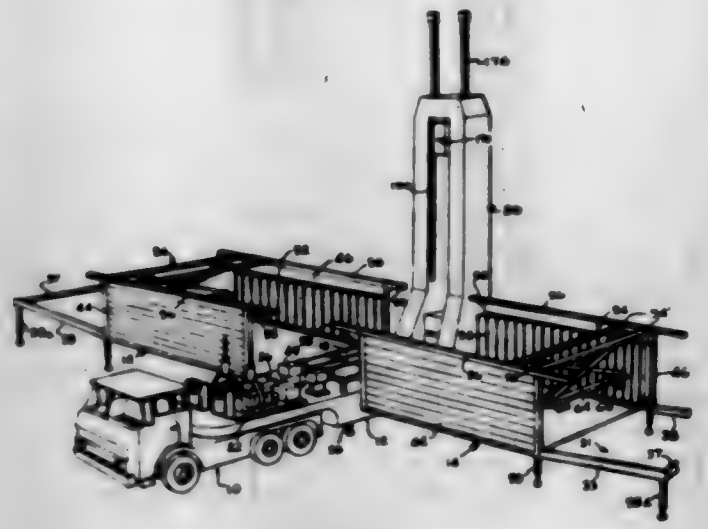
1. An undergage hole indicator for use in combination with a drill string having a bit at the lower end thereof and a bore through which fluid is conveyed to said bit, said indicator comprising, a housing secured to and interposed between said drill string and said bit and having axially extending duct means therein through which drilling fluid is conveyed from the drill string to the bit, said housing having passage means extending between the duct means and the periphery of the housing; sealing means disposed in said passage means at the periphery of the housing, said sealing means having the outer extremity thereof spaced from the longitudinal center line of said housing by a distance substantially equal to the cutting radius of the bit and wherein said sealing means is adapted to open upon contact of said outer extremity with the walls of a hole into which the drill string is being lowered; and valve means disposed in said passage means to prevent flow therethrough when the sealing means is closed, said valve means being adapted to admit flow through said passage means upon opening of the sealing means.

3,145,785
EXPANSIBLE DRILL COLLAR STABILIZER
Jackson M. Kellner, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Feb. 15, 1960, Ser. No. 8,789
16 Claims. (Cl. 175—73)



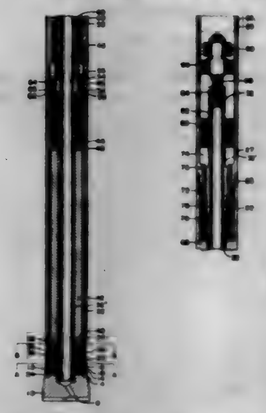
1. A drill collar stabilizer comprising a tubular supporting structure having a tapered lower edge; a tubular mandrel having one end slidably positioned within said supporting structure and extending therefrom below said tapered edge in telescopic relationship to said supporting structure; means for limiting axial movement of said mandrel with respect to said supporting structure; an elastic sleeve having circumferentially-spaced ribs on the outer surface thereof, said elastic sleeve being rotatably mounted on said mandrel and extending upwardly over said tapered edge; means for limiting axial movement of said elastic sleeve with respect to said mandrel; and means for transmitting torque between said mandrel and said supporting structure.

3,145,786
PORTABLE DRILL RIG
Joseph V. O'Neill, Inkster, and George Homanick, Livonia, Mich., assignors, by direct and mesne assignments, to Leyman Corporation, Cincinnati, Ohio
Filed July 11, 1960, Ser. No. 42,132
10 Claims. (Cl. 175—85)



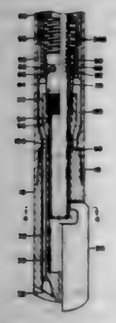
1. In an oil well drilling system,
an elongated platform having ground-engaging transport means,
an elongated derrick pivotally mounted at one end to said platform and movable between a prone transport position extending along the platform, and an upright drilling position at said one end of the platform,
means for moving said derrick between said positions,
means within said derrick for supporting a drill string when said derrick is in a vertical drilling position,
pipe storage means comprising a pair of upright walls each pivoted at one end to one side of said platform at spaced points and movable between a position alongside said platform and a position transverse to said platform forming a pipe storage bin,
pipe separators carried by the facing sides of said walls,
a track fastened along the top of each said wall,
a pipe transfer trolley support carried by said walls to overlie said platform whereby the trolley can be stored during platform transport,
a pipe transfer trolley movable between said platform support and along said tracks when said walls are pivoted out to form a pipe bin,
means for moving said trolley,
grip means on said trolley to be actuated to grasp a pipe to move it from the pipe storage means to the platform,
a pipe transfer arm pivotally mounted at one end adjacent said derrick pivot for movement in a vertical arc between said platform and said derrick elevated position,
means for moving said transfer arm through said arc,
pipe gripper means on said transfer arm,
means carried by said platform for delivering pipe between said trolley and said transfer arm pipe gripper means,
and means on said derrick to connect a pipe to a drill string supported thereby.

3,145,787
ROTARY AND INPUT DRILLING APPARATUS
Robinson W. Brown, San Antonio, Tex., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Dec. 21, 1961, Ser. No. 161,855
3 Claims. (Cl. 175—107)



1. An apparatus for drilling a borehole in the earth including a drill string and comprising an outer case assembly adapted to be attached at its upper end to said drill string, an anvil positioned in said outer case assembly, means for rotatably and slideably supporting said anvil to said outer case assembly, a drill bit connected to said anvil, a hammer positioned above said anvil, a clutch connecting said anvil to said hammer, a drive shaft positioned in said hammer, a prime mover connected on the upper end of said drive shaft and also connected to said outer case assembly, coupling means for coupling said hammer and said drive shaft for providing rotational and longitudinal movement of the hammer relative to said shaft and resilient means tending to resist longitudinal movement of said hammer and urge said clutch into engagement to connect said anvil with said hammer.

3,145,788
DRILL BIT WITH EXTENSIBLE BLADE
Jackson M. Kellner, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed July 11, 1960, Ser. No. 42,166
10 Claims. (Cl. 175—379)



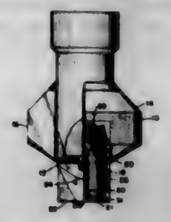
4. A bit for the rotary drilling of boreholes in the earth comprising in combination: a cylindrical member adapted to be attached to a drill string; a bit body member provided with means for connecting said body member to said cylindrical member and having a longitudinal slot therein; a blade-like cutter element having drilling and reaming edges and adaptable to be supported within the slot of said body member; a traveling sleeve mounted in said cylindrical member and having longitudinal movement therein between a lower position and an upper position; a shaft provided with means for connecting said shaft to said blade and mounted within said sleeve; releasable holding means supported from said bit body member and operable to hold said shaft rigid with respect to said bit body member when said sleeve is in one position and operable to release said shaft from rigid relationship with said bit body member when said sleeve is in all other positions of its longitudinal movement; first means to longitudinally move said sleeve downwardly with respect to said cylindrical member to its lower position; second means to longitodinally move said sleeve upwardly from its lower position with respect to said cylindrical member; releasable engaging means supported between said shaft and said sleeve to connect said shaft with said sleeve upon downward relative movement of said sleeve and to disconnect said shaft from said sleeve upon upward relative movement of said sleeve.

3,145,789
PILOT ROCK DRILL
Russell H. Lawry, 321 Main St., Lynnfield Centre, Mass.
Filed Mar. 28, 1962, Ser. No. 180,964
1 Claim. (Cl. 175—386)



A drill head for use on the end of a tubular drive shaft, comprising a main body section having a tapped recess formed in the forward and rearward ends thereof, the rearward recess being adapted to accommodate the end of said drive shaft, said main body section being also formed with an axial passage communicating with both of said recesses, the forward end of said body section being formed with a plurality of radially extending cutting edges, said main body section being further formed with an array of internal passages communicating with said axial passage and the exterior of said main body section adjacent said cutting edges, the forward end of said main body section terminating in a flat annular surface surrounding the forward recess and substantially flush with said cutting edges, a bit having a tapped recess formed in the rearward end thereof and a passage communicating with said recess and the exterior of said bit, said bit being further formed with a plurality of radially extending cutting edges at the forward end thereof and a flat annular surface at the rearward end and a tubular nipple adapted to engage the forward recess of said body portion and the rearward recess of said bit to mount said bit to said body portion with their annular surfaces in face to face mating contact.

3,145,790
DRAG BIT
Harold C. Bridwell, Tulsa, Okla., and David S. Rowley, Salt Lake City, Utah, assignors to Jersey Production Research Company, a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,566
9 Claims. (Cl. 175—409)



1. A drag bit cutting element comprising a metallic blade having a hard facing material bonded to the face thereof, said hard facing material being bonded in place along vertically-spaced surfaces sloping downwardly toward the trailing edge of said blade at an angle of from about 5° to about 30° to the longitudinal axis of the blade.

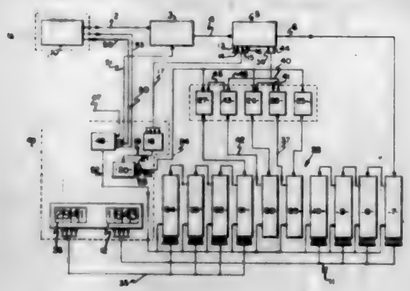
3,145,791
INSERTS FOR ROCK DRILL BITS
Helmuth H. Schloemann, Johannesburg, Transvaal, Republic of South Africa, assignor to Hard Metals Limited, Nuffield Township, Springs, Transvaal, Republic of South Africa
Filed Dec. 19, 1962, Ser. No. 245,914
Claims priority, application Republic of South Africa July 2, 1959
4 Claims. (Cl. 175—410)



1. An insert for a percussive rock drill bit comprising an elongated substantially rectangular prismatic configuration and having a flat base; two opposed flat sides at right angles to the base; two opposed substantially parallel reaming ends at right angles to the base and the long axis of the insert; and a substantially chisel-shaped cutting formation opposed to the base, the cutting formation consisting in inclined concave lands meeting at a short axis of the insert and intersecting the flat sides, a concave cutting edge being formed where the concave lands meet and such cutting edge broadening into a pair of divergent triangular faces continuous with and having the same concavity as the cutting edge, and a pair of inclined snubs joining the bases of the triangular faces with the reaming ends, a shoulder being formed by the base of each of the triangular faces merging with the uppermost portion of each snub.

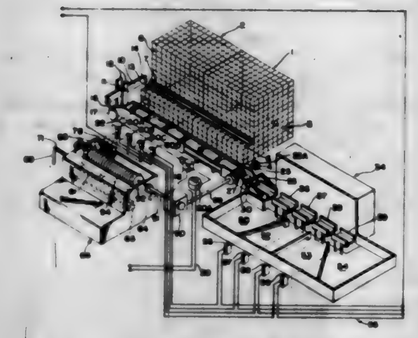
3,145,792
COMPUTING WEIGHING SCALE
Robert E. Bell, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 21, 1961, Ser. No. 97,362
20 Claims. (Cl. 177—4)

1. A computing weighing scale comprising, in combination, means for weighing a commodity, computing the value of the commodity according to its weight and a selected price and recording the value, mechanism operatively connected to said means for conditioning said means according to the selected price, printing type for printing the selected price, and a detachably mounted plate cooperatable with the mechanism and with the printing type for operating the mechanism according to the



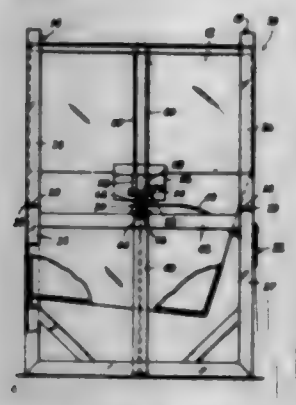
selected price and for moving the printing type into printing position.

3,145,793
PROCESS AND APPARATUS FOR GATHERING, GRADING AND RECORDING
Adrian V. Ray, 1000 Davis Ave., Terre Haute, Ind.
Filed Oct. 8, 1963, Ser. No. 314,750
5 Claims. (Cl. 177—8)



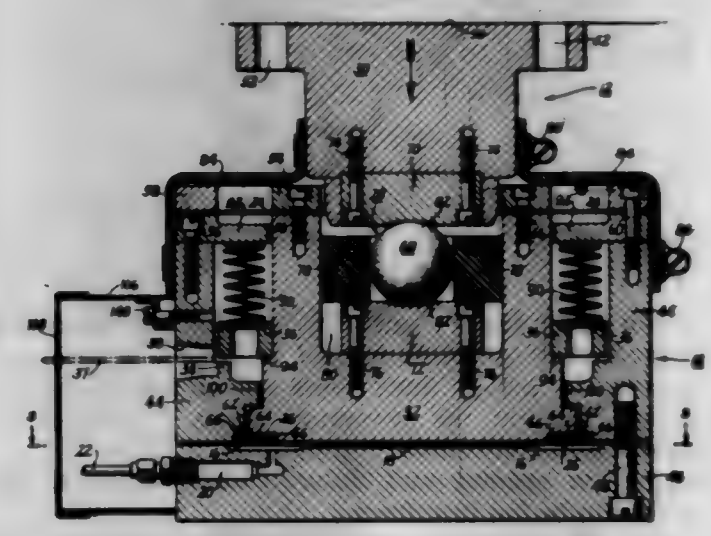
1. An apparatus for gathering, grading, and recording egg production of birds located in individual adjacent compartments having tilted floors and closure means for openings adjacent the lowermost edges of said floors comprising in combination:
- means for opening said closure means to permit said eggs to be fed therefrom,
- means for conveying and sequentially advancing said eggs away from their respective compartments,
- means for sequentially receiving said eggs and segregating each of said eggs into groups by weight,
- means for advancing a record sheet in proportionate response to the movement of said conveying means,
- a plurality of means for producing indicia on said record sheet each of which means corresponds to a group by weight,
- means for actuating the corresponding means for producing indicia in response to the segregation of an egg into its particular group by weight such that a visual indicia of the group by weight is provided on said record sheet and the respective compartment source of each of said eggs is indicated by the relative position of said indicia on said record sheet.

3,145,794
WEIGH TANK
Robert J. Calougne and Philip A. Witt, Jr., Houston, Tex., assignors to Milwhite Mud Sales Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 13, 1961, Ser. No. 95,197
5 Claims. (Cl. 177—208)



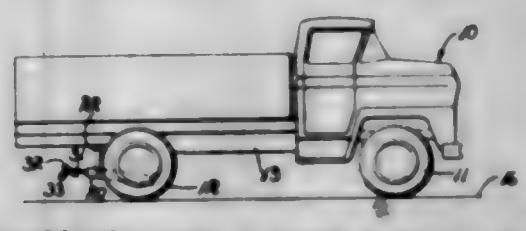
1. In combination: a weighing receptacle; supporting leg means therefor, including a flexible vertical columnar leg; means mounting the weighing receptacle upon the leg means so that weight of the receptacle and contents is carried by the columnar leg above the bottom thereof and flexes the vertical columnar leg in amounts that are functions of the weight of the receptacle and contents; a gauge-actuating member located at a point spaced laterally from the leg and means rigidly connecting it to the upper part of the columnar leg, so that it moves with and magnifies the amount of flexing of the leg under load; and sensing means acted upon by the said member to gauge the amounts of its said movements under load.

3,145,795
WEIGHING APPARATUS
Malcolm C. Tate, Stamford, Conn., assignor to The A. H. Emery Company, New Canaan, Conn.
Filed June 23, 1961, Ser. No. 119,128
3 Claims. (Cl. 177—208)



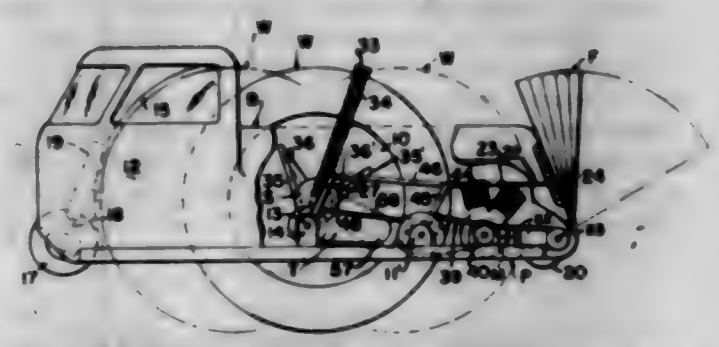
1. A hydraulic weighing cell, comprising, in combination, a base having means forming a pressure chamber therein, a diaphragm overlying said pressure chamber, a piston overlying said diaphragm, a cylinder surrounding said piston, piston stabilizing means spacing said piston from said said cylinder, a first annular shoulder around said piston, a downwardly biased ring on said shoulder, means forming a gauging hole in said cylinder adjacent said ring, said gauging hole terminating at a flat gauging surface inside said cylinder, a second annular shoulder around said piston, and an annular projection around the interior of said cylinder and overlying said second annular shoulder on said piston, whereby upward travel of said piston is limited by engagement of said second annular piston shoulder and said annular projection and fluid volume in said pressure chamber may be measured through said gauging hole between said ring and said gauging surface.

3,145,796
HYDRAULIC THRUSTER FOR VEHICLES AND CONTROL THEREFOR
Fred Padula, 1305 Sandra Drive, Bakersfield, Calif.
Filed June 25, 1962, Ser. No. 204,974
10 Claims. (Cl. 180—8)



1. In combination with a vehicle having a chassis including a frame and ground engaging wheels, an hydraulically actuated thruster and control therefor comprising an elongated hydraulically actuated ram having a piston mounted therein for longitudinal reciprocal movement between predetermined limits; a ground engaging pressure shoe operatively connected to said piston; means mounting the ram on the vehicle chassis to permit the shoe to engage the ground and to effect movement of the vehicle upon reciprocation of the piston; a source of pressure fluid; a reservoir; conduit means interconnecting said source, reservoir and opposite ends of the ram; a pilot-operated control valve interposed in said conduit means and shiftable alternatively to admit and to block flow from said source to the opposite ends of said ram; pilot piston-cylinder assemblies operatively connected to said valve; a control valve operating circuit including two separate pressure responsive valves each being in fluid communication with a respective end of said ram; and conduit means interconnecting each of said pressure responsive valves with a respective pilot piston cylinder-assembly and arranged to shift said control valve to block flow of pressure fluid to a pressure responsive valve and to one of the ends of the ram upon a predetermined pressure being reached in said one end of the ram.

3,145,797
VEHICLE
Charles F. Taylor, Golden, Colo.
(2761 S. Fenton St., Denver 27, Colo.)
Filed Sept. 21, 1960, Ser. No. 58,876
26 Claims. (Cl. 180—21)



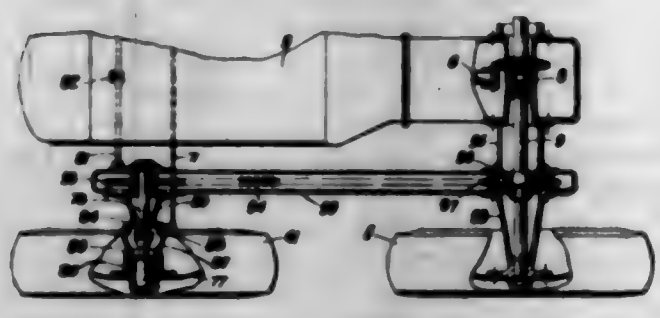
1. A vehicle comprising a driving and supporting wheel; a platform; means connecting said wheel with said platform whereby said platform is supported by said wheel and said wheel is movable forwardly and rearwardly relative to said platform; an engine pivotally mounted on said platform; drive means for rotating said wheel and connected with said engine; and means interconnecting said wheel connecting means and said engine and responsive to pivotal movement of said engine due to torque reaction of said engine, for causing said wheel to shift forwardly and rearwardly with respect to said platform.

3,145,798

DRIVING TRANSMISSIONS FOR THE REAR AND FRONT WHEELS OF MOTOR VEHICLES

Ernest Thomas James Tapp and Joseph Davey, Aldershot, England, assignors to County Commercial Cars Limited, Aldershot, England, a British company

Original application Nov. 30, 1959, Ser. No. 856,057, now Patent No. 3,054,468, dated Sept. 18, 1962. Divided and this application June 19, 1961, Ser. No. 117,961
Claims priority, application Great Britain Dec. 2, 1958
7 Claims. (Cl. 180—44)



5. A motor driven vehicle having steerable wheels at one end on opposite sides thereof and non-steerable wheels at the other end on opposite sides thereof, an engine, a resilient supporting structure projecting laterally from the sides of the vehicle and yieldable in a fore and aft direction, a pivotal connection between the vehicle and the supporting structure permitting the structure to rock about a fore and aft axis and which supporting structure is thus adapted to yield both torsionally about a transverse axis and in a fore and aft direction, a first casing fixed to each end of said structure, a driving shaft rotatable in said first casing, a mounting for a steerable wheel axle pivotally connected to each first casing to swing about an axis extending in an up and down direction, a universal joint connecting said driving shaft to the steerable wheel axle, a steering transmission adapted to swing both said mountings, an axle shaft driving each non-steerable wheel, a second casing for each axle shaft, transmission means extending in a fore and aft direction interconnecting the axle shaft and the driving shaft in the first casing, a third casing extending in a fore and aft direction and enclosing said transmission means and fixed at one end to one of said first casings, a universal joint connecting the other end of each third casing to one of said second casings, said last-mentioned transmission means comprising a chain and sprocket drive having a sprocket wheel fixed to said driving shaft in each first casing fixed to said supporting structure, a sprocket wheel fixed to said axle shaft for each non-steerable wheel, and a chain encircling said sprocket wheels and extending through said fore and aft extending third casing.

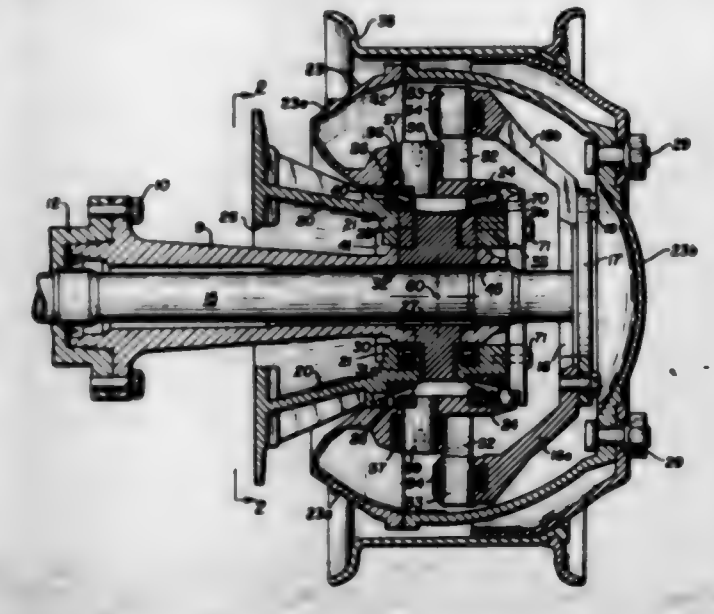
3,145,799

STEERABLE DRIVE WHEEL ASSEMBLY

Francis L. Wier, Littleton, Raymond A. Cellen, Denver, and Emmet L. Martin, Littleton, Colo., assignors to American Coleman Company, Littleton, Colo., a corporation of Nebraska

Filed Mar. 1, 1962, Ser. No. 176,600
2 Claims. (Cl. 180—43)

1. In a steerable drive wheel assembly having a rigid axle shaft enclosed in and extending beyond a housing, a spindle pivotally mounted on said housing adjacent the outer end of said axle shaft, a wheel support housing mounted for rotation on said spindle, said support housing arranged for conjoint angular pivotal movement with the spindle, the improvement which comprises a double gimbal interconnection between said rigid axle shaft and said wheel support housing, said double gimbal interconnection arranged to transmit rotary motion from said shaft to said wheel support housing through angular pivotal movements thereof, said double gimbal interconnection including a pair of rings, one ring being smaller and pivotally interconnected inside the other, both said



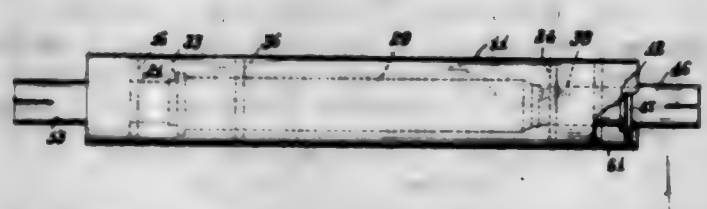
rings being mounted over the spindle and adjacent to the pivotal axis of said spindle, and one said ring spaced to one side and the other ring spaced on the opposite side of the pivotal axle of said spindle.

3,145,800

MUFFLERS

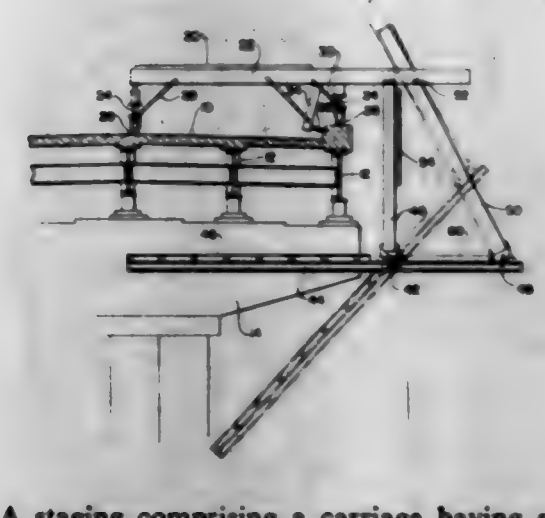
Joseph P. Marx, 775 E. Summer St., Hartford, Wis.

Filed Jan. 23, 1961, Ser. No. 84,125
2 Claims. (Cl. 181—45)



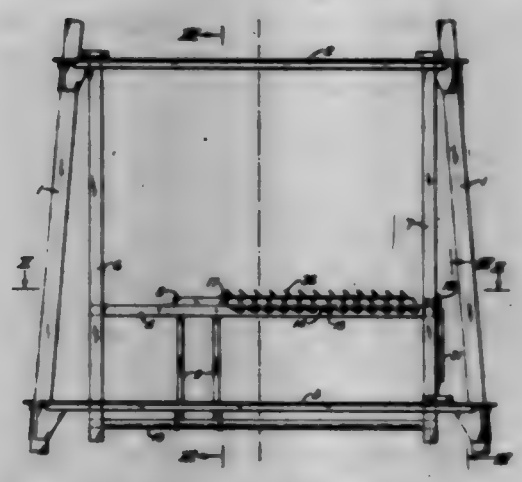
1. A silencer having a conduit confined within an outer shell having end walls and forming a central passageway for exhaust gases and sound waves that extends from one end wall to adjacent the other end wall, an inlet in said one end wall in direct communication with one end of the conduit, a partition wall supporting the other end of said conduit and through which said conduit extends, said partition wall dividing the interior of the shell outside said conduit into an elongated expansion chamber and into a collection chamber, an exhaust fitting on said other end wall through which gases and sound waves entering the collection chamber are exhausted, said conduit comprising relatively adjustable parts telescoped one into the other endwise and each having apertures in their telescoped portions adapted to be selectively aligned to provide a pre-selected number of passages in the conduit wall and through which a portion of the gases and sound waves may escape, a cylindrical hood within the expansion chamber surrounding at least the apertured area of said conduit, said hood opening at one end into the expansion chamber and defining an annular chamber into and through which said escaped gases and sound waves flow, and deflector means adjacent to the open end of said hood to reverse the direction of flow of said escaped gases and sound waves leaving the annular chamber and entering the expansion chamber, said partition being apertured to permit the gases and sound waves in the expansion chamber to flow into the collection chamber.

3,145,801
SCAFFOLD STAGING
Frederick S. Callahan, 18 Cleaves St., Auburn, Maine
Filed Apr. 23, 1963, Ser. No. 274,990
2 Claims. (Cl. 182—63)



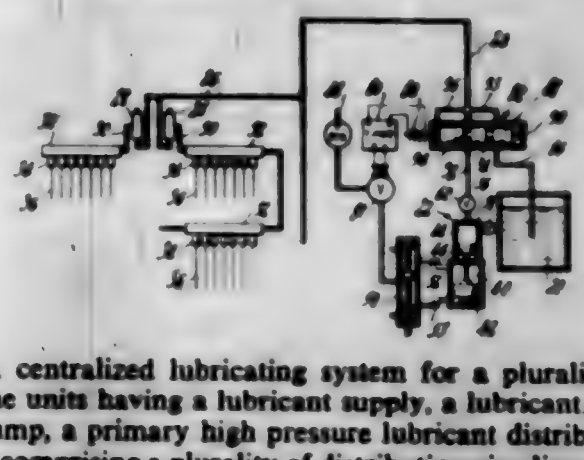
1. A staging comprising a carriage having supporting wheels and adapted to travel along the roadway of a pier-supported bridge, said carriage having framework adapted to extend out beyond the edge of the bridge, beams secured to and projecting down from said framework, a platform pivoted to said beams on a horizontal axis below the level of the bridge and normally located underneath said carriage, said platform having members extending beyond the pivot, means normally maintaining said platform in a horizontal position, said means including struts pivotally attached at their lower ends to said extending portions of the platform members and releasably attached to said framework.

3,145,802
OIL WELL PIPE RACKING PLATFORM
Homer J. Woolslayer, Tulsa, Charles C. Chism, Broken Arrow, and Cecil Jenkins, Tulsa, Okla., assignors to Lee C. Moore Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 31, 1963, Ser. No. 298,940
7 Claims. (Cl. 182—114)



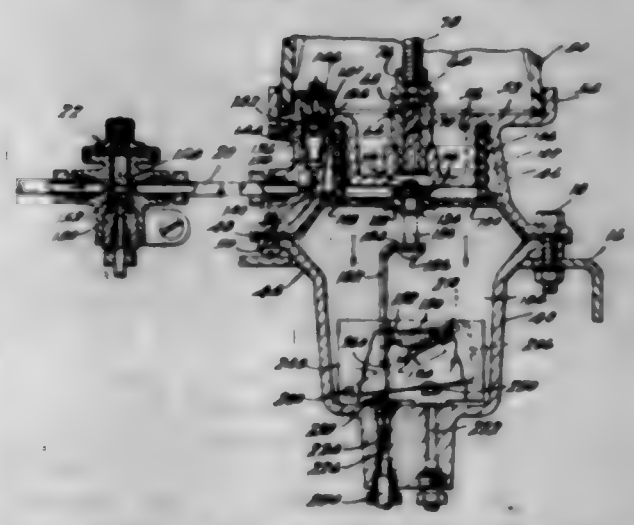
1. An oil well pipe racking platform for use at a high elevation beside a string of drill pipes, the platform comprising a plurality of parallel horizontal floor boards, a series of hooks spaced longitudinally of each board and projecting downward from its bottom, supporting means for one end of the boards, means for rigidly fastening said supporting means to a support, means pivotally connecting the boards to said supporting means on parallel horizontal axes, and manually operable means for pivoting the boards on said axes to turn the boards on edge to form racking fingers having hooks projecting laterally therefrom.

3,145,803
CENTRALIZED LUBRICATION SYSTEM
Arthur J. Cobert, 309 S. Union St., Concord, N.C.
Filed Oct. 9, 1962, Ser. No. 229,379
3 Claims. (Cl. 184—7)



1. A centralized lubricating system for a plurality of machine units having a lubricant supply, a lubricant pressure pump, a primary high pressure lubricant distributing system comprising a plurality of distributing pipe lines connected with said pump, a device connected into said distributing pipe lines acting when actuated to reduce the pressure in said pipe lines and a lubricant injection valve at the terminal end of each said distributing pipe line having lubricant ejection and recharge mechanism operated by successive pressure surges from supply for the ejection of successive metered amounts of lubricant and to be recharged upon reduction of said pressure, a secondary closed pressure injected lubricant distributing system connected with each said injection valve comprising a branch line from said injection valve having a manifold therein, a plurality of lines from said manifold to points of lubrication, each said line incorporating therein a self-contained flow control fitting comprising a metering orifice and a check valve, and operating means for said system comprising means for recurrently operating said pump to build pressure of said lubricant in said primary lubricant distributing system, and thereafter actuating said device for reducing said pressure in said primary high pressure lubricant system to produce recurrent pressure surges in said lubricant distributing system.

3,145,804
LUBRICATOR
William G. McKenzie, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Nov. 24, 1961, Ser. No. 154,788
15 Claims. (Cl. 184—29)



1. In a fluid distribution system, a fluid supply reservoir, a variable volume pumping chamber, pump means in said pumping chamber being movable between a first position providing a maximum volume in said pumping chamber to a second position providing a minimum volume therein, first conduit means to convey fluid from

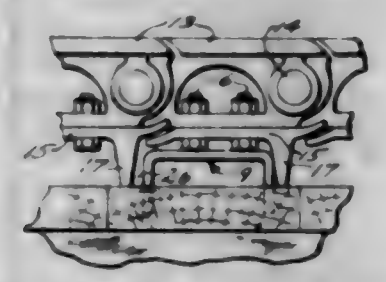
said reservoir to and from said pumping chamber, flow control means in said first conduit means to control the rate of flow through said conduit means to and from said pumping chamber, second conduit means to convey fluid from said pumping chamber to remote locations, pump actuating means to actuate said pump means from said first position to said second position when said pumping chamber has been filled by a predetermined amount of fluid flowing through said flow control means to evacuate said pumping chamber by forcing fluid therein through said first conduit means and said second conduit means, pump control means to deactivate said pump means when said second position is attained and to maintain said pump means deactivated until sufficient fluid flows from said reservoir through said flow control means and into said pump chamber to displace said pump means toward said first position, and said pump control means being responsive to movement of said pump means to actuate said pump actuating means when said pump means reaches said first position and said pumping chamber has been refilled to provide a continuous automatic fluid distribution cycle.

3,145,805

MEANS TO STABILIZE TRACK-TYPE VEHICLES DURING SHIPPING

Edwin J. Kammueller, Lincoln, and Clifford G. Partridge, Morton, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Sept. 24, 1962, Ser. No. 225,539
3 Claims. (Cl. 188—32)



1. A shipping stabilizer for a track-type machine having track shoes with grousers thereon comprising a rectangular metal blocking member adapted to fit between and slightly narrower than the space between adjacent track grousers of the machine, and pointed members on the bottom of said member to be imbedded in the surface of the material upon which the machine rests when the weight of the machine is imposed thereon.

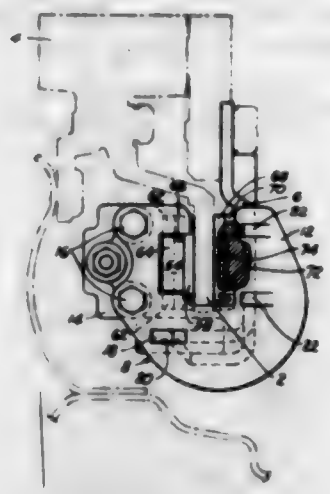
3,145,806

SPOT TYPE DISC BRAKES

Pierre Gancel, Levallois, France, assignor to Societe Anonyme D.B.A., Paris, France, a company of France

Filed Nov. 6, 1961, Ser. No. 150,508
Claims priority, application France Nov. 10, 1960
8 Claims. (Cl. 188—73)

1. A disc brake comprising: a rotor having opposed friction surfaces thereon, a fixed support member having one portion extending opposite one rotor friction surface and another portion extending in a transverse direction across the periphery of said rotor friction surfaces, said support terminating at a location spaced from the other rotor friction surface, a pair of circumferentially spaced yoke members straddling said rotor, means slidably securing each yoke member to said one portion of said support member on one side of said rotor and to a portion of said support member on the other side of said rotor, a pair of friction members, one of said friction members being located between said one friction surface and said one portion of said support member, means operatively connecting said one friction member to said yoke members for movement therewith toward said one friction surface of said rotor for engagement therewith, actuating means secured to said yoke members opposite said other friction surface of said rotor, the other of said friction members being located between said actuating means and said other friction surface, means slidably securing said other friction member to said yoke members, means operatively connecting said actuating means with said other friction



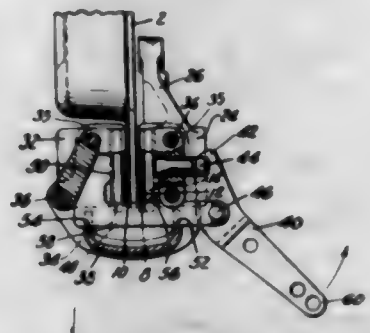
member, whereby upon brake application said actuating means will thrust said other friction member into engagement with its respective friction surface and further application of said actuating means will effect sliding of said yoke members on said support member to bring said one friction member into engagement with its respective friction surface.

3,145,807

DISC BRAKES

Jean Lucien Desvignes and Pierre Gancel, Paris, France, assignors to The Bendix Corporation, a corporation of Delaware

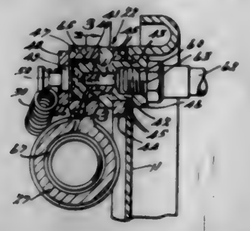
Continuation of abandoned application Ser. No. 726,885, Apr. 7, 1958. This application Oct. 17, 1962, Ser. No. 233,176
Claims priority, application France Apr. 17, 1957
14 Claims. (Cl. 188—73)



1. A disc brake assembly for a vehicle, including a rotatable brake disc fixed against axial movement, annular flat friction surfaces on opposite faces of said disc, a pair of separately movable segmental friction members covering an angular portion only of said friction surfaces, a first cylinder housing secured to a stationary part of the vehicle, a second cylinder housing, a pair of C-shaped yoke members straddling said disc to interconnect the corresponding lateral faces of said housings, the arms of said yoke members extending closely to said disc to provide anchoring surfaces engageable by the ends of said friction members, a reinforcing plate having connections with said yoke members, axial links received in aligned openings of said friction members and reinforcing plate for guiding said friction members, said axial links being mounted for slidable movement biasing said segmental friction members against the flat friction surfaces on the opposite faces of said disc, communicating hydraulic cylinders in said first and second housings,

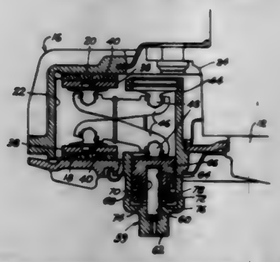
and coaxial pistons reciprocably received in said hydraulic cylinders for urging said friction members against the opposite faces of said disc.

3,145,808
ANCHOR PIN AND WHEEL CYLINDER ASSEMBLY FOR BRAKES
Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed May 23, 1962, Ser. No. 197,003
4 Claims. (Cl. 188—78)



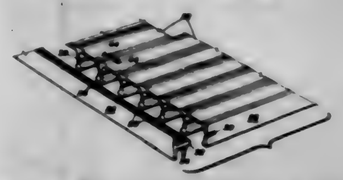
1. A brake comprising a backing plate, a pair of brake shoes supported on said backing plate, an anchor pin device for said brake shoes extending through said backing plate and secured thereto, a wheel cylinder, a collar-like boss on said wheel cylinder surrounding one end of said anchor pin device for mounting said wheel cylinder thereon, means connecting the other end of said anchor pin device to a source of fluid pressure, a longitudinal bore in said anchor pin device communicating with said fluid pressure source, an annular groove in said anchor pin device, a lateral passage in said archor pin communicating at one end thereof with said bore and at the other end with said annular groove, and a passageway extending through a portion of said boss connecting said annular groove to the interior of the wheel cylinder.

3,145,809
AUTOMATIC ADJUSTER
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 800,342, Mar. 18, 1959, which is a division of application Ser. No. 476,170, Dec. 20, 1954, now Patent No. 2,888,105, dated May 26, 1959. This application Sept. 18, 1961, Ser. No. 138,652
7 Claims. (Cl. 188—196)



1. An automatic adjuster for axially applied friction elements comprising a cylinder, a piston reciprocably mounted in said cylinder and having a center opening therein, a pin secured to said cylinder and projecting outwardly with an end thereof extending within the center opening of said piston, a sleeve frictionally gripping said pin and carried thereby, a resilient component deflected by movement of said piston and having an outer periphery received within a recess of said piston to be moved thereby, said sleeve being located between said resilient component and the projecting end of said pin, means forming a thrust transmitting connection between said resilient component and sleeve to effect displacement of the sleeve along the length of said pin to successive positions thereon, and an abutment between said sleeve and piston serving to limit retraction of said piston by said resilient component according to the respective adjusted positions of said piston defined by the location of said sleeve on said pin.

3,145,810
RIBBED PANEL ASSEMBLY
Jack Ellard, Baltimore, Raymond G. Tarrant, West Friendship, and Frederick N. Rushton, Baltimore, Md., assignors to Washington Aluminum Company, Inc., Baltimore, Md., a corporation of Maryland
Filed May 11, 1960, Ser. No. 28,327
2 Claims. (Cl. 189—34)



2. In combination, support structure and at least one grating assembly secured thereto, said grating assembly comprising a plurality of panels placed side-by-side, each said panel having a top portion and side legs and intermediately spaced legs therebetween depending downwardly therefrom on one side and running lengthwise thereof, said legs each having a slot provided at each end thereof and spaced from said top portion along a common line at the respective opposite ends of said legs, and means uniting said plurality of panels into said grating assembly, said means including a pair of end binding members supporting said opposite ends of said legs and each having a serrated rib portion engaging the surfaces of each slot of said legs of said panels in frictional weld fashion thereby holding said panels in side-by-side relationship and weld means joining said pair of binding members to said plurality of panels and said panels to each other, each panel of said grating assembly having at least one aperture in the top portion thereof transverse a side leg thereof and aligned with a like aperture in an adjacent panel to form a slot, and means securing said grating assembly to said support structure including a J-bolt having its hook portion positioned in said slot and overlying adjacent side legs of adjacent panels of said grating assembly and its threaded portion in clampable engagement with said support structure, whereby said J-bolt clamps both panels of said adjacent panels to said support structure.

3,145,811
PREFABRICATED FIREPROOF BUILDING COLUMN
George E. Strehan, Leonia, N.J., and Ernest J. Kortlander, Great Neck, N.Y., assignors to Lally Column Company, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 17, 1961, Ser. No. 103,584
8 Claims. (Cl. 189—39)

6. A prefabricated fireproof column comprising an inner casing having a load-bearing core therein, an outer casing spaced transversely from the inner casing and longitudinally disposed intermediate the ends of the inner casing, thermal insulation disposed in the space between said casings, a ventilating duct fixed to the exterior surface of the inner casing and leading toward the top thereof, a plurality of vent ports in the wall of the inner casing

communicating with said duct, heat-meltable plugs in said ports, insulation-confining plugs disposed in the



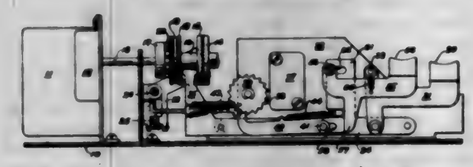
space between said casings adjacent the opposite ends of the outer casing, said duct and said space having outlets to ambient atmosphere.

3,145,812
EARTH ANCHOR
Kenneth R. Way, Webster Groves, and Raymond N. Leach, St. Louis, Mo., assignors, by mesne assignments, to Jasper Blackburn Corporation, a corporation of Missouri
Filed Oct. 31, 1960, Ser. No. 66,223
3 Claims. (Cl. 189—90)



1. An earth anchor comprising a substantially square plate having corner portions, the square plate being formed to provide a rounded dome-shape center portion and a flange portion extending upwardly from the bottom periphery of said center portion, the flange portion including upwardly projecting tapered flukes constituted by the corner portions of the square plate.

3,145,813
CONTROLS FOR TRANSDUCER DRIVE ON A TELEPHONE DIALER
James W. Healy, Wakefield, Mass., assignor to Perini Electronic Corporation, San Mateo, Calif., a corporation of California
Filed Dec. 31, 1962, Ser. No. 248,694
7 Claims. (Cl. 192—.02)



1. In controls for a transducer drive on a telephone dialer or the like which include a motor for driving the transducer, a clutch between the motor and transducer, a switch for energizing the motor and spring means to return the transducer from a rest position to a home position, key actuated means to disengage the clutch to permit return of the transducer by the spring means, a latch to retain the clutch in disengaged position, and means actuated by movement of the transducer to home position to disengage said latch.

3,145,814
VEHICLE CONTROLS
Raymond C. Strauss, 933 S. Forest, Ann Arbor, Mich.
Continuation of application Ser. No. 265,323, Jan. 7, 1952. This application May 6, 1957, Ser. No. 657,433
15 Claims. (Cl. 192—3)

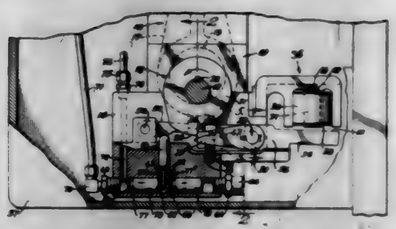


1. In a control apparatus for an automobile or the like having a braking system, an accelerator, and an engine of the type that is energized by a fuel mixture of two ingredients, the combination of a first means for controlling the quantity of the fuel mixture admitted to the engine, a second means for controlling the quantity of the fuel mixture admitted to the engine, a third means for controlling the quantity of one of the fuel ingredients admitted to the engine, a fourth means for operating the first means and adapted to be connected to the braking system so that upon activation of the braking system it is actuated to operate the first means to reduce the quantity of the fuel mixture admitted to the engine, a fifth means for operating the second means and adapted to be connected to and actuated by the accelerator, a sixth means for operating the third means and adapted to be connected to and actuated by the accelerator, and a seventh means adapted to be connected to the braking system and to control the sixth means so that activation of the braking system renders the sixth means ineffective.

3,145,815
LATCH OPERATED CLUTCH WITH PUMP
Kenneth F. Edwards, Lancaster, Ohio, and Ralph A. Vogel, Jr., Fort Wayne, Ind., assignors to Essex Wire Corporation, a corporation of Michigan
Filed June 11, 1962, Ser. No. 201,402
7 Claims. (Cl. 192—37)

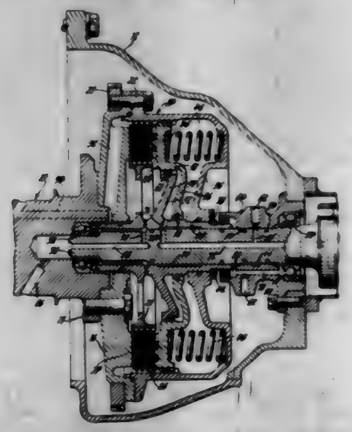
1. In combination with apparatus having selectively driven means requiring lubrication, a clutch mechanism comprising a race adapted to be connected to drive means, cam means adapted to be connected to said driven means, said race being circumferentially disposed about a portion of said cam means, a plurality of rollers, a cage for spacing the rollers between the cam means and the race, said cage having an actuating shoulder thereon, a key secured to said cam means, a pivoted clutch lever

having first and second abutment surfaces on an end thereof, said first abutment surface adapted to engage said key and said second abutment surface adapted to engage said shoulder, and a pivoted backstop lever adapted to engage said key to prevent reverse rotation of said cam means, said backstop lever and an abutment surface on said clutch lever cooperating with said key to retain said cam means at a predetermined position at the end of a phase of operation; a lubricant reservoir;



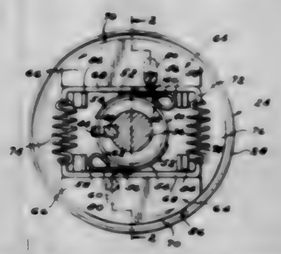
means communicating said reservoir with the driven means requiring lubrication; and means for pumping lubricant from said reservoir through said communicating means to a point of use comprising a member positioned for actuation by said backstop lever during rotation of said driven means, said backstop lever being moved by said key on said cam means, said member being biased against said backstop lever, whereby the backstop lever is biased toward a position for cooperation with the key on said cam means.

3,145,816
CLUTCHES
John Z. De Lorean and Albert E. Roller, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 21, 1961, Ser. No. 132,655
6 Claims. (Cl. 192—91)



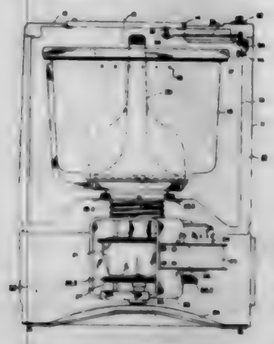
1. A clutch of the type described comprising a clutch housing, an output shaft coaxial with said clutch housing, a hub member within said housing and splined to the output shaft for rotation therewith, clutch plate members rotating respectively with said clutch housing and said hub, a sleeve surrounding said output shaft and having a radially outwardly extending wall, said sleeve being keyed to said housing for rotation therewith, pressure plate means including a wall member cooperating with said first mentioned wall to form an expansible chamber, said housing and pressure plate means having means for compelling said pressure plate means to rotate with said housing, biasing means for biasing said pressure plate means against said clutch plate members to engage the same, passage means for the supply of fluid to said expansible chamber to cause movement of said movable wall against spring pressure to disengage said clutch, and seal means between parts of said sleeve and said pressure plate means for preventing leakage from said expansible chamber.

3,145,817
CENTRIFUGAL CLUTCH
Ralph R. Randall, Freeport, Ill., assignor, by direct and mesne assignments, to Maynard W. Dolphin, Beloit, Wis.
Filed Sept. 11, 1961, Ser. No. 137,344
3 Claims. (Cl. 192—105)



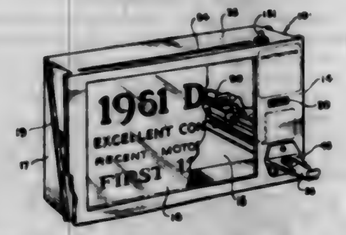
1. A centrifugal clutch comprising a cylindrical clutch drum adapted to be connected to a driven member, a drive shaft extending coaxially into said drum, a pair of diametrically opposite clutch shoes on opposite sides of the shaft in said drum, spring means interconnecting the two shoes and urging them radially inwardly toward each other, said shoes being adapted to shift radially outwardly in response to centrifugal action so that the outer periphery of each shoe frictionally engages the inner periphery of the drum along diametrically opposite portions thereof, said drive shaft having a pair of leaf springs mounted thereon at diametrically opposite portions thereof, said leaf springs each having one end secured to the shaft and extending in a direction generally tangentially of the shaft, said leaf springs forming a pair of diametrically opposite resilient cam projections on the shaft adapted to engage the radially inner surfaces of said shoes and providing the sole driving connection between the shaft and the clutch shoes, the free end portion of each spring being return bent into a loop which is spaced radially from the shaft, the free end of the spring at said loop being spaced from the portion of the spring which it overlies so that each loop is normally open, said loop being more rigid than the tangentially extending portion of the spring with respect to the force required to compress the loop into closed position and the force required to flex the tangentially extending portion of the spring to a position wherein the loop contacts the shaft, said spring means biasing the radially inner surfaces of said clutch shoes into engagement with said springs and means interconnecting the two clutch shoes to prevent relative circumferential displacement thereof and to restrict the clutch shoes to radial movement in unison whereby when the shaft is rotated in a direction counter to that in which the springs project from the shaft and the shoes shift radially outwardly into engagement with the inner periphery of the drum in response to centrifugal force, said springs are responsive to the extent of the load on the drum tending to resist rotation to first flex to a position wherein the loops are displaced radially inwardly into contact with the shaft and thereafter, the spring loops are compressed between the clutch shoes and the shaft to the closed position.

3,145,818
SWITCH MECHANISM
Daniel E. Stelli, Lombard, Ill., assignor to General Electric Company, a corporation of New York
Filed June 27, 1961, Ser. No. 120,072
3 Claims. (Cl. 192—136)



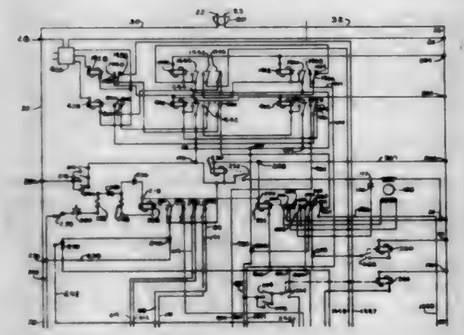
1. In a centrifuging device having a casing structure, a basket mounted therein for rotation, said basket mounting permitting gyration of said basket during rotation thereof, means including a motor and an energizing circuit for rotating said basket, and a cover adapted to be moved between open and closed positions to control access to said basket; the combination of a switch for connection into said motor circuit, said switch being of a bistable type which retains an actuated condition until operated to a different condition, means for mounting said switch in a fixed position remote from said cover, first and second pushbuttons for actuating said switch respectively to open and closed circuit conditions, a first switch operation means arranged for actuating said first pushbutton, a second switch operation means arranged for actuating said second pushbutton, a lever pivotally mounted relative to said first and second switch operation means and having one end portion operatively associated with each of said first and second switch operation means for selective operation thereof and an opposite end portion in the path of movement of said cover, means initiated by the closing of said cover to cause said lever to interact with said second switch operation means for operation of said switch to closed circuit condition, and means initiated by the opening of said cover to cause interaction of said lever and said first switch operation means to effect operation of said switch to open circuit condition.

3,145,819
COIN CONTROLLED CARD DISPLAY DEVICE
Leonard R. Forrester, 687 Harold Ave., Winter Park, Fla.
Filed May 7, 1962, Ser. No. 192,932
13 Claims. (Cl. 194—1)



1. A device for displaying an externally inserted card for a predetermined period, comprising card receiving means operable to support a card for visible display, a coin mechanism, means including an endless flexible time storage means operative in a first direction in response to the deposition of one or more coins in said coin mechanism for setting said card receiving means for visible card display for a succession of predetermined periods reflecting the number of coins deposited, normally dormant means for periodically indexing said time storage means in the opposite direction, said flexible time storage means being constructionally distinct from said card receiving means, but having means thereon for bringing about operation of said card receiving means at the end of said succession of periods to remove the card on display.

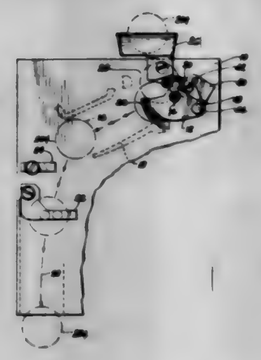
3,145,820
MONEY-ACTUATED DEVICES
Clifford B. Adams, Bellefontaine Neighbors, Mo., assignor to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 5, 1961, Ser. No. 114,966
60 Claims. (Cl. 194—4)



1. In a money-actuated device, a plurality of stepping switches that are adapted to register credits, a money registering circuit that responds to the insertion of money to register credits on said stepping switches by advancing the wipers relative to the contacts of those stepping switches, diodes connected between the contacts of said stepping switches, price-setting members that can be connected to the contacts of said stepping switches to determine selling prices, credit sensing relays, and further diodes that are connected intermediate said stepping switches and some of said credit sensing relays, said wipers responding to the insertion of differing amounts of money to register different values of credit on said stepping switches, said wipers coacting with said price-setting members to shift the polarities of some of said diodes connected between the contacts of said stepping switches, said wipers coacting with said price-setting members to apply A.C. voltage to said further diodes whenever the registered credits equal the selling price of the desired product, said wipers coacting with said price-setting members to apply D.C. voltage of one polarity to said further diodes whenever the registered credits exceed the selling price of the desired product, and said wipers coacting with said price-setting members to apply D.C. voltage of the opposite polarity to said further diodes whenever the registered credits fall short of the selling price of the desired product, said further diodes being oriented to pass current whenever A.C. voltage is applied to them and being oriented to pass current whenever D.C. voltage of said one polarity is applied to them, said

further diodes being oriented to block current whenever D.C. voltage of said opposite polarity is applied to them.

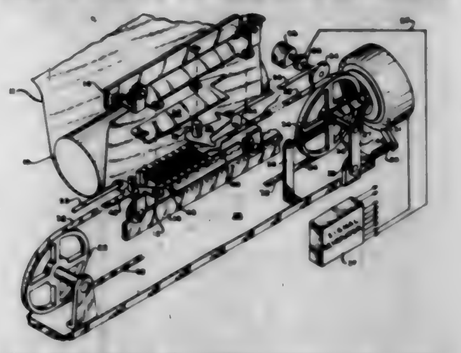
3,145,821
COIN TESTING DEVICE
Richard W. Simpson, Rockford, Ill., assignor, by mesne assignments, to Reed Electromech Corporation, Rockford, Ill., a corporation of Delaware
Filed May 18, 1961, Ser. No. 110,961
8 Claims. (Cl. 194—102)



1. In a coin separating device of the type described, frame means defining an entrance passageway through which coins fall edgewise by gravitational force, a laterally extending and downwardly inclined runway over which coins of a predetermined denominational dimension are adapted to be displaced from the entrance passageway, cradle means pivotally mounted on said frame means for rocking movement between normal and operated positions, said cradle means having a pair of arms extending into the entrance passageway and spaced one from the other by an amount slightly less than the diameter of coins adapted to be displaced from the entrance passageway to the runway, a latching lever pivotally mounted on the frame means for rocking movement between latching and unlatching position with a portion of said lever, when in latching position, lying in the path of one of said cradle arms when the cradle is in normal position to block the cradle against rocking movement from normal to operated position, said latching lever having a part disposed between the arms of the cradle in position to be engaged by the peripheral edge portion between said arms of coins coming to rest on said arms whereby coins of the curvature of the desired dimension operate to rock said latching lever to unlatching position and free the cradle for rocking movement to operated position.

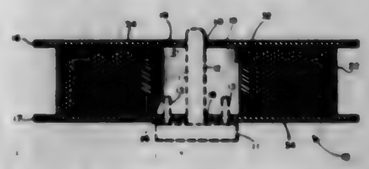
3,145,822
TAPE ACTUATED MOVABLE MECHANICAL WRITING HEAD
Nathaniel B. Wales, Jr., Sharon, Conn., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 64,583
9 Claims. (Cl. 197—1)

1. Printing apparatus comprising a first wheel journaled for rotation about a fixed axis, a second wheel journaled for rotation about a movable axis, a movable stylus, a motion transmitting member interconnecting the said first and second wheels and including a resilient portion having said stylus pivotally engaged therewith operative upon a tension change in the said resilient portion whereby diverging movement of said second wheel axis relative to



the first wheel distorts the resilient portion of the motion transmitting member so as to move the stylus.

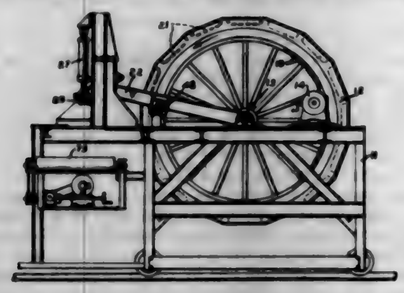
3,145,823
TYPEWRITER RIBBON SPOOL CONSTRUCTION
Erdman O. Spradlin, 544 N. Bellefort, Oak Park, Ill.
Filed Nov. 13, 1962, Ser. No. 236,817
3 Claims. (Cl. 197—175)



1. A typewriter ribbon spool construction, comprising a pair of spaced discs each having an axially extending portion, and a tubular core of semi-rigid resilient material interposed between said discs and adapted to receive a typewriter ribbon therearound, said tubular core having an annular groove in each end face thereof, each of said grooves being formed by two adjacent concentric walls, said grooves being of a lesser width than the radial thickness of said axially extending portions such that the latter are frictionally retained by the former when inserted therein by virtue of the resiliency of said material, whereby said discs are releasably secured to said core to permit replacement of said core when an associated typewriter ribbon carried thereby is exhausted.

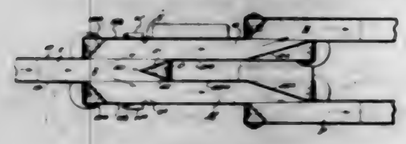
3,145,824
ARTICLE HANDLING
James W. Gillen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 20, 1962, Ser. No. 189,044
11 Claims. (Cl. 198—27)

1. The combination with a conveyor continuously rotatable about a horizontal axis and having article holders uniformly spaced about its periphery facing radially outwardly, of a take out mechanism embodying a chuck for unloading articles from said supports during their travel through a predetermined arc, means supporting said chuck in an initial position adjacent the path of travel of the conveyor periphery, means for moving such chuck in unison with the conveyor through such predetermined arc concentric with said horizontal axis of rotation, means operable during such unified movement through said concentric arc for turning said chuck from a downwardly facing position to a position facing one of said holders, for projecting the chuck into association with such holder into engagement with an article occupying it, for energizing the chuck to effect seizure of the article, for withdrawing the chuck from association with such holder, for turning said chuck to restore it



to its downwardly facing position and for then de-energizing the chuck to release an article therefrom, and means for then restoring said chuck supporting means to its initial position.

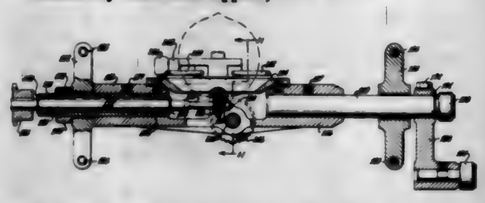
3,145,825
SELECTIVE QUANTITY RATIO DIVIDER CONVEYOR
Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin
Filed Oct. 3, 1961, Ser. No. 142,715
13 Claims. (Cl. 198—30)



1. Article-dividing apparatus for dividing independent articles, advancing in disorderly array along a predetermined path, in accordance with a definite quantity ratio, said apparatus comprising conveyor means for uninterruptedly moving the articles along said path and into a dividing area, a plurality of dividing conveyors arranged to receive articles from said area, stationary separating means having article-contacting surfaces operative to deflect articles from the dividing area onto the several dividing conveyors, motor means operative to drive the dividing conveyors, said motor means being operative, at times, to drive each of the several dividing conveyors at a low or preliminary speed and, at times, to drive each of the several dividing conveyors, respectively, at operating speeds according to the quantity ratio in which articles are to be distributed among the several dividing conveyors, the operating speed of each respective dividing conveyor being different from its preliminary speed, and control means automatically operative to shift the speed of each dividing conveyor from the preliminary speed to operating speed.

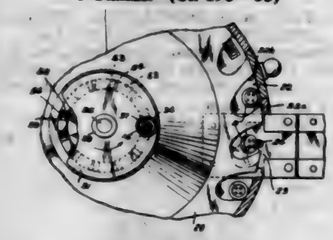
3,145,826
MACHINE FOR ORIENTING PEACHES
Malcolm W. Loveland, Orinda, Calif., assignor to Atlas Pacific Engineering Company, a corporation of California
Filed Dec. 22, 1961, Ser. No. 161,602
19 Claims. (Cl. 198—33)

1. In an orientor for fruit having a suture:
(*a*) a fruit support having sides contoured downwardly and inwardly;
(*b*) said fruit support having an opening centrally thereof of a size sufficient to permit a substantial portion of a fruit to depend below the support;
(*c*) means supporting said fruit support in a horizontal position;
(*d*) a first rotatable shaft extending beneath the fruit support;
(*e*) a wheel mounted on said first shaft and rotatable therewith in a vertical plane extending perpendicularly to the plane of the bottom of said fruit support;
(*f*) the upper edge of the wheel extending to a point closely adjacent to the bottom of said fruit support whereby the wheel may engage the surface of a fruit carried by said fruit support;



(*g*) said wheel being of such a size that the wheel may freely enter the stem end indent of a fruit;
(*h*) a second rotatable shaft positioned on one side of the periphery of said wheel with a fruit engaging end on said shaft closely adjacent the upper edge of said wheel;
(*i*) a third rotatable shaft positioned on the other side of the periphery of said wheel with a fruit engaging end on said shaft closely adjacent the upper edge of said wheel;
(*j*) the longitudinal axes of the second and third shafts being substantially aligned and extending essentially horizontally and at substantially 90° to the axis of said first shaft and through said vertical plane;
(*k*) and means for rotating said shafts.

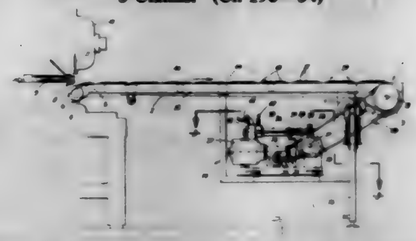
3,145,827
DISTRIBUTOR FOR DISKS
Charles Bonaignore, Queens Village, N.Y., assignor to Emsig Manufacturing Company, New York, N.Y., a partnership
Filed Feb. 1, 1962, Ser. No. 170,460
6 Claims. (Cl. 198—33)



1. A self clearing distributor device for separating articles from a bulk supply including, in combination, a hopper having an exit portion, a distributor member mounted in said hopper for rotation adjacent said exit portion, a rotating powerized member, and means releasibly coupling said distributing member and powerized member comprising a driver element operatively associated with said rotating member, a driven element operatively associated with said distributor member, spring means urging said driving element toward said driven element, cooperative drive faces on said driving and driven elements sloped to shift said elements axially apart when said driven element encounters resistance

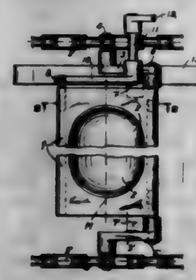
exceeding a predetermined amount, cooperative release faces on said driving and driven elements in proximate trailing position with respect to said cooperative drive faces, said release faces being pitched to induce counter-rotative movement to said driven element when said driver and driven elements are shifted toward each other with said release faces in engagement.

3,145,828
PRODUCT SPACING CONVEYOR
Richard A. Hawley, 2440 Scout Road, Oakland, Calif.
Filed July 12, 1963, Ser. No. 294,606
5 Claims. (Cl. 198—34)



1. A sliced bacon conveying and spacing apparatus comprising, with a constantly operating bacon slicing machine, an endless conveyor having a generally horizontal upper run onto one end of which the slices as formed are fed at a constant speed in transversely extending and normally overlapping relation as the conveyor advances, the conveyor having a drive shaft, means to drive the shaft at a constant speed, and a device acting on the shaft to suddenly increase the speed of the shaft for short and evenly spaced periods whereby to form gaps on said upper run of the conveyor between adjacent groups of overlapping bacon slices thereon; the shaft drive means including a normally engaged but overrunning type driving clutch on the shaft, and said device comprises another but normally disengaged overrunning type clutch on the shaft; the clutches overrunning in the same direction, and intermittently functioning means connected to said other clutch to engage the same and momentarily drive the shaft at a speed greater than that imparted thereto by the first named clutch.

3,145,829
TRANSPORT AND DISCHARGE DEVICE FOR PIECES OF PASTY MATERIAL
Gerald Janoschek, Stuttgart-Unterturkheim, and Oskar Wolfsried, Hegnach, near Waiblingen, Germany, assignors to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a German firm
Filed Aug. 1, 1962, Ser. No. 213,914
Claims priority, application Germany, Oct. 28, 1961, W 30,960
7 Claims. (Cl. 198—145)



1. A transport and discharge device for pieces of dough, said device comprising a movable conveyor means; a plurality of carriers for placing thereupon the material to be transported to a discharge location; a support means for each of said carriers, each of said support means including an arm pivotally secured at one end to the conveyor and at the other end to the respective carrier, the pivotal axes of said arms being parallel to and transverse of the direction of travel of said conveyor, the axis of the pivot connections of the arms at the conveyors coinciding with the midaxis of the respective carrier and the axis of the pivot connections of the arms at the respective carrier being spaced apart from said midaxis, and a bracket extending from said arm and underlying the respective carrier intermediate said pivot axes to support the same in a material supporting upwardly facing position; and discharge means stationarily mounted at said discharge location, said discharge means including lever means engaging successive carriers upon arrival thereof at said discharge location, pivoting of the lever means when engaged imparting to the carriers one by one a swinging movement about the pivotal connections of the arms at the carrier from said support position into a downwardly facing discharge position, and stationarily mounted stop means intercepting the tilting movement of each carrier in said discharge position thereby abruptly arresting the tilting movement of the carrier to subject the same to a jar causing an instant discharge of the material supported thereon.

3,145,830
PRE-TENSIONED FULLY FLEXIBLE TROUGHING IDLER ASSEMBLY
Roy F. Lo Presti, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 5, 1962, Ser. No. 177,381
11 Claims. (Cl. 198—192)



1. A high strength, minimum weight, impact resistant roller assembly for use in a vertically flexible belt conveyor idler assembly, said roller assembly including in combination,

a shaft mounted belt supporting roller,

a supporting frame assembly for the roller, said frame assembly including,

an elongated, slightly bodily resilient frame member,

means for connecting the inner and outer portions of the resilient frame member to the inner and outer portions, respectively, of the roller shaft,

means for imparting tension directly to the roller shaft coincident with the shaft axis and thereby simultaneously stressing the bodily resilient frame member, and

means for connecting at least one end of the roller assembly to an adjacent roller assembly for flexing movement with respect thereto.

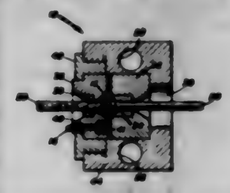
3,145,831
VIBRATING CONVEYOR SYSTEM
Josef Röder, Fritz Stoff, and Josef Tschelik, all of Darmstadt, Germany, assignors to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 24, 1962, Ser. No. 168,440
20 Claims. (Cl. 198—220)

1. A conveying system for selective two-directional transportation of material comprising a conveyor trough, a pair of parallel shafts attached to the trough, eccentric weight segments fixed to each shaft for rotation therewith, connecting means attached to each shaft and in engagement with one another for synchronous contra-rotation of the shafts, drive means, and coupling means connected between one of the shafts and the drive means for rotating the one shaft and its weight segments with



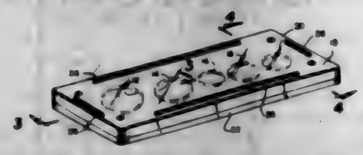
respect to the other shaft and its weight segments prior to the transmission of the drive through the connecting means to the other shaft whereupon synchronous contra-rotation occurs with the weight segments of the one shaft maintained at a predetermined angle with respect to the weight segments of the other shaft.

3,145,832
PRESSURE DIE FOR WIRE DRAWING
John S. Case, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed May 2, 1961, Ser. No. 107,155
3 Claims. (Cl. 205—25)



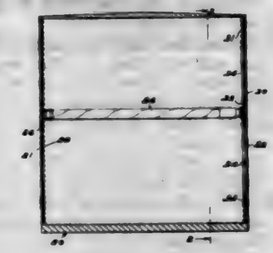
1. In a wire drawing apparatus having a helper die and a wire drawing die positioned in axial alignment with said helper die and spaced therefrom to define a pressure chamber for wire drawing lubricant between said dies, a replaceable relief port positioned in said helper die and having its aperture communicating between said pressure chamber and the atmosphere, with the diameter of said aperture being of predetermined size to control the pressure buildup of said wire drawing lubricant in said pressure chamber.

3,145,833
COIN DISPLAY HOLDER
Donald J. Muller, 1159 Clay Ave., Bronx 56, N.Y.
Filed Mar. 15, 1961, Ser. No. 95,919
3 Claims. (Cl. 206—.83)



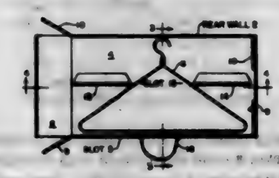
1. A coin display holder of the character described, comprising a flat rectangular plate of clear plastic having a plurality of circular recesses with straight sides therein, the recesses being in longitudinal spaced relation to each other, each one of the recesses adapted to receive a different denomination of coin placed therein for display, the periphery of the said rectangular plate terminating in a ledge, and a second flat rectangular plate of clear plastic also having a plurality of circular recesses with straight sides therein, the recesses being in alignment with the recesses in the first mentioned plate when the two plates are placed one upon the other, the second rectangular flat plate having a depending skirt encompassing the periphery thereof and at right angle to the flat surface thereof, the said depending skirt adapted to be sealed with cement to the said ledge of the first mentioned rectangular flat plate after insertion of coins in the recesses of each plate, and each one of the flat rectangular plates having a rib near each edge and projecting at right angle to the surface thereof, thereby providing support for the said coin display holder.

3,145,834
SHIPPING CONTAINER AND DUNNAGE STRUCTURE THEREFOR
Frederick B. Hilger, Grosse Pointe Farms, and Leonard G. Burgess, New Baltimore, Mich., assignors to Equipment Manufacturing, Inc., Warren, Mich., a corporation of Michigan
Filed Mar. 27, 1961, Ser. No. 98,453
17 Claims. (Cl. 206—1)



1. In a freight handling container having at least a pair of opposed wall surfaces, means for mounting a dunnage member between said wall surfaces comprising a series of parallel side-by-side corrugations formed on each of said surfaces, each corrugation having a pair of spaced apart side walls which extend generally perpendicular to a wall surface, connector element means integrally formed on at least one of said side walls of each of said corrugations at spaced intervals along the length thereof, and a fitting at each end of said dunnage member, said fitting including portions engageable with said pair of side walls of a corrugation to anchor said dunnage member against movement transversely of said corrugations and said fitting further including complementary connector element means engageable with at least one of the connector element means of a corrugation to anchor said dunnage member against movement longitudinally of said corrugations.

3,145,835
COAT HANGER RECEPTACLES
Guy E. Bynsse, Louisville, Ky., assignor to Daniel F. Caltwood, Sr., Louisville, Ky.
Filed Aug. 6, 1962, Ser. No. 214,985
3 Claims. (Cl. 206—1)



1. An improved box-like receptacle for coat hangers of the type having a body portion containing left and right shoulder sections and a hook portion projecting

from the body portion between said shoulder sections, comprising:

(A) a box body having a spaced pair of opposed major-face walls and a spaced pair of opposed perimetric walls,

(1) said box body forming a main chamber for holding a stack of coat hangers in which each hanger may be positioned

(*a*) with its major plane more or less parallel to said major-face walls,

(*b*) with its body part occupying one portion of the main chamber space which extends along one perimetric wall in a longitudinal direction proceeding from one end of the box to the other and which is transversely spaced from the other perimetric wall of the box, and

(*c*) with its hook part occupying the mid-portion of the adjoining chamber space which similarly extends along the other perimetric wall and which is spaced from said one perimetric wall,

(2) said main chamber space, along the boundary between said adjoining chamber spaces, having a substantially unobstructed center section and laterally spaced side sections,

(*a*) the center section of said boundary accommodating the connection between the hook and body parts of coat hangers in said main chamber space, and

(*b*) the side sections of said boundary corresponding to the shoulder sections of said hangers, and

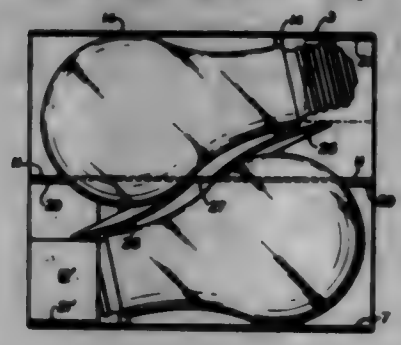
(3) said one perimetric wall having a long relatively narrow coa-hanger-receiving slot through which said hangers may be inserted hook first

(*a*) said slot extending longitudinally between the ends of the box;

(B) partition means arranged within said main chamber along a side boundary section to provide a stop separating said adjoining chamber spaces and preventing the corresponding body portion of a hanger in said receptacle from occupying said adjoining chamber space; and

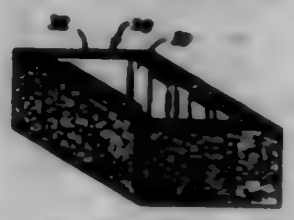
(C) flap means at each end of the box for end closing purposes.

3,145,836
FOLDING PAPER CONTAINER
Walter J. Tyrsch, Mystic, and Robert A. Hackenberg, Norwich, Conn., assignors to Robertson Paper Box Company Incorporated, Mystic, Conn., a corporation of Connecticut
Filed July 29, 1959, Ser. No. 830,371
4 Claims. (Cl. 206—46)



1. A folding paper light bulb package comprising a rectangular sleeve, a central partition wall dividing the sleeve into two rectangular compartments, the partition being spaced from the parallel outer walls of the sleeve by a less distance than the distance between the other two outer walls of the sleeve, a light bulb carried in the sleeve on each side of the partition wall, the two said bulbs facing oppositely to each other so that the stem of one is opposite the bulb portion of the other, and each bulb portion being substantially in contact with three sleeve outer walls, the partition wall having cutouts accommodating the said bulb portions and flaps within the said cutouts and hingedly fastened to the partition panel adjacent its middle, pocket elements adjacent the ends of the sleeve receiving and holding the stems of the said bulbs, the said flaps and pockets being dimensioned so that the outer ends of the flaps engage and are supported by the pockets and the flaps are flexed and held thereagainst by the bulbs.

3,145,837
SHOCK-ABSORBING DEVICE
Charles R. Lewis, Elmhurst, and Steven E. Hornacek, Chicago Heights, Ill., assignors to Chicago Curled Hair Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 31, 1962, Ser. No. 248,769
5 Claims. (Cl. 206—46)



1. An assemblage comprising an article to be protected against shock, a container for said article, shock-absorbing means for preventing the imparting of shock to said article comprising a molded assemblage of curled, resilient, form-retaining fibers; said fibers being bound together by means of a resilient binder so as to be maintained in a substantially fixed relationship with a plurality of interstices therebetween whereby said fibers may be distorted by means of a distorting force and returning to their original configuration upon removal of said force, said shock-absorbing means being disposed between a portion of the container and a portion of the exterior surface of said article to be protected; said shock-absorbing means having a surface portion of predetermined configuration conforming with the engaged exterior surface portion of the article to be protected, and a protective, thermoplastic, smooth, non-abrasive surfacing disposed on said shock-absorbing surface portion of predetermined configuration for engaging said article to be protected; said thermoplastic surfacing being bound to said resilient, form-retaining fibes of said shock-absorbing means by said resilient binder.

3,145,838
DEPARTMENTALIZED PACKAGE
Edmund L. Van Deusen, Laguna Beach, Calif., assignor, by mesne assignments, to Laguna Scientific Industries, Laguna Beach, Calif., a corporation of California
Filed Sept. 26, 1961, Ser. No. 140,772
5 Claims. (Cl. 206—47)



1. An article of manufacture comprising

(*a*) a flexible membrane shaped in annular corrugations to form a central first receptacle and an annular second receptacle separated from the central receptacle by a first annular intervening wall and bounded on the outside circumference by a second annular outer wall,

(*b*) a body of a first material in the first receptacle, and

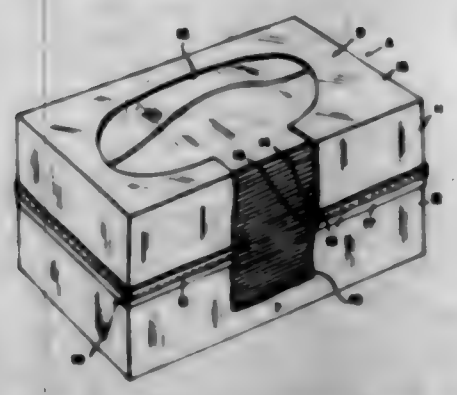
(c) a body of a second and different material in the second receptacle, the membrane being deformable by depression of the first receptacle to distend the first annular wall so as to merge the first and second compartments and enable the first and second materials to be mixed.

3,145,839
DISPENSING HOLDERS FOR STACKS OF BAGS
John C. Lowry, Rochester, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 8, 1961, Ser. No. 136,838
5 Claims. (Cl. 206—57)



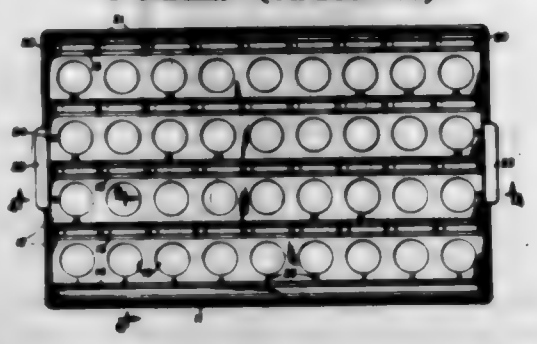
1. A holder for a plurality of bags arranged in aligned superimposed relationship to provide a stack thereof, each of said bags including a detachable lip portion, said holder being substantially U-shaped and including a bottom portion which underlies said stack of bags and a top portion which overlies said lip portions, bottom portion being provided with a centrally located aperture for the convenient grasping thereof, fastening means extending through the top and bottom portions of said holder and through the bag lip portions embraced therebetween, and means coextensive with one face of said holder providing supporting means for the holder and stack of bags.

3,145,840
BOXLIKE DISPENSER
Lawrence A. Wright, 46241 Fairway Drive, Northville, Mich.
Filed May 9, 1963, Ser. No. 279,875
3 Claims. (Cl. 206—57)



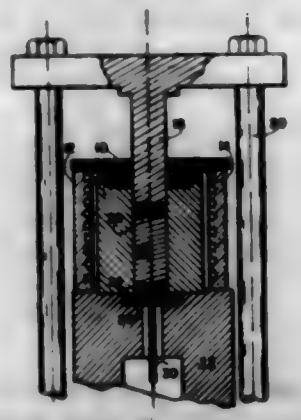
1. A boxlike dispenser, comprising a container divided horizontally substantially midway between the top and bottom thereof to provide upper and lower sections opening toward one another and having adjacent edges, the top of the upper section having an opening through which the contents of the container may be dispensed, said upper section being larger in area than said lower section whereby the edges of said upper section are located outwardly relative to the edges of said lower section, and a connection between said upper and lower sections at the adjacent edges thereof for initially holding said upper section in raised position relative to said lower section, said connection being severable to permit said upper section to slide downwardly upon said lower section while the contents of the container is being dispensed, said severable connection including a fragile strip extending horizontally of, overlapping and attached to said upper and lower sections at the adjacent edges thereof and extending throughout the perimeter of said container, and a single thread for severing said strip extending throughout the length of said strip upon the inner side thereof, said thread being located substantially midway between the upper and lower edges of said strip and having an accessible free end portion.

3,145,841
HOSPITAL TRAY
Eleanor H. McGuire, 9310 SW. 18th Place, Portland 19, Oreg.
Filed May 4, 1962, Ser. No. 192,415
8 Claims. (Cl. 206—72)



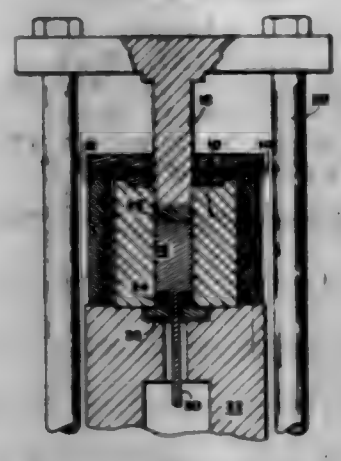
1. A hospital tray comprising a single sheet of material having a plurality of parallel troughs formed therein and separating the sheet into a plurality of elongated plateau areas lying in a first common plane,
each of said plateau areas including a longitudinally extending row of cup-retaining openings therein,
said troughs having bottoms lying in a second common plane parallel to said first plane and upwardly divergent side walls whereby cards may be stood on end therein with some of said cards leaning forwardly against one of said side walls and others leaning rearwardly against the other of said side walls.

3,145,842
PROCESS FOR THE EXTRUSION OF FINE WIRE
Lloyd R. Allen, Belmont, Mass., assignor, by mesne assignments, to National Research Corporation, a corporation of Massachusetts
Filed May 17, 1962, Ser. No. 195,623
4 Claims. (Cl. 207—10)



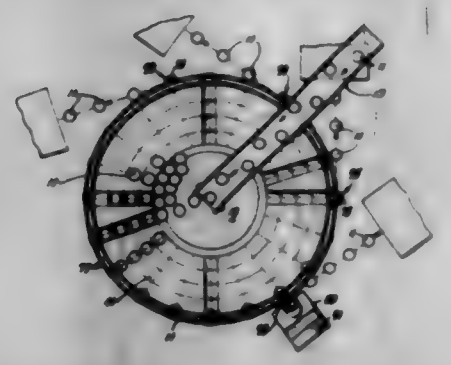
1. The process of extruding metals including alloys thereof to produce a fine wire having a diameter of less than about .01 inch comprising forming a billet of said metal having hard particle sizes of less than 20 percent of said wire diameter, heating said billet to an initial temperature at which the compressive flow stress is about 10–25 percent of the room temperature value, expressing the heated billet through a shearing edged opening in a substantially flat surface at a sufficient extrusion rate to further heat said billet at the point of maximum deformation by internal friction to a temperature which is in excess of said initial temperature and below the solidus temperature of the metal and collecting the extruded wire.

3,145,843
PROCESS OF EXTRUDING ULTRAFINE WIRE
Lloyd R. Allen, Belmont, Mass., assignor, by mesne assignments, to National Research Corporation, a corporation of Massachusetts
Filed Aug. 28, 1962, Ser. No. 219,872
1 Claim. (Cl. 207—10)



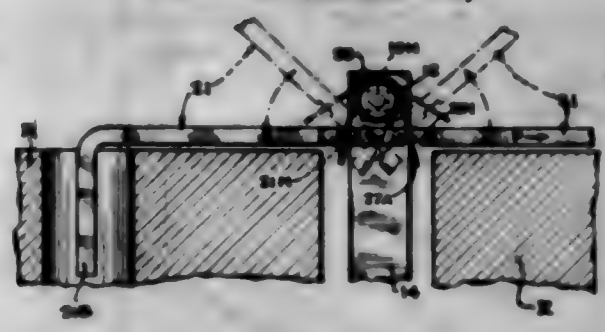
The process of extruding copper including alloys thereof to produce a fine wire having a diameter of less than about .01 inch comprising forming a billet of said metal having hard particle sizes of less than 20 percent of said wire diameter, heating said billet to an initial temperature at which the compressive flow stress is about 10–25 percent of the room temperature value, expressing the heated billet through a shearing edged opening in a substantially flat surface, at a sufficient extrusion rate to further heat said billet at the point of maximum deformation by internal friction to a temperature which is in excess of said initial temperature and below about 950° C. and collecting the extruded wire.

3,145,844
SORTING AND SELECTING APPARATUS
John R. Powers, Los Angeles, Calif., assignor to The Regents of the University of California, Berkeley, Calif., a corporation of California
Filed Mar. 10, 1958, Ser. No. 720,128
19 Claims. (Cl. 209—74)



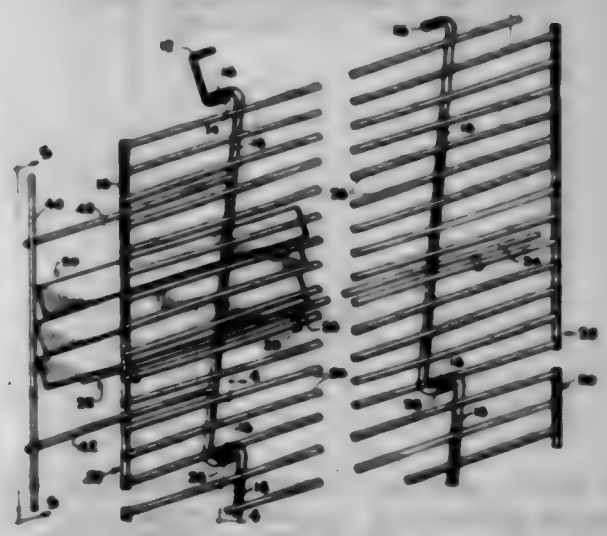
5. In sorting apparatus, a frusto-conical article support dish, means to rotate the dish, a plurality of normally closed article holding gates uniformly distributed about and secured to the dish periphery, means to supply articles to the rotating support dish within the dished-out portion thereof in a region where its rotational speed is low relative to its peripheral speed, means to transfer articles from the supply position one by one along the conical dish-wall to sequentially fill the gates from a point internally of the dish periphery with the filling occurring at one selected position during dish rotation, means to explore the articles subsequent to their filling the gates at a region adjacent to one gate position thereby to determine the characteristics of the sequence of held articles, and means to release the gates individually during dish rotation at selected positions between exploration and reloading to segregate the explored articles into like classifications.

3,145,845
DISPLAY RACKS
Leon H. Best, Galva, Ill., assignor to John H. Best & Sons, Inc., Galva, Ill., a corporation of Illinois
Filed Oct. 18, 1962, Ser. No. 231,471
4 Claims. (Cl. 211—44)



1. In a display rack for upright rolls of linoleum or the like, a stand including a horizontal cross member supported at an elevation corresponding approximately to the height of the rolls, a U-shaped spring clip having the bight portion thereof supported on the cross member and the two legs thereof being disposed on opposite sides of the cross member, said legs each having an aperture therein substantially in registry one with another, a horizontal arm projected through the apertures and gripped by said legs, said arm at one end being adapted to be anchored to the upper portion of such a roll so that a force tending to tip the roll over applied tension to said arm, and said arm being joined to the leg of the clip which is on the near side of said roll.

3,145,846
LIVE STORAGE EQUIPMENT
Stanley L. Samuels and Charles K. Harrington, Wayne, N.J., assignors to The Grand Union Company, East Paterson, N.J., a corporation of Delaware
Filed Jan. 16, 1962, Ser. No. 166,651
10 Claims. (Cl. 211—49)



7. A unit for use in the live storage of articles embodying two vertically spaced side members each including vertically extending elements formed at their upper ends with forwardly facing hooks engagable with a framework, and formed at their lower ends with rearwardly facing hooks engagable with the forwardly facing hooks of a similar unit to suspend the same therefrom, parallel wires extending from the rear to the front of said side members on opposite sides of said vertically extending elements, at least one bottom member extending between said side members and arranged to define a channel in said unit inclined from rear toward the front thereof, said bottom member extending forward from said channel beyond the foremost vertically extending element in

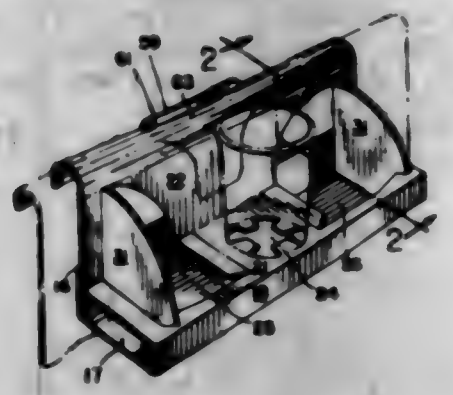
said side members, and vertically extending stop means at one side of said unit adjecent the forward end of said bottom member.

3,145,847
CONTAINER SUPPORT FOR GRAVESTONES
Elmer F. Clement, R.F.D. 1, South Hampton, N.H.
Filed Feb. 21, 1963, Ser. No. 260,127
3 Claims. (Cl. 211—71)



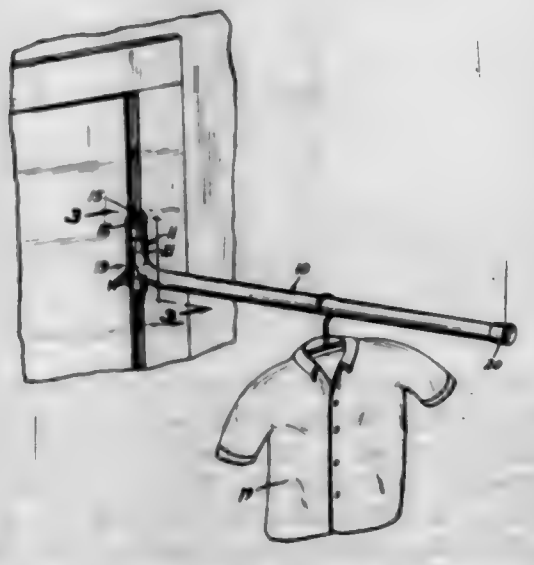
1. A device for supporting containers on a gravestone above the base, comprising a rigid strap having members for engagement with the back, sides and marginal edge of the front leaving the major portion of the surface area of the front unobstructed, means adjustably securing the parts together in frictional engagement with the stone to sustain the strap at a predetermined heightwise position relative to the base, an arm secured to each of said members of the strap engaged with the sides so as to extend laterally from the sides in a horizontal position, each arm being comprised of flat stock twisted intermediate its ends so as to have a vertically disposed portion adjacent the side of the stone situated substantially in the plane of the front face and a horizontally disposed portion outwardly thereof, the outer extremities of which are curled upwardly and inwardly, a brace comprised of flat stock having a flat part disposed against the underside of the outer portion of the arm and secured thereto, said portion having a downwardly and inwardly curled extremity and a part extending downwardly and inwardly from the arm into engagement with the side of the stone above the base, the extremity of which is curled downwardly and outwardly relative to the side of the stone so as to provide a cylindrical bearing surface for engagement with the stone, and a rigid ring secured to the rear side of the vertical portion of each arm in a horizontal position for holding a container spaced from and adjacent the side of the stone rearwardly of the front face.

3,145,848
REFRESHMENT-TRAY-FORMING TEMPLET
Arthur B. Wood, Arlington Heights, Ill., assignor to Admert, Inc., Chicago, Ill., a corporation of Illinois
Filed May 3, 1963, Ser. No. 277,901
18 Claims. (Cl. 211—88)



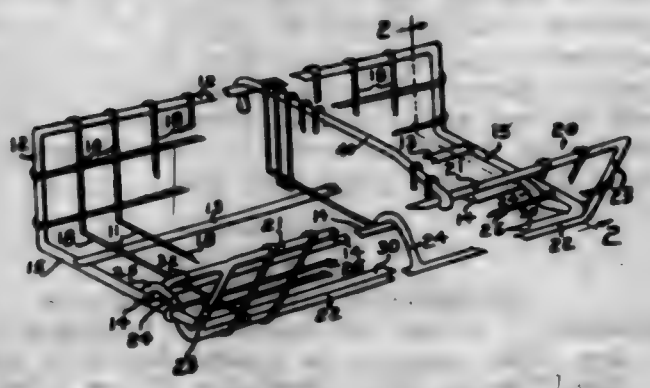
1. A tray-forming templet comprising, a piece of flexible material having a series of spaced, transverse, parallel scores dividing the material into a two-portion pocket-forming section, a base section, an intermediate spacing section and two bordering sections, one portion of the pocket-forming section having three aligned cut-outs with interposed scored flaps, the other portion of the pocket-forming section being slitted and scored to define a pair of wings, the piece of material being foldable along the parallel scores to dispose the cut-out portion in spaced parallel disposition to the base section with the perimeter of the one bordering section fixed to the perimeter of the other portion of the pocket-forming section, the sections being secured in such disposition by the swinging of the wings into positions transverse to both portions of the pocket-forming sections and depressing the flaps into positions transverse to the base section to thereby form a tray wherein the cut-outs become pockets for the reception of articles.

3,145,849
HANGER BRACKET
Raymond N. Hanson, 3319 Bryant Ave. N., Minneapolis, Minn.
Filed Oct. 18, 1962, Ser. No. 231,418
2 Claims. (Cl. 211—105.1)



1. A hanger bracket formed from a single length of rigid tubular stock comprising:
(*a*) a hanger bar, and
(*b*) a suspending leg extending generally normal to said hanger bar, the free end of said suspending leg having a ring formed integrally therein by a circumferential cut through the tube extending to at least said tube's axis from the side of said suspending leg opposite said hanger bar.

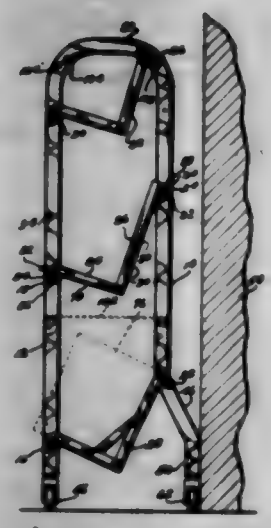
3,145,850
STORE SHELVING HAVING A REMOVABLE FRONT
Stanley Ciborowski, 40 Forsberg St., Worcester, Mass.
Filed Jan. 24, 1963, Ser. No. 253,643
6 Claims. (Cl. 211—126)



1. A shelving comprising a horizontal bottom which is unobstructed at its front edge and has a locking member substantially parallel with said edge and a separate removable frame shaped to form with said bottom a bin front for holding various types of articles, said frame

having a hook cooperating with said member which locks the frame in an upright position.

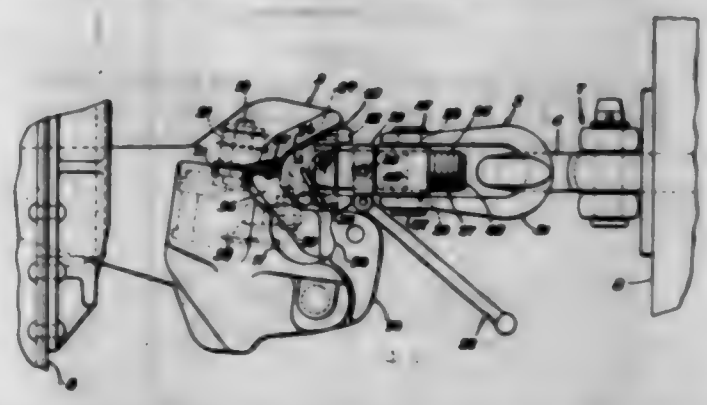
3,145,851
BOOK STAND
Lloyd E. Magers, Evanston, Ill.; State Bank and Trust Company, Evanston, Ill., a corporation of Illinois, trustee; also executor of said Lloyd E. Magers, deceased, assignor to Gaylord Bros., Inc., Syracuse, N.Y., a corporation of New York
Continuation of application Ser. No. 708,014, Jan. 9, 1958. This application Apr. 7, 1961, Ser. No. 101,592
2 Claims. (Cl. 211—148)



1. A book stand comprising a pair of longitudinally spaced tubular, inverted U-shaped uprights each having a straight front leg, a top crossbar, and a rear leg with a rearwardly offset bottom bumper section adapted to engage a wall for spacing the upper portion of the stand from the wall, rollers on the bottoms of each leg supporting the stand for easy movement, said front leg of each upright having vertically spaced rod-receiving apertures aligned at the same level, said rear leg of each upright having vertically spaced rod-receiving apertures aligned at the same levels above the apertures in the front legs, vertically spaced book shelves between said uprights and spanning the entire space therebetween, each shelf having bottom and back walls in right angle relation with hook-shaped flanges respectively depending from the front edge of the bottom wall and extending rearwardly from the rear wall, said flanges extending the full lengths of said shelves, rods secured to said uprights and engaged by said flanges, said rods engaged by the full length flanges on the bottom portions of the shelves projecting into the lower level holes of the front legs of said uprights, said rods engaged by the full length flanges on the back portions of the shelves projecting into the higher level apertures of the rear legs of said uprights, the levels of the apertures in said front and rear legs of the uprights being arranged to hold the shelves with the bottom walls thereof inclining downwardly from the front ends thereof and with the back walls thereof extending upwardly and rearwardly for supporting books in a slanted position for ready visual access to the book titles.

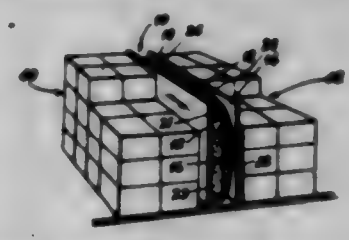
3,145,852
TRANSITION COUPLING MEANS
Frederick C. Kulicke and Kenneth V. Livelsberger, Alliance, Ohio, assignors to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Apr. 26, 1963, Ser. No. 275,910
8 Claims. (Cl. 213—112)

1. In a transition coupling means, the combination with an automatic coupler having a pivotal knuckle and a bottom rotary operating mechanism, an arm pivotally connected at one end thereof to the underside of the coupler, a head provided on the other end of said arm for engagement behind said knuckle, means pivotally connected to said head for detachable engagement with a



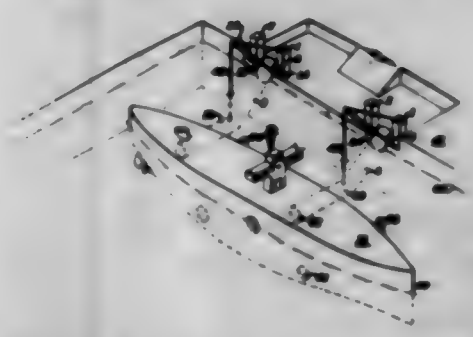
hook type coupler, and a latch provided on said arm to prevent accidental operation of the rotary operating mechanism.

3,145,853
AIR BRACE
Frederick G. Langenberg, 6606 Parkling, St. Louis, Mo.
Filed Dec. 7, 1961, Ser. No. 157,635
2 Claims. (Cl. 214—10.5)



1. An air brace comprising a pair of rectangular rigid platens spaced from one another and secured on opposed sides to an inflatable air bag positioned between said platens, said air bag having a pair of opposed substantially flat sides when deflated and said sides being secured to said platen throughout a major portion thereof to facilitate parallel alignment of the platens upon inflation and deflation, elastic means comprising an elastic cord means connecting the platens together, said elastic cord means comprising a pair of elastic cords at the top and bottom of the platens, each of said cord pairs constituting a first elastic cord anchored at one end on one of said platens and passing through guide means and around a guide shaft on the opposed platen and anchored to its other end thereon, a second cord anchored at its opposed ends to said platens in reverse fashion, said elastic cords thereby biasing the platens toward one another.

3,145,854
SHIP AND CARGO HANDLING EQUIPMENT
George William Sturm, 514 Ethan Allen Ave., Takoma Park, Md., and Alan Osbourne, Cabin John, Md.; said Osbourne assignor to said Sturm
Filed July 15, 1960, Ser. No. 43,077
26 Claims. (Cl. 214—14)



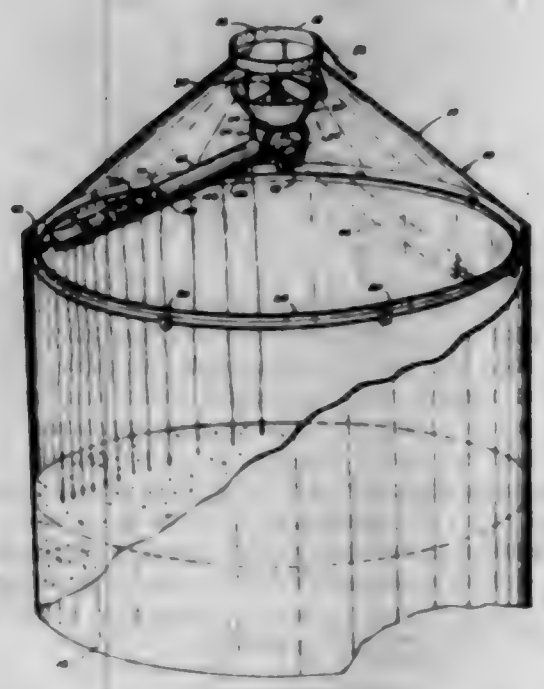
26. The method of level loading a ship with dry cargo which comprises projecting substantially horizontally cut-

wardly and under water an open ended tunnel from a dock to and into an underwater port in a watertight vestibule in the side of a ship's hull, making a watertight connection between the open end of the tunnel and the edges of said port, evacuating water trapped in said tunnel from said tunnel and from said vestibule, establishing communication between the open end of the tunnel and the ship's hold, loading and unloading dry cargo substantially horizontally between the dock and the ship through said tunnel, and maintaining alignment between the tunnel and said underwater port as the ship rises or falls with respect to the dock because of the tides or the transfer of cargo.

3,145,855
DEVICE FOR LEVEL FILLING A LARGE CONTAINER

Dale L. Plugge and Valerian L. Shonka, Columbus, Nebr., assignors to Behlen Manufacturing Company, Inc., Columbus, Nebr., a corporation of Nebraska

Filed Oct. 15, 1962, Ser. No. 230,590
3 Claims. (Cl. 214—17)

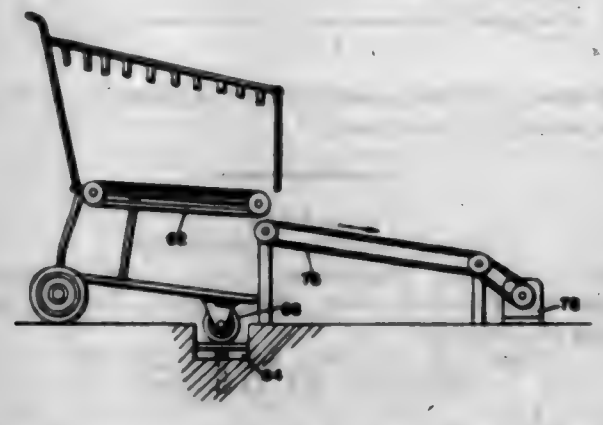


1. In a device for level filling a large container,
a hopper having an open top and bottom,
an elongated auger tube having an access opening in one of its ends,
a shroud on said auger tube around said access opening to direct material from the bottom end of said hopper into said access opening,
an electric motor secured to said shroud,
an auger unit in said auger tube,
means connecting said electric motor and said auger unit to cause rotation thereof when said motor is energized,
a hollow conduit having one of its ends rigidly secured to said shroud,
said conduit extending upwardly through said shroud and said hopper,
a bearing sleeve in said hopper rotatably receiving said conduit,
means connecting said bearing sleeve and said conduit so that the weight of said conduit and elements secured thereto could at least in part be borne by said bearings means,
a slip ring conductor unit on the upper end of said conduit and including,
two ring elements,
means rotatably and electrically connecting said ring elements,
means adapted to connect one of said ring elements to a source of electrical energy,
and a lead secured to the other of said rings and extending downwardly through said conduit to be connected to said motor.

3,145,856
GROCERY CART WITH MEANS FOR UNLOADING SAME

Armand A. Lachance, North Oxford, Mass. (% American Metal Products Co., Southbridge St., Auburn, Mass.), and Stanley Ciborowski, Worcester, Mass.; said Ciborowski assignor to said Lachance

Original application May 26, 1960, Ser. No. 31,918. Divided and this application June 19, 1961, Ser. No. 124,267
2 Claims. (Cl. 214—46)



1. The combination of a checkout station including a counter set on a floor, with an automatically depositing and nesting grocery cart, wherein there is a recess in the floor at a predetermined point relative to the end counter and the cart includes wheels at one end that are adapted to partially enter the recess and tilt the cart down at said one end by gravity, a basket on the cart, a conveyor in the cart forming an article supporting bottom for the basket, a portion of the wall of the basket being outwardly swingable and the conveyor discharging articles thereon toward and through the opening formed thereby, the swinging wall portion of the basket being located adjacent the wheels at said one end of the cart, the counter including means on a level to receive the articles from the conveyor when the cart is tilted.

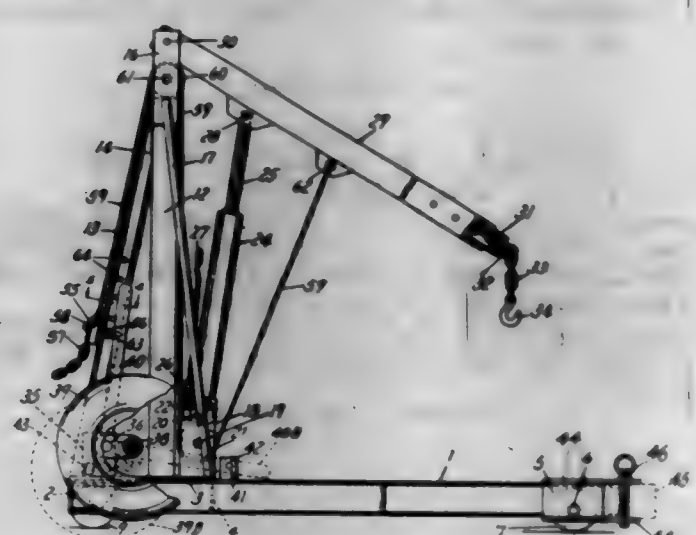
3,145,857
MOBILE LIFT CRANE AND VEHICLE TOW HOIST

Max Hayman, Battle Creek, Mich., and Ernest G. Hellenga, P.O. Box 176, Three Oaks, Mich., assignors, by direct and mesne assignments, to said Hellenga and Paul E. Hicks

Filed Dec. 6, 1962, Ser. No. 242,757
15 Claims. (Cl. 214—86)

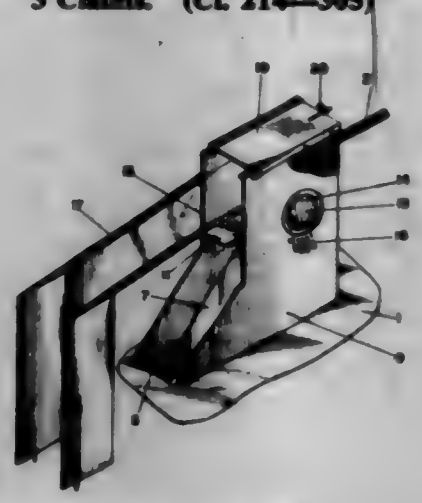
14. A mobile crane and hoist comprising,
a horizontal frame having forwardly projecting spaced side arms with floor engaging rollers on their forward ends,
means connecting the rear ends of said side arms,
swivel caster wheels mounted on the rear of said frame,
an upright post mounted toward the rear of said frame,
a crane boom arm pivoted to the top of said post and projecting forwardly over the space between the arms of said frame,
an inclined brace bar bracing the top of said post to the rear of said frame,
a transverse towing sling bar having its center slidably connected to said brace bar,
mechanical advantage means mounted on said frame for raising and lowering said sling bar and said boom arm,

a transversely spaced pair of high speed road wheels vertically adjustably mounted at the rear of said frame,



and tow coupling removably connected to the forward end of said frame.

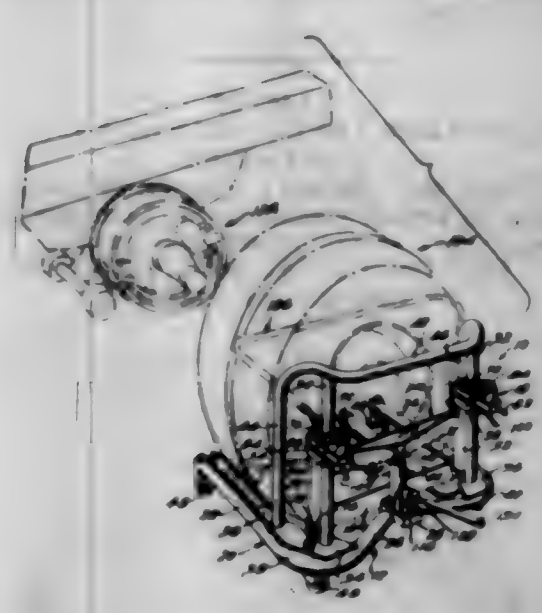
3,145,858
BAG OPENING DEVICE
Walter A. Helbig, Shellburne, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,248
3 Claims. (Cl. 214—305)



1. A bag opening device comprising
a closed compartment
a knife member having a cutting edge positioned in said compartment with said cutting edge facing upward,
a bag support means positioned in said compartment,
said bag support means having a first position wherein said support means will support a bag in said compartment positioned over said knife, and a second position wherein said bag support means will not support a bag in said compartment,
a latch means to allow said bag support means to move from said first position to the said second position,
said compartment having at least one closed arm entryway therein,
said entryway giving manual access to the inside of said closed compartment.

3,145,859
JACK
John M. Barocko, Kenosha, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 18, 1961, Ser. No. 124,883
10 Claims. (Cl. 214—331)

1. A truck device for supporting a load and adapted for adjusting the position of the supported load, comprising a base having guide means thereon, load supporting means having first leg portions extending outwardly from said guide means and having other leg portions extending generally in the same direction as said guide means, anti-friction means movably mounting said other leg portions on said guide means, said anti-friction means being individually adjustably mounted to individually vary the distance between said other leg portions and said guide means to thereby independently adjust the position of each of said first leg portions relative to said base, and releasable retaining means for positively maintaining said



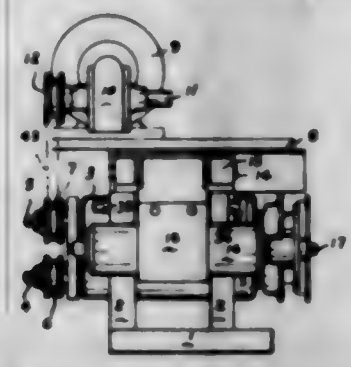
anti-friction means in its adjusted position, said releasable retaining means comprising members movably mounted on said other leg portions, elements movable with said anti-friction means and engageable with said members, the surface contours of the engaging portions of said members and elements being such as to permit relative movement in a direction which reduces the distance between said other leg portions and said guide means but prevent relative movement in the opposite direction, and means for individually moving said members to separate them from said elements thereby permitting said relative movement in the opposite direction.

3,145,860
WHEELED SUPPORT DEVICE FOR FLAT TIRES OF VEHICLE
Henry J. Graves, 15122 Rexford St., Sylmar, Calif.
Filed July 5, 1963, Ser. No. 293,869
1 Claim. (Cl. 214—334)



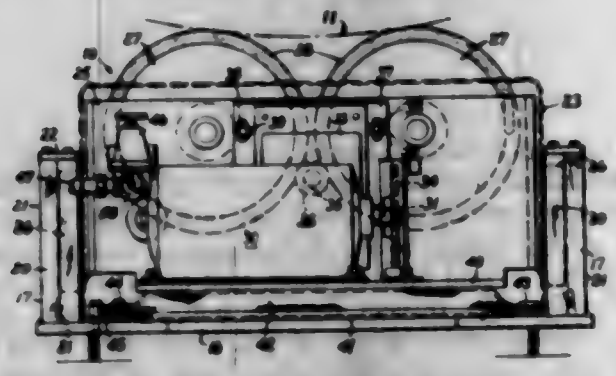
A wheeled support device for flat tires of a vehicle comprising, a frame having parallel side members forming a V-shaped front end of the frame and an axle on wheels at the rear end of the frame, a caster mounted at the front end of the frame, a pair of arcuate bars having ratchets formed on their lower sides and pivotally mounted to the side members of the frame, pawl members for holding the arcuate bars in position, a front ramp member pivotally connected to the rear end of the frame, a rear ramp member hinged to the rear end of the front ramp member, said ramp members forming a ramp over which a flat tire of a vehicle may be rolled from the ground on the wheeled support device, and chain means connecting the arcuate bars to receive the flat tire while on the vehicle.

3,145,861
WORK HOLDER
Robert A. Gargrave, deceased, late of Dayton, Ohio, by Rebecca G. Gargrave, executrix, Dayton, Ohio, assignor to Dayton Perforators, Inc., Dayton, Ohio, a corporation of Ohio
Filed May 1, 1961, Ser. No. 106,983
5 Claims. (Cl. 214—340)



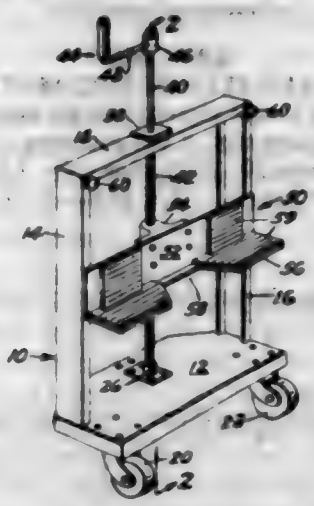
1. Work holding apparatus comprising, a support structure, parallel shaft means rotatably mounting to said support structure in vertically spaced relation thereon, adjacent end portions of said shaft means being projected outwardly of said support structure, longitudinally spaced disc elements mounted on each of relatively adjacent projected end portions of said shaft means, means connected for a conjoint and simultaneous drive of said shaft means, means including a single rotatable shaft means pivotally suspended to one side of said support structure, said single shaft means having a disc mounting for rotation thereon and positionable thereby to nest intermediately of and parallel to said longitudinally spaced disc elements whereby to confine a thin elongated work member in bridging relation to the edges of said disc elements and balanced thereby for rotation therebetween.

3,145,862
TURNING ROLL ASSEMBLY WITH ELEVATING MECHANISM
Cleveland N. Cooper, Kirkwood, Mo., assignor to The Pandjiris Weldment Co., St. Louis, Mo., a corporation of Missouri
Filed June 15, 1962, Ser. No. 205,829
5 Claims. (Cl. 214—340)



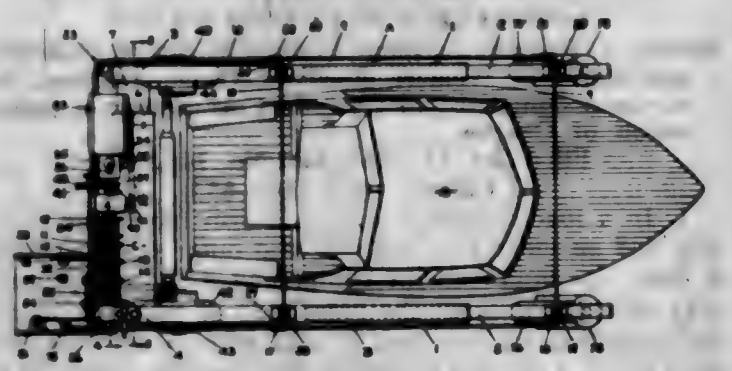
1. In a turning roll assembly for a workpiece:
(*a*) rotative means drivingly engaging the workpiece,
(*b*) guide means being connected with the rotative means for relative movement of the rotative means in a direction toward or away from the workpiece incident to moving the rotative means into or out of driving engagement with the workpiece, and
(*c*) a fluid pressure hose supporting the rotative means and urging the rotative means under pressure into driving engagement with the workpiece but not under sufficient pressure to support the workpiece in a predetermined rotative axis, the rotative means being adjustably movable against the pressure of said hose to compensate for workpiece surface irregularities and yet maintain effective drive engagement.

3,145,863
FURNITURE MOVING DEVICE
Frank Dunaski, 846 Jessamine Ave. E., St. Paul 6, Minn.
Filed May 25, 1961, Ser. No. 112,555
4 Claims. (Cl. 214—390)



1. A stable self-supporting device for lifting and moving furniture comprising: a frame including a base; a pair of casters positioned on the underside of said base one each at the opposite forward corners of said base, and a third caster positioned on the underside of said base rearwardly of said pair of casters and generally equidistant therefrom, said casters comprising a wheel rotatably mounted on a swivel; an angular lifting member having a vertical back panel and a lifting shelf extending forwardly from said panel, said vertical back panel of said lifting member being disposed rearwardly of a vertical extension of the line connecting said pair of casters and said lifting shelf extending substantially over said line, said lifting shelf further extending at least substantially as far laterally as said pair of casters, and when said lift member is in its lowermost position, said shelf passing under the end edge of an office desk as said device is rolled against said desk; and means for raising and lowering said lifting member.

3,145,864
MOBILE BOAT CARRIER
William T. Arnold, R.R. 1, Elgin St., Newmarket, Ontario, Canada
Filed Jan. 26, 1961, Ser. No. 85,958
16 Claims. (Cl. 214—396)



1. A mobile boat carrier comprising a pair of spaced apart horizontal frame members, a telescopic cross member joining the oppositely disposed ends of the frame members, means for rotatably connecting one of said horizontal frame members with the other of said frame members, said means including said telescopic cross member, a pair of power-driven rear wheels supporting the frame members at the ends below the cross member, a pair of castor-like front wheels supporting the other ends of the frame members, power means telescopically moving the cross member, whereby the spacing between the frame members may be selectively varied, a plurality of boat support members carried by the frame members, a power-driven hoisting mechanism mounted on the cross

member and operatively connected to the support members whereby the support members raise and lower the boat, and power means driving said power driven wheels and said hoisting mechanism.

3,145,865
MATERIAL HANDLING MACHINE
Cyril B. Rogers, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed June 29, 1961, Ser. No. 120,582
6 Claims. (Cl. 214—512)



4. In a trailer having an elevatable bed and a ground engaging support assembly connected only to the elevatable bed, lift means comprising a pair of transversely spaced lift support assemblies, each said lift and support assembly comprising a first fluid motor having a cylinder and a piston rod, said first fluid motor being pivotally connected adjacent one end of said piston rod to the ground engaging support assembly for actuation between a forwardly inclined position and a substantially vertical position, means for connecting said first fluid motor adjacent one end of said cylinder to the elevatable bed for pivotal and longitudinal movement relative thereto, said last-mentioned means including a longitudinally extending channel member secured to the elevatable bed and a roller mounted for rotation adjacent said one cylinder end and arranged to run along said channel member, a second fluid motor connected adjacent one end of the elevatable bed and connected adjacent the other end thereof to said cylinder for actuating said first fluid motor between said inclined and vertical positions, and a rigid member pivotally connected to said cylinder and the elevatable bed.

3,145,866
FLEXIBLE LOAD CLAMPING ARMS WITH ADJUSTABLE FULCRUM MEANS
Stanley E. Farmer, Portland, Donald M. Faust, Estacada, and Harry F. Weinert, Portland, Oreg., assignors, by mesne assignments, to Cascade Corporation, a corporation of Oregon
Filed Oct. 13, 1961, Ser. No. 144,940
7 Claims. (Cl. 214—653)

1. In a load-clamping arm, said arm having an outer side and an inner side opposite said outer side that faces a load, the improvement comprising a flexible primary arm member adjacent the outer side of the arm, means for mounting the rear end of said primary arm member on a truck, a flexible secondary arm member disposed on the inner side of said primary arm member and joined to the latter at a location spaced forwardly of the rear end of the primary arm member, said secondary arm member including a portion extending rearwardly from the location of joinder of the secondary arm member with the primary arm member, fulcrum means mounted on the primary arm member and engaging the rearwardly extending portion of the secondary arm member at a point disposed intermediate the location of joinder of the secondary arm member with the primary arm member and the rear margin of the secondary arm member, face plate means mounted at least in part on said rearwardly extending deflectable portion of said secondary arm member, and means accommodating a change in the position of said fulcrum means, such a change in a position of said fulcrum means being effective to change the amount



of deflection occurring in the secondary arm member under load conditions.

3,145,867
BABY BOTTLE
Edwin T. Roberts, 116 Mockingbird Lane, Decatur, Ga., and Hollister A. Thornton, Jr., Greensboro, Ga.
Filed Feb. 28, 1962, Ser. No. 176,370
10 Claims. (Cl. 215—11)

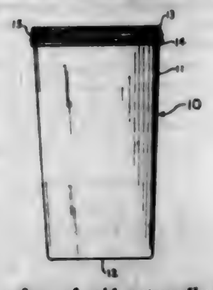


1. A baby bottle comprising a hollow tubular body, a bottom closing the bottom end of said tubular body, an upwardly tapered neck integrally connected to the upper end of said tubular body, and an annular mouth integrally connected to said tapered neck, said mouth being inclined forwardly with respect to said body, the axis of said mouth intersecting the axis of said body at an acute angle, said body being provided with a pair of opposed complementary outwardly concaved recesses above said side walls, said recesses having axes which lie in a common plane parallel to the axis of said annular mouth, said recesses extending forwardly and upwardly from the central portion of said body and terminating adjacent the forward portion of said neck.

3,145,868
CONTAINER
Edward J. Stangle, Jr., Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 19, 1962, Ser. No. 211,824
3 Claims. (Cl. 215—43)

1. A composite container comprising in combination: a tumbler having a substantially rigid wall defining a

body portion, said body portion terminating at its upper end in an open mouth, said wall flaring outwardly at its upper end; a ring adapted to be placed over the lower end of said tumbler and raised therearound until con-



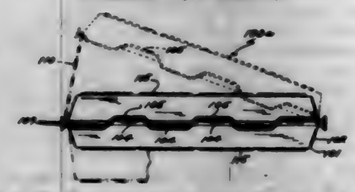
tacting the outer surface of said outwardly flaring upper end wall, said ring having a threaded outer surface; and a threaded cap adapted to fit over said mouth to engage said ring and draw the same into sealing engagement with the body portion of said tumbler.

3,145,869
SEALING CAP
Hermann Ritzenhoff, % Firma Gebrüder Seidel K.G., Marburg (Lahn), Germany
Filed Jan. 24, 1963, Ser. No. 253,615
6 Claims. (Cl. 215—46)



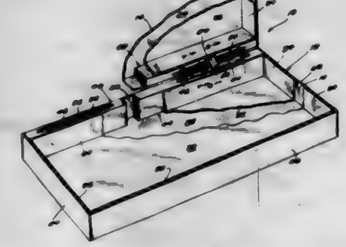
1. A sealing cap for containers comprising a cap having a main portion and a removable portion, said removable portion being provided with a weakened line girdling said cap, an edge formed within said cap wall defining an aperture through the wall, a tongue formed of said sealing cap with said aperture attached at said weakened line, the peripheral edge of said tongue defining said aperture formed in said cap at said tongue and adjacent to said weakened line; and a foil cover comprised of at least two areas adhered around said tongue and lying partially in said aperture, said tongue being positioned in said aperture so as to provide said partial inter-position of said foil cover.

3,145,870
REVERSIBLE NESTING AND STACKING CONTAINER
Warren H. Lockwood, 1319 Granvia Altamira, Palos Verdes Estates, Calif.
Filed Mar. 21, 1962, Ser. No. 181,430
9 Claims. (Cl. 220—4)



1. A tray comprising a bottom having the shape of a rectangle, side walls projecting upwardly from the edges of said bottom, a rectangular lip formed at the upper edge of said side walls, said lip having higher portions and lower portions arranged in a pattern around said tray and arranged to interlock with portions of a like tray when two like trays are placed lip to lip to form a closed receptacle, some of said higher portions being laterally inward and some laterally outward relative to said receptacle, each said higher and lower portion extending generally parallel to its associated side of said rectangle, from each of the corners of said rectangular lip in the same hand direction along an adjacent side there being one of said higher portions extending a predetermined length from said corner, the side parallel to each said adjacent side having a lower portion laterally opposite said one higher portion and of said predetermined length, said pattern including on opposite parallel sides of said rectangle such complementary positioning of said higher and lower portions, whereby in closed-receptacle-forming position there being two of said higher portions abutting each other at a plurality of positions along each side of said rectangle in a direction at right angles to said portions so as to positively prevent displacement of said trays in said position by a lateral push, and all parts of said tray constructed and arranged to nest with a like tray in like orientation.

3,145,871
HINGED BOX CONSTRUCTION
Daniel J. Cavanagh, North Attleboro, Mass., assignor to F. H. Buffington Co., Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 21, 1962, Ser. No. 218,263
2 Claims. (Cl. 220—31)

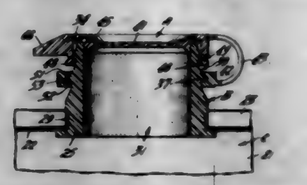


1. In a box construction, a top section, a bottom section hingedly connected to said top section, said top and bottom sections each including an outer shell defined by a bottom wall and at least four side walls joined to said bottom wall, an inner shell positioned within said outer shell and including a bottom wall and at least four side walls, the bottom wall of said inner shell and at least three side walls thereof being located in face-to-face relation with the corresponding bottom and side walls of said outer shell, the other side wall of said inner shell being spaced from the other side wall of said outer shell to form an elongated slot, and an insert located in said slot and being precut to receive hinge members in spaced relation therein, said hinge members being received in the inserts of both said top and bottom sections to interconnect said top and bottom sections in hinged relation.

3,145,872
CAPTIVE CAP FOR CONTAINER
Daniel Thomas Hayes, Springdale, Conn., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 7, 1960, Ser. No. 61,186
3 Claims. (Cl. 220—60)

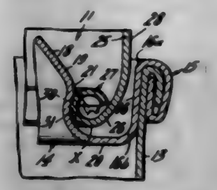
1. A captive closure and nozzle assembly for a container comprising,

a nozzle having vertically spaced external locking beads with the upper bead of lesser diameter than the lower bead,
a closure including a cap and an annular holding ring permanently hingedly secured thereto,
said cap having a depending annular skirt provided with locking shoulders on both the interior and exterior peripheries thereof,
said holding ring having a pair of vertically spaced inwardly facing locking shoulders with the upper shoulder of greater diameter than the lower shoulder,



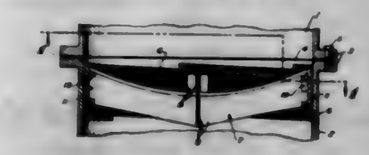
said ring upper shoulder being detachably interengageable with said cap skirt exterior shoulder to facilitate unit handling of said closure prior to and during application thereof to said nozzle,
said cap skirt interior shoulder being detachably interengageable with said upper nozzle bead to dispose said cap in sealing relation to said nozzle,
and said ring lower shoulder being lockingly interengageable with said greater diameter lower nozzle bead when said ring upper shoulder is detached from said cap skirt exterior shoulder following engagement of said cap skirt interior shoulder with said upper nozzle bead, to thereby lock said closure to said nozzle and prevent loss thereof.

3,145,873
CAP AND CAN ASSEMBLY
Carl W. Heinle, Short Hills, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed May 4, 1961, Ser. No. 107,719
1 Claim. (Cl. 220—60)



An article of manufacture comprising a can and an overcap on said can, said can having a body and an end closure secured to said body to enclose one end of said body, said end closure including a peripheral end seam portion having an inner surface disposed internally of said can body, said end closure also including a dome portion having an outer surface spaced from and within the surface of the end seam portion, said end closure further including a countersunk bottom wall curvingly merged into said dome portion and into said end seam portion and extending therebetween, said dome portion having a shallow external bead located within the confines of the surface of the end seam portion and at a distance from said countersunk bottom wall, said overcap having an outer wall of external dimensions approximately equal to but less than the corresponding dimensions of the inner surface of the end seam portion, said overcap having an inwardly curved portion merging with and extending from said outer wall and terminating in an inwardly curled rim having inwardly extending spaced resilient portions in snap spring engagement with said dome portion between said shallow bead and the countersunk bottom wall, the engagement of said resilient rim portions with said dome portion constituting the sole engagement of said overcap with said can, said inwardly curled rim and said inwardly curved portion holding said outer wall of the overcap out of physical engagement with said inner surface of the end seam portion, thereby to prevent the outer surface of said overcap and the inner surface of said end seam from contacting and marring each other when said overcap is mounted on or removed from said dome portion.

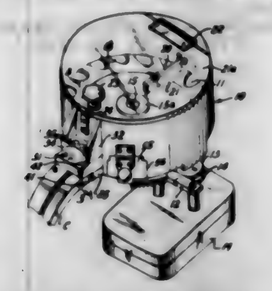
3,145,874
MEANS FOR CONTROLLING RUPTURE OF SHOCK TUBE DIAPHRAGMS
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Donald Reganoff
Filed Oct. 22, 1962, Ser. No. 232,318
1 Claim. (Cl. 220—89)



A shock tube structure, comprising:
(*a*) a high pressure tube section;
(*b*) a low pressure tube section;
(*c*) a diaphragm clamped between said tube sections, said diaphragm being formed of sheet material capable of stretching, thereby to expand axially into said low pressure tube section on application of pressure in said high pressure tube section;
(*d*) internal screw-thread means extending circumferentially around and on the inner surface of said low pressure tube section adjacent said diaphragm;
(*e*) and a knife structure including a plurality of blades radiating from a common center and having sharpened upper edges curving upwardly from said center to define a concave surface, and peripherally disposed screw-thread means cooperative with said internal screw-thread means for effecting axial adjustment of said knife structure;
(*f*) said diaphragm adapted to stretch into contact with said edges prior to rupture, whereby said edges form cutting means to cause rupture of said diaphragm into predetermined segments retained by their peripheral margins between said tube sections.

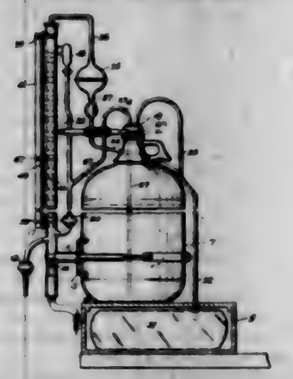
3,145,875
HOPPER FOR FACE ORIENTING UNSYMMETRICALLY FACED ARTICLES
Irving Medoff, Flushing, and Charles Bonaiguore, Queens Village, N.Y., assignors to Emsig Manufacturing Company, New York, N.Y., a partnership
Filed Sept. 20, 1961, Ser. No. 139,434
3 Claims. (Cl. 221—167)

1. In a hopper for a feeder chute arranged for orienting buttons or like shaped disks from a bulk supply, each having unsymmetrically contoured faces, a bottom member for said hopper having a port trap into which said buttons may be discharged from said hopper flatwise, a section of said feeder chute having a throat opening, connected with said bottom to receive buttons discharged through said port trap in a flatwise position, slidably to guide said buttons edgewise along said chute, a button gauging gate means in said port trap in the path leading to said throat opening, the combination therewith of a distributor in said hopper having button pocketing means for carrying buttons flatwise in said hopper along said bottom to direct individual buttons to a first position over said port trap through which they are discharged past said button gate means if properly oriented, said pocketing



means carrying improperly oriented buttons along said bottom to a second position trailing said first position, and means to discharge said buttons from the button pocketing means in the second position into the bulk supply in said hopper.

3,145,876
UNITIZED TITRATION APPARATUS
Roger W. McBrien, 211 Hi Point Place, East Alton, Ill.
Filed May 28, 1962, Ser. No. 198,124
9 Claims. (Cl. 222—113)



4. Titration apparatus comprising a container,
a translucent upright buret having scale markings disposed lengthwise along its wall,
means supplying the buret with liquid from the container,
means for directing light upwardly in the buret,
and a screen along side but spaced from the buret and receiving scale readings projected horizontally from the meniscus at the top of a liquid column in the buret and through the buret wall.

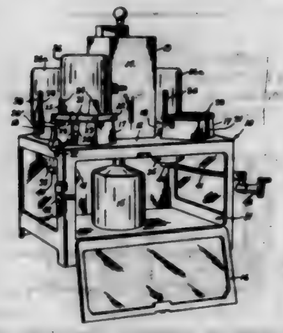
3,145,877
APPARATUS FOR THE PROPORTIONING AND BLENDING OF FLUIDS
John Scarr, Jr., Penn Hills Township, Allegheny County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 25, 1961, Ser. No. 133,863
7 Claims. (Cl. 222—134)

1. An apparatus for dispensing a blend of a plurality of fluids in fixed proportion to one another comprising a dispensing pump, dispensing pump driving means, dispensing pump suction conduit means, proportioning means connected to said suction conduit means, a plurality of fluid supply means each leading to said proportioning means and each adapted to supply its respective fluid to said proportioning means, dispensing pump discharge conduit means, hydraulic motor means connected to said discharge conduit means, said hydraulic motor means in operative connection with said proportioning means and adapted so that fluid discharged from said apparatus through said discharge conduit means first flows through said hydraulic motor means causing said hydraulic motor



means to operate said proportioning means, said proportioning means adapted to pump fluids from said fluid supply means in fixed proportion to one another into said dispensing pump suction conduit means, said apparatus connected so that said plurality of fluids flow in sequence through said plurality of supply means, said proportioning means, said dispensing pump suction conduit means, said dispensing pump, said dispensing pump discharge conduit means, and said hydraulic motor means, and is then discharged from said apparatus as a blend of fluids in fixed proportion to one another.

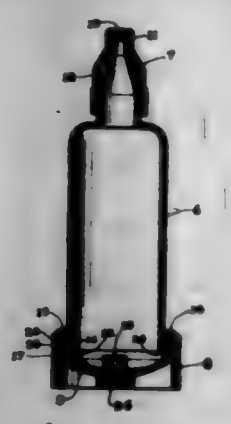
3,145,878
SNOW CONE MACHINE
Samuel Bert, P.O. Box 7803, Dallas, Tex.
Filed Nov. 10, 1960, Ser. No. 68,428
1 Claim. (Cl. 222—146)



The combination in a snow making and dispensing machine, of means forming a snow storage and dispensing compartment provided with a top wall having a hollow upstanding base formed thereon and in communication with said compartment; a sump to contain flavoring syrup having an open upper end, said sump fitting within and being removably supported on said upstanding base, the said sump extending downwardly into said compartment to maintain the syrup in the sump in a cooled condition; an adapter having an opening therein removably sup-

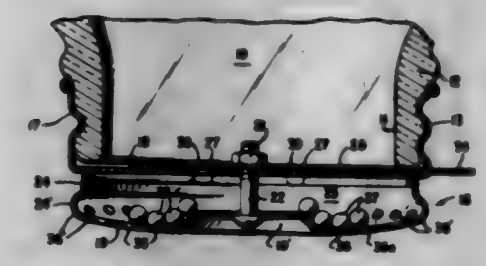
ported on said sump and base, the said adapter having an upstanding portion shaped to snugly fit a container for flavoring syrup, and a syrup outlet pipe extending from said sump through said upstanding base to the exterior of said compartment.

3,145,879
CONTAINER WITH SELF CONTAINED DISPENSING MEANS
Harold W. Williams, % Lamelite Corporation, Pawling, N.Y.
Filed Apr. 3, 1961, Ser. No. 102,238
2 Claims. (Cl. 222—184)



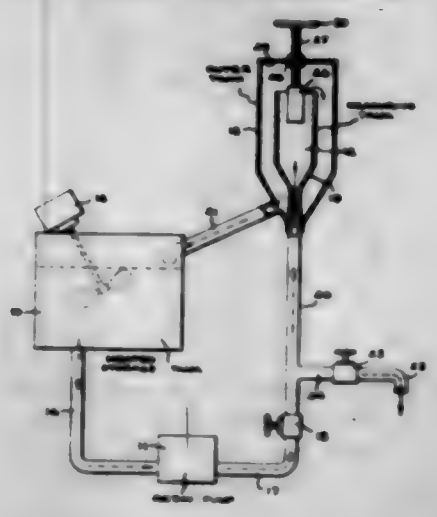
1. A container of the class described comprising a hollow body portion with a cylindrical side wall, an integral nozzle-like reduced upper end, a hollow supporting base having an inside diameter larger than the outside diameter of said body portion, a transversely extending annular wall which integrally joins said base to the body portion a substantial distance above the bottom end of said body portion cylindrical wall to provide an annular downwardly facing channel and also an external shoulder, said body portion, reduced upper end and base consisting of a single piece of relatively rigid material; a one-piece downwardly domed diaphragm of flexible material having a cylindrical skirt which extends into said channel, and interengaging rib and groove means integral with the interior of said base and exterior of said skirt for locking the diaphragm in place, said diaphragm being wholly above the level of the bottom edge of said base to prevent accidental manipulation thereof.

3,145,880
SPRINKLING DEVICE
Louis B. Whatley, Rte. 5, Asheboro, N.C.
Filed Oct. 2, 1961, Ser. No. 142,105
18 Claims. (Cl. 222—196.4)



15. In a dusting or sprinkling device for use with a container holding pourable material and adapted to form a section of the container wall, an inner partitioning plate, an outer foraminous member having perforations therein, means spacing said partitioning plate from said foraminous member and forming between them a chamber, said partitioning plate having at least one aperture therein through which material in an adjacent container may flow into said chamber, the ratio of the area of the individual apertures to the area of the individual perforations being at least 3 to 1.

3,145,881
CONSTANT TEMPERATURE-CONSTANT VOLUME MEASURING TANK
Fred W. Moore and Merle G. Lawson, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Mar. 4, 1963, Ser. No. 262,695
1 Claim. (Cl. 222—226)

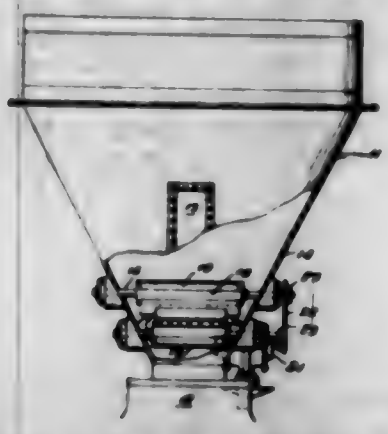


An apparatus for storing, measuring and dispensing an epoxy resin formulation and the like which comprises a heated storage tank that is adapted to receive the epoxy resin, agitator means within the storage tank to mix the resin so that it will maintain a generally uniform temperature throughout, pumping means for withdrawing the resin from the storage tank, and an elevated measuring tank having an inlet opening adjacent the bottom thereof for receiving the resin being delivered by the pumping means, the top of the measuring tank being open so that when the measuring tank is filled the excess resin will overflow, and an outer tank for receiving the overflow from the measuring tank, conduit means for returning the overflow resin to the storage tank to form a complete recirculating system, and a main valve means positioned between the pumping means and the measuring tank, and a second valve means positioned between the first valve means and the measuring tank, said second valve means being normally closed while the first valve means is open when the resin is recirculating through the system, the measuring tank being emptied by first stopping the pumping means, closing the first valve means and opening the second valve means, conduit means leading from the second valve means for emptying the resin located above the second valve means, and means to adjust the volume of said measuring tank including a plunger adapted to be inserted or withdrawn from said measuring tank whereby the effective volume of said measuring tank is diminished or increased by the volume of said plunger respectively inserted into or withdrawn from said measuring tank.

3,145,883
FLUFF FEED HOPPER
John J. Quackenbush, Rochester, N.Y., assignor to National Distillers and Chemicals Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 3, 1962, Ser. No. 214,644
3 Claims. (Cl. 222—227)

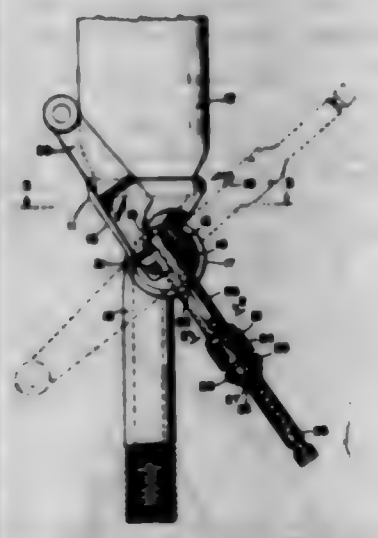
3. A fluff feed hopper for feeding low bulk density plastic waste to an extruder, said fluff feed hopper comprising a gravity feeding frustoconically shaped feed hopper having an opening at the bottom thereof, a plurality of horizontally disposed drive shafts mounted for rotation in said hopper, one of said shafts being located immediately above said opening and at least two additional shafts being spaced apart on a horizontal plane above that of said first mentioned shaft, a plurality of flexible pusher blades mounted on each said drive shaft, said

pusher blades being constituted of elastomeric material, the drive shafts and the pusher blades being spaced relative to one another such that the clearance between the respective pusher blades is sufficient to provide normal compressive feeding of the low bulk density waste



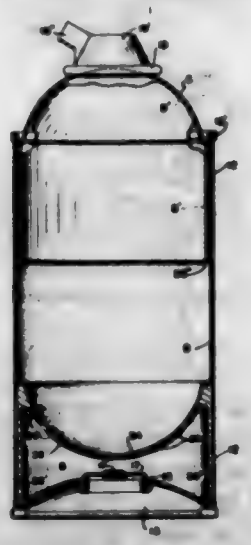
through the hopper and, upon overloading of the extruder, the flexibility of said pusher blades permitting deflection thereof out of feeding engagement with the plastic wastes whereby over-compacting of such low density material is minimized.

3,145,883
POWDER MEASURING DEVICE
Napoleon H. Geroux, Minneapolis, Minn., assignor to Herter's, Inc., Waseca, Minn., a corporation of Minnesota
Filed Nov. 6, 1961, Ser. No. 150,342
1 Claim. (Cl. 222—306)



A powder measuring device including a body member having an upper portion defining a hopper with an open bottom and also having a lower portion defining a discharge port disposed below said open bottom of the hopper, said body also having an intermediate portion, a rotor journalled on said intermediate portion for rotation about a horizontal axis and having a substantially cylindrical periphery, one portion of said periphery facing upwardly at said open bottom of the hopper, an upright cylindrical opening in said rotor and extending through said one portion of the periphery and also through a second portion of the periphery across from said one portion, a rigid tube having an upper end in said opening and spaced from said periphery and said tube also having a lower end extending downwardly therefrom, said tube also having a cylindrical interior flush with the interior of the rotor opening to thereby provide an extension of the rotor opening to the lower end of the tube, said rotor being rotatable to move said one portion and said opening into communicating relation with said discharge port while inverting the tube to empty the contents thereof into the port, a piston mounted for sliding and rotating motion in said tube, the lower end of said tube having external threads thereon, and a nut threaded on the lower end of said tube, said nut having a lower portion surrounding and gripping said piston in snug-fitting relation and defining a plurality of inwardly and outwardly flexing piston-gripping fingers with wedge-shaped exterior surfaces, means movable longitudinally along the nut and along said wedge-shaped fingers for constricting said fingers against the piston and holding the piston in predetermined position.

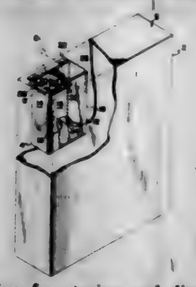
3,145,884
PRESSURE CONTAINER WITH RECESSED TOP
John W. Everett, 3748 Beech Ave., Baltimore, Md.
Filed June 25, 1962, Ser. No. 204,851
3 Claims. (Cl. 222—386.5)



1. A pressure container for dispensing materials comprising in combination, an outer rigid body portion of greater vertical height than its diameter, an outer rigid bottom upon which the container may be independently supported hermetically closing one end of the body portion and an outer rigid top cover hermetically fixed to the opposite end of the body portion including an opening for receiving a closure and a valve mechanism fixed within the opening through which the material is introduced and dispensed, a bag having a side wall, a closed end and an open end where the closed end and a portion of the side wall adjacent thereto are movable longitudinally of the bag, a portion of the side wall of the bag adjacent the open end being of substantially the same diameter as the said body portion and slidably receivable into the upper end of the rigid body portion and hermetically sealed about the upper end thereof, the top of the outer container having a skirt extending downwardly from the upper end of the body portion for engaging the open end of the bag for maintaining the open end and a portion of the side wall in open position, from the inner edge of the skirt to the inner surface of the top being of substantially the same distance as the distance from the lower edge of the skirt to the closed end of the bag, said top extending over the entire upper end of the body portion and at a height at least as high as the upper end of the said body portion of the container, the inner surface of the top being of substantially the same form as the closed end of the bag, the closed end of the bag and the portion of the side wall adjacent the closed end beyond the inner edge of the extended skirt portion of the top being flexible and movable from its downward position adjacent the bottom of the container to an upwardly extended position into the top and along the inner surface of the skirt carried by the top, the inner end of the downwardly extended portion of the top cover providing a fulcrum about which the flexible portion of the bag is folded whereby, the flexible wall and closed end portion of the bag is adapted to receive the material to be dispensed when in its downward position, means provided for an expandable fluid between the bottom of the

container and the outer surface of the closed end and adjacent flexible side wall of the bag for forcing the flexible portion of the bag and the material therein upwardly toward the top of the container for dispensing the materials through the said dispensing valve mechanism.

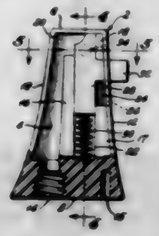
3,145,885
METERED DISPENSING CONTAINER
Sidney Vlock, Bronx, and Mark Vlock, Woodstock, N.Y., assignors to Portion Control Company of America, Inc., New York, N.Y., a corporation of New York
Filed May 21, 1962, Ser. No. 196,192
1 Claim. (Cl. 222—455)



In a construction for storing and dispensing metered quantities of products capable of flowing, the combination of, a paperboard container adapted to store said product, said container having a top wall adapted to provide an opening through which said product may be dispensed, and a metering and dispensing unit formed of substantially a single sheet of paperboard folded along parallel lines and having nine wall panels divided from each other by fold lines with the central wall panel being of substantially twice the width of the other wall panels and with the other wall panels of substantially the same width, the wall panels in the two groups of four upon the opposite sides of said central wall panel being formed into four-sided tubular portions with the end wall panels abutting side by side against said central wall panel and with said common wall being formed by the two wall panels next to the end wall panels, said unit being positioned within said container, said unit having first and second compartments which are substantially rectangular in horizontal cross-section with a common wall between them, said common wall having an opening at its bottom through which a metered portion of the product flows from said second compartment into said first compartment when said container is turned from an inverted position to an upright position, said second compartment also having at the top of its side wall opposite said common wall a window through which a portion of said product flows from said container into said second compartment when said container is turned from an upright position to an inverted position, said first compartment having a top dispensing outlet, coincident with said opening in said top wall, through which a metered portion of said product is dispensed when said container is turned from an upright position to an inverted position.

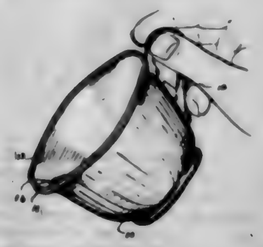
3,145,886
SELF-CLOSING CAPS FOR COLLAPSIBLE TUBES
Kenneth A. Goodwin, 125 Ponce De Leon Blvd., Tallahassee, Fla.
Filed Apr. 16, 1962, Ser. No. 186,385
2 Claims. (Cl. 222—511)

1. A self-closing cap for collapsible tubes comprised of a first member having walls formed integrally therewith defining a cavity in said member, projections in said cavity formed integrally with said member defining channels in said cavity, one of said channels being substantially L-shaped and the other being elongate, one of said walls having a threaded aperture therein adapted to receive the threaded discharge head of a collapsible tube, said aperture communicating with said L-shaped channel and adapted to permit passage of material therethrough, a closure member slidably mounted in said elongate channel, spring means supported in said elongate channel in abutting engagement with said closure member, a finger piece on said closure member, a second plate-like member conforming to the shape of the cavity defined by the walls of the first member and



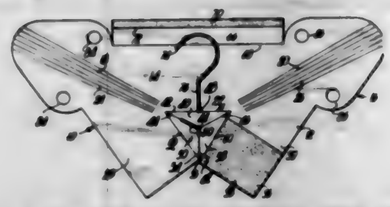
having an aperture adjacent one end thereof, the other end of sadi second member having a recess therein adapted to engage with the apertured wall of said first member, said second member being secured to the walls of the first member with the opening overlying said closure member so that when said closure member is moved against the spring said opening will cooperate with said L-shaped channel to permit passage of material therethrough, and said closure member having an arcuate shaped end portion so as to create a self-cleaning action as the closure member moves across said opening.

3,145,887
DRIPLESS RIM FOR A CONTAINER
Lucille S. Reller, R.F.D. 4, and Cecil C. Knotek, R.F.D. 3, both of Washington, Iowa
Filed Oct. 16, 1961, Ser. No. 144,247
1 Claim. (Cl. 222—571)



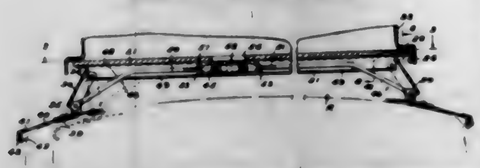
In a dripless liquid pouring container having a bottom and a wall member extending upwardly therefrom,
said wall member having an inside surface and an outside surface,
the upper end of said wall member extending upwardly and outwardly with respect to said bottom,
said outside surface of said wall member terminating at its upper end in an inclined rim portion extending inwardly and upwardly therefrom and terminating at its inner end in a substantially horizontal rim portion extending inwardly therefrom; said horizontal rim portion terminating at its inner end in a shoulder ledge dam portion which extends downwardly and inwardly therefrom;
said shoulder ledge dam portion having its lower end terminating at the upper end of said inside surface of said wall member.

3,145,888
GARMENT HANGER
Hubert Brant Tillery, 7221 Lydia, Kansas City, Mo.
Filed Aug. 14, 1961, Ser. No. 131,293
7 Claims. (Cl. 223—87)



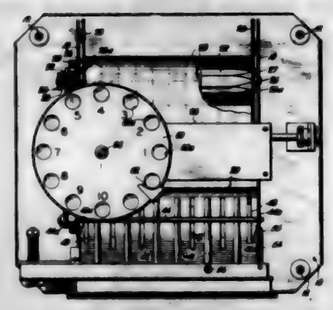
1. A garment hanger formed from a single sheet of material and comprising a main panel of substantially triangular configuration; a pair of wings connected to said panel, there being lines of bend between said panel and each of said wings whereby to dispose said wings in a plane substantially parallel to that of the panel; a flap carried by said panel; a substantially triangular flap carried by each of said wings, said flaps being connected to their corresponding wings through a line of fold at their base edges and connected to the panel flap, said wing flaps and panel flap cooperating to form a pocket at the normally uppermost portion of the hanger, said pocket extending downwardly from said uppermost portion of the hanger and between said panel and said wings; and a hook carried by said hanger and having a portion of the shank thereof received within said pocket.

3,145,889
CAR TOP LUGGAGE CARRIER
Frank Altman, Jr., and Joseph T. Galvin, Dearborn, and William L. Brown, Garden City, Mich., assignors, by mesne assignments, to Structurite Plastics Corporation, Hebron, Ohio, a corporation of Ohio
Filed Jan. 11, 1961, Ser. No. 81,992
4 Claims. (Cl. 224—42.1)



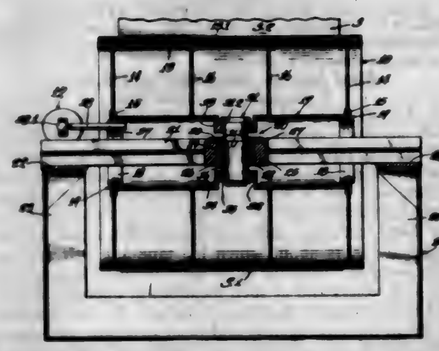
1. In a car top carrier, the combination comprising
a substantially flat platform,
a hollow cover hinged to said platform and adapted to be brought into position adjacent the top of said platform to provide a hollow luggage carrier,
means comprising transversely extending hollow channels on the underside of said platform,
a leg pivoted about a longitudinal axis to said channels adjacent each end of said channels,
means on the lower end of each leg adapted to engage the car top,
means for connecting said last-mentioned means to said car top,
and extensible and contractible means interconnecting the lower ends of said pivoted legs,
the underside of said channel having openings therein through which said extensible and contractible means extends,
said openings being adjacent the ends of said channels whereby the major portion of said extensible and contractible means lies within said channel,
said platform having an access opening therethrough,
said means extensible and contractible including adjustable means which is accessible only through the interior of the luggage carrier through said access opening when the cover is opened.

3,145,890
STAMP DISPENSING MACHINE
Homer K. Gordon and Andrew Morgan, both of 3725 Touzalin Ave., Lincoln, Nebr.
Filed Nov. 29, 1960, Ser. No. 72,511
7 Claims. (Cl. 225—16)



1. In a stamp dispensing machine, the combination of a rotatable spindle adapted to carry a coil of stamps with the outer end portion of the coil extending away from the coil, a feed roll spaced from and parallel with said spindle with the end portion of the coil trained thereover, means on the feed roll providing tractive engagement with the portion trained over the feed wheel, feed wheel operating means connected with said feed roll and operable to cause selective advance of said end portion whereby to impart rotation to said spindle through drawing on the coil, a toothed ratchet wheel connected with the spindle and rotatable therewith, a detent resiliently biased toward and into engagement with said ratchet wheel, and means connecting said feed wheel operating means with said detent and operable responsive to said operating means at the start of rotation of said feed wheel to disengage said detent from said ratchet wheel whereby to free said feed wheel for rotation.

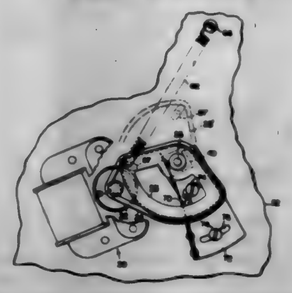
3,145,891
WEB GUIDING
Richard F. Harr, Cortland, and George R. Goldner, Warren, Ohio, assignors to Rio Algom Mines Limited, Toronto, Ontario, Canada, a corporation of Ontario, Canada
Filed June 4, 1962, Ser. No. 199,913
31 Claims. (Cl. 226—21)



1. Means for guiding longitudinally moving strip material comprising a tubular member extending transverse-

ly of the strip material, a roll concentric with and rotatably mounted on said tubular member and about which said strip material travels, a support member projecting into said tubular member from one end thereof, and means connecting said support member and said tubular member and supporting the latter and said roll for universal tilting movement.

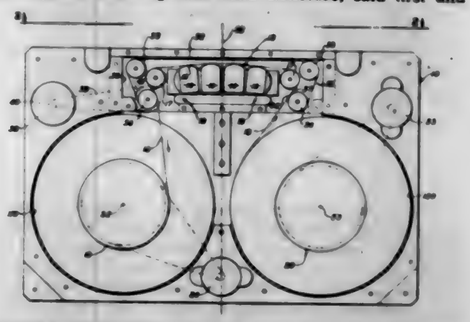
3,145,892
FILM ADVANCING MECHANISM FOR PHOTOGRAPHIC PROJECTORS
John F. Herrmann, Pittsford, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of New York
Filed Aug. 4, 1961, Ser. No. 129,465
7 Claims. (Cl. 226—76)



1. Film advancing mechanism for driving a film strip one frame at a time through the gate of a photographic projector comprising an electric motor, means for closing an electric circuit to said motor, a reciprocatory member, a rotary film sprocket for engaging and feeding film, means including a ratchet and pawl mechanism for rotating said sprocket on each stroke of said member in one direction to advance said sprocket step-by-step upon successive movements of said member in said one direction, means connecting said motor to said member to move said member in said one direction when an electric circuit is closed to said motor, spring means connected to said member to urge said member constantly in the opposite direction to return said member to its starting position and to turn said motor backwards, an element connected to said motor to be driven thereby during operation of said motor, and means carried by said member and operative at the limit of movement of said member in said one direction to engage said element to stop rotation of the same and to stall said motor.

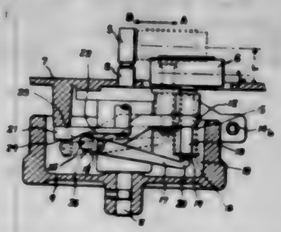
3,145,893
MAGNETIC TAPE TRANSPORT APPARATUS
Richard S. Anderson, Encino, Calif., assignor, by mesne assignments, to Geneco Incorporated, Compton, Calif., a corporation of California
Filed June 26, 1962, Ser. No. 205,315
5 Claims. (Cl. 226—170)

4. In apparatus of the character described, magnetic head structure adapted to cooperate magnetically with tape during tape traverse thereof, an endless essentially non-stretching drive belt, and means for advancing and guiding said belt to engage and frictionally drive the tape along a predetermined path concave toward and traversing said head structure, said means including a pair of tape engaging rollers about which the tape and belt are partially wrapped with the tape held clamped between the belt and rollers and at such locations at opposite sides of said head structure that the rollers hold the belt tensioned to clamp the tape against said head structure, said means including frame structure for supporting said rollers in predetermined spaced apart relation, the belt having predetermined tension, being seamless and having a temperature coefficient of expansion close to that of said frame structure whereby the belt tension is maintained substantially constant with change of temperature, said means including first and second pairs of belt engaging rollers, the rollers of each pair being at opposite sides of a plane bisecting said head structure, said first and



second pairs of rollers turning the belt, each roller turning the belt through an angle greater than 90°, a drive for a capstan roller of said first and second pairs, and means acting to hold an adjustable roller of said first and second pairs in a selected position tending to maintain the belt tension.

3,145,894
MAGNETIC RECORDER
Kazuo Nagaoka, Nakano-ku, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Apr. 9, 1962, Ser. No. 185,970
Claims priority, application Japan Apr. 14, 1961
5 Claims. (Cl. 226—190)

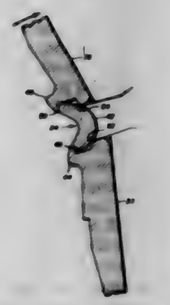


1. A magnetic tape recorder comprising tape driving means consisting of a pinch-roller and a capstan cooperating with each other, said pinch-roller having an axis of rotation substantially parallel to the axis of rotation of said capstan but being disposed apart from said capstan in a different level from that of said capstan when a magnetic tape is held undriven, and means for shifting said pinch-roller to the level of said capstan and simultaneously moving said pinch-roller towards said capstan while at all times maintaining the axis of rotation of said pinch-roller parallel to the axis of the capstan to make contact therewith when said magnetic tape is driven.

3,145,895
HINGE CONSTRUCTION OF MOLDED FIBER ARTICLES AND METHOD OF PRODUCING THE SAME
Richard F. Reifers, New Canaan, Conn., assignor to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 16, 1962, Ser. No. 217,379
17 Claims. (Cl. 229—3.5)

1. The method of forming a hinge construction between the lid and bottom section walls of an article comprising:
(*a*) forming from a liquid fiber mixture a layer of fiber

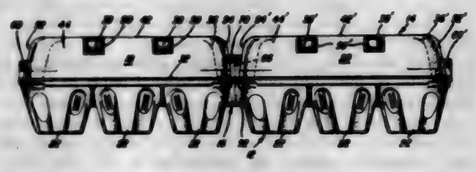
extending transversely between a pair of depending walls of a bottom and lid section of an article and between which the hinge construction will extend transversely when the article is opened; and
(*b*) forming a protuberance projecting out of the inner surface of said layer of fiber and away from said pair of depending walls and with a pair of spaced hinged points generally at the base of the protuberance and with abutment portions disposed outwardly and above said hinge points by compressing said layer of fiber and disturbing the fibers at the inner surface of said hinge points and retaining substantially intact the fibers at the outer surface of said hinge points whereby pivoting of said lid wall with respect to said bottom section wall at said hinge points results in engagement of said abutment portions on intermediate portions of said protuberance prior to the closing of said lid and causing the fibers in the outer surface of said hinge construction to be placed under tension.



9. In a molded fiber carton comprising a bottom tray, a lock flap hinged to one edge of the bottom tray, and a cover hingedly connected to said bottom tray and detachably engageable over said lock flap; the improvement comprising a hinge connection between said bottom tray and said cover, said hinge connection having a protuberance extending away from said tray and cover when the carton is opened and including a pair of hinge points generally at the base of the protuberance and a pair of abutment portions disposed above and outwardly from said hinge points and outer surface of said protuberance whereby the angles between the protuberance and a line drawn from said abutment portions to said hinge points on one side; and between the protuberance and a line drawn from the hinge point and abutment portion on the other side, are such that the abutment portions contact adjacent surfaces of the protuberance before the lid is completely closed thereby causing exterior surface pulp fibers to be placed under tension when said cover is disposed in a closing position on said bottom tray.

15. For use in a pair of juxtapositionable pressing dies for reworking a molded pulp article including a hinge connection between a bottom and lid section, the improvement comprising an elongated creasing rule and creasing bar having substantially mating transverse sections for reworking hinge connection preform fiber portions therebetween, at least one of said creasing rule and creasing bar having a variable cross section along its length to alter the "throw" characteristics along the length of the hinge connection formed thereby.

3,145,896
DIVISIBLE MOLDED ARTICLE
Richard F. Reifers, New Canaan, Conn., and Henry A. Lord, Palmer, Mass., assignors to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,714
3 Claims. (Cl. 229—2.5)



1. An egg carton segment comprising a lid and cellular bottom section, said bottom section including steeply inclined side and end walls terminating in peripheral margin portions, a plurality of normally disposed saddle portions extending inwardly from said side and end walls and merging into a pair of steeply tapered posts extending above the peripheral margin of said bottom section and spaced inwardly from said side and end walls and forming two parallel rows of egg cells with three cells to a row, said lid section including a substantially planar top integral with depending side and end walls, one of said end section side walls being hingedly connected to the peripheral margin of one of said bottom section side walls and the other lid section side wall including longitudinally spaced, lock-flap engaging means, said other bottom section side wall including a pair of longitudinally spaced lock flaps hingedly connected to the peripheral margin thereof and respectively detachably engageable with said longitudinally spaced lock-flap engaging means, said lid section and walls including downwardly opening notches forming ventilation and egg observation apertures in the ends thereof, one end wall of said bottom section including a pair of spaced V-shaped notched portions when viewed in elevation and having reinforcing flanges terminating at the peripheral margin of said bottom section.

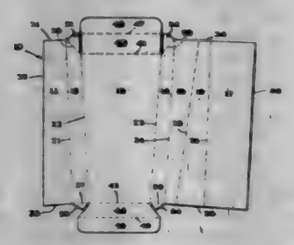
3,145,897
FIBREBOARD HOGSHEAD
Edward S. Kordowski, Chicago, Ill., assignor to General Box Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 9, 1961, Ser. No. 151,300
3 Claims. (Cl. 229—4.5)



1. A hogshead especially adapted for prizing and shipping tobacco, opening for inspection of the tobacco, and expeditiously closing the hogshead after inspection, comprising; a generally rectangular fibreboard panel bent

into cylindrical shape so that its oppositely disposed transversely extending ends extend into adjacent relationship to define an open top and bottom in said hogshead, a pair of fibreboard reinforcing panels bonded to the outer surface of said generally rectangular panel and encircling said open top and said open bottom thereof, one of said oppositely disposed ends having an end flap thereon adapted to lap the other of said oppositely disposed ends of said generally rectangular panel, pressure sensitive contact adhesive means between said end flap and the other of said ends, said adhesive having a relatively high shear strength whereby said end flap and said other end will not readily separate generally in the plane of their lap and said hogshead tends to remain closed under internal pressure, and adhesive means having a relatively low tensile strength whereby said other end and said end flap can readily be peeled apart and said hogshead opened for inspection or the like, pull-up means on said oppositely disposed ends for facilitating said expeditious closure after inspection or the like, and a circular lid member secured in each of said open top and said open bottom to form end closures for said hogshead.

3,145,895
DISPLAY CARTON HAVING NON-RECTILINEAR FOLD LINES
Glenn E. Struble, Fairfield, Ohio, assignor to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 3, 1963, Ser. No. 270,451
2 Claims. (Cl. 229—9)



1. A blank for producing cartons adapted for display purposes comprising

a trapezoidal panel having fold lines forming the bases and sides of a regular plane trapezoidal structure,

a first side panel hingedly connected to said trapezoidal panel at one of said sides of said trapezoidal panel,

a second side panel hingedly connected to said trapezoidal panel at the other of said sides of said trapezoidal panel,

a substantially rectangular panel hingedly connected to said second side panel,

said rectangular panel having at least one false score line thereon whereby the carton may be constructed on standard machinery,

a substantially rectangular cover flap hingedly attached to one of the bases of said trapezoidal panel,

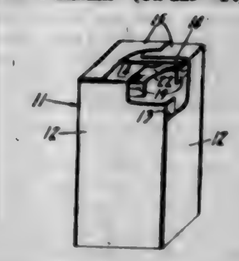
a substantially trapezoidal cover flap hingedly attached to the opposite base of said trapezoidal panel from said rectangular cover flap,

said trapezoidal panel having less distance between its base fold lines than the distance between substantially adjacent and parallel edges of said rectangular panel,

triangular end flaps hingedly attached to each of said side panels at the edge adjacent said trapezoidal cover flap,

and a panel hingedly connected to said first side panel.

3,145,899
CONTAINER FOR FLUID PRODUCTS
Oscar Frederick Ecklund, Barrington, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 28, 1961, Ser. No. 162,769
4 Claims. (Cl. 229—14)



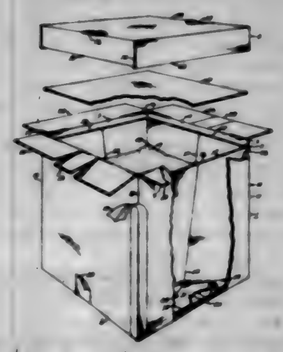
1. A container for fluid products, comprising:

a coated fibre container body having a plurality of end flaps extending and overlapping each other from at least one end of said container body for complete closing and sealing an end thereof;

a cup-like element formed of a liquid impermeable film having a panel wall and a continuous surrounding flange wall, said element disposed within the container and having said panel wall engageable with and secured to an inner wall surface of at least one end flap;

and said flange wall extending inwardly from said end flaps along the interior wall surface of said container body and being engageable with and heat sealed to only said interior container wall surface, and the edge of said flange wall terminating on a line spaced from the juncture of said end flaps with said container body thereby protecting raw edges of said end flaps at the end of the container body against capillary attraction of the fluid contents into the fibre stock.

3,145,908
REINFORCED CONTAINER FOR BULK MATERIALS
Maurice G. Franklin, Muncie, Ind., assignor to St. Joe Paper Company, Jacksonville, Fla., a corporation of Florida
Filed June 5, 1962, Ser. No. 200,083
6 Claims. (Cl. 229—14)



1. A container for storing and shipping bulk materials comprising a multi-sided box having a bottom closure and a plurality of elongated sides, each of said sides being connected to the next along and forming respective wall angles, an elongated bulk-material-containing sleeve positioned within said box and having an upper end portion and a lower end portion, said bottom closure being closingly engaged against said lower end portion of said sleeve, said sleeve at its said upper end portion substantially conforming to the shape of said box at its upper end, said sleeve having a plurality of outwardly extending portions equal to the number of said side wall angles, each said side wall angle nestingly receiving a respective one of said outwardly extending portions thereinto inwardly of said box, said sleeve having a respective fold line spaced approximately intermediate of said outwardly extending portions and extending substantially from said upper end portion to said lower end portion of said sleeve, said sleeve at its said lower end portion bridging inwardly between said outwardly extending portions and being out of contact with said sides between said respective wall angles, said sleeve at its said upper end portion being in contact with said sides between said respective wall angles.

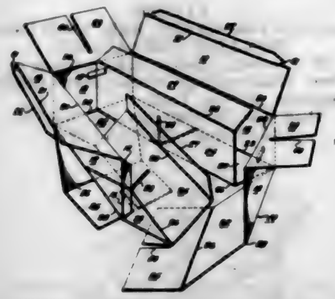
3,145,901
SHIPPING CARTON
William B. Gile, Marion, Ill., assignor to Borg-Warner Corporation, a corporation of Illinois
Filed Apr. 12, 1960, Ser. No. 21,763
3 Claims. (Cl. 229—23)



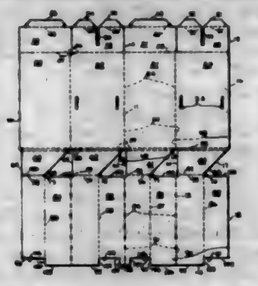
1. In a shipping container, a box-like tubular member having means closing one open end thereof and the marginal edges of the side walls defining the other open end thereof being formed to provide foldable flanges, a closure member inserted and disposed wholly within said other open end of said tubular member and having laterally extending edge flaps engaging the inner surfaces of the side walls of the tubular member, said flanges being folded over and secured to the outer surface of said closure member, said flaps having spaced openings therein aligned with openings in the engaging side wall of said tubular member and a board secured to said closure member adjacent one of said flaps and having the lower surface thereof aligned with the upper edges of said openings.

3,145,903
COMPARTMENTED CONTAINER
Ben M. Noles, Dallas, Tex., assignor to Fleming & Sons, Inc., Dallas, Tex., a corporation of Texas
Filed Dec. 24, 1962, Ser. No. 246,798
3 Claims. (Cl. 229—27)

1. A compartmented container including end and side walls hinged to one another, top and bottom panels hinged to the upper and lower margins of the side walls and coacting to provide top and bottom walls for the container, bottom panels hinged to the lower margins of the end walls and externally overlying the bottom panels hinged to said side walls, and upright partition panels hinged to the end bottom panels and side bottom panels and extending transversely and longitudinally between said side and end walls, respectively, said side bottom panels and the lower portions of the longitudinal partition panels having alined slots for receiving the transverse partition panels, the upper portions of said transverse partition panels having upright slots for receiving the upper portions of said longitudinal partition panels to permit interlocking engagement of said partition panels and provide compartments in the container, and reinforcing panels hinged to and extending laterally from the upper margins of said longitudinal partition panels in overlying engagement with said transverse partition panels and in underlying engagement with the top wall of the container.



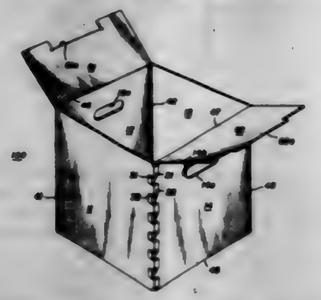
3,145,903
PARTITIONED CONTAINER
Maurice G. Franklin, Jr., Muncie, Ind., assignor to St. Joe Paper Company, Jacksonville, Fla., a corporation of Florida
Filed Mar. 12, 1963, Ser. No. 264,510
11 Claims. (Cl. 229—27)



1. An integral substantially rectangular blank for folding into a four cell rectangular container comprising a top portion, a body portion, a bottom portion and a liner portion, said body portion including four side wall panels and a wall angle fold line between adjacent wall panels, each of said wall panels having an upper edge and a lower edge, said top portion including four top panels having lower edges connected by fold lines to respective said wall panel upper edges, said bottom portion including four bottom trapezoidal panels having upper edges and lower edges, said upper edges of said bottom panels being approximately twice as long as said lower edges of said bottom panels, said bottom panel upper edges being connected by a fold line to and substantially coextensive with respective said wall panel lower edges, said liner portion including four liner panels each having side edges and an upper edge with said upper edge being approximately equal to said bottom panel upper edge, said liner portion having panel hinge lines respectively between adjacent said liner panels and substantially parallel to said liner panel side edges, said liner portion further having crease lines substantially parallel to said panel

hinge lines and respectively spaced substantially midway between each said liner panel side edges, each said liner panel upper edge between one of its said side edge and its said crease line being connected to respective said bottom panel lower edge.

3,145,904
BLANKS FOR READY ERECTION INTO BOX-LIKE CONTAINERS
Kenneth W. Bromley, Hobart, Ind., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 20, 1963, Ser. No. 266,741
10 Claims. (Cl. 229—39)



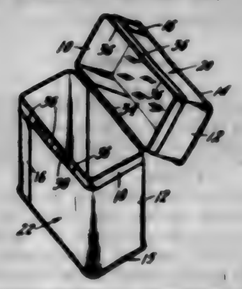
1. A blank capable of ready erection into a box-like container, without the use of tools or external fastener devices; said blank comprising a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin; said blank also comprising a first side wall and a first end wall and a second side wall and a second end wall arranged in the order named in a linear array, wherein said first and second side walls have substantially identical rectangular configurations and wherein said first and second end walls have substantially identical rectangular configurations, a plurality of stiff first tabs carried by one side of said first side wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, first hinge structure joining the other side of said first side wall and the adjacent one side of said first end wall, second hinge structure joining the other side of said first end wall and the adjacent one side of said second side wall, third hinge structure joining the other side of said second side wall and the adjacent one side of said second end wall, a plurality of stiff second tabs carried by the other side of said second end wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, said first and second tabs being disposed in coordinate staggered positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said blank is erected to form the box-like container, said first tabs overlying and supporting the adjacent side portion of said second end wall and said second tabs overlying and supporting the adjacent side portion of said first side wall when said blank is erected to form the box-like container, first and second bottom wall flaps respectively arranged below said first and second end walls, fourth hinge structure joining the bottom of said first end wall and the adjacent top of said first bottom wall flap, fifth hinge structure joining the bottom of said second end wall and the adjacent top of said second bottom wall flap, said first and second bottom wall flaps having complementary configurations and being adapted to cooperate with each other to form a composite bottom wall for the box-like container, complementary structures respectively carried by the bottoms of said bottom wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said bottom wall flaps are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container, a stiff elongated first flange carried by the bottom of said first side wall and disposed in upstanding position with respect thereto, and a stiff elongated second flange carried by the bottom of said second side wall and disposed in upstanding position with respect thereto, said first and second flanges respectively underlying and supporting the adjacent side portions of the formed composite bottom wall of the box-like container.

3,145,905
CONTAINER CONSTRUCTION
George Arlington Moore, 230 E. 48th St., New York, N.Y.
Original application Sept. 26, 1958, Ser. No. 763,747, now Patent No. 3,066,844, dated Dec. 4, 1962. Divided and this application Sept. 6, 1962, Ser. No. 221,715
4 Claims. (Cl. 229—48)



1. A container made of foldable paper sheet material coated on its inner surface with a film of thermoplastic material and having four side walls, each of two opposed side walls of said container having relatively narrow flanges turned back upon the exterior surface of their respective side wall to form turned edges abutting the thermoplastic coated inner faces of the other two side walls, said other side walls each having relatively wide marginal flanges along either edge thereof, said latter flanges overlying said narrow flanges, each of said narrow flanges, the region of the side wall which it overlaps, and the region of said wide flange overlying it being densely compressed to a thickness less than the initial three ply thickness of the side wall and two flanges, the thermoplastic coating on said turned edges being blended under heat and pressure with the thermoplastic film on the adjacent other side wall in order to provide a film-encased seam between each of said compressed regions and the side wall against which it abuts.

3,145,906
CONTAINER WITH INTEGRAL HINGED-COVER
Andrew Lucien Corrinet, Oradell, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 17, 1959, Ser. No. 860,235
2 Claims. (Cl. 229—51)



1. A container comprising a convolutely wound multiply tubular fibre body of substantially rectangular cross section,

said body having lines of severance therethrough disposed in a plane substantially normal to the axis of said body to divide the body into an upper portion and a lower portion,

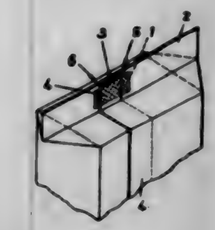
said severance lines extending completely through all body plies inwardly of the outermost ply around all sides and corners of the container,

said severance lines further extending entirely through said outermost ply along two parallel walls and around the four corners of said body,

said severance lines further dividing a major portion of said outermost ply along one of the remaining two parallel walls, a minor portion of said outermost ply between said severance lines defining an uncut portion of said outermost body ply bridging said upper and lower portions for subsequent manual fracture thereof, said outermost ply along the other remaining parallel wall being uncut between said corner severance lines to define an integral hinge connection between said upper and lower body portions,

whereby manual fracture of said uncut bridging portion of the outermost ply of said one remaining wall permits separation of said upper and lower body portions by relative pivotal movement therebetween about said hinge connection of said outermost ply along the other remaining wall to gain access to the container contents.

3,145,907
BAGS
Heinrich Schwinger, Feilbach, Germany, assignor to Firma Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany, a corporation of Germany
Original application Mar. 19, 1958, Ser. No. 722,442. Divided and this application Mar. 21, 1961, Ser. No. 108,689
Claims priority, application Germany, Mar. 23, 1957, H 29,690
2 Claims. (Cl. 229—53)



2. A bag formed of generally rectangular heat sealable sheet material folded to form a tubular body, opposite lateral edges of said sheet material being overlapped, adhesive means securing said edges together to form a longitudinal seam of said body, marginal portions of one end of said sheet being juxtaposed, further adhesive means securing said marginal portions together to form a transverse seam at one end of said body perpendicular to and intersecting the longitudinal seam at one end of the longitudinal seam, the intersecting seams at said one end of the body being formed by overlapping portions of sheet material defining a narrow longitudinally extending channel opening into said body, and a supplemental thermoplastic meltable sealing strip extending transversely of and beyond the overlapped edges of the sheet material at the intersection of the longitudinal and transverse seams, said strip comprising a solid meltable portion which, upon heating, flows to close said channel completely.

3,145,908
SHOPPING BAG WITH PROTECTIVE COVER
Edward B. Smith, 172 5th Ave., Madison 10, N.J.
Filed July 26, 1962, Ser. No. 212,607
4 Claims. (Cl. 229—54)

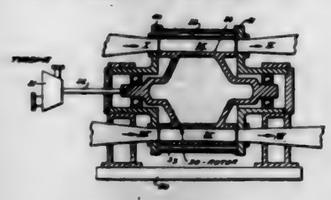


1. In combination with an expansible shopping bag having upstanding side and end walls defining an opening at one end thereof and a bottom closing the other end thereof, said bag also including carrying handles secured to opposite side walls at said open end, a protective cover comprising:

(*a*) a separate sheet of flexible material;

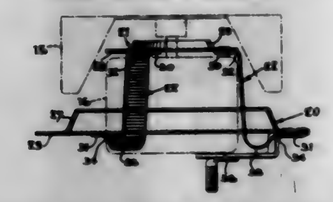
(*b*) said sheet being secured at one end to an inner surface of one side wall of the bag at a point close to the open end of the bag and extending toward the bottom of the bag for a distance greater than the width of the bag with its other end being free.

3,145,909
PRESSURE TRANSFORMER
Frank John Gardiner, Bryn Mawr, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa.
Continuation of application Ser. No. 330,021, Jan. 7, 1953. This application Apr. 26, 1957, Ser. No. 655,441
11 Claims. (Cl. 230—69)



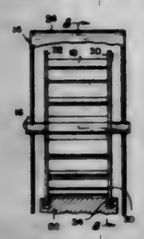
1. A pressure transformer operating on instationary flow phenomena comprising a rotor, said rotor having a plurality of cells in spaced parallel relation about the outer circumference of said rotor and extending from one side of said rotor to a second side of said rotor; means for rotating said rotor around its axis at high speed, said cells each being open at each end; a first stator disc on one side of the rotor; a second stator disc on a second side of the rotor; at least one port in said first stator disc and at least two ports in said second stator disc, said cells registering with said ports, said ports of said pressure transformer being both input and outlet ports for gases that create waves with said cells when said rotor is rotated with respect to said ports, each of said ports having a trailing and leading edge, said trailing edge of one of said ports in said second stator disc being physically positioned and located with respect to said leading edge of said port in said first stator plate, whereby a wave created at said leading edge of said port in said first stator disc will terminate on said trailing edge of one of said ports in said second stator disc.

3,145,910
SPRING MOUNT FOR FAN MOTOR OF VENTILATING EQUIPMENT
John G. Jolly, Cincinnati, Ohio, assignor to Nutone, Inc., Cincinnati, Ohio, a corporation of New York
Filed June 5, 1961, Ser. No. 114,789
6 Claims. (Cl. 230—117)



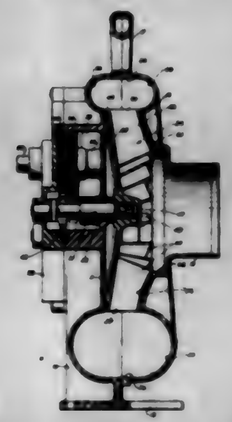
4. A mount for an electrical motor having a drive shaft projecting from one end thereof and a fan on said shaft, said mount means comprising a first ring surrounding the end of the motor opposite the end from which said drive shaft projects, said first ring being concentric to the axis of the motor and being of a size to provide an annular space between the motor and the ring, means to mount said first ring in an opening through which air is to be moved by said fan, a second ring disposed in spaced parallel relation to said first ring and affixed to the end of the motor from which said drive shaft projects, at least three flat leaf springs having first ends affixed to said first ring and second ends affixed to said second ring, said leaf springs arranged symmetrically around said motor and presenting flat faces toward said motor over substantially the full length of said motor, and each of said springs having a bow portion projecting beyond the plane of said first ring in the direction away from said ring.

3,145,911
BLOWERS
Theodor Holmbold, Hedwigstrasse 4, Munich, Germany
Filed July 30, 1962, Ser. No. 213,320
Claims priority, application Germany Sept. 11, 1961
3 Claims. (Cl. 230—125)



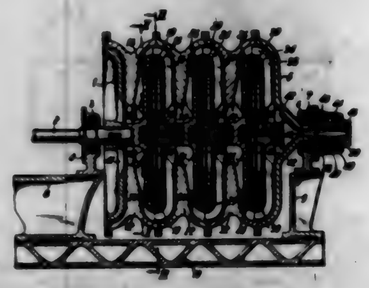
1. A transverse flow blower comprising a casing having an inlet port and an outlet port, a bladed rotor rotationally mounted within said casing between and separating said ports, said rotor including a pair of spaced impervious disc-shaped end plates, and a plurality of elongated blades connected at each end to said end plates, said end plates extending radially beyond said blades a sufficient distance to prevent lateral flow of fluid in the region of the ends of said blades, each of said ports being of a length substantially equal to the spacing of said end plates and arranged to direct the fluid to be blown radially inward on one side of said rotor and direct the blown fluid radially outward on the opposite side of said rotor, and partition means between said inlet and outlet ports adjacent the periphery of said rotor on the side of said rotor traveling in a direction from the outlet port toward the inlet port, said partition means extending radially toward said blades in the space between said end plates a sufficient distance to prevent equilization of pressure in the region of said blade ends, whereby to establish a uniform and high density fluid delivery across the entire axial range of said rotor.

3,145,912
PORTABLE CENTRIFUGAL PUMP
Arthur Weis, Chicago, Ill., assignor to Artag Plastics Corporation, Chicago, Ill., a corporation of Illinois
Filed July 18, 1962, Ser. No. 210,757
3 Claims. (Cl. 230—127)



1. A centrifugal ventilating pump comprising an upright two piece housing made from a light weight noncorrosive material having a front part having an outwardly opening gear casing therein and a rear part mating with said front part, an impeller chamber within said housing parts and having a front planar interior wall portion, an impeller journalled in said impeller chamber and having a rear face abutting said front planar interior wall portion, said impeller chamber also having a rear frusto-conical interior wall portion facing said impeller and spaced axially therefrom and generally sloping outwardly from the outer periphery of said impeller toward the extended axis of rotation of said impeller, a plenum chamber leading into the small diameter end of said frusto-conical interior wall, an inlet leading into said plenum chamber coaxial of the axis of rotation of said impeller, an outlet leading from the bottom portion of said housing generally tangential of said impeller and with said housing defining a cut-off lip extending between said wall portions transversely of said impeller and adjacent the outer margin of said impeller, a scroll extending about said impeller chamber having an inner peripheral wall increasing in radial spacing from the center of said impeller from said cut-off lip to said outlet in the general form of a helix and progressively increasing in cross-section from said cut-off lip to said outlet, a crank journalled in said front part and having a shaft extending within said gear casing, step-up drive gearing in said gear casing and connecting said crank shaft with said impeller, said impeller including a frusto-conical disk generally conforming to the frusto-conical form of said rear interior wall portion and having a plurality of spaced vanes extending axially of and along the frusto-conical face thereof from positions spaced radially outwardly from the center of said disk at the intersection of the projected margin of said inlet with said disk and extending along said disk toward the periphery thereof at retreating angles with respect to the direction of rotation of said disk and having curved outer end portions curved forwardly in the direction of rotation of said impeller and forming impeller buckets impelling fluid from said inlet through said outlet, said vanes having inner edges sloping outwardly from the intersection of the extended margin of said inlet with said impeller to positions adjacent the margin of said plenum chamber and having outer faces conforming to and having close clearance with said frusto-conical face of said rear interior wall portion.

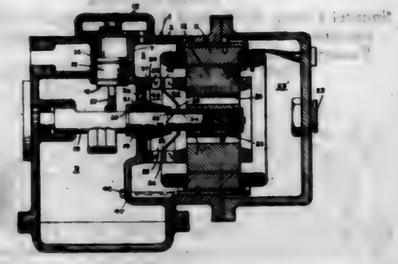
3,145,913
MULTI-STAGE TURBO-COMPRESSORS
Heinrich Dölz, Johannstrasse 31, Seligenstadt, Hesse, Germany
Filed Oct. 30, 1962, Ser. No. 234,113
Claims priority, application Germany Nov. 3, 1961
9 Claims. (Cl. 230—130)



1. A compressor comprising, in combination:
(*a*) a stationary support;
(*b*) a casing mounted on said support for rotation about an axis, said casing defining an axial cavity therein and being formed with discharge means adjacent said axis;
(*c*) a rotor member fixedly mounted in said casing and sealingly engaging the same, said rotor member dividing said cavity into two portions, and defining a radially extending conduit having an orifice adjacent said axis in one of said portions, and another orifice remote from said axis in the other portion of said cavity, whereby a fluid may be centrifugally conveyed from said one portion to said other portion when said casing rotates;
(*d*) guide wheel means for deflecting conveyed fluid from the orifice of said conduit in said other portion toward said axis and said discharge means, said guide wheel means being rotatably mounted in said other portion of said cavity;
(*e*) drive means for rotating said casing about said axis; and
(*f*) fettering means for urging said guide wheel means toward a predetermined angular position relative to said support when said casing is rotated by said drive means.

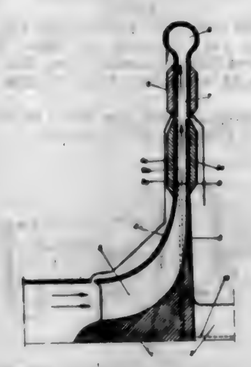
3,145,914
ENCLOSED MOTOR COMPRESSOR UNIT
Andrew J. Nicholas, East Orange, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Aug. 3, 1962, Ser. No. 214,607
7 Claims. (Cl. 230—206)

1. A vapor cooled motor compressor unit of the hermetic type having an enclosing casing and comprising;
(*a*) a partition dividing the casing into a driving compartment and a compression compartment, said latter mentioned compartment holding a supply of pressurized fluid and a liquid lubricant,
(*b*) said motor having a shaft rotatably journalled at said partition and being positioned to form an opposed intake and suction chambers in said casing,
(*c*) said motor having a rotor adapted to pass vaporized fluid from said intake chamber to said suction chamber for cooling motor components,
(*d*) an impeller carried on said motor shaft and being rotatable in said suction chamber, thereby defining a pair of adjacently positioned annular chambers about said shaft,



(*e*) one of said annular chambers being communicated with the compression chamber to receive a stream of lubricant carrying fluid from the latter,
(*f*) the other of said pair of annular chambers being positioned to receive vaporized fluid passing through said rotor from the intake chamber,
(*g*) said respective annular chambers being communicated with the suction compartment and,
(*h*) means forming a lubricant conduit communicating the respective suction and compression chambers for directing lubricant to the latter.

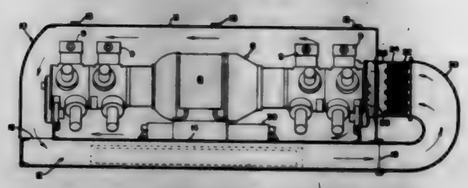
3,145,915
COMPRESSORS FOR FLUIDS
Raymond Hippolyte Firmin Marchal, Paris, and Pierre Servanty, Aulnay-sous-Bois, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company
Filed Nov. 17, 1960, Ser. No. 69,970
Claims priority, application France Nov. 20, 1959
2 Claims. (Cl. 230—209)



1. A centrifugal compressor of the transonic or supersonic type operating by means of a rotary bladed impeller and a stationary diffuser therearound, said compressor comprising two opposite annular disk extensions integral with said rotary bladed impeller and projecting radially outwardly therefrom downstream of the trailing edge of the blades thereof, to define a peripheral annular rotary passage extending radially intermediate said bladed impeller and said diffuser, and means fast with said rotary impeller for extracting calories from the fluid flow discharged by said blades on its way through said annular rotary passage toward said diffuser, said calories extracting means comprising injectors of vaporizable liquid opening

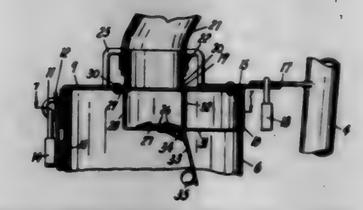
into the peripheral annular rotary passage, whereby the latent heat of vaporization is applied to extract calories from the fluid flow through said passage, said liquid injectors being located on the trailing edge of the impeller blades.

3,145,916
COMPRESSOR
Samuel Leven, Michigan City, Ind., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 7, 1962, Ser. No. 171,640
6 Claims. (Cl. 230—211)



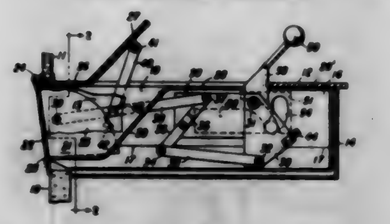
1. A totally enclosed compressor unit comprising: an elongated housing having an inlet opening longitudinally spaced from an outlet opening by substantially the full length of said housing, a compressor and driving means therefor mounted in said housing adapted to deliver an output of compressed air; a heat exchanger unit mounted adjacent said inlet opening for communication with said inlet opening, said heat exchanger unit having coolant tubes mounted therein for cooling air passing through said heat exchanger unit; conduit means contiguous with and extending longitudinally of an outer element of said housing connecting said outlet opening with; external conduit means connecting said contiguous conduit means with said heat exchanger unit to define a closed continuous flow path through said housing, said conduit means, and said heat exchanger unit; and means mounted in said housing for circulating air in said closed flow path.

3,145,917
COIN COLLECTING VEHICLE
Macy C. Ulmer, 5485 Monarch St., Baton Rouge, La.; Emery B. Morel, 469 Landwood Drive, Baton Rouge 6, La.; and Harold A. Deffez, 2145 N. 18th St., Baton Rouge, La.
Filed May 28, 1962, Ser. No. 198,295
3 Claims. (Cl. 232—16)



3. The combinaton of a receptacle, a cover for said receptacle having a flange-like rim of substantial width telescopingly engaging said receptacle, said cover and receptacle having coacting lock means, said cover having an inlet opening therein, a coin discharge preventing means comprising a guard plate having walls projecting upwardly therefrom and supportedly mounted on the inner side of the top of the cover in inwardly spaced relation to the rim thereof, said guard plate having a discharge opening therein disposed in laterally spaced relation to said inlet opening, a shield for said discharge opening projecting upwardly from said plate between said inlet opening in said cover and said discharge opening in said guard plate, and a closure for said discharge opening in said guard plate hingedly mounted on said guard plate in opposed relation to said shield opening to swing inwardly relative thereto.

3,145,918
DEAL DRAWER
Eldon C. Higgins and David H. Crew, Cedar Rapids, Iowa, assignors to Le Febure Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed Aug. 8, 1962, Ser. No. 215,716
10 Claims. (Cl. 232—43.1)

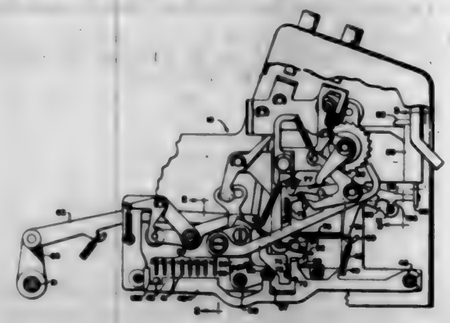


1. In a bank teller window unit including a generally upright outer wall having a generally horizontal counter extending inwardly therefrom, a deal drawer operatively associated with said counter having horizontal movement relative to said counter and wall between a customer access position wherein a forward receptacle portion of said drawer projects outwardly of said wall through an aperture therein and a teller access position wherein said portion is retracted inwardly of said wall, said drawer having a bottom wall and a pair of side walls, the improvement comprising a door at the front of said drawer hinged to said drawer to be movable outwardly and downwardly from its closed position to an open position for access to said receptacle portion and means for movement of said drawer relative to said counter and for coordinate movement of said door relative to said drawer, said means including a linkage having a rock arm pivoted intermediate its ends upon one of said side walls, a first connecting link pivotally connected to both said arm on one side of its wall pivot and to said door and a second connecting link pivotally connected to said arm on the other side of its wall pivot, said pivots being located and operable to permit movement of said second link in one direction to simultaneously move said first link in a first direction to open said door about its hinge axis and to permit movement of said second link in the opposite direction to simultaneously move said first link in a second direction to close said door when said drawer is moved between its customer and teller positions, respectively.

3,145,919
CODE ALTERING DEVICE
Gordon Sim, Northbrook, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Aug. 16, 1962, Ser. No. 217,490
6 Claims. (Cl. 234—22)

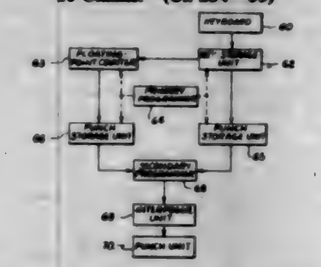
1. In a perforator having a plurality of punches movable to perforate a recording medium,
(*a*) a plurality of punch actuating means, each of said punch actuating means operable to actuate a punch to perforate the record medium,
(*b*) a plurality of signal responsive elements selectively movable in response to an input code combination,
(*c*) means for sensing said signal responsive elements and for selectively operating said punch actuating means in accordance with the input code combination, and

(*d*) means for recognizing a given code combination and invariably operable upon recognition of that particular given code combination to operate at least one additional punch actuating means to perforate



an additional perforation simultaneously with the perforations representing said given code combination thereby recording another code combination instead of the given code combination.

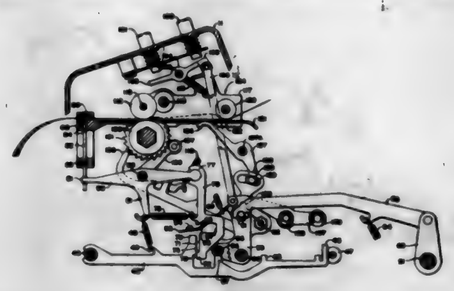
3,145,920
FLOATING-POINT KEYPUNCH MACHINE
Anthony A. Berlinsky, Silver Spring, Md., and Martin J. Brennan and Charles H. Stockton, Washington, D.C., assignors to the United States of America as represented by the Secretary of Commerce
Filed June 19, 1962, Ser. No. 203,664
10 Claims. (Cl. 234—55)



8. In a floating-point machine for recording information, means for generating a number comprising a first group of significant digits and a second group of remaining digits, means for recording only said significant digits, means for counting only said remaining digits, and means for recording the count of said remaining digits.

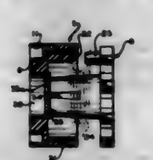
3,145,921
TAPE PERFORATOR
Gordon Sim, Northbrook, and Rolf A. Thiesemann, Chicago, Ill., assignors to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Aug. 16, 1962, Ser. No. 217,458
6 Claims. (Cl. 234—102)

1. In a record perforating mechanism, a cylindrically operable power means, a plurality of elements permutatively movable and providing input information, a plurality of sensing means individual to said elements for positive actuation by said power means in one portion of its cycle and releasable by said power means in another portion of its cycle to sense the position of an associated element, a latching surface on each of said sensing means, a plurality of reciprocable punch pins for punching a recording medium, and a plurality of latch pawls for latching engagement with said latching surfaces on said sensing means, each of said latch pawls connected to a punch pin and each imparting a force to its punch pin



when latched to the latching surface on said sensing means.

3,145,922
CALCULATING MACHINE REGISTER
Walter L. Lechner, New Providence, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Jan. 23, 1962, Ser. No. 168,218
2 Claims. (Cl. 235—1)

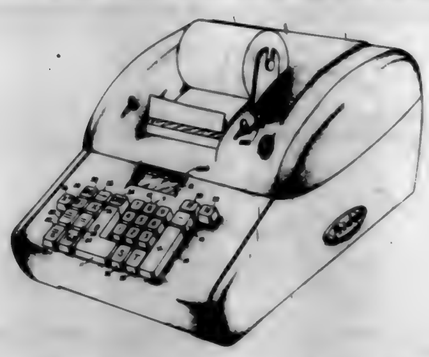


1. In a computing device having a register comprising an ordinally arranged series of register units, the improvement wherein at least one of said register units comprises:
a register wheel member having a hub portion including a hub opening extending completely through said hub portion;
a second member including a tubular axle adapted to extend through said hub opening to rotatably support said wheel member;
a limited portion of said axle having normally a larger transverse maximum dimension than the minimum transverse dimension of said hub opening;
said limited axle portion being resiliently compressible to a smaller maximum dimension to provide for passage thereof through said hub opening;
means for compressing said limited axle portion to said smaller maximum dimension; and
shaft means extending through and upon which said tubular axle is rotatably mounted.

3,145,923
MULTIPLIER CONTROL MECHANISM FOR A SHORT CUT MULTIPLICATION MACHINE
Harold J. Chall, Castro Valley, Calif., assignor, by mesne assignments, to Friden, Inc., San Leandro, Calif., a corporation of Delaware
Filed Sept. 18, 1961, Ser. No. 138,645
11 Claims. (Cl. 235—60)

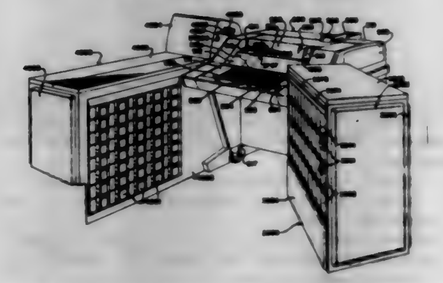
1. In a multiplying calculating machine, separate means for registering a digit of each order of a multiplier, control means responsive separately to each digit so registered for controlling digitation in accordance with said digits order-by-order, said control means including means for counting such digitations, the improvement wherein said counting means provides a counting overstroke after the

last count for each said order of the multiplier, and means responsive to said overstroke for initiating the transfer of



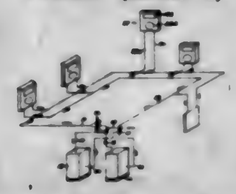
the control of the multiplication to the digit of another order so registered.

3,145,924
AUTOMATIC MEDIA SORT, DATA PROOF AND DISTRIBUTION MACHINES
Willard C. Rosener, Albert J. Green, Chester G. Robbins, Marvin D. Frost, and Charles T. Donovan, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Sept. 5, 1962, Ser. No. 221,459
35 Claims. (Cl. 235—60.13)



1. In a machine of the class described, the combination of a control unit for receiving both item amounts and pieces of media containing those amounts; and a remotely situated sorter unit operably associated with said control unit and having table means for receiving the pieces of media entered initially into the control unit; said control unit comprising manipulative means for singular entering of each item amount to be entered into the machine, throat means for singular entering of each piece of media to be entered into the machine, totalizer means for receiving each item amount entered into the machine through said manipulative means, table means for guiding and supporting within said control unit each piece of media entered into the machine through said throat means, recording means associated with said table means for recording on each piece of media while supported thereby the related item amount thereof as received within said totalizer means; said sorter unit media receiving table means being aligned with said control unit table means for receiving media therefrom; and said control unit further comprising transport means associated with its said table means and effective for transferring therealong and to said sorter unit table means each piece of media received through said throat means after the item amount thereof has been recorded thereon by said recording means.

3,145,925
SPACE AIR CONDITIONING SYSTEM AND THERMOSTATIC CONTROL THEREFOR
Paul F. Swenson, Cleveland Heights, and Myron T. Cooperrider, North Royalton, Ohio, assignors to Iron Fireman-Webster Inc., Cleveland, Ohio, a corporation of Maryland
Continuation of application Ser. No. 862,102, Dec. 28, 1959. This application Aug. 28, 1963, Ser. No. 305,580
3 Claims. (Cl. 236—1)

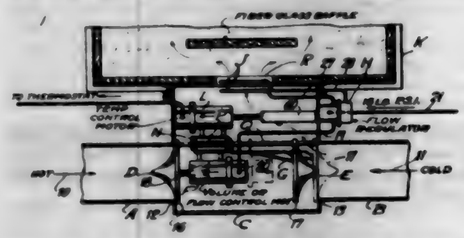


1. A space air conditioning system comprising a two-faced continuous barrier of high heat conduction ability, means for circulating air from said space along one face of said barrier and back to said space, a first source of water under pressure heated to a temperature required for conditioning said air, a second source of water under pressure cooled to a temperature required for conditioning said air, means for selecting said first or said second source of water to be circulated along the other face of said barrier to condition said air, a main water valve means including a pilot valve means and a thermostat means for together controlling the opening or closing of said main water valve to supply said selected water as required along said other side of said barrier to condition said air, said pilot valve means including a pilot valve biased by a pilot valve lever spring toward its position of opening the main water valve means, said thermostat means including a frame, a blade lever resiliently hinged at one end to said frame, a J-shaped bimetal blade resiliently hinged, adjacent the bend which is between its long and short ends, to said frame near said blade lever hinge, said thermostat including a temperature setting edge cam slidably positioned alongside said blade lever with the short end of said bimetal blade forming a cam follower for said cam to indicate the selected heating or cooling water being circulated through said main water valve, and the bimetal blade being arranged to urge the long end of said bimetal blade away from said short end and said blade lever about said hinges when the temperature of said bimetal increases, said thermostat including an actuator rod in tension between said blade lever and said pilot valve lever, said blade lever and said bimetal blade cooperating with mechanical detent means for actuating said blade lever by said bimetal blade when the cam is set for heating and the air temperature in said space increases sufficiently to move said pilot valve lever by said blade lever to its position of closure of said main valve, and said bimetal blade and said blade lever including cooperatively formed magnetic detent means for attracting said blade lever by said magnetic detent means when the cam is set for cooling and the air temperature in said space is reduced sufficiently to move said pilot valve lever by said blade lever to its position of closure of said main valve.

3,145,926
HIGH PRESSURE COLD AIR-HOT AIR MIXING BOX FOR A VENTILATING, HEATING AND AIR CONDITIONING SYSTEM
James C. O'Day, Port Washington, N.Y., assignor to Air Devices Inc., New York, N.Y., a corporation of New York
Filed Nov. 4, 1960, Ser. No. 67,429
8 Claims. (Cl. 236—13)

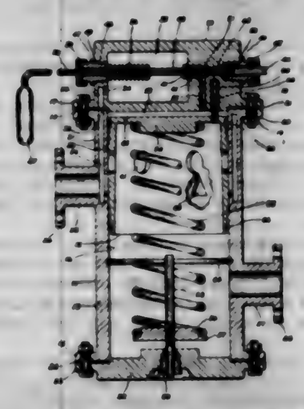
1. A constant volume flow air mixing box having a thermostat control and a total flow control, opposed

aligned hot air and cold air inlets, valves for said inlets, a first movable motor, actuating directly the hot inlet valve, having a cylinder and a piston, a connection from the piston to the hot inlet valve, a bracket supporting said cylinder, a connection from said bracket to said cold inlet valve, guide members carrying said bracket permitting movement of the cylinder, a second movable motor having a second cylinder and a second piston, a second bracket carrying said second cylinder, said second bracket being mounted on said guide members, spring means to press said brackets together, a fluid pressure connection



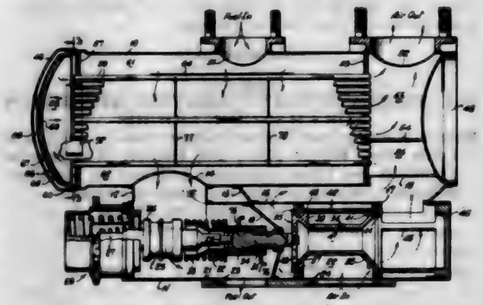
from said thermostat control to said second movable motor, a fluid pressure connection from said total flow control to said first movable motor, said second motor serving to move said brackets as pressed together and thereby move said first motor and said connections and said valves and said spring means being compressed by action of said first motor to permit separating movement between said brackets when the said hot valve is moved against its inlet and is stopped against further movement whereby the other valve may be moved toward its seat.

3,145,927
STEAM TRAP
Bernard H. Prouty, 2211 Colfax Ave. S., Minneapolis, Minn.
Filed June 18, 1962, Ser. No. 203,221
12 Claims. (Cl. 236—54)



1. A temperature regulated thermostatic steam trap comprising a cylinder body, a piston movable in said cylinder body and a thermal head regulating movement of the piston; said body including an inlet and a discharge outlet, an annular chamber in communication with said inlet and surrounding the bore of the cylinder body receiving said piston, and a plurality of ports from said chamber to the interior of the cylinder body, said ports being normally closed by said piston; said thermal head including a chamber, an inlet port to said chamber in communication with said annular chamber in said cylinder body and an outlet port from said chamber to the cylinder head space above said piston, and a temperature sensitive pilot valve between said chamber and outlet port; said piston being generally tubular and closed at one end and open at the other, a bleeder orifice in the closed end of said piston, a plurality of ports in the wall of said piston, said ports matching in number and longitudinal alignment the ports in the cylinder wall, means to normally maintain the ports of said piston out of communication with said cylinder wall ports, but said piston being movable longitudinally to bring said ports into direct communication.

3,145,928
VALVE FOR HEAT EXCHANGER ASSEMBLY
Kenneth O. Parker and Joseph P. Boland, Dayton, Ohio, assignors to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Oct. 13, 1958, Ser. No. 766,813
2 Claims. (Cl. 236—99)



1. A temperature responsive fluid flow controlling valve mechanism for use with a heat exchanger, including a casing providing a thermostat chamber and a valve chamber, a partition separating said chambers, means to flow a first fluid from a heat exchanger through said thermostat chamber, a thermostat therein responding to the changing temperature of said first fluid, means to flow a second fluid through said valve chamber to a heat exchanger including two longitudinally spaced apart outlet openings therefor in said casing and an intermediate inlet opening, means defining circular flow openings intermediate said inlet opening and respective outlet openings, a hollow spool valve having spaced apart frusto-conical portions respectively engageable with corresponding sides of said circular flow openings and open at its ends to intercommunicate said outlet openings with one another through the hollow portion of said spool valve, said valve being longitudinally movable simultaneously to open and close said circular flow openings, and a connection from said thermostat through said partition to said valve to adjust said valve by action of said thermostat.

3,145,929
TRACK SPIKE WITH ANGULARLY RELATED NECK WEBS
Clifford H. Sandberg, 5000 West Hills Drive, Topeka, Kans.
Filed Jan. 9, 1962, Ser. No. 165,174
13 Claims. (Cl. 238—371)

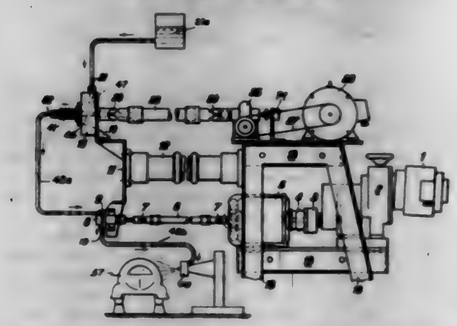
11. A railroad track spike for use with a metal tie plate resting on a wooden tie for the purpose of minimizing sliding movement of the tie plate on the tie under the action of railroad traffic, said tie plate having a hole; said spike comprising a shank, a neck and a head, said spike being made from a channel section of uniform cross section, the channel section having angularly related back and side webs, said neck webs being bent outwardly to

greater dimension than the shank webs to elastically bond in said tie plate hole, said head having slits at the corners between its back web and side webs to form back and side



wings, said head back wing being bent outwardly to overlie the flange of a railroad rail, said head side wings being bent outwardly to form shoulders under which a spike-removing tool may be engaged.

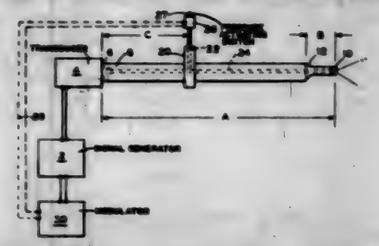
3,145,930
ELECTROSTATIC PAINT SPRAYING APPARATUS FOR CHANGING LIQUIDS
Helmut Herklotz and Walter Leichtle, Neu-Isenburg, and Louis Otto, Walter Platz, and Herbert Wiegelmann, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt, Germany
Filed Jan. 5, 1961, Ser. No. 80,944
5 Claims. (Cl. 239—15)



1. In an electrostatic paint spraying apparatus, means for changing from one spray liquid to another comprising a bracket, a liquid selector head and a liquid pump mounted upon said bracket, a spray nozzle adapted to be electrically energized connected through said pump to said selector head, insulators for holding said bracket, a high speed motor connected by an insulated shaft to said liquid pump for driving said pump to pump rinsing liquid to said selector head, an overrunning clutch joined to said high speed motor, a slow variable speed motor connected through said clutch to said high speed motor for driving said liquid pump while spraying paint, and a selector head insulated drive shaft joined to said selector head.

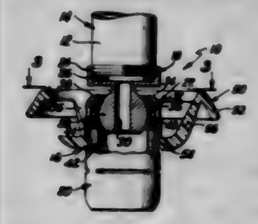
3,145,931
LIQUID ATOMIZERS GENERATING HEAT AT VARIABLE RATE THROUGH THE COMBUSTION OF LIQUID FUEL
Alfred Frank Cleall, London, England, assignor to Babcock & Wilcox Limited, London, England, a British company
Filed Feb. 19, 1960, Ser. No. 9,827
Claims priority, application Great Britain Feb. 27, 1959
2 Claims. (Cl. 239—102)

1. A liquid fuel burner having a pressure atomizing orifice tip adapted to produce a variable output through variation of fuel pressure to said orifice at normal rates of fuel output from the burner and having a means for imparting to the burner tip vibrations of ultrasonic frequency, and means responsive to the fuel pressure to



actuate said vibration means only below a predetermined pressure for enhancing the fineness of the fuel particles during relatively low rates of fuel output from the burner.

3,145,932
SWIVEL AERATOR
Joseph R. Mango, Midlothian, Ill., assignor to Waste King Corporation, Los Angeles, Calif., a corporation of California
Filed Nov. 27, 1962, Ser. No. 240,359
4 Claims. (Cl. 239—587)

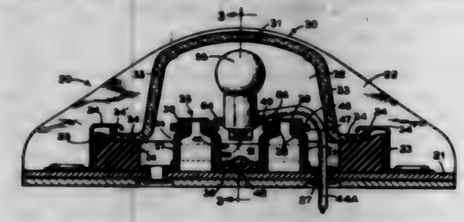


1. In a variable-orientation fluid discharge apparatus, the combination of:
(*a*) mounting means connectible to a source of fluid under pressure in fluid communication therewith;
(*b*) a fluid discharge device;
(*c*) a ball and socket joint interconnecting said discharge device and said mounting means in fluid communication and providing for variably orienting said discharge device relative to said mounting means;
(*d*) annular handle means for varying the orientation of said discharge device relative to said mounting means;
(*e*) connecting means securing said handle means to said discharge device with said handle means encircling and spaced radially outwardly from said ball and socket joint and encompassing a zone which includes the center of said ball and socket joint; and
(*f*) said connecting means including an element secured to said handle means and clamped between two threadedly interconnected members secured to said discharge device.

3,145,933
SHOCK ABSORBING MOUNTINGS FOR VEHICLE LAMP COMPONENTS
John B. Dickson, Kew Gardens, N.Y., assignor to Signal-Stat Corporation, Brooklyn, N.Y., a corporation of New York
Filed Mar. 16, 1961, Ser. No. 96,181
4 Claims. (Cl. 240—8.2)

1. An automotive vehicle lamp comprising, in combination, a housing including a base having a substantially

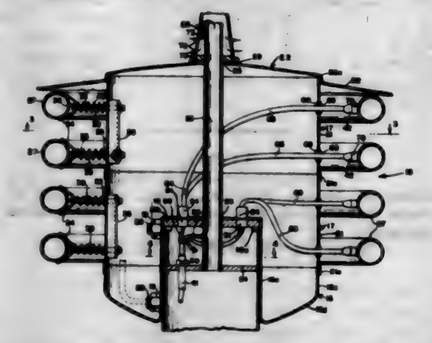
flat upper surface portion; a one-piece shock isolating mounting of relatively soft and flexible rubber-like material including a laterally extending substantially flat base portion of substantial lateral extent overlying and engaging said flat upper surface portion, and at least one hollow nipple integral with end extending upwardly from said base portion in a direction substantially normal thereto and having upwardly and inwardly converging side walls; a lamp socket member formed with an aperture receiving the upper end of said nipple and supported solely by engagement with said converging side walls; whereby said lamp socket member is resiliently supported by said nipple and isolated thereby from shocks received by said base; a lens enclosing said lamp socket member and having a rim engaging said substantially flat base portion of said socket isolating mounting; and retaining means engaging said lens adjacent said rim and holding said lens in compressing relation with said substantially flat base portion and assembled to said lamp base; said substantially flat base portion of said shock isolating mounting acting as a sealing gasket for said lens; said housing base being relatively elongated; said retaining



means comprising a pair of Z-shaped elements extending laterally across said base adjacent opposite ends thereof, and having upper flanges extending toward each other and over the substantially flat base portion of said shock isolating mounting, said upper flanges being spaced somewhat from the upper surface of said substantially flat base portion of said shock isolating mounting; said lens being relatively elongated and including a pair of laterally extending lips adjacent its rim, one at each end of said lens, and an upwardly and outwardly extending hollow housing portion intermediate said lips; the distance between the inner ends of said upper flanges of said pair of retaining elements being slightly greater than the length of said hollow housing portion adjacent said lip plus the width of one lip; whereby said lens may be assembled with said base by engaging one lip thereof under one of said upper flanges and sliding said lip outwardly until the other lip clears the inner edge of the other flange so that it may be engaged beneath the latter, the lens being then moved in the reverse direction to engage the other lip beneath the other flange to center the lens relative to said retaining means.

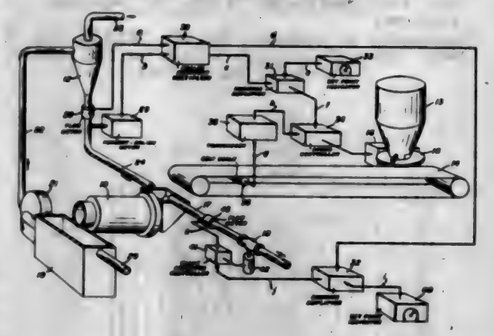
3,145,934
LIGHTING DEVICE
Kenneth F. Guggenmos, Wasted, Minn.
Filed Jan. 22, 1962, Ser. No. 167,821
2 Claims. (Cl. 240—25)

2. A lighting device comprising a stack of separable units including, in order from bottom-to-top, a base, at least one modular light fixture unit and a cover, fastening means extending through the stack and fastened to the base and to the cover for holding them together in stacked relationship, said base being in the shape of a pan having an upper cylindrical marginal edge of a prescribed outside diameter, said pan having an open axial sleeve extending upwardly from the bottom thereof for receiving the upper end of a support post, each modular light fixture unit comprising a circular cylindrical tube having a greater diameter than length and terminating in upper and lower edges located in planes normal to the axis of the tube, said tube having an outside diameter corresponding to the prescribed outside diameter of the base, said tube outside diameter being uniform except that throughout a narrow margin around the tube at the lower edge thereof the tube diameter is increased sufficiently so that the inside surface of the tube as said margin will be capable of a slip fit onto the end of another surface having said prescribed outside diameter for assemblying a plurality of said tubes end-to-end and assemblying a tube on said



base, a plurality of lamp supports mounted on the tube so as to project radially outwardly therefrom in arcuately spaced relation and in a plane substantially normal to the tube axis, the outer ends of each of said supports being shaped to engage and support a torus-shaped lamp, and a cover of greater diameter than the modular light fixture tube, said cover having a circular upwardly extending cylindrical indentation of a diameter slightly larger than said prescribed diameter, the upper edge of the uppermost modular light fixture unit being slip-fitted into said recess, the lower most modular light fixture unit being slip-fitted onto the upper cylindrical marginal edge of the base.

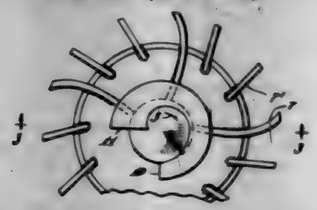
3,145,935
METHOD AND APPARATUS FOR CONTROLLING A GRINDING MILL
James H. Wilson, Franklin Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 28, 1961, Ser. No. 162,746
9 Claims. (Cl. 241—24)



1. In a closed-circuit wet-grinding process in which new solids and water components feed to a grinding mill, a pulp composed of solids and water goes from the mill to a hydraulic classifier, an overflow product is recovered from the classifier, and an underflow product composed of solids and water returns from the classifier to the mill for

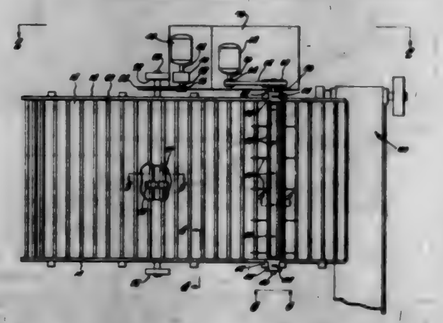
further grinding of the solids component thereof, a control method comprising determining individually the quantities of the returning solids and water components of the underflow product before it reaches the mill, setting the total quantity of solids and the solids-to-water ratio desired in the mill, developing a signal proportionate to the difference between the quantity of returning solids and the setting for total solids, developing another signal proportionate to the difference between the quantity of returning water and the desired quantity determined by the ratio setting, and adjusting the quantities of new solids and water components feeding to the mill in accordance with said signals to maintain both the total quantity of solids entering the mill and the solids-to-water ratio in the mill substantially constant as long as the settings remain unchanged before actual changes take place in the load inside the mill.

3,145,936
PULPING APPARATUS
William W. Monks, Pittsfield, Mass., assignor to E. D. Jones Corporation, Pittsfield, Mass., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,303
5 Claims. (Cl. 241—46)



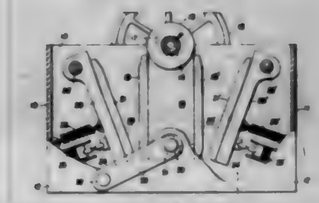
1. In a machine for pulping material, a rotor having a free end and outwardly projecting fins to produce circulation of material away from the axis of the rotor, and a spiral vane extending axially from said end, the spiral progressing in the direction opposite to the direction of rotation from the rotor toward the tip of the vane so as to tend to pump material away from said end along said axis.

3,145,937
APPARATUS FOR CONVEYING AND SEPARATING MATERIAL
Ralph E. Scovel, Shingle Springs, and Benjamin G. Petrucci, Sacramento, Calif., assignors to Dano of America, Inc., Sacramento, Calif., a corporation of California
Continuation of application Ser. No. 752,818, Aug. 4, 1958. This application July 3, 1961, Ser. No. 125,026
5 Claims. (Cl. 241—101)



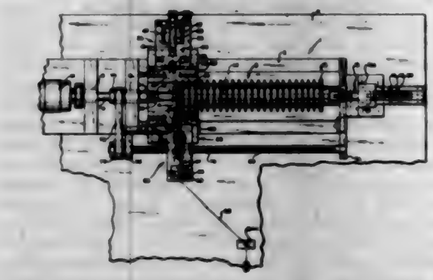
1. Apparatus for conveying a loose mass of solid materials including wires, rags, and the like, the apparatus comprising a conveyor on which the material is carried, means for driving the conveyor so that material on it is carried from a first point to a second point, an elongated drum disposed over the conveyor to extend transversely to the direction of conveyor movement, the drum surface defining an elongated groove, a plurality of longitudinally spaced and outwardly extending spikes arranged in a continuous row across the surface of the drum, the groove being disposed adjacent and parallel to the row of spikes, means for rotating the drum to move the spikes through material on the conveyor, cutting means comprising a guide wheel, a frame carried by the guide wheel, and a cutting wheel carried by the frame, the guide wheel being shaped to fit into the groove, and means for moving the cutting means along the groove to cut away wires, rags, and the like which have become wrapped around the drum.

3,145,938
DUAL JAW CRUSHER
Harold C. Pollitz, Cedar Rapids, Iowa, assignor to Iowa Manufacturing Company, Cedar Rapids, Iowa
Filed Apr. 3, 1963, Ser. No. 270,303
2 Claims. (Cl. 241—140)



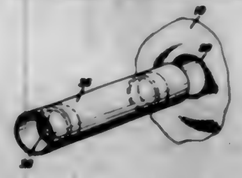
1. In a dual jaw crusher having a pair of spaced, upright frame walls, a generally upright movable jaw provided with a pair of oppositely facing, generally upright crushing surfaces fixed thereon extending transversely between said walls, said movable jaw being suspended adjacent its upper end for gyratory movement on an axis having an eccentric movement about a fixed axis extending transversely between said walls, a pair of stationary jaws, each having a crushing surface fixed thereon and disposed transversely between said walls in opposed, spaced relation to substantially the entire expanse of one of said movable jaw surfaces, each pair of opposed stationary and movable jaw surfaces converging downwardly in order to define together with said frame walls a crushing cavity at each side of said movable jaw, the improvement comprising means to impart a reciprocating, substantially linear movement to the lower end of each of said movable jaw surfaces along a path parallel to said fixed axis and transversely of both of said stationary jaw surfaces during gyration of the upper end of said movable jaw, said means comprising a pair of rigid link bars, each pivoted at one end thereof to one transverse end of said movable jaw about a first common axis disposed parallel to said fixed axis adjacent the lower ends of said movable crushing surfaces and at the other end thereof to the adjacent one of said frame walls about a second common axis laterally disposed from and parallel to said first axis, the distance between said first and second axis together with the distance between said first axis and any point upon the path of said eccentric axis being greater than the distance between any such point and said second axis during operative movement of said movable jaw, and the included angle between a plane through said fixed axis and said first axis and a plane through the latter and said second axis being $[180-(90\pm a)]$ degrees, where a is an angle greater than zero but less than 90 degrees.

3,145,939
SPOOLING APPARATUS
George W. Mason and Bruce D. Gee, Otisville, and John J. Kaczmarczyk, Mount Morris, Mich.; said Kaczmarczyk assignor to said Mason
Filed Oct. 27, 1958, Ser. No. 769,810
12 Claims. (Cl. 242—35.5)



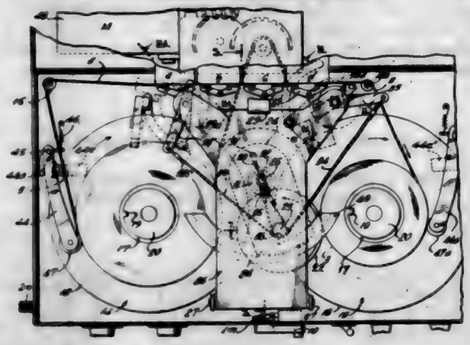
1. Apparatus for winding a length of filamentary material from a source of said material on each of a plurality of spools, said apparatus comprising means for supporting a plurality of spools side by side in a row; means for rotating said spool supporting means; a carriage; means mounting said carriage for movements along said row in a direction from one end to the other; guide means interposed between said spool supporting means and said source to guide material from said source to a selected one of said spools; means connected to said carriage for indexing the latter along said row in increments of distance corresponding to the distance between adjacent spools; means interposed between said source and said guide means for measuring the length of material drawn from said source; means interconnecting said measuring means and said indexing means operable in response to the passage of a predetermined length of material past said measuring means to effect incremental movement of said carriage in said direction; deflector means mounted on said carriage adjacent said spool supporting means and having a part engageable with material passing to said selected one of said spools to deflect said material in the direction of movement of said carriage; and means interconnecting said measuring means and said deflector means for operating the latter in response to the passage of said predetermined length of material past said measuring means.

3,145,940
SILENT TOILET TISSUE ROLL
Alvan R. Henry, Mocking Bird Valley, Louisville, Ky.
Filed May 15, 1962, Ser. No. 194,948
16 Claims. (Cl. 242—55.2)



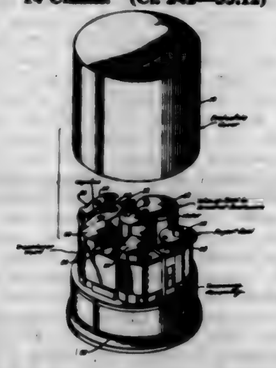
1. In combination with a paper roll holder structure rotatably mounting a roller and a roll of paper having a hollow core mounted on said roller, journal noise absorbing means mounted on said roller for absorbing sounds developed in response to relative rotation between the holder structure and the roller and roll silencing means disposed between said roller and the hollow core for absorbing sounds developed in response to relative rotation between said roll of paper and the roller.

3,145,941
RECORDER-REPRODUCERS
Barton A. Proctor, Larchmont, N.Y., assignor, by direct and mesne assignments, to Proctor Dictating Machine Corporation, New York, N.Y., a corporation of New York
Filed Jan. 26, 1961, Ser. No. 87,050
7 Claims. (Cl. 242—55.12)



1. In combination, a pair of fixedly located shafts, a pair of circular reels mounted on said shafts and adapted to receive recording tape with one end thereof partially wound on one of said reels and the other end partially wound on the other of said reels, a driving member constructed and arranged to have a first driving position, and a second driving position, motor means for turning said driving member in either direction in said first and second positions, and means whereby said driving member in one or the other of said driving positions is yieldingly urged into frictional driving engagement with a roll of tape on one or the other of said reels to wind the tape on either reel and is free to move away from the center of the reel as the roll of tape builds up thereon, said driving member having a neutral position in which it is out of driving engagement with the tape on either of said reels and means for biasing the driving member to said neutral position.

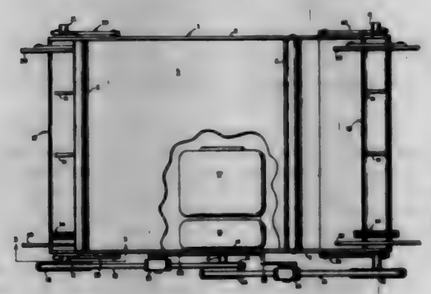
3,145,942
SHOCK PROOF TAPE HANDLING APPARATUS
George R. Lackey, North Hollywood, and George R. Crane, Santa Monica, Calif., assignors to Litton Systems, Inc., a corporation of Maryland
Filed Feb. 9, 1961, Ser. No. 88,123
14 Claims. (Cl. 242—55.12)



1. A compact shock and vibration proof tape recorder comprising a generally circular casing, take-up and payout reels mounted adjacent one-another for receiving and

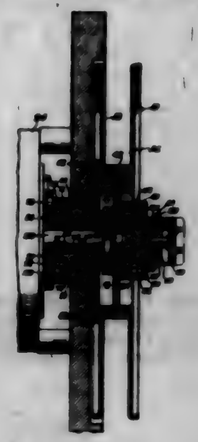
discharging tape adjacent the periphery of said casing, at least one transducer head mounted to engage said tape near the periphery of said casing, a driving capstan mounted to engage said tape between said head and said take-up reel, and means including tape guides extending between said reels, said head and said capstan for supporting said tape so that no unsupported lengths of tape greater than one-half inch are present, and the density of component spacing being such that no component is spaced from the next adjacent component by more than the width of said tape.

3,145,943
ELECTRIC TAPE WINDING AND DISPLAY DEVICE
Tom S. Grant, 5201 Waltham, Fort Worth, Tex.
Filed Dec. 6, 1962, Ser. No. 242,680
8 Claims. (Cl. 242—67.4)



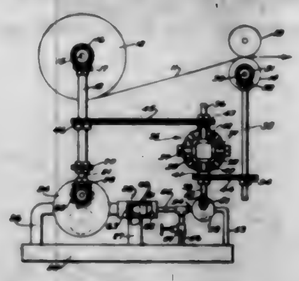
1. In a device for use in scanning and checking selected portions of a continuous record in rolled form in which statistical information is printed on a continuous strip, web, or tape, the combination of a housing having two parallel sides, a partially open front end, a partially open rear end, and a planar, upwardly and rearwardly inclined top portion providing a work surface, a pair of rollers extending between the sides of the housing adjacent opposite ends of said work surface for supporting a length of tape intermediate its ends for selective longitudinal movement in either direction across said work surface, a pair of spools each having an end portion of said tape wound thereon and having a central shaft arranged axially thereof, in frictional engagement therewith, and extending beyond its ends, said shafts extending between opposite sides of the housing adjacent its ends, below said rollers, and having their end portions removably and rotatably connected, respectively, to the sides of the housing, an electric motor in the housing having speed reducing gears and having a shaft extending transversely thru one side of the housing intermediate its ends, and drive means including clutch means for drivingly connecting the motor shaft selectively to an end portion of one of the first mentioned shafts whereby said first mentioned shafts are adapted to be driven selectively to thereby move the tape across the work surface in either direction as the tape is wound and unwound on the spools, the spools each having a fixed end flange rigidly connected to an end portion of the corresponding shaft and a removable, adjustable end flange surrounding the spool and adjustable longitudinally relative thereto to adapt the spool for use with tapes of selected predetermined widths, and having a plurality of pairs of transverse grooves in its exterior surface, the grooves of each pair lying in a common plane, in parallel relation to each other, spring tensioned means on said last mentioned end flange embracing the grooves of one pair in selective, yieldable engagement therewith, a cam actuated clutch mechanism on one of the spools, between said first mentioned end flange and the adjacent end of the spool, for frictional engagement of the spool with the inner periphery of a preformed roll of tape loosely surrounding the spool, said cam actuated clutch mechanism being operable in response to torque applied to the corresponding first mentioned shaft in one direction only and consisting essentially of a pair of cam surfaces on opposite sides of said first mentioned shaft and a pair of cam follower elements each pivotally connected to the adjacent end of the spool and adapted to be urged outwardly in opposite directions in response to rotative movement of said shaft relative to the spool in one direction only, and an elongated spacer bar arranged along one side of one of the spools for engagement with the inner periphery of a roll of tape surrounding the spool, during the initial rolling thereof, to space the inner periphery of said roll apart from the peripheral surface of the spool and to determine the inside diameter of said roll, said spacer bar being removably inserted in a corresponding groove in the spool having a depth less than the width of the spacer bar in a radial direction and having the side thereof opposite said groove straddled by a corresponding notch in the inner periphery of said last mentioned end flange.

3,145,944
MECHANICAL APPARATUS FOR MOUNTING A REEL ON A SUPPORT HUB
Robert A. Pendleton, Dedham, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 14,691
6 Claims. (Cl. 242—68.1)



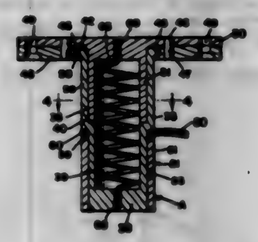
1. The combination comprising a reel, a support hub assembly for said reel, pneumatic means connected to said support hub assembly for applying a fluid pressure to a single chamber formed directly by surfaces of said reel and support hub assembly and positioned between said reel and said support hub assembly so that said pressure will act directly on said surfaces to firmly couple the reel to the support hub assembly for rotation therewith, and manually operable valve means connected to and positioned to be an integral part of said support hub assembly and being adapted when operated to relieve said fluid pressure for decoupling said reel from said support hub assembly, said valve means having an actuator therefor positioned on said hub assembly to be accessible through said reel.

3,145,945
TENSION CONTROL APPARATUS
Richard Le Baron Bowen, Jr., 35 Fessenden Road, Barrington, R.I.
Filed Feb. 18, 1963, Ser. No. 258,754
9 Claims. (Cl. 242—75.47)



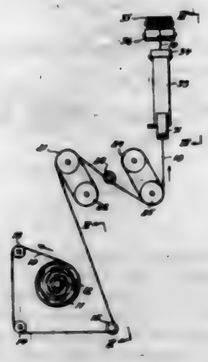
1. In an unwinding apparatus, a roll of material, means for withdrawing said material, a brake mechanism for applying a drag on said roll, a driving connection between said roll and said brake mechanism, a differential gear train comprising three rotatable power transmitting elements, a driving connection between the first of said elements and said means for withdrawing said material, a driving connection between the second of said elements and said roll, a fluid pump, a control valve in the discharge of said pump for producing back pressure, a driving connection between the third of said elements and said fluid pump, and means whereby the pressure produced by said pump controls the amount of drag applied by said braking mechanism.

3,145,946
SPRING DRUM REELING DEVICE
Joseph O. Eagle, 108 Hillcrest Drive, Orinda, Calif.
Filed June 5, 1961, Ser. No. 114,936
4 Claims. (Cl. 242—107)



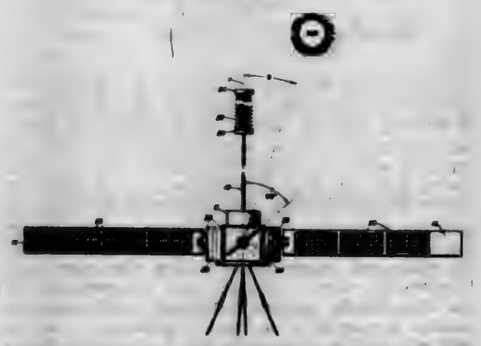
1. A device for coiling a cord on a drum comprising a base having a flange, a shaft extending outwardly from said flange, a cylinder mounted over said shaft for rotary movement thereon, said cylinder having an inside end adjacent said base and a top end remote from said base, said cylinder and said shaft being hollow to provide aligned bores, a spring mounted within the bore of said shaft and cylinder, means connecting the spring to the top of the cylinder and the end of the shaft, a bore adjacent the flange, the inside end of said cylinder being flanged outwardly to form a circular flange, a collar mounted over said base and engaging the circular flange of said cylinder to prevent removal of said cylinder from said shaft, a cord, and means connecting the cord to the outer periphery of said cylinder substantially midway between its top and inside ends.

3,145,947
UNWINDING STRAND FROM A TRAVERSE-WOUND PACKAGE OR THE LIKE
Robert K. Stanley, Plymouth Meeting, Pa., assignor to Techniservice Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 13, 1962, Ser. No. 216,447
10 Claims. (Cl. 242—147)



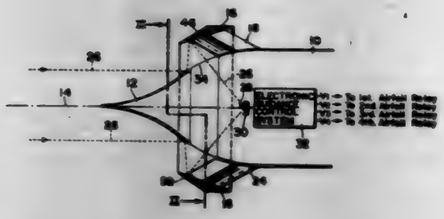
1. In the unwinding and forwarding of a strand along a path from a source of supply to a use or windup location, the improvement comprising pulling the strand away from the source and passing it through a succession of alternating straight and curved portions of the path, each interconnecting curved portion having a fixed axis about which it curves, there being a plurality of the interconnecting curved portions freely movable along their axes, whereupon the adjacent straight portions are shiftable laterally and variable in length.

3,145,948
SATELLITE ROTATION BY RADIATION PRESSURE
Richard B. Kershner, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 9, 1962, Ser. No. 208,654
8 Claims. (Cl. 244—1)



1. The method of imparting rotation to a stabilized orbiting satellite, which comprises the steps of
(*a*) projecting flat-sided blades from the satellite,
(*b*) angulating the blades in the same spin sense with respect to the spin axis of the satellite, and
(*c*) pointing the spin axis in the direction of the sun, whereby solar pressure will impinge on the blades.

3,145,949
MISSILE GUIDANCE SYSTEM
E. Quimby Smith, Jr., 714 Roderick St., Oxnard, Calif.
Filed June 27, 1957, Ser. No. 668,574
9 Claims. (Cl. 244—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. In a target-seeking projectile of the type adapted to utilize radiant-energy rays emanating from said target for the purpose of providing information as to the location of the latter with respect to the flight course of the projectile, said projectile having at least one aerodynamic directional control member in the form of a rotary-symmetrical vane mounted exteriorly of the body of said projectile for universal movement with respect thereto and spaced radially therefrom so as to define an annular air passage therebetween, the inner surface of said vane being of such nature as to reflect radiant-energy rays reaching said surface to a common focal region within the body of said projectile.

3,145,950
WING LIFT INCREASING DEVICE
Edvins Circenis, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Jan. 22, 1962, Ser. No. 167,696
3 Claims. (Cl. 244—42)



1. In a slotted flap structure on a wing, a flap member constituting a part of the trailing edge of a fixed portion of the wing, said flap member being mounted for deflection in relation to the fixed wing portion about a fixed axis extending within the contour of its trailing edge, and being spaced from said fixed wing portion so as to define an airflow slot therebetween, means operative to effect such deflection of the flap member, a closure member for the slot which is pivotally mounted about a fixed axis extending within said contour of the trailing edge so as to lie substantially entirely within the upper end portion of the slot when the flap member is disposed in its undeflected position in relation to the fixed wing portion, a pair of links pivotally interconnecting the flap and slot closure members so as to cause the latter to be pivotally responsive to the deflection of the former, said links being articulated with respect to one another about a floating pivot, and cam means interconnecting one of the links with the fixed wing portion so that the response of the closure member is delayed temporarily until the flap member reaches a predetermined partial deflection.

3,145,951
BRIDLE AND PENDANT ARRESTMENT DEFLECTOR
Edward A. Ambrosano, Sr., Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 24, 1963, Ser. No. 283,121
6 Claims. (Cl. 244—63)
(Granted under Title 35, U.S. Code (1952), sec. 266)



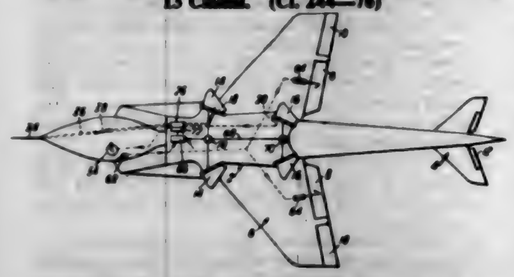
1. An aircraft launching shuttle for a landing surface comprising:
(a) a carriage adapted to be movably supported beneath said landing surface;
(b) a hook secured to said carriage and adapted to extend above said landing surface;
(c) and deflector means pivotally secured to said hook movable into a first position to provide a forwardly extending ramp rising from said landing surface to the top of said hook for negotiating said hook from the front thereof, and movable into a second position over said hook for permitting a connection to be made therewith.

3,145,952
BRIDLE AND PENDANT ARRESTMENT DEFLECTOR
Edward A. Ambrosano, Sr., Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1963, Ser. No. 286,432
8 Claims. (Cl. 244—63)
(Granted under Title 35, U.S. Code (1952), sec. 266)



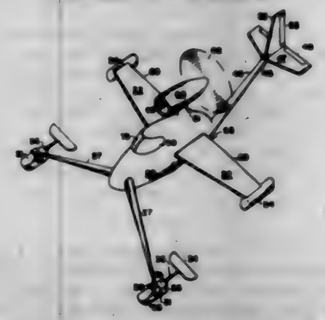
1. In an aircraft launching surface having a launch track and a shuttle hook extending from said track above said surface, means for guiding a bridle over said hook comprising a ramp hingedly secured to said surface adapted to be raised at one end to the top of said hook while said hook is stationary adjacent said ramp and said bridle is retracted thereover.

3,145,953
AIRCRAFT
Ralph March Denning and Alan Michael Lewis, Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed June 29, 1962, Ser. No. 206,233
Claims priority, application Great Britain July 6, 1961
13 Claims. (Cl. 244—76)



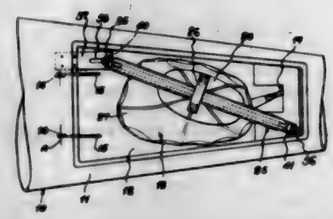
1. An aircraft including propulsion means, a wing for generating lift in response to forward motion of the aircraft, jet means for exerting a thrust having a lift component, means for increasing lift for take-off after a short ground run by modification of the action of at least one of the wing and the jet means, first detecting means responsive to the air speed of the aircraft, second detecting means responsive to the thrust of the jet means, and output means for distinguishing, prior to the said modification of action, between safe and unsafe conditions for initiating the modification, by receiving signals from the detecting means, weighting those signals by predetermined quantities and deriving from the weighted signals an indication of the sum of the potential lift of the wing and of the jet means corresponding to the said modification, and comparing that indication with a predetermined datum indication of the lift necessary for safe take-off of the aircraft.

3,145,954
VEHICLE FOR NON-AIR, SEMI-AIR, AND FULL-AIR SUPPORTED TRAVEL
Robert W. Jenny, 10441 SE. 24th Place, and Robert O. Lewis, Jr., 6907 Hazelwood Lane, both of Bellevue, Wash.
Filed Mar. 7, 1962, Ser. No. 178,136
7 Claims. (Cl. 244—100)



4. A marine vehicle supported both at rest and at low speeds by the buoyancy of water, and supported at intermediate speeds by dynamic forces of both water and air, and supported at high speeds by the dynamic forces of air, comprising: an aeromarine fuselage serving as the structural body of the vehicle to receive all directional, propulsion, braking and lift control means; lateral extending aeromarine negative lift inverted wing members mounted low on the aeromarine fuselage, aft of the center of gravity of the marine vehicle; forward, lower and lateral pivotal negative lift inverted wing stabilizing sponsons serving as the transverse fulcrums of the entire marine vehicle strut mounted to the bow of the aeromarine fuselage; rear anti pitch control stabilizers attached to the aeromarine fuselage; an aerodynamic directional control means pivotally mounted on the fuselage; hydrodynamic directional control means pivotally mounted on the fuselage, and a thrust producing power plant installed on the fuselage.

3,145,955
PILOT CHUTE DEPLOYMENT SYSTEM
Oscar W. Sepp, Jr., Merrick, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York
Filed Aug. 2, 1962, Ser. No. 214,250
12 Claims. (Cl. 244—113)

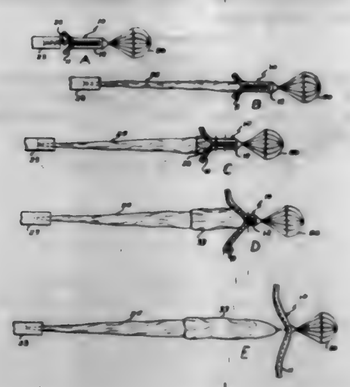


7. In combination,
(a) a plane having a compartment with a door movable into open position to form an exitway between one end of the door when open and said compartment,
(b) a parachute adapted to be stowed in said compartment, and
(c) means for deploying the parachute from said compartment automatically upon the opening of said door, and comprising
(d) a spring strap connected to the apex region of said parachute,
(e) means for releasably holding the ends of the spring strap to the inner side of the door with the spring strap tensionally loaded while the door is closed and extending towards said one end of the door,
(f) means for automatically releasing the end of the spring strap remote from said one end of the door when said door opens to a predetermined position to cause said spring strap to recoil towards the other held end of said spring strap located closer to said one end of the door, and
(g) means for releasing said other end of the spring strap from said door automatically as said spring strap recoils towards the latter end of the spring strap to cause said spring strap to be propelled out of the compartment through said exitway, carrying with it said parachute.

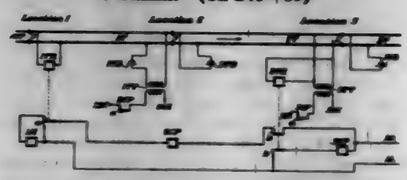
3,145,956
PARACHUTE DEPLOYMENT CONTROL ASSEMBLY
Harold E. Widdows, Albuquerque, N. Mex., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 8, 1963, Ser. No. 314,824
5 Claims. (Cl. 244—147)

1. A parachute canopy deployment control assembly capable of being ejected from a high-speed vehicle, comprising: a plural-panel deployment bag having a canopy compartment and a suspension line compartment separated by a plurality of locking flaps; a first set of lacing means for interconnecting said panels in the region of said canopy compartment, a second set of lacing means for interconnecting said panels in the region of said suspension line compartment; a parachute canopy having a

plurality of radial ribbons, located within said canopy compartment; breakable means for tying a portion of said radial ribbons to each panel of said deployment bag; a plurality of suspension lines connected to the parachute canopy; means including said suspension lines for retaining said locking flaps until said suspension lines are substantially fully extended; means connected to certain of said suspension lines for cutting said first set of lacings when said suspension lines are substantially fully extended; and means for cutting said second set of lacings when said parachute assembly is ejected from the vehicle.



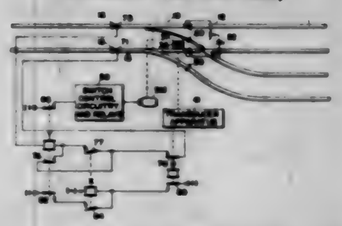
3,145,957
RAILWAY TRAFFIC CONTROLLING APPARATUS
Clifford D. Ihrig, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 15, 1962, Ser. No. 230,352
6 Claims. (Cl. 246—39)



1. Apparatus for supplying train control energy to the rails of a stretch of railway track including a succession of signal blocks, said apparatus comprising, in combination:

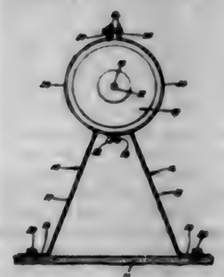
(*a*) a series of track sections in each said signal block,
(*b*) a track circuit including a normally energized track relay for each said track section,
(*c*) a control relay associated with the entrance end of each signal block,
(*d*) a code following relay associated with the exit end of each track section,
(*e*) a source of direct current energy associated with the exit end of each signal block;
(*f*) a two conductor line circuit extending between the ends of each of said signal blocks, each said circuit including in series said source of energy associated with the respective signal block, the windings of the control relay and at least one of the code following relays associated with the signal block, and front contacts of the track relays for the track sections in the signal block, such apparatus included in the line circuit being so proportioned that so long as the winding of the control relay is included in the line circuit only such control relay becomes picked up in response to energy from the source associated with the signal block;
(*g*) means including a back contact of the track relay for each track section in one of said signal blocks, except the last track section in such block, for bypassing the winding of the control relay in said line circuit for that signal block, the apparatus included in the line circuit being so proportioned that the remaining relays included in such circuit become picked up in response to the source of energy for the signal block when the winding of such control relay is bypassed;
(*h*) a slow release relay associated with the exit end of said one signal block,
(*i*) a control circuit for said slow release relay including a front contact of the code following relay associated with the last track section in said one signal block;
(*j*) means controlled by said slow release relay for interrupting the steady energization of the line circuit for said one signal block and energizing such line circuit by pulses of energy at a first or second code rate according as the control relay associated with the next succeeding signal block is picked up or released, respectively;
(*k*) means responsive to the code following operation of each of the code following relays in said one signal block, except the code following relay associated with the last track section in such block, for supplying pulses of train control energy across the rails of the exit end of the track section with which each respective code following relay is associated; and,
(*l*) means, including a back contact of the track relay for the last track section in said one signal block and a front contact of the control relay associated with the next succeeding signal block, for supplying pulses of train control energy at said first code rate across the rails of the exit end of such last track section.

3,145,958
DETECTION SYSTEM FOR RAILWAY CARS
Alfred V. Duxbury and Edward J. Sexton, Jr., Rochester, N.Y., assignors to General Signal Corporation, a corporation of New York
Filed May 1, 1961, Ser. No. 106,727
2 Claims. (Cl. 246—169)



1. A system for detecting the presence of a railway car traversing a track switch in a classification yard wherein said track switch is included in an electrically isolated detector track section and is operated to its opposite positions by a power switch machine, said system comprising detecting means positioned to be effective intermediate the ends of said track section to detect a car traversing the track switch, a detector relay operatively connected to said detecting means effective to be operated to one position when a car is being detected and operated to its other position when the track switch is vacant of a car, a track relay, a checking relay, a normally closed track circuit means including a source of energy connected across the rails of said track section and the winding and a front contact of said track relay and a contact of said detector relay in its one position to cause said track relay to remain energized when said track section is vacant of a car, circuit means including said checking relay effective to energize said checking relay to shunt said front contact of the track relay when said detector relay is in its other position, stick circuit means including a front contact of the checking relay effective to hold said checking relay energized when said track relay is deenergized and said detector relay is in its other position, and circuit means including a front contact of said track relay effective to render said switch machine operative, whereby the operation of the detector relay from one position to the other by a car traversing the track switch is required to energize said track relay upon the vacating of the track section and track switch by a railway car.

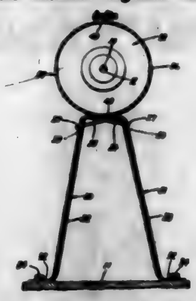
3,145,959
MOTOR MOUNTING ARRANGEMENT
Robert S. Langdon, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Mar. 8, 1962, Ser. No. 178,388
3 Claims. (Cl. 248—13)



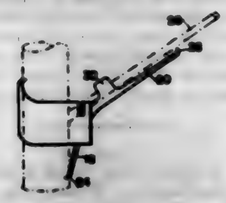
1. An electric motor, resilient mounting means for supporting said motor in spaced relation on a base, said mounting means comprising a pair of single piece sheet members each including an elongated inclined leg section arranged to be secured at one end to the base, an arcuate clamping section having one end fixedly joined to the other end of the associated leg section, and a locking section also fixedly joined to said other end of said associated leg section and extending generally transversely thereto, said locking sections being arranged to interengage each other thereby to secure said members together, said arcuate clamping sections being disposed in an oppositely facing relationship when said members are secured together clamping said motor therebetween, means for fastening said clamping sections together at their other ends whereby said clamping sections, locking sections, and leg sections cooperate to support the motor in a rigid manner and limit the transmission of torsional vibrations from the motor to the base.

3,145,960
MOTOR MOUNTING ARRANGEMENT
Robert S. Langdon, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Mar. 8, 1962, Ser. No. 178,389
6 Claims. (Cl. 248—13)

1. A resilient motor mounting for supporting an electric motor in spaced relation on a base, comprising a pair of members formed of sheet material each including an elongated leg section arranged to be secured to said base at one end, an arcuate clamping section secured to the other end of an associated leg section and a bracing section also secured to said other end of said associated leg section and extending transversely to said leg section, each bracing section being arranged to engage the leg section of the other member thereby to secure said members together, said clamping sections crossing one another adjacent said other ends of the leg sections and being disposed in an oppositely facing relationship when said members are secured together for clamping said motor therebetween, and each of said clamping sections having a portion adjacent its associated leg section formed as a leaf spring, whereby said clamping sections act as a resilient system when clamped around said motor.

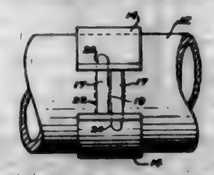


3,145,961
BRANCH ATTACHING DEVICE
Lucius Clive Holtzendorff, 101 W. Moore St., Valdosta, Ga.
Filed Sept. 4, 1962, Ser. No. 221,673
5 Claims. (Cl. 248—42)



1. A device for attaching a branch to a tree trunk, comprising a member enclosing the trunk having a tang adapted to engage the trunk, said member also having notches therein and a second member having lugs for engaging and pivoting in said notches and having a downwardly projecting leg with a sharp tang thereon for engaging the side of the tree trunk, said member having an outwardly extending portion provided with means for gripping and holding a branch.

3,145,962
PIPE STRAP
Orian C. Kinderf, 500 Mountain Ave., Piedmont, Calif.
Filed Sept. 17, 1962, Ser. No. 223,931
4 Claims. (Cl. 248—68)



1. A pipe strap comprising a pair of strap elements adapted for connection to a support bracket at one end, said elements being curved adjacent their opposite ends to embrace a pipe between them, and interconnecting means at said opposite ends including a toothed tang projecting from an edge of an opening in each strap element into the corresponding opening in the other strap element to confine them to positions where their teeth are in interlocking engagement.

3,145,963
DISPLAY HOOK
Leon H. Best and John F. Backaer, Galva, Ill., assignors to John H. Best & Sons, Inc., Galva, Ill., a corporation of Illinois
Filed Aug. 6, 1962, Ser. No. 214,980
6 Claims. (Cl. 248—223)



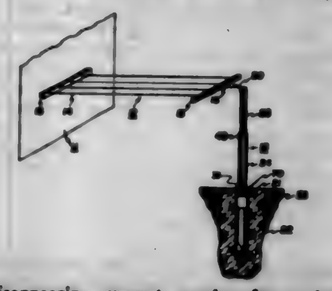
1. A display hook adapted to be supported in an aperture of a perforated board and comprising a strip of bent rigid material including a head section and a hook section, said head section including an upwardly opening substantially U-shaped bight to be located at the front of the board to enable an item at the front of the board to be suspended by the concavity thereof, said hook section including a downwardly opening substantially C-shaped bend defining a seat adapted to set in the opening in the board, said hook section including a straight portion extending downwardly as an extension of the C-shaped bend, and a crook at the end of said extension bent downwardly and inwardly toward the head section and adapted to abut the back of the board below the opening therein to inhibit escape of the display hook.

3,145,964
HYDRAULIC MINE PROP
Karl Maria Groetschel, Stolzestrasse 44, Bochum, Westphalia, Germany
Filed May 9, 1963, Ser. No. 279,168
Claims priority, application Germany May 12, 1962
12 Claims. (Cl. 248—354)



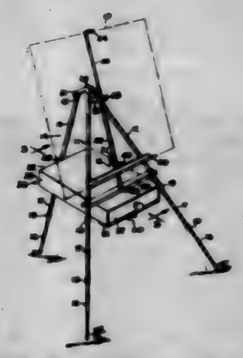
1. In a hydraulic mine prop using a pressure medium acting upon a piston to provide a prop setting force, the improvement comprising: means for increasing the setting force of a prop and including a hydraulic pressure assembly having a short stroke in comparison to the stroke of a prop, said assembly enclosing an end of such prop but being operable independently thereof, said assembly having a piston formed as a receptacle for embracing the end of such prop, said piston having a piston area which is substantially larger than the piston area of such prop.

3,145,965
TELESCOPING SUPPORTS
Donald P. Stein, 5196 S. Keonland Court, Littleton, Colo.
Filed Nov. 29, 1961, Ser. No. 155,766
2 Claims. (Cl. 248—408)



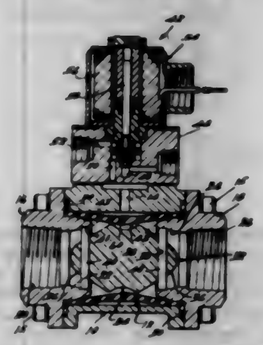
1. A disappearing support member for a clothesline comprising a first tubular member arranged to be embedded below the surface of the ground with its upper opening at about ground level, a plurality of tubular telescoping members of similar but progressively smaller cross-sectional dimension and each shorter in length than said first tubular member, said plurality of tubular members being telescoped in said first tubular member, support means adjacent to and spaced above the lower end of said first tubular member arranged to support said plurality of tubular members above the lower end thereof, each member including cooperative means with the adjacent members to prevent relative twisting and to allow axial sliding movement therebetween, a spring lock arranged internally and at the lower end of each of said plurality, means on the upper end of each member outside another member cooperative with said spring lock for locking respective tubular members in extended position, clothesline fastening means pivoted to the top of the innermost tubular member and arranged to be moved from an operative position outside the wall of said tubular member and to an inoperative position internally of the wall of said tubular member, inwardly extending stop means on the lower portion of each tubular member for supporting the tubular member inside and each arranged to support the inner tubular member in telescoped position in said first member, and a cap covering the opening of said first tubular member.

3,145,966
PORTABLE EASEL
Harry I. Landon, % Landon Co., Inc., Delavan, Wis.
Filed Mar. 21, 1962, Ser. No. 181,352
6 Claims. (Cl. 248—464)



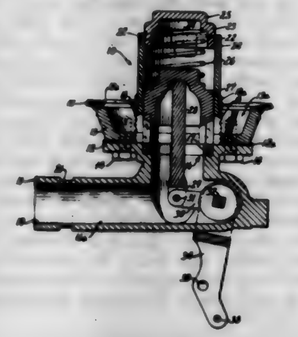
1. In an easel, the combination of, two front legs disposed in a common plane and joined together with their upper ends close together and their lower end portions diverging downwardly, a rear leg pivotally connected at its upper end to said front legs to form a collapsible tripod, said rear leg swinging toward and away from said plane to collapse and open said tripod, a box-like compartment narrower than the spacing of said front legs near the lower ends thereof with its front end projecting between and beyond the front legs near said lower ends, a horizontal bar spanning and secured to said front legs above said compartment, a hinge connecting the upper side of said compartment to said bar to swing the compartment about a horizontal axis between a horizontal position and an upright position in which the compartment is disposed behind said front legs, said rear leg being offset rearwardly from said plane a distance greater than the thickness of said compartment generally paralleling said plane when said tripod is collapsed whereby the compartment fits into the space between the front legs and the rear leg, said upright position with the rear leg extending along the underside of the compartment, a collar pivotally connected to the rear end of said compartment and slidable along said rear leg as the compartment swings up and down, a stop on said rear leg engageable with said collar to limit downward swinging of said compartment when the latter is horizontal whereby the compartment forms a truss bracing said tripod in the open position, and a clamp mounted on the underside of said compartment engageable with said rear leg to grip the latter when the tripod is collapsed thereby to maintain the tripod collapsed.

3,145,967
ELASTIC SLEEVE VALVE
Lawrence H. Gardiner, 7313 Associate Ave., North Olmsted 9, Ohio
Filed Apr. 27, 1962, Ser. No. 190,574
1 Claim. (Cl. 251—5)



A flow control valve comprising a pair of axially aligned, spaced, oppositely oriented, like end plugs, a valve body having a bore therethrough and secured in fixed surrounding relation to one end of each of said plugs, an annular imperforate rubber sleeve surrounding said ends of said plugs and the space therebetween and disposed within said body so that the intermediate portion of said sleeve disposed between said plugs is radially expansible and contractible, each of said end plugs having an axial bore therethrough communicating with the interior of said rubber sleeve, a core aligned with and disposed between said plugs and having an annular valve seat thereon of smaller diameter than the normal inner diameter of said sleeve, said core having a transversely disposed bore at each end thereof, a pin secured in each of said transverse bores, the ends of said pins being supported on the inside inner ends of said plugs to locate said core and valve seat coaxially with and centrally of said sleeve and so as to define an annular, normally open, unobstructed flow path between said sleeve and said core, the intermediate portion of said sleeve being of reduced diameter relative to the end portions thereof and normally out of contact with said valve seat, said valve seat cooperating with the intermediate reduced diameter portion of said rubber sleeve in its contracted condition so as to limit the inward and axial flexure thereof under the fluid pressure to which said sleeve is subjected, said intermediate portion of said sleeve being radially contractible into contact with said valve seat in response to a predetermined pressure differential on the interior and exterior of said sleeve so as to close said valve and prevent fluid flow from the inlet to the outlet, the space between said sleeve and tubular body forming an expansible pressure chamber to which fluid under pressure is supplied for controlling the expansion and contraction of said sleeve, said valve seat comprising an annular concave surface on the exterior of said core and said sleeve including a relatively thick annular section at the central portion thereof, the outer surface of said core being of such shape that the material of said sleeve in any given plane normal to said flow path is uniformly contracted in its closed position.

3,145,968
SUMP DRAIN VALVE
Robert D. Marx, Valley Stream, N.Y. (952 Meeker Ave., Brooklyn, N.Y.)
Filed Aug. 9, 1961, Ser. No. 130,348
10 Claims. (Cl. 251—144)

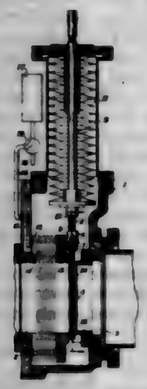


1. A sump drain arrangement for use in draining sump products from a truck tank and the like comprising a drain valve unit having a casing with a port therein, a passageway communicating with said port and a valve adjusted to selectively close said passageway, said valve including a valve head and a stem on the end of which said head is pivotally supported and said casing being provided with a resilient seal adapted to be contacted by said head; access means on said casing adapted for release from a remote point for providing access to said valve head, said head being oriented in said casing and said casing being configured whereby release of said access means permits removal of said valve head and said seal from said casing without the need to remove said unit from said tank, collector chamber and valve receiving means adapted to be secured to and depend from the sump section of said tank and to delimit the drain hole in said sump section, said chamber means having an opening for receiving said valve unit, said casing port being in communication with said drain hole via said chamber; and lever control means coupled to said valve head for controlling drainage through said passageway.

3,145,969
GATE VALVE HAVING FLUID PRESSURE SEAL AND LIMIT STOP MEANS

Tiemo von Zweck, Burlington, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts

Filed July 3, 1961, Ser. No. 121,635
4 Claims. (Cl. 251—172)

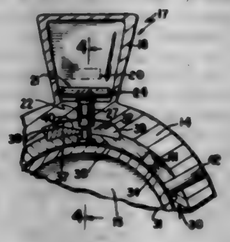


1. A high vacuum gate valve for use in a particle accelerator vacuum system comprising in combination a metal housing having two apertured walls, a metal gate, means for advancing said gate into and out of a position intervening between the apertures in said walls, gate-stop means supported so as to abut the advance edge of said gate at three places when said gate is in said intervening position and thereby prevent further advance movement of said gate, two of said places of abutment on said advance edge comprising two lateral surfaces so disposed as to prevent lateral movement of said gate, said third place of abutment being so disposed as to prevent downward movement only of said gate, a knife-edge mounted on one of said walls about the aperture therein, a metal chamber having flexible boundaries mounted on the interior of the other wall so that said chamber lies about the aperture therein, and means for introducing a fluid under pressure into said chamber to effect expansion thereof and cause said gate to be pressed against said knife-edge.

3,145,970
OVER-SPEED SHUT-OFF MECHANISM FOR TURBINES AND THE LIKE

Eduard Treitel, Nutley, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed July 31, 1962, Ser. No. 213,809
9 Claims. (Cl. 253—59)

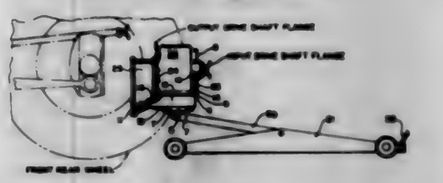


1. In a fluid pressure medium operated turbine, the combination of a casing section for housing a turbine rotor; a concentric annular casing section at one side of said rotor casing section; a valve on said annular casing section including an inlet and an outlet in fluid flow communication with said inlet and said rotor casing section, a valve member for shutting off flow communication between said inlet and said outlet, and a radially extending slidable member for operating said valve member; a hollow drum mounted for rotation in said annular casing section and having an annular inner wall; a radially extending shear pin having an outer end adjacent the inner end of said valve operating member for normally preventing rotation of said hollow drum; a turbine rotor in said rotor casing section driven by medium supplied through said valve outlet; a second drum mounted within said hollow drum and connected for rotation with said rotor and having an annular outer wall in close proximity to said inner wall with sufficient clearance therebetween for free rotary movement of said outer wall with respect to said inner wall, said second drum being so constructed and dimensioned that when said rotor is driven at an excessive speed said outer wall is expanded to cause said outer wall to engage said inner wall and exert a force thereon tending to rotate said hollow drum; and a circumferentially extending cam on the outer periphery of said hollow drum for shearing said shear pin and for effecting actuation of said valve operating member by displacement of the outer end portion of said shear pin upon rotation of said hollow drum to position said valve member to shut off the supply of medium through said valve outlet and to said rotor.

3,145,971
SUPPORT PLATE FOR A DIFFERENTIAL AND POWER DIVIDER ASSEMBLY

Charles O. Bobbitt, 518 E. 3rd St., New Albany, Ind.

Filed Feb. 18, 1964, Ser. No. 346,386
5 Claims. (Cl. 254—133)



1. For use with a floor jack of the saddle type in positioning a differential gear case and power divider housing assembly of a tandem rear axle differential combination for removal from, or installation of said assembly on, said tandem rear axle differential combination;

(*a*) a power divider housing and differential gear case assembly support plate comprising: a rectangular base member, two side members, one end member and attachment means adapted to engage with a jack saddle in which

(*b*) said base member has a flat planar surface for support of the base of the housing of said power divider and has an arcuate opening at its front end;

(*c*) said side members are disposed vertically from said base plate and tapered downwardly at the front end to cooperate with said arcuate opening in cradling said power divider housing and differential gear case assembly in a position for easy separation of the power divider housing from the differential gear case;

(*d*) said end member being disposed at the rear of the base plate and rising vertically therefrom and containing a bolt hole registerable with a bolt hole on the housing of said power divider, and

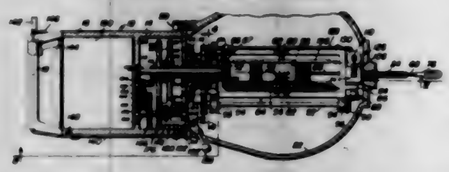
(*e*) a bolt capable of projecting through said bolt hole of said end member to threadably engage with said power divider housing;

whereby said power divider housing and differential gear case assembly support plate may be secured to the saddle of a floor jack and secured to said differential gear case and power divider housing assembly with one bolt so that the said assembly is balanced thereon through the supporting action of said base plate, the cradling action of said side members and the securing action of the said end member in combination with said bolt.

3,145,972
PORTABLE POWER FISH CABLE TOOL

Gerald C. Sweeney, 915 N. 15th St., Yakima, Wash.

Filed July 17, 1962, Ser. No. 210,328
16 Claims. (Cl. 254—134.3)



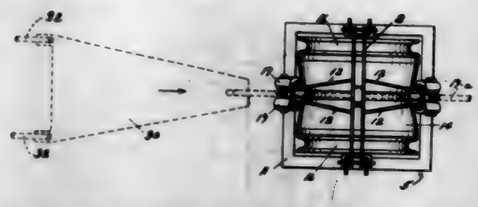
1. A portable cable tool for moving a cable through a conduit comprising a housing, a reel drum, a cable secured at one end to said reel drum and having an object securing free end portion exterior of said housing, a reel drum assembly rotatably mounted within said housing, said reel drum being rotatable mounted within said assembly, the axis of rotation of said assembly being normal to the axis of rotation of said reel drum, a cable feeder means mounted on said assembly for pulling said cable from said reel drum and feeding it exteriorly of said housing and through a conduit, the axis of rotation of said assembly passing through said feeder means, and selective means for operating said feeder means and rotating said assembly to simultaneously axially rotate said cable and feed it exteriorly of said housing, said selective means including means to release said cable from control by said feeder means and rotate said drum to wind up said cable thereon and move the object secured to said free end portion through a conduit, said reel drum assembly comprising an assembly bed, a drum axle mounted on said bed, a driven bevel gear secured to said drum, a driving bevel gear meshed with said driven bevel gear, a shaft axially aligned with the axis of rotation of said assembly, said driving bevel gear being mounted on said shaft, a hollow shaft concentric about said driving bevel gear shaft, a stationary gear concentric with both said shafts fixedly mounted on said housing, said assembly bed being secured to said hollow shaft, a transmission shaft journaled on said assembly bed having a gear at one end meshing with said stationary gear and meshed bevel gears at the other end operatively connected to one of said feeder means, said selective operating means being connectible to either of said concentric shafts.

3,145,973
LINE STRINGING BLOCK

John Macfarlane, Hartford, Conn., assignor to The Theodore D. Brown Line Construction Corporation, Hartford, Conn., a corporation of Connecticut

Filed Aug. 27, 1962, Ser. No. 219,457
11 Claims. (Cl. 254—134.3)

1. A line stringing block of the type used in a transmission line stringing operation, wherein transmission lines are attached to a running board which is drawn through the stringing block by a pulling cable, the said stringing block comprising a frame, a drum mounted in said frame for rotation about a horizontal axis and having an annular groove therein to receive said line pulling cable, a supporting member on said frame, guide members mounted on said supporting member aligned with said groove and normally disposed in guiding position thereon in spaced relation to receive said pulling cable therebetween and guide it over said drum to retain it in said groove as it passes through said block, latch means engageable with

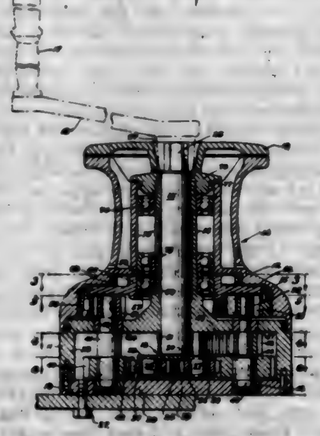


and normally retaining said guide members in said guiding position, and means on said frame effecting simultaneous movement of said guide members from said guiding position upon engagement by said running board whereby the running board may pass through said block unobstructed by said guide members.

3,145,974
DECK WINCH

Thomas A. Short, 2425 Hyde St., Apt. 4, San Francisco 9, Calif.

Filed May 31, 1963, Ser. No. 284,484
7 Claims. (Cl. 254—150)



1. A winch for providing a wind-up force on a rope or cable comprising:

a fixed base means;

a drum rotatably mounted on said base means;

a rotatable central shaft extending vertically through said drum;

means attached to the upper end of said shaft above said drum for turning said shaft in either direction;

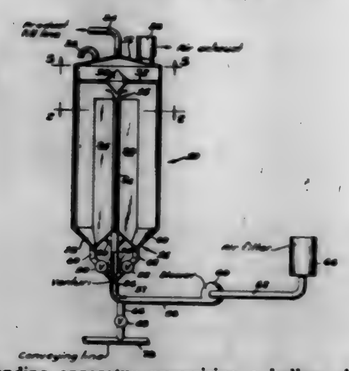
a drive pinion attached to the lower end of said shaft;

a first gear means having a relatively low gear ratio and drivingly connected with said drum;

a second gear means having a relatively high gear ratio and drivingly connected with said drum;

and means at the end of said shaft for selectively connecting said drive pinion with either said first or said second gear means depending on the direction of rotation of said shaft.

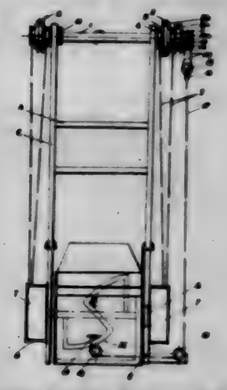
3,145,975
BLENDING APPARATUS
Raymond W. Towns, Jr., Plaquemine, La., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 14, 1962, Ser. No. 237,482
11 Claims. (Cl. 259—4)



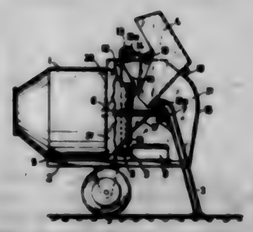
1. Blending apparatus comprising a hollow chamber having side walls, an upper end, a lower end, a longitudinal axis, and a plurality of compartments therein, said compartments being separated one from another by a plurality of partitions, said partitions being generally parallel with the longitudinal axis of said chamber, the partitions extending from the lower end of said chamber a substantial part of the way to said upper end, each of said compartments having a hopper communicating with the lower part, a hollow riser pipe, said riser pipe being disposed generally parallel with and along the longitudinal axis of said chamber and extending through the lower end of said chamber and also at least nearly to the upper end part of said partitions, a constricted pipe section having an upper end and a lower end, said constricted pipe section being coupled to and aligned with said riser pipe below said hoppers, a plurality of discharge lines, one of said discharge lines being coupled between each of said hoppers and said riser pipe at the upper end of said constricted part, the coupling of the discharge lines to the riser pipe being symmetrical with respect to a plane perpendicular to the longitudinal axis of said chamber, valved conduit means coupled to the lower end of said constricted part for sequentially applying gas under pressure through said constricted part in one direction and for withdrawing material from said chamber through said constricted part in another direction, means for feeding particulated materials into said compartments from the upper end of said chamber, and means for randomly dispersing into said compartments particulated materials which are blown from said riser pipe as gas is applied under pressure to said constricted part.

3,145,976
CONCRETE MIXER WITH TUB LIFT
Pablo August and Ingeborg Wolfes de August, both of Directorio 130, Bernal, Buenos Aires, Argentina
Filed May 24, 1961, Ser. No. 112,456
14 Claims. (Cl. 259—160)

1. A concrete mixing and lifting apparatus comprising, in combination, a machine frame including guide rail means extending in upward direction; a tub supported on said guide rail means movable from a lower rest position to an upper discharge position; a shaft turnably mounted in said tub and having opposite ends extending respectively beyond opposite sides of said tub; mixing means in said tub mounted on said shaft means for rotation therewith; a single drive shaft turnably mounted on said frame means; a pair of pulleys respectively fixedly mounted on said opposite ends of said shaft means for rotation therewith; a pair of ropes respectively wound in several turns about said pulleys; and a pair of composite drums fixedly mounted on said drive shaft for rotation therewith and having each two drum portions, at least one of said drum portions of each composite drum being constructed as a two-step drum portion, each of said ropes having a pair of free ends respectively fastened to said two drum portions of said pair of composite drums, the end portions of said ropes being wound on said two drum portions in opposite directions and the diameters of said two-step drum portion being dimensioned to the diameter of the other drum portion in each composite drum so that during turning of said drive shaft in one direction each rope first unwinds from one drum portion of each composite drum at least to the same extent as it is wound on the other drum portion so that said shaft means are rotated without moving said tub between said positions thereof while during further rotation of said drive shaft in said one direction each rope is wound to a greater extent on said other drum portion than it is unwound from said one drum portion so as to move said tub between said positions thereof while simultaneously turning said shaft means.

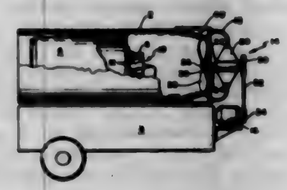


3,145,977
REVERSIBLE GRAVITY MIXER FOR CONCRETE AND MORTAR
Paul August, Lavalle 652, Buenos Aires, Argentina
Filed Aug. 26, 1963, Ser. No. 304,332
9 Claims. (Cl. 259—163)



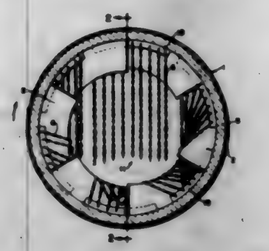
1. A reversible gravity mixer for concrete and mortar, comprising a supporting structure, a rotary mixing drum carried by said structure, a pair of loose rollers provided at both sides on said structure for supporting the front end of said mixing drum, bearing means for supporting the rear end of said mixing drum, a tub lift for charging said mixing drum, a driving motor operatively connected with said mixing drum for operating the latter alternately in one and the other direction for mixing its charge, respectively for discharging its contents, and with said tub lift for hoisting the tub of this lift during the discharging rotation of said mixing drum, the operative connection between said motor and said tub including rope drums and ropes and one of these rope drums including a known freewheel hub.

3,145,978
AIR HEATERS
Charles G. Telson, Rapid City, S. Dak., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 21, 1962, Ser. No. 246,584
6 Claims. (Cl. 263—19)



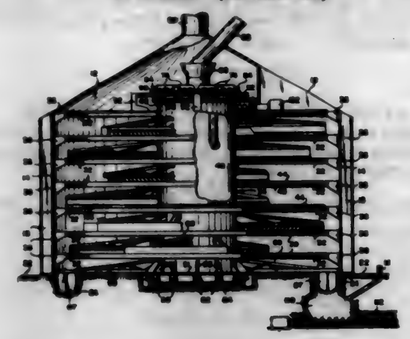
6. Axial flow fan apparatus for supplying combustion air to an air heater, comprising:
(*a*) an air inlet ring and a propeller fan therein for causing air flow through said ring;
(*b*) means supporting said fan for axial movement relative to said ring;
(*c*) means urging said fan in opposition to the axial thrust developed by said fan toward a maximum volume position of said fan relative to said ring under a low density of air condition;
(*d*) said last-mentioned means being yieldable in response to an increased axial thrust developed by said fan arising from an increased air density condition for permitting displacement of said fan away from said maximum volume position and to a reduced volume position.

3,145,979
ROTARY DRUMS
Frederik Rancke Madsen, Copenhagen, Denmark, assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1962, Ser. No. 215,987
6 Claims. (Cl. 263—33)



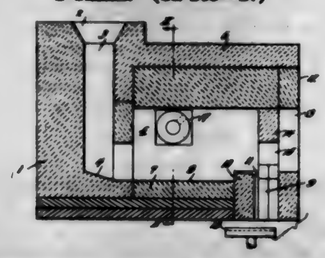
1. A rotary drum having a plurality of axially extending conveyor flights of helical form, mounting means within the drum, and a plurality of chains each secured at one end only to the mounting means between the flights, characterized in that the length of each chain is between 50% and 150% of the internal diameter of the drum, the width of each flight is between 12% and 45% of the internal diameter of the drum, and the interior of the drum inward from the free edges of the flights is open.

3,145,980
CONTINUOUS HEAT TREATING METHOD AND APPARATUS
Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Dec. 31, 1962, Ser. No. 248,723
27 Claims. (Cl. 263—36)



1. A continuous process for heat treating a material in a structure having a plate disposed in a treatment chamber and formed with a material support surface bounded by an outer continuous peripheral edge, said continuous process comprising the steps of:
(*a*) continuously supplying and distributing the material to be treated in a thin layer of uniform thickness upon said supporting surface,
(*b*) continuously supplying heat to said thin layer from both above and below said surface to cause the heat to penetrate the layer from its two sides and heat the layer to a substantially uniform temperature throughout,
(*c*) continuously overturning the distributed material simultaneously with the supply and distribution of untreated material to retard the formation of hot spots in said layer and further to increase the uniformity of the temperature of the material, and
(*d*) removing said material in said layer in a continuous stream simultaneously with the supply and distribution of untreated material to said support surface, the removal of material being effected by sweeping said material over said peripheral edge after it has been on said support surface for a predetermined period of time.

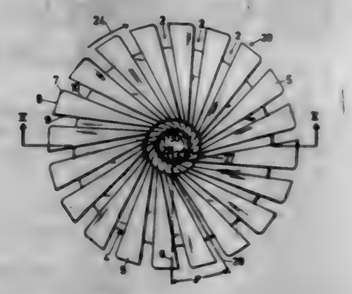
3,145,981
FURNACES FOR THE PRODUCTION OF MINERAL, ESPECIALLY BASALT WOOL
August Meisler, Volkach (Main), Germany
Filed Jan. 22, 1960, Ser. No. 4,024
2 Claims. (Cl. 263—37)



2. Furnace for the production of mineral and especially basalt wool with continuous melting process, comprising a furnace housing with a collecting trough, a vertical

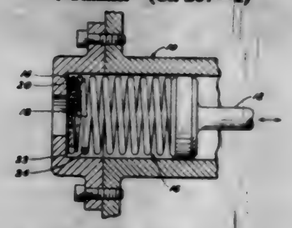
charging hopper merging at its lower end into the collecting trough for the molten material, said trough arranged horizontally in the furnace housing as a circular chamber in vertical cross section, a blast passage provided in the circular chamber at the end of the collecting trough, and a burner opening in the housing for a burner of which the flame is given a spiral direction towards the charging hopper and the blast passage by the furnace housing which is of substantially circular cross section.

3,145,982
BAFFLE PLATE FOR ANNEALING OVEN
Matthias Ludwig, Kettwig, Germany, assignor to Matthias Ludwig Industrieofenbau, Essen, Rhineland, Germany, a company of Germany
Filed Mar. 19, 1962, Ser. No. 180,474
Claims priority, application Germany, Mar. 25, 1961, L 38,569
4 Claims. (Cl. 263—47)



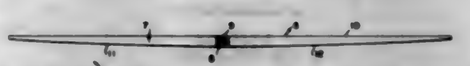
1. A supporting baffle for annealing ovens, comprising a metallic disk with a circular central aperture having integral ribs coextensively disposed on opposite faces thereof, said ribs being of generally triangular configuration with converging sides extending along lines tangent to different circles within the circumference of said aperture and offset in the same direction from the center of said aperture, said ribs being separated by channels narrowing toward said aperture whereby the width of said channels at said aperture is substantially half their width near the outer periphery of said disk.

3,145,983
SPRING CALIBRATING MEANS
Wallace C. Higbee, Mount Clemens, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Nov. 6, 1961, Ser. No. 150,355
4 Claims. (Cl. 267—1)



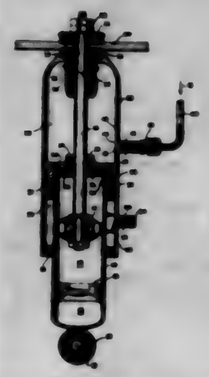
2. A spring system comprising:
(*a*) a coil spring having a locking tab on one end thereof and
(*b*) a calibrator having a series of notches around the periphery thereof, said calibrator being rotatable in said coil spring and locked in place by the extension of said tab into any one of said series of notches.

3,145,984
SINGLE TAPER LEAF SPRING
William A. Hallam, Gary, Ind., assignor to Rockwell-Standard Corporation, Coraopolis, Pa., a corporation of Pennsylvania
Filed July 5, 1962, Ser. No. 207,553
9 Claims. (Cl. 267—47)



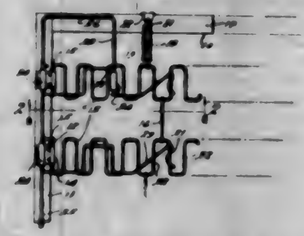
1. A vehicle leaf spring consisting entirely of a rolled steel single spring leaf that is of constant width from end to end has a generally central portion of minor length providing means for attachment to axle structure or the like, and is of continually decreasing thickness tapering from said central portion to both of said ends, said spring leaf being of constant thickness in lateral cross-section between its longitudinal edges at all points along its length and having one side formed with surfaces of substantially parabolic contour longitudinally from said central portion to said ends, and said surfaces being formed by rolling with a thickness tolerance at all longitudinal locations along the tapered portions of plus or minus 0.005 inch from a theoretical desired subtantially parabolic contour.

3,145,985
VEHICLE SUSPENSION DEVICES
Christian-Marie-Lucien-Louis Bourcier de Carbon, 64 Blvd. Maurice-Barres, Neuilly-sur-Seine, France
Filed July 26, 1962, Ser. No. 212,590
Claims priority, application France, Sept. 7, 1961, 872,690, Patent 1,307,946
5 Claims. (Cl. 267—64)



1. A pneumatic device for the automatic compensation for variations in load in an elastic suspension such as, for example, for use in a motor vehicle in maintaining substantially constant the mean height of the body or chassis above the ground, whatever the load; said device comprising a collapsible casing connected at its respective upper and lower ends with the relatively movable parts of the suspension, the casing comprising a pair of telescoping inner and outer cylindrical members having respective outer and inner walls axially movable in proximity to each other, sealing means between the inner wall of the outer member and the outer wall of the inner member to provide within the collapsible casing a chamber of variable volume containing compressible pneumatic fluid subjected at all times to the load on the suspension; a fluid inlet passageway through the wall of the outer cylindrical member giving access from a source of gaseous fluid under pressure, and a fluid outlet passage for venting the chamber; means whereby the relative positions of the two telescoping cylindrical members under variable loading conditions control the passage of fluid into and out of the chamber through the respective passageways, said means operable upon compression of the pair of cylindrical members beyond a predetermined point to admit gaseous fluid to extend the casing toward a mean position, said means being operative upon extension of said casing beyond a predetermined point to vent gaseous fluid to permit the cylindrical members to contract toward a mean position; said last named means comprising, with respect to said inlet passageway, an annular valve seat surrounding the opening of the inlet passageway in said outer wall, a valve element within the opening and movable toward and from said seat, a spring in said passageway urging said valve element toward said seat with a portion of said element projecting into the chamber in the path of a part of the inner member, whereby said valve element is displaced back into the opening of the inlet passageway and off of its seat against the urging of the spring to admit fluid under pressure through said opening past said valve into said chamber.

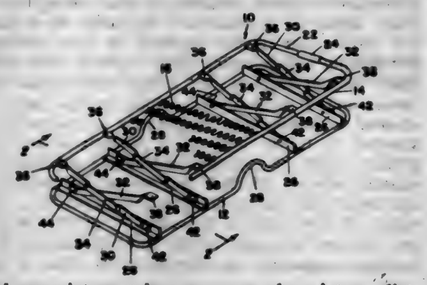
3,145,986
SOFT EDGE SPRING ELEMENT FOR SINUOUS SPRING STRIP
Harold A. Vogel, Detroit, Mich., assignor, by mesne assignments, to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 22, 1960, Ser. No. 77,610
3 Claims. (Cl. 267—102)



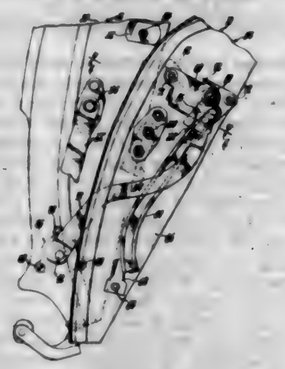
1. In a cushion construction, a frame, a plurality of sinuous spring strips secured to said frame, soft edge elements secured to said strips rearwardly of the front end of the strips in a manner to have the front ends thereof disposed above the front edge of the seat frame, a border wire along the front edge of the frame, means clamping the front ends of the soft edge elements to the border wire, the border wire having U-shaped end sections facing each other, and means for clamping the ends of the U-shaped end sections to an intermediate portion of the endmost soft edge elements.

3,145,987
RESILIENT SEAT CONSTRUCTION
Robert Goodman, 5325 Westminster Ave., Philadelphia, Pa.
Filed May 31, 1963, Ser. No. 284,481
5 Claims. (Cl. 267—104)

1. A flexible seat construction comprising a frame assembly including an upper frame and a lower frame, said upper frame comprising a pair of oppositely disposed sections laterally spaced from each other but connected to each other by extendable and retractable lateral connections which extend and retract to increase and decrease the effective width of said upper frame while maintaining the connection between said oppositely disposed sections, at least one pair of arms connecting the upper and lower frames, each arm of the pair having a relatively fixed connection at one end with one of said oppositely disposed sections of said upper frame and being pivotally connected to a diagonally opposed section of the lower frame, the relatively fixed connection and the pivotal connection of one arm being diagonally opposed to the corresponding connections of the other arm whereby said arms intersect in a common plane intermediate their lengths and between said upper and lower frames, and at least one spring extending in tension between the oppositely disposed sections of said upper frame.



3,145,988
VEHICLE CLOSURE
Albert J. Colautti, Windsor, Ontario, and Barthold F. Meyer, Tecumseh, Ontario, Canada, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 25, 1962, Ser. No. 168,771
7 Claims. (Cl. 268—3)

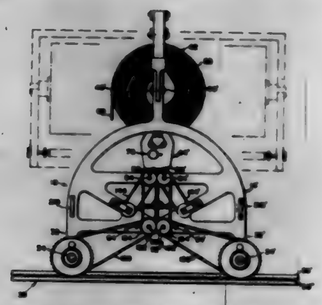


1. In a vehicle body including a closure member movable between open and closed positions with respect to a body member, the combination comprising, latch means movable between latched and unlatched positions for latching said closure member to said body member, first cam means operatively connected to said latch means for moving said latch means between said positions, second cam means mounted on said body member, and cam follower means mounted on said closure member and successively engageable with said first and second cam means to successively move said latch means between latched and unlatched positions and move said closure member between open and closed positions.

3,145,989
SPREADING MACHINE FOR FABRIC-LIKE SHEET MATERIALS
George Cavrich, 310 Riverside Drive, New York 25, N.Y., assignor, by direct and mesne assignments, of one-half percent to Stanley O. Morse, Metuchen, N.J.
Filed Aug. 17, 1962, Ser. No. 217,650
9 Claims. (Cl. 270—31)

1. A machine for spreading fabric-like sheet materials in successive superimposed layers upon a plane surface,

said machine comprising (1) a carriage adapted to perform reciprocating movement over and along the surface upon which sheet material is to be laid down, (2) accommodation means mounted on said carriage for a primary supply of longitudinally extensive sheet material, (3) paying out means mounted on said carriage for transferring and releasing sheet material from said machine to said surface, (4) a first intermediate storage means and a second intermediate storage means each adapted to receive and temporarily accommodate sheet material in transit between a properly accommodated primary supply thereof and said paying out means, there existing between said first and second intermediate storage means and said accommodation means for a primary supply of sheet material the capability of relative end-for-end rotation in respect of the width dimension of sheet material temporarily accommodated by either of said in-



termediate storage means and that of sheet material in a properly accommodated primary supply thereof, and (5) drive mechanism mounted on said carriage wherethrough said first and second intermediate storage means may be actuated alternately by motion of said carriage over and along said surface to receive sheet material from a properly accommodated primary supply thereof on successive traversing movements of said carriage in one direction along said surface, and wherethrough further said paying out means may be actuated by motion of said carriage over and along said surface to receive and release sheet material substantially directly from a properly accommodated primary supply thereof on every traversing movement of said carriage in said one direction along said surface and from said first and second intermediate storage means alternately on successive traversing movements of said carriage in the other direction along said surface.

3,145,990
ROCKING AMUSEMENT APPARATUS
Wayne E. Prouty, 6289 Airport Road (rear), El Paso, Tex.
Filed Dec. 19, 1962, Ser. No. 245,925
2 Claims. (Cl. 272—1)



1. A rocking amusement apparatus of the character described, comprising two tubular members, each one of which is formed in the shape of a teardrop, and each one of which is at right angle to the other, and each one of which is secured to the other by a cross-shaped fitting, centrally located at the bottom of the said rocking amusement apparatus, and a tubular ring encircling the lower portion of the said tubular members, and two flat seats diametrically opposite one another suitably secured within the confines of the said tubular members, thereby providing a place for two people to sit when riding in this rocking amusement apparatus, and a horizontally disposed tubular drive bar located within the confines of the said tubular members, the said tubular drive bar being secured to the sides of one of the said tubular members, and a pan secured to the bottom and lower portion of the sides of the said rocking amusement apparatus, thereby providing a solid footing for one's feet while riding in the said rocking amusement apparatus.

3,145,991
GAME APPARATUS
George F. Bendit, R.D. 1, Boyertown, Pa.
Filed May 16, 1962, Ser. No. 195,172
3 Claims. (Cl. 273—108)



1. A game apparatus comprising an elongated runway having spaced apart substantially parallel upstanding side walls extending from end-to-end thereof and defining a track, elastic abtuments extending across the track near each end thereof, and a mobile object of a width less than the width of the track and of a length greater than the track width disposed for travel back and forth along said track, said mobile object being adapted to be initially propelled in one direction toward one of said abutments to engage and distend said abutment outwardly relative to the track end adjacent to which said abutment is disposed whereby said mobile object is propelled in the opposite direction by the rebounding force of said distended abutment, toward the other abutment, said mobile object comprising a wheeled vehicle having bumpers at the ends thereof disposed at a level to engage said abutments when the vehicle wheels are in engagement with said track.

3,145,992
GAME APPARATUS COMPRISING SUCCESSIVELY PLAYABLE GOALS WITH BALL TRANSFER MEANS THEREBETWEEN
Miley Burdette McClung, Box 13, Hines, W. Va., assignor of one-third to E. G. Hawn, Watertown, N.Y.
Filed Nov. 26, 1962, Ser. No. 239,930
4 Claims. (Cl. 273—105)



1. In a game apparatus, a plurality of posts arranged in side by side spaced relation and each rising from a ground surface, an open ended tube arranged substantially transversely with respect to each of said posts adjacent the upper end thereof with one end of said tube lower than

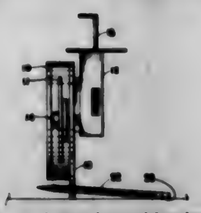
the other end, means securing each tube to the adjacent post, a bottomless basket carried by the upper end of each of said tubes and in communication therewith, the tube of one post being arranged so that the lower end is adjacent to and spaced from the basket of the adjacent post, said baskets being adapted to receive in turn a ball thrown by a player running zigzag between said posts, each of said tubes being adapted to convey the ball for discharge from the lower end when received in the associated basket.

3,145,993
ELECTRICALLY OPERATED SOLITAIRE TICKTACKTOE GAME
Andrew M. Archer, Rincon Annex, Seaman's Section, San Francisco, Calif.
Filed Oct. 4, 1962, Ser. No. 228,281
7 Claims. (Cl. 273—130)



1. A game apparatus comprising a board having a surface divided into fields, said fields having recesses and adjacent thereto apertures, lamps located in said recesses, and a power circuit for each lamp including normally spaced contact members adjacent to an aperture in a field opposite to the field wherein the lamp is located.

3,145,994
MANUALLY DRIVEN ROTATABLE DISC DEVICE AND STAND COMBINATION
Max J. Rudersdorf, 631 Wilshire Blvd., Santa Monica, Calif.
Filed Jan. 4, 1963, Ser. No. 249,446
3 Claims. (Cl. 273—142)



1. A power toy and stand combination comprising: a manually operable drive mechanism; disc means rotatably mounted to said drive mechanism; symbol means on said disc means; stationary pointer means juxtaposed the periphery of said disc means for designating one of said symbol means when said disc means comes to rest; and a stationary housing for said disc means secured to said drive mechanism and including a flat extending portion terminating in a straight edge for engaging a floor, said flat extending portion having at least one opening extending therethrough adapted to receive an elongated member in a direction normal to its plane to provide a stand for said power toy.

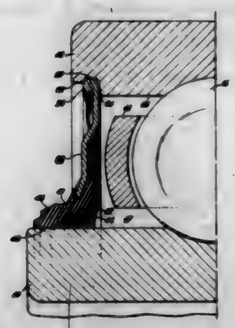
3,145,995
WELL SERVICE CABLE SEALING APPARATUS
Ellis Adamson, Daniel H. Carter, and Kenneth L. McNemar, Houston, Tex., assignors to Halliburton Company, a corporation of Delaware
Filed Apr. 24, 1959, Ser. No. 808,835
14 Claims. (Cl. 277—28)

12. Apparatus of the type described, comprising, a tubular barrel and first and second flow tubes respectively provided with bores for passing a wireline therethru, said flow tubes disposed in spaced apart relation within said barrel and defining with said barrel a first chamber between said tubes, a second chamber above said first tube, and a third chamber below said second tube, said barrel and said bores of said flow tubes being of a size to pass a wireline of a given size with running clearance and with substantially no mechanical friction, a pressure controller



connected with said first chamber and said third chamber, a variable fluid pressure source connected with said first chamber, said pressure source being connected with and controlled by said pressure controller, and means on the lower end of said barrel for connecting said barrel to the well head, the arrangement being such that fluid flow under pressure is provided to said first chamber in response to a pressure communicated to said third chamber from said well head.

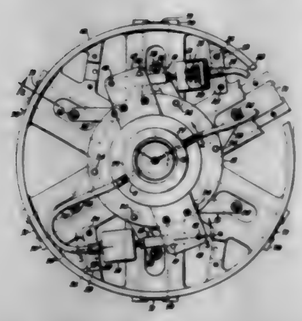
3,145,996
SEAL FOR BEARING
Nicholas J. Nisse, Philadelphia, Pa., John C. Lawrence, Chatsworth, Calif., and John L. Blake, Jr., Willow Grove, Pa., assignors to SKF Industries, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Mar. 6, 1962, Ser. No. 177,840
4 Claims. (Cl. 277—169)



1. A seal for sealing the space between confronting surfaces of a pair of spaced relatively rotatable members compriaing a ring-like reinforcing member, a sealing element including a body portion secured to said reinforcing member and a marginal portion projecting axially and radially with respect to said body portion at an angle thereto beyond a peripheral edge of said ring-like reinforcing member and a flange projecting from and in the same direction as said marginal portion, said marginal portion and flange being of substantially the same cross sectional thickness and being offset relative to one another to define a juncture therebetween of reduced cross section

to permit flexing movement of said flange about said juncture.

3,145,997
WORK GRIPPING CHUCK
David Moses, 1407 N. 8th St., Philadelphia, Pa.
Filed Feb. 28, 1962, Ser. No. 176,281
2 Claims. (Cl. 279—2)



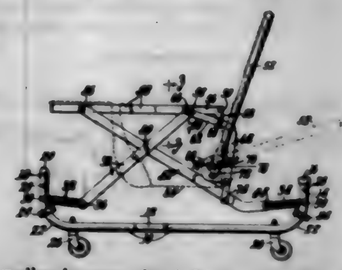
1. A work gripping chuck comprising a rotatable chuck head, a plurality of work gripping jaws mounted for movement radially relative to said chuck head, an operating ring mounted for rotation relative to said chuck head, a plurality of operating links corresponding in number to the number of said jaws, each operating link pivotally connected at one end to said ring and at its opposite end to one of said jaws, a power device connected to said ring operable to rotate said ring to effect movement radially outwardly of said jaws through said links from a retracted position to a work gripping position, and means for selectively adjusting said parts so that the links are substantially aligned radially with said jaws thereby to lock said jaws by said links when the power device reaches the end of its power stroke.

3,145,998
BOTTOM STRUCTURE FOR LAMINATED SKI
Hartvig E. Holmberg and Harry E. Holmberg, St. Paul, Minn., assignors to Hart Ski Mfg. Co., Inc., St. Paul, Minn., a corporation of Minnesota
Filed Apr. 2, 1962, Ser. No. 184,254
9 Claims. (Cl. 280—11.13)



1. In a laminated ski, a bottom structure therefor comprising a hard continuous sheet of weldable metal bonded as a laminate thereto, said sheet extending substantially for the length and substantially for the width of said ski, right angled running edge means also of weldable metal at each side of said sheet, each of said running edge means having an inwardly directed horizontal flange and a downwardly directed vertical flange, said horizontal flanges being welded directly to marginal portions of said sheet to form a channel-shaped unit composed of said sheet and running edge means, and a running sheet having at least a substantial portion of its upper face bonded to the lower face of said metal sheet between said running edge means whereby to form a smooth continuous surface with said running edge means.

3,145,999
INFANT'S WALKER AND BOUNCER
Benjamin K. Burnham, Gardner, Mass., assignor to Thayer, Inc., Gardner, Mass., a corporation of Massachusetts
Filed Dec. 11, 1963, Ser. No. 329,833
4 Claims. (Cl. 280—36)



1. A walker-bouncer for infants comprising a lower frame including a pair of spaced parallel side members, an upper frame including a pair of spaced parallel side members, said members all extending fore-and-aft of the walker-bouncer, and upturned end portions on the lower frame members, two pairs of spaced parallel crossed scissor members, each pair of scissor members being interpivoted intermediate the respective ends thereof, corresponding ends of said scissor members being mounted on the upturned ends of said under frame,

one scissor member of each pair pivotally mounting the upper frame members at the forward ends thereof, the other scissor member of each pair extending in a direction toward the rear ends of said upper frame members and terminating in an upper end unconnected with respect to the upper frame members,

a pair of bell-crank levers pivoted intermediate their ends at each side of said upper frame adjacent the rear end thereof, each lever being pivoted at one end to the upper end of said other scissor frame member that is unconnected to the upper frame members,

a backrest member mounted on the levers adjacent the ends thereof remote from the scissor frame members, and being movable with the levers, said backrest member being adapted to cause pivotal motion of said levers causing the pivot axis between the levers and the said other scissor frame members to be moved selectively from one side to the other of a line connecting the interpivoted axis of the scissor members to the pivot axis of said levers on the upper frame, in one position holding the scissor members extended and the upper frame elevated from the lower frame, but when moved to the other side of the said line providing folding of the scissor members and close approach of the frames, and means limiting the extent of motion of said levers in a direction to hold the scissor members extended.

3,146,009
ADJUSTABLE VEHICLE FRAME
James W. Holzman, Muhlenberg Park, Pa., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed May 2, 1963, Ser. No. 191,793
2 Claims. (Cl. 280—81)

1. A vehicle frame comprising in combination,

(*a*) a sub-frame supported by wheel and axle means and including a first pair of laterally spaced longitudinally extending channel members of U-shaped configuration with the open portion thereof positioned vertically upwardly,

(*b*) each of said channel members including a pair of laterally spaced vertically extending side walls and a base portion interconnecting the lower portion of said side walls,

(*c*) means securedly interconnecting said pair of channel members,

(*d*) a main frame carrying a superstructure thereon and including a second pair of laterally spaced longitudinally extending channel members of U-shaped configuration with the open portion thereof positioned vertically upwardly and each channel member of said pair of channel members being in a movable nested cooperative relationship respectively with one of said first pair of channel members,

(*e*) each of said second pair of channel members including a pair of laterally spaced vertically extending side walls and an engaging base portion interconnecting the lower portion of said side walls,

(*f*) said main frame being substantially greater in longitudinal size than said sub-frame,



(*g*) a plurality of longitudinally extending lips with one lip of said plurality of lips being carried by the upper portion of each of said side walls of said second pair of channel members and overlapping and closely adjacent to the upper portion of the respective side wall of the cooperative member of said first pair of channel members for excluding the ingress of contaminants therebetween,

(*h*) said side walls of each of said first channel members being spaced from and free from engagement with said side walls of said second channel member cooperating therewith,

(*i*) a plurality of rollers of varying cross-section carried by said first pair of channel members at a position below the vertically upper portion thereof and with the vertically upper surface of said rollers being disposed below the upper portion thereof and rollingly and supportingly engaging the base portion of said second pair of channel members nested therein,

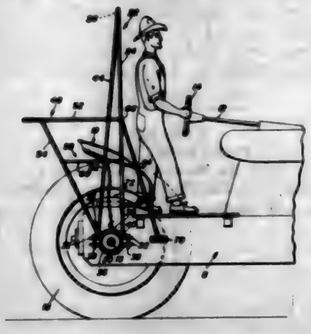
(*j*) the base portion of said pair of channel members engaging said rollers projecting vertically below the upper portion of said second channel members and being of a configuration conforming to the engaging periphery of said rollers,

(*k*) and locking means carried by said members and adapted to securely position said frames relative to each other,

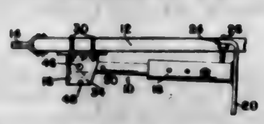
(*l*) whereby said frames are rollingly and supportingly connected and centered by said rollers and said rollers are protected from contaminants by said frame.

3,146,881
SAFETY ATTACHMENT FOR TRACTORS
May Adele McFadyen, Box 42, Anadarko, Okla.
Filed Feb. 14, 1963, Ser. No. 258,543
9 Claims. (Cl. 280—150)

1. In combination, a tractor embodying a chassis frame characterized by a rearward portion provided with an operator's seat and forwardly of and adjacent to and in alignment with a complemental steering wheel and steering column carrying said wheel, axle means provided at ends thereof with ground engaging wheels and including axle housings, an inverted U-frame disposed in an upstanding vertical position and constituting an arch and including an upper bight portion connecting upper ends of depending limbs, said limbs connected at lower ends thereof to clamping devices embracing longitudinally spaced portions of the axle housings inwardly of the respectively adjacent wheels, said limbs straddling the seat with the bight portion spaced in a plane above the plane of the seat, said U-frame being in a vertical plane rearwardly spaced from the forward leading edge of the seat, and stabilizing struts connected at upper end portions to corresponding upper ends of the limbs of the U-frame and depending therefrom and connected at their lower ends to rearward end portions of the cooperating clamping devices.



3,146,882
TRAILER TONGUE SUPPORT
Wallace S. Faber, Thompsonville, Conn., assignor to Leather United Incorporated, Thompsonville, Conn., a corporation of Connecticut
Filed Sept. 20, 1961, Ser. No. 139,465
1 Claim. (Cl. 280—150.5)



A support for a trailer tongue, said support comprising a head adapted for attachment to a tongue such as aforesaid and which head includes two laterally spaced and downwardly extending wall portions, an elongated supporting leg having one end positioned between said two wall portions of said head and having a longitudinally extending slot passing transversely through said one end, a first transverse pin extending between said laterally spaced walls and axially fixed thereto to prevent said walls from spreading apart and passing through said slot in said leg so as to connect said leg to said head and to permit said leg to be moved pivotally relative to said head between a first position at which said leg extends generally downwardly from said tongue to support the latter in a raised position from the ground and a second position different from said first position, said pin and slot further permitting said leg to be moved along its longitudinal axis relative to said head when said leg is in said first position, means defining a downwardly opening notch in the lower end of each of said wall portions and each of which notches is transversely aligned with the other, a second transverse pin carried by and passing through said leg which pin extends outwardly beyond each side of said leg, said pin being so located that the outwardly extending portions thereof fit respectively into said notches in said wall portions to prevent pivotal movement of said leg when the latter actively supports said tongue and so that said outwardly extending portions are removed from said notches by longitudinal movement of said leg rela-

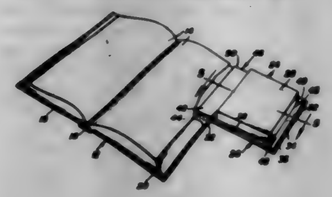
tive to said head when said tongue is raised, said leg being of such a shape that the upper end thereof bears against said head to directly transfer at least a part of the weight of said tongue to said leg when the latter is in said first position, a base attached to the free end of said leg and having a notch in one edge thereof for receiving at least a portion of said tongue when said leg is in said second position, said base further including an apertured flange on either side of the notch therein, and a U-bolt adapted to pass over said tongue and through said two apertured base flanges to hold said leg in said second position.

3,146,003
COUPLING UNIT
John De Ronde, Otley, Iowa
Filed Mar. 22, 1963, Ser. No. 272,498
4 Claims. (Cl. 280—515)



1. In combination with a horizontal tractor drawbar means and a horizontally disposed U-shaped clevis mounted thereon, with said clevis including upper and lower eyelet portions adjacent the upper and lower surfaces, respectively, of said drawbar means, said eyelet portions defining apertures in vertical longitudinal alignment with an aperture in said drawbar means,
and a latch means, said latch means including horizontal spaced apart flange elements which receive one of the eyelet portions of said clevis therebetween, said flange elements having apertures in alignment with the apertures in said eyelet portions and said drawbar means,
said latch means including a back member,
a pin extending completely through the registering apertures in said drawbar, said flange elements and both of said eyelet portions of said clevis,
and a releasable locking means secured to said back member and releasably engaging said pin to limit its longitudinal movement through said apertures.

3,146,004
NOTE PAD AND HOLDER THEREFOR
Eddings Kidd, Oklahoma City, Okla. (162 W. 1st St., Oswego, N.Y.), assignor of thirty-three and one-third percent to Julia L. Gurney, Oklahoma City, Okla.
Filed Apr. 26, 1962, Ser. No. 190,346
4 Claims. (Cl. 281—3)



1. A note pad mounting and temporary retaining attachment for a pair of right angularly disposed marginal edge portions of one cover, either front or back cover, of a book comprising a pad holder embodying a base, embodying a bottom panel and a complemental top panel superimposed atop said bottom panel, the opposed proximal surfaces of said panels being separate from each other, the upper, lower and outwardly disposed marginal edges of said panels being integrally joined together whereby said panels conjointly provide a receiving and retaining space for the cardboard backing of said pad, the corresponding inwardly disposed marginal edges of said panels being wholly detached and spaced apart and defining an elongated pocket-like adapter, the pocket portion of said adaptor being adapted to permit right angularly disposed marginal edge portions of one corner portion of the book cover to be fitted and lodged in the pocket portion and removably sandwiched between the pocket forming portions of said adapter, the respective ends of the adapter being in line with the aforementioned integrally joined upper and lower marginal edges of said panels being selectively severable whereby one end of the adapter may be split open to provide an inlet for the insertable marginal edges of said corner portion.

3,146,005
VACUUM INSULATED CONDUITS AND INSULATED JOINING MEANS
John F. Peyton, Los Angeles, Calif., assignor to Arrowhead Products, Los Alamitos, Calif., a corporation of California
Filed Dec. 4, 1961, Ser. No. 156,864
6 Claims. (Cl. 285—47)

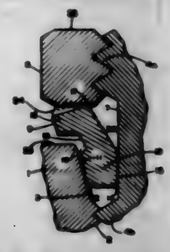


1. Insulated conduit comprising, an inner tubular member for transmission therethrough of fluids, an outer tubular member coaxially disposed about said inner member to provide an annular space therebetween, an intermediate tubular member for reflecting radiant heat energy, means for positioning said intermediate tubular member within said space in spaced relation to said inner and outer members, closure means for the opposite ends of said annular space comprising individual annular walls sealingly connected to each of said inner and outer members, each of said walls being formed with a substantially V-shaped cross-section to provide a relatively long heat conducting path between said inner and outer members, means for evacuating said annular space, and flexible tubular means interposed in said inner member for permitting relative movement of the latter with respect to the other of said tubular members upon passage therethrough of a given fluid.

3,146,006
BOSS JOINT WITH METALLIC SEAL RING
Leland H. Schmoehl, Moreland Hills, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 8, 1960, Ser. No. 34,760
2 Claims. (Cl. 285—312)

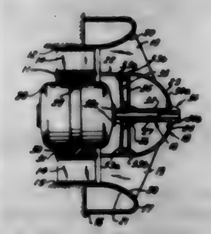
1. In combination, a member having a tapered wall socket forming a countersink leading to an internal thread, a fitting having spaced upper and lower threaded areas, said lower threaded area being in engagement with said internal thread, said fitting having a peripheral cylindrical surface disposed between said threaded areas concentrically within said countersink, a locknut threaded

onto said upper threaded area and disposed in a region axially beyond said surface, a metallic seal ring extending from between the walls of said countersink and said cylindrical surface toward said locknut, said ring being formed with a tilted radially extending flange engageable by said locknut on a circular line contact when the latter is turned on said fitting to thereby move said ring axially relative to said member and fitting, said ring also being formed with a body section which is radially wedged between the walls of said countersink and said cylindrical surface into fluid tight sealing engagement therewith as a consequence of such axial movement of



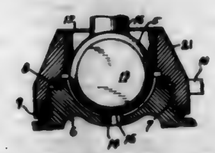
said ring, said body section having an inner cylindrical surface of substantial axial length in contact with said cylindrical surface of said fitting to preclude indenting of the latter when said body section is thus wedged between said countersink wall and said cylindrical surface of said fitting, said body section engaging said countersink wall in circular substantially line contact of substantially the same diameter as the circular line contact between said flange and said locknut, whereby said ring is placed under substantially direct axial compression when said body section is wedged between said countersink wall and said fitting cylindrical surface.

3,146,007
APPARATUS FOR REMOVABLY MOUNTING ON A DRIVE SHAFT A PART DRIVEN BY THE SHAFT
Jean Ivan Ragnar Bolvie and Per Tage Berje Hillbom, Stockholm, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Nov. 7, 1961, Ser. No. 150,669
Claims priority, application Sweden Nov. 12, 1960
5 Claims. (Cl. 287—53)



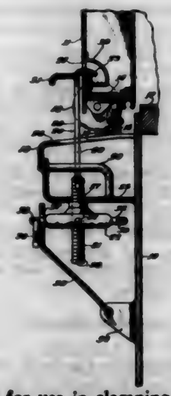
1. In apparatus of the class described, a driving shaft, an apertured part driven by the shaft, means for removably mounting the part on the shaft comprising a member which is fixed to the shaft and rotatable therewith, the member extending through the aperture in the part, the mounting means including an element at one end of the member and a latch at the opposite end of the member for holding the part therebetween, the latch comprising one or more resilient hooks, the element being resilient in character and including portions at diametrically opposite sides of the shaft, and the portions of the element having projections bearing against the part in directions essentially parallel to the axis of the shaft.

3,146,008
SELF-ALIGNING BALL JOINT CONNECTION
Stephen George, Pompton Lakes, N.J., assignor to M-T Liquidation Corporation, a corporation of New Jersey
Filed July 11, 1962, Ser. No. 209,110
3 Claims. (Cl. 287—87)



1. A quick connectible and disconnectible, self-aligning ball and socket coupling, comprising the combination of companion ball and socket elements,
the socket element comprising a base having the lower half of a spherical socket therein and a cap having the matched upper half of the same spherical socket,
said cap having a removable rotatably adjustable screw connection on said base and having a slot across the top of the same of the full diameter of the socket and extending entirely through the spherical socket portion of the cap, and said ball element having a spherical body portion matching the spherical portions of the connected base and cap and having flattened sides reducing said spherical portion to the size of said cross slot in the cap, whereby said ball element may be entered in and be removed from the spherical socket with the flattened sides of the same aligned with the cross slot in the cap and the ball element or cap be turned to effect relative registration or nonregistration of the ball element and cap as described, and
said base having means for attachment of same to one member to be coupled and said ball element having a stem projecting up through said cross slot in the cap for connection with the other member to be coupled.

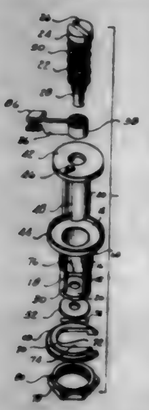
3,146,009
SCREW TYPE DOOR LOCK FOR RAILWAY CARS
Franklin P. Adler, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Oct. 20, 1961, Ser. No. 146,649
4 Claims. (Cl. 292—115)



1. A door lock for use in clamping the lower edge of the vertically sliding door of a swingably mounted door and door post assembly to the threshold of a railway car comprising, in combination, a draw bolt having a threaded shank portion, a nut cooperating with said threaded shank portion, a reaction plate mounted on the underside of said

threshold and providing a cavity therebetween, said draw bolt extending through said threshold and through said reaction plate with said nut located below said reaction plate, means on the upper end of said draw bolt engaging said door to draw said door downwardly into engagement with said threshold plate when said nut is tightened up against said reaction plate, said draw bolt having a slotted upper shank portion, and retainer means mounted between said reaction plate and said threshold and extending through said slotted upper shank portion to prevent separation of said draw bolt from the car structure, said threshold having an opening formed therein of dimensions sufficient to receive said door engaging means whereby said door engaging means may be entirely received within said cavity with no part of said draw bolt projecting above said threshold plate in order to permit said door and door post assembly to be swung outwardly as a unit over said threshold plate.

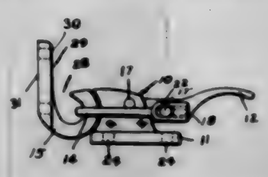
3,146,818
READILY DEMOUNTABLE PAWL LATCH
Werner Delilth, Ringwood, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Jan. 4, 1963, Ser. No. 249,386
3 Claims. (Cl. 292—212)



1. Apparatus for mounting an assembly on a support, said assembly comprising a housing provided with a head and a member mounted for limited rotary movement with respect to said housing around an axis passing through said support including in combination means forming an opening in said support, said opening having a size sufficient to permit the passage of said member and said housing through said support while preventing the passage of said head through said support, interengageable means on said head and on said support for providing a predetermined orientation of said housing around the axis of said support, a centering washer having a boss substantially equal to the dimension of said opening and adapted to fit in said opening and interengageable means on said housing and said washer whereby said washer centers said assembly in said opening.

3,146,011
LATCH FOR SEPARABLE MEMBERS
Raymond E. Seevers, North East, Pa., assignor to The Electric Materials Co., North East, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1961, Ser. No. 82,247
2 Claims. (Cl. 292—247)

1. A latch adapted to selectively connect two members at any of a plurality of angulated displaced positions comprising a body having a flat portion suitable to be attached to a member to be latched, an upwardly extending boss thereon, a slot in said boss, a handle, said handle having one end received in said slot and being swingably connected thereto, a U-shaped shackle, said U-shaped shackle terminating in ends, said ends having a hole therein in alignment with a hole in said handle spaced from the connection thereof to said boss, a pin swingably connecting said shackle to said handle, a surface on one side of said boss shaped to conform to the outer periphery of a cylinder, and a catch, said catch having a flat portion adapted to be attached to a member to be latched and a hook integrally connected thereto, said hook having an outside surface conforming to the cylinder of radius equal to the radius of the cylinder defining said surface on said boss, and an inside cylindrical surface on said hook generally concentric to said outside surface, said shackle being adapted to engage said hook and to move said hook into frictional engagement with said boss surface whereby said catch may be latched to said body in any of a plurality of positions relative to said body with said hook engaging said cylindrical surface on said boss, said shackle moving to a position below said pin connecting said handle to said boss, the center of curvature of said surface on said boss, the center of curvature of said outside surface on said hook, and the center of curvature of said inside cylindrical surface on said hook being generally coextensive.

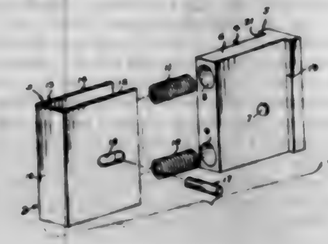


3,146,012
SEAL
Karl G. King, Sr., Miami, Fla., assignor to No-Vak, Inc., Miami Beach, Fla., a corporation of Florida
Filed Aug. 19, 1963, Ser. No. 302,889
4 Claims. (Cl. 292—330)



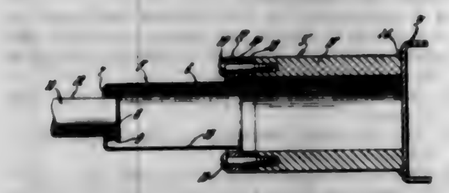
1. A seal comprising a body member, said body member having a slotted portion extending along one side, a strap member secured at one end to the other side of said body member, said slotted portion having a pair of walls, one of said walls having a plurality of spaced openings forming shoulders in said slotted opening, the other of said wall having an opening forming a shoulder positioned between said first named shoulders, a further shoulder formed on an inner surface of said other of said wall in alignment with one of said first named shoulders and interengaging shoulder means mounted on said other end of said strap member whereby upon the insertion of said other end of said strap member in said slotted portion said interengaging means engage said shoulders at said openings and said internal shoulder for securing said other end of said strap to said body member.

3,146,013
BUMPER UNIT
John W. Kappen, 243 Kenwood Ave., Dayton, Ohio; Frieda E. Kappen, administratrix of said John W. Kappen, deceased
Filed Aug. 15, 1960, Ser. No. 49,739
2 Claims. (Cl. 293—64)



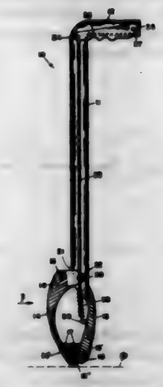
1. A bumper unit, comprising a base support, a body member fixed to and projecting perpendicularly from said support, an outer face of said body member including longitudinally directed spaced bores oriented generally perpendicular to said base support, springs in said bores normally projecting from said body member beyond its outer face, a U-shaped channel contact member, said U-shaped channel contact member having arms and open ends, said arms of said U-shaped channel member disposed on opposite sides of said body member, a slot in each of said arms normally oriented perpendicular to said base support, means for pivotally mounting said U-shaped channel contact member to said body member constituting removable pin means mounted perpendicularly to said body member and projecting into each of said slots to mount said U-shaped channel member for rocking movement thereabout and for sliding movement thereon in a direction perpendicular to said base support.

3,146,014
ENERGY ABSORBING VEHICLE BUMPER ASSEMBLY
Charles K. Krecil, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,168
5 Claims. (Cl. 293—70)



1. An energy absorber consisting of a tube of ductile metal and circular cross-section, means axially supporting one end of the tube in thrust, the opposite end of said tube terminating with a smaller diameter portion turned inwardly and reversely of the remainder of said tube, and a rigid member connected to said opposite end for movement therewith axially of the tube toward said one end, the external periphery of said member facing the reversely turned portion of the tube during said movement.

3,146,015
MATERIAL HANDLING IMPLEMENT
Joseph O. Roberge, % Cody Garrett, Rte. 1, Caldwell, Idaho
Filed July 6, 1962, Ser. No. 207,983
3 Claims. (Cl. 294—19)



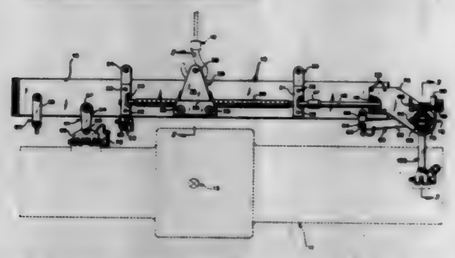
1. A pick-up device, comprising in combination a tubular handle having a laterally angulated hand grip portion at one end thereof and being open at its other end, a fixed jaw projecting longitudinally from one side of said open other end of said handle, the open end portion of said handle being provided at the side thereof opposite said fixed jaw with an elongated recess communicating with the open end of the handle, an apertured ear provided externally on said handle at one side of said recess, a movable jaw pivoted to said ear for movement toward and away from said fixed jaw, an extension provided on said movable jaw and projecting inwardly through said recess into said open end portion of the handle, a tension spring disposed between said jaws and connected at one end thereof to the fixed jaw, the other end of said spring being connected to said extension of the movable jaw whereby to bias the movable jaw away from the fixed jaw, a depressible trigger movably mounted in and projecting outwardly from said hand grip portion, and a link extending longitudinally and wholly contained in said handle, one end of said link being connected to said movable jaw extension and the other end thereof being connected to said trigger, whereby the movable jaw may be moved toward the fixed jaw against the action of said spring when the trigger is depressed.

3,146,016
HOISTING APPARATUS
William G. Daymon, Jr., Warminster, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 30, 1963, Ser. No. 298,805
7 Claims. (Cl. 294—67)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A universal hoisting apparatus for jet engines or the like, comprising:
- a pair of spaced, parallel and longitudinally extending channel members having their outer webs in interfacing relationship,
- said interfacing webs having longitudinally extending rail means formed thereon intermediate the length of said channel members, said rail means including upper and lower bearing faces,
- bearing means adjacent the ends of said rail members interconnected to said channel members,
- a longitudinally extending lead screw rotatably secured in said bearing means and having one end extending beyond said means,

drive socket means extending from beyond the confines of said channel means secured to said extending end of said lead screw for providing a drive connection for said lead screw,

a U-shaped trolley assembly having triangular side faces interposed between said interfacing web members intermediate said bearing blocks, said side faces having shoulder means for engaging said upper bearing faces of said rail means,



roller bearing means rotatably secured to said trolley means engaging said lower bearing faces of said rail means,

said U-shaped trolley assembly having a vertical slot formed in the interfacing surfaces of said triangular plates,

fastening means vertically slidable and horizontally restrained by said slots threadably engaging said lead screw,

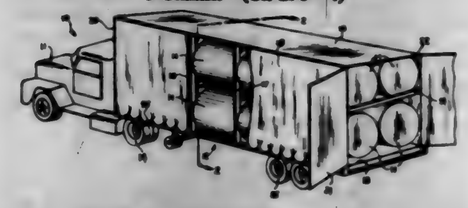
and roller means rotatably secured to said triangular plates for engagement with a hoisting means whereby said hoisting apparatus may be moved relative to the hoisting means when said hoisting apparatus is under load.

3,146,017

VEHICLE FOR ENCLOSING AND CARRYING DIVERSE FORMS OF CARGO

Edwin N. Yeary, Lexington, Ky., assignor to Yeary Transfer Company, Inc., Winchester, Ky., a corporation of Kentucky

Filed Apr. 29, 1963, Ser. No. 276,378
5 Claims. (Cl. 296—4)



1. A vehicle for enclosing and carrying diverse forms of loads and comprising an elongated flat-bed frame and a mobile support therefor; a rigid roof, a first side wall, a front end wall, a rear door, and a withdrawable flexible siding for covering the side of the vehicle opposite said first side wall; a plurality of pairs of vertical uprights spaced from each other and arranged along the respective sides of said frame and affixed at their respective ends to said frame and to said roof, said first side wall being rigidly fixed to the outer surfaces of the uprights along the side of said frame opposite said flexible siding, a plurality of generally horizontal load-supporting beams, each beam being removably attached at the ends to the corresponding uprights of each pair and at a location intermediate the ends of the uprights, each beam having an angularly flanged rail portion confronting the rail portion of the next adjacent beam and adapted to cradle an article therebetween by contact of the horizontal flange of its rail with the lower end of the article and to prevent endwise shifting of the article by abutment of the end thereof with the upright flange of its rail; the several transverse spaces within said vehicle as defined by each beam and its corresponding pair of uprights and the next adjacent beam and its corresponding pair of uprights being unobstructed and adapted to receive articles moved along said beams from the side of said vehicle opposite said fixed first side wall thereof and to permit the first loaded of such articles to be disposed closely adjacent said first side wall, and the longitudinal space within said vehicle between said fixed first side wall and said flexible siding being unobstructed except for said beams; means attached to said beams for securing articles cradled on said beams against movement transverse of said frame, and means for securing articles resting on said bed against movement transverse of said frame; said vehicle when said flexible siding is withdrawn, being adapted for loading from the side and for employing said beams as load-supporting members, and being adapted for loading from the rear when said beams are detached from said uprights.

3,146,018

VEHICLE WITH EXPANDIBLE CARGO SPACE IN TOP

Albert Pearlman, 2470 30th Ave., San Francisco, Calif.

Filed Sept. 7, 1962, Ser. No. 222,106
7 Claims. (Cl. 296—36)



1. In a vehicle with a height-adjustable top for varying the cargo space:

(*a*) a vehicle body having horizontal top rails extending lengthwise thereof along opposite lateral sides of the vehicle body;

(*b*) the vehicle body being provided with a stationary front top section;

(*c*) a vehicle top disposed above the top rails and extending rearwardly from said stationary front top section to the rear of said vehicle body;

(*d*) means swingably securing the leading end of said top against said top section, whereby the top may be raised and lowered into different inclined positions relative to said top rails;

(*e*) a cargo-supporting deck disposed under said top and having its leading end pivotally secured to said stationary front top section; said deck extending to the rear of said vehicle body;

(*f*) said vehicle body being provided with tubular outer columns;

(*g*) said top having arcuate posts slidably received in said outer columns; and

(*h*) means for securing the deck to said arcuate posts for supporting the deck at a desired angular position.

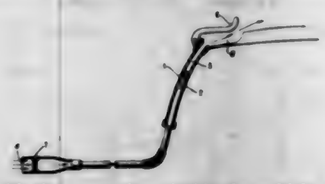
3,146,019

CONSTRUCTION OF MOTOR VEHICLE BODIES

Pierre Ivan Peyches, Paris, France, assignor to Societe Anonyme des Manufactures des Glaces et Produits Chimiques de Saint-Gobain, Chauny et Cirey, Paris, France

Filed July 6, 1959, Ser. No. 824,991
5 Claims. (Cl. 296—84)

1. A motor vehicle body for improving the thermal conditioning of the atmosphere inside the vehicle, said vehicle having a portion of the wall thereof made up of two generally parallel spaced sheets of glass constituting a transparent double wall, one of said sheets of glass being an external sheet having the outer face thereof contacted by the atmosphere outside the vehicle and the other of said sheets being an internal sheet having its inner face in



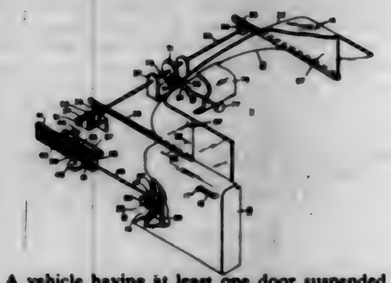
contact with the atmosphere inside the vehicle, the glass of the external sheet being of higher infra red absorbing type than the internal sheet, and means to flow a stream of air through the space between the two sheets of glass and against the confronting faces thereof.

3,146,020

WINDSHIELD ARRANGEMENT FOR VEHICLE

Myers Nobel, Hogwood, Pa.
(Box 560, Star Rte., Cave Creek, Ariz.)

Filed Dec. 15, 1960, Ser. No. 75,985
5 Claims. (Cl. 296—84)



1. A vehicle having at least one door suspended from hinge means in the boundary of a door frame in said vehicle and pivotal about said hinge means from a closed position to an open position, said vehicle including a windshield consisting of a transparent structure of generally longitudinal U cross section extending across the front of said vehicle with at least one arm of the U extending over at least a substantial portion of said door when said door is in said closed position, and means connected to said door and to said windshield and responsive to the pivoting of said door to said open position to move said windshield in a generally horizontal direction to remove said windshield from over said frame to permit ready ingress to, and egress from, said vehicle.

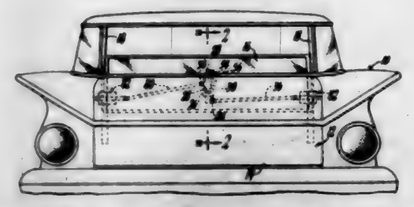
3,146,021

CLOSURE LATCH

Albert L. Ericson, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 24, 1961, Ser. No. 154,427
3 Claims. (Cl. 296—106)

1. In a vehicle body including a closure movable between open and closed positions and having a window opening therein, a window mounted on said closure for movement between open and closed positions with respect to said opening, and latch means for latching said closure to said body, the combination comprising, latch operating means movably mounted on said closure and operatively connected to said latch means for release thereof upon movement of said operating means, an operating member, means operatively connecting said member to said operating means for movement independently thereof between first and second positions and movement therewith as a unit while in both said positions to release said latch means, means preventing movement of said member and said operating means as a unit when said



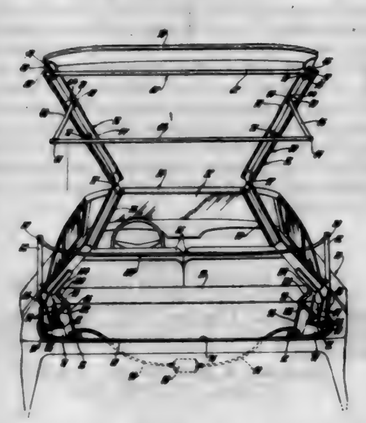
member is in said first position, and means on said member movable into said window opening when said member is moved from said first position to said second position, said window preventing movement of said member to said second position when said window is in said closed position within said window opening.

3,146,022

CONVERTIBLE TOP

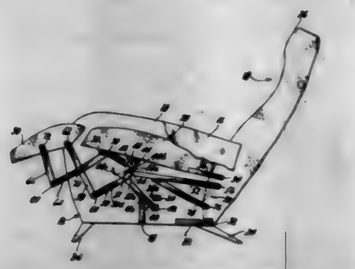
Robert G. Zeller, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 22, 1962, Ser. No. 167,511
5 Claims. (Cl. 296—116)



1. In a convertible top of the type including a spaced pair of inward folding rails pivotally interconnected by a transverse top header, stabilizing means comprising, in combination, means secured to each of said rails for movement therewith, one of said means being located to one side of one of said rail pivots and the other of said means being located to the other side of the other of said rail pivots, and a stabilizer member pivotally connected adjacent one end thereof to said one means to said one side of said one rail pivot and pivotally connected adjacent the other end thereof to said other means to said other side of said other rail pivot, said stabilizer member pivots being located on opposite sides of said stabilizer member, the distance between the centers of one pair of pivots, comprising said one stabilizer member pivot and said one rail pivot, being greater than the distance between the centers of the other pair of pivots, comprising said other stabilizer member pivot and said other rail pivot.

3,146,823
LEG-REST MOUNTING MEANS FOR RECLINING CHAIRS
Anton Lorenz, P.O. Box 742, Boynton Beach, Fla.
Filed Apr. 24, 1962, Ser. No. 189,254
5 Claims. (Cl. 297—85)



1. A reclining chair comprising a support, a body-supporting unit including a seat and back-rest mounted on said support for movement through a first phase of movement from a sitting position into an intermediate resting position and for further movement through a second phase from said resting position into a reclining position, seat control means including a carrier movably mounted on said support, stop means engageable with said carrier in the sitting position of said body-supporting unit for establishing a substantially stationary position for said carrier, a leg-rest control linkage operatively connected to said seat control means, and a leg-rest operatively connected to said leg-rest control linkage, said leg-rest control linkage including a link, a pivot on said link, and means depending from said seat guidingly engaging said pivot to move along a path extending substantially fore and aft of said seat, connecting means operatively connected to a movable part of said chair to elevate said leg-rest, and an actuating link pivotally connected to a movable part of said chair other than said seat at a point spaced from said seat for effecting forward displacement of said pivot in response to reclining movement of said body-supporting unit to simultaneously extend said leg-rest relative to said seat.

3,146,824
CYCLE SADDLE AND METHOD OF FORMING SAME
Richard M. Timms, Memphis, Tenn., assignor to Troxel Manufacturing Company, Moscow, Tenn., a corporation of Ohio
Filed Aug. 8, 1962, Ser. No. 215,694
6 Claims. (Cl. 297—195)



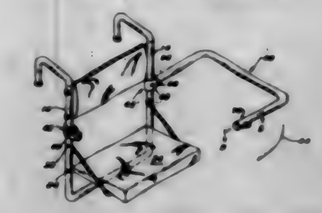
4. A cycle saddle comprising a frame of sheet metal material having the peripheral portion thereof rolled downwardly and having an upwardly opening hollow area formed inwardly of said peripheral portion, said hollow area extending over a major portion of said frame and extending across said frame in closely spaced relationship to the opposite sides of said frame, and a pad consisting substantially entirely of a substantially flat piece of substantially resilient material secured to said frame at the peripheral edges of said hollow area and spanning said hollow area in spaced relationship to said frame for most of the area of said pad whereby space is provided for said pad to stretch and provide a cushioning effect.

3,146,825
MULTIPLE SEATING DEVICE
Jack Heaney, Wilton, Conn., assignor to Reynolds Metal Corporation, New York, N.Y., a corporation of Illinois
Continuation of application Ser. No. 148,676, Oct. 30, 1961. This application Aug. 5, 1963, Ser. No. 303,283
6 Claims. (Cl. 297—248)



1. A multiple seating arrangement comprising a plurality of independent seats, a support for said seats comprising a series of connected triangular disposed leg structures including a front tubular leg for each seat, a pair of spaced rear legs for each seat, one of said rear legs being common for adjacent pairs of said seats and stretchers pivotally interconnecting said rear legs with said front leg of said seats respectively whereby all of said front and rear legs are serially interconnected, and means for removably connecting said seats to said support, said last named means including a stem mounted upon the underside of each seat at the front thereof, a hollow socket upon said support to receive said stem, and a pair of channel members fixed to the underside of each seat cooperating with said stretchers.

3,146,826
CHILD'S CAR SEAT
Daniel Berlin, 4424 Pearl St., Philadelphia, Pa.
Filed Mar. 27, 1962, Ser. No. 182,779
6 Claims. (Cl. 297—255)



1. A car seat comprising a tubular frame, a back portion secured to said frame, a seat portion secured to said frame, means for securing said frame to an automobile seat, a tubular guard rail, means for securing said guard rail to said frame, said means including first and second brackets slidably engaging said frame with one end of said guard rail pivotally secured to said first bracket, said first bracket being free to rotate around said frame, said second bracket being adapted to rotate around said frame, each of said brackets including a substantially tubular sleeve telescoped over said tubular frame, said second bracket including a pair of substantially vertical walls extending outwardly from said sleeve, said walls adapted to receive the other end of said guard rail therebetween, at least one of said walls having a hole formed therein, said other end of said guard rail having a resiliently mounted, depressible locking pin mounted therein, said pin protruding out of a hole formed in the guard rail and being adapted to be receive within said hole in said vertical wall, means associated with said guard rail for depressing said locking pin, said vertical walls including a recess at the outer ends thereof, said recess being adapted to serve as a guide for said depressing means to aid in seating the locking pin within said hole in said vertical wall, said recess being opened at its front and its top, whereby the guard rail may be pivoted to a vertical position around said locking pin with said locking pin remaining engaged within said hole in said vertical wall.

3,146,827
AUTOMOBILE SEAT BELT DELAYED ACTION RELEASE
Ragnar W. Winberg, 115 W. Elder Ave., Floral Park, N.Y.
Filed July 20, 1962, Ser. No. 211,330
2 Claims. (Cl. 297—385)



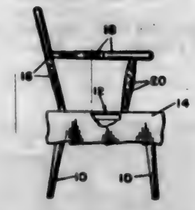
1. In combination with a safety belt adapted to encircle the occupant of a vehicle and connected to the vehicle chassis, a delayed release connector including normally interconnected first and second members, interconnecting means between said first and second members, and a delay release mechanism secured to one of said members and normally having a connection to the other of said members and having tension measuring means and time-delay release means for automatically releasing said interconnection at the termination of a predetermined time period after a tension force of a predetermined amount is applied across said first and second members thereby to facilitate the egress of the occupant from the vehicle.

3,146,828
COLLAPSIBLE SEAT
Raymond Grosfillex, Arbent, Ain, France, assignor to Société à responsabilité limitée dite Grosfillex Freres, Arbent, Ain, France
Original application Nov. 25, 1959, Ser. No. 855,363, now Patent No. 3,061,374. Divided and this application Aug. 31, 1962, Ser. No. 220,716
Claims priority, application France, Nov. 25, 1958, 779,970, Patent 1,216,435; Apr. 4, 1959, 791,251, Patent 1,216,435; Oct. 2, 1959, 806,660
2 Claims. (Cl. 297—440)



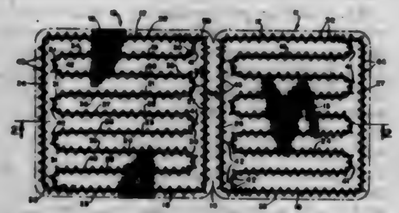
1. A seat comprising a rigid frame made of frame members of generally round section, and comprising supporting legs, a generally horizontal seat frame section on said legs including a front cross member and a pair of relatively short uprights upstanding from said seat section near the rear side corners thereof; and a unitary molded element of resilient molded plastic capable of disassembly from said frame and including a seating portion and a back portion, engaging means integrally molded with the periphery of said element and defining longitudinally slotted tubular means of substantial resiliency including first engaging means adapted for clamping engagement with said front cross member and second engaging means adapted for engagement with the respective uprights whereupon said back portion of the element projects upwardly substantially beyond the top of said uprights, and said seat portion of the element is supported in a position to be sat on by a user.

3,146,829
UPHOLSTERED FURNITURE
Henry J. Gariepy, % Gariepy Products Inc., South Ashburnham, Mass.
Filed June 12, 1962, Ser. No. 201,828
5 Claims. (Cl. 297—445)



1. An article of furniture comprising a seat, a back assembly, leg members, and two armrest assemblies, each armrest assembly includes a supporting standard therefor, and the brackrest assembly including side rails, tenons at the lower ends of the armrest standards and side rails for the backrest, corresponding openings in the seat frame for the reception of said tenons whereby to assemble the backrest, armrests and seat frame, upholstery material on the seat frame, and means cementing the upholstery material about the openings in the seat frame on the top surface thereof.

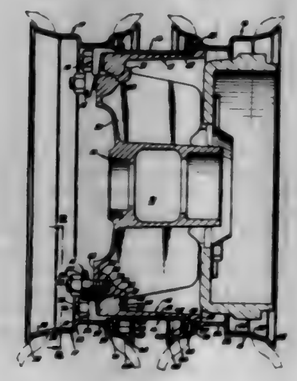
3,146,830
AIR COOL CUSHION
Saul L. Dennison, West Orange, N.J., Moses Seltzer, New York, N.Y., and Samuel M. Seltzer, Short Hills, and Leonard S. Dennison, Maplewood, N.J., assignors to Allison Corporation, Hillside, N.J., a corporation of New Jersey
Filed Aug. 17, 1962, Ser. No. 217,639
4 Claims. (Cl. 297—453)



1. A seat cushion core comprising
(*a*) a substantially rigid forming member, and
(*b*) a coil of resilient wire wound about the forming member,
(*c*) said forming member being in substantially rigid sections,
(*d*) said sections spaced apart,

(*e*) substantially rigid means for connecting said sections in said spaced-apart relations,
(*f*) said coil of resilient wire divided into a plurality of helices,
(*g*) one helix surrounding each rigid forming member section,
(*h*) each said section having an external diameter less than the internal diameter of its helix
(*i*) so that the helix is permitted a lateral free movement relatively to its said section in addition to a flattening movement of the helix incident to superposition of load,
(*j*) the external diameter of the helices in relation to the spacing between adjacent sections being such as to restrain the lateral movement of the helices short of a point where the helices can overlap or cross.

3,146,031
WHEELS FOR VEHICLES
Daniel A. Walther, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed July 31, 1962, Ser. No. 213,795
2 Claims. (Cl. 301—13)



1. The combination of:
a wheel having a plurality of spoke members, a felly surface on the radially outer end of each spoke member, and a flange portion (31) on the axially inner end of each felly surface, each flange portion having a surface (32) oriented substantially perpendicularly to the rotational axis of said wheel;
an annular adapter having a radially inner base portion (35), said base portion having a continuous axially extending surface (36) seating on said wheel felly surfaces and a continuous radially oriented surface (38) seating against the substantially perpendicular surfaces of said wheel flange portions, the radially outer portion of said adapter having a felly surface of axial width substantially greater than the axial width of the wheel felly surfaces;
a first series of clamp lugs supported by bolts (25) on the axially outer face of said spoke members, each said clamp lug having a lateral leg (29) wedged between a wheel felly surface and the axially outer side of the base portion of said adapter;
a dual, inner and outer rim assembly seated on the adapter felly surface, and a second series of clamp lugs supported by bolts (75) on the axially outer face of said adapter, each said clamp lug having a lateral leg (79) wedged between the adapter felly surface and a radially inner portion of said outer rim.

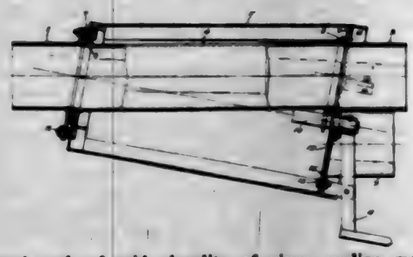
3,146,032
WHEEL COVER
Herbert Furman, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1961, Ser. No. 155,920
1 Claim. (Cl. 301—37)



A wheel cover comprising, a circular cover body derived from an originally polygonally shaped blank and including a cover margin having projecting therefrom a plurality of spaced axially outwardly opening loop-like cover retaining structures derived from the corners of said blank, said retaining structures each including an axially inwardly extending leg adapted to radially confront an axially extending radially facing surface of a vehicle wheel and being joined by an arcuate juncture portion to an axially outwardly extending leg disposed substantially perpendicular to said cover body and having a terminal portion extending radially and substantially perpendicularly outwardly therefrom across a juncture portion, said legs flaring oppositely with respect to each other from their proximal portions adjacent said arcuate juncture area with said axially inwardly extending leg having its area of greatest divergence adjacent the distal end thereof and said axially outwardly extending leg having its area of narrowest divergence adjacent the distal end thereof, said axially outwardly extending legs radially confronting each other across the central portion of said cover body, said terminal portions being shaped to conform radially and circumferentially to the shape of the inner surface of said cover body central portion and radially slidably engaging therewith, cover retaining means formed from the material of said axially inwardly extending legs and located intermediate said cover margin and said arcuate juncture portion for engagement with said radially facing wheel surface to retain said cover on said wheel, engagement of said retaining means with said wheel surface causing said retaining structures to open radially of said cover and to radially move said terminal portions along the inner surface of said cover body central portion, and axially extending rib means engageable with said juncture portion between said axially outwardly extending legs and said terminal portions to limit radial movement of said terminal portions with respect to said cover body.

3,146,033
SWITCH VALVE FOR PIPE LINES
Gustaf Larsson, Jonkoping, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed May 9, 1962, Ser. No. 193,473
Claims priority, application Sweden, May 19, 1961, 5,593/61
4 Claims. (Cl. 302—38)

1. A switch valve assembly for pipe lines, comprising in combination, a common pipe at one end of the assembly, a plurality of pipes at the other end of the assembly spaced axially from said common pipe, a switch pipe mounted for circumferential turning and swinging movement between axially spaced parallel joint planes to shift the flow between said common pipe at one end and said plurality of pipes at the other end, a concentric turning joint between said switch pipe and said common pipe, and a plane sealing joint for the swinging end of said switch pipe, said plane sealing joint including an end wall secured to said plurality of pipes, a resilient plate secured in spaced relation to said rigid plate, sealing means between said resilient plate and said end wall



around each of said plurality of pipes, sealing means between the swinging end of said switch pipe and said resilient plate, and connecting means between said common pipe and said end wall holding the end of said switch pipe against said flexible plate.

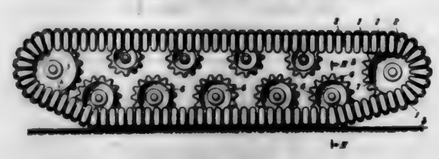
3,146,034
AERATION OF FLUIDIZED SOLIDS
Robert M. Sharp, Noyle B. Knigler, William C. Atherton, and Leonard W. Stanley, Jr., Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Feb. 27, 1962, Ser. No. 176,620
8 Claims. (Cl. 302—53)



1. An aeration device for use with a standpipe provided with means for flowing fluidized finely divided solids downwardly therethrough which comprises an elongated tubular member provided with ports in its wall adapted to be placed in said standpipe intermediate the ends thereof and extend across said standpipe with the ports facing downwardly, means adapted to be arranged on opposite sides of said standpipe for receiving the ends of said tubular member, means attached to one end of said tubular member releasably attachable to one of said receiving means, the end of said tubular member opposite said one end being provided with means for cleaning said tubular member while maintaining said standpipe in operation, and means for injecting gasiform fluid into at least one of the ends of said tubular member whereby said gasiform fluid is injectable into said fluidized solids, said means for flowing finely divided solids downwardly therethrough being arranged above said tubular member.

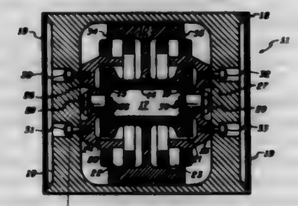
3,146,035
PNEUMATIC TRACK DEVICE FOR TRACK LAYING VEHICLES
Giovanni Beumartini, 2 Via S. Teodoro, Rome, Italy
Filed Aug. 15, 1962, Ser. No. 217,064
Claims priority, application Italy Feb. 24, 1962
6 Claims. (Cl. 305—11)

1. In an endless track device for track laying vehicles which comprises, in combination, a plurality of paired, rigid, dish-shaped elements with successive ones of said pairs of dish-shaped elements spaced from one another longitudinally on said track device, means providing flexible, connecting joints between successive pairs of said dish-shaped elements, a plurality of inflatable, resilient, impermeable covers for protecting said flexible joints and disposed circumferentially of two respective dish-shaped elements spanning a space between two most adjacent dish-shaped elements of two successive pairs of said dish-shaped elements to protect said flexible joints, said covers



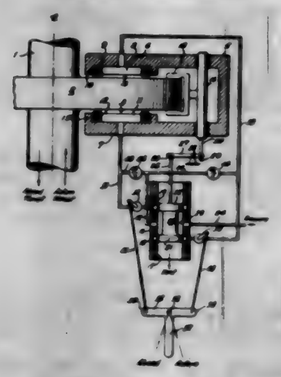
having ground-engaging surfaces comprising treads, means on said covers and means on said elements to effect a fluid-tight seal between the respective cover and said dish-shaped elements on which a cover is mounted.

3,146,036
GAS BEARINGS
Robert J. Benatti, East Northport, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 29, 1962, Ser. No. 198,678
3 Claims. (Cl. 308—9)



1. A gas bearing of the hydrodynamic pressure type including an element movable about an axis having an axial bore with a primary circumferential central area, respective secondary circumferential end areas and radial end areas, a housing for the movable element providing a closed receptacle for a compressible gas, a cylindrical bearing element connected in fixed relation to the housing threading the bore of the movable element, a plurality of pocket providing channels with respective open exterior ends and respective interior end walls in the curved periphery of one of the elements of an axial length corresponding to the axial dimension of one of the secondary circumferential end areas of the movable element arranged in symmetrical corresponding diagonal relation to the axis of the element, a corresponding plurality of pocket providing channels with respective open exterior ends and respective interior end walls in the curved periphery of the one of the elements of an axial length corresponding to the axial dimension of the other of the secondary circumferential end areas of the movable element arranged in symmetrical corresponding diagonal relation to the axis of the element opposite to that of the one of the secondary channels, a pair of axially spaced thrust pads mounted on the fixed bearing element in juxtaposed relation to the respective radial end areas of the movable element, and means for rotating the movable element with respect to the bearing element at a speed that provides a film of gas therebetween having zones of positive and negative hydrodynamic gas pressure at the primary circumferential central area of the moving element, having pocketed zones of positive hydrodynamic gas pressure at the respective secondary circumferential end areas of the moving element exerted radially of the axis, and having zones of opposing positive hydrodynamic gas pressure between the respective pads and the radial end areas of the movable element exerted along the axis.

3,146,037
THRUST BEARINGS
Ralph J. Hooker, Schenectady, N.Y., assignor to Mechanical Technology Incorporated, Latham, N.Y., a corporation of New York
Filed Jan. 25, 1963, Ser. No. 253,836
24 Claims. (Cl. 308—9)



6. A thrust bearing for a rotatable member capable of limited axial movements under axial thrust forces, which comprises:

(*a*) a rotatable member having a peripheral flange with its opposite faces in planes approximately normal to the axis of rotation of the member,

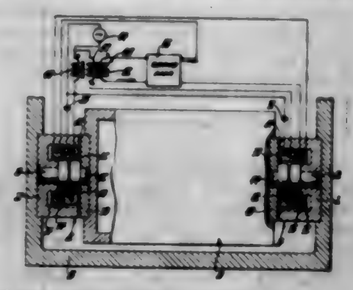
(*b*) a relatively stationary element having surfaces extending along said opposite faces of said flange, in close proximity to said flange faces, and having a recess with a continuous peripheral side wall in each of its said surfaces that opens toward the flange,

(*c*) a sealing ring means in each such recess, expandable outwardly into sealing contact with said peripheral side wall of the recess and movable outward from the recess into contact with the flange of said member,

(*d*) and means activated by axial displacement of said member for supplying to the recess of said element toward which said flange moves during any axial displacement, due to thrust forces acting on said member, a lubricating fluid under pressure to force said rotatable member axially in a direction to return said rotatable member to its initial axial position occupied prior to the receipt of said thrust forces and cause leakage of said fluid past the contact surface of the ring means with said flange to lubricate the same and carry off heat generated by the contact of the sealing means with the flange.

3,146,038
THREE-AXIS MAGNETIC SUSPENSION
Argyle G. Lautzenhiser, Essex, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 7, 1962, Ser. No. 171,686
6 Claims. (Cl. 308—10)

1. A magnetic suspension system for providing three axis magnetic suspension of a body and comprising first and second electromagnets disposed adjacent but spaced from opposite sides of the body and along a selected axis thereof, each electromagnet comprising an energizing coil and means providing a flux path therefor, the flux path including a magnetic pole piece mounted on supporting means, each pole piece having a pole face with a plurality of coaxial annularly projecting rings therein, means disposed on the body for completing the flux path including first and second coaxially disposed magnetic armatures disposed adjacent but spaced from the pole pieces, the first and second armatures having pole faces with pluralities of coaxial annularly projecting rings therein associated with and corresponding in configuration with the annular rings in the pole faces of the pole pieces of the first and second electromagnets, respectively, circuit means connected with each coil for applying constant alternating voltage thereto so as to develop attractive magnetic forces between each electromagnet and its associated armature on the body, the configuration of the pole faces of the armatures and pole pieces of the electromagnets affording high permeance gradients so as to obtain a high degree of stiffness of magnetic suspension resisting displacements of the armatures transversely of the pole faces of the pole pieces of the electromagnets, the pole faces of the first and second armatures being equally spaced from and having their annular rings facing the corresponding annular rings in the pole faces of the pole



pieces of the first and second electromagnets, respectively, when the current flowing in the coil of the first electromagnet is equal to the current flowing in the coil of the second electromagnet, the coil of each electromagnet having an inductive reactance which varies inversely with axial displacements between the body and the electromagnet so as to vary the value of the current flowing therein, control means connected with the coils responsive to the difference in current flowing in the coils and operative to develop control signal voltages indicative of the extent and direction of axial displacements of the body with respect to the electromagnets, first and second compensating coils located in the magnetic field of the first and second electromagnets, respectively, connected with the control means and responsive to the output signal voltages so as to develop magnetic froces acting on the body restoring the body to its original position.

3,146,039
BALL BEARING
William M. Dunn, West Covina, Calif., assignor to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Filed July 31, 1961, Ser. No. 128,019
5 Claims. (Cl. 308—201)



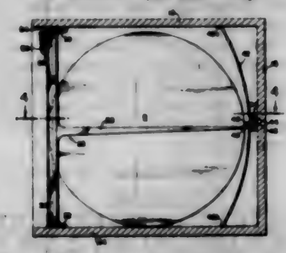
1. A bearing ball retainer ring for a radial ball bearing comprising: a generally annular body having a plurality of circumferentially, equally spaced apart bearing ball retainer pockets extending laterally therethrough and an opening extending longitudinally between each of said retainer pockets and one end edge of said body for insertion of bearing balls therethrough into each of said pockets; a plurality of indentations formed in the end edge of said body opposite the first mentioned end edge, said indentations being of such size, shape, and position as to locate the center of mass of said body in a plane which is normal to the longitudinal axis of said body and intersecting the centers of said retainer pockets.

3,146,040
FIFTH WHEEL
John I. Gist, St. Charles, Mo.
(400 MacArthur, Washington, Mo.)
Filed Feb. 14, 1963, Ser. No. 258,409
1 Claim. (Cl. 308—222)



A fifth wheel construction comprising a base plate having a substantially centrally located opening and provided with a plurality of aligned groups of pockets in one surface thereof, axles fixed to the base plate, each axle passing through a group of aligned pockets, a plurality of rollers provided with central passages, bushings fitted to the passages, the rollers and bushings being rotatably journaled on the axles and suspended within the pockets so as to protrude above the surface of the base plate, and lubrication fittings positioned on one end of the axles and in a side wall of the base plate, the axles being provided with lubricating passages communicating the lubrication fitting with the interior surfaces of the bushings.

3,146,041
STORAGE ENCLOSURE FOR PHONOGRAPH RECORDS
Pierre Lambert, 175 Orchard Ridge Road, Chappaqua, N.Y.
Filed Oct. 26, 1961, Ser. No. 147,991
2 Claims. (Cl. 312—10)



1. A disc record storage unit comprising in combination a rectangular cabinet having one vertical side open, a plurality of partitions vertically disposed within the cabinet, said partitions being parallel and equally spaced from each other to form individual record receiving pockets, each partition having a vertical edge portion adjacent the open side of the cabinet and generally coextensive therewith, a resilient loop of material secured to the vertical edge portion of each partition so that the loop will extend outwardly from said vertical edge portion, each loop being of sufficient size to partially span the space between adjacent partitions and tangentially engage the adjacent loop to form a dust seal, record indicia means positioned immediately adjacent the upper portion of the outward edge of the partitions, and resilient means secured to the cabinet for resiliently supporting said record indicia means so that the indicia means will move to a non-interfering position during removal and insertion of the records.

3,146,042
PIN DISPENSER
Woodrow W. Patterson, 3723 Princeton Ave., Nashville 5, Tenn.
Filed July 3, 1962, Ser. No. 207,219
9 Claims. (Cl. 312—73)



1. A dispenser for magnetic straight pins comprising:

(*a*) a portable base,

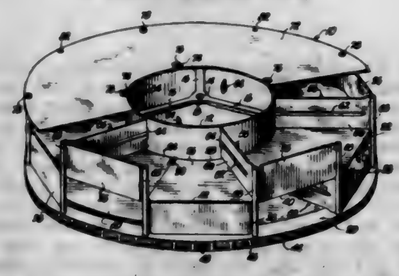
(*b*) a magnet supported on said base having a top surface,

(*c*) a tubular column having an open top and a bottom portion, for receiving said pins,

(*d*) means on said base for supporting said column in an upright position above said top surface,

(*e*) said bottom portion comprising an outlet for one or more pins, spaced above said top surface a distance less than the length of any of said pins, said outlet being coaxial with said column.

3,146,043
ROTATABLE ARTICLE SUPPORT STRUCTURE FOR VENDING MACHINES
Elmer C. Johnson, Raytown, and Albert V. Edmonds, Kansas City, Mo., and Kenneth D. May, Shawnee Mission, Kans., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Jan. 8, 1962, Ser. No. 164,888
10 Claims. (Cl. 312—97.1)



1. In a coin-actuated machine adapted to contain a number of articles to be vended and having an access aperture therein through which an article is permitted to pass for removal from the machine, the improvement of which comprises article receiving tray means adapted to be disposed within the machine adjacent said aperture for moving individual articles into register with said aperture upon actuation of said machine, said tray means including:

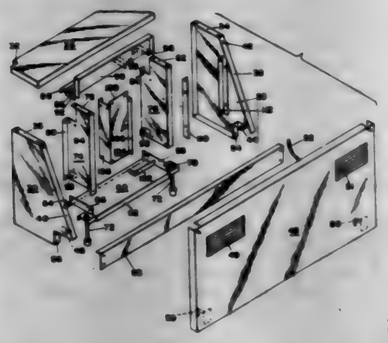
(*a*) a supporting member adapted to be mounted within the machine for rotation about a vertical axis through a predetermined arc each time said machine is actuated;

(*b*) a pair of vertically spaced, superimposed, article-supporting elements mounted on said member in surrounding relationship thereto;

(*c*) a plurality of circumferentially spaced, radially extending partitions on said elements and secured to the outer surface of the member for dividing the area above said elements into a number of upper and lower article-receiving compartments respectively; and

(*d*) panel means on at least one of the elements adjacent the peripheral edge thereof and cooperable with said dividing means for defining peripheral access openings for the compartments with each access open of an upper compartment offset circumferentially of the elements relative to the access openings of the next adjacent lower compartment, the proximal side edges of adjacent upper panels defining the upper access openings and the proximal side edges of adjacent lower panels defining the lower access openings whereby access may be alternately provided to upper and lower compartments by rotation of said member through successive predetermined arcs to bring successive access openings into alignment with said aperture.

3,146,044
ENCLOSURE
Bernard Sacks, Broomall, Pa. (% Bernard Sacks & Associates, 1714 Walnut St., Philadelphia 3, Pa.)
Filed Mar. 8, 1962, Ser. No. 178,464
8 Claims. (Cl. 312—213)



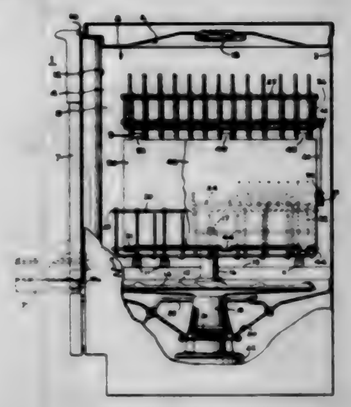
1. An article of manufacture comprising an enclosure having a top wall, side walls connected to said top wall along side edges thereof, a pivotably supported front wall extending between said side walls, said enclosure lacking a bottom wall so that the interior thereof may be in communication with the surrounding atmosphere, means within said enclosure for supporting an air conditioner therein, said means including a substantially horizontal panel, said panel having a front edge and a rear edge, the front edge of said panel being closer to said front wall than said rear edge, and means for selectively adjusting the elevation of said front edge of said panel.

3,146,045
FRONT OPENING DISHWASHER WITH IMPROVED RACK ARRANGEMENT
Melvin R. Kaufman, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 13, 1962, Ser. No. 237,185
7 Claims. (Cl. 312—229)

1. A washing machine comprising:

(*a*) a washing enclosure having an access opening formed at the front thereof;

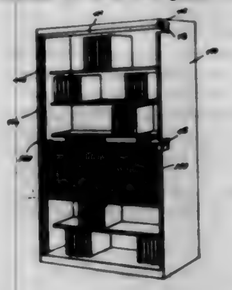
(*b*) a closure member for said access opening pivotable about its lower edge between a substantially vertical closing position and a substantially horizontal open position; and



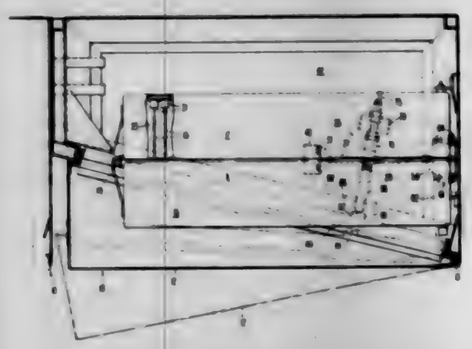
(*c*) a rack assembly for supporting articles to be washed positioned in said enclosure and mounted on guide means for substantially horizontal movement completely out through said access opening, said rack assembly including: a lower rack having two sides, a front, and a back forming a substantially horizontal rectangle; a pair of upper rack sections positioned side by side, each said upper rack section having sides, a front and a back forming substantially horizontal rectangles, the fronts of said upper rack sections being additively substantially equal in length to the front of said lower rack when said upper rack sections are positioned with their near sides adjacent each other; and linkage means pivotally securing each of said upper rack sections to said lower rack in one of two positions, said upper rack sections being positioned directly over and spaced from said lower rack with their near sides adjacent and with their fronts forming a line substantially vertically above the front of said lower rack in one of said positions, said upper rack sections having their near sides remote from each other so that they are spaced apart and spaced from said lower rack in the other of said positions thereby to make said lower rack accessible.

3,146,046
VERTICAL FILING CABINET WITH FIXED OR MOVABLE COMPARTMENTS FOR STANDING OR HANGING UP THE FOLDERS THEREIN
Otto Alfred Becker, Robert Koch Strasse 59, Saarbruecken, Germany
Filed Dec. 28, 1960, Ser. No. 78,927
3 Claims. (Cl. 312—234.2)

1. A filing cabinet comprising rectangular compartments arranged one upon another and adapted to house numbered folders therein; said compartments having index means mounted on a panel; said index means including at least as many replaceable labelling strips as there are folders located in said compartments; each of said labelling strips being associated with one of said folders and carrying a label and the number of said associated folder; said label on said labelling strip being indicative of the contents of the folder; said panel being located at the front side of said compartments and engaging guiding means extending vertically on both front side edges of the compartments so that the panel is slidably displaceable in the vertical direction parallel to the front side of the compartments.



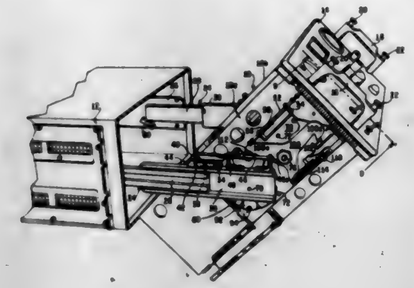
3,146,047
SUPPORTING APPARATUS
Leon Mayon, Philadelphia, and Robert H. Riches, Malvern, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 15, 1962, Ser. No. 217,009
14 Claims. (Cl. 312—319)



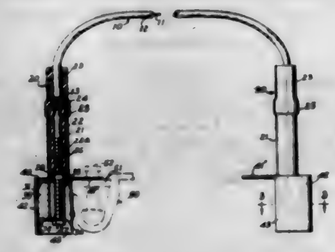
4. In apparatus for supporting a rack assembly about a hinge axis, the combination comprising, interconnected link means, pivot means supporting said link means, wedge means secured to said link means, guide means disposed in a direction transverse to said hinge axis for receiving said wedge means, and fulcrum means connected to said interconnected link means to vary the angular relationship between the same to thereby cause said wedge means to be moved relative to said guide means and into engagement with said rack assembly.

3,146,048
CABINET FOR ELECTRONIC EQUIPMENT
Roger W. Graham, Williamsville, and Allan D. Lesser, Depew, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 27, 1962, Ser. No. 212,949
8 Claims. (312—323)

1. In cabinet installed equipment including a cabinet, a pair of extensible track assemblies mounted on opposite side walls of the cabinet, and a chassis having a front panel and a pair of side walls, pivotal support means for mounting the chassis on the track assemblies for tilting movement thereon comprising, a pair of studs projecting from opposite side walls of said chassis, a notched detent block mounted on each of said studs for rotation relative thereto, means releasably securing said detent blocks to respective ones of said track assemblies, a crank pivotally mounted on each of the side walls of said chassis and shaped at one end thereof for coaction with said detent block, spring means arranged to normally urge said one end of said crank into engagement with a notch in said detent block, a releasable latch mounted on each of the side walls of said chassis for coaction with a respective crank normally to limit rotation of the crank to an amount insufficient to allow disengagement of said one end thereof from a notch, and means accessible from said front panel for releasing said latch.

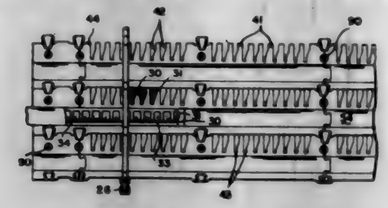


3,146,049
ELECTRIC BY-PASS ASSEMBLY
Clifford E. Sloop, 2230 10th St., Columbus, Ga.
Filed Apr. 27, 1962, Ser. No. 190,561
6 Claims. (Cl. 339—12)



1. In a by-pass assembly of the type having a cable and a contact assembly on the end of said cable, the combination wherein said contact assembly including an axially extending metallic core electrically connected to said cable and a housing for said core, said core having a shank and a core head substantially aligned with each other and electrically connected together, said core head having a flat inner side surface for contacting a surface of a terminal and a magnet for urging said flat inner surface into engagement with said terminal, and a housing for enclosing said core, said housing including a handle surrounding said shank and an insulating shield for said core head.

3,146,850
PATCHING PANELS FOR ELECTRICAL INTERCONNECTIONS
Frank Kozlen, Oriskany, N.Y., Alfred F. Smith, Estontown, N.J., and John A. Thompson and Royden F. Allen, Rome, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed June 21, 1961, Ser. No. 118,745
1 Claim. (Cl. 339—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)

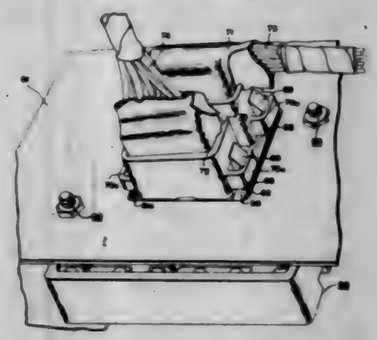


A connecting panel including in combination a plurality of superposed dielectric elements meeting in face-to-face contact, a projection extending vertically from the upper surface of each of said elements, each of said elements having a recess extending into its lower surface, said recess being engaged frictionally by the vertical projection of one of said elements beneath it to form a mechanical lock fitting together adjacent ones of superposed elements, each of said elements having its upper surface recessed so as to form a rectangular electrical conductor-receiving groove and having on one side of said groove plural spaced projections providing electrical conductor-receiving spaces therebetween, and each of said elements having in a plane below the groove therein a plurality of apertures equal in number to said conductor receiving spaces and into which a connecting plug may be inserted to establish an electrical link between an electrical conductor occupying said groove and an electrical conductor occupying any one of said conductor-receiving spaces, and said groove terminating at one end in a wedge-shaped extension and at the opposite end in a dovetailed recess whereby when said elements are arranged in an end-to-end relationship said extension grips into said recess thereby permitting horizontal development of said elements from either end in addition to said superposed vertical relationship.

3,146,851
TERMINAL AND MOUNTING MEANS
Robert C. Woofter, Cortland, and Donald G. Baer, Girard, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1960, Ser. No. 55,483
4 Claims. (Cl. 339—47)

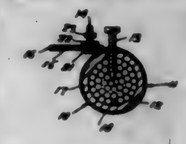
1. Connector means for linear interlock including a pair of separable terminals and mounting means therewith, comprising, a pair of insulating mounting bodies each having an axial passage therein including first and second shoulder means located laterally in spaced apart positions, interlock means provided for telescopic mating of said insulating bodies per se, a pair of identical metal terminal bodies each including a conductor attaching portion, a box-like intermediate portion integral at one end with said conductor attaching portions and having integral first as well as second tang means projecting laterally outwardly to engage said first and second shoulder means respectively for prevention of removal thereof in opposite directions inside each of said insulating bodies, an extended blade-like floor portion longitudinally integral with said box-like intermediate portion at an end opposite to that of said conductor attaching portion, said box-like portion being open at opposite ends, a spring tongue portion integral with said blade-like floor portion at an end thereof remote from said intermediate portion so as to project back angularly to said floor portion and having a width less than that of each box-like intermediate portion to permit termination of each spring tongue portion within confines of said box-like intermediate portion, each of said spring tongue portions having a length substantially equal to the total length of said blade-like floor portions plus that of said box-like intermediate portions for face-to-face full-length electrical contact of corresponding tongue portions resiliently maintained totally enclosed within said box-like intermediate portions per se axially adjacent to each other simultaneously with outer telescopic mating of said interlocking means of said insulating bodies, said box-like intermediate portions having said tongue portions telescopically shielded therebetween when said box-like intermediate portions complement and axially abut each other.

3,146,852
VEHICLE-PANEL CONNECTOR
Donald C. Burch, Birmingham, and Richard E. Trudeau, Dearborn, Mich., and Raymond Helle, Warren, and Robert C. Woofter, Cortland, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1960, Ser. No. 55,482
4 Claims. (Cl. 339—91)



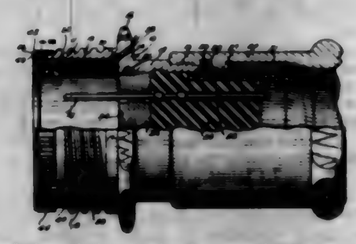
1. A combined vehicle-panel connector means, comprising, housing portions of insulating material each having plural parallel rows of rectilinear passages therein, a pair of U-shaped lateral non-metallic extensions purposely integral with at least one of said housing portions, and a pair of non-metallic arms with hook ends adapted to be flexed into and out of said U-shaped extensions and purposely integral with another of said housing portions, a plurality of identical terminal means each including a box-like intermediate portion retained in each of said rectilinear passages of said housing portions and each having a spring contact portion adapted to engage a corresponding spring contact in contiguous relation as well as projecting at least in part into said box-like intermediate portion of said mating identical terminal means to be in compact array and alignment.

3,146,853
POTENTIAL TAP DEVICE
Howard E. Strock, Charlotte, N.C., assignor to Associated Engineering Company, Matthews, N.C., a corporation of North Carolina
Filed Feb. 21, 1961, Ser. No. 90,808
2 Claims. (Cl. 339—97)



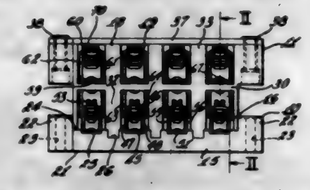
1. In combination, a current carrying cable including an insulated covered conductor and a potential tap device operatively mounted thereto; said device comprising a single anchor band surrounding said cable to define an enclosed volume for the reception of said cable; a self-threading screw means extending through and threadedly engaging tightly fitting aligned aperture means in overlapping portion of said band with the tip of the screw means entered into the conductor for electrical and mechanical connection thereto; said band being constructed of an elongated strip whose length exceeds the circumference of the band, with said band tightly engaging substantially the entire periphery of said cable, whereby the drive force of said screw means is transferred about the periphery of said cable; said overlapping portions closely abutting said conductor at the point of entry of said screw.

3,146,854
CONNECTOR WITH INDEXING MEANS
Jack F. Shearer, Highland Park, and Joseph A. Nava, Villa Park, Ill., assignors to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey
Filed May 3, 1961, Ser. No. 107,386
5 Claims. (Cl. 339—113)



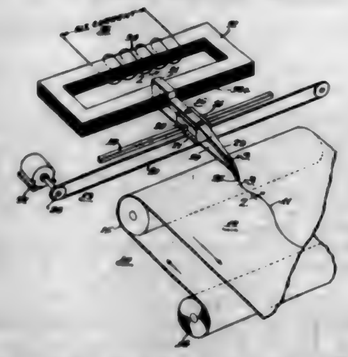
1. An indexable key device for use with line connectors comprising a connector shell, a polarization adapter and a lock nut, said connector shell having a bore formed therein and including a plurality of notches circumferentially spaced from one another at one end of the shell, said adapter comprising a sleeve insertable into said shell and including external key means engaging said notches in said shell at different angular alignments of said adapter relative to said shell, said adapter having internal groove means for engaging key means in a mating receptacle, said shell having an aperture formed therein and said adapter having an indicia on the peripheral surface thereof in register with said aperture to identify the relative angular alignment therebetween, and said lock nut being engageable with one end of said shell and engaging said adapter to lock the adapter in fixed position.

3,146,855
PLUG IN TERMINAL BLOCK
Richard L. Lisa, Chicago, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 18, 1961, Ser. No. 138,708
7 Claims. (Cl. 339—176)



3. A plug in terminal block comprising first and second insulating bases, a set of first contacts each comprising a four sided rectangular frame of conducting material that is open between said sides to receive the end of a conductor, means mounting said first contacts on said first base in a line with said conductor receiving openings each facing in a direction that is generally orthogonal to the direction of contact alignment and the direction of plugging in and unplugging the terminal block, and a set of second contacts mounted on said second base and each having means to engage two of the sides of a contact of said first set.

3,146,856
INDUCTIVELY ENERGIZED RECORDING STYLUS
Henry A. Kampf, 4835 Prospect, Downers Grove, Ill.
Filed Apr. 25, 1960, Ser. No. 24,397
5 Claims. (Cl. 346—76)

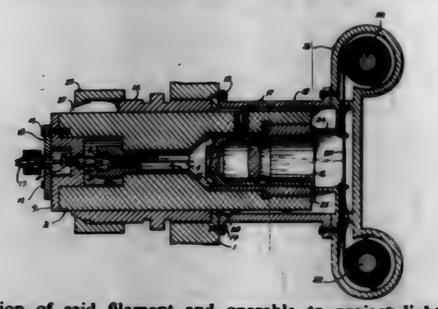


5. In a recording device for drawing a trace on a sensitive surface, the combination of first means energizable from an alternating voltage source for creating an alternating magnetic field, a stylus movable along a predetermined path adjacent the surface and responsive to electrical excitation for affecting the sensitive surface, and second means movable with said stylus and coupled with said first means by only an inductive coupling with said field for electrically exciting said stylus throughout movement along said path so as to permit relative movement between said stylus and said first means with freedom from mechanical retarding forces.

3,146,857
VIBRATILE TRANSPARENT FILAMENT ACCELEROMETER
Thomas P. Rona, 614 Hazel St., Kent, Wash.
Filed May 8, 1961, Ser. No. 108,458
6 Claims. (Cl. 346—108)

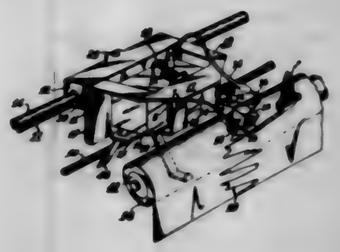
1. Disturbance indicating mechanism comprising a casing having a bore therethrough, a vibratile light-con-

ductive limber filament received in said bore and extending lengthwise thereof, opaque filament mounting means secured in such bore, mounting said filament in cantilever fashion by one end portion which extends completely through said mounting means, for relative swinging of the free end portion of said filament and said casing resulting from the inertia of said filament upon acceleration of said casing, a light source at the side of said filament mounting means remote from the free end



portion of said filament and operable to project light into the end of the end portion of said filament mounted by said mounting means, and light-sensitive indicating means carried by said casing in registry with said bore and located at the side of said filament mounting means remote from said light source for reception of light transmitted from said light source through said filament for producing a trace on said indicating means to indicate relative swinging of the free end of said filament and said casing.

3,146,058
RECORDING PEN AND INK SUPPLY SYSTEM
William H. Henshaw, Hopewell Junction, N.Y., assignor, by mesne assignments, to Esterline Angus Instrument Company, Inc., Indianapolis, Ind., a corporation of Delaware
Filed July 6, 1961, Ser. No. 122,336
16 Claims. (Cl. 346—140)



1. A pen for writing on a surface comprising a nib, means for supplying a writing fluid to said nib, said nib having a capillary-size bore, the portion of said bore adjacent said surface being enlarged to define a reservoir cavity for said writing fluid, said cavity defining a mouth, the cross-sectional area of which is greater than that of a capillary-size bore, and means integrally associated with said nib for maintaining a selectably predetermined gap between said nib and said surface, whereby no part of said nib is in contact with said surface and the wearing of said nib is substantially reduced.

CHEMICAL

3,146,059
EVAPORATION-SUPPRESSING AGENTS AND METHOD OF THEIR PRODUCTION
Masaomi Suzuki, Chigasaki, Kanagawa, Yoshiyuki Shinohara, Ootake, Hiroshima, and Yoshiaki Mihara, Masajiro Ooka, and Tatsuo Tomioka, Tokyo, Japan, assignors to Nikken Chemicals Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,723
Claims priority, application Japan Nov. 20, 1957
4 Claims. (Cl. 21—60.5)

1. A method of reducing evaporation of water from water surfaces which are exposed to the atmosphere, comprising the step of spreading on said surface as an interface between said surface and the atmosphere a thin film of material of the following formula:

$$CH_3—(CH_2)_m—O—(CH_2—CH_2—O)_n—H$$

wherein m is 15–21 and n is 1–5.

3,146,060
SUPPRESSION OF EVAPORATION OF HYDROCARBON LIQUIDS
Gerard P. Canevari, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 21, 1959, Ser. No. 860,714
17 Claims. (Cl. 21—60.5)

10. A method of reducing the rate of evaporation from the free surface of a body of liquid which comprises covering said liquid surface with a plurality of discrete particles in continuous rubbing contact with each other, said particles having an average diameter in the range one micron to one-half inch, each being essentially hollow, spherical, and gas filled, and having a continuous exterior surface film of a material essentially non-wettable by said liquid; said film constituting from 1.5 to 6.0 wt. percent of said particle.

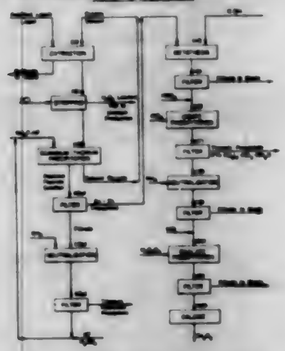
3,146,061
METHOD FOR SEPARATION OF HYDROGEN HALIDES FROM MIXTURES CONTAINING SAME
Jawad H. Murib and Julius Feldmann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Apr. 28, 1959, Ser. No. 809,348, now Patent No. 3,067,009, dated Dec. 4, 1962. Divided and this application May 16, 1962, Ser. No. 195,317
7 Claims. (Cl. 23—3)

1. A process for separating hydrogen chloride from anhydrous gaseous mixtures thereof with at least one gas from the group consisting of boron hydrides, hydrogen and saturated aliphatic hydrocarbons, which comprises contacting said gaseous mixture, at a temperature that does not exceed about 25° C., with a complex formed by (1) Lewis-type acid halide from the group consisting of a chloride of a group III–A metal, a chloride of a IV–A metal, a chloride of a group V–A metal, ferric chloride and zinc chloride with (2) an alkylaromatic hydrocarbon, said complex formed by (1) and (2) being characterized by selectively complexing the hydrogen chloride in the gaseous mixture to provide a complex of hydrogen chloride that is less volatile than the other gas in mixture with the hydrogen chloride, and heating the resulting complex of the hydrogen chloride to dissociate the hydrogen chloride, said process being further characterized in that the gaseous mixture from which the hydrogen chloride is to be separated is contacted with an amount of the complex formed by (1) and (2) sufficient to complex substantially all of the hydrogen chloride in the gaseous mixture, and then separating the resulting purified gas from the complex containing the hydrogen chloride.

3,146,062
PREPARATION OF A LITHIUM PERCHLORATE-HYDRAZINE COORDINATION COMPOUND
Kenneth O. Groves, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 1, 1960, Ser. No. 40,475
2 Claims. (Cl. 23—14)

1. A process for the preparation of lithium perchlorate-hydrazine complex, which comprises dissolving the lithium perchlorate in ethyl ether to form a substantially anhydrous lithium perchlorate solution, adding to the lithium perchlorate solution anhydrous hydrazine dissolved in ethyl alcohol to react the hydrazine with lithium perchlorate to obtain the lithium perchlorate-hydrazine coordination product as a precipitate, and recovering the lithium perchlorate-hydrazine product from the resulting reaction product.

3,146,063
PROCESS FOR SEPARATING SCANDIUM FROM MIXTURES CONTAINING SCANDIUM AND THORIUM VALUES
James D. Moore and Norman N. Schiff, Salt Lake City, Utah, assignors to Vitro Corporation of America, New York, N.Y.
Filed Jan. 3, 1961, Ser. No. 80,260
4 Claims. (Cl. 23—14.5)



1. The process for separating scandium from a mixture of scandium and thorium, which comprises precipitating the thorium as the insoluble iodate from a mineral acid solution containing ions of scandium and thorium by adding a soluble iodate ion in aqueous solution, said mineral acid being free of ions which would prevent the iodate precipitaion, separating the precipitate from the liquid, adding an aqueous solution of ammonia as a source of hydroxide ions to said liquid to produce a solution having a pH of about 6 to about 9 to precipitate selectively the scandium as scandium hydroxide and to increase the solubility of any alkali and alkaline earth metal ions present, and removing the scandium hydroxide.

3,146,064
DECONTAMINATION OF URANIUM
Robert L. Moore, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 29, 1952, Ser. No. 307,181
10 Claims. (Cl. 23—14.5)

1. A process for separating uranium values from an acidic aqueous solution containing uranium values and at least one compound selected from a metal value group consisting of zirconium values and plutonium values, which comprises adding a water-soluble salt selected from a salt group consisting of sodium fluoride, ammonium fluosilicate, sodium fluosilicate, and potassium fluosilicate to said acidic aqueous solution, contacting the resultant solution with a substantially water-immiscible liquid organic solvent and separating an organic solvent phase containing uranium values from an aqueous raffinate containing said metal values.

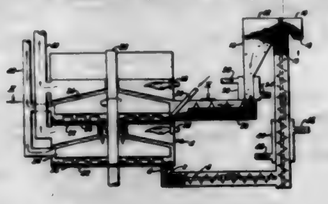
3,146,065
PRODUCTION OF BERYLLIUM CHLORIDE FROM BERYL ORE
Ricardo O. Bach, Gastonia, N.C., assignor to Beryllium Metals and Chemical Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Nov. 22, 1961, Ser. No. 154,339
9 Claims. (Cl. 23—87)

1. The process comprising the steps of fluorinating beryl ore in order to provide a first reaction product containing a beryllium fluoride complex, chlorinating the first reaction product in order to produce a second reaction product containing beryllium chloride and a remainder at a temperature at which said remainder of said second reaction product remains solid, and vaporizing said beryllium chloride at a temperature at which said remainder of said second reaction product remains solid in order to remove said beryllium chloride therefrom.

3,146,066
PROCESS FOR PRODUCING BERYLLIUM CHLORIDE FROM BERYLLIUM OXIDE MATERIAL
Ricardo O. Bach, Gastonia, N.C., assignor to Beryllium Metals and Chemical Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Feb. 6, 1962, Ser. No. 171,360
11 Claims. (Cl. 23—87)

1. A process for producing the chloride of beryllium from an inorganic oxidic form of beryllium, said process comprising the steps of reacting said oxidic form with a member of the class consisting of silicon chloride and boron chloride in conjunction with a compound of an element selected from the class consisting of the alkalis and alkaline earths other than beryllium, said compound being selected from the class consisting of the oxides, halides and carbonates, the temperature of said steps of reacting being within the range of from 1000 to 1550° C.

3,146,067
METHOD FOR DECOMPOSING SULFURIC ACID SLUDGE
William H. Litchfield, Port Arthur, Tex., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application June 18, 1958, Ser. No. 742,946, now Patent No. 3,060,005, dated Oct. 23, 1962. Divided and this application Feb. 15, 1962, Ser. No. 173,547
3 Claims. (Cl. 23—177)



1. Method for recovering acid values from sulfuric acid sludge which comprises introducing hot coked material into a decomposition zone, immediately spreading said hot coked material to form a layer having an average

thickness of about one to about nine inches, spraying atomized sulfuric acid sludge onto said layer at the point of entry of said hot coked material into said decomposition zone to coat said hot coked material while maintaining a spray cone pattern of about 88° to about 92°, one edge of said cone being substantially perpendicular to said layer, maintaining the temperature in said decomposition zone sufficiently high to substantially coke the major portion of the hydrocarbon material in said sludge and obtain gaseous decomposition products, removing said gaseous decomposition products from said gaseous decomposition zone, removing coked material from said decomposition zone and recycling a portion of said latter coked material to constitute the hot coked material coated with the sulfuric acid sludge.

3,146,068

PREPARATION OF SULFURYL FLUORIDE

John Richard Soulen, Philadelphia, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 23, 1962, Ser. No. 175,321
6 Claims. (Cl. 23—203)

1. A process for the preparation of sulfuryl fluoride free of thionyl fluoride and without the formation of pyrosulfuryl fluoride which comprises pyrolyzing at a temperature between about 600° and 800° C. and at a pressure between about 500 to 2000 p.s.i.g. a composition having the empirical formula $Ca(SO_3F)_xF_{2-x}$ where x is digit from one to two.

3,146,069

METHOD OF PREPARING PHOSPHORUS PENTASULFIDE OF CONTROLLED REACTIVITY

Stephen Robota, North Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 27, 1959, Ser. No. 816,045
4 Claims. (Cl. 23—206)

1. A method for producing phosphorus pentasulfide of controlled reactivity which comprises raising the temperature of solidified phosphorus pentasulfide to an annealing temperature in the range between about one hundred and fifty degrees centigrade and a temperature just below the melting point for a period of time up to about twenty-four hours to reduce the reactivity of said phosphorus pentasulfide, and cooling the resulting phosphorus pentasulfide of lowered reactivity to a desired temperature.

3,146,070

pH INDICATOR UNIT

Galen F. Collins, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Apr. 18, 1960, Ser. No. 22,699
3 Claims. (Cl. 23—253)

1. A pH indicator unit comprising a bibulous body carrying a homogeneous mixture consisting essentially of a pH indicator dye, about from 75% to 98% by weight of polyvinyl alcohol and from about 1.4 to 25% by weight of a non-volatile, non-ionic surface active agent, said proportion being exclusive of the bibulous body.

3,146,071

REFUSE RECLAMATION SYSTEM

Norman A. Pierson, Norman, Okla., assignor to Naturizer, Incorporated, Norman, Okla., a corporation of Oklahoma

Filed Dec. 18, 1961, Ser. No. 160,220
17 Claims. (Cl. 23—259.1)

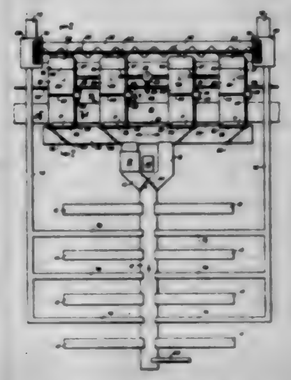
1. A system for processing heterogeneous wastes and refuse materials comprising:

a plurality of subterranean cross-conveyors for receiving various types of refuse from refuse collection trucks;

a subterranean main conveyor for receiving refuse from said cross-conveyors;

a subterranean distributing conveyor for receiving refuse from said main conveyor;

a plurality of subterranean refuse treating tanks adjacent said distributing conveyor;



means cooperating with said distributing conveyor for selectively filling said treating tanks with refuse from said distributing conveyor, and

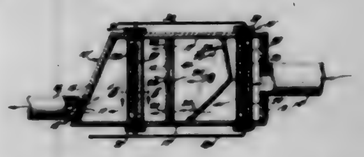
separating means for separating the refuse in said treating tanks into various portions having certain related properties.

3,146,072

FUME ELIMINATOR

Rubie Freddie Morgan, Trussville, Ala.

Filed Sept. 19, 1961, Ser. No. 139,159
3 Claims. (Cl. 23—277)



1. In an exhaust fume eliminator for an internal combustion engine including end walls, a cylindrical wall member having its ends fixed to the peripheries of said end walls, one of said end walls having an inlet adapted for connection to the exhaust pipe of an internal combustion engine and the other end wall having an outlet adapted for connection to an exhaust conduit, said outlet being positioned at an outer periphery of said other end wall, and a partition arranged in said cylindrical wall member in spaced parallel relation with respect to one of said end walls, said partition defining in said cylindrical wall member first and second compartments, there being a plurality of spaced apart apertures in said partition, a cone-shaped inclined baffle positioned in said first compartment extending to said cylindrical wall member, said cone-shaped inclined baffle having its apex generally directed toward said inlet, at least one electrical means positioned in each of said first and second compartments for igniting exhaust fumes from said internal combustion engine, and said cone-shaped inclined baffle having a plurality of spaced apart apertures therein for spreading around and dispersing exhaust gases so that said gases will be directed into engagement with said electrical means in said first compartment.

3,146,073

CATALYTIC CONVERTER APPARATUS

Ralph S. Johnson, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 12, 1960, Ser. No. 49,256
3 Claims. (Cl. 23—288)



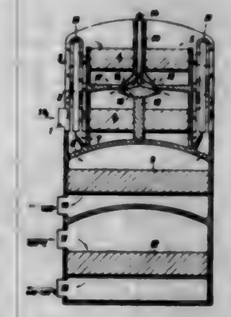
1. A catalytic converter having a gas inlet opening and a gas outlet opening formed in spaced end walls thereof, said gas inlet opening being disposed to one side of a longitudinal plane passing through the center of said casing and said gas outlet opening being disposed on the other side of said plane, said converter comprising spaced first and second elongated casing members respectively located on opposite sides of said plane, a catalyst bed having perforated grid members located between said casing members, a longitudinal strut formed on each of said casing members for stiffening the latter, each strut having a wall inclined to said longitudinal plane for maintaining said catalyst bed in an inclined plane whereby said catalyst bed cooperates with said first and second casing members to define oppositely tapered inlet and outlet gas flow chambers respectively communicating with the gas inlet and outlet openings.

3,146,074

MULTIPLE BED REACTOR

Herbert Drechsel and Hugo Grimm, both of Frankfurt am Main, Germany, assignors to Metallgesellschaft A.G., Frankfurt am Main, Germany, a corporation of Germany

Filed Sept. 6, 1961, Ser. No. 136,305
Claims priority, application Germany Sept. 8, 1960
6 Claims. (Cl. 23—288)



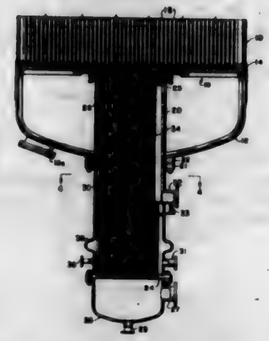
1. A multiple bed reactor for the catalytic conversion of SO_2 containing gases to SO_3 including a plurality of contact catalytic beds arranged in series to receive such gas, an inidirect heat exchanger to heat indirectly gas passing to one of said beds and receiving heated gas from one of said beds, said heat exchanger being positioned in a ring surrounding and immediately adjoining the first contact bed of the series and having means to direct such gas to be heated across the heater in co-current and in counter-current flow directions with respect to the heated gas.

3,146,075

HEAT EXCHANGER

Egerton S. Robb, Port Washington, N.Y., and Jerry G. Moffett, Jr., Destrehan, and Oran L. Wylie, Jr., New Orleans, La., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 8, 1962, Ser. No. 178,355
5 Claims. (Cl. 23—288)



4. The combination of:

(*a*) a reactor comprising a cylindrical vessel having end closures, a pair of spaced reactor tube sheets, a plurality of reactor tubes containing catalyst and connected to said tube sheets, and means for admitting a reactant stream to the space adjoining one of said closures for flow through said tubes, the other closure having a central opening,

(*b*) a cooling heat exchanger comprising a shell extending into said reactor vessel though said opening in the other closure, said shell

(1) being open at the inner end and having thereat an exchanger tube sheet situated inside the reactor vessel close to a reactor tube sheet,

(2) containing further a second exchanger tube sheet situated outside of said reactor vessel, and a plurality of exchanger tubes for the flow of reacted stream to be cooled connected to the exchanger,

(3) having an outlet for the cooled reacted stream, and

(4) separate means both connected to said shell at a point outside the reactor vessel for admitting a cooling liquid near one exchanger tube sheet into the space between said tube sheets and for discharging spent cooling fluid containing vapor from a point in said space adjacent to the other tube sheet.

3,146,076

PREPARING SORPTIVE SILICEOUS PARTICLES

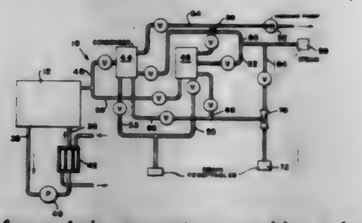
Gerhardt Talvenheimo, Brookhaven, Chester, Pa., assignor to Air Products and Chemicals, Inc., a corporation of Delaware

No Drawing. Filed July 22, 1960, Ser. No. 44,578
2 Claims. (Cl. 34—36)

1. A method of converting wet siliceous particles consisting predominantly of water, most of the solids content of the particles being silica, into dehydrated high surface area siliceous particles containing less than 33% water and having a size predetermined by the size of the wet siliceous particles which method consists essentially of the steps of: directing a gas stream through a heating zone to provide a preheated gas stream, said preheated gas stream consisting essentially of air, steam, and ammonia, and said gas stream resulting from the saturation of air with the vapors from aqueous ammonium hydroxide; passing through a bed of siliceous particles consisting

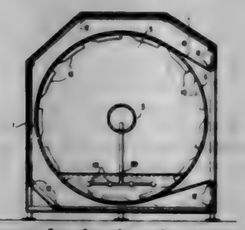
initially predominantly of water, most of the solids content of the particles being silica, said preheated gas stream containing ammonia and steam, thereby bringing about the dehydration of the particles; continuing such passage of the preheated, ammonia-containing gas for about three hours during at least two hours of which the bed of particles is maintained by such preheated gas at a temperature within the range from 850 to 1050° F.; and withdrawing from the bed crush-resistant siliceous particles, a significantly higher proportion being of said predetermined size than in a similar method omitting the ammonia during the dehydration of the particles.

3,146,077
FREEZE DRYING APPARATUS
Manuel E. Fuentevilla, Haddonfield, N.J., assignor, by mesne assignments, to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 20, 1961, Ser. No. 125,454
6 Claims. (Cl. 34—76)



1. A freeze drying apparatus comprising a housing, shelves within said housing, means for heating said shelves, means for mounting the shelves so as to accommodate thermal expansion of said shelves, said shelves having a black coating thereon, means including a condenser for removing moisture from within said housing and reducing the pressure therein, said last mentioned means including a pair of condensers, means for evacuating the interior of said housing alternatively through one of said condensers, valved conduit means for selectively circulating steam through said condensers, said valved conduit means connecting said condensers to the throat of an ejector, whereby a fluid may be circulated through said ejector so as to remove moisture from the condensers with the latent heat of evaporation pre-cooling said condensers.

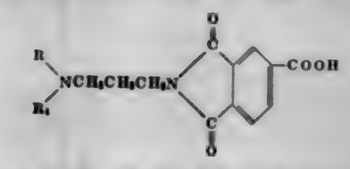
3,146,078
INSTALLATION FOR HEATING DRYING DRUMS OF DRYING MACHINES
Heinrich Gerster, Industriestrasse 1, Bruchsal-Karlsdorf, Baden, Germany
Filed Feb. 15, 1961, Ser. No. 89,459
Claims priority, application Germany Feb. 20, 1960
1 Claim. (Cl. 34—123)



An arrangement for heating the drying drum of a drying apparatus, especially for drying photographic prints, comprising a relatively stationary, approximately horizontal hollow shaft, drum means having a drum casing, means including bearing means on said shaft for rotatably supporting said drum means about said hollow shaft, drying cloth means adapted to be moved in the same direction as said drum means and abutting against a section of the circumference of said drum means, said drying cloth means being in the form of an endless band, said drum means being of liquid-tight construction, and pocket means arranged along the inner side of the casing of said drum means for receiving therein a liquid heat-carrier maintained at a predetermined temperature, said pocket means being formed by strips extending essentially parallelly to the drum axis and being filled from a sump of liquid heat-carrier located in the lower portion of said drum means upon rotation of said drum means, electric heating means disposed within the lower area of said drum means in which is located said sump for heating said liquid medium, said electric heating means including wire means adapted to be connected to the electric circuit and extending through said hollow shaft, and means for supporting said electric heating means on said hollow shaft.

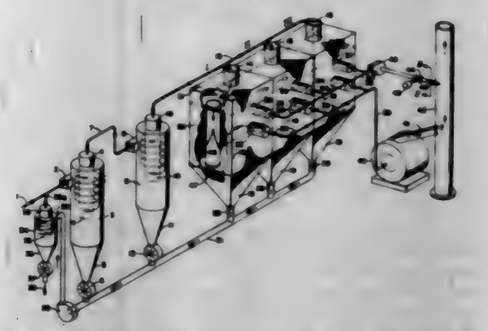
3,146,079
FUEL OIL COMPOSITION
John H. Udelhofen, Calumet City, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Sept. 13, 1960, Ser. No. 55,731
4 Claims. (Cl. 44—63)

1. A distillate fuel oil composition comprising a major proportion of a hydrocarbon oil fraction in the fuel oil distillation range and from about 0.0001 to about 5.0% by weight of an imide having the formula



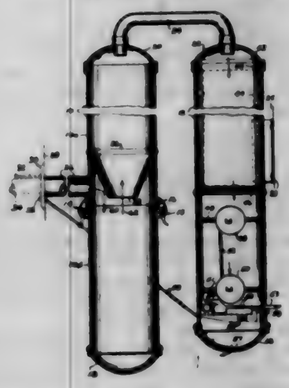
wherein R is a C_{12-18} alkyl radical and R_1 is a member of the group consisting of H and a C_{1-28} alkyl radical.

3,146,080
CARBON BLACK COLLECTING PROCESS
Theodore A. Ruble and Russell D. Weakley, Amarillo, Tex., assignors to Continental Carbon Company, Amarillo, Tex., a corporation of Delaware
Filed Aug. 1, 1960, Ser. No. 46,559
7 Claims. (Cl. 55—96)



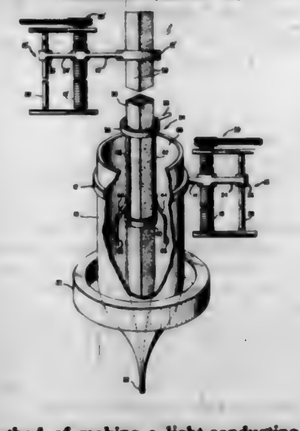
1. In a process for recovering carbon black product from an effluent of a carbon black furnace, wherein said effluent is passed in series flow through a plurality of gravitational separators thence through a bag filtering zone; the improvement which includes the steps: (1) introducing the gaseous efflux from said separators into said filtering zone having at least two filtering compartments and wherein each of said compartments contains a gas permeable medium comprising at least one filter bag; (2) continuously and cyclically effecting filtering of said efflux in less than all of said compartments with contemporaneous cleaning of the filter medium of that portion of said zone existing in the nonfiltering phase by contacting the surface of the last named medium opposite the filtering surface thereof with a pulsating flow of repressuring gas substantially free of carbon black particles; and (3) continuously discharging said repressuring gas, carbon black dislodged from the surface of said filter medium and the separated carbon black of said gravitational separators into a pneumatic product conveyor whereby said repressuring gas serves to effect transport of the so recovered carbon black residing in said conveyor.

3,146,081
CENTRAL VACUUM CLEANING UNIT
Reuben R. Emdy, Duncan, Okla., assignor to Wanda Manufacturing Co., Inc., Comanche, Okla.
Filed Feb. 15, 1962, Ser. No. 173,405
1 Claim. (Cl. 55—315)



A vacuum cleaner, comprising: a first upright cylindrical casing having an air inlet intermediate its ends, said first casing being transversely divided below the air inlet to form an upper section and a lower removable dirt collecting receptacle; clamp means removably connecting said dirt collecting receptacle to the depending end portion of the upper section of said first casing; air deflecting means secured to the inner wall of said first casing, intermediate its ends, adjacent the air inlet, said air deflecting means comprising a hollow inverted truncated conical member having a downwardly disposed open end portion positioned below the lowermost limit of the air inlet in said first casing; a second upright juxtaposed cylindrical casing having an air outlet at its lower end; an air inlet tube connected at one end to the air inlet in said first casing; a switch equipped plate normally closing the other end of said air inlet tube; tubing interconnecting the upper ends of said casings for communication therebetween; motor driven air impelling fans mounted in superposed relation within the lower end portion of said second casing for producing a flow of air therethrough; filter means in said second casing situated between its upper end and the air impelling means for filtering dust laden air, said filter means comprising a cylindrical shaped bag of pervious material having a closed bottom and an upper open end, a ring secured to the upper end of said bag, a ledge formed on the inner periphery of the upper end portion of said second casing for removably supporting said ring, and a foraminated plate horizontally dividing said second casing intermediate its ends and supporting the bottom end portion of said bag; a transformer; a relay connected to the secondary of the transformer; wiring connecting a source of electrical energy to the primary of said transformer and to said motor driven fans through the contacts of said relay; and other wiring connecting said switch equipped plate to the secondary of said transformer through said relay.

3,146,082
METHOD OF MAKING LIGHT-CONDUCTING FIBERS
John W. Hicks, Jr., Fiskdale, and Paul Kiritsy, Southbridge, Mass., assignors to Mosaic Fabrications, Inc., Southbridge, Mass., a corporation of Massachusetts
Filed Nov. 24, 1961, Ser. No. 154,663
4 Claims. (Cl. 65—3)



1. A method of making a light-conducting glass fiber comprising a glass rod having an intimate glass coating comprising producing an eroded matte surface on a glass rod, coating said glass rod with a flux, centrally supporting said rod for longitudinal movement in a tubular glass member, heating said tubular member and said rod to a drawing viscosity and drawing said rod and said tubular member from the heating zone.

3,146,083
MARKING OF GLASS SHEETS
Frank L. Barton, Jr., Perrysburg, and Walter L. Miller, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Apr. 2, 1959, Ser. No. 803,740
7 Claims. (Cl. 65—60)



1. A glass sheet marking apparatus for use in combination with a sectionalized glass bending mold, said mold in the open position receiving a flat glass sheet and moving to a closed position when the glass sheet is subjected to sufficient heat to cause it to sag into conformity with the shaping surface of said mold and wherein said mold moves along a definite path upon a conveyor, the combination of

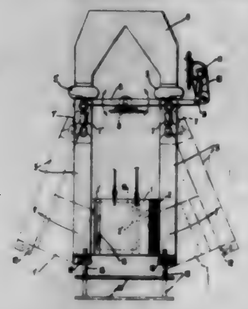
a pair of hollow elongated tubular members, means for mounting said members on said mold one at each end of said mold so that the center axis of each of said members is normal to the plane of the bent glass sheet directly opposite said center axis when the mold is in a closed position, marking fluid directing means mounted on said conveyor and mold operated actuating means mounted to said conveyor causing said fluid directing means to deliver its marking fluid through said mold mounted tubular members and onto the glass sheets resting on said mold only when the center of said mold mounted tubular members is aligned with the center of said fluid directing means.

3,146,084
METHOD OF BENDING GLASS SHEETS
Harold E. McKelvey, Rural Valley, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Mar. 18, 1958, Ser. No. 722,199
4 Claims. (Cl. 65—107)



1. In the method of bending glass sheets to complex curvatures by supporting a flat glass sheet above the shaping surface of a bending mold, heating the glass sheet to its softening point, and conforming the shape of the glass sheet to that of the shaping surface of the bending mold by a combination of heat sagging and applying a plurality of upward lifting forces to different longitudinal increments along the marginal portion only of a heat-softened glass sheet on either side of the longitudinal center of the sheet, the improvement comprising applying an exclusive upward lifting force to each said longitudinal increment only.

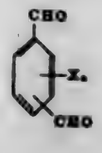
3,146,085
GLASS TEMPERING APPARATUS
Friedrich Jochim, Herzogenrath, Germany, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed July 18, 1960, Ser. No. 43,566
Claims priority, application France July 24, 1959
6 Claims. (Cl. 65—348)



1. An apparatus for tempering heated sheets of glass by subjecting them to jets of cooling fluid, which comprises a pair of similar gas chambers, each chamber having a plurality of orifices directed toward the opposite chamber, gas conduits connected to the chambers, and supporting means to suspend the chambers for reciprocation comprising a pivot, a rockable member mounted on the pivot and means to support the gas chambers from the rockable member on opposite sides of the pivot, in balance, and reciprocable drive means operatively connected to the rockable member.

3,146,086
HERBICIDAL AND PESTICIDAL HALOGENATED TEREPHTHALALDEHYDE COMPOSITIONS
Henry Bluestone, University Heights, Ohio, and Fred W. Rowland, Brooklyn, N.Y., assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed July 1, 1960, Ser. No. 40,162
25 Claims. (Cl. 71—2.3)

1. A pesticidal composition comprising 0.1% to 15% by weight of a surface active agent, 0.5% to 85% by weight of a halogenated aldehyde having the formula



wherein X is halogen and *n* is a number from 1 to 4, inclusive and the balance a carrier.

25. The method of inhibiting plant growth which comprises applying to the plant a herbicidal amount of 2,3,5,6-tetrachloroterephthalaldehyde.

3,146,087
PROCESS FOR PREPARING A FERTILIZER CONTAINING WATER-INSOLUBLE NITROGEN FROM AMMONIA AND WOOD
Robert L. Formaini, Petersburg, and Delbert P. Schutz, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 29, 1962, Ser. No. 169,617
4 Claims. (Cl. 71—23)

1. The process for the preparation of a fertilizer of high agronomic value having a total nitrogen content of about 19–27 percent with a water-insoluble nitrogen content of about 30 to 50 percent of the total nitrogen and nitrification rate of at least about 15 percent in three weeks in the soil, which comprises oxidizing finely divided cellulosic materials with nitrogen dioxide at temperatures of about 20–120° C. until the carboxylic acid content is brought to at least about 5 percent by weight and subsequently treating the oxidized product with ammonia at pressures of at least 700 p.s.i.g. and temperatures between about 175° and about 265° C.

3,146,088
METHOD OF BAKING ORE BRIQUETTES
Keiji Tsujihata and Gozaburo Harada, Yawata, Fukuoka Prefecture, Hajime Shimizu, Tobata, Fukuoka Prefecture, Rokuro Fukagawa, Ashiyamachi, Onga-gun, Fukuoka Prefecture, and Kazuaki Tsujigawa, Yawata, Fukuoka Prefecture, Japan, assignors to Yawata Iron & Steel Co., Tokyo, Japan, a corporation of Japan
Filed Aug. 30, 1961, Ser. No. 135,415
Claims priority, application Japan, Aug. 31, 1960, 35/36,628
3 Claims. (Cl. 75—5)

1. Process for making iron-containing briquettes from flue dust of blast furnace and open hearth furnace comprising

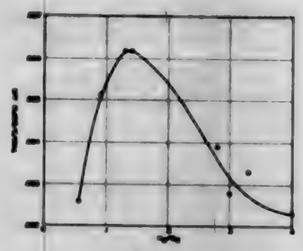
(1) admixing said blast furnace dust and said open hearth furnace dust to obtain admixture containing 5 to 15% by weight carbon,

(2) molding said admixture to form briquettes of porosity greater than 20% and between 10 and 50 mm. in diameter, and



(3) heating said briquettes at temperature between 1000 and 1250° C. in reducing atmosphere, whereby impurities are vaporized and removed.

3,146,089
OPTIMIZING REDUCING GAS PRODUCTION WITH HYDROGEN-CONTAINING FUELS
Ivan Mayer, Summit, and Ronald V. Tresse, New Brunswick, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 27, 1961, Ser. No. 98,346
8 Claims. (Cl. 75—41)



1. In the reduction of iron ore in a blast furnace wherein a charge is introduced to said furnace consisting of coke, metal ore, blast air and an auxiliary fluid hydrogen-containing fuel, some moisture and readily decomposable carbonates, the improvement in the process comprising controlling the relative amounts of hydrogen and oxygen being injected into said furnace by maintaining a molar hydrogen to oxygen ratio of from 0.10 to 0.30 in the materials charged, said materials charged being exclusive of the moisture and the readily decomposable carbonates in the charge.

3,146,090
PROCESS OF PRODUCING NODULAR IRON USING GROUP III METAL HYDRIDE
Jerome J. Kanter, Palos Park, John P. Magee, Wilmette, and Wilbur L. Meinhart, Brookfield, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,035
9 Claims. (Cl. 75—53)

1. The process for producing iron castings in which graphitic carbon is present in the nodular form and with substantially no separation of flake-like graphitic carbon which comprises the steps of preparing a bath of molten cast iron mix, introducing into said bath a small but effective amount of the hydride of a Group III metal having an endothermic heat of decomposition selected from the class consisting of lanthanons and yttrium, and thereafter casting metal from said bath to produce a casting containing a small but effective amount of addition agent and containing graphite in a compacted form.

3,146,091
METHOD AND PROCESS FOR THE EXTRACTION OF NICKEL AND COBALT FROM ORES
George E. Green, Baguio, Republic of the Philippines, assignor to Benguet Consolidated, Inc., Manila, Republic of the Philippines, a corporation of the Republic of the Philippines
No Drawing. Filed Aug. 24, 1961, Ser. No. 133,560
2 Claims. (Cl. 75—82)

1. A method of extracting nickel and cobalt comprising heating a quantity of a serpentine ore containing a quantity of iron to expel substantially all free and combined moisture therefrom, comminuting the dried ore to substantially all minus 100 mesh screen particles, roasting the comminuted ore in an atmosphere of carbon monoxide at a temperature of between 850 and 871 degrees centigrade to reduce the same, cooling the reduced ore under non-oxidizing conditions to form a batch of cooled, reduced ore, adding a two percent solution of sulfuric acid to said batch of cooled, reduced ore whereby the acid selectively reacts in the presence of air with the iron present to form a ferric sulfate leaching solution, agitating the mixture of cooled, reduced ore and leaching solution to form a pulp material and a pregnant solution containing nickel and cobalt dissolved therein, and separating said pulp material from said pregnant solution.

3,146,092
PROCESS FOR PURIFYING HAFNIUM
Harold H. Morse, Mariemont, and Raymond A. Foos, Loveland, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 4, 1960, Ser. No. 26,687
3 Claims. (Cl. 75—84)

1. A method for removing carbon and nitrogen impurities from hafnium metal which consists of admixing hafnium sulfide with said hafnium metal, melting the resulting admixture and recovering a hafnium metal product that is substantially free from said carbon and nitrogen impurities.

3,146,093
PROCESS FOR THE PREPARATION OF MOLYBDENUM METAL
Raymond A. Foos, Fremont, Ohio, and Martin A. Hobin, Boyertown, Pa., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Oct. 27, 1959, Ser. No. 848,891, now Patent No. 3,053,614, dated Sept. 11, 1962. Divided and this application Mar. 21, 1962, Ser. No. 181,436
10 Claims. (Cl. 75—84)

1. A method for the preparation of molybdenum metal which consists of reacting at a temperature of about 100° to 900° C. a molybdenum sulfide-sodium sulfide complex with an amount of alkali metal sufficient to reduce said molybdenum sulfide-sodium sulfide complex to molybdenum metal and recovering said molybdenum metal.

3,146,094
METHOD OF PRODUCING REFRACTORY METAL
John F. Hannan, Wilmington, Del., and Alfred P. Engelmann, West Acton, Mass., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 22, 1961, Ser. No. 111,456
5 Claims. (Cl. 75—84.5)

1. A process for preparing a Fourth Group refractory metal which comprises contacting solid, oxygen-contain-

ing magnesium having about a 0.01 to 0.04 weight percent oxygen content with vaporized, substantially oxygen-free magnesium chloride within a closed, dry, air-free reaction chamber, condensing said vaporized magnesium chloride on the surface of said solid magnesium within said chamber, melting said magnesium and magnesium chloride in said chamber under temperatures ranging from 725–1000° C., and contacting the two resulting liquid phases therein to permit oxygen present in said magnesium to transfer to said magnesium chloride, removing from said chamber the resulting oxygen-containing magnesium chloride, and then reacting the purified oxygen-free magnesium which remains in said chamber with a chloride of a Fourth Group refractory metal, effecting said reaction at a temperature ranging from 750–1100° C. under an inert atmosphere and prior to admitting air into said chamber, and recovering the resulting pure refractory metal product.

3,146,095

COPPER BASE ALLOYS CONTAINING IRON, ALUMINUM, AND ZINC

Carl J. Hechinger, St. Louis, Mo., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed May 6, 1963, Ser. No. 278,484
2 Claims. (Cl. 75—153)

1. An alloy consisting essentially of from 0.75 to 1.25 percent by weight of iron, 1.25 to 2 percent aluminum, 29.75 to 33 percent zinc and the balance copper.

3,146,096

WELDABLE HIGH STRENGTH MAGNESIUM BASE ALLOY

George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,829
4 Claims. (Cl. 75—168)

1. A weldable high strength magnesium base alloy consisting by weight essentially of from about 0.1 to about 1.75 percent aluminum, from about 0.05 to about 0.6 percent zinc, from about 0.2 to 1.0 manganese, and calcium in an amount of from about 0.05 to about 0.6 percent but not greater than 1.4 minus 2 times the percentage of zinc concentration, the balance being magnesium.

3,146,097

TIN BASE ALLOYS

Lloyd R. Allen, Belmont, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,273
5 Claims. (Cl. 75—175)

1. An allotropic tin base alloy consisting essentially of about 2 to 8 percent by weight of copper, about .05 to 4 percent by weight of germanium, the balance being essentially tin.

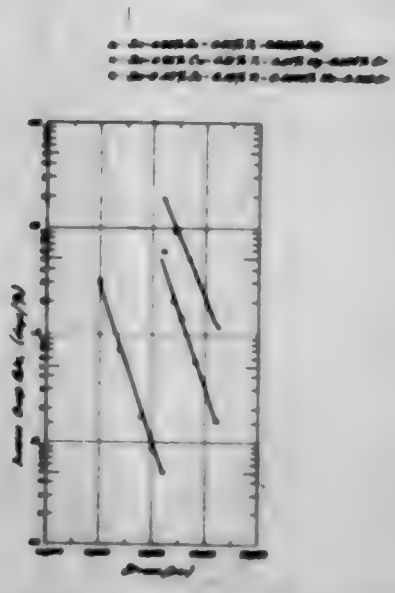
3,146,098

ZINC BASE ALLOYS

Matti J. Saarivirta, Plainfield, N.J., and Pierre W. Tambenbist, Brooklyn, N.Y., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

Filed Apr. 16, 1962, Ser. No. 187,560
10 Claims. (Cl. 75—178)

1. A zinc base alloy consisting essentially of from 0.5 to 2% by weight copper, from 0.1 to 0.4% titanium,



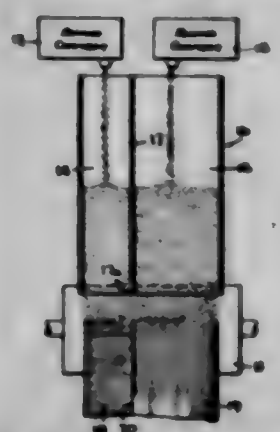
from 0.03 to 0.2% magnesium and the balance substantially all zinc, said alloy optionally containing as an additional ingredient up to 0.2% chromium.

3,146,099

EDGE-BONDING OF DIFFERENT METALS

Jayanti Dharma Teja, Syosset, N.Y., assignor to De Vitro-Teja Industries Co., Geneva, Switzerland, a partnership

Filed June 13, 1960, Ser. No. 35,812
6 Claims. (Cl. 75—208)



1. The method of forming an edge-bonded composite metal strip constituted by sections of different metallic compositions comprising the steps of heating particles of the different metals above their respective recrystallization temperatures, and hot-rolling parallel streams of said different particles concurrently in abutting edge-to-edge relation dynamically to consolidate said particles and thereby form said composite strip.

5. Apparatus for forming an edge-bonded composite metal strip constituted by sections of different metallic composition comprising separate chambers to store particles of the different metals above their respective recrystallization temperatures, means to direct said particles from the chambers into parallel coplanar streams in abutting relation, and rolling means to hot roll said parallel streams concurrently in coplanar abutting relationship thereby to form a solid composite strip in which the adjacent edges of the metallic sections are bonded together.

3,146,100

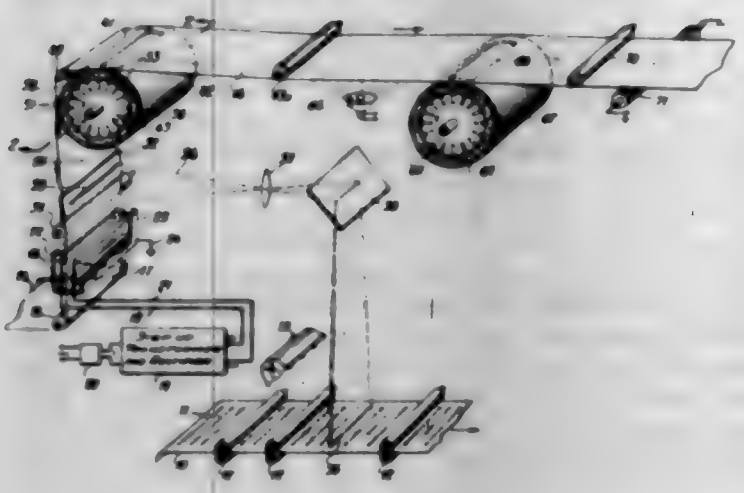
ELECTRONIC PHOTOCOPYING APPARATUS AND METHOD

Arthur L. Kaufman, Westport, Conn., assignor to Bohn Business Machines, Inc., a corporation of New York

Filed Jan. 26, 1960, Ser. No. 4,737
3 Claims. (Cl. 96—1)

1. The method of reproducing on a duplicating sheet of material coated with a photoconductive insulating

medium, a contrasting pattern formed on a master sheet by areas having different degrees of light absorption, which comprises: progressively feeding said duplicating sheet between spaced electrodes having a high direct current voltage impressed therebetween for charging all so-coated areas of said duplicating sheet to a substantially uniform electrostatic potential, concurrently therewith progressively feeding said master sheet past a source of illumination, while focusing a beam of rays reflected from said master onto said duplicating sheet thereby to discharge the potential from areas thereof in accordance with the pattern on said master, feeding said duplicating sheet thence in progressive contact with a magnetically suspended rotating substantially cylindrical mass composed of an intimate admixture of particles of magnetic material and particles of a substantially opaque thermosetting synthetic resin in a fine state of sub-division, said mass being suspended in a magnetic field extending radially from the surface thereof and directed substantially normal to the path of travel of said duplicating sheet,



whereby said resin particles are deposited on said sheet in accordance with the electrostatic potential pattern thereon, thus to reproduce thereon the pattern on said master sheet, feeding said duplicating sheet thence past a light source having sufficient intensity to discharge therefrom residual potentials retained on background areas thereof, but prevented by the opaqueness of said resin particle from substantially discharging the residual potentials retained on the image areas thereof, and thence in contact with a magnetically suspended substantially cylindrical mass composed of particles of a magnetic material in a fine state of sub-division, said mass being suspended in a magnetic field extending radially outward from the surface thereof and directed substantially normal to the path of travel of said duplicating sheet, thereby to withdraw therefrom resin particles adhering to said background areas, and feeding said duplicating sheet thence past a source of heat for converting the resin pattern thereon to the thermoset condition adherently bonded to said sheet.

3,146,101
SENSITIZATION OF PHOTOCONDUCTIVE COPYSHEETS

Byron W. Neher, Hudson, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

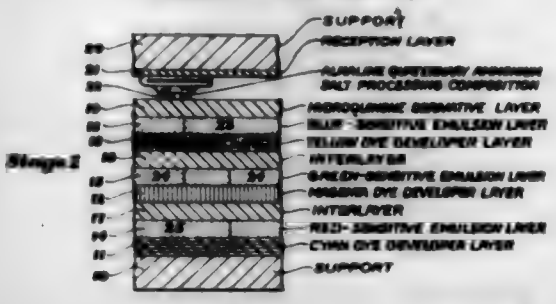
No Drawing. Filed May 31, 1962, Ser. No. 198,771
10 Claims. (Cl. 96—1)

1. In a copysheet having a photoconductive zinc oxide therein the improvement which comprises from about 1 to about 2,000 parts by weight of an amino coumarin per 40,000 parts of said photoconductor, said amino coumarin being intimately admixed with said photoconductor.

3,146,102
PHOTOGRAPHIC MULTICOLOR DIFFUSION TRANSFER PROCESS USING DYE DEVELOPERS

Walter J. Weyerts and Wilho M. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 22, 1960, Ser. No. 50,963
7 Claims. (Cl. 96—3)

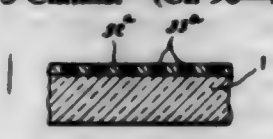


1. In the processing of an exposed photographic element comprising a support, a plurality of light-sensitive silver halide emulsion layers sensitive to light of different regions of the spectrum, and a dye developer which is both a silver halide developing agent and a dye contiguous to the silver halide of each of said silver halide emulsion layers, said processing being effected by treating said photographic element with an alkaline liquid, developing latent images in the regions of exposure of said silver halide emulsion layers and thereby immobilizing dye developers in said regions of exposure, dye developers in undeveloped regions diffusing imagewise in register to a dye developer reception layer, the improvement which comprises effecting said processing in the presence of a heterocyclic quaternary ammonium compound capable of forming a diffusible methylene base in said alkaline liquid.

3,146,103
METHOD OF CONTACT PRINTING

John T. Rooney, P.O. Box 3284, West Palm Beach, Fla.

Continuation of application Ser. No. 635,896, Jan. 23, 1957. This application June 18, 1963, Ser. No. 289,779
3 Claims. (Cl. 96—27)



1. In the process of making a microscope slide through contact printing, the step of placing immersion oil between depressions formed in the surface of the master and the surface on which the print is to be formed to promote homogeneity for the path of the optical rays between the two surfaces during the contact printing to neutralize the effect of scratches in said print.

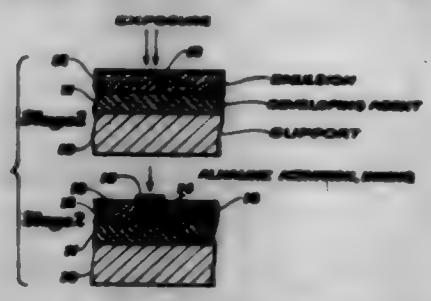
3,146,104
SILVER HALIDE SENSITIZED LITHOGRAPHIC PRINTING PLATE

Edward C. Yackel and Thomas I. Abbott, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 21, 1959, Ser. No. 861,125
30 Claims. (Cl. 96—33)

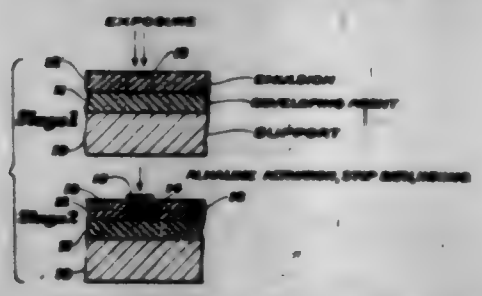
19. A lithographic printing process which comprises (*a*) exposing to a subject a photographic element comprising a support having thereon a gelatin layer containing a sufficient amount of a polyhydroxybenzene silver halide developing agent to develop the exposed silver halide in the light-sensitive layer above it, said agent selected from the class consisting of halogen substituted, phenyl substituted, and 2–6 carbon atoms containing alkyl substituted polyhydroxybenzene developing agents, the oxidation product of which

renders gelatin oleophilic and over said gelatin layer an unfogged gelatino-silver halide emulsion layer uniformly hardened with a hardener, such that the gelatin has a hardness equivalent to that of a gelatin layer hardened with about 2 grams to about 15 grams of dry formaldehyde per pound of gelatin, and



(*b*) developing said exposed emulsion layer with an alkaline solution to produce on said emulsion layer a printing surface in which the oxidation product of said developing agent is bound to the gelatin in the developed areas of the layer and has an oleophilic residue receptive of greasy printing ink.

3,146,105
LITHOGRAPHIC PROCESS USING A STOP BATH
Kenneth L. Wrisley and William E. Guthrie, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 15, 1962, Ser. No. 237,837
16 Claims. (Cl. 96—33)



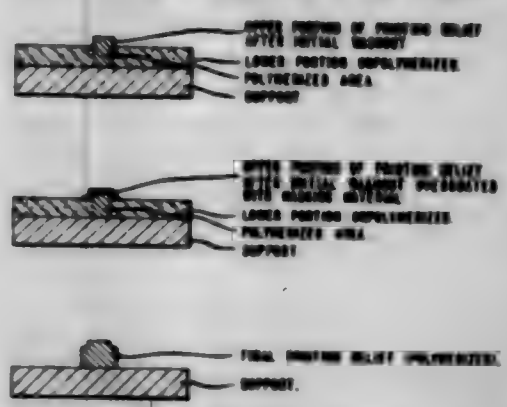
7. The process of producing a lithographic printing plate from an exposed photographic element comprising a support having thereon a gelatin layer containing therein a silver halide developing agent capable of oxidation in the presence of a hydrophilic organic colloid to form an image receptive to greasy printing ink, and over said gelatin layer on exposed hydrophilic organic colloid silver halide emulsion containing a hardener, in which the colloid has a hardness equivalent to that of a gelatin layer containing from about 2 grams to about 15 grams of dry formaldehyde per pound of gelatin, comprising:

(1) initiating the development of the exposed emulsion layer with an alkaline solution, thereby forming an image, and

(2) arresting the developing action by means of an aqueous solution containing 1–10% by weight benzyl alcohol, about 1–10% by weight of an acid selected from the class consisting of phosphoric acid, acetic acid, glycolic acid and citric acid and an organic water miscible solvent.

3,146,106
PREPARATION OF PRINTING PLATES
James Samuel Hamlin, Merchantville, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 10, 1960, Ser. No. 7,933
10 Claims. (Cl. 96—35)

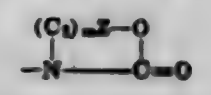
1. A process for preparing printing reliefs which comprises exposing to actinic light a photopolymerizable element having a solid photopolymerizable layer from 3 to 250 mils in thickness comprising (1) a preformed compatible macromolecular polymer binding agent, (2) a non-gaseous, addition-polymerizable ethylenically unsaturated compound containing at least one terminal ethylenic group capable of forming a high polymer by photoinitiated addition polymerization in the presence of an addition polymerization initiator therefor activatable by actinic light, and (3) from 0.0001 to 10%, by weight, of the layer of such an initiator through an image-bearing transparency and washing the exposed element to form a relief image; characterized by (*a*) exposing said element to about 50% to about 100% of the actinic radiation



required for essentially complete addition polymerization in the relief height-forming stratum of said layer, (*b*) covering the finely detailed image areas with a water-impermeable, solvent-developer insoluble masking material, (*c*) washing said stratum containing unexposed areas with a solvent for said binder and for 25% to 84% of the time required for essentially complete removal of the unexposed portion of the stratum, (*d*) removing the masking material and (*e*) washing the resulting element with an aforesaid solvent to remove the remaining unexposed portion of said stratum.

3,146,107
CLARIFYING BEVERAGES
Max E. Elder, Carl Moore, and William F. Tousignant, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 30, 1961, Ser. No. 128,953
6 Claims. (Cl. 99—28)

1. Process for treating substantially clear beverages to clarify them and render them stable to haze formation by contacting the said beverage with a particulate resinous copolymer of about 0.9 to 5 mole percent of a cross-linking agent having two vinylidene groups and a balance of ar-vinylbenzyl moieties having attached to benzylic carbon atoms substituent groups of the formula:

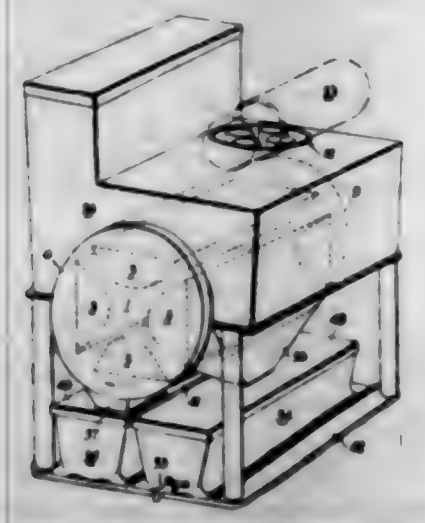


wherein Z is independently selected from the group consisting of H, alkyl groups having 1 to 4 carbon atoms and aryl groups having 6 to 10 carbon atoms, not more than one Z being such an aryl group, and *m* is an integer from 2 to 4, said resinous copolymer being present in amount sufficient and for a time sufficient to remove haze-inducing substances and their precursors from said beverage, and separating said beverage from said resinous copolymer.

3,146,108
METHOD AND APPARATUS FOR THE AUTOMATIC BREWING OF TEA AND LIKE BEVERAGES
Arthur Neville Banks, London, England, assignor to Navy Army and Air Force Institutes, London, England
Filed June 16, 1961, Ser. No. 117,628
6 Claims. (Cl. 99—76)

6. A method of brewing tea which comprises introducing charges of tea leaves and boiling water into an open

compartment of a vessel, which is formed with a plurality of such compartments and is automatically rotatable intermittently about a substantially horizontal axis, in one position of the said vessel, retaining the said charges in



the said compartment for a predetermined infusion period in the said position and decanting the tea from the said compartment, by the rotation of the said vessel, in another position of the said compartment.

3,146,109
PROCESS FOR PRODUCING BROWN FLOUR
Edward F. Freudorf, Delhi Township, Hamilton County, Ohio (5776 Delhi Road, Cincinnati 33, Ohio)
Filed Oct. 4, 1962, Ser. No. 228,317
6 Claims. (Cl. 99—93)

1. The process of consistently obtaining a uniformly browned flour comprising the steps of loading an unheated drum adapted to be rotated with a high gluten flour batch the quantity of which in said drum is so proportioned as to prevent scorching and under-browning thereof as the drum is rotated at a constant speed under controlled time and temperature conditions, rotating said drum at a constant speed of 1.2 revolutions per minute, agitating the flour in said drum, uniformly raising the temperature within the rotating drum to substantially 300° F. over a period of two hours whereby dehydration of the entire batch of flour is accomplished, and maintaining such temperature thereafter for a period of approximately 80 minutes whereby said entire batch of flour is uniformly browned.

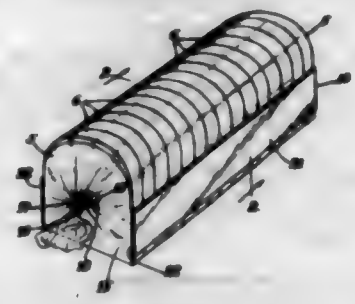
3,146,110
CAKE MIX AND ACYL LACTYLIC ACID ADDITIVES EMPLOYED THEREIN
Bruce D. Baddemeyer, Overland Park, Kans., and John Robert Moneymaker, Kansas City, Mo., assignors to The Pasiplus Company, Kansas City, Mo., a corporation of Missouri
No Drawing. Original application Dec. 28, 1961, Ser. No. 162,927. Divided and this application Jan. 30, 1963, Ser. No. 271,534
3 Claims. (Cl. 99—94)

1. A composition of matter comprising flour in intimate admixture with an acyl lactylic acid composition corresponding to the formula:

$$RCO(OCHCH_3CO)_nOZ$$

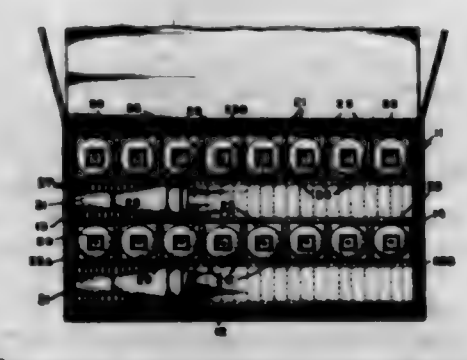
wherein RCO is a member selected from the group consisting of acyl radicals of fatty acids containing 16 to 24 carbon atoms and mixtures thereof, *n* is a number ranging from about 0.3 to about 0.9 which represents the average number of lactyl groups present per molecule and Z is a cation selected from the group consisting of sodium, potassium, calcium, magnesium, ammonium, aluminum, and hydrogen.

3,146,111
SLICED BREAD PACKAGE
Duard W. Enoch, Kansas City, Mo., assignor to Interstate Bakeries Corporation, Kansas City, Mo., a corporation of Delaware
Filed Oct. 23, 1962, Ser. No. 232,416
2 Claims. (Cl. 99—173)



1. A sliced bread loaf package comprising a wrapper of heat sealable flexible sheet material tightly wrapped transversely around said loaf to closely fit the same to provide a longer and a shorter end on said wrapper at opposite ends of said loaf, said shorter end of said wrapper being folded on itself in overlapping plies against one end of the loaf with said plies heat sealed to each other to form a closure for one end of the package, said wrapper having its longitudinal edges overlapped throughout the length of said loaf on the underside thereof and heat sealed to each other in position to hold said wrapper closely around said loaf in loaf conforming relation thereto, the longer end of said wrapper being bunched and tied closely adjacent the other end of said loaf to form a closure for the other end of said package, and a U-shaped reinforcing band having two ends, said band extending along the two longitudinal sides and across the sealed end of said package externally of said wrapper with the opposite ends of said band located in transversely spaced relation to each other at the tied end of said package, said band being sealed to said wrapper.

3,146,112
ICE CREAM CONE PACKAGE
David Weinstein, Baltimore, Md., assignor to Maryland Baking Co., Inc., Baltimore, Md., a corporation of Maryland
Filed Dec. 20, 1961, Ser. No. 160,865
3 Claims. (Cl. 99—180)



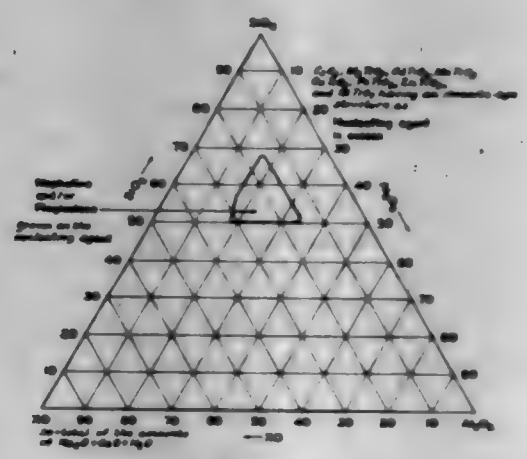
1. An ice cream cone package comprising an outer carton, a plurality of layers of elongated channel pockets within said carton, the longitudinal axes of said pockets in each layer being parallel to each other and at right angles to the longitudinal axes of the pockets of adjacent layers, a plurality of channel pockets in each layer being formed of a single sheet of corrugated cardboard folded to provide each pocket with a bottom wall and two adjacent side walls, said sheet having an integral flap overlying one of the channel pockets as a support for an adjacent layer of pockets, said bottom and side walls having corrugations on their inner surfaces, groups of nested ice cream cones on the interior of the channel pockets, the rim of each cone being engaged with a sepa-

rate set of three corrugations, one on the bottom wall and one on each side wall.

3,146,113
MOULD PAINT
James M. Middleton and Paul G. McIlroy, Sheffield, England, assignors to The British Steel Castings Research Association, Sheffield, England
No Drawing. Filed Sept. 14, 1960, Ser. No. 55,858
Claims priority, application Great Britain Sept. 18, 1959
7 Claims. (Cl. 106—38.23)

1. A paint for application to foundry sand moulds and cores, comprising about 55% to 70% zircon flour, about 1.25% dextrin, about 0.15% to 0.75% high viscosity grade sodium alignate, and the balance primarily water.

3,146,114
METHOD OF MAKING SEMICRYSTALLINE CERAMIC BODIES AND THE COMPOSITION THEREOF
Herbert D. Kivlighn, Elmira, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Nov. 23, 1959, Ser. No. 852,159
9 Claims. (Cl. 106—39)



1. The method of making a semicrystalline ceramic body by the heat treatment of glass bodies consisting of a base glass consisting essentially on a mole percent basis of 50–68% SiO_2, 16–34% Al_2O_3, 7–34% Na_2O, 0–15% CaO, 0–6% K_2O, the total Na_2O, CaO, and K_2O being at least 15% but not over 34%, the mole ratio of $Na_2O+CaO+K_2O:Al_2O_3$ not exceeding 1.7, which comprises including in the glass batch constituents of a compound forming crystals with ilmenite-type structures as nucleating agent in the indicated proportions, based upon a mole percent in excess over the said base glass composition, selected from the group consisting of Cr_2O_3 in an amount of 0.08–0.5% of the base glass composition and 6–22% of the base glass composition of the constituents of at least one of the ilmenite-type structures consisting of $FeO\cdot TiO_2$, $CoO\cdot TiO_2$, $CdO\cdot TiO_2$, $ZnO\cdot TiO_2$, $NiO\cdot TiO_2$, $MnO\cdot TiO_2$, and $MgO\cdot TiO_3$, the total sum percentage of the ilmenite-type structures recited above, 6–22%, consisting of 1.9–10% of the divalent metal oxide constituent of the ilmenite-type structure and 2.9–12% of the TiO_2 constituent thereof, and thereafter heat treating the glass body, formed to the desired shape from the molten glass, by exposing the glass body to a temperature between 800° C. and 1150° C. for a sufficient time to cause a major proportion of the glass to crystallize.

7. A glass crystallizable through heat treatment consisting of a base glass consisting essentially on a mole percent basis of 50–68% SiO_2, 16–34% Al_2O_3, 7–34% Na_2O, 0–15% CaO, 0–6% K_2O, the total Na_2O, CaO, and K_2O being at least 15% but not over 34%, the mole ratio of $Na_2O+CaO+K_2O:Al_2O_3$ not exceeding 1.7, and including constituents of a compound forming crystals with ilmenite type structures as nucleating agent in the indicated proportions, based upon a mole percent in excess over the said base glass composition, selected from the group consisting of Cr_2O_3 in an amount of 0.08–0.50% of the base glass composition and 6–22% of the base glass composition of the constituents of at least one of the ilmenite-type structures consisting of $FeO\cdot TiO_2$, $CoO\cdot TiO_2$, $CdO\cdot TiO_2$, $ZnO\cdot TiO_2$, $NiO\cdot TiO_2$, $MnO\cdot TiO_2$, and $MgO\cdot TiO_2$, the total sum percentage of the ilmenite-type structures recited above, 6–22%, consisting of 1.9–10% of the divalent metal oxide constituent of the ilmenite-type structure and 2.9–12% of the TiO_2 constituent thereof.

3,146,115
REFRACTORY BRICK
Berhl E. Wisbon, Raymond E. Birch, and Donald F. Stock, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1962, Ser. No. 185,443
14 Claims. (Cl. 106—67)

1. An improved semi-silica brick made from a batch consisting essentially of from 70 to 90%, by weight, of siliceous clay, and from about 30 to 10%, by weight, of crude pyrophyllite, said brick being burned.

3,146,116
CYANOETHYLATION AND XANTHATION OF ALKALI CELLULOSE
Arthur L. Bates, Wilmington, Del., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
No Drawing. Filed Sept. 29, 1960, Ser. No. 59,191
7 Claims. (Cl. 106—165)

5. A method of forming shaped cellulosic articles which comprises reacting alkali cellulose with a mixture containing from 0.01 to 1% of acrylonitrile and from 25 to 35% of carbon bisulfide, said percentage amounts based on the weight of the cellulose, dissolving the reacted cellulose in dilute alkali to form viscose, forming the viscose into a shaped article, and regenerating the viscose article.

3,146,117
GREASE-RESISTANT COATING COMPOSITIONS
Philip E. Shick, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed May 31, 1962, Ser. No. 198,764
12 Claims. (Cl. 106—270)

2. A coating composition consisting of about 75% microcrystalline wax and about 25% of a fatty acid amide derived from an acid selected from the group consisting of straight chain monobasic saturated fatty acids and straight chain unsaturated fatty acids having at least 16 carbon atoms.

3,146,118
ASPHALTENE-VINYL COMPOUND TELOMERS
Roy E. Thorpe, Concord, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 28, 1961, Ser. No. 141,281
4 Claims. (Cl. 106—278)

1. The process for the preparation of an asphalt having improved weatherability which comprises precipitating asphaltenes from an asphalt with a C_{5-12} alkane, heating the asphaltenes with a C_{6-20} alkyl ester of an acid selected from the group consisting of 2-methacrylic and acrylic acids at a temperature between about 120° C. and about 150° C. for 8–48 hours in the presence of an organic peroxide whereby a telomer of the asphaltenes and ester are formed, said telomer comprising 15–60% by weight of ester units, and blending the telomer with an asphalt cutter stock whereby an asphalt composition having improved weatherability is formed.

3,146,119

PIGMENT TREATMENT

Hartlen S. Ritter, Akron, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 3, 1961, Ser. No. 121,327
18 Claims. (Cl. 106—300)

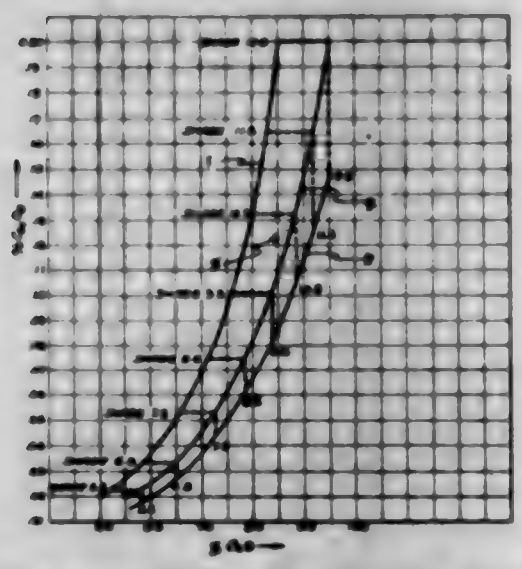
1. A process which comprises establishing an aqueous slurry having a pH below about 5 and which contains titanium dioxide pigment produced by the vapor phase oxidation of $TiCl_4$, adding thereto sufficient titanium compound which on hydrolysis forms a compound from the group consisting of (*a*) titanic acid, (*b*) condensed titanic acid and (*c*) mixtures of (*a*) and (*b*) to coat the pigment with from 0.1 to 4 percent HCl soluble TiO_2 by weight of the pigment, and sufficient aluminum compound which on hydrolysis forms a compound from the group consisting of (*d*) $Al(OH)_3$, (*e*) condensed $Al(OH)_3$ and (*f*) mixtures of (*d*) and (*e*) to coat the pigment with from 0.05 to 15 percent aluminum oxide by weight of the pigment, maintaining chloride ions in the slurry in an amount exceeding the mole concentration of the other acid anions in said slurry, raising the pH of the slurry so that flocs of said pigment coagulate in said slurry, and recovering the flocculated pigment from the slurry.

3,146,120

ABSORPTIVE GLASSES

Lee O. Upton, Sturbridge, Mass., and Robert W. Young, Woodstock, Conn., assignors to American Optical Company, Southbridge, Mass., a corporation of Massachusetts

Filed Jan. 11, 1962, Ser. No. 168,384
16 Claims. (Cl. 117—33.3)



1. Glass compositions of the character described ranging in shades from 5.3 to 12.5 for specimens of said compositions having a thickness of approximately 3 mm., each of said compositions being adapted for peak transmission for light of approximately 485 millimicrons wavelength and resulting from the combining of:

	Percent by weight
Silica, SiO_2	From 52.2 to 72.5
Sodium oxide, Na_2O	From 0 to 16
Potassium oxide, K_2O	From 0 to 16
Calcium oxide, CaO	From 6.4 to 13.7
Arsenic trioxide, As_2O_3	From 0 to 1.0
Antimony trioxide, Sb_2O_3	From 0 to 1.0
Titanium dioxide, TiO_2	From 0 to 2.0
Copper oxide, CuO	From 5.0 to 9.5
Cobalt oxide, Co_2O_3	From 0.015 to 0.20

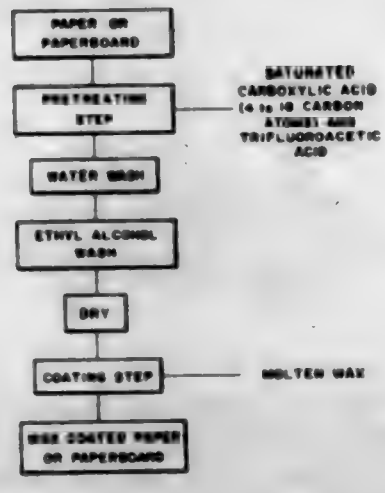
wherein the combined content of As_2O_3 and Sb_2O_3 in the compositions is between 0.5 and 1.0 percent by weight, wherein the combined content of Na_2O and K_2O in the compositions equals at least 12.0 percent by weight, wherein the recited ingredients make up substantially 100 percent of said compositions, and wherein the CuO and Co_2O_3 contents of the compositions are selected from FIG. 3 of the drawings in accordance with the desired shades of said specimens of the compositions and in accordance with the ratio of the Na_2O content to the K_2O content of the compositions.

3,146,121

METHOD OF COATING PAPER

William R. Turner, Drexel Hill, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1962, Ser. No. 216,961
10 Claims. (Cl. 117—60)



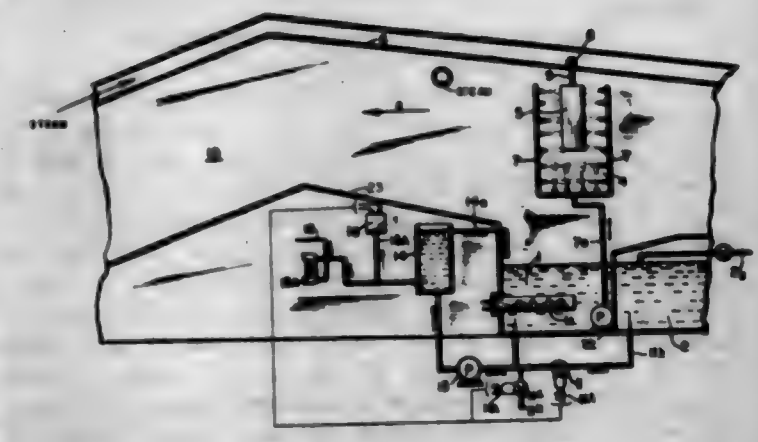
1. A method of coating paper and paperboard which comprises pre-treating the paper and paperboard with a mixture of a saturated carboxylic acid having from 4 to 18 carbon atoms in the molecule and trifluoroacetic anhydride, said carboxylic acid ranging from 1.0 gram of carboxylic acid per 3 grams of paper to 20.0 grams of carboxylic acid per 1.0 gram of paper, said trifluoroacetic anhydride ranging from 0.5 to 10.0 grams of trifluoroacetic anhydride per gram of said carboxylic acid used, drying the pre-treated paper, coating the pre-treated paper with a molten wax having a melting point not less than about 120° F. and recovering the wax-coated product.

3,146,122

PROCESS FOR COATING OBJECTS IN A FLOW COATER

Herbert Renner, Hermann Hayek, Josef Zemann, and Johannes Eisenwiener, all of Guntramsdorf, near Vienna, Austria, assignors to Peter Stoll, a corporation of Austria

Filed Apr. 18, 1960, Ser. No. 23,019
16 Claims. (Cl. 117—102)



1. A process for coating objects with a water-dilutable coating agent comprising a binder, water and an organic

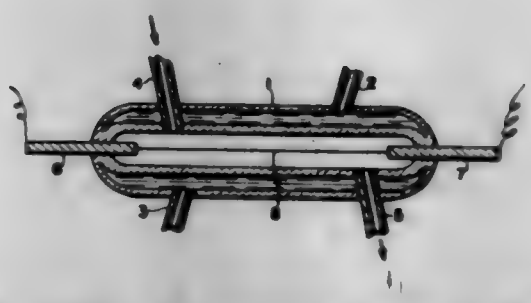
solvent in a flow-coater apparatus by spraying said objects and thereafter drying, wherein the quantitative ratio of binder to solvent to water in said coating agent is maintained substantially constant throughout the process by measuring a characteristic constant of the coating agent and adding sufficient water and solvent to maintain the solids content of said coating agent substantially constant.

3,146,123

METHOD FOR PRODUCING PURE SILICON

Friedrich Bischoff, Hagen, Westphalia, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Feb. 8, 1961, Ser. No. 87,285
Claims priority, application Germany May 18, 1954
8 Claims. (Cl. 117—106)



1. The method of producing hyperpure silicon for electronic semiconductor purposes by precipitation of silicon from a gaseous silicon-halogen compound, which comprises disposing within a reaction vessel a carrier body of hyperpure silicon having a purity corresponding approximately to the purity of the silicon being precipitated and having when at room temperature an electric resistance of a higher order of magnitude than the resistance of the same silicon at the precipitation temperature above 900° C., heating said carrier body to a precipitation temperature between 900° C. and 1400° C. and maintaining said body heated at said precipitation temperature, simultaneously passing the gaseous silicon compound mixed with hydrogen as a reactive carrier gas into contact with the body and maintaining the walls of the vessel at a substantially lower temperature, and removing spent gases from the vessel, thereby precipitating silicon in compact and crystalline form onto said carrier to produce a gradually thickening silicon crystal.

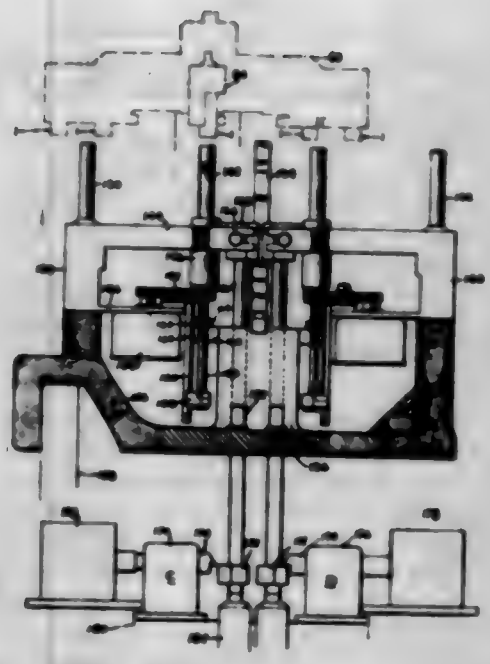
3,146,124

METHOD OF AND APPARATUS FOR APPLYING IGNITION PASTE IN THE MANUFACTURE OF PHOTOFLASH LAMPS

Donald L. Snyder, Montoursville, Donald H. Pfefferle, William C. Fink, and Magnus Nordstrom, Williamsport, and Howard S. Painter, Linden, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed June 29, 1961, Ser. No. 128,754
8 Claims. (Cl. 117—113)

2. In the manufacture of photoflash lamps, the method of applying ignition paste to the tips of the lead-in wires of intermediate articles of manufacture, each of which includes a photoflash lamp mount disposed at one end of an elongated substantially tubular lamp envelope, the other end of said envelope being open, said method comprising: advancing said articles sequentially to a plurality of work stations; adjusting the relative vertical disposition of each of said articles at one of said work stations whereby the tips of the lead-in wires of each of said articles are disposed in the same horizontal plane; and reciprocating, at another of said work stations, a substantially tubular reservoir of ignition paste into and out of the envelope of each of said articles of manufacture through the open end thereof whereby immersion of said tips of said lead-in wires in the ignition paste in said reservoir is effected.

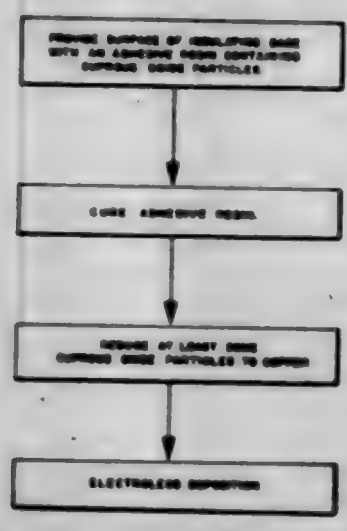


3,146,125

METHOD OF MAKING PRINTED CIRCUITS

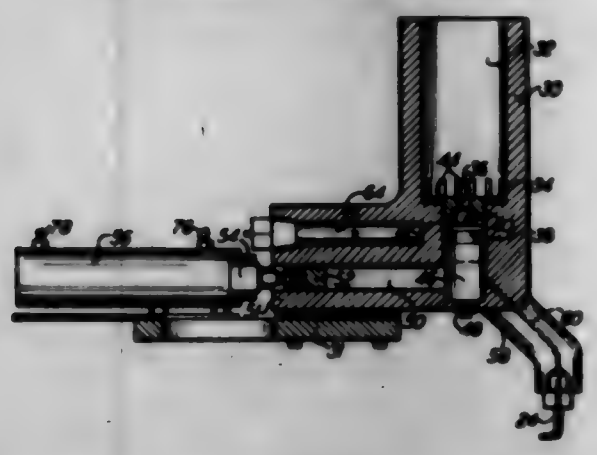
Frederick W. Schneble, Jr., Oyster Bay, John F. McCormack, Roslyn Heights, Rudolph J. Zeblisky, Wyandanch, and Joseph Policastro, South Farmingdale, N.Y., assignors, by mesne assignments, to Day Company, N.V., a Curacao corporation

Filed May 31, 1960, Ser. No. 33,361
5 Claims. (Cl. 117—212)



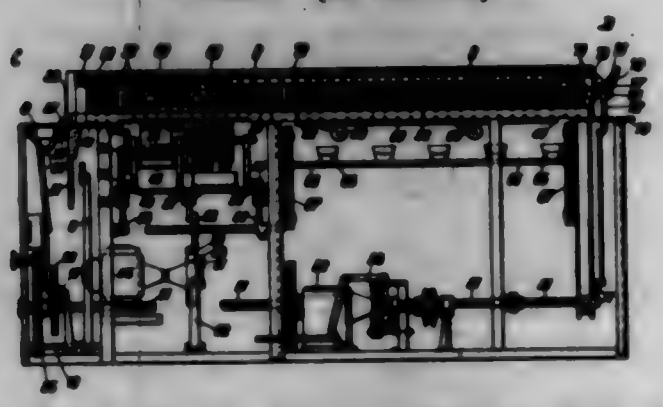
1. A process for forming printed circuits which consists essentially of providing an insulating base with at least one surface having adhered thereto by means of an adhesive curable resinous bonding agent finely divided, discrete particles of cuprous oxide at numerous individual sites, the particles of cuprous oxide being present in an amount of between about 0.25 and 80 percent of the combined weight of the adhesive resinous bonding agent and cuprous oxide, and being in the form of Cu_2O, curing the adhesive resinous bonding agent to firmly adhere the finely divided particles of cuprous oxide to the surface while retaining the discreteness of the particles and their presence at numerous individual sites, reducing at least a portion of the cuprous oxide particles adhesively bonded to the surface to metallic copper particles, and subjecting the resulting insulating base to an electroless metal deposition bath to electrolessly deposit metal directly on said metallic copper particles.

3,146,126
ADHESIVE DISPENSING APPARATUS FOR SHOE MACHINES
Alan G. Baker, Plymouth, Mass., assignor to Jacob S. Kamborian, West Newton, Mass.
Filed May 24, 1961, Ser. No. 112,417
8 Claims. (Cl. 118—3)



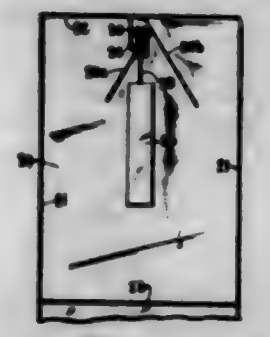
1. An adhesive dispensing apparatus comprising: a pot; a chamber in pot; a projection extending away from the chamber; a nozzle secured to the projection; a conduit extending through the projection from the chamber to the nozzle; an orifice intersecting the chamber; a plunger slidably mounted in the orifice; powered means for reciprocating the plunger in the orifice toward and away from the chamber; a well in said pot for storing adhesive; a passage in said pot interposed between the well and the chamber through which the adhesive flows from the well to the chamber; valve means associated with the passage normally permitting flow of adhesive therethrough and operative in response to movement of the plunger toward the chamber to block the passage; control means for controlling the operation of said powered means; means responsive to actuation of said control means to cause the powered means to move the plunger forwardly toward the chamber; and means operative at any time during the forward movement of the plunger to deactuate said control means to cause the powered means to terminate the forward movement of the plunger at the position it had assumed at the time of deactuation.

3,146,127
MACHINE FOR GLUEING AND DRYING THE BACKS OF STITCHED BOOKS
Eugène Georges Geoffrey, Chatillon-sous-Bagneux, and Aimé Pierre Landrin, Briand, Bagneux, France, assignors to Rahdener Maschinenfabrik August Kolbus, Rahden, Westphalia, Germany
Filed Mar. 12, 1962, Ser. No. 179,857
6 Claims. (Cl. 118—58)



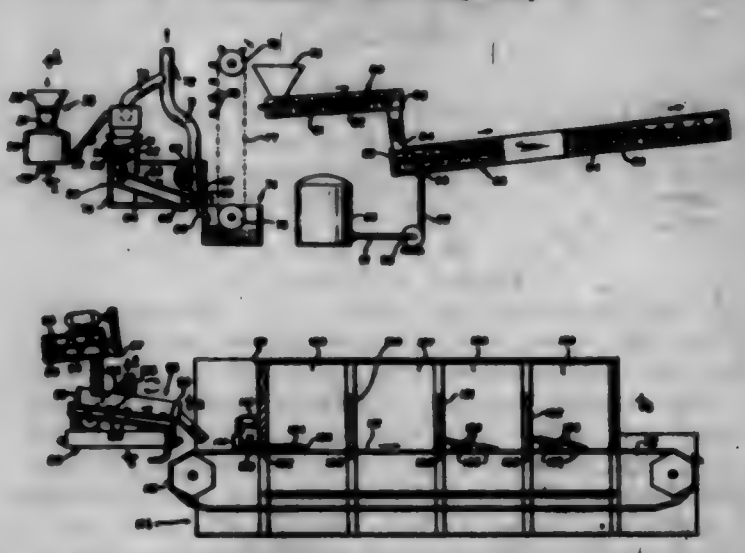
1. In a machine for glueing and drying the back edges of books including means for applying glue to the backs of the books and for drying the glue thus applied the improvement comprising
(a) a plurality of clamping plates adapted to be placed between the backs of stacked books facing each other with their wide sides;
(b) guiding rails supporting said clamping plates at their ends;
(c) resilient locking means on said rails for retaining said clamping plates;
(d) and transporting means slidingly moving the stacked books with interposed clamping plates upon said guiding rails in a direction perpendicular to the side faces of the books with their backs exposed to said glue applying and drying means.

3,146,128
COATING APPARATUS
Hermann Hayek, Josef Zemann, Johannes Ebenwieser, and Herbert Renner, all of Gumpendorf, near Vienna, Austria, assignors to Peter Stoll, a corporation of Austria
Original application Apr. 18, 1960, Ser. No. 23,019. Divided and this application Sept. 21, 1960, Ser. No. 57,422
2 Claims. (Cl. 118—64)



1. In a coating apparatus for coating objects with water dilutable coating agents comprising spraying and drying sections and means for conveying objects through said sections, cover means above said conveying means extending the length of said drying chamber to prevent droplets of sprayed coating agent condensing above the coated objects from falling on the freshly coated surface of said object in said drying chamber.

3,146,129
APPARATUS FOR PRODUCING MEDICATED BIRD FOOD
William Odenwald, Elizabeth, N.J., and Gabriel Appleman, Flushing, and Walter L. Hardy, New York, N.Y., assignors to Hartz Mountain Products Corp., New York, N.Y., a corporation of Delaware
Original application Sept. 18, 1958, Ser. No. 761,819, now Patent No. 3,080,285, dated Mar. 5, 1963. Divided and this application Oct. 3, 1962, Ser. No. 232,919
5 Claims. (Cl. 118—75)



1. In an apparatus for medically treating a continuous supply of bird seed of the type having an outer hull and an inner seed comprising a liquid-pervious core encased within a shell, shell scarifying and fragmenting means, a

treating and tumbling trough extending along a forwardly and upwardly inclined path, conveying means operatively disposed between the said scarifying and fragmenting means and the said trough, said trough being adapted to contain therein a selected medicated solution, a screw conveyor extending longitudinally within said trough, a discharge outlet at the forward end of said trough, dewatering means disposed operatively below said outlet and comprising a spring-mounted framework, a forwardly and downwardly inclined screen floor therein, vibrating means operatively connected with said framework, the forward end of said dewatering means constituting the discharge end thereof, a conveyor belt operatively positioned below said discharge end, an oven disposed over said belt, and seed spreading means disposed over said belt.

3,146,130

PROCESS FOR IMPREGNATING POROUS ELECTRODES, AND ELECTRODES PRODUCED THEREBY

Hanns H. Kroger and Hans-Hermann von Doehren, Frankfurt am Main, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Aug. 23, 1960, Ser. No. 51,251
Claims priority, application Germany Aug. 28, 1959
5 Claims. (Cl. 136—34)

5. In a process for forming porous electrodes for storage batteries in which a porous electrode is impregnated with electrochemically active material, the improvement which comprises impregnating the porous electrode with a solution containing an ammonium complex of a metal of the group consisting of nickel, cobalt, cadmium, zinc, silver, copper, and mercury, said ammonium complex having been prepared by dissolving a metallic compound which is a member of the group consisting of nickel, cobalt, cadmium, zinc, silver, copper, and mercury compounds, in a nitrogen containing solvent which is a member of the group consisting of aliphatic amines, aromatic amines, amino acids, and aqueous ammoniacal solutions of ammonia, at a temperature in excess of about 25° C., but below the temperature at which the ammonium complex of the metal undergoes decomposition, removing the electrode from the impregnating solution, drying the electrode by heating it to a temperature sufficient to drive off water and ammonium salts and to dry the electrode, and said steps of impregnating and heating are subsequently repeated until the electrode has accumulated the required amount of active material, and then leaching the impregnated electrode in a hot aqueous solution of sodium hydroxide, washing the leached electrode with hot water to remove residual anions and ammonium salts, and then heating the washed electrode at a temperature in the range between 105° C. and 140° C. to dry it.

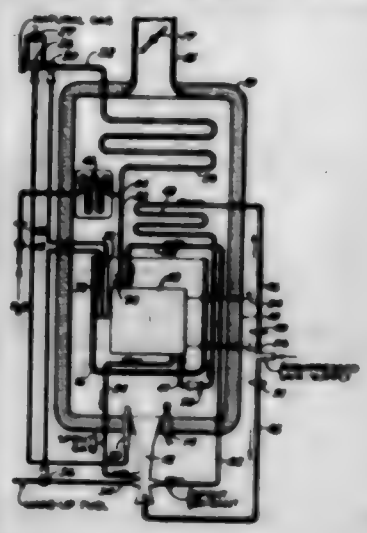
3,146,131

APPLIANCE FOR PRODUCTION OF DIRECT ELECTRIC CURRENT

Henry R. Linden, Hinsdale, and Eugene B. Skultz, Jr., Chicago, Ill., assignors to Institute of Gas Technology, a corporation of Illinois

Filed Mar. 20, 1961, Ser. No. 96,877
7 Claims. (Cl. 136—86)

1. A compact unitary appliance for generating electricity from a source of hydrocarbon fuel gas outside the appliance which comprises a furnace, a gas burner for heating the interior of the furnace, a battery of interconnected fuel cells mounted within said furnace for converting said gas directly to electricity by electrochemical oxidation, gas conduit means connecting said gas source to said fuel cells, an oxygen conduit within said furnace and extending outside the furnace for connecting a source of oxygen to said fuel cells, a water conduit within said furnace for conducting water thereto, heat exchanger means to convert the water in said water conduit to steam, means within said furnace for connecting said water conduit to said gas conduit means intermediate said gas source and said fuel cells to mix steam with said gas, supply line means for conducting fuel to said burner, first valve means in said supply line means for regulating the supply of fuel to said gas burner, thermal control



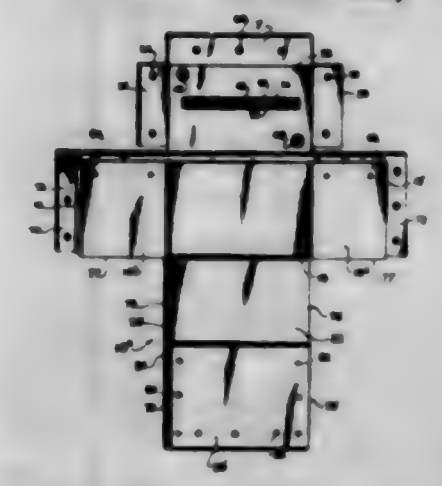
means mounted within said furnace for controlling said first valve means, a thermal control element mounted within said furnace adjacent said fuel cells, and second valve means responsive to said thermal control element disposed in the portion of said gas conduit outside said furnace for regulating flow of gas to said fuel cells.

3,146,132

BATTERY CLIMATIZER COVER

Sanford Nathan, 1064 Gerard Ave., Bronx, N.Y.

Filed Dec. 7, 1961, Ser. No. 157,664
1 Claim. (Cl. 136—166)



A battery cover, comprising a flat foldable body formed of three integral rectangular hinged sections, said body being formed as a liminated structure with inner and outer spaced sheet members and having a relatively thick filling of thermally insulating fibrous material disposed therebetween, said outer sheet member extending beyond said inner sheet member and said filling to define a peripheral flange about each section, the outer sheet member of one of said sections having two rectangular extensions at its opposite end, snap fastener members on the outer side of another of said sections, other snap fastener members on the inner side of said two extensions engageable with the first-named snap fastener members to form said body into a rectangular open top box-like base with bottom, end, front and rear walls, the outer sheet member of said one section having another rectangular extension foldable to define a lid for said base, said other rectangular extension having an elongated central opening, said other extension having rectangular flaps with further snap fastener members on inner sides thereof extending from each of its

three free sides, and a plurality of other snap fastener members on outer sides of said two rectangular extensions and said other section engageable by said further snap fastener members to hold said lid closed over said base, said other rectangular extension of said outer sheet having eyelets at diagonally opposite corners thereof for protrusion of terminals of said battery therethrough, and a slide fastener secured at the elongated opening centrally located in said other rectangular extension of said outer sheet to provide access to centrally located filler caps at the top of the battery when the lid is closed.

3,146,133

PROCESS AND COMPOSITIONS FOR FORMING IMPROVED PHOSPHATE COATINGS ON METALLIC SURFACES

Jean Lantois, Sucy-en-Brie, France, assignor, by mesne assignments, to Hooker Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 12, 1962, Ser. No. 179,285
Claims priority, application France Mar. 23, 1961
5 Claims. (Cl. 148—6.15)

1. A process for coating the surface of a metal which is susceptible to atmospheric corrosion which comprises applying to said surface an aqueous acidic solution consisting essentially of a phosphate selected from the group consisting of zinc and manganese phosphates, the PO_4 content of said solution being in the range of .5 to about 2.5%, and at least one oxidizing agent selected from the group consisting of 0.002% to 0.015% nitrite, 0.03 to 0.05% bromate, 0.02%–0.15% sulfite, 0.05–0.25% sodium metal nitrobenzene sulfonate, 0.05–0.25% nitro methane, 0.05–0.25% nitro guanidine, 0.01%–4% nitrate, 0.5–4% chlorate and 0.01%–1% sodium ethylene diamine tetra-acetate, and the aluminum ion in an amount in the range of about 0.02 to about 5 grams per liter, said solution having a temperature in the range of room temperature to the boiling point of said solution.

3,146,134

METHOD OF FORMING TUNGSTEN SHAPES FROM SPRAYED METAL PREFORMS AND THE ARTICLES RESULTING THEREFROM

Theodore Pacala, Richard H. Singleton, and James E. Twyman, all of Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Sept. 18, 1961, Ser. No. 138,588
7 Claims. (Cl. 148—20.3)

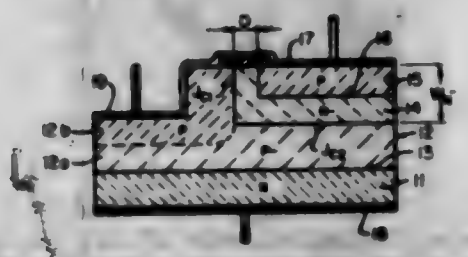
1. The method of treating an arc-plasma sprayed tungsten hollow body to produce a body having high strength, density and hot ductility comprising the steps of heating the body in a hydrogen atmosphere at a temperature of from about 3500° F. to about 4000° F. for a period of at least about 2 hours and cooling said preform without exposure to air.

3,146,135

FOUR LAYER SEMICONDUCTIVE DEVICE

Chih-tang Sah, Menlo Park, Calif., assignor, by mesne assignments, to Clevite Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 11, 1959, Ser. No. 812,433
2 Claims. (Cl. 148—33.3)



1. A four layer semiconductive device including a wafer of semiconductive material having first and second spaced faces comprising a first region of one conductivity type extending to the first surface, a second region of opposite conductivity type forming a junction with said first region and extending to the second surface, said second region including a portion having a higher impurity concentration of said opposite conductivity type than the remainder of said second region and extending to the second surface, a third region of said one conductivity type forming a junction with the second region including the portion of higher impurity concentration, said third region defining a surface on said second surface in common with the surface of the second region, a fourth region of opposite conductivity type inset into the third region forming a junction with said third region, said fourth region defining a surface on said second surface in common with the surfaces of the second and the third regions, the end of the junctions between said second and fourth regions and the third region extending to said one surface.

3,146,136

METHOD OF HEAT TREATING NICKEL BASE ALLOYS

Jack Raymond Bird, Chellaston, Derby, and Marcus Alan Wheeler, Darley Abbey, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Jan. 22, 1962, Ser. No. 167,637
Claims priority, application Great Britain Jan. 24, 1961
5 Claims. (Cl. 148—162)



1. A method of heat treating an alloy having the following percentage composition by weight:

	Percent
Aluminium	0.1–9.0
Titanium	0.1–6.5
Cobalt	0–30
Chromium	5–30
Molybdenum	0–15
Tungsten	0–15
Niobium	0–7
Hafnium	0–8
Tantalum	0–5
Vanadium	0–6
Boron	0–0.3
Zirconium	0–1.2
Carbon	0.01–0.3
Manganese	0–1.0
Silicon	0–1.5
Iron	0–5.0
Beryllium	0–0.5
Nitrogen	0–0.15
Copper	0–0.9
Rare earths	0–0.2
Sulphur	0.01 max.
Phosphorus	0.02 max.
Calcium	0.08 max.
Magnesium	0.15 max.

the balance being nickel and impurities, but such that the nickel is at least 35%, the combined aluminium and titanium is at least 5%, and there is present over 1% of at least one member of the group consisting of molybdenum and other hardeners within the given limits, said method comprising solution heating the alloy at a temperature within the range 1150°–1220° C. and for a

length of time such as to obtain a saturated solid solution, cooling the alloy at the rate of substantially 0.5° to 5° C. per minute from the solution treatment temperature to a high temperature within the range 800°–1110° C., and cooling the alloy from the said high temperature to the temperature of the ambient air.

3,146,137

SMOOTH EPITAXIAL COMPOUND FILMS HAVING A UNIFORM THICKNESS BY VAPOR DEPOSITING ON THE (100) CRYSTALLOGRAPHIC PLANE OF THE SUBSTRATE

Ferrest V. Williams, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 13, 1962, Ser. No. 209,776
6 Claims. (Cl. 148—175)

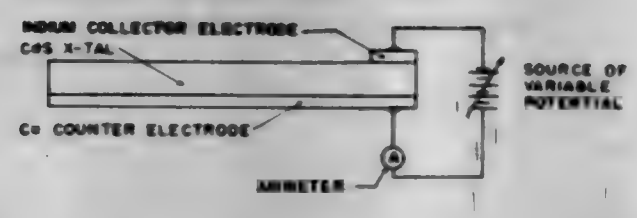
1. Process for the production of improved epitaxial films of compounds selected from the group consisting of the phosphides and arsenides of aluminum, gallium and indium and mixtures thereof, which comprises contacting a crude source of at least one of said compounds with a vapor comprising hydrogen halide and elemental hydrogen at a first temperature within the range of from 135° C. to 1200° C. to react said compound(s) with said hydrogen halide, and contacting the resulting gaseous mixture with the (100) crystallographic face of a seed crystal of at least one of said compounds at a second temperature within the range of from 130° C. to 1500° C. to deposit at least one layer of a single crystal form of at least one of said compound(s) as an epitaxial film onto said seed crystal.

3,146,138

VACUUM EVAPORATED BARRIER FOR A CdS CRYSTAL

Fred A. Shirland, Lakewood, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed July 10, 1961, Ser. No. 122,751
1 Claim. (Cl. 148—187)



A method for forming a barrier layer on a previously finely abraded surface of a cadmium sulfide single crystal comprising depositing a cuprous sulfide coating approximately 100 angstroms thick on said single crystal by vacuum evaporation, then subjecting the coated crystal to a heat treatment under continued vacuum evaporation at about 300–350° C. for about 5 to 10 seconds, said heat treatment being followed by leaching said barrier so formed with a solution of ammonium chloride and rinsing said barrier.

3,146,139

OXIDIZER COMPOSITION COMPRISING NITROGEN TETROXIDE, TETRANITROMETHANE AND NITROMETHANE

John O. Collins, Eau Claire, Wis., and Stephen P. Tarpin, Winchester, Mass., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 23, 1960, Ser. No. 78,180
4 Claims. (Cl. 149—1)

1. A liquid oxidizer composition for use in rocket propulsion which consists essentially of a mixture of from about 33 to about 95 mol percent nitrogen tetroxide, from about 5 to about 41 mol percent tetranitromethane, and from 0 to about 56.5 mol percent nitromethane.

3,146,140

COMPOSITION COMPRISING TRINITROTOLUENE AND o-NITROPHENOL

Virgil I. Miland, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed June 26, 1961, Ser. No. 128,469
6 Claims. (Cl. 149—107)

(Granted under Title 35, U.S. Code (1952), sec. 266)

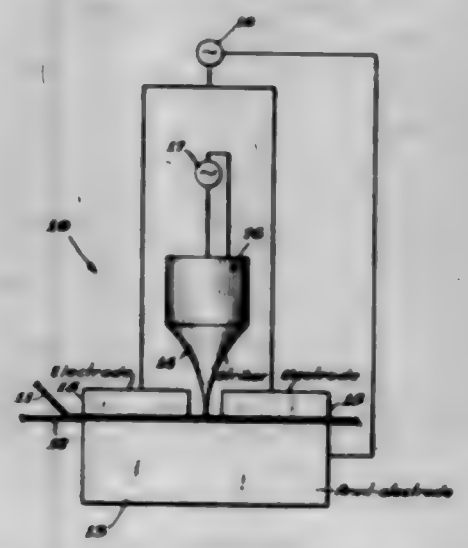
1. A composition of matter comprising trinitrotoluene and ortho-nitrophenol.

3,146,141

METHOD AND APPARATUS FOR EMPLOYING RADIO FREQUENCY AND ULTRASONIC OSCILLATORY ENERGY IN UNITING THERMOPLASTIC MATERIALS

Paul C. Woodland, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 26, 1961, Ser. No. 147,916
9 Claims. (Cl. 156—73)



1. A method of bonding thermoplastic films, having a dissipation factor at least about 0.01, said method comprising:

(1) passing an area of adjacent thermoplastic surfaces of similar such films to be sealed through a field of radio frequency energy of from about 100 kilocycles to 200 megacycles per second, and

(2) applying to said area of adjacent thermoplastic surfaces a plurality of impacts of an ultrasonic nature within the range of from about 15 to 500 kilocycles per second,

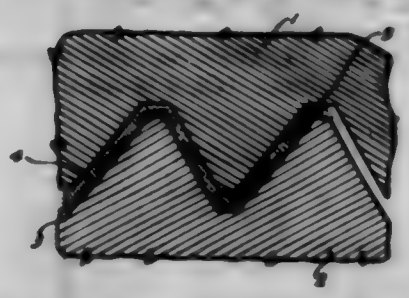
until said films are joined together.

3,146,142

JOINT ADHESIVES

George P. Maly, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

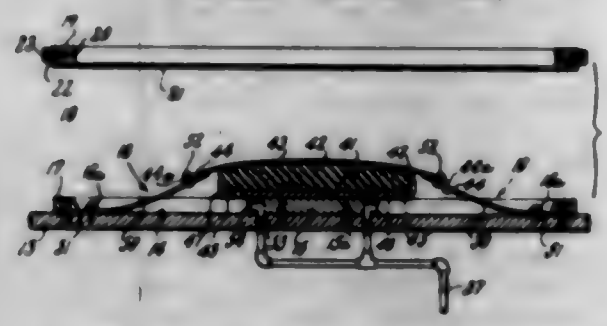
Filed June 7, 1960, Ser. No. 34,449
7 Claims. (Cl. 156—91)



1. The method of forming a resin bond of controlled strength between mating surfaces of coupling members which comprises: coating at least one of said surfaces with

a parting agent and controlling the extent of coating of said parting agent so as to effect an incomplete coating of said surface by controlling the amount of said parting agent to an amount sufficient to cause a decrease in the strength of said resin bond but in an amount less than the transitional amount beyond which an increase in amount of said parting agent causes no corresponding decrease in bond strength, thereafter applying a resinous cement selected from the class consisting of polyvinyl, polyacrylic, urea-formaldehyde, phenolic and epoxide cements to said surfaces, mating said surfaces and thereafter hardening said resinous cement to form said bond between said mating surfaces.

3,146,143
METHOD AND APPARATUS FOR MAKING CUSHIONED ARTICLES
Richard C. Bolasky, South Bend, and Jack M. Broadhurst, Mishawaka, Ind., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 7, 1961, Ser. No. 101,531
21 Claims. (Cl. 156—212)



1. A method of making cushioned articles comprising providing a vacuum table having fabric gripping means carried thereby; placing on said table an assembly including a support element, a core of resilient material centered on the support element, and a fabric element covering the core and extending outwardly of the peripheral edge of the support element, at least one of said elements having a peripheral area thereof coated with an adhesive; releasably attaching said fabric gripping means to a plurality of spaced apart points on the peripheral area of said fabric element, moving a flexible elastomeric diaphragm over said assembly and into abutment with said vacuum table; and evacuating the space between said vacuum table and said diaphragm, thereby drawing the diaphragm firmly around the assembly and causing the peripheral area of the fabric element to be evenly guided by the fabric gripping means about the core and the support element, released from the fabric gripping means, and bonded to the peripheral area of the support element.

3,146,144
PRINTING PROCESS
Jerome H. Lemelson, 8B Garfield Park Homes, Metuchen, N.J.
No Drawing. Filed June 23, 1960, Ser. No. 38,093
1 Claim. (Cl. 156—234)

A printing process for transferring a first image constituted of an incompletely dried newsprint ink from a surface on which it is formed to a paper receiving sheet which sheet, when untreated, will not receive said ink and form said image thereon, which comprises:

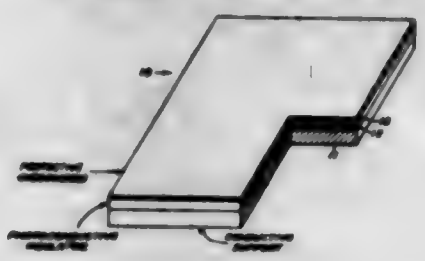
(*a*) applying an image transfer element constituted of a flexible mass of a silicone putty to said surface and pressing the silicone putty against the same to remove a stratum of the ink image from said surface and produce a corresponding ink coating constituting a reversal image of said first image on the silicone putty;

(*b*) treating said paper receiving sheet with a material having a greater adhesion for the ink coating on said silicone putty than the silicone putty has itself;

(*c*) applying the ink-image bearing silicone putty surface to the thus treated paper receiving sheet and pressing the silicone putty against said paper to transfer at least a stratum of the ink coating from the silicone putty to the paper; and

(*d*) removing said silicone putty image transfer element from said paper receiving sheet, the stratum of the imagewise ink coating transferred to the paper remaining thereon.

3,146,145
PROCESS FOR ADHERING PLASTIC TO VITREOUS SELENIUM
John J. Kinsella, Rochester, N.Y., assignor to Xerox Corporation, a corporation of New York
Filed July 1, 1960, Ser. No. 40,330
8 Claims. (Cl. 156—272)



1. The process for applying a protective overcoating to a photoconductive insulating layer of a xerographic plate comprising placing a layer of highly polymerized transparent electrically insulating resin on the photoconductive insulating layer of said xerographic plate to form an interface and then subjecting the side of said resin layer opposite said interface to ion bombardment under a partial vacuum whereby said resin layer is firmly bonded to said photoconductive insulating layer.

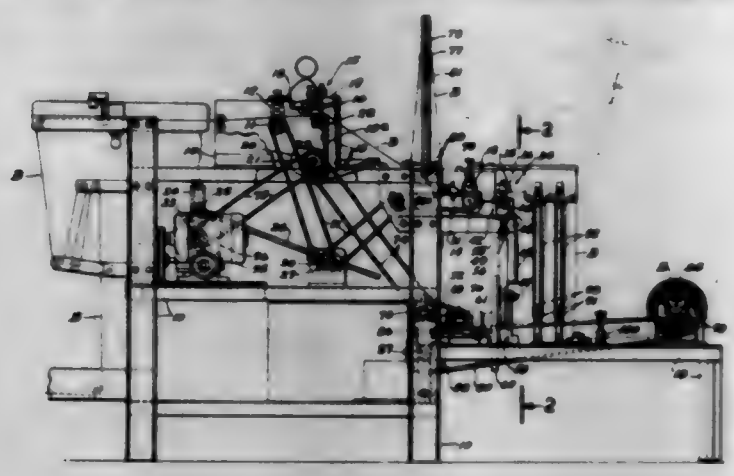
3,146,146
USE OF IONIZING RADIATION TO IMPROVE POLYMER-METAL LAMINATES
Herbert R. Anderson, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 11, 1961, Ser. No. 123,111
13 Claims. (Cl. 156—272)

1. A method of bonding metal and a polymer selected from the group consisting of trans-poly(1,3-butadiene), trans-poly(2-methyl-1,3-butadiene), trans-poly(2-methyl-1,3-pentadiene), cis-poly(1,3-butadiene), cis-poly(2-methyl-1,3-butadiene), cis-poly(2-methyl-1,3-pentadiene), polyethylene, polypropylene, ethylene-butene copolymer, ethylene-propylene copolymer, ethylene-4-methyl-1-pentene copolymer, ethylene-1-hexene copolymer, and ethylene-1-octene copolymer which comprises: contacting a strip of said metal to a strip of said polymer while heating to a temperature exceeding the crystalline melting point of said polymer; irradiating the joined strips with high energy radiation for a period of time sufficient to give a total dosage of 1×10^6 to 1×10^{10} roentgens equivalent physical at a temperature ranging above the melting point but not over 500° F.

3,146,147
BAG MAKING MACHINE WITH CUTTING MECHANISM AND THE CUTTING MECHANISM
Adolf Naser, Bellerose, N.Y., assignor to Altair Machinery Corporation, New York, N.Y., a corporation of New York
Filed June 8, 1961, Ser. No. 115,627
16 Claims. (Cl. 156—353)

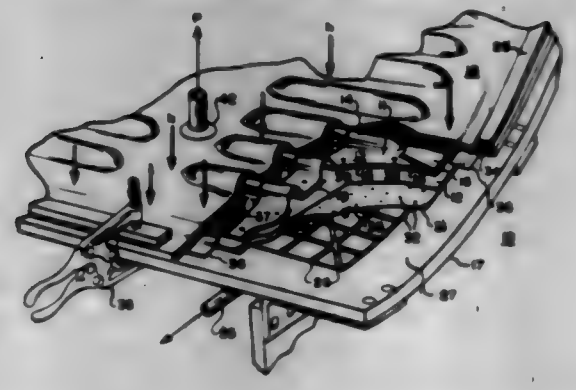
12. A bag making machine using a tubular plastic bag material comprising a machine frame, a first and a second

feed roll means rotatably mounted on the frame and spaced from each other, means connected with the feed roll means to intermittently drive the same, means to adjust the stroke of the intermittent drive means, a heat sealing means, means connected with the sealing means to move the latter into and away from contact with the bag material when the material is stationary: in combination with cutting mechanism located on the other side of the second pair of feed roll means including a stationary cutter bar carried by the frame and extending across the machine; cutter means comprising a cutter frame, a circular disc cutter, and means rotatably mounting the



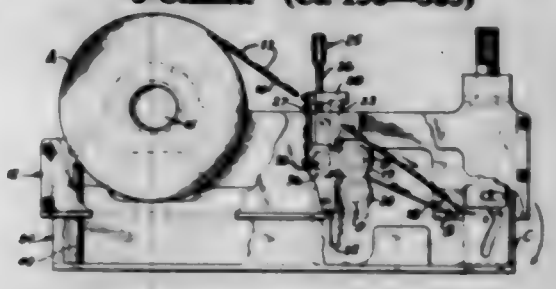
cutter on the cutter frame including an axle spaced from and extending at right angles relatively to the cutter bar; mounting and pressure means mounting the cutter means for reciprocation across the machine with the cutter engaging the cutter bar and for pressing the cutter against the cutter bar, and operating means connected with the cutter means to reciprocate the latter across the machine and the cutter along the cutter bar when the bag material is stationary; and means between the cutting mechanism and the sealing device to change the length of the path of the bag material between the sealing device and the cutter mechanism.

3,146,148
APPARATUS FOR FABRICATING COMPOSITE STRUCTURES
Clyde B. Mitchell and Withrow L. J. Williams, Fort Worth, Tex., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Nov. 8, 1957, Ser. No. 695,350
3 Claims. (Cl. 156—382)



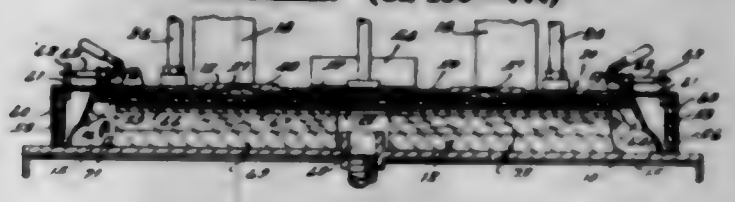
1. Apparatus for fabricating a composite structure formed of component elements adapted to be adhesively bonded together under heat and pressure, said apparatus comprising a base having a supporting face, a perforated sheet member mounted on said supporting face for carrying the component elements of the composite structure, vacuum fitting means inserted through said base and adapted for connection to a pump for the drawing of a vacuum at the face of said sheet member, an enclosing shroud of resilient material for fitting over work carried by said supporting face, said shroud having a plurality of pressure pads formed upon a portion of the area of its underside, said pressure pads being separated by intercommunicating passageways, said shroud having a peripheral smooth-surface area surrounding said area having said pressure pads, means for releasably, sealably affixing said smooth-surface portion of said shroud to said supporting base, and vacuum fitting means inserted through said shroud in communication with said passageways and adapted for connection to a pump for the drawing of a vacuum beneath said shroud.

3,146,149
LABEL PRINTING AND DISPENSING MACHINE
Paul Silverstein, 550 E. 21st St., Brooklyn, N.Y.
Filed Sept. 1, 1960, Ser. No. 53,549
5 Claims. (Cl. 156—385)



1. A device for dispensing pressure sensitive tickets from a carrier tape to an article, comprising: a main frame to rotatably support said carrier tape, means to guide said tape to a lower stripper bar, means to bend said tape around said stripper bar at an acute angle whereby said pressure sensitive tickets will separate from said carrier tape and adhere to said article, at least two substantially parallel rotatable shafts fastened to said main frame, said rotatable shafts separated by a distance less than the thickness of said tape, means for guiding said tape between said rotatable shafts, and means for rotating said shafts periodically thereby advancing said tape a predetermined amount.

3,146,158
APPARATUS FOR EDGE-TURNING OF COVERS ON DOOR PANELS
Edward G. Goldstone, Huntington Woods, Mich., assignor to Allen Industries, Inc., Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1960, Ser. No. 68,890
14 Claims. (Cl. 156—444)



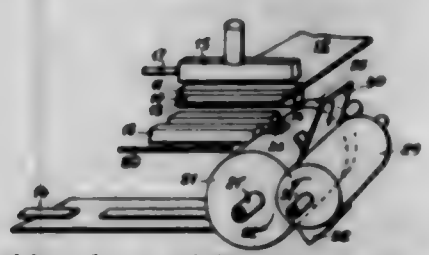
1. In an edge-turning machine, support means for receiving a workpiece and a cover lying thereover having a peripheral edge portion extending beyond the peripheral edge of said support means so that the edge portion of said cover can be turned around the edge of said workpiece, movable head means for holding said workpiece against said support means, seal means mounted on said movable head means formed to bear against said support means when said movable head is against said workpiece, resilient diaphragm means completely overlying said workpiece and having a portion thereof disposed between said movable head and said seal means to define a sealed passageway around said workpiece when said movable head means is against said workpiece, and vacuum means connected through said support means for evacuating said passageway thereby causing said resilient diaphragm means to bear against said workpiece to turn said peripheral edge portion around the edge of said workpiece.

3,146,151
EMBOSSING TYPE SPACER, HOLDER AND STRIPPER
Norman L. Smith, 9 Acorn St., Malden, Mass., and Joseph Mazzuchelli, 6 Rainier Road, Mattapan, Mass.
Filed May 29, 1962, Ser. No. 198,654
4 Claims. (Cl. 156—510)
(Granted under Title 35, U.S. Code (1952), sec. 266)



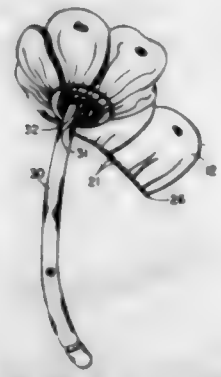
1. An apparatus for holding and type embossing a foil onto a card superimposed on the apparatus in a press after which the surplus foil not embossed is stripped from the card, said apparatus comprising: a base member having a plurality of slot means for slidably receiving and holding in alignment two or more rows of type characters, margin guide means removably joined to said base member adjacent to and closing one end of each of said slot means for establishing the vertical alignment of a column of type characters, stripper means movably superimposed on said base member for holding an embossing foil sheet against the type end of said type characters and having a plurality of slot means for receiving the type end of said type characters when pressure is applied by the press to emboss the foil against the card, and means for holding said stripper means in the superimposed position when the embossed card is lifted from said apparatus to thereby assure stripping the embossed card from the embossing foil sheet.

3,146,152
MACHINE FOR APPLYING TEAR-STRIPS UPON A WEB OF WRAPPING MATERIAL
Ariosto Seragnoli, Bologna, Italy, assignor to G.D. Societa in Accomandita Semplice di Enzo Seragnoli & Ariosto Seragnoli
Filed Nov. 6, 1961, Ser. No. 150,556
Claims priority, application, Italy, May 31, 1961, 650,884
4 Claims. (Cl. 156—519)



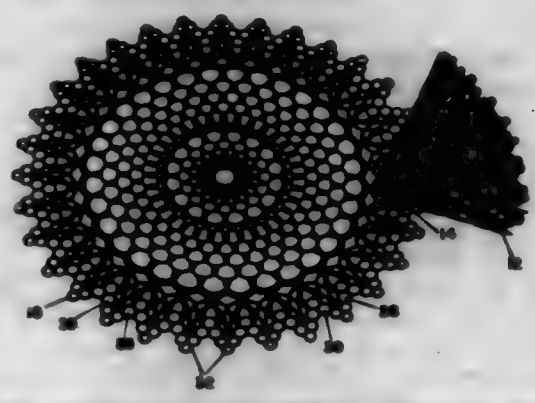
1. A machine for applying long and narrow strips onto a continuously moving sheet of wrapping material, said machine comprising means for intermittently advancing an edge portion of a large coil of material, cutting means disposed transversally of said edge portion and including a fixed blade and guide for said coil cooperating with a reciprocating blade, a stationary support mounted below said reciprocating blade for receiving a strip cut by said cutting means with a portion thereof extending outwardly from said support, a rotating drum having a portion of its cylindrical surface positioned below the outwardly extending portion of the strip and provided with a portion for engaging the said outwardly extending portion, means for substantially transversally guiding the continuously moving sheet of wrapping material adjacent said drum whereby the strip which is engaged by the drum is caused to be placed substantially lengthwise upon the wrapping material, means associated with said drum insuring the engaging of and releasing of said strip from said support to said wrapping material, and adhering means disposed adjacent said wrapping material to cause said strip to be adhered to said wrapping material.

3,146,153
ARTIFICIAL FLOWER
Helen G. Stein, 242 Main St., Leominster, Mass.
Filed Sept. 6, 1961, Ser. No. 136,366
5 Claims. (Cl. 161—30)



1. A method of producing an artificial flower comprising attaching a plurality of petal members together by sewing the edges thereof in overlapped and gathered positions and forming a substantially curved string of petal members substantially spirally winding said curved string of petal members, and affixing said substantially spirally wound string of petal members so as to form a properly proportioned artificial flower.

3,146,154
PLASTIC DOILY CENTERPIECE CONSTRUCTION
Raymond R. Ciprotti, Leominster, Mass., assignor to Plasticraft of Leominster, Inc., Leominster, Mass., a corporation of Massachusetts
Filed June 6, 1961, Ser. No. 115,259
3 Claims. (Cl. 161—37)

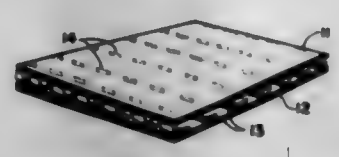


1. A doily centerpiece comprising a flat base doily of relatively large diameter, said doily being provided with apertures adjacent the periphery thereof, a series of relatively smaller doilies folded on themselves at the center portions thereof, and a clip for each doily, said clip being flexible and passing through the folds of the smaller doily and through a pair of spaced folds near the periphery of the flat base doily, holding the folded smaller doilies thereto at the periphery of the flat base doily, each elongated clip having an aperture at one end thereof and an enlarged head at the opposite end thereof, the head being of a size to snap into the aperture in the clip providing mating snap fastening means at the respective ends of the clips to form a continuous loop of each clip to hold its respective smaller doily to the flat base doily.

3,146,155
CONSTRUCTION MATERIALS
Lewis Edmound Tremmer, Englewood, Colo., assignor to Denver-Golden Research and Development Corporation, Denver, Colo., a corporation of Colorado
Filed July 17, 1961, Ser. No. 124,524
11 Claims. (Cl. 161—139)

1. As a new article of manufacture, a building panel comprising two relatively stiff sheets of light-permeable material composed of glass fibers substantially uniformly

distributed through and suspended in a resinous binder, and a plurality of spaced helical reinforcing members shaped as tubes of substantially uniform diameter sandwiched between said sheets with their lengthwise axes substantially parallel to the sheets and bonded thereto at points of contact to form an integral panel, and each said reinforcing member being more elastic than said sheets and composed of continuous rovings of fiber suspended in a resinous binder.



2. The building panel of claim 1, in which the reinforcing members are disposed in parallel in two sets with the members of one set intersecting the members of the other set at substantially right angles.

3,146,156

PRODUCTION OF SAG-RESISTANT MINERAL FIBERBOARD

John E. Cadotte, Cloquet, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 21, 1960, Ser. No. 63,960
6 Claims. (Cl. 162—135)

3. Mineral fiberboard comprising fibers consisting of mineral fibers, and further comprising dried gelatinized starch as binder therefor, and anti-sag material provided as an ingredient selected from the group consisting of magnesium oxide, magnesium carbonate, magnesium hydroxide and basic magnesium carbonate, said selected material being present in amount in the range from 1 to 10 parts calculated as MgO per 100 parts of fiber.

3,146,157

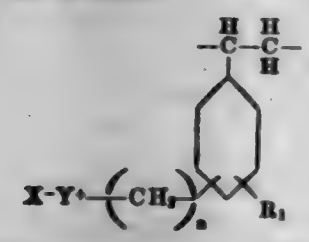
PAPER CONTAINING A POLYMER MIXTURE OF POLYSULFONIUM RESIN AND POLYCARBOXYLATE RESIN

Robert W. Morgan, Saginaw, and Melvin J. Hatch, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,001
9 Claims. (Cl. 162—164)

1. A cellulose fiber web having incorporated therein from 0.05 to 3 percent based on the weight of the fibers of a polymer mixture comprising:

(A) a water-soluble polymeric polysulfonium resin characterized as a polyalkane having chemically integral therewith a plurality of at least about 2 percent of the reoccurring moieties of sulfonium moieties represented by the formula:



wherein R_1 is selected from the group consisting of hydrogen, halogens and alkyls having up to 6 carbons, Y is a divalent, sulfur-containing organic radical having its valences on the sulfur atom, said radical being selected from the group consisting of acylic and alicyclic organic sulfides having from 2 to 12 carbons, X is a counter anion and *n* is an integer from 1 to 4, and

(B) a water-soluble polymeric polycarboxylate resin having a weight average molecular weight of at least about 25,000 wherein at least about 4 percent of the combined monomer moieties bear a carboxylate group,

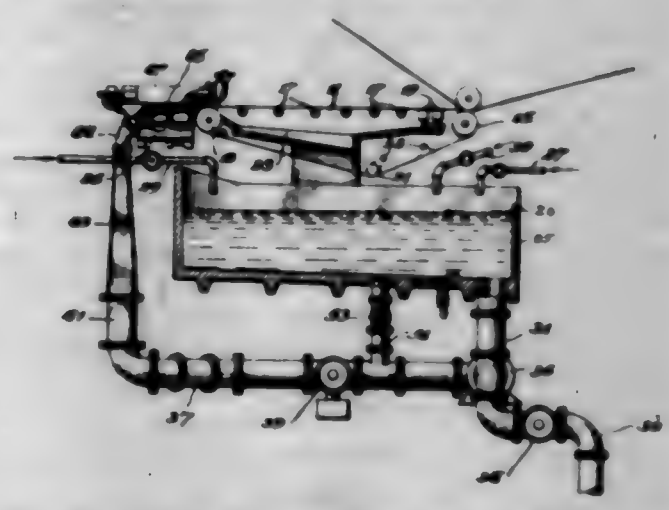
the relative amounts of the polymeric additaments used being such that the number of carboxylate moieties in the web are from about 0.1 to 1.5 times the number of sulfonium moieties present.

3,146,158

INHIBITING FOAMING OF CELLULOSE SLURRIES CONTAINING WET STRENGTH RESINS

Harold F. Donnelly, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Apr. 30, 1962, Ser. No. 191,821
3 Claims. (Cl. 162—164)



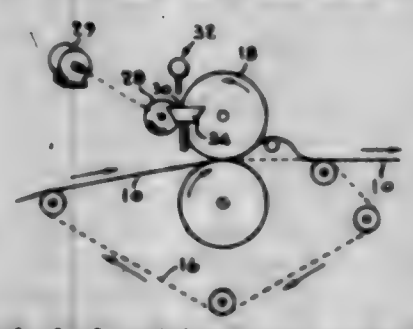
1. The process of inhibiting foaming of an aqueous suspension of cellulosic pulp containing a water-dispersible, cationic, wet strength, thermosetting, alkaline curing but uncured resin in an amount to render the pulp fibers cationically active and which uncured resin in aqueous suspension has a tendency to cause foam when the suspension is aerated, said process comprising circulating the suspension in a papermaking process in such manner that the suspension is exposed to air and necessarily aerated, and adding to the circulating suspension a hydrophobic defoamer to the extent of between about 0.05% and 2% on the dry weight of the cellulosic pulp and a water-soluble inorganic anionic polyphosphate in sufficient amount to suppress foam formation but insufficient in amount to substantially coagulate the wet strength resin on the fibers.

3,146,159

METHOD OF COATING PAPER WITH HIGH SOLIDS HIGH VISCOSITY COATING IN THE WET END OF THE PAPER MAKING MACHINE

Gerald D. Muggleton, Appleton, Wis., assignor to Combined Locks Paper Co., Combined Locks, Wis., a corporation of Delaware

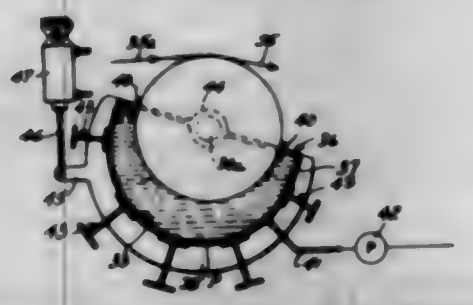
Filed Aug. 1, 1960, Ser. No. 46,780
3 Claims. (Cl. 162—184)



1. The method of applying heavy coating to a web of paper travelling through the wet end of a paper making

machine having press rolls comprising, placing an adjustable speed controlled small diameter applicator roll in contact with one press roll to form a nip, continually furnishing to said nip a supply of heavy coating having a viscosity in the range of 3,000 to 10,000 centipoises, and driving said applicator roll in the same peripheral direction at the nip as said press roll and at a speed sufficiently less than the speed of said press roll to maintain a calm non-splashing pond of coating at said nip.

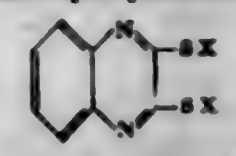
3,146,160
ROLL WITH ADJUSTABLE DEFLECTION MEANS
Matti Keskasaspaa, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Aug. 1, 1960, Ser. No. 46,450
2 Claims. (Cl. 162—305)



1. Apparatus for controlling the deflection in a roll member, comprising means forming a substantially fluid-tight chamber located in partially encircling relation with respect to the roll member, means for supplying a pressurized fluid to said chamber at pressure calculated to oppose the forces tending to cause said deflection, and means for shifting the chamber circumferentially with respect to the roll member to locate generally the center of said chamber in alignment with the sum of all forces tending to cause the deflection.

3,146,161
2,3-DIMERCAPTO-QUINOXALINES AS SYNERGISTS FOR FUNGICIDAL AGENTS
Ferdinand Grewe, Cologne-Stammheim, Helmuth Kaspers, Leverkusen, Klaus Sasse, Cologne-Stammheim, and Richard Wegler, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Apr. 4, 1961, Ser. No. 102,517
Claims priority, application Germany Apr. 9, 1960
2 Claims. (Cl. 167—33)

2. A synergistic fungicidal composition containing an active fungicidal component selected from the group consisting of zinc ethylene-bis-dithiocarbamate, tetramethyl-thiuram-disulfide, zinc-dimethyl-dithiocarbamate, pentachloro-phenol, N-trichloro-methyl-thio-tetrahydro-phthalimide, and 1-chloro-2,4-dinitronaphthalene, in admixture with at least one dimercapto quinoxaline of the formula

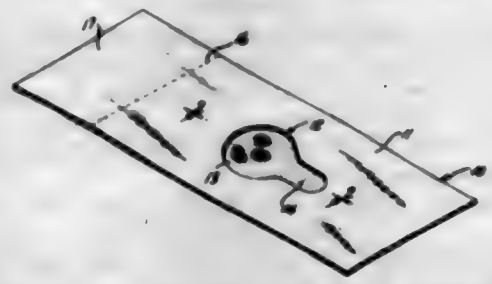


wherein X is a member selected from the group consisting of hydrogen, zinc, manganese, nickel, ferric iron, mercury, tin, sodium, dodecylamino, and stearylamino grouping, the fungicidal component and the quinoxaline being present in a ratio of about 3–50:1.

3,146,162
GENTIAN VIOLET ADSORPTION COMPLEX
Harold A. Abramson, 133 E. 58th St., New York, N.Y.
No Drawing. Filed May 5, 1961, Ser. No. 107,919
7 Claims. (Cl. 167—55)

1. Magnesium trisilicate-gentian violet adsorption complex.

3,146,163
APPARATUS FOR SEPARATING CERTAIN COMPONENTS FROM BLOOD
John H. Brewer, 425 Oak Lane, Towson 4, Md.
Filed Jan. 23, 1962, Ser. No. 168,165
8 Claims. (Cl. 167—74)



1. A device for use in separating liquid containing components from other components in a small blood sample which comprises a relatively thin flat slide presenting an upper surface formed with a recess having a liquid impervious surface depressed below the level of said upper surface and formed with a principal recess portion for initially receiving the blood sample and containing a coating including a hemagglutinin for causing certain of the components including the blood cells to precipitate in said principal recess portion and also formed with an auxiliary recess portion communicating with the principal recess portion for thereafter receiving the unprecipitated and liquid components of the blood.

3,146,164
SOLUTIONS OF STEROID PHOSPHATE AND BASIC ANTIBIOTICS STABILIZED WITH CREATININE
Thomas J. Macek, Glenside, and John D. Mullins, Lansdale, Pa., and Philip A. Ouellette, Rahway, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 9, 1960, Ser. No. 48,343
10 Claims. (Cl. 167—77)

1. A pharmaceutical formulation comprising, in an aqueous solution having a pH in the range of from about 7.0 to about 7.8, (*a*) an anti-inflammatory steroid phosphate, (*b*) a non-toxic basic antibiotic, and (*c*) a stabilizer to prevent precipitation resulting from interaction between said steroid and antibiotic, said stabilizer being selected from the group consisting of creatinine and N-methyl creatinine.

3,146,165
COMPOSITION CONTAINING COBALAMIN AND GLUTATHIONE AND PROCESS OF EMPLOYING SAME
John Godfrey Heathcote, Grange Park, St. Helens, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Aug. 28, 1961, Ser. No. 134,089
Claims priority, application Great Britain Aug. 26, 1960
2 Claims. (Cl. 167—81)

1. A composition of matter efficient on oral administration against pernicious anemia, said composition in dosage unit form consisting essentially of glutathione and cobalamin, the ratio of the weight of the glutathione component to the weight of the cobalamin component being between 1:1 and 20:1.

3,146,166
COBALAMIN AND AMINO ACID COMPOSITIONS
John Godfrey Heathcote, Grange Park, St. Helens, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Aug. 28, 1961, Ser. No. 134,090
Claims priority, application Great Britain Aug. 26, 1960
6 Claims. (Cl. 167—81)

1. A composition of matter efficient on oral administration against pernicious anemia, said composition in

dosage unit form consisting essentially of an amino acid and cobalamin, the ratio of the weight of the amino acid component to the weight of the cobalamin component being between 1:1 and 20:1.

3,146,167

METHOD OF PREPARING SUSTAINED RELEASE PELLETS AND PRODUCTS THEREOF

Russell John Lantz, Jr., Norristown, Pa., and Manford J. Robinson, Moorestown, N.J., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1961, Ser. No. 143,045
3 Claims. (Cl. 167—82)

1. In the method of preparing solid lipid sustained release pharmaceutical pellets having a solid medicament randomly dispersed throughout a lipid material resistant to disintegration and slowly dispersible in the gastrointestinal tract, the improvement which consists essentially of the steps of:

(*a*) forming a molten slurry of solid medicament randomly dispersed throughout a lipid material, said lipid material being capable of solidification at room temperature, resistant to disintegration and slowly dispersible in the gastrointestinal tract;

(*b*) atomizing the molten slurry through a pressure nozzle having a discharge opening forming atomized droplet particles of medicament containing lipid material having a mass that when converted to spherical pellets, each of said pellets has a predetermined diameter in the range of from about 250 microns to about 2,000 microns, and;

(*c*) passing the molten slurry of atomized droplet particles of medicament containing lipid material through air having a temperature lower than the solidification temperature of the lipid material until the atomized molten droplet particles congeal as solid spherical pellets having solid medicament randomly dispersed throughout the lipid material.

3,146,168

MANUFACTURE OF PHARMACEUTICAL PREPARATIONS CONTAINING CELLULOSE CRYSTALLITE AGGREGATES

Orlando A. Battista, Drexel Hill, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Apr. 10, 1962, Ser. No. 186,348
9 Claims. (Cl. 167—82)

1. A pharmaceutical composition comprising a substantially pure substance selected from the group consisting of cellulose crystallite aggregates, water-insoluble derivatives of cellulose crystallite aggregates having a D.S. of at least 0.01 and organic solvent-insoluble derivatives of cellulose crystallite aggregates having a D.S. of at least 0.01, the cellulose crystallite aggregates having an average level-off D.P., the substance containing not more than about 500 p.p.m. of ether-extractable components, and at least one pharmaceutical ingredient compatible with the aggregates and present in an available form and in an amount sufficient to impart its characteristic therapeutic property to the composition.

3,146,169

PHARMACEUTICAL FORMULATIONS AND THEIR MANUFACTURE

Douglas Stephenson and John Spence, London, England, assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

Filed June 8, 1962, Ser. No. 201,131
Claims priority, application Great Britain Jan. 21, 1960
6 Claims. (Cl. 167—82)

1. A prolonged acting medicinal preparation adapted for internal administration comprising a solid inner medicated portion readily dissolvable in the fluids of the gastro-intestinal tract and an outer non-medicated portion which is substantially insoluble, indigestible and unabsorbable in the fluids of the gastro-intestinal tract and which is inert and impermeable to the medicament and substantially surrounds the readily dissolvable inner portion except



for an aperture extending through the outer layer to the inner medicated layer, said outer layer being rigid and non-deformable in the body during the period of medication so that the dissolvable inner portion of the tablet is partially exposed to the gastro-intestinal fluids and the medicament in solution is gradually released through said aperture into the gastro-intestinal tract.

3,146,170

MANUFACTURE OF COSMETIC PREPARATIONS CONTAINING CELLULOSE CRYSTALLITE AGGREGATES

Orlando A. Battista, Drexel Hill, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Apr. 10, 1962, Ser. No. 186,349
9 Claims. (Cl. 167—85)

1. A cosmetic composition comprising a substance selected from the group consisting of cellulose crystallite aggregates, water-insoluble derivatives of cellulose crystallite aggregates having a D.S. of at least 0.01 and organic solvent-insoluble derivatives of cellulose crystallite aggregates having a D.S. of at least 0.01, the cellulose crystallite aggregates having an average level-off D.P., the substance containing not more than about 500 p.p.m. of ether-extractable components, and at least one active cosmetic ingredient compatible with the substance and present in the composition in an available form and in an amount sufficient so as to impart its characteristic cosmetic effect when the composition is applied topically.

3,146,171

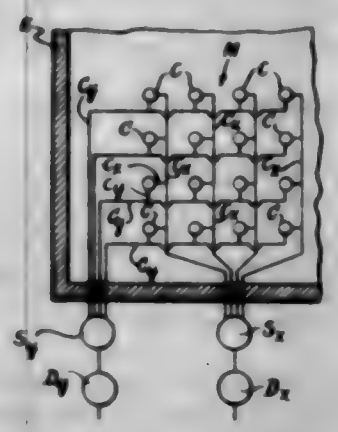
APPARATUS FOR DETECTING FAULTS IN THE CASINGS OF FUEL RODS EMPLOYED IN A NUCLEAR REACTOR

René Dongay, Vanves, and Jean Mégy, Bourg-la-Reine, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Sept. 14, 1960, Ser. No. 56,016
Claims priority, application France Oct. 3, 1959
7 Claims. (Cl. 176—19)

1. Apparatus for detecting faults in the channels of a nuclear reactor, comprising: a plurality of sampling pipes associated with the channels of the reactor and arranged in a matrix of rows and columns, one sampling pipe being associated with each of said channels; a pair of branch pipes connected to each of said sampling pipes; a row collector manifold provided for each row of said matrix and connected to each sampling pipe in said row through one set of the said pairs of branch pipes associated therewith; a column collector manifold provided for each column of said matrix and connected to each sampling pipe in said column through the other ones of said pairs of branch pipes associated therewith; row and column selector means selectively connecting all of said row and all of said column collector manifolds respectively to detector means associated with said selector means for determining faults occurring in the nuclear reac-

tor; and constriction means disposed in certain of the respective flow paths between the channels and the selector means to compensate for pressure drops in said flow paths



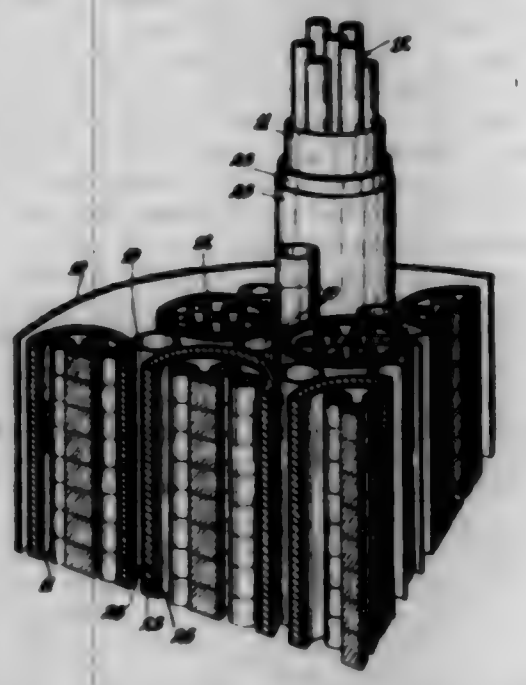
and thereby equalize the resultant pressures at which the samplings are received at the respective detectors during normal operating conditions.

3,146,172

MODERATOR FOR NUCLEAR REACTORS

Stefan George Bauer, Hilton, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed June 15, 1960, Ser. No. 36,371
Claims priority, application Great Britain June 19, 1959
28 Claims. (Cl. 176—42)



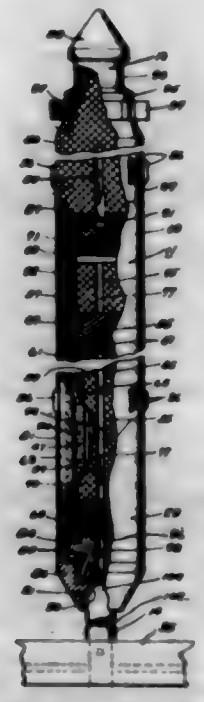
1. A nuclear reactor comprising a core, spaced fuel elements extending within the core, and a moderator material occupying the spaces between the fuel elements, said moderator material comprising masses incorporating a metal selected from the group consisting of lead and magnesium disposed within said core and occupying a first part of the space between and around the fuel elements, and light water occupying a second part of the space between and around the fuel elements, said fuel elements having a spacing substantially greater than the slowing down length of light water, and the ratio of the proportion of the moderator space occupied by the selected metal to the proportion of the moderator space occupied by the light water giving a slowing down length of the moderator material equivalent to the spacing of the fuel elements.

3,146,173

FUEL ELEMENT

Peter Fortescue and Lloyd R. Zumwalt, San Diego, La Jolla, and David C. Morse, San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 7, 1960, Ser. No. 13,406
16 Claims. (Cl. 176—71)



1. A fuel element for a neutronic reactor, said fuel element comprising an outer container fabricated of neutron moderating material having a low permeability to fission products and containing a purge gas porous inlet region adjacent the upper end thereof and a purge gas outlet adjacent the bottom end thereof and adapted for connection with means conducting purge gas with fission products from a reactor core in which the fuel element is to be disposed, a closed fuel can fabricated of neutron moderating material having a low permeability to fission products disposed wholly within said container, the adjacent surfaces of said can and container being arranged to provide a plurality of purge gas channels between said can and container, said channels communicating with said upper porous region and with said gas outlet, and at least one fuel compact disposed within said closed can, each of said compacts having a central passageway extending therethrough, a convective pathway within said can being provided by said central passageways and space between each of said fuel compacts and can whereby fission products from said fuel compact pass to the lower portion of said fuel element within said can, said can and container providing double walled containment of each of said compacts.

3,146,174

METHOD OF PRODUCING THE ANTIBIOTIC MINOMYCIN

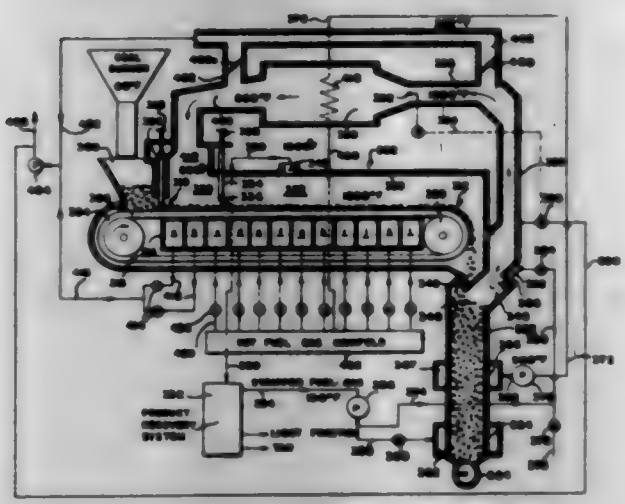
Haruo Nishimura, Ashiya-shi, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

Filed Jan. 13, 1961, Ser. No. 82,553
Claims priority, application Japan Jan. 16, 1960
8 Claims. (Cl. 195—80)

7. A process for producing an antibiotic, Minomycin, which comprises cultivating *Streptomyces minoensis* (ATCC 14026) in an aqueous nutrient medium under submerged aerobic conditions, treating the fermentation broth with an adsorbent at a pH of from about 4.0 to about 4.5, filtering the mixture, extracting the resulting cake of the adsorbent and the mycelium with a water-immiscible organic solvent, concentrating the extract to obtain a precipitate and chromatographing the precipitate with subsequent elution to isolate Minomycin.

3,146,175
COAL PROCESSING OVEN AND PRODUCT RECOVERY SYSTEM

Vaughn Mansfield, 301 Olive St., St. Louis, Mo.
Filed June 6, 1960, Ser. No. 34,313
1 Claim. (Cl. 202—22)

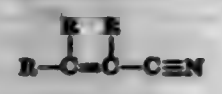


The method of producing coke and gas from carbonizable coal which contains low temperature volatiles capable of being driven off at temperatures of a certain degree and below and high temperature volatiles capable of being driven off at carbonizing temperatures above said certain degree, comprising: transporting a substantially uniformly thick horizontal bed progressively through a series of discrete contiguous regions of a confined horizontally elongate space, partly devolatilizing the coal by progressively raising the temperature of the coal to said certain degree as the coal progresses from region to region, extracting from at least one of said regions the low temperature volatiles driven from the coal as the latter progresses therethrough, stripping fuel gas from the extracted low temperature volatiles, forming a stack of the partly devolatilized coal by dropping the latter off the end of the bed into a vertically elongate confined space contiguous at its top with the horizontally elongate confined space, burning part of the stripped fuel gas over the top of the stack and radiantly heating the coal to carbonizing temperature as the latter falls onto the top of the stack, and maintaining the coal in the stack until most of the high temperature volatiles are liberated therefrom while removing the carbonized coal from the bottom of the stack.

3,146,176
STABILIZATION OF UNSATURATED NITRILES DURING DISTILLATION BY THE ADDITION OF p-AMINOPHENOL AND A SODIUM SALT REDUCING AGENT

Robert G. Roth, Dickinson, and Thomas C. Singleton, Texas City, Tex., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 28, 1961, Ser. No. 160,896
7 Claims. (Cl. 202—57)

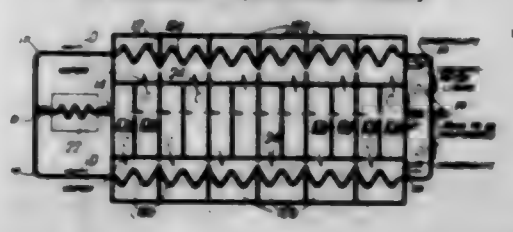
1. A process for inhibiting the polymerization during distillation of a crude unsaturated nitrile of the formula



wherein R is chosen from the group consisting of hydrogen and hydrocarbon radicals containing from 1 to 18 carbon atoms which comprises distilling said crude nitrile in the presence of a minor amount of p-aminophenol and in conjunction therewith a minor amount of a reducing agent chosen from the group consisting of sodium thiosulfate, sodium bisulfite and sodium oxalate.

3,146,177
MULTI-STAGE FLASH EVAPORATOR WITH HEAT RECOVERY

Thomas Martin Chalmers, Shiremoor, and Adolf Frankel and Hugh Robert Morton Craig, both of Newcastle-on-Tyne, England, assignors to Richardsons, Westgarth & Co. Limited, Wallsend, Northumberland, England
Filed Nov. 3, 1960, Ser. No. 67,133
Claims priority, application, Great Britain, Nov. 6, 1959, 37,779/59
2 Claims. (Cl. 202—160)



1. A multi-stage flash type evaporator comprising a first group of flash chambers and associated heat exchangers acting as heaters, and liquid conveying conduits for liquid to be heated, said heaters being arranged in at least two series, there being a plurality of heaters in each series, the heaters in each series being serially connected for the flow of condensate from the heater at one end of said series through the intermediate heaters, to the heater at the other end of said series, said one end corresponding to that end where liquid heating is terminated and flash vaporization begins and said other end corresponding to that end where heating begins and flash vaporization terminates, a condensate outlet from each heater discharging into the next upstream heater with regard to feed flow and discharging at said other end of each series, said flash chambers being equal in number to said heaters, alternate ones of said flash chambers being connected for the flow of vapor to separate and corresponding heaters of one series of said heaters in degrading thermal relation and the remaining alternate flash chambers being similarly connected to the other series of heaters, said flash chambers being all serially arranged and connected for the flow of liquid to be evaporated and unevaporated liquid from the flash chamber at said one end of said series through the intermediate flash chambers to the flash chamber at said other end of said series, a discharge outlet for unevaporated liquid from the flash chamber at said other end of said series, said liquid conveying conduits, one for each series, for liquid to be heated each extending through a separate series of heaters from a common inlet adjacent said other end thereof at which condensate is discharged to said one end thereof, a common conduit connecting said liquid conveying conduits adjacent said one end of said series of heaters, said common conduit discharging into the flash chamber at said one end of the series, a heater positioned to supply heat to the liquid flowing in said common conduit and a second group of flash chambers and conduits for liquid to be treated and associated heat exchangers acting as condensers similar to said first group and connected to said first group such that liquid conduits of said second group are connected to a source of cooling liquid and the flash chambers of the second group receive the unevaporated liquid from the first group whereby said second group operates as a heat removal section.

3,146,178
ANODIZING ELECTROLYTE AND METHOD

William C. Cochran, Oakmont, and William P. Kaeppert, Lower Burrell, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 12, 1962, Ser. No. 186,881
6 Claims. (Cl. 204—58)

1. A method of anodizing aluminum, comprising mak-

ing an aluminum article anode in an electrolyte consisting essentially of

at least 25 grams per liter of lignosulfonic acid,

at least 3 grams per liter and less than 13 grams per liter of sulfate (calculated as H_2SO_4) provided by at least one compound selected from the group consisting of sulfuric acid and water soluble sulfates and bisulfates, and

water,

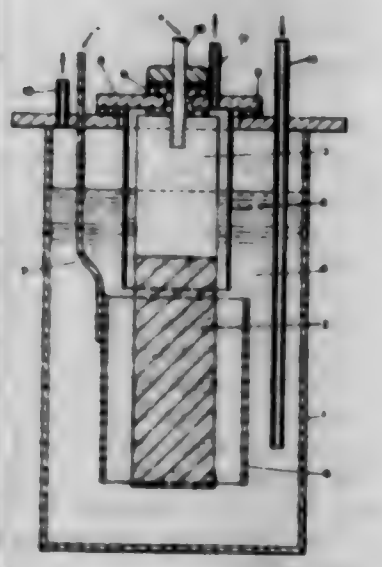
for a time sufficient to produce a colored anodic oxide coating of substantial thickness.

3,146,179

PROCESS FOR THE ELECTROLYTIC PRODUCTION OF FLUORINE AND APPARATUS THEREFOR

Albert Davies, Widnes, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Mar. 15, 1962, Ser. No. 179,920
Claims priority, application Great Britain Apr. 5, 1961
10 Claims. (Cl. 204—60)



1. A process for the electrolytic production of fluorine of reduced hydrogen fluoride content which comprises: immersing in a fused mixture of potassium fluoride and hydrogen fluoride having a KF to HF ratio of between about 1:1.8 and 1:2.2 a composite carbon anode the upper portion of which is of ordinary electrode carbon of low permeability and the lower portion of which is of carbon of higher permeability than the upper portion, said anode being immersed to the extent that the junction of said upper and lower portions is below the surface of said fused mixture; and electrolyzing said fused mixture between said anode and a cathode at a temperature of 80° C. to 110° C.

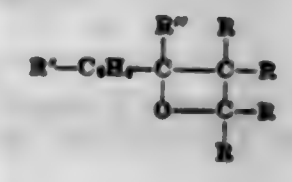
3,146,180

SUBSTITUTED OXETANES

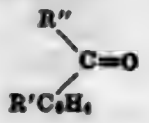
Harry J. Cenci, Warminster, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 4, 1961, Ser. No. 100,523
8 Claims. (Cl. 204—162)

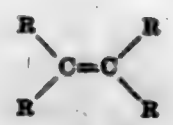
1. A method for the preparation of the compound having the formula



which comprises irradiating in the range of 3300 to 4500 Angstrom units, the reactants



and



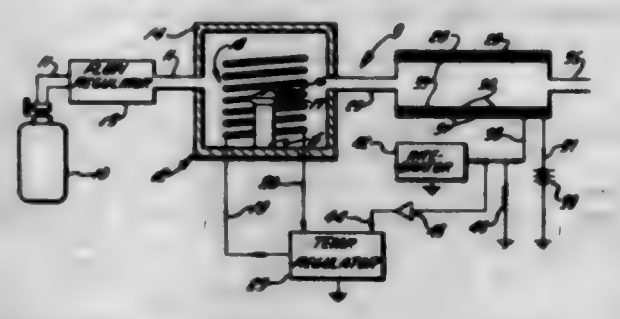
in the temperature range of about 0° to 150° C. and between the freezing and boiling points of the reaction system, in which R is a member of the group consisting of hydrogen and alkyl groups, R′ is a member from the group consisting of hydrogen, fluorine, chlorine, bromine, and lower alkyl groups, and R″ is a member from the group consisting of hydrogen, phenyl, fluorinated phenyl, chlorinated phenyl, brominated phenyl, and alkylated phenyl groups in which the total of carbon atoms in the alkene reactant is in the range of about 5 to 20.

3,146,181

MOISTURE ANALYSIS APPARATUS

Norton W. Bell, Monrovia, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California

Filed May 25, 1961, Ser. No. 112,596
10 Claims. (Cl. 204—195)



1. Apparatus for determining the amount of moisture entering a space from a moisture source comprising an electrolytic cell having a pair of spaced apart electrodes, a body of hygroscopic material interconnecting the electrodes and exposed to the space, means for communicating the moisture source with the space for fluid flow therebetween, controllable means for releasing moisture from the moisture source into the space for absorption by the hygroscopic material, means coupled to the cell for impressing a potential across the cell electrodes for electrolysis of the moisture absorbed by the hygroscopic material, the electrolysis current flow between the electrodes through the hygroscopic material being related to the quantity of moisture electrolyzed in the cell, and means coupled between the cell and the controllable means and responsive to the electrolysis current flow for controlling the rate of release of moisture from the moisture source to the space in a predetermined relation to the electrolysis current of the cell.

3,146,182

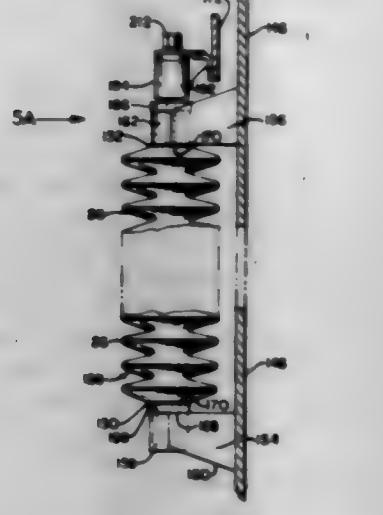
ELECTROLYTIC SYSTEM

Roland C. Sabins, 522 Catalina Blvd., San Diego 6, Calif.

Filed Aug. 25, 1959, Ser. No. 835,952
4 Claims. (Cl. 204—197)

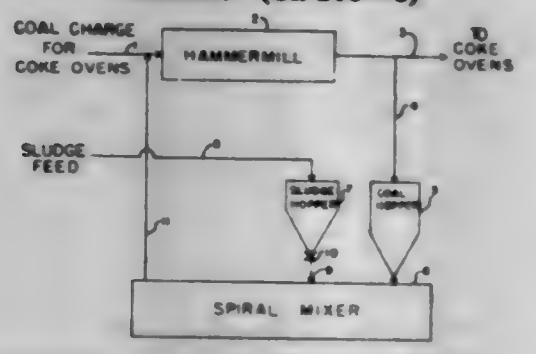
1. An anode and mounting therefor, comprising in combination, a vertically extending core formed of metal and having shoulders spaced vertically from one another, an anode of metal higher in the electrochemical series than the core and attached to and carried by the core between the shoulders of the core; a support formed of metal lower in the electrochemical series than the anode; an insulator having a shoulder resting on the support and having an

opening, the lower end of the core being disposed in said opening and the lower of said shoulders resting on the insulator; a second support formed of metal lower in the electrochemical series than the anode disposed above the first mentioned support, said second support



having an opening in a vertically extending side thereof for receiving the side of the opposite end portion of the core disposed above the upper of said shoulders on the core; and a second insulator carried by the second support and having an opening for receiving the said opposite end portion of the core.

3,146,183
PROCESS FOR MIXING TAR-DECANTER SLUDGE WITH COKE OVEN FEED COAL
William A. Reed, West Richfield, and John M. Roblin, Parma, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed May 25, 1961, Ser. No. 112,669
5 Claims. (Cl. 208—8)

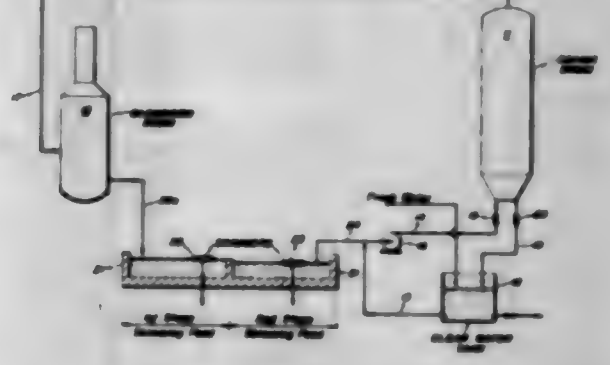


1. A process for converting tar-decanter sludge to useful products comprising the steps of premixing said sludge at a temperature of at least 40° C. to give a premix of 8–15% sludge with a portion of the comminuted coal being used as feed for a coke oven, uniformly distributing said pre-mix through the main body of said coal charge, and thereafter coking the resultant mixture of coal and sludge.

3,146,184
WAX COMPOSITION
Hallard C. Moyer, Homewood, Ill., and Eugene M. Fauber, Hammond, Ind., assignors, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 30, 1961, Ser. No. 85,466
3 Claims. (Cl. 208—21)

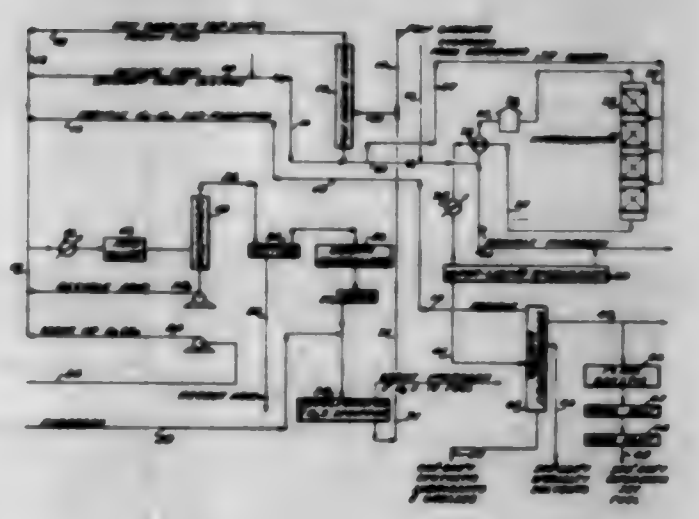
1. A wax composition of improved gloss and gloss stability characteristics consisting essentially of a normal paraffin wax having a melting point of about 130 to 145° F., 95% by weight of said wax exhibiting a breadth of carbon number distribution within the range of 8 to 11 and no greater than 5% by weight of said wax consisting of less than C_{24} and greater than C_{35} molecules, and about 0.5 to 10% by weight of an isoparaffinic wax having a melting point up to about 115° F. containing greater than about 10% by weight of isoparaffins at least about 90% by weight of which are within the C_{28}–C_{34} range.

3,146,185
METHOD OF REMOVING OIL FROM WATER
James W. Fella, Baytown, Tex., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed May 22, 1961, Ser. No. 111,751
3 Claims. (Cl. 208—48)



1. The process of removing soluble and entrained insoluble oil from an oil-laden water to be used in the hydraulic decoking of a coke bed contained in a coking zone of a delayed coking unit which method comprises introducing the oil-laden water into a hot bed of coke in the coking zone during the coke cooling cycle of the delayed coking operation, removing oil-laden water vapors from the said coking zone, continuing to introduce the oil-laden water into said coke bed until the coke bed is cooled and interstices within the coking zone are filled with water, withdrawing a clarified water from the bottom of the coke bed and subsequently using said withdrawn water in the hydraulic decoking cycle of the delayed coking operation.

3,146,186
PROCESS FOR THE PRODUCTION OF SUPERSONIC JET FUELS
Arnold M. Lesa, Ashland, Ky., Alice V. Canto, Huntington, W. Va., and Andrew E. Hall: and William A. Sutton, Jr., Ashland, Ky., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
Filed Apr. 3, 1961, Ser. No. 100,187
5 Claims. (Cl. 208—49)



1. A process for producing a supersonic jet fuel which comprises: treating a hydrocarbon feedstock consisting

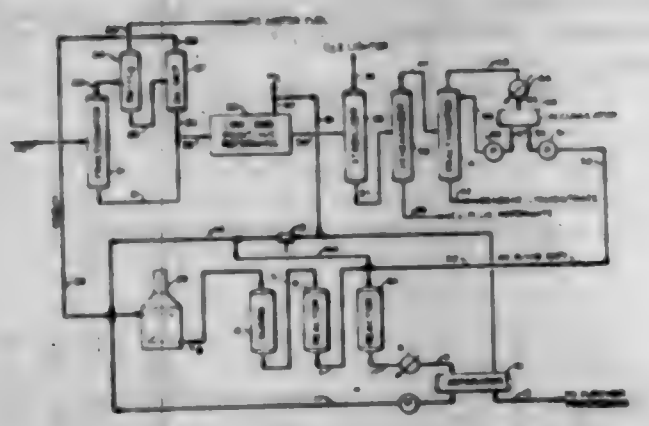
essentially of aliphatic hydrocarbons in the range of C_6–C_8 with 50–100% H_2SO_4 in an H_2SO_4/feedstock ratio of 0.5–10/1 by weight at a temperature and pressure of about 30–200° F. and 10–200 p.s.i.g. respectively for a period of about 0.1–60 minutes whereby at least a portion of said aliphatic hydrocarbons is polymerized and alkylated to form a hydrocarbon mixture comprising saturated and unsaturated aliphatic hydrocarbons in the C_{15}–C_{30} range; subjecting at least a portion of said hydrocarbon mixture to hydrogenation to convert said unsaturated aliphatic hydrocarbons to saturated aliphatic hydrocarbons; and fractionating the resultant hydrogenated mixture to yield a fraction consisting essentially of saturated aliphatic hydrocarbons having a boiling range of about 375–550 F., a heating value above about 18,900 B.t.u./lb., a freezing point no higher than about −30° F., a luminometer number of at least about 100, a viscosity no greater than about 15 cs. at −30° F., a vapor pressure no higher than about 50 p.s.i.a. at 500° F., a research coker filter pressure drop no greater than about 5 in. Hg and a research coker preheat deposit rating no greater than about 2.

3,146,187

CATALYTIC HYDROGENATION OF BENZENE

John T. Cabbage, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 24, 1961, Ser. No. 104,956
4 Claims. (Cl. 208—57)



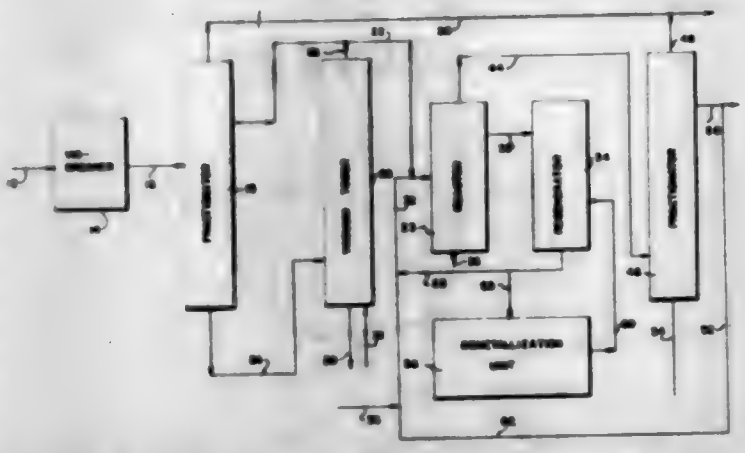
1. A method of treating a petroleum fraction containing C_6 and higher boiling hydrocarbons suitable for low end point reforming which comprises passing said fraction to a separation zone, in said zone separating as an overhead a stream containing isohexane, methylcyclopentane, cyclohexane and benzene and as a higher boiling material the stream containing hydrocarbons generally higher boiling than C_6 hydrocarbons, passing the higher boiling material to a low end point hydrocarbon reforming zone, fractionating said overhead stream to remove therefrom isohexane separated as a product, fractionating the remainder of said overhead stream to remove therefrom a benzene-containing overhead, passing the remainder of said overhead stream to said reforming zone, obtaining a reformed effluent stream from said reforming zone, removing from said effluent stream a benzene-containing fraction; hydrogenating in a first hydrogenation zone said benzene-containing overhead, obtaining a hydrogenated effluent, admixing said hydrogenated effluent with said benzene-containing fraction at a temperature and in an amount such that the admixture will be at a temperature and at a benzene concentration sufficiently low that, upon subsequent hydrogenation, the exothermicity of the reaction will yield only that amount of heat that a temperature beyond which undesired reactions will occur will not be exceeded and passing said admixture into and through a second hydrogenation zone under conditions to cause hydrogenation of benzene-containing fraction therein.

3,146,188

PROCESS FOR CRACKING A RESIDUAL OIL CONTAINING METALLIC IMPURITIES

Earl C. Gossett, South Holland, Ill., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 9, 1961, Ser. No. 88,150
15 Claims. (Cl. 208—73)



1. A process for treating a residual hydrocarbon oil boiling above the gasoline range and containing more than about 25 to about 500 p.p.m. nickel and more than about 50 to about 1000 p.p.m. vanadium which comprises treating said hydrocarbon oil at an elevated temperature under visbreaking conditions, fractionating the resulting visbroken oil to yield a gas oil fraction containing at least about 0.8 to less than about 25 p.p.m. nickel and at least about 1.5 to less than about 50 p.p.m. vanadium, said gas oil fraction having about 40 to 85% of its volume boiling primarily in the range of about 900° F. to 1200° F., subjecting said gas oil fraction to catalytic cracking, said gas oil being present in the cracking feedstock in an amount to supply at least about 1 p.p.m. nickel and at least about 1 p.p.m. vanadium and said feedstock containing less than about 10 p.p.m. nickel and less than about 20 p.p.m. vanadium, regenerating the catalyst, removing a portion of metal contaminated catalyst from the cracking system, the removed catalyst containing more than about 200 p.p.m. nickel and more than about 500 p.p.m. vanadium, demetallizing said metal contaminated catalyst to remove at least 50% of the nickel and at least 15% of the vanadium from the catalyst, and returning resulting demetallized catalyst to said cracking system and recovering gasoline from said catalytic cracking, said metal contents being calculated as the metal oxides.

3,146,189

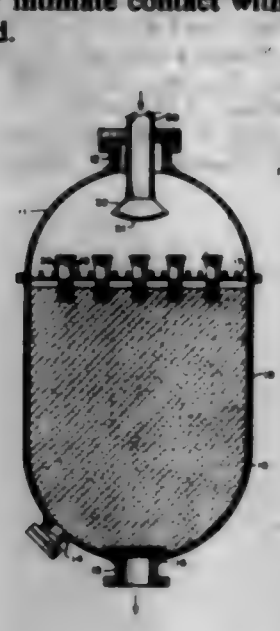
DISTRIBUTING VAPOR-LIQUID FEED TO BEDS

Frederick Kunreuther, Scarsdale, William A. Dick, Briarcliff Manor, and Douglas C. Hausch, Scarsdale, N.Y., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 6, 1960, Ser. No. 74,074
10 Claims. (Cl. 208—146)

1. Method of distributing a mixed phase feed uniformly over the cross-section of a contacting bed which comprises the steps of introducing a mixed phase feed comprising a gaseous component and a liquid component into a vessel at a level above a stationary bed of particulate contact material which is confined within said vessel, disengaging at least the predominant part of said liquid component from the gaseous component, collecting the liquid as a pool spaced above the top of the bed, flowing liquid from said pool downwardly onto the upper surface of said bed as a plurality of liquid streams which are distributed over the area of the bed, flowing the distributed liquid downward through the bed, and introducing the gaseous component into the bed by flowing at least a part thereof laterally from gas passages that extend down-

wardly from the top of the bed entirely within the upper half of the bed for intimate contact with the liquid flowing through the bed.



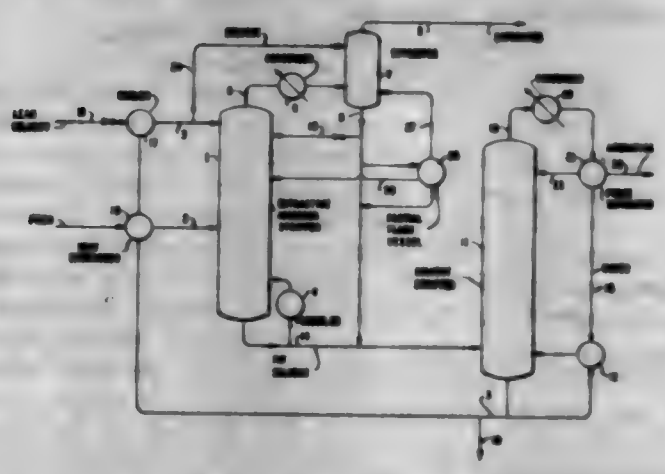
4. Apparatus for distributing a mixed phase feed comprising a gaseous and a liquid component uniformly into a bed for flow therethrough which comprises: a closed vessel including a feed inlet for introducing said feed to an upper part of the vessel and an outlet and containing therebetween a stationary bed of particulate contacting material providing fine flow channels, said bed having a plurality of gas passages that extend downwardly from the top of the bed entirely within the upper half of the bed; screening means for maintaining said gas passages against lateral encroachment by the contacting material, said means providing flow a channel larger than the said flow channels in the bed for the flow of gaseous components through the gas passages and laterally into the bed over extended areas; a liquid distributor vertically spaced above said bed and beneath said inlet and constructed and arranged to accumulate a pool of liquid from said inlet and to distribute liquid over the bed surface; and a plurality of gas ducts open at their tops at a level above said pool and in communication with said gas passages within the bed, said gas ducts being distributed to conduct gaseous components to said gas passages from the space above the distributor in isolation from said liquid.

3,146,190

RECOVERY OF AROMATICS

Michael N. Papadopoulos, Walnut Creek, Carl H. Deal, Orinda, and Eldred E. Young, Concord, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed May 8, 1961, Ser. No. 108,630
4 Claims. (Cl. 208—313)



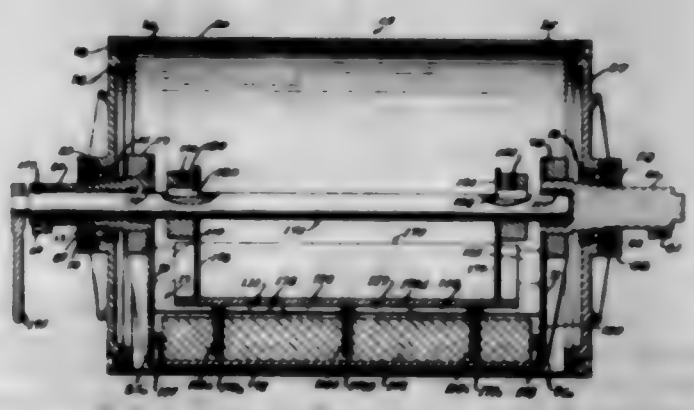
1. An absorption, stripping, extraction process for recovering aromatic hydrocarbons from a hydrocarbon mixture containing aromatic and non-aromatic hydrocarbons of which the aromatic content is at least 75% by weight of said mixture which comprises introducing a sulfolane solvent into an extractive absorber stripping zone near the top of the zone, introducing the highly aromatic feed mixture into the zone at a point below the introduction of the sulfolane solvent, countercurrently contacting the vapor of said mixture with the liquid sulfolane solvent to selectively absorb the aromatic components of the vapor at high purity, withdrawing overhead from said zone, a vapor-phase raffinate containing non-aromatic hydrocarbons, sulfolane solvent and some aromatic hydrocarbons, condensing said raffinate and extracting the raffinate in a raffinate extraction zone with a lean sulfolane solvent to produce a fat sulfolane solvent and a pure non-aromatic hydrocarbon raffinate and introducing the fat sulfolane solvent from the raffinate extraction zone into a solvent stripping zone, withdrawing from the bottom of the extractive absorber stripper zone, the fat sulfolane solvent containing the selectively absorbed aromatics, introducing the fat sulfolane solvent into the solvent stripping zone along with the fat solvent from the raffinate extraction zone, stripping the extract therefrom and returning the lean solvent to the extractive absorber-stripper zone at a point above the feed entry and to the raffinate extraction zone.

3,146,191

VARIABLE MAGNETIC STRENGTH PERMANENT MAGNETIC DRUM

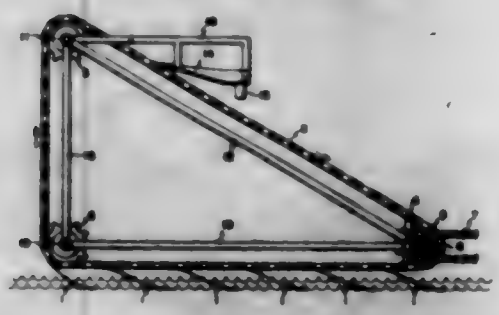
Frank S. Greenwald, Ogden Dunes, Ind., assignor to Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana

Filed May 12, 1961, Ser. No. 109,753
11 Claims. (Cl. 209—223)



1. In a permanent magnet separator comprising a rotatable material conveying drum, and a permanent magnet assembly within the drum having a plurality of pole pieces adjacent the interior surface of the drum and having permanent magnets extending between the pole pieces and magnetized in the direction between said pole pieces for establishing a working magnetic field at the exterior of the drum, the improvement comprising shunting means of magnetic material within said drum and disposed at least partially within the confines of the permanent magnets themselves in the region between the pole pieces which region is offset from the pole pieces in the direction of magnetization of the permanent magnets; and movable relative to said pole pieces to a plurality of shunting positions providing successively greater volumes of magnetic material within the confines of the permanent magnets themselves in said region between the pole pieces at the interior of said permanent magnet assembly, and means for moving said shunting means selectively relative to said pole pieces to said shunting positions to correspondingly adjust the strength of the working magnetic field exterior to said drum.

3,146,192
SELECTIVE SEPARATION OF OIL FROM WATER
John H. McClintock, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 24, 1962, Ser. No. 168,364
5 Claims. (Cl. 210—40)



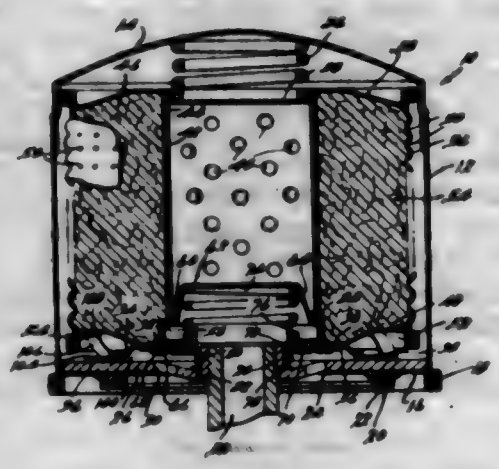
2. A method of separating oil from an immiscible oil-water mixture comprising passing at least one polymeric sheet having an affinity for said oil over the surface of the water, said sheet being selected from the class of polymers consisting of polyethylene and polypropylene, withdrawing said polymeric sheet from said oil-water mixture and removing the oil film from said sheet.

3,146,193
AQUEOUS SUSPENSION CLARIFICATION METHOD
Edward J. Sullivan, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 4, 1960, Ser. No. 19,487
4 Claims. (Cl. 210—54)

1. A method for concentrating finely divided inorganic solids from an aqueous suspension thereof which comprises admixing with said suspension a water-soluble copolymer prepared by copolymerization through the ethylenic double bonds of a mixture of from about 80 to 99 percent by weight of acrylamide with correspondingly from about 20 to about one percent by weight of a monovinyl heterocyclic ring compound selected from the group consisting of N-vinyl-2-oxazolidinone, N-vinyl-5-methyl-2-oxazolidinone and N-vinylpyrrolidone, said copolymer being characterized by a viscosity of at least 2 centipoises for a 0.5 percent by weight solution thereof in distilled water adjusted to a pH of 3 to 3.5 and a temperature of 25° C. and being employed in amount sufficient to cause accelerated sedimentation of the suspended solids, and maintaining the treated suspension under quiescent conditions to separate a clarified supernatant liquid layer and a concentrated solids suspension layer.

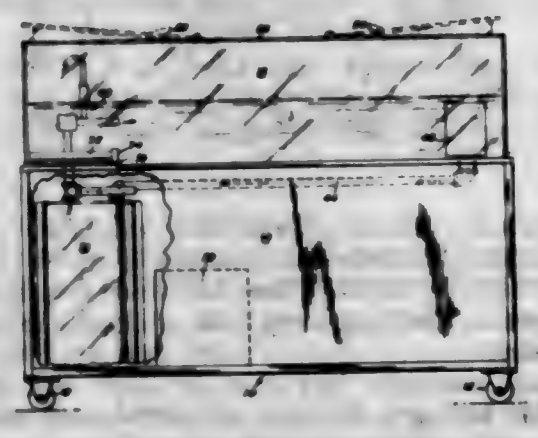
3,146,194
FILTER
Robert K. Hathaway, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Oct. 25, 1961, Ser. No. 147,552
1 Claim. (Cl. 210—130)

A filter assembly comprising,
a filter housing having one end provided with a centrally located fluid outlet and a fluid inlet spaced radially outwardly from said outlet,
a filter cartridge in said housing being substantially coaxial with said outlet,
a fluid by-pass valve assembly in said housing located adjacent said one end of said housing and providing for by-pass flow of fluid from said inlet to said outlet,
said by-pass valve assembly including a valve shell in which is formed an annular shoulder for supporting said filter cartridge in position axially spaced from said one end of said housing,
said valve assembly including an annular by-pass valve and valve spring each of which is concentric with said fluid outlet,
said valve assembly further including a by-pass flow opening located radially inwardly from said annular shoulder and which is normally closed by said by-pass valve,
an annular resilient disk having inner and outer peripheral portions and being concentric with said valve shell,



said inner peripheral portion being rigidly clamped between said annular shoulder and said filter cartridge and acting as a fluid seal between said filter cartridge and said by-pass valve assembly,
said outer peripheral portion bearing against said one end of said filter housing and at least partially defining a fluid inlet chamber with which both said fluid inlet and said by-pass flow opening are communicable, and
spring means resiliently maintaining said outer peripheral portion of said disk against said one end of said housing radially outward from said fluid inlet such that said outer peripheral portion acts as a check valve to prevent back flow through said inlet.

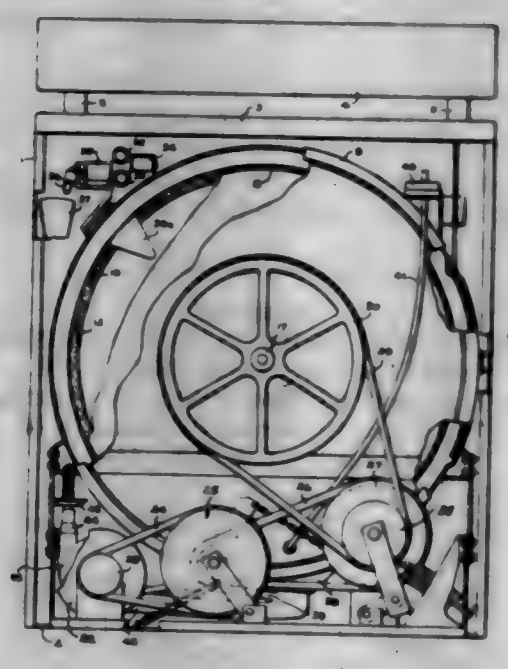
3,146,195
WATER PURIFICATION AND CONDITIONING SYSTEM FOR LOBSTER TANK
Martin J. Berardi, 53 Fowler Ave., Newburgh, N.Y.
Filed Jan. 10, 1961, Ser. No. 81,814
1 Claim. (Cl. 210—169)



In combination with a tank having water therein suitable for maintaining lobsters, or the like, in a healthy manner, a water purification and conditioning system comprising a return water receiver positioned in the tank to provide a constant flow of return water regardless of the water level in the tank, said return water receiver including a cylindrical receptacle having an apertured bottom and an open top, said apertured bottom providing the outlet, a return water filter within the cylindrical receptacle to filter the return water passing through the aforesaid

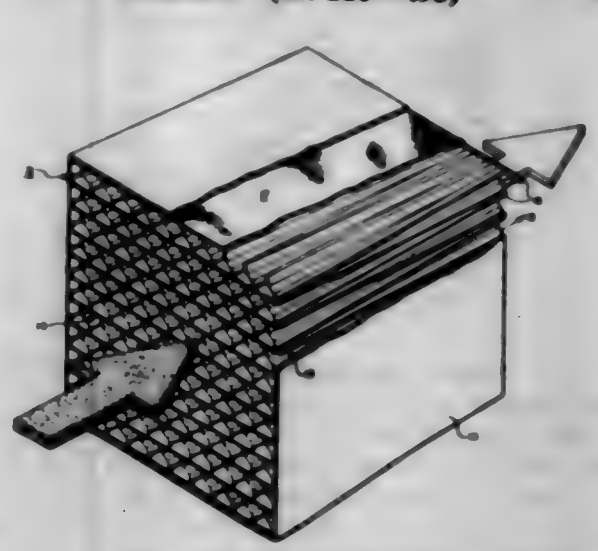
outlet, an annular float having a cylindrical wall generally coextensive with the cylindrical receptacle and telescopically carried therein, said float having an upper outer peripheral edge, the float being responsive to the water level in the tank whereby a constant amount of water flows over its upper outer peripheral edge, a filter assembly for purifying the return water, conduit means connecting the outlet of the return water receiver to the filter assembly, a water cooling chamber in the bottom portion of the tank, conduit means connecting the filter assembly to the water cooling chamber, cooling coils located in said cooling chamber, means for supplying coolant to said coils, aspirating means positioned in tank to receive the purified and cooled water and introduce it in aerated condition into the tank water, said aspirating means comprising an outer tube, an inner tube of shorter length positioned centrally within the outer tube, an air supply tube connected to the outer tube at a point intermediate the length of the smaller tube, the outer tube being positioned below the water level in the tank and the free end of the air supply tube being above the water level so that when water is forced through the smaller tube air will be drawn into the stream of water as it proceeds into the tank water, and pump means in the system to provide the necessary flow force.

3,146,196
LAUNDRY CENTRIFUGING MACHINE WITH IMPROVED CLOTHES CONTAINER
John Bochan and Everett D. Morey, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Sept. 13, 1962, Ser. No. 223,333
1 Claim. (Cl. 210—380)



In a laundry centrifugal extraction machine:
(*a*) a rotatable clothes container,
(*b*) means for rotating said container at a speed sufficient to centrifuge liquid out of clothes in said container,
(*c*) said container including an outer wall of sheet metal having a plurality of perforations over substantially the entire surface thereof, and
(*d*) a relatively thick liner of absorbent material coextensive with the inside of said outer wall and in continuous contact therewith, said liner having a plurality of perforations therein, each of said liner perforations being in alignment with a corresponding one of said wall perforations to enhance the flow of water through said liner and out of said container, said liner increasing the apparent thickness of clothes in the container to enhance the drying of the clothes.

3,146,197
PLEATED FILTER CONSTRUCTION
Allan R. Getzin, Jeffersontown, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Jan. 31, 1962, Ser. No. 170,839
3 Claims. (Cl. 210—493)



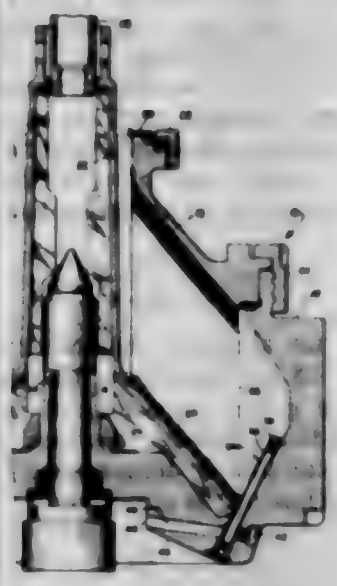
1. Apparatus for filtering a dirty fluid stream comprising:
(*a*) an open-ended housing defining a fluid passage between spaced, opposed fluid inlet and fluid outlet faces,
(*b*) filter material disposed in pleated formation across said fluid passage, and
(*c*) spacing members separating the pleats of said filter material,
(*d*) said spacing members being comprised of blanks of foldable material,
(*e*) each blank being divided into a plurality of spaced substantially parallel fold lines running transversely thereof and folded in zig-zag fashion along said fold lines to provide a plurality of fold increments,
(*f*) with at least some of said fold increments being so displaced relative adjacent fold increments that one zig-zag edge of said blank transverse said fold increments has a depth measured between a pair of straight substantially parallel measuring lines determined by extreme peaks of said zig-zag edge substantially greater than a similarly measured depth of said opposite edge of said blank.

3,146,198
CENTRIFUGE ESPECIALLY USEFUL IN CONCENTRATING FRUIT AND/OR VEGETABLE SOLIDS
Frederick W. Keith, Jr., Gladwyne, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Oct. 16, 1962, Ser. No. 230,853
2 Claims. (Cl. 233—29)

1. A centrifuge for concentrating solid portions of fruits and/or vegetables while avoiding excessive break-up of foreign solids present comprising
(*a*) a rotor mounted to rotate about an axis, the rotor including an imperforate cup-shaped shell having a peripheral wall and a lower wall having solids discharge openings spaced inward from said peripheral wall, and a frusto-conical top element having a central opening of lesser radius than the distance from the axis to any of the solids discharge openings and being mounted on said peripheral wall
(*b*) a center tube having a lower skirt portion and an upper tubular portion, the center tube being disposed in said cup-shaped shell with its skirt spaced above said lower wall and the upper tubular portion extending upward through the central opening to define an annular clarified liquid discharge port

(c) a disc stack disposed between the skirt portion and the top element

(d) outlet tubes disposed in respective radial planes in the shell and having in their outer ends inserts providing restricted openings, their outer ends being disposed adjacent the inside surface of the peripheral wall and their inner ends having peripheral openings and being disposed in the lower wall



(e) and passage means in the lower wall extending respectively from the inner end openings of the outlet tubes respectively inward to the solids discharge openings respectively, the restricted openings being smaller than the solids discharge openings whereby concentrated solids are brought inward through the restricted openings in the tubes through the tubes and passage means to discharge through the solids discharge openings at a relatively small radius under reduced shear.

3,146,199

WATER BASE DRILLING FLUID AND METHOD OF DRILLING A WELL UTILIZING THE SAME

Richard Arthur Salathiel, Houston, and Vernon R. Porter, Denton, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Oct. 10, 1958, Ser. No. 766,510
26 Claims. (Cl. 252—8.5)

1. A composition suitable for use in wells consisting essentially of a suspension of clay, an aqueous solution containing a water-soluble salt of an alkaline earth metal in a sufficient amount to provide in said composition an amount of alkaline earth metal ion from 1800 p.p.m. to about 40,000 p.p.m., and an amount of ferrochrome lignosulfonate within the range from about 5 to about 20 pounds per barrel sufficient to provide said composition with an API filtration rate of less than about 20 ml., said composition having a pH within the range from about 7.5 to about 10.0 and a density within the range from about 8 to about 18 pounds per gallon.

3,146,200

STABILIZED GALACTOMANNAN GUM SOLUTIONS AND PROCESS

Arthur M. Goldstein, Plainview, and Emil N. Alter, Bayside, N.Y., assignors to Stein, Hall & Co., Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 11, 1960, Ser. No. 48,821
26 Claims. (Cl. 252—8.5)

1. A colloidal aqueous solution of galactomannan materials having a decreased rate of degradation at elevated temperatures comprising water, a galactomannan in an amount sufficient to increase the viscosity of the solution and a salt from the group consisting of water-soluble metal sulfites, thiosulfates and arsenites which is effective in retarding degradation of the galactomannan material in the presence of water at elevated temperatures, said solution having a pH of from about 5.5 to about 10, the salt being present in an amount sufficient to decrease the rate of degradation of the gum at elevated temperatures.

23. An oil well drilling fluid comprising a galactomannan gum in an amount sufficient to increase the viscosity of the solution and a salt from the group consisting of water-soluble metal sulfites, thiosulfites and arsenites, the fluid having a pH of from about 5.5 to about 10, the salt being present in an amount sufficient to decrease the rate of degradation of the galactomannan at elevated temperatures in the presence of water.

3,146,201

LUBRICANT COMPOSITION

Thomas A. Butler, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 22, 1960, Ser. No. 44,559
8 Claims. (Cl. 252—32.5)

1. A lubricating composition comprising a major proportion of a mineral lubricating oil, from about 0.1% to about 10% of an oil-soluble calcium salt of a sulfonic acid selected from the class consisting of petroleum sulfonic acids and alkaryl sulfonic acids; from about 0.1% to about 10% of an oil-soluble barium salt of an acid selected from the class consisting of petroleum sulfonic acids, alkaryl sulfonic acids, and phosphorus acids obtained by reacting a polymer selected from the class consisting of isobutene polymers and chlorinated isobutene polymers having a molecular weight from about 200 to 100,000 with a phosphorus reagent selected from the class consisting of phosphorus trichloride and phosphorus pentasulfide; and a small amount, sufficient to increase the resistance to deterioration of said lubricating compositions due to the presence therein of said calcium and barium salts, of anthranilic acid.

3,146,202

GELATION INHIBITORS FOR SILICONE OILS

Robert M. Silverstein, Menlo Park, and Frank R. Mayo, Atherton, Calif., assignors to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Feb. 13, 1961, Ser. No. 89,081
1 Claim. (Cl. 252—49.6)

A lubricating fluid composition comprising a silicone oil and, as a gelation inhibitor, from about 0.2 percent to about 2.0 percent by weight of 2,5-diphenyloxazole.

3,146,203

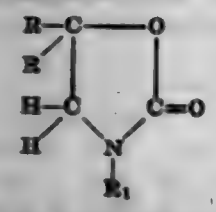
OCTANE REQUIREMENT INCREASE REDUCING FUEL AND LUBRICANT COMPOSITIONS

Duncan W. Frew, Jr., Pleasant Hill, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 20, 1961, Ser. No. 153,756
8 Claims. (Cl. 252—49.9)

1. An improved fuel composition for use in internal combustion engines consisting essentially of a stable gasoline boiling between about 30° F. and 425° F. containing an octane number-improving amount of an organometallic primary antiknock agent, a minor amount of an ignition control additive selected from the group consisting of phosphorus and boron compounds and mixtures thereof, and from about 0.01 to about 5.0% by weight of a gasoline-soluble, alkyl-substituted 2-oxazolidone com-

posed solely of carbon, hydrogen, nitrogen and oxygen having the structural formula



wherein R and R_1 are low-molecular-weight alkyl radicals containing from 1 to 4 carbon atoms, and R can also be a hydrogen atom.

3,146,284

PREPARATION OF II–VI SEMICONDUCTING COMPOUNDS BY SOLVENT EXTRACTION

Manuel Aven, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 15, 1963, Ser. No. 273,239
11 Claims. (Cl. 252—62.3)

1. The process of purifying a II–VI compound semiconductive material constituted of one element selected from the group consisting of zinc and cadmium and one element selected from the group consisting of selenium, sulfur and tellurium, which process comprises: heating a solid body of said material in an inert atmosphere in contact with the liquid phase of its group II constituent.

3,146,285

LITHIUM-MANGANESE FERROMAGNETIC FERRITE CORE

Imre J. Hegyi, Cranbury, N.J., assignor to Radio Corporation of America, a corporation of Delaware

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,794
16 Claims. (Cl. 252—62.5)

1. A ferromagnetic ferrite having a B_r/B_s ratio of at least 0.90 formed by calcining a mixture consisting essentially of:

	Mol percent
Lithium fluoride	1 to 5
Manganese oxide	50 to 59
Ferric oxide	40 to 49

at about 700 to 900° C. in an oxidizing atmosphere, shaping a core from said calcined mixture, and sintering said core for 1 to 24 hours at about 1150 to 1250° C.

3,146,286

ORGANOSILICON FLUID COMPOSITION

Neal W. Furby, Berkeley, Manuel A. Pino, Oakland, and Robert L. Peelor, Albany, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed July 18, 1962, Ser. No. 210,844
6 Claims. (Cl. 252—78)

1. A thermally stable fluid composition containing 85 to 99.9 percent by weight poly(alkoxy)siloxane, the alkoxy radical containing 3 to 8 carbon atoms, the siloxane polymer having an average molecular weight of between 1000 and 1600 and consisting predominantly of polymer chains containing at least about 4 monomer units and 0.1 to 15 percent by weight methylphenyl silicone having a viscosity of about 1,000 to 25,000 centistokes at 25° C.

3,146,287

SOLVENT DEGREASING SELF-EMULSIFYING CLEANING COMPOSITION

Myer Rosenfeld, Baltimore, and Robert E. Wagner, Jr., Havre de Grace, Md., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed May 23, 1961, Ser. No. 112,122
2 Claims. (Cl. 252—118)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A metal cleaning composition consisting essentially by volume of 2.5% to 4.5% of ethanolamine oleate, .5% to 1.5% sorbitan monooleate, and .5% to 3.0% of a surface active amine alkyl aryl sulphonate and the remainder a solvent consisting of 70 parts high flash coal tar naphtha and 30 parts kerosene.

3,146,288

CORROSION INHIBITION

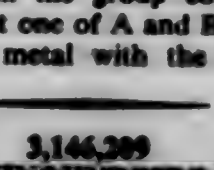
Arthur Ormon Fisher, Richmond Heights, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,183
15 Claims. (Cl. 252—147)

1. A method of inhibiting the natural tendency of a nonoxidizing aqueous acidic composition to corrode nongraphitic metal, which method comprises dissolving in said acid between about 0.002 and about 4 weight percent of an amine salt of a dialkylphosphorothioic acid, said salt being one of an amine having the structure:

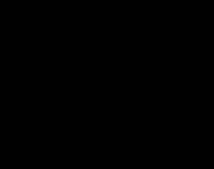


wherein R_1 is an aliphatic hydrocarbyl radical having between 4 and 18 carbon atoms, and R_2 and R_3 are selected from the group consisting of saturated aliphatic hydrocarbyl radicals having between 1 and 6 carbon atoms per radical and hydrogen, and said dialkylphosphorothioic acid having the structure:



wherein R_1 and R_2 are saturated hydrocarbyl radicals having from 1 to 18 carbon atoms per radical, and A and B are divalent radicals selected from the group consisting of oxygen and sulfur, and at least one of A and B is a sulfur radical, and contacting said metal with the resulting solution.

2. A method of inhibiting the natural tendency of a monoxidizing aqueous acidic composition to corrode nongraphitic metal, which method comprises dissolving in said acid between about 0.001 and about 4 weight percent of a material selected from the group consisting of dialkylphosphorothioic acids and salts thereof, and between about 0.0005 and about 1 weight percent of an inorganic salt selected from the group consisting of iodides and bromides, said dialkylphosphorothioic acids having the structure:



wherein R_1 and R_2 are hydrocarbyl radicals selected from the group consisting of cyclohexyl radicals and saturated aliphatic radicals having between 4 and 10 carbon atoms per radical, and A and B are divalent radicals selected from the group consisting of oxygen and sulfur and at least one of A and B is a sulfur radical, and contacting said metal with the resulting solution.

3,146,289

GEL OXIDE-ALUMINOHYDRIDE COMPOSITIONS

Joseph J. Byrne, Watertown, Mass., and Stephen F. Adler, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 3, 1960, Ser. No. 66,923
8 Claims. (Cl. 252—188)

1. A metal oxide gel containing aluminohydride bound to the surface.

6. A process for preparing a metal oxide gel containing aluminohydride which comprises reacting under an-

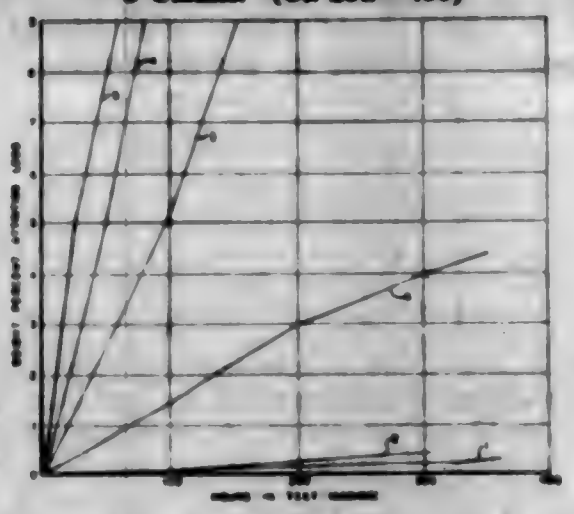
hydrous conditions a metal oxide gel, containing chemically bound water as hydroxyl groups which material is substantially free of absorbed water with an aluminohydride obtained by the reaction between an anhydrous aluminum halide and a metallohydride.

3,146,210

PREPARATION OF CATALYST PELLETS HAVING SUSTAINED HARDNESS AND ATTRITION RESISTANCE

Ralph W. Baldwin, Upton, Mass., assignor to Oxy-Catalyst, Inc., Berwyn, Pa., a corporation of Pennsylvania

Filed May 17, 1960, Ser. No. 29,722
8 Claims. (Cl. 252—455)



1. A method for the production of catalyst pellets having properties of sustained hardness and attrition resistance at high temperatures comprising the steps of forming a mixture of (*a*) finely divided inorganic oxide in at least potentially active but non-gelatinous form selected from the group consisting of alumina, beryllia, zirconia, thoria and magnesia, (*b*) a minor proportion of colloidal silica in an amount of from 0.5% to 20% by weight based on the weight of the end product pellets, and (*c*) a minor proportion of a metal salt decomposable into the metal oxide selected from said group, said metal salt being in an amount at least sufficient to react with said silica to form a metal silicate binder, shaping said mixture into pellets and thereafter heating the pellets to react the metal salt with the silica to form a metal silicate binder and decompose any excess metal.

3,146,211

AROMATICALLY UNSATURATED POLYMERS AND PREPARATION THEREOF

Louis A. Errede, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 26, 1959, Ser. No. 788,736
1 Claim. (Cl. 260—3)

A process which comprises interacting p-quinodimethane with phosphorus trichloride at a temperature below 30° C. in an organic liquid medium to produce a phosphorus containing polymer having a benzene nucleus bonded to the phosphorus atom through the carbon atom of a methylene group.

3,146,212

POLYMERIZATION INHIBITORS FOR HYDROXY PHOSPHONIUM HALIDES CONTAINING NITROGEN COMPOUND ACCELERATOR

George M. Wagner, Lewiston, Paul E. Hoch, Youngstown, and Irving Gordon, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 21, 1960, Ser. No. 70,390
29 Claims. (Cl. 260—2)

1. A composition comprising a mixture of an hydroxy organo phosphonium chloride compound having the formula

$$\left(R-\underset{\underset{OH}{|}}{\overset{\overset{H}{|}}{C}}\right)_4PCl$$

wherein R is selected from the group consisting of hydrogen, lower alkyls having from about 1 to about 3 carbon atoms, lower chlorinated alkyls having from about 1 to about 3 carbon atoms, lower alkenyls, having from about two to about three carbon atoms, and lower chlorinated alkenyls having from about 2 to about 3 carbon atoms, and a sulfite-containing composition selected from the group consisting of ammonium sulfite, ammonium bisulfite, alkali metal sulfites, alkali metal bisulfites, alkaline earth metal sulfites, alkaline earth metal bisufites, tertiary lower alkyl amine sulfites, tertiary lower alkanol amine sulfites, tertiary lower alkyl amine bisulfites, and tertiary lower alkanol amine bisulfites, said composition being stable at room temperature in the presence of a nitrogen-containing compound selected from the group consisting of gaseous ammonia, ammonium hydroxide, ammonium salts of strong inorganic acids, ammonium phosphates, primary alkyl, alkanol, and aryl amines containing at least one amine group and having up to and including ten carbon atoms, cyclic amines having up to and including six carbon atoms, semi-carbazides, hydrazines, hydrazides, amino quanidine, and secondary alkyl, alkanol, and aryl amines containing at least two amine groups and having up to and including 10 carbon atoms, said phosphonium compound being capable of reacting with said nitrogen-containing compound at elevated temperatures to form a polymerization product containing the phosphonium compound and the nitrogen-containing compound, and an aldehyde which is prevented from accelerating the rate of the polymerization by combination of the aldehyde with the sulfite-containing compound.

3,146,213

COMPOSITION FOR USE IN SOLVENT EXTRACTION PROCESS FOR THE RECOVERY OF URANIUM AND RARE EARTH METALS FROM AQUEOUS SOLUTIONS

Hamish Small, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

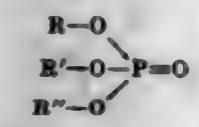
No Drawing. Original application Mar. 23, 1959, Ser. No. 801,164, now Patent No. 3,102,782, dated Sept. 3, 1963. Divided and this application Mar. 4, 1963, Ser. No. 263,398
4 Claims. (Cl. 260—2.2)

1. A composition of matter suitable for the recovery of heavy metal values from aqueous solutions containing the same which comprises discrete gel-like water-insoluble organic solvent-containing granules of a copolymer of from 92 to 99.5 percent by weight of at least one monoalkenyl aromatic hydrocarbon having the general formula:

$$Ar-\overset{\overset{R}{|}}{C}=CH_2$$

wherein Ar represents an aromatic hydrocarbon radical of the benzene series and R represents a member of the group consisting of hydrogen and the methyl radical, and from 8 to 0.5 percent by weight of a divinyl aromatic hydrocarbon, said copolymer granules containing on the surface thereof substituent hydrophile group of the formula $-SO_3X$ wherein X represents a member of the group consisting of hydrogen and a metal, in amount corresponding to from 0.001 to 0.150 milliequivalent of hydrogen ion per gram of said dry surface-sulfonated copolymer, which copolymer granules are swelled with a

water-immiscible organic liquid comprising a trialkyl phosphate having the general formula:



wherein R, R′ and R″ each independently represent an alkyl radical containing from 4 to 8 carbon atoms, as complexing agent for heavy metal values, and an organic liquid solvent which swells said alkenyl aromatic resin, in proportions corresponding to from 5 to 80 percent by volume of the organic swelling agent and from 95 to 20 percent by volume of the trialkyl phosphate.

3,146,214

HIGH SEALING STRENGTH WAX COMPOSITIONS

Eugene A. Jakaitis, Morton, and Donald S. Brown, Havertown, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 30, 1961, Ser. No. 134,818
10 Claims. (Cl. 260—28.5)

2. A high sealing strength composition comprising 85.0 to 97.9 weight percent paraffin wax, 0.1 to 5.0 weight percent polyethylene, and 2.0 to 10.0 weight percent copolymer of ethylene and vinyl acetate, said paraffin wax having a melting point ranging between 120° F. and 150° F., said polyethylene having a molecular weight ranging from 12,000 to 21,000 and said copolymer having a molecular weight of from 25,000 to 45,000 and a polymerized vinyl acetate content of from 5 to 40 weight percent.

3,146,215

RUBBERY COPOLYMER OF A MONOVINYL ETHER AND AN ALKYL ESTER AND VULCANIZATES THEREOF

George B. Sterling and Robert L. Zimmerman, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 3, 1960, Ser. No. 66,898
5 Claims. (Cl. 260—41)

1. A vulcanized synthetic rubber made by compounding together a copolymer of a monovinyl ether represented by the general formula

$$HO—(C_nH_{2n}O—)_xCH=CH_2$$

in which n is a positive integer from 2 to 4 and in which x is a positive integer from 1 to 3, and an alkyl ester of an acid selected from the group consisting of acrylic acid and methacrylic acid, the alkyl portion of the ester having up to about 8 carbon atoms, there being present in the copolymer in polymerized form about 40 percent to about 90 percent of the monovinyl ether and about 10 percent to about 60 percent of the alkyl ester, rubber-vulcanizing agents, and a reinforcing filler, and heating the resulting composition at curing temperature until this composition is substantially vulcanized.

3,146,216

POLYMERIZABLE POLYESTER RESIN CONTAINING A CADMIUM SALT AS POLYMERIZATION INHIBITOR

Alvaro Salgado, Union, and Wolfgang C. Forster, Elizabeth, N.J., assignors to Reichhold Chemicals, Inc., Detroit, Mich.

No Drawing. Filed July 21, 1959, Ser. No. 828,442
9 Claims. (Cl. 260—45.4)

9. A resin composition comprising (A) a polymerizable blend of (*a*) an unsaturated polyester of (1) a dihydric alcohol and (2) an ethylenically unsaturated dicarboxylic acid and (*b*) a polymerizable monomer having at least one $>C=CH_2$ group, (B) and a minor amount of a cadmium salt of an organic acid as an inhibitor in the proportion of about 0.01% to 2% by weight of the resin measured in terms of the amount of cadmium present in the salt, wherein said organic acid is selected from a member of the group consisting of monocarboxylic acids, polycarboxylic acids, and aryl sulfonic acids.

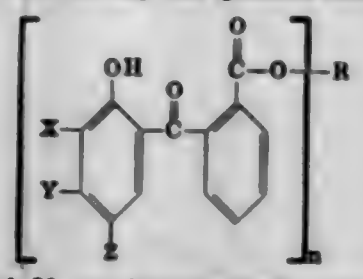
3,146,217

THERMOPLASTIC COMPOSITIONS STABILIZED WITH ALKYL o-SALICYLOYLBENZOATES

David A. Gordon, 3405 Washington, and John M. Corbett, 308 Longview, both of Midland, Mich.

No Drawing. Filed Feb. 24, 1960, Ser. No. 10,548
7 Claims. (Cl. 260—45.85)

1. A light stable composition of matter comprising an organic thermoplastic polymer normally subject to discoloration on exposure to light and from 0.2 to 10 percent of the weight of said polymer of an ester of o-salicyloylbenzoic acid having the general formula:



wherein X and Y are independently selected from the group consisting of hydrogen, alkoxy, and alkyl having from 1 to 12 carbon atoms, Z is selected from the group consisting of halogen, alkoxy, and alkyl having from 1 to 12 carbon atoms, R is selected from the group consisting of alkyl containing 1 to 12 carbon atoms, aliphatic glycol residues containing 1 to 12 carbon atoms, allyl and aryl of the benzene series, and n is an integer selected from the group of 1 and 2.

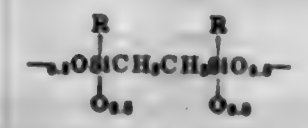
3,146,218

SILOXANE COPOLYMERS CONTAINING ETHYLENE LINKS

Harold A. Clark and Robert H. Leibfried, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed July 25, 1960, Ser. No. 44,848
2 Claims. (Cl. 260—46.5)

1. As a composition of matter a soluble copolymer consisting essentially of from 5 to 25 mol percent units of the formula



in which R is selected from the group consisting of phenyl and methyl radicals and from 75 to 95 mol percent monophenylsiloxane.

3,146,219

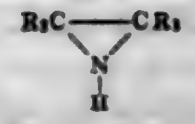
CATALYST COMPOSITION AND METHOD OF USING SAME

Burton D. Beitchman, Springfield Township, Delaware County, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 20, 1962, Ser. No. 188,958
1 Claim. (Cl. 260—75)

In the method in which a polyurethane material is prepared by the reaction of an organic composition characterized by a plurality of isocyanato groups with a polyol composition selected from the group consisting of polyesters, polyethers and mixtures thereof in the presence of a catalyst amount of a catalyst composition the improvement which consists of employing as the catalyst for such polymerization the catalyst composition consisting essentially of a mixture of a compound selected from the group consisting of triethylenediamine, 2 methyl triethylenediamine, 2,6-dimethyltriethylenediamine, 2,5-di-

methyltriethylenediamine, and 2,3-dimethyltriethylenediamine, and a lower alkylene imine having from 2 to 10 carbon atoms and corresponding to the formula:



in which each of the R's is selected from the group consisting of hydrogen and lower alkyl.

3,146,220

HALOGEN CONTAINING POLYURETHANE RESINS

Raymond R. Hindersinn, Lewiston, and Michael Wormley, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 18, 1959, Ser. No. 853,687
14 Claims. (Cl. 260—77.5)

1. The liquid resinous, substantially isocyanate-terminated, reaction product of (I) a halogen containing polyhydric alcohol selected from the group consisting of (A) the reaction product of hexahalocyclopentadiene wherein the halogen is selected from the group consisting of chlorine, bromine, fluorine and mixtures thereof, and a dihydric alcohol containing aliphatic carbon-to-carbon unsaturation and (B) the reaction product of decachloro-octahydro - 1,3,4-metheno-2H-cyclobuta[cd]-pentalene-2-one and a polyhydric alcohol containing at least three hydroxyl groups, and (II) an organic polyisocyanate.

3,146,221

COPOLYMERIC COMPOSITIONS

Gerald A. Lesells, Shareaville, and Pandurang M. Kamath, Madeira, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 25, 1960, Ser. No. 71,385
10 Claims. (Cl. 260—88.2)

1. A catalytic process which comprises copolymerizing a mixture of (*a*) a lower molecular weight monoolefinic aliphatic hydrocarbon monomer and (*b*) an alkadiene comonomer selected from the group consisting of 4,7-diphenyldecadiene-1,9; 4,7-dimethyl - 4,7 - diphenyl decadiene-1,9; and 4,7-di(2-methylphenyl)docadiene-1,9 in the presence of a combination polymerization catalyst comprising a reducing agent and a halide-containing compounds of a transition metal from the group consisting of Groups IV, V and VI of the Periodic Table to obtain a copolymer containing about 0.1 to 15 moles percent of said alkadiene.

3,146,222

BERYLLIUM-CONTAINING POLYMERIC COMPOSITIONS

Gaetano F. D'Alelio, South Bend, Ind., assignor, by direct and mesne assignments, to Dal Mon Research Co., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Sept. 27, 1961, Ser. No. 141,014
19 Claims. (Cl. 260—91.1)

1. A polymer consisting predominantly of a plurality of repeating units in the polymer molecule thereof having formula —Be—Y— wherein Y is a polyvalent radical consisting of hydrocarbon and ether oxygen, said valencies extending from hydrocarbon portions thereof.

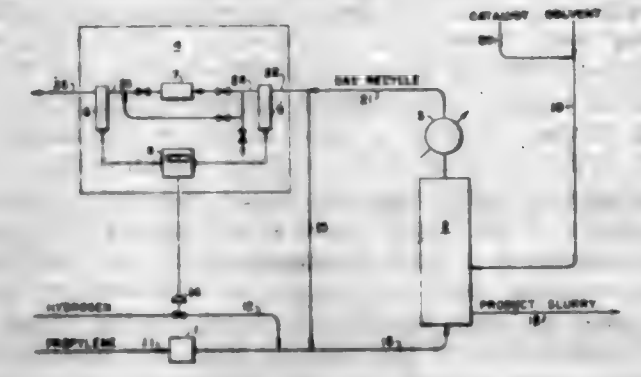
3,146,223

POLYMERIZATION IN THE PRESENCE OF CONTROLLED AMOUNTS OF HYDROGEN

Harry A. Cheney, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

Filed Aug. 31, 1959, Ser. No. 835,296
4 Claims. (Cl. 260—93.7)

1. A method of producing a polyolefin of closely controlled molecular weight which comprises contacting an olefin-containing gas in liquid phase in the presence of a hydrocarbon solvent with a low pressure polymerization catalyst, maintaining in contact with said reaction mass a predetermined partial pressure of hydrogen gas in the range from 0.002 to 0.4 atm., continuously withdrawing from the reaction mass a stream containing hydrogen and recycling the gaseous portion thereof to said reaction



mass, continuously sampling said gaseous portion, determining the hydrogen content thereof and controlling the rate of addition of additional hydrogen so that the total amount of hydrogen added is sufficient to maintain said partial pressure in said predetermined range whereby the molecular weight of the polyolefin product is maintained in a desired range.

3,146,224

PROCESS FOR PRODUCING REDUCED TRANSITION METAL HALIDES

Harry W. Coover, Jr., and Newton H. Shearer, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 25, 1960, Ser. No. 71,415
11 Claims. (Cl. 260—93.7)

1. The method for producing a reduced transition metal halide which comprises reacting a transition metal halide with a metal from Groups II and IIIa of the Periodic Table to form a halide of said metal from Groups II and IIIa of the Periodic Table in the absence of polymerizable compound and in the presence of a complexing agent that forms a complex with said halide of said metal from Groups II and IIIa of the Periodic Table, said complex being substantially soluble in said complexing agent and said reduced transition metal halide being substantially insoluble in said complexing agent, and recovering reduced transition metal halide from resulting reaction mixture.

9. In a catalytic process for the polymerization of an α-olefinic hydrocarbon containing up to 10 carbon atoms to form solid crystalline polymer wherein a reduced transition metal halide and a reducing agent other than aluminum are employed as components of the catalyst, the improvement which comprises employing in said catalyst a reduced transition metal halide prepared by reacting a transition metal halide with a metal from Groups II and IIIa of the Periodic Table to form a halide of said metal from Groups II and IIIa of the Period Table in the absence of polymerizable compound and in the presence of a complexing agent that forms a complex with said halide of said metal from Groups II and IIIa of the Periodic Table, said complex being substantially soluble in said complexing agent and said reduced transition metal halide being substantially insoluble in said complexing agent and separating reduced transition metal halide from complexing agent containing dissolved complex.

3,146,225

SEPARATION OF HYDROCARBONS BY UREA ADDUCT FORMATION

George E. Liedholm, William V. Medlin, and Curtis C. Williams III, Berkeley, Calif., assignors to Shell Oil Company, a corporation of Delaware

Filed Aug. 17, 1959, Ser. No. 834,170
5 Claims. (Cl. 260—96.5)

1. An improved process for the fractionation of a liquid mixture of organic compounds containing a straight-chain fraction and a non-straight chain fraction comprising introducing said mixture and a solid amide selected from the group consisting of urea and thiourea into an adduct-forming zone, contacting the solid amide and mixture to form a solid adduct of the amide with one of the fractions of the mixture, withdrawing reaction components comprising the adduct and remaining liquid fractions of the liquid mixture and passing the reaction components to a point intermediate the top and bottom of a washing zone, introducing an additional portion of the original liquid mixture as a wash for the adduct into the bottom part of the washing zone and passing it upwards countercurrent to the descending solid adduct, withdrawing the wash and remaining liquid fractions of the liquid mixture from the upper part of the washing zone, passing substantially all of the washed adduct from the bottom part of the washing zone to the top part of a decomposition zone, thermally decomposing the adduct in an area intermediate the top and bottom of said vessel, whereby liquid organic compounds and solid amide are regenerated, introducing an additional portion of the original liquid mixture into the bottom part of the decomposition zone as a wash for amide and passing it upwards countercurrent to the descending solid amide, withdrawing regenerated liquid compounds and wash, substantially devoid of solid amide, from the upper part of said zone, withdrawing amide from the bottom part of the zone and recycling it to the adduct-forming zone.

3,146,226

METALLIZED DYES FORMED BY COUPLING A BENZENE DIAZO COMPONENT WITH A CYCLIC KETONE

Willy Steinemann, Basel, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed Aug. 1, 1960, Ser. No. 46,349
Claims priority, application Switzerland Aug. 11, 1959
7 Claims. (Cl. 260—148)

1. A dyestuff selected from the group consisting of the 1:1 copper complexes and the 1:1 nickel complexes of azo dyes, said complexes being obtained by intimately admixing a solution of 1 molar proportion of a member selected from the group consisting of cyclopentanone, cyclohexanone, methylcyclohexanone and cycloheptanone in an organic solvent selected from the group consisting of orthodichlorobenzene, chlorobenzene and toluene, at a pH from 7 to 12 and at a temperature of about 0° C., with an aqueous solution of 2 molar proportions of a diazo compound selected from the group consisting of benzene and a substituted benzene bearing in ortho-position to the diazo group a substituent capable of metal complex formation, the last-mentioned substituent being selected from the group consisting of hydroxy and carboxy, the substituents of the substituted benzene being selected from the group consisting of sulfonic acid amide, N-sulfonic acid phenylamide, N-sulfonic acid benzylamide, N-sulfonic acid naphthylamide, N-sulfonic acid tetrahydronaphthylamide, N-sulfonic acid cyclohexylamide, N-sulfonic acid lower alkylamide, N-sulfonic acid-dimethylamide, N-sulfonic acid hydroxyethylamide, N-sulfonic acid-methoxypropylamide, N-sulfonic acid-chlorophenylamide, N-sulfonic acid sulfamido phenylamide, N-sulfonic-acid-3-acetaminophenylamide, chloro, acetamino, sulfonic acid, methylsulfonyl, carbethoxyamino, methylsulfamino, dimethylamino-sulfamino, nitro, pyrrolidonyl, until the ensuing coupling is completed, and then metallizing the obtained azo dye with a member selected from the group consisting of copper-yielding and nickel-yielding agents.

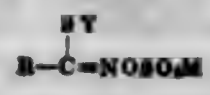
3,146,227

SYNTHESIS OF MUSTARD OIL GLUCOSIDES

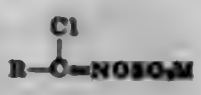
Martin G. Ettlinger, Houston, Tex., and George P. Dateo, Jr., Framingham, Mass., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Sept. 27, 1962, Ser. No. 227,646
14 Claims. (Cl. 260—210)

3. A process for synthesizing mustard oil glucosides having the formula:



where R is a member of the group consisting of alkyl, alkylthioalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, hydroxy substituted alkyl, lower-alkylene, alkylthio-lower-alkylene, alkylsulfinyl - lower - alkylene, alkylsulfonyl-lower - alkylene, hydroxy - substituted lower - alkylene, phenyl, hydroxy substituted phenyl, alkoxy substituted phenyl, aralkyl, hydroxy substituted aralkyl, and indolyl, Y is β-D-1 glucopyranosyl and M is selected from the group consisting of alkali metal, alkaline earth metal, ammonium, lower-alkyl ammonium, and sinapine; which comprises reacting a hydroxamyl chloride-O-sulfonate having the formula:



where R and M are defined above, with a water soluble β-D-1-glucopyranosyl mercaptide.

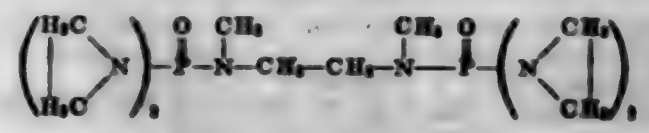
3,146,228

N,N'-ETHYLENE BIS[P,P-BIS(1-AZIRIDINYL)-N-METHYL PHOSPHINIC AMIDE] AND HOMOPOLYMER THEREOF

Leon H. Chance, New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 15, 1962, Ser. No. 180,953
2 Claims. (Cl. 260—239)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The compound N,N'-ethylene bis[P,P-bis(1-aziridinyl)-N-methyl phosphinic amide] having the formula:



2. The homopolymer of N,N'-ethylene bis[P,P-bis(1-aziridinyl)-N-methyl phosphinic amide formed by heating the monomer at a temperature of about from 100–170° C.

3,146,229

2-SULFANILAMIDO-4-PHENOXY-1,3,5-TRIAZINE

Royal A. Cutler, Sand Lake, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 29, 1963, Ser. No. 323,848
1 Claim. (Cl. 260—239.7)

2-sulfanilamido-4-phenoxy-1,3,5-triazine.

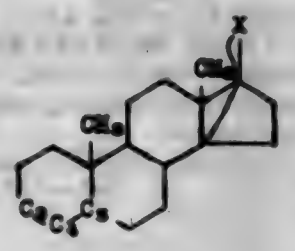
3,146,230

14β,21-EPOXY-PREGNANES AND METHOD OF PREPARING THE SAME

Francis J. McEvoy, Pearl River, and Milton D. Heller and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 28, 1962, Ser. No. 220,634
14 Claims. (Cl. 260—239.55)

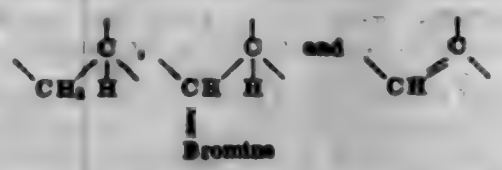
1. A steroid of the formula:



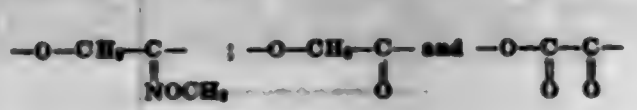
wherein C_3 is a member of the group consisting of



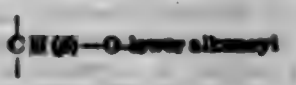
—C_6—C_7— is a member of the group consisting of



X is a divalent radical of the group consisting of



and when C_3 is



then X is selected from the group consisting of



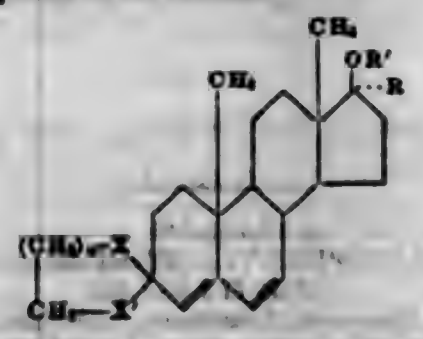
3,146,231

KETALS OF 4,6-ANDROSTADIEN-17β-OL-3 ONES AND ESTERS THEREOF

John W. Dean, Sand Lake, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 26, 1962, Ser. No. 233,459
5 Claims. (Cl. 260—239.55)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and lower-alkyl, R′ is selected from the group consisting of hydrogen and lower alkanoyl, X and X′ are selected from the group consisting of oxygen and sulfur, and n is a positive integer less than 3.

2. 3,3-ethylenedioxy-4,6-androstadien-17β-ol.

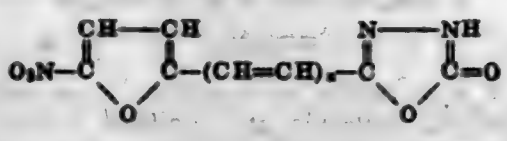
3,146,232

5-(5-NITRO-2-FURYL-MONO- AND DI-VINYLENE)-1,3,4-OXADIAZOLINE-2-ONE AND PROCESS

Haruo Saikachi, 432 Ryuseniki cazu Kasuhira, Fukuoka, Japan; Akio Oyama, 55 Shimogamo-shibamoto-cho, Sakyo-ku, Kyoto, Japan; Ryuzo Ueno, 65 Nango-cho, Nishinomiya, Japan; and Hirochige Inoue, 2–136 Nishinakamachi-cho, Higashiyodogawa-ku, Osaka, Japan

No Drawing. Filed Sept. 17, 1962, Ser. No. 224,200
3 Claims. (Cl. 260—240)

1. A compound of the formula:



wherein n is an integer selected from the group consisting of 1 and 2.

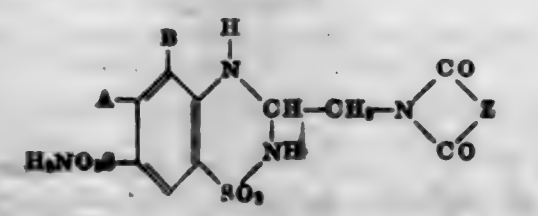
3,146,233

SUBSTITUTED DIHYDROBENZOTHIADIAZINE DERIVATIVES

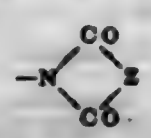
Richard Hürner, 5 Rue du Presbytère, Melun, France

No Drawing. Filed July 26, 1961, Ser. No. 126,901
Claims priority, application Germany, July 28, 1960, M 46,068
3 Claims. (Cl. 260—243)

3. A compound of the formula



wherein A is a member of the group consisting of Cl, CF_3, CH_3, B is a member of the group consisting of H, Cl, CR_3, where



stands for a member selected from the group consisting of succinimido and phthalimido.

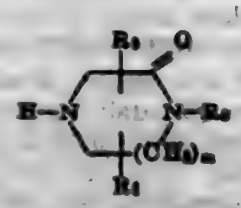
3,146,234

1-SUBSTITUTED-2-PIPERAZINONES AND 1-SUBSTITUTED-7-HOMOPIPERAZINONES

Sydney Archer, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 25, 1959, Ser. No. 842,203. Divided and this application Oct. 18, 1960, Ser. No. 66,395
7 Claims. (Cl. 260—268)

1. A member of the group consisting of (A) compounds having the formula

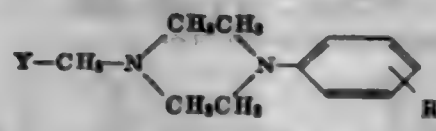


wherein R_3 is a member of the group consisting of lower-alkyl, hydroxy-lower-alkyl, monocarbocyclic aryl, monocarbocyclic aryl-lower-alkyl, bis-(monocarbocyclic aryl)-lower-alkyl, monocarbocyclic aryl-lower-alkenyl, pyrimidyl, pyrazinyl, pyridyl, thiazolyl, oxazolyl, 1,3,5-triazinyl, and thienyl; R_4 and R_5 each represent a member of the group consisting of a hydrogen atom and a lower-alkyl radical; and m is an integer from 1 to 2 and (B) acid addition salts thereof.

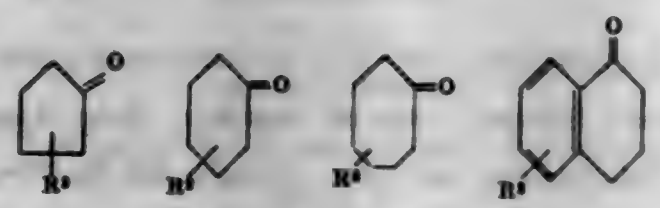
5. 4-benzyl-1-(2,6-dimethylphenyl)-2-piperazinone hydrochloride.

3,146,235
AMINOKETONE DERIVATIVES
Gust Nichols, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Feb. 24, 1961, Ser. No. 91,326
11 Claims. (Cl. 260—268)

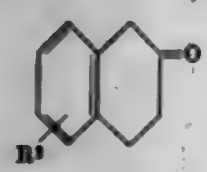
1. A compound selected from the group consisting of compounds having the structural formula



wherein Y is a radical of a cyclic ketone attached to the rest of the molecule at a position which is alpha to the keto group, said radical being a member selected from the group consisting of radicals having the structural formulae



and



wherein R^2 is a member selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy, and R^1 is a member selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy, and salts of said compounds with pharmaceutically acceptable anions.

3,146,236
MANUFACTURE OF TRIETHYLENEDIAMINE
Ronald W. Swanson, Broomall, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed June 29, 1962, Ser. No. 206,152
3 Claims. (Cl. 260—268)

1. In a method of manufacturing a compound corresponding to the formula $N(CHRCHR)_3N$ in which at least 4 of the 6 R's are hydrogen, and in which each of the other 2 R's is selected from the group consisting of hydrogen and methyl, by directing a vaporous reactant stream through solid sorptive catalyst granules having cracking activity at an elevated temperature, said reactant stream containing the vapors of normally liquid polymer of ethylene imine, modified by not more than a minor molar amount of copolymer with at least one of the group consisting of propylene imine, 2,3-butylene imine, ethylene oxide, propylene oxide, and 2,3-butylene oxide, the improvement which consists of: directing said vaporous reactant stream through catalyst granules at a space rate within the range from about 0.06 to about .6 liquid volumes of organic feed stock per volume of catalyst per hour; maintaining portions of the catalyst as a few independent adiabatic beds of catalyst; providing heat transfer means just prior to the entry to each catalyst bed; regulating the inlet temperature of each bed to be higher than the inlet temperature of the previous bed; maintaining adiabatically at the exit of each catalyst bed a temperature lower than 450° C.; regulating the inlet temperature to each catalyst bed so that as the reactant stream advances along the various portions of the path through the adiabatic catalyst beds, the temperature is regulated to assure an average temperature in the initial 10% of said path significantly lower than the average temperature during the terminal 33% of said path; regulating the temperature of the reactant stream in each catalyst bed to maintain a generally decreasing rate of temperature increase; and maintaining adiabatically at the exit of said path, temperature within the range from 350° C. to 450° C., whereby the effluent from the catalyst path contains significant amounts of $N(CHRCHR)_3N$.

3,146,237
DIMERCAPTOPYRIDINES AND A PROCESS FOR THEIR PREPARATION
Martin A. Robinson, Orange, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
No Drawing. Filed July 15, 1963, Ser. No. 295,194
5 Claims. (Cl. 260—294.8)

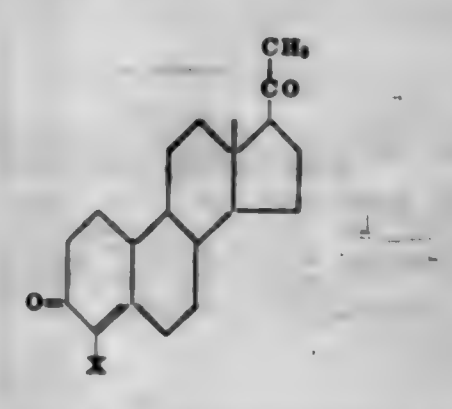
1. 2,6-dimercaptopyridine.

3,146,238
PROCESS OF PREPARING PYRIDINE CARBOXYLIC ACID AND ORGANIC NITRILES BY METATHESIS BETWEEN PYRIDINE NITRILES AND ORGANIC CARBOXYLIC ACIDS
John Pennington, Hull, and Bertram Yeomans, Preston, near Hull, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed July 5, 1962, Ser. No. 207,881
Claims priority, application Great Britain July 6, 1961
6 Claims. (Cl. 260—295)

1. Process for making organic nitrile and pyridine carboxylic acid comprising heating an admixture of pyridine nitrile and benzoic acid at a temperature between 200 and 240° C., removing distillate from said reaction admixture containing said organic nitrile, and recovering said pyridine, carboxylic acid from the residual reaction mixture.

3,146,239
4-HALO-19-NOR-PROGESTERONE
Howard J. Ringold, Octavio Mancera, and Enrique Batres, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Sept. 22, 1958, Ser. No. 762,268
Claims priority, application Mexico Sept. 23, 1957
3 Claims. (Cl. 260—397.3)

1. A compound of the following formula:



wherein X is selected from the group consisting of chlorine and bromine.

3,146,240
2-p-ANILINOPHENYLAMINOIMIDAZOLINE AND ITS SALTS
Howard A. Hageman, Southbury, and John A. Riddell, Hamden, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Original application Mar. 11, 1960, Ser. No. 14,211. Divided and this application May 31, 1962, Ser. No. 198,750
3 Claims. (Cl. 260—309.6)

1. 2-p-anilinophenylaminoimidazoline.

3,146,241

STABILIZATION OF 6,7,8,9,10,10 - HEXACHLORO-1,5,5a,6,9,9a-HEXAHYDRO - 6,9 - METHANO-2,4,3-BENZODIOXATHIEPIN-3-OXIDE

Harry Dreifus, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 11, 1961, Ser. No. 102,128
2 Claims. (Cl. 260—327)

1. A stabilizing process which comprises admixing molten 6,7,8,9,10,10-hexachloro-1,5,5*a*,6,9,9*a*-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide with calcium phytate to yield a substantially uniform mixture, contacting said mixture with steam, in an amount of at least 5% by weight of said oxide so as to effect further stabilization and, separating water from the resulting stabilized product.

3,146,242

PROCESS FOR THE PREPARATION OF SULTONES

Karl-Josef Gardemin and Heinz Kothe, both of Duesseldorf-Holthausen, Germany, assignors to Henkel & Cie G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed May 3, 1961, Ser. No. 107,292
Claims priority, application Germany May 21, 1960
6 Claims. (Cl. 260—327)

1. A process for the preparation of sultones, which comprises treating salts of organic hydroxy-sulfonic acids, wherein there are at least 3 carbon atoms between the hydroxyl group and the sulfonic acid group, and wherein any unsaturation is benzenoid, said salts being selected from the group consisting of alkali metal salts, ammonium salts, and a mixture of alkali metal salts and ammonium salts, at elevated temperatures between about 120 to 250° C. and a pressure of less than 50 mm. Hg with a strong acid which is less volatile than the sultone to be produced, said strong acid being selected from the group consisting of concentrated sulfuric acid, phosphoric acid and organic sulfonic acids, and distilling the sultone out of the reaction mixture.

3,146,243

DECOMPOSITION OF PERACETIC ACID WITH PLATINUM OR RUTHENIUM CATALYST ON A CARBON POWDER

Holger C. Andersen, Morristown, and Philip L. Romeo, Sr., Old Bridge, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed Sept. 22, 1961, Ser. No. 139,923
6 Claims. (Cl. 260—348.5)

1. A process for the catalytic decomposition of peracetic acid which process consists of contacting peracetic acid in the liquid phase with a solid catalyst consisting essentially of a metal selected from the group consisting of platinum and ruthenium, said metal being supported on carbon powder, and the metal being present in an amount between 0.1% and 10% by weight of total catalyst.

3,146,244

SELECTIVE BROMINATION OF ISOLATED DOUBLE BONDS IN STEROIDAL COMPOUNDS

Octavio Mancera and Enrique Batres, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed July 23, 1962, Ser. No. 211,833
Claims priority, application Mexico Aug. 9, 1961
10 Claims. (Cl. 260—397.3)

1. A process for brominating isolated double bonds unconjugated with a keto group in a steroidal compound selected from the group consisting of the androstane and pregnane series, which process comprises treating the steroid with 1 molar equivalent of bromine, at low temperature and in the presence of a catalytic amount of an amine.

3,146,245

PREPARATION OF 5α-BROMO-6β-HYDROXY STEROIDS

Johannes Andreas Hanograaf, Oss, Netherlands, assignor to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,328
Claims priority, application Netherlands Sept. 25, 1962
2 Claims. (Cl. 260—397.4)

1. In the process for the preparation of 5α-bromo-6β-hydroxy steroids by the reaction of a Δ^5-steroid with a compound selected from the group consisting of hypobromous acid and a hypobromous acid providing agent in the presence of an organic solvent, the improvement which comprises performing said reaction in a saturated aliphatic ether of the formula:

$$R_1—O—R_2$$

in which R_1 and R_2 represent aliphatic hydrocarbon radicals containing from 1 to 6 carbon atoms.

3,146,246

ESTERIFICATION EMPLOYING SOLID DISPERSED CATALYST

Judson E. Goodrich, San Rafael, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 30, 1962, Ser. No. 183,768
6 Claims. (Cl. 260—410.9)

1. In the sulfuric acid esterification of organic carboxylic acids with aliphatic alcohols, the improvement which comprises carrying out said esterification reaction in the presence of a microdispersed solid, infusible, easily separable catalyst composition prepared by the reaction of an aromatic compound selected from the group consisting of benzene and substituted benzene compounds, said substituents being selected from the class consisting of lower alkyl radicals, phenyl and lower alkyl phenyl radicals; an aldehyde selected from the class consisting of formaldehyde, paraformaldehyde and methylal, the mole ratio of aldehyde to aromatic compound being from 0.25 to about 2.5; and concentrated sulfuric acid in an amount in excess of that necessary to form a resin of the aromatic compound and aldehyde, the strength of said sulfuric acid being above 90%; the reaction being carried out by intimately mixing said components in a solvent containing a dispersant in an amount sufficient to emulsify the sulfuric acid in the solvent and maintaining a temperature not exceeding 120° F.

3,146,247

COMPLEX OF ALKALI METAL CYANIDE AND ALKYL-ALUMINUM DIHALIDE

Wolf R. Kroll, Linden, N.J., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Jan. 5, 1961, Ser. No. 80,753
10 Claims. (Cl. 260—448)

1. As a new composition of matter, a complex compound of alkali metal cyanide and a lower molecular weight alkyl aluminum dihalide, said alkali metal being selected from the group consisting of sodium and potassium in which the mole ratio of lower molecular weight alkyl aluminum dihalide to alkali metal cyanide is substantially 2:1.

3,146,248

ENDBLOCKED POLYSILANES

Richard W. Aisgaard, Henry Nelson Beck, and Edwin P. Plueddemann, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Oct. 25, 1960, Ser. No. 64,957
1 Claim. (Cl. 260—448.2)

As a composition of matter a polysilane consisting essentially of molecules of the formula

$$R_3Si(Si)_xSiR_3$$
$$\quad H_3$$

in which R is selected from the group consisting of methyl radicals and hydrogen atoms, at least one R per silicon being methyl, and x has a value of at least 1.

3,146,249

POLYMETHYLHYDROGENSILANES

Richard W. Aisgaard, Henry Nelson Beck, and Edwin P. Plueddemann, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Oct. 25, 1960, Ser. No. 64,958
4 Claims. (Cl. 260—448.2)

1. As a composition of matter a polysilane consisting essentially of the formula selected from the group consisting of $(MeHSi)_x$ where x is an integer of at least 5 and

$$Me_3Si(Si)_ySiMe_3$$
$$\quad\quad H$$

where R is selected from the group consisting of methyl radicals and hydrogen atoms, at least one R per silicon being methyl, and y has a value of at least 1.

3,146,250

NITROGEN-CONTAINING CYCLIC SILANES, THEIR PREPARATION AND HYDROLYSIS

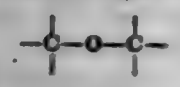
John L. Speier, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Oct. 11, 1961, Ser. No. 144,297
19 Claims. (Cl. 260—448.2)

1. An organosilicon compound of the general formula

$$(RNR'—)SiR''_2$$

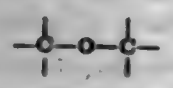
wherein R is selected from the group consisting of hydrogen atoms, monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



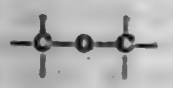
linkages, aminoalkyl, aminophenyl, halogenophenyl and organosilyl radicals of the general formula

$$(XR'—)Y_2Si—$$

wherein Y is a monovalent hydrocarbon radical and X is selected from the group consisting of halogen atoms having an atomic weight of at least 35 and hydrogen atoms, R′ is a divalent saturated aliphatic hydrocarbon radical wherein the silicon atom is attached to a carbon atom which is at least the third and not more than the sixth carbon atom away from the other substituent attached to R′, and R″ is selected from the group consisting of monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



linkages, alkoxy, alkoxy radicals containing oxygen in the form of

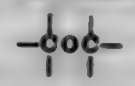


linkages and phenoxy radicals.

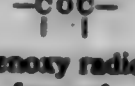
7. A method for making an organosilicon compound which comprises reacting (1)

$$(XR')_mSiX_{3-m}$$

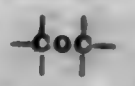
and (2) RNH_2, wherein R is selected from the group consisting of monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



linkages, aminoalkyl, aminophenyl and halogenophenyl radicals, R′ is a divalent saturated aliphatic hydrocarbon radical wherein the silicon atom is attached to a carbon atom which is at least the third and not more than the sixth carbon atom away from the other substituent attached to R′, and R″ is selected from the group consisting of monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



linkages, alkoxy and phenoxy radicals and alkoxy radicals containing oxygen in the form of



linkages and X is a halogen atom selected from the group consisting of chlorine, bromine and iodine, whereby an organosilicon compound of the formula

$$(RNR'—)SiR''_2$$

is obtained.

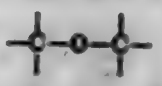
10. A method for making an organosilicon compound of the general formula

$$(RNR'—)Si(R'')_a(OZ)_{3-a}$$

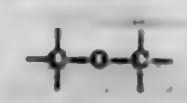
which comprises heating at a temperature in excess of 100° C. a compound of the general formula

$$(RNHR')Si(R'')_a(OZ)_{3-a}$$

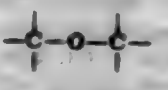
wherein R is selected from the group consisting of hydrogen atoms, monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



linkages, aminoalkyl, aminophenyl and halogenophenyl radicals, R′ is a divalent saturated aliphatic hydrocarbon radical wherein the nitrogen atom is attached to a carbon atom which is at least the third and not more than the sixth carbon atom away from the silicon atom and R″ is selected from the group consisting of monovalent hydrocarbon radicals and monovalent hydrocarbon radicals containing oxygen in the form of



linkages and Z is selected from the group consisting of phenyl and alkyl radicals and alkyl radicals containing oxygen in the form of

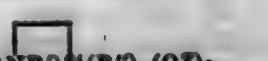


linkages and a has a value of from 0 to 2 inclusive.

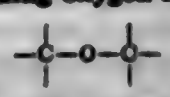
13. A method for making a siloxane of the unit formula

$$(RNHR')SiO_{\frac{3-a}{2}}$$
$$\quad\quad R''_a$$

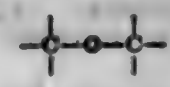
which comprises hydrolyzing and condensing a compound of the general formula



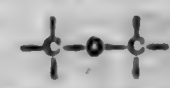
wherein R is selected from the group consisting of hydrogen atoms, monovalent hydrocarbon, monovalent hydrocarbon radicals containing oxygen in the form of



linkages, aminoalkyl, aminophenyl, halogenophenyl and organosilyl radicals of the formula $(XR'—)_YSi—$ wherein Y is a monovalent hydrocarbon radical and X is selected from the group consisting of halogen atoms having an atomic weight of at least 35 and hydrogen atoms, R′ is a divalent saturated aliphatic hydrocarbon radical wherein the silicon atom is attached to a carbon atom which is a least third and not more than the sixth carbon atom away from the other substituent attached to R′, R″ is selected from the group consisting of monovalent hydrocarbon and monovalent hydrocarbon radicals containing oxygen in the form of



linkages, Z is selected from the group consisting of alkyl and phenyl radicals and alkyl radicals containing oxygen in the form of



linkages and a has a value of from 0 to 2 inclusive.

18. An organosilicon compound of the general formula $HN[Si(R'')_2CH_2CH(CH_3)CH_2Cl]_2$ wherein R″ is a monovalent hydrocarbon radical.

3,146,251

PREPARATION OF LINEAR SILOXANES

Paul L. Brown, Saginaw, and James Franklin Hyde, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed July 31, 1961, Ser. No. 127,832
3 Claims. (Cl. 260—448.8)

1. The method which comprises reacting a hexaorganocyclotrisiloxane of the formula $(R_2SiO)_3$ with a hydroxylated compound selected from the group consisting of water, hydrocarbon alcohols of no more than about eight carbon atoms and organosilicon compounds of the formulae $R(SiR_2O)_nH$ and $HO(SiR_2O)_nH$ in which each n is a positive integer in contact with a basic amino compound having a basic dissociation constant in dilute solution in water ranging from 10^{-3} to 10^{-4} at 25° C., each R substituent in the organosilicon components being monovalent radicals selected from the group consisting of hydrocarbon radicals, halogenoaromatic hydrocarbon radicals, fluorinated hydrocarbon radicals, hydrocarbon ether radicals, halogenoaromatic hydrocarbon ether radicals and fluorinated hydrocarbon ether radicals.

3,146,252

ORGANIC SILICATES

Harold Garton Emblem, Grappenhall, and Earl Whiteway Fothergill, Liverpool, England, assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 21, 1961, Ser. No. 132,602
Claims priority, application Great Britain Aug. 29, 1960
8 Claims. (Cl. 260—448.8)

1. A process for preparing an organic silicate hydrolysate comprising making a mixture of a first silicate, water and an acid as hydrolysis accelerator, allowing the hydrolysis of the first silicate to proceed, and subsequently adding to this mixture a quantity of a second silicate, said first and second silicates being selected from the group consisting of ethyl silicate and isopropyl silicate and at least one of said silicates is an isopropyl silicate.

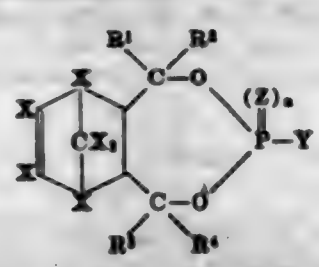
3,146,253

NOVEL PHOSPHORUS AND CHLORINE CONTAINING TRICYCLIC HETEROCYCLES

Sheldon B. Greenbaum, Tonawanda, N.Y., and Nicodemus E. Boyer, Chicago, Ill., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

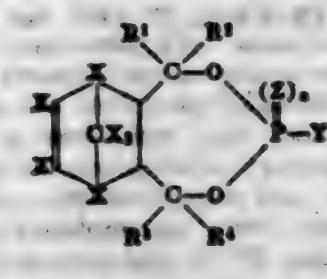
No Drawing. Filed May 15, 1961, Ser. No. 109,880
32 Claims. (Cl. 260—461)

1. Hexahalo-5,5a,6,9,9a - hexahydro - 6,9 - methano-2,4,3-benzodioxaphosphepin of the formula:



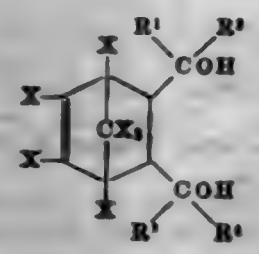
where n is from 0 to 1, X is bromine or chlorine, Z is an element selected from the group consisting of oxygen and sulfur and Y is a radical selected from the group consisting of hydrogen, chlorine, bromine, alkyl, chlorine substituted alkyl, bromine substituted alkyl, phenyl, nitro substituted phenyl, chlorine substituted phenyl and bromine substituted phenyl and alkyl substituted phenyl in which the alkyl group is of 1 to 4 carbon atoms, phenyl, alkoxy of one to eighteen carbon atoms, chlorine substituted alkoxy, bromine substituted alkoxy of one to eighteen carbon atoms, phenoxy, chlorine substituted phenoxy, bromine substituted phenoxy, nitro substituted phenoxy, alkyl substituted phenoxy in which the alkyl group is of 1 to 4 carbon atoms, sulfhydryl, alkyl mercapto, chlorine substituted phenylmercapto, bromine substituted phenylmercapto, nitro substituted phenylmercapto, alkyl substituted phenylmercapto in which the alkyl group is from 1 to 4 carbon atoms and hydroxy and, R^1, R^2, R^3 and R^4 are radicals selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl.

30. A process for preparing hexahalo-5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxaphosphepin of the formula:



where n is a number from 0 to 1, X is bromine or chlorine, Z is an element selected from the group consisting of oxygen and sulfur, Y is a radical selected from the group consisting of hydrogen, bromine, chlorine, alkyl, chlorine substituted alkyl, bromine substituted alkyl, phenyl, chlorine substituted phenyl, bromine substituted phenyl, nitro substituted phenyl, alkyl substituted phenyl in which the alkyl group is from 1 to 4 carbon atoms, alkoxy of one to eighteen carbon atoms, chlorine substituted alkoxy, bromine substituted alkoxy of one to eighteen carbon atoms, phenoxy, chlorine substituted phenoxy, bromine substituted phenoxy, nitro substituted phenoxy, alkyl substituted phenoxy in which the alkyl group is from 1 to 4 carbon atoms, sulfhydryl, alkyl mercapto, substituted alkyl mercapto, aryl mercapto, chlorine substituted phenyl mercapto, bromine substituted phenyl mercapto, nitro substituted phenyl mercapto and alkyl substituted phenyl mercapto in which the alkyl group

is of 1 to 4 carbon atoms and hydroxy, and R^1, R^2, R^3 and R^4 are radicals selected from the group consisting of hydrogen, bromine, chlorine and lower alkyl, comprising the steps of admixing a halogenated bicyclic diol of the formula below:



where X is bromine or chlorine, and R^1, R^2, R^3 and R^4 are radicals selected from the group consisting of hydrogen, chlorine, bromine and lower alkyl with a phosphorus compound selected from the group consisting of (*a*)



where Y, Z and *n* are as defined above and W is selected from the group consisting of chlorine, bromine, hydroxy, alkoxyl, and sulfhydryl, (*b*) oxides of phosphorus and (*c*) sulfides of phosphorus to react said halogenated bicyclic diol with said phosphorus compound to form said hexahydromethanobenzodioxaphosphepin.

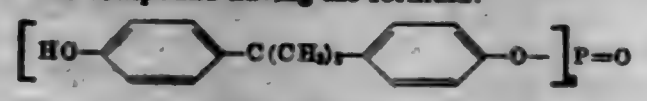
3,146,254

TRI-BISPHENOL-A ESTER OF PHOSPHORIC ACID

Theodore S. Boozalis and Richard B. McKeever, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 15, 1962, Ser. No. 202,673
2 Claims. (Cl. 260—461)

1. The compound having the formula:



3,146,255

PREPARATION OF MONOALKYL PHOSPHATES

Arthur K. Nelson, Chicago Heights, and Arthur Dock Fon Toy, Park Forest, Ill., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 12, 1962, Ser. No. 223,238
6 Claims. (Cl. 260—461)

1. A process for preparing and isolating a substantially water-insoluble monoalkyl phosphate which comprises reacting pyrophosphoric acid with about a stoichiometric proportion of a primary aliphatic alcohol of chain length sufficient to yield said water-insoluble monoalkyl phosphate, said reaction being accomplished at a temperature not greater than 75° C. and until such second-order reaction is approximately 70% to 90% complete, extracting the inorganic acids from the reaction mixture with water, and recovering the monoalkyl phosphate from the water-insoluble residue.

3,146,256

PREPARATION OF ALPHA-BETA, DELTA-EPSILON UNSATURATED CARBOXYLIC DERIVATIVES

Gian Paolo Chiusoli, Milan, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,739
Claims priority, application Italy Oct. 10, 1957
19 Claims. (Cl. 260—464)

1. A process of preparing a compound of the group consisting of alpha-beta, delta-epsilon, diene-carboxylic acids and their esters of alcohols defined hereafter, comprising reacting a chloro-compound of the formula $R—CH=CH—CH_2Cl$, in which R is a radical taken from the group consisting of saturated hydrocarbon radicals having 1 to 20 carbon atoms and substituted by a —CN radical, with nickel carbonyl and acetylene at 0° to 75° C., the reaction being carried out in an hydroxylic medium, taken from the group consisting of an aqueous organic solvent, which solvent is inert in the reaction, and an alcohol containing from 1 to 20 carbon atoms taken from the group consisting of saturated aliphatic, saturated cycloaliphatic, and aralkyl alcohols, having no substituents other than alcoholic —OH, the acid being prepared when the said aqueous inert organic solvent is employed, the ester corresponding to the alcohol being prepared when said alcohol is employed.

15. An ester of 7-cyano-2,5-heptadienoic-1 acid and an alcohol taken from the group consisting of saturated aliphatic, saturated cycloaliphatic, and aralkyl alcohols having no substituents other than alcoholic —OH, and having up to twenty carbon atoms.

3,146,257

PROCESS FOR PREPARING THE SEMINITRILE OF BETA-HYDROMUCONIC ACID, ITS CHLORIDE AND ITS LOWER ESTERS, AND PRODUCTS THEREOF

Gian Paolo Chiusoli, Novara, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Nov. 12, 1958, Ser. No. 773,139
Claims priority, application Italy Nov. 14, 1957
17 Claims. (Cl. 260—465.4)

1. A process of making the chloride of dihydromuconic seminitrile, of the formula

$$ClCO—CH_2—CH=CHCH_2CN,$$

comprising treating chlorocyanobutene, of the formula $ClCH_2CH=CHCH_2CN$, with nickel carbonyl and carbon monoxide, at a carbon monoxide pressure of 1 to 300 atmospheres, and at a temperature of 0° to 150° C.

17. The chloride of dihydromuconic seminitrile, of the formula: $ClOC—CH_2—CH=CH—CH_2CN$.

3,146,258

PURIFICATION OF ACRYLONITRILE

Harry S. Leach, Texas City, Tex., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 29, 1961, Ser. No. 163,083
4 Claims. (Cl. 260—465.9)

1. A process for the removal of minor amounts of methyl vinyl ketone from acrylonitrile which comprises intimately contacting said acrylonitrile with a strongly acidic cation exchange resin which in its hydrogen form has been washed with a monohydric alkanol having from 1 to 3 carbon atoms and dried to remove excess alkanol therefrom and recovering said acrylonitrile.

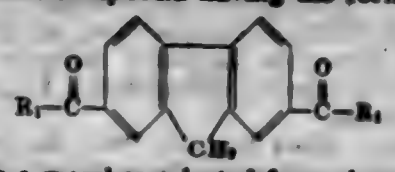
3,146,259

FLUORENYL BISGLYOXAL DERIVATIVES

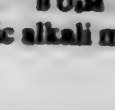
Elvin L. Anderson, Moorestown, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed June 13, 1961, Ser. No. 116,679
7 Claims. (Cl. 260—518)

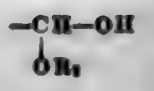
1. A chemical compound having the formula:



in which R_1 is a member selected from the group consisting of



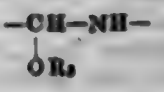
in which M is a nontoxic alkali metal.



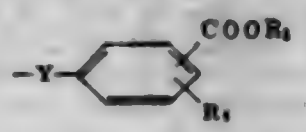
in which R_3 is a member selected from the group consisting of hydrogen, alkyl containing from 1 to 12 carbon atoms inclusive and benzyl,



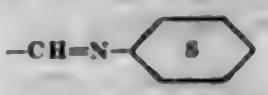
in which Y is a member selected from the group consisting of

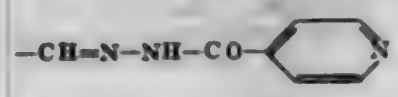


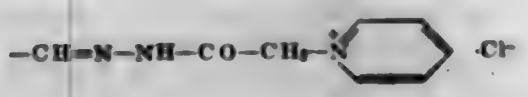
and $CH{=}N{-}$ and R_2 is as defined above,



in which Y is as defined above and R_3 is a member selected from the group consisting of hydrogen and lower alkyl having from 1 to 4 carbon atoms and R_4 is a member selected from the group consisting of hydrogen and hydroxy,







and



3,146,260

ORGANOBORON TERPOLYMERS AND THE PREPARATION THEREOF FROM OLEFINIC CARBORANE COMPOUNDS

John W. Ager, Jr., Princeton, N.J., and Sheldon L. Clark, Orange, and Theodore L. Heying, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed Dec. 14, 1960. Ser. No. 75,874
5 Claims. (Cl. 260—537)

1. A method for the preparation of an organoboron polymer which comprises copolymerizing allylcarborane, vinylcarborane and isopropenylcarborane carboxylic acid at a temperature of from 125° C. to 225° C., the molar ratio of the vinylcarborane to the allylcarborane being from about 1:5 to about 5:1 and the amount of isopropenylcarborane carboxylic acid employed being from about 1 to about 15 percent by weight based on the total weight of the allylcarborane and the vinylcarborane.

5. The product produced by the method of claim 1.

3,146,261

PREPARATION OF ORGANOBORON HALIDES

Lahmer Lynds, North Hollywood, and David R. Stern, Fullerton, Calif., assignors to American Potash & Chemical Corporation, a corporation of Delaware

No Drawing. Filed Nov. 7, 1958, Ser. No. 772,424
1 Claim. (Cl. 260—543)

A process comprising reacting in an inert atmosphere ethyldichloroborine with boron tribromide whereby to replace the chlorine bonded to the boron of said ethyldichloroborine with the bromine bonded to the boron of said boron tribromide.

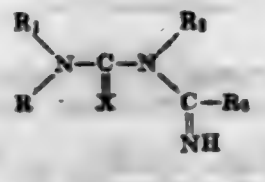
3,146,262

IMINO-ALKYL-UREAS

Werner Schäfer, Cologne-Stammheim, Richard Wegler, Leverkusen, and Ludwig Eue, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1960, Ser. No. 77,024
Claims priority, application Germany Dec. 23, 1959
8 Claims. (Cl. 260—553)

1. A carbamide-amidine of the formula:



in which X stands for a chalcogen having an atomic number from 8 to 16, R stands for a member selected from the group consisting of hydrogen and lower alkyl having up to 6 carbon atoms, R_1 stands for a member selected from the group consisting of "alkyl," cyclohexyl and chloro "alkyl," "alkyl" being a hydrocarbon having up to 18 carbon atoms, phenyl, chloro-phenyl, dichloro-phenyl, trichloro-phenyl, nitro-phenyl, lower alkoxy-phenyl and naphthyl, R_2 stands for a member selected from the group consisting of hydrogen, alkyl having up to 18 carbon atoms, and alkenyl having up to 18 carbon atoms and lower alkoxy lower alkyl, and R_3 stands for a lower alkyl radical up to 4 carbon atoms and having from 2–3 chlorine atoms.

2. 1 - phenyl-3-methyl-3(2,2,2-trichloro-1-imino ethyl) urea.

3,146,263

TREATMENT OF UREA SYNTHESIS EFFLUENT LIQUOR

Eiji Otsuka, Fujisawa, Kanagawa Prefecture, Japan, assignor to Toyo Koatsu Industries, Incorporated, Tokyo, Japan, a corporation of Japan

Filed Aug. 13, 1959, Ser. No. 833,631
Claims priority, application Japan July 3, 1959
17 Claims. (Cl. 260—555)

1. In the method for treating urea synthesis effluent liquor formed in a urea synthesis from NH_3 and CO_2 used in the mol ratio of 1 mol of CO_2 for 2–6 mols of NH_3, and containing urea and water, to recover from the effluent liquor urea as product and NH_3 and CO_2 values for reuse in the synthesis, the steps comprising (*a*) subjecting said urea synthesis liquor to high pressure rectification under 10–30 kg./cm.^{2} in order to distil off a major portion of the excess NH_3; (*b*) washing NH_3 discharged from the rectification step to remove CO_2 with mother liquor of the urea synthesis product and liquefying the NH_3 thus freed from CO_2 for reuse in the urea synthesis in the form of liquid NH_3; (*c*) treating the urea synthesis liquor obtained in step (*a*) in a concentration step at elevated temperature and superatmospheric pressure with a carrier gas selected from the group consisting of NH_3, mixture of NH_3 plus CO_2, and CO_2, in order to remove water from this synthesis liquor without substantial removal of NH_3 and CO_2 present in said liquor; (*d*) treating said carrier gas and water resulting from step (*c*) by dehumidification in order to remove therefrom substantially water only and reusing said dehumidified gas in step (*c*); (*e*) cooling the solution resulting from step (*c*) in order to separate urea therefrom by crystallization, with simultaneous formation of mother liquor; and (*f*) passing the mother liquor thus obtained to the urea synthesis, after using it for absorption of CO_2 from excess NH_3 obtained by said high pressure rectification.

3,146,264

NITRILES OF THE TETRACYCLINES

Raymond G. Wilkinson, Pearl River, N.Y., and James H. Boothe, Montvale, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 14, 1955, Ser. No. 488,122
4 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of 2-decarboxamidotetracyclino-2-nitrile, 2-decarboxamidochlortetracyclino-2-nitrile, and 2-decarboxamidobromtetracyclino-2-nitrile.

3,146,265

6-DEOXY-6-HYDROPEROXY DEHYDROTETRACYCLINES AND PROCESS UTILIZING THE SAME

Alastair I. Scott, Beith, Ayrshire, and Colin T. Bedford, Glasgow, Scotland, assignors to The University Court of the University of Glasgow, Glasgow, Scotland

No Drawing. Filed June 4, 1962, Ser. No. 199,590
Claims priority, application Great Britain Apr. 16, 1962
15 Claims. (Cl. 260—559)

1. A process for the transformation of an anhydrotetracycline to the corresponding dehydrotetracycline which comprises introducing molecular oxygen into a solution of said anhydrotetracycline in a reaction-inert solvent while irradiating said solution with light of wavelength between about 300 and 450 mμ, continuing said introduction and said irradiation until the anhydrotetracycline is oxidized to the corresponding 6-deoxy-6-hydroperoxy dehydrotetracycline, and reducing said hydroperoxy compound to the corresponding dehydrotetracycline.

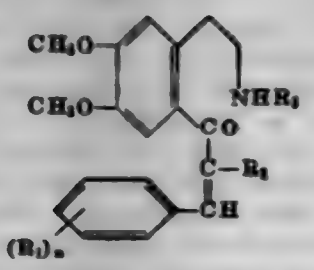
3,146,266

NOVEL KETONE COMPOUNDS

Hedwig Besendorf, Basel, Arnold Brossi, Riehen, and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Aug. 25, 1959, Ser. No. 835,828, now Patent No. 3,067,203, dated Dec. 4, 1962. Divided and this application July 19, 1962, Ser. No. 211,083
Claims priority, application Switzerland Sept. 4, 1958
1 Claim. (Cl. 260—562)

A compound of the formula:



wherein R_1 is halogen, R_2 is a member of the group consisting of hydrogen and lower alkyl, R_3 is acetyl, and n is an integer from 1 to 3.

3,146,267

PRODUCTION AND DECOLORIZATION OF QUATERNARY AMMONIUM COMPOUNDS

Robert Weinstein, Flushing, N.Y., and Ira Rose, Millburn, and Ramsey Christian, Newark, N.J., assignors to Nepco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 3, 1961, Ser. No. 93,017
10 Claims. (Cl. 260—567.6)

1. In a process of reacting amines with quaternizing agents to obtain salts of improved color, the steps comprising adding from about 0.05 percent to about 2.00 percent by weight, based on the total weight of said amine and quaternizing agent of at least one color inhibiting agent selected from the group consisting of hypophosphorous acid, sodium hypophosphite and calcium hypophosphite to at least one amine, introducing at least one quaternizing agent to the mixture, reacting said amine and said quaternizing agent and thereafter recovering a substantially color free ammonium salt.

3,146,268

DICHLORO-DIALKYLAMINO-METHANES

Ernst Jenny, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland

No Drawing. Original application Aug. 19, 1957, Ser. No. 679,073, now Patent No. 2,995,565, dated Aug. 8, 1961. Divided and this application Aug. 28, 1959, Ser. No. 834,942
Claims priority, application Switzerland, Aug. 27, 1956, 36,864; July 18, 1957, 48,560
3 Claims. (Cl. 260—583)

1. Dichloro-dialkylamino-methane wherein each alkyl is lower alkyl containing at most two carbon atoms.

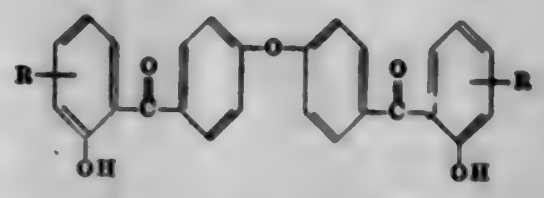
3,146,269

BIS(O-HYDROXYBENZOYL)PHENYL COMPOUNDS

Harry Brown, Springdale, and Otto A. Homberg, Woodlawn, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,349
2 Claims. (Cl. 260—591)

1. A chemical compound having the structural formula



wherein R represents a member of the group consisting of hydrogen, an alkyl radical containing 1 to 8 carbon atoms, and an alkoxy radical containing 1 to 8 carbon atoms.

3,146,270

BIS-3,3,3-TRINITROPROPYL SULFONE

Pliny O. Tawney, Passaic, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 24, 1948, Ser. No. 61,923
1 Claim. (Cl. 260—607)

Bis-3,3,3-trinitropropyl sulfone.

3,146,271

UNSATURATED SULFIDES AND SULFOXIDES AND METHOD OF PREPARATION

Robert P. Louthan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 20, 1962, Ser. No. 174,403
25 Claims. (Cl. 260—607)

1. A composition of matter which comprises at least one compound selected from the group consisting of sulfides and sulfoxides which have the following structural characteristics:

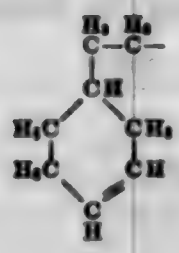
$$R_1—X—R_2$$

wherein X is selected from the group consisting of S and

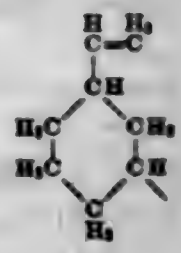


wherein R_1 is selected from the group consisting of allyl,

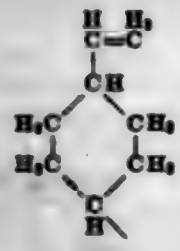
octyl, and hydrogen, and R_2 is selected from I–VI, and wherein, when R_2 is selected from I–V, R_1 is selected from the group consisting of allyl and octyl and, when R_2 is VI, then R_1 is selected from the group consisting of allyl, octyl and hydrogen—



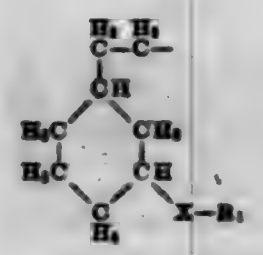
(I)



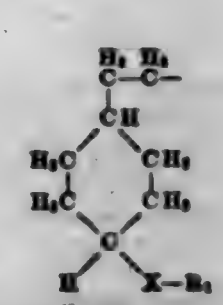
(II)



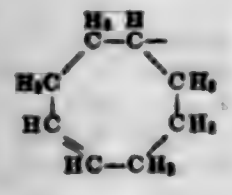
(III)



(IV)



(V)



(VI)

3,146,272

ANTIOXIDANTS FOR GLYCOL DERIVATIVES

William G. Lloyd, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 2, 1959, Ser. No. 803,568
10 Claims. (Cl. 260—611.5)

1. A composition comprising a mixture of a major proportion of a first polyoxyalkylene compound wherein the alkylene radicals each contain 2 to 4 carbon atoms, said compound being susceptible to oxidative deterioration and, as an oxidation inhibitor therefor, a minor but effective proportion of about 1 to 50 percent by weight of a second polyoxyalkylene compound having the formula $R(C_nH_{2n}O)_xR'$, wherein R is a monovalent radical derived from a compound, RH, having the property of being effective as an antioxidant for said first polyoxyalkylene compound and reactive with a lower alkylene oxide, n is an integer from 2 to 4, x is an integer from 1 to about 100 and R' is a monovalent radical selected from the group consisting of hydrogen, alkyl and acyl radicals, said compound, RH, being selected from the group consisting of phenols, phenothiazine, phenothiazine-5-oxide, alkyl- and halogen-substituted phenothiazine and the corresponding 5-oxides, arylsulfonamides and arylamines.

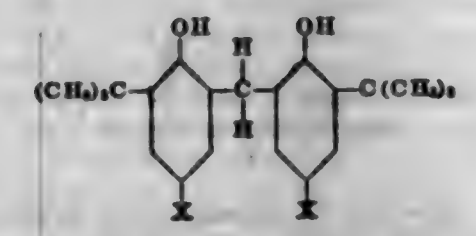
3,146,273

STABILIZED ORGANIC MATERIAL

Harold D. Orloff, Oak Park, and John P. Napolitano, Royal Oak, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed July 28, 1960, Ser. No. 45,784
2 Claims. (Cl. 260—619)

1. A compound having the formula:



wherein X is a halogen selected from the class consisting of chlorine, bromine and iodine.

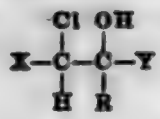
3,146,274

OXIDATION OF HALOGEN-CONTAINING MONO-OLEFINIC COMPOUNDS

William F. Brill, Skillman, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed May 20, 1960, Ser. No. 30,427
5 Claims. (Cl. 260—633)

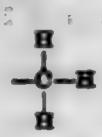
1. A process for the preparation of compounds of the formula



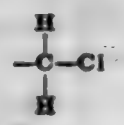
which comprises admixing halogen-containing olefins of the formula



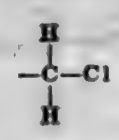
wherein —R is selected from the group consisting of —H and



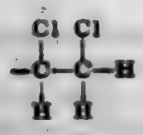
—X is selected from the group consisting of —H and



and —Y is selected from the group consisting of



and



and the total number of chlorine atoms is no greater than three and the total number of carbon atoms is no greater than five, in liquid phase, with oxygen at a temperature of about 25° C. to about 250° C.

3,146,275

PROCESS FOR THE PREPARATION OF CHLORO-FLUORO DERIVATIVES OF METHANE

Johannes Dahmlos, Haltern, Westphalia, Germany, assignor to Wasag-Chemie AG, Essen (Ruhr), Germany

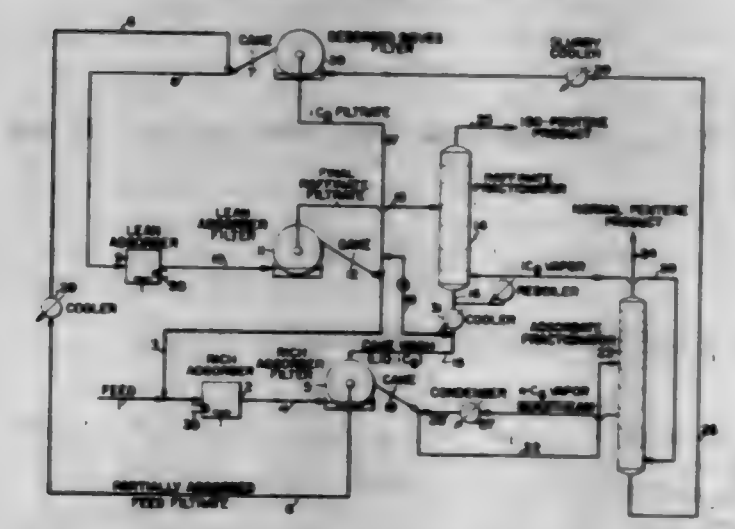
No Drawing. Filed Apr. 13, 1961, Ser. No. 102,639
Claims priority, application Germany June 15, 1960
9 Claims. (Cl. 260—653.8)

1. A process for the production of difluorodichloromethane, which comprises reacting a highly chlorinated methane from the group consisting of carbon tetrachloride and monofluorotrichloromethane, with a silicofluoride selected from the group consisting of sodium, potassium and barium silicofluorides, said reaction being conducted in a confined reaction zone under autogenous pressure maintained at below about 80 atmospheres gauge, at a temperature of at least 200° C., and in contact with a ferric halide catalyst selected from the group consisting of ferric fluoride, ferric chloride, and ferric bromide, said ferric halide being present in a concentration of about 1–5% by weight, based on the silicofluoride, thereby increasing the rate of reaction and yield of difluorodichloromethane.

3,146,276
HYDROCARBON PROCESS
Thomas D. Nevitt, Valparaiso, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 22, 1960, Ser. No. 77,519
6 Claims. (Cl. 260—666)

1. A process for making ethyl cyclopentane which process comprises contacting in a vapor phase hydrogen and a feed comprising methyl cyclohexane with a nickel tungsten sulfide catalyst at elevated temperatures and hydrogen partial pressures effective for the isomerization of methyl cyclohexane to ethyl cyclopentane and separating from the contacting step effluent a product rich in ethyl cyclopentane.

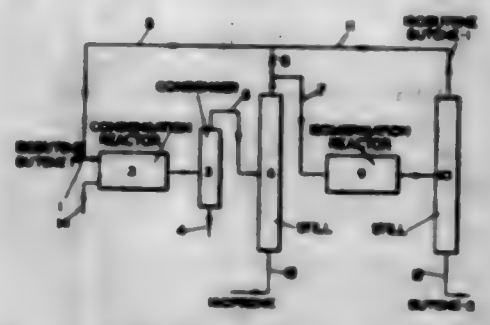
3,146,277
SEPARATION OF OLEFINIC HYDROCARBONS BY MOLECULAR SIEVES
Truman Post Hawes and Clyde Lee Aldridge, Baton Rouge, La., and Lewis D. Etherington, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 8, 1961, Ser. No. 94,325
7 Claims. (Cl. 260—677)



1. An improved process for concentrating normal olefins from an olefinic stream and recovering said olefins in a substantial unisomerized condition which comprises slurrying a crystalline zeolitic molecular sieve having pore openings from about 4.5 to 5.5 Angstrom units in a non-sorbable medium having a boiling point higher than said olefin, passing said slurry into an adsorption zone, passing a stream comprising normal olefins into said zone, adsorbing said olefins on said sieve, separating said sieve containing adsorbed normal olefins from the bulk of said slurry medium, reslurrying said sieve in a medium comprising a non-adsorbable component and a sorbable hydrocarbon displacing agent, said sorbable hydrocarbon displacing agent having a boiling point intermediate said non-sorbable medium and said olefin, passing said slurry into a distillative desorption zone, subjecting said material to distillation at a sufficiently low temperature to avoid substantial isomerization and polymerization of said olefins, and recovering high yields of said first named normal olefin.

3,146,278
PRODUCTION OF CONJUGATED DIOLEFINS
John Habeshaw, Dollar, and Wilfred John Oldham, Grangemouth, Scotland, assignors to British Hydrocarbon Chemicals Limited, a British company
Filed Apr. 24, 1959, Ser. No. 808,808
Claims priority, application Great Britain Apr. 29, 1958
3 Claims. (Cl. 260—681)

1. A two-stage process for the production of isoprene and butene-2 from mixtures of isobutene and butene-1 while avoiding the separation of isobutene and butene-1 which comprises, in combination, contacting isobutene and butene-1 with formaldehyde in the vapor phase in the presence of a catalyst at a temperature between 150° and 400° C. in a condensation stage to convert isobutene to isoprene, while substantially all of the butene-1 remains unreacted, separating by fractional distillation of the condensation reaction product an overhead C_4 fraction containing unreacted isobutene and butene-1, and a bottom isoprene-containing fraction, isomerizing the isobutene



and butene-1 to convert at least part of the butene-1 to butene-2, fractionally distilling the isomerisation reaction product to separate an overhead fraction containing isobutene and butene-1 substantially free from butene-2, and a higher boiling fraction containing butene-2 and introducing the isobutene and butene-1 to the condensation stage.

3,146,279
SELECTIVE ISOMERIZATION PROCESS
James P. Gallagher, Park Forest, Ill., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 4, 1962, Ser. No. 184,931
6 Claims. (Cl. 260—683.65)

1. A method for isomerizing a normal paraffin hydrocarbon having at least seven carbon atoms while suppressing hydrocracking which comprises contacting said hydrocarbon in a conversion zone under isomerization conditions in the presence of hydrogen, with a catalytic promoting amount of a hydrogenation-dehydrogenation metal-containing crystalline alumino-silicate catalyst having a uniform pore diameter of at least about 9 Angstroms, and having about 20 to 25 weight percent of an alkaline metal oxide of a metal selected from the group consisting of calcium and sodium, said alkaline metal oxide having a percentage of calcium directly proportional to the carbon chain length of the normal paraffin hydrocarbon and is approximately equal to

$$\frac{y-7}{0.1R}$$

where y is the carbon chain length of said hydrocarbon and R is a number from about 0.5 to 2, the balance being essentially sodium, and recovering an isomerized hydrocarbon product having essentially the same molecular weight as said normal paraffin hydrocarbon.

3,146,280
DIRECTIONAL FLOAT TRAY
John Forgrieve, Chatham, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 3, 1960, Ser. No. 67,011
2 Claims. (Cl. 261—114)



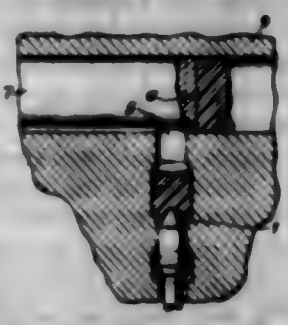
1. In a vapor-liquid contacting tray having a downcomer at one side thereof to provide liquid flow in a direction across said tray to the opposite side of the tray, said tray defining a plurality of spaced vapor slots arranged progressively in rows in the direction of said

liquid flow and means providing a pressure head of vapor beneath said tray, the improvement comprising a generally horizontal flat tab disposed across and reciprocally movable in each slot in response to vapor flow through said slot, said tab having integral tab rest means of unequal length at opposite ends of the tab for resting against the upper surface of the tray and providing inclination thereof and escape of vapor in the direction of liquid flow upon a minimum vapor pressure head, said tab further having integral guides extending downwardly through said slots at opposite ends thereof downstream and upstream of liquid flow, each guide having at its lower end a stop to limit upward travel of the guide and the end of the tab attached thereto, the upstream guide being shorter than the downstream guide to provide limited upward travel of the upstream end of the tab and greater upward travel of said downstream end, whereby said tab may first travel upwardly for a predetermined distance in the inclined position generally determined by the tab rest means and thereafter the downstream end of the tab may swing upwardly through a greater angle with respect to the tray upon increasing vapor pressure.

3,146,281
PRODUCTION OF ROUND PARTICLES OF CERAMIC MATERIAL
Casimer W. Krystynik and Angelo T. Maccigrosso, Schenectady, and George L. Plantz, Scotia, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 31, 1963, Ser. No. 256,195
2 Claims. (Cl. 264—21)

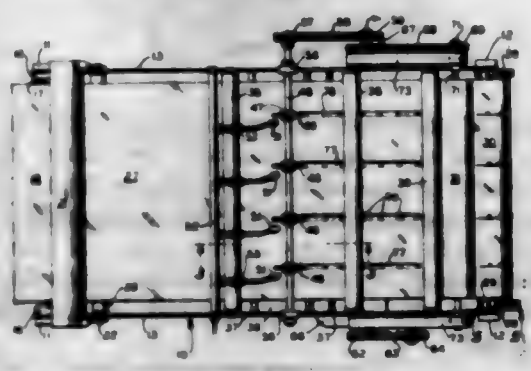
1. A process of preparing spherical particles of a boron-carbide-base refractory material, comprising mixing boron carbide with a binder, compacting the mixture obtained, crushing the compacts formed into particles, abrading the particles to round their surfaces, mixing the rounded particles with graphite, heating the graphite-refractory mixture in an inert atmosphere to at least 2500° C., cooling to room temperature, abrading the mixture to smoothen the surfaces of the particles and separating the nonspherical particles from the spherical ones by vibration on a glass table.

3,146,283
METHOD AND APPARATUS FOR INJECTION MOLDING OF PLASTIC MATERIALS
Lawrence D. Niemeyer, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Apr. 17, 1961, Ser. No. 103,654
5 Claims. (Cl. 264—39)



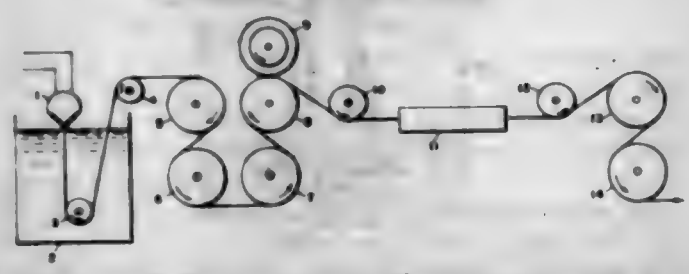
4. A method of controlling the flow of plastic material into a ram bore from an intersecting feed passage comprising the steps of locating a restriction in said passage at a point spaced from the intersection of said passage with said bore, locating an elongated member adapted to scalingly slide in said restriction within that portion of the passage between said restriction and said intersection, feeding plastic material through said restriction and said portion of said passage into the ram bore at a rate sufficient to completely fill said portion of said passage, advancing a ram through said bore past the intersection of the passage with the bore to separate the material in said bore from the material in said portion of said passage, advancing said elongated member into said restriction to block said passage, and continuing to advance said elongated member into said restriction in a direction away from said portion of said passage to thereby increase the volume of said portion of said passage to suck plastic material in said portion of said passage away from said ram bore.

3,146,283
PERFORATING PLASTIC FILM AND THE LIKE
Bruno Da Valle, 15951 Quail Hill Road, Los Gatos, Calif.
Filed Sept. 4, 1959, Ser. No. 838,305
2 Claims. (Cl. 264—156)



1. The method of perforating and forming polyethylene film which comprises advancing the film along a path, deforming one portion of said film by applying heat thereto to provide a groove parallel to said path, and piercing said polyethylene film at spaced intervals in said groove.

3,146,284
PROCESS FOR MAKING POLYPROPYLENE FILM
William H. Markwood, Jr., Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 16, 1960, Ser. No. 56,418
3 Claims. (Cl. 264—210)

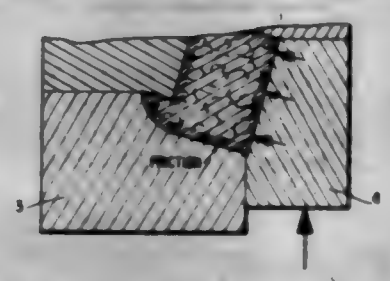


1. The process for making biaxially oriented film of stereoregular polypropylene which comprises extruding a molten film of said polymer through a die at a temperature below about 290° C., pulling said film away from the die at a linear speed at least about three times the rate of extrusion and quenching said film to a temperature below about 40° C. within a distance of from ⅛ to 3 inches from the die whereby there is obtained a film having substantial orientation in the longitudinal direction, reheating the film to a temperature within the range of about 95° to 160° C., and stretching the film transversely while at the latter temperature to orient the film in the transverse direction, thereby obtaining a biaxially oriented film.

3,146,285
METHOD FOR PRODUCING PRESSURE-MOLDED PARTICLE BOARD ARTICLES
Edmund E. Munk, Oberstenfeld, Kreis Ludwigsburg, Germany, assignor to Furnier- und Sperrholzwerk J. F. Werz, Jr., K.G. Werzalit-Pressholzwerk, Oberstenfeld, Oberstenfeld, Kreis Ludwigsburg, Germany
Filed May 1, 1961, Ser. No. 106,555
5 Claims. (Cl. 264—266)

1. A method of producing pressure-molded articles, comprising the steps of filling a mold with a mixture of

fibrous materials of at least one thermosetting binder of synthetic resin, and of at least one additional agent for increasing the resistance of the molded article against particular influences, compressing said mixture in said mold to form a blank of a shape substantially similar to the shape of the desired article but of larger dimensions, then removing said blank from said mold and inserting it into a second, heated mold, compressing said blank



substantially uniformly in said second mold to substantially its final size and shape, and thereafter concentrating the binder in said second mold more highly within the edges and corners of the blank by additionally compressing particularly the edges and corners of the blank in said second mold to the final size and shape thereof, and then allowing the blank to set and harden within said second mold.

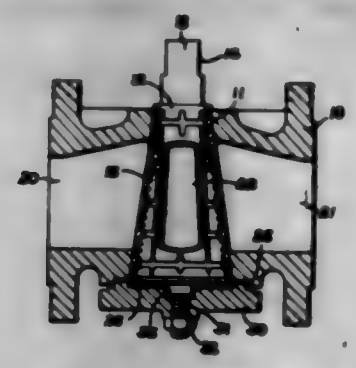
3,146,286

METHOD FOR MAKING LINED VALVES

Jacob B. Freed, Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York

Continuation of application Ser. No. 707,807, Jan. 8, 1958, which is a division of application Ser. No. 436,282, June 14, 1954. This application Aug. 28, 1962, Ser. No. 219,989

8 Claims. (Cl. 264—274)



4. In a method of fabricating a lined plug valve which includes a valve body having a transverse bore therein and a valve plug for insertion in said bore having sufficiently smaller radial dimensions than said bore to establish an annular clearance between the opposed surfaces thereof, one of said opposed surfaces having a plurality of spaced indentations of predetermined configuration and depth to define indented and non-indented portions on said one of said opposed surfaces therein, one of said surfaces being tapered, the radial dimensions of said clearance overlying said indented surface portions being substantially greater than the radial dimensions of said clearance overlying said non-indented surface portions, the steps of forming tubular liner means of a fluorocarbon material having a coefficient of thermal expansion substantially greater than that of said plug and body and with said liner means proportioned to be received in said clearance and initially of greater thickness than the minimum corresponding radial dimensions of said clearance, assembling said liner means in telescoping overlying relation with said indented surface, assembling in telescoping relation with said liner means and said indented surface a member having the same surface contour as the other of said surfaces, and forcing said surfaces axially of each other in the direction of the smaller end of said tapered surface to compress said liner means and cause the material thereof to flow into said indentations forming liner portions overlying and received in said indented surface portions which have radial dimensions substantially greater than the radial dimensions of said liner means in the portions thereof overlying said non-indented surface portions and which are retained in said indentations to maintain said liner means in correspondingly fixed relation with said indented surface both axially and circumferentially thereof.

3,146,287

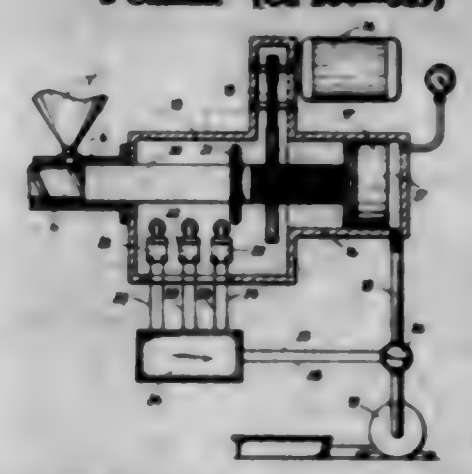
METHOD AND APPARATUS FOR CONTROLLING THE SUPPLY OF ENERGY TO A PLASTIC IN A PLASTICIZING MACHINE

August Kleine-Albers, Nurnberg, Germany, assignor to Ankerwerk Gebruder Goller, Nurnberg, Germany

Filed May 10, 1961, Ser. No. 109,219

Claims priority, application Germany, May 12, 1960, A 34,626; Apr. 7, 1961, A 37,146

5 Claims. (Cl. 264—329)



1. In a process for the operation of a screw-injection molding apparatus including a mold, a plasticizing cylinder through which plastic masses flow from an inlet to said mold and a screw slidably and rotatably arranged in said cylinder, comprising the steps of rotating said screw in said cylinder to plasticize the plastic mass initially contained in said cylinder and remaining from the previous working cycle, supplying additional plastic masses to said cylinder, plasticizing said additional masses by rotation of said screw, and feeding said plasticized masses to said mold by sliding movement of said screw, the improvement comprising a process for regulating the temperature of the plastic masses to be fed into said mold during a working cycle of the molding apparatus to produce a molded part of a high uniform quality, comprising increasing the back pressure of the rotating screw in the initial stages of the working cycle to apply additional heat to the plastic masses initially plasticized by said screw adjacent the outlet of said cylinder and remaining from the previous working cycle; ceasing the application of said increased back pressure from the masses during the middle stages of said working cycle, and again increasing the back pressure of the rotating screw during the final stages of said working cycle to supply additional heat to the additional plastic masses supplied said cylinder, whereby the temperature of the plasticized masses is controlled during said working cycle so as to avoid cold spots in the molded parts.

3,146,288

APPARATUS FOR VACUUM TREATMENT OF MOLTEN METAL

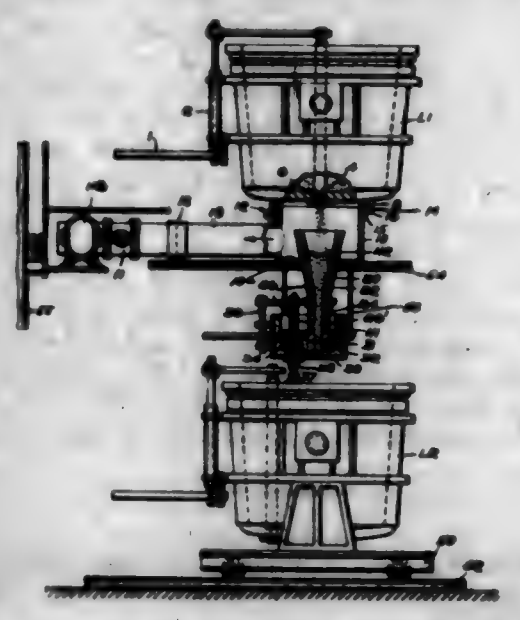
John B. Gero, Manchester-by-the-Sea, Mass., assignor to Gero Metallurgical Corporation, Boston, Mass., a corporation of Delaware

Filed Jan. 5, 1961, Ser. No. 80,981

2 Claims. (Cl. 266—34)

1. An apparatus for vacuum treatment of molten metal comprising a ladle, a valve in the bottom portion of said

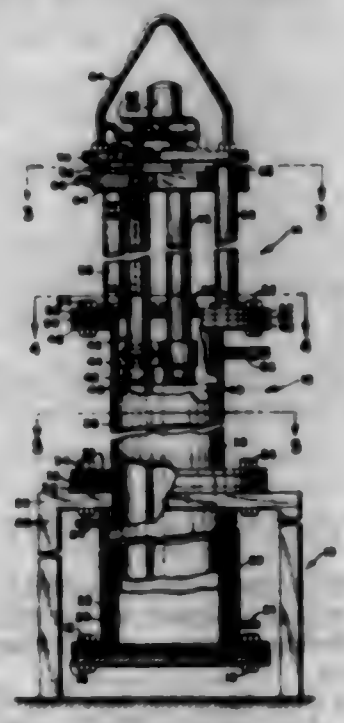
ladle for regulating the rate of discharge of molten metal from said ladle, a housing including a side wall and a bottom wall, said side wall being in sealed association at its top portion with the discharge portion of said ladle and positioned to receive the flow of molten metal therefrom, means connected to the housing above its bottom wall for applying a vacuum to said housing, a conduit having a conical upper portion extending upwardly into said housing and in sealed association with the bottom wall thereof, the upper conical portion of said conduit positioned in alignment with the path of travel of the molten metal discharged from said ladle for conducting the molten metal from the vacuum housing whereby the metal discharged from said ladle is subjected to vacuum prior to entrance into said conduit, a receptacle open to atmospheric pressure enclosing the lower end of said conduit, said lower end of said conduit terminating at a point sufficiently below the top of said receptacle whereby the metal discharged through said conduit will accumulate in said receptacle and form a liquid seal for said conduit, a valve in the bottom portion of said receptacle for regulating the discharge of molten metal from the bottom portion of said receptacle at a rate substantially the same as the regulated rate of discharge of metal from said ladle to maintain the accumulation of molten metal therein to prevent release of the vacuum in said housing through said conduit, said valves permitting continuous



flow of metal from said ladle through said housing and into and out of said receptacle.

ELECTRICAL

3,146,289
COLD MOLD ARC FURNACE
Donald E. Cooper and Elmer D. Dilling, Las Vegas, Nev., assignors to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1962, Ser. No. 214,249
2 Claims. (Cl. 13—14)



1. In a consumable electrode arc melting furnace having an interior containing a crucible, the improvements which comprise in combination:

(*a*) a cover plate enclosing the top of said furnace interior,

(*b*) three equally spaced hollow electrode rams passing through sliding seals in said cover plate, each electrode ram adapted to be attached at its bottom to a consumable electrode in the interior of said furnace,

(*c*) a top plate vertically aligned with and spaced apart from said cover plate,

(*d*) six guide bars fixedly attached to and connecting said cover plate and said top plate, said guide bars being disposed outwardly from said electrode rams and arranged in spaced pairs adjacent each of said electrode rams,

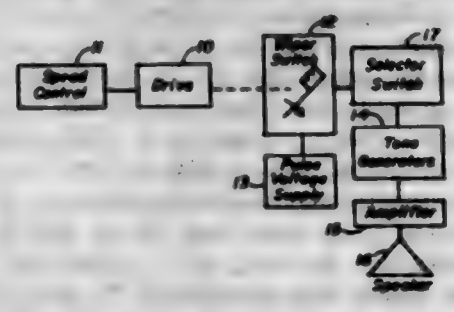
(*e*) three generally triangular cross plates each fixedly attached to the top of one of said electrode rams and slidably mounted on a pair of said guide bars, the attachment of said electrode ram being near an inner corner of said cross plate and the mounting on said guide bars being near outer corners of each of said cross plates,

(*f*) a threaded nut fixedly attached in a bore in each of said cross plates aligned with the electrode ram attached thereto,

(*g*) a screw shaft passing through each of said cross plates engaging said nut, with its upper end supported by a bearing attached to said top plate and with its lower end disposed within one of said electrode rams, and

(*h*) means for rotating each of said screw shafts thereby to raise and lower the said cross plates with electrode rams attached thereto, while said electrode rams are maintained in individual vertical alignment and relative spacing one to the other by the pair of guide bars on which each is slidably mounted.

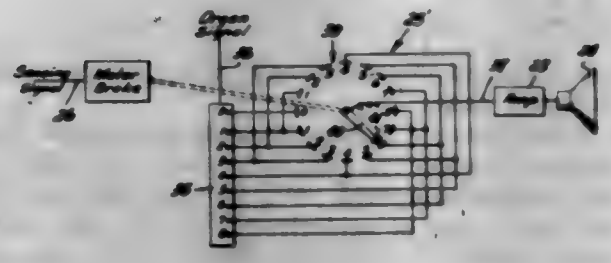
3,146,290
ELECTRONIC MUSIC CIRCUIT
Donald M. Park, Raleigh, N.C., assignor to Park-Baker Electronic Development Corporation, Raleigh, N.C., a corporation of North Carolina
Filed Sept. 23, 1963, Ser. No. 310,533
16 Claims. (Cl. 84—1.03)



1. In an electronic music circuit having a plurality of tone generators to be selectively pulsed at given times: a

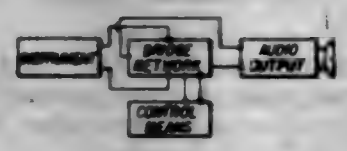
pulse generator including a first set of terminal points, a voltage pulse source, and means selectively connecting said source to said first terminal points in predetermined time sequence; switching means including a second set of terminal points operatively connected to respective ones of said tone generators; a network of circuits establishing principal electrical paths from particular first terminal points to particular second terminal points and to the respective tone generators connected thereto, portions of said principal paths being in common, thereby establishing secondary paths between various pairs of said first terminal points; means placed in each of said paths and adapted to establish said principal paths as pulse-transmitting paths responsive to said source and said secondary paths as non-pulse-transmitting, thereby enabling said first terminal points to be electrically isolated one from the other while connected to a plurality of said principal paths.

3,146,291
PITCH BROADENING APPARATUS FOR MUSICAL INSTRUMENTS HAVING ELECTRONIC TONE GENERATORS
Donald J. Leslie, 313 S. Fair Oaks Ave., Pasadena, Calif.
Filed Dec. 28, 1959, Ser. No. 862,313
10 Claims. (Cl. 84—1.24)



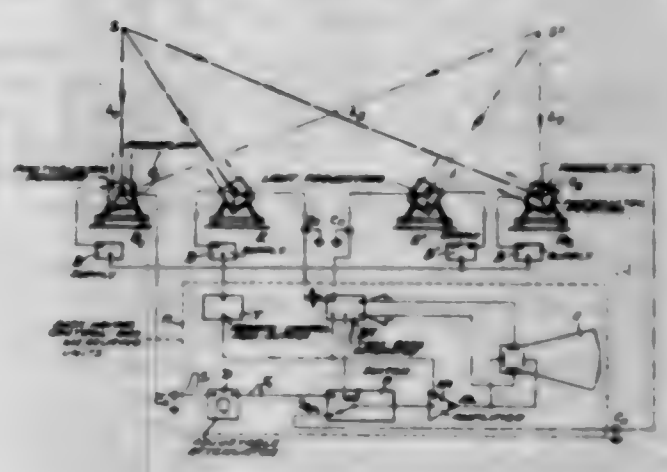
8. In a musical instrument having electrically operated means for producing impulses corresponding to sound and cooperable with a speaker system: controllable means designed to impart phase deviations to the instrument output; and means producing a signal designed to operate said controllable means in synchronism with the operation of some of said electrically operated means.

3,146,292
ELECTRICAL VIBRATO AND TREMOLO DEVICES
Don L. Benham, 1224A Orange Grove Ave., Glendale, Calif.
Filed Mar. 8, 1954, Ser. No. 414,589
12 Claims. (Cl. 84—1.25)



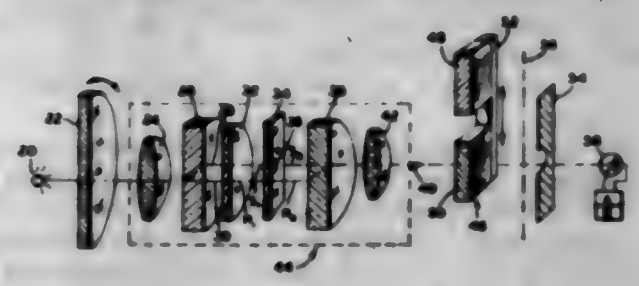
1. In combination, an instrument for producing electrical signals of frequencies corresponding to musical tones to be reproduced; a bridge network having an input and an output; means connected to the input of said bridge network for applying said electrical signals to said input; an audio output system including a loudspeaker; means coupling the output of said bridge network to said audio output system in driving relationship thereto; and control means connected to at least one leg of said bridge network for cyclically varying, at a controlled rate, the magnitude of phase shift introduced by said bridge network into said electrical signals, said control means being arranged to vary the impedance of at least one arm of said bridge network at said controlled rate.

3,146,293
MEASURING THE MEAN DENSITY OF THE ATMOSPHERE
Daniel Marie René Lesage, Montrouge, Seine, France, assignor to Compagnie des Compteurs, Paris, France, a company of France
Filed Feb. 28, 1961, Ser. No. 90,318
Claims priority, application, France, Feb. 22, 1960, 819,150, Patent 1,257,697
6 Claims. (Cl. 88—14)



1. Equipment for use in determining the mean optical density of the atmosphere, comprising, in combination:
(*a*) two movable photosensitive receivers for converting light into electrical signals;
(*b*) means connected to said receivers for selectively turning each of them into two distinct angular observation positions so that both will receive light from the same place;
(*c*) at least one projector means for providing a luminous pencil and directed to form the bisectrix of the successive observation angles of said receivers;
(*d*) means for controlling said projector means and including
(1) a time base mechanism for timing purposes,
(2) a power supply, and
(3) a device for remotely controlling said projector means;
(*e*) an electric signal amplifier;
(*f*) a switch controlled by said time base mechanism and connected with said receivers for successively connecting the two receivers with said signal amplifier; and
(*g*) an electric signal measuring apparatus connected with said signal amplifier.

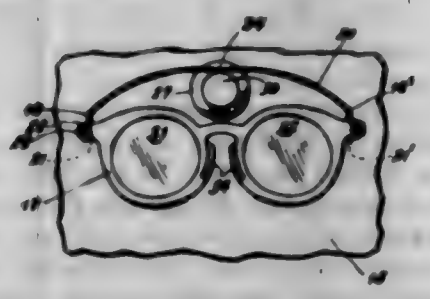
3,146,294
INTERFERENCE MICROSCOPE OPTICAL SYSTEMS
Charles J. Koester, Bethesda, Md., and Harold Osterberg, Sturbridge, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Feb. 13, 1959, Ser. No. 793,148
13 Claims. (Cl. 88—39)



1. An interference microscope comprising in combination a condenser, specimen stage and objective in optical alignment, said condenser and objective each having op-

tically aligned therewith a birefringent element and with said birefringent elements being disposed at opposite sides of said stage, the first of which is adapted to linearly polarize and separate light incident on said condenser into two coherent orthogonally polarized adjacently spaced beams, both of said beams being adapted to pass through said specimen stage and the other of which birefringent elements is adapted to re-combine said coherent orthogonally polarized adjacent beams for passage through said objective, said objective functioning to focus said re-combined coherent orthogonally polarized beams at an image plane, a rotatable linear polarizer in optical alignment with said condenser and being adapted to vary the relative amplitudes of said two coherent orthogonally polarized beams, and light path difference measuring means in optical alignment with said objective for measuring the relative phase difference between said combined coherent orthogonally polarized beams.

3,146,295
OPHTHALMIC MOUNTING FOR A FACE MASK
Wesley J. Roland, Alden, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y.
Filed Mar. 29, 1961, Ser. No. 99,224
1 Claim. (Cl. 88—51)



An ophthalmic mounting for securing an eyeglass frame to a face mask and the like comprising, in combination with an eyeglass frame having a pair of temple pivot holes normally pivotally receiving a pair of earpiece temples which have been removed from said frame, a suction cup securing base adapted for attachment to a face mask, a clamping knob, a threaded stud extending between said base and said knob for tightening of the latter on the former, and a resilient connecting wire having a vertically elongated central portion clamped about said stud and against said base by said knob, said central portion enabling vertical and swivelling adjustment of said connecting wire on said base upon releasing said clamping knob, said wire extending laterally outwardly from opposite sides of said base, the opposite ends of said connecting wire having downwardly extending termini slip-fitting into said eyeglass frame temple pivot holes, said termini being bent for firm, resilient engagement in said pivot holes.

3,146,296
REARVIEW MIRROR DEVICE
Kenneth J. Fischer, 116 W. Francis Ave., P.O. Box 98065, Pittsburgh 27, Pa.
Filed Nov. 5, 1962, Ser. No. 235,501
3 Claims. (Cl. 88—87)

1. An improved combination mirror device of the character shown and described employing a pair of mirrors in a cooperating viewing relation with each other, which device is suitable for mounting adjacent the seat or cab of a motor vehicle in a side-projecting relation with respect thereto, wherein both mirrors are adjustable to provide each driver of the vehicle with an accurate and full composite vision from front to back along such side and to the rear of the vehicle which comprises, a rectangular vertically-elongated planar mirror of major dimension and a round spherical mirror of minor dimension from the standpoint of said planar mirror, a rectangular vertically-elongated housing having a vertical length greater than the combined vertical dimensions of said planar and spherical mirrors; said housing having side, top and bottom and back walls defining a vertically-elongated compartment therein and having a partition wall between said top and bottom walls dividing said compartment into an upper compartment for said planar mirror and a lower compartment for said spherical mirror; said housing having a unitary substantially vertically-planar front rim wall defining a vertically-elongated opening in the front of said housing for receiving said planar mirror, said rim wall having an annular portion defining a lower vertically-adjacent opening for said spherical mirror, means associated with said front rim wall for securing said planar mirror against an inner side thereof in a vertically-planar forwardly-facing position within said upper compartment to close-off the vertically-elongated opening, a mounting stem secured to a back wall of said housing substantially centrally of said lower compartment and projecting forwardly therefrom within said lower compartment, a support frame having an annular rim portion extending peripherally about said spherical mirror and mounting it in a forwardly-facing relation thereon, a radial-pivotal means adjustably-securing a back central portion of said support frame on a forward end portion of said mounting stem in such a manner that said annular rim portion



and said spherical mirror project forwardly of the vertical plane of said vertically-planar front rim wall, the opening for said spherical mirror as defined by the annular portion of said front rim wall being in horizontal alignment with said lower compartment and of an enlarged diameter with respect to the diameter of said support frame and its said annular rim portion to provide spacing for free radial-pivotal movement of said support frame and said spherical mirror about said mounting stem, a pair of upper and lower brackets for secure mounting on the side of the vehicle, horizontally-pivotal means mounting said housing on said brackets in a side-projecting relation with respect thereto, whereby said housing may be pivotally turned with respect to said brackets for adjustably-positioning said planar mirror to intermediate side and back side and rear viewing requirements of each driver of the vehicle and for simultaneously adjusting said spherical member therewith; said spherical mirror, after the adjustable-positioning of said housing for the defined viewing of said planar mirror, being radially-pivotally adjustable with respect to said housing for front side and widened intermediate and overlapping intermediate side viewing requirements of each driver in combination with said planar mirror in its previously adjusted position; and said spherical mirror in its mounted position on said stem being in close vertical adjacency with and beneath said planar mirror, so that each driver may see both of said mirrors for simultaneous viewing.

3,146,297
COAXIAL CABLE WITH HELICAL INSULATING SPACER
Karl Heinz Hubner, Junkersdorf, near Cologne, Germany, assignor to Felten & Guilleaume Carlswerk A.G., Cologne-Mulheim, Germany, a corporation of Germany
Filed Feb. 17, 1961, Ser. No. 109,469
Claims priority, application Germany Feb. 25, 1960
2 Claims. (Cl. 174—29)



1. In a coaxial cable, the combination of an electrically conductive bare inner conductor of circular cross-section, an electrically insulating spacer of substantially rectangular cross-section spiralling around the bare inner conductor with the longer dimension of said cross-section extending substantially radially of the inner conductor, the spiral spacer forming a helix having its turns spaced along said inner conductor with the inner edge of the turns engaging the bare inner conductor around the periphery thereof to hold said inner conductor against radial displacement within the turns, and a solid-walled tubular electrically conductive outer conductor surrounding the bare inner conductor in spaced relation thereto and having an outwardly protruding corrugation spiralling around said inner conductor in spaced turns, the outer conductor also having a valley portion spiralling around said inner conductor in spaced relation thereto and in spaced turns which separate said corrugation turns and which are located between said turns of the spiral spacer, said corrugation having a crest portion which is located at a substantially greater radius from the inner conductor than is said valley portion and which is dome-shaped in longitudinal section of the outer conductor, whereby the inner surface of said crest portion is concave, said turns of the spiral spacer having their outer edge located entirely in said corrugation and seated against said concave inner surface of the crest portion to hold said inner and outer conductors in fixed spaced relation to each other.

3,146,298
ELECTRICAL DISTRIBUTION SYSTEM
Michael J. Ceglia, Haddonfield, N.J., assignor, by mesne assignments, to Base Engineering Development Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 12, 1960, Ser. No. 2,007
6 Claims. (Cl. 174—49)



1. An electrical distribution system including a bus duct, a bus bar extending through said bus duct, a pair of boxes mounted in opposed relation on opposite sides of said bus duct, each of said boxes having an open side with the open side of said boxes facing in opposite directions, each of said boxes having one side perpendicular to said open side, each of said box one sides being juxaposed in side by side surface contact to a side of said bus duct, and a pair of wires connected to said bus bar, one of said wires extending from said bus bar through said one side of said boxes and the other of said wires extending through said one side of said other box.

3,146,299
MINERAL INSULATED CABLE CONNECTOR
Joseph C. Norton, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed July 5, 1962, Ser. No. 207,651
2 Claims. (Cl. 174—88)



1. An electrical cable connection comprising, in combination, an electrical conductor surrounded by compacted finely divided electrical insulation material; a jacket material covering said compacted insulation material; said conductor extending for a predetermined length beyond the insulation material and the jacket material into a connection zone; an electrical connector connecting said conductor to a preselected circuit point in said connection zone; a hollow generally cylindrical splicing sleeve over said cable and said connection zone arranged to define said connection zone and an annular space bounded by an inner cylindrical wall portion of said splicing sleeve and a peripheral portion of said jacket material; loose finely divided electrical insulation material in said connection zone substantially completely filling said connection zone, said loose finely divided electrical insulation material having when compacted thermal conductivity characteristics substantially similar to those of said compacted finely divided insulation material; and a hollow cylindrical tamping sleeve arranged in said annular space and extending into said connection zone to an extent sufficient to compact said loose finely divided electrical insulation material to a state substantially equal to that of the compacted finely divided electrical insulation material of said electrical cable.

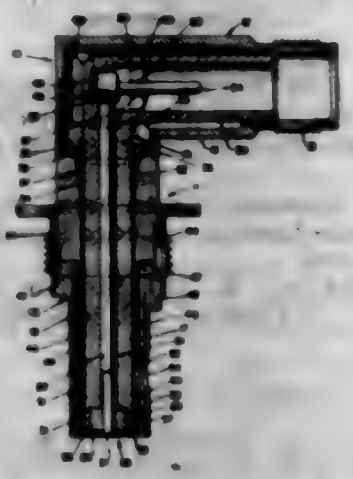
3,146,300
CORONA PROTECTION SCREEN FOR INDUCTOR COILS IN VACUUM FURNACES
Ivar Bechlin and Mats Rydinger, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Sept. 19, 1960, Ser. No. 56,999
Claims priority, application Sweden Sept. 18, 1959
6 Claims. (Cl. 174—127)



1. A vacuum furnace inductor coil adapted to be arranged in a vacuum chamber, said inductor coil comprising an electric conductor forming a coil for induction heating, a layer of electrical insulation applied around said conductor, a corona protection screen applied around said insulation along the entire length of the conductor and connected to a potential lower than the critical tension at which corona appears, said corona protection screen comprising at least two electrically conducting parts extending in the longitudinal direction of said conductor, arranged successively one after the other in the longitudinal direction of the conductor and insulated from and

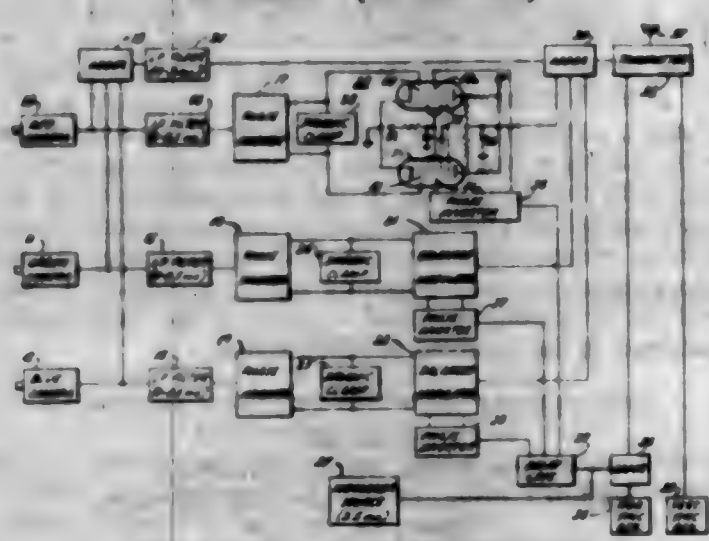
partially overlapping each other, and a tight, pore-free cover of silicone rubber enclosing said electrically conducting parts.

3,146,301
SPARK DISCHARGE DEVICE
James J. Logue, Unadilla, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Original application Apr. 21, 1958, Ser. No. 729,598, now Patent No. 3,025,425, dated Mar. 13, 1962. Divided and this application Mar. 23, 1961, Ser. No. 97,959
4 Claims. (Cl. 174—152)



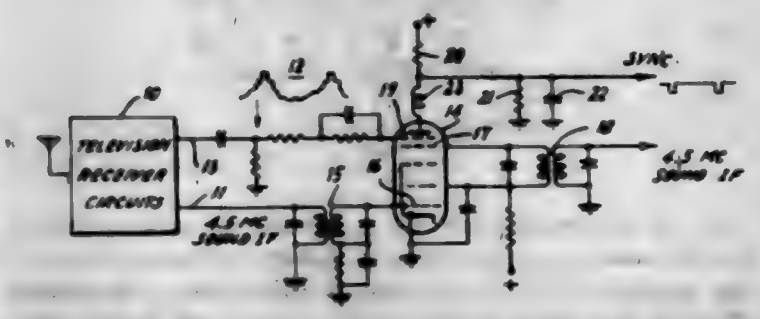
1. In a spark discharge device, a metal shell provided with two legs disposed generally at an angle with respect to each other, a central conductor disposed within the shell and having two intersecting substantially rigid rod-like legs, each within the respective leg of the shell, extending generally at said angle with respect to each other, means positioning one leg of the conductor with respect to its respective leg of the shell and insulating it therefrom, a ceramic insulating sleeve within the other leg of the shell and generally coaxially surrounding the other leg of the conductor, and means for positioning the other leg of the conductor with respect to the ceramic sleeve and for sealing it thereto, said last-named means comprising a flexible gas impermeable diaphragm sealed at its central portion to the other leg of the conductor and sealed at its periphery to the ceramic sleeve.

3,146,302
COLOR TELEVISION SYSTEM
Robert C. Moore, Erdenheim, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 11, 1952, Ser. No. 265,981
18 Claims. (Cl. 178—5.4)



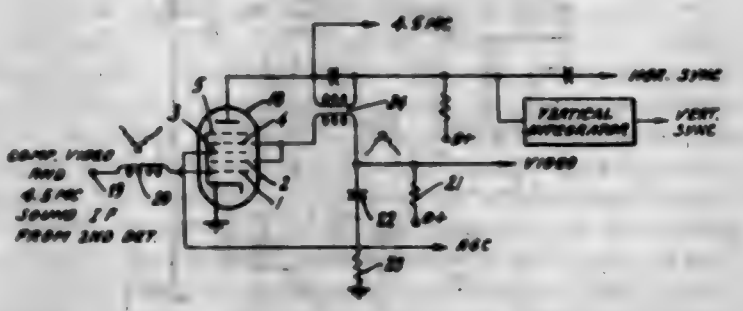
1. A color television system comprising: means for producing a signal representative of variations in monochromatic intelligence of successively scanned portions of a televised scene; means for producing a plurality of signals respectively representative of different chromaticity components of said successively scanned portions; a source of a plurality of alternating signals of a single equal frequency and mutually different phases; means for utilizing different ones of said chromaticity representative signals to modulate different ones of said alternating signals to produce signals, each having fixed average value and each having a single, alternating component whose excursions on both sides of its respective fixed average value are substantially equally affected by variations in its respective chromaticity representative signal; and means for additively combining said signal representative of monochromatic intelligence and said produced alternating signals for transmission to a receiver.

3,146,303
MULTI-FUNCTION TUBE CIRCUITS FOR ELECTRICAL SIGNAL PROCESSING
Donald R. Taylor, Jr., Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 14, 1962, Ser. No. 179,690
15 Claims. (Cl. 178—5.8)



5. In a television receiver wherein it is desired to amplify the sound IF signal and to separate sync from the composite video signal; an electron tube having a single cathode, at least one anode, and at least three grids in succession between said cathode and said anode; means for supplying the sound IF signal to a first of said grids; means for deriving the same signal in amplified form from a second of said grids; means for supplying the composite video signal with sync positive to a third of said grids; means including the latter grid and said anode for separating sync from the composite signal; and means for deriving the sync signal from said anode.

3,146,304
MULTI-FUNCTION SYSTEM FOR TELEVISION RECEIVERS
Donald R. Taylor, Jr., Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,576
14 Claims. (Cl. 178—5.8)



1. In a television receiver adapted to receive and detect a composite signal having video and sync components of opposite polarities with respect to a reference level; a vacuum tube having at least two non-deflection control electrodes and at least two electron-receiving electrodes; means for supplying the detected composite signal with sync negative to one of said control electrodes;

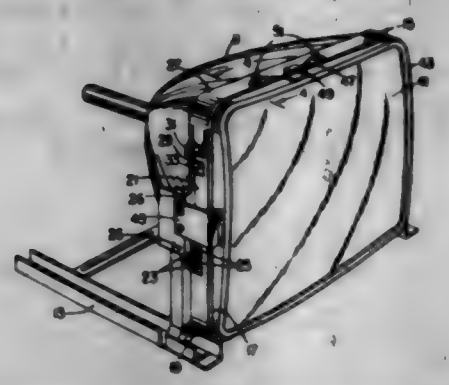
means for deriving the same signal from one of said electron-receiving electrodes amplified and inverted in polarity; means for applying the amplified and inverted signal to another one only of said control electrodes; means including the latter control electrode and another of said electron-receiving electrodes for separating the sync from the amplified and inverted signal; and means for deriving the separated sync from said other electron-receiving electrode.

3,146,385

CATHODE RAY TUBE PROTECTIVE FRONT PANEL DEVICE

Anthony T. Monaco, Skokie, and Richard S. Sobie, Glen Ellyn, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 14, 1961, Ser. No. 159,315
3 Claims. (Cl. 178—7.82)



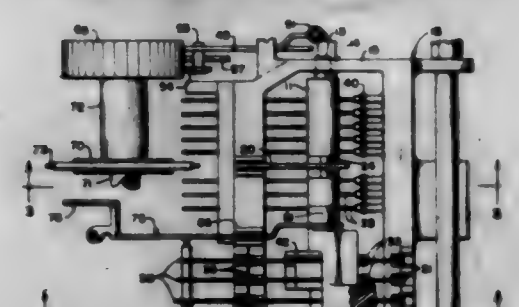
1. An implosion guard for a cathode ray tube including in combination, a transparent panel for covering the viewing face of the tube, a mounting gasket of compressible material surrounding the periphery of said panel, said gasket having a channel formed therein to receive the edge of said panel, a structure for supporting the tube in viewing position, a flexible frame engaging said gasket, first means rigidly mounting said frame at both sides thereof to said structure, and second means resiliently mounting said frame at the top and bottom thereof to said structure so that said gasket is pressed against the viewing face of the tube, thereby suspending said panel a short distance in front of the viewing face of the tube to seal the region between said face and said panel from foreign matter and to form a resilient guard for absorbing implosion forces.

3,146,386

TRANSMITTER CONTROL MECHANISM

Louis C. Anderson, Jr., Arlington Heights, and Arthur A. Hagstrom, Hoffman Estates, Roselle, Ill., assignors to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Oct. 17, 1962, Ser. No. 231,284
9 Claims. (Cl. 178—17)



1. In a tape sensing transmitter having contacts for controlling the operation thereof, a tape feed mechanism for feeding a perforated tape through the transmitter and a tape-out sensing pin for detecting the presence or absence of a tape within the transmitter, the improvement comprising a control means having:

(*a*) a rotatable shaft mounted in said transmitter,

(*b*) a manually operable handle means attached to said shaft for rotating said shaft to various positions,

(*c*) a first means operable by said shaft for controlling the condition of said contacts to start and stop operation of said transmitter,

(*d*) a second means controlled by said shaft for disengaging said tape feed mechanism and for maintaining said tape feed mechanism disabled, and

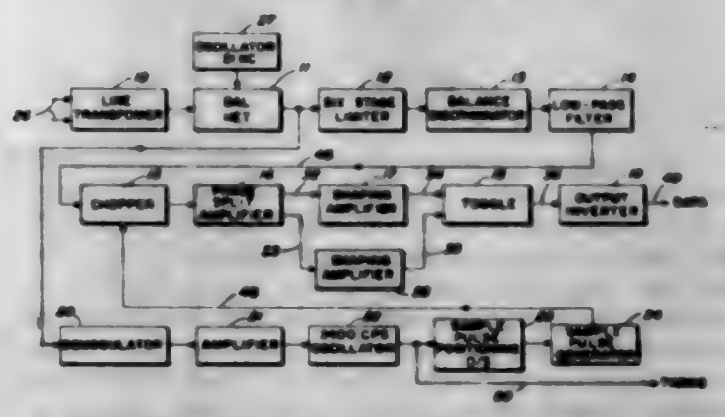
(*e*) a third means operable by said rotatable shaft for depressing said tape-out sensing pin thereby permitting the tape to be moved freely through the transmitter.

3,146,387

RECEIVER FOR DATA WITH ONE FREQUENCY INDICATING ONE BINARY LOGIC STATE AND ANOTHER FREQUENCY INDICATING OTHER STATE

Kenneth H. Renshaw, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Nov. 7, 1961, Ser. No. 150,786
9 Claims. (Cl. 178—88)



1. Decoding means for decoding a received bit synchronous signal in which each data bit contains either a half cycle of a substantially sine wave shaped first signal having a frequency f_1 or a whole cycle of sine wave shaped signal having a frequency $2f_1$ of the same peak amplitude as said first signal and in which each bit begins and ends at a peak amplitude of the data representing signal contained therein, said decoding means comprising discriminator means for producing an output signal whose polarity varies in accordance with change in frequency of the received encoded signal, demodulator means including a full-wave rectifier responsive to the received bit synchronous signal to produce a demodulated and full wave rectified output signal, oscillator means responsive to the output signal of said demodulator means to produce an output signal having a frequency $2f_1$ and having a phase which remains constant with respect to the phase of the bit period of the received bit synchronous signal, first pulse-forming means constructed to derive a first pulsating signal from the output signal of said oscillator means having a repetition rate $2f_1$ and occurring substantially with the occurrence of the peak amplitudes of the output signal of said discriminator means, second pulse-forming means responsive to said discriminator means output signal and said pulsating signal to produce a two-level bit synchronous signal containing the information contained in the received encoded signal.

3,146,388

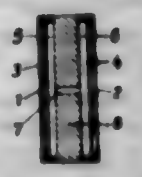
CAPACITOR MICROPHONES

Rudolf Görike, 15 Gregor Mendelstrasse, Vienna 18, Austria

Filed Oct. 7, 1960, Ser. No. 61,185
Claims priority, application Austria, Oct. 9, 1959, A 7,329/59
14 Claims. (Cl. 179—1)

1. A directional microphone for transmitting a predetermined range of audible sound frequencies, compris-

ing a pair of parallel vibratory membranes, a pair of electrode plates each closely spaced from a respective one of said membranes and positioned between them, each of said membranes being provided with at least one conductive surface forming a condenser with the adjacent electrode plate, and a support carrying said membranes and said electrode plates, and defining two air chambers, each of which adjoins one of said electrode plates on the side opposite the adjacent membrane, said support being pro-



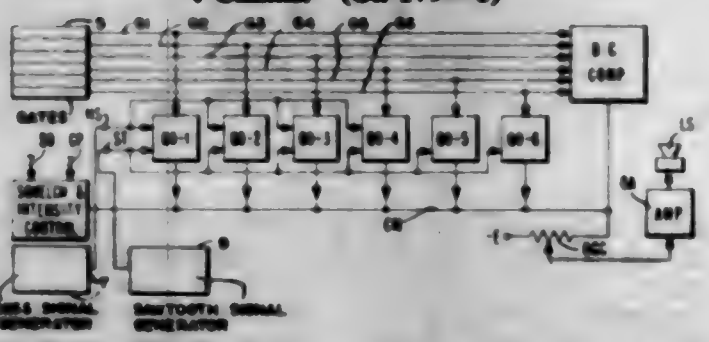
vided with at least one channel and said electrode plates being each provided with a multiplicity of perforations for the passage of air between said membranes, the spacing of said perforations being so small that the frictional resistance exerted on the air between each membrane and the electrode plate associated therewith is negligible, the cross-sectional area and length of said channel being selected so that the natural frequency of said membranes as modified by the mass of air in said channel lies near the lower end of said predetermined range of frequencies.

3,146,309

SYNTHETIC SPEECH SOUND GENERATOR

Gerald L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 18, 1961, Ser. No. 160,287
4 Claims. (Cl. 179—1)



1. In combination,

(*a*) a phase shift oscillator including two cascade connected amplifying devices and a reactive network for providing a feedback connection between the amplifying devices,

(*b*) biasing means for adjusting the operating point of said oscillator to a point less than that required for oscillation,

(*c*) gating means for supplying a gating signal to said oscillator,

(*d*) modulating signal means for supplying a modulating signal to said oscillator,

(*e*) said gating means and said modulating signal means being effective to cause said oscillator to oscillate at a predetermined base frequency, modulated in accordance with the characteristics of said modulating signal,

(*f*) and an output circuit connected to said oscillator.

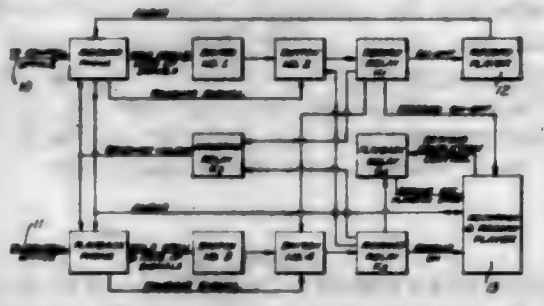
3,146,310

CONTROL APPARATUS FOR TELEPHONE ANSWERING SYSTEM

Robert Jeffries, 11272 Chapman Ave., Garden Grove, Calif., and Robert L. Provencal, 1685 S. Old Fashion Way, Anaheim, Calif.

Filed Aug. 15, 1960, Ser. No. 49,568
10 Claims. (Cl. 179—6)

1. In a telephone control apparatus for use with central station equipment which produces a voltage change on a telephone line when the line is loaded at the subscriber's end, the combination of: a first telephone line; a second telephone line; a first switch actuated by said voltage change on said first line; a second switch actuated by a ringing signal on said first line and by said first switch; a first record player having an audio output coupled to said first line; a second record player and recorder having an audio input coupled to said first line and an audio output coupled to said second line; a third switch for loading each of said lines; a fourth switch actuated by said second switch for actuating said third switch and said first record



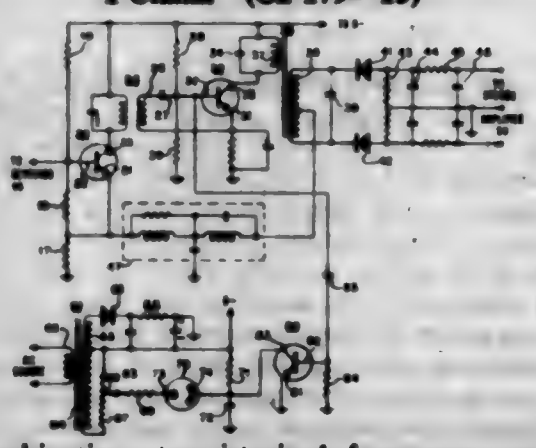
player; means for de-actuating said first switch when a call on said first line is terminated; a fifth switch actuated by said voltage change on said second line; a sixth switch actuated by a ringing signal on said second line and by said fifth switch; a seventh switch actuated by said sixth switch for actuating said third switch and resetting said second record player; an eighth switch actuated by said second record player when reset for converting to playback; and means for de-actuating said fifth switch when a call on said second line is terminated.

3,146,311

F.M. STEREO INDICATOR

Robert A. Wolff, La Grange Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed May 14, 1962, Ser. No. 194,485
1 Claim. (Cl. 179—15)



In combination: transistorized frequency modulation radio apparatus receiving and translating monaural frequency modulation transmissions and stereophonic frequency modulation transmissions, said stereophonic transmissions including an audio summation component, an amplitude modulated audio difference component with suppressed carrier and a pilot component for regenerating said carrier; a detector in said radio apparatus producing an audio signal on monaural transmissions and producing said audio summation component, side bands of said amplitude modulated audio difference component and said pilot component on stereophonic transmissions; means coupled to said detector for separating said pilot component; generator means controlled by said separated pilot component for regenerating said carrier; detecting means combining said audio summation component, said audio difference component side bands and said carrier for producing an audio signal A and an audio signal B in which $A+B$ represents the audio summation component and $A-B$ represents the audio difference component; a normally nonconductive transistor having an input circuit coupled to said generator means; a gaseous indicating device in the load circuit of said transistor;

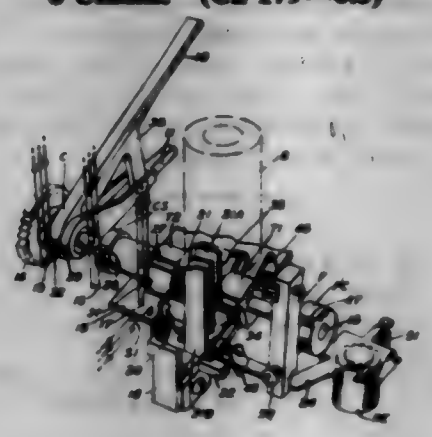
a variable alternating current source and a direct current source, said sources having a common terminal; a load resistor coupled between said common terminal and said gaseous indicating device whereby said variable alternating current source is connected across said indicating device and both terminals of said indicating device are maintained at the same direct current potential; the direct current potential at one terminal of said indicating device being changed responsive to conduction of said transistor whereby the combined variable alternating current potential and direct current potential is applied across said indicating device, and means for varying said variable alternating current source to compensate for the firing and extinction potentials of the particular gaseous indicating device used and for varying the sensitivity thereof.

3,146,312

COIN TELEPHONE CONTROL APPARATUS

Ernest R. Andregg and Lawrence A. Strommen, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 18, 1962, Ser. No. 224,351
8 Claims. (Cl. 179—6.3)



1. A coin operated telephone comprising, in combination, totalizer apparatus including a totalizer shaft normally at rest in an index position, means responsive to the deposit of a coin for rotating said shaft off said index position, said telephone including normally disabled dial pulse generating means, means responsive to the deposit of a coin or coins equal in value to a preselected initial rate for enabling said generating means, means responsive to the operation of said enabling means for maintaining said enabling means in the operated condition, means jointly responsive to the positioning of said shaft in said index position and to the disposal of a coin for returning said maintaining means to an unoperated condition thereby allowing said enabling means to return to an unoperated condition, and means jointly responsive to the positioning of said shaft in a position other than said index position and to the disposal of a coin for disabling said maintaining means so long as said shaft is in a position other than said index position, thereby precluding the operation of said generating means without a full nonrefunded deposit of said initial rate.

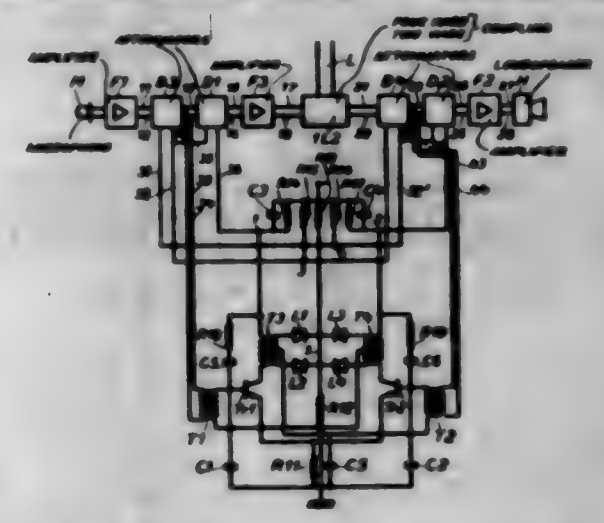
3,146,313

AMPLIFIER ARRANGEMENT FOR LOUDSPEAKING TELEPHONES

Lars Gunnar Ulin, Stockholm, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed May 31, 1962, Ser. No. 199,016
Claims priority, application Sweden June 8, 1961
3 Claims. (Cl. 179—81)

1. An amplifier system for use in loudspeaking telephones, said system comprising a first amplifier for amplification of outgoing speech signals from the microphone of the telephone and intended for transmission over a two-wire line; a second amplifier for amplification of speech signals intended for the loudspeaker of the telephone and coming from the two-wire line; a current-controlled first attenuation circuit including a current-control circuit, said attenuation circuit during operation of the system affecting the amplification of said outgoing speech signals and being attenuating during the rest condition of the first amplifier when said amplifier is connected but is not being fed with speech signals; a current-controlled second attenuation circuit including a current-control circuit, said second attenuation circuit during operation of the system affecting the amplification of said incoming speech signals and being attenuating during the rest condition of the second amplifier; a third current-controlled attenuation circuit including a current-control circuit, said third attenuation circuit during operation of the system affecting the amplification of said outgoing speech signals and being only slightly attenuating during the rest condition of said first amplifier; a fourth current-controlled attenuation circuit including a current-control circuit, said fourth attenuation circuit during operation of the system affecting the amplification of said incoming



speech signals and being only slightly attenuating during the rest condition of the second amplifier, the current-control circuit of the third attenuation circuit and the current-control circuit of the fourth attenuating circuit being connected in parallel, and the current-control circuit of the first attenuation circuit, the parallel connection of the current-control circuits of said third and fourth attenuation circuits and the current-control circuit of said second attenuation circuit being connected in series; a current-controlled supply circuit having two terminals, said serially connected current-control circuits being connected between said terminals; and two control amplifiers for controlling said supply circuit, one of said control amplifiers being fed with speech input signals derived from before said first attenuation circuit and the other control amplifier being fed with speech input signals derived from before said second attenuation circuit, and the outputs of said control amplifiers being connected one to each of said two terminals, the arrangement being such that during operation the direction of the control currents of said first and third attenuation circuits is the same and is opposite to the direction of the control circuits of the second and fourth attenuation circuits.

3,146,314

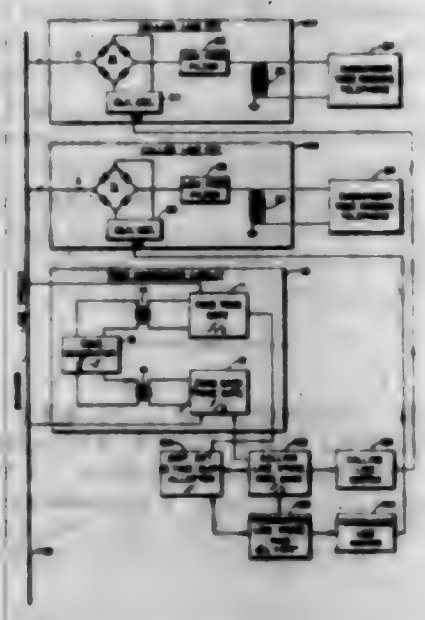
MEANS FOR GENERATING WARBLING TONE RINGING SIGNALS IN A TIME DIVISION MULTIPLEX COMMUNICATION SYSTEM

Michael A. Beehly and Hillel Fitik, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Sept. 25, 1961, Ser. No. 141,259
5 Claims. (Cl. 179—84)

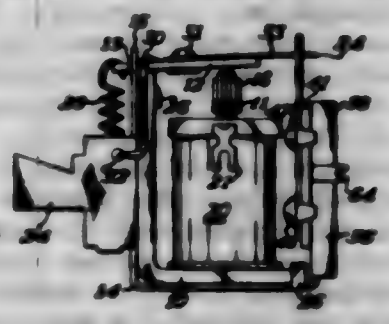
1. In combination, first and second normally closed bridge gates, a common highway interconnecting said

first and second bridge gates, means for periodically opening said first and second bridge gates in synchronism at a first given frequency, a ring tone generator producing a ring tone audible signal frequency which differs from one-half of said first frequency by one-half a sub-audible frequency, means for applying said ring tone audible signal frequency as an input signal to said first bridge gate,



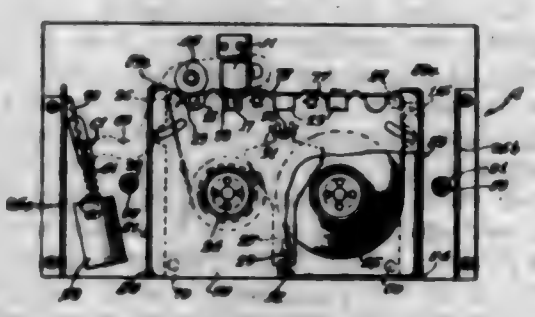
a tone ringing telephone set having a tone ringer responsive to said ring tone audible signal frequency, and means including a low-pass filter having a cutoff frequency intermediate said first frequency and said ring tone audible signal frequency for applying the output of said second bridge gate to said telephone set, whereby said tone ringer produces a ring tone at said audible signal frequency which warbles at said sub-audible frequency.

3,146,315
READILY ADJUSTABLE RELAY CONTACT STRUCTURE
Donald R. Hazelquist, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 16, 1962, Ser. No. 195,220
5 Claims. (Cl. 200—87)



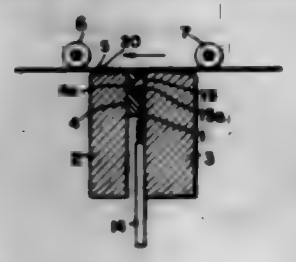
1. In an electromagnetically actuated relay, comprising: magnetic circuit means including magnetic flux generating means for providing a controlled magnetic flux in said circuit means; said circuit means including a fixed magnetic member and a movable magnetic member which move relative to each other as said magnetic flux is controlled; elongated contact means carried by said movable magnetic member; fixed metal contact means including two contacts of rectangular cross section having adjoining contact surfaces and each further having an integral extension at generally right angles to said contact surfaces; said contact surfaces and said extensions lying in a plane perpendicular to and intersected by said elongated contact means; and an insulating member attached to said extensions to mount said contact surfaces adjoining each other; said contacts and said extensions being integrally formed of a metal of sufficient thickness to maintain a fixed relationship between said contacts after said contact means is mounted upon said insulating member; said insulating member mounted upon said magnetic circuit means to allow said elongated contact to pass between said contact surfaces.

3,146,316
TAPE RECORDER
Norman P. Knoth, Chicago, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed July 10, 1958, Ser. No. 747,713
13 Claims. (Cl. 179—100.2)



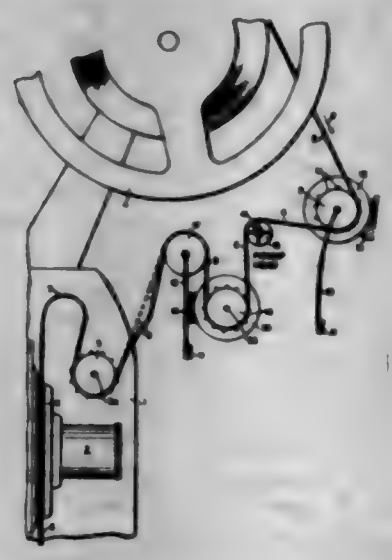
1. A tape recorder adapted to receive a tape cartridge having locating apertures and an exposed length of tape comprising, in combination, a base having a reel driving spindle and cartridge locating pins thereon, a 2-channel magnetic head and coacting backing element at opposite sides of a tape path mounted for relative movement toward and away from each other, a drive capstan and pressure roller mounted at opposite sides of the tape path for relative movement toward and away from each other, a cartridge loading holder having spaced apart side rails with one of their ends exposed and interconnected by a top plate to form a cartridge loading slot whereby a cartridge may slide into the holder on the side rails and have the cartridge underside exposed with a length of exposed tape overlying the tape path, a pair of guide rods on said base on which the loading holder is slidably mounted for movement between a first position in which the cartridge is in an operating plane on said locating pins with exposed tape positioned adjacent the head and capstan and a second position spaced a greater distance from the base than the first position, springs on said guide rods engageable between the base and loading holder for urging the holder to said second position, a frame fixed to the base and overlying the loading holder, operating mechanism for the holder including an operating member slidable on said frame and members with inclined cam surfaces engageable with the holder to urge the holder from the second position to the first position to move a cartridge to the operating plane, the lower ends of said members being engageable with the top of the holder to hold the holder in said first position, a cartridge engaging flange on one end of said operating member whereby movement of the operating member in one direction lowers the holder toward the base to said first position and movement of the operating member in the reverse direction releases the holder and permits raising of the holder by said springs with the final movement of the operating member causing the flange to pull a cartridge partially from the holder, means to select either of the two individual channels or both channels simultaneously, and means responsive to movement of a cartridge into the operating plane for relatively moving the head and backing element and capstan and pressure roller toward each other to operatively engage a tape.

3,146,317
HALL-EFFECT MAGNETIC TRANSDUCER
Friedrich Kuhrt and Gustav Stark, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany
Filed July 11, 1960, Ser. No. 41,973
Claims priority, application Germany July 14, 1959
7 Claims. (Cl. 179—100.2)



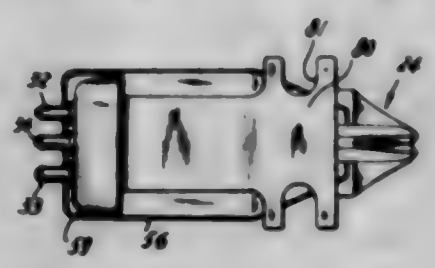
3. A transducer for magnetic signals, comprising a magnetizable core structure having a front face for coaction with an adjacent magnetogram carrier, said core structure having two pole pieces of ferrite with respective planar faces extending parallel to each other and at a right angle to said front face so as to form a space between each other, a semiconductor Hall-effect plate disposed in said space in face-to-face contact with one of said pole pieces, a bridge piece of ferrite disposed between the other side of said plate and said other pole piece and in face-to-face contact with both, said bridge piece having a constriction-forming recess extending substantially parallel to said front face on the bridge-piece side facing said semiconductor plate, said pole pieces and said bridge piece forming a magnetic gap in which said Hall-effect plate is positioned and which is narrower at said front face than at the recess of the said bridge piece.

3,146,318
SOUND-TRACK REPRODUCER FOR MOTION-PICTURE PROJECTORS
Friedrich Kuhrt, Walter Engel, and Christian-Friedrich Wolf, all of Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a German corporation
Filed Dec. 7, 1960, Ser. No. 74,353
Claims priority, application Germany Dec. 12, 1959
8 Claims. (Cl. 179—100.2)



1. For use with a motion-picture projector of variable film speed, an apparatus for reproducing sound from a strip-type magnetogram carrier on the film strip in correlation to the film speed of the projector, comprising guide means defining a travel path for the magnetogram carrier, a rotatable transducer head having a cylindrical structure peripherally engageable with the carrier on said path and having Hall-voltage generator means joined with said structure for providing an output voltage in response to the magnetic sound track of said carrier as the carrier travels on said path, said Hall-voltage generator means including a plurality of semiconductor wafers extending radially from the interior of said cylindrical structure to its cylindrical periphery, each of said wafers having two Hall-voltage electrodes radially spaced from each other at the respective inward and outward edges of said wafer and having two current-supply electrodes at the respective radial edges, a rotatable guide member having a variable speed corresponding to said film speed, constant-speed reference means to provide a reference speed corresponding to the desired sensing speed of said transducer head, and reversible drive means connecting said constant-speed means and said guide member in differential relation to each other with said rotatable transducer head for rotating said head in accordance with the difference between the projector film speed and the reference speed, whereby the sensing speed of said transducer head is kept constant regardless of variations in film speed.

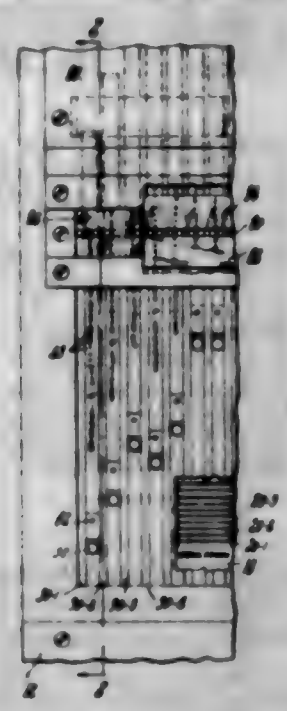
3,146,319
MAGNETIC PHONOGRAPH PICKUP WITH COMPENSATING POLE PIECE ARRANGEMENT
Walter O. Stanton, Laurel Hollow, N.Y., assignor to Pickering & Company, Inc., a corporation of New York
Filed Aug. 24, 1960, Ser. No. 51,638
10 Claims. (Cl. 179—100.41)



9. A magnetic stereophonic sound reproducer for use with phonographic record discs having a sound groove with two channels disposed substantially at right angles to each other comprising: a support structure, a pair of current generators mounted on the supporting structure and each including a coil, means providing a pair of flux paths each including first and second spaced proximately positioned confronting pole pieces made of magnetic material and having extensions projecting through the respective coils and forming cores for the coils, said pole pieces being arranged in a quadrangular cluster with the first and second pole pieces in each pair being disposed in opposite, parallel relationship with the first pole pieces in the respective pairs being disposed at an included angle to each other and facing in a direction towards the surface of a record disc used therewith and with the second pole pieces in the respective pairs being disposed at a similar included angle to each other and facing away from the record surface, and a moving system assembly including a stylus, a movable magnetic member having a pole connected to the stylus to move therewith and mounting means for supporting the moving system for oscillatory movement so that the pole of the magnetic member moves in paths towards and away from the opposite pole pieces in each pair and in inductive relationship therewith, said pole pieces and moving system being mounted at an angle to the plane of a record disc engaged by the stylus so that the magnetic member when moved by the stylus in engagement with a channel of the record disc is caused to deviate from paths parallel to the channels of the record groove, said pole pieces being arranged in a generally diamond-shaped cluster with the apices of the diamond being located at the included angles between the first pole pieces of the respective pairs and between the second pole pieces of the respective pairs to compensate for said deviation

in movement of the magnet to thereby minimize cross-talk.

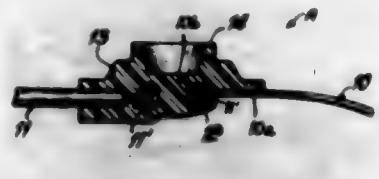
3,146,320
MULTIPLE SLIDE SWITCH
An Wang and Ge-Yao Chu, Lincoln, Mass., assignors to Wang Laboratories, Inc., East Natick, Mass., a corporation of Massachusetts
Filed June 1, 1961, Ser. No. 114,116
3 Claims. (Cl. 200—5)



1. A multiple slide switch assembly comprising a plurality of co-planar spaced elongated parallel terminal strips, a plurality of spaced parallel switch supporting elements extending across said terminal strips generally perpendicular thereto, an elongated slide of substantially greater length than said switch supporting elements extending between each of adjacent pairs of said switch supporting elements and supported for movement in a direction transversely across said terminal strips, said slides having adjacent one end indicia spaced therealong and an electrically conducting surface insulated from said supporting elements, the other end of said slides being flexible for coiling thereof within said housing, movable contactor means mounted generally midway along each of said slides and electrically connected to said conducting surface for contacting said terminal strips, fixed contactor means adjacent said one slide end for contacting said conducting surface, means extending parallel to said terminal strips across said slides defining the position of said slides relatively to an indicia on each of said slides, with said terminal strips being spaced by a distance defined by the distance between said indicia, and means for independently moving each of said slides selectively to connect a terminal strip to a fixed contactor means at a defined position of an indicia on a slide to establish a plurality of connections between said terminal strip and said fixed contactor means predetermined by the indicia of a plurality of said slides.

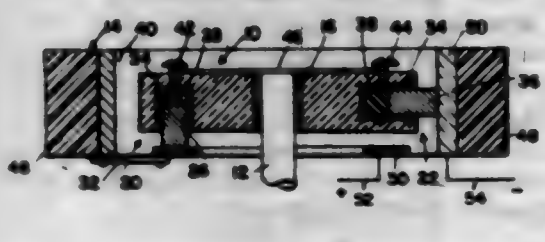
3,146,321
IGNITION INTERRUPTOR FOR INTERNAL COMBUSTION ENGINES
Johannes Kreissig, Stuttgart-Botnang, and Max Lenz, Stuttgart-Bad Cannstatt, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed July 18, 1961, Ser. No. 125,000
Claims priority, application Germany July 22, 1960
3 Claims. (Cl. 200—19)

1. A conductor element for connecting the movable breaker contact on the breaker arm which is pivotally mounted on a contact support of an ignition interruptor in the primary circuit of an ignition coil in an internal combustion engine, comprising a connecting cable having a bare end and a second end, the latter connectable in the primary circuit of the ignition coil; a breaker spring having a first end and a second end, the latter connectable with the breaker arm; an inseparable current-conducting connection between the first end of said spring and the bare end of said cable comprising a substantially rivet-shaped current-conducting connecting member fixed to



said bare end and to the first end of said spring; and a substantially disk-shaped insulator of thermoplastic material substantially completely enclosing the free end of said cable, the first end of said spring and said connecting member, said insulator having an extension connectable with the contact support of the ignition interruptor whereby the insulator is fixed to the contact support and prevents the flow of current from said cable and from said spring to the contact support.

3,146,322
ROTARY ELECTRIC SWITCH HAVING A PLURALITY OF CONTACTS
Terence M. P. Farrell, 15 Idlewell St., Weymouth, Mass.
Filed Aug. 30, 1960, Ser. No. 52,983
3 Claims. (Cl. 200—23)

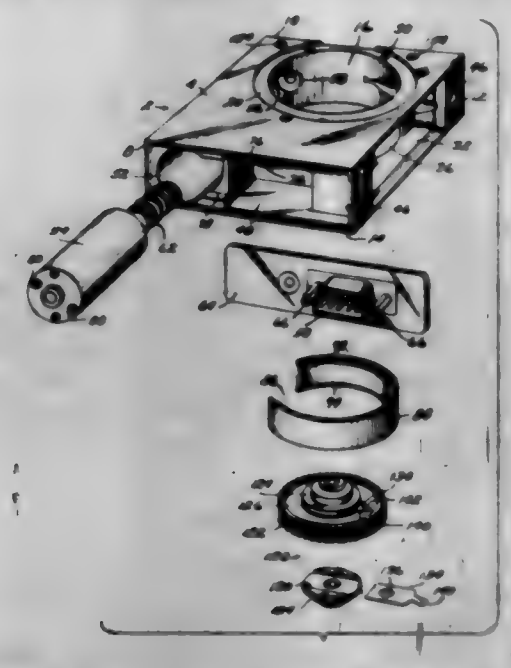


1. A rotary switch comprising a rotor and surrounding annular stator, means for rotating the rotor about the axis of the stator, said stator having a heat conducting outer frame and a heat conducting and electrically insulating inner ring within the frame, spaced contacts embedded in the ring and exposed on the inner surface of the stator, said stator having a smooth continuous inner surface made up of alternate contacts and sections of the electrically insulating rings, a sleeve made of conducting material embedded in the rotor and open in the direction of the inner surface of the stator, a contact bar disposed in and extending out of said sleeve, biasing means disposed in the sleeve behind the contact bar urging that bar into engagement with the inner surface of the stator, a second sleeve embedded in the rotor and made of metallic material, a second contact bar disposed in the second sleeve and extending out of said second sleeve, a ring contact mounted adjacent the rotor and coarcuate with the path defined by the second contact bar when the rotor rotates, biasing means disposed in the second sleeve and urging said second bar into engagement with the ring contact, said contact bars being in electrical contact with their respective sleeves, and means electrically connecting the two sleeves.

3,146,323
COMMUTATOR SWITCH
James L. King, Sudbury, Mass., assignor to Acton Laboratories, Inc., a corporation of Massachusetts
Filed Aug. 15, 1961, Ser. No. 131,573
12 Claims. (Cl. 200—23)

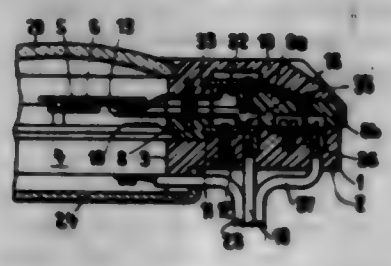
1. A commutator comprising a housing having a first bore, a first switch capsule disposed within said bore, said

first switch capsule comprising an annular switch plate having a circular array of conductive contact segments on one planar surface thereof and a resilient annular contact diaphragm supported at its inner and outer edges in parallel spaced relation to said segments and said planar surface, a rotatable stub shaft mounted wholly within said housing, said shaft extending through the center of said capsule, a worm gear secured to said shaft in said



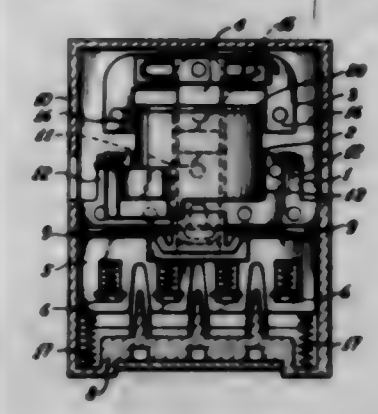
first bore, a diaphragm depressor member attached to and rotatable with said gear, said depressor member continually depressing some portion of said diaphragm into contact with a segment on said switch plate, a second bore in said housing, a worm mounted in said second bore in driving engagement with said gear, and means for driving said worm whereby to cause said depressor member to depress successive portions of said diaphragm into contact with successive contact segments.

3,146,324
COMBINED TIMEPIECE AND TIME-CONTROLLED SWITCH
Joseph Gisiger-Stähli, Selzach, Solothurn, and Heinz Brun, Frutigen, Bern, Switzerland
Filed June 6, 1961, Ser. No. 115,188
Claims priority, application Switzerland Nov. 11, 1960
8 Claims. (Cl. 200—37)



1. A control device comprising a substantially annular support of insulating material having means adapted for attaching said support to an apparatus to be controlled, a free space in said support, a metallic slip ring mounted on said support and having a flange portion extending substantially radially inwards from said support into said free space of the support, a contact carrier of insulating material carrying contact means and having an annular groove at its circumference, the said flange portion of the said slip ring slidingly engaging said annular groove of said contact carrier, the contact carrier being thereby mounted for rotation in said slip ring, brush means connected to said contact means and slidably contacting said slip ring, a timepiece with hands mounted in said free space, aperture means in said contact carrier allowing extension of said hands substantially into a plane comprising said contact means, said contact means projecting into the path of at least one of said hands for periodically contacting said hand.

3,146,325
ELECTROMAGNETIC CONTACTOR WITH PILOT LIGHT
Joseph J. Gribble, Fox Point, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Apr. 17, 1962, Ser. No. 188,204
2 Claims. (Cl. 200—87)

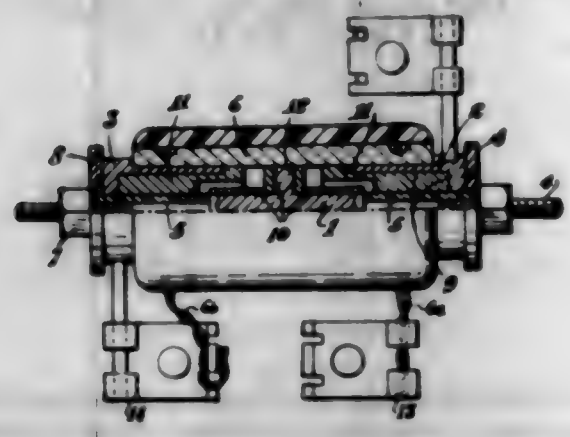


1. An electromagnetically operated control mechanism comprising an armature member, an electrical contact means movable thereby, a magnetic pole member, a magnetic motor coil having an axial passage therethrough, at least one of the members having a portion extending into the passage, said members being in magnetic attractive relation to each other when the motor coil is energized, means for connecting the motor coil to a source of alternating voltage, a magnetic pilot coil in inductive relation to the flux of the motor coil, said pilot coil having an axial passage therethrough, at least one of the members having a portion extending into the pilot coil passage, said motor coil being relatively flat at one end, said pilot coil being a unitary structure in the shape of a thin, flat wafer, said pilot coil being disposed on said end of the motor coil in coaxial relation therewith, the foregoing mechanism being mounted in a casing having a removable cover and being disposed in the casing with said one end of the motor coil facing toward the cover, constraining means in the casing engaging the motor coil and constraining it from movement in a direction away from the cover beyond a predetermined position, abutment means on the cover engaging the adjacent end of said pilot coil and pressing it against said one end of the motor coil when the cover is secured to the casing with the motor coil in said position, and means for detachably securing the cover to the casing.

3,146,326
FUSIBLE MULTI-CONTACT ELECTRICAL CONNECTOR
Beryl Freda Thorne, Beckenham, Kent, England, assignor to Submarine Cables Limited, London, England, a company incorporated of the United Kingdom
Filed May 28, 1962, Ser. No. 198,006
Claims priority, application Great Britain June 2, 1961
12 Claims. (Cl. 200—123)

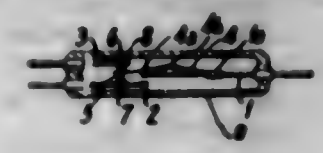
1. An electrical connector of the type in which permanent electrical continuity is established between spaced electrodes in response to the application of heat to fusible material; said connector comprising a centre electrode, two end electrodes; means supporting said centre and end electrodes in spaced relationship from each other and from said centre electrode so as to define a cavity; means insulating said end electrodes from said centre electrode; fusible material disposed on said electrodes; resistance means thermally connected to said electrodes for heating

said fusible material; and means for subdividing said cavity into two chambers, each containing fusible material, and preventing flow of fusible material from one chamber to the other; the spacing of said electrodes being



such as to ensure the establishment of electrical continuity between each of the said end electrodes and said centre electrode on melting of said fusible material, irrespective of the attitude of the connector.

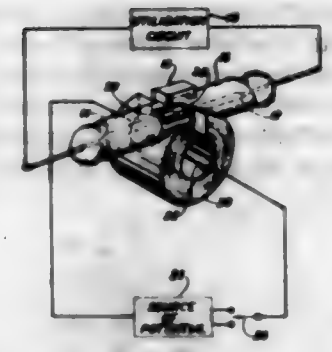
3,146,327
SEALED MAGNETICALLY OPERABLE SWITCH
Yoshitomi Ohki and Shigeyoshi Takashi, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 6, 1962, Ser. No. 235,664
3 Claims. (Cl. 200—166)



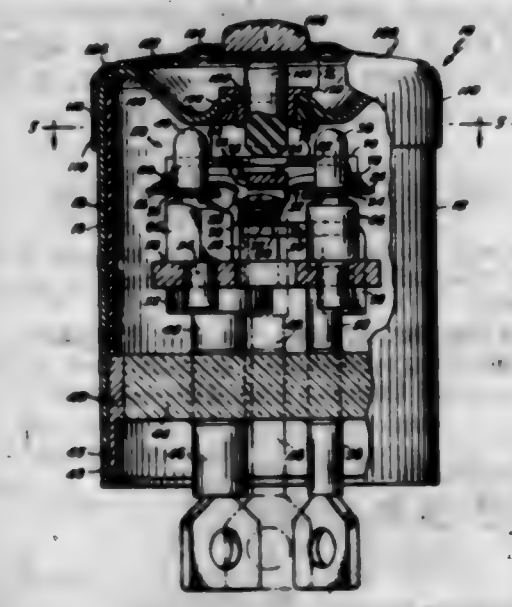
3. An electric "break" type switch comprising a movable reed of ferromagnetic material and a first stationary reed also made of ferromagnetic material which overlap each other and are separated by a small gap, a spring having a stiffness lower than that of said movable reed fixed at one end to said movable reed and having a bend therein such that a part of said spring in proximity to a free end thereof exerts a biasing pressure against a free end of said movable reed, said bend in said spring being characterized in that a portion of said spring intermediate its fixed end and its point of bias engagement with said movable reed is spaced a substantial distance from said movable reed, a contact on the free end of said spring, and a second stationary reed provided with a contact for wiping action and substantial pressure engagement by the contact on said spring when the movable reed is in a normal or deactuated position, said wiping action and substantial pressure between said contact on said spring and said contact on said second stationary reed being produced as a result of the free end of said movable reed bearing against said spring at the point of biasing pressure engagement therewith when said movable reed is in said normal position, whereby chatter between said contacts upon closure thereof is substantially reduced.

3,146,328
NON-STICKING ELECTRICAL CONTACTS
Warren P. Mason, West Orange, and Mathew E. Sikorski, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 7, 1961, Ser. No. 150,810
1 Claim. (Cl. 200—166)

Switching means in which an electrical circuit is opened and closed by separating and bringing together, respectively, two metallic members, one of said members being of cobalt and the other of rhodium.



3,146,329
SNAP-ACTING ELECTRICAL SWITCH
Lawrence E. Cooper, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 5, 1960, Ser. No. 40,933
13 Claims. (Cl. 200—168)

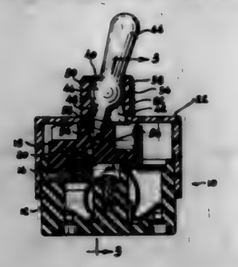


1. An encapsulation for an electrical switching mechanism mounted on a base comprising in combination a tubular housing having a closed end and an open end, means associated with said closed end of said housing for actuating said switching mechanism upon movement thereof in response to a predetermined force, said switching mechanism and base being telescopically inserted into said tubular housing and initially abutting said means, said switching mechanism being inserted within said housing to a predetermined extent different from said initial abutting relation with said means whereby said switching mechanism is positioned in said housing in predetermined calibrated relation to said means; and said base being secured to said tubular housing to thereby fixedly mount said switching mechanism in final calibrated position within said housing.

3,146,330
TOGGLE SWITCH LEVER MOUNTING
Richard G. Miller, Cudahy, Wis., assignor to Cutler, Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 17, 1962, Ser. No. 224,086
5 Claims. (Cl. 200—172)

1. An electric switch having a housing enclosing the contacts and an actuator extending from the outside into the housing for closing and opening the contacts, means mounting said actuator for pivotal movement comprising an enlarged portion intermediate the ends of said actuator,

a bushing formed of elastic material in a wall of the housing and having an aperture through which said actuator extends, a pair of spaced constrictions in said aperture forming a socket therebetween for retaining said enlarged portion of said actuator for pivotal movement, and one of said constrictions being smaller than the largest dimen-

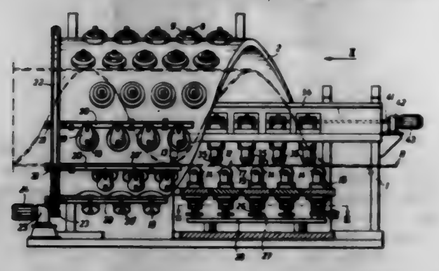


sion of said enlarged portion associated therewith by an amount affording deformation within the elastic limits of said elastic material sufficient to allow said enlarged portion to be forced past said one constriction into said socket and to be securely retained therein upon elastic restoration of said one constriction to its former shape.

3,146,331
APPARATUS FOR PRODUCING HELICAL-SEAM PIPE

Willy Schubert, Dortmund, Germany, assignor to Hoesch Aktiengesellschaft, Dortmund, Germany, a corporation of Germany

Filed Oct. 5, 1962, Ser. No. 228,547
Claims priority, application Germany Oct. 18, 1961
12 Claims. (Cl. 219—62)

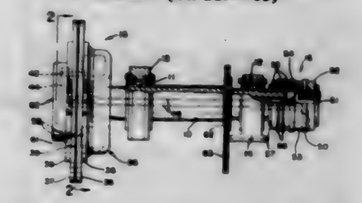


1. An apparatus for producing helical-seam pipe, comprising cylinder-forming means for winding a metallic band into a metal tube with a plurality of convolutions upon feeding of said band generally tangentially into said cylinder-forming means at an angle to the axis of said tube; feed means for supplying said band to said cylinder forming means whereby opposite longitudinal edges of said band are juxtaposed upon completion of a convolution; welding means for continuously joining said edges upon juxtaposition thereof to form a helically extending weld bonding adjacent convolutions together; and control means for adjusting the relative positions of said edges upon juxtaposition thereof, said control means including a plurality of guide elements axially spaced apart generally transversely to the direction of band feed in engagement with said band in advance of said welding means and extending generally in planes perpendicular to said band, and adjusting means for angularly displacing said elements about respective axes perpendicular to said band for shifting at least one of said edges to maintain a predetermined relationship between said edges upon juxtaposition thereof.

3,146,332
WELDING TRANSFORMER

Kenneth R. Keska, Bay Village, Ohio, assignor to The Yoder Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 6, 1961, Ser. No. 157,456
2 Claims. (Cl. 219—63)

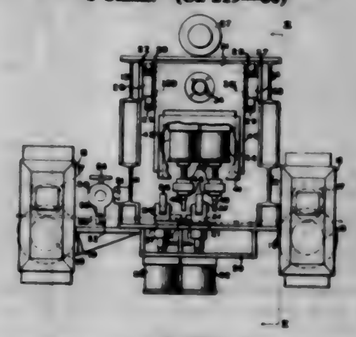


1. A rotary welding transformer comprising a single-turn secondary winding in the form of an annular conductive assembly of hollow cross-section, said secondary having a circumferential gap therein defining the electrical ends of said winding, a pair of rotary welding electrodes extending substantially directly outwardly from such respective electrical ends of said secondary winding, a primary toroidal winding fully enclosed in close spaced relation by said secondary winding, electrical insulation means cast in place between said primary winding and said secondary winding to permanently bond and seal said primary winding to said secondary winding and thereby form a rigid unit, said electrical insulation filling all spaces between said primary winding and said secondary winding, and support means engaging the radially inner side of said annular conductive assembly to support said transformer for rotation about its axis, said support means thus engaging only a limited axial portion of said annular conductive assembly and said assembly in consequence being substantially exposed at all sides to the atmosphere for dissipation of heat therefrom.

3,146,333
VERTICAL SHEAR AND SPOT WELDER COMBINATION FOR JOINING STRIP WHEN HANDLED ON EDGE

Joseph H. Cooper and Foster R. Woodward, Warren, Ohio, assignors to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio

Filed Mar. 8, 1962, Ser. No. 178,378
1 Claim. (Cl. 219—80)



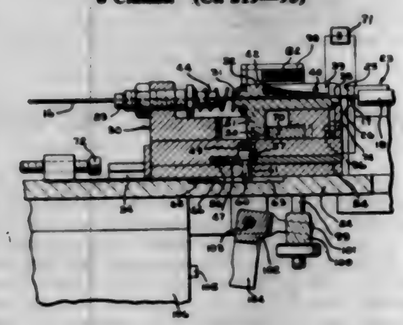
Combined apparatus for trimming and joining metal strip in general end-to-end relation while the strip lies substantially in a vertical plane comprising in combination a vertically disposed platen and a pair of vertically disposed but longitudinally spaced and transversely movable clamps adapted to secure a pair of overlapped strip lengths against said platen, vertically movable welding means associated with said platen to weld together the overlapped strip ends while said strip lengths are clamped

against said platen, a pair of vertically disposed pinch rolls disposed longitudinally outward of one of said clamps and operative to longitudinally feed strip lengths in succession and while standing on edge between said clamps and said platen, means to support the bottom edges of the strip lengths while the same pass between said pinch rolls and between said platen and clamps, means fixed with respect to said platen and positioned longitudinally between said one of said clamps and said pair of pinch rolls to provide a vertically extending guiding surface, and a shear slideably guided on said surface and vertically movable thereon to trim off the tail end of a strip length held by said clamps and alternatively to trim off the leading end of a strip length projecting through and held in said pinch rolls.

3,146,334
PERCUSSIVE WELDING APPARATUS

Charles F. Kinser, Downers Grove, and Walter Lach, Chicago, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 6, 1962, Ser. No. 208,878
6 Claims. (Cl. 219—95)



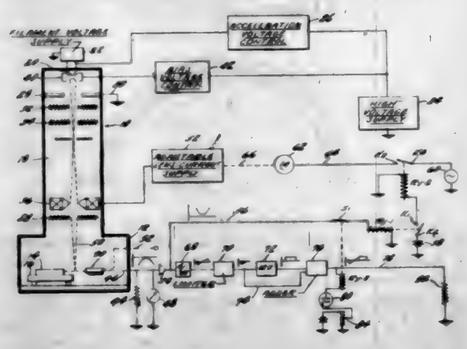
1. In a percussive welding apparatus:
an electrode for releasably gripping a wire;
a carrier for supporting said electrode for limited movement thereon along a path parallel to the wire;
resilient means for urging said electrode for movement from a normal cocked position on said carrier toward an article supported in its path;
mounting means for supporting said carrier for movement along said path from a retracted position to an advanced position adjacent to the article;
means including a reciprocatory element operable in response to movement in one direction for effecting the movement of said carrier to the advanced position and operable in response to movement in the reverse direction for effecting the movement of said carrier to the retracted position and the movement of the electrode to the cocked position on said carrier; and
means operable in response to the movement of said electrode to said cocked position for latching said electrode in such position and operable in response to movement of said electrode to the advanced position for releasing said electrode to effect the percussive welding of the wire to the article.

3,146,335
FOCUSING DEVICE FOR ELECTRON BEAMS

Fred H. Samuelson, Thompsonville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 29, 1962, Ser. No. 183,651
6 Claims. (Cl. 219—121)

1. An electron beam welding and cutting machine comprising:
means for producing a beam of electrons,
means for varying the focus of said beam,
means for positioning a work piece in line with said beam,

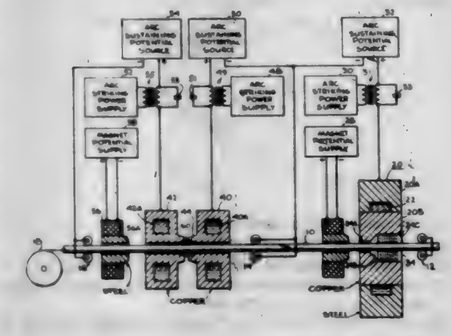


a sensing element positionable at the same level as and adjacent to the spot where work is to be performed,
means associated with said sensing element for measuring the energy in the defocused beam that impinges on said sensing element,
means responsive to said measuring means for causing adjustment of said means for varying the focus of the beam.

3,146,336
METHOD AND APPARATUS FOR HEAT TREATING METAL

Donald P. Whitacre, Alhambra, Calif. (5649 Alhambra Ave., Los Angeles 32, Calif.), assignor, by mesne assignments, to Donald P. Whitacre and Joseph E. Harling

Filed Nov. 15, 1962, Ser. No. 237,909
23 Claims. (Cl. 219—121)

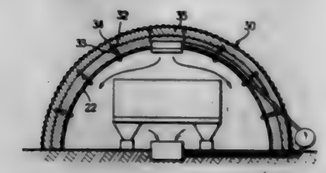


1. In apparatus for cleansing the surface of elongated conductive stock wherein an electrode through which said stock moves is provided for establishing a plasma arc therebetween by application of potential to said electrode and to a current pick off electrode positioned at said conductive stock spaced from the position of said electrode, the improvement in said apparatus for controlling the heat treatment of said stock comprising means for adjusting the relative spacing of said electrode and said pickoff electrode to one another to adjust the electrical current flow path length through said stock to thereby control the heat treatment of said stock.

3,146,337
RESISTANCE-HEATED ELECTRIC FURNACE

Henri Jean Marie Jern, 4 Avé. du Chevalier Borda, Le Trait, France

Filed Oct. 16, 1961, Ser. No. 145,101
Claims priority, application France Oct. 27, 1960
8 Claims. (Cl. 219—399)

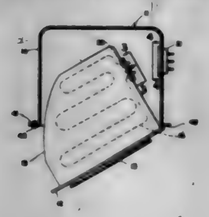


1. An electric resistance furnace with circulation of hot air by recycling, comprising an outer framework, a heating chamber substantially constituted by transversely extending thin flat metal strips which form electric heating resistances, said strips extending over the top and at least a portion of the sides of said heating chamber and being arranged in succession along the length of the furnace with spaces between them, suspension means supporting said strips and fixed to said framework, a lining of thermal insulation carried directly on and supported by said strips and surrounding the heating chamber, a hot air duct disposed longitudinally in the center of the upper portion of said heating chamber with nozzles disposed along its length for delivering hot air into the heating chamber in a downward direction, and means for removing hot air from the lower portion of the heating chamber and for recycling said removed hot air to said duct.

3,146,338
ELECTRIC OVEN

Jerome Seremak, Chicago, Ill., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1962, Ser. No. 163,698
3 Claims. (Cl. 219—403)



1. An electric oven comprising,
(*a*) an access opening for the oven,
(*b*) a closure member for said access opening,
(*c*) a deck member mounted within the oven for movement into and out of the oven,
(*d*) an electric resistance heating element carried by said deck member,
(*e*) electrical connecting means positioned within the oven,
(*f*) said heating element having terminals adapted to removably engage said connecting means as said deck member is moved into the oven and to disengage said connecting means after the commencement of movement of said closure member to open position,
(*g*) a normally open electrical switch means adapted to be closed by said closure member only upon movement of the closure member to the closed position and to open immediately upon movement of said closure member from the closed position, and
(*h*) means connecting said switching means in series electrical circuit with said connecting means to control the application of electrical power to the connecting means, such that the series circuit is opened by the movement of said closure member from the closed position to permit movement of the deck member from within the oven to a position to disconnect said terminals and connecting means.

3,146,339
CONTROLLED HEAT COOKING VESSEL

Ivar Jepson, Oak Park, Chester H. Wickenberg, Elgin, and Moises B. Lorenzana, Glen Ellyn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 12, 1962, Ser. No. 179,093
12 Claims. (Cl. 219—442)



3. In an electric cooking unit the combination of a vessel provided with a wall portion formed integrally therewith and defining a chamber, a combined heat lug and switch supporting member integrally formed with said wall portion extending into said chamber, an electrical heating element secured to the underside of said vessel having the ends thereof extending into said chamber, an elongated frame extending out of said chamber and having one end rigidly secured to said member, a switch assembly including a temperature adjusting means supported from said frame, a bimetallic element rigidly mounted from said member and positioned to actuate said switch assembly at preselected temperatures, a hollow slip-on handle positioned over said frame switch assembly and bimetallic element, means for securing said handle in sealed relationship to said wall portion, terminal means extending through said handle and rigidly supported thereby, said frame extending to said terminal means, said terminal means being loosely supported on said frame, flexible electrical conductor means electrically connecting said terminal means in electrical circuit with said switch assembly and said electrical heating element, and manually actuatable means extending through said handle flexibly connected with said adjusting means, whereby the setting of said switch assembly is unaffected by slight movement of said handle relative to said vessel.

3,146,340
HEATING DEVICES

Davis R. Dewey II, Lincoln, and Louis Koplitz, Brookline, Mass., assignors to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Aug. 21, 1961, Ser. No. 133,696
1 Claim. (Cl. 219—528)

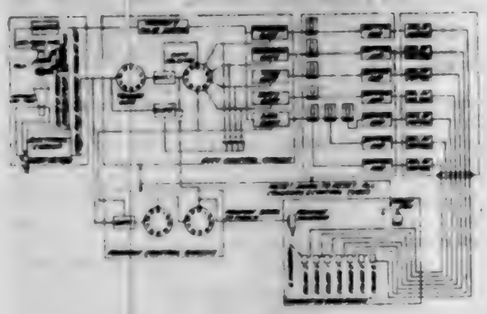


A heating device comprising a section of graphite fabric, said fabric being woven from fibers of high purity graphite carbon having a tensile strength in the 50,000 to the 100,000 p.s.i. range, said fibers being composed of filaments having an average diameter ranging from 0.0005 to 0.001 inch, a strata of gas impermeable, thermally conducting and electrically insulating material overlaying opposite sides of said fabric, said strata conforming in outline to said section of fabric but of slightly increased dimensions and being marginally connected to one another to completely encapsulate said fabric, at least one stratum of thermally conducting and laterally stable sheet material conforming in outline to said strata but of slightly increased dimensions and supporting said composite fabric and electrically insulating strata throughout their entire lengths and widths to provide an integrated laterally stable heating device, electrical leads passing through said composite structure and connected to the marginal edges of said fabric at selected locations to define a variety of electrical paths of predetermined electrical resistance values and switching means connecting with said leads for electrically energizing selected portions of said fabric and in selected relationships.

3,146,341
FILM READER

Clifford J. Maloney and Lee F. Miller, Frederick, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 17, 1961, Ser. No. 96,622
8 Claims. (Cl. 235—61.11)
(Granted under Title 35, U.S. Code (1952), sec. 266)

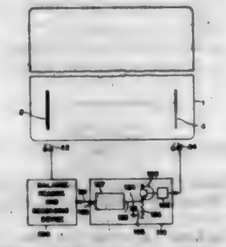


1. Apparatus for reading information appearing in the form of transparent dots positioned in transverse rows on an opaque moving film, the first dot in each transverse row constituting a trigger dot, which apparatus comprises in combination a trigger light source positioned on a first side of said film adjacent the column of trigger dots, in cooperation with a trigger phototube positioned on the other side of said film, a cathode ray tube positioned on said first side of said film and a data phototube positioned on said second side of said film, an optical system in cooperation with said cathode ray tube to enable said tube to transversely scan and illuminate said film, said data phototube being positioned to receive illumination from said cathode ray tube through said film, first circuit means in cooperation with said cathode ray tube to enable said tube to transversely scan said film, a second circuit means in cooperation with said data phototube which means serves to classify and count pulses from said data phototube on the basis of the number of the horizontal row in which the pulses originate, a third circuit means in cooperation with said trigger phototube, said third circuit means serving to trigger the horizontal sweep of said cathode ray tube to scan said film transversely each time a trigger dot passes light from said trigger light source to said trigger phototube and to control said second circuit means.

3,146,342
OLD BALANCE PICK-UP DEVICE FOR AN ACCOUNTING MACHINE

Pier Giorgio Perotto, Turin, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy

Filed Apr. 6, 1962, Ser. No. 185,634
Claims priority, application Italy Apr. 11, 1961
1 Claim. (Cl. 235—61.11)

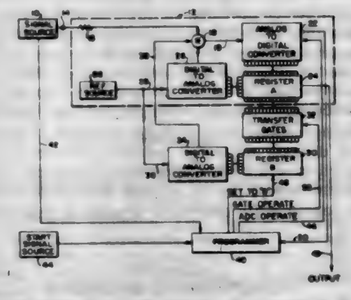


In an accounting machine using a ledger card movable past a normally inoperative magnetic transducer and adapted to magnetically process balances on a magnetic track of said ledger card, the combination comprising:
(*a*) a second track on said ledger card parallel to said first named track and including a sequence of equally spaced magnetic marks,
(*b*) means for sensing said marks as said ledger card is moved past said transducer,
(*c*) circuit means controlled by said sensing means and settable to a first voltage level in response to each one of said sensed marks, said circuit means being self-resetting to a second voltage level after a time delay greater than the time interval between the marks of a pair of consecutive sensed marks,
(*d*) and means responsive to said circuit means upon being so set to said first voltage level for enabling said transducer to operate.

3,146,343
HYBRID ARITHMETIC COMPUTING ELEMENTS

Frank M. Young, Boston, Mass., assignor to Adage, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Aug. 3, 1960, Ser. No. 47,244
6 Claims. (Cl. 235—150)



1. A bilingual computing device comprising, in combination an input terminal for connection to an analog signal source, a summing junction, means connecting said input terminal to said summing junction, an analog to digital converter, means connecting the output signal from said summing junction to said analog to digital converter, a plurality of digital storage registers, a digital to analog converter controlled by each of said storage registers for converting the digital member stored therein to an analog signal, means connecting the digital output signal from said analog to digital converter to a first of said storage registers, means connecting the analog output

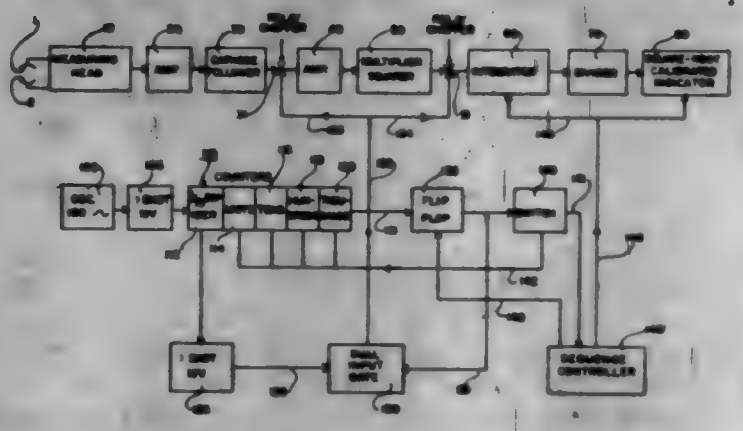
signal of the digital to analog converter associated with said first storage register to said summing junction, a set of transfer gates, means connecting the digital signals stored in said first digital storage register to the input side of said transfer gates, means connecting the output side of said transfer gates to a second of said digital storage registers, whereby upon operation of said gates the number stored in the first register is transferred to the second register, means for connecting the signal of said second digital to analog converter associated with said second register to said summing junction, and means synchronized with said signal for operating said transfer gates.

3,146,344

DEVIATION MEASURING AND COMPUTING SYSTEM

Warren G. Palmer, Saratoga, Calif., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 19, 1960, Ser. No. 11,117
8 Claims. (Cl. 235—151)



1. In a statistical deviation measuring system of the type having operating means for measuring deviations of selected values about a predetermined mean value and translating said measured values into alternating signals, and having plural operating means for squaring said alternating signals, integrating said squared signals, and dividing said integrated signals by a signal representative of a selected constant, control apparatus for said system operative to cause said system to derive the statistical deviation of discrete measured values of a selected portion of each sample of a plurality of successively moving, discrete samples comprising, timing means for generating a predetermined number of uniformly spaced control pulses, the spacing between said pulses being representative of the time spacing between said measured values of said selected portion of each successively moving sample, means connected to said timing means for chopping said alternating signals into discrete segments representative of said discrete measured values, and actuating means connected to said system operating means and said timing means and operative to actuate said system operating means concurrently each time a pulse is generated.

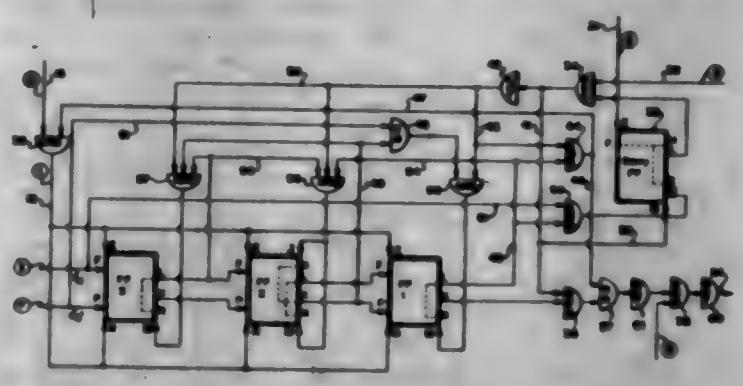
3,146,345

COUNT-SHIFT REGISTER

Louis S. Conover, Jr., North Babylon, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Feb. 3, 1961, Ser. No. 87,022
4 Claims. (Cl. 235—170)

1. A count-shift register which comprises a source of shift pulses, a shift register having a plurality of serially-arranged stages therein actuable by said shift pulses to transfer input binary-decimal coded pulses serially, bit-by-bit, through successive stages thereof, means for supplying count signals to said shift register to be added to the coded pulses passing serially therethrough, means for gating said count signals to render them effective only during respective intervals when the bits of a coded digit are in the shift register, means for inverting the output bit from the shift register when a count signal is effective, means for skipping the shift next following said output



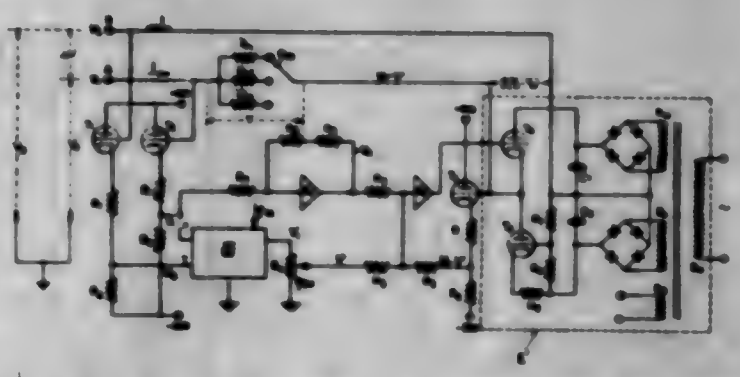
bit, recognizing means for recognizing the bits of the number in the register at the beginning of a count, and means for inverting the bit in one or more stages of the register in accordance with said recognizing means to yield output bits upon succeeding shifts representing the initial number with 1 added thereto.

3,146,346

ELECTRIC CIRCUIT FOR THE ANALYSIS OF PIPE-LINE NETWORKS FOR TRANSPORTING FLUIDS

Giuseppe Evangelisti, Giovanni Marro, Enzo Belardinelli, and Eugenio Sarti, Bologna, Alberto Grandi, San Donato Milanese, Gianpaolo Bonfiglioli, Cernico, Milan, and Rino Righetti, San Donato Milanese, Italy, assignors to Società Nazionale Metanodotti S.p.A., Milan, Italy, a company of Italy

Filed Feb. 19, 1962, Ser. No. 174,223
Claims priority, application, Italy, Mar. 3, 1961, Patent 645,103
3 Claims. (Cl. 235—184)



1. An electric circuit for simulating fluid-conducting conduits, said circuit having two terminals and comprising

(*a*) an operational adding amplifier

(*b*) an inverter amplifier

(*c*) a linear resistance adjustable to represent different conduits, said resistance being connected in series with a source of variable electromotive force consisting of

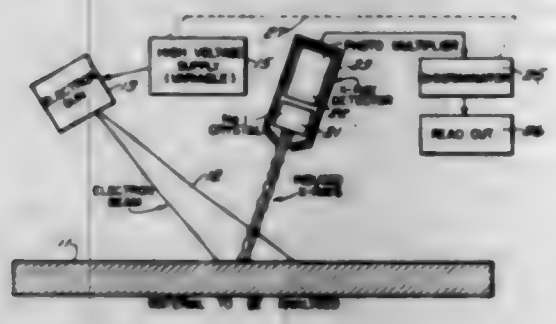
(*d*) a cathode follower circuit fed by a feeder insulated from ground, said cathode follower circuit being piloted by

(*e*) a computer circuit comprising a function generator whose output is connected to one of the inputs of said operational adding amplifier, the other input of said adding amplifier being connected to said inverter amplifier, thereby to cause the current circulating between the two terminals of the electric circuit to depend upon the voltages applied at said two terminals in analogy to the dependency existing between the pressure at the ends of a conduit being simulated and the rate of flow of fluid passing through said conduit.

3,146,347
APPARATUS FOR ANALYZING MATERIAL BY EXCITED X-RAYS

Charles A. Ziegler, Framingham, Mass., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Aug. 25, 1961, Ser. No. 133,988
6 Claims. (Cl. 250—49.5)



1. Apparatus for analyzing the composition of a material comprising means for directing electrons upon said material; means for varying the energy of said electrons incident upon said material; an X-ray detector disposed to receive X-rays emitted from said material, said detector being adapted to provide output pulses in response to incident X-rays, said output pulses having an amplitude related to the energy of said incident X-rays; means adapted to pass only output pulses falling within predetermined amplitude limits, means for maintaining one of said amplitude limits at a value corresponding to an X-ray energy a small increment less than the energy of said incident electrons, and means to provide a readout indication of the number of pulses passed between said predetermined amplitude limits.

6. A method for material analysis comprising the steps of: impinging a beam of electrons upon said material while varying the energy of said electrons from a relatively low value through intermediate values to a relatively high value; detecting X-rays emitted from said material as the result of said impinging electrons, determining the quantity of said emitted X-rays having energy less than the energy of the respective impinging electrons by a relatively small increment.

3,146,348
HEAT-SENSITIVE COPY-SHEET

Wesley R. Workman, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

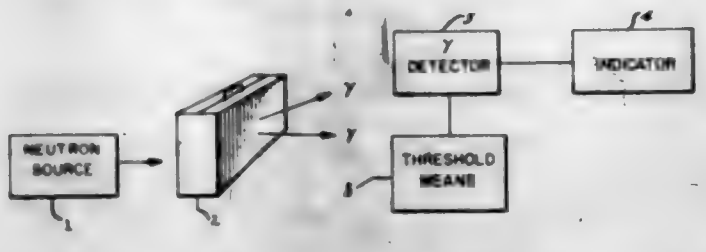
No Drawing. Filed Sept. 25, 1961, Ser. No. 140,237
5 Claims. (Cl. 250—65)

5. The method of making a heat-stable reproduction on a heat-sensitive copy-sheet of a heat-image of a graphic original, comprising: subjecting said copy-sheet to said heat-image to convert image areas of said sheet to a permanently visibly distinct appearance; and subjecting at least the background areas of said sheet to actinic radiation to stabilize said areas against visible change on subsequent application of heat; said copy-sheet comprising a visibly heat-sensitive layer comprising (*a*) components inter-reactive at elevated temperatures of about 90–150° C. to produce an azo dye by oxidative coupling and including a heterocyclic hydrazone and a normally solid organic oxidizing agent for the hydrozone linkage having a positive halogen atom, selected from the class consisting of chlorine and bromine atoms, attached to a nitrogen atom, and (*b*) a photosensitive N-substituted p-aminobenzene diazonium salt in amount sufficient, on decomposition under actinic irradiation, to reduce said oxidizing agent, said salt being decomposable on exposure to near-ultraviolet radiation with formation of a reducing agent for said oxidizing agent.

3,146,349
DETECTING HIDDEN EXPLOSIVES USING NEUTRON BEAMS

Edward D. Jordan, Kensington, Md., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 1, 1961, Ser. No. 157,051
14 Claims. (Cl. 250—71.5)

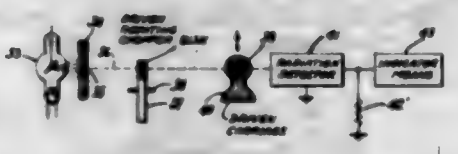


1. A method for detecting explosives in luggage in which the explosives have been seeded with a high cross section neutron absorber comprising placing a low level thermal neutron source along one side of said luggage, said source having a sufficiently low flux density as to be non-destructive to the contents of ordinary luggage including photographic film, irradiating said luggage with said thermal neutron source, placing a gamma ray detector on the other side of said luggage, and comparing the amount of gamma rays emitted directly by said absorber with background gamma rays as an indication of the presence of an explosive.

3,146,350
APPARATUS FOR MEASURING DIMENSIONS BY MEANS OF PULSED RADIANT ENERGY

Alvin R. Topfer, Lima, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Mar. 15, 1961, Ser. No. 95,924
7 Claims. (Cl. 250—83.3)



2. Apparatus for measuring a linear dimension of a region which is transmissive of radiant energy, comprising means for scanning said dimension at a predetermined constant rate with a series of pulses of radiant energy recurring at a predetermined constant rate throughout a scan of said dimension, and means for detecting the pulses of radiant energy transmitted by said region in the course of a scan of said dimension, the number of such transmitted pulses being a measure of said dimension.

3,146,351
PULSE TRANSFORMER FOR WELL LOGGING DEVICE

Wilmer A. Hoyer, Houston, Tex., Roy B. Adams, Baltimore, Md., and Thomas W. Adair III, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Dec. 21, 1960, Ser. No. 77,401
2 Claims. (Cl. 250—87)

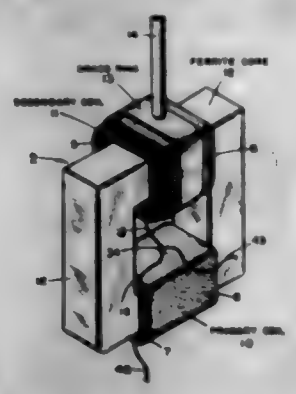
1. Apparatus for use in the power supply of a radioactivity well logging tool designed to bombard subsurface formations with bursts of high energy neutrons comprising:

a sealed housing;

a pulse transformer arranged in said housing, said transformer including a closed ferrite core of high permeability, relatively high field saturation and low core loss at the operating pulse frequency and formed about 1 inch in cross section;

primary and secondary coils wound in a multilayered manner on opposite sides of said core, said coils being separated and spaced apart from each other;

the turns of said primary and secondary coils being in a ratio of 1:20 with the primary containing about 110 turns;



insulation comprising high quality dialetic material arranged between each layer of the windings of each coil;

sulfur hexafluoride gas under pressure located in said housing and surrounding said transformer;

neutron generating means coupled to the output terminal of said secondary coil; and

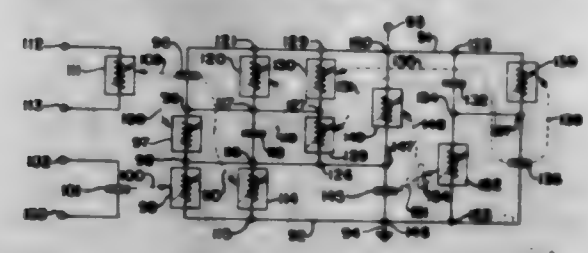
an electrical circuit for pulsing said transformer coupled to the input terminal of said secondary coil and to the output and input terminals of said primary coil.

3,146,352

ELECTRO-OPTICAL MULTIVIBRATOR USING ELECTROLUMINESCENT AND PHOTOCONDUCTIVE ELEMENTS

Cebern B. Trimble, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed May 18, 1962, Ser. No. 195,796
14 Claims. (Cl. 250—209)



1. A monostable electro-optical device capable of producing an output signal of a given duration in response to an input signal which may be of varying duration, comprising, in combination,

radiation-emissive signal input means;

radiation-sensitive signal output means;

a first radiation-emissive element optically coupled to the signal output means and capable of emitting radiation to said signal output means to cause a signal to be developed thereon;

first operating means associated with the first radiation-emissive element to cause said element to emit radiation in response to an emission of radiation from the signal input means;

a second radiation-emissive element controlled by said first operating means; and

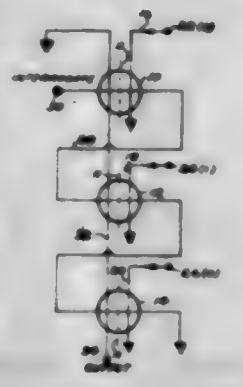
second operating means including first and second parallel-connected electro-optical pairs of elements, each pair consisting of a further radiation-emissive element and a further radiation-sensitive element, associated with the second radiation-emissive element and operable to control the first radiation-emissive element to terminate the emission of radiation thereby after a predetermined interval of time.

3,146,353

MAGNETIC THIN FILM LOGIC CIRCUITS

Arthur V. Pohm, Ames, Iowa, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 10, 1960, Ser. No. 61,625
8 Claims. (Cl. 307—88)



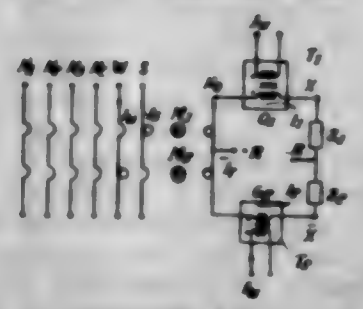
4. An Or logic circuit comprising a plurality of magnetic films each having a magnetization vector which is angularly rotatable from an established position in response to an applied field and reversibly rotatable back toward said established position upon release of the applied field, a plurality of means for applying a transverse field respectively to said films for rotating the magnetization vector of the repsective film upon receipt of a logic input of one binary sense and not the other, interrogating means coupled to said film means for affecting said rotated vector and an output line commonly coupling said films for providing an output signal whenever said rotated vector is affected by said interrogating means.

3,146,354

SYSTEM OF LOGICAL OPERATION INCLUDING MAGNETIC CORE CIRCUIT

Shintaro Oshima, Tokyo-to, Hajime Enomoto, Ichikawa-shi, and Saburo Shirai and Yasuo Kosaki, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Mar. 20, 1961, Ser. No. 96,885
Claims priority, application Japan Mar. 23, 1960
19 Claims. (Cl. 307—88)



1. A logical element attaining a logical operation in either input side and output side independently comprising, two magnetic cores having substantially rectangular hysteresis characteristics, input means having at least one winding having two coils wound respectively on said cores and connected in series for applying input information current pulses having a plus or minus polarity and the same intensity and corresponding to "0" and "1" binary notation, setting means comprising a winding having two coils wound respectively on said cores with one of said two coils wound in the same sense as one of the coils

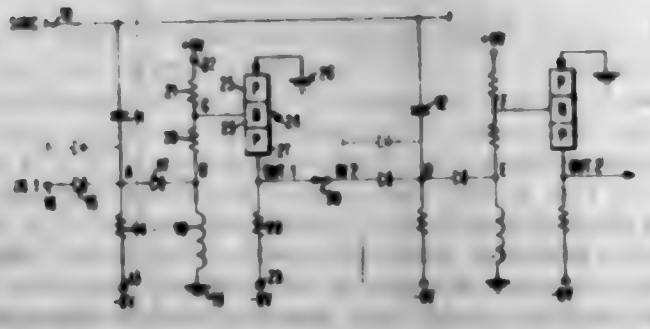
of said winding of said input means and wound on a common core therewith, the other of said two coils having a reverse winding sense as that of said coil of said winding of the input means and wound on the same core and connected in series therewith, said setting means comprising leads for applying a setting pulse current having an amplitude sufficient to set said cores respectively in the states of plus and minus polarities before the application of said input information pulse current, writing bias means comprising a winding having two coils wound respectively on said cores and connected in series for applying a writing bias current pulse having an amplitude capable of producing a magnetic force approximately equal to the coercive force of said cores in reverse polarities to those caused by said setting pulse current simultaneously with the application of said input information pulse current, constant input means comprising a winding having two coils wound respectively on said cores in the same polarities as those of the coils of the winding of said input means wound on the same cores and connected in series for applying a constant current pulse having an amplitude approximately equal to an odd number which is a multiple of one-half of the amplitude of said input information current pulse simultaneously with the application of said input information current pulse and for effecting a writing-in operation in conditions of residual magnetism of said cores decided by the polarity of said input pulse current and the polarity of this constant pulse current, output means comprising an output winding having two coils wound on said cores respectively in a reverse sense to the coils of the input means wound on the same cores and connected in series for deriving output current pulses, two load impedances each having two terminals to be connected to said output winding, gating means connected for passing therethrough only output current pulses other than output loop current into said load impedances, and read-out means provided at a connection point of two coils of said output winding and a connection point of said series connected two load impedances for applying a read-out current pulse capable of causing said output pulse current.

3,146,355

SYNCHRONOUSLY OPERATED TRANSISTOR SWITCHING CIRCUIT

Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 11, 1960, Ser. No. 42,852
4 Claims. (Cl. 307—88.5)



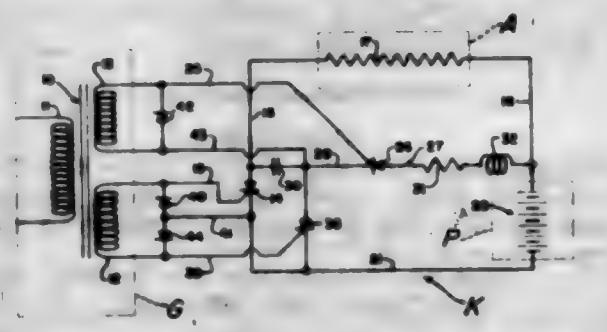
1. A synchronized delay circuit of the class described comprising, a transistor having emitter, base and collector electrodes, a source of bias voltage having a voltage divider network connected to said base electrode for rendering said transistor normally non-conducting, an inductive element in circuit with said divider network and adapted to store electrical energy, a source of input pulses, a first branch circuit connecting said input pulse source with said inductive element and including gating means, a source of sync pulses, and a second branch circuit connecting said sync pulse source with said gating means and including signal coupling means, the presence of an input pulse followed by a sync pulse conditioning said gating means to cause current flow in said inductive element and said first branch circuit, the termination of said sync pulse serving to decouple said gating means to discharge electrical energy stored in said inductive element as current flow in the base circuit of said transistor to produce a delayed output pulse at said collector electrode.

3,146,356

REPETITIVE HIGH CURRENT SEMICONDUCTOR SWITCH

Robert L. Kidwell, Scottsdale, and Donald E. Litherland, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Dec. 14, 1960, Ser. No. 75,726
7 Claims. (Cl. 307—88.5)



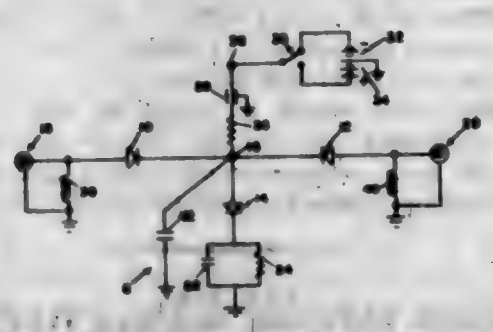
1. In combination with means for differentiating positive current pulses, a keyer circuit for connecting a power supply to a load, comprising: first semiconductor means for connecting the power supply to the load when the leading edge of a differentiated positive pulse is fed to said first semiconductor means; a condenser; second semiconductor means for connecting said condenser to the power supply when said leading edge of the differentiated positive pulse is fed to said second semiconductor means; and a third semiconductor means for discharging said condenser when the trailing edge of said differentiated positive pulse is fed to said third semiconductor means, thereby returning said first semiconductor to a blocking state and removing the power from the load.

3,146,357

HIGH FREQUENCY SOLID STATE SWITCH EMPLOYING DIODES WITH SHIFTABLE BIAS TO CONTROL SIGNAL TRANSMISSION

John W. Spallone, Deer Park, N.Y., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

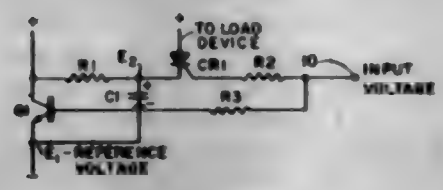
Filed Feb. 23, 1962, Ser. No. 175,164
4 Claims. (Cl. 307—88.5)



1. A high frequency switch comprising:
(*a*) first, second and third terminals,
(*b*) first and second diodes connected in series between said first and second terminals and connected together at a junction,
(*c*) said first and second diodes having the same direction of conduction with respect to said junction,
(*d*) a third diode,
(*e*) a first resistor in series with said third diode between said junction and said third terminal,

(*f*) the direction of conduction of said third diode with respect to said junction being opposite to that of said first and second diodes,
(*g*) a first capacitor in parallel with said first resistor and having an impedance substantially less than the impedance of said first resistor at the frequency of the signals transmitted by said switch,
(*h*) a second resistor connected between said junction and a fourth terminal,
(*i*) a voltage source,
(*j*) means for applying voltage from said source to said third and fourth terminals alternatively in opposite polarities,
(*k*) a second capacitor connected between said junction and said third terminal,
(*l*) a first inductor connected between said first terminal and said third terminal,
(*m*) a second inductor connected between said second terminal and said third terminal.

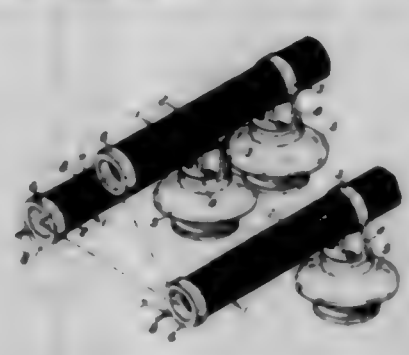
3,144,358
ABNORMAL VOLTAGE DETECTION CIRCUITS
Aloysius W. Pratt, New Carlisle, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed July 3, 1962, Ser. No. 207,228
11 Claims. (Cl. 307—88.5)



1. A system for actuating a control device in response to an abnormal input voltage comprising:
first comparison means, said means adapted to compare the input voltage with a reference voltage and to provide an output signal when their difference exceeds a predetermined value;
voltage-varying means
connected to said first comparison means,
having an output normally maintained at a fixed voltage with respect to said reference voltage,
and adapted to decrease the voltage difference between said output and said reference voltage as a function of time during the existence of an output signal from said first comparison means; and
second comparison means
connected to said output of said voltage-varying means and adapted to compare the voltage thereon with said input voltage, and
adapted to supply an actuating signal when the difference between the voltage on said output of said voltage-varying means and said input voltage exceeds a predetermined value.

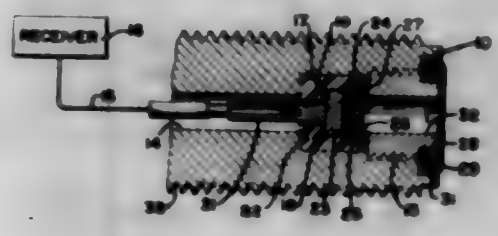
3,146,359
TRANSPOSED ELECTRIC BUS BAR SYSTEMS FOR HEAVY ALTERNATING CURRENTS
Peter McKenna, Bromley, Kent, England, assignor to British Insulated Callender's Cables Limited, London, England, a British company
Filed Dec. 12, 1961, Ser. No. 158,705
Claims priority, application Great Britain Dec. 16, 1960
2 Claims. (Cl. 307—147)

1. For transmission of heavy alternating currents, a bus bar system comprising at least two mutually spaced groups of conductors, each group being built up of a plurality of sections arranged end-to-end, each section comprising a plurality of mutually spaced rods of circular cross-section disposed symmetrically about and parallel to the central axis of the group to form the circumferential wall of a cage of non-re-entrant cross-section whose bars have a constant circumferential pitch, a plurality of supporting insulators spaced at intervals along the length of each group, a plurality of transposition supports each located between two neighboring sections of a group and each carried by one of said supporting insulators, each transposition support consisting of a ring of mutually insulated



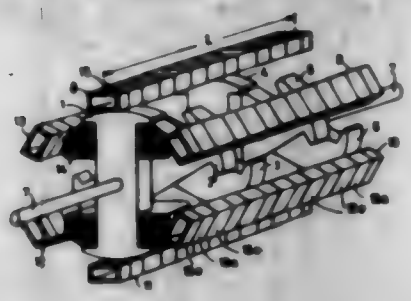
segments of electrically conductive metal, each segment having a front face and a recess in said face housing the adjacent end of one rod of one of the two neighboring sections of the group and having a rear face and in said rear face a recess circumferentially displaced from the recess in the front face and housing the adjacent end of one rod of the other of the two neighboring sections of the group, and means connecting each rod of each group electrically in parallel with the remaining rods of the same group.

3,146,360
PIEZOELECTRIC TIME-OF-ARRIVAL GAGE
John M. Marshall, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1961, Ser. No. 101,600
5 Claims. (Cl. 310—8.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



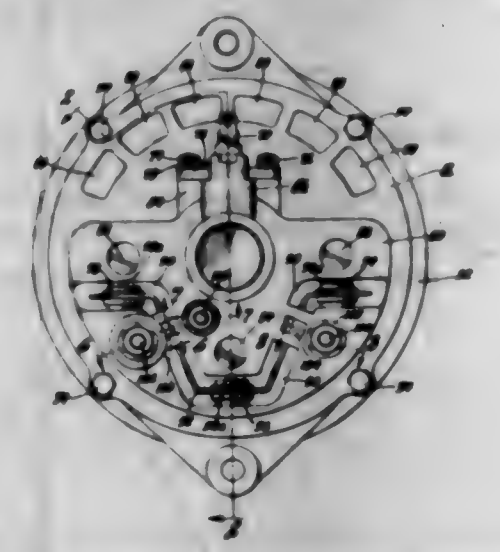
1. A time-of-arrival gage comprising; a body of heat conducting material having a bore therein with an external opening at one end thereof, a pair of electrodes, one of said electrodes being connected to an output terminal, a piezoelectric crystal disposed between said pair of electrodes and in electrical contact therewith, said one of said electrodes and said piezoelectric crystal being electrically insulated from said body, a solid heat barrier means disposed between the other of said electrodes and said opening in said bore providing both a thermal insulation to said crystal and an acoustic damping of noise vibrations for increasing the signal-to-noise ratio, and a diaphragm of heat conducting material disposed between said opening and said heat barrier means for transmitting therethrough a shock wave entering said bore and conductively related to said body for dissipating a portion of the heat energy of the shock wave, securing means for holding said electrodes, said piezoelectric crystal, said heat barrier, and said diaphragm in tight physical contact between adjacent elements within said bore, whereby the shock wave entering said bore causes an electrical signal voltage to be produced at said output terminal.

3,146,361
MAGNETOHYDRODYNAMIC GENERATOR
Wilhelm Kafka, Tennenlohe, near Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed June 6, 1962, Ser. No. 200,471
Claims priority, application Germany June 7, 1961
12 Claims. (Cl. 310—11)



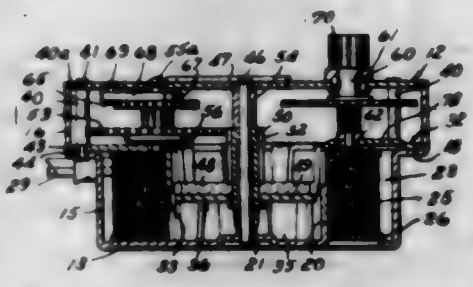
1. A magnetohydrodynamic generator comprising a stator assembly of axially elongated ducts for ionized medium, said ducts being peripherally distributed about the stator axis and being each transversely subdivided into a plurality of mutually insulated electrode systems, and a rotor coaxially rotatable in said stator assembly and having magnet means for producing during rotation magnetic alternating fields transverse to the flow of ionized medium between said respective electrode systems, whereby the generator furnishes alternating output voltage.

3,146,362
DYNAMOELECTRIC MACHINE
Charles E. Bates, William E. Brown, David C. Redick, James F. Ault, and Lilburn Stottlemeyer, Anderson, and Arza D. Heiny, Carmel, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 3, 1961, Ser. No. 129,875
8 Claims. (Cl. 310—68)



1. A dynamoelectric machine comprising, first and second metal end frames, a stator assembly including a stator core and a three phase stator winding, said stator core being clamped between said end frames, said first end frame having an annular section located adjacent the end of said stator assembly and having another integral section of reduced diameter extending axially from said annular section, said axially extending section defining an open ended compartment which faces a portion of said stator assembly, a rotor member including a shaft journalled for rotation in said end frames, said shaft projecting through said compartment, a plurality of openings in an end wall portion of said axially extending section which defines a part of said compartment, said end wall portion being located substantially normal to said shaft, a first group of diodes each having an outer metal case positioned within said openings and having terminals projecting into said compartment, a metal heat sink located at least partially on one side of said shaft and within said compartment, said metal heat sink being supported by and electrically insulated from said end wall portion, a second group of diodes each having an outer metal case located in openings formed in said metal heat sink member, means connecting pairs of said diodes together and with said three phase stator winding to provide a three phase full-wave bridge rectifier network, all of said connections being made within said compartment, a first air inlet opening in said end wall portion, said first air inlet opening being located in alignment with at least a part of said metal heat sink, a second laterally extending air inlet opening located inwardly of said axially extending section and adjacent said annular section, said second air inlet opening permitting a free flow of air into an area adjacent said stator winding without passing through said compartment, and a fan driven by said shaft positioned outside of said second end frame, said second end frame having at least one air outlet opening located in alignment with said fan.

3,146,363
ELECTRIC MOTOR AND METHOD OF MAKING SAME
Philip A. Sidell, West Hartford, and William C. Schaffrick, Plainville, Conn., assignors to The Ingraham Company, Bristol, Conn., a corporation of Connecticut
Filed Dec. 21, 1960, Ser. No. 77,327
12 Claims. (Cl. 310—83)

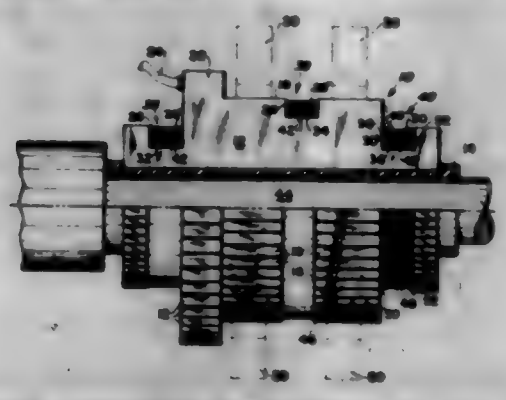


1. A unitary motor and gear case assembly comprising a housing having rear and side walls, a plurality of circularly arranged poles integral with said rear wall and extending into said housings, a field winding disposed about said poles, a field plate, means on said housing supporting said field plate adjacent said field winding and intermediate the ends of said housing side wall, said field plate having a plurality of field poles integral therewith, mating apertures in said housing and said field plate positioned to coaxially align the field poles thereon when the mating apertures are aligned, a cover plate, mounting means secured to said cover plate and extending through the mating apertures in said field plate and said housing, said mounting means spacing said cover plate from said field plate and adjacent the open end of said housing to close said housing, a rotor arbor secured to said cover plate and positioned thereon to lie along the axis of said field poles when said mounting means extends through the aligned apertures in said housing and said field plate, a rotor on said arbor, an output shaft journaled between said field plate and said cover plate, and a gear train disposed within the space between said housing, said field plate and said cover plate and operatively connecting said rotor and said output shaft.

3,146,364
DYNAMO-ELECTRIC MACHINE COMMUTATOR CONSTRUCTION
Theodore R. Paul, 114 Woodland Road, Pittsburgh, Pa.
Filed July 20, 1962, Ser. No. 211,351
3 Claims. (Cl. 310—236)

1. Armature commutator for a dynamo comprising:
(*a*) a plurality of identical commutator bars each hav-

ing a brush-contacting surface extending parallel to the axis of said commutator and each having at least one clamping surface, said individual commutator bar clamping subfaces extending in a circle when said commutator bars are arranged to form the outer portion of said commutator, said commutator bars being electrically insulated from each other and being arranged about the periphery of said commutator so that said brush-contacting surfaces together form a segmented cylindrical commutator brush-contacting surface and so that said circularly extending clamping surfaces together form a segmented cylindrical commutator clamping surface, and



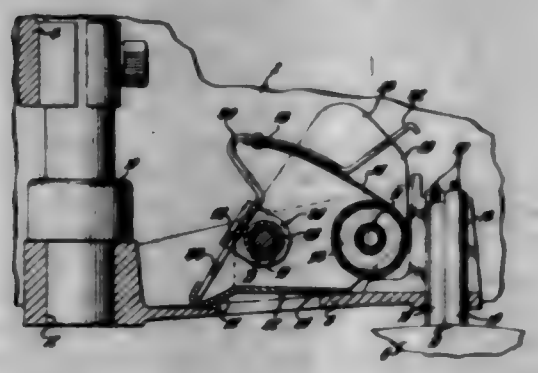
(*b*) clamping means electrically insulated from said commutator bars and clampingly surrounding said segmented cylindrical clamping surface to bind said commutator bars together and retain them in place as a part of said commutator, said clamping means including an annular band of tape-like material composed of a roving of non-conductive fibers concentrically arranged in successive layers and bonded into a rigid, dense homogeneous mass by a hardened resin, said clamping means being the only means maintaining said commutator in an assembled condition.

3,146,365

ELECTRICAL MACHINERY BRUSH HOLDER

Neal A. Miller, La Grange Park, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 14, 1960, Ser. No. 68,731
3 Claims. (Cl. 310—246)



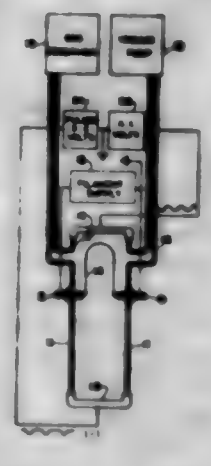
1. Cellular means for holding a brush in contact with a commutator comprising a supporting case, a brush engaging finger mounted in said case and having a free brush engaging portion extending therefrom, a spring secured to said finger and to said case adapted to cause said finger to exert a non-variable pressure on the brush it is adapted to contact when said case is secured in juxtaposed relation thereto, and means to lock said finger in a retracted position in order to remove and replace the brush normally engaged thereby including guide means slidably guiding said finger and pivotally secured to said case and a detent on the opposite side of the point of pivotal connection of said guide means to said case from said brush engaging portion to which an end of said finger is movable and against which said end is yieldably held by said spring when said finger is retracted.

3,146,366

NEUTRON GENERATION

Charles W. Tittle, Dallas, Tex., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed Oct. 5, 1959, Ser. No. 844,238
2 Claims. (Cl. 313—61)



1. In a neutron generator tube a gas mixture serving as a source of ions for acceleration into neutron producing collisions with a target which initially contains only non-radioactive isotopes of hydrogen, said mixture containing tritium and deuterium gases respectively in the proportion f and $1-f$, wherein f is determined by the formula

$$f=\frac{r}{1+r}$$

where r equals the ratio of neutron yield of the deuterium on tritium reaction to the yield of the tritium on deuterium reaction at the energy of said accelerated ions.

3,146,367

ELECTROSTRICTIVE APPARATUS FOR CHANGING DISPLAYS

Joseph T. McNaney, La Mesa, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed July 5, 1960, Ser. No. 40,796
34 Claims. (Cl. 313—86)



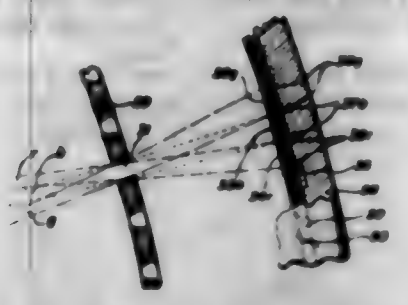
24. In combination, an electrostrictive element, means for applying an electrical signal to said electrostrictive element to cause a portion of said element to assume various positions depending upon said electrical signal, a mask having a plurality of character-shaped apertures mechanically coupled to said portion of said electrostrictive element, and means for directing a beam of energy at said mask to selectively shape said beam depending upon said electrical signal.

3,146,368

CATHODE-RAY TUBE WITH COLOR DOTS SPACED BY LIGHT ABSORBING AREAS

Joseph P. Flore and Sam H. Kaplan, Chicago, Ill., assignors to The Rauland Corporation, a corporation of Illinois

Filed Apr. 4, 1961, Ser. No. 100,723
9 Claims. (Cl. 313—92)



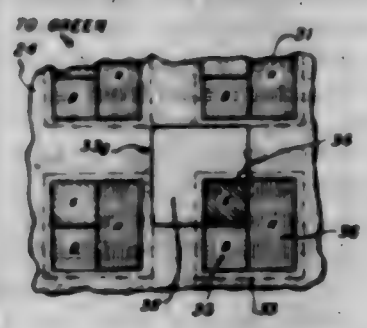
9. In combination, a multi-color screen and a multi-apertured color-selection electrode for color reproducing cathode-ray tubes, said image screen including a plurality of interspersed groups of elemental phosphor areas, each of said elemental phosphor areas being spaced from all adjacent such areas by intermediate light absorbing areas; and said color-selection electrode including a plurality of apertures, individually larger than said elemental phosphor areas, for selectively directing electron beam components onto phosphor areas of respective ones of said groups.

3,146,369

CATHODE-RAY TUBE HAVING A COLOR-SELECTION ELECTRODE WITH LARGE APERTURES

Sam H. Kaplan, Chicago, Ill., assignor to The Rauland Corporation, a corporation of Illinois

Filed June 14, 1961, Ser. No. 117,060
13 Claims. (Cl. 313—92)



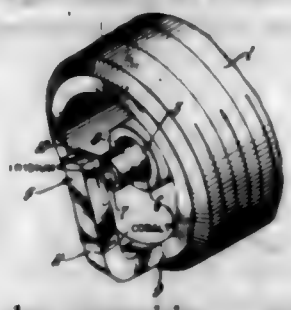
1. A cathode-ray tube for reproducing images in simulated natural color comprising: a mosaic image screen comprising a multitude of similar clusters of elemental phosphor areas, each cluster composed of one area of each of a plurality of phosphor exhibiting different color radiation in response to electron bombardment and collectively balanced to produce white light output in response to total area excitation, and each cluster spaced from each adjacent cluster by a distance of at least one-third of its own characteristic transverse dimension; a color-selection electrode, in juxtaposition with said image screen, comprising a corresponding multitude of apertures each aligned with one of said clusters and each aperture being of corresponding shape and at least as large in size as the cluster with which it is aligned; means for projecting an electron beam through said apertured color-selection electrode onto said image screen; means for modulating the intensity of said electron beam; and means for varying the angle of incidence of said electron beam on said color-selection electrode to establish total-area excitation of said clusters for white light output and to establish controlled varying partial-area excitation of said clusters for different component colors of said reproduced image.

3,146,370

SPARK PLUG WITH IMPROVED ELECTRODE

Robert J. Van Duyne and Robert W. Smith, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 21, 1962, Ser. No. 204,105
4 Claims. (Cl. 313—118)



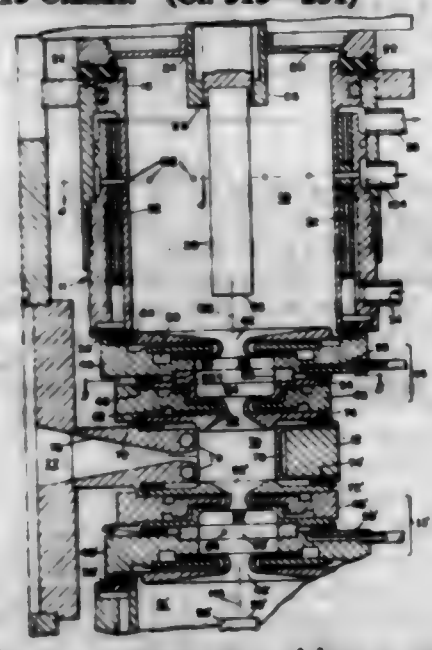
1. A spark plug comprising a pair of electrodes in spaced spark gap relationship, at least one of said electrodes comprising a body of cobalt having an iridium portion secured thereto at the spark gap.

3,146,371

ARC PLASMA GENERATOR

John H. McGlaun, Philadelphia, Pa., assignor to General Electric Company, a corporation of New York

Filed July 28, 1961, Ser. No. 125,413
15 Claims. (Cl. 313—231)



1. An arc plasma generator comprising an upper electrode housing, an upper electrode mounted within said housing, a lower electrode housing, a lower electrode mounted in said lower electrode housing, means for connecting said electrodes to a source of electrical power to establish an electrical arc column between said electrodes, upper and lower vortex housings, a plenum housing between said vortex housings, said vortex and plenum housings being mounted between the upper and lower electrode housings, means forming openings between said vortex housings and plenum housing so that the arc column can pass through said housings, means for introducing a working fluid into the vortex housings and for causing the fluid to have an angular component of velocity about the arc column, and an exhaust nozzle in said plenum housing.

3,146,372

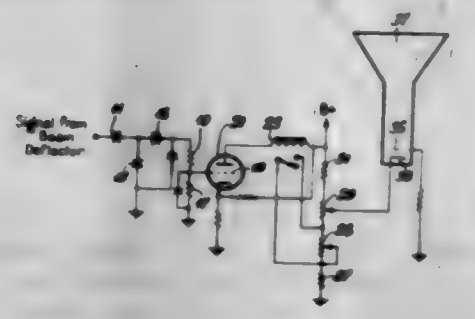
SWEEP-FAILURE PROTECTION CIRCUIT FOR CATHODE-RAY TUBES

Raymond B. Fertig, South Charleston, W. Va. (919 Hughes Drive, St. Albans, W. Va.)

Filed Jan. 17, 1961, Ser. No. 83,254
2 Claims. (Cl. 315—20)

1. In a cathode-ray tube system which includes a cathode-ray tube having an electron-emitting cathode, a

sensitized screen which is luminescently responsive to an electron beam emitted from said cathode, an electron beam intensity control electrode which is biased relative to said cathode and at least one electron beam deflecting means, apparatus for controlling the intensity of said electron beam on said sensitized screen, comprising, in combination, a rectifier in circuit with said beam deflecting means adapted to rectify a varying signal imposed



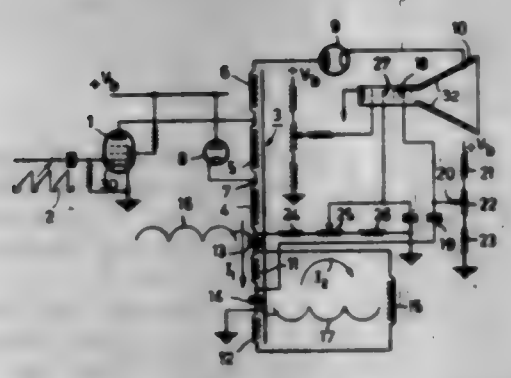
on said beam deflecting means; a vacuum tube which is statically biased to substantially cut-off condition and having a grid in circuit with said rectifier; a plate in said vacuum tube; a plate circuit relay in circuit with said plate of said vacuum tube, said relay having at least one set of contacts which are open when the relay is deenergized and a resistor in parallel connection with said contacts, said resistor being a resistor comprised in a biasing circuit for the cathode of said cathode-ray tube.

3,146,373

CIRCUIT ARRANGEMENT FOR DYNAMIC POST-FOCUSING IN ELECTROSTATIC FOCUSING CATHODE-RAY TUBES

Peter Johannes Hubertus Janssen, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 11, 1961, Ser. No. 82,048
Claims priority, application Netherlands Feb. 17, 1960
6 Claims. (Cl. 315—22)



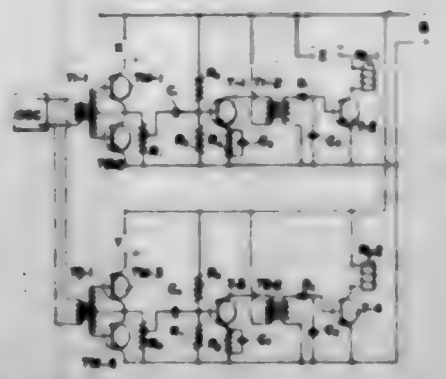
1. A dynamic focusing circuit for a cathode-ray tube employing electromagnetic deflection, said tube having an electrostatic focusing electrode, said circuit comprising an amplifier device having an output electrode, a source of operating potential having first and second terminals, a transformer having at least first and second inductively coupled windings, said first winding having a tap, means connecting said output electrode to one end of said first winding, first capacitor means connected between the other end of said first winding and one end of said second winding, second capacitor means connected between one of said terminals and the other end of said second winding, booster diode means connected between said first terminal and said tap, deflection yoke means, means connecting said yoke means between said one end of said second winding and said other electrode of said second capacitor means, bidirectional current conducting means connecting said focusing electrode to said one electrode of said second capacitor means whereby a parabolic waveform voltage is applied to said focusing electrode, and means connected to said amplifier device for periodically interrupting current flow to said output electrode.

3,146,374

AUTOMATIC HEADLIGHT CONTROL

Tokuji Kikuyama, 2–17 Tosei-cho, Showa-ku, Nagoya, Japan

Filed July 7, 1960, Ser. No. 41,355
Claims priority, application Japan July 11, 1959
4 Claims. (Cl. 315—83)



1. A motor-vehicle headlight-control system responsive to an oncoming light beam from an approaching vehicle, comprising a main headlight, an auxiliary headlight, a source of electrical energy normally energizing said main headlight, first photosensitive detector means in the path of said oncoming light beam and actuable thereby, first circuit means energizable by said first detector means at a relatively low intensity of said beam for disconnecting said main headlight from said source and connecting said auxiliary headlight thereto, said first circuit means including time-delay means for disconnecting said auxiliary headlight from said source and connecting said main headlight thereto after a predetermined interval upon removal of said detector means from said path of said beam and a holding relay energizable by said first detector means while having switch-over contact means connected to said headlights and to said source, said holding relay having holding contact means in circuit with said time-delay means for maintaining said holding relay energized for the duration of said interval, and second photosensitive means actuable by said beam upon passage of said vehicle, and second circuit means energizable by said detector means at a relatively high intensity of said beam for de-energizing said holding relay, thereby disconnecting said source from said auxiliary headlight and reconnecting it to said main headlight while rendering said time-delay means inoperative.

3,146,375

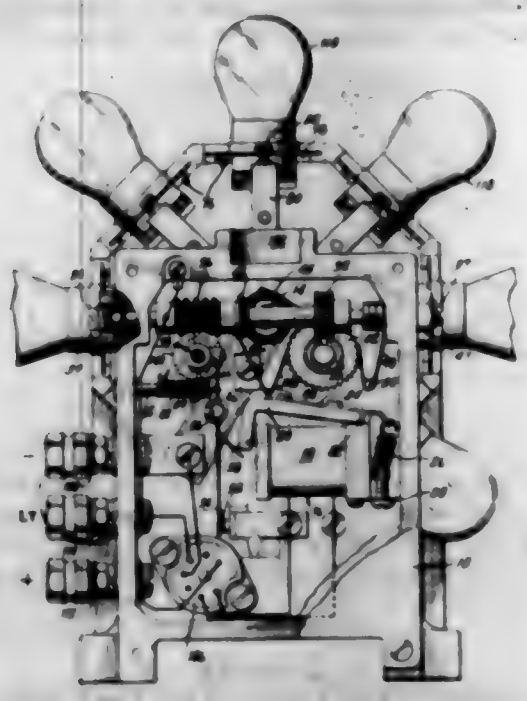
LAMP CHANGER MECHANISM AND CONTROL CIRCUIT THEREFOR RESPONSIVE TO BOTH LIGHT EMISSION AND FILAMENT CONTINUITY

George A. Campbell, Pompton Plains, N.J., assignor to Wallace & Tiernan Inc., Belleville, N.J., a corporation of Delaware

Filed Feb. 24, 1961, Ser. No. 91,588
6 Claims. (Cl. 315—89)

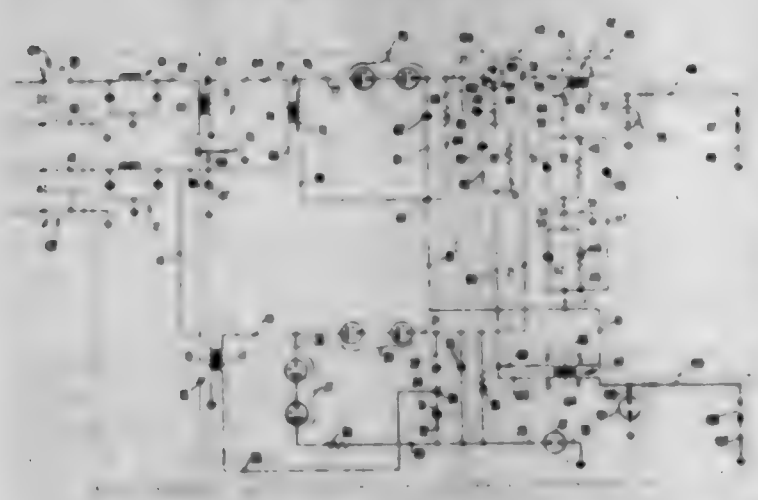
1. A control system for a lamp changer comprising a source of unidirectional electrical energy, incandescent lamp means including filament means energizable from said source, a control circuit, means responsive to a preselected voltage level in said control circuit for inhibiting a control effect, first means for establishing said voltage level during periods when the lamp is energized, and second means for establishing said voltage level during pe-

riods when the lamp is not energized, said first means being responsive to light emission from said lamp and



said second means being responsive to electrical continuity of said filament.

3,146,376
DUAL-POWERED IGNITION SYSTEM
Louis H. Segall and Paul A. Blackington, Sidney, N.Y., assignors to The Bendix Corporation, Sidney, N.Y., a corporation of Delaware
Filed Oct. 9, 1961, Ser. No. 143,976
30 Claims. (Cl. 315—161)



1. Electrical apparatus comprising a first source of electrical energy including a first storage condenser, a sparking circuit connected across the first storage condenser, the sparking circuit comprising a hold-off gap having a first and a second electrode, the first electrode of the hold-off gap being connected to the storage condenser, and an igniter gap having a first electrode connected to the second electrode of the hold-off gap and a second electrode connected to a common conductor, and means responsive to and automatically operable when the charge on said first storage condenser attains a predetermined voltage below the normal spark-over voltage of said hold-off gap for rendering the latter conductive to said charge, said last named means comprising a first circuit means connected to said first storage condenser, said first circuit means including a triggering gap having a first and a second electrode adjacent said hold-off gap for effecting ionization of the latter, a first electrode of the triggering gap being connected to one side of the first storage condenser, said first circuit means further including a second condenser connected across the electrodes of the triggering gap and adapted to be charged by the first storage condenser to create a discharge across said triggering gap to ionize said hold-off gap, a second circuit means, including a third condenser, connected in series with the second electrode of the triggering gap and the first storage condenser, said second circuit means forming a loop for initiating the discharge of the triggering gap by partial discharge of the first storage condenser therethrough, a third circuit means, said third circuit means including a fourth condenser connected from between the second electrode of the hold-off gap and the first electrode of the igniter gap to the said common conductor, a second source of electrical energy including a second storage condenser, a fourth circuit means connecting one side of the second storage condenser to the second electrode of the hold-off gap, and a control gap connected between said common conductor and the other side of the second storage condenser, whereby the sparking circuit may be alternatively energized by the first and second sources of electrical energy.

3,146,377
DISPOSABLE CONDUCTIVE SHOE COVER
Aldean W. Whitten, Jr., Glenview, Ill., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Sept. 2, 1960, Ser. No. 53,772
5 Claims. (Cl. 317—2)

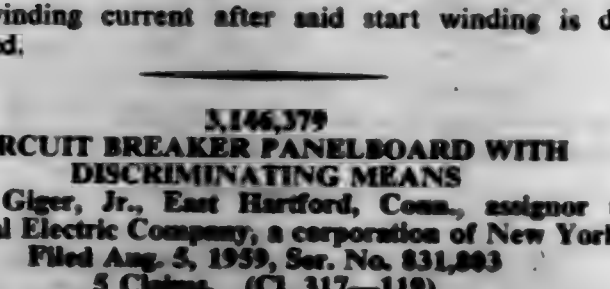


1. An electrically conductive disposable boot comprising a pair of panels formed of readily bendable crepe paper, said panels being stitched together along a single vertical plane to define a boot having foot-space and ankle-receiving portions, first electrically-conductive means extending along the seam between said panels at the bottom of said boot and along said vertical plane for conducting electricity therealong, said electrically-conductive means projecting downwardly from the bottom of said boot for forcefully contacting a floor surface when said boot is worn, and second electrically-conductive means in electrical conducting relation with said first mentioned means and provided by said ankle-receiving portion of said boot for directly contacting a wearer's leg.

3,146,378
THERMAL RELAYS
Aime J. Grenier, North Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 29, 1959, Ser. No. 830,221
12 Claims. (Cl. 317—13)

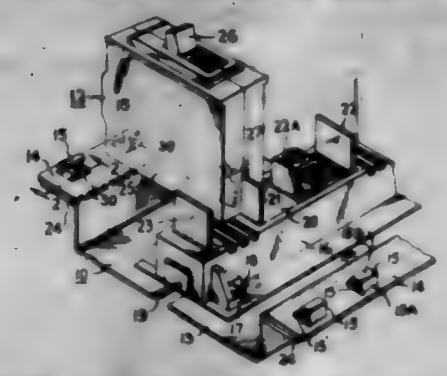
1. A control means for an electric motor having main and phase windings; including an electrothermal means and a switch means connectable in series with the phase winding, said switch means being mounted for movement relative to and engageable by said electrothermal means to de-energize said phase winding when said electrothermal means moves in one direction upon being heated to a predetermined amount by current flowing therethrough, said electrothermal means also being connectable in series with said main winding; shunt means connected in parallel with said electrothermal means and connectable in series with said main winding adapted to shunt out said entire electrothermal means in response to

further movement of the latter in said one direction upon being heated to another predetermined amount by the



main winding current after said start winding is de-energized.

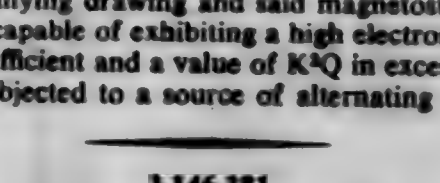
3,146,379
CIRCUIT BREAKER PANELBOARD WITH DISCRIMINATING MEANS
Walter Giger, Jr., East Hartford, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 5, 1959, Ser. No. 831,893
5 Claims. (Cl. 317—119)



2. An electric control device panelboard comprising:
(*a*) a support having a generally planar supporting portion,
(*b*) an aperture in said supporting portion,
(*c*) a retaining hook carried by said supporting portion and including a first portion extending substantially perpendicular to the plane of said supporting portion and a second portion extending substantially parallel to the said plane of said supporting portion, said horizontally extending portion of said retaining hook extending over said aperture,
(*d*) means closing said aperture at the under surface of said surface portion,
(*e*) an electric control device comprising an insulating casing including a shelf portion receivable under said retaining hook,
(*f*) a blocking portion under said retaining hook supported on said means closing said aperture,
(*g*) said blocking portion extending substantially perpendicular to the plane of said generally planar supporting portion and projecting toward the second portion of said retaining hook to block the opening thereof,
(*h*) said control device shelf portion having a slot cut therein at a position corresponding to the position of said blocking portion.

3,146,380
MAGNETOSTRICTIVE ELEMENTS
Charles Alfred Clark, Birmingham, England, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,153
Claims priority, application Great Britain Mar. 13, 1959
1 Claim. (Cl. 317—158)

A magnetostrictive element for use in transducing transmitting devices adapted to operate at high frequencies comprising a plurality of thin electrically insulated laminations of an alloy consisting essentially of about 1.6% to about 3% chromium, about 0.2% to about 2.3% cobalt, with the balance being essentially nickel, said alloy being represented by a point falling within the area EFGHE in



the accompanying drawing and said magnetostrictive element being capable of exhibiting a high electromechanical coupling coefficient and a value of K^2Q in excess of about 1.3 when subjected to a source of alternating energy.

3,146,381
MAGNETIC FORCE CONTROL OR SWITCHING SYSTEM
Louis Moreau, La Tronche, France, assignor to Societe de Vente d'Aimants Allevard-Ugine, Grenoble, Isere, France, a corporation of France
Filed June 8, 1961, Ser. No. 115,733
Claims priority, application France Sept. 12, 1960
6 Claims. (Cl. 317—171)

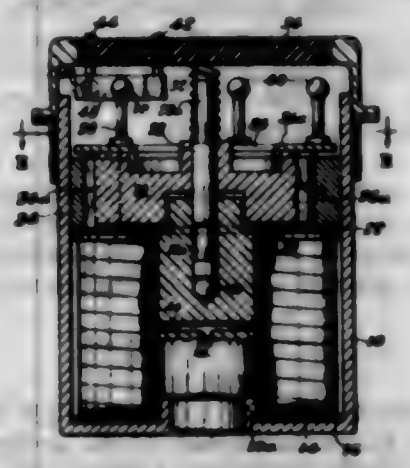


1. A magnetic force switching device comprising a power magnet means; two means magnetically engaging respective poles of said power magnet means intermediate their ends, said two means being composed of a ferromagnetic material having a coerciveness higher than that of soft iron; two magnetic armatures magnetically engageable with corresponding ends of said two means and displaceable into and out of their position of engagement to define a pair of parallel magnetic circuit paths, each path including said power magnet means; and winding means associated with at least one of said circuit paths and electrically energizeable by pulses, whereby a pulse in one direction establishes a given flux configuration in said pair of magnetic circuits, and a pulse in the opposite direction produces a different given flux configuration in said pair of circuits, each flux configuration remaining substantially stable until the next opposite pulse.

3,146,382
SHOCK RESISTANT ELECTRICAL RELAYS
John A. Russ, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 26, 1961, Ser. No. 113,034
2 Claims. (Cl. 317—197)

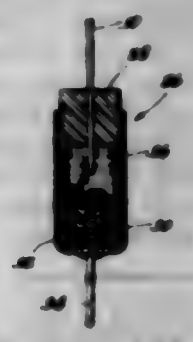
1. In a relay having spaced pole pieces energized by a coil and positioned to receive an armature axially there-

between; a shaft, an armature fixed to the shaft intermediate its ends and positioned for rotation between the spaced pole pieces, bearing means in tangential contact



with one end of the shaft for supporting the shaft for rotation, and means in biasing contact with the armature adjacent the other end of the shaft for resiliently urging the shaft against the bearing means.

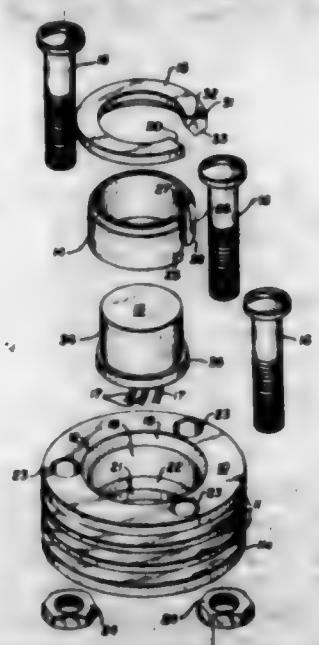
3,146,383
CAPACITOR UNIT AND ELECTRODE THEREFOR
Jean W. Runtz, Morton Grove, and Kenneth E. Johnson, Park Ridge, Ill., assignors to Ohmite Manufacturing Company, Skokie, Ill., a corporation of Illinois
Filed Apr. 6, 1959, Ser. No. 804,194
7 Claims. (Cl. 317—230)



4. A capacitor unit comprising: a cathode having an open end and a closed end; a wire anode including a first portion extending axially and centrally within said cathode and a second portion defining a shaped jumble conforming to the internal contour of said cathode and the closed end thereof, said anode being coated with a dielectric material; a closure member seated in the open end of said cathode embracing the projecting end part of said first wire portion; and an electrolyte contained within said cathode.

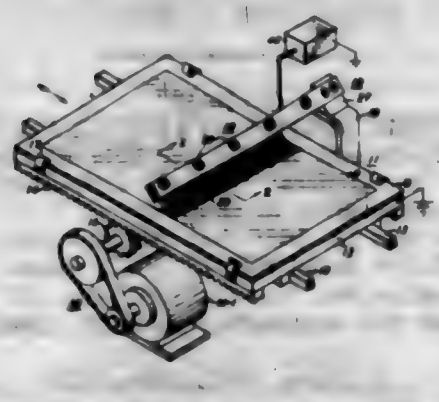
3,146,384
MOUNTING DEVICE FOR SEMICONDUCTORS
Robert A. Ruehle, 5594 E. Jefferson Ave., Denver 22, Colo.
Filed Aug. 11, 1961, Ser. No. 130,913
6 Claims. (Cl. 317—234)

1. A combined mounting and heat dissipating device for semiconductor components and the like comprising a body of material of high thermal conductivity having a cavity therein of sufficient size for receiving a component to be mounted in spaced relationship to the walls of the cavity, said body having an external heat dissipating surface thereon, means arranged in said cavity for securing a component therein in heat exchange relationship with the walls of said cavity, said means including a split shell of high conductivity material arranged to be positioned between the walls of said cavity and the external wall of a component to be mounted, and clamping means for forcing said shell into good heat transfer relationship with both said body and a component mounted in said cavity whereby such component may be securely mounted in said body and heat generated by such component may be dissipated at said surface of said body, said device further including a split wedging element constructed and arranged to engage said split shell and to cooperate with



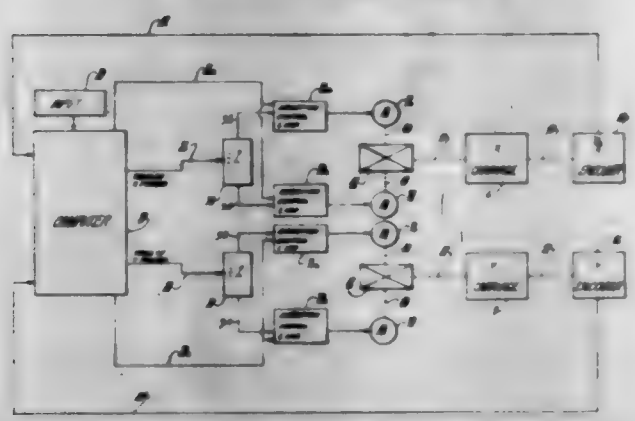
said clamping means to force said shell downwardly into the cavity and inwardly against a omponent in the cavity, said wedging element being made of good thermal conductivity material and providing a heat path between said shell and said body.

3,146,385
XEROGRAPHIC PLATE CHARGING METHOD AND APPARATUS
Chester F. Carlson, Pittsford, N.Y., assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 9, 1960, Ser. No. 74,988
8 Claims. (Cl. 317—262)



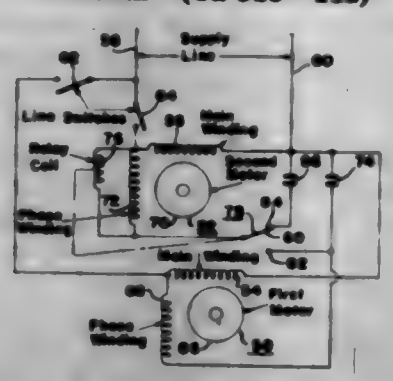
5. Apparatus for charging a xerographic plate comprising means to support a xerographic plate in position to be charged, a plurality of uniformly spaced electronically conductive charging electrodes substantially aligned, means to support said electrodes with a portion thereof in surface contact with a plate on its support means, each of said electrode contact portions being substantially insulated electrically from adjacent electrode contact portions, a resistance material connected to a non-contact portion of each electrode, said resistance material having an electrical resistance of at least 10^4 ohms per sq. cm. per cm. length, terminals for connecting a potential source to the resistance material, and means for moving the electrodes and plate relative to each other in a direction transverse to the alignment of said electrodes, whereby when said terminals are energized with plate charging potential a charge pattern is deposited from the electrodes onto the plate surface correlated to the spacing of said electrode contact portions.

3,146,386
STEPPING MOTOR DRIVE
Heinz Joseph Gerber, West Hartford, Conn., assignor to The Gerber Scientific Instrument Company, Hartford, Conn., a corporation of Connecticut
Filed July 10, 1963, Ser. No. 293,944
11 Claims. (Cl. 318—8)



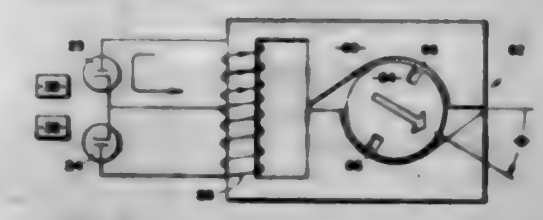
1. A stepping motor drive for moving a part in response to a single primary train of electrical pulses, said drive comprising a plurality of stepping motors each having a rotatable output member and being of the pulse responsive type wherein said output member is moved by a given angular displacement in response to each pulse applied thereto, a summing differential drive mechanism having a plurality of rotatable input members each drivingly connected with a respective one of the output members of said stepping motors and also having a rotatable output member drivingly connected with said part, means coupled with the source of said single primary train of pulses which means is operable to transform said single primary train of pulses into a plurality of secondary trains of pulses each of which secondary trains contains a number of pulses proportionally related to the number of pulses in said primary train, and means for transmitting each of said secondary trains of pulses to a respective one of said stepping motors with the result that the output member of each stepping motor is driven at a slower speed than would be obtained by directly applying said primary train of pulses thereto.

3,146,387
ELECTRIC MOTOR STARTING CIRCUITS
Irving M. Levy and Robert W. Leland, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Application Apr. 22, 1959, Ser. No. 808,353, now Patent No. 3,045,159, dated July 17, 1962, which is a division of application Ser. No. 606,279, Aug. 27, 1956. Divided and this application Jan. 17, 1962, Ser. No. 166,961
1 Claim. (Cl. 318—112)



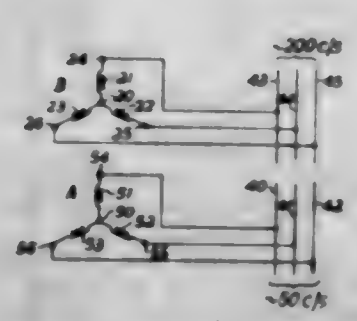
In circuitry for starting and running several capacitor motors with a reduced number of capacitors all energizable from a power supply source and including both first and second capacitor motors operable therefrom as to main and phase windings of each thereof, the improvement which comprises only first and second capacitive impedance connected at one side thereof in common to the source, said first capacitive impedance for starting phase shift having a connection in series with the first motor phase winding, and a switching means including a relay portion having an actuating winding sensitive to operation and energization of only the windings of the second capacitor motor whereby said second capacitive impedance is connected during starting operation only for the second capacitor motor, said switching means after starting of the second capacitor motor being shifted due to relay operation to have the phase winding of the second motor in the circuit with only said first capacitive impedance shared by both the phase windings of the first and second capacitor motors during running operation thereof.

3,146,388
THERMIONIC DIODE CONVERTER SYSTEM
Ned S. Rasor, Lexington, Mass., assignor to North American Aviation, Inc.
Filed Sept. 14, 1962, Ser. No. 223,695
13 Claims. (Cl. 318—138)



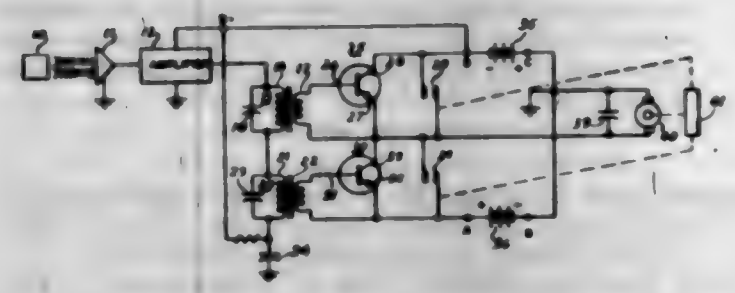
1. Apparatus for directly converting thermal energy to alternating current comprising a pair of thermal energy converter diodes connected in a push-pull circuit relationship adapted to generate D.C. voltages of opposite polarity upon the application of thermal energy, said circuit having an output, each of said diodes having a first and second mode of operation, and means inductively connected to said push-pull circuit for alternately controlling the mode of operation of said diodes so that an alternating current is generated at said output.

3,146,389
ROTARY ELECTRIC MACHINES
Gordon Hindle Rawcliffe, Clifton, Bristol, England, assignor to National Research Development Corporation, London, England
Filed Jan. 9, 1961, Ser. No. 81,546
Claims priority, application Great Britain Jan. 14, 1960
6 Claims. (Cl. 318—187)



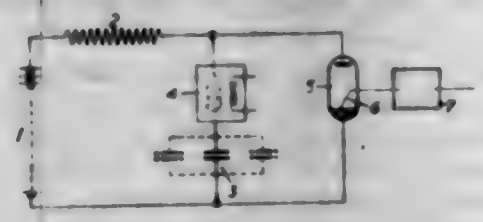
1. A rotary electric machine having stator and coil wound rotor windings, the stator winding being constructed to provide a main field of p poles to be energised at a frequency f per second and to further provide a superimposed rotating field of np poles to be energised at a frequency $2nf$, where n is a small integer, said rotor winding coils when energised solely by induced currents operating as at least one short circuited winding in relation to the energised superimposed field of np poles and said rotor winding coils when energised additionally from excitation current supply means operating as an open circuited winding in relation to the energised main field of p poles.

3,146,390
REMOTE CONTROL SYSTEM
Robert A. Wolf, La Grange Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 26, 1961, Ser. No. 85,829
6 Claims. (Cl. 318—266)



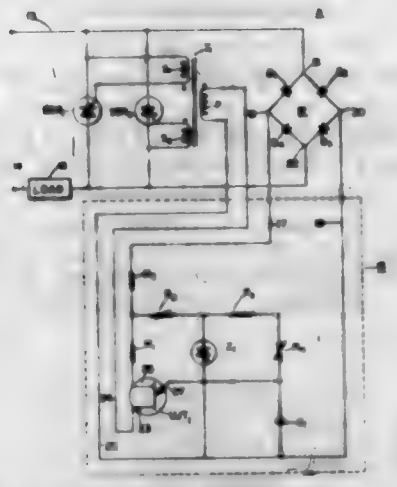
5. In combination; a signal translation channel adapted to receive and translate at least two different ultrasonic control signals; means coupled to said signal translation channel for segregating said different control signals; a pair of transistors each having an input circuit and an output circuit; means coupling said segregating means to said input circuits whereby said first input circuit is energized responsive to receipt of said first control signal and said second input circuit is energized responsive to receipt of said second control signal; a power supply having a positive terminal and a negative terminal; a bi-directional direct current motor connected as a common load for both said output circuits; one of said output circuits being connected to said positive terminal and the other of said output circuits being connected to said negative terminal; whereby upon receipt of said first control signal, said first transistor is driven conductive in its output circuit to cause energization of said motor for rotation in one direction and upon receipt of said second control signal said second transistor is driven conductive in its output circuit to cause energization of said motor for rotation in an opposite direction.

3,146,391
GENERATION OF HIGH VOLTAGE HEAVY CURRENT PULSES
Herbert Walker, Helsby, near Warrington, England, assignor to British Insulated Callender's Cables Limited, London, England, a British company
Filed Jan. 8, 1959, Ser. No. 785,758
Claims priority, application Great Britain Jan. 14, 1958
5 Claims. (Cl. 328—1)



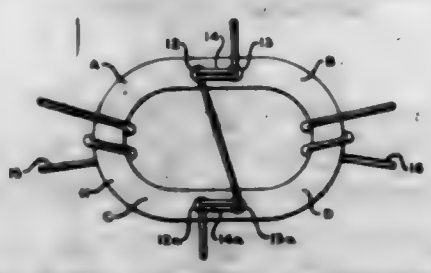
1. An impulse generator comprising an electric capacitor of which the conductive elements are insulated with kraft paper impregnated with castor oil, means for regularly and repeatedly feeding direct current from a high voltage source to charge the capacitor in a period in the range 2 seconds to 2 minutes to a peak voltage at which the capacitor insulation is subjected to an electrical stress of at least 85 volts per micron, and means for regularly and repeatedly permitting the capacitor to discharge rapidly on becoming charged to the peak voltage.

3,146,392
CONTROL CIRCUITS EMPLOYING UNIJUNCTION TRANSISTORS FOR FIRING CONTROLLED RECTIFIERS
Tage P. Sylvan, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 2, 1961, Ser. No. 128,747
6 Claims. (Cl. 323—22)



1. A control circuit comprising a first and second input lead for connection in circuit with a supply having a predetermined voltage, a unijunction transistor having a base-one, a base-two and emitter electrodes, a capacitor connected in circuit with said emitter electrode and said base-one electrode, a first resistive means connected in circuit with said first input lead and said base-two electrode of said unijunction transistor, a second resistive means, a zener diode having a cathode and an anode, said zener diode having a predetermined breakdown voltage, circuit means connecting said second resistive means and said zener diode in circuit with said first resistive means and said second input lead so that said first and second resistive means provide a voltage divider action thereby causing the interbase voltage of said unijunction transistor to be substantially equal to the breakdown voltage of said zener diode and a fractional part of the supply voltage, a third resistive means, said second and third resistive means being connected in circuit with the cathode of said zener diode, said third resistive means and said capacitor being serially connected across said zener diode, said voltage divider action of said first and second resistors compensating for variations in the supply voltage by varying the interbase voltage of the unijunction transistor.

3,146,393
SATURABLE MAGNETIC DEVICE WITH ELLIPTICAL CORE
John Gibbon, Morris Plains, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Original application Mar. 28, 1957, Ser. No. 649,181. Divided and this application May 26, 1961, Ser. No. 112,943
1 Claim. (Cl. 323—56)



A coupling device comprising an elliptical magnetic core having a pair of adjacent holes therethrough along each of the two longer arcs, a control winding through both pairs of holes, means for applying a voltage to the said control winding to thereby saturate two portions of

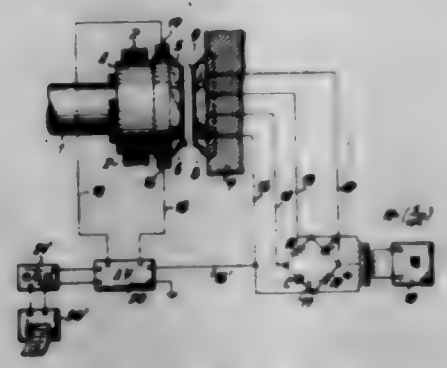
the core, an input winding surrounding a portion of the elliptical core proximate one of the shorter elliptical arcs and an output winding surrounding a portion of the elliptical core proximate the other shorter elliptical arc whereby the magnetic flux coupling between the input and output windings is affected by the elliptical shape of the core and the degree of core saturation resulting from the current flow through the control winding.

3,146,394

APPARATUS FOR PROPORTIONALLY CONVERTING A ROTATIONAL ANGLE INTO A PHASE ANGLE OF AN ALTERNATING VOLTAGE

Eberhard Frisch, Berlin-Waidmannslust, Germany, assignor to Continental Elektroindustrie A.G., Berlin-Marienfelde, Germany, a corporation of Germany

Filed Apr. 20, 1960, Ser. No. 23,496
Claims priority, application Germany Apr. 29, 1959
6 Claims. (Cl. 323—93)



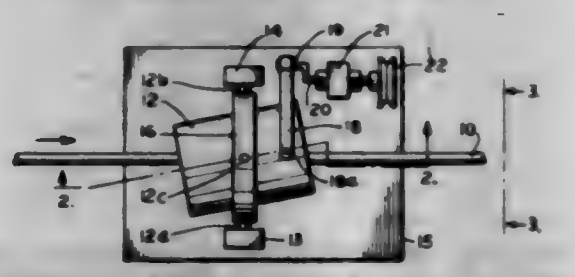
1. A shaft-position indicating device comprising rotor and stator elements closely opposed, one of said elements having first and second pairs of electrodes, one pair being radially outward of the other, the members of each pair of electrodes being in the form of coplanar conducting areas separated by straight insulating lines lying on radii of the shaft with alternate areas interconnected to form meshed electrode pairs, insulating lines on one pair being out of alignment with insulating lines on the other, and the other of said elements comprising conducting areas separated by straight insulating lines lying on radii of the shaft, each such conducting area on said other element being of a length to face both pairs of electrodes on the first element, means to impress alternating voltages of constant phase difference on the respective pairs of electrodes of the first element, so that the phase of the voltage induced in the areas of said other element varies in accordance with the shaft rotation, and means to indicate the phase of the voltage capacitatively induced in said other element.

3,146,395

MAGNETIC FLAW DETECTION APPARATUS WITH EXCITATION AND SENSING COILS MOUNTED ON NUTATING HEAD

George F. Quittner, Cleveland Heights, Ohio, assignor to Assembly Products, Inc., Chesterland, Ohio, a corporation of Ohio

Filed Feb. 23, 1962, Ser. No. 175,848
6 Claims. (Cl. 324—37)



1. In apparatus for detecting a flaw in a sample with relative movement between the apparatus and an extended length of sample, the combination of:

(*a*) field excitation means comprising at least one hollow element surrounding the sample,

(*b*) means for sensing the field excitation as affected by the sample and comprising at least one hollow electrical condition pickup element completely surrounding the sample while non-coaxial therewith, and

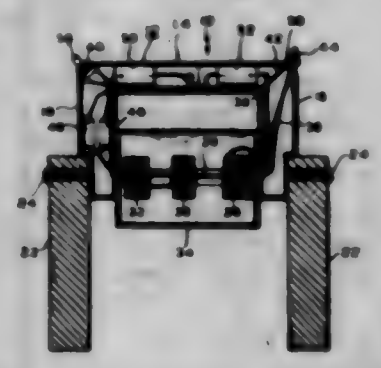
(*c*) a mechanical movement for changing the orientation of said sensing means with respect to the sample whereby the points of closest adjacency between the sensing element and the sample move rotatively about the sample.

3,146,396

PORTABLE MAGNETIC PARTICLE TYPE CRACK DETECTOR HAVING SEPARATE COILS FOR ALTERNATING AND DIRECT CURRENT

David Diperstein, 2500 E. York St., Philadelphia 25, Pa., and Russell John Hardiman, Philadelphia, Pa.; said Hardiman assignor to said Diperstein

Filed Jan. 15, 1960, Ser. No. 2,624
4 Claims. (Cl. 324—38)



1. A magnetic crack detector comprising a hollow U-shaped handle, a separate magnetic metal probe extending longitudinally from the end of each leg of said handle, a rod of magnetic material extending between and supported by the legs of said handle and being in magnet circuit relation with each of said probes, two axially spaced inductance coils would around said rod, three terminal wires extending through and from said handle, one end of each of said inductance coils being electrically connected to a common one of said terminal wires in said handle, the other end of each of said inductance coils being electrically connected to a separate one of each of the other terminals within said handle, a voltage multiplying circuit connected across the ends of one of said inductance coils and across the terminal wires associated with said one coil, said one inductance coil terminal wires being adapted to be connected to a source of A.C. current, the other inductance coil terminal wires being adapted to be connected to a source of D.C. current, a switch electrically connected between the common terminal wire of said inductance coil and one end of each of said inductance coils, said switch being mounted within said handle and having an actuating button extending through said handle, said voltage multiplying circuit comprising an A.C. to D.C. current rectifying circuit, said voltage multiplying circuit being mounted within said handle.

3,146,397

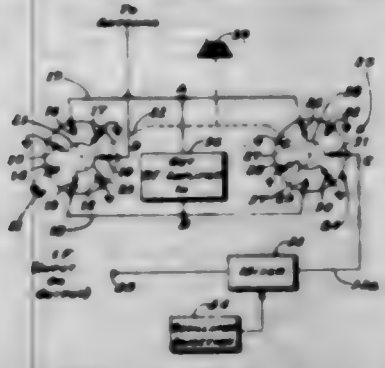
MULTIPLE-POLE TWO-POSITION DUAL-WAFER ULTRA-HIGH-FREQUENCY TRANSMIT-RECEIVE SWITCH CONTROL

Samuel L. Broadstead, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed May 23, 1960, Ser. No. 31,066
3 Claims. (Cl. 325—31)

1. In a control system for alternately switching a first lead and a second lead oppositely to the output and input terminals of an RF amplifier; dual switching wafers

each having at least two switch positions; switch positioning means for simultaneously switching said dual switching wafer between switch positions; each of said dual switch wafer being provided with a pair of shorting bars connected for movement with said switch positioning means; each of said dual wafers having a plurality of fixed contacts; one of the fixed contacts of one of the dual switching wafers being connected to said first lead, and one of the fixed contacts of the other dual wafer being connected to said second lead; a second fixed contact of each of said switching wafers being connected in common to one of the terminals of said R.F. amplifier; a third fixed contact of each of said switching wafers being connected in common to the other terminal of said R.F. amplifier; a plurality of additional fixed contacts



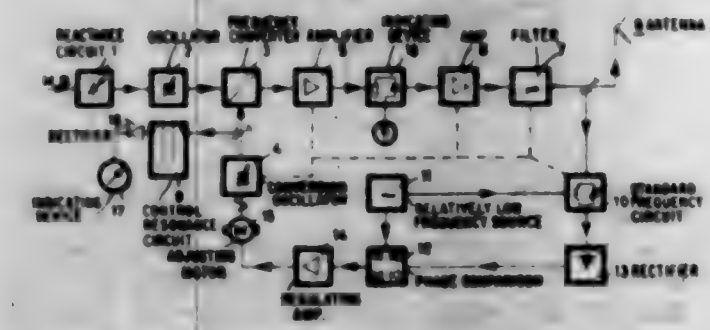
of each of said dual switching wafers being connected to ground; with said fixed contacts being positioned for a first one of the shorting bars of each respective switching wafer to provide a connection between the contact connected to the lead associated with that wafer and a contact connected to a terminal of said amplifier, and with the other shorting bar of each pair of shorting bars being in contact with grounded contacts at each end; and alternately when the switching means switches the dual switching wafers to the other switch position the other shorting bar of each pair of shorting bars being connected between the lead contact associated with that wafer and the contact connected to the opposite terminal of said amplifier, and the first one of the shorting bars of each of the pair of shorting bars being, for this other switch position, in contact with grounded contacts at each end.

3,146,398

MULTI-STAGE FREQUENCY CONVERSION TRANSMITTER ADAPTED FOR TUNING WITHIN AN EXTENDED FREQUENCY RANGE

Martin Schädelbach, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed June 3, 1960, Ser. No. 33,836
Claims priority, application Germany June 16, 1959
2 Claims. (Cl. 325—134)



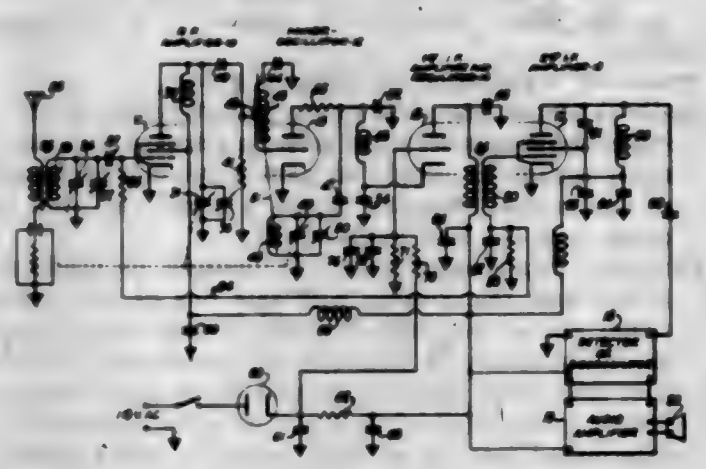
1. A multi-stage transmitter for very short electromagnetic waves operating with frequency conversion and having means for tuning within an extended frequency range, wherein the tuning means of the individual stages are actuated under control of a common drive system, comprising an indicating device cooperating with a control resonance cicruit which is fixedly tuned to a single predetermined operating frequency of the transmitter oscillator, and circuit means whereby said control resonance circuit is supplied from the transmitter oscillator, with sufficient energy for effecting indication even with strong detuning of the individual stages.

3,146,399

SUPERHETERODYNE RECEIVER WITH HUM FILTER AND VOLTAGE REGULATION

James Edgar Kropp, Jr., Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana

Filed Oct. 17, 1960, Ser. No. 63,013
10 Claims. (Cl. 325—440)



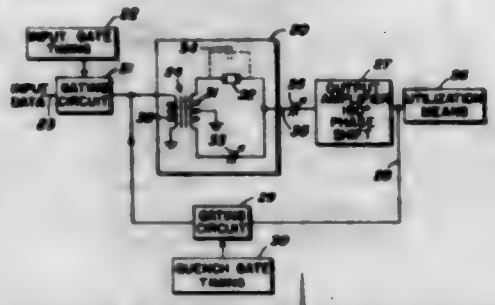
1. In an FM receiver, first and second triode-pentode tubes, first circuit means for operating the pentode section of said first tube as an RF amplifier for received FM signals, second circuit means for operating the triode section of said first tube as a combined mixer and oscillator for producing an IF signal in response to signals amplified by said RF amplifier, third circuit means for operating the triode section of said second tube as a first IF amplifier for said IF signal and as a voltage regulator for the triode section of said first tube, and fourth circuit means for operating said pentode section of said second tube as a second IF amplifier for said IF signal.

3,146,400

KEYED FILTER EMPLOYING A CRYSTAL AS INTEGRATING ELEMENT

David Perlman, Corona Del Mar, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 18, 1962, Ser. No. 203,351
2 Claims. (Cl. 328—27)



1. An electronic wave-shaping circuit comprising:
crystal resonator means having a resonant frequency f_0 and consisting of:
(*a*) crystal means;
(*b*) input circuit means and output terminal means;
(*c*) said input circuit of said crystal resonator means comprising a transformer having a primary winding and a secondary winding with a center tap connected to a reference potential,

(*d*) said crystal means being connected between a first end terminal of said secondary winding and the output terminal means of said crystal resonator means,

(*e*) and capacitor means of the order of magnitude of the inherent shunt capacitance of said crystal means being connected between the other end terminal of said secondary winding and the output terminal means of said crystal resonator means,

means for supplying to said input circuit means an input signal including a tone having a frequency f_0;

said input signal being comprised of a succession of time synchronous data bits of information with the nature of each bit of information being determined by the phase thereof with respect to a reference phase,

means for supplying said reference phase;

feedback circuit means responsive to the signal appearing at the output terminal means of said crystal resonator means to supply to said input circuit means of said crystal resonator means a signal 180° out of phase with the said input signal;

switching means constructed to operate in predetermined time relationship with said bits of said input signal and to successively connect said input signal to the input circuit means of said resonator, disconnect said input signal from said input circuit means after a given interval of time, and after another predetermined interval of time complete said feedback circuit to the input circuit means of said crystal resonator means to squelch the resonant condition therein,

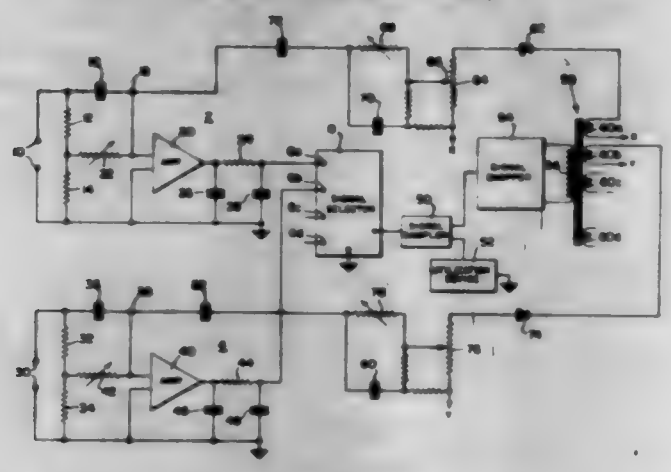
and means for timing said switching means to provide time correlation between the received information data bits and the operation of said switching means.

3,146,401

SYSTEM WITH PLURAL INPUTS HAVING FEEDBACK MEANS FOR PREVENTING INTERACTION BETWEEN SAID INPUTS

Henry F. Davis, Worcester, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed May 10, 1962, Ser. No. 193,751
7 Claims. (Cl. 328—147)



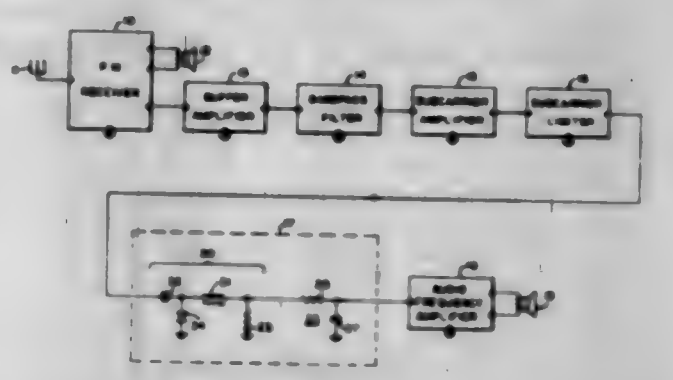
1. A control system comprising a plurality of signal input means, a signal selector means having a plurality of input terminals each connected to one of said signal input means, said selector means including means responsive to the relative magnitude of the several applied signals for automatically selecting a single one of the input signals to produce a selector output signal corresponding thereto, means responsive to said selector output signal to produce an output control signal, means for sampling said output control signal, converter means connected to said sampling means for converting the sampled signal into an alternating signal of amplitude proportional to the magnitude of said sampled signal, and means responsive to said alternating signals for producing a plurality of discrete but substantially identical feedback signals for corresponding ones of said signal input means.

3,146,482

FREQUENCY-MODULATED SUBCARRIER DETECTOR

Bernard D. Loughlin, Huntington, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Filed Jan. 24, 1961, Ser. No. 84,636
5 Claims. (Cl. 329—126)



1. Apparatus for measuring the repetition rate of a repetitive signal comprising:

means for amplitude-limiting said repetitive signal;

differentiating means for deriving from said amplitude-limited signal a series of pulses;

means for shaping each pulse in said series whereby each pulse so shaped has a higher energy content than corresponding ones of said series derived by said differentiating means;

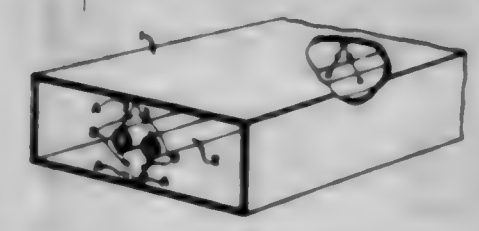
and means for rectifying said shaped series of pulses retaining a series of same polarity pulses whose average value is representative of said repetition rate and is greater than the average value of the same polarity pulses which could be obtained from the series of pulses derived by said differentiating means whereby the output of said apparatus is substantially enhanced.

3,146,483

TRAVELING WAVE PARAMETRIC AMPLIFIER

Peter Bobisch and Claus Sondhaus, Ulm (Danube), Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Jan. 4, 1962, Ser. No. 164,245
Claims priority, application Germany Jan. 4, 1961
8 Claims. (Cl. 330—4.6)



8. A parametric amplifier device for travelling waves, comprising, in combination:

(*a*) an outer transmission line and a double conductor inner transmission line disposed within the confines of said outer transmission line for together defining three transmission line systems; and

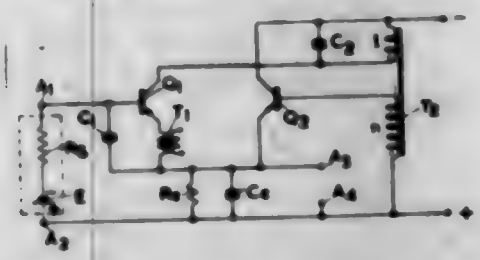
(*b*) capacitance diode means connected between said lines for obtaining negative resistance and for maintaining the capacitive load of the device constant, said means including a plurality of sets of diodes each set arranged in a ring circuit in a different plane at right angles to the direction of travel of the waves.

3,146,404

DIRECT CURRENT OR LOW FREQUENCY TRANSISTOR AMPLIFIERS HAVING A HIGH INPUT IMPEDANCE

John Dennis Ralphs, Crowborough, England, assignor to National Research Development Corporation, London, England

Filed Mar. 2, 1961, Ser. No. 92,826
Claims priority, application Great Britain Mar. 15, 1960
10 Claims. (Cl. 330—10)



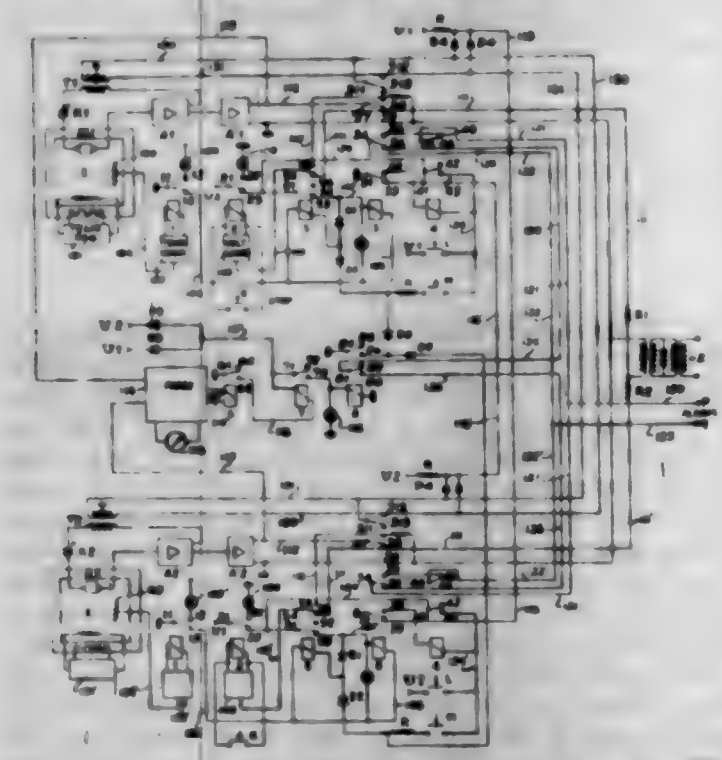
1. A transistor amplifier including a first transistor, a resistance-capacitance smoothing circuit connected to the emitter of said first transistor, means for connecting an input voltage between the base of the transistor and to the side of said smoothing circuit remote from the emitter, means for applying voltage pulses between the base and emitter of said first transistor in a sense tending to increase the conduction thereof, and amplifying and detecting means connected between the collector of the said transistor and the said smoothing means so as to be operated by the pulse current through the said transistor to charge the smoothing circuit in a sense tending to reduce the conduction through the said transistor.

3,146,405

SAFETY AND CONTROL ARRANGEMENT FOR PLACING A PLURALITY OF OSCILLATORS IN PARALLEL

Simon Talmasky, Paris, Georges Duval, Boulogne, and Jacques Baudin, Paris, France, assignors to Compagnie Industrielle des Telephones, Paris, France

Filed Mar. 24, 1961, Ser. No. 98,114
Claims priority, application France Apr. 27, 1960
8 Claims. (Cl. 331—49)



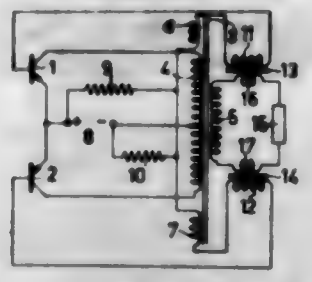
1. A safety and control arrangement for placing a plurality of oscillators in parallel with a load circuit, comprising a plurality of oscillator means each including output circuit means and feedback circuit means, enclosure means for each oscillator means including temperature control means for maintaining a predetermined temperature therewithin and thereby maintaining a component of the respective oscillator means at a predetermined value for purposes of frequency stability, means operatively connecting said feedback circuit means with one another, and control means selectively connecting said output circuit means with said load circuit, said last-mentioned means including means preventing the parallel connection of said oscillator means in the absence of a predetermined temperature within said enclosure means, in the absence of a predetermined voltage level in the output circuit means of each oscillator means, and in the absence of an essential in-phase relationship between said oscillator means.

3,146,406

TRANSISTOR VOLTAGE CONVERTER

Johannes Jacobus Witting, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 17, 1960, Ser. No. 36,989
Claims priority, application Germany July 4, 1959
9 Claims. (Cl. 331—113)



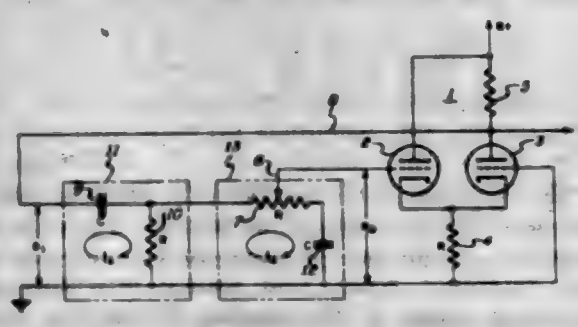
1. A voltage converter including an oscillator having at least one transistor, a feedback circuit and a load circuit, said load circuit being an under-critically damped circuit coupled to the emitter-collector circuit of each transistor of said oscillator and determining the operating frequency of said oscillator, a saturable non-linear element associated with each transistor, first means for coupling said element to the emitter-collector circuit of the associated transistor and second means for coupling said element to the base electrode of the associated transistor, said element and said first means co-acting to produce saturation of said element at a relatively small value of the current in the emitter-collector circuit of the associated transistor, whereby said element flips over from a first saturation condition to a second saturation condition in response to zero current in the emitter-collector circuit of the associated transistor, said second means feeding back a sharp blocking pulse to the base electrode of the associated transistor in response to the flip-over of the non-linear element.

3,146,407

TUNABLE REGENERATIVE FEEDBACK AMPLIFIER HAVING CONSTANT ATTENUATION VARIABLE PHASE SHIFT NETWORK

Philip W. Crist, Huntington Station, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Dec. 1, 1960, Ser. No. 73,863
7 Claims. (Cl. 331—136)



1. A circuit comprising a non-phase inverting amplifier and a pair of L networks connected in tandem between

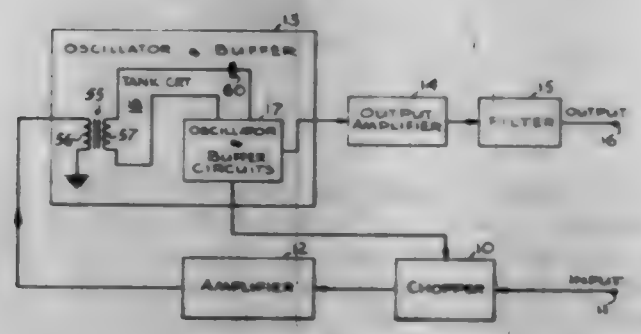
the output and input terminals of said amplifier, the first of said pair of networks comprising a reactive series element and a resistive shunt element, and the second of said pair of networks comprising a resistive series element and a reactive shunt element, said series elements being connected in series relationship with said output and input terminals, said shunt elements being connected in shunt relationship with said output and input terminals, the input terminal of said amplifier being connected to a positionable tap on said resistive series element of said second network, the total resistance of said resistive series element remaining fixed irrespective of the position of said tap, and the output terminal of said amplifier being connected to the reactive series element of said first network.

3,146,408

MILLIVOLT CONTROLLED OSCILLATOR

Samuel Nissim, Pacific Palisades, Calif., and Paul F. Scheele, Littleton, Colo., assignors to Thompson Ramo Wooldridge Inc., Canoga Park, Calif., a corporation of Ohio

Filed Feb. 24, 1960, Ser. No. 10,706
9 Claims. (Cl. 332—1)



7. An oscillator network for producing a frequency analog of analog voltages applied thereto comprising:

an oscillator for producing output signals at a frequency determined by the resonant frequency of its tank circuit,

means producing a sequence of pulses of varying amplitude in accordance with the amplitude of said analog voltages, and

means for applying said sequence of pulses to said oscillator to vary the resonant frequency of its tank circuit in accordance with the amplitude variations of said sequence of pulses,

whereby a frequency analog of voltages applied thereto is produced.

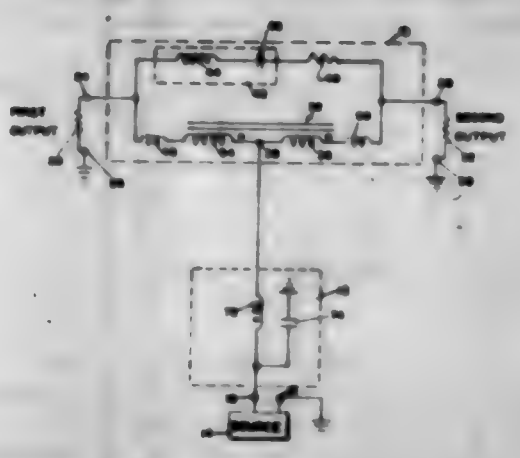
3,146,409

MULTIPLE COUPLER EMPLOYING RESONANT EFFECTS TO ISOLATE THE LOAD CIRCUITS FROM EACH OTHER

Richard G. Lalmond, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Oct. 27, 1960, Ser. No. 65,469
3 Claims. (Cl. 333—8)

1. A broad band multiple coupler comprising, in combination, an auto-transformer having first and second windings, the turns ratio of said windings being substantially unity, said transformer having a center tap and first and second end terminals on said first and second windings respectively which may be connected to respectively separate loads, a parallel branch connected between said first and second terminals, a source having an impedance connected between said center tap and a common reference point, said source providing energy over a broad range of frequencies between a predetermined first and second frequency, said branch when referred across said first winding having an effective impedance, at said first frequency, substantially equal to the impedance of said source, said branch having a reactance component sufficient to form a parallel resonance circuit with the impedances of said windings between said first and second end terminals at said second frequency which parallel resonance provides a high impedance which effectively isolates the loads connected to these terminals, said first and second frequencies being spaced sufficiently to provide substantial isolation between said first and second terminals over a broad band of frequencies.

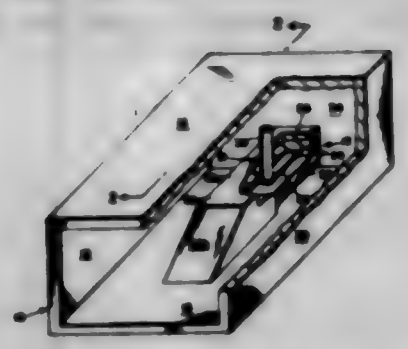


3,146,410

STRIP LINE TO RIDGED WAVEGUIDE TRANSITION HAVING A PROBE PROJECTING INTO WAVEGUIDE THROUGH RIDGE

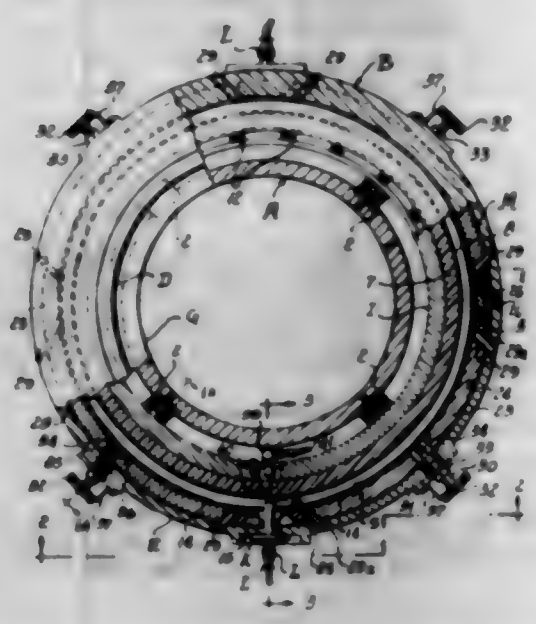
Jesse L. Butler, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Jan. 5, 1961, Ser. No. 80,890
3 Claims. (Cl. 333—21)



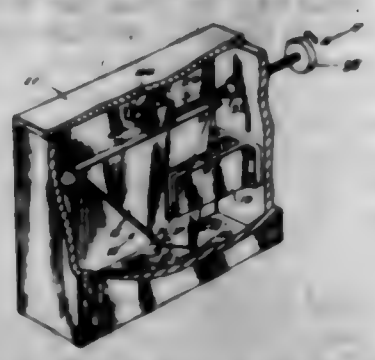
1. A waveguide-transmission line transition comprising, in combination, a waveguide having a rectangular cross section, a conducting plate terminating a first end of said waveguide with a low impedance, a ridge of conducting material protruding from a first wide wall of said waveguide and extending along said wall from said plate, a transmission line having an outer conductor system and an inner conductor in which said outer conductor system comprises two ground plane outer conductors and in which said inner conductor is disposed equi-distantly between said ground plane outer conductors, said line protruding through said plate and being recessed within said ridge and in line therewith, a stud-type probe connected to said inner conductor and projecting from said ridge perpendicular to said first wall, means insulating said probe from said ridge, said plate being so located with respect to said probe as to present a high impedance at said probe at the operating frequency of said transition, said ridge providing an increase in waveguide cutoff wavelength while increasing the frequency range over which only a dominant mode will propagate in said waveguide.

3,146,411
VARIABLE GEOMETRY SLIP RING ASSEMBLY PERMITTING VARIATION IN CHARACTERISTIC IMPEDANCE OR TUNING
Peter A. Filipczak, Paramus, N.J., assignor to Electro-Tec Corp., West Caldwell, N.J., a corporation of New Jersey
Filed June 27, 1962, Ser. No. 205,774
7 Claims. (Cl. 333—24)



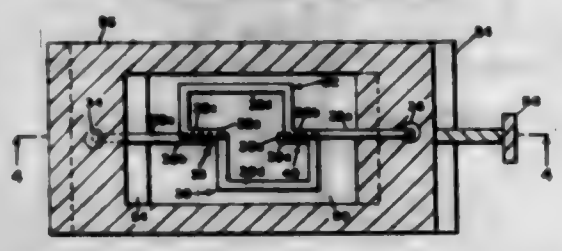
1. A high frequency slip ring assembly comprising relatively rotatable inner and outer sections operating as a portion of a high frequency transmission line with a variable geometry, the rotatable and non-rotatable sections being comprised of elements whose capacitance and inductance characteristics are so arranged as to result in a characteristic impedance (inductance-capacitance ratio) to match that of the attendant transmission line, the inner section having an annular part and the outer section having an annular part in encircling relation to the annular part of the inner section, a conductor ring mounted on said inner section in coaxial insulated relation thereto, a brush mounted on the outer section in insulated relation thereto and in frictional contact with conductor ring, a portion of said outer section comprising separate members movable relatively to said conductor ring such that the capacitance between said conductor ring and said separate members may be varied, thus varying the characteristic impedance (inductance-capacitance ratio) of the system.

3,146,412
VARIABLE ULTRASONIC DELAY LINE
Holden P. Wright, Bolton, Conn., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Dec. 28, 1961, Ser. No. 160,773
1 Claim. (Cl. 333—30)



A variable solid ultrasonic delay line comprising:
(*a*) a wedge of fused quartz having a first and a second surface intersecting each other at an acute angle greater than 45°;
(*b*) a transmitting acoustic transducer in intimate contact with and substantially covering the first surface;
(*c*) a wedge of glass;
(*d*) means bonding the second surface of the wedge of fused quartz to a first surface of the wedge of glass to form a refracting interface between the wedge of fused quartz and the wedge of glass;
(*e*) an acoustic coupler of glass slidably mounted on a second surface of the wedge of glass, the surface of the acoustic coupler removed from the wedge of glass being normal to the path of acoustic energy in the wedge of glass;
(*f*) a receiving acoustic transducer affixed to the surface of the acoustic coupler removed from the wedge of glass to receive acoustic energy intercepted by the acoustic coupler; and,
(*g*) means for moving the acoustic coupler and the receiving acoustic transducer along the second surface of the wedge of glass.

3,146,413
PHASE SHIFTER
Jesse L. Butler, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 29, 1960, Ser. No. 52,459
12 Claims. (Cl. 333—31)

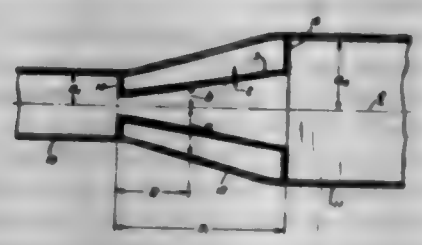


1. A transmission device of variable electrical length comprising, in combination,
(*a*) a pair of transmission lines,
(*b*) a pair of directional couplers, each directional coupler including a coupling section of each transmission line,
(*c*) said directional couplers being connected in overlapping relationship along the transmission lines so that energy entering said device on one of said transmission lines is coupled in the same direction on the other of said lines by both of the directional couplers,
(*d*) said coupling sections of each transmission line having an intermediate section of transmission line separating said sections, and
(*e*) the lengths of said intermediate sections differing by substantially $n\lambda$, where n is any integer including zero and λ is the wavelength of the operating frequency.

3,146,414
TAPERED WAVEGUIDE TRANSITION SECTION WITH DIELECTRIC SLEEVE POSITIONED TO REDUCE COUPLING BETWEEN TE CIRCULAR MODES
Enrique A. J. Marcatili, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 26, 1962, Ser. No. 205,326
7 Claims. (Cl. 333—34)

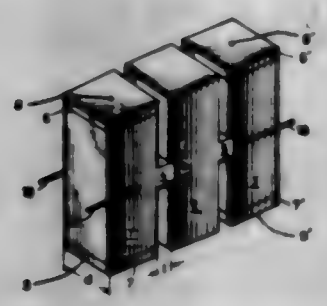
1. In an electromagnetic wave transmission system for transmitting the TE_{01}° circular electric mode, means comprising:
a tapered transition section for coupling said mode from a first circular waveguide having a first radius to a second circular waveguide having a second radius,
and means for suppressing the generation of spurious TE_{0n}° mode wave energy within said section comprising,

a sleeve of low-loss dielectric material disposed within said section along a region of high electric field



intensity for said $TE_{01}°$ mode and low electric field intensity for said $TE_{02}°$ mode.

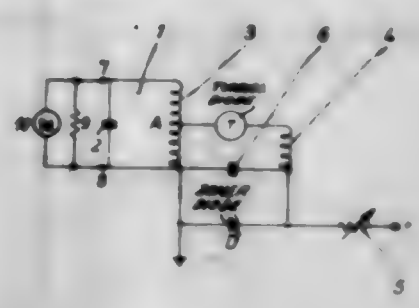
3,146,415
ELECTROMECHANICAL FILTER
Hans Albsmeier and Erich Freystedt, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a German corporation
Filed Feb. 23, 1961, Ser. No. 91,215
Claims priority, application Germany, Feb. 26, 1960, S 67,296; Feb. 26, 1960, S 67,297
2 Claims. (Cl. 333—72)



1. An electromechanical filter comprising elongated metallic resonators which are by means of piezoelectric excitation elements energized to execute longitudinal oscillations, said resonators being disposed to oscillate in a common direction, successively disposed resonators being coupled by means of coupling members extending in the oscillation node intermediate the ends of the respective resonators, the length of said coupling members being considerably shorter than one quarter wave length of the material thereof and the cross sectional dimensions of said coupling members being such as to obtain a predetermined value with respect to the coupling of successive resonators which coupling is effected by shearing forces, each individual piezoelectric excitation element comprising a relatively thin plate of electrostrictive material, each plate being fastened to and supported by an end of a respective resonator which lies in oscillation direction and being provided with a relatively thin conductive coating forming with respect to the metallic resonator a further electrode, and wire means attached at least to the outer resonators within the region of the oscillation node plane which extends perpendicular to the resonator axis, said wire means serving as holding means for the filter.

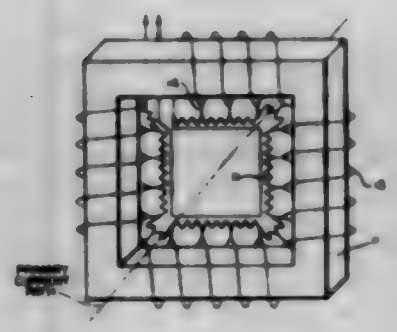
3,146,416
TUNNEL DIODE BIASED IN NEGATIVE RESISTANCE REGION BY ZENER DIODE POWER SUPPLY MEANS
Fritz Bobon, Berlin-Wilmersdorf, and Günter Meewes, Bremen-Neue Fahr, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Dec. 20, 1962, Ser. No. 246,062
Claims priority, application Germany Dec. 21, 1961
5 Claims. (Cl. 334—40)

1. In an electric circuit of negative resistance having a tunnel diode and direct-voltage supply means connected to said tunnel diode and having at said tunnel diode a feed voltage rated for operation of said tunnel diode on the descending branch of its current-voltage characteristic, said supply means comprising a Zener diode and direct-current means connected to said Zener diode and



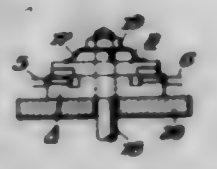
rated for saturated operation of said Zener diode in the blocking direction, and circuit means connecting said Zener diode across said tunnel diode, the voltage drop of said Zener diode being said feed voltage for said tunnel diode.

3,146,417
TRANSFORMER
Paul A. Pearson, 1200 Bryant, Palo Alto, Calif.
Filed May 25, 1959, Ser. No. 815,517
19 Claims. (Cl. 336—69)



1. A transformer of the type which is operable over a wide band of frequencies with substantially uniform response over said band of frequencies including a plurality of successive serially connected transformer sections, each of said sections including a winding substantially disposed in a common flux path and a substantially linear resistance means connected in shunt therewith, and output terminals connected to a predetermined number of said serially connected sections to provide an output which is proportional to the sum of the output of the individual transformer sections.

3,146,418
VARIABLE INDUCTOR
Hisao Maeda, 13 Shiba-koen, Minato-ku, Tokyo-to, Japan
Filed May 11, 1960, Ser. No. 28,319
2 Claims. (Cl. 336—134)



1. A ganged variable conductor suited for miniaturization and mass-producible, which comprises, in combination, a shaft; a lower plate concentrically fastened to said shaft; an upper plate disposed concentrically about said shaft and rotatable relative to, and in intimate contact with, said lower plate; both said plates being made of a magnetic material and having contact surfaces which are

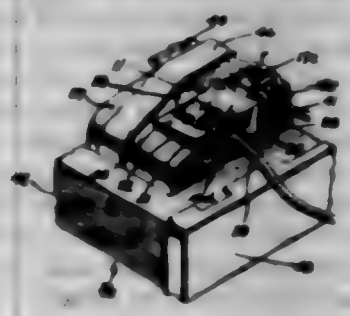
lap-finished to an optically flat plane; mechanical elastic force means imparted from the exterior of said plates to the extent that said contact surfaces of said plates are placed at a distance at which said plates are mutually drawn together by molecular attraction; said lower plate having at least two carved-out portions in perpendicular direction to the plane of rotation thus providing protruding cores separated from said shaft and lying in the same plane therewith; a coil wound about each of said cores, a closed magnetic circuit being formed when said upper plate contacts said cores; said upper plate having one inclined surface contacting said lower plate per each said core; said inclined surfaces being of sector shape in plan view, starting from the thinnest portion of said upper plate which is the portion having the maximum gap with respect to its corresponding protruding core, said sector being cut out to form a region wherein the effective gap value approaches infinity; said inclined surfaces having a radius substantially extending from the axis of rotation to the center of the corresponding core in circumferential direction so that the gap formed between said upper plate and said protruding cores of said lower plate is varied by the rotation of said upper plate relative to said lower plate, said variation being able to exceed 120 degrees, the portions of said upper plate without inclination making close contact with said lower plate; the inductance of said coils being varied by the rotation of said upper plate about said lower plate.

3,146,419

SOLDERING TERMINAL ASSEMBLY AND COIL

Charles E. Warren and Charles F. McVoy, Jr., Danville, Ill., assignors to General Electric Company, a corporation of New York

Filed Apr. 27, 1960, Ser. No. 25,138
6 Claims. (Cl. 336—192)



1. A coil assembly comprising a plurality of external leads, a coil body having a plurality of layers of wire wound with reference to a longitudinal axis, said coil body having coil leads brought out from said coil body and having insulating material covering the outer layer of said body; a terminal pad having a first insulating layer and a second insulating layer, said second insulating layer superimposed on said first insulating layer, said insulating layers defining a first elongated section extending in the direction of said longitudinal axis and a second elongated section extending in a transverse direction; a plurality of solder pocket terminals, said pocket terminals having an attaching portion and a pocket portion, said external leads having ends thereof disposed in an axial direction in the pocket portions of said pocket terminals and soldered therewith, said attaching portion being fastened to one side of said first insulating layer on said second elongated section thereof and said pocket portion folded over on the other side of said first insulating layer so as to overlie said attaching portion; and means joining the superimposed insulating layers defining said first elongated section and said terminal pad in a fixed assembled relation with said coil body, said attaching portion being sandwiched between said first and second insulating layers and said first insulating layer being interposed between said attaching portion and said outer layer of the coil body.

3,146,420

PLURAL PART CORE INDUCTOR COMPRISING EDGE-WOUND CORE SECTION

Fritz Knobel, Linthbrucke, Ennenda, Glarus, Switzerland

Filed Feb. 19, 1962, Ser. No. 174,231
Claims priority, application Switzerland Feb. 21, 1961
3 Claims. (Cl. 336—212)



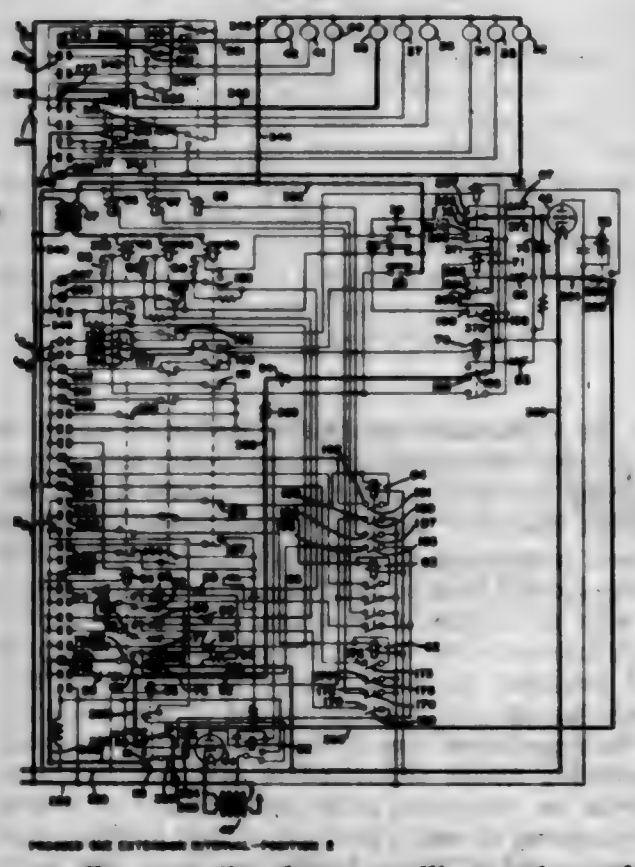
1. A magnetic core reactor coil for use as a choke or transformer particularly with a fluorescent tube, said reactor coil comprising an elongated inner core of magnetic material, a winding about said inner core having an axis transverse thereto, and an outer tubular member surrounding said winding and being an edgewise coiled, continuous, rectangular band of ferromagnetic material whose axis is parallel to said inner core, said band being helically wound and having its adjacent convolutions contiguous and touching each other.

3,146,421

TRAFFIC SIGNAL CONTROLLER

Walter M. Jeffers, Syracuse, N.Y., assignor to Crouse-Hinds Company, Syracuse, N.Y., a corporation of New York

Filed Aug. 4, 1960, Ser. No. 47,492
1 Claim. (Cl. 340—37)



In a traffic controller for controlling at least three separate traffic movements through an intersection thereof, said controller comprising a cam unit having a plurality of cam contacts closing in a predetermined sequence as said cam unit is indexed through a plurality of positions, certain of said cam contacts being connected in circuit with timing means, signal cam contacts being closed for energizing traffic signal means associated with each of said movements in certain of said positions of said cam unit for presenting stop, proceed and clearance signal indications to each movement, said timing means timing the interval of dwell of said cam unit in said positions during which said signal indications are displayed to said movements, transfer means connecting said signal

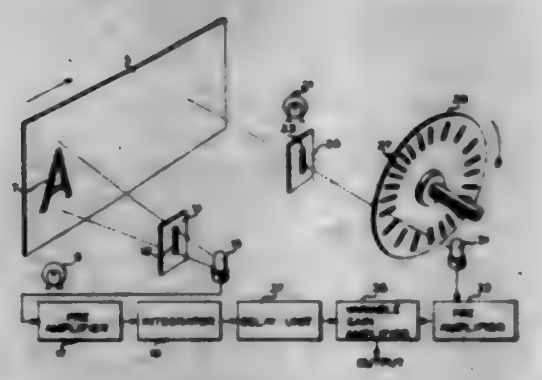
cam contacts to said signal means, said transfer means changing energization of said signal means from said predetermined sequence to a skip sequence, detector means positioned for actuation by traffic in a plurality of said movements, memory means for each of said movements having detector means associated therewith, said memory means having a circuit which is held open upon actuation of detector means in the associated movement, skip cam contacts connected to energize said transfer means through said memory circuit, said skip cam contacts closing upon the completion of the associated clearance signal display to energize said transfer means in the absence of a vehicle actuation of the detector means on the next movement of said predetermined sequence, whereby actuation of said detector means prior to the termination of said clearance signal display to the previous sequential movement serves to prevent energization of said transfer means and to provide a sequential phase preference transfer of the proceed and clearance signal displays from one movement to another in the presence of continuous traffic on all movements regardless of the order of actuation of said detector means.

3,146,423

AUTOMATIC OUTPUT CONTROL SYSTEM

Evon C. Greanias, Vestal, and William W. Hardin, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 14, 1958, Ser. No. 748,487
4 Claims. (Cl. 340—146.3)



1. In a character recognition system in which character-bearing documents are transported past a principal scanning means to supply scanning data signals for subsequent character analysis, an automatic output control system, comprising, in combination, an auxiliary scanning means located in advance of said principal scanning means to scan characters on a character-bearing document a predetermined time before the characters are scanned by said principal scanning means, said auxiliary scanning means scanning an area having one dimension determined by the registration zone of the characters to be recognized, integrating means connected to said auxiliary means to provide an integrated gain control signal in response to the scanning of each character by said auxiliary scanning means, a delay device having an input and an output with said input connected to said integrating means, and a variable gain amplifier connected to said principal scanning means to amplify the scanning data signals, and connected to the output of said delay device to have the gain of said scanning data signals governed by said integrated control signals, said delay device providing a time delay for said integrated control signals substantially equal to said predetermined time interval.

ERRATUM

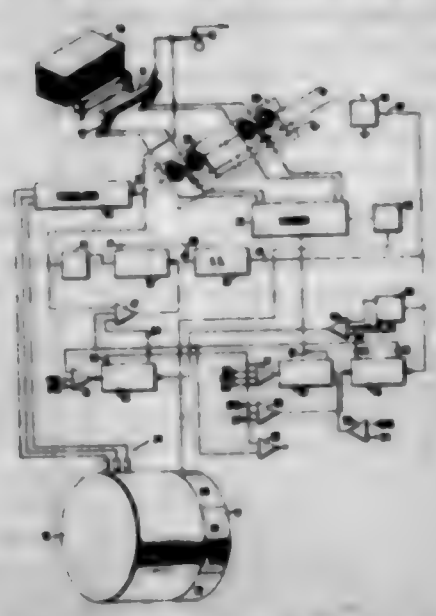
For Class 340—163 see:
Patent No. 3,146,456

3,146,423

TIMING CIRCUIT

George J. Laurer, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 29, 1959, Ser. No. 823,671
5 Claims. (Cl. 340—172.5)



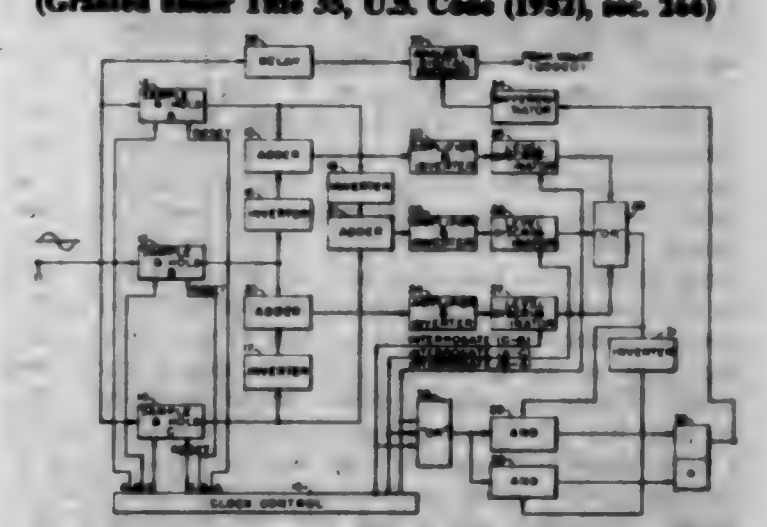
5. In combination, a sensing device for successive periodic input data manifestations available in equal increments of time for a fractional period of said increment, a data storage device containing a plurality of data storage locations successively available for storage of said input data and having an access time greater than the time during which said manifestations are available, a buffer storage for selectively accepting said data manifestations from said sensing means for transmission to said data storage device, means to provide a signal indicative of the presence of said data manifestations, and means connected to said signal means and responsive to a signal and the transmission of said data from said buffer storage to said storage device for enabling said buffer storage to accept the next successive data manifestations, said enabling means for said buffer storage including means operable to a first condition in response to a signal indication from said signal means and operable to a second condition upon the subsequent passage of an area on said input device to which said data is to be stored.

3,146,424

SAMPLING DIGITAL DIFFERENTIATOR FOR AMPLITUDE MODULATED WAVE

Herbert L. Peterson, 5521 24th Ave., Hillcrest Heights, Md., and William J. Finney, Accokeek, Md.

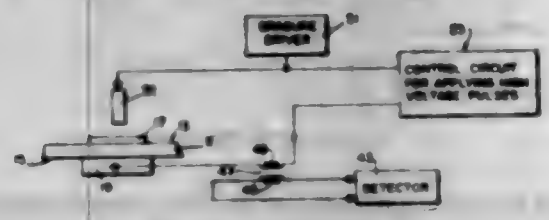
Filed Aug. 25, 1960, Ser. No. 52,001
6 Claims. (Cl. 340—172.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A detector for converting the analog data contained in a modulated carrier wave to digital form comprising,

a plurality of Sample and Hold circuit means having a common input and "n" outputs, where "n" is an integer greater than one, to simultaneously store the amplitude of said carrier at the beginning of each of "n" consecutive time intervals, a sequence of "n" subtractor means each interconnecting a sequentially operated pair of Sample and Hold circuit means for extracting difference signals each of which is equal to the difference between the earlier and later samples held therein, trigger circuit means connected to said subtractors and responsive to said difference signals for generating a trigger signal as said difference signals change polarity, an analog-to-digital encoder means coupled to said each of said Sample and Hold means for transforming portions of said carrier wave amplitude to digital signals, and timing means for synchronizing said trigger signals with the peak digital signal generated simultaneously therewith.

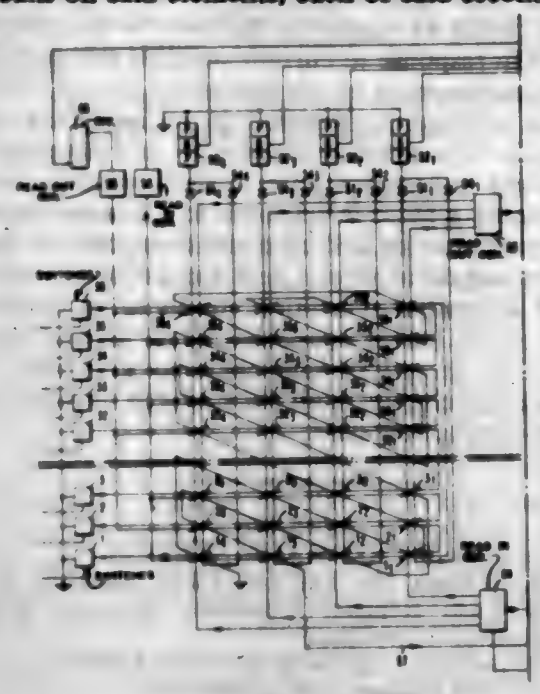
3,146,425
DATA STORAGE DEVICE
Robert E. Beam, Broomall, and Douglas C. Wendell, Jr., Malvern, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 28, 1960, Ser. No. 44,332
10 Claims. (Cl. 340—173)



1. An electrostatic data storage device comprising: a dielectric medium having first and second surfaces lying opposite each other; first discrete electrical conducting means disposed adjacent to said first surface of said dielectric medium and having an outer surface lying away from said first surface; second discrete electrical conducting means disposed adjacent to said second surface of said dielectric medium and lying opposite said first discrete electrical conducting means; an electrode means disposed a selected distance from said outer surface of said first discrete electrical conducting means; first signal generating means coupled to said electrode means to provide a first signal thereto; second signal generating means coupled to said second discrete electrical conducting means to provide a second signal thereto; said first signal and said second signal each respectively having such polarity and such amplitude as to maintain an electrical discharge between said electrode and said first discrete electrical conducting means in response to having both said first signal and said second signal simultaneously present; signal detecting means coupled to said second discrete electrical conducting means to detect an occurrence of said electrical discharge.

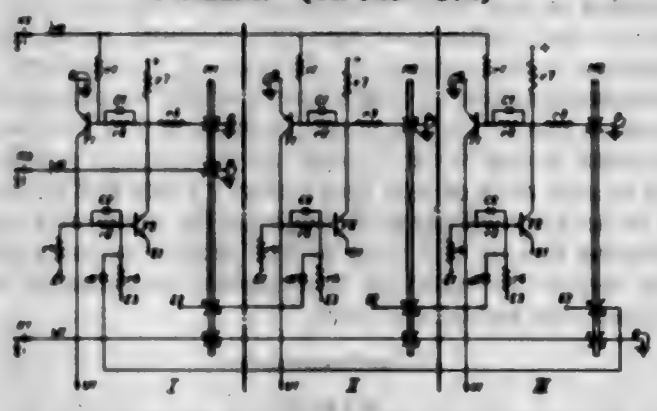
3,146,426
MEMORY SYSTEM
Michel Agon, Courbevoie, and Jacques Jeanniot and Yves Poupon, Paris, France, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1959, Ser. No. 824,898
6 Claims. (Cl. 340—174)

1. In an information memory, the combination comprising a plurality of bistable magnetic elements, a plurality of winding means coupling each of said elements including sense winding means, said elements adapted to be switched from an information representative stable state to a datum stable state when the winding means of said elements are energized with a full read select current and further adapted to be switched to the information representative state when the winding means of said elements are energized with a full write select current, a plurality of first selection means connected to a number of the plurality of winding means of said elements, each of said first selection means being adapted to provide a half read select current during a first interval of time and a half write select current during a second interval of time to the number of winding means of the elements connected when energized, a plurality of second selection means connecting other windings of the plurality of winding means on said elements, each of said second selection



means being adapted to provide both a half read select current to a first predetermined number of said other windings and a half write select current to a second predetermined number of said other windings during any one of said first and second intervals of time and means for controlling said first and second selection means to read out the information stored in a particular one of said elements during the first interval of time and to re-record this information into one of the plurality of said elements during the second interval of time.

3,146,427
TRANSFER CIRCUIT SYSTEM FOR TRANSFERRING INFORMATION
Nils Herbert Edström, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Aug. 13, 1959, Ser. No. 833,431
Claims priority, application Sweden Sept. 2, 1958
4 Claims. (Cl. 340—174)



1. In a transfer circuit system for transferring information step by step along a multiple stage chain by means of a source of pulses for feeding each step of said chain a stepping pulse and a reset pulse which are separated in time, a plurality of interconnected stages, each comprising a bistable relaxation circuit having a first input connection for setting said relaxation circuit to a conduction state,

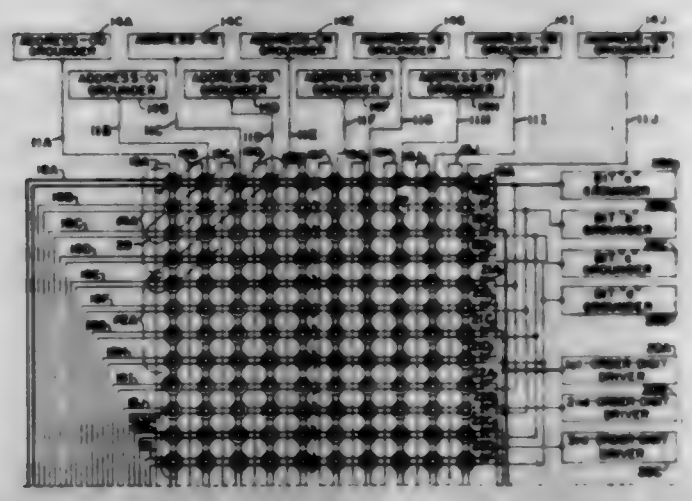
a second input connection for setting said relaxation circuit to a non-conduction state and an output connection, said relaxation circuit being arranged to remain in an operative state for an indefinite period of time and to supply current to a load during such period of time, a magnetic core having a substantially rectangular hysteresis loop and being magnetizable to a first and a second remanance state respectively and remaining in said first state and said second state respectively until controlled, a first winding on said core connected to the output of said relaxation circuit to magnetize the core to the first remanance state in response to current supplied the said output in the conduction state of the relaxation circuit, a second winding on said core connected to be energized by the stepping pulse to magnetize the core by said stepping pulse to the second remanence state, a third winding on said core generating a pulse in response to a change caused in the remanence state of said core and connected to the first input of the relaxation circuit next sequential in said chain to set said sequential relaxation circuit to its conduction state, and circuit means connected to the second input of the relaxation circuits in said chain to feed reset pulse to the relaxation circuits in all the stages to set said circuits to the non-conduction state.

3,146,423

DATA STORAGE SYSTEM

John C. F. Walker III, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Sept. 2, 1960, Ser. No. 53,834
5 Claims. (Cl. 340—174)



2. A magnetic memory system comprising: a first and a second memory plane having a plurality of magnetic cores arranged in a plurality of columns and rows; a plurality of column coils, a different one of which is threaded in one sense through all the cores of a different one of said columns of said first memory plane and is threaded in the same sense through all of the cores in a corresponding one of said columns of said second memory plane; a plurality of row coils, a different one of which is threaded in one sense through all the cores in a different one of said rows of said first memory plane and is threaded in an opposite sense through all the cores in a corresponding one of said rows of said second memory plane; and means for effecting coincidental energization of a selected row and column coil.

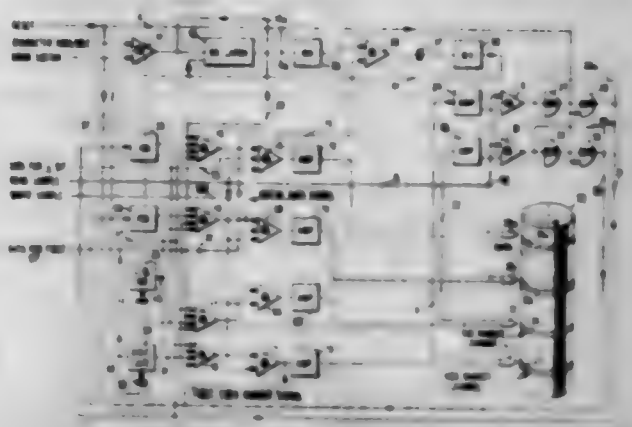
3,146,429

DRUM STORAGE SYSTEM

George J. Laurer and Carl D. Southard, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1961, Ser. No. 121,062
5 Claims. (Cl. 340—174.1)

1. A system for storing data comprising, in combination, a rotatable data storage drum having two marker channels for registering magnetic position markers and a plurality of data-receiving channels, a magnetic read-write head associated with each of said channels, circuit means for energizing each of said magnetic heads, the magnetic head for each marker channel developing a read signal in response to a passing marker, first gating means for coupling the read signal from the magnetic head of



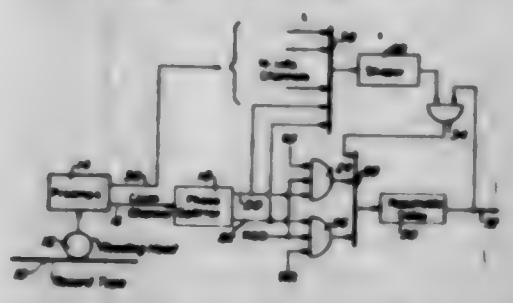
one marker channel to activate the associated circuit means to energize the magnetic head of the other marker channel to write a marker in said other marker channel, and second gating means for energizing the magnetic head for a data channel when the magnetic head for said one marker channel does not read a marker to thereby cause data to be written in said data channel succeeding bit position.

3,146,430

ELECTRICAL APPARATUS FOR MONITORING A RECORD TAPE

Nelson W. Burke, Stoneham, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

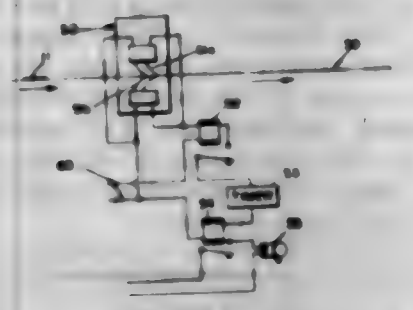
Filed Oct. 31, 1961, Ser. No. 148,983
12 Claims. (Cl. 340—174.1)



1. Apparatus for sensing the length of a record of stored informational digital data and clock data on a moving multiple channel magnetic record tape comprising means sensing the presence of each data indicator in each channel on the tape, a clock data amplifier connected to receive on its input clock data representing signals from said record tape by way of said sensing means, a pulse-forming circuit connected to the output of said amplifier, a pair of gating circuits each having an input connected to an output of said pulse-forming circuit, a tape read-forward signal input connected to one input of one of said gates, a tape read-reverse signal input connected to an input of the other of said gates, a read gate delay signal input connected to an input on both of said gates, a bistable circuit adapted to be self-resetting a predetermined time following the application of an input signal, first buffering means connected to the input of said bistable circuit and to the outputs of said pair of gating means, a third gating means, data signal amplifier means connected to receive informational data from all channels except the clock channel of said tape, second buffering means connecting the output of said amplifier means to an input of said third gating means, means connecting the output of said bistable circuit to the input of said third gating means, and means connecting the output of said third gating means

to the input of said first buffering means so that informational data signals may be used to set said bistable circuit once said circuit has been set by clock data signals.

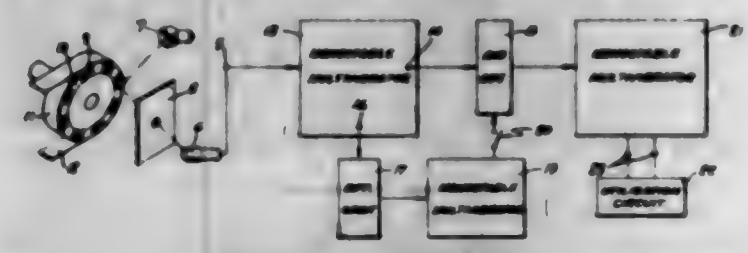
3,146,431
WEB END CONTROL
Ross C. Betts, Rocky River, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 22, 1958, Ser. No. 750,248
3 Claims. (Cl. 340—259)



1. Apparatus for signaling the approaching end of a supply of tear tape to a packaging machine comprising a first pair of brushes and means to hold said brushes against one side of the tear tape as it is fed to a packaging machine, the spacing between the brushes being adjustable to a gap adapted to be bridged by a conductive patch adhered to the tear tape adjacent the final end of the tape, an impulse actuated holding relay in series with said brushes and a source of low voltage, whereby said holding relay will be actuated by an impulse initiated by the bridging of the gap between said brushes by the conductive patch, a timer device in the holding circuit of said relay, said timer normally closing said holding circuit but opening said circuit after a pre-determined length of time, and a warning device actuated by said holding circuit while it is closed.

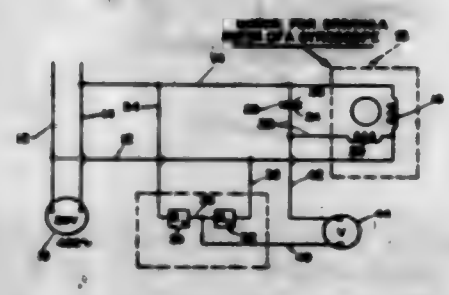
2. Apparatus as defined in claim 1, including a second pair of brushes connected in parallel with said first pair and adapted to engage the side of said tape opposite said first pair of brushes whereby said warning device will operate regardless of possible inversion of the side of the tape carrying the conductive patch.

3,146,432
VELOCITY OR FREQUENCY SENSING MEANS
Andrew L. Johnson, Mountain View, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 3, 1960, Ser. No. 60,890
8 Claims. (Cl. 340—263)



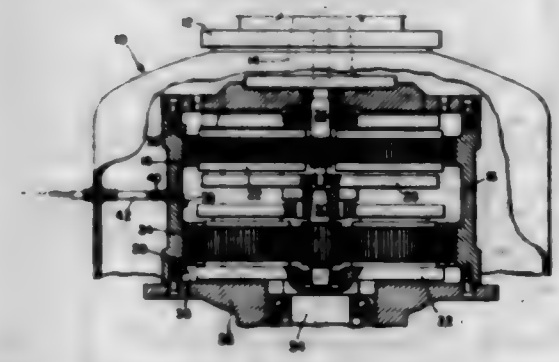
1. A sensing circuit for determining a preselected input frequency, comprising: means for producing first pulses of a predetermined time duration responsive to said input, said time duration being less than the period of said preselected frequency, means responsive to termination of said first pulses for producing corresponding second pulses each beginning with the termination of a corresponding first pulse and having a predetermined time duration greater than the difference between said period and the duration of said corresponding first pulse, the time duration from beginning to end of each pair of corresponding first and second pulses being slightly greater than the period of said input at the preselected frequency, and gating means coupled directly to said first and second named means for receiving said first and second pulses and developing an output at coincidence.

3,146,433
MEANS FOR MONITORING THE OPERATING SPEED OF A MOTOR
Charles E. Hurlbert, River Edge, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,573
11 Claims. (Cl. 340—263)



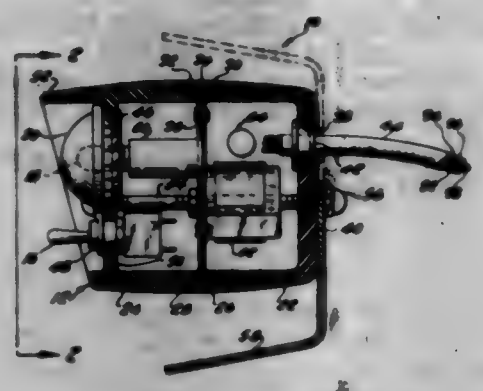
1. Means for monitoring the operating speed of an electric motor normally operating at a selected maximum speed relative to the frequency of an alternating current source, and said motor having a plurality of field windings energized from said alternating current source; said monitoring means comprising a bridge circuit including at least one of said field windings in an arm thereof, and electrical input lines to said bridge circuit operatively connected to said alternating current source, output lines from said bridge circuit, and electrical condition indicator means operatively connected to said output lines, said bridge circuit being so arranged as to be normally balanced upon operation of said electric motor at said selected speed, and upon the motor operating at a slower speed than said selected speed the impedance of the field windings of said motor may be effectively changed so as to unbalance the bridge circuit whereupon the electrical condition indicator means becomes effective to indicate said slower speed condition of the motor.

3,146,434
SIGNAL MEANS FOR ROTATING MACHINERY
Thomas D. Sharples, Lansdale, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed May 1, 1963, Ser. No. 277,303
6 Claims. (Cl. 340—267)



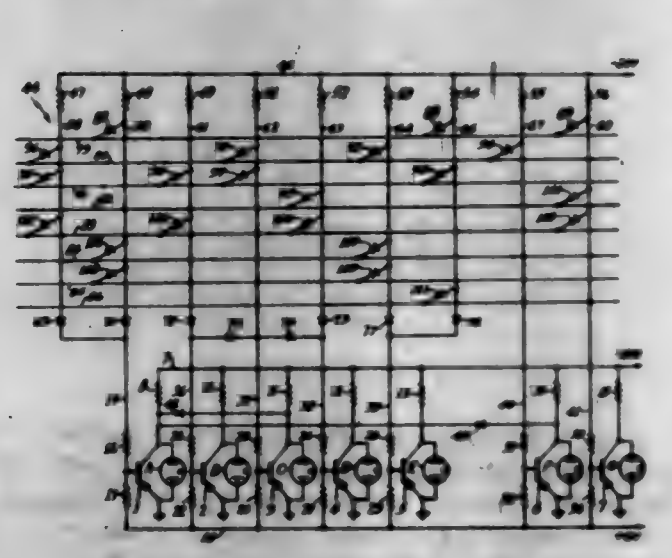
1. In combination a rotating gear box having an axis of rotation, a detector disposed adjacent the outer end of the greatest internal radius of the gear box housing, the detector presenting a pocket facing generally toward the axis of rotation, electric contacts in the pocket and adapted to be shorted by metal particles held outward between said contacts in the pocket by centrifugal force, and electric signal means connected to said contacts.

3,146,435
SYNCHRONIZATION INDICATOR
Thomas N. Kelly, Detroit, Mich., assignor to Aircraft Precision Products, Inc., Oak Park, Mich., a corporation of Michigan
Filed Nov. 20, 1961, Ser. No. 153,655
9 Claims. (Cl. 349—268)



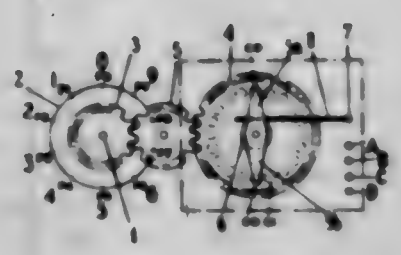
1. Apparatus for indicating synchronization of a pair of engines which engines have separate ignition circuits including a source of electric energy, an ignition switch, an ignition coil primary winding and an ignition condenser in series, comprising a pair of generally cup-shaped members having adjacent open ends, one of which has an opening therethrough, a seal and an electrical chassis positioned between the open ends of the cup-shaped members, stud and nut means extending axially through said cup-shaped members for securing said cup-shaped members, seal and chassis in assembly, a separate transformer primary winding secured to said chassis and in series with each ignition circuit between the ignition switch and ignition coil primary winding, a single transformer secondary winding also secured to said chassis and operably associated with both said transformer primary windings, a lens in the opening in said one cup-shaped number and an indicator light positioned adjacent said lens and connected across the transformer secondary winding for energization thereby on occurrence of simultaneous energy pulses in the transformer primary windings.

3,146,436
ARABIC NUMERAL DISPLAY HAVING BINARY CODE CONVERSION MATRIX
Jack H. Crow, Sarasota, Fla., assignor to Nuclear Corporation of America, Inc., Denville, N.J., a corporation of Delaware
Filed Jan. 21, 1959, Ser. No. 788,140
3 Claims. (Cl. 340—336)



1. A display system for producing a representation of Arabic numerals from zero to nine in response to binary coded representations thereof in the form of bits and complements including in combination a plurality of illuminable elements, means mounting said elements to form as a composite unit a configuration of the Arabic numeral eight, a translation matrix having a plurality of input terminals arranged in pairs to be responsive to a binary coded input, a binary bit being applied to one terminal of each pair and the complement of said bit being applied to the other terminal of the pair, a plurality of output terminals connected to said input terminals in a predetermined pattern corresponding to said paired arrangement of input terminals, switching means for each of said elements, and means comprising said switching means for connecting said elements to said output terminals in a predetermined pattern whereby upon the energization of said pairs of input terminals in accordance with a binary number signal representation said switching means are operated to cause energization of said illuminable elements in a pattern corresponding to the Arabic numeral display of said binary number.

3,146,437
ENCODING DEVICES
Vernon John Relle, London, England, assignor to Totalisators Limited, London, England
Filed Nov. 7, 1960, Ser. No. 67,828
Claims priority, application Great Britain Nov. 18, 1959
5 Claims. (Cl. 340—347)

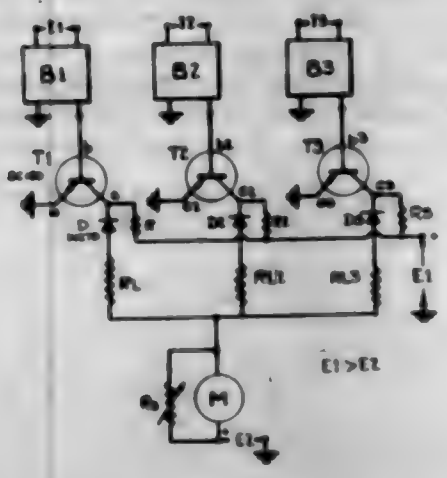


5. An encoding device for converting an input of digital information fed to the device on one scale into an output on a binary scale, comprising, in combination, a plurality of sets of electrical contacts, at least some sets consisting of at least two electrical contacts, wiper arm means selectively positionable to make electrical contact with any one set of contacts and to electrically interconnect all the contacts of that set, input means for positioning the wiper arm means in contact with one set of contacts corresponding to a digit of input information, a plurality of normally electrically isolated information, a plurality of normally electrically isolated outputs, fewer in number than the number of said sets, and conductors extending between the contacts and the outputs so that a different pattern of direct electrical interconnection between the wiper arm means and a selection of one or more outputs, corresponding to a binary scale output, is established for each position of the wiper arm means, at least two outputs being selected in at least some of said positions.

3,146,438
DECODING SYSTEM
Norman E. Peterson and Ernest E. Courchene, Jr., Norwalk, Conn., assignors to Digitech, Inc., South Norwalk, Conn., a corporation of Connecticut
Filed May 23, 1963, Ser. No. 282,775
10 Claims. (Cl. 340—347)

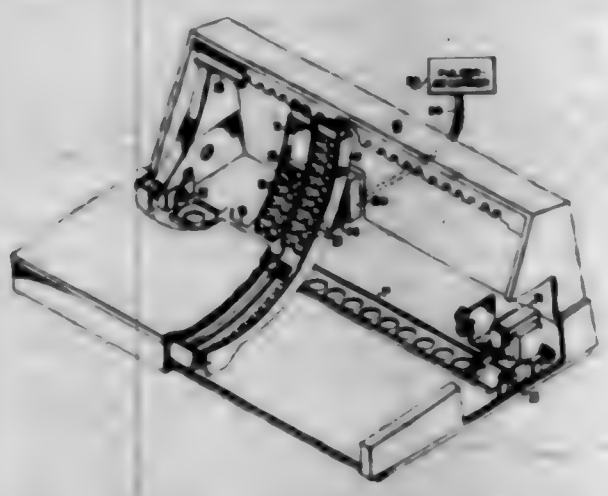
1. A decoding system for converting binary coded information represented by a two level voltage output to a predetermined current comprising the combination of a transistor having an emitter and a collector and a base, said emitter being grounded, a current indicator, one side of said indicator adapted for being coupled to a voltage source, means connecting the other side of said

indicator to the collector for permitting current flow through the indicator only when the collector voltage is



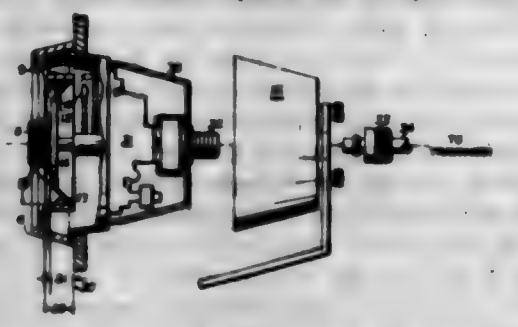
lower than the voltage source, and said means including a resistor for controlling the indicator current.

3,146,439
DATA TRANSMITTER
Louis H. Sedaris, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1960, Ser. No. 78,959
9 Claims. (Cl. 340—365)



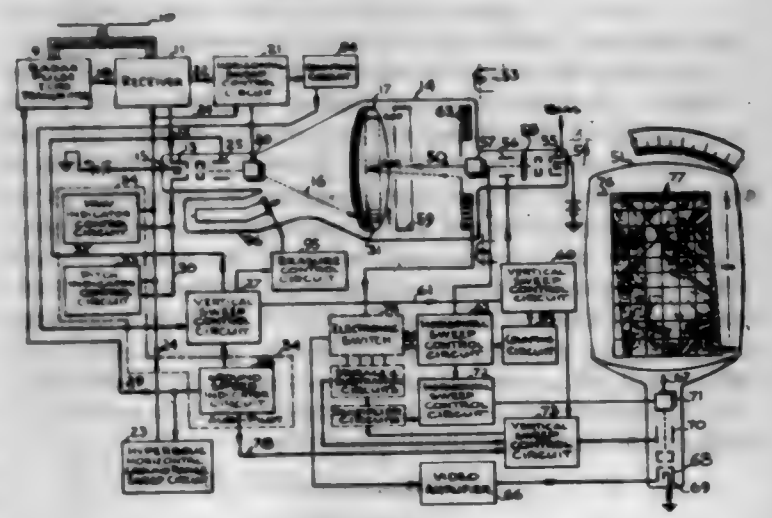
1. A data transmitter of the character described comprising a plurality of similar linear multi-character selector assemblies arranged in juxtaposition mounting, each selector assembly including a printed circuit card having a common conductive element and a plurality of character representing conductive elements, a slider element manually movable in a lengthwise direction and having a serrated detenting portion, a plurality of finger receiving slots for enabling the manual movement of the slider elements, a character identifying means associated with each of said finger receiving slots, means connected with said slider element for biasing it to a home position, a detenting member adapted to coact with said serrated detenting portion of said slider element for detenting said slider element in any depressed position, means for releasing said detenting member when such slider element has been fully depressed so as to permit said slider element to return to its normal position, said switching contacts attached to said slider element serving to electrically connect the common conductive element with one of the character representing conductive elements in accordance with the depressed setting of the slider element, terminal means for connecting the conductive element of said printed circuit card with a data transmission cable over which data representing pulses can be imparted to a centrally located data storing medium, and means arranged to actuate the detenting members of all selector assemblies so that slider elements can be simultaneously released for return to the home position.

3,146,440
INDICATING APPARATUS
Leonard B. Emerson, Framingham, and Richard P. Curtis, Marblehead, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 855,606
1 Claim. (Cl. 340—373)



An indicating apparatus comprising a case; a substantially annular panel member mounted at the front of said case; a circular face plate mounted at the front of said case; a viewing window positioned between said face plate and said panel member, said viewing window comprising a transparent frusto-conical surface extending inwardly from the outer perimeter of said face plate, a substantially cylindrical light-absorbing surface extending inwardly from the inner perimeter of said panel member and intersecting said frusto-conical surface, said frusto-conical surface and said cylindrical surface forming an acute angle; a movable flashing light indicator rotatably mounted behind said transparent surface; a light-absorbing material mounted behind said movable flashing light indicator.

3,146,441
NAVIGATIONAL AND RECONNAISSANCE PULSE-ECHO RADAR SYSTEM
Theodore Miller, Los Angeles, Calif., assignor, by mesne assignments, to Space Technology Laboratories, Inc., El Segundo, Calif., a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,721
11 Claims. (Cl. 343—5)



1. A data display system adapted to display a high resolution picture at a relatively rapid frame rate using data bursts continually received at a relatively lower rate comprising: a continual signal burst producing device, a high resolution storage surface capable of receiving and recording a plurality of point by point lines of data as received from the signal producing device, scanning means associated with said signal producing device for writing said signal bursts upon said storage surface in a first preselected pattern at a first preselected rate, means for sensing point by point a plurality of any lines of data that

may be stored on the surface to sense said lines in a second preselected pattern at a second preselected rate, a high resolution display device operably connected to the sensing means for displaying the plurality of lines of data sensed, and an electric circuit connection between the continual signal producing device and the sensing device for synchronizing said first preselected pattern with said second preselected pattern to sense the most recently recorded lines of data.

3. A radar system mounted on a moving craft for providing a high resolution display of the most recent data received from a high definition radar antenna non-rotatably secured to the craft with the display providing a picture of sufficient dimensions to enhance interpretation thereof comprising: an electron recording tube having a high electron velocity electron gun for providing a writing beam, a high resolution storage surface, electric circuit means for modulating the current flow of an electron writing beam in accordance with data received at the antenna, means for deflecting the writing beam to place a plurality of point by point data lines on the storage surface at a rate proportional to the receipt of information from the antenna; a high resolution electronic display tube; a low electron velocity electron gun for providing a reading electron beam which will rapidly scan, point by point, a plurality of any lines of data recorded on the storage surface without substantially varying the data recorded on the surface, thereby producing a data containing signal at a frame rate substantially greater than the rate of receipt of data, said rate depending on the retention characteristics of the display tube; electric circuit means for conducting the data containing signal from the region of the reading beam to a grid of the display tube whereby a plurality of lines of data may be displayed; and other electrical circuit means for synchronizing the reading beam with the writing beam so that the most recently recorded data will be displayed.

7. A radar system mounted on a moving craft for providing a display of the most recent data received from a high definition radar antenna non-rotatably secured to the craft comprising: a high resolution electronic display tube; a radar receiver electrically connected between the antenna and the display tube for producing a data containing signal; electric circuit means for conducting the data containing signal to a grid of the display tube whereby a plurality of lines of data may be displayed with the data displayed in the order in which the earth is traversed by the craft; first signal producing means of the type providing a yaw signal as a function of the yaw of the craft for modifying the sweep circuits of the display tube to produce a rhomboidal display thereon when there is a substantial yaw; rectangular coordinates associated with the display tube surface which correspond to rectangular coordinates on a comparable map of the area traversed when the yaw corrected rhomboidal display is viewed; and second signal producing means of the type providing a pitch signal in accordance with any pitch of the craft which will affect the relative area sensed for controlling the display relative to an indication of the location of the craft on the surface of the display tube.

3,146,442
APPARATUS FOR THE TRANSMISSION OF RADAR DATA

Reginald Frederick Hansford and Eric Parker, London, England, assignors to Decca Limited, a company of Great Britain

Filed Jan. 8, 1962, Ser. No. 164,679
Claims priority, application Great Britain Jan. 11, 1961
14 Claims. (Cl. 343—6)

1. In apparatus for the transmission, to a point of utilization, of radar data obtained from radar apparatus employing a cyclically moving directional aerial and providing video signals corresponding to received radar echo signals; the combination of a generator driven in synchronism with the aerial movement to generate an alternating current having a frequency which is representative of the frequency of the cyclic movement of the aerial, adjustable selecting means for selecting, from said video signals, those signals coming from targets at a selected range, control means controlled by said alternating current and

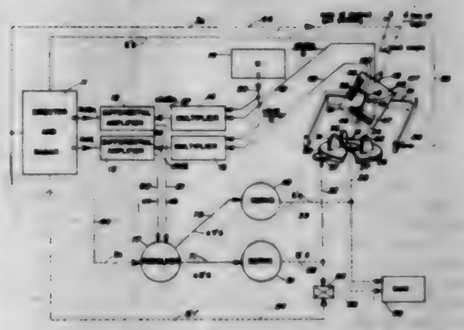


operative to control said adjustable selecting means to vary the selected range between a maximum and a minimum value at a rate such that the total range of adjustment occurs over a known integral number of aerial cyclic movements, and means for transmitting the selected video signals and the alternating current frequency to said point of utilization.

3,146,443
ANGLE CONVERTER

John F. Blackburn, Belmont, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 29, 1949, Ser. No. 84,028
10 Claims. (Cl. 343—7)

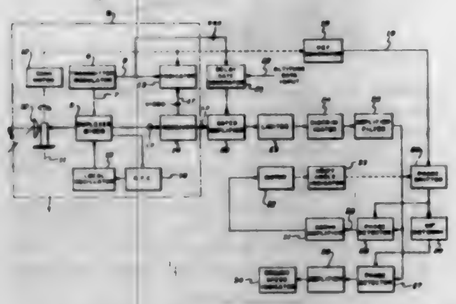


4. In angle converter apparatus of the character disclosed for use in a gun fire control system aboard a vessel, in combination, means for computing two signals representative of the linear traverse rate and linear elevation rate of a moving target respectively, artificial target means including an artificial target on said apparatus and moving in a manner similar to the movement of the real target, said artificial target means including dual signal generating means for generating two signals corresponding to the movements of the artificial target in a pair of mutually perpendicular planes corresponding to the traverse and elevation planes of the real target respectively, means for comparing the computed signals with the generated signals to obtain two difference signals, means for utilizing the difference signals for altering the generated signals in a manner which tends to maintain the difference signals at zero, and means operatively connected to said last named means for obtaining gun positioning orders in deck train and deck elevation.

3,146,444
SCAN MODULATED DOPPLER RADAR

David Mannesheimer, Bayville, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed May 24, 1961, Ser. No. 112,276
9 Claims. (Cl. 343—9)

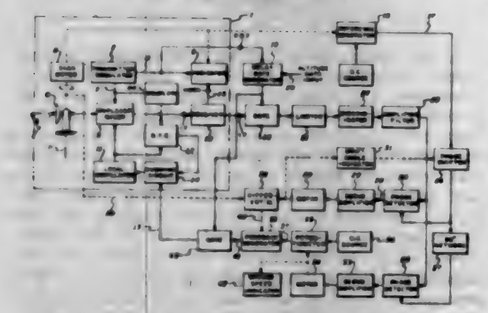


1. A Doppler radar comprising means for irradiating a target object with a scannable beam of microwave energy, means for scanning said beam and for generating a reference signal having a frequency equal to the scanning frequency of said beam, means for receiving echo signals from said target object, a frequency discriminator connected to the output of said means for receiving, phase comparing means having two inputs, one of said inputs being connected to the output of said discriminator and the other of said inputs being coupled to receive said reference signal, said phase comparing means producing an output signal representing the direction of the radial velocity of said target object relative to said radar, and signal amplitude measuring means coupled to said output of said discriminator for providing an indication of the magnitude of said radial velocity of said target object relative to said radar.

3,146,445
FEEDBACK STABILIZED SCANNING DOPPLER RADAR

Lloyd R. Kimball, Plainview, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed May 31, 1961, Ser. No. 113,688
10 Claims. (Cl. 343—9)

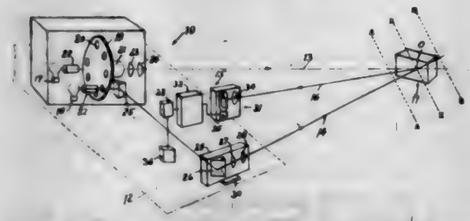


9. Feedback stabilized Doppler apparatus comprising means for irradiating a target object with a scannable beam of microwave energy, means for scanning said beam and for generating a reference signal of fixed amplitude and phase and a feedback signal of variable amplitude and variable phase, both said reference and feedback signals having a frequency equal to the scanning frequency of said beam, means for receiving echo signals from said target object, said echo signals being frequency modulated at said scanning frequency, said means for receiving including a controllable frequency and controllable phase local oscillator and a signal mixer for heterodyning the received modulated signal with the local oscillator signal to produce an output signal, a frequency discriminator coupled to receive said output signal, phase comparing means having two inputs, one of said inputs being connected to the output of said discriminator and the other of said inputs being coupled to receive said reference signal, said phase comparing means producing a first control signal representing the direction of the radial velocity of said target object relative to said Doppler apparatus, signal amplitude measuring means coupled to the output of said discriminator for producing a second control signal representing the magnitude of said radial velocity, means for applying said first and second control signals to said means for generating said feedback signal to respectively vary the phase and the amplitude of said feedback signal in accordance therewith, and means for applying said feedback signal to said local oscillator for controlling the frequency thereof.

3,146,446
RANGING SYSTEMS

Anatol Novitzky, 788 Columbus Ave., New York, N.Y.

Filed Mar. 24, 1960, Ser. No. 17,309
16 Claims. (Cl. 343—15)



1. Ranging apparatus comprising a first source of pulsating electromagnetic radiation having a frequency of f' pulses per second, a second source of pulsating electromagnetic radiation having a frequency of f'' pulses per second, means for guiding the radiations from said first and second sources in constricted beams which are angularly related to intersect only at a region located at a predetermined distance from said sources to form superimposed pulsating electromagnetic radiation at said region having a frequency of f''' pulses per second and constituted of pulsations of frequency f' in interposed relation to pulsations of frequency f'', where f''' is different from f' and f'', and detecting means operatively disposed for selectively detecting pulsating electromagnetic radiation only having a frequency of f''' pulses per second.

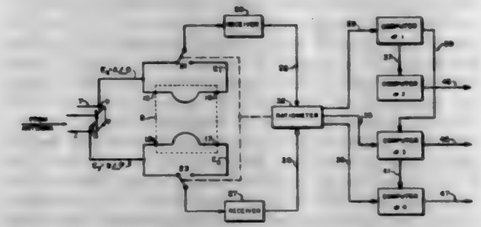
3,146,447
COMMUNICATION SYSTEM

Harold L. Newman, San Jose, Calif., assignor to the United States of America as represented by the Secretary of the Army

Filed July 17, 1962, Ser. No. 210,603
7 Claims. (Cl. 343—100)

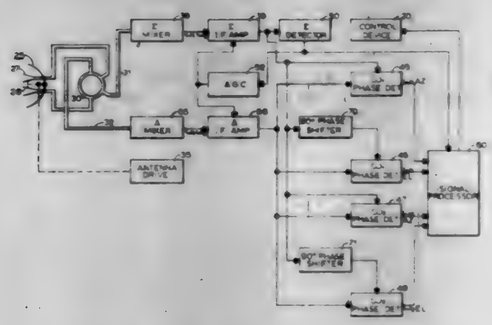
6. An electromagnetic wave polarization analyzer and synthesizer, comprising: means to abstract the orthogonal components of a received wave of arbitrary polarization, means to compute the sense of rotation, orientation angle and axial ratio of said received wave by utilizing only

the amplitudes of said components and the amplitudes of combinations of said components, and means responsive



to the computed quantities to automatically generate a tranamitted wave of matching polarization characteristics.

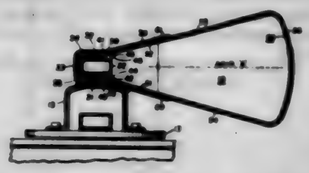
3,146,448
VEHICLE GUIDANCE SYSTEM
Ralon G. Shelley, Downey, Calif., assignor to Tamar Electronics Industries, Inc.
Filed Dec. 4, 1962, Ser. No. 242,216
19 Claims. (Cl. 343—112)



1. In a vehicle guidance system,
a plurality of beacon transmitters having different transmission frequencies fixedly located in a predetermined relative positional relationship,
direction finding means mounted in said vehicle for detecting the beat signals produced between said transmitter outputs and generating output signals in accordance therewith having time durations in accordance with the angles subtended at said vehicle between said beacon transmitters, and
signal processor means mounted in said vehicle and responsively connected to the output of said direction finding means for generating signals in accordance with the range to one of said transmitters and vehicle azimuth and elevation steering information.

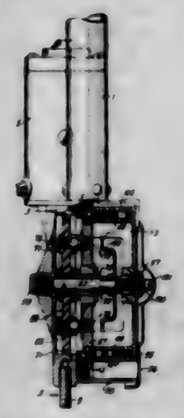
3,146,449
SLOT FED HORN RADIATOR WITH PROTECTIVE RADOME HAVING POLARIZATION AND RESISTANCE WIRES EMBEDDED THEREIN
Igor B. Serge, Beverly Hills, and Peyton S. Webb, Sherman Oaks, Calif., assignors to The Bendix Corporation, North Hollywood, Calif., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,329
7 Claims. (Cl. 343—704)

2. A microwave antenna comprising:
a waveguide section including a plurality of slots extending generally transverse to the length of one face thereof and forming a microwave energy-radiating array,
a support for said waveguide section including a unitary member having an elongated recess for receiving said waveguide section and a pair of flaring wall portions embracing the slotted face of said waveguide and constituting the root of a horn,



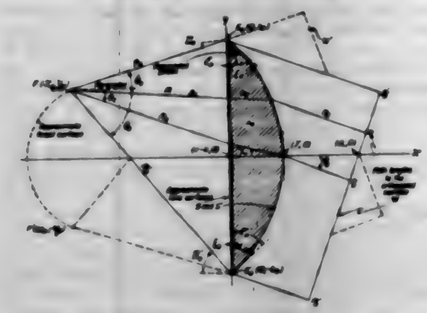
a radome of low-loss dielectric material including planar wall portions constituting extensions of the horn defined by said flaring walls of said support, said radome including a central dome portion joining the outermost ends of said planar portions to constitute an aperture,
and a plurality of electrical conductors extending across said central dome portion of said radome in a direction transverse to the length of said slot array, thereby constituting a cross-polarized energy suppressor.

3,146,450
CAPACITY-COMPENSATED MOTOR-DRIVEN ANTENNA
John L. Dooner, Cedar Grove, N.J., assignor to General Bronze Corporation, Garden City, N.Y.
Filed Feb. 1, 1961, Ser. No. 86,513
5 Claims. (Cl. 343—723)



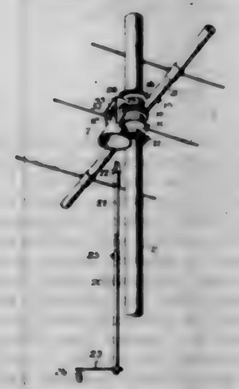
1. An antenna device having a substantially constant output capacitance over its entire length of structure comprising a number of telescoping sections to be extended in whip-like fashion or retracted, rack means of electrically conductive material having one end operative connected to one of said sections, means for driving said rack means to extend or retract said antenna device, said last-mentioned means including gear means electrically connected to and operatively engaging said rack means, terminal means connected to said sections for receiving signal energy from said antenna device, and compensating capacity means including a pair of movable plate members, one of said plate members comprising said gear means, said compenssating capacity means being continuously controllable in accordance with the extension and retraction of said antenna device to compensate for resulting variations in the distributed capacity across said antenna device thereby maintaining the output capacitance of said antenna device at said terminal means substantially constant.

3,146,451
DIELECTRIC LENS GIVING PERFECT FOCAL POINTS AT SELECTED DISTANCE OFF-AXIS
Robert L. Sternberg, Chestnut Hill, Mass., assignor to Laboratories for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Oct. 29, 1956, Ser. No. 619,917
10 Claims. (Cl. 343—753)



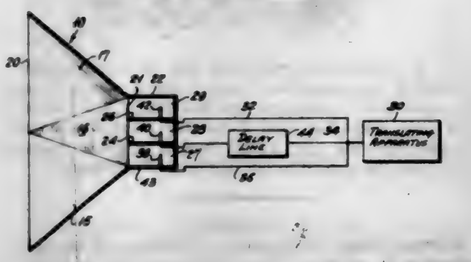
1. An axially symmetric dielectric lens with at least one off-axis focal point whose cross-section in a meridional plane which includes the axis of symmetry is bounded by intersecting arcs of even, equal and greater than second degree and of different curvature, said lens focusing rays of energy emerging from said focal point into a beam of parallel rays oriented at a selected direction relative to said axis and converging generally parallel rays from said direction upon said focal point.

3,146,452
REMOTELY OPERATED HAND CRANK AND GEAR DRIVE FOR ORIENTATION OF ANTENNAS ON A MAST
Joseph K. Rose, 1116 Linden Ave., Highland Park, Ill.
Original application June 10, 1953, Ser. No. 360,707, now Patent No. 3,008,140, dated Nov. 7, 1961. Divided and this application June 27, 1961, Ser. No. 125,902
6 Claims. (Cl. 343—758)



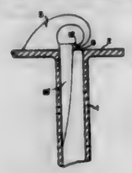
2. In combination, a television mast, an inverted funnel-shaped member having a pair of laterally projecting arms clamped to said mast, a sleeve rotatably mounted on said mast above said arms, an antenna rigidly secured to said sleeve, a worm wheel rigidly secured to said sleeve, a gear assembly positioned above said funnel-shaped member, said gear assembly including a worm gear engaging said worm wheel, and manually operable means insertable through said funnel-shaped member for rotating said sleeve to orient said antenna.

3,146,453
SHORTENED HORN ANTENNA WITH MULTIPLE PHASED FEED
Boynton G. Hagaman, Falls Church, Va., assignor, by mesne assignments, to Deco Electronics, Inc., Washington, D.C., a corporation of Virginia
Filed Aug. 24, 1959, Ser. No. 835,730
7 Claims. (Cl. 343—778)



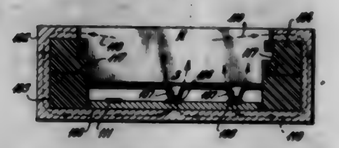
1. An electromagnetic wave antenna comprising a flared horn having a short length and an aperture lying in a given plane, a rectangular wave guide connected to the small end of said horn, said wave guide having a plurality of longitudinally extending metallic walls dividing the wave guide into inner and outer sections, whereby the inner wave guide section illuminates predominantly the middle portion of the horn aperture and outer sections of the wave guide illuminate predominantly the end portions of the horn aperture, a source of radio waves, means for supplying the radio waves from said source to said wave guide, and means for compensating for the relative phase differences between waves arriving at the aperture of said horn, said compensating means comprising means for delaying the waves supplied from said source to the inner wave guide section relative to the waves supplied to said outer wave guide sections.

3,146,454
RIDGED WAVEGUIDE FED SCIMITAR ANTENNA
Wilfred N. Caron, Arlington Heights, Ill., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 31, 1962, Ser. No. 170,290
10 Claims. (Cl. 343—848)
(Granted under Title 35, U.S. Code (1952), sec. 266)



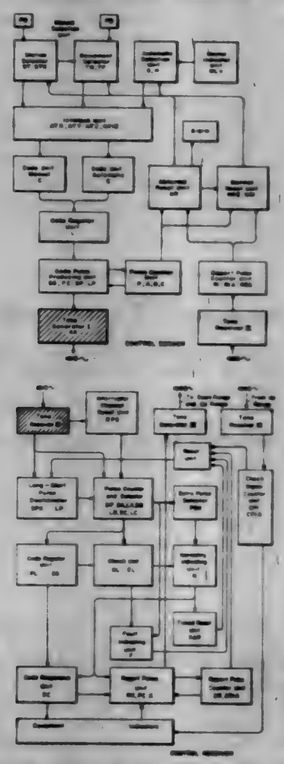
1. A waveguide fed antenna comprising: means providing a conductive ground plane surface; a waveguide of the ridge type opening into said ground plane surface and having a longitudinal axis normal to said ground plane surface; and a folded stub antenna positioned on the opposite side of said ground plane surface with respect to said waveguide, said antenna having its feed point connected to a ridge of said waveguide and its other end in contact with said ground plane surface on the same side of said waveguide as said ridge.

3,146,455
MAGNETIC DATA TRANSFERRING DEVICE
Alfred Cutaia, Endicott, Frederick M. Demer, Johnson City, and Martin J. Kelly, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1959, Ser. No. 824,886
2 Claims. (Cl. 346—74)



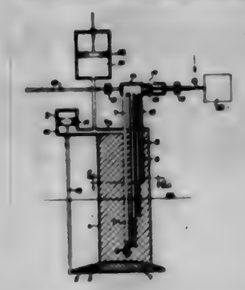
1. In a device for recording data on a card having a matrix of pre-magnetized spots thereon, means forming a magnetically conductive path including a bed to receive the card; a magnet; and a masking plate between said magnet and the card having means to guide magnetic flux from the magnet to selected ones of said spots.

3,146,456
SUPERVISORY REMOTE CONTROL APPARATUS
Sheldon D. Silliman, Forest Hills, and Carl L. Cadwell, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 19, 1958, Ser. No. 716,145
14 Claims. (Cl. 340—163)



1. Apparatus for controlling remotely from a sending station at least one device at a receiving station, said receiving station including an indication system for indicating the condition of said device and related devices, there being a control communication channel and an indication communication channel between said sending and receiving stations, said control channel to transmit signals from said sending to said receiving station to actuate said device and said indication channel to transmit signals from said receiving to said sending station, the said apparatus including manually operable switch means for setting the desired condition of said device, automatically operable switch means for setting the condition of said device, means connected to said manually operable switch means and actuable responsive to the setting thereof for transmitting a signal corresponding to said last-named setting over said control channel to said receiving station, means responsive to a signal received by said sending station through said indication channel connected to said automatically operable switch means for setting said last-named switch means in accordance with said received signal, means connected to said automatically operable switch means and actuable responsive to the setting thereof for transmitting to said receiving station a signal over said control channel corresponding to said last-named setting, said means responsive to a signal received by said sending station including means for resetting said apparatus following the transmitting of a signal to said receiving station, and interlock means between said means connected to said manually operable switch means and said means connected to said automatically operable switch means preventing the actuation of one of said last-named connected means if the other connected means is previously actuated.

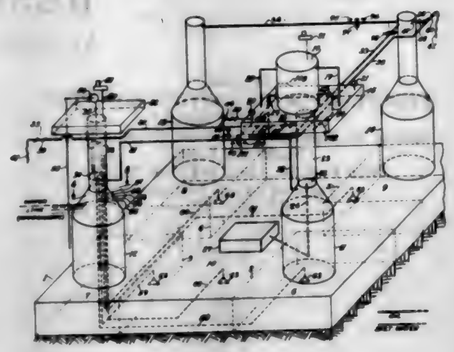
3,146,457
AUTOMATIC CONTROL SYSTEMS FOR HYDROFOILS
Hanns von Schertel, 450 Sonnenberg, Herrliswil am See, Switzerland
Filed Dec. 10, 1962, Ser. No. 244,240
11 Claims. (Cl. 114—66.5)



1. Apparatus for automatically controlling the immersion depth of hydrofoils supporting a hull of a watercraft and having at least one flap hinged to the trailing edge of the hydrofoil, comprising cylinder means having a piston therein, linkage means interconnecting said flap with said piston for pivoting said flap about a hinge axis therefor responsive to pressure changes in said cylinder means, sub-pressure generating means communicating with said cylinder means for subjecting said piston to sub-pressure conditions produced thereby to effect movement of the piston in a positive flap deflection direction responsive to increasing sub-pressure, control means for modifying said sub-pressure conditions applied to said cylinder means including air ducts connected with said cylinder means and having air intake openings disposed to occupy positions above and below the normal waterline when the watercraft is in motion for changing said sub-pressure conditions applied to said piston in relation to changes in the level of the air intake means relative to the water surface, and an air regulator valve between said control means and said cylinder means for variably restricting communication of air and admitting additional air from said control means to said cylinder means.

3,146,458
UNDERWATER STORAGE UNIT
John C. Estes and Ray S. Lacy, Jr., Beaumont, Tex., assignors to Bethlehem Steel Company, a corporation of Pennsylvania
Filed Nov. 18, 1960, Ser. No. 70,149
13 Claims. (Cl. 61—46.5)

1. Marine oil storage apparatus comprising:
(*a*) a tank adapted to be submerged and stably supported adjacent the marine floor,
(*b*) a compartment elevated above said tank,
(*c*) first conduit means secured to said compartment and communicating with the interior thereof to introduce water into said compartment,
(*d*) baffle means in said compartment,
(*e*) first and second chambers in said compartment defined by said baffle means,
(*f*) oil withdrawal means secured to said compartment and communicating with the upper portion of said first chamber,
(*g*) second conduit means secured to said compartment and communicating between said first chamber and the lower portion of said tank,
(*h*) said first chamber communicating with said second chamber below the level of said oil withdrawal means, and



(*i*) an overflow conduit secured to said compartment and communicating between said second chamber and the atmosphere.

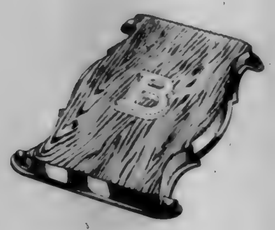
DESIGNS

AUGUST 25, 1964

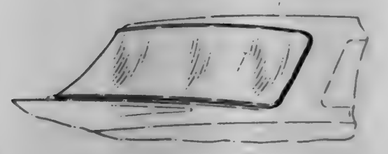
198,968
PEDESTAL FOR SUPPORTING BOW PINS ON RIBBON ROLLS
Morris W. Manhoarn, Jr., 5124 Overton Road, Nashville, Tenn.
Filed Feb. 20, 1963, Ser. No. 73,715
Term of patent 14 years
(Cl. D3—19)



198,969
SHUTTER OR SIMILAR ARTICLE
Dana Loran Graham, Rte. 1, Box 378, Lenoir, N.C.
Filed Apr. 22, 1964, Ser. No. 79,658
Term of patent 14 years
(Cl. D13—1)



198,970
REAR WINDOW FOR AUTOMOBILES OR THE LIKE
Frank J. Carson and Herbert A. Leflet, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio
Filed Nov. 2, 1960, Ser. No. 62,711
Term of patent 14 years
(Cl. D14—6)



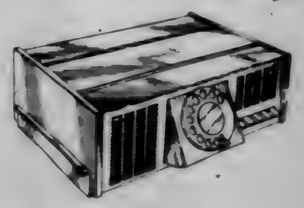
198,971
CHAIR
Herbert Ritts, 2221–51 Sepulveda Blvd., Los Angeles 64, Calif.
Filed July 25, 1963, Ser. No. 75,958
Term of patent 7 years
(Cl. D15—1)



198,972
ARTICLE HOLDER FOR A PERFORATED SUPPORT BOARD
Lloyd A. Erickson, Cook County, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Continuation of design application Ser. No. 73,846, Jan. 3, 1963. This application May 13, 1963, Ser. No. 74,860
Term of patent 14 years
(Cl. D17—12)



198,973
INTERCOMMUNICATION LOUDSPEAKER TELEPHONE SET
Howard Upjohn, Hillingdon, Middlesex, England, assignor to The General Electric Company Limited, London, England
Filed Nov. 29, 1962, Ser. No. 72,646
Claims priority, application Great Britain May 31, 1962
Term of patent 7 years
(Cl. D26—14)



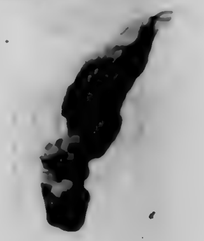
198,974
PICKUP HEAD FOR A PHONOGRAPH
Walter O. Stanton, Laurel Hollow Road, Laurel Hollow, N.Y.
Filed Feb. 6, 1964, Ser. No. 78,548
Term of patent 14 years
(Cl. D26—14)



198,975
BADGE
Lucas C. Holmes, 324½ W. 76th St., Los Angeles, Calif.
Filed Oct. 7, 1963, Ser. No. 76,876
Term of patent 14 years
(Cl. D29—2)



198,976
TOY ANIMAL FIGURE
Thomas Dam, Aabybro, Denmark, assignor to Dam Things Establishment, Vaduz, Liechtenstein
Filed Mar. 10, 1964, Ser. No. 78,937
Term of patent 14 years
(Cl. D34—2)



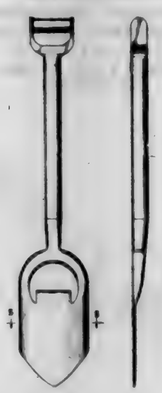
198,977
DOLL OR SIMILAR ARTICLE
Avis R. Rossi, Southboro, Mass., assignor to Constance B. Brewer, Chestnut Hill, Mass.
Filed Apr. 17, 1964, Ser. No. 79,551
Term of patent 14 years
(Cl. D34—2)



198,978
DOLL OR SIMILAR ARTICLE
Avis R. Rossi, Southboro, Mass., assignor to Constance B. Brewer, Chestnut Hill, Mass.
Filed Apr. 17, 1964, Ser. No. 79,555
Term of patent 14 years
(Cl. D34—2)



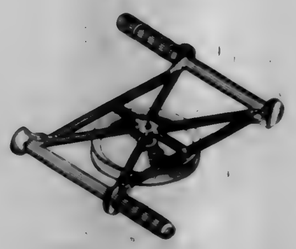
198,979
SPADE OR SIMILAR ARTICLE
George Petoe, 23359 W. Roosevelt Road, South Bend, Ind.
Filed Dec. 13, 1962, Ser. No. 72,919
Term of patent 14 years
(Cl. D39—1)



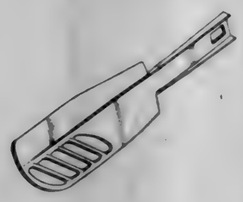
198,980
COMBINED LAWN EDGER AND TRIMMER
Robert O. Ernest, Oak Park, and Ross E. Cornwell, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 29, 1963, Ser. No. 75,122
Term of patent 14 years
(Cl. D40—1)



198,981
REEL
Roy E. Nicholson, 3319 Midnight Pass Road, Sarasota, Fla.
Filed Nov. 4, 1963, Ser. No. 77,276
Term of patent 14 years
(Cl. D41—1)



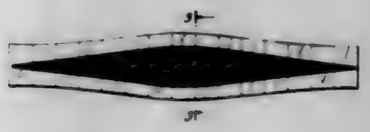
198,982
FOOD BEATER
William Marcus, Cleveland, Ohio, assignor to Merrymaid Plastics Corporation, Cleveland, Ohio
Filed Mar. 31, 1964, Ser. No. 79,276
Term of patent 14 years
(Cl. D44—1)



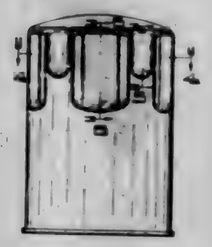
198,983
TRAY FOR CONDIMENT CONTAINERS
Morris Friedman, New York, N.Y., and Audrey V. Mackey, Ambler, Pa., assignors to Minerware, Inc., New York, N.Y., a corporation of New York, and H.M.S. Associates Co., Willow Grove, Pa., a corporation of Pennsylvania
Filed Mar. 26, 1964, Ser. No. 79,211
Term of patent 14 years
(Cl. D44—24)



198,984
LINK CHAIN FOR A BRACELET OR THE LIKE
Emil Rodriguez, New York, N.Y., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed Dec. 18, 1962, Ser. No. 72,796
Term of patent 7 years
(Cl. D45—4)



198,985
FILTER SHELL
Robert J. Offer, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Oct. 24, 1963, Ser. No. 77,136
Term of patent 14 years
(Cl. D46—1)



198,986
LUMINAIRE
Edmund L. Izzi, North Olmsted, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Mar. 27, 1963, Ser. No. 74,158
Term of patent 14 years
(Cl. D48—31)



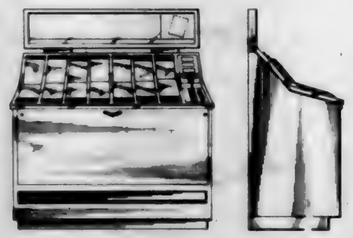
198,987
MASONRY WALL REINFORCING TRUSS
William G. Smith, Ringgold, Ga., assignor to Lox-All Sales Corporation, Chattanooga, Tenn., a corporation of Tennessee
Filed Oct. 12, 1962, Ser. No. 72,086
Term of patent 14 years
(Cl. D51—1)



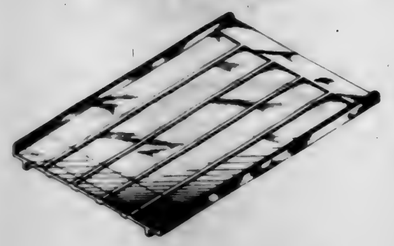
198,988
TICKET ISSUING MACHINE OR SIMILAR ARTICLE
Albert Hohmann, Brooklyn, N.Y., assignor to Taller & Cooper, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 2, 1964, Ser. No. 79,316
Term of patent 14 years
(Cl. D52—2)



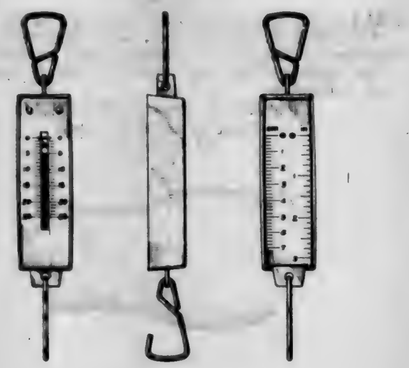
198,989
AUTOMATIC VENDING MACHINE FOR GREETING CARDS OR THE LIKE
George L. Kramer, Hudson, Wis., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Aug. 1, 1962, Ser. No. 71,128
Term of patent 14 years
(Cl. D52—3)



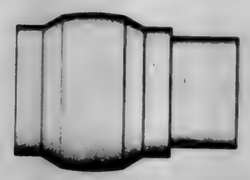
198,990
COIN COUNTING TRAY
Lewis T. Lanier, P.O. Box 1367, Concord, N.C., assignor of fifty percent to Mellck W. Blades, Apex, N.C.
Filed Sept. 10, 1963, Ser. No. 76,538
Term of patent 14 years
(Cl. D52—4)



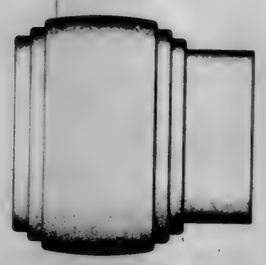
198,991
CALIBRATED SPRING SCALE
Dana W. Mox, Glenview, Ill., assignor to Hanson Scale Company, Northbrook, Ill., a corporation of Illinois
Filed Apr. 9, 1964, Ser. No. 79,431
Term of patent 14 years
(Cl. D52—10)



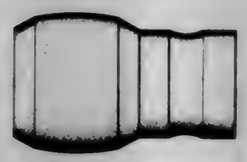
198,992
FRUIT ENGAGING ELEMENT FOR USE IN A CONVEYOR FOR HANDLING AND SIZING FRUIT
Maurice V. Johnson, Jr., Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 20, 1964, Ser. No. 78,272
Term of patent 14 years
(Cl. D54—13)



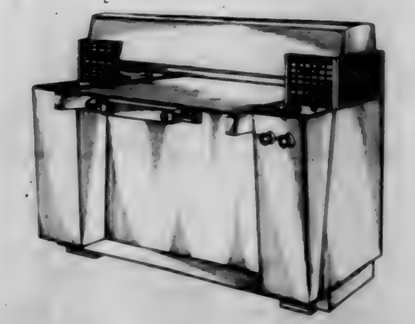
198,993
FRUIT ENGAGING ELEMENT FOR USE IN A CONVEYOR FOR HANDLING AND SIZING FRUIT
Maurice V. Johnson, Jr., Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 20, 1964, Ser. No. 78,271
Term of patent 14 years
(Cl. D54—13)



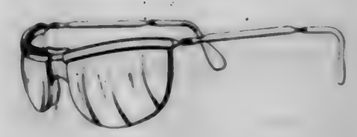
198,994
FRUIT ENGAGING ELEMENT FOR USE IN A CONVEYOR FOR HANDLING AND SIZING FRUIT
Maurice V. Johnson, Jr., Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 20, 1964, Ser. No. 78,273
Term of patent 14 years
(Cl. D54—13)



198,995
CUTTING PRESS
Frederick Charles Ashford, London, England, assignor to B.U. Supplies & Machinery Company Limited, Leicester, England, a British company
Filed July 29, 1963, Ser. No. 76,009
Claims priority, application Great Britain Feb. 16, 1963
Term of patent 14 years
(Cl. D55—1)



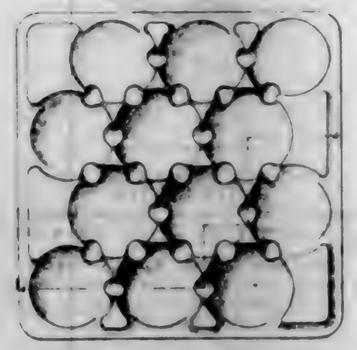
198,996
PAIR OF SPECTACLES
Georges Limac, Paris, France, assignor, by mesne assignments, to Societe Industrielle de Lunetterie S.I.L., Paris, France, a corporation of France
Filed Sept. 14, 1962, Ser. No. 71,684
Term of patent 14 years
(Cl. D57—1)



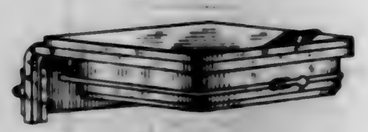
198,997
BOTTLE
John Brady Campbell, Paramus, N.J., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 19, 1964, Ser. No. 78,692
Term of patent 14 years
(Cl. D58—6)



198,998
PACKAGING TRAY
Gilbert R. Chadbourne, Oakland, Maine, assignor to Keyes Fibre Company, Portland, Maine, a corporation of Maine
Filed Jan. 10, 1964, Ser. No. 78,146
Term of patent 14 years
(Cl. D58—13)



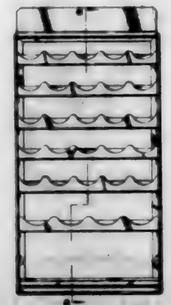
198,999
COMBINED COVER AND HOLDER FOR A REFUSE BAG
John C. Brighton, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Oct. 8, 1962, Ser. No. 72,040
Term of patent 14 years
(Cl. D58—17)



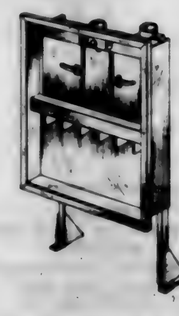
199,000
WASTE BASKET
Martin A. Johnson, 11633 Hesby St., North Hollywood, Calif.
Filed Mar. 23, 1964, Ser. No. 79,118
Term of patent 14 years
(Cl. D58—17)



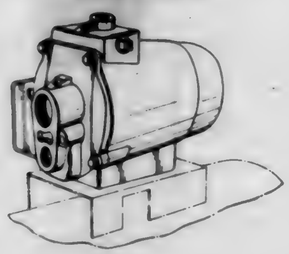
199,001
BOTTLE STORAGE RACK
George R. Staten, Columbus, Ohio, assignor to George Staten, Inc., Columbus, Ohio, a corporation of Ohio
Filed Apr. 23, 1963, Ser. No. 74,584
Term of patent 7 years
(Cl. D58—26)



199,002
PNEUMATIC TUBE CABINET
Edward J. Voltas, Oakland, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 21, 1963, Ser. No. 75,458
Term of patent 14 years
(Cl. D62—1)



199,003
COMBINATION PUMP AND MOTOR HOUSING
William J. Ekey, Ashland, Ohio, assignor to The F. E. Myers & Bro. Co., Ashland, Ohio
Filed Apr. 8, 1963, Ser. No. 74,332
Term of patent 14 years
(Cl. D65—1)



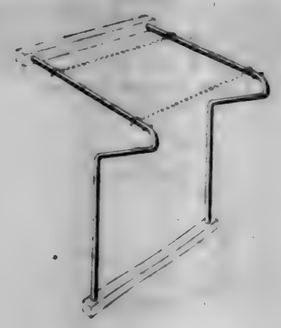
199,004
LIFE PRESERVER FOR SMALL ANIMALS
Judyth M. Cummings, 1121 Horne, Topeka, Kans.
Filed Mar. 24, 1964, Ser. No. 79,148
Term of patent 14 years
(Cl. D71—1)



199,005
CARTRIDGE ADAPTER FOR A FOUNTAIN PEN
Walter J. De Groft, Glen Ellyn, Ill., assignor, by mesne assignments, to Sanford Research Company, a corporation of Illinois
Filed July 13, 1961, Ser. No. 65,899
Term of patent 14 years
(Cl. D74—17)



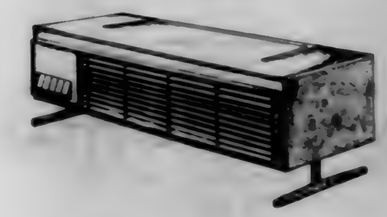
199,006
CLOTHING DISPLAY RACK OR SIMILAR ARTICLE
Howard A. Fleischman, 10135 Long Beach Blvd., Monterey Park, Calif.
Filed Feb. 15, 1963, Ser. No. 73,581
Term of patent 14 years
(Cl. D80—8)



199,007
SUPPORT CLIP FOR CLOTHES HANGERS
Howard A. Ehlind, 2627 N. Western Ave., Chicago, Ill.
Filed Apr. 19, 1963, Ser. No. 74,519
Term of patent 14 years
(Cl. D60—8)



199,008
SPACE HEATER
Eric Marshall, West Wickham, England, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed May 13, 1963, Ser. No. 74,858
Claims priority, application Great Britain Nov. 26, 1962
Term of patent 14 years
(Cl. D81—10)



199,009
VENTILATING RANGE HOOD
Harold L. Herman, 7319 Lankershim Blvd., Burbank, Calif.
Filed Dec. 28, 1962, Ser. No. 72,988
Term of patent 14 years
(Cl. D81—25)



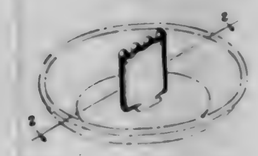
199,010
PELLET IMPLANTER FOR ANIMALS AND THE LIKE
Lawrence De Rome, Silver Lake, Wis. (Bassett, Wis.)
Filed May 13, 1963, Ser. No. 74,861
Term of patent 14 years
(Cl. D83—12)



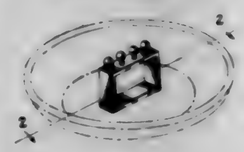
199,011
TIME LOCK CIGARETTE CASE
Paul Vogt, Les Hauts-Geneveys, Neuchatel, Switzerland, assignor to Ebauches SA., Neuchatel, Switzerland
Filed Dec. 5, 1962, Ser. No. 72,738
Claims priority, application Switzerland June 30, 1962
Term of patent 14 years
(Cl. D85—2)



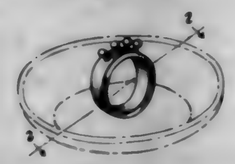
199,012
ASH TRAY
Matthew M. Berman, 363 Highland St., Newtonville, Mass.
Filed Jan. 9, 1964, Ser. No. 78,132
Term of patent 7 years
(Cl. D85—2)



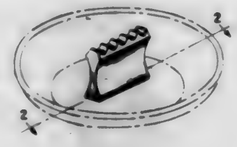
199,013
ASH TRAY
Matthew M. Berman, 363 Highland St., Newtonville, Mass.
Filed Jan. 9, 1964, Ser. No. 78,133
Term of patent 7 years
(Cl. D85—2)



199,014
ASH TRAY
Matthew M. Berman, 363 Highland St., Newtonville, Mass.
Filed Jan. 9, 1964, Ser. No. 78,134
Term of patent 7 years
(Cl. D85—2)



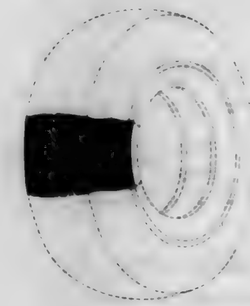
199,015
ASH TRAY
Matthew M. Berman, 363 Highland St., Newtonville, Mass.
Filed Jan. 9, 1964, Ser. No. 78,135
Term of patent 7 years
(Cl. D85—2)



199,016
HANDBAG CLOSURE CLASP
Etienne Aigner, 217 Haven Ave., New York 33, N.Y.
Filed Apr. 24, 1963, Ser. No. 74,599
Term of patent 14 years
(Cl. D87—2)



199,017
TIRE
Robert F. Busch, St. Clair Shores, John W. Taylor, Grosse Pointe Farms, and William L. Shesterkin, Roseville, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 31, 1964, Ser. No. 78,457
Term of patent 14 years
(Cl. D90—20)



199,018
FLUSH TANK BALL VALVE
Charles H. Rennels, 509 Laird Ave., Poland, Ohio
Filed May 24, 1963, Ser. No. 75,058
Term of patent 14 years
(Cl. D91—1)



199,019
WRECKING BAR
Jimmie Marson, Rte. 2, Box 224, Wewoka, Okla.
Filed Dec. 3, 1962, Ser. No. 72,676
Term of patent 14 years
(Cl. D93—4)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF AUGUST, 1964

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Motorola, Inc.: *See*—
Schmich, Matt F. Re. 25,633.

Schmich, Matt F., to Motorola, Inc. Process for making fused junction semiconductor devices. Re. 25,633, 8-25-64, Cl. 148—178.

LIST OF PLANT PATENTEES

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,441, 8-25-64, Cl. 14.

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,442, 8-25-64, Cl. 14.

Duke, John F., Jr.: *See*—
Duke, John F., J. F. Duke, Jr., and L. P. Duke. 2,439.

Duke, John F., J. F. Duke, Jr., and L. P. Duke, to C. L. Shepard, Jr. Peach tree. 2,439, 8-25-64, Cl. 42.

Duke, Lomax P.: *See*—
Duke, John F., J. F. Duke, Jr., and L. P. Duke. 2,439.

Hill, E. G., Co., Inc.: *See*—
Jelly, Robert G. 2,443.

Jackson & Perkins Co.: *See*—
Boerner, Eugene S. 2,441.
Boerner, Eugene S. 2,442.

Jelly, Robert G., to E. G. Hill Co., Inc. Rose plant. 2,443, 8-25-64, Cl. 30.

Rypcynski, Frank L., to Stark Bro's Nurseries & Orchard Co. Apple tree. 2,440, 8-25-64, Cl. 35.

Shepard, Charles L., Jr.: *See*—
Duke, John F., J. F. Duke, Jr., and L. P. Duke. 2,439.

Stark Bro's Nurseries & Orchard Co.: *See*—
Rypcynski, Frank L. 2,440.

LIST OF DESIGN PATENTEES

Aigner, Etienne. Handbag closure clasp. 199,016, 8-25-64, Cl. D27—3.

Ashford, Frederick C., to B. U. Supplies & Machinery Co. Ltd. Cutting press. 198,996, 8-25-64, Cl. D65—1.

Arvin Industries, Inc.: *See*—
Brighton, John C. 198,999.

B. U. Supplies & Machinery Co. Ltd.: *See*—
Ashford, Frederick C. 198,996.

Berman, Matthew M. Ash tray. 199,012, 8-25-64, Cl. D85—2.

Berman, Matthew M. Ash tray. 199,013, 8-25-64, Cl. D85—2.

Berman, Matthew M. Ash tray. 199,014, 8-25-64, Cl. D85—2.

Berman, Matthew M. Ash tray. 199,015, 8-25-64, Cl. D85—2.

Blades, Melick W.: *See*—
Lanier, Lewis T. 198,990.

Brewer, Constance B.: *See*—
Rossi, Avis R. 198,977.

Brighton, John C., to Arvin Industries, Inc. Combined cover and holder for a refuse bag. 198,999, 8-25-64, Cl. D68—17.

Busch, Robert F., J. W. Taylor, and W. L. Shesterkin, to United States Rubber Co. Tire. 199,017, 8-25-64, Cl. D60—20.

Brewer, Constance B.: *See*—
Rossi, Avis R. 198,977.
Rossi, Avis R. 198,978.

Campbell, John R., to The Procter & Gamble Co. Bottle. 198,997, 8-25-64, Cl. D58—6.

Carson, Frank J., and H. A. Lefet, Jr., to Libbey-Owens-Ford Glass Co. Rear window for automobiles or the like. 198,970, 8-25-64, Cl. D14—6.

Chadbourne, Gilbert R., to Keyes Fibre Co. Packaging tray. 198,998, 8-25-64, Cl. D58—13.

Cornwell, Ross R.: *See*—
Ernest, Robert O., and Cornwell. 198,980.

Cummings, Judyth M. Life preserver for small animals. 199,004, 8-25-64, Cl. D71—1.

Dam Things Establishment: *See*—
Dam, Thomas. 198,976.

Dam, Thomas, to Dam Things Establishment. Toy animal figure. 198,976, 8-25-64, Cl. D34—2.

De Groff, Walter J., to Stanford Research Co. Cartridge adapter for a fountain pen. 199,006, 8-25-64, Cl. D74—17.

De Rome, Lawrence. Pallet implanter for animals and the like. 199,010, 8-25-64, Cl. D62—12.

Blanchet, S.A.: *See*—
Vert, Paul. 199,011.

Elsey, William J., to The F. E. Myers & Bros. Co. Combination pump and motor housing. 199,008, 8-25-64, Cl. D66—1.

Ehlind, Howard A. Support clip for clothes hangers. 199,007, 8-25-64, Cl. D30—6.

Erickson, Lloyd A., to Illinois Tool Works Inc. Article holder for a perforated support board. 198,972, 8-25-64, Cl. D17—12.

Ernest, Robert O., and R. R. Cornwell, to Sunbeam Corp. Combined lawn edger and trimmer. 198,980, 8-25-64, Cl. D40—1.

Fleischman, Howard A. Clothing display rack or similar article. 199,005, 8-25-64, Cl. D30—6.

Friedman, Morris, and A. V. Mackey, to Minerware, Inc., and H.M.S. Associates Co. Tray for condiment containers. 198,982, 8-25-64, Cl. D44—24.

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H.M.S. Associates Co.: *See*—
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Hanson Scale Co.: *See*—
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Herman, Harold L. Ventilating range hood. 199,009, 8-25-64, Cl. D81—25.

Hohmann, Albert, to Taller & Cooper, Inc. Ticket issuing machine or similar article. 198,988, 8-25-64, Cl. D52—2.

Holmes, Lucas C. Badge. 198,976, 8-25-64, Cl. D29—2.

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Johnson, Maurice V., Jr., to Sunkist Growers, Inc. Fruit engaging element for use in a conveyor for handling and sizing fruit. 198,993, 8-25-64, Cl. D54—13.

Johnson, Maurice V., Jr., to Sunkist Growers, Inc. Fruit engaging element for use in a conveyor for handling and sizing fruit. 198,994, 8-25-64, Cl. D54—13.

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Kramer, George L., to Standard Packaging Corp. Automatic vending machine for greeting cards or the like. 198,989, 8-25-64, Cl. D62—8.

Lanier, Lewis T., 50% to M. W. Blades. Coin counting tray. 198,990, 8-25-64, Cl. D63—4.

Lefet, Herbert A., Jr.: *See*—
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Libbey-Owens-Ford Glass Co.: *See*—
Carson, Frank J., and Lefet. 198,970.

Lissac, Georges, to Societe Industrielle de Lunetterie S.I.L. Pair of spectacles. 198,996, 8-25-64, Cl. D67—1.

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Marcus, William, to Merrymaid Plastics Corp. Food beater. 198,983, 8-25-64, Cl. D44—1.

Marshall, Eric, to The Hoover Co. Space heater. 199,003, 8-25-64, Cl. D81—10.

Marson, Jimmie. Wrecking bar. 199,019, 8-25-64, Cl. D93—4.

Mashburn, Morris W., Jr. Pedestal for supporting bow pins on ribbon rolls. 198,985, 8-25-64, Cl. D5—19.

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Minerware, Inc.: *See*—
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Campbell, John B. 198,997.
Rennels, Charles H. Flush tank ball valve. 199,018, 8–25–64, Cl. D91—1.
Ritts, Herbert. Chair. 198,971, 8–25–64, Cl. D15—1.
Rodrigues, Emil, to Jacoby-Bender, Inc. Link chain for a bracelet or the like. 198,984, 8–25–64, Cl. D45—4.
Rossi, Avis R., to C. B. Brewer. Doll or similar article. 198,977, 8–25–64, Cl. D34—2.
Rossi, Avis R., to C. B. Brewer. Doll or similar article. 198,978, 8–25–64, Cl. D34—2.
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Tschal, Edward C., and Abbott. 3,146,104.
Abendroth, Karl W.: *See*—
Maynard, Wheeler D., and Abendroth. 3,145,971.
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Adage, Inc.: *See*—
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Wolff, Robert A. 3,146,311.
Wolff, Robert A. 3,146,890.
Adolph, John L. Explosive power assisted, hammer driven tool. 3,146,557, 8–25–64, Cl. 1—44.5.
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Aerosol Mfg. Corp.: *See*—
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Albemeier, Hans, and E. Freystedt, to Siemens & Halske Aktiengesellschaft. Electromechanical filter. 3,146,415, 8–25–64, Cl. 333—72.
Alderabol, Kent L., to International Business Machines Corp. Programmed instruction format and boot. 3,145,481, 8–25–64, Cl. 35—9.
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Allen, Lloyd R., to National Research Corp. Tin base alloys. 3,146,097, 8–25–64, Cl. 75—175.
Allen, Lloyd R., to National Research Corp. Process for the extrusion of fine wire. 3,145,843, 8–25–64, Cl. 207—10.
Allen, Lloyd R., to National Research Corp. Process of extruding nitralloy wire. 3,145,843, 8–25–64, Cl. 207—10.
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Alsgaard, Richard W., H. N. Beck, and R. P. Fleischmann, to Dow Corning Corp. Polymethylhydrogensilanes. 3,146,248, 8–25–64, Cl. 260—448.2.
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Anderson, Thomas M., and B. E. Good. Key mounting for musical instruments. 3,145,610, 8–25–64, Cl. 84—380.
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Bach, Ricardo O., to Beryllium Metals and Chemical Corp. Process for producing beryllium chloride from beryllium oxide material. 3,146,066, 8-25-64, Cl. 23—87.
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Benith, Benedict R., to American Machine & Foundry Co. Blade guide holder for band slicer for bread. 3,145,745, 8-25-64, Cl. 146—88.
Benn, Heins: *See*—
Gisiger-stäbli, Joseph, and Benn. 3,146,324.
Benn, Robert E., and D. C. Wendell, Jr., to Burroughs Corp. Data storage device. 3,146,429, 8-25-64, Cl. 340—173.
Bennett, William, to Haase & Kuhn KG. Latch needle. 3,145,550, 8-25-64 Cl. 66—121.
Berardi, Martin J. Water purification and conditioning system for lobster tank. 3,146,195, 8-25-64, Cl. 210—169.
Berlin, Daniel. Child's car seat. 3,146,026, 8-25-64, Cl. 297—255.
Berlinsky, Anthony A., M. J. Brennan, and C. H. Stockton, to United States of America, Commerce. Floating-point keypunch maching. 3,145,920, 8-25-64, Cl. 234—58.
Bernstein, Seymour: *See*—
McEvoy, Francis J., Heller, and Bernstein. 3,146,230.
Bert, Samuel. Snow cone machine. 3,145,878, 8-25-64, Cl. 222—146.
Beryllium Metals and Chemical Corp.: *See*—
Bach, Ricardo O. 3,146,065.
Bach, Ricardo O. 3,146,066.
Besendorf, Hedwig, A. Brossi, and O. Schnider, to Hoffmann-La Roche, Inc. Novel ketone compounds. 3,146,266, 8-25-64, Cl. 260—562.
Best, John H., & Sons, Inc.: *See*—
Best, Leon H. 3,145,845.
Best, Leon H., and Buckner. 3,145,962.
Best, Leon H., to John H. Best & Sons, Inc. Display racks. 3,145,845, 8-25-64, Cl. 211—44.
Best, Leon H., and J. F. Buckner, to John H. Best & Sons, Inc. Display hook. 3,145,962, 8-25-64, Cl. 248—223.
Bethlehem Steel Corp.: *See*—
Estes, John C., and Lacy. 3,145,889.
Bethlehem Steel Co.: *See*—
Estes, John C., and Lacy. 3,146,458.
Betts, Rees C., to The Dow Chemical Co. Web end control. 3,146,431, 8-25-64, Cl. 340—259.
Biben, Edward, to Dumatic Industries, Inc. Label forming and feeding device. 3,145,668, 8-25-64, Cl. 53—184.

Bihaly, Lajos: *See*—
Lockwood, Arthur W., and Bihaly. 3,145,392.
Binnings, Clem B., to Whitney National Bank of New Orleans. Expandable mandrel. 3,145,841, 8-25-64, Cl. 81—15.72.
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Wishon, Berhl R., Birch, and Stock. 3,146,115.
Bird, Jack R., and M. A. Wheeler, to Rolls-Royce Ltd. Method of heat treating nickel base alloys. 3,146,130, 8-25-64, Cl. 148—162.
Bird, Joseph L., and L. B. Oliver. Grinding or abrading tool. 3,145,511, 8-25-64, Cl. 51—206.
Birfield Engineering Ltd.: *See*—
Green, Thomas F. 3,145,464.
Bischoff, Friedrich, to Siemens & Halske Aktiengesellschaft. Method for producing pure silicon. 3,146,122, 8-25-64, Cl. 117—106.
Blackburn, Jasper, Corp.: *See*—
Way, Kenneth R., and Leach. 3,145,813.
Blackburn, John F., to United States of America, Navy. Angle converter. 3,145,443, 8-25-64, Cl. 343—7.
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Blake, John L., Jr.: *See*—
Nisco, Nicholas J., Lawrence, and Blake. 3,145,994.
Bloom, Edgar W., Jr.: *See*—
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Bledsoe, Woodrow W., to The Murray Co. of Texas, Inc. Roller gin and method of ginning cotton. 3,145,424, 8-25-64, Cl. 19—1052.
Blesstone, Henry, and F. W. Rowland, to Diamond Alkali Co. Herbicidal and pesticidal halogenated terephthalaldehyde compositions. 3,146,086, 8-25-64, Cl. 71—2.3.
Blythe, John B. Boat bumper and container. 3,145,886, 8-25-64, Cl. 114—219.
Bobbitt, Charles O. Support plate for differential and power divider assembly. 3,145,971, 8-25-64, Cl. 254—123.
Bobieck, Peter, and C. Sondhaus, to Telefunken Patentverwertungs-G.m.b.H. Travelling wave parametric amplifier. 3,146,405, 8-25-64, Cl. 330—4.6.
Bobon, Frits, and G. Meewes, to Siemens & Halske Aktiengesellschaft. Tunnel diode biased in negative resistance region by Zener diode power supply means. 3,146,416, 8-25-64, Cl. 334—40.
Bobrowsky, Alfred R., to Nuclear Corp. of America. Liquid level indicator. 3,145,567, 8-25-64, Cl. 73—295.
Bochan, John, and R. D. Morey, to General Electric Co. Laundry centrifuging machine with improved clothes container. 3,146,196, 8-25-64, Cl. 210—380.
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Bodine, Albert G. Method of making shaft joint. 3,145,467, 8-25-64, Cl. 29—525.
Boehly, Michael A., and H. Pfilfk, to General Dynamics Corp. Means for generating warbling tone ringing signals in a time division multiplex communication system. 3,146,314, 8-25-64, Cl. 179—84.
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Strandrud, Theodore E. 3,145,441.
Bognar, Charles J., to The Yoder Co. Method of severing tubes and reforming deformed portion caused by severing action. 3,145,462, 8-25-64, Cl. 29—417.
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Kaufman, Arthur L. 3,146,100.
Boivin, Jean L. R., and P. T. R. Hillbom, to Electrolux, Aktiebolaget. Apparatus for removably mounting on a drive shaft a part driven by the shaft. 3,145,007, 8-25-64, Cl. 287—53.
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Bolton, Ora., Jr., and C. Wade. Locking cleat. 3,145,684, 8-25-64, Cl. 114—218.
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Evangelisti, Giuseppe, Marro, Belardinelli, Sarti, Grandi, Bonfiglioli, and Righetti. 3,146,346.
Bonham, Don L. Electrical vibrato and tremolo devices. 3,146,292, 8-25-64, Cl. 84—1.25.
Bonmartini, Giovanni. Pneumatic track device for track laying vehicles. 3,146,035, 8-25-64, Cl. 305—11.
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Peters, Edwin B. 3,145,594.
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Borg-Warner Corp.: *See*—
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Lee, John C., Moorkhala, and Underwood. 3,145,734.
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Kronzig, Johannes, and Lenz. 3,146,221.
Bourcier de Carbon, Christian-Marie-Lucien-Louis. Vehicle suspension devices. 3,145,985, 8-25-64, Cl. 267—64.
Bowen, Richard L., Jr. Tension control apparatus. 3,145,-945, 8-25-64, Cl. 242—75.47.
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Brautigam, Olof A. to Elektriska Svetsningsaktiebolaget. Wire coiling. 3,145,700, 8-25-64, Cl. 153—34.
Brearley, Donald W., and D. K. Rex, to International Business Machines Corp. Process for making a tungsten carbide die. 3,145,586, 8-25-64, Cl. 76—107.
Brechin, Gordon L. Joint water stop. 3,145,803, 8-25-64, Cl. 50—346.
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Brilliantine, Archo J., to De Laval Turbine Inc. Apparatus for making precision threads. 3,145,596, 8-25-64, Cl. 82—5.
Brindley, William E., to Avco Mfg. Corp. Rotation sensor. 3,145,572, 8-25-64, Cl. 73—505.
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Bromley, Kenneth W., to General American Transportation Corp. Blanks for ready erection into box-like containers. 3,145,904, 8-25-64, Cl. 229—39.
Brooks, John D., to United States of America, Navy. Acoustic torpedo warhead and transducer apparatus. 3,145,679, 8-25-64, Cl. 114—23.
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Brossi, Arnold: *See*—
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Brown, Cyrus L., J. A. Madill, and D. I. Swope, to Plasti-Con Pipe Co. Apparatus for encasement of conduit material. 3,145,444, 8-25-64, Cl. 25—32.
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Brown, Paul L., and J. F. Hyde, to Dow Corning Corp. Preparation of linear siloxanes. 3,146,351, 8-25-64, Cl. 260—448.8.
Brown, Ray. Safety belt buckle. 3,145,442, 8-25-64, Cl. 24—220.
Brown, Robinson W., to Jersey Production Research Co. Rotary and input drilling apparatus. 3,145,787, 8-25-64, Cl. 175—107.
Brown, Steffen S., to The Brown-Brockmeyer Co. Epi-cycle gear train for floor polisher motor. 3,145,585, 8-25-64, Cl. 74—606.
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Bullard, Edward P., III and Edward P., IV. Semi-automatic control for machine tools. 3,145,577, 8-25-64, Cl. 74—335.
Burbank, John B. Means of and apparatus for making and mating coils of filamentary material. 3,145,522, 8-25-64, Cl. 57—1.
Burch, Donald C., R. E. Trosien, R. Helle, and R. C. Woofter, to General Motors Corp. Vehicle-panel connector. 3,145,-062, 8-25-64, Cl. 339—91.

Burg, Fred G., to Burgmaster Corp. Lead screw operated tapping spindle with quick acting reversing means. 3,145,401, 8-25-64, Cl. 10—137.

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Burnett, Richard T., to The Bendix Corp. Automatic adjuster. 3,145,809, 8-25-64, Cl. 188—196.

Burnham, Benjamin K., to Thayer, Inc. Infant's walker and bouncer. 3,145,990, 8-25-64, Cl. 280—36.

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Butler, Jesse L., to Sanders Associates, Inc. Phase shifter. 3,146,413, 8-25-64, Cl. 333—31.

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Camras, Marvin, to IIT Research Institute. Method of making a magnetic head. 3,145,452, 8-25-64, Cl. 29—155.5.

Canevari, Gerard P., to Esso Research and Engineering Co. Suppression of evaporation of hydrocarbon liquids. 3,146,060, 8-25-64, Cl. 21—60.5.

Caplan, Leadore, ¼ to Markin Tubing, Inc. Manufacture of metal tubing. 3,145,676, 8-25-64, Cl. 113—83.

Caracoes, Antone D. Space plant fanfold indicator and calculator device. 3,145,480, 8-25-64, Cl. 33—192.

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Chall, Harold J., to Fridan, Inc. Multiplier control mechanism for a short cut multiplication machine. 3,145,942, 8-25-64, Cl. 235—60.

Chalmers, Thomas M., A. Frankel, and H. R. M. Craig, to Richardson, Westgarth & Co. Multi-stage flash evaporation with heat recovery. 3,146,177, 8-25-64, Cl. 203—100.

Chance, Leon H., to United States of America, Agriculture. N,N'-ethylene bis(p,p-bis(1-aziridinyl)-N-methyl phosphinic amide) and homopolymer thereof. 3,146,248, 8-25-64, Cl. 260—239.

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Chiusoli, Gian P., to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Process for preparing the seminitrile of beta-hydroxyacetic acid, its chloride and its lower esters, and products thereof. 3,146,257, 8-25-64, Cl. 260—465.6.

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Clapper, Gerome L., to International Business Machines Corp. Synchronously operated transistor switching circuit. 3,146,353, 8-25-64, Cl. 307—88.5.

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Colantti, Albert J., and B. F. Meyer, to General Motors Corp. Vehicle closure. 3,145,969, 8-25-64, Cl. 296—3.

Colbert, Lee J. Cable splicing device. 3,146,481, 8-25-64, Cl. 15—24.

Collins, Galen F., to Miles Laboratories, Inc. P.H. indicator unit. 3,146,070, 8-25-64, Cl. 23—253.

Collins, John O., and S. F. Terpko, to Callery Chemical Co. Oxidizer composition comprising nitrogen tetroxide, tetranitromethane and nitromethane. 3,146,139, 8-25-64, Cl. 149—1.

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Comptoirs, Compagnie des: *See*—
Lesage, Daniel M. R. 3,146,293.

Congdon, George L.: *See*—
Petrof, Merlin O., and Congdon. 3,145,485.

Conley, James A., to Bevley Corp. Jet type motor. 3,145,687, 8-25-64, Cl. 115—13.

Conover, George W. K. K. Haining, and J. O. Koehler, to General Motors Corp. Cylinder block for an internal combustion engine. 3,145,698, 8-25-64, Cl. 123—41.74.

Conover, Louis S., Jr., to Cutler-Hammer, Inc. Count-shift register. 3,146,345, 8-25-64, Cl. 235—170.

Consolidated Electrodynamics Corp.: *See*—
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Consolidated Thermoplastics Co.: *See*—
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Continental Carbon Co.: *See*—
Rubin, Theodore A. and Wentley. 2,146,090.

Continental Elektroindustrie A.G.: *See*—
Frisch, Eberhard. 3,144,294.

Continental Oil Co.: *See*—
Kroll, Wolf E. 3,144,847.

Cook, Melvin A., and W. O. Urcombach, to United States of America, Navy. Explosive warhead. 3,145,664, 8-25-64, Cl. 102—94.

Coolidge, Arthur W., Jr., and M. J. Silvia, to General Electric Co. Tubulation sealing apparatus and method. 3,145,466, 8-25-64, Cl. 29—451.

Cooper, Cleveland N., to The Pandjris Weldment Co. Turning roll assembly with elevating mechanism. 3,145,842, 8-25-64, Cl. 214—340.

Cooper, Donald E., and R. D. Dilling, to Titanium Metals Corp. of America. Cold mold arc furnace. 3,146,289, 8-25-64, Cl. 13—14.

Cooper, Joseph H., and F. R. Woodward, to The Taylor-Winfield Corp. Vertical shear and spot welder combination for joining strip when handled on edge. 3,146,333, 8-25-64, Cl. 219—90.

Cooper, Lawrence R., to Texas Instruments Inc. Snap-acting electrical switch. 3,144,530, 8-25-64, Cl. 200—168.

Cooper-Bessemer Corp., The: *See*—
Crooks, William R. 3,145,994.
Crooks, William R. 3,145,995.

Cooperrider, Myron T.: *See*—
Swenson, Paul F., and Cooperrider. 3,145,935.

Coover, Harry W., Jr., and N. H. Shearer, Jr., to Eastman Kodak Co. Process for producing reduced transition metal halides. 3,146,224, 8-25-64, Cl. 260—93.7.

Copian, Louis P., E. C. Rivers, and H. C. Miller, to Riley Stoker Corp. Burner. 3,145,670, 8-25-64, Cl. 110—28.

Corbett, John M.: *See*—
Gordon, David A., and Corbett. 3,146,217.

Corby, Peter J. E., to Corbys Ltd. Treasure press. 3,145,490, 8-25-64, Cl. 83—71.

Corbys Ltd.: *See*—
Corby, Peter J. E. 3,145,490.

Cordia, Nat. deceased: G. E. Cordia, executor; ½ to C. F. Jensen, and ½ to O. T. Doble. Instant action valve. 3,145,729, 8-25-64, Cl. 137—414.

Cordia, Gladys E.: *See*—
Cordia, Nat. 3,145,729.

Cornelius, Ivan G. Reinforcement rod positioning and support clip. 3,146,506, 8-25-64, Cl. 52—179.

Cornell-Dubilier Electric Corp.: *See*—
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Corning Glass Works: *See*—
Gilbert, James W. 3,145,834.
Kivilgan, Herbert D. 3,145,114.

Corrinet, Andrew L., to American Can Co. Container with integral hinged-cover. 3,145,906, 8-25-64, Cl. 220—61.

Cotton, James H., to Cornell-Dubilier Electric Corp. Capacitor fabrication. 3,145,448, 8-25-64, Cl. 29—25.42.

County Commercial Cars Ltd.: *See*—
Tapp, Ernest T. J., and Davey. 3,145,798.

Courchene, Ernest R., Jr.: *See*—
Peterson, Norman E., and Courchene. 3,146,438.

Crafts Tool and Gage Corp.: *See*—
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Craig, Hugh R. M.: *See*—
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Crake, Wilfred S., to Shell Oil Co. Undergage hole indicator. 3,145,784, 8-25-64, Cl. 175—40.

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Crane, George R.: *See*—
Lackey, George R., and Crane. 3,145,942.

Crawford, William R.: *See*—
Nourse, Jess H., and Crawford. 3,145,747.

Creative Consultants Corp.: *See*—
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Crew, David H.: *See*—
Riggins, Eldon C., and Crew. 3,145,913.

Crist, Philip W., to Sperry Rand Corp. Tunable regenerative feedback amplifier having constant attenuation variable phase shift network. 3,146,407, 8-25-64, Cl. 331—182.

Cronheim, Richard R. Hard-boiled egg cutter. 3,145,745, 8-25-64, Cl. 146—2.

Cronin, Denis W. Light shoe sole assembly. 3,145,487, 8-25-64, Cl. 36—9.

Crooks, William R., to The Cooper-Bessemer Corp. Slurry system for internal combustion engines. 3,145,694, 8-25-64, Cl. 123—26.

Crooks, William R., to The Cooper-Bessemer Corp. Combustion engine for burning either high or low specific heat fuels. 3,145,694, 8-25-64, Cl. 123—120.

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Crow, Jack H., to Nuclear Corp. of America, Inc. Arabic numeral display having binary code conversion matrix. 3,146,436, 8-25-64, Cl. 340—336.

Cruz, Ruben A. Test board for electronic circuits. 3,145,483, 8-25-64, Cl. 25—19.

Curtis Companies, Inc.: *See*—
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Curtis, Richard F.: *See*—
Emerson, Leonard B., and Curtis. 3,146,440.

Cutaia, Alfred F. M. Demer, and M. J. Kelly, to International Business Machines Corp. Magnetic data transferring device. 3,146,456, 8-25-64, Cl. 340—174.

Cutler-Hammer, Inc.: *See*—
Miller, Richard G. 3,146,330.

Cutler, Royal A., to Sterling Drug Inc. 2-sulfanilamido-4-phenoxy-1,3,5-triazine. 3,146,229, 8-25-64, Cl. 260—239.7.

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Dacey, George C., and R. L. Wallace, Jr., to Bell Telephone Laboratories, Inc. Fabrication of low impedance diode structures. 3,145,454, 8-25-64, Cl. 29—155.5.

Dace Rubber, Inc.: *See*—
Daubenberger, Charles J., and Neals. 3,145,422.

Dalla Corp.: *See*—
Zisk, Phillip L. 3,145,522.

Dahmlos, Johannes, to Wasag-Chemie AG. Process for the preparation of chlorodrocro derivatives of methane. 3,146,275, 8-25-64, Cl. 260—653.3.

Daiwa Boseki Kabushiki-Kaisha: *See*—
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Dalby, George F.: *See*—
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D'Alelio, Gaetano F., to Dal Mon Research Co. Irradiated polymers. 3,145,528, 8-25-64, Cl. 60—35.4.

D'Alelio, Gaetano F., to Dal Mon Research Co. Beryllium-containing polymeric compositions. 3,146,222, 8-25-64, Cl. 260—91.1.

Dal Mon Research Co.: *See*—
D'Alelio, Gaetano F. 3,145,528.
D'Alelio, Gaetano F. 3,146,222.

D'Amelio, Carlo, to Rockwell Mfg. Co. Meter for measuring the rate of flow by weight of a fluid. 3,145,568, 8-25-64, Cl. 73—230.

Dana Corp.: *See*—
Holzman, James W. 3,146,000.
Lyons, James M. 3,145,547.
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Dano of America, Inc.: *See*—
Scovel, Ralph R., and Petrucci. 3,145,937.

Dasburg, Alfred V., and E. J. Sexton, Jr., to General Signal Corp. Detection system for railway cars. 3,145,968, 8-25-64, Cl. 246—169.

Dato, George P., Jr.: *See*—
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De Valle, Bruno. Perforating plastic film and the like. 3,146,248, 8-25-64, Cl. 264—156.

Davey, John P., H. E. Dionne, and F. J. Phillips. Lint collecting device for textile machine. 3,145,400, 8-25-64, Cl. 15—306.

Davey, Joseph: *See*—
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Davis, Henry F., to Minneapolis-Honeywell Regulator Co. System with plural inputs having feedback means for preventing interaction between said inputs. 3,146,601, 8-25-64, Cl. 236—147.

Day Co., N.V.: *See*—
Schneble, Frederick W., Jr., McCormack, Sablisky, and Pollichette. 3,146,125.

Daymon, William G., Jr., to United States of America, Navy. Hoisting apparatus. 3,146,016, 8-25-64, Cl. 294—67.

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Dean, John W., to Sterling Drug Inc. Ketals of 4,6-androstadien-17β-ol-3-ones and esters thereof. 3,146,231, 8-25-64, Cl. 260—239.55.

De August, Ingeborg W.: *See*—
August, Pablo, and De August. 3,145,976.

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Deco Electronics, Inc.: *See*—
Hagman, Boynton G. 3,146,453.

Deere & Co.: *See*—
Fairbank, Raymond H., and Carlson. 3,145,584
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De Jong, Alf M. Y., to Clopay Corp. Accordion folding door. 3,145,767, 8-25-64, Cl. 160—231.
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Delilth, Werner, to Camloc Fastener Corp. Readily demountable pawl latch. 3,146,010, 8-25-64, Cl. 292—212.
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Dennison, Saul L., M. and S. M. Seltzer, and L. S. Dennison. 3,146,030.
Dennison, Saul L., M. and S. M. Seltzer, and L. S. Dennison, to Allison Corp. Air cool cushion. 3,146,030, 8-25-64, Cl. 297—453.
Denver-Golden Research and Development Corp.: *See*—
Trenner, Lewis E. 3,146,155.
De Ronde, John. Coupling unit. 3,146,008, 8-25-64, Cl. 280—515.
Desega, C., G.m.b.H. Nachf, Erich Fecht: *See*—
Stahl, Egon. 3,145,410.
Desvignes, Jean L., and P. Gancel, to The Bendix Corp. Disc brakes. 3,145,807, 8-25-64, Cl. 188—73.
Deutsch, Alexander T. Automatic steering of space craft. 3,145,831, 8-25-64, Cl. 60—35.54.
Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Kloepfer, Harry, Müller, and Sperr. 3,145,458.
De Vitre-Teja Industries Co.: *See*—
Teja, Jayanti D. 3,146,060.
Dewelle, Claude H. A. Process and apparatus for the manufacture of paper yarn and the like. 3,145,534, 8-25-64, Cl. 57—58.49.
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Dexter, C. H., & Sons, Inc.: *See*—
Osborne, Fay H., and Bodendorf. 3,145,717.
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Bluestone, Henry, and Rowland. 3,146,066.
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Reifers, Richard F., and Lord. 3,145,896.
Struble, Glenn E. 3,145,898.
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Dicke, Allen A. Photographic camera with guitary shutter and diaphragm. 3,145,634, 8-25-64, Cl. 95—42.
Dickson, John B., to Signal-Stat Corp. Shock absorbing mountings for vehicle lamp components. 3,145,933, 8-25-64, Cl. 240—8.2.
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Barr, John M., and Dietrich. 3,145,697.
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Peterson, Norman R., and Courchene. 3,146,483.
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Cooper, Donald E., and Dilling. 3,146,289.
Dimkov, Ivan V., P. C. Russev, N. I. Stephanov, and K. N. Nitchev, to Bulgartabac, State Commercial Enterprise. Cart filling and baling machine. 3,145,647, 8-25-64, Cl. 100—53.
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Diperstein, David, and R. J. Hardiman, to D. Diperstein. Portable magnetic particle type crack detector having separate coils for alternating and direct current. 3,146,-396, 8-25-64, Cl. 324—38.
Distillers Co. Ltd., The: *See*—
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Heathcote, John G. 3,146,166.
Pennington, John, and Yeomans. 3,146,238.
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Dolz, Heinrich. Multi-stage turbo-compressors. 3,145,913, 8-25-64, Cl. 230—130.
Dongay, René, and J. Mégy, to Commissariat a l'Energie Atomique. Apparatus for detecting faults in the casings of fuel rods employed in a nuclear reactor. 3,146,171, 8-25-64, Cl. 176—19.
Donnelly, Harold F., to Kimberly-Clark Corp. Inhibiting foaming of cellulose slurries containing wet strength resins. 3,146,158, 8-25-64, Cl. 162—164.
Donovan, Charles T.: *See*—
Rosener, Willard C., Green, Robbins, Frost, and Donovan. 3,145,925.
Dooner, John L., to General Bronze Corp. Capacity-compensated motor-driven antenna. 3,146,850, 8-25-64, Cl. 343—723.
Doran, Leo F., to Beaver Precision Products, Inc. Method and machine for cutting threads of varying pitch. 3,145,-699, 8-25-64, Cl. 82—14.
Dorey, George B. Gate latching means for a hopper discharge outlet structure. 3,145,664, 8-25-64, Cl. 105—282.
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Lloyd, William G. 3,146,272.
Morgan, Robert W., and Hatch. 3,146,157.
Small, Hamish. 3,146,213.
Sterling, George B., and Zimmerman. 3,146,215.
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Alsgaard, Richard W., Beck, and Plueddemann. 3,146,-243.
Alsgaard, Richard W., Beck, and Plueddemann. 3,146,-249.
Brown, Paul L., and Hyde. 3,146,251.
Clark, Harold A., and Leitheiser. 3,146,218.
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Drechsel, Herbert, and H. Grimm, to Metallgesellschaft A.G. Multiple bed reactor. 3,146,074, 8-25-64, Cl. 23—288.
Dreifus, Harry, to Hooker Chemical Corp. Stabilization of 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a - hexahydro - 6,9-methano-2,4,3-benzodioxathiopin-3-oxide. 3,146,241, 8-25-64, Cl. 260—327.
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Duinker, Simon, and J. Bon, to North American Philips Co., Inc. Method of producing magnetic heads with bonding glass gap spacers. 3,145,353, 8-25-64, Cl. 29—155.5.
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Dumaski, Frank. Furniture moving device. 3,145,985, 8-25-64, Cl. 214—390.
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Dunnington, Joe E., to Butler Mfg. Co. Wall panel and interlocking joint construction. 3,145,504, 8-25-64, Cl. 50—483.
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Edwards, Kenneth F., and R. A. Vogel, Jr. Essex Wire Corp. Latch operated clutch with pump. 3,145,815, 8-25-64, Cl. 192—27.
Edwards, Russell K. Three-dimensional property indicating device. 3,145,482, 8-25-64, Cl. 35—18.
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Ellard, Jack, R. G. Tarrant, and F. N. Rushton, to Washington Aluminum Co., Inc. Ribbed panel assembly. 3,145,810, 8-25-64, Cl. 189—34.
Emblem, Harold G., and E. W. Fothergill, to Philadelphia Quartz Co. Organic silicates. 3,146,252, 8-25-64, Cl. 260—448.8.
Emdy, Reuben E., to Wanda Mfg. Co., Inc. Central vacuum cleaning unit. 3,146,051, 8-25-64, Cl. 56—318.

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Erredo, Louis A., to Minnesota Mining and Mfg. Co. Aromatically unsaturated polymers and preparation thereof. 3,146,211, 8-25-64, Cl. 260—2.
Escalante, Conrad J. Illuminated sign. 3,145,493, 8-25-64, Cl. 40—130.
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Forgrieve, John. 3,146,260.
Hawes, Truman P., Aldridge, and Etherington. 3,146,-277.
Mayer, Ivan, and Truman. 3,146,089.
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Estes, John C., and R. S. Lacy, Jr., to Bethlehem Steel Co. Underwater storage unit. 3,145,453, 8-25-64, Cl. 61—46.5.
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Hawes, Truman P., Aldridge, and Etherington. 3,146,-277.
Ethyl Corp.: *See*—
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Ettlinger, Martin G., and G. P. Dateo, Jr., to United States of America, Army. Synthesis of mustard oil glucosides. 3,146,237, 8-25-64, Cl. 260—210.
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Evangelisti, Giuseppe, G. Marro, E. Belardinelli, E. Sarti, A. Grandi, G. Rondigioli, and R. Righetti, to Societa Nazionale Metanodotti S.p.A. Electric circuit for the analysis of pipe-line networks for transporting fluids. 3,146,345, 8-25-64, Cl. 235—194.
Even, Georges. Diminutive two-men tank vehicle body. 3,145,620, 8-25-64, Cl. 89—36.
Everest, John W. Pressure container with recessed top. 3,146,894, 8-25-64, Cl. 222—396.5.
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Battista, Orlando A. 3,146,168.
Battista, Orlando A. 3,146,170.
Faber, Wallace R., to Leather Ltd. Inc. Trailer tongue support. 3,146,002, 8-25-64, Cl. 280—150.5.
Fairbank, Raymond H., and Y. O. Carlson, to Deere & Co. Variable speed reversible transmission. 3,145,584, 8-25-64, Cl. 74—722.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Grewe, Ferdinand, Kaspers, Sasse, and Wegler. 3,146,-161.
Schafer, Werner, Wegler, and Eue. 3,146,262.
Farkas, George B., A. D. Korin, and J. D. Milligan, to Hydrocarbon Research, Inc. Transport of liquefied gases. 3,145,-690, 8-25-64, Cl. 114—74.
Farmer, Stanley E., D. M. Faust, and H. F. Weinert, to Cascade Corp. Flexible load clamping arms with adjustable fulcrum means. 3,145,866, 8-25-64, Cl. 214—683.
Farrell, Joseph B.: *See*—
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Feduska, William, to Westinghouse Electric Corp. Diffusion bonding of metal members. 3,146,466, 8-25-64, Cl. 29—-488.
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Fiedler, Edward D., to Knapp-Monarch Co. Electric toothbrush. 3,145,404, 8-25-64, Cl. 15—28.
Filipesak, Peter A., to Electro-Tec Corp. Variable geometry slip ring assembly permitting variation in characteristic impedance or tuning. 3,146,411, 8-25-64, Cl. 333—24.
Fillmore, Robert L., and S. S. Kintigh, to Minneapolis-Honeywell Regulator Co. Tracer head with damper. 3,145,623, 8-25-64, Cl. 90—62.
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Fischer, Donald M., D. L. Kayser, and W. L. Kennedy, to Union Carbide Corp. Pressure fed liquid applicator. 3,145,-411, 8-25-64, Cl. 15—552.
Fischer, Kenneth J., to Carson Mfg. Co. Brewing vessel and protector therefor. 3,145,708, 8-25-64, Cl. 126—390.
Fischer, Kenneth J. Rearview mirror device. 3,146,296, 8-25-64, Cl. 88—87.
Fischer, Richard A., to The Garrett Corp. Flow balancing device for pressure control systems. 3,145,638, 8-25-64, Cl. 98—1.5.
Fisher, Arthur O., to Monsanto Co. Corrosion inhibition. 3,146,206, 8-25-64, Cl. 252—147.
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Foerster, George S., to The Dow Chemical Co. Weldable high strength magnesium base alloy. 3,146,096, 8-25-64, Cl. 75—168.
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Gardiner, Frank J., to I-T-E Circuit Breaker Co. Pressure transformer. 3,145,909, 8–25–64, Cl. 230—60.
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Langdon, Robert S. 3,145,960.
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George, Stephen, to M-T Liquidation Corp. Self-aligning ball joint connection. 3,146,008, 8–25–64, Cl. 287—87.
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Gerster, Heinrich. Installation for heating drying drums of drying machines. 3,146,078, 8–25–64, Cl. 34—123.
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Gibbon, John, to Monroe Calculating Machine Co. Saturable magnetic device with elliptical core. 3,146,393, 8–25–64, Cl. 323—56.
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Goodman, Robert. Resilient seat construction. 3,145,987, 8–25–64, Cl. 267—104.
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Graves, Henry J. Wheeled support device for flat tires of vehicle. 3,145,980, 8–25–64, Cl. 214—334.
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Greenwald, Frank S., to Indiana General Corp. Variable magnetic strength permanent magnetic drum. 3,146,191, 8–25–64, Cl. 308—222.
Grebel, Howard, G. C. Howard, and K. L. Hujsak, to Pan American Petroleum Corp. Well completion apparatus. 3,146,775, 8–25–64, Cl. 166—187.
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Hageman, Howard A., and J. A. Riddell, to United States Rubber Co. 2-p-sulfinophenylaminoethanolamine and its salts. 3,146,240, 8–25–64, Cl. 260—500.6.
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Hallam, William A., to Rockwell-Standard Corp. Single taper leaf spring. 3,145,994, 8–25–64, Cl. 267—47.
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Hamilton, Samuel C., to Magor Car Corp. Loading hatch for freight cars. 3,145,668, 8–25–64, Cl. 105—377.
Hamilton, William R., and M. R. Fuentevilla, to Pennsalt Chemicals Corp. Apparatus and method for ascertaining optimum drying conditions. 3,145,552, 8–25–64, Cl. 73—73.
Hamlin, James S., to E. I. du Pont de Nemours and Co. Preparation of printing plates. 3,146,106, 8–25–64, Cl. 96—35.
Hanegraaf, Johannes A., to Organon Inc. Preparation of 5a-bromo-3β-hydroxy steroids. 3,146,245, 8–25–64, Cl. 260—397.4.
Hanks, Charles W., and H. R. Smith, Jr., to Stauffer Chemical Co. Focused electron-beam melting and casting. 3,145,426, 8–25–64, Cl. 22—57.2.
Hannan, John F., and A. P. Hagstrom, to E. I. du Pont de Nemours and Co. Method of producing refractory metal. 3,146,094, 8–25–64, Cl. 75—84.5.
Hannon, Charles N. and W. W., said C. N. Hannon dcsnr. to said W. W. Hannon. Apparatus for the packaging of newspapers or the like. 3,145,516, 8–25–64, Cl. 53—126.
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Hawes, Truman P., C. L. Aldridge, and L. D. Etherington, to Esso Research and Engineering Co. Separation of olefinic hydrocarbons by molecular sieves. 3,146,277, 8–25–64, Cl. 260—677.
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Hayes, Daniel T., to American Can Co. Captive cap for container. 3,145,972, 8–25–64, Cl. 220—60.
Hayman, Max, and R. G. Hellenga, to said Hellenga and F. H. Hicks. Mobile lift crane and vehicle tow hoist. 3,145,887, 8–25–64, Cl. 214—82.
Hazelquist, Donald R., to Minneapolis-Honeywell Regulator Co. Readily adjustable relay contact structure. 3,146,818, 8–25–64, Cl. 200—87.
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Heathcote, John G., to The Distillers Co. Ltd. Cobalamin and amino acid composition. 3,146,166, 8–25–64, Cl. 167—81.
Hebenstreit, Lester V., to Specialties Development Corp. Control head. 3,145,573, 8–25–64, Cl. 74—2.
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Hedlund, Evert A. Contact gap measuring devices. 3,145,857, 8–25–64, Cl. 73—1.
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Hegman, Robert L., and C. L. Weber, to Safeguard Corp. Body rest adjustment for coffin. 3,145,445, 8–25–64, Cl. 27—12.
Hegyi, Imre J., to Radio Corp. of America. Lithium-manganese ferromagnetic ferrite core. 3,146,205, 8–25–64, Cl. 62.5.
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High, Carl F. Fuel injection engine. 3,146,699, 8–25–64, Cl. 123—138.
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Hijiya, Kenji, Y. Nakano, and I. Kaino, to Nihon Spindle Mfg., Ltd., Co., and Nitto Boseki Co., Ltd. Automatic raw material feed for carding machines. 3,145,426, 8–25–64, Cl. 19—105.
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Hindersinn, Raymond R., and M. Worsley, to Hooker Chemical Corp. Halogen containing polyurethane resins. 3,146,220, 8–25–64, Cl. 260—77.5.
Hirchert, Richard A., to Crafts Tool and Gage Corp. Fixture for holding and positioning tool. 3,145,512, 8–25–64, Cl. 51—225.
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Holmberg, Hartvig E. and H. E., to Hart Ski Mfg. Co., Inc. Bottom structure for laminated ski. 3,145,998, 8–25–64, Cl. 280—11.13.
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Hope, William D., and C. Snelling, to Xerox Corp. Equipotential xeroprinting member and process of printing therewith. 3,145,655, 8–25–64, Cl. 101—426.
Horn, Elmer W. Auxiliary concave for a threshing cylinder. 3,145,715, 8–25–64, Cl. 130—27.
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Hoyer, Wilmer A., R. E. Adams, and T. W. Adair III, to Jersey Production Research Co. Pulse transformer for well logging device. 3,146,851, 8–25–64, Cl. 250—87.
Hrovat, Vincent S. Horseshoe pitching devices. 3,145,702, 8–25–64, Cl. 124—16.
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Hume, James D., and R. L. Scheidenheim, to H. D. Hume. Harvester reel. 3,145,520, 8–25–64, Cl. 56—320.
Humphrey, Howard C., to Texaco Inc. Impact wrench device utilizing the torsional strain of the workpiece. 3,145,593, 8–25–64, Cl. 81—52.3.
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Jaka, Ahmed. Underground shelter. 3,145,640, 8–25–64, Cl. 98—35.
Jakaitis, Eugene A., and D. S. Brown, to The Atlantic Refining Co. High sealing strength wax compositions. 3,146,214, 8–25–64, Cl. 260—28.5.
Janouschak, Gerald, and O. Wolfurter, to Werner & Pfleiderer. Transport and discharge device for pieces of pasty material. 3,145,839, 8–25–64, Cl. 198—165.

Janssen, Peter J. H., to North American Philips Co., Inc. Circuit arrangement for dynamic postfocusing in electrostatic focusing cathode-ray tubes. 3,146,373, 8–25–64, Cl. 315—22.
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Kellner, Jackson M. 3,145,788.
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Pennebaker, Eugene S., Jr. 3,145,771.
Salathiel, Richard A., and Porter. 3,146,190.
Jeru, Henri J. M. Resistance-heated electric furnace. 3,146,337, 8–25–64, Cl. 219—390.
Jochim, Friedrich, to Compagnie de Saint-Gobain. Glass tempering apparatus. 3,146,085, 8–25–64, Cl. 65—348.
Johnson, Clifford N., and O. J. Wiggins, to The Trane Co. Air conditioner. 3,145,546, 8–25–64, Cl. 62—427.
Johnson, Alfred L., to Inland Steel Co. Sheet marking method. 3,145,468, 8–25–64, Cl. 29—552.
Johnson, Andrew L., to Ampex Corp. Velocity or frequency sensing means. 3,146,432, 8–25–64, Cl. 340—263.
Johnson, Elmer C., A. V. Edmonds, and K. D. May, to The Vendo Co. Rotatable article support structure for vending machines. 3,146,042, 8–25–64, Cl. 312—97.1.
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Johnson, Jacob N. Convertible shelter. 3,145,719, 8–25–64, Cl. 135—1.
Johnson, John L., to The Wyatt Mfg. Co., Inc. Bleading and grinding apparatus. 3,145,844, 8–25–64, Cl. 99—235.
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Johnson, Stephen W., Jr., C. G. Harford, and G. W. Allen, to Printing Plates Research, Inc. Printing plates. 3,146,654, 8–25–64, Cl. 101—401.1.
Johnson, Wallace C., to Olin Mathieson Chemical Corp. Method of manufacturing finned structure. 3,145,456, 8–25–64, Cl. 29—157.3.
Johnson, William E. (deceased), G. F. Dalby, and E. C. Johnson (administratrix of W. E. Johnson). Power operated reciprocating tool. 3,145,449, 8–25–64, Cl. 29—76.
Joles, Edward C., to Spartan Hydraulics, Inc. Hydraulic pressure relief valve. 3,145,732, 8–25–64, Cl. 137—514.3.
Jolly, John G., to Nutone, Inc. Spring mount for fan motor of ventilating equipment. 3,145,910, 8–25–64, Cl. 230—117.
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Jordan, Edward D., to United States of America, Atomic Energy Commission. Detecting hidden explosives using neutron beams. 3,146,349, 8–25–64, Cl. 265—71.5.
Joukainen, Arnold S., and H. R. Ortt, to E. I. du Pont de Nemours and Co. Apparatus for melt extruding fiber-forming thermoplastic polymers. 3,145,420, 8–25–64, Cl. 18—12.
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Kaata, Herbert W., and L. Tobacman, to Randolph Mfg. Co. Vacuum regulating valve. 3,145,731, 8–25–64, Cl. 137—510.
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Kaminski, Henry J., to Le Trappeur, Inc. Boot tree. 3,145,402, 8–25–64, Cl. 12—120.5.
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Kampf, Henry A. Inductively energized recording stylus. 3,146,056, 8–25–64, Cl. 346—76.
Kampf, Richard S., to Minneapolis-Honeywell Regulator Co. Recorder. 3,145,578, 8–25–64, Cl. 74—354.
Kankaanpaa, Matti, to Beloit Iron Works. Roll with adjustable deflection means. 3,146,160, 8–25–64, Cl. 162—305.
Kanter, Jerome J., J. P. Magos, and W. L. Meinhart, to Crane Co. Process of producing nodular iron using Group III metal hydride. 3,146,090, 8–25–64, Cl. 75—53.
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Katz, David L., and C. A. Moore, to United States of America, Army. Exchangeable revolver cylinder and cartridge indexing device. 3,145,490, 8–25–64, Cl. 42—59.
Kaufman, Melvin R., to General Electric Co. Front opening dishwasher with improved rack arrangement. 3,146,045, 8–25–64, Cl. 312—329.
Kaufman, Arthur L., to Bohn Business Machines, Inc. Electronic photocopying apparatus and method. 3,146,100, 8–25–64, Cl. 96—1.
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Kean, George W., 50% to Angelo J., Albert J., and R. A. Roncari. Variable pitch propeller. 3,145,780, 8–25–64, Cl. 170—160.13.
Keith, Frederick W., Jr., to Pennsalt Chemicals Corp. Centrifuge especially useful in concentrating fruit and/or vegetable solids. 3,146,198, 8–25–64, Cl. 233—29.
Kellner, Jackson M., to Jersey Production Research Co. Expansible drill collar stabiliser. 3,145,785, 8–25–64, Cl. 175—73.
Kellner, Jackson M., to Jersey Production Research Co. Drill bit with extensible blade. 3,145,786, 8–25–64, Cl. 175—379.
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Kershner, Richard B., to United States of America, Navy. Satellite rotation by radiation pressure. 3,145,948, 8–25–64, Cl. 244—1.
Keska, Kenneth R., to The Yoder Co. Welding transformer. 3,146,332, 8–25–64, Cl. 219—63.
Kidd, Eddings, 33⅓% to J. L. Gurney. Note pad and holder therefor. 3,146,004, 8–25–64, Cl. 281—3.
Kidwell, Robert L., and D. E. Litherland, to The Garrett Corp. Repetitive high current semiconductor switch. 3,146,364, 8–25–64, Cl. 307—88.5.
Kikuyama, Tokuji. Automatic headlight control. 3,146,374, 8–25–64, Cl. 315—83.
Kimball, Lloyed R., to Sperry Rand Corp. Feedback stabilised scanning doppler radar. 3,146,445, 8–25–64, Cl. 343—9.
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Kincannon, Lee T., to Outboard Marine Corp. Shift control by manipulation of tiller handle. 3,145,688, 8–25–64, Cl. 115—18.
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King, Don R., to Precise Products Corp. Drilling machine with a fluid pressure feed motor. 3,145,583, 8–25–64, Cl. 77—23.5.
King, James L., to Acton Laboratories, Inc. Commutator switch. 3,146,322, 8–25–64, Cl. 200—23.
King, Karl G., Sr., to No-Vak, Inc. Seal. 3,146,013, 8–25–64, Cl. 292—320.
Kinsella, John J., to Xerox Corp. Process for adhering plastic to vitreous selenium. 3,146,145, 8–25–64, Cl. 156—272.
Kinser, Charles F., and W. Lach, to Western Electric Co., Inc. Percussive welding apparatus. 3,146,334, 8–25–64, Cl. 219—95.
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Kiritsy, Paul: *See*—
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Kivlighn, Herbert D., to Corning Glass Works. Method of making semicrystalline ceramic bodies and the composition thereof. 3,146,114, 8–25–64, Cl. 106—39.

Kleine-Albers, August, to Gebruder Goller Ankerwerk. Method and apparatus for controlling the supply of energy to a plastic in a plasticizing machine. 3,146,287, 8–25–64, Cl. 264—329.

Kloepfer, Harry J. Müller, and F. Sperr, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Iron-nitride-carbide powder and method for its production. 3,145,458, 8–25–64, Cl. 29—182.5.

Klune, Thomas H. Repair plug applicator for tubeless tires. 3,145,592, 8–25–64, Cl. 81—15.7.

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Knights, Herbert C., to United Kingdom Atomic Energy Authority. Winding apparatus for fluid conducting hose combined with electricity conducting wires. 3,145,725, 8–25–64, Cl. 137—355.17.

Knobel, Fritz. Plural part core inductor comprising edge-wound core section. 3,146,420, 8–25–64, Cl. 336—212.

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Knowlton, David R., to United-Carr Inc. Molding fastener. 3,145,439, 8–25–64, Cl. 24—73.

Kochis, John. Line twisting and untwisting attachment. 3,145,496, 8–25–64, Cl. 43—43.13.

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Koehler, Joseph G.: *See*—
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Kolb, Robert H., and H. L. Shatto, to Shell Oil Co. Ship control system. 3,145,683, 8–25–64, Cl. 114—144.

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Kortlander, Ernest J.: *See*—
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Koseki, Yasuo: *See*—
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Kothe, Heins: *See*—
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Kozien, Frank, A. F. Smith, J. A. Thompson, and R. F. Allen, to United States of America, Air Force. Patching panels for electrical interconnections. 3,146,050, 8–25–64, Cl. 339—18.

Krantz, Hubert. Closed apparatus for the wet treatment and particularly dyeing of textiles with liquor heated to above 100° C. 3,145,555, 8–25–64, Cl. 68—189.

Krause, Frank R. Leaf spring tapering apparatus. 3,145,-591, 8–25–64, Cl. 80—19.

Kreider, David B., to F. W. Rohe. Spring clip and nut assembly. 3,145,753, 8–25–64, Cl. 151—41.76.

Kreissig, Johannes, and M. Lenz, to Robert Bosch G.m.b.H. Ignition interruptor for internal combustion engine. 3,146,321, 8–25–64, Cl. 200—19.

Kreppe, James E., Jr., to Sarkes Tarzian, Inc. Superheterodyne receiver with hum filter and voltage regulation. 2,146,399, 8–25–64, Cl. 325—440.

Kroell, Charles K., to General Motors Corp. Energy absorbing vehicle bumper assembly. 3,146,014, 8–25–64, Cl. 293—70.

Kroger, Hanns H., and H. von Doehren, to Varta Aktiengesellschaft. Process for impregnating porous electrodes, and electrodes produced thereby. 3,146,130, 8–25–64, Cl. 136—34.

Kroll, Wolf R., to Continental Oil Co. Complex of alkali metal cyanide and alkyl-aluminum dihalide. 3,146,247, 8–25–64, Cl. 260—448.

Kromschroder, G., Aktiengesellschaft: *See*—
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Kroon, John J. Luminous electric clock. 3,145,536, 8–25–64, Cl. 58—050.

Krystyniak, Casimer W., A. T. Muccigrosso, and G. L. Fiesta, to United States of America, Atomic Energy Commission. Production of round particles of ceramic material. 3,146,-281, 8–25–64, Cl. 264—21.

Kuhrt, Friedrich, and G. Stark, to Siemens-Schuckertwerke Aktiengesellschaft. Hall-effect magnetic transducer. 3,146-,317, 8–25–64, Cl. 179—100.2.

Kuhrt, Friedrich, W. Engel, and C. Wolf, to Siemens-Schuckertwerke Aktiengesellschaft. Sound-track reproducer for motion-picture projectors. 3,146,318, 8–25–64, Cl. 179—100.2.

Kulick, Edward L., Sr. Shock absorbing bumper for boats and docks. 3,145,685, 8–25–64, Cl. 114—220.

Kulicke, Frederick C., and K. V. Livelsberger, to Amsted Industries, Inc. Transition coupling means. 3,145,852, 8–25–64, Cl. 213—112.

Kunreuther, Frederick, W. A. Dick, and D. C. Hausch, to Shell Oil Co. Distributing vapor-liquid feed to beds. 3,146,189, 8–25–64, Cl. 208—146.

Kupski, Joseph, to The Chicago Hardware Foundry Co. Locking mechanism. 3,145,660, 8–25–64, Cl. 109—148.

Kurihara, Michio, to Koshin Seisuitsu Kaiki Kabushiki Kaisha. Pressure foot for sewing machines. 3,145,674. 8–25–64, Cl. 112—240.

Küsters, Eduard, to Küsters, Eduard, Maschinenfabrik. Apparatus for drawing out foils from plastic materials. 3,145,413, 8–25–64, 18—9.

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Lalmond, Richard G., to Sanders Associates, Inc. Multiple coupler employing resonant effects to isolate the lead circuits from each other. 3,146,409, 8–25–64, Cl. 333—6.

Lambert, Pierre. Storage enclosure for phonograph records. 3,146,041, 8–25–64, 312—10.

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Price, Ralph E., and Happel. 3,145,507.

Landon, Harry I. Portable easel. 3,145,966, 8–25–64, Cl. 248—464.

Langdon, Robert S., to General Electric Co. Motor mounting arrangement. 3,145,959, 8–25–64, Cl. 248—13.

Langdon, Robert S., to General Electric Co. Motor mounting arrangement. 3,145,960, 8–25–64, Cl. 248—13.

Langenberg, Frederick G. Air brace. 3,145,853, 8–25–64, Cl. 214—10.5.

Langmead, Frederick H. and P. N., to Zealand Engineering Co. Ltd. Apparatus for setting up and tooling workpieces. 3,145,605, 8–25–64, Cl. 83—413.

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Langmead, Frederick H., and P. N. 3,145,605.

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Lantz, Russell J., Jr., and M. J. Robinson, to Smith Kline & French Laboratories. Method of preparing sustained release pellets and products thereof. 3,146,167, 8–25–64, Cl. 167—82.

Larsson, Gustav, to Svenska Flaktfabriken, Aktiebolaget. Switch valve for pipe lines. 3,146,033, 8–25–64, Cl. 302—28.

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Laurer, George J., and C. D. Southard, to International Business Machines Corp. Drum storage system. 3,146,429, 8–25–64, Cl. 340—174.1.

Laureti, Remo J., to Wall Rope Works, Inc. Ropes of synthetic fibers. 3,145,525, 8–25–64, Cl. 57—140.

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Lemelson, Jerome H. Printing process. 3,146,144, 8–25–64, Cl. 156—234.
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Leslie, Donald J. Pitch broadening apparatus for musical instruments having electronic tone generators. 3,146,291, 8–25–64, Cl. 84—1.24.
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Lockwood, Warren H. Reversible nesting and stacking container. 3,145,870, 8–25–64, Cl. 220—4.
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Marforio, Nerino, to Virginio Rimoldi & C., S.p.A. Overedge stitching machine. 3,145,672, 8–25–64, Cl. 112—162.
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Mason, Warren P., and M. E. Sikorski, to Bell Telephone Laboratories, Inc. Non-sticking electrical contacts. 3,146,328, 8–25–64, Cl. 200—166.

Massardi, Paolo. Vacuum type power unit for motor vehicles hydraulic brake systems. 3,145,536, 8–25–64, Cl. 60—54.5.

Matterson, Peter D., to Dolty Cranes Ltd. Gear box mountings for cranes. 3,145,663, 8–25–64, Cl. 105—136.

Mattingly, Virdean R. Method of repairing high pressure slush pumps. 3,145,461, 8–25–64, Cl. 29—402.

Mauck, Robert J., ½ to Dr. R. V. Fisher. Socket wrench having magnetic nut-holding means. 3,145,595, 8–25–64, Cl. 81—125.

May, Kenneth D. : *See*—
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Mayer, Ivan, and R. V. Trense, to Esso Research and Engineering Co. Optimizing reducing gas production with hydrogen-containing fuels. 3,146,089, 8–25–64, Cl. 75—41.

Mayer, Mitchell L., H. T. Brey, and H. Stein. Rotary cutlery carriers. 3,145,510, 8–25–64, Cl. 51—164.

Maynard, Wheeler D., and K. W. Abendroth, to General Signal Corp. Impact detector. 3,145,571, 8–25–64, Cl. 73—492.

Mayo, Frank R. : *See*—
Silverstein, Robert M., and Mayo. 3,145,202.

Mayon, Leon, and R. H. Riches, to Burroughs Corp. Supporting apparatus. 3,146,047, 8–25–64, Cl. 312—319.

Mazzolla, Dan D. Flatwork feeding and smoothing attachment for ironer. 3,145,491, 8–25–64, Cl. 38—148.

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McCarty, Shile D., to Jersey Production Research Co. Method and apparatus for conducting offshore drilling operations. 3,145,775, 8–25–64, Cl. 166—46.

McClintock, John H., to Esso Research and Engineering Co. Selective separation of oil from water. 3,146,192, 8–25–64, Cl. 210—40.

McClung, Miley B., ¼ to E. G. Hawr. Game apparatus comprising successively playable goals with ball transfer means therebetween. 3,145,992, 8–25–64, Cl. 273—105.

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Schneble, Frederick W., Jr., McCormack, Zeblisky, and Polichette. 3,146,125.

McDanal, Michael R. Means for forming a soap-receiving cavity in a sponge. 3,145,601, 8–25–64, Cl. 83—1.

McDermott, J. Ray & Co., Inc. : *See*—
Young, Charles E. 3,145,538.

McEvoy, Francis J., M. D. Heller, and S. Bernstein, to American Cyanamid Co. 14β,21-epoxy-pregnanes and method of preparing the same. 3,146,230, 8–25–64, Cl. 260—239.55.

McFadyen, May A. Safety attachment for tractors. 3,146,001, 8–25–64, Cl. 280—150.

McGinn, John H., to General Electric Co. Arc plasma generator. 3,146,371, 8–25–64, Cl. 313—231.

McGuire, Eleanor H. Hospital tray. 3,145,841, 8–25–64, Cl. 206—72.

McIlroy, Paul G. : *See*—
Middleton, James M., and McIlroy. 3,146,113.

McKeever, Richard B. : *See*—
Boozalis, Theodore S., and McKeever. 3,146,254.

McKelvey, Harold E., to Pittsburgh Plate Glass Co. Method of bending glass sheets. 3,146,084, 8–25–64, Cl. 65—107.

McKenna, Peter, to British Insulated Callender's Cables Ltd. Transposed electric bus bar systems for heavy alternating currents. 3,146,359, 8–25–64, Cl. 307—147.

McKenzie, William G., to Walker Mfg. Co. Lubricator. 3,145,804, 8–25–64, Cl. 184—29.

McMillan, Stephen L., to General Electric Co. Clothes washing machine. 3,145,553, 8–25–64, Cl. 68—18.

McMillan, Stephen L., and D. E. Stelli, to General Electric Co. Water conditioner dispenser for clothes washing machine. 3,145,552, 8–25–64, Cl. 68—17.

McNaney, Joseph T. Printing apparatus. 3,145,632, 8–25–64, Cl. 95—1.7.

McNaney, Joseph T., to General Dynamics Corp. Electrostrictive apparatus for changing displays. 3,146,367, 8–25–64, Cl. 313—86.

McNemar, Kenneth L. : *See*—
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McVoy, Charles F., Jr. : *See*—
Warren, Charles E., and McVoy. 3,146,419.

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Medley, Ronald D., to Consolidated Thermoplastics Co. Shaft stabilizer. 3,145,628, 8–25–64, Cl. 92—166.

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Meloy, Arthur S., Jr., to The Singer Co. Control device for lock stitch sewing machine. 3,145,678, 8–25–64, Cl. 112—181.

Melton, Gladys A. Invalid diaper. 3,145,394, 8–25–64, Cl. 2—224.

Merck & Co., Inc. : *See*—
Macek, Thomas J., Mullins, and Ouellette. 3,146,164.

Messler, August. Furnaces for the production of mineral, especially basalt wool. 3,145,981, 8–25–64, Cl. 263—27.

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Metzler, Kurt. Weft sensing means. 3,145,739, 8–25–64, Cl. 139—370.

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Colautti, Albert J., and Meyer. 3,145,988.

Meyer, Geo. J., Mfg. Co. : *See*—
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Middleton, James M., and P. G. McIlroy, to The British Steel Castings Research Association. Mould paint. 3,146,113, 8–25–64, Cl. 106—38.23.

Mihara, Yoshiaki : *See*—
Suzuki, Masaomi, Shinohara, Mihara, Ooka, and Tomioka. 3,146,039.

Milani, Virgil I., to United States of America, Navy. Composition comprising trinitrotoluene and o-nitrophenol. 3,146,140, 8–25–64, Cl. 149—107.

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Millar, Neal A., to General Motors Corp. Electrical machinery brush holder. 3,146,306, 8–25–64, Cl. 310—246.

Miller, Arthur E., to Scott Aviation Corp. Demand valve. 3,145,721, 8–25–64, Cl. 137—64.

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Copian, Louis P., Rivera, and Miller. 3,145,670.

Miller, Lee F. : *See*—
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Miller, Richard G., to Cutler-Hammer, Inc. Toggle switch lever mounting. 3,146,330, 8–25–64, Cl. 200—172.

Miller, Roland E., and C. G. Tumino, to National Dairy Products Corp. Packaging apparatus including a hopper, a metering assembly and movable tray. 3,145,742, 8–25–64, Cl. 141—191.

Miller, Theodore, to Space Technology Laboratories, Inc. Navigational and reconnaissance pulse-echo radar system. 3,146,441, 8–25–64, Cl. 343—5.

Miller, Walter L. : *See*—
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Millheiser, Melvin, to Waldes Kohinoor, Inc. Quick-acting bolt and nut type fastener having contractible bolt-gripping sleeve. 3,145,611, 8–25–64, Cl. 85—1.

Milligan, John D. : *See*—
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Calongne, Robert J., and Witt. 3,145,794.

Miner, Robert G., to The Trane Co. Means for controlling the head pressure in refrigerating systems. 3,145,843, 8–25–64, Cl. 62—149.

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Davis, Henry F. 3,146,401.
Fillmore, Robert L., and Kintigh. 3,145,623.
Haselquist, Donald R. 3,146,315.
Kampf, Richard S. 3,145,578.
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Minnesota Mining and Mfg. Co. : *See*—
Errede, Louis A. 3,146,211.
Neher, Byron W. 3,146,101.
Workman, Wesley R. 3,146,348.

Mishcon, Lester, to The Singer Co. Pattern mechanism for circular knitting machines. 3,145,548, 8–25–64, Cl. 66—50.

Mitchella, Clyde B., and W. L. J. Williams, to General Dynamics Corp. Apparatus for fabricating composite structures. 3,146,148, 8–25–64, Cl. 156—382.

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Moller, Carl G. Display device. 3,145,492, 8–25–64, Cl. 40—103.

Momberg, James W., and R. W. Graft, to The Singer Co. Sewing machine and carrying case with electrical adapter. 3,145,675, 8–25–64, Cl. 112—258.

Monaco, Anthony T., and R. S. Sobie, to Motorola, Inc. Cathode ray tube protective front panel device. 3,146,205, 8–25–64, Cl. 178—7.82.

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Roth, Robert G., and Singleton. 3,146,176.
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Chiusoli, Gian P. 3,146,257.

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Moore, Fred W., and M. G. Lawson, to General Electric Co. Constant temperature-constant volume measuring tank. 3,145,881, 8–25–64, Cl. 222—226.

Moore, George A. Apparatus for making containers. 3,145,630, 8–25–64, Cl. 93—51.

Moore, George A. Container construction. 3,145,905, 8–25–64, Cl. 229—48.

Moore, James D., and N. N. Schiff, to Vitro Corp. of America. Process for separating scandium from mixtures containing scandium and thorium values. 3,146,063, 8–25–64, Cl. 23—14.5.

Moore, Lee C., Corp.: *See*—
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Moore, Robert C., to Philco Corp. Color television system. 3,146,302, 8–25–64, Cl. 178—5.4.

Moore, Robert L., to United States of America, Atomic Energy Commission. Decontamination of uranium. 3,146,064, 8–25–64, Cl. 23—14.5.

Moreau, Louis, to Societe de Vente d'Aimants Allevard-Ugine. Magnetic force control or switching system. 3,146,381, 8–25–64, Cl. 317—171.

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Morgan, Robert W., and M. J. Hatch, to The Dow Chemical Co. Paper containing a polymer mixture of polysulfonium resin and polycarboxylate resin. 3,146,157, 8–25–64, Cl. 162—164.

Morgan, Ruble F. Fume eliminator. 3,146,072, 8–25–64, Cl. 23—277.

Morgenroth, Henri. Scavenging flow circuit for stirling cycle engine. 3,145,527, 8–25–64, Cl. 60—24.

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Morse, Harold H., and R. A. Foos, to National Distillers and Chemical Corp. Process for purifying hafnium. 3,146,092, 8–25–64, Cl. 75—84.

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Morrison, John M., to Centrifio Pty. Ltd. Air screen creating apparatus. 3,145,641, 8–25–64, Cl. 98—36.

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Mosely, George W. Planting apparatus. 3,145,671, 8–25–64, Cl. 111—3.

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Moss, Norman, to The Plessey Co. Ltd. Gas-turbine operated engine starters. 3,145,532, 8–25–64, Cl. 60—39.14.

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Moyer, Hallard C., and R. M. Fauber, to Sinclair Research, Inc. Wax composition. 3,146,184, 8–25–64, Cl. 208—21.

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Mueller, Klaus P., to Robertshaw Controls Co. Pneumatic controller. 3,145,722, 8–25–64, Cl. 137—85.

Mufich, Doris. Disposable protective head covering. 3,145,393, 8–25–64, Cl. 2—202.

Muggleton, Gerald D., to Combined Locks Paper Co. Method of coating paper with high solids high viscosity coating in the wet end of the paper making machine. 3,146,159, 8–25–64, Cl. 162—184.

Muller, Donald J. Coin display holder. 3,145,833, 8–25–64, Cl. 206—.83.

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Murek, Josef K., and C. Zeilenga, to Trans Energy Corp. High energy impact forming machine. 3,145,646, 8–25–64, Cl. 100—264.

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Neukom, Alfred, to H. A. Schlatter, A.G. Control apparatus for welding machines and the like. 3,145,627, 8–25–64, Cl. 91—442.

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Otsuka, Eiji, to Toyo Koatsu Industries, Inc. Treatment of urea synthesis effluent liquor. 3,146,263, 8–25–64, Cl. 260—555.
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Herklotz, Helmut, Leichtle, Otto, Platz, and Wiegelmann. 3,145,930.
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Ozanne, Jean-Claude. Rocket package assembly. 3,145,619, 8–25–64 Cl. 89—1.7.
Pacala, Theodore, R. H. Singleton, and J. E. Twyman, to General Motors Corp. Method of forming tungsten shapes from sprayed metal preforms and the articles resulting therefrom. 3,146,134, 8–25–64, Cl. 148—20.3.
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Padula, Fred. Hydraulic thruster for vehicles and control therefor. 3,145,796, 8–25–64, Cl. 180—8.
Page, Raymond D., and F. R. Weymouth, Jr., to Trico Products Corp. Windshield wiper. 3,145,407, 8–25–64, Cl. 15—250.12.
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Papadopoulos, Michael N., C. H. Deal, and E. E. Young, to Shell Oil Co. Recovery of aromatics. 3,146,190, 8–25–64, Cl. 208—313.
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Parker, Kenneth O., and R. L. Campbell, to United Aircraft Products, Inc. Valve and heat exchanger assembly. 3,145,768, 8–25–64, Cl. 165—39.
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Parks, John H., to Caterpillar Tractor Co. Engine speed limiter controlled by lubricating oil pressure. 3,145,702, 8–25–64, Cl. 123—198.
Parks, John H., and J. G. Wellwood, to Caterpillar Tractor Co. Double acting hydraulic servo governor. 3,145,624, 8–25–64, Cl. 91—366.
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Paul, Theodore R. Dynamo-electric machine commutator construction. 3,146,364, 8–25–64, Cl. 310—236.
Pearlman, Albert. Vehicle with expandible cargo space in top. 3,146,018, 8–25–64, Cl. 296—26.
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Pearson, Donald G., to Sears, Roebuck and Co. Rotary lawn mower. 3,145,519, 8–25–64, Cl. 56—25.4.
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Pennebaker, Eugene S., Jr., to Jersey Production Research Co. Well operation depth control method. 3,145,771, 8–25–64, Cl. 166—4.
Pennington, John, and B. Yeomans, to The Distillers Co. Ltd. Process of preparing pyridine carboxylic acid and organic nitriles by metathesis between pyridine nitriles and organic carboxylic acids. 3,146,238, 8–25–64, Cl. 260—295.
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Petalas, Constantinos. Shoe having combined counter support and insole. 3,145,486, 8–25–64, Cl. 36—2.5.
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Peterson, Norman E., and E. E. Courchene, Jr., to Digitech, Inc. Decoding system. 3,146,438, 8–25–64, Cl. 340—347.
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Scovel, Ralph E., and Petrucci. 3,145,937.
Pettit, Willis G. Collapsible fixture hanger having means to indicate the locked position. 3,145,812, 8–25–64, Cl. 85—3.
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Peyton, John F., to Arrowhead Products. Vacuum insulated conduits and insulated joining means. 3,146,006, 8–25–64, Cl. 285—47.
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Pierson, Norman A., to Naturizer, Inc. Refuse reclamation system. 3,146,071, 8–25–64, Cl. 23—259.1.
Pigo, Lewis. Finger comb with tooth spacing slider. 3,146,718, 8–25–64, Cl. 132—148.
Pinegar, Avon L. Mobile traction unit. 3,145,709, 8–25–64, Cl. 128—84.
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Alsgaard, Richard W., Beck, and Plueddemann. 3,146,249.
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Poole, Foster M., and H. T. Westerheim, ¼ to F. M. Poole, and ¼ to C. Casey. System for measuring characteristics of fluids. 3,145,564, 8–25–64, Cl. 73—194.
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Pratt, Aloysius W., to American Machine & Foundry Co. Abnormal voltage detection circuits. 3,146,358, 8–25–64, Cl. 307—88.5.
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King, Don R. 3,145,588.
Precision Associates, Inc.: *See*—
Horvereid, Wells J. 3,145,423.
Presnell, Frank G. Control valve. 3,145,730, 8–25–64, Cl. 137—493.2.
Price, Ralph E., to Landis Tool Co. Apparatus for grinding intersecting annular and cylindrical surfaces. 3,145,508, 8–25–64, Cl. 51—105.
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Prouty, Bernard H. Steam trap. 3,145,927, 8–25–64, Cl. 236—54.
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Shaver, William R. 3,145,667.
Spence, John H., and Van Der Sluys. 3,145,666.
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Quackenbush, John J., to National Distillers and Chemicals Corp. Fluff feed hopper. 3,145,882, 8–25–64, Cl. 222—227.
Quittner, George F., to Assembly Products, Inc. Magnetic flaw detection apparatus with excitation and sensing coils mounted on nutating head. 3,146,895, 8–25–64, Cl. 324—37.
Rackley, John M., to The Babcock & Wilcox Co. Gaseous fuel burner and control therefor. 3,145,764, 8–25–64, Cl. 158—125.
Radcliff, Alan L. Multi-louver grill. 3,145,642, 8–25–64, Cl. 98—40.
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Ralphs, John D., to National Research Development Corp. Direct current or low frequency transistor amplifier having a high input impedance. 3,146,404, 8–25–64, Cl. 330—10.
Randall, Ralph R., to M. W. Dolphin. Centrifugal clutch. 3,145,817, 8–25–64, Cl. 192—105.
Randol, Glenn T. Control valve adapted for pressure differential motor use. 3,145,625, 8–25–64, Cl. 91—374.
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Kaatz, Herbert W., and Tobacman. 3,145,731.
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Rasor, Ned S., to North American Aviation, Inc. Thermionic diode converter system. 3,146,388, 8–25–64, Cl. 318—138.
Rassner, Louis, 3% to R. I. Pearlman. Bowling ball device. 3,145,479, 8–25–64, Cl. 33—174.
Rauland Corp., The: *See*—
Fiore, Joseph P., and Kaplan. 3,146,368.
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Reifers, Richard F., to Diamond National Corp. Hinge construction of molded fiber articles and method of producing the same. 3,145,895, 8–25–64, Cl. 229—2.5.
Reifers, Richard F., and H. A. Lord, to Diamond National Corp. Divisible molded article. 3,145,896, 8–25–64, Cl. 229—2.5.
Reiterer, Ferdinand, to Whitin Machine Works. Controlled flow distribution nozzle. 3,145,427, 8–25–64, Cl. 19—106.
Reiterer, Ferdinand, to Whitin Machine Works. Pneumatic web removal in carding machines. 3,145,428, 8–25–64, Cl. 19—106.
Relle, Vernon J., to Totalisators Ltd. Encoding devices. 3,146,437, 8–25–64, Cl. 340—347.
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Renner, Herbert, H. Hayek, J. Zemann, and J. Eisenwiener. to P. Stoll. Process for coating objects in a flow coater. 3,146,122, 8–25–64, Cl. 117—102.

Renshaw, Kenneth H., to Collins Radio Co. Receiver for data with one frequency indicating one binary logic state and another frequency indicating other state. 3,146,307. 8–25–64, Cl. 178—88.

Rentschler, Waldemar T., to Alfred Gauthier G.m.b.H. Photographic camera with built-in exposure meter. 3,145,633. 8–25–64, Cl. 95—10.

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Reusch, Frederick J., Sr. Control system for an oil burner 3,145,761, 8–25–64, Cl. 158—42.1.

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Rex, Donald K.: *See*—
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Coplan, Louis P., Rivers, and Miller. 3,145,670.

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Ringold, Howard J., O. Mancera, and E. Batres, to Syntex Corp. 4-halo-19-nor-progesterone. 3,146,239, 8–25–64, Cl. 260—397.3.

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Herr, Richard F., and Goldner. 3,145,891.

Ritter, Hartien S., to Pittsburgh Plate Glass Co. Pigment treatment. 3,146,119, 8–25–64, Cl. 106—300.

Ritzenhoff, Hermann. Sealing cap. 3,145,869, 8–25–64, Cl. 215—46.

Rivers, Russell C.: *See*—
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Roberge, Joseph O. Material handling implement. 3,146,015, 8–25–64, Cl. 294—19.

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Robinson, Martin A., to Olin Mathieson Chemical Corp. Dimercaptopyridines and a process for their preparation. 3,146,237, 8–25–64, Cl. 260—294.8.

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Rockwell-Standard Corp.: *See*—
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Röder, Josef, F. Stoff, and J. Tschullik, to Dravo Corp. Vibrating conveyor system. 3,145,831, 8–25–64, Cl. 198—220.

Rogers, Cyril B., to Clark Equipment Co. Material handling machine. 3,145,865, 8–25–64, Cl. 214—512.

Rogler, Heinz, to Firma Porsche-Diesel-Motorenbau G.m.b H. Tractor arrangement. 3,145,781, 8–25–64, Cl. 172—276.

Rohe, Frederick W.: *See*—
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Bird, Jack R., and Wheeler. 3,146,136.

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Andersen, Holger C., and Romeo. 3,146,243.

Rona, Thomas P. Vibratile transparent filament accelerometer. 3,146,057, 8–25–64, Cl. 346—108.

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Roncari, Angelo J.: *See*—
Kean, George W. 3,145,780.

Roncari, Raymond A.: *See*—
Kean, George W. 3,145,780.

Rooney, John T. Method of contact printing. 3,146,103, 8–25–64, Cl. 96—27.

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Rose, Joseph K. Remotely operated hand crank and gear drive for orientation of antennas on a mast. 3,146,452, 8–25–64, Cl. 343—758.

Rosener, Willard C., A. J. Green, C. G. Robbins, M. D. Frost, and C. T. Donovan, to The National Cash Register Co. Automatic media sort, data proof and distribution machines. 3,145,924, 8–25–64, Cl. 235—60.13.

Rosenfeld, Myer, and R. E. Wagner, Jr., to United States of America, Army. Solvent degreasing self-emulsifying cleaning composition. 3,146,207, 8–25–64, Cl. 252—118.

Rosenow, Monroe H., to ABC Industries, Inc. Golf club cover. 3,145,749, 8–25–64, Cl. 150—52.

Rosman, Frank G. Infant car bed. 3,145,395, 8–25–64, Cl. 5—94.

Roth, Robert G., and T. C. Singleton, to Monsanto Co. Stabilization of unsaturated nitriles during distillation by the addition of p-aminophenol and a sodium salt reducing agent. 3,146,176, 8–25–64, Cl. 202—57.

Rowland, Fred W.: *See*—
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Royston, Marvin F., to Bell & Howell Co. Motion picture projector having a single frame clutch. 3,145,614, 8–25–64, Cl. 88—17.

Rubenstein, David. Structural element and method of making. 3,145,502, 8–25–64, Cl. 50—128.

Ruble, Theodore A., and R. D. Weekley, to Continental Carbon Co. Carbon black collecting process. 3,146,080, 8–25–64, Cl. 55—96.

Ruderian, Max J. Manually driven rotatable disc device and stand combination. 3,145,994, 8–25–64, Cl. 273—142.

Ruehle, Robert A. Mounting device for semiconductors. 3,146,384, 8–25–64, Cl. 317—234.

Rulon-Miller, Robert, and W. H. Tabor, to Dixie Machine & Tool Co. Means for controlling the fibers in a strand of a textile drafting apparatus. 3,145,431, 8–25–64, Cl. 19—247.

Rummel, Theodor, to Siemens & Halske Aktiengesellschaft. Method of producing a semiconductor device. 3,145,447, 8–25–64, Cl. 29—25.3.

Runtz, Jean W., and K. E. Johnson, to Ohmit Mfg. Co. Capacitor unit and electrode therefor. 3,146,383, 8–25–64, Cl. 317—230.

Rushton, Frederick N.: *See*—
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Rust, Frank P., and E. S. Olsen, to Chicago Bridge & Iron Co. Field machining apparatus. 3,145,622, 8–25–64, Cl. 90—13.

Rydinger, Mats: *See*—
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Saarivirta, Matti J., and P. W. Taubenblat, to American Metal Climax, Inc. Zinc base alloys. 3,146,098, 8–25–64, Cl. 75—178.

Sabins, Rolland C. Electrolytic system. 3,146,182, 8–25–64, Cl. 204—197.

Sacks, Bernard. Enclosure. 3,146,044, 8–25–64, Cl. 312—213.

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Sah, Chih-Tang, to Clevite Corp. Four layer semiconductive device. 3,146,135, 8–25–64, Cl. 148—33.3.

Saikachi, Haruo, A. Oyama, R. Ueno, and H. Inoue. 5-(5-nitro-2-furyl-mono- and di-vinylene)-1,3,4-oxadiazoline-2-one and process. 3,146,232, 8–25–64, Cl. 260—240.

Saint-Gobain, Compagnie de: *See*—
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Salathiel, Richard A., and V. R. Porter, to Jersey Production Research Co. Water base drilling fluid and method of drilling a well utilizing the same. 3,146,199, 8–25–64, Cl. 252—8.5.

Salgado, Alvaro, and W. C. Forster, to Reichhold Chemicals, Inc. Polymerizable polyester resin containing a cadmium salt as polymerization inhibitor. 3,146,216, 8–25–64, Cl. 260—45.4.

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Samuelson, Fred H., to United Aircraft Corp. Focusing device for electron beams. 3,146,335 8–25–64, Cl. 219—121.

Sandberg, Clifford H. Track spike with angularly related neck webs. 3,145,929, 8–25–64, Cl. 238—371.

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Butler, Jesse L. 3,146,413.
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Sandoz Ltd.: *See*—
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Saunders, Percy L. Combined food container and heater. 3,145,706, 8–25–64, Cl. 126—262.

Scarr, John, Jr., to Gulf Research & Development Co. Apparatus for the proportioning and blending of fluids. 3,145,877, 8–25–64, Cl. 222—134.

Schafer, Werner, R. Wegler, and L. Eue, to Farbenfabriken Bayer Aktiengellschaft. Imino-alkyl-ureas. 3,146,262, 8–25–64, Cl. 260—553.

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Schlossin, Heimuth H., to Hard Metals Ltd. Inserts for rock drill bits. 3,145,791, 8–25–64, Cl. 175—410.

Schmohl, Leland H., to Parker-Hannifin Corp. Boss joint with metallic seal ring. 3,146,006, 8–25–64, Cl. 285—212.

Schnädelbach, Martin, to Siemens & Halske Aktiengesellschaft. Multi-stage frequency conversion transmitter adapted for tuning within an extended frequency range. 3,146,398, 8–25–64, Cl. 325—134.

Schneble, Frederick W., Jr., J. F. McCormack, R. J. Zeblisky, and J. Polichette, to Day Co., N.Y. Method of making printed circuits. 3,146,125, 8–25–64, Cl. 117—212.

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Schreckengost, Ray B., and R. C. Carlson, to Admiral Corp. Power transmission mechanism. 3,145,581, 8–25–64, Cl. 74—472.

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Schultz, Ralph L. to Victor Comptometer Corp. Carriage and ribbon mechanism for calculating machines. 3,145,651, 8–25–64, Cl. 101—336.

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Schwartz, Morris, and E. K. Kaprelian, to The Kalart Co., Inc. Slide and sound record carrier. 3,145,616, 8–25–64, Cl. 88—28.

Schwinger, Heinrich, to Hesser, Fr., Maschinenfabrik-Aktiengellschaft, Firma. Bags. 3,145,907, 8–25–64, Cl. 229—53.

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Seltzer, Samuel M.: *See*—
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Seremak, Jerome, to General Electric Co. Electric oven. 3,146,338, 8–25–64, Cl. 219—403.

Serge, Igor B., and P. S. Webb, to The Bendix Corp. Slot fed horn radiator with protective radome having polarisation and resistance wires embedded therein. 3,146,449, 8–25–64, Cl. 343—704.

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Sim, Gordon, to Teletype Corp. Code altering device. 3,145,919, 8–25–64, Cl. 234—22.

Sim, Gordon, and R. A. Thienemann, to Teletype Corp. Tape perforator. 3,145,921, 8–25–64, Cl. 234—102.

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Smith, Rawlen T. Land levelers. 3,145,489, 8–25–64, Cl. 37—179.

Smith, Traver J., ⅓ to G. I. Magnuson and ⅓ to G. I. Magnuson, R. Magnuson and L. J. Fox as trustees. Electrically controlled fluid dispenser. 3,145,741, 8–25–64, Cl. 141—104.

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Classification of Plants

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
August 25, 1964 Volume 805 Number 4

TRADEMARKS

NOTICES

Oppositions Under Section 13 of the Trademark Act of 1946

Section 13 of the Trademark Act of 1946 provides that any person who believes that he would be damaged by the registration of a mark upon the Principal Register may, upon payment of the required fee, file a verified opposition in the Patent Office, stating the grounds therefor, within thirty days after publication under Section 12(a) of the mark sought to be registered.

An unverified opposition may be filed by a duly authorized attorney, but the opposition will be null and void unless verified by the opposer within a reasonable time after such filing to be fixed by the Commissioner.

An opposition will not be accepted unless it complies with the statutory requirements, namely, it must be filed in the Patent Office within thirty days after publication under Section 12(a) of the mark opposed, be accompanied by a fee in the proper amount, must state the grounds therefor and, if filed by the opposer, must be verified.

A request to extend the time for filing an opposition under Rule 2.102 must be received in the Patent Office before the expiration of thirty days from date of publication under Section 12(a) of the mark sought to be registered. The request should specify the period of extension desired and be accompanied by a showing of good cause for the extension requested, but in the event circumstances do not permit submission of the showing of good cause with the request, it must be furnished within ten days after filing the request for extension.

Two or more parties may be joined in opposition to the registration of a mark, but separate fees for each party so joined must be paid. Likewise, a mark may be opposed in each of a plurality of classes, but a separate fee of $25.00 for each class in which opposition is sought, must accompany the opposition. To be complete, oppositions accompanied by fees insufficient to cover each class named in the application, must specify the particular classes in which opposition is sought.

HORACE B. FAY, JR.
July 15, 1964. *Assistant Commissioner.*

International Convention for the Protection of Industrial Property

Adherence of Niger to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective July 5, 1964, of the Republic of Niger to the Convention of Union of Paris for the Protection of Industrial Property, as last revised at Lisbon on October 31, 1958.

The note also confirms the membership of that State in the International Union of Paris for the Protection of Industrial Property.

EDWARD J. BRENNER,
July 16, 1964. *Commissioner of Patents.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JUNE 30, 1964

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	15, 462
Date of oldest new application	Dec. 1, 1963
Date of oldest amended application	Nov. 18, 1963

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	1-2-64	12-2-63
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	12-1-63	11-18-63
Renewals (All Classes)	6-4-64	6-26-64
Sec. 12 (c) Publications (All Classes)	6-5-64	

Applications filed during the month of June 1964—2,380

Registrations Issued	416—No. 775,575 to No. 775,990
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

National Cleaning Equipment Corporation, Portage, Pa., Reg. No. 736,560, Canc. No. 8232.

Mectron Corporation, Lawrence, Mass., Reg. No. 425,952, Canc. No. 8283.

American Lady, Inc., by change of name from American Lady Corset Co., Detroit, Mich., Reg. No. 220,129, Canc. No. 8308.

HORACE B. FAY, JR.,
Assistant Commissioner of Patents.

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 135,301. United States Rubber Company, New York, N.Y. Filed Jan. 5, 1962.

USCOTHANE

For Elastomers Used in Mechanical Industrial Products, for Example, in Belts, Bushings, Gears, Liners, Pads, Rings, Rods, Rollers, Sheets, and Wheels.
First use the last third of 1959.

SN 149,813. Bristol Silica Company, Rouge River, Oreg. Filed July 26, 1962.

BERMUDA ROCK

Applicant disclaims the word "Rock" apart from the mark as shown.
For Rock for Construction and Decorative Purposes.
First use at least as early as Sept. 22, 1954.

SN 160,677. Universal Brush Mfg. Co., Chicago, Ill. Filed Jan. 14, 1963.

UNILON

For Brush Bristles Made From Polyethylene Strands Cut to Uniform Length.
First use Nov. 1, 1957.

SN 166,514. W. H. Curtin & Company, Houston, Tex. Filed Apr. 10, 1963.

ChromoPak

For Calcined Diatomaceous Earth for Use as an Inert Support for Liquid Adsorbents in Chromatography.
First use Apr. 2, 1963.

SN 173,485. Union Bag-Camp Paper Corporation, New York, N.Y., assignee of Nello Chemicals, Inc., d.b.a. Turpentine & Rosin Factors, Inc., Jacksonville, Fla. Filed July 22, 1963.

T & R

For Gum Rosin.
First use Dec. 1, 1938.

SN 173,797. Albert Trostel & Sons Company, Milwaukee, Wis. Filed July 25, 1963.

ANITROOP

For Leather.
First use Mar. 19, 1962.

SN 177,925. L. Teweles Seed Co., Milwaukee, Wis. Filed Sept. 27, 1963.

VITAFALFA

For Alfalfa Seed.
First use Sept. 16, 1963.

SN 182,181. Husky Briquetting, Inc., Cody, Wyo. Filed Dec. 2, 1963.

HADES

For Type of Barbecue Briquet.
First use on about Mar. 3, 1963.

Class 4—Abrasives and Polishing Materials

SN 172,578. Firma Pharmakon L.U.F. Hobiger-Chemische Fabrik, Vienna, Austria. Filed July 8, 1963.

SUPO-WAX

Owner of Austrian Reg. No. 47,429, dated Mar. 5, 1962.
For Floor Polishes, Floor Waxes, and Heavy Duty Floor Polishes.

SN 172,579. Firma Pharmakon L.U.F. Hobiger-Chemische Fabrik, Vienna, Austria. Filed July 8, 1963.

SUPO

Owner of Austrian Reg. No. 47,418, dated Feb. 27, 1962.
For Floor Polishes, Floor Dressing Polishes, Floor Polishing Liquids, Floor Oil Polishes, Floor Waxes, Furniture Polishes, and Furniture Waxes.

SN 175,773. Metals Development Co., d.b.a. MDC Industries, Philadelphia, Pa. Filed Aug. 26, 1963.

TRACTO-GRIT

For Moisture-Free, Non-Porous, Cake Resistant, Free-Flowing, Mineral Traction Grains.
First use Aug. 2, 1963.

Class 5—Adhesives

SN 166,355. American Cyanamid Company, Wayne, N.J. Filed Apr. 9, 1963.

URAC

Owner of Reg. No. 403,245.
For Condensation Products of Aldehydes and Amines—Namely, Synthetic Resins and Compositions Containing the Same for Use as Adhesives.
First use July 2, 1942.

SN 184,508. R-H Products Co., Inc., South Acton, Mass. Filed Jan. 13, 1964.

DUALL #88

For All-Purpose Adhesive Cement.
First use 1960.

Class 6—Chemicals and Chemical Compositions

SN 150,576. Marsh Steel & Aluminum Co., North Kansas City, Mo. Filed Aug. 6, 1962.

STEEL TREET

For Chemical Preparation for Inhibiting Rust and Preparing Metal Surfaces for Painting.
First use June 16, 1962.

SN 162,417. Commercial Solvents Corporation, New York, N.Y. Filed Feb. 11, 1963.

AEPD

For [2-Amino-2-Ethyl-1,3-Propanediol].
First use Jan. 25, 1963.

SN 163,657. Pennsalt Chemicals Corporation, Philadelphia, Pa. Feb. 28, 1963.



Owner of Reg. No. 742,189.
For Swimming Pool Chemicals—Namely, Chlorine Liberating, Acidity Control, Algae Control and Flocculating Chemicals.
First use July 1, 1961.

SN 166,644. Mars Chemical Corporation, Atlanta, Ga. Filed Apr. 12, 1963.

MARS

For Fatty Acid Amine Condensate.
First use Apr. 4, 1963.

SN 166,645. Mars Chemical Corporation, Atlanta, Ga. Filed Apr. 12, 1963.



For Fatty Acid Amine Condensate.
First use Apr. 4, 1963.

SN 166,646. Mars Chemical Corporation, Atlanta, Ga. Filed Apr. 12, 1963.



For Fatty Acid Amine Condensate.
First use Apr. 4, 1963.

SN 168,326. International Chemical Corporation, New York, N.Y. Filed May 7, 1963.

LESCO

For Inorganic and Organic Bulk Chemicals for Industrial and Commercial Use in Further Manufacturing—Namely, Acids, Ketones, Antioxidants, Alcohols, Chlorides, Oxides, Sulfates, Dyes, Dye Intermediates and Solvents.
First use Oct. 11, 1962.

SN 172,978. Dade Reagents, Inc., Miami, Fla. Filed July 15, 1963.

HEPA-TROL

Serum for Laboratory Use in Preforming Thymol Turbidity and Cephalin-Cholesterol Flocculation Tests.
First use on or before May 14, 1963.

SN 173,969. Shamrock Pool Equipment Co., Inc., Elmonte, Calif. Filed July 29, 1963.

SHAMROCK

For Pool Chlorine, Algaecide.
First use Feb. 21, 1963.

SN 175,189. Hoffmann-La Roche Inc., Nutley, N.J. Filed Aug. 16, 1963.

LEMAROME

For Aromatic Scent Chemical.
First use at least as early as Jan. 15, 1962.

SN 175,224. Union Tank Car Company, Chicago, Ill. Filed Aug. 16, 1963.

Ban-i-ron

For Acids for Use During Regeneration of Ion Exchange Resins.
First use July 19, 1963.

SN 177,506. Dominion Tar & Chemical Company, Limited, Montreal, Canada. Filed Sept. 23, 1963.

PACIFIC

Owner of Canadian Reg. No. 118,678, dated June 30, 1960.
For Lime and Hydrated Lime.
First use at least January 1956.

SN 177,915. Chemical Research & Development Company, d.b.a. Andrae Chemical Company, Minneapolis, Minn. Filed Sept. 27, 1963.

TOP CHEK

For Wood Preservative Preparation.
First use Dec. 12, 1961.

SN 178,205. Larousse Inc., New York, N.Y. Filed Oct. 2, 1963.

NYOLENE

For Synthetic Compound Processed Into Finished Products for Various Industries, Such as Cosmetics, Fatty Ester Used as a Base for the Preparation of Emulsions, Cream, Lotions, Detergents, Oils, Waxes, Polishes, Soaps, Cosmetics, Toiletries, Drugs, Leather, and Wood Finishes, Lubricants, Etc.
First use Oct. 15, 1962.

SN 180,857. Dehydag Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany. Filed Nov. 12, 1963.

NASUNA

Owner of German Reg. No. 510,442, dated Apr. 28, 1939.
For Polymeric Chemicals for Use in the Manufacture of Cosmetics Such as Hair Sprays.

SN 180,949. Onyx Chemical Corporation, Jersey City, N.J. Filed Nov. 12, 1963.

FOAMASOL

For Foaming and Air-Entraining Agent Used as an Ingredient in Preparing Mixtures of Concrete, Cement, Gypsum and Other Related Materials for the Purpose of Reducing Density, Improving Workability and Increasing Plasticity.
First use in the spring of 1953.

SN 181,852. Cadco, Inc., Des Moines, Iowa. Filed Nov. 26, 1963.



The drawing is lined for red, but color is not claimed as a feature of the mark.
For Disinfectant-Deodorant-Sanitizer Preparation.
First use about July 11, 1963.

SN 182,314. Chapman Chemical Company, Memphis, Tenn. Filed Dec. 4, 1963.



For Chemical Compositions for Impregnating, Treating and Preserving Wood by Rendering It Water-Repellent, Insect-Resistant and/or Decay-Resistant.
First use June 1962.

SN 182,650. Pioneer Salt Company, Philadelphia, Pa. Filed Dec. 9, 1963.

QUIK-CLOR

For Preparation for Purifying Swimming Pool Water.
First use Feb. 25, 1963.

SN 184,415. Aldy Graphic Supply, Inc., Minneapolis, Minn. Filed Jan. 13, 1964.

POSITIVE EZE

For Chemicals for Use in the Photographic Arts.
First use Dec. 10, 1963.

SN 184,460. Foote Mineral Co., Exton, Pa. Filed Jan. 13, 1964.



For Lithium Bromide (Brine), n-Butyllithium, Lithium Carbonate, Lithium Chloride Brine, Lithium Chloride-Crystals, Lithium Citrate, Lithium Fluoride, Lithium Hydride, Lithium Hydroxide Monohydrate, Lithium Iodide Trihydrate, Lithium Stearate, Strontium Carbonate, Amblygonite, Antimony Sulfide, Celestite (Natural Strontium Sulfate), Chromite (Natural Chrome Ore), Ebony Manganese, Fluorspar, Ilmenite, Lepidolite, Iron Oxide, Magnetite (Black Iron Oxide), Brown Manganese Oxide, Milled Zircon, Purified Natural Magnetite, Petalite, Pyrites (Natural Iron Sulfide), Rutile (Titanium Ore), Spodumene—Ceramic Grade, Tanarc, Zerifac, Zircon, Manganese Sulfide.
First use June 1958.

SN 184,523. Spectra Biologicals, Incorporated, East Brunswick, N.J. Filed Jan. 13, 1964.

FICIN-CELL

For Treated Human Red Blood Cells for the Determination of Irregular Antibodies.
First use Nov. 11, 1963.

SN 185,464. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 27, 1964.

DADI

For Diisocyanate.
First use Aug. 9, 1954.

Class 7 — Cordage

SN 192,633. Puritan Cordage Mills, Louisville, Ky. Filed May 4, 1964.

HAPPY DAWN

For Cordage—Namely, Rope, Clotheslines, Twine, and Cord.
First use Mar. 27, 1964.

Class 8 — Smokers' Artides, Not Including Tobacco Products

SN 188,407. Achilles Corporation, Atlantic City, N.J. Filed Mar. 11, 1964.

VENTAR II

Owner of Reg. No. 684,977.
For Cigarette Holders.
First use Dec. 12, 1963.

Class 10 — Fertilizers

SN 138,537. Georgia-Pacific Corporation, Bellingham, Wash., assignee of Puget Sound Pulp & Timber Co., Bellingham, Wash. Filed Feb. 23, 1962.

IRON KE-MIN

The word "Iron" is disclaimed apart from its use in the present trademark.
For Material for Supplying Trace Minerals to Plants and Shrubs in the Nature of Plant Stimulants or Fertilizer.
First use Oct. 3, 1960.

SN 159,460. W. Atlee Burpee Company, Philadelphia, Pa. Filed Dec. 20, 1962.

BURPEE'S EVERBLOOM

Owner of Reg. No. 356,255.
For Chemical Composition in the Nature of Plant Food or Plant Hormones for Maintaining the Freshness and Fragrance of Cut Flowers and for Increasing the Size of Some Cut Flowers.
First use Dec. 3, 1962.

SN 193,874. International Minerals & Chemical Corporation, Skokie, Ill. Filed May 20, 1964.

IMC

Owner of Reg. Nos. 399,108, 722,118, and others.
For Fertilizers and Fertilizer Ingredients.
First use March 1960; Jan. 5, 1942, as to IMC in a different display.

SN 194,541. Vaughan's Seed Company, Downers Grove, Ill. Filed May 28, 1964.



The drawing is lined for red.
For Fertilizer.
First use on or about Jan. 15, 1964.

Class 12 — Construction Materials

SN 179,276. Smalltel Inc., Chicago, Ill. Filed Oct. 17, 1963.



For Portable Layover Units Designed To Afford Temporary and Limited Rest Accommodations Including Furniture for Lounging or Sleeping Purposes and Toilet Facilities Normally Provided in Motels.
First use Nov. 1, 1962.

SN 179,277. Smalltel Inc., Chicago, Ill. Filed Oct. 17, 1963.

SMALLTEL

For Portable Layover Units Designed To Afford Temporary and Limited Rest Accommodations Including Furniture for Lounging or Sleeping Purposes and Toilet Facilities Normally Provided in Motels.
First use Nov. 1, 1962.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 162,390. White Sewing Machine Corporation, d.b.a. Strong, Carlisle & Hammond, Lakewood, Ohio. Filed Feb 8, 1963.

STRONG

Owner of Reg. Nos. 429,715 and 511,247.
For Socket Cap, Set, Buttonhead, Shoulder and Flat-Head Screws; Dowel Pins; Socket Pipe Plugs and Keys; and Hex Keys.
First use on or about Dec. 24, 1962.

SN 163,635. B & W Fitting Co., Cleveland, Ohio. Filed Feb. 12, 1963.

ZERO LEAKAGE

For Fluid Line Connections.
First use on or about Jan. 31, 1963.

SN 166,204. MAC Valves, Inc., Oak Park, Mich. Filed Apr. 5, 1963.

TIMAC

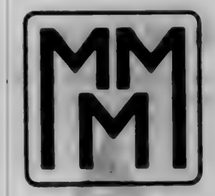
For Air Control Valves.
First use Feb. 20, 1963.

SN 173,969. Shamrock Pool Equipment Co., Inc., Elmonte, Calif. Filed July 29, 1963.

SHAMROCK

For Life Preserver Rings, Leaf Skimmers, Rope Hooks, Racing Lane Rope, Life Line Rope, Brushes, Coco Mats for Diving Boards.
First use May 1962.

SN 183,688. Manning, Maxwell & Moore, Incorporated, Stratford, Conn. Filed Dec. 27, 1963.



Owner of Reg. Nos. 550,373, 695,228, and others.
For Valves and Fittings, and Valve Parts, Fittings, and Accessories Therefor; Ejectors; Injectors and Inspirators; and Pressure and Temperature Responsive Devices for Controlling Fluid Flow, and Components, Parts, Accessories, Fittings, and Test Equipment Therefor.
First use June 1, 1962, on temperature responsive devices for controlling fluid flow.

SN 183,696. Metrol Corporation, Houston, Tex. Filed Dec. 27, 1963.

METROL

Owner of Reg. No. 664,069.
For Diaphragm Motor Valves, Back Pressure Valves, Pressure Reducing Regulators and Rotary Pilot Valves.
First use at least as early as 1960 on diaphragm motor valves.

SN 184,877. Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio. Filed Jan. 20, 1964.

TRU-CUPL

For Hose Couplings.
First use Dec. 13, 1963.

SN 185,904. J. B. Knight Company, d.b.a. J. B. Knight Distributing Company, Brownfield, Tex. Filed Feb. 3, 1964.



For Agricultural Irrigation Pipe Moving Equipment and Agricultural Irrigation Connectors.
First use Jan. 24, 1964.

SN 187,993. Almo Laboratories Co. Inc., New York, N.Y. Filed Mar. 5, 1964.

FAUCETROL

For Faucet Attachment for Intermixing and Dispensing Water and Detergent.
First use November 1963.

SN 188,190. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 9, 1964.

MAGNIF-O-SINK

For Sinks and Parts Thereof for Replacement and Repair.
First use on or prior to Oct. 24, 1963.

SN 188,191. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 9, 1964.

GLAMORSINK

For Sinks and Parts Thereof for Replacement and Repair.
First use on or prior to Oct. 24, 1963.

SN 188,600. F. W. Woolworth Co., New York, N.Y. Filed Mar. 12, 1964.

HAPPY HOME

Owner of Reg. No. 766,316.
For Stove Burner Guards, Oven Liners, Loaf Pans, Cake Pans, Broiler Pans, Deep Dishes, Roll Pans, and Pie Plates, All Made of Aluminum.
First use June 12, 1961, on burner guards.

SN 188,778. Mission-West Manufacturing Company, Hawthorne, Calif. Filed Mar. 16, 1964.

COUNTRY SQUIRE

For Toilets.
First use Jan. 15, 1964.

SN 188,900. Paul V. Metcalfe, d.b.a. Metcalfe Industries, Columbus, Ohio. Filed Mar. 18, 1964.

METLOCK

For Plumbing Supplies, Specifically Couplings.
First use on or about Mar. 9, 1964.

SN 189,081. The American Granby Company, Milford, Conn. Filed Mar. 19, 1964.

HARVARD

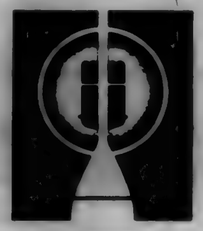
For Plumbing and Water Well Supplies, Such as Water Tanks, Metallic and Plastic Fittings for Piping, Valves, Sanitary Well Seals, Flow Controls, Pressure Switches, and Gages.
First use June 1, 1962, on water tanks.

SN 189,091. Molly Corporation, Temple, Pa. Filed Mar. 19, 1964.

MOLLY TITE-GRIP

Owner of Reg. No. 317,347.
For Solid Wall Screw Anchors, Particularly of Plastic Material.
First use Sept. 20, 1963.

SN 189,241. Aerojet-General Corporation, El Monte, Calif. Filed Mar. 23, 1964.



For Mechanical Control Valves Such as a Poppet Type Valve.
First use July 18, 1963.

Class 14—Metals and Metal Castings and Forgings

SN 184,461. Foote Mineral Co., Exton, Pa. Filed Jan. 13, 1964.



Owner of Reg. No. 552,520.
For Electromanganese, Electromanganese Metal Powder, Ferro Chrome (Low Carbon), Ferro Chrome (High Carbon), Ferro Manganese, Ferro Silicon, Manganese-Aluminum Alloy, Nitrided Manganese, Titanium Metal, Zirconium Metal, Zirconium Metal Powder (120A Grade), Zirconium Metal Powder (Zr G Grade), and Lithium Metal.
First use June 1955.

SN 185,581. Max Daggett, Jr., Dallas, Tex. Filed Jan. 29, 1964.

READIBRYL

For Beryllium Alloy Stock.
First use Aug. 8, 1963.

SN 188,385. The J. M. Ney Company, Bloomfield, Conn. Filed Mar. 10, 1964.

DIALOY

For Low Fusing Metal Alloy.
First use on or before Sept. 25, 1923.

SN 188,421. The Carpenter Steel Company, Reading, Pa. Filed Mar. 11, 1964.

VACU-TROL

Owner of Reg. Nos. 635,779 and 645,027.
For Steel in the Form of Wire, Strips, Bars, Billets, and Other Shapes.
First use Jan. 28, 1964.

SN 188,650. National Utility Products Company, Cleveland, Ohio. Filed Mar. 13, 1964.

NUPCO

For Manhole Castings, Covers and Auxiliary Attachments.
First use Aug. 15, 1963.

SN 188,766. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Mar. 16, 1964.

KALBRITE

For Aluminum Sheet.
First use on or about Sept. 27, 1963.

Class 15—Oils and Greases

SN 171,585. Sven Gustav Byström, Karlstad, Sweden. Filed June 21, 1963.



Owner of Swedish Reg. No. 105,751, dated Mar. 29, 1963.
For Liquid Fuels, Also Engine Fuels, and Fuels Having Additives for Improving the Combustion.

SN 171,586. Sven Gustav Byström, Karlstad, Sweden. Filed June 21, 1963.

BYCOSIN

Owner of Swedish Reg. No. 105,750, dated Mar. 29, 1963.
For Liquid Fuels, Also Engine Fuels, and Fuels Having Additives for Improving the Combustion.

SN 191,322. Sinclair Refining Company, New York, N.Y. Filed Apr. 16, 1964.

DINO

Owner of Reg. Nos. 342,874, 725,820, and others.
For Motor Oils.
First use Mar. 4, 1964.

Class 16—Protective and Decorative Coatings

SN 152,353. The Testor Corporation, Rockford, Ill. Filed Aug. 31, 1962.

TESTOR'S

For Protective and Decorative Coatings—Namely, Enamels.
First use June 15, 1962.

SN 169,991. Thompson and Company, Oakmont, Pa. Filed May 29, 1963.

BEMOCOTE

Owner of Reg. No. 722,963.
For Chemical Coating.
First use on or about July 31, 1962.

SN 171,917. Reliance Varnish Company, Louisville, Ky. Filed June 26, 1963.

REL-SATIN

Owner of Reg. Nos. 675,467, 725,244, and 743,281.
For Industrial Coatings of the Paint Type—Namely, Stains, Fillers, Lacquers, Varnishes, Resins, Solvents, Paints, Enamels, Sealers, Primers, Undercoats, Resin Impregnated Paper Sheets.
First use Feb. 2, 1959.

SN 171,956. Bell & Gossett Company, Morton Grove, Ill. Filed June 27, 1963.

PAINT-PEP

For Chemical Additive to Paint for Improving the Appearance, Durability, Spreading, Covering, and Bonding Properties Thereof.
First use June 11, 1963.

SN 174,077. Burmatt Industries, Detroit, Mich. Filed July 31, 1963.

SNAP-START

For Protective Coatings To Be Sprayed Onto Electrical Systems for Moisture Proofing Same.
First use Aug. 16, 1960.

SN 177,689. Devoe & Raynolds Company, Inc., Louisville, Ky. Filed Sept. 25, 1963.

EPIHYDRO

For Industrial Enamels for Surfaces of Metal Containers and Appliances.
First use July 1963.

SN 181,517. Body Bros., Inc., Bedford, Ohio. Filed Nov. 20, 1963.

SURF-GARD

For Paint, e.g., Paint Adapted To Be Sprayed on Metal and Baked To Dry.
First use Nov. 13, 1963.

SN 187,049. Union Carbide Corporation, New York, N.Y. Filed Feb. 19, 1964.

UCARSIL

For Silicone Metal-Protective Coating Compositions.
First use on or about Jan. 10, 1964.

SN 188,178. Aquavar, Inc., San Carlos, Calif. Filed Mar. 9, 1964.

Aquavar

Owner of Reg. No. 770,629.
For Water-Soluble Synthetic Resin Varnish for Use in Coating Freshly Lithographed Materials.
First use Apr. 15, 1963.

Class 17—Tobacco Products

SN 96,044. W. H. Snyder and Sons Incorporated, Windsor, Pa. Filed Apr. 28, 1960.

HOUSE OF WINDSOR

For Cigars.
First use Jan. 29, 1960.

SN 173,850. P. Lorillard Company, New York, N.Y. Filed July 26, 1963.

SPIRAL

For Filters Forming a Component Part of Cigarettes.
First use June 13, 1963.

SN 188,900. N. V. Sigarenfabriek "La Bolsa" v/h C. J. Boele, Kampen, Netherlands. Filed Mar. 17, 1964.

LA BOLSA

Owner of Dutch Reg. No. 58,639, dated Nov. 11, 1929.
For Cigars, Cigarettes, and Tobacco.

SN 189,577. General Cigar Co., Inc., New York, N.Y. Filed Mar. 25, 1964.



The drawing is lined for burgundy red but color is not claimed apart from the mark as shown. Owner of Reg. Nos. 118,720, 694,454, and others.

For Cigars.

First use Sept. 6, 1963; 1867 as to representation of an owl.

SN 191,404. La Primadora Cigar Corporation, New York, N.Y. Filed Apr. 17, 1964.

CARDINALS

For Cigars.

First use June 1962.

Class 18—Medicines and Pharmaceutical Preparations

SN 162,803. Xttrium Laboratories, Inc., d.b.a. Blue Ridge Vitamin Co., Chicago, Ill. Filed Feb. 14, 1963.

ALERTINE

For Non-Prescription Stimulant.

First use on or about September 1961.

SN 168,991. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. Filed May 13, 1963.

REPHRIN

Owner of German Reg. No. 402,894, dated May 15, 1929; and U.S. Reg. No. 680,680.

For Pharmaceutical Drugs and Preparations.

SN 183,091. N.V. Laboratoria Pharmaceutica Dr. C. Janssen, Turnhout, Belgium. Filed Dec. 16, 1963.

ANTI-PICA

Owner of Belgian Reg. No. 1,876, dated Feb. 2, 1962.

For Pharmaceutical Preparations.

First use Feb. 2, 1962.

SN 183,968. R. Barnett and Company Limited, Nottingham, England. Filed Jan. 3, 1964.

BARNIPS

Owner of British Reg. No. 513,530, dated June 5, 1930.

For Cough Drops.

SN 184,537. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

TRIAMO TABS

No claim is made to the word "Tabs" apart from the mark as shown.

For Appetite Depressant.

First use July 1958.

SN 184,540. Western Research Laboratories, Denver, Colo. Filed Jan. 13, 1964.

GUARSOL

For Laxative Preparation.

First use May 1960.

SN 186,850. Hollister Stier Laboratories, Inc., Spokane, Wash. Filed Feb. 17, 1964.

GAMIMUNE

For Immune Serum Globulin.

First use on or before Feb. 4, 1964.

SN 189,353. Parkell Products Inc., Long Island City, N.Y. Filed Mar. 23, 1964.



For Pharmaceuticals—Namely, Anti-Inflammatory Agents and Preparations for the Drying of Dental Cavities.

First use June 1949.

SN 189,355. Parkell Products Inc., Long Island City, N.Y. Filed Mar. 23, 1964.

PARKELL

For Pharmaceuticals—Namely, Anti-Inflammatory Agents and Preparations for the Drying of Dental Cavities.

First use June 1949.

Class 19—Vehicles

SN 181,904. The Prime-Mover Co., Muscatine, Iowa. Filed Feb. 1, 1963.

PRIME-MOVER

Owner of Reg. No. 704,205.

For Mechanized and Motorized Rolling Equipment for Short-Distance Transporting and Hauling in and Around Industrial Plants, Loading Areas, Work Sites and Other Areas of Limited Size, Wheelbarrows, Carts, Pallet Trucks, Bulk Material Handling Trucks, Platform Trucks and Parts Thereof.

Owner of Reg. No. 704,205.

First use in or about March 1950.

SN 178,280. Ski-Tow Manufacturing Company, Elkhart, Ind. Filed Oct. 2, 1963.

PUMA

For Travel Trailers.
First use Jan. 3, 1963.

SN 187,925. The Huffman Manufacturing Company, Dayton, Ohio. Filed Mar. 4, 1964.

MONZA G.T.

For Bicycles and Structural Parts Thereof.
First use Feb. 1, 1964.

SN 187,973. Three G Corporation, Akron, Ohio. Filed Mar. 4, 1964.

TAYPA-WATE

For Tire and Wheel-Balancing Weights.
First use Feb. 12, 1964.

SN 187,974. Three G Corporation, Akron, Ohio. Filed Mar. 4, 1964.

MAGNA-WATE

For Tire and Wheel-Balancing Weights.
First use Feb. 12, 1964.

SN 188,010. Harte & Company, Inc., New York, N.Y. Filed Mar. 5, 1964.

LUCITONE

For Car Mats.
First use Feb. 24, 1964.

SN 188,089. George B. Ellis, Mountain View, Calif. Filed Mar. 6, 1964.

SHORT CUTT

For Mechanized Golf Carts.
First use Mar. 1, 1963.

SN 188,092. General Motors Corporation, Detroit, Mich. Filed Mar. 6, 1964.

FLO-LITE

For Windshield and Window Glass for Motor Vehicles.
First use Dec. 26, 1963.

SN 188,093. General Motors Corporation, Detroit, Mich. Filed Mar. 6, 1964.

SUPERDUTY

For Shock Absorbers.
First use Jan. 31, 1964.

SN 188,302. Thompson Boat Company of New York, Inc., Cortland, N.Y. Filed Mar. 9, 1964.

SEA-V

For Boats.
First use Feb. 6, 1964.

SN 188,316. Whitehead & Kales Company, Detroit, Mich. Filed Mar. 9, 1964.

LO-TRI-PAK

For Vehicle Hauling Railroad Cars.
First use Jan. 29, 1964.

SN 188,490. Wesbar Stamping Corporation, West Bend, Wis. Filed Mar. 11, 1964.

LOADKING

For Sport and Foreign Car Top Carriers.
First use Aug. 1, 1962.

SN 188,491. Wesbar Stamping Corporation, West Bend, Wis. Filed Mar. 11, 1964.

TRUNKMASTER

For Ski Carriers.
First use about Apr. 1, 1963.

SN 188,492. Wesbar Stamping Corporation, West Bend, Wis. Filed Mar. 11, 1964.

TRUNKING

For Ski Carriers.
First use about Apr. 1, 1963.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 157,583. Multitone Electronics Limited, Toronto, Ontario, Canada. Filed Nov. 19, 1962.

MULTITONE

For Wireless Receivers and Transmitters, Personal Paging Radio Receiving Units, Amplifying Adaptors for TV and Radio Sets and Telephones, and Pocket Battery Chargers.
First use June 16, 1959, on wireless receivers and transmitters.

SN 162,729. Fostoria Corporation, Huntingdon Valley, Pa. Filed Feb. 14, 1963.

FOSTROL

For Controls for Controlling Power to Heavy Duty Industrial and Laboratory Equipment.
First use Dec. 28, 1962.

SN 164,708. Electronic Engineering Company of California, Santa Ana, Calif. Filed Mar. 15, 1963.

EECoSWITCH

Owner of Reg. Nos. 622,217, 751,664, and others.
For Electric Switches.
First use Dec. 21, 1962.

SN 172,363. Waters Manufacturing, Inc., Wayland, Mass. Filed July 1, 1963.

UNIMETL

For Electronic Devices—Namely, Potentiometers.
First use June 10, 1963.

SN 173,969. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 29, 1963.

SHAMROCK

For Pool Magnets and Pool Lights.
First use May 1962.

SN 176,629. Channel Master Corporation, Ellenville, N.Y. Filed Sept. 10, 1963.

VU-82

For Antennas, Parts Thereof, and Accessories Therefor.
First use Aug. 16, 1963.

SN 177,452. Seismograph Service Corporation, Tulsa, Okla. Filed Sept. 20, 1963.

HALO-HAT

For Radio Communication Equipment—Namely, Helmets or Hats Including Antennas for Use Thereon.
First use on or about July 1, 1963.

SN 179,273. Sigma Instruments, Inc., South Braintree, Mass. Filed Oct. 17, 1963.

POWERFLEX

For Electronic Equipment for Electric Utility Systems—Namely, Sensing Equipment, Capacitor Switching Equipment, Load Survey and Protective Relaying Equipment.
First use July 5, 1958.

SN 179,655. Progress Electronics Co., Inc., New York, N.Y. Filed Oct. 23, 1963.

PE

For Electronic Connectors, Cables, and Allied Components.
First use Jan. 3, 1954.

SN 183,687. Manning, Maxwell & Moore, Incorporated, Stratford, Conn. Filed Dec. 27, 1963.

MM
M

Owner of Reg. Nos. 550,373, 695,228, and others.
For Electrically Driven Lifting, Hoisting, Transporting and Conveying Devices, and Controls, Accessories, Parts and Components Therefor; Electrically Actuated Brakes; Electric Cord and Cable Reels; Electrical Conductor Cord Trolleys; Electric Motors; and Pressure or Temperature Responsive Switches and Controllers.
First use June 27, 1962, on lifting device.

SN 188,469. Rotron Manufacturing Company, Inc., Woodstock, N.Y. Filed Mar. 11, 1964.

BATAC

For Inverters Which Are Solid State Devices for Use as the Input to an Electric Motor To Accept D.C. Power at the Inveter Input Terminals and Produce A.C. Power at the Inverter Output Terminals; and Converters Which Are Solid State Devices for Use as the Input to an Electric Motor To Accept A.C. Power at One Frequency at the Converter Input Terminals and Produce A.C. Power at a Different Frequency at the Converter Output Terminals.
First use on or about Mar. 2, 1964.

SN 188,487. Union Carbide Corporation, New York, N.Y. Filed Mar. 11, 1964.

UCC

For Getters.
First use on or about Feb. 12, 1964.

SN 188,713. James L. Bennett, d.b.a. Diversitron Electronics, Carlsbad, Calif. Filed Mar. 16, 1964.

DIVERSITRON

For Electrical Instruments—Namely, Relays.
First use Oct. 16, 1963.

SN 189,567. Electronic Instruments Limited, Richmond, England. Filed Mar. 25, 1964.

Owner of British Reg. No. B816,413, dated Jan. 13, 1961.
For Vibrating Electrical Capacitors.

SN 190,624. Lafayette Radio Electronics Corporation, Syosset, N.Y. Filed Apr. 8, 1964.

PRIVA-COM

For Tone Selective Call Unit in Conjunction With Citizen Band Equipment, That Is, a Unit Used on a Band of Radio Frequency for Private Citizens To Control the Reception and Transmission of Messages.
First use Apr. 25, 1963.

SN 190,639. Outercom Electronics Corporation, Charlotte, N.C. Filed Apr. 8, 1964.

OUTERCALL

Owner of Reg. No. 729,120.
For Radio Receivers and Transmitters and Condenser, Transistor, and Speaker Units Therefor.
First use Jan. 15, 1963.

SN 190,640. Outercom Electronics Corporation, Charlotte, N.C. Filed Apr. 8, 1964.

OUTERKEY

Owner of Reg. No. 729,120.
For Radio Receivers and Transmitters and Condenser, Transistor, and Speaker Units Therefor.
First use Jan. 15, 1963.

SN 190,693. Automatic Control Company, St. Paul, Minn. Filed Apr. 9, 1964.

REACTOSPEED

For Speed Control Systems for Electric Motors.
First use Dec. 12, 1962.

SN 190,906. Emerson, Johnson, Mackay, Incorporated, North Hollywood, Calif. Filed Apr. 13, 1964.

'TENNA-BUG

For Antenna Terminal Blocks.
First use June 6, 1963.

SN 191,210. Sears, Roebuck and Co., Chicago, Ill. Filed Apr. 15, 1964.

CAMPAIGNER

For Television Sets.
First use on or about Feb. 7, 1964.

SN 191,232. Wilshire Oil Company of California, Los Angeles, Calif. Filed Apr. 15, 1964.

wilshire

For Storage Batteries.
First use about Mar. 13, 1963.

SN 191,258. Components, Inc., Biddeford, Maine. Filed Apr. 16, 1964.

MINITAN

For Tantalum Capacitors.
First use on or before Feb. 1, 1964.

SN 193,007. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 8, 1964.



For Radios.
First use Apr. 7, 1964.

SN 193,597. Flo-Tronics, Inc., d.b.a. Northern Signal Co., Minneapolis, Minn. Filed May 13, 1964.

Sting Ray

For Electric Fence Chargers.
First use Jan. 17, 1962.
Subj. to Intf. with SN 183,613.

Class 22 — Games, Toys, and Sporting Goods

SN 176,820. Mattel, Inc., Hawthorne, Calif. Filed Sept. 12, 1963.

GUIDE-WHIP

For Toy Friction Car.
First use Aug. 13, 1963.

SN 178,863. David F. Bascom, d.b.a. Wretched Mess Enterprises, San Francisco, Calif. Filed Oct. 14, 1963.

GOLFISHING CLUBROD

For Combination Fishing Rod and Golf Club.
First use June 1, 1962.

SN 183,717. Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1963.

AMERICAN LADY

Owner of Reg. No. 664,671.
For Golf Clubs.
First use June 1, 1933.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 127,293. Wheel Horse Products, Inc., South Bend, Ind. Filed Sept. 5, 1961.

Work  *Horse*

Owner of Reg. Nos. 507,595 and 679,952.
For Lawn and Garden Tractors.
First use July 31, 1961.
Subj. to Intf. with SN 161,703.

SN 127,294. Wheel Horse Products, Inc., South Bend, Ind. Filed Sept. 5, 1961.

Work Horse

Owner of Reg. Nos. 697,595 and 679,952.
For Lawn and Garden Tractors.
First use July 31, 1961.
Subj. to Intf. with SN 161,703.

SN 143,153. Mogal Cutlery Co., Inc., New York, N.Y. Filed Apr. 26, 1962.

SEYMOUR

For Knives and Scissors.
First use January 1954.

SN 161,703. Gilson Bros. Co., Plymouth, Wis. Filed Jan. 30, 1963.

WORKHORSE

For Rotary Tillers.
First use Sept. 8, 1958.
Subj. to Intf. with SN 127,293 and SN 127,294.

SN 161,904. The Prime-Mover Co., Muscatine, Iowa. Filed Feb. 1, 1963.

PRIME-MOVER

Owner of Reg. No. 704,205.
For Industrial Load Lifting and Transporting Rolling Equipment for Use in and Around Industrial Plants, Loading Areas, Work Sites, and Other Areas of Limited Size, Fork Lift Trucks, and Front End Loaders and Parts Thereof.
First use on or about Feb. 8, 1957.

SN 162,752. Hydro-Kinetics, Inc., Zanesville, Ohio. Filed Feb. 14, 1963.

HYDRO-KINETICS

For Hydraulic Machinery.
First use June 29, 1962.

SN 165,363. Norman P. Nilsen, d.b.a. Nilsen's Feed & Supply, Phelan, Calif. Filed Mar. 25, 1963.

"SWISH"

For Egg Oiling Apparatus.
First use June 1956.

SN 168,654. Access Equipment Limited, Hemel Hempstead, England. Filed May 9, 1963.

CLINCH

Priority claimed under Sec. 44(d) on British Reg. No. 841,515, dated Nov. 9, 1962.
For Tubular Metal Struts and Tube Joints Used in the Construction of Trestles, Drumstands, Storage Bins, Ladders and Like Structures.

SN 172,730. Crompton & Knowles Corporation, Worcester, Mass. Filed July 10, 1963.

WRAP-KING

For Machinery for Wrapping Foods.
First use June 1950.

SN 172,857. Everpure, Inc., Oak Brook, Ill. Filed July 12, 1963.

FEEDETTE

For Chemical Feed Pumps, Electrically Powered for Water Purification and Treatment.
First use May 31, 1962.

SN 173,084. Airoyal Engineering Company, Livingston, N.J. Filed July 16, 1963.

SERVAC

For Limited Rotation Torque Actuator, With Integral Servo Control Valve.
First use Apr. 25, 1963.

SN 173,157. Economics Laboratory, Inc., St. Paul, Minn. Filed July 17, 1963.

KLENZMATION

Owner of Reg. No. 747,939.
For Automatic Cleaning System Incorporating Pumps, Circulation Lines, Spray Unit, and Automatic Controls.
First use Apr. 9, 1959.

SN 173,349. General Kinematics Corporation, Barrington, Ill. Filed July 19, 1963.

PARA-MOUNT

For Power-Driven Vibratory Feeders and Conveyors.
First use July 31, 1961.

SN 173,969. Shamrock Pool Equipment Co., Inc., Elmonte, Calif. Filed July 29, 1963.

SHAMROCK

For Thermometers, Pumps and Pump Motors for Filters, Skimmers, Chemical Test Sets, Pool Alarms.
First use May 1962.

SN 174,606. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 7, 1963.

FLAKEMASTER

For Wood Cutting Knives.
First use on or about June 1, 1963.

SN 175,906. Dunham-Bush, Inc., West Hartford, Conn. Filed Aug. 28, 1963.

DB

Owner of Reg. No. 670,232.
For Refrigeration Units—Namely, Compressors and Motor Compressors.
First use about October 1962.

SN 175,965. Barnes Drill Co., Rockford, Ill. Filed Aug. 29, 1963.

bd

The drawing is lined for red but no claim is made to color.
For Machine Tools—Namely, Drilling Machines, Honing Machines and Grinding Machines.
First use Sept. 12, 1959.

SN 176,018. Pitney-Bowes, Inc., Stamford, Conn. Filed Aug. 29, 1963.

CENTRIFEED

For Machines for Operating on Disoriented Articles Such as Pieces of Mail To Orient and Align the Latter Along an Edge Thereof.
First use Aug. 15, 1963.

SN 176,676. Shiseido Company, Ltd., Chuo-ku, Tokyo, Japan. Filed Sept. 10, 1963.



Owner of Japanese Reg. Nos. 233,606, dated Apr. 8, 1932, and 367,960, dated Jan. 29, 1947.
For Razors, Safety Razors (Blade Holders), Razor Blades; Knives, Forks, and Spoons of a Base Metal.

SN 176,677. Shiseido Company, Ltd., Chuo-ku, Tokyo, Japan. Filed Sept. 10, 1963.

SHISEIDO

Owner of Japanese Reg. Nos. 313,968, dated Mar. 10, 1939, and 336,094, dated Oct. 22, 1940; and U.S. Reg. Nos. 681,334, 686,446, and 691,052.
For Razors, Safety Razors (Blade Holders), Razor Blades; Knives, Forks, and Spoons of a Base Metal.

SN 176,678. Shiseido Company, Ltd., Chuo-ku, Tokyo, Japan. Filed Sept. 10, 1963.

POINT

Owner of Japanese Reg. No. 488,167, dated Sept. 18, 1956.
For Razors, Safety Razors (Blade Holders), Razor Blades; Knives, Forks, and Spoons of a Base Metal.

SN 177,582. Schreiber & Goldberg, Inc., New York, N.Y. Filed Sept. 23, 1963.

S&G

For Machinery and Machinery Supplies for the Needle Trade—Namely, Edge Creasing Machines, Garment Collar Point Forming Machines, Garment Collar Point Trimming Machines, Garment Collar Notching Machines, Heat Sealing Machines, Garment Cloth Cutting Machines, Garment Cloth Spreading Machines, Garment Factory Ironing Machines, Garment Hand Pressing Machines, Buttonhole Machines.
First use during the year 1947.

SN 177,666. Union Tank Car Company, Chicago, Ill. Filed Sept. 24, 1963.

SMITH & LOVELESS

For Sewage Disposal and Pumping Equipment and Parts Thereof.
First use April 1949.

SN 177,667. Union Tank Car Company, Chicago, Ill. Filed Sept. 24, 1963.

Smith & Loveless

For Sewage Disposal and Pumping Equipment and Parts Thereof.
First use January 1962.

SN 178,325. The W. E. Bassett Company, Derby, Conn. Filed Oct. 4, 1963.

Preen

For Combination Tool for Use as a Pocket Knife, Nail File, Bottle Opener, and Screwdriver.
First use December 1962.

SN 180,292. Cimex Limited, Orpington, England. Filed Nov. 1, 1963.

CIMEX

Owner of British Reg. No. 814,172, dated Dec. 1, 1960.
For Cleaning and Scrubbing Machines, Sealing Machines Not for Office Use and Staining and Polishing Machines Not Being for Domestic Use.

SN 181,216. Dansk Importing Co., Inc., Great Neck, N.Y. Filed Nov. 15, 1963.

VARIATIONS

For Stainless Steel Flatware.
First use April 1956.

SN 181,506. Adams Rite Manufacturing Company, Glendale, Calif. Filed Nov. 21, 1963.

ADAMS RITE

For Rotary Positioner Device Having Automatic Reverse Movement Locking Means.
First use Oct. 12, 1960.

SN 183,699. Manning, Maxwell & Moore, Incorporated, Stratford, Conn. Filed Dec. 27, 1963.

MM
M

Owner of Reg. Nos. 550,378, 695,228, and others.
For Lifting, Hoisting, Transporting and Conveying Devices, and Controls, Accessories, Parts and Components Therefor, Cord and Cable Reels, Hose and Conductor Cord Trolleys; Wheels, and Locomotive Whistles.
First use June 27, 1962, on lifting device.

SN 183,696. Metrol Corporation, Houston, Tex. Filed Dec. 27, 1963.

METROL

For Basic Sediment and Waste Samplers, Emulsion Treaters, Free Water Knockouts, Gas Scrubbers, Oil and Gas Separators, Liquid Transfer Cases and Gas Dehydrators.
First use July 1957 on free water knockouts.

SN 184,051. Fort Howard Paper Company, Green Bay, Wis. Filed Jan. 6, 1964.



Owner of Reg. No. 653,092.
For Mechanical Dispensing Cabinets for Paper Roll Towels.
First use Aug. 28, 1959.

SN 184,941. Mathias Bauerle G.m.b.H., St. Georgen, Schwarzwald, Germany. Filed Jan. 20, 1964.

multicollect

Owner of German Reg. No. 777,761, dated Sept. 27, 1963.
For Fully Automatic Collating Machines for the Graphic Arts Industry, for Administration and Industry, Such as Addressing Machines, Collating Machines, Inserting Machines, Etc.

SN 185,904. J. B. Knight Company, d.b.a. J. B. Knight Distributing Company, Brownfield, Tex. Filed Feb. 3, 1964.



For Agricultural Irrigation Pipe Moving Equipment and Agricultural Irrigation Connectors.
First use Jan. 24, 1964.

SN 185,940. Royal Zenith Corporation, New York, N.Y. Filed Feb. 3, 1964.

ROYAL ZENITH

For Offset Printing Machines.
First use Feb. 25, 1958.

SN 186,006. The Jaeger Machine Company, Columbus, Ohio. Filed Feb. 4, 1964.

DRILL MATE

For Tractor-Crawler Mounted Rock Drills.
First use Oct. 10, 1962.

SN 186,055. The Bristol Brass Corporation, Bristol, Conn. Filed Feb. 5, 1964.



For Marking Machines and Marking Tools.
First use Dec. 9, 1963.

SN 186,415. Uarco Incorporated, Barrington, Ill. Filed Feb. 10, 1964.

UARCO

Owner of Reg. Nos. 93,137 and 533,148.
For Autographic Registers, With and Without Cash Receptacles; Forms Handling Equipment Including Bursters, Deleavers, Business Forms Stands, Imprinters, Forms Carriers, Trimmers, Multi-Use Carbon Holders for Non-Interleaved Forms for Typewriters, Pin Feed Platents With and Without Line Selectors and Label Dispensers.
First use Nov. 15, 1911.

SN 187,031. Milk Equipment, Inc., Seattle, Wash. Filed Feb. 19, 1964.



Owner of Reg. No. 635,488.
For Sawmill and Pulpmill Machinery Having Top, Bottom and Side Chippers.
First use Dec. 28, 1963.

SN 188,406. An Jo, Incorporated, Charlotte, N.C. Filed Mar. 11, 1964.

ROOT-N-ALL

For Weeder Tools.
First use Jan. 18, 1964.

SN 188,418. Bear Manufacturing Company, Rock Island, Ill. Filed Mar. 11, 1964.

Portabrake

Owner of Reg. Nos. 427,287, 707,531, and others.
For Brake Drum and Shoe Finishing Apparatus.
First use May 23, 1962.

SN 188,450. Lavalee & Ide, Inc., Chicopee, Mass. Filed Mar. 11, 1964.

SPHERAFORM

For Machinists Reamers.
First use 1964.

SN 188,453. Mississippi Valley Structural Steel Company, Chicago, Ill. Filed Mar. 11, 1964.

AUTOMATED DOCKHAND

For Powered Loading and Unloading Boom Structures.
First use Feb. 2, 1964.

SN 188,467. Murray-Way Corporation, Troy, Mich. Filed Mar. 11, 1964.



For Abrading and Polishing Machines.
First use April 1940.

SN 188,494. The Youngstown Sheet and Tube Co., Boardman, Ohio. Filed Mar. 11, 1964.



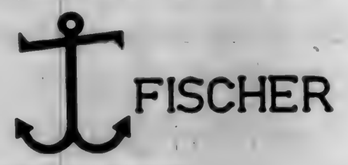
Owner of Reg. Nos. 684,730, 729,614, and others.
For Mobile Tree Harvesting Machines; Apparatus for Separation Treatment of Oil, Gas, and Water, and Parts and Equipment Therefor; Reciprocating Plunger Pumps; Swivel Pipe Fittings; Valve Actuators and Controls; and Draw-works.
First use Dec. 13, 1963, on mobile tree harvesting machines.

SN 188,846. Charles D. Briddell, Incorporated, d.b.a. Chas. D. Briddell, Inc., Crisfield, Md. Filed Mar. 17, 1964.

FLOURISH

For Stainless Steel Flatware.
First use Feb. 11, 1964.

SN 188,919. St. Egydyer Eisen- und Stahl-Industrie Gesellschaft, Vienna, Austria. Filed Mar. 17, 1964.



Owner of U.S. Reg. No. 754,866.
For Files and Rasps.
First use June 5, 1885; in commerce Aug. 30, 1963.

SN 189,143. J. I. Case Company, Racine, Wis. Filed Mar. 20, 1964.

MACARR

For Pumps, Material Handling, and Conveying Equipment, and Parts Thereof.
First use Aug. 26, 1963.

SN 189,163. Garrett Enumclaw Co., Enumclaw, Wash. Filed Mar. 20, 1964.

GARRETT ALL DRIVE

For Rubber-Tire Tractors.
First use on or about May 1, 1953.

SN 189,175. ITT Canno Electric Inc., Los Angeles, Calif. Filed Mar. 20, 1964.

CANNON

Owner of Reg. Nos. 418,856, 623,956, and others.
For Electrical Contact Crimping Tools, Electrical Conductor and Insulation Crimping Tools, Electrical Contact Extraction and Insertion Tools, and Portable Welders.
First use 1959.

SN 190,304. Visirecord, Inc., Copiague, N.Y. Filed Apr. 3, 1964.

TRI-POSTER

Owner of Reg. Nos. 615,333 and 651,482.
For Posting Machines for Preparing Accounting Records.
First use on or about Jan. 15, 1938.

SN 190,538. Perkins Machine and Gear Company, West Springfield, Mass. Filed Apr. 7, 1964.

SPRING-O-MATIC

For Spring Coiling Machines.
First use Feb. 21, 1964.

SN 190,676. Vend-A-Bake, Inc., Brooklyn, N.Y. Filed Apr. 8, 1964.

VEND-A-BAKE

For Vending Machines.
First use Apr. 1, 1963.

SN 191,041. Fluid Mechanisms, Incorporated, Hicksville, N.Y. Filed Apr. 14, 1964.

GearLoc

For Gearing.
First use Mar. 25, 1964.

SN 191,785. McDonough Power Equipment, Inc., McDonough, Ga. Filed Apr. 22, 1964.

CRUISER

For Power Mowers.
First use at least as early as Oct. 17, 1963.

SN 191,786. McDonough Power Equipment, Inc., McDonough, Ga. Filed Apr. 22, 1964.

CUTLASS

For Power Mowers.
First use at least as early as Oct. 17, 1963.

SN 195,488. Commodore Business Machines (Canada) Limited, Toronto, Ontario, Canada. Filed June 15, 1964.

COMMODORE

For Typewriters, Adding Machines, and Office Copying Machines.
First use in or about September 1959.

Class 24 — Laundry Appliances and Machines

SN 165,283. Ametek, Inc., New York, N.Y. Filed Mar. 25, 1963.

SUPREX

For Laundry Centrifugal Liquid Extractors.
First use 1939.

SN 187,549. Ametek, Inc., New York, N.Y. Filed Feb. 27, 1964.

PACER

For Dry Cleaning Machines.
First use February 1959.

SN 188,815. Textile Mills Company, Newark, N.J. Filed Mar. 16, 1964.

PERMALON

For Ironing Board Covers and Pads.
First use Feb. 26, 1964.

Class 25 — Locks and Safes

SN 181,597. Adams Rite Manufacturing Company, Glendale, Calif. Filed Nov. 21, 1963.

ADAMS RITE

Owner of Reg. Nos. 522,246, 618,150, and others.
For Door, Surface, and Slide Bolts, Door and Drawer Latches, Handles for Latches and Locks, Locks and Latches.
First use Mar. 23, 1948.

SN 188,866. Guild Industries, Inc., Townsend, Mass. Filed Mar. 17, 1964.

GUILD

For Key Blanks.
First use Dec. 12, 1963.

Class 26 — Measuring and Scientific Appliances

SN 162,799. Waterworks Equipment Company, Salt Lake City, Utah. Filed Feb. 14, 1963.

FLO-TROL

For Unitary, Integrated, Water and Sewage Pump Controls, for Use in the Measurement of Water Flow, Water Pressures, and Water Levels, and for Actuation of Pneumatic or Hydraulic Controls.
First use May 9, 1962.

SN 176,982. Canon Camera Kabushiki Kaisha, Ohta-ku, Tokyo, Japan. Filed Sept. 6, 1963.

Demi Canon

Owner of U.S. Reg. Nos. 603,290 and 603,300.
For Photographic Instruments and Parts Thereof—Namely, Still and Motion Picture Cameras; Motion Picture and Transparency Slide Projectors; Cinematographic and Projector Lenses, Light Shutters, Bellows, Light Filters, Hoods, Range and View Finders, Exposure Meters, Film Magazines, and Tripods; Photographic Flash Guns and Lamps; Tilting Heads for Panoramic Cameras; Photographic Self-Timers, Developing, Printing, Enlarging and Finishing Apparatus.
First use Feb. 4, 1963; in commerce Feb. 4, 1963.

SN 182,905. Thermo Electric Co., Inc., Saddle Brook, N.J. Filed Dec. 12, 1963.

CERAMOCOUPLE

Owner of Reg. No. 627,690.
For Thermocouples and Thermocouple Wires.
First use Nov. 25, 1963.

SN 185,119. Farmer Electric Products Co., Inc., Natick, Mass. Filed Jan. 22, 1964.

FE

For Photoelectric Scanners for Monitoring, Detecting, and Measuring Areas of Differential Light Propagation, Light Source and Photocell Units for Use in Photoelectric Scanners, Control Amplifiers for Photoelectric Scanners, and Control Units for Photoelectric Scanners and Control Amplifiers.
First use Jan. 15, 1958.

SN 186,415. Uarco Incorporated, Barrington, Ill. Filed Feb. 10, 1964.

UARCO

Owner of Reg. Nos. 93,137 and 533,148.
For Forms Feeders for Tabulating Machines and Forms Design Rulers.
First use Nov. 15, 1911.

Class 29 — Brooms, Brushes, and Dusters

SN 171,647. The Glidden Company, Cleveland, Ohio. Filed June 24, 1963.

BRONZE KNIGHT

For Paint Brushes.
First use Dec. 12, 1961.

SN 182,490. Majestic Wax Company, Denver, Colo. Filed Dec. 6, 1963.

DISPOS-A-MOP

For Mop for Cleaning Floors and the Like.
First use on or about Apr. 15, 1963.

SN 186,314. All American Brush Mfg. Corp., Newark, N.J. Filed Feb. 10, 1964.

la Beaut-ette

For Hair Brushes.
First use Feb. 1, 1963.

Class 31 — Filters and Refrigerators

SN 178,969. Shamrock Pool Equipment Co., Inc., El Monte, Calif. Filed July 29, 1963.

SHAMROCK

For Filters, Diatomaceous Earth for Filters, and Time Clocks for Filters.
First use May 1963.

SN 183,142. Water Refining Company, Inc., Middletown, Ohio. Filed Dec. 16, 1963.

MIRACLE WATER

Owner of Reg. Nos. 636,804, 710,880, and 739,547.
For Water Treatment Equipment—Namely, Water Conditioners, Softeners, Filters, Chemical Feeders and Aerators and Parts Therefor.
First use May 2, 1960, on water softeners.

SN 187,061. Aluminum Filter Company, Santa Barbara, Calif. Filed Feb. 20, 1964.

ALFCO

For Air Filters and Liquid Coatings for Air Filters.
First use June 23, 1958.

SN 187,069. Beverage-Air Company, Spartanburg, S.C. Filed Feb. 20, 1964.

Quarter Master

For Portable Refrigerator for Cooling and Dispensing Draft Beer or for Conventional Refrigerating Purposes.
First use Jan. 15, 1963.

SN 188,115. L•A Water Conditioning, Inc., City of Industry, Calif. Filed Mar. 6, 1964.

MICROSOFT

For Water Conditioning Systems, Such as Water Softening Equipment and Parts Related Thereto.
First use Aug. 22, 1963.

SN 188,197. Cervitor Kitchens Incorporated, South El Monte, Calif. Filed Mar. 9, 1964.

CERVITOR KITCHENS

For Refrigerating Units.
First use July 20, 1962.

SN 188,426. Crane Co., New York, N. Y. Filed Mar. 11, 1964.

COCHRANEX

For Resins To Accomplish Ion Exchange, Ion Exchange Material, and Natural and Synthetic Zeolite.
First use July 1, 1949.

SN 188,964. Copeland Refrigeration Corporation, Sidney, Ohio. Filed Mar. 18, 1964.

COPELADRIVE

For Refrigeration Compressors and Motor Compressor Assemblies.
First use Mar. 6, 1964.

SN 189,136. Appliance Wholesalers, Inc., Jackson Heights, N.Y. Filed Mar. 20, 1964.

SPARTAN

For Household Refrigerators.
First use at least as early as February 1964.

Class 32 — Furniture and Upholstery

SN 178,247. Aqualide Corporation, South El Monte, Calif. Filed Oct. 8, 1963.

Fibrella

For Outdoor Furniture Made of Fiber Glass—Namely, Chairs, Tables, Lounges, and Umbrella Tables.
First use on or about Jan. 1, 1962.

SN 186,415. Uarco Incorporated, Barrington, Ill. Filed Feb. 10, 1964.

UARCO

Owner of Reg. Nos. 93,187 and 532,149.
For Desk Files for Stationery.
First use Nov. 15, 1911.

SN 189,763. Baker Furniture, Inc., Grand Rapids, Mich. Filed Mar. 27, 1964.

BAKER

For Furniture for Office and Home Use, Including Upholstered Items, Specifically Beds, Benches, Bookcases, Cabinets, Chairs, Chests, Consoles, Desks, Dressers, Mirrors, Picture Frames, Secretaries, Servers, Sideboards, Stands, Sofas, Stools, Racks, Tables, and Trays.
First use on or about 1927.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 137,801. Jack E. Rose, Elkhart, Ind. Filed Feb. 12, 1962.

Bar-B-Lite

For Mechanical-Type Fire Starters for Charcoal and the Like.
First use about the first of July 1961.

SN 167,048. The Quickdraft Corporation, Canton, Ohio. Filed Apr. 18, 1963.

QUICKDRAFT

Owner of Reg. No. 596,944.
For Blower Assemblies for Use in the Connection With Coal-Fired, Oil-Fired, and Gas-Fired Heating Systems and Pneumatic Materials Handling.
First use Mar. 27, 1952, on heating systems.

SN 172,638. The Carbone Corporation, Boonton, N.J. Filed July 9, 1963.

SiBONITE

For Silicon Carbide Bonded Chemical Equipment and Products, Specifically Blocks for Use in Heat Exchanging Equipment.
First use June 15, 1963.

SN 175,109. Hardwick Stove Company, Cleveland, Tenn. Filed Aug. 15, 1963.

CRESTLINE

For Gas and Electric Ranges.
First use October 1962.

SN 183,697. Metrol Corporation, Houston, Tex. Filed Dec. 27, 1963.

METROL

Owner of Reg. No. 664,069.
For Direct and Indirect Fired Heaters for Heating Oil, Gas and/or Water.
First use May 1963.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 135,301. United States Rubber Company, New York, N.Y. Filed Jan. 5, 1962.

USCOTHANE

For Solid Elastomeric Tires.
First use first half of 1961.

SN 184,382. Inglewood Tire and Auto Service, Inc., Inglewood, Calif. Filed Jan. 10, 1964.

POS-A-TRACTION

For Racing Tires.
First use October 1957.

SN 187,832. Vogue Tyre & Rubber Company, Chicago, Ill., by change of name from Vogue Rubber Company, Chicago, Ill. Filed Mar. 2, 1964.



For Automobile Tires.
First use at least as early as June 1959.

Class 36 — Musical Instruments and Supplies

SN 147,910. The Ferrodynamics Corporation, Lodi, N.J. Filed June 28, 1962.



For Magnetic Sound Recording Tapes.
First use May 17, 1962.

SN 167,950. Sonotone Corporation, Elmsford, N.Y. Filed May 1, 1963.

SONO-FLEX

For Replaceable Stylus Holders and Styli for Phonograph Pickup Cartridges.
First use Apr. 4, 1963.

SN 170,842. Stefan Kudelski, d.b.a. Stefan Kudelski, Fabrique d'Enregistreurs "Nagra," Prilly, Vaud, Switzerland. Filed June 12, 1963.

NAGRA

Owner of Swiss Reg. No. 194,504, dated Sept. 17, 1962.
For Tape Recorders and Magnetophones and Attachments and Accessories for the Same.

SN 187,186. Fantasy Records Inc., San Francisco, Calif. Filed Feb. 21, 1964.

GALAXY

For Phonograph Records.
First use Oct. 30, 1951.

SN 187,670. Jensen Industries, Inc., Addison, Ill. Filed Feb. 28, 1964.

DYNA-POINTS

For Phonograph Cartridge and Needle Combination.
First use Nov. 9, 1962.

SN 188,579. Reeves Industries, Inc., Danbury, Conn. Filed Mar. 12, 1964.

MICRO-PLATE

For Magnetic Recording Tape.
First use Feb. 13, 1964.

SN 188,659. Pentron Electronics Corporation, Chicago, Ill. Filed Mar. 13, 1964.

PRESIDENT

For High Fidelity Selective Stereophonic Tape Recorders and Players and Parts Therefor.
First use Mar. 4, 1964.

SN 188,789. North American Philips Company, Inc., New York, N.Y. Filed Mar. 16, 1964.

CARRY-CORDER

For Tape Recorders.
First use Jan. 17, 1964.

SN 188,894. Minaret Records, Inc., Val Paraiso, Fla. Filed Mar. 17, 1964.

CIRCLE

For Phonograph Records.
First use on or about Feb. 10, 1964.

Class 37 — Paper and Stationery

SN 167,842. A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. Filed Apr. 25, 1963.

COMMODORE

Owner of Reg. No. 76,049.
For Ball Point Pens.
First use Dec. 7, 1949.

SN 173,055. Samuel L. Stone, d.b.a. S. L. Stone, Boston, Mass. Filed July 15, 1963.

"COLLECTOR'S PRIDE"

For Philatelic Albums, Pages and Envelopes Therefor.
First use June 18, 1963.

SN 173,174. Kimberly-Clark Corporation, Neenah, Wis. Filed July 17, 1963.

DIAZOTEX

For Impregnated and Coated Paper.
First use June 25, 1963.

SN 174,464. Wilson Jones Company, Chicago, Ill. Filed Aug. 5, 1963.

COOKE & COBB

For Bankers' Cases, Bankers' Files, Card Index Files, Commercial Portfolio, Desk Classifiers, Desk Files, Document Envelopes, Double Pocket Portfolio, Expanding Envelopes, Expanding Files, Expanding File Pockets, Expanding Wallets, Envelopes, Household Files, Personal Files, Student Files, Vertical Filing Jackets, Grip Binders, and Document Wallets.
First use 1905.

SN 174,552. Westab Inc., Dayton, Ohio, by change of name from Western Tablet & Stationery Corporation, Dayton, Ohio. Filed Aug. 6, 1963.

CLASS MATE

Owner of Reg. No. 736,810.
For Stationery Products—Namely, Paper Tablets, Index Cards or Guides, Loose Leaf Ring Binders, and Loose Leaf Paper Put in Wrapped Packages, Boxes, or Banded.
First use at least as early as 1935 on loose leaf ring binders.

SN 174,585. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed Aug. 7, 1963.

"LETTERETTES"

For Note Paper and Envelopes.
First use at least as early as 1945.

SN 176,135. F. W. Woolworth Co., New York, N.Y. Filed Aug. 30, 1963.



The lines in the drawing represent lines per se in the mark, and not color or shading.
For Commercial Envelopes, Air Mail Envelopes, Index Cards, Loose Leaf Filler Paper, Typewriter Paper and Pads.
First use Aug. 12, 1963.

SN 176,832. Pro B/L Corporation, Wellesley, Mass. Filed Sept. 12, 1963.

PRO B-L

No claim is made to the letters "B-L" apart from the mark.
For Bills of Lading.
First use July 17, 1963.

SN 179,056. Narragansett Coated Paper Corporation, Pawtucket, R.I. Filed Oct. 15, 1963.

NACO

For Leatherette for Covering Books, Boxes, Picture Frames and Novelties.
First use Jan. 2, 1951.

SN 179,111. Brock Industries, Inc., New Bedford, Mass. Filed Oct. 16, 1963.

SCORE-MINDER

For Booklet for Recording Golf Data and Score.
First use Oct. 2, 1963.

SN 179,711. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Oct. 24, 1963.



Fleur-de-Lis

Owner of Reg. No. 741,322.
For Paper Towels, Bathroom Tissue, Facial Tissue, and Paper Napkins.
First use Oct. 11, 1963.

SN 180,257. Georg Lauer, Pforzheim, Germany. Filed Oct. 28, 1963.



Owner of German Reg. No. 363,983, dated Feb. 17, 1927.
For Writing and Drawing Utensils, Office Equipment (Except Furniture), Turning, Pressure, Drop Pencils, All Kinds of Mechanical Pencils and Fountain Pens of Precious and Non-Precious Metals.

SN 181,748. Blue Ribbon Pen & Pencil Co., Inc., Georgetown, Ky. Filed Nov. 22, 1963.

VISTA-DOME

For Retractable Ball Pens.
First use on or about Dec. 1, 1962.

SN 181,805. Safeguard Corporation, Lansdale, Pa. Filed Nov. 22, 1963.



For Forms Used by Druggists To Permanently Record the Sale of Drugs.
First use Oct. 12, 1963.

SN 182,211. Phillips Petroleum Company, Bartlesville, Okla. Dec. 2, 1963.

HPS

For Paper, Wax Coated Paper, Plastic Coated Paper and Paperboard, Plastic Coated Cellophane and Plastic Material in Sheet Form.
First use Sept. 23, 1939.

SN 182,695. G. J. Aigner Company, Chicago, Ill. Filed Dec. 10, 1963.

CARD-LITE

For Index Guides.
First use Nov. 27, 1963.

SN 184,290. Hartfield Stores, Incorporated, Los Angeles, Calif. Filed Jan. 9, 1964.

ZODYS

For Paper Goods—Namely, Loose Leaf Notebooks, Filler Sheets and Typing Paper.
First use Aug. 1, 1963.

SN 186,415. Uarco Incorporated, Barrington, Ill. Filed Feb. 10, 1964.

UARCO

Owner of Reg. Nos. 93,137 and 533,148.
For Continuous Business Form Stationery; Sets of Business Form Stationery; Stationery Binders; Stationery Holders; Data Tape; Continuous Form Envelopes; Pencils and Carbon Paper.
First use Nov. 15, 1911.

SN 187,729. Crown Zellerbach Corporation, San Francisco, Calif. Filed Mar. 2, 1964.

Crown/lith

For Printing Paper.
First use Sept. 25, 1963.

SN 188,880. F. W. Woolworth Co., New York, N.Y. Filed Mar. 16, 1964.

CRONICON

For Bond, Writing, and Tablet Paper.
First use Feb. 1, 1935.

SN 188,968. Dur-O-Lite Pencil Company, Melrose Park, Ill. Filed Mar. 18, 1964.

7-11

For Pens and Mechanical Pencils.
First use Feb. 24, 1964.

SN 189,188. Ludlow Corporation, Needham Heights, Mass. Filed Mar. 20, 1964.

VOLTIC

For Electro-Sensitive Recording Paper.
First use Mar. 10, 1964.

SN 189,189. Ludlow Corporation, Needham Heights, Mass. Filed Mar. 20, 1964.

TRANSLEC

For Electro-Sensitive Recording Paper.
First use Mar. 10, 1964.

SN 189,631. Speedry Chemical Products, Inc., Glendale, N.Y. Filed Mar. 25, 1964.

FABRICOLOR

For Integral Felt Nibbed Marking Applicator Saturated With Inks of Various Colors.
First use Feb. 23, 1964.

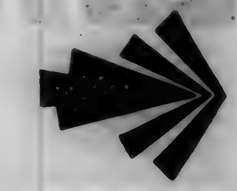
SN 192,183. Kaiflex Inc., New York, N.Y. Filed Apr. 28, 1964.

REMARKABLE

For Paper, Plastic Coated Paper, and Plastic Sheeting Used for Display Devices, Wall Covering, Chalkboard, and Also for Other Industrial Uses.
First use Apr. 15, 1964.

Class 38—Prints and Publications

SN 155,545. Accelerated Instruction Methods Corporation, Chicago, Ill. Filed Oct. 22, 1962.



For Teaching Aids—Namely, Printed Literature Published Periodically, and Books, Pamphlets, and Similar Works in Question and Answer Form.
First use Nov. 10, 1961.

SN 155,547. Accelerated Instruction Methods Corporation, Chicago, Ill. Filed Oct. 22, 1962.

A.I.M.

For Teaching Aids—Namely, Printed Literature Published Periodically, and Books, Pamphlets, and Similar Works in Question and Answer Form.
First use Nov. 10, 1961.

SN 156,022. Outdoor American Corporation, Spokane, Wash. Filed Oct. 26, 1962.

The Naturist

For Magazine Devoted to Nudism.
First use Dec. 1, 1959.

SN 169,496. Union Tank Car Company, Chicago, Ill. Filed May 22, 1963.

FOR WOMEN ONLY

For Syndicated Monthly Newspaper Column Containing Advice for Women on Home Economics.
First use about March 1961.

SN 178,560. Norcross, Inc., New York, N.Y. Filed Oct. 8, 1963.

SYMBOL OF ELEGANCE

For Greeting Cards.
First use July 18, 1963.

SN 180,106. McGraw-Hill, Inc., New York, N.Y., by change of name from McGraw-Hill Publishing Company, Inc., New York, N.Y. Filed Oct. 30, 1963.

FLOTILLA INTERNACIONAL

The English translation of "Flotilla Internacional" is "fleet international."
For Monthly Trade Magazine.
First use Oct. 21, 1963.

SN 182,945. Economics Laboratory, Inc., St. Paul, Minn. Filed Dec. 13, 1963.

KLENZADE

Owner of Reg. Nos. 609,715, 616,967, and 616,968.
For Bulletin.
First use Sept. 19, 1963.

SN 184,169. National Science Teachers Association, Inc., Washington, D.C. Filed Jan. 7, 1964.

THE SCIENCE TEACHER

For Magazine Published as the Journal of the Applicant Association.
First use February 1934.

SN 184,170. National Science Teachers Association, Inc., Washington, D.C. Filed Jan. 7, 1964.

FSA CENTRIFUGE

For Newsletter To Disseminate Ideas Concerning Science Activities for FSA Clubs.
First use January 1961.

SN 184,198. A. E. Arnett, d.b.a. Plaza Directory, Wichita, Kans. Filed Jan. 8, 1964.

PLAZA

Owner of Reg. No. 620,675.
For Motel and Hotel Directory.
First use on or about Dec. 9, 1963.

SN 184,525. Technical Publishing Company, Barrington, Ill. Filed Jan. 13, 1964.

BUSINESS ATOMICS REPORT

Owner of Reg. No. 430,677.
For Newsletter.
First use 1954.

SN 184,847. Standard & Poor's Corporation, New York, N.Y. Filed Jan. 17, 1964.

S&P

For Periodical Publications.
First use Sept. 11, 1963.

SN 185,063. Allan Molasky, Ladue, Mo. Filed Jan. 21, 1964.

LIBERTY CARDS

No claim is made to the word "Cards" apart from the mark as shown.
For Greeting and Novelty Cards.
First use Oct. 4, 1963.

SN 185,078. Robinson-Phillips, Incorporated, New York, N.Y. Filed Jan. 21, 1964.

BUSINESS STIM-U-LIZER

For Publication—Namely, a Magazine.
First use Dec. 26, 1963.

SN 185,242. Rose Patch & Label Company, Grand Rapids, Mich. Filed Jan. 23, 1964.

ROSEAL

For Cloth Labels.
First use Nov. 27, 1963.

SN 185,321. Howard W. Sams & Co., Inc., Indianapolis, Ind. Filed Jan. 24, 1964.

AUDELS

For Series of Books.
First use 1879.

SN 185,413. Houghton Mifflin Company, Boston, Mass. Filed Jan. 27, 1964.

DURAflex EDITION

No claim is made to any exclusive right to use the word "Edition" apart from the mark as shown.
For Books.
First use Dec. 10, 1963.

SN 185,419. Kaumagraph Company, Wilmington, Del. Filed Jan. 27, 1964.

MANI-YACKS

For Printed Dry Transfers.
First use Dec. 30, 1963.

SN 185,448. SAM, Incorporated, Chicago, Ill. Filed Jan. 27, 1964.

sam

For Weekly Magazine Containing Advertising and Marketing News.
First use Oct. 4, 1963.

SN 185,825. Thomas Publishing Company, New York, N.Y. Filed Jan. 31, 1964.

TM-C

For Microfilm Cards Bearing Copies of Catalog Pages.
First use Mar. 15, 1963.

Class 39—Clothing

SN 136,165. Andi Warren Inc., New York, N.Y. Filed Jan. 4, 1962.

Andi Warren

For Misses' Blouses Skirts, and Pants.
First use Nov. 15, 1960.

SN 152,361. Vivian Dresses, Inc., New York, N.Y. Filed Aug. 31, 1962.

Abella

For Double Knitted Women's Dresses.
First use on or about Dec. 15, 1961.

SN 154,247. Her Grace, Inc., New York, N.Y. Filed Oct. 1, 1962.

HER GRACE
THE CHAMPAGNE OF ROBES

The words "Ne Plus Ultra" are an idiomatic expression meaning "nothing better than."
Owner of Reg. No. 644,785.
For Women's Robes and Women's Pajamas.
First use June 13, 1962.

SN 160,618. Doracraft Corporation, Salt Lake City, Utah. Filed Jan. 14, 1963.

DEBUTANTE

For Pure Natural Latex Rubber Gloves Insulated With Nonwoven Cotton Lining.
First use Feb. 1, 1961.

SN 162,771. Ocean Pool Supply Company, Inc., New York, N.Y. Filed Feb. 14, 1963.

OCEAN BRIEF

Applicant disclaims exclusive rights to the word "Brief" apart from the mark as shown. Owner of Reg. No. 215,424.
For Swimming Trunks.
First use Dec. 10, 1962.

SN 163,688. London Bridge Shoes, Inc., Westminster, Md., by change of name from American Footwear Corporation, Westminster, Md. Filed Feb. 26, 1963.

LONDON BRIDGE

No claim is made to the geographical term "London" apart from the mark as shown.
For Children's Shoes.
First use Feb. 7, 1963.

SN 169,868. Robert Hosiery Mills, Incorporated, Collegeville, Pa. Filed May 28, 1963.

hoodwinks

The word "Hood" is disclaimed apart from the mark as shown.
For Babushka Type Hoods.
First use May 21, 1963.

SN 171,607. Blue Ridge Manufacturers, Incorporated, New York, N.Y. Filed June 24, 1963.

HI-JEANS

For Men's, Women's, and Children's Dungarees.
First use Apr. 26, 1963.

SN 174,139. G. Kingsley Ward, Toronto, Ontario, Canada. Filed July 18, 1963.

KOMFY-KATCH-ALL

For Baby Bib.
First use July 5, 1963; in commerce July 5, 1963.

SN 175,464. Blair Fashions, Inc., Chicago, Ill. Filed Aug. 21, 1963.

MAGIC DIAMOND

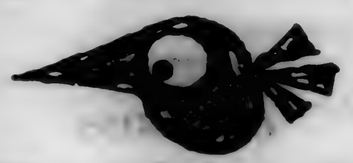
For Panty Girdles.
First use Jan. 15, 1963.

SN 179,693. Cathay Trading Corporation, New York, N.Y. Filed Oct. 24, 1963.

KANLON "CLOUD 88"

For Rainwear Clothing—Namely, Hats, Coats, and Jackets.
First use July 22, 1963.

SN 181,516. Berkshire International Corporation, Wyomissing, Pa. Filed Nov. 20, 1963.



For Hosiery.
First use Aug. 15, 1960.

SN 181,997. Pincus Brothers, Inc., Philadelphia, Pa. Filed Nov. 27, 1963.

PBM

For Men's Coats, Vests, and Trousers.
First use Nov. 15, 1960.

SN 183,659. Arnav Shoe Corporation, Little Ferry, N.J. Filed Dec. 27, 1963.

ARNAV

Owner of Reg. Nos. 730,269 and 765,944.
For Shoes.
First use Apr. 2, 1962.

SN 183,910. Georgia Shoe Manufacturing Company, Inc., Flowery Branch, Ga. Filed Jan. 2, 1964.

GOLDEN FALCON

For Shoes.
First use on or about May 12, 1958.

SN 184,700. Horatio Alger Clothes, Inc., New York, N.Y., assignee of Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Jan. 16, 1964.

HORATIO ALGER

The mark "Horatio Alger" is the name of a deceased author.
For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use Dec. 12, 1963.

SN 186,081. The Irving Drew Corporation, Lancaster, Ohio. Filed Feb. 5, 1964.

ACTIVE-DUTY

For Shoes.
First use on or about Feb. 5, 1942.

SN 186,088. Lucky Stride Shoes, Inc., Maysville, Ky. Filed Feb. 5, 1964.

HOE DOWN

For Shoes.
First use Jan. 7, 1964.

SN 186,217. S. Abrahams & Co., Inc., Philadelphia, Pa. Filed Feb. 7, 1964.

GREAT NORTHERN

For Men's Shirts.
First use Jan. 28, 1964.

SN 186,290. Timely Clothes, Inc., Rochester, N.Y. Filed Feb. 7, 1964.

CERRION

For Men's Outer Clothing—Namely, Men's Suits, and Slacks.
First use Jan. 8, 1964.

186,365. Kayser-Roth Corporation, New York, N.Y. Filed Feb. 10, 1964.

COVERKINS

For Infants' Coveralls and Sleepwear.
First use Aug. 13, 1963.

SN 186,380. E. R. Moore Company, Chicago, Ill. Filed Feb. 10, 1964.

ENDURALOOM

For Gym Suits.
First use Oct. 15, 1963.

SN 186,716. Flexnit Company, Inc., New York, N.Y. Filed Feb. 14, 1964.

SECOND-STRETCH

For Girdles and Brassieres.
First use Jan. 22, 1964.

SN 186,730. Lansing Knitwear, Inc., New York, N.Y. Filed Feb. 14, 1964.

LANASETA

For Ladies' Sweaters and Ladies' Knitted Suits.
First use Jan. 8, 1964.

SN 186,813. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Feb. 17, 1964.

AROSHEEN

For Women's Shirts and Blouses.
First use Nov. 15, 1963.

SN 186,819. David Crystal, Inc., New York, N.Y. Filed Feb. 17, 1964.

DE PAUL

Owner of Reg. No. 668,156.
For Ladies' Coats.
First use Aug. 1, 1957.

SN 186,965. Novelty Veiling Co., Inc., New York, N.Y. Filed Feb. 18, 1964.

GEEYESCA

For Ladies' Scarfs, Ladies' Stoles and Sweaters, and Lace Mantillas.
First use Apr. 15, 1963.

SN 187,165. Wells Lamont Corporation, Chicago, Ill. Filed Feb. 20, 1964.

WELLS LAMONT

For Work and Dress Gloves.
First use during 1907 on work gloves.

Class 40—Fancy Goods, Furnishings, and Notions

SN 164,774. Societa Italiana Galakerite, Milan, Italy. Filed Mar. 14, 1963.

GALAKERITE

Owner of Italian Reg. No. 142,148, dated Jan. 13, 1959; and U.S. Reg. No. 749,275.
For Combs and Buttons.

SN 172,117. United-Carr Incorporated, Boston, Mass., by change of name from United-Carr Fastener Corporation, Boston, Mass. Filed June 26, 1963.

SEW MATE

The word "Sew" is disclaimed apart from the mark as shown, but applicant waives none of its common law rights in the mark as shown or any feature thereof.
For Sewing Aid for Use With Hand Stitching.
First use June 3, 1963.

Class 42—Knitted, Netted, and Textile

SN 120,700. Dan River Mills, Incorporated, Danville, Va. Filed May 24, 1961.

DAN RIVER PLAID OF THE MONTH

The words "Plaid of the Month," apart from the mark as shown, are disclaimed.
For Textile Fabrics in the Piece To Be Used in the Manufacture of a Variety of Textile Products Including Men's, Women's, and Children's Wearing Apparel.
First use May 10, 1961.

SN 171,325. Deering Milliken, Inc., New York, N.Y. Filed June 19, 1963.

CREPE DU JOUR

The word "Crepe" is disclaimed apart from the mark as shown.
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use May 22, 1963.

SN 172,367. Henry Calvin Fabrics, San Francisco, Calif. Filed July 8, 1963.

CALVIN

For Drapery and Upholstery Fabrics.
First use Apr. 1, 1953.

SN 181,142. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Nov. 14, 1963.

THPC

Owner of Reg. No. 683,944.
For Fabrics Containing Cellulosic Materials Which Have Been Chemically Treated To Render Them Fire Retardant.
First use July 17, 1963.

SN 182,584. William Clark and Sons Limited, Upperlands, Derry, Northern Ireland. Filed Dec. 9, 1963.

CLARKS OLD MILL STRAND COLLAPAD

The words "Clarks" and "Collapad" are disclaimed apart from the mark as shown. Owner of British Reg. No. 816,603, dated Feb. 4, 1961; and U.S. Reg. No. 654,335.
For Textile Fabrics Comprising Canvas Joined With Felt or With Melton Cloths, All for Making Up Into Collar Pads for Clothing.

SN 182,778. Charbert, Inc., New York, N.Y. Filed Dec. 11, 1963.

Charbert

For Elasticized Fabrics.
First use August 1952.

SN 183,311. Cannon Mills Company, Kannapolis, N.C. Filed Dec. 20, 1963.

CANNON MANOR

Owner of Reg. Nos. 147,948, 729,513, and 729,514.
For Sheets, Pillowcases, Towels, Washcloths, Blankets and Bedspreads.
First use 1938.

SN 185,374. Etacol International, Zurich, Switzerland. Filed Jan. 27, 1964.

eTacol

Priority claimed under Sec. 44(d) on Swiss Reg. No. 199,411, dated July 25, 1963.
For Interlinings (Textile).

SN 185,537. J. P. Stevens & Co., Inc., New York, N.Y. Filed Jan. 28, 1964.

GLAMOURFAIR

For Fabrics in the Piece of Cotton and Synthetic Fibers and Blends Thereof.
First use Jan. 17, 1964.

SN 185,645. Bates Manufacturing Company, Lewiston, Maine. Filed Jan. 30, 1964.

DISCIPLINED

Owner of Reg. Nos. 545,351 and 605,225.
For Blankets.
First use May 1963.

SN 186,000. Hartfield Stores, Incorporated, Los Angeles, Calif. Filed Feb. 4, 1964.

Sensation

For Rugs.
First use Oct. 1, 1962.

SN 186,043. Alamac Knitting Mills, Inc., New York, N.Y. Filed Feb. 5, 1964.

DURAPILE

For Knitted Pile Lining in the Piece.
First use Jan. 6, 1964.

SN 186,182. Erwin Mills, Inc., Durham, N.C. Filed Feb. 6, 1964.

GIVE 'N GO

For All Cotton Fabrics.
First use Sept. 11, 1963.

SN 186,352. The General Tire & Rubber Company, Akron, Ohio. Filed Feb. 10, 1964.

LANCER

For Sponge Rubber Carpet Cushion.
First use March 1961.

Class 43 — Thread and Yarn

SN 169,745. Monsanto Company, St. Louis, Mo., by change of name from Monsanto Chemical Company, St. Louis, Mo. Filed May 27, 1963.

Monsanto

Owner of Reg. Nos. 526,822, 529,035, and 672,664.
For Synthetic Thread and Yarn.
First use Apr. 5, 1963.

SN 171,907. National Spinning Co., Inc., New York, N.Y. Filed June 26, 1963.

TEXTRETCH

For Yarns of Synthetic Fibers.
First use June 12, 1963.

SN 182,665. The Schlichter Jute Cordage Company, Philadelphia, Pa. Filed Dec. 9, 1963.

GMR

For Twisted Paper Yarn.
First use in or about October 1962.

SN 182,666. The Schlichter Jute Cordage Company, Philadelphia, Pa. Filed Dec. 9, 1963.

NMR

For Twisted Paper Yarn.
First use in or about October 1962.

SN 186,015. Monsanto Chemical Company, St. Louis, Mo. Filed Feb. 4, 1964.

CHEMLINE

For Yarns.
First use Jan. 15, 1964.

SN 186,281. Saunquoit Fibers Company, Scranton, Pa. Filed Feb. 7, 1964.

MONO-HAZEL

For Yarn.
First use on or about June 26, 1956.

SN 186,282. Saunquoit Fibers Company, Scranton, Pa. Filed Feb. 7, 1964.

BARBARA

For Yarn.
First use on or about June 23, 1960.

SN 186,377. Midland-Ross Corporation, Cleveland, Ohio. Filed Feb. 10, 1964.

VILLWYTE

For Treated Viscose Rayon Yarn.
First use on or about Jan. 15, 1964.

Class 44 — Dental, Medical, and Surgical Appliances

SN 154,384. Surgiquip Engineering Incorporated, San Francisco, Calif. Filed Oct. 2, 1962.

Surgiquip

Applicant disclaims the representation of the caduceus apart from the mark as shown.
For Heart-Lung Machines and Parts Thereof, Coronary Cannulae, Myocardical Electrodes, Flow Transducers, and Suturing Instruments.
First use Jan. 3, 1962.

SN 177,850. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Sept. 27, 1963.

For Parenteral Solution Equipment and Apparatus, Artificial Internal Organs, Apparatus for the Collection, Storage, and Administration of Blood and Blood Components, Plastic Containers and Devices, Expendable and Non-Expendable Therapeutic and Diagnostic Devices, Electronic Monitoring, Therapeutic, and Diagnostic Equipment, Needles, and Syringes.
First use May 29, 1963.

SN 178,537. Etablissement Vivadent, Schaan, Liechtenstein. Filed Oct. 8, 1963.

ACHAFOS

Priority claimed under Sec. 44(d) on Leichtenstein Reg. No. 1,493, dated May 29, 1963.
For Oxyphosphate Cement for Dental Purposes, Particularly for the Preparation of Dental Fillings, Base Fillings, Fastening of Crowns, Bridges, Inlays and Other Orthodonic Work.

SN 180,213. The Lake Erie Chemical Company, Wickcliffe, Ohio. Filed Oct. 31, 1963.

LECCO FULL VIEW

Applicant disclaims any exclusive rights to the words "Full View" except as shown.
For Tear Gas Masks.
First use Oct. 1, 1963.

SN 186,197. The Scholl Mfg. Co., Inc., Chicago, Ill. Filed Feb. 6, 1964.

Super-Sheer

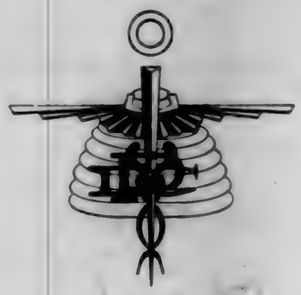
Owner of Reg. No. 649,101.
For Surgical Hosiery.
First use 1955.

SN 188,141. The Prestige Products Company, Inc., Marshfield, Mass. Filed Mar. 6, 1964.

GOLDEN EAR

For Audio Aid for Hard of Hearing Persons.
First use June 28, 1963.

SN 188,204. Deseret Pharmaceutical Co., Inc., Salt Lake City, Utah. Filed Mar. 9, 1964.



Owner of Reg. Nos. 654,041 and 756,325.
For Surgical Masks, Intravenous Catheters, and Devices in the Nature of Hypodermic Syringes, for Administering Paracervical Anesthesia.
First use Jan. 15, 1964.

SN 188,230. Walter D. Gilmore, d.b.a. Abbett and Macke, Covington, Ky. Filed Mar. 9, 1964.

A-M

Owner of Reg. No. 407,349.
For New and Reconditioned Surgical Blades.
First use August 1937.

SN 188,702. Pharmaseal Laboratories, Glendale, Calif. Filed Mar. 16, 1964.

PHARMASEAL

Owner of Reg. Nos. 599,125, 747,358, and others.
For Disposable Gloves for Hospital Use, and Prepackaged Sterile Trays Including Irrigation Trays, Transfusion Trays, Lumbar Puncture Trays, Manometer Trays, and Venous Pressure Trays.
First use Jan. 25, 1961.

SN 188,884. The Jectron Company, Toledo, Ohio. Filed Mar. 17, 1964.

ACRA-VAC

For Base Plate Material, Impression Tray Material, and Mouth Guard Material, in Granular Form and in the Form of Blanks and Slabs, the Equipment for Processing These Related Materials, and the Resulting Denture Parts.
First use Jan. 28, 1964.

SN 189,390. Sterilon Corporation, Buffalo, N.Y. Filed Mar. 23, 1964.

PANDORA

For Urine Collectors and Disposable Urine Collection Bags.
First use Oct. 29, 1962.

SN 189,428. C. R. Bard, Inc., Murray Hill, N.J. Filed Mar. 24, 1964.

CUL-TUBE

For Culture Units Each Comprising a Test Tube and Specially Designed Cap for Same.
First use Mar. 2, 1964.

SN 189,645. Williams Gold Refining Company Incorporated, Buffalo, N.Y. Filed Mar. 25, 1964.

WILLIAMS

For Dental Materials and Specialties—Namely, Casting Golds and Alloys; Solders; Gold Plate, Ingots, Shells, Bands and Discs; Clasp Wire; Clasps; Palatal and Lingual Bars and Bar Wires; Anchor Lugs; Filling Golds Including Mat Gold, Mat-Foil, Gold Cylinders and Ropes and Gold Foil Sheets; Orthodontia Precious Metal Materials; Attachments and Accessories for Bridgework Including Trays, Mandrels, Shoes and Rests; Platinum Foil, Mesh, Plate, Wire, Solder and Conversion Charge; Silver Plate, Casing Nuggets, Solder and Wire; Anterior, Cuspid, Bicuspid and Molar Bands; Band Materials, Arch and Spring Wires; Solder Wires; Tubes and Tubing; Space Maintainer Kits Including Molar Bands, Arch Wire, Maintainer Wires, Solder, Soldering Pencil, All Purpose Pliers, Crimping Pliers, Band Removing Pliers, Pusher-Burnisher, Seater-Setter, Separating Wire and Instruction Booklet; Copper Plating Anodes; Latex Rubber; Die Lubricant; Flux; Inlay Rings; Rubber and Plastic Sprue Formers; Mercury; Parallelometer; Clasp Bending Pliers; Wax Dropper; Polishing Compounds; Pickling Agent; Detergent; Plastic Pins, Posts and Sprues; Plastic Burn-Out Backings; Wetting Agents and Solutions; Sprue Pins; Plastic Veneer Materials Including Activator Liquid, Mixing Jars, Wire Dropper, Eye Dropper and Measuring Spoon; Plastic Splint Material; Splint Lube, Casting Machines and Crucibles; Crucible Cement and Covers; Probing Rods; Flask Tongs; Duplicating Material and Duplicating Wax; Casting Rings and Ring Clips; Metal and Plastic Ring Bases; Combination Band Burnisher, Bracket Gauge and Bandseater Instrument; Surveyors; Ultrasonic Cleaners; Guide Attachments for Dental Handpieces; Precision Drill Presses; and De-Platers.
First use about 1910 on mat gold.

Class 45—Soft Drinks and Carbonated Waters

SN 134,939. Apollinaris Brunnen A.G., Bad Neuenahr, Germany. Filed Jan. 2, 1962.

PRESTA-CO

Owner of German Reg. No. 746,500, dated Mar. 8, 1961.
For Non-Alcoholic Fruit Drinks—Namely, Lemonades and Orangeades; and Mineral Water.

SN 184,823. The Isaly Dairy Company, d.b.a. Isaly's, Youngstown, Ohio. Filed Jan. 17, 1964.

MOUNTAIN AIR

For Soft Drinks.
First use Apr. 11, 1933.

Class 46—Foods and Ingredients of Foods

SN 144,084. National Tea Co., d.b.a. National Food Stores, Chicago, Ill. Filed May 3, 1962.

ELMWOOD FARMS

For Fresh and Frozen Poultry, and Parts Thereof.
First use Jan. 24, 1962.

SN 146,101. Highland Bakery, Inc., Atlanta, Ga. Filed June 5, 1962.

Jenny Lynn

The name "Jenny Lynn" is fictitious.
For Bakery Goods—Namely, Bread, Rolls, and Cakes.
First use May 10, 1962.

SN 159,168. Mason, An & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. Filed Dec. 14, 1962.

Mason

Owner of Reg. Nos. 128,451, 571,993, and others.
For Candy.
First use Oct. 18, 1962.

SN 162,053. R. B. Millar & Company, Chicago, Ill. Filed Jan. 23, 1963.

Nut-Brown

For Coffee.
First use on or about Apr. 26, 1918.

SN 165,653. N.V. Biscuit & Chocoladefabriek Victoria, d.b.a. N.V. Victoria, Dordrecht, Netherlands. Filed Mar. 28, 1963.

Victoria

Owner of Dutch Reg. No. 67,937, dated Mar. 25, 1947; and U.S. Reg. No. 198,988.
For Biscuits and Wafers.

SN 170,170. Castroville Marketing Association, Castroville, Calif. Filed June 3, 1963.

PACIFIC MISS

For Fresh Vegetables, Frozen Fresh Vegetables, and Marinated Vegetables.
First use Sept. 6, 1951.

SN 172,286. Edward Andelman Associates, Inc., d.b.a. Sea 'N Surf, Framingham, Mass. Filed July 2, 1963.

SEA 'N SURF

For Frozen Lobsters and Refrigerated Lobsters.
First use Nov. 1, 1954.

SN 172,324. Milk Proteins Inc., Detroit, Mich. Filed July 2, 1963.

Johnny AppleSqueeze

The word "Apple" is disclaimed apart from the mark shown.
For Apple Juice Food Beverage.
First use June 12, 1961.

SN 172,325. Milwaukee Cheese Co., Brookfield, Wis. Filed July 2, 1963.

ZWICKY'S

For Cheese.
First use June 15, 1948.

SN 173,271. Michigan Shelby Company, Detroit, Mich. Filed July 17, 1963.

Mary Lee

For Candy.
First use on or about Mar. 2, 1932.

SN 173,894. Carter Products, Inc., New York, N.Y. Filed July 29, 1963.

PEACOCK'S

For Food Products—Namely, Celery Base, Garlic Juice, Good Gravy Base, Onion Juice, Ready Mix Dill and Steak Haste.
First use July 20, 1925.

SN 175,378. Beaver Home Products Company, Pennsauken, N.J. Filed Aug. 20, 1963.

TOP'EMS

For Topping for Cakes, Cookies, Ice Cream, and Desserts—Namely, Candy Pellets of Chocolate and Other Flavors, Coconut Shreds of Various Colors, and Sugar Crystals of Various Colors.
First use July 15, 1958.

SN 176,669. Mutual Citrus Products Company, Anaheim, Calif. Filed Sept. 10, 1963.

Picnic

Owner of Reg. Nos. 680,095, 699,082, and others.
For Fruit Juice Food Drink.
First use Aug. 26, 1963.

SN 178,714. Nalley's, Inc., Tacoma, Wash. Filed Oct. 10, 1963.

HACIENDA BRICK BRAND

Owner of Reg. Nos. 669,054 and 684,168.
For Frozen Chili Flavored Meat Sauce.
First use June 15, 1963.

SN 180,826. Birds Eye Foods Limited, Walton-on-Thames, Surrey, England. Filed Nov. 12, 1963.

TOP TRAY

Owner of British Reg. Nos. B821,690 and B821,691, dated June 9, 1961.
For Meats, Dead Fish, Dead Poultry and Dead Game; Meat Extracts; Preserved, Dried and Cooked Fruits and Vegetables; Jellies, Jams, Eggs, Milk and Other Dairy Products; Edible Oils and Fats; Preserves, Pickles, Coffee, Tea, Cocoa, Sugar, Rice, Tapioca, Sago, Coffee Substitutes, Flour and Preparations Made From Cereals for Food, Cakes, Pastry and Non-Medicated Confectionery, Ices, Honey, Treacle, Yeast (for Food), Baking Powder, Salt, Mustard, Pepper, Vinegar, Sauces and Spices.

SN 180,963. Sam Perricone Citrus Company, Los Angeles, Calif. Filed Nov. 12, 1963.

PERRICONE'S

For Fresh Citrus Fruits.
First use at least as early as the year 1955.

SN 182,274. L & L Provision Company, Chicago, Ill. Filed Dec. 3, 1963.

LL

For Boneless Beef, Frozen and/or in the Nature of Fresh Cut.
First use on or about Aug. 27, 1963.

SN 183,711. Continental Baking Company, Rye, N.Y. Filed Dec. 10, 1963.

Chef Line

Owner of Reg. No. 615,896.
For Prepared Frozen Food Products—Namely, Frozen Prepared Meats, Poultry, Fish, Potatoes, Vegetables, Rice; Casseroles—Namely, Macaroni and Cheese, Spaghetti and Meat, Chicken, and Turkey; Frozen Cream, Custard, Fruit, Pumpkin and Mince Pies; Frozen Biscuits, Rolls, Muffins, Buns, and Doughnuts.
First use Aug. 27, 1963.

SN 183,500. Crown Nut Company, Inc., Kingston, Pa. Filed Dec. 24, 1963.

GOLDEN ROAST

The word "Roast" is disclaimed apart from the mark as shown.
For Shelled Edible Nuts.
First use July 23, 1963.

SN 185,229. Orleans Canning Company, Chicago, Ill. Filed Jan. 23, 1964.

TENDER TIPS

The word "Tender" is disclaimed apart from the mark as shown.
For Canned Dog Food.
First use Nov. 22, 1963.

SN 187,156. Roland Industries, Inc., St. Louis, Mo. Filed Feb. 20, 1964.

R/I

For Prepared Flour Mixes for Commercial Bakers.
First use Jan. 15, 1964.

SN 187,506. Miller-Parrott Baking Company, Inc., Terre Haute, Ind. Filed Feb. 26, 1964.

AMBASSADOR

For Bakery Products—Namely, Cookies and Crackers.
First use Feb. 11, 1964.

SN 188,287. Stark, Wetsel & Co., Inc., Indianapolis, Ind. Filed Mar. 9, 1964.

CHEF'S BUFFET

For Boneless Ham.
First use Dec. 16, 1963.

SN 188,317. Whittle & Mutch, Inc., Philadelphia, Pa. Filed Mar. 9, 1964.

DIETIME

For Flavoring Base for Carbonated and Non-Carbonated Beverages, Dairy Drinks, Ice Cream and Sherbets.
First use Feb. 28, 1964.

SN 188,318. Whittle & Mutch, Inc., Philadelphia, Pa. Filed Mar. 9, 1964.

DIET-TIME

For Flavoring Base for Carbonated and Non-Carbonated Beverages, Dairy Drinks, Ice Cream and Sherbets.
First use Feb. 28, 1964.

SN 188,600. Pepperidge Farm, Incorporated, Norwalk, Conn. Filed Mar. 13, 1964.

CONESTOGA

For Rolls.
First use Jan. 17, 1964.

SN 188,801. Rust Sales Co., Denver, Colo. Filed Mar. 16, 1964.

RESPON-DO

For Bread Base, Raised Doughnut Base, Sweet Dough Base, Vienna Dough Base, Super Danish Dough Base, and Bun Base.
First use June 22, 1955.

SN 190,197. National Biscuit Company, New York, N.Y. Filed Apr. 2, 1964.

CHIT CHAT

For Biscuits and Crackers.
First use Mar. 20, 1964.

SN 190,256. General Foods Corporation, White Plains, N.Y. Filed Apr. 3, 1964.

PLAINSMAN

Owner of Reg. Nos. 172,069.
For Cereal Breakfast Food.
First use on or about Jan. 28, 1964.

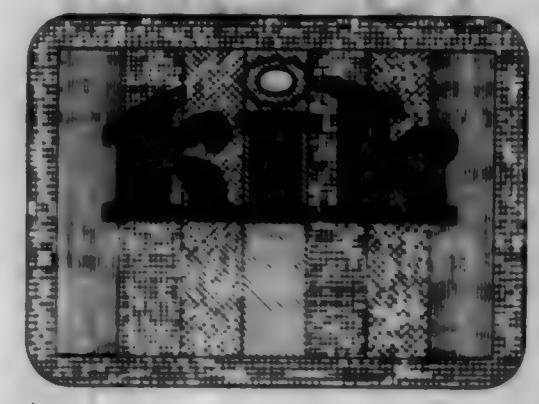
SN 190,414. National Biscuit Company, New York, N.Y. Filed Apr. 6, 1964.

DUET

For Biscuits and Crackers.
First use Mar. 18, 1964.

Class 47 — Wines

SN 189,293. Montebello Liquors, Incorporated, Baltimore, Md. Filed May 20, 1963.



The drawing is lined for the colors gold, red, yellow, orange, and green. Applicant makes no claim to the exclusive use of the colored background indicated except in association with the mark as shown. Owner of Reg. No. 764,408.
For Alcoholic Beverage Containing Fruit Juice Blended With Wine.
First use Jan. 14, 1963.

Class 48 — Malt Beverages and Liquors

SN 182,921. The Bennett Brewing Company, Limited, St. John's, Newfoundland, Canada. Filed Dec. 18, 1963.

CONBREW

Priority claimed under Sec. 44(d) on Canadian application filed Oct. 10, 1963; Reg. No. 135,783, dated May 15, 1964.
For Concentrated Brewers' Wort.

SN 183,275. Pabst Brewing Company, Milwaukee, Wis. Filed Dec. 19, 1963.

BIG CAT

For Malt Liquor.
First use Dec. 11, 1963.

SN 183,276. Pabst Brewing Company, Milwaukee, Wis. Filed Dec. 19, 1963.



For Malt Liquor.
First use Dec. 11, 1963.

Class 49 — Distilled Alcoholic Liquors

SN 180,158. A & A Liquors, Washington, D.C. Filed Oct. 31, 1963.

COPPER KETTLE

For Whiskey.
First use October 1959.

SN 181,163. Licoreria Rosee Inc., Arecibo, Puerto Rico. Filed Nov. 14, 1963.



The slogan "La Llave de la Alegria" may be translated as meaning "key to joy." The drawing is lined for red, however no claim is made to color. Reserving all common law rights, applicant disclaims exclusive right to the word "Ron." The Spanish words "Llave" and "Ron" mean, respectively, "key" and "rum." Owner of Reg. Nos. 733,907 and 733,908.

First use June 7, 1961; 1858 as to "Llave"; at least as early as 1899 as to "Llave" together with the representation of a key.

SN 184,973. Schenley Distillers, Inc., New York, N.Y. Filed Jan. 20, 1964.

HIGH JINKS

For Whiskey.
First use Nov. 26, 1963.

SN 185,247. Schenley Distillers, Inc., New York, N.Y. Filed Jan. 23, 1964.

RAINDROP

For Whiskey.
First use Dec. 20, 1963.

Class 50—Merchandise Not Otherwise Classified

SN 162,060. Approved Safety Inc., Tampa, Fla. Filed Feb. 5, 1963.

DUBL-LOCK

For Ladder Climbing Safety Device Comprising a Wire Cable and a Locking Element Which Is Engaged With the Cable.
First use Dec. 3, 1962.

SN 165,363. Norman P. Nilsen, d.b.a. Nilsen's Feed & Supply, Phelan, Calif. Filed Mar. 25, 1963.

"SWISH"

For Poultry Watering Apparatus.
First use June 1958.

SN 174,727. R. D. Werner Co., Inc., Greenville, Pa. Filed Aug. 8, 1963.

SPILL-PROOF

For Bucket Holders for Ladders, Ladders and Accessories Therefor.
First use June 1958.

SN 166,566. Reliart Trailer Manufacturing Corp., Stanton, Mich. Filed Feb. 12, 1964.

RELIART

For Moisture Repellent Materials—Namely, Water Repellent Flexible Coverings Such as Canvas Sewn and Shaped for Use as Tents and the Tent-Like Portions of Camping Trailers and Parts Therefor.
First use on or about Jan. 21, 1964.

SN 187,477. Commercial Shearing & Stamping Company, Youngstown, Ohio. Filed Feb. 26, 1964.

D-VID-A-WAY

For Traffic Buttons.
First use April 1963.

SN 193,800. Madeline Capp, New York, N.Y. Filed May 19, 1964.

MATCAPPS

For Place Mat Pads and Removable Covers Therefor.
First use February 1963.

Class 51—Cosmetics and Toilet Preparations

SN 179,605. Carter Products, Inc., New York, N.Y. Filed Oct. 23, 1963.

NAIR SUPREME

Applicant disclaims the word "Supreme" separate and apart from the mark as shown. Owner of Reg. No. 500,657.
For Neutralized Finishing Cream Which Is To Be Applied After Use of a Depilatory.
First use May 23, 1963.

SN 179,606. Carter Products, Inc., New York, N.Y. Filed Oct. 23, 1963.

NAIR SUPREME

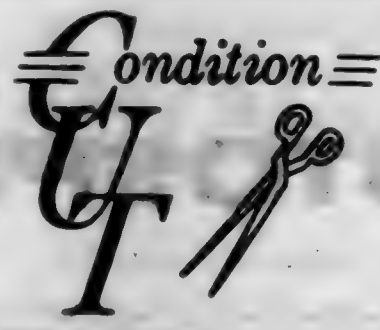
Applicant disclaims the word "Supreme" separate and apart from the mark as shown. Owner of Reg. No. 500,657.
For Cream Hair Remover.
First use May 23, 1963.

SN 182,351. C. Alan Morrison, Longmeadow, Mass. Filed Dec. 4, 1963.

AFTER FIVE

Owner of Reg. Nos. 424,130 and 761,067.
For Cosmetics and Toilet Preparations—Namely, Cologne, Perfume Mist, Perfume Stick, Talcum, Powder, Perfume Solid, Sachet, Toilet Soap, Bath Oil, and Perfume Bracelet.
First use April 1937.

SN 183,617. Mylam, Ltd., Brooklyn, N.Y. Filed Dec. 26, 1963.



For Hair Conditioning Lotion.
First use May 10, 1963.

SN 185,492. John H. Breck, Inc., Springfield, Mass. Filed Jan. 28, 1964.

LADY BRILLIANT

For Hairdressing and Conditioner.
First use November 1960.

Class 52 — Detergents and Soaps

SN 158,794. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 10, 1962.

CLEANS LIKE A WHITE TORNADO!

Applicant disclaims any exclusive rights to the use of the words "Cleans Like a" except when used as part of the mark as shown. Owner of Reg. No. 757,899.
For All-Purpose Cleaner and Detergent.
First use July 1962.

SN 163,657. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Feb. 28, 1963.



Owner of Reg. No. 742,189.
For Stain and Scale Removal Agents and Pool Cleaners.
First use Jan. 5, 1961.

SN 172,578. Firma Pharmakon L.U.F. Hobiger-Chemische Fabrik, Vienna, Austria. Filed July 8, 1963.

SUPO-WAX

Owner of Austrian Reg. No. 47,429, dated Mar. 5, 1962.
For Floor Cleansers.

SN 172,579. Firma Pharmakon L.U.F. Hobiger-Chemische Fabrik, Vienna, Austria. Filed July 8, 1963.

SUPO

Owner of Austrian Reg. No. 47,418, dated Feb. 27, 1962.
For Floor Cleaning Compounds.

SN 176,959. Chester A. Rhinesmith and Marion F. Rhinesmith (joint owners), d.b.a. Chemical Dispersing Co., Troy, N.Y. Filed Sept. 13, 1963.

TARSPHALT

For Slime Remover and Industrial Cleaning Compound.
First use Mar. 29, 1960.

SN 185,150. Sanitary Soap Company, Inc., Paterson, N.J. Filed Jan. 22, 1964.

BORA-SOLV

For Powdered Hand Cleaner.
First use Aug. 9, 1963.

SN 185,309. Metasurf Corporation, Detroit, Mich. Filed Jan. 24, 1964.

METASTRIP

For Paint Stripping Compound.
First use October 1952.

SERVICE MARKS

Class 100 — Miscellaneous

SN 146,933. Reed & Bell, Inc., Humboldt, Tenn. Filed June 14, 1962.

SNO-CAP DRIVE-IN

No claim is made to the words "Drive-In" apart from the mark as shown. Owner of Reg. No. 688,419.
For Restaurant Services.
First use May 25, 1956.

SN 163,174. Raytheon Company, Lexington, Mass. Filed Feb. 20, 1963.

AUTOSPEC

For Design of Electrical Apparatus, Such as Transformers, Inductors and the Like for Others.
First use on or about Feb. 5, 1962.

SN 167,628. Harlee Manufacturing Co., Chicago, Ill. Filed Apr. 26, 1963.

PUPPY PALACE

For Restaurant Services.
First use on or about Mar. 15, 1963.

SN 178,989. Tally Ho Grill of Boston, Inc., Wollaston, Mass. Filed Oct. 14, 1963.

RED COACH

Owner of Reg. No. 736,904.
For Motor Inn or Motel Services.
First use Sept. 27, 1963.

Class 101 — Advertising and Business

SN 152,449. P. A. & S. Small Company, York, Pa. Filed Sept. 4, 1962.

SUPER-THRIFT

For Grocery Store Services.
First use Nov. 19, 1958.

SN 158,089. Motor Club of America, Newark, N.J. Filed Nov. 28, 1962.



No claim is made to the exclusive right to register, any of the wording on the drawing except the letters "MCA," the applicant however reserving its common law rights in its trade name, "Motor Club of America." Owner of Reg. Nos. 527,587 and 575,008.

For Purchase Saving or Shopper Service—Namely, Enabling Members To Purchase Merchandise at a Discount; and Consulting, Advising and Arranging With Members for Purchasing Automobiles and Other Merchandise.

First use August 1956.

SN 160,497. Luther Shehan, d.b.a. Dick Shehan Company, Spindale, N.C. Filed Apr. 10, 1963.

FREE TIME

For Sales Promotion of the Goods and Services of Others Through the Staging of Contests on Their Premises.

First use Mar. 9, 1963.

Class 103 — Construction and Repair

SN 163,062. Master Pools, Inc., City of Industry, Calif. Filed Feb. 19, 1963.

MASTER POOLS

The word "Pool" is disclaimed apart from the mark "Master Pools."

For Construction of Swimming Pools.

First use May 19, 1962.

SN 170,596. The Atlantic Refining Company, Philadelphia, Pa. Filed June 10, 1963.



For Automobile Service Station Services.

First use May 15, 1962.

SN 177,208. Abalene Pest Control Service, Inc., Burlington, Vt. Filed Sept. 18, 1963.

ABALENE

For Pest Control Services.

First use May 8, 1961.

Class 105 — Transportation and Storage

SN 139,822. California Western Railroad, Fort Bragg, Calif. Filed Mar. 14, 1962.

SKUNK

For Transportation of Persons and Property.

First use July 1950.

SN 167,063. Trans-Air System Inc., Jamaica, N.Y. Filed Apr. 26, 1963.

Trans-Air

For International Air Freight Forwarding Service Which Includes Pick-Up for Delivery to Overseas Air Carriers, Preparation of Way Bills and Other Export Documents, Placing of Insurance and Routing of Shipments, Consolidation of Cargo, and Having the Freight Shipped to Its Foreign Consignee.

First use July 8, 1958.

SN 181,125. Jack Cole Company, Birmingham, Ala. Filed Nov. 14, 1963.



No claim is made to the word "Express" apart from the mark as shown.

For Transportation of the Goods of Others by Truck.

First use March 1959.

Class 107 — Education and Entertainment

SN 114,946. Famous Artists Cartoon Course, Inc., New York, N.Y. Filed Mar. 6, 1961.

THE FAMOUS ARTISTS
CARTOON COURSE

The words "Cartoon Course" are disclaimed apart from the mark as shown.

For Correspondence Courses in Instruction in Drawing.

First use April 1956.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 151,532. Ski Industries America, New York, N.Y. Filed Aug. 20, 1962.

SKI INDUSTRIES AMERICA

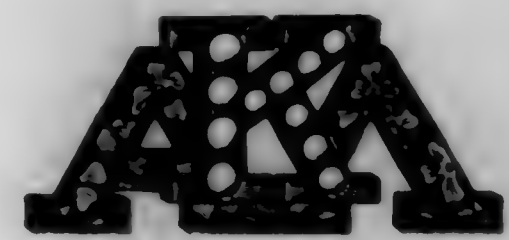
Applicant disclaims the words "Ski," "Industries" and "America" apart from the mark as shown.

For Indicating Membership in Applicant Organization.

First use May 1960.

TM 166

SN 168,662. Alpha Kappa Lambda Fraternity, Emporia, Kans. Filed May 13, 1963.



For Indicating Membership in the Applicant Fraternity.

First use Apr. 22, 1914.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

775,575. PLAX AND DESIGN. Monsanto Company, by change of name from Monsanto Chemical Company. MULTIPLE CLASS (Classes 1 and 50). SN 166,737. Pub. 5-5-64. Filed 4-15-63.

775,576. WALKERLAN. Walkerlan Limited. SN 170,002. Pub. 6-9-64. Filed 5-29-63.

Class 2—Receptacles

775,577. M MONSANTO. Monsanto Company, by change of name from Monsanto Chemical Company. MULTIPLE CLASS (Classes 2 and 50). SN 162,349. Pub. 6-9-64. Filed 2-8-63.

775,578. ZIP CAN. Pabst Brewing Company. SN 167,407. Pub. 6-9-64. Filed 4-23-63.

775,579. TOKAIDO. Tokaido, Inc. SN 173,606. Pub. 6-9-64. Filed 7-23-63.

775,580. STAR BRIGHT AND DESIGN. Admiral Plastics Corporation. SN 179,845. Pub. 6-9-64. Filed 10-28-63.

775,581. STYLIZED A (DESIGN). American Can Company. SN 182,238. Pub. 6-9-64. Filed 12-3-63.

775,582. U-TAB. Continental Can Company, Inc. SN 182,472. Pub. 6-9-64. Filed 12-6-63.

775,583. TC AND DESIGN. Thompson Can Company. SN 185,953. Pub. 6-9-64. Filed 2-3-64.

775,584. CONALOY. Continental Can Company, Inc. SN 186,166. Pub. 6-9-64. Filed 2-6-64.

775,585. CHINET. Keyes Fibre Company. SN 186,540. Pub. 6-9-64. Filed 2-12-64.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

775,586. SPACE. Alan E. Murray, d.b.a. Alan E. Murray Laboratories. MULTIPLE CLASS (Classes 3 and 39). SN 139,122. Pub. 6-9-64. Filed 3-5-62.

Class 4—Abrasives and Polishing Materials

775,587. W ON OVAL AND INDIAN DESIGN. Wyandotte Chemicals Corporation. SN 150,319. Pub. 6-9-64. Filed 12-17-62.

775,588. BLUELINE. Scott Paper Company. MULTIPLE CLASS (Classes 4, 37, and 52). SN 170,115. Pub. 6-9-64. Filed 5-31-63.

775,589. DRACKETT AND DESIGN. The Drackett Company. MULTIPLE CLASS (Classes 4, 6, 29, and 52). SN 170,150. Pub. 6-9-64. Filed 5-31-63.

775,590. AMERICAN-LINCOLN CORPORATION SUPER SPEED AND DESIGN. American Lincoln Corporation. SN 181,096. Pub. 6-9-64. Filed 10-18-63.

Class 5—Adhesives

775,591. EVANS' SCHOOL GLUEY. The Commercial Paste Company. SN 145,052. Pub. 6-9-64. Filed 5-21-62.

Class 6—Chemicals and Chemical Compositions

775,589. (See Class 4 for this trademark.)

775,592. COVERAL. Foseco International Limited. SN 162,720. Pub. 6-9-64. Filed 2-14-63.

775,593. CUPRIT. Foseco International Limited. SN 162,835. Pub. 6-9-64. Filed 2-15-63.

775,594. LIMIT. Monsanto Company, by change of name from Monsanto Chemical Company. SN 174,208. Pub. 8-31-64. Filed 8-1-63.

775,595 PHOS-CHEK. Monsanto Company, by change of name from Monsanto Chemical Company. SN 175,128. Pub. 5-5-64. Filed 8-15-63.

775,596. IP-61. Monsanto Company, by change of name from Monsanto Chemical Company. SN 176,220. Pub. 3-31-64. Filed 9-3-63.

775,597. CARBORAPID. Agfa Aktiengesellschaft. MULTIPLE CLASS (Classes 6 and 26). SN 178,700. Pub. 6-9-64. Filed 10-11-63.

Class 8—Smokers' Articles, Not Including Tobacco Products

775,598. TOKAIDO. Tokaido, Inc. SN 173,605. Pub. 6-9-64. Filed 7-23-63.

Class 11—Inks and Inking Materials

775,599. TEXALON. Lawter Chemicals, Inc. SN 185,302. Pub. 6-9-64. Filed 1-24-64.

Class 12—Construction Materials

775,600. TOMOK. Welsh Panel Company. SN 163,686. Pub. 6-9-64. Filed 2-28-63.

775,601. SEAL-LITE AND DESIGN. Doric Door Limited. SN 163,714. Pub. 6-9-64. Filed 3-1-63.

775,602. BOIARDI AND DESIGN. Boiardi Tile Manufacturing Corp. SN 168,476. Pub. 6-9-64. Filed 5-9-63.

775,603. NETTLETON-PRE-C-L-D. Felix L. Nettleton. SN 169,474. Pub. 6-9-64. Filed 5-22-63.

775,604. STATUE OF A WOMAN (DESIGN). Elliott Bay Mill Co. SN 171,538. Pub. 6-9-64. Filed 6-21-63.

775,605. FORAGE GRO-MASTER. Capitol Products Corporation. SN 172,369. Pub. 6-9-64. Filed 7-3-63.

775,606. SEMINOLE. Seminole Asphalt Refining, Ltd. SN 180,966. Pub. 6-9-64. Filed 11-12-63.

775,607. G HARDING AND DESIGN. Harding Glass Industries. SN 181,634. Pub. 6-9-64. Filed 11-21-63.

775,608. DELASTIC. The D. S. Brown Company. SN 181,956. Pub. 6-9-64. Filed 11-27-63.

775,609. THARCO. DAP, Inc. SN 182,050. Pub. 6-9-64. Filed 11-29-63.

775,610. '1231'. DAP, Inc. SN 182,053. Pub. 6-9-64. Filed 11-29-63.

775,611. ROTO MATIC AND DESIGN. Roto-Swing Door Company, Inc. SN 182,118. Pub. 6-9-64. Filed 11-29-63.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

775,612. HYDRO-MECA. Hydro-Meca. MULTIPLE CLASS (Classes 13, 21, and 23.) SN 154,119. Pub. 6-9-64. Filed 9-28-62.

775,613. OLD STURBRIDGE VILLAGE OSV AND DESIGN. Old Sturbridge Inc. SN 162,774. Pub. 6-9-64. Filed 2-14-63.

775,614. WEG. Roylyn Incorporated. SN 165,461. Pub. 6-9-64. Filed 3-26-63.

775,615. "AUTO-MATING." Ball Valves, Inc. SN 166,247. Pub. 6-9-64. Filed 4-8-63.

775,616. X-50. Triangle Conduit & Cable Co., Inc. SN 166,596. Pub. 6-9-64. Filed 4-11-63.

775,617. TOKAIDO. Tokaido, Inc. SN 173,607. Pub. 6-9-64. Filed 7-23-63.

775,618. ZERO-TRAK. Zero Manufacturing Co. SN 178,846. Pub. 6-9-64. Filed 10-11-63.

775,619. VANELBA AND DESIGN. Vanelba Corporation. SN 179,282. Pub. 6-9-64. Filed 10-17-63.

775,620. WIZARD. Western Auto Supply Company. SN 181,437. Pub. 6-9-64. Filed 11-18-63.

775,621. LES-TORK. Parker-Hannifin Corporation. SN 181,492. Pub. 6-9-64. Filed 11-19-63.

775,622. STRAIN-O-MATIC. Zurn Industries, Inc. SN 181,816. Pub. 6-9-64. Filed 11-22-63.

Class 14—Metals and Metal Castings and Forgings

775,623. MAKERI. Makeri Smelting Company Limited. SN 174,400. Pub. 6-9-64. Filed 8-5-63.

775,624. SUPER SAMSON. The Carpenter Steel Company. SN 179,772. Pub. 6-9-64. Filed 10-25-63.

775,625. GEOMETRIC DESIGN. The Monotype Corporation Limited. SN 180,531. Pub. 6-9-64. Filed 11-5-63.

775,626. CARPENTER INVAROD. The Carpenter Steel Company. SN 180,648. Pub. 6-9-64. Filed 11-7-63.

775,627. FALLS. Foote Mineral Co. SN 183,394. Pub. 6-9-64. Filed 12-23-63.

775,628. UG. United-Greenfield Corporation. SN 183,478. Pub. 6-9-64. Filed 12-23-63.

775,629. BERYLCO. The Beryllium Corporation. SN 183,559. Pub. 6-9-64. Filed 12-26-63.

775,630. BERYLCO AND DESIGN. The Beryllium Corporation. SN 183,560. Pub. 6-9-64. Filed 12-26-63.

775,631. FORDRIN. Fort Wayne Metals, Inc. SN 183,575. Pub. 6-9-64. Filed 12-26-63.

775,632. MISCELLANEOUS DESIGN. Associated Spring Corporation. SN 183,660. Pub. 6-9-64. Filed 12-27-63.

775,633. PD MINE TO MARKET AND GLOBE DESIGN. Phelps Dodge Copper Products Corporation. SN 183,856. Pub. 6-9-64. Filed 12-31-63.

775,634. FISH AND HOOK (DESIGN). Sandvikens Jernverks Aktiebolag. SN 184,015. Pub. 6-9-64. Filed 12-12-63.

775,635. MACK-HEMP. E. W. Bliss Company. SN 184,206. Pub. 6-9-64. Filed 1-8-64.

Class 15—Oils and Greases

775,636. MISCELLANEOUS DESIGN. Superamerica Stations, Inc. SN 137,285. Pub. 6-9-64. Filed 2-5-62.

775,637. CANDELIER. H. T. Klovstad and E. J. Klovstad (joint owners), d.b.a. Candelier. SN 140,847. Pub. 6-9-64. Filed 3-27-62.

775,638. 4 ALL. The Westward Company. SN 165,883. Pub. 6-9-64. Filed 4-1-63.

775,639. SLIK PUFF. Everlube Corporation of America, d.b.a. Everlube Corporation. SN 184,367. Pub. 6-9-64. Filed 1-10-64.

775,640. EVER-SLIK. Everlube Corporation of America, d.b.a. Everlube Corporation. SN 184,905. Pub. 6-9-64. Filed 1-20-64.

Class 16—Protective and Decorative Coatings

775,641. SKALIX. Navan Products, Inc. SN 102,577. Pub. 6-9-64. Filed 8-12-60.

775,642. TEMPO-TONE. Gamble-Skogmo, Inc., d.b.a. Gambles. SN 155,466. Pub. 7-2-63. Filed 10-18-62.

Class 17—Tobacco Products

775,643. ACE. Peter Komon. SN 161,716. Pub. 6-9-64. Filed 1-30-63.

775,644. HIGH AND DRY. Lane Limited. SN 182,276. Pub. 6-9-64. Filed 12-3-63.

Class 18—Medicines and Pharmaceutical Preparations

775,645. HYDROPHEN. Amfre-Grant, Inc. SN 135,083. Pub. 6-9-64. Filed 1-3-62.

775,646. CURECAL. F. W. Albion Laboratories, Incorporated. SN 166,425. Pub. 6-9-64. Filed 4-10-63.

775,647. EXTRACAL. Cutter Laboratories, Inc. SN 167,229. Pub. 5-5-64. Filed 4-22-63.

775,648. ALKANITE. Merck & Co., Inc. SN 167,742. Pub. 6-9-64. Filed 4-29-63.

775,649. C-P-7. Sterling Drug Inc. SN 173,327. Pub. 6-9-64. Filed 7-22-63.

775,650. HOLLA-VITE. Emmette E. Holland, d.b.a. Emmette E. Holland & Co. SN 177,700. Pub. 6-9-64. Filed 9-25-63.

775,651. NEOSULIN. The Upjohn Company. SN 179,000. Pub. 6-9-64. Filed 10-14-63.

775,652. TRIMONE. Marion Laboratories, Inc. SN 182,348. Pub. 5-19-64. Filed 12-4-63.

775,653. LINI-MIST. Mead-Raymond Corporation. SN 184,737. Pub. 6-9-64. Filed 1-16-64.

775,654. CURATIN. Chas. Pfizer & Co., Inc. SN 184,833. Pub. 6-9-64. Filed 1-17-64.

775,655. MUCOMYST. Mead Johnson & Company. SN 184,930. Pub. 6-9-64. Filed 1-20-64.

Class 19—Vehicles

775,656. AMERICAN AND DESIGN. American Body and Trailer, Inc. SN 152,264. Pub. 6-9-64. Filed 8-31-62.

775,657. PREFACTO. Charles Marius Bernard. MULTIPLE CLASS (Classes 19 and 32). SN 172,147. Pub. 6-9-64. Filed 7-1-63.

775,658. ATLANTIC. Champion Home Builders Co. SN 176,779. Pub. 6-9-64. Filed 9-12-63.

775,659. BS AND DESIGN. Bridgestone Tire Company, Limited. SN 177,855. Pub. 6-9-64. Filed 9-27-63.

775,660. KIDIBUK. Century Products, Inc. SN 179,612. Pub. 6-9-64. Filed 10-23-63.

775,661. CAY-CAT AND DESIGN. Cay-Cat Manufacturing, Inc. SN 179,774. Pub. 6-9-64. Filed 10-25-63.

775,662. COBIA. Southern Fiber Glass Products, Inc. SN 180,334. Pub. 6-9-64. Filed 11-1-63.

775,663. CHEETAH. John F. Plaisted. SN 181,174. Pub. 6-9-64. Filed 11-14-63.

775,664. F & H IN CIRCLE. Kelsey-Hayes Co. SN 183,074. Pub. 6-9-64. Filed 12-16-63.

775,665. TWIN-ALUME. Brown-Hutchinson, Inc. SN 183,959. Pub. 6-9-64. Filed 1-3-64.

775,666. DUPLICART. Duplicon Company, Inc. SN 183,973. Pub. 6-9-64. Filed 1-3-64.

Class 21 — Electrical Apparatus, Machines, and Supplies

775,612. (See Class 13 for this trademark.)

775,667. SCHOTT. Jenaer Glaswerk Schott & Gen. SN 136,659. Pub. 6-9-64. Filed 1-28-62.

775,668. EI. Eldon Industries, Inc. SN 145,644. Pub. 6-9-64. Filed 5-28-62.

775,669. DESIGN SIMULATING THE LETTERS CGE. Compagnie Generale d'Electricite. SN 145,788. Pub. 6-9-64. Filed 5-31-62.

775,670. NEPIR AND DESIGN. Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada. SN 153,671. Pub. 6-9-64. Filed 9-21-62.

775,671. STAR. Motorola, Inc. SN 158,641. Pub. 6-9-64. Filed 12-6-62.

775,672. CLOVERLEAF AND DESIGN. Sealectro Corporation. SN 159,289. Pub. 6-9-64. Filed 12-17-62.

775,673. BRADFORD AND DESIGN. W. T. Grant Company. MULTIPLE CLASS (Classes 21, 23, and 36). SN 159,490. Pub. 6-9-64. Filed 12-20-62.

775,674. OPTIMAC. Hagan Controls Corporation, by change of name and assignment from Hagan Chemicals & Controls, Inc. SN 164,439. Pub. 6-9-64. Filed 3-12-63.

775,675. FOREMOST. J. C. Penney Company. MULTIPLE CLASS (Classes 21, 23, and 26). SN 169,971. Pub. 6-9-64. Filed 5-29-63.

775,676. OMEGA. Deyonco Distributors Ltd. SN 170,455. Pub. 6-9-64. Filed 6-6-63.

775,677. MOBILITE. The Carpenter Mfg. Co. SN 170,987. Pub. 6-9-64. Filed 6-14-63.

775,678. PREG PLI. Sun Chemical Corporation. SN 171,104. Pub. 6-9-64. Filed 6-17-63.

775,679. MONSANTO M. Monsanto Company, by change of name from Monsanto Chemical Company. SN 173,030. Pub. 4-21-64. Filed 7-15-63.

775,680. MONSANTO. Monsanto Company, by change of name from Monsanto Chemical Company. SN 173,031. Pub. 4-21-64. Filed 7-15-63.

775,681. BRENTWOOD. Majestic Electronics, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 175,047. Pub. 6-9-64. Filed 8-14-63.

775,682. G8 AND DESIGN. Giannini Scientific Corporation. SN 175,750. Pub. 6-9-64. Filed 8-26-63.

775,683. SG (FANCIFUL). The Smith-Gates Corporation. SN 177,192. Pub. 6-9-64. Filed 9-17-63.

775,684. FLEX-WELD. Digital Sensors Inc. SN 177,503. Pub. 6-9-64. Filed 9-23-63.

775,685. BREW-LECTRIC AND DESIGN. Helzberg's Diamond Shops, Inc. SN 178,919. Pub. 6-9-64. Filed 10-14-63.

775,686. MARK VII. Mark VII, Inc. SN 178,937. Pub. 6-9-64. Filed 10-14-63.

775,687. DEL-CLAD. General Motors Corporation. SN 181,543. Pub. 6-9-64. Filed 11-20-63.

775,688. ALLIED. Allied Radio Corporation. SN 182,555. Pub. 6-9-64. Filed 12-9-63.

775,689. BONANZA. Canyon Electronics. SN 182,574. Pub. 6-9-64. Filed 12-9-63.

775,690. CANYON. Canyon Electronics. SN 182,575. Pub. 6-9-64. Filed 12-9-63.

775,691. PONDEROSA. Canyon Electronics. SN 182,576. Pub. 6-9-64. Filed 12-9-63.

775,692. KWIK-FLIP. Todd-Williams Corporation. SN 182,980. Pub. 6-9-64. Filed 12-13-63.

775,693. DURA-PRO. Whitaker Cable Corporation. SN 182,992. Pub. 6-9-64. Filed 12-13-63.

775,694. SEE-LINE. Alpha Wire Corporation. SN 183,356. Pub. 6-9-64. Filed 12-23-63.

775,695. CAPLEXER. Towson Laboratories, Inc. SN 184,665. Pub. 6-9-64. Filed 1-15-64.

Class 22 — Games, Toys, and Sporting Goods

775,696. GOLF BALL IN A SQUARE. Acushnet Process Sales Company. SN 120,274. Pub. 6-9-64. Filed 5-18-61.

775,697. ROOSTERTAIL. Roostertail Games, Incorporated. SN 148,079. Pub. 6-9-64. Filed 6-20-62.

775,698. PAPERCAPERS. Origami Patterns International, Ltd. SN 161,194. Pub. 6-9-64. Filed 1-22-63.

775,699. BLACK STAR. Franz Kneisel, Skifabrik, Kufstein. SN 171,889. Pub. 6-9-64. Filed 6-26-63.

775,700. BLUE STAR. Franz Kneisel, Skifabrik, Kufstein. SN 171,890. Pub. 6-9-64. Filed 6-26-63.

775,701. RED STAR. Franz Kneisel, Skifabrik, Kufstein. SN 171,891. Pub. 6-9-64. Filed 6-26-63.

775,702. TOP NOTCH. Wilson Sporting Goods Co. SN 173,072. Pub. 6-9-64. Filed 7-15-63.

775,703. E-Z WEAVER. Louis Marx & Co., Inc. SN 175,595. Pub. 6-9-64. Filed 8-22-63.

775,704. TAB AND DESIGN. Norman Bennett. SN 176,421. Pub. 6-9-64. Filed 9-6-63.

775,705. VITA MASTER AND DESIGN. T. J. Thomas Co., Inc. SN 176,696. Pub. 6-9-64. Filed 9-10-63.

775,706. EXERCISE MASTER AND DESIGN. T. J. Thomas Co., Inc. SN 176,700. Pub. 6-9-64. Filed 9-10-63.

775,707. PRESIDENT. Universal Bowling & Golf Corporation. SN 177,119. Pub. 6-9-64. Filed 9-16-63.

775,708. TRAP ACTION. Wilson Sporting Goods Co. SN 177,936. Pub. 6-9-64. Filed 9-27-63.

775,709. TRIX-A-BALL. Louis Marx & Co., Inc. SN 178,290. Pub. 6-9-64. Filed 10-3-63.

775,710. PLA-GEM. Vulcan T.V. Mast & Tower Co., Inc. SN 178,657. Pub. 6-9-64. Filed 10-9-63.

775,711. YELLOWSTONE. Seneca Tackle Co., Inc. SN 178,823. Pub. 6-9-64. Filed 10-11-63.

775,712. MISTER X. Seneca Tackle Co., Inc. SN 178,825. Pub. 6-9-64. Filed 10-11-63.

775,713. MASTERLURE. C. Van Ness Clark, d.b.a. Sensation Metal Bait Co. SN 178,849. Pub. 6-9-64. Filed 10-11-63.

775,714. MINUTE-A-DAY. Minute Home-Gym, Inc. SN 178,944. Pub. 6-9-64. Filed 10-14-63.

775,715. PROXY. Fuld Publishing Co., Inc. SN 179,039. Pub. 6-9-64. Filed 10-15-63.

775,716. RUCKUS AND DESIGN. Gene Shumate. SN 179,951. Pub. 6-9-64. Filed 10-28-63.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

775,612. (See Class 13 for this trademark.)

775,673. (See Class 21 for this trademark.)

775,675. (See Class 21 for this trademark.)

775,717. MEASUREGRAPH AND LETTER M. The Measuregraph Company. MULTIPLE CLASS (Classes 23 and 26). SN 138,310. Pub. 6-9-64. Filed 2-20-62.

775,718. GEOMETRIC DESIGN. Compagnie Generale d'Electricite. SN 145,789. Pub. 6-9-64. Filed 5-31-62.

775,719. MORBARK AND DESIGN. Morbark Portable Debarker Company. SN 145,836. Pub. 6-9-64. Filed 5-31-62.

775,720. CARBITRON. Carbitron Development Ltd. SN 150,391. Pub. 6-9-64. Filed 8-3-62.

775,721. DOWCO AND DESIGN. Dowco Products, Inc. MULTIPLE CLASS (Classes 23 and 34). SN 150,765. Pub. 6-9-64. Filed 8-8-62.

775,722. FANCIFUL D. Dowco Products, Inc. MULTIPLE CLASS (Classes 23 and 34). SN 151,400. Pub. 6-9-64. Filed 8-17-62.

775,723. E-Z LIFT AND DESIGN. Crown Controls Corporation. SN 152,050. Pub. 6-9-64. Filed 8-28-62.

775,724. V-BALL. Vernay Laboratories, Inc. SN 157,656. Pub. 6-9-64. Filed 11-20-62.

775,725. Vaughn Machinery Company, assignee of Wirecrafters, Inc. SN 180,800. Pub. 6-9-64. Filed 11-8-63.

775,726. HYDRA WEDGE. Hydrawedge. SN 166,279. Pub. 6-9-64. Filed 4-8-63.

775,727. CSI AND DESIGN. Conveyor Systems, Inc. SN 167,873. Pub. 6-9-64. Filed 5-1-63.

775,728. CSI. Conveyor Systems, Inc. SN 167,874. Pub. 6-9-64. Filed 5-1-63.

775,729. TRANSITANK. Chemetron Corporation. SN 168,392. Pub. 6-9-64. Filed 5-8-63.

775,730. SELECTIVEND. Selectivend Corporation. SN 169,769. Pub. 6-9-64. Filed 5-27-63.

775,731. SELVEND. Selvend Company. SN 169,770. Pub. 6-9-64. Filed 5-27-63.

775,732. SUREVEND. Surevend Company. SN 169,786. Pub. 6-9-64. Filed 5-27-63.

775,733. UNION U. Union Tank Car Company. SN 171,508. Pub. 6-9-64. Filed 6-20-63.

775,734. REPCO. Rockford Engineered Products Co. SN 179,066. Pub. 6-9-64. Filed 10-15-63.

775,735. PADCO. Packers Development Corporation. SN 179,249. Pub. 6-9-64. Filed 10-17-63.

775,736. CHEROKEE. Cherokee Equipment Company, assignee of American Products Corporation. SN 181,105. Pub. 6-9-64. Filed 11-14-63.

775,737. DESIGN ONE. H. E. Laufer Co., Inc. SN 181,162. Pub. 6-9-64. Filed 11-14-63.

775,738. SEED 'N FEEDER. Gardex, Inc. SN 181,225. Pub. 6-9-64. Filed 11-15-63.

775,739. DEKOMATIC. Pacific Tile and Porcelain Company. SN 181,270. Pub. 6-9-64. Filed 11-15-63.

775,740. RED-I-SORB. The Feltors Company. SN 182,068. Pub. 6-9-64. Filed 11-29-63.

775,741. U.S. BAIRD. The U.S. Baird Corporation. SN 182,377. Pub. 6-9-64. Filed 12-4-63.

775,742. KRAEUTER. Kraeuter & Company, Inc. SN 182,731. Pub. 6-9-64. Filed 12-10-63.

775,743. SIDE WINDER. Dealer Associates, Inc. SN 183,037. Pub. 6-9-64. Filed 12-16-63.

775,744. E. The Monarch Machine Tool Company. SN 183,214. Pub. 6-9-64. Filed 12-18-63.

775,745. E EDLUND AND DESIGN. The Monarch Machine Tool Company. SN 183,215. Pub. 6-9-64. Filed 12-18-63.

775,746. SUPERTEX. The Johnson Wire Works Limited. SN 183,326. Pub. 6-9-64. Filed 12-20-63.

775,747. ROCKFORD. Rockford Machine Tool Co. SN 183,450. Pub. 6-9-64. Filed 12-23-63.

775,748. ARROW AND STAR DESIGN. Universal American Corporation. SN 183,482. Pub. 6-9-64. Filed 12-23-63.

775,749. REECO. Manufacturing Enterprises, Inc. SN 183,771. Pub. 6-9-64. Filed 12-30-63.

775,750. BARCOMATIC. Barber-Colman Company. SN 184,275. Pub. 6-9-64. Filed 1-9-64.

775,751. IME AND DESIGN. Industrial Marking Equipment Co., Inc. SN 185,291. Pub. 6-9-64. Filed 1-24-64.

775,752. OLD GRANDAD'S. Imperial Knife Associated Companies, Inc. SN 186,079. Pub. 6-9-64. Filed 2-5-64.

Class 24 — Laundry Appliances and Machines

775,753. SERVICE PROVED AND DESIGN. Automatic Service Supply Company. SN 167,520. Pub. 6-9-64. Filed 4-25-63.

Class 25 — Locks and Safes

775,754. DIALOC AND DESIGN. Dialoc Corporation of America. SN 178,661. Pub. 6-9-64. Filed 10-7-63.

775,755. VUE-MATIC. Diebold, Incorporated. SN 178,789. Pub. 6-9-64. Filed 10-11-63.

Class 26 — Measuring and Scientific Appliances

775,597. (See Class 6 for this trademark.)

775,675. (See Class 21 for this trademark.)

775,717. (See Class 23 for this trademark.)

775,756. TROXLER LABORATORIES AND DESIGN. Troxler Electronic Laboratories, Inc. SN 144,658. Pub. 6-9-64. Filed 5-15-62.

775,757. GEOMETRIC DESIGN. Compagnie Generale d'Electricite. SN 145,790. Pub. 6-9-64. Filed 5-31-62.

775,758. UNITEK. Unitek Corporation. SN 147,655. Pub. 6-9-64. Filed 6-26-62.

775,759. OPTATRON AND DESIGN. Photoptic Import Corporation. SN 153,509. Pub. 6-9-64. Filed 9-19-62.

775,760. REPCO AND DESIGN. Repco Limited. SN 153,592. Pub. 6-9-64. Filed 9-20-62.

775,761. REPCO. Repco Limited. SN 153,594. Pub. 6-9-64. Filed 9-20-62.

775,762. PARKRITE. Horological Electronic Corp. SN 155,254. Pub. 6-9-64. Filed 10-16-62.

775,763. DACORA. W.D.L. Corporation. SN 156,201. Pub. 6-9-64. Filed 10-29-62.

775,764. DATAPRINT. Standard Instrument Corporation. SN 160,726. Pub. 6-9-64. Filed 1-15-63.

775,765. BAR-JET AND DESIGN. McPherson Enterprises, Inc. SN 162,967. Pub. 6-9-64. Filed 2-18-63.

775,766. CENTORR AND DESIGN. Centorr Associates, Inc. SN 163,530. Pub. 6-9-64. Filed 3-27-63.

775,767. FP. Federal Products Corporation. SN 167,895. Pub. 6-9-64. Filed 5-1-63.

775,768. HH SPEZIAL OPTIK WETZLAR. HH Spezial Optik GmbH. SN 168,905. Pub. 6-9-64. Filed 5-15-63.

775,769. CON-O-GLAND. Continental Sensing Inc. SN 169,520. Pub. 6-9-64. Filed 5-23-63.

775,770. INSPECTALARM. Electronic Associates Limited. SN 170,738. Pub. 6-9-64. Filed 6-11-63.

775,771. VUEMARQ. The Marquardt Corporation. SN 170,846. Pub. 6-9-64. Filed 6-12-63.

775,772. STUDIOLUX. Agfa Aktiengesellschaft. SN 173,075. Pub. 6-9-64. Filed 7-15-63.

775,773. PRESTO-PLATE. Robertson Photo-Mechanix, Inc. SN 174,240. Pub. 6-9-64. Filed 8-1-63.

775,774. G8 AND DESIGN. Giannini Scientific Corporation. SN 175,751. Pub. 6-9-64. Filed 8-26-63.

775,775. DIGICOMP. E.S.R., Inc. SN 176,721. Pub. 6-9-64. Filed 9-11-63.

775,776. TESTEACH. Hu-Mac Inc. SN 176,922. Pub. 6-9-64. Filed 9-13-63.

775,777. SYMBOLIC DESIGN. Hu-Mac Inc. SN 177,045. Pub. 6-9-64. Filed 9-16-63.

775,778. CAMBRIDGE AND DESIGN. Cambridge Filter Manufacturing Corp. SN 178,253. Pub. 6-9-64. Filed 10-3-63.

775,779. POWER PENNY. Monroe Calculating Machine Company. SN 178,294. Pub. 6-9-64. Filed 10-3-63.

775,780. WICO AND DESIGN. Globe-Union Inc. SN 178,801. Pub. 6-9-64. Filed 10-11-63.

775,781. THE AN-SER RULE AND DESIGN. Orval Jones. SN 178,925. Pub. 6-9-64. Filed 10-14-63.

775,782. FLUOROLINE. General Electric Company. SN 179,131. Pub. 6-9-64. Filed 10-16-63.

775,783. KORAD. Korad Corporation. SN 179,546. Pub. 6-9-64. Filed 10-22-63.

775,784. DEM-O-SELL AND DESIGN. Merchandiser Publishing Co. Inc. SN 179,550. Pub. 6-9-64. Filed 10-22-63.

775,785. AD AND DESIGN. Applied Dynamics, Inc. SN 180,060. Pub. 6-9-64. Filed 10-30-63.

775,786. UNITREX. F. A. Dyche, d.b.a. Van Dyke Industries. SN 180,301. Pub. 6-9-64. Filed 11-1-63.

775,787. MISCELLANEOUS DESIGN. Gryphon Corporation. SN 180,505. Pub. 6-9-64. Filed 11-5-63.

775,788. SENSITRON. Keystone Camera Company, Inc. SN 180,511. Pub. 6-9-64. Filed 11-5-63.

775,789. INTERNALCHEK. The Sheffield Corporation. SN 180,688. Pub. 6-9-64. Filed 11-7-63.

775,790. TECO ETC. AND DESIGN. Todd Engineering Co., Inc. SN 180,689. Pub. 6-9-64. Filed 11-7-63.

775,791. CHROMA/CELL. Nuclear-Chicago Corporation. SN 180,946. Pub. 6-9-64. Filed 11-12-63.

775,792. ESCORT. Eastman Kodak Company. SN 181,024. Pub. 6-9-64. Filed 11-13-63.

775,793. CLASSY-CUSHION. V. Edward Baker. SN 181,950. Pub. 6-9-64. Filed 11-27-63.

775,794. CUSHION-EZE. V. Edward Baker. SN 181,951. Pub. 6-9-64. Filed 11-27-63.

775,795. SNAP-CAP. Eastman Kodak Company. SN 181,971. Pub. 6-9-64. Filed 11-27-63.

775,796. EFFA. Ernest F. Fullam, Inc. SN 181,978. Pub. 6-9-64. Filed 11-27-63.

775,797. MB. M.B. Optical Co. SN 182,095. Pub. 6-9-64. Filed 11-29-63.

775,798. TRU-STEEL. Toledo Scale Corporation. SN 182,131. Pub. 6-9-64. Filed 11-29-63.

775,799. EXPRESSWEIGH. Toledo Scale Corporation. SN 182,132. Pub. 6-9-64. Filed 11-29-63.

775,800. TRANS-O-PRINT. Viewlex, Inc. SN 182,229. Pub. 6-9-64. Filed 12-2-63.

775,801. CABLEMASTER. Accurate Electronics Corporation. SN 182,553. Pub. 6-9-64. Filed 12-9-63.

775,802. SPORTGOGS. Kenyon Jones, d.b.a. Jones & Company. SN 182,623. Pub. 6-9-64. Filed 12-9-63.

775,803. TOBOR. Nuclear-Chicago Corporation. SN 182,642. Pub. 6-9-64. Filed 12-9-63.

775,804. SM AND DESIGN. Scale Models, Unlimited. SN 182,644. Pub. 6-9-64. Filed 12-9-63.

775,805. DASA. Dasa Company, Inc. SN 182,713. Pub. 6-9-64. Filed 12-10-63.

775,806. SCEPTRON. Sperry Rand Corporation. SN 182,842. Pub. 6-9-64. Filed 12-11-63.

775,807. UG. United-Greenfield Corporation. SN 183,480. Pub. 6-9-64. Filed 12-23-63.

Class 27 — Horological Instruments

775,808. TRADA. Societe Anonyme: Cattin & Cie. SN 182,444. Pub. 6-9-64. Filed 12-5-63.

775,809. PIERRE CHEVELLE. World Wide Watch Co. Inc. SN 183,822. Pub. 6-9-64. Filed 12-30-63.

Class 28 — Jewelry and Precious-Metal Ware

775,810. ADA. Oneida Ltd. SN 186,556. Pub. 6-9-64. Filed 2-12-64.

775,811. INDEPENDENCE. Oneida Ltd. SN 186,557. Pub. 6-9-64. Filed 2-12-64.

775,812. EL GRANDEE. Towle Manufacturing Company. SN 186,576. Pub. 6-9-64. Filed 2-12-64.

775,813. MSE. Morton Segerman, d.b.a. MSE Ring Co. SN 186,770. Pub. 6-9-64. Filed 2-14-64.

Class 29 — Brooms, Brushes, and Dusters

775,589. (See Class 4 for this trademark.)

775,814. S.E.R. S. E. Rykoff & Co. SN 171,807. Pub. 6-9-64. Filed 6-25-63.

775,815. MAYFAIR. Artic Import Co. SN 180,170. Pub. 6-9-64. Filed 10-31-63.

Class 30 — Crockery, Earthenware, and Porcelain

775,816. OLD STURBRIDGE VILLAGE. Old Sturbridge, Inc. SN 162,772. Pub. 6-9-64. Filed 2-14-63.

775,817. OLD STURBRIDGE VILLAGE OSV AND DESIGN. Old Sturbridge, Inc. SN 162,776. Pub. 6-9-64. Filed 2-14-63.

775,818. T THOMAS AND DESIGN. Rosenthal-Porzellan Aktiengesellschaft. SN 173,961. Pub. 6-9-64. Filed 7-29-63.

Class 31 — Filters and Refrigerators

775,819. GEOMETRIC DESIGN. Compagnie Generale d'Electricite. SN 145,792. Pub. 6-9-64. Filed 5-31-62.

Class 32 — Furniture and Upholstery

775,057. (See Class 10 for this trademark.)

775,820. FOSTER IDEAL. Foster Brothers Manufacturing Company. SN 167,248. Pub. 6-9-64. Filed 4-22-63.

775,821. SPACE-A-NETTE. Big Boy Manufacturing Company, Inc. SN 179,592. Pub. 6-9-64. Filed 10-23-63.

775,822. TEENTOWN, U.S.A. Dixie Furniture Company, Incorporated. SN 181,864. Pub. 6-9-64. Filed 11-26-63.

Class 33 — Glassware

775,823. SCHOTT. Jenner Glaswerk Schott & Gen. SN 136,661. Pub. 6-9-64. Filed 1-26-62.

775,824. JENA GLASS. Jenner Glaswerk Schott & Gen. SN 140,263. Pub. 6-9-64. Filed 3-20-62.

775,825. JENA. Jenaer Glaswerk Schott & Gen. SN 141,076. Pub. 6-9-64. Filed 3-20-62.

775,826. GV AND DESIGN. Glaverbel. SN 172,481. Pub. 6-9-64. Filed 7-5-63.

775,827. MICROBEADS. Cataphote Corporation. SN 179,196. Pub. 6-9-64. Filed 10-17-63.

Class 34 — Heating, Lighting, and Ventilating Apparatus

775,721. (See Class 23 for this trademark.)

775,722. (See Class 23 for this trademark.)

775,828. Q-AIR FLOOR. H. H. Robertson Company. SN 94,348. Pub. 6-9-64. Filed 4-4-60.

775,829. NEPIR AND DESIGN. Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada. SN 153,073. Pub. 6-9-64. Filed 9-21-62.

775,830. MULTI/PAK. Slant/Fin Radiator Corporation. SN 164,746. Pub. 6-9-64. Filed 3-15-63.

775,831. PAN-AMERICAN. Magic Chef, Inc. SN 165,341. Pub. 6-9-64. Filed 3-25-63.

775,832. GEOMETRIC DESIGN. Anemostat Corporation of America. SN 167,000. Pub. 6-9-64. Filed 4-26-63.

775,833. W-M. Weil-McLain Company, Inc. SN 173,399. Pub. 6-9-64. Filed 7-19-63.

775,834. KLEEN TUBE ETC. AND DESIGN. Vapor Corporation. SN 179,750. Pub. 6-9-64. Filed 10-24-63.

775,835. QS ETC. AND DESIGN. The Peterson Co., Inc. SN 184,175. Pub. 6-9-64. Filed 1-7-64.

Class 36 — Musical Instruments and Supplies

775,673. (See Class 21 for this trademark.)

775,681. (See Class 21 for this trademark.)

775,836. STELLAMATIC. Georges Quellet. SN 166,349. Pub. 6-9-64. Filed 4-8-63.

775,837. ZODYS AND DESIGN. Hartfield Stores, Incorporated. SN 185,671. Pub. 6-9-64. Filed 1-30-64.

Class 37 — Paper and Stationery

775,588. (See Class 4 for this trademark.)

775,838. GIBSON MEMORY BOOKS . . . DON'T FORGET. C. R. Gibson & Company. SN 131,124. Pub. 6-9-64. Filed 11-1-61.

775,839. OVER TYPE. Old Town Corporation. SN 134,338. Pub. 6-9-64. Filed 12-19-61.

775,840. HYDRO KRAFT. International Paper Company. SN 139,941. Pub. 6-9-64. Filed 3-15-62.

775,841. PROGRAM-MATIC ETC. AND DESIGN. Colortone Inc. SN 143,721. Pub. 6-9-64. Filed 5-3-62.

775,842. HACKETT AND DESIGN. J. J. Hackett and Co. SN 147,823. Pub. 6-9-64. Filed 6-27-62.

775,843. NEPIR AND DESIGN. Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada. SN 153,674. Pub. 6-9-64. Filed 9-21-62.

775,844. PURPLE TURTLE. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company. SN 155,709. Pub. 6-9-64. Filed 10-23-62.

775,845. ZIP. Zip-Mark Corp. SN 158,035. Pub. 6-9-64. Filed 11-27-62.

775,846. TRANSKRIT. Transkrit Corporation. SN 164,579. Pub. 6-9-64. Filed 3-13-63.

775,847. SWINGLINE. Swingline Inc. SN 165,857. Pub. 6-9-64. Filed 4-1-63.

775,848. SWINGLINE 60. Swingline Inc. SN 165,859. Pub. 6-9-64. Filed 4-1-63.

775,849. BLACBORD. The Lawrence Paper Company, d.b.a. Jayhawk Fibre Form Co. SN 167,149. Pub. 6-9-64. Filed 4-19-63.

775,850. FABRITEX AND DESIGN. York Wall Paper Co. SN 168,260. Pub. 6-9-64. Filed 5-6-63.

775,851. KIVAR. The Plastic Coating Corporation. SN 169,566. Pub. 6-9-64. Filed 5-23-63.

775,852. UNICORN AND DESIGN. Eureka Specialty Printing Company. SN 171,866. Pub. 6-9-64. Filed 6-26-63.

775,853. MARK-N-DRAW. Marsh Stencil Machine Company. SN 173,022. Pub. 6-9-64. Filed 7-15-63.

775,854. PERFA-VINYLFILM. Roll-O-Sheets, Inc. SN 175,131. Pub. 6-9-64. Filed 8-15-63.

775,855. DATAFLOW. Dataflow Incorporated. SN 176,501. Pub. 6-9-64. Filed 9-9-63.

775,856. LETHA-TONE. Red Rope Stationery Industries, Inc. SN 177,724. Pub. 6-9-64. Filed 9-25-63.

775,857. EQUALAY. St. Regis Paper Company. SN 184,300. Pub. 6-9-64. Filed 1-9-64.

775,858. CELLUTEX. Hoffmaster Company, Inc. SN 184,469. Pub. 6-9-64. Filed 1-13-64.

Class 38 — Prints and Publications

775,859. ARROW (DESIGN). The Institute of Electrical and Electronics Engineers, Inc. SN 170,198. Pub. 6-9-64. Filed 6-3-63.

775,860. THE NORMA GUNBUG'S GUIDE. Aktiebolaget, Norma Projektilfabrik. SN 170,509. Pub. 6-9-64. Filed 6-7-63.

775,861. P/R. American Can Company. SN 178,244. Pub. 6-9-64. Filed 10-3-63.

775,862. AMERICAN ARTISAN. Reinhold Publishing Corporation. SN 179,264. Pub. 6-9-64. Filed 10-17-63.

775,863. TORCH AND OVAL (DESIGN). The American Oil Company. SN 180,272. Pub. 6-2-64. Filed 11-1-63.

775,864. M AND DESIGN. Dun & Bradstreet, Inc. SN 182,055. Pub. 6-9-64. Filed 11-29-63.

Class 39 — Clothing

775,586. (See Class 3 for this trademark.)

775,865. TIFFANY TRAVELER ETC. Reliance Manufacturing Company. SN 112,772. Pub. 6-9-64. Filed 1-30-61.

775,866. M'LORD. Shoe Corporation of America. SN 132,874. Pub. 6-9-64. Filed 11-27-61.

775,867. SHAPE SUIT ETC. AND DESIGN. Timely Clothes, Incorporated. SN 133,505. Pub. 6-9-64. Filed 12-6-61.

775,868. PHANTOMOC BY WALL STREETER. Wall-Streeter Shoe Co. SN 134,293. Pub. 6-9-64. Filed 12-18-61.

775,869. ELEGANZA. Caressa, Inc. SN 136,880. Pub. 6-9-64. Filed 1-30-62.

775,870. VESTITA. Frederick Altmann. SN 141,784. Pub. 6-9-64. Filed 4-9-62.

775,871. BROADMOOR. Affiliated Clothiers, Inc. SN 159,859. Pub. 6-9-64. Filed 12-28-62.

775,872. "EASILY SUEDE." Joseph W. Henschel, d.b.a. Henschel Manufacturing Company. SN 160,780. Pub. 6-9-64. Filed 1-16-63.

775,873. BOBCAT. Utica Duxbak Corporation. SN 165,189. Pub. 6-9-64. Filed 3-21-63.

775,874. VERATERRY. Scarves by Vera, Inc. SN 167,169. Pub. 6-9-64. Filed 4-19-63.

775,875. TONIK. Dormeuil Freres Societe Anonyme. SN 167,437. Pub. 6-9-64. Filed 4-24-63.

775,876. FRAMOS. Trans-World Woven Products Corp. SN 168,043. Pub. 6-9-64. Filed 5-2-63.

775,877. "MINIT-SLAC." Justad and Inverne. SN 173,767. Pub. 6-9-64. Filed 7-25-63.

775,878. D'ORELLI. D'Orelli Shoe Corporation. SN 173,833. Pub. 6-9-64. Filed 7-26-63.

775,879. GENTUCCA AND DESIGN. Gentucca. SN 177,414. Pub. 6-9-64. Filed 9-20-63.

775,880. YOUNG CAPEZIO8. Capezio Inc. SN 177,702. Pub. 6-9-64. Filed 9-26-63.

775,881. RUN-CHECK. Gimbel Brothers, Inc. SN 178,347. Pub. 6-9-64. Filed 10-4-63.

775,882. PETTICRAFT. I. Schneierson & Sons, Inc. SN 178,372. Pub. 6-9-64. Filed 10-4-63.

775,883. JOHN COURTNEY AND DESIGN. John Courtney, Ltd. SN 178,530. Pub. 6-9-64. Filed 10-8-63.

775,884. AMCOAT. Amco of Norvelt, Inc. SN 179,665. Pub. 6-9-64. Filed 10-10-1963.

775,885. AKLO-H. Huntingdon Mills, Inc. SN 180,891. Pub. 6-9-64. Filed 11-12-63.

775,886. CIRCLE-O-COMFORT. Endicott Johnson Corporation. SN 181,244. Pub. 6-9-64. Filed 11-15-63.

775,887. SATURDAY EVE. Melville Shoe Corporation. SN 181,255. Pub. 6-9-64. Filed 11-15-63.

775,888. SATURDAY KNIGHTS. Melville Shoe Corporation. SN 181,256. Pub. 6-9-64. Filed 11-15-63.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

775,889. TONIK. Dormeuil Freres Societe Anonyme. SN 167,436. Pub. 6-9-64. Filed 4-24-63.

775,890. PLYLON. Since 1868 Crescent Corporation, d.b.a. Crescent Corporation. SN 174,984. Pub. 6-9-64. Filed 8-13-63.

775,891. BACAZA. Ehniger Mills, Inc. SN 176,178. Pub. 6-9-64. Filed 9-3-63.

775,892. ALICIA COMFORTS. J. Schachter Corp. SN 177,098. Pub. 6-9-64. Filed 9-16-63.

775,893. PARKDALE. G. C. Murphy Company. SN 181,664. Pub. 6-9-64. Filed 11-21-63.

775,894. PLASTILAP. Reef Industries, Inc. SN 181,796. Pub. 6-9-64. Filed 11-22-63.

Class 43—Thread and Yarn

775,895. MOHLON. Illinois Yarn Co., Inc. SN 171,017. Pub. 6-9-64. Filed 6-14-63.

775,896. POWERLOK. The Narrow Fabric Company. SN 181,559. Pub. 6-9-64. Filed 11-20-63.

775,897. FIBERLYTE. The Narrow Fabric Company. SN 181,560. Pub. 6-9-64. Filed 11-20-63.

Class 44—Dental, Medical, and Surgical Appliances

775,898. II. Richard-Allan Company, Inc. SN 184,253. Pub. 6-9-64. Filed 1-8-64.

775,899. SFI DESIGN. Richard-Allan Company, Inc. SN 184,254. Pub. 6-9-64. Filed 1-8-64.

Class 45—Soft Drinks and Carbonated Waters

775,900. PRESTA. Apollinaris Brunnen A.G. SN 88,585. Pub. 11-21-61. Filed 1-7-60.

775,901. GALAXIE AND DESIGN. Nesbitt Fruit Products, Inc. SN 146,092. Pub. 11-27-62. Filed 6-4-62.

775,902. BIRS INSTANT AND DESIGN. Birs Beteiligungs- und Verwaltungsgesellschaft A.G. SN 152,754. Pub. 6-9-64. Filed 9-10-62.

775,903. SLIM DIET. Edlo, Inc. SN 168,173. Pub. 6-9-64. Filed 5-6-63.

Class 46—Foods and Ingredients of Foods

775,904. PRESTA. Apollinaris Brunnen A.G. SN 88,586. Pub. 11-21-61. Filed 1-7-60.

775,905. PENNY CURTISS. P & C Food Markets, Inc. SN 119,414. Pub. 7-24-62. Filed 5-5-61.

775,906. ANDES. Commodity Service Corporation. SN 134,096. Pub. 6-9-64. Filed 12-15-61.

775,907. SMOKE PAUSE. Centromint Company (Establishment). SN 141,575. Pub. 6-9-64. Filed 4-5-62.

775,908. BIRS INSTANT AND DESIGN. Birs Beteiligungs- und Verwaltungsgesellschaft A.G. SN 152,755. Pub. 6-9-64. Filed 9-10-62.

775,909. MILK WELL. Southern States Cooperative, Inc. SN 157,785. Pub. 6-9-64. Filed 11-21-62.

775,910. ORANGE NIP. Ben Hill Griffin, Inc. SN 167,998. Pub. 6-9-64. Filed 5-2-63.

775,911. ORANGE NIP. Ben Hill Griffin, Inc. SN 167,999. Pub. 6-9-64. Filed 5-2-63.

775,912. MAPLE CITY. Polo Produce, Inc. SN 169,139. Pub. 6-9-64. Filed 5-17-63.

775,913. "LITTLE LADY." Little Lady Foods, Inc. SN 169,462. Pub. 6-9-64. Filed 5-22-63.

775,914. DIET-C AND DESIGN. Dairy Merchandisers, Inc. SN 171,323. Pub. 6-9-64. Filed 6-19-63.

775,915. FLAV'R-TOP. Elgin Milk Products Company. SN 171,342. Pub. 6-9-64. Filed 6-19-63.

775,916. PAN-O-LITE. Monsanto Company, by change of name from Monsanto Chemical Company. SN 171,366. Pub. 3-10-64. Filed 6-19-63.

775,917. BUTCH AND DESIGN. Demco Packing Company, Inc., d.b.a. Demco Packing Co. SN 171,535. Pub. 6-9-64. Filed 6-21-63.

775,918. SWEETATO. Universal Foods Corporation. SN 171,590. Pub. 6-9-64. Filed 6-21-63.

775,919. RESPIGI. Acme Flavoring Co. SN 171,597. Pub. 6-9-64. Filed 6-24-63.

775,920. DIETOSE. Monsanto Company, by change of name from Monsanto Chemical Company. SN 172,004. Pub. 1-28-64. Filed 6-27-63.

775,921. BIG 6. American Salt Corporation. SN 172,285. Pub. 3-3-64. Filed 7-2-63.

775,922. SMOK-EZ. Red Arrow Products Corporation. SN 180,955. Pub. 6-9-64. Filed 11-12-63.

775,923. RANCH 'N RAIL. John Morrell & Co. SN 181,659. Pub. 6-9-64. Filed 11-21-63.

775,924. JEWEL AND DESIGN. Roche Fruit Co., Inc., d.b.a. W. E. Roche Fruit Co. SN 181,803. Pub. 6-9-64. Filed 11-22-63.

775,925. HARVEY GIRL. Fred Harvey. SN 184,376. Pub. 6-9-64. Filed 1-10-64.

Class 47—Wines

775,926. DRUM. Jordan Wines Limited. SN 174,508. Pub. 6-9-64. Filed 8-6-63.

775,927. BUFFET ROSE. Schenley Distillers, Inc., d.b.a. Weston Winery. SN 176,840. Pub. 6-9-64. Filed 9-12-63.

Class 49—Distilled Alcoholic Liquors

775,928. 6 DOORNKAATCHEN ETC. AND DESIGN. Doornkaat Aktiengesellschaft. SN 127,826. Pub. 6-9-64. Filed 9-14-61.

Class 50—Merchandise Not Otherwise Classified

775,575. (See Class 1 for this trademark.)

775,577. (See Class 2 for this trademark.)

775,929. VITRACITE. Claridge Products and Equipment, Incorporated. SN 181,325. Pub. 6-9-64. Filed 11-18-63.

775,930. INVERTA. Safway Steel Products, Inc. SN 186,279. Pub. 6-9-64. Filed 2-7-64.

775,931. SHAPAREE AND DESIGN. Wolf & Vine, Inc. SN 186,305. Pub. 6-9-64. Filed 2-7-64.

775,932. LINE-O-VISION. Hollister Incorporated. SN 187,195. Pub. 6-9-64. Filed 2-21-64.

Class 51 — Cosmetics and Toilet Preparations

775,933. PROPA-P.H. Bio Products Inc. SN 115,887. Pub. 6–9–64. Filed 3–17–61.

775,934. PINK POODLE. Helen Neushaefer, Inc. SN 119,785. Pub. 6–9–64. Filed 5–11–61.

775,935. EMLIN. Emlin, Inc., by change of name from Empress Dilene Cosmetics, Inc. SN 143,945. Pub. 6–9–64. Filed 5–7–62.

775,936. ASCOT. L'Oreal. SN 153,414. Pub. 6–9–64. Filed 9–18–62.

775,937. ALICIA. Fern Laboratories, Inc., d.b.a. Alicia Cosmetics. SN 155,403. Pub. 6–9–64. Filed 10–18–62.

775,938. SOF-SET. Max Factor & Co., d.b.a. Max Factor. SN 159,156. Pub. 6–9–64. Filed 12–14–62.

775,939. DANDRI-CARE. La Maur, Inc. SN 172,023. Pub. 6–9–64. Filed 6–27–63.

775,940. KALISPERA. Les Parfums Jean Desses. SN 172,230. Pub. 6–9–64. Filed 7–1–63.

775,941. CLAUDE RIVIERE. Claude Riviere, S.A.R.L. SN 173,188. Pub. 6–9–64. Filed 7–17–63.

775,942. MOLDURE. New Jersey Turner Hall Corporation. SN 176,827. Pub. 6–9–64. Filed 9–12–63.

775,943. TRAV-ALO. Aloe Creme Laboratories, Inc. SN 177,942. Pub. 6–9–64. Filed 9–30–63.

775,944. RIVERBOAT. John R. Virus, d.b.a. Brandy Harvest. SN 178,854. Pub. 6–9–64. Filed 10–11–63.

775,945. ORALGUARD. Colgate-Palmolive Company. SN 179,317. Pub. 6–9–64. Filed 10–18–63.

775,946. AERO. American Home Products Corporation. SN 179,387. Pub. 6–9–64. Filed 10–21–63.

775,947. MISTIQUE. Yardley of London, Inc. SN 179,573. Pub. 6–9–64. Filed 10–22–63.

775,948. SANS. Owen Paul Enterprises, Inc. SN 181,919. Pub. 6–9–64. Filed 11–26–63.

Class 52 — Detergents and Soaps

775,588. (See Class 4 for this trademark.)

775,589. (See Class 4 for this trademark.)

775,949. CRYSTALITE. Warco Laboratories, Inc. SN 161,429. Pub. 6–9–64. Filed 1–25–63.

775,950. ICE-O-CLEAR. Shulton, Inc. SN 178,139. Pub. 6–9–64. Filed 10–1–63.

775,951. CARE. Texize Chemicals, Inc. SN 178,377. Pub. 6–9–64. Filed 10–4–63.

Service Marks

Class 100 — Miscellaneous

775,952. ISA. Instrument Society of America. SN 174,588. Pub. 6–9–64. Filed 8–7–63.

Class 101 — Advertising and Business

775,953. BANCO. Banco Corporation, Ltd. SN 86,500. Pub. 6–9–64. Filed 5–6–60.

775,954. MAC AND REPRESENTATION OF A SCOTCHMAN. Metal Alloys Company. SN 134,550. Pub. 6–9–64. Filed 12–22–61.

775,955. GRAND UNION. The Grand Union Company. SN 164,830. Pub. 6–9–64. Filed 3–18–63.

775,956. M-A-P. Chilton Company, d.b.a. Chilton Publications. SN 172,803. Pub. 6–9–64. Filed 7–10–63.

Class 102 — Insurance and Financial

775,957. PROPERTY PROTECTION BUREAU AND DESIGN. Milton Frank Allen Publications, Inc., d.b.a. Property Protection Service of America. SN 132,789. Pub. 6–9–64. Filed 11–27–61.

775,958. BICYCLE PROTECTION BUREAU AND DESIGN. Milton Frank Allen Publications, Inc., d.b.a. Property Protection Service of America. SN 132,790. Pub. 6–9–64. Filed 11–27–61.

775,959. CAR PROTECTION BUREAU AND DESIGN. Milton Frank Allen Publications, Inc., d.b.a. Property Protection Service of America. SN 132,791. Pub. 6–9–64. Filed 11–27–61.

Class 105 — Transportation and Storage

775,960. UNION. Union Tank Car Company. SN 169,795. Pub. 6–9–64. Filed 5–27–63.

775,961. UNION U. Union Tank Car Company. SN 171,504. Pub. 6–9–64. Filed 6–20–63.

775,962. UNION U. Union Tank Car Company. SN 171,506. Pub. 6–9–64. Filed 6–20–63.

775,963. L & N AND DESIGN. Louisville and Nashville Railroad Company. SN 173,017. Pub. 6–9–64. Filed 7–15–63.

Collective Membership Mark

Class 200

775,964. AAMA. American Apparel Manufacturers Association, Inc. SN 170,151. Pub. 6–9–64. Filed 6–3–63.

Certification Marks

Class A — Goods

775,965. NEW ENGLAND AND DESIGN. The New England Council for Economic Development. MULTIPLE CLASS (Classes A and B). SN 138,314. Pub. 6–9–64. Filed 2–20–62.

Class B — Services

775,965. (See Class A for this trademark.)

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 5—Adhesives

775,966. Color Tile of Colorado, Inc., Denver, Colo. SN 127,202. Filed 9–5–61.

COLOR TILE

Applicant hereby disclaims the word "Tile" apart from the mark as shown.

For Adhesives and Mastics and Specifically for Titanium White Waterproof Resin Base Mastic; Latex Emulsion White Adhesive; White Waterproof Resin Base Mastic; Vinyl Floor Adhesive Fortified With Latex; Floor Tile Cement; and Felt Lining Paste, Such Adhesives and Mastics Being for Applying Plastic, Ceramic, Linoleum, and Metal Tiles, Also for Applying Rolled Linoleum, Rolled Felt and Felt-Base Products.

First use on or about Jan. 1, 1954.

Class 6—Chemicals and Chemical Compositions

775,967. Detrex Chemical Industries, Inc., Detroit, Mich. SN 155,389. Filed P.R. 10–18–62; Am. S.R. 6–22–64.

FILTER BLEND

For Filter Powder.

First use Dec. 29, 1961.

775,968. American Fuel & Supply Co., Inc., d.b.a. American Fuel and Supply Company, Milwaukee, Wis. SN 179,762. Filed P.R. 10–25–63; Am. S.R. 6–18–64.

MELT-A-WAY

For Mixtures of Calcium Chloride and Sodium Chloride Used To Melt Ice and Snow.

First use Oct. 1, 1962.

775,969. Chemco Photoproducts Company, Inc., Glen Cove, N.Y. SN 183,033. Filed 12–16–63.

POWERDOT SUPERCONCENTRATE

For Photographic Developers.

First use at least as early as May 9, 1962.

Class 19—Vehicles

775,970. John J. McMullen Associates Inc., New York, N.Y. SN 169,743. Filed P.R. 5–27–63; Am. S.R. 2–4–64.

STABILIZATION FLUME SYSTEM

For Ship Anti-Roll Equipment Consisting of a Series of Tanks and Mechanical Means for Moving Liquids From Tank to Tank.

First use Jan. 6, 1961.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

775,971. Crawford Collets Limited, Witney, England. SN 150,047. Filed P.R. 9–3–63; Am. S.R. 6–29–64.

CRAWFORD

Owner of British Reg. No. 673,413, dated Oct. 8, 1948.

For Collets, Being Parts of Machines or of Machine Tools.

Class 37—Paper and Stationery

775,972. Roll-O-Sheets, Inc., St. Louis, Mo. SN 172,242. Filed P.R. 7–1–63; Am. S.R. 6–12–64.

ROLL-O-WRAP

For Rolls of Perforated Plastic Film for Wrapping Purposes.

First use Apr. 26, 1963.

Class 38—Prints and Publications

775,973. The Glass Publishing Co., Inc., New York, N.Y., assignee of The Reuben H. Donnelley Corporation, New York, N.Y. SN 155,052. Filed P.R. 10–12–62; Am. S.R. 6–1–64.

GLASS PACKAGING

For Monthly Trade Magazine.

First use on or before September 17, 1962.

775,974. OLR Publishing Company, Inc., Scranton, Pa. SN 173,037. Filed P.R. 7–15–63; Am. S.R. 6–30–64.

CAR MODEL

For Periodic Publication—Namely, a Magazine.

First use at least as early as June 15, 1962.

Class 45—Soft Drinks and Carbonated Waters

775,975. Samuel Pittman Cole, Deland, Fla. SN 169,564. Filed P.R. 5–23–63; Am. S.R. 6–18–64.

TAMPA COLA

For Carbonated Cola-Type Soft-Drink.

First use at least as early as Mar. 18, 1963.

Class 46—Foods and Ingredients of Foods

775,976. The Borden Company, New York, N.Y. SN 130,324. Filed P.R. 10–20–61; Am. S.R. 2–4–64.

CALIENTE

An English translation of the word "Caliente" in Spanish is "warm," "fiery," "hot," or "scalding."

For Cheese.

First use June 13, 1960.

775,977. Bakery Pre-Mix Manufacturing Corporation. Marietta, Ga. SN 182,018. Filed P.R. 11-15-61; Am. S.R. 4-24-64.

HEAT-FROST-N'SERVE

For Prebaked Cakes and Prepared Cake Frostings of Various Flavors.
First use Aug. 1, 1961.

775,978. Oldenburger Brotfabrik M. & C. Brokat, Oldenburg, Oldenburg, Germany. SN 157,318. Filed P.R. 6-7-63; Am. S.R. 10-16-63.

BROKAT

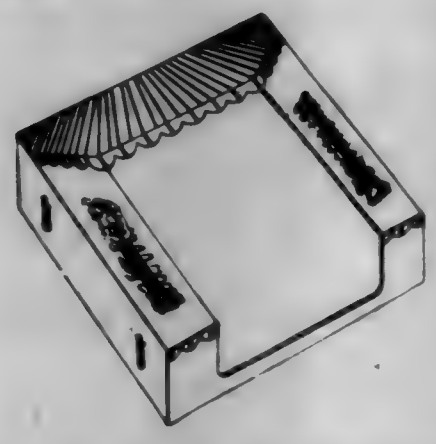
Owner of German Reg. No. 765,247, dated Sept. 11, 1962.
For Bakery Goods—Namely, Cake.

775,979. Corona Foothill Lemon Company, Corona, Calif. SN 163,324. Filed P.R. 2-25-63; Am. S.R. 1-10-64.

MADURO

For Fresh Citrus Fruit.
First use 1905.

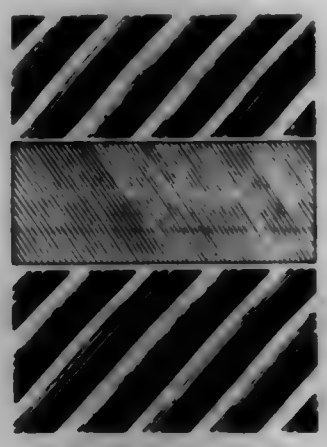
775,980. Gold Cup Baking Inc., Chicago, Ill. SN 182,420. Filed 12-5-63.



The lining in the drawing is for shading purposes only.
For Bakery Products—Namely, Cakes, Tortes, Coffee Cake, Turnovers, and Pies.
First use Mar. 9, 1960.

Class 47 — Wines

775,981. E. & J. Gallo Winery, Modesto, Calif. SN 143,819. Filed P.R. 5-4-62; Am. S.R. 6-1-64.



The drawing is lined to indicate green and the wide diagonal lines are red with the narrow diagonal lines parallel thereto being gold.
For Wines.
First use Mar. 15, 1962.

Class 51 — Cosmetics and Toilet Preparations

775,982. Samuel Bonat & Bro. Inc., West Paterson, N.J. SN 143,925. Filed P.R. 5-7-62; Am. S.R. 6-26-64.

BODY AND DEPTH

For Cold Permanent Waving Compositions.
First use Apr. 17, 1962.

775,983. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,731. Filed P.R. 5-29-62; Am. S.R. 6-5-64.

PLINK

For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

775,984. Nethercutt Laboratories, d.b.a. Cosgenic Labs., Los Angeles, Calif. SN 145,722. Filed P.R. 5-29-62; Am. S.R. 6-5-64.

MAKE IT RED

For Cosmetics—Namely, Lipstick.
First use May 11, 1962.

775,985. Maradel Products, Inc., New York, N.Y. SN 171,676. Filed P.R. 6-24-63; Am. S.R. 6-26-64.

BEAUTIFULLY BROWN

For Hair Color Rinses.
First use Feb. 9, 1963.

775,986. The House for Men, Inc., Chicago, Ill. SN 182,180. Filed 12-2-63.

"HAIR CONTROL"

For Hair Dressing.
First use Sept. 30, 1938.

Class 52 — Detergents and Soaps

775,987. Ralph Shrader, Inc., Detroit, Mich. SN 169,662. Filed P.R. 5-24-63; Am. S.R. 6-18-64.

PRE-TUNE

For Cleaners for Combustion Chamber and Emission Valves of Vehicle Engines.
First use Jan. 7, 1963.

Service Marks

Class 104 — Communication

775,988. Electronic Race Patrol, Inc., Silver Spring, Md. SN 146,987. Filed P.R. 6-15-62; Am. S.R. 6-24-64.

ELECTRONIC RACE PATROL

For Services Rendered in the Taking of Motion Pictures of Sporting Events, Their Delevopment and Subsequent Transmission to a Viewing Station.
First use June 4, 1954.

775,989. Electronic Race Patrol, Inc., Silver Spring, Md. SN 146,983. Filed P.R. 6-15-63; Am. S.R. 6-24-64.

Class 106 — Material Treatment



For Taking of Motion Pictures of Sporting Events, Their Development and Subsequent Transmission to a Viewing Station.
First use June 4, 1954.

775,990. The Bron-Shoe Company, Columbus, Ohio. SN 135,092. Filed P.R. 1-3-62; Am. S.R. 6-16-64.

BRON-Z-SHOE

The drawing is lined for shading and not for color.
For Bronzing and Mounting of Babies' Shoes.
First use May 1, 1932.

TRADEMARK REGISTRATIONS RENEWED

182,411. SUN GROWN. Cl. 46. 4-8-24.
184,473. FAULTLESS WONDER. Cl. 44. 5-27-24.
185,600. PAR-KOOL. Cl. 30. 6-24-24.
186,067. TRI-A-NOL. Cl. 6. 7-1-24.
186,137. NELCO AND DESIGN. Cl. 12. 7-1-24.
186,157. TRISCO. Cl. 6. 7-1-24.
186,158. BROSCO. Cl. 6. 7-1-24.
186,159. CREAMOYL. Cl. 6. 7-1-24.
186,160. TRISULPHOIL. Cl. 6. 7-1-24.
186,335. E-Z. Cl. 4. 7-8-24.
187,254. GLOBE AND DESIGN. Cl. 46. 7-29-24.
187,400. TELECHRON. Cl. 21. 8-5-24.
187,686. PATRICIAN. Cl. 50. 8-12-24.
187,868. VELLUMOID. Cl. 35. 8-12-24.
187,871. REMINGTON. Cl. 8. 8-12-24.
187,878. VITRA-LASTIC. Cl. 18. 8-12-24.
187,946. GEM. Cl. 23. 8-12-24.
188,190. SOLPRUFE BDA AND DESIGN. Cl. 42. 8-19-24.
188,274. NOBLE. Cl. 46. 8-19-24.
189,258. ONYX AND DESIGN. Cl. 39. 9-16-24.
189,259. "ONYX." Cl. 39. 9-16-24.
189,404. GLOBE AND DESIGN. Cl. 6. 9-16-24.
189,702. KB. Cl. 46. 9-23-24.
189,912. REPRESENTATION OF A ROSE (DESIGN). Cl. 46. 9-30-24.
190,552. ICY-HOT. Cl. 28. 10-14-24.
190,554. VANO. Cl. 34. 10-14-24.
190,902. SENORITA. Cl. 46. 10-28-24.
190,957. LOG LOG DUPLEX. Cl. 26. 10-28-24.
190,958. POLYPHASE DUPLEX. Cl. 26. 10-28-24.
191,240. MILLER LINE AND DESIGN. Cl. 11. 11-4-24.
191,521. LENOX BOND. Cl. 37. 11-11-24.
191,562. SUN GLO AND DESIGN. Cl. 46. 11-11-24.
191,569. ICY-HOT. Cl. 30. 11-11-24.
191,719. DENTU-CREME. Cl. 51. 11-18-24.
191,879. BIG 8. Cl. 46. 11-18-24.
192,164. BLUE RIBBON. Cl. 48. 11-25-24.
192,514. KB. Cl. 5. 12-9-24.
192,750. CARNATION. Cl. 46. 12-9-24.
406,780. SPITS. Cl. 39. 4-25-44.
407,400. HAMILTON. Cl. 32. 6-6-44.
407,660. MILDARA. Cl. 49. 6-20-44.
407,760. A FOREST CITY PRODUCT AND DESIGN. Cl. 44. 6-27-44.
407,778. REPRESENTATION OF A BUG ON A PIPE (DESIGN). Cl. 26. 6-27-44.
407,877. MOHAWK. Cl. 21. 7-4-44.
408,278. ARTAB. Cl. 4. 8-1-44.
408,355. WB AND DESIGN. Cl. 26. 8-8-44.
408,393. REPRESENTATIVE OF HAND HOLDING ELECTRIC PLUG. Cl. 38. 8-8-44.
408,543. UDDEROL. Cl. 18. 8-15-44.
408,551. PROLITE. Cl. 20. 8-15-44.
408,555. RAYTEX. Cl. 35. 8-15-44.
408,781. SANFORIZED. Cl. 42. 8-29-44.
409,302. CHAMPION. Cl. 36. 10-3-44.
409,730. EUTECROD. Cl. 34. 10-17-44.
409,936. TRUKUT. Cl. 15. 10-31-44.
410,047. UNOLOX. Cl. 12. 11-7-44.
410,096. FORMULA. Cl. 39. 11-7-44.
410,181. GEROTOR AND DESIGN. Cl. 23. 11-14-44.
410,193. ARISTOWAX. Cl. 15. 11-14-44.
410,301. AMPCO. Cl. 14. 11-21-44.
410,354. VERSENE. Cl. 52. 11-21-44.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued July 6, 1958

663,940. POLURANE. Cl. 1.
663,943. FAIRLON. Cl. 1.
663,952. LUMI-CARE. Cl. 4.
663,959. DESIGN OF PENGUIN. Cl. 6.
663,960. SESAMYL TRIETHOXANE. Cl. 6.
663,968. ALCYLITE. Cl. 6.
663,969. INDAIR. Cl. 6.
663,971. PRONTOCOL. Cl. 6.
663,979. POLYSTIF. Cl. 6.
663,980. FIREFLY. Cl. 9.
663,986. FLORIDOR. Cl. 12.
663,987. RESILITH. Cl. 12.
663,989. KRIMPLOK AND DESIGN. Cl. 12.
663,998. SILISTONE. Cl. 16.
664,002. IMPREXOL. Cl. 16.
664,012. MODERN. Cl. 18.
664,014. PARKER'S TOUCH. Cl. 18.
664,023. ROYAL LINE AND DESIGN. Cl. 19.
664,024. CLIPPER. Cl. 19.
664,030. SURF-CRAFT AND DESIGN. Cl. 19.
664,031. BRIC-TONE. Cl. 20.

664,034. WHISK-AWAY LIGHT-N-GAY. Cl. 21.
664,035. FRANKMASTER. Cl. 21.
664,038. POOLSIDE. Cl. 22.
664,039. NARUTO. Cl. 23.
664,041. HONEGGERS' BLEN-MILL. Cl. 23.
664,042. CENATRON. Cl. 23.
664,044. GREEK LETTER OMEGA (DESIGN). Cl. 23.
664,050. ROTOMATIC. Cl. 23.
664,051. HARMET. Cl. 23.
664,054. BIG BUTCH. Cl. 23.
664,055. DESIGN OF EAGLE. Cl. 23.
664,060. DUCHESS. Cl. 24.
664,064. REPRESENTATION OF SHEETS OF PAPER IN A SQUARE (DESIGN). Cl. 26.
664,070. INVISIBLE WORLD. Cl. 26.
664,074. ANKLE-GEM. Cl. 28.
664,075. GUARDETTE. Cl. 28.
664,076. GEMEX G AND DESIGN. Cl. 28.
664,078. TRI-FRIGERATOR. Cl. 31.
664,079. TRI-FRIGERATION. Cl. 31.
664,081. STACK 'N ADD. Cl. 32.
664,084. THE MOST PERFECT SECRETARY. Cl. 32.
664,091. DUO-SEAL. Cl. 35.
664,092. ANDEX. Cl. 36.
664,093. KEEN. Cl. 36.
664,097. VERTIFLEX. Cl. 37.
664,099. SCHERING VETERINARY DIGEST. Cl. 38.
664,100. CORECO REVIEW. Cl. 38.
664,103. ROGERS SNOWFLAKES. Cl. 39.
664,106. FRONTI-BOXER. Cl. 39.
664,107. FRONTI-PANTI. Cl. 39.
664,111. BEAVA-NEL. Cl. 42.
664,112. LUM-LON. Cl. 42.
664,119. CRYSALBA. Cl. 42.
664,125. PHOENIX HARBURG AND DESIGN. Cl. 44.
664,130. BOP. Cl. 45.
664,139. DIETS OF ROCHESTER. Cl. 46.
664,143. IMAGE. Cl. 46.
664,145. GLORY BEST. Cl. 46.
664,155. KACHINA. Cl. 46.
664,156. HURON. Cl. 46.
664,161. CALYPSO. Cl. 46.
664,166. QUICK-QUART PACK. Cl. 46.
664,169. SUPERIOR. Cl. 46.
664,170. BEST OFFER. Cl. 46.
664,175. FORMULA 9 MIST. Cl. 51.
664,178. NEWCURL-70. Cl. 51.
664,180. AQUAGEN. Cl. 51.
664,185. RE-MUV-X. Cl. 52.
664,191. KING OF OFFICE OVERLOADS AND DESIGN. Cl. 101.
664,193. GRA-PAY. Cl. 101.
664,202. THE CALIFORNIAN AND DESIGN. Cl. 105.
664,209. BET'R-GRIP. Cl. 23.
664,213. "DIVIDER-PAK." Cl. 46.
664,215. SILVERSEAL. Cl. 51.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

184,859. STANDARD. Cl. 13. 6-3-24. Standard Sanitary Manufacturing Company. American Radiator & Standard Sanitary Corporation, New York, N.Y. Amended: In the statement, column 1, line 11, "the linings expressing" is deleted, lines 12 and 13 are deleted and in line 14, "from the mark shown," is deleted and in column 2, line 11, "or to the packages containing the" is deleted, lines 12 and 13 are deleted and *so as to become an integral part thereof.* is inserted, and the drawing is amended to appear:

Standard

333,185. UNI-DYED UPDW AND DESIGN. Cl. 42. 3-10-36. The United Piece Dye Works, Lodi, N.J. Amended: In the statement, column 1, lines 7 through 15, the description of goods is deleted and *dyed, printed and finished textile fabrics in the piece composed of natural or man-made fibers and/or blends thereof* is inserted.

538,443. USS AND DESIGN. Cl. 2, Cl. 6, Cl. 7, Cl. 10, Cl. 12, Cl. 13, Cl. 14, Cl. 15, Cl. 19, Cl. 21, Cl. 23, Cl. 36, Cl. 38. 5-6-52. United States Steel Corporation, New York, N.Y. Amended to appear:

USS

595,263. TEMPO. Cl. 46, 9-14-54. Henry Thayer Company, Cambridge, Mass. Corrected: In the certificate, lines 4 and 15 and in the statement, column 1, line 1, "Co." should be deleted and *Company* should be inserted.

600,573. USS AND DESIGN. Cl. 4, Cl. 12, Cl. 14, Cl. 19, Cl. 23, Cl. 26, Cl. 35. 1-11-55. United States Steel Corporation, Pittsburgh, Pa. Amended to appear:

USS

615,090. GULF AND DESIGN. Cl. 15. 11-1-55. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, line 6, "Nos. 342,770 and 379,158" is deleted and *No. 621,650 and others* is inserted, and the drawing is amended to appear:

Gulf

620,067. EDY'S. Cl. 46. 1-24-56. Edy's Character Candies of Northern California, Oakland, Calif. Corrected: In the statement, column 1, line 1, after "Candies" *of Northern California* should be inserted.

629,800. GULF AND DESIGN. Cl. 11. 7–3–56. Gulf Oil Corporation, Pittsburgh, Pa. Amended to appear:



634,566. GULF AND DESIGN. Cl. 6. 9–18–56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 3, *Owner of Reg. No. 621,650, and others.* is inserted, and the drawing is amended to appear:



666,355. BURLS. Cl. 46. 8–26–58. Edy's Character Candies of Northern California, Oakland, Calif. Corrected: In the statement, column 1, line 1, after "Candies" *of Northern California* should be inserted.

673,821. USS AND DESIGN. Cl. 23. 2–10–59. United States Steel Corporation, Pittsburgh, Pa. Amended to appear:



677,721. USS AND DESIGN. Cl. 35. 4–28–59. United States Steel Corporation, Pittsburgh, Pa. Amended to appear:



771,356. HADABUG. Cl. 6. 6–16–64. Gaston Johnston Corporation, Long Island City, N.Y. Corrected: In the statement, column 1, line 1, "Johnson" should be deleted and *Johnston* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

227,141. ALBERT VERLEY. Cl. 6. Albert Verley, Inc. 4–26–27. New Cert. Sec. 7(c) to Albert Verley & Company, Linden, N.J.

410,033. TOWN & COUNTRY. Cl. 39. Guiterman Bros., Inc. 11–7–44. New Cert. Sec. 7(c) to Gordon & Ferguson Co., St. Paul, Minn.

415,811. LA PARISETTE. Cl. 39. Lucien Bougie, d.b.a. Lucien Bougie Shoe Mfg. 8–7–45. New Cert. Sec. 7(c) to Lucien Bougie Inc., Montreal, Quebec, Canada.

501,674. LE GALION. Cl. 6. Cigogne, Inc. 8–17–48. New Cert. Sec. 7(c) to American Parfums Corporation, Carson City, Nev.

706,314. TAX-O-GRAPH. Cl. 26. Tax-O-Graph, Inc. 10–25–60. New Cert. Sec. 7(c) to Safeguard Corporation, Lansdale, Pa.

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INDEX OF REGISTRANTS

AUGUST 25, 1964

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Accurate Electronics Corp., North Hollywood, Calif. 775,801, pub. 6–9–64. Cl. 26.
Acme Flavoring Co., Portland, Oreg. 775,919, pub. 6–9–64. Cl. 46.
Acushnet Process Sales Co., New Bedford, Mass. 775,696, pub. 6–9–64. Cl. 22.
Admiral Plastics Corp., Brooklyn, N.Y. 775,580, pub. 6–9–64. Cl. 2.
Advance Industries: *See*—
Epstein, Max.
Affiliated Clothiers, Inc., New York, N.Y. 775,871, pub. 6–9–64. Cl. 39.
Agfa Aktiengesellschaft fur Photofabrikation, Leverkusen-Bayerwerk, Germany. 664,064, canc. Cl. 26.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 775,597, pub. 6–9–64. Multiple Class (Classes 6 and 26).
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 775,772, pub. 6–9–64. Cl. 26.
Aktiebolaget, Norma Projektilfabrik, Amotfors, Sweden. 775,860, pub. 6–9–64. Cl. 38.
Albion, F. W., Laboratories, Inc., Ogden, Utah. 775,646, pub. 6–9–64. Cl. 18.
Alexis, Inc., Atlanta, Ga. 664,106–7, canc. Cl. 39.
Alicia Cosmetics: *See*—
Fern Laboratories, Inc.
Allen, Milton Frank, Publications, Inc., d.b.a. Property Protection Service of America, Decatur, Ga. 775,957–9, pub. 6–9–64. Cl. 102.
Allied Radio Corp., Chicago, Ill. 775,688, pub. 6–9–64. Cl. 21.
Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 775,943, pub. 6–9–64. Cl. 51.
Alpha Wire Corp., New York, N.Y. 775,694, pub. 6–9–64. Cl. 21.
Altmann, Frederick, Los Angeles, Calif. 775,870, pub. 6–9–64. Cl. 39.
Amco of Norvelt, Inc., New York, N.Y. 775,884, pub. 6–9–64. Cl. 39.
American Apparel Manufacturers Association, Inc., Washington, D.C. 775,964, pub. 6–9–64. Cl. 200.
American Body and Trailer, Inc., Oklahoma City, Okla. 775,656, pub. 6–9–64. Cl. 19.
American Can Co., New York, N.Y. 775,581, pub. 6–9–64. Cl. 2.
American Can Co., New York, N.Y. 775,861, pub. 6–9–64. Cl. 38.
American Crayon Co., The: *See*—
Dixon, Joseph, Crucible Co., The.
American Fuel and Supply Co.: *See*—
American Fuel & Supply Co., Inc.
American Fuel & Supply Co., Inc., d.b.a. American Fuel and Supply Co., Milwaukee, Wis. 775,968. Cl. 6.
American Home Products Corp., New York, N.Y. 775,946, pub. 6–9–64. Cl. 51.
American Lincoln Corp., Toledo, Ohio. 775,590, pub. 6–9–64. Cl. 4.
American Oil Co., The, Chicago, Ill. 775,863, pub. 6–2–64. Cl. 23.
American Parfums Corp.: *See*—
Cigogne, Inc.
American Radiator & Standard Sanitary Corp.: *See*—
Standard Sanitary Mfg. Co.
American Salt Corp., Omaha, Nebr. 775,921, pub. 3–3–64. Cl. 46.
Amfre-Grant, Inc., Brooklyn, N.Y. 775,645, pub. 6–9–64. Cl. 18.
Ampco Metal, Inc., Milwaukee, Wis. 410,301, ren. 8–25–64. Cl. 14.
Anemostat Corp. of America, Scranton, Pa. 775,832, pub. 6–9–64. Cl. 34.
Ankle-Gem, Ltd., Hollywood, Calif. 664,074, canc. Cl. 28.
Antell, Charles, Inc., Baltimore, Md. 664,175, canc. Cl. 51.
Apollinaris Brunnen A.G., Bad Neuenahr, Germany. 775,900, pub. 11–21–61. Cl. 45.
Apollinaris Brunnen A.G., Bad Neuenahr, Germany. 775,904, pub. 11–21–61. Cl. 46.
Applied Dynamics, Inc., Ann Arbor, Mich. 775,785, pub. 6–9–64. Cl. 26.
Arena, A., and Co., Ltd.: *See*—
Speich, Helen S.
Ar-Tex Mfg. Corp., Brooklyn, N.Y. 664,031, canc. Cl. 20.
Artic Import Co., Chicago, Ill. 775,815, pub. 6–9–64. Cl. 29.
Ashkar, Albert J., Inc., Los Angeles, Calif. 664,170, canc. Cl. 46.
Associated Spring Corp., Bristol, Conn. 775,632, pub. 6–9–64. Cl. 14.
Automatic Service Supply Co., Detroit, Mich. 775,753, pub. 6–9–64. Cl. 24.
B-I-F Industries, Inc., Providence, R.I. 664,044, canc. Cl. 23.
Baker, V. Edward, Elyria, Ohio. 775,793–4, pub. 6–9–64. Cl. 26.
Bakery Pre-Mix Mfg. Corp., Marietta, Ga. 775,977. Cl. 46.
Ball Valves, Inc., Worcester, Mass. 775,615, pub. 6–9–64. Cl. 13.
Banco Corp., Ltd., San Francisco, Calif. 775,953, pub. 6–9–64. Cl. 101.
Barber-Colman Co., Rockford, Ill. 775,750, pub. 6–9–64. Cl. 23.
Bates, Knefler, Mfg. Co., to Evans Milling Co., Inc., Indianapolis, Ind. 192,514, ren. 8–25–64. Cl. 5.
Bennett, Norman, Washington, D.C. 775,704, pub. 6–9–64. Cl. 22.
Bernard, Charles M., Paris, France. 775,657, pub. 6–9–64. Multiple Class (Classes 19 and 32).
Beryllium Corp., The, Reading, Pa. 775,629–30, pub. 6–9–64. Cl. 14.
Big Boy Mfg. Co., Inc., Burbank, Calif. 775,621, pub. 6–9–64. Cl. 32.
Bio Products Inc., New York, N.Y. 775,933, pub. 6–9–64. Cl. 51.
Birs Beteiligungs- und Verwaltungsgesellschaft, A.G., Basel, Switzerland. 775,902, pub. 6–9–64. Cl. 45.
Birs Beteiligungs- und Verwaltungsgesellschaft A.G., Basel, Switzerland. 775,908, pub. 6–9–64. Cl. 46.
Blacktop Maintenance: *See*—
Horn, Glen A.
Bliss, E. W., Co., Pittsburgh, Pa. 775,635, pub. 6–9–64. Cl. 14.
Block Drug Co., Inc.: *See*—
Caulk, L. D., Co., The.
Bolardi Tile Mfg. Corp., Cleveland, Ohio. 775,602, pub. 6–9–64. Cl. 12.
Bonat, Samuel, & Bro. Inc., West Paterson, N.J. 775,982. Cl. 51.
Borden Co., The, New York, N.Y. 663,987, canc. Cl. 12.
Borden Co., The, New York, N.Y. 775,976. Cl. 46.
Bougie, Lucien, Inc.: *See*—
Bougie, Lucien.
Bougie, Lucien, d.b.a. Lucien Bougie Shoe Mfg., to Lucien Bougie Inc., Montreal, Quebec, Canada. 415,311, new cert. Cl. 39.
Bougie, Lucien, Shoe Mfg.: *See*—
Bougie, Lucien.
Bradford Dyers' Association, Ltd., The, Bradford, England. 188,190, ren. 8–25–64. Cl. 42.
Brandy Harvest: *See*—
Virus, John R.
Bridgestone Tire Co., Ltd., Chuo-Ku, Tokyo, Japan. 775,659, pub. 6–9–64. Cl. 19.
Bron-Shoe Co., The, Columbus, Ohio. 775,990. Cl. 106.
Brown, D. S., Co., The, North Baltimore, Ohio. 775,608, pub. 6–9–64. Cl. 12.
Brown-Hutchinson, Inc., Detroit, Mich. 775,665, pub. 6–9–64. Cl. 19.
Butler Marine Mfg. Co., Inc., Greenville, Ala. 664,030, canc. Cl. 19.
Byron Weston Co.: *See*—
Carew Mfg. Co.
Caffejian, Newton J.: *See*—
Cenatron Industries.
Cambridge Filter Mfg. Corp., Syracuse, N.Y. 775,778, pub. 6–9–64. Cl. 26.
Candelier: *See*—
Klovstad, H. T., and E. J. Klovstad.
Canyon Electronics, Minneapolis, Minn. 775,689–91, pub. 6–9–64. Cl. 21.
Capezio Inc., New York, N.Y. 775,880, pub. 6–9–64. Cl. 39.
Capitol Products Corp., Cumberland, Pa. 775,605, pub. 6–9–64. Cl. 12.
Carbitron Development Ltd., Vancouver, British Columbia, Canada. 775,720, pub. 6–9–64. Cl. 23.
Caressa, Inc., Miami, Fla. 775,869, pub. 6–9–64. Cl. 39.
Carew Mfg. Co., South Hadley Falls, Mass., to Byron Weston Co., Dalton, Mass. 191,521, ren. 8–25–64. Cl. 37.
Carpenter Mfg. Co., The, Somerville, Mass. 775,677, pub. 6–9–64. Cl. 21.
Carpenter Steel Co., The, Reading, Pa. 775,624, pub. 6–9–64. Cl. 14.
Carpenter Steel Co., The, Reading, Pa. 775,626, pub. 6–9–64. Cl. 14.
Cataphote Corp., Toledo, Ohio. 775,827, pub. 6–9–64. Cl. 53.
Caulk, L. D., Co., The, Milford, Del., to Block Drug Co., Inc., Jersey City, N.J. 191,719, ren. 8–25–64. Cl. 51.
Cay-Cat Mfg., Inc., Boca Raton, Fla. 775,661, pub. 6–9–64. Cl. 19.
Cenatron Industries, to Edward C. Mosesian, Newton J. Caffejian, and Charles J. Vagim, d.b.a. Cenatron Industries, Fresno, Calif. 664,042, canc. Cl. 23.
Centorr Associates, Suncook, N.H. 775,766, pub. 6–9–64. Cl. 26.
Centromint Co. (Establishment), Vaduz, Liechtenstein. 775,907, pub. 6–9–64. Cl. 46.
Century Products, Inc., Cleveland, Ohio. 775,660, pub. 6–9–64. Cl. 19.
Champion Home Builders Co., Dryden, Mich. 775,658, pub. 6–9–64. Cl. 19.
Chemco Photoproducts Co., Inc., Glen Cove, N.Y. 775,969. Cl. 6.
Chemetron Corp., Chicago, Ill. 775,729, pub. 6–9–64. Cl. 23.
Cherokee Equipment Co., Sioux City, Iowa. 775,735, pub. 6–9–64. Cl. 23.
Chicopee Mills, Inc., New York, N.Y. 664,112, canc. Cl. 42.

Chilton Co., d.b.a. Chilton Publications, Philadelphia, Pa. 775,956, pub. 6–9–64. Cl. 101.
Chilton Publications: *See*—
Chilton Co.
Chippewa Plastics, Inc., Chippewa Falls, Wis. 663,943, canc. Cl. 1.
Chun, King, Sales, Inc., Duluth, Minn. 664,213, canc. Cl. 46.
Cigogne, Inc., to American Parfums Corp., Carson City, Nev. 501,674, new cert. Cl. 6.
Claridge Products and Equipment, Inc., Harrison, Ark. 775,929, pub. 6–9–64. Cl. 50.
Clark, C. Van Ness, d.b.a. Sensation Metal Bait Co., New York, N.Y. 775,713, pub. 6–9–64. Cl. 22.
Cluett, Peabody & Co., Inc., New York, N.Y. 408,781, ren. 8–25–64. Cl. 42.
Cole, Samuel P., Deland, Fla. 775,975. Cl. 45.
Colgate-Palmolive Co., New York, N.Y. 775,945, pub. 6–9–64. Cl. 51.
Collins, Ashton B., d.b.a. Reddy Kilowatt, Short Hills, N.J., and New York, N.Y., to Reddy Kilowatt, Inc., New York, N.Y. 408,393, ren. 8–25–64. Cl. 38.
Color Tile of Colorado, Inc., Denver, Colo. 775,966. Cl. 5.
Colorificio Italiano Max Meyer, S.p.A., Milan, Italy. 664,002. canc. Cl. 16.
Colortone Inc., Washington, D.C. 775,841, pub. 6–9–64. Cl. 37.
Commercial Paste Co., The, Columbus, Ohio. 775,591, pub. 6–9–64. Cl. 5.
Commodity Service Corp., New York, N.Y. 775,906, pub. 6–9–64. Cl. 46.
Compagnie Generale d'Electricite, Paris (Seine), France. 775,669, pub. 6–9–64. Cl. 21.
Compagnie Generale d'Electricite, Paris (Seine), France. 775,718, pub. 6–9–64. Cl. 23.
Compagnie Generale d'Electricite, Paris (Seine), France. 775,757, pub. 6–9–64. Cl. 26.
Compagnie Generale d'Electricite, Paris (Seine), France. 775,819, pub. 6–9–64. Cl. 31.
Complete-Reading Electric Co., Inc., Chicago, Ill. 664,100, canc. Cl. 38.
Continental Can Co., Inc., New York, N.Y. 775,582, pub. 6–9–64. Cl. 2.
Continental Can Co., Inc., New York, N.Y. 775,584, pub. 6–9–64. Cl. 2.
Continental Sensing Inc., Melrose Park, Ill. 775,709, pub. 6–9–64. Cl. 26.
Conveyor Systems, Inc., Morton Grove, Ill. 775,727–8, pub. 6–9–64. Cl. 23.
Cooley, Leonore B., to Maidenform, Inc., New York, N.Y. 406,780, ren. 8–25–64. Cl. 39.
Coppus Engineering Corp., Worcester, Mass. 190,554, ren. 8–25–64. Cl. 34.
Corn Products Co.: *See*—
Corn Products Refining Co.
Corn Products Refining Co., to Corn Products Co., New York, N.Y. 187,254, ren. 8–25–64. Cl. 46.
Corn Products Refining Co., to Corn Products Co., New York, N.Y. 189,404, ren. 8–25–64. Cl. 6.
Corona Foothill Lemon Co., Corona, Calif. 775,979. Cl. 46.
Cosgenic Labs: *See*—
Nethercutt Laboratories.
Courtney, John, Ltd., St. Louis, Mo. 775,883, pub. 6–9–64. Cl. 39.
Crawford Collets Ltd., Witney, Oxford, England. 775,971. Cl. 23.
Crown Controls Corp., New Bremen, Ohio. 775,723, pub. 6–9–64. Cl. 23.
Curley, Robert, Ltd., Mount Vernon, N.Y. 664,178, canc. Cl. 51.
Cutter Laboratories, Inc., Berkeley, Calif. 775,647, pub. 5–5–64. Cl. 18.
DAP, Inc., Dayton, Ohio. 775,609–10, pub. 6–9–64. Cl. 12.
Dairy Merchandisers, Inc., Chicago, Ill. 775,914, pub. 6–9–64. Cl. 46.
Dasa Co., Inc., Waltham, Mass. 775,805, pub. 6–9–64. Cl. 26.
Dataflow Inc., Richmond, Va. 775,855, pub. 6–9–64. Cl. 37.
Dawnwood Farms, Inc.: *See*—
Long, Dorothy A.
Dayton Rubber Mfg. Co., The, to The Dayton Tire & Rubber Co., Dayton, Ohio. 408,555, ren. 8–25–64. Cl. 35.
Dayton Tire & Rubber Co., The: *See*—
Dayton Rubber Mfg. Co., The.
Dealer Associates, Inc., Minden, La. 775,743, pub. 6–9–64. Cl. 23.
Demco Packing Co.: *See*—
Demco Packing Co., Inc.
Demco Packing Co., Inc., d.b.a. Demco Packing Co., Los Angeles, Calif. 775,917, pub. 6–9–64. Cl. 46.
Detrex Chemical Industries, Inc., Detroit, Mich. 775,967. Cl. 6.
Deyonco Distributors Ltd., Vancouver, British Columbia, Canada. 775,676, pub. 6–9–64. Cl. 21.
Dialoc Corp. of America, St. Petersburg, Fla. 775,754, pub. 6–9–64. Cl. 25.
Diebold, Inc., Canton, Ohio. 775,755, pub. 6–9–64. Cl. 25.
Diets of Rochester, Inc.: *See*—
Shane, Leroy.
Digital Sensors Inc., Los Angeles, Calif. 775,684, pub. 6–9–64. Cl. 21.
Dixie Furniture Co., Inc., Lexington, N.C. 775,822, pub. 6–9–64. Cl. 32.
Dixon, Joseph, Crucible Co., The, d.b.a. The American Crayon Co., Jersey City, N.J. 775,844, pub. 6–9–64. Cl. 37.
Donnelley, Reuben H., Corp., The: *See*—
Glass Publishing Co., Inc., The.
Doornkaat Aktiengesellschaft, Norden/Ostfriesland, Germany. 775,928, pub. 6–9–64. Cl. 49.
D'Orelli Shoe Corp., Lawrence, Mass. 775,878, pub. 6–9–64. Cl. 39.
Doric Door Ltd., Toronto, Ontario, Canada. 775,601, pub. 6–9–64. Cl. 12.
Dormeuil Freres Societe Anonyme, Paris, France. 775,875, pub. 6–9–64. Cl. 39.
Dormeuil Freres Societe Anonyme, Paris, France. 775,889, pub. 6–9–64. Cl. 42.
Double A Products Co.: *See*—
May Oil Burner Corp.
Dow Chemical Co., The: *See*—
Martin-Dennis Co., The.
Dowco Products, Inc., Dallas, Tex. 775,721–2, pub. 6–9–64. Multiple Class (Classes 23 and 34).
Drackett Co., The, Cincinnati, Ohio. 775,589, pub. 6–9–64. Multiple Class (Classes 4, 6, 29, and 52).
Dun & Bradstreet, Inc., New York, N.Y. 775,864, pub. 6–9–64. Cl. 38.
Duplicon Co., Inc., Westboro, Mass. 775,666, pub. 6–9–64. Cl. 19.
Dyche, P. A., d.b.a. Van Dyke Industries, Los Angeles, Calif. 775,786, pub. 6–9–64. Cl. 26.
E.S.R., Inc., Orange, N.J. 775,773, pub. 6–9–64. Cl. 26.
Eastman Kodak Co., Rochester, N.Y. 775,792, pub. 6–9–64. Cl. 26.
Eastman Kodak Co., Rochester, N.Y. 775,795, pub. 6–9–64. Cl. 26.
Edlo, Inc., San Francisco, Calif. 775,903, pub. 6–9–64. Cl. 45.
Edy's Character Candies of Northern California, Oakland, Calif. 620,067, cor. Cl. 46.
Edy's Character Candies of Northern California, Oakland, Calif. 666,355, cor. Cl. 46.
Einiger Mills, Inc., New York, N.Y. 775,891, pub. 6–9–64. Cl. 42.
Electronic Associates Ltd., Willowdale, Ontario, Canada. 775,770, pub. 6–9–64. Cl. 26.
Electronic Race Patrol, Inc., Silver Spring, Md. 775,988–9. Cl. 104.
Eldon Industries, Inc., Hawthorne, Calif. 775,668, pub. 6–9–64. Cl. 21.
Elgin Milk Products Co., Chicago, Ill. 775,915, pub. 6–9–64. Cl. 46.
Elliott Bay Mill Co., Seattle, Wash. 775,604, pub. 6–9–64. Cl. 12.
Elliott Paint & Varnish Co.: *See*—
Elliott Varnish Co.
Elliott Varnish Co., to Elliott Paint & Varnish Co., Chicago, Ill. 187,878, ren. 8–25–64. Cl. 16.
Emlin, Inc., from Empress Dielene Cosmetics, Inc., Racine, Wis. 775,935, pub. 6–9–64. Cl. 51.
Empress Dielene Cosmetics, Inc.: *See*—
Emlin, Inc.
Endicott Johnson Corp., Endicott, N.Y. 775,886, pub. 6–9–64. Cl. 39.
Epstein, Max, d.b.a. Advance Industries, Chicago, Ill. 664,097. canc. Cl. 37.
Etablissements Seydoux & Michau Reunis, Paris, France. 664,119, canc. Cl. 42.
Eureka Specialty Printing Co., Scranton, Pa. 775,852, pub. 6–9–64. Cl. 37.
Eutectic Welding Alloys Co.: *See*—
Wasserman, Rene D.
Eutectic Welding Alloys Corp.: *See*—
Wasserman, Rene D.
Evans Milling Co., Inc.: *See*—
Bates, Knetler, Mfg. Co.
Knetler-Bates Mfg. Co.
Everlube Corp.: *See*—
Everlube Corp. of America.
Everlube Corp. of America, d.b.a. Everlube Corp., North Hollywood, Calif. 775,639–40, pub. 6–9–64. Cl. 15.
Factor, Max: *See*—
Factor, Max, & Co.
Factor, Max, & Co., d.b.a. Max Factor, Hollywood, Calif. 775,938, pub. 6–9–64. Cl. 51.
Fashion Park Inc.: *See*—
Rosenberg Bros. & Co.
Faultless Rubber Co., The, Ashland, Ohio. 184,473, ren. 8–25–64. Cl. 44.
Federal Products Corp., Providence, R.I. 775,767, pub. 6–9–64. Cl. 26.
Federal Sweets & Biscuit Co., Inc., Clifton, N.J. 664,161. canc. Cl. 46.
Felters Co., The, Boston, Mass. 775,740, pub. 6–9–64. Cl. 23.
Fern Laboratories, Inc., d.b.a. Alicia Cosmetics, Valley Stream, N.Y. 775,937, pub. 6–9–64. Cl. 51.
Foote Mineral Co., Exton, Pa. 775,627, pub. 6–9–64. Cl. 14.
Forest City Products, Inc., Cleveland, Ohio. 407,760, ren. 8–25–64. Cl. 44.
Fort Wayne Metals, Inc., Fort Wayne, Ind. 775,631, pub. 6–9–64. Cl. 14.
Fosseo International Ltd., Birmingham, England. 775,592–3. pub. 6–9–64. Cl. 6.
Foster Brothers Mfg. Co., St. Louis, Mo. 775,830, pub. 6–9–64. Cl. 32.
Friedman, Sol, and Sons, New York, N.Y. 410,096, ren. 8–25–64. Cl. 39.
Fuld Publishing Co. Inc., San Pedro, Calif. 775,715, pub. 6–9–64. Cl. 22.
Fullam, Ernest F., Inc., Latham, N.Y. 775,796, pub. 6–9–64. Cl. 26.
Gallo, E. & J., Winery, Modesto, Calif. 775,981. Cl. 47.
Gambles: *See*—
Gamble-Skogmo, Inc.
Gamble-Skogmo, Inc., d.b.a. Gambles, Minneapolis, Minn. 775,642, pub. 7–2–63. Cl. 16.
Gardex, Inc., Michigan City, Ind. 775,788, pub. 6–9–64. Cl. 23.

Gem Safety Razor Corp., Brooklyn, N.Y., to Philip Morris Inc., New York, N.Y. 187,946, ren. 8–25–64. Cl. 23.
Gemex Corp., The, Union, N.J. 664,076, canc. Cl. 28.
General Electric Co.: *See*—
Warren Clock Co.
General Electric Co., New York, N.Y. 775,782, pub. 6–9–64. Cl. 26.
General Motors Corp., Detroit, Mich. 775,687, pub. 6–9–64. Cl. 21.
Georges Quellet, Hauterive, Switzerland. 775,836, pub. 6–9–64. Cl. 36.
Gentucca, Porta E., Lucca, Italy. 775,879, pub. 6–9–64. Cl. 39.
Giannini Scientific Corp., New York, N.Y. 775,682, pub. 6–9–64. Cl. 21.
Giannini Scientific Corp., New York, N.Y. 775,774, pub. 6–9–64. Cl. 26.
Gibson, C. R., & Co., Norwalk, Conn. 775,838, pub. 6–9–64. Cl. 37.
Gimbal Brothers, Inc., New York, N.Y. 775,851, pub. 6–9–64. Cl. 39.
Glass Publishing Co., Inc., The, from The Reuben H. Donnelley Corp., New York, N.Y. 775,973. Cl. 38.
Glaverbel, Brussels, Belgium. 775,826, pub. 6–9–64. Cl. 33.
Globe-Union Inc., Milwaukee, Wis. 775,780, pub. 6–9–64. Cl. 26.
"Glory Best": *See*—
Glory, Boris.
Glory, Boris, d.b.a. "Glory Best," Lakewood, N.J. 664,145. canc. Cl. 46.
Gold Badge Farms, Glendale, Ariz. 664,155, canc. Cl. 46.
Gold Cup Baking Inc., Chicago, Ill. 775,980. Cl. 46.
Gordon & Ferguson Co.: *See*—
Guiterman Bros., Inc.
Gotham, Chadbourn, Inc.: *See*—
"Onyx" Hosiery Inc.
Graham Accounting & Statistical Corp., New York, N.Y. 664,193, canc. Cl. 101.
Grand Union Co., The, East Paterson, N.J. 775,955, pub. 6–9–64. Cl. 101.
Grant, W. T., Co., New York, N.Y. 775,673, pub. 6–9–64. Multiple Class (Classes 21, 23, and 36).
Griffin, Ben Hill, Inc., Frostproof, Fla. 775,910–11, pub. 6–9–64. Cl. 46.
Grossman Music Co., Cleveland, Ohio. 409,302, ren. 8–25–64. Cl. 36.
Gryphon Corp., Burbank, Calif. 775,787, pub. 6–9–64. Cl. 26.
Guiterman Bros., Inc., to Gordon & Ferguson Co., St. Paul, Minn. 410,033, new cert. Cl. 39.
Gulf Oil Corp., Pittsburgh, Pa. 615,090. Am. 7(d). Cl. 15.
Gulf Oil Corp., Pittsburgh, Pa. 629,800. Am. 7(d). Cl. 11.
Gulf Oil Corp., Pittsburgh, Pa. 634,506. Am. 7(d). Cl. 6.
HH Spezial Optik GmbH., Wetzlar, Germany. 775,768, pub. 6–9–64. Cl. 26.
Hackett, J. J., and Co., Chicago, Ill. 775,842, pub. 6–9–64. Cl. 37.
Hagan Chemicals & Controls, Inc.: *See*—
Hagan Controls Corp.
Hagan Controls Corp., from Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 775,674, pub. 6–9–64. Cl. 21.
Hamilton Mfg. Co., Two Rivers, Wis. 407,400, ren. 8–25–64. Cl. 32.
Hard Metals Ltd., Nuffield Township, Springs, Union of South Africa. 664,031, canc. Cl. 23.
Harding Glass Industries, Topeka, Kans. 775,607, pub. 6–9–64. Cl. 12.
Hartfield Stores, Inc., Los Angeles, Calif. 775,837, pub. 6–9–64. Cl. 36.
Harvey, Fred, Chicago, Ill. 775,925, pub. 6–9–64. Cl. 46.
Helzberg's Diamond Shops, Inc., Kansas City, Mo. 775,685. pub. 6–9–64. Cl. 21.
Henschel, Joseph W., d.b.a. Henschel Mfg. Co., St. Louis, Mo. 775,872, pub. 6–9–64. Cl. 39.
Henschel Mfg. Co.: *See*—
Henschel, Joseph W.
Hercules Powder Co., Wilmington, Del. 664,156, canc. Cl. 46.
Higgins, Wm. A., & Co., Inc., New York, N.Y., to Indiran, Inc., Parsippany, N.J. 191,562, ren. 8–25–64. Cl. 46.
Highway Trailer Co., to Trailco Corp., to Highway Trailer Co., Edgerton, Wis. 664,024, canc. Cl. 19.
Hirsutra Laboratories, Inc., New York, N.Y. 664,180, canc. Cl. 51.
Hiscox Chemical Co., Inc., Bradenton, Fla. 664,014, canc. Cl. 18.
Hodges Research and Development Co., New York, N.Y. 664,035, canc. Cl. 21.
Hoffmaster Co., Inc., Oshkosh, Wis. 775,858, pub. 6–9–64. Cl. 37.
Holland, Emmette E., & Co.: *See*—
Holland, Emmette E.
Holland, Emmette E., d.b.a. Emmette E. Holland & Co., Houston, Tex. 775,650, pub. 6–9–64. Cl. 18.
Hollister Inc., Chicago, Ill. 775,932, pub. 6–9–64. Cl. 50.
Honeggers' & Co., Inc., Fairbury, Ill. 664,041, canc. Cl. 23.
Horn, Glen A., d.b.a. Blacktop Maintenance, Columbus, Ohio. 663,998, canc. Cl. 16.
Horological Electronic Corp., Fort Lauderdale, Fla. 775,762, pub. 6–9–64. Cl. 26.
House For Men, Inc., The, Chicago, Ill. 775,986. Cl. 51.
Hu-Mac Inc., Palo Alto, Calif. 775,776–7, pub. 6–9–64. Cl. 26.
Huntingdon Mills, Inc., Philadelphia, Pa. 775,885, pub. 6–9–64. Cl. 39.
Hydrawedge, El Segundo, Calif. 775,726, pub. 6–9–64. Cl. 23.
Hydro-Mecs, Paris Xieme, France. 775,612, pub. 6–9–64. Multiple Class (Classes 13, 21, and 23).
Icy-Hot Bottle Co., of Cincinnati, Ohio: *See*—
Icy-Hot Bottle Co., The.
Icy-Hot Bottle Co., The, to The Icy-Hot Bottle Co., of Cincinnati, Ohio, Cincinnati, Ohio, to King-Seeley Thermos Co., Ann Arbor, Mich. 191,569, canc. Cl. 30.
Icy-Hot Bottle Co., The, to The Icy-Hot Bottle Co., of Cincinnati, Ohio, to King-Seeley Thermos Co., Ann Arbor, Mich. 190,352, ren. 8–25–64. Cl. 28.
Illinois Yarn Co., Inc., Rochelle, Ill. 775,895, pub. 6–9–64. Cl. 43.
Imperial Knife Associated Companies, Inc., Providence, R.I. 775,752, pub. 6–9–64. Cl. 28.
Indiran, Inc.: *See*—
Higgins, Wm. A., & Co., Inc.
Industrial Air Products Co., Portland, Oreg. 663,969, canc. Cl. 6.
Industrial Marking Equipment Co., Inc., Brooklyn, N.Y. 775,751, pub. 6–9–64. Cl. 23.
Institute of Electrical and Electronics Engineers, Inc., New York, N.Y. 775,859, pub. 6–9–64. Cl. 38.
Instrument Society of America, Pittsburgh, Pa. 775,952, pub. 6–9–64. Cl. 100.
International Paper Co., New York, N.Y. 775,840, pub. 6–9–64. Cl. 37.
Interstate Adjusteze Corp., Anaheim, Calif. 664,070, canc. Cl. 26.
JDD Lubricants Co., Sioux City, Iowa. 664,054, canc. Cl. 23.
Jayhawk Fibre Form Co.: *See*—
Lawrence Paper Co., The.
Jenaer Glaswerk Schott & Gen, Mainz, Germany. 775,823–5, pub. 6–9–64. Cl. 33.
Jenkins, George O., Co., Bridgewater, Mass. 664,091, canc. Cl. 35.
Johnson Wire Works Ltd., The, Montreal, Quebec, Canada. 775,746, pub. 6–9–64. Cl. 23.
Johnston, Gaston, Corp., Long Island City, N.Y. 771,356, cor. Cl. 6.
Jones & Co.: *See*—
Jones, Kenyon.
Jones, Kenyon, d.b.a. Jones & Co., Providence, R.I. 775,802, pub. 6–9–64. Cl. 26.
Jones, Orval, Mountain View, Calif. 775,781, pub. 6–9–64. Cl. 26.
Jordan Wines Ltd., Toronto, Ontario, Canada. 775,926, pub. 6–9–64. Cl. 47.
Justad and Inverne, New York, N.Y. 775,877, pub. 6–9–64. Cl. 39.
Kahn's, E., Sons Co., The, Cincinnati, Ohio. 189,912, ren. 8–25–64. Cl. 46.
Keller, H. V., Mfg. Co., St. Paul, Minn. 664,060, canc. Cl. 24.
Kelsey-Hays Co., Romulus, Mich. 775,664, pub. 6–9–64. Cl. 19.
Keuffel & Esser Co., Hoboken, N.J. 190,957–8, ren. 8–25–64. Cl. 26.
Keyes Fibre Co., Waterville, Maine. 775,585, pub. 6–9–64. Cl. 2.
Keystone Camera Co., Inc., Boston, Mass. 775,788, pub. 6–9–64. Cl. 26.
Kingsboro Mills, Inc., Gloversville, N.Y. 664,103, canc. Cl. 39.
King-Seeley Thermos Co.: *See*—
Icy-Hot Bottle Co., The.
Klovstad, E. J.: *See*—
Klovstad, H. T., and E. J. Klovstad.
Klovstad, H. T., and E. J. Klovstad, d.b.a. Candelier, Madeira Beach, Fla. 775,637, pub. 6–9–64. Cl. 15.
Kneller-Bates Mfg. Co., to Evans Milling Co., Inc., Indianapolis, Ind. 189,702, ren. 8–25–64. Cl. 46.
Kneissl, Franz, Skifabrik, Kufstein, Tirol, Austria. 775,699–701, pub. 6–9–64. Cl. 22.
Komon, Peter, Norridge, Ill. 775,643, pub. 6–9–64. Cl. 17.
Korad Corp., Santa Monica, Calif. 775,783, pub. 6–9–64. Cl. 26.
Kraeuter & Co., Inc., Newark, N.Y. 775,742, pub. 6–9–64. Cl. 23.
La Maur, Inc., Minneapolis, Minn. 775,930, pub. 6–9–64. Cl. 51.
Lane Ltd., New York, N.Y. 775,644, pub. 6–9–64. Cl. 17.
Lauffer, H. E., Co., Inc., New York, N.Y. 775,737, pub. 6–9–64. Cl. 23.
Lawrence Paper Co., The, d.b.a. Jayhawk Fibre Form Co., Lawrence, Kans. 775,849, pub. 6–9–64. Cl. 37.
Lawter Chemicals, Inc., Chicago, Ill. 775,599, pub. 6–9–64. Cl. 11.
Lea Mfg. Co., The, Waterbury, Conn. 408,273, ren. 8–25–64. Cl. 4.
Lee Parfums Jean Desses, Paris, France. 775,940, pub. 6–9–64. Cl. 51.
Little Lady Foods, Inc., Chicago, Ill. 775,913, pub. 6–9–64. Cl. 46.
Long, Dorothy A., d.b.a. Dawnwood Farm, Amenia, N.Y., to Dawnwood Farms, Inc., Wassaic, N.Y. 408,543, ren. 8–25–64. Cl. 18.
L'Oreal, Paris, France. 775,936, pub. 6–9–64. Cl. 51.
Louisville and Nashville Railroad Co., Louisville, Ky. 775,963, pub. 6–9–64. Cl. 105.
Loven Chemical of California, Newhall, Calif. 663,968, canc. Cl. 6.
M.B. Optical Co., Newark, N.J. 775,797, pub. 6–9–64. Cl. 26.
Magic Chef, Inc., Cleveland, Tenn. 775,831, pub. 6–9–64. Cl. 34.
Maidenform, Inc.: *See*—
Cooley, Leonore B.
Majestic Electronics, Inc., Los Angeles, Calif. 775,681, pub. 6–9–64. Multiple Class (Classes 21 and 36).
Makeri Smelting Co. Ltd., Jos, Northern Nigeria. 775,623, pub. 6–9–64. Cl. 14.

Maradel Products, Inc., New York, N.Y. 775,985. Cl. 51.
Marglen, Juliette, Inc., to Juliette Marglen, Inc., Ridgefield, N.J. 664,215, canc. Cl. 51.
Marion Laboratories, Inc., Kansas City, Mo. 775,652, pub. 5–19–64. Cl. 18.
Mark VII, Inc., Winsted, Conn. 775,686, pub. 6–9–64. Cl. 21.
Marquardt Corp., Van Nuys, Calif. 775,771, pub. 6–9–64. Cl. 26.
Marsh Stencil Machine Co., Belleville, Ill. 775,858, pub. 6–9–64. Cl. 37.
Martin-Dennis Co., The, Newark, N.J., to The Dow Chemical Co., Midland, Mich. 410,354, ren. 8–25–64. Cl. 52.
Marx, Louis, & Co., Inc., New York, N.Y. 775,703, pub. 6–9–64. Cl. 22.
Marx, Louis, & Co., Inc., New York, N.Y. 775,709, pub. 6–9–64. Cl. 22.
Massachusetts Mineral and Mfg. Co., Inc., Peabody, Mass. 663,940, canc. Cl. 1.
May Oil Burner Corp., Baltimore, Md., to Double A Products Co., Manchester, Mich. 410,181, ren. 8–25–64. Cl. 23.
McMullen, John J., Associates Inc., New York, N.Y. 775,970. Cl. 19.
McPherson Enterprises, Inc., Minneapolis, Minn. 775,765, pub. 6–9–64. Cl. 26.
Mead-Raymond Corp., Hialeah, Fla. 775,653, pub. 6–9–64. Cl. 18.
Mead Johnson & Co., Evansville, Ind. 775,655, pub. 6–9–64. Cl. 18.
Measuregraph Co., The, St. Louis, Mo. 775,717, pub. 6–9–64. Multiple Class (Classes 23 and 26).
Melville Shoe Corp., New York, N.Y. 775,887–8, pub. 6–9–64. Cl. 39.
Merchandiser Publishing Co. Inc., New York, N.Y. 775,784, pub. 6–9–64. Cl. 26.
Merck & Co., Inc., Rahway, N.J. 775,648, pub. 6–9–64. Cl. 18.
Metal Alloys Co., Newark, N.J. 775,954, pub. 6–9–64. Cl. 101.
Mfg. Enterprises, Inc., Wichita, Kans. 775,749, pub. 6–9–64. Cl. 23.
Mildara Wines Ltd.: *See*—
Mildura Winery Proprietary Ltd.
Mildura Winery Proprietary Ltd., to Mildara Wines Ltd., Merbein, Victoria, Australia. 407,660, ren. 8–25–64. Cl. 49.
Miller-Bryant-Pierce Co., The, Aurora, Ill., to SCM Corp., New York, N.Y. 191,240, ren. 8–25–64. Cl. 11.
Minute Home-Gym, Inc., Yonkers, N.Y. 775,714, pub. 6–9–64. Cl. 22.
Modern Drugs, Inc., Philippi, W. Va. 664,012, canc. Cl. 18.
Monarch Machine Tool Co., The, Sidney, Ohio. 775,744–5, pub. 6–9–64. Cl. 23.
Monotype Corp. Ltd., The, Surrey, England. 775,625, pub. 6–9–64. Cl. 14.
Monroe Calculating Machine Co., Orange, N.J. 775,779, pub. 6–9–64. Cl. 26.
Monsanto Chemical Co.: *See*—
Monsanto Co.
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,594–6, pub. 3–31–64. Cl. 6.
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,920, pub. 1–28–64. Cl. 46.
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,916, pub. 3–10–64. Cl. 46.
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,679–80, pub. 4–21–64. Cl. 21.
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,573, pub. 5–5–64. Multiple Class (Classes 1 and 50).
Monsanto Co., from Monsanto Chemical Co., St. Louis, Mo. 775,577, pub. 6–9–64. Multiple Class (Classes 2 and 50).
Morbark Portable Debarker Co., Winn, Mich. 775,719, pub. 6–9–64. Cl. 23.
Morrell, John, & Co., Ottumwa, Iowa. 775,923, pub. 6–9–64. Cl. 46.
Morris, Philip, Inc.: *See*—
Gem Safety Razor Corp.
Mosesian, Edward C.: *See*—
Cenatron Industries.
Motorola, Inc., Franklin Park, Ill. 775,671, pub. 6–9–64. Cl. 21.
MSE Ring Co.: *See*—
Segerman, Morton.
Murphy, G. C., Co., McKeesport, Pa. 775,893, pub. 6–9–64. Cl. 42.
Murray, Alan E., d.b.a. Alan E. Murray Laboratories, Bridgeport, Conn. 775,586, pub. 6–9–64. Multiple Class (Classes 3 and 39).
Murray, Alan E., Laboratories: *See*—
Murray, Alan E.
Narrow Fabric Co., The, Reading, Pa. 775,896–7, pub. 6–9–64. Cl. 43.
Naruto & Co. Ltd., Nishi-ku, Yokohama, Japan. 664,039, canc. Cl. 22.
Navan Products, Inc., El Segundo, Calif. 775,641, pub. 6–9–64. Cl. 16.
Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada, Lisbon, Portugal. 775,670, pub. 6–9–64. Cl. 21.
Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada, Lisbon, Portugal. 775,843, pub. 6–9–64. Cl. 37.
Nepir-Exportacao e Comercio de Artigos de Bronze, Limitada, Lisbon, Portugal. 775,829, pub. 6–9–64. Cl. 34.
Nesbitt Fruit Products, Inc., Los Angeles, Calif. 775,901, pub. 11–27–62. Cl. 45.
Nethercutt Laboratories, d.b.a. Cosgenel Labs, Los Angeles, Calif. 775,983–4. Cl. 51.
Nettleton, Felix L., Kingston, N.Y. 775,603, pub. 6–9–64. Cl. 12.
Neushaefer, Helen, Inc., College Point, N.Y. 775,934, pub. 6–9–64. Cl. 51.
New England Council for Economic Development, The, Boston, Mass. 775,965, pub. 6–9–64. Multiple Class (Classes A and B).
New England Lime Co., Danbury, Conn., to Chas. Pfizer & Co., Inc., New York, N.Y. 186,137, ren. 8–25–64. Cl. 12.
New Jersey Turner Hall Corp., Bridgeport, Conn. 775,942, pub. 6–9–64. Cl. 51.
Northbrook Products, Inc., Chicago, Ill. 663,952, canc. Cl. 4.
Northup Products Co.: *See*—
Northup, Faye H.
Northup, Faye H., d.b.a. Northup Products Co., Mishawaka, Ind. 664,075, canc. Cl. 28.
Nuclear-Chicago Corp., Des Plaines, Ill. 775,791, pub. 6–9–64. Cl. 26.
Nuclear-Chicago Corp., Des Plaines, Ill. 775,803, pub. 6–9–64. Cl. 26.
Oldenburger Brotfabrik M. & C. Brokat, Oldenburg/Oldbg., Germany. 775,978. Cl. 46.
Old Sturbridge Inc., Sturbridge, Mass. 775,613, pub. 6–9–64. Cl. 13.
Old Sturbridge, Inc., Sturbridge, Mass. 775,816–17, pub. 6–9–64. Cl. 30.
Old Town Corp., Brooklyn, N.Y. 775,839, pub. 6–9–64. Cl. 37.
Olr Publishing Co., Inc., Scranton, Pa. 775,974. Cl. 38.
Oneida Ltd., Oneida, N.Y. 775,810–11, pub. 6–9–64. Cl. 28.
"Onyx" Hosiery Inc., New York, N.Y., to Chadbourn Gotham, Inc., Charlotte, N.C. 189,258–9, ren. 8–25–64. Cl. 39.
Origami Patterns International, Ltd., Woodmere, N.Y. 775,698, pub. 6–9–64. Cl. 22.
Owen Paul Enterprises, Inc., Detroit, Mich. 775,948, pub. 6–9–64. Cl. 51.
Owen Products Co.: *See*—
Richardson, Merle H.
P & C Food Markets, Inc., Syracuse, N.Y. 775,905, pub. 7–24–62. Cl. 46.
Pabst Brewing Co.: *See*—
Pabst Corp.
Pabst Brewing Co., Milwaukee, Wis. 775,578, pub. 6–9–64. Cl. 2.
Pabst Corp., to Pabst Brewing Co., Milwaukee, Wis. 192,164, ren. 8–25–64. Cl. 48.
Pacific Tile and Porcelain Co., Paramount, Calif. 775,739, pub. 6–9–64. Cl. 23.
Packers Development Corp., Rochester, N.H. 775,735, pub. 6–9–64. Cl. 23.
Paraco Woolens, Inc., Passaic, N.J. 664,111, canc. Cl. 42.
Parker-Hannifin Corp., Cleveland, Ohio. 775,621, pub. 6–9–64. Cl. 13.
Paulucci, Jeno F., Duluth, Minn. 664,130, canc. Cl. 45.
Pendleton Tool Industries, Inc., d.b.a. Proto Tool Co., Jamestown, N.Y. 664,209, canc. Cl. 23.
Penney, J. C., Co., New York, N.Y. 775,675, pub. 6–9–64. Multiple Class (Classes 21, 23, and 26).
Peterson Co., Inc., The, Fitchburg, Mass. 775,835, pub. 6–9–64. Cl. 34.
Pfizer, Chas., & Co., Inc., New York, N.Y. 775,654, pub. 6–9–64. Cl. 18.
Pfizer, Chas., & Co., Inc.: *See*—
New England Lime Co.
Phelps Dodge Copper Products Corp., New York, N.Y. 775,633, pub. 6–9–64. Cl. 14.
Philco Corp., Philadelphia, Pa. 664,078–9, canc. Cl. 21.
Phoenix Gummiwerke Aktiengesellschaft, Hamburg-Harburg, Germany. 664,125, canc. Cl. 44.
Photoptic Import Corp., New York, N.Y. 775,759, pub. 6–9–64. Cl. 26.
Pillsbury Mills, Inc., Minneapolis, Minn. 664,166, canc. Cl. 46.
Pioneer Appliances, Inc., Dayton, Ohio. 664,034, canc. Cl. 21.
Plaisted, John F., Salem, Mass. 775,663, pub. 6–9–64. Cl. 19.
Plastic Coating Corp., The, Holyoke, Mass. 775,851, pub. 6–9–64. Cl. 37.
Polo Produce, Inc., New Paris, Ind. 775,912, pub. 6–9–64. Cl. 46.
Poolside Co., Houston, Tex. 663,038, canc. Cl. 22.
Portland Wire & Iron Works, Portland, Oreg. 663,999, canc. Cl. 12.
Precision-Posturect Chair Corp., Chicago, Ill. 664,084, canc. Cl. 32.
Price, John R., and Maxine O. Price, El Monte, Calif. 664,023, canc. Cl. 19.
Price, Maxine O.: *See*—
Price, John R., and Maxine O. Price.
Property Protection Service of America: *See*—
Allen, Milton Frank, Publications, Inc.
Pro-phy-lac-tic Brush Co., to Pro-phy-lac-tic Brush Co., Northampton, Mass. 408,551, ren. 8–25–64. Cl. 39.
Proto Tool Co.: *See*—
Pendleton Tool Industries, Inc.
Quaker Stretcher Co., Kenosha, Wis. 664,081, canc. Cl. 33.
Red Arrow Products Corp., Milwaukee, Wis. 775,922, pub. 6–9–64. Cl. 46.
Reddy Kilowatt: *See*—
Collins, Ashton B.
Reddy Kilowatt, Inc.: *See*—
Collins, Ashton B.
Red Rope Stationery Industries, Inc., Brooklyn, N.Y. 775,856, pub. 6–9–64. Cl. 37.
Reef Industries, Inc., Houston, Tex. 775,894, pub. 6–9–64. Cl. 42.
Reinhold Publishing Corp., New York, N.Y. 775,862, pub. 6–9–64. Cl. 38.
Reliance Mfg. Co., New York, N.Y. 775,865, pub. 6–9–64. Cl. 39.
Remington Arms Co., Inc., Bridgeport, Conn. 187,871, ren. 8–25–64. Cl. 9.

Rempe, Frank G., d.b.a. Rempe Mfg. Co., Oakland, Calif., to Willard Schoenfeld, d.b.a. Willard Products, San Carlos, Calif. 186,335, ren. 8–25–64. Cl. 4.
Rempe Mfg. Co.: *See*—
Rempe, Frank G.
Repco Ltd., Melbourne, Victoria, Australia. 775,760–1, pub. 6–9–64. Cl. 26.
Resetar Bros., to West Coast Farms, Watsonville, Calif. 182,411, ren. 8–25–64. Cl. 46.
Rex Productions, Inc., Culver City, Calif. 664,092–3, canc. Cl. 36.
Richard-Allan Co., Inc., Evanston, Ill. 775,898–9, pub. 6–9–64. Cl. 44.
Richardson, Merle H., d.b.a. Owen Products Co., Spencer, Ind. 664,185, canc. Cl. 52.
Riviere, Claude, S.A.R.L., Paris, France. 775,941, pub. 6–9–64. Cl. 51.
Roberts Dairy Co., Omaha, Nebr. 664,143, canc. Cl. 46.
Robertson, H. H., Co., Pittsburgh, Pa. 775,828, pub. 6–9–64. Cl. 34.
Robertson Photo-Mechanix, Inc., Chicago, Ill. 775,773, pub. 6–9–64. Cl. 26.
Roche Fruit Co., Inc., d.b.a. W. E. Roche Fruit Co., Yakima, Wash. 775,924, pub. 6–9–64. Cl. 46.
Roche, W. E., Fruit Co.: *See*—
Roche Fruit Co., Inc.
Rockford Engineered Products Co., Rockford, Ill. 775,734, pub. 6–9–64. Cl. 23.
Rockford Machine Tool Co., Rockford, Ill. 775,747, pub. 6–9–64. Cl. 23.
Rockwell Laboratories, Inc., Kansas City, Kans. 663,959, canc. Cl. 6.
Roe, William G., to Wm. G. Roe & Sons, Inc., Winter Haven, Fla. 188,274, ren. 8–25–64. Cl. 46.
Roe, Wm. G., & Sons, Inc.: *See*—
Roe, William G.
Roll-O-Sheets, Inc., Inc., to St. Louis, Mo. 775,854, pub. 6–9–64. Cl. 37.
Roll-O-Sheets, Inc., St. Louis, Mo. 775,972. Cl. 37.
Roostertail Games, Inc, Seattle, Wash. 775,697, pub. 6–9–64. Cl. 22.
Rosenberg Bros. & Co., Rochester, N.Y., to Fashion Park Inc., New York, N.Y. 185,600, ren. 8–25–64. Cl. 39.
Rosenthal-Porzellan Aktiengesellschaft, Selb, Bavaria, Germany. 775,818, pub. 6–9–64. Cl. 30.
Roto-Swing Door Co., Inc., Oklahoma City, Okla. 775,611, pub. 6–9–64. Cl. 12.
Roylyn Inc., Glendale, Calif. 775,614, pub. 6–9–64. Cl. 13.
Rykoff, S. E., & Co., Los Angeles, Calif. 775,814, pub. 6–9–64. Cl. 29.
Safeguard Corp.: *See*—
Tax-O-Graph, Inc.
Safety Research & Mfg. Co., Inc., Seattle, Wash. 663,980, canc. Cl. 9.
Safway Steel Products, Inc., Milwaukee, Wis. 775,930, pub. 6–9–64. Cl. 50.
St. Regis Paper Co., New York, N.Y. 775,857, pub. 6–9–64. Cl. 37.
Sandvikens Jernverks Aktiebolag, Sandviken, Sweden. 775,634, pub. 6–9–64. Cl. 14.
Scale Models, Unlimited, Palo Alto, Calif. 775,804, pub. 6–9–64. Cl. 26.
Scarves by Vera, Inc., New York, N.Y. 775,874, pub. 6–9–64. Cl. 39.
Schachter, J., Corp., New York, N.Y. 775,892, pub. 6–9–64. Cl. 42.
Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. 775,927, pub. 6–9–64. Cl. 47.
Schering Corp., Bloomfield, N.J. 664,099, canc. Cl. 38.
Schneierson, I., & Sons, Inc., New York, N.Y. 775,882, pub. 6–9–64. Cl 39.
Schoenfeld, Willard: *See*—
Rempe, Frank G.
Scholler Brothers, Inc., Philadelphia, Pa. 186,067, ren. 8–25–64. Cl. 6.
Schott, Jenaer Glaswerk, & Gen, Mainz, Germany. 775,667, pub. 6–9–64. Cl. 21.
Scott Paper Co., Philadelphia, Pa. 775,588, pub. 6–9–64. Multiple Class (Classes 4, 37, and 52).
SCM Corp.: *See*—
Miller-Bryant-Pierce Co., The.
Scholler Brothers, Inc., Philadelphia, Pa. 186,157–60, ren. 8–25–64. Cl. 6.
Sealectro Corp., Mamaroneck, N.Y. 775,672, pub. 6–9–64. Cl. 21.
Security Mills, Security Mills, Inc., Knoxville, Tenn. 191,879, ren. 8–25–64. Cl. 46.
Segerman, Morton, d.b.a. MSE Ring Co., Livonia, Mich. 775,813, pub. 6–9–64. Cl. 28.
Selectivend Corp., Kansas City, Kans. 775,730, pub. 6–9–64. Cl. 23.
Sellers, Joseph, & Son Ltd., Scholes, Cleckheaton, England. 664,050, canc. Cl. 23.
Selvend Co., Kansas City, Kans. 775,731–2, pub. 6–9–64. Cl. 23.
Seminole Asphalt Refining, Ltd., St. Marks, Fla. 775,606, pub. 6–9–64. Cl. 12.
Seneca Tackle Co., Inc., New York, N.Y. 775,711–12, pub. 6–9–64. Cl. 22.
Sensation Metal Bait Co.: *See*—
Clark, C. Van Ness.
Shane, Leroy, Rochester, Minn., to Diets of Rochester, Inc., Chicago, Ill. 664,139, canc. Cl. 46.
Sheffield Corp., The, Dayton, Ohio. 775,789, pub. 6–9–64. Cl. 26.
Shoe Corp. of America, Columbus, Ohio. 775,866, pub. 6–9–64. Cl. 39.
Shrader, Ralph, Inc., Detroit, Mich. 775,987. Cl. 52.
Shulton, Inc., Clifton, N.J. 775,950, pub. 6–9–64. Cl. 52.
Shulton, Inc., Clifton, N.J. 663,960, canc. Cl. 6.
Shumate, Gene, Phoenix, Ariz. 775,716, pub. 6–9–64. Cl. 22.
Since 1868 Crescent Corp., d.b.a. Crescent Corp., New York, N.Y. 775,890, pub. 6–9–64. Cl. 42.
Sinclair Refining Co., New York, N.Y. 409,936, ren. 8–25–64. Cl. 15.
Slant/Fin Radiator Corp., Richmond Hill, N.Y. 775,880, pub. 6–9–64. Cl. 34.
Smith-Gates Corp., The, Farmington, Conn. 775,683, pub. 6–9–64. Cl. 21.
Societe Anonyme: Cattin & Cie, Morteau, France. 775,808, pub. 6–9–64. Cl. 27.
Societe Anonyme Dite: Messier, Paris, France. 664,055, canc. Cl. 23.
Southern Fiber Glass Products, Inc., Orlando, Fla. 775,662, pub. 6–9–64. Cl. 19.
Southern States Cooperative, Inc., Richmond, Va. 775,909, pub. 6–9–64. Cl. 46.
Speich, F. H., & Co.: *See*—
Speich, Helen S.
Speich, Frederick H.: *See*—
Speich, Helen S.
Speich, Helen S., executrix of the estate of F. H. Speich, deceased, d.b.a. F. H. Speich & Co., Riverside, to A. Arena and Co., Ltd., Los Angeles, Calif. 192,750, ren. 8–25–64. Cl. 46.
Sperry Rand Corp., Great Neck, N.Y. 775,806, pub. 6–9–64. Cl. 26.
Standard Instrument Corp., New York, N.Y. 775,764, pub. 6–9–64. Cl. 26.
Standard Sanitary Mfg. Co. American Radiator & Standard Sanitary Corp., New York, N.Y. 184,859. Am. 7(d). Cl. 13.
Stearns, Dick E., to The D. E. Stearns Co., Shreveport, La. 407,778, ren. 8–25–64. Cl. 26.
Stearns, D. E., Co., The: *See*—
Stearns, Dick E.
Sterling Drug Inc., New York, N.Y. 775,649, pub. 6–9–64. Cl. 18.
Sun Chemical Corp., New York, N.Y. 775,678, pub. 6–9–64. Cl. 21.
Superamerica Stations, Inc., St. Paul, Minn. 775,636, pub. 6–9–64. Cl. 15.
Superior Canning Co., Inc., Avondale, Pa. 664,169, canc. Cl. 46.
Surrette Storage Battery Co., Inc., Salem, Mass. 407,877, ren. 8–25–64. Cl. 21.
Swingline Inc., Long Island City, N.Y. 775,847–8, pub. 6–9–64. Cl. 37.
Synthetic Polymer Products Ltd., London, England. 663,979, canc. Cl. 6.
Tapo Citrus Association, Santa Susana, Calif. 190,902, ren. 8–25–64. Cl. 46.
Tax-O-Graph, Inc., to Safeguard Corp., Lansdale, Pa. 706,314, new cert. Cl. 26.
Texize Chemicals, Inc., Greenville, S.C. 775,951, pub. 6–9–64. Cl. 52.
Thayer, Henry, Co., Cambridge, Mass. 595,263, cor. Cl. 46.
Thomas, T. J., Co., Inc., Brooklyn, N.Y. 775,705–6, pub. 6–9–64. Cl. 22.
Thompson Can Co., Dallas, Tex. 775,583, pub. 6–9–64. Cl. 2.
Tilley, John S., Ladders Co., Inc., The, Watervliet, N.Y. 187,686, ren. 8–25–64. Cl. 50.
Timely Clothes, Inc., New York, N.Y. 775,867, pub. 6–9–64. Cl. 39.
Todd Engineering Co., Inc., Oklahoma City, Okla. 775,790, pub. 6–9–64. Cl. 26.
Todd-Williams Corp., Philadelphia, Pa. 775,692, pub. 6–9–64. Cl. 21.
Tokaido, Inc., Great Neck, N.Y. 775,579, pub. 6–9–64. Cl. 2.
Tokaido, Inc., Great Neck, N.Y. 775,598, pub. 6–9–64. Cl. 8.
Tokaido, Inc., Great Neck, N.Y. 775,617, pub. 6–9–64. Cl. 13.
Toledo Scale Corp., Toledo, Ohio. 775,798–9, pub. 6–9–64. Cl. 26.
Towle Mfg. Co., Newburyport, Mass. 775,812, pub. 6–9–64. Cl. 28.
Towson Laboratories, Inc., Towson, Md. 775,695, pub. 6–9–64. Cl. 21.
Trailco Corp.: *See*—
Highway Trailer Co.
Transkrit Corp., New York, N.Y. 775,846, pub. 6–9–64. Cl. 37.
Trans-World Woven Products Corp., New York, N.Y. 775,876, pub. 6–9–64. Cl. 39.
Triangle Conduit & Cable Co., Inc., New Brunswick, N.J. 775,616, pub. 6–9–64. Cl. 13.
Troxler Electronic Laboratories, Inc., Raleigh, N.C. 775,756, pub. 6–9–64. Cl. 26.
U. S. Baird Corp., The, Stratford, Conn. 775,741, pub. 6–9–64. Cl. 23.
Union Oil Co. of California, Los Angeles, Calif. 410,047, ren. 8–25–64. Cl. 12.
Union Oil Co. of California, Los Angeles, Calif. 410,193, ren. 8–25–64. Cl. 15.
Union Tank Car Co., Chicago, Ill. 775,960–2, pub. 6–9–64. Cl. 105.
Union Tank Car Co., Chicago, Ill. 775,733, pub. 6–9–64. Cl. 23.
United-Greenfield Corp., Chicago, Ill. 775,628, pub. 6–9–64. Cl. 14.
United-Greenfield Corp., Chicago, Ill. 775,807, pub. 6–9–64. Cl. 26.
United Piece Dye Works, The, Lodi, N.J. 333,185. Am. 7(d). Cl. 42.
United States Steel Corp., New York, N.Y. 558,443. Am. 7(d). Multiple Class (Classes 2, 6, 7, 10, 12, 13, 14, 15, 19, 21, 23, 36, and 38).
United States Steel Corp., Pittsburgh, Pa. 600,573. Am. 7(d). Multiple Class (Classes 4, 12, 14, 19, 23, 26, and 35).
United States Steel Corp., Pittsburgh, Pa. 673,821. Am. 7(d). Cl. 23.

United States Steel Corp., Pittsburgh, Pa. 677,721. Am. 7(d). Cl. 35.
Unitek Corp., Monrovia, Calif. 775,758, pub. 6–9–64. Cl. 26.
Universal American Corp., New York, N.Y. 775,748, pub. 6–9–64. Cl. 23.
Universal Bowling & Golf Corp., Chicago, Ill. 775,707, pub. 6–9–64. Cl. 22.
Universal Foods Corp., Milwaukee, Wis. 775,918, pub. 6–9–64. Cl. 46.
Upjohn Co., The, Kalamazoo, Mich. 775,651, pub. 6–9–64. Cl. 18.
Utica Duxbak Corp., Utica, N.Y. 775,873, pub. 6–9–64. Cl. 39.
Vagim, Charles J.: *See*—
Cenatron Industries.
Van Dyke Industries: *See*—
Dyche, F. A.
Vanelba Corp., Charlottesville, Va. 775,619, pub. 6–9–64. Cl. 13.
Vapor Corp., Chicago, Ill. 775,834, pub. 6–9–64. Cl. 34.
Vaughn Machinery Co., Cuyahoga Falls, Ohio, from Wirecrafters, Inc., Towson, Md. 775,725, pub. 6–9–64. Cl. 23.
Vellumoid Co., The, Worcester, Mass. 187,868, ren. 8–25–64. Cl. 35.
Verley, Albert, & Co.: *See*—
Verley, Albert, Inc.
Verley, Albert, Inc., to Albert Verley & Co., Linden, N.J. 227,141, new cert. Cl. 6.
Vernay Laboratories, Inc., Yellow Springs, Ohio. 775,724, pub. 6–9–64. Cl. 23.
Viewlex, Inc., Holbrook, N.Y. 775,800, pub. 6–9–64. Cl. 26.
Virus, John R., d.b.a. Brandy Harvest, Woodside, N.Y. 775,944, pub. 6–9–64. Cl. 51.
Vulcan T.V. Mast & Tower Co., Inc., Birmingham, Ala. 775,710, pub. 6–9–64. Cl. 22.
W.D.L. Corp., Yonkers, N.Y. 775,763, pub. 6–9–64. Cl. 26.
Walkerian Ltd., Bolton, Lancashire, England. 775,576, pub. 6–9–64. Cl. 1.
Wall-Streeter Shoe Co., North Adams, Mass. 775,868, pub. 6–9–64. Cl. 39.
Warco Laboratories, Inc., Gardena, Calif. 775,949, pub. 6–9–64. Cl. 52.
Warren Clock Co., Ashland, Mass., to General Electric Co., Schenectady, N.Y. 187,400, ren. 8–25–64. Cl. 21.
Wasserman, Rene D., d.b.a. Eutectic Welding Alloys Co., New York, N.Y., to Eutectic Welding Alloys Corp., Flushing, N.Y. 409,730, ren. 8–25–64. Cl. 34.
Weather Products, Inc., Hialeah, Fla. 663,986, canc. Cl. 12.
Weber Bros. & White Metal Works, Inc.: *See*—
Weber Bros. Metal Works.
Weber Bros. Metal Works, to Weber Bros. & White Metal Works, Inc., Chicago, Ill. 408,355, ren. 8–25–64. Cl. 26.
Weil-McLain Co., Inc., Michigan City, Ind. 775,833, pub. 6–9–64. Cl. 34.
Welsh Panel Co., Longview, Wash. 775,600, pub. 6–9–64. Cl. 12.
West Coast Farms: *See*—
Resetar Bros.
Western Air Lines, Inc., Los Angeles, Calif. 664,202, canc. Cl. 105.
Western Auto Supply Co., Kansas City, Mo. 775,620, pub. 6–9–64. Cl. 13.
Weston Winery: *See*—
Schenley Distillers, Inc.
Westward Co., The, Detroit, Mich. 775,638, pub. 6–9–64. Cl. 15.
Whitaker Cable Corp., North Kansas City, Mo. 775,693, pub. 6–9–64. Cl. 21.
Willard Products: *See*—
Rempe, Frank G.
Wilson Sporting Goods Co., River Grove, Ill. 775,702, pub. 6–9–64. Cl. 22.
Wilson Sporting Goods Co., River Grove, Ill. 775,708, pub. 6–9–64. Cl. 22.
Wirecrafters, Inc.: *See*—
Vaughn Machinery Co.
Wolf & Vine, Inc., Los Angeles, Calif. 775,931, pub. 6–9–64. Cl. 50.
Woonsocket Color & Chemical Co., Woonsocket, R.I. 663,971, canc. Cl. 6.
Workman Service, Inc., Chicago, Ill. 664,191, canc. Cl. 101.
World Wide Watch Co. Inc., New York, N.Y. 775,809, pub. 6–9–64. Cl. 27.
Wyandotte Chemicals Corp., Wyandotte, Mich. 775,587, pub. 6–9–64. Cl. 4.
Yardley of London, Inc., Totowa, N.J. 775,947, pub. 6–9–64. Cl. 51.
York Wall Paper Co., York, Pa. 775,850, pub. 6–9–64. Cl. 37.
Zero Mfg. Co., Burbank, Calif. 775,618, pub. 6–9–64. Cl. 13.
Zip-Mark Corp., Woodbridge, N.J. 775,845, pub. 6–9–64. Cl. 37.
Zurn Industries, Inc., Erie, Pa. 775,622, pub. 6–9–64. Cl. 13.

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